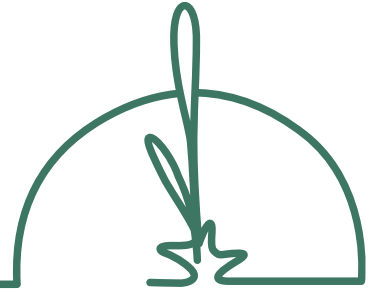


gunninah



Lot 1 in DP 875804 and Lot 2 in DP 817692
Pleasure Point

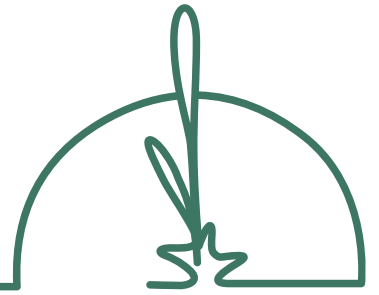
Residential Subdivision

Ecological & Riparian Issues & Assessment Report

F Dominic Fanning
Gunninah

06 September 2024

gunninah



Lot 1 in DP 875804 and Lot 2 in DP 817692
Pleasure Point

Residential Subdivision

Ecological & Riparian Issues & Assessment Report

F Dominic Fanning

06 September 2024

This document and the intellectual material it contains have been prepared by the author (Mr F Dominic Fanning) for the specific purposes described herein.

It has been prepared in cognisance of Division 2 Part 31 of the *Uniform Civil Procedures Rules* (UCPRs) and the *Expert Witness Code of Conduct* contained in Schedule 7 to the UCPRs – as practised *inter alia* in the NSW Land & Environment Court.

Any interpretation of this *Report* or any extraction from it are subject to the approval of the author.

LOT 1 in DP 875804 and LOT 2 in DP 817692

PLEASURE POINT

RESIDENTIAL SUBDIVISION

ECOLOGICAL & RIPARIAN ISSUES & ASSESSMENT REPORT

06 September 2024

TABLE of CONTENTS

1	INTRODUCTION	1
1.1	The Subject Land	1
1.2	The Proposed Development	4
1.4	Statutory Considerations	7
1.5	Background and Assumptions	7
2	INFORMATION BASE	8
3	SITE DESCRIPTION and HISTORY	9
4	FLORA and VEGETATION	11
4.1	Vegetation Types and Flora Assemblage	11
4.2	Threatened Biota	14
5	FAUNA and FAUNA HABITATS	15
5.1	Fauna Habitats	15
5.2	Fauna Species	15
5.3	Threatened Fauna	17
6	SECTION 4.15 of the EP&A ACT	18
7	NSW BIODIVERSITY CONSERVATION ACT	21
7.1	The Statutory Regime	21
7.2	Section 7.2(1) of the BCon Act	21
7.3	Section 7.3 of the BCon Act	24
7.4	Biodiversity Credit Offsets	27
7.4	Conclusions – Biodiversity Conservation Act	27
8	WATER MANAGEMENT ACT	28
8.1	The Statutory Regime	28
8.2	Relevance of the Subject Land	28
8.3	Relevant Considerations	30
8.4	Conclusions – Biodiversity Conservation Act	33

9	COASTAL MANAGEMENT ACT and SEPP	34
9.1	The Statutory Regime	34
9.2	SEPP Hazards and Resilience	36
9.3	Coastal Wetlands	37
9.4	Coastal Environment Area	39
9.5	Coastal Use Area	42
9.6	Conclusions – Coastal Management Act	44
10	FISHERIES MANAGEMENT ACT	45
10.1	The Statutory Regime	45
10.2	Part 7A Considerations	45
10.3	Section 221ZV of the FM Act	46
10.4	Conclusions - Fisheries Management Act	47
11	APPLICATION of the EPBC ACT	48
11.1	The Statutory Regime	48
11.2	Threatened Species	48
11.3	Migratory Species	49
11.4	Conclusions – EPBC Act	49
12	COUNCIL PLANNING INSTRUMENTS	50
12.1	Liverpool Local Environmental Plan 2008	50
12.2	Clause 7.6 - Objectives	50
12.3	Clause 7.6 - Considerations	53
12.4	Liverpool Development Control Plan 2008	54
13	KOALAS and KOALA HABITAT	55
13.1	SEPP Biodiversity and Conservation	55
13.2	Koala Habitat Protection 2020	55
13.3	Koala Habitat Protection 2021	56
13.4	Conclusions – Koalas and Koala Habitat Protection	56
	GLOSSARY	58
	BIBLIOGRAPHY	59

ATTACHMENTS

Attachment A Relevant Plans and Maps

Attachment B Photographic Essay of the Subject Land and Environs

FIGURES

Figure 1.1	The Subject Land at Pleasure Point and Immediate Environs
Figure 1.2	Zoning of the Subject Land at Pleasure Point
Figure 1.3	The Pleasure Point Residential Project Masterplan
Figure 1.4	Staging Plan for the Pleasure Point Residential Project
Figure 3.1	Protected Lands South of the Subject Land at Pleasure Point
Figure 4.1	Vegetation Mapped on the Subject Land at Pleasure Point (AEP 2024)
Figure 5.1	Hollow-bearing Trees Mapped on the Subject Land at Pleasure Point
Figure 6.1	Tree Retention & Removal Plan
Figure 6.2	Vegetation Management Plan (Restore 2024)
Figure 6.3	Landscape Plan (Habitat8 2024)
Figure 7.1	Biodiversity Values Map of the Subject Land
Figure 8.1	Hydroline Mapping on the Subject Land
Figure 8.2A	Highest Bank Map (Upper Part of Central Watercourse)
Figure 8.2B	Highest Bank Map (Lower Part of Central Watercourse)
Figure 9.1	Coastal Wetlands and Proximity Areas
Figure 9.2	Coastal Environment Areas
Figure 9.3	Coastal Use Areas
Figure 12.1	Environmentally Significant Land (LLEP 2014)
Figure 12.2	Environmentally Significant Land to be Retained
Figure 13.1	Threatened Species Records (BIONET)

**LOT 1 in DP 875804 and LOT 2 in DP 817692
PLEASURE POINT**

RESIDENTIAL SUBDIVISION

ECOLOGICAL & RIPARIAN ISSUES & ASSESSMENT REPORT

06 September 2024

1 INTRODUCTION

1.1 The Subject Land

The land which is the subject of this *Ecological & Riparian Issues & Assessment Report* (ERIAR) consists of two parcels at Pleasure Point in the Liverpool LGA (**Figure 1.1** below; **Attachment A**) – Lot 1 in DP 875804 (generally on the more elevated land) and Lot 2 in DP 817692 (along the Georges River).

The subject land is located between the South Railway (to the immediate northwest); Heathcote Road (to the immediate south – in part); the Georges River (to the immediate northeast); existing residential development (to the immediate west) and Pleasure Point Road plus existing residential development (to the east).

Much of the land (in particular most of Lot 1) is zoned *R2 – Low Density Residential*; with a band of *C3 – Environmental Management* zoned land through the centre (running from the southern boundary near Heathcote Road to the Georges River frontage of the land). In addition, a band of land along the Georges River is zoned *RE1 – Public Recreation* (**Figure 1.2**).

The land slopes down from the south and west towards the Georges River; from an AHD of approximately 40 metres in the southeastern corner to 1 metre AHD along the Georges River frontage. The subject land is mostly gently undulating, with small areas of rock outcrops in the east and northwest, and along a small incised watercourse in the centre of the site (see *Photographic Essay* in **Attachment B**).

Most of the subject land is currently cleared and/or has been modified and/or developed; with the more elevated parts of the land consisting of cleared and slashed open exotic grassland with scattered native trees and stockpiles of soil and landscaping materials (see **Figure 1.1** below; **Attachment A**; *Photographic Essay* in **Attachment B**). There are also small areas for machinery and materials or equipment storage across the site.

The lower parts of the land (particularly most of Lot 2) have long been cleared and developed for several dwellings and associated infrastructure and landscaping; except for a narrow band of vegetation along the Georges River (see **Figure 1.1** below; *Photographic Essay* in **Attachment B**).

Most of the C3 land consists of a cleared and slashed/maintained exotic grassland with a narrow band of riparian vegetation along a drainage feature through the centre of the land (**Figure 1.1** below; **Attachment A**; *Photographic Essay* in **Attachment B**).



Figure 1.1 The subject land at Pleasure Point (Lot 1 in DP 875804 and Lot 2 in DP 817692)

Note the cleared and highly modified nature of the majority of the subject land and the presence of only limited native vegetation; other than along the drainage line through the centre of the land (which is zoned C3) and along the Georges River foreshore in the northeast (which is zoned RE1).

There is also a small patch of native vegetation in the north of the land, adjacent to the railway line – some of which is to be retained.

Note also the extent of existing urban development to the east, north and west of the subject land – meaning the subject land is essentially an 'urban infill'.

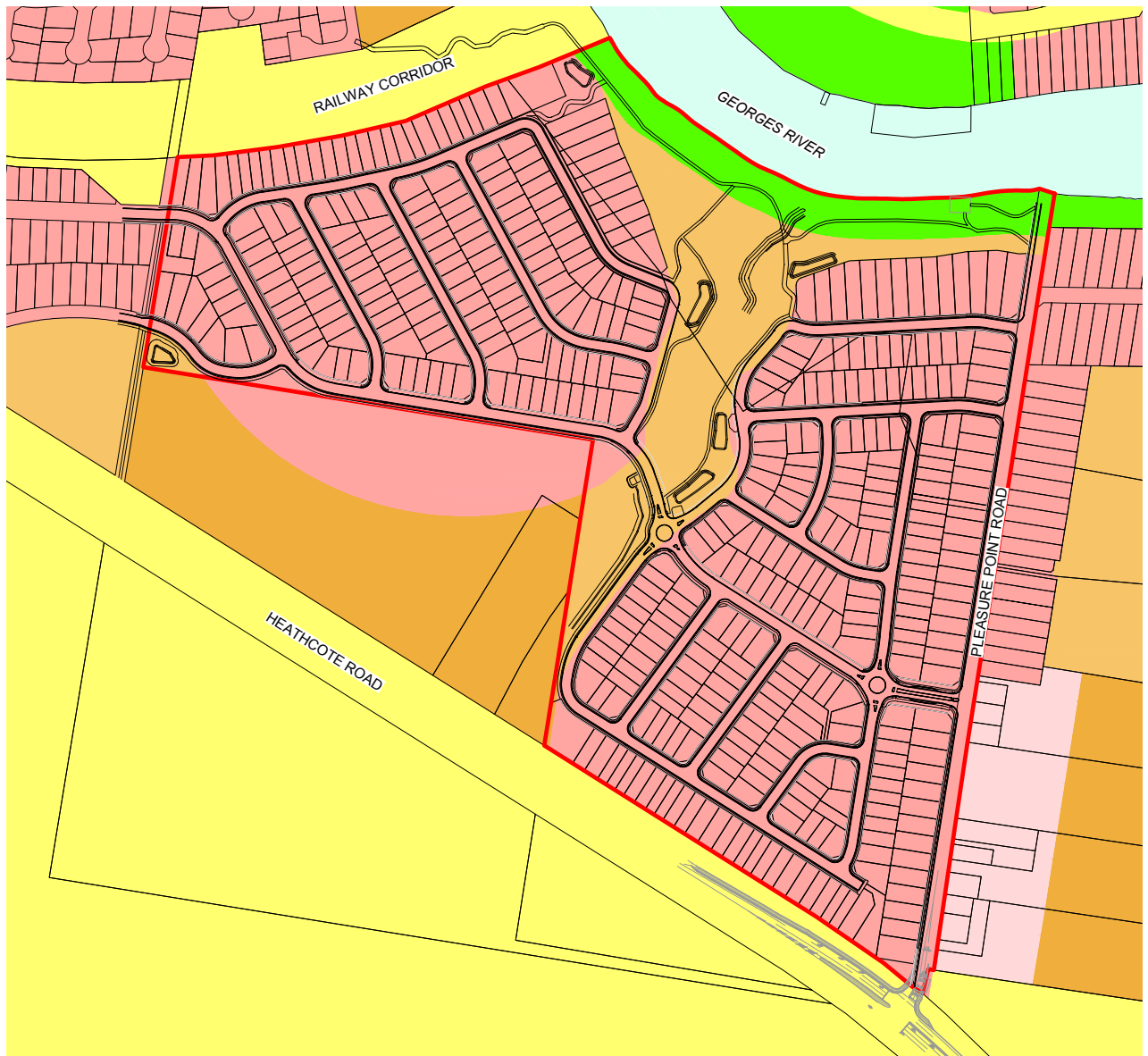


Figure 1.2 Current zoning of the subject land at Pleasure Point with the proposed residential subdivision plan overlaid.

R2 – Low Density Residential (pink)

C3 – Environmental Management (orange)

RE1 – Public Recreation (green)

It is noted that roads and stormwater infrastructure (environmental protection works) are permissible in the C3-zoned portions of the subject land.

The C3-zoned portions of the subject land are mostly to be retained, rehabilitated and enhanced – pursuant to the *Landscape Plan* for the Project (Habitat8 2024) and the *Vegetation Management Plan* (VMP) for the Project (Restore 2024).

1.2 The Proposed Development

The proposed development¹ on the subject land at Pleasure Point involves the staged subdivision and subsequent residential development of both Lots 1 and 2 (**Figure 1.3; Figure 1.4; Attachment A**); as well as the following subdivision works at the outset of the Project (pursuant to a *Concept Approval* from Council for the Project).

- Extensive and substantial earthworks, including ‘cut and fill’ to provide ‘level’ pads for dwellings as well as for roads and other infrastructure.
- Excavation for a series of stormwater treatment basins across the site.
- The creation of 462 residential lots with associated services and infrastructure, including roads and pathways.
- Revegetation and rehabilitation of the C3 land – with a variety of vegetation types (from open grassland to multi-layered vegetation) to provide positive ecological and recreational outcomes; and its ultimate dedication to Council.
- Eventual dedication to Council of the RE1 land along the Georges River frontage – to provide for public access and recreation; linking with existing open space lands to the east and north.
- The removal of all existing buildings and structures - on a staged basis.

The proposed development of the subject land is referred to hereafter throughout this ERIAR as the **Pleasure Point Residential Project**

Stage 1 of the Pleasure Point Residential Project (**Figure 1.4**) involves the following elements.

- The undertaking of residential development on part of Lot 1 in DP 875804.
- The subdivision of Lot 1 in 7 stages (**Figure 1.4**).
- The construction of associated roads and intersections; as well as the installation of relevant urban infrastructure.
- The dedication to Council of part of the environmental corridor on the subject land.
- Landscaping and vegetation management works, as well as stormwater management works, within both Lot 1 and Lot 2 - to benefit the ultimate total development as indicated in the Masterplan for the Project (Figure 1.3).

The remainder of the Pleasure Point Residential Project (on the remainder of Lot 1 and all of Lot 2) will be the subject of future development applications.

This ERIAR addresses the ecological and riparian elements and features of the Pleasure Point Residential Project *in toto*. The ERIAR considers all of the statutes and planning instruments relevant to the whole project with respect to ecological and riparian matters (see Chapter 1.3 below); essentially irrespective of the staging of the development.

Nevertheless, it is accepted that future elements or stage of the Project will require further analysis (as required by statute) at the time of any subsequent DA.

¹ It is noted that Section 1.5(1)(b) of the EP&A Act *inter alia* defines “the subdivision of land” as “development”.



Figure 1.3 The Pleasure Point Residential Project Masterplan (courtesy ADWJ).

The C3 land through the centre of the subject land and the RE1 land along the Georges River foreshore are to be rehabilitated according to a detailed *Landscape Plan* (Habitat8 2024) and a dedicated *Vegetation Management Plan* (VMP – Restore 2024) – as documented in subsequent chapters of this ERIAR.

Staging of the Project is documented above and is illustrated in Figure 1.4 - below.

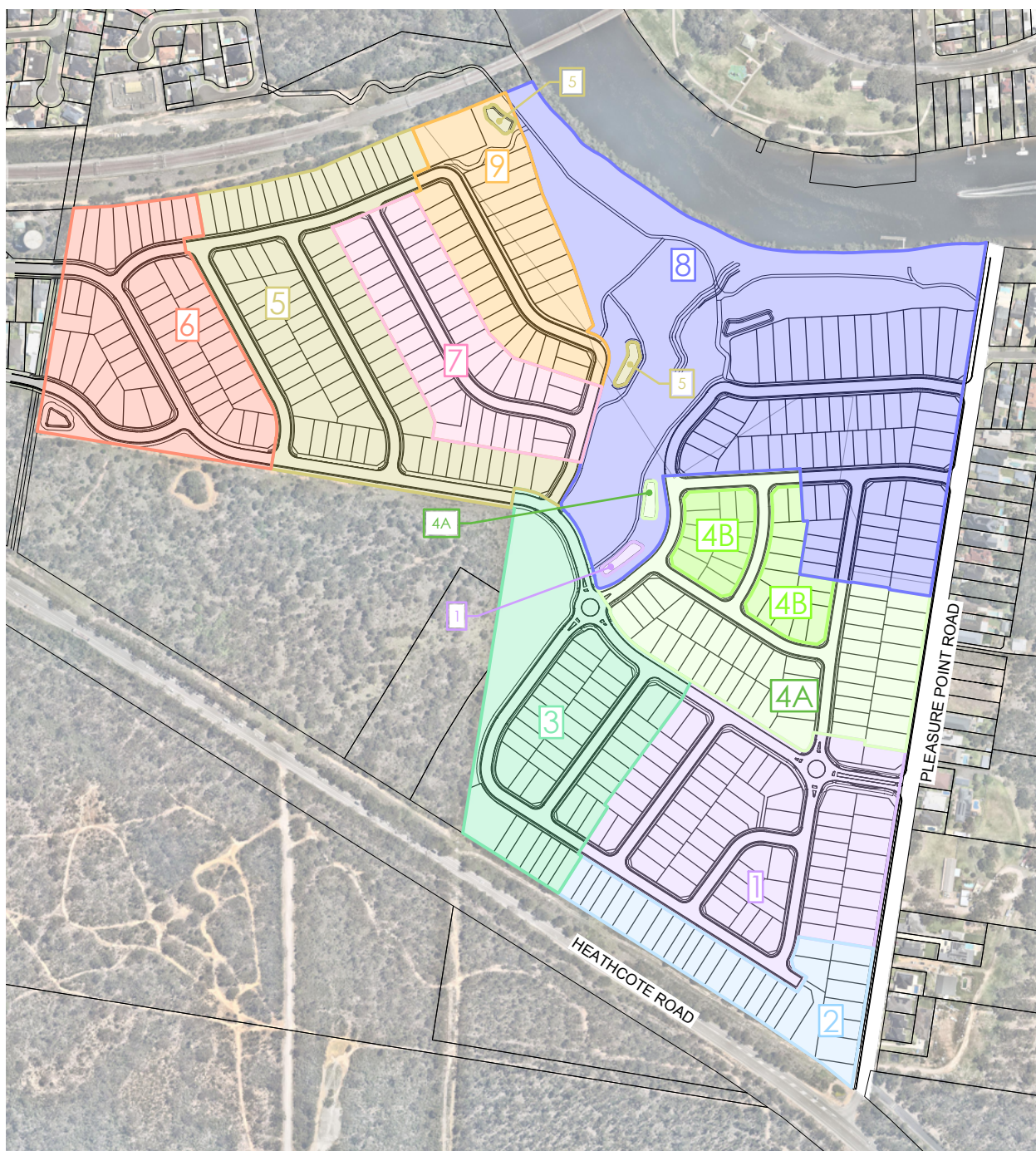


Figure 1.4 The *Staging Plan* for the Pleasure Point Residential Project (courtesy ADWJ).

It is to be noted that stages 1 to 7 of the Project (as depicted above) are the subject of the current *Development Application* (DA) to Liverpool City Council; whereas stages 8 and 9 of the Project (as depicted above) will be the subject of subsequent and separate DAs.

1.3 Statutory Considerations

The *Development Application* (DA) for the Pleasure Point Residential Project is the subject of the standard statutory requirements and environmental planning provisions – as addressed in the following chapters of this ERIAR.

- *Environmental Planning & Assessment Act 1979* (EP&A Act)
- *Biodiversity Conservation Act 2016* (BCon Act)
- *Water Management Act 2000* (WM Act)
- *Fisheries Management Act 1994* (FM Act)
- *Coastal Management Act 2016* (CM Act)
- *Environment Protection & Biodiversity Conservation Act 1999* (EPBC Act)
- *State Environment Planning Policy (Biodiversity and Conservation) 2021*
- *State Environment Planning Policy (Resilience and Hazards) 2021*
- *Liverpool Local Environmental Plan 2008* (LLEP 2008)
- *Liverpool Development Control Plan 2008* (LDCP 2008)

1.4 Background and Assumptions

The current Pleasure Point Residential Project design is the result of an iterative process involving multiple experts across a range of disciplines and in response to the relevant planning and legislative requirements and controls. In addition, advice was obtained from Liverpool City Council through the pre-DA process as well as through subsequent consultation and discussions.

This ERIAR has been prepared on the basis that development of the subject land as depicted and as described in the DA documentation will be undertaken in an environmentally sound manner – including the employment of current ‘best practice’ measures for soil and sediment management, the management of contaminants and waste, and water quality control measures during construction activities on the land and following occupation of the residential project.

Those matters are addressed in a range of other documents prepared for the Project – as documented in Chapter 2 (below). This ERIAR relies on the expert base for those *Reports*.

2 INFORMATION BASE

This ERIAR for the Pleasure Point Residential Project is based on a variety of sources of information, including *inter alia* the following.

- Inspections of the subject land by the undersigned through 2024.
- Detailed investigations by Anderson Environment & Planning (AEP) through 2024 for the preparation of a *Biodiversity Development Assessment Report* (BDAR) for the project (AEP 2024) - which is attached to the DA and is addressed and relied upon in this ERIAR.

Other relevant sources of information include the following

- The Office of Environment & Heritage (OEH) Bionet Atlas of NSW Wildlife records for the locality.
- The 'Protected Matters' database pursuant to the EPBC Act.
- Information regarding threatened biota contained on the OEH website.
- The general published literature on native and threatened biota.

The conclusions and outcomes contained within this ERIAR for the Pleasure Point Residential Project are also based, in part, on the following documents.

- The *Biodiversity Development Assessment Report* (BDAR - AEP 2024).
- The *Landscape Plan* (Habitat8 2024).
- The *Vegetation Management Plan* (VMP - Restore 2024).
- The *Water Cycle Management Plan* (WCMP - ADW Johnson 2024).
- The *Stream & Riparian Management Plan* (SRMP - ADW Johnson 2024).
- The *Concept Engineering Plans* for Stages 1-7 of the Project (ADW Johnson 2024).

3 SITE DESCRIPTION and HISTORY

The subject land is located at the boundary between urban development and conserved lands in the southeastern parts of Sydney – with substantial areas of dense urban development to the north and very extensive areas of conserved land and native vegetation to the south (see **Figure 3.1**).

Most of Lot 1 has been cleared and disturbed for a considerable period and is currently characterised by extensive areas of slashed and maintained grassland with scattered retained trees and mounds of landscaping and building materials and piles of imported fill (see **Figure 1.1**; *Photographic Essay* in **Attachment B**). There are various informal tracks across this part of the land; and pasture grasses and weeds dominate the groundcover layer.

Other than a few small copses of native trees within Lot 1, the only moderate stand of native vegetation is located along a drainage line through the centre of the Lot; contained within a deep depression in the C3-zoned land (**Figure 1.1**; *Photographic Essay* in **Attachment B**). There are also small patches of disturbed native vegetation in the north of Lot 1 (along the boundary with the railway easement to the north and extending onto a small rock outcrop) and another small patch in the east (along Pleasure Point Road), as well as a narrow band of native vegetation along the Georges River foreshore.

Lot 2 has been very substantially modified and developed - with a large residential dwelling in the eastern part of the Lot and three conjoined dwellings in the northern part of the Lot. There are extensive areas of mown and maintained grasslands and gardens; with concrete driveways and parking areas and footpaths throughout Lot 2 (**Figure 1.1**; *Photographic Essay* in **Attachment B**).

The Georges River frontage of Lot 2 contains areas of maintained grassland and planted gardens; with a narrow fringe of She-oaks and Mangroves along the River (**Figure 1.1**; *Photographic Essay* in **Attachment B**). There is also a broader band of Blue Box with a grassy maintained understorey at the eastern end of Lot 2, behind the fringe of She-oaks and Mangroves along the River.

There is a band approximately 40 metres wide along the Georges River frontage of Lot 2 which is zoned *RE1 – Public Recreation* (**Figure 1.2**). This part of the subject land will be retained generally in its current condition (although with some areas to be replanted and rehabilitated with native vegetation); and will be dedicated to Council at an appropriate juncture in the development process – in accordance with a proposed *Voluntary Planning Agreement* (VPA).

Pleasure Point Road runs the length of the eastern boundary of the subject land; with existing residential development to its immediate east (**Figure 1.1**). The southern boundary of the eastern portion of Lot 1 is bordered by a narrow strip of vegetation within the road easement of Heathcote Road; which may be removed in the future for the expansion of the Road. In addition, there is a broad band of native vegetation to the south of the western portion of Lot 1 (**Figure 1.1**). To the west of Lot 1 is existing residential development, to which the proposed development of Lot 1 will connect.

Given its existing nature, history and condition, as well as its location at the edge of existing substantial urban development, the subject land at Pleasure Point is of only very limited relevance or value in terms of biodiversity and conservation. Furthermore, the very substantial areas of protected and conserved lands to the south of the subject land at Pleasure Point (**Figure 3.1**) render the subject land *per se* of little or no relevance in biodiversity conservation terms, including for any potential threatened biota.

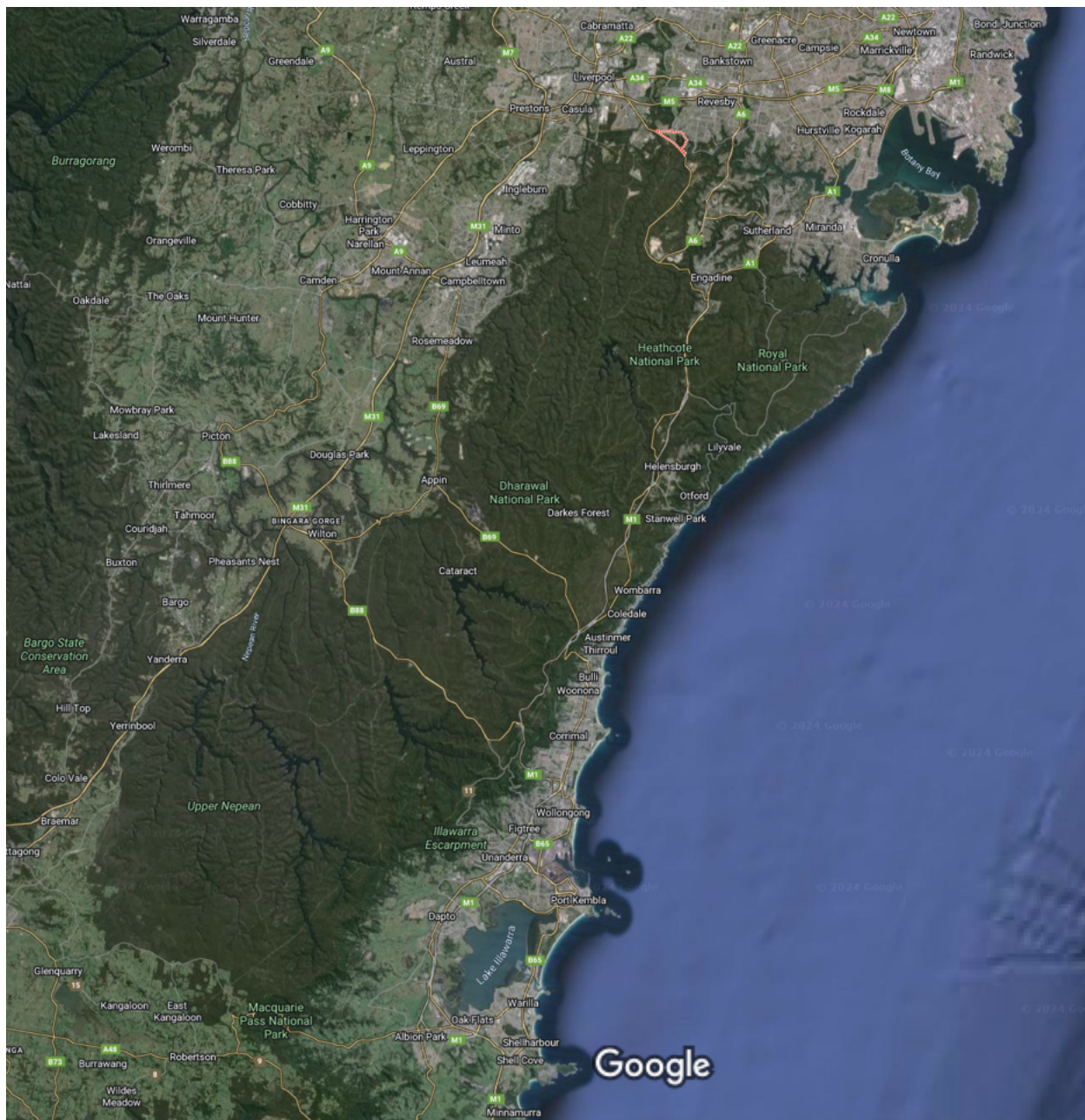


Figure 3.1 The extent of conserved lands to the south of Pleasure Point.

This extensive area includes several National Parks, the Holsworthy Military Range and the Sydney Water Catchments Area.

The total area of the conserved lands to the south of Pleasure Point is approximately 150,000 square kilometres.

4 FLORA and VEGETATION

Native vegetation on the subject land is addressed in considerable detail in the comprehensive BDAR for the Pleasure Point Residential Project (AEP 2024).

This chapter of the ERIAR provides an overview and general description of the vegetation and flora present on the subject land – based on the personal observations of the undersigned plus details derived from the BDAR (AEP 2024).

4.1 Vegetation Types and Flora Assemblage

The subject land at Pleasure Point consists predominantly of cleared land with scattered trees and/or small copses of trees; with some areas covered by buildings, concrete or asphalt and/or artificial gardens. Parts of the subject land contain old building materials and other debris, piles of bricks, mounds of disturbed earth or fill material and a number of large containers (see **Figure 1.1; Photographic Essay in Attachment B**).

The only ‘moderate’ stands of native vegetation on the subject land are located in the central and lower parts of the drainage line which traverses part of the land (from the central south) and adjacent to the Georges River (see **Figure 1.1; Photographic Essay in Attachment B**).

Vegetation on the subject land at Pleasure Point comprises five native Plant Community Types (PCTs) plus the ‘Cleared and Disturbed’ land - which occupies most of the subject land (**Figure 4.1; BDAR – AEP 2024**).

- 3616 - Sydney Hinterland Grey Gum Transition Forest (Moderate condition)
- 3619 - Sydney Hinterland Enriched Sandstone Bloodwood Forest (Moderate to Poor condition)
- 4024 - Cumberland Blue Box River-flat Forest (Degraded condition)
- 4028 – Estuarine Swamp Oak Twig-rush Forest (Disturbed)
- 4059 - Sydney Hinterland Sandy Creek-flat Shrub Forest (Good to Degraded condition)

Most of the remnant vegetation in the western part of the subject land is in poor to very poor condition; consisting of scattered trees or very small copses in cleared and maintained (slashed) grasslands or amongst piles of building rubble. Native groundcover vegetation is predominantly restricted to small patches (generally close to the base of individual trees), rather than as swards or widespread areas (see *Photographic Essay in Attachment B*).

Most of the vegetation along the Georges River foreshore has likewise been heavily modified over a long period – with driveways and pathways, extensive areas of maintained grass and lawns, planted gardens and a disturbed gravel area leading to a boat ramp and jetty along the Georges River (see *Photographic Essay in Attachment B*).

There are only small areas of native vegetation in relatively good condition on the subject land – two very small patches of Sydney Hinterland Grey Gum Transition Forest in the north and east, plus the band of Sydney Hinterland Sandy Creek-flat Shrub Forest through the centre of the land (**Figure 4.1**).

The Sydney Hinterland Grey Gum Transition Forest (PCT 3616) community is present in two patches on the subject land – one in the east (along Pleasure Point Road) and a small patch in the northern part of the land (adjacent to the railway line) – see **Figure 4.1** and the *Photographic Essay* in **Attachment B**. Both patches have a relatively limited and degraded understorey, and a rocky substrate. Much of the patch in the north of the site is to be retained.

The Sydney Hinterland Enriched Sandstone Bloodwood Forest (PCT 3619) community is present throughout much of the western and southeastern parts of the subject land – although mostly just as scattered trees amongst building rubble or within a slashed and maintained native or exotic grassland (**Figure 4.1**). This vegetation type is particularly degraded in the western parts of the subject land (see *Photographic Essay* in **Attachment B**).

The Cumberland Blue Box Creek-flat Forest (PCT 4024) community is confined to the lower parts of the subject land along the Georges River (**Figure 4.1**) and is mostly located within either the C3 or the RE1-zoned areas on the subject land.

Most of this vegetation type is to be retained and protected in the future development of the subject land; although a small patch in the east of the site is proposed to be cleared for development purposes. However, this small patch is highly modified – with a mown exotic grass groundcover and no native understorey species (see *Photographic Essay* in **Attachment B**).

The Sydney Hinterland Sandy Creek-flat Shrub Forest (PCT 4059) community is located within the central drainage line on the subject land – and is confined to the C3-zoned parts of the site (**Figure 4.1**). Although disturbed in places (see *Photographic Essay* in **Attachment B**), the majority of this vegetation type is to be retained and enhanced as part of the Pleasure Point Residential Project.

There is a very narrow band of Swamp Oak along the Georges River frontage of the subject land; immediately behind the mangroves which line the foreshore (see **Figure 4.1**; *Photographic Essay* in **Attachment B**). The band of mangroves appears to be located mostly outside of the subject land; but there is to be no impact imposed on this vegetation in any case.

The band of Swamp Oaks along the Georges River foreshore (see *Photographic Essay* in **Attachment B**) constitutes Estuarine Swamp Oak Twig-Rush Forest (PCT 4028). This band of vegetation is to be retained in its entirety and enhanced pursuant to the *Landscape Plan* (Habitat8 2024) and VMP (Restore 2024) for the Pleasure Point Residential Project.

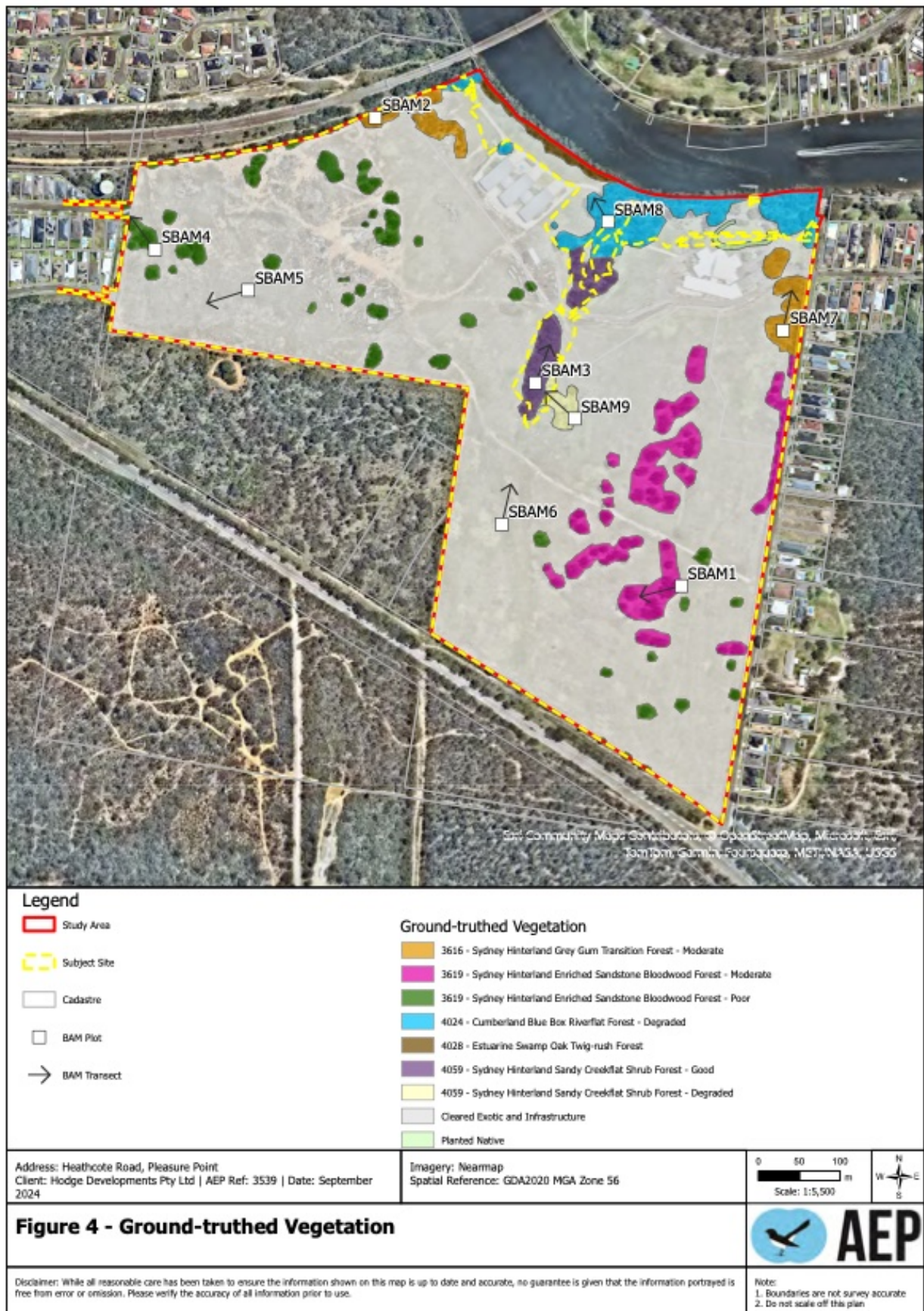


Figure 4.1 Map of 'ground-truthed vegetation' on the subject land at Pleasure Point - from the BDAR for the Project (AEP 2024).

4.2 Threatened Biota

No “*threatened species*” nor any “*endangered populations*” of any flora listed in the BCon Act or in the EPBC Act have been recorded recently on the subject land at Pleasure Point (BDAR – AEP 2024).

Furthermore, there is very little likelihood of any such flora species or populations being present on the subject land – given the long history of disturbance, development and modification of the land (see **Figure 1.1**). Dedicated surveys for an array of potential threatened flora species were undertaken as part of the extensive investigations for the BDAR for the Project (AEP 2024). However, no individuals of any threatened flora species have been located on the subject land.

Two of the vegetation types on the subject land are consistent with listed “*threatened ecological communities*” – in either or both the BCon Act or the EPBC Act (as discussed below).

The narrow band of Estuarine Swamp Oak Twig-rush Forest (PCT 4028) along the Georges River foreshore (immediately behind the Mangrove Forest along the River) conforms to the “*threatened [plant] ecological community*” (TEC) listed in the BCon Act as the ‘*Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions*’ community. This community is also listed in the EPBC Act as the ‘*Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland*’.

All stands of this community are to be protected and enhanced as part of the Pleasure Point Residential Project – as documented in the *Landscape Plan* (Habitat8 2024) and the VMP for the Project (Restore 2024).

The only other TEC present on the subject land is PCT 4024 – which is listed in the BCon Act as the ‘*River-flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions*’ community. This community is also listed in the EPBC Act as ‘*River-flat Eucalypt Forest on Coastal Floodplains of Southern New South Wales and Eastern Victoria*’.

This community is mostly contained within the lower parts of the C3-zoned land through the centre of Lot 1 and/or in the RE1 land on Lot 2 (**Figure 4.1**). The majority of this community is to be protected and enhanced as part of the Pleasure Point Residential Project – as documented in the *Landscape Plan* (Habitat8 2024) and the VMP for the Project (Restore 2024). However, a small patch (consisting of canopy trees in a maintained lawn of Common Couch) will be removed for later elements of the Project (particularly Stage 8 – see Figure 1.4).

The very narrow band of Mangrove Forest community fringing the immediate northern boundary of Lot 2 along the Georges River (see **Figure 4.1**; *Photographic Essay* in **Attachment B**) is protected pursuant to the *Fisheries Management Act 1994* (FM Act). No mangroves, nor any mangrove habitat, will be adversely affected by the Pleasure Point Residential Project (see Chapter 10 of this ERIAR).

Indeed, the mangrove vegetation, as well as other vegetation within the C3 and RE1 portions of the subject land, will be better protected as a consequence of the Pleasure Point Residential Project; as a consequence of the water management measures and the vegetation rehabilitation measures which are integral elements of the Project.

5 FAUNA and FAUNA HABITATS

5.1 Fauna Habitats

The subject land at Pleasure Point contains only limited and mostly scattered habitat or resources for an array of mostly ubiquitous, cosmopolitan and common native vertebrate fauna. This is not surprising given the history of clearing and the extent of disturbance to vegetation on the land as well as its peri-urban context (see **Figure 1.1**; *Photographic Essay* in **Attachment B**).

There are just 6 live hollow-bearing trees as well as 9 stags present on the subject land (**Figure 5.1**; BDAR – AEP 2024). The majority of the hollows present are relatively small and just one (a stag located in the central watercourse) is potentially suitable for species such as the large cockatoos (see *Photographic Essay* in **Attachment B**). Furthermore, any of those resources to be removed will be salvaged and re-utilised pursuant to a *Tree-hollow Protocol* to be prepared for the Project.

The relatively sparse canopy and minimal shrub layer across most of the subject land provide only limited foraging resources for native birds or microchiropteran bats. There are no other resources of particular value (eg rock piles or pools) on the subject land, although the piles of building rubble and debris could provide some resources for a range of cosmopolitan reptile species.

The subject land does not contain any farm dams or ponds that would likely be of any particular value for native amphibians; although a few tolerant and cosmopolitan species (such as the Common Eastern Froglet and Striped Marsh Frog) could be present.

5.2 Fauna Species

The fauna species present or those likely to occur on the subject land are predominantly cosmopolitan, generally abundant and tolerant of modified and urban or peri-urban environments. A total of just 20 native fauna species have been recorded during surveys on the subject land (AEP 2024); although additional species are likely to occur on either a seasonal or longer term basis.

The bird species which have been recorded (AEP 2024) are typical of urban and peri-urban environments throughout Sydney; and any additional bird species which are likely to occur would necessarily also be tolerant of such landscapes. This applies to potential threatened bird species (such as the Regent Honeyeater and Swift Parrot, forest Owls and potential raptor species); several of which occur frequently throughout the Sydney metropolitan area (as recorded in the OEH Bionet data and as observed by the undersigned on many occasions).

Only a limited suite of native mammal species have been recorded on or are likely to occur on the subject land (the Bush Rat, Eastern Ringtail Possum, Sugar Glider, Southern Myotis and a *Vespadelus* species - AEP 2024). The Grey-headed Flying Fox and a number of additional cosmopolitan microchiropteran bat species (typical of the urban areas of Sydney) are likely to utilise parts of the subject land for foraging purposes; and a few individuals could potentially roost in some of the small tree-hollows on the site.

Reptile and amphibian species recorded on or likely to utilise the subject land would predominantly or exclusively be those adapted to peri-urban environments; and would also be cosmopolitan and common species. To date, no amphibian species has been recorded on the subject land (AEP 2024); reflecting the disturbed and depauperate nature of the subject land



Figure 5.1 Hollow-bearing Trees (HBTs) recorded on and/or adjacent to the subject land at Pleasure Point (AEP 2004).

5.3 Threatened Fauna

The only threatened fauna species considered likely to occur on the subject land at Pleasure Point are wide-ranging and highly mobile species – generally tolerant of highly modified urban or peri-urban environments. Such species would include individuals of a few microchiropteran bat species, the Grey-headed Flying Fox and possibly occasional individuals of a few wide-ranging bird species.

Of those potential threatened fauna species, only the Southern Myotis and a *Vespadelus* species were recorded during surveys for the BDAR (AEP 2024).

Whilst occasional individuals of species such as the Regent Honeyeater and Swift Parrot could occur on the subject land (given scattered records throughout the Sydney metropolitan area), any such visits would be fleeting. Both species are highly mobile and individuals cover large distances. The Swift Parrot breeds in Tasmania and only visits mainland Australia (as far north as Queensland) in the winter months. The Regent Honeyeater is nomadic and there are no known colonies in or near Sydney.

Similar considerations apply to the forest owls and/or to other raptors (such as the White-bellied Sea Eagle, Osprey and Square-tailed Kite). All have very large home ranges. There are **no** stick nests or suitable tree-hollows present on the subject land. Whilst occasional individuals of some of these species (particularly the White-bellied Sea Eagle and/or Osprey) could potentially occur on or near the land on occasions, the subject land does not possess attributes of particular relevance. It is also relevant to note that both of these species are present in various places in Sydney.

The subject land contains only limited potential resources for threatened microchiropteran bat species (a few tree-hollows and a scattered tree canopy for foraging). It is also noted that all of those species which could be present are, in any case, common throughout the Sydney metropolitan area. Whilst individuals of the Grey-headed Flying Fox could doubtless occur on the subject land on occasions (foraging in planted garden trees when in season), there are few resources of potential significance present; noting also the extremely wide-ranging habits of this species.

There is no current or recent evidence of the Koala on the subject land at Pleasure Point (see detailed discussion In Chapter 13 of this ERIAR) and there is little or no likelihood of any other threatened mammal species being present on the land – given the history of disturbance and the local urban matrix.

The subject land does not provide any suitable resources or habitat for any threatened terrestrial mammals (such as the Tiger Quoll) or any threatened arboreal mammals (such as the Eastern Pygmy Possum and the various threatened gliders).

There is no suitable habitat for any threatened reptiles or amphibians known from the locality; and no such species are likely to be present (given the nature and condition of the subject land). There is no suitable habitat present for the Green & Golden Bell Frog, nor for any other threatened amphibians (such as the Red-crowned Toadlet). Similarly, there are no habitats or resources of relevance for any threatened reptile species on the subject land at Pleasure Point.

No specimens of the Cumberland Plain Land Snail or the Dural Land Snail have been recorded on the subject land to date (BDAR – AEP 2024). Given the highly modified and cleared nature of the majority of the subject land, it is extremely unlikely that either of these species (or any other threatened invertebrate species) would be present.

Section 4.15(b) of the EP&A Act requires (relevantly) that a consent authority is to take into consideration “the likely impacts of .. development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality”. The application of Section 4.15(b) of the EP&A Act, therefore, is a matter of balancing the “environmental impacts” of a development proposal against the beneficial development outcomes.

As documented above, the subject land at Pleasure Point is highly modified from its original condition; and contains only limited and mostly scattered resources and/or habitat features for native (including possible threatened) species of wildlife (see **Figure 3.1**; **Figure 4.1**; *Photographic Essay* in **Attachment B**). Most of the native vegetation of ecological or biodiversity conservation value is contained within the drainage line through the centre of the subject land (which is to be retained and enhanced) and/or along the Georges River foreshore.

Development of the subject land at Pleasure Point for the proposed residential subdivision and associated open space and landscaping (the Pleasure Point Residential Project) has been designed *inter alia* to avoid and/or mitigate adverse impacts on the natural environment, to the greatest extent reasonably practicable, by virtue of the following considerations.

- The retention of a small patch of relatively high value vegetation within the northern part of the development area (see Chapter 12).
- The retention of significant numbers of trees on the subject land (**Figure 6.1**).
- Substantial landscaping and revegetation of the subject land - including in and adjacent to the C3 and RE1 lands as detailed in the VMP (Restore 2024; **Figure 6.2**) and the *Landscape Plan* (Habitat8 2024; **Figure 6.3**) and for the Project.
- Detailed consideration of the treatment of stormwater runoff throughout the development to avoid impacts on retained vegetation - *Water Cycle Management Plan* (Water Cycle MP – ADWJ 2024); *Stream & Riparian Management Plan* (Stream & Riparian MP – ADWJ 2024).
- Implementation of a *Vegetation Management Plan* (VMP) through the C3 and RE1 portions of the subject land (Restore 2024) - to complement the SRMP and the *Landscape Plan*.
- Implementation of a *Construction Environmental Management Plan* (CEMP) through the development footprint (to be prepared prior to the commencement of physical works on the subject land).
- The implementation of appropriate measures for the control and management of sediment and potential contaminants (per the *Management Plans* cited above).
- Implementation of a *Hollow-bearing Tree Protocol* for the Project – to salvage and re-deploy tree-hollows for native fauna within protected and/or landscaped portions of the Project and/or into other retained vegetation in the immediate vicinity.

Given the considerations above, the Pleasure Point Residential Project is **not** likely to impose any relevant adverse impacts upon any threatened biota or upon any significant biodiversity values. The Pleasure Point Residential Project, incorporating the impact amelioration measures, landscaping and biodiversity ‘off-setting measures’, does not constitute an activity which would be regarded as unacceptable or unreasonable in terms of Section 4.15(b) of the EP&A Act.

The consideration of the potential effects of the Pleasure Point Residential Project on the “*natural .. environment*” has taken into account the various relevant statutes and planning instruments which apply to development proposals - including the Liverpool Council LEP and DCP, several other Acts and relevant SEPPs (see Chapter 1.3); as documented in the subsequent chapters of this ERIAR.

As noted above, the potential adverse impacts from the proposed development of the subject land at Pleasure Point on the ‘natural environment’ have been –

- ‘**avoided**’ (wherever practicable) – by responsive design (as noted above);
- ‘**mitigated**’ (where impacts cannot be avoided) - by the implementation of appropriate protection measures and *Management Plans*; and/or
- ‘**offset**’ - by the extensive landscaping and rehabilitation of parts of the subject land and by the retirement of relevant Biodiversity Credits (see Chapter 7 of this ERIAR and the BDAR – AEP 2024).



Figure 6.1 Tree Retention and Removal Plan for the Pleasure Point Residential Project.



Figure 6.2 VMP map (Restore 2004) for the Pleasure Point Residential Project.
For details of the various Management Zones – see the VMP.

Figure 6.3 (overleaf) Landscape Plan (Habitat8 2004) for the Pleasure Point Residential Project.

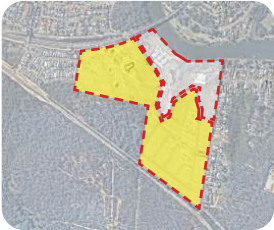
LANDSCAPE MASTERPLAN

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

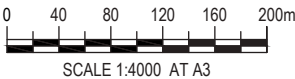


KEY

- SITE BOUNDARY - STAGE 1
- - - SITE BOUNDARY - STAGE 2
- FLOOD LINE
-  PROPOSED TREE PLANTING
-  EXISTING TREES TO BE REMOVED
REFER TO ARBORIST'S REPORT
-  EXISTING TREES TO BE RETAINED
REFER TO ARBORIST'S REPORT
-  FOOTPATH
-  TURF
-  GARDEN BEDS
-  REVEGETATION ZONE
-  EXISTING VEGETATION
TO BE RETAINED



CONTEXT PLAN



CLIENT
**HODGE
DEVELOPMENT
PTY LTD**

PROJECT
PLEASURE POINT SUBDIVISION
54 PLEASURE POINT ROAD
HOLSWORTHY NSW

DRAWING TITLE
LANDSCAPE
MASTERPLAN



SCALE
1:4000 @A3

DRAWN
KM / DF / GP

CHECKED
DV

PROJECT NO.
H8-24016-2

DRAWING NO.
L02

REVISION
F

LANDSCAPE ARCHITECT



7 NSW BIODIVERSITY CONSERVATION ACT

7.1 The Statutory Regime

The *Biodiversity Conservation Act 1995* (BCon Act) has modified the *Environmental Planning & Assessment Act 1979* (EP&A Act) by the provision of specific requirements for the consideration and assessment of the clearing of native vegetation and the potential for impacts on “*threatened species*”².

Relevantly, Section 7.7(2) of the BCon Act states that if a “*proposed development is likely to significantly affect threatened species, the application for development consent is to be accompanied by a biodiversity development assessment report*” (a BDAR).

Section 7.2(1) of the BCon Act identifies the following required considerations.

- (1) *For the purposes of this Part, development or an activity is **likely to significantly affect threatened species** if:*
 - (a) *it is likely to significantly affect threatened species or ecological communities, or their habitats, according to the test in section 7.3, or*
 - (b) *the development exceeds the biodiversity offsets scheme threshold if the biodiversity offsets scheme applies to the impacts of the development on biodiversity values, or*
 - (c) *it is carried out in a declared area of outstanding biodiversity value.*

7.2 Section 7.2(1) of the BCon Act

Consideration of the Pleasure Point Residential Project pursuant to Section 7.2(1) of the BCon Act generates the following assessments.

- (a) *likely to significantly affect threatened species or ecological communities, or their habitats, according to the test in section 7.3*

The Pleasure Point Residential Project is not “*likely to significantly affect threatened species or ecological communities, or their habitats, according to the test in section 7.3*” (as documented below in Chapter 7.3 of this ERIAR).

It is noted that an assessment pursuant to the test in Section 7.3 of the BCon Act **does not** need to be undertaken where a BDAR has been prepared for the Project. Nevertheless, for an ‘abundance of caution’, Section 7.3 has been addressed in Chapter 7.3 of this ERIAR.

- (b) *the development exceeds the biodiversity offsets scheme threshold if the biodiversity offsets scheme applies to the impacts of the development on biodiversity values*

The Pleasure Point Residential Project does exceed “*the biodiversity offsets scheme threshold*” - on the basis of the following considerations.

- 1 The Project will result in “*the clearing of native vegetation of an area declared by clause 7.2 [of the Regulation] as exceeding the [biodiversity offsets scheme] threshold*”.

² The term “*threatened species*” include “*threatened species, populations and ecological communities*” listed in the *Biodiversity Conservation Act 2016*.

The Pleasure Point Residential Project involves the clearing of “*native vegetation*” (albeit predominantly scattered native trees and groundcover plants) with a total area of more than 2,500m² over the whole of the Project site. As the minimum lot size on the land is less than one hectare, the “*threshold*” for this site is 2,500m².

- 2 Conversely, the area to be affected on the subject land at Pleasure Point is not “*included on the Biodiversity Values [BV] Map published under clause 7.3*” of the *Regulation* (see **Figure 7.1** below; **Attachment A**). Whilst there is a narrow discontinuous band of BV mapped land along the Georges River frontage, **none** of that vegetation is to be affected by the proposed subdivision or subsequent development of the subject land.

(c) *It is carried out in a declared area of outstanding biodiversity value*

The subject land at Pleasure Point is not “*in a declared area of outstanding biodiversity value*”.

Conclusions

The Pleasure Point Residential Project will require the removal of “*native vegetation*” of an area that exceeds “*the biodiversity offsets scheme threshold*” - pursuant to Section 7.2(1)(b) of the BCon Act.

Conversely, the Project is not “*likely to significantly affect threatened species*” - pursuant to Section 7.2(1)(a) of the BCon Act.

The Pleasure Point Residential Project therefore does need “*to be accompanied by a biodiversity development assessment report*” (BDAR). Such a BDAR has been prepared for the Project (AEP 2024) which *inter alia* addresses the biodiversity offsetting requirements of the BCon Act.

This ERIAR refers to and, where relevant, defers to the BDAR.

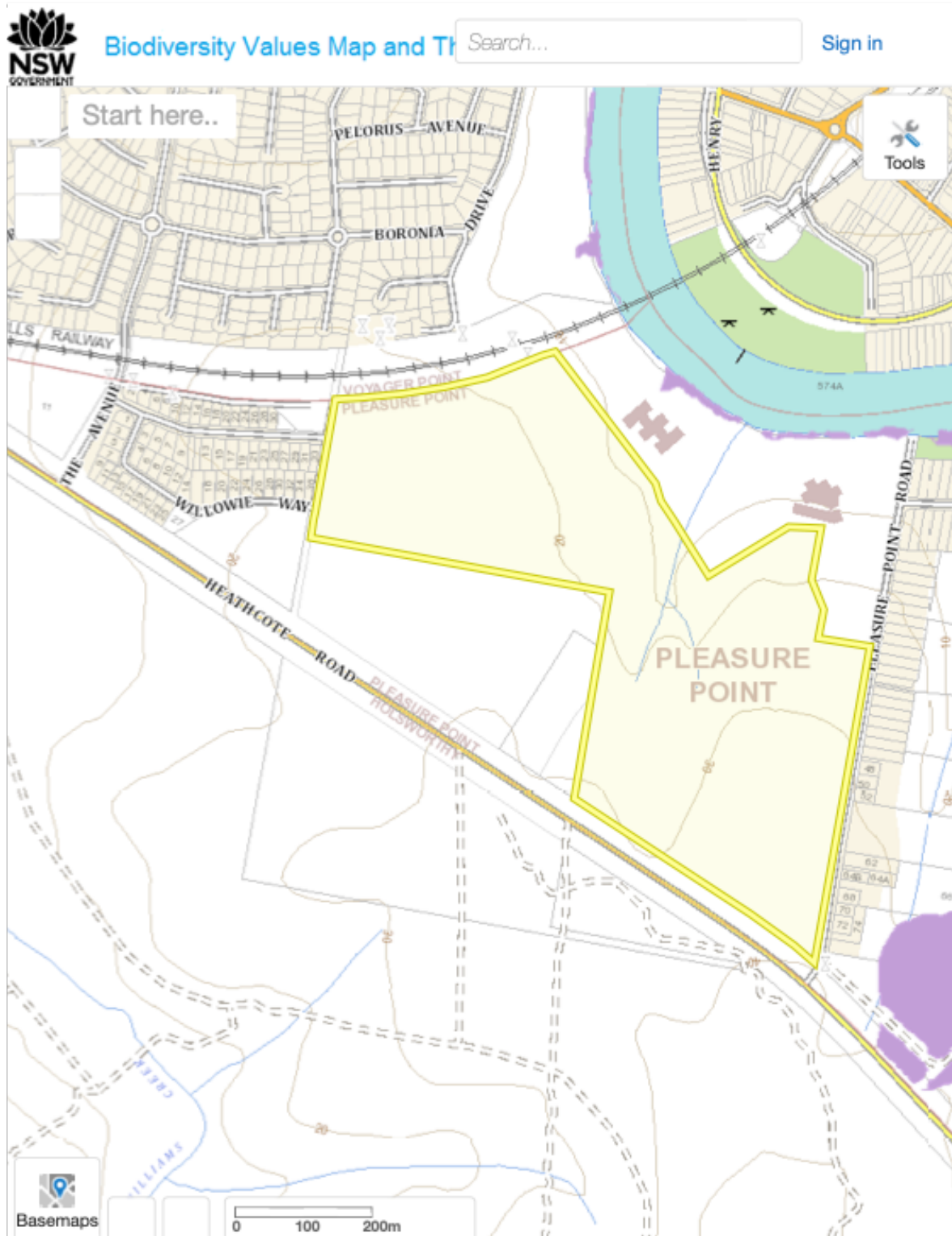


Figure 7.1 Mapping of *Biodiversity Values* land at Pleasure Point. The map highlights only Lot 1 in yellow; Lot 2 extends from Lot 1 to the Georges River.

The BV mapped area along the Georges River foreshore coincides precisely with the mapping of Coastal Wetlands pursuant to the '*Hazards and Resilience SEPP*' (see Chapter 9 of this ERIAR).

The BV mapped area on the subject land will **not** be adversely affected by the Project.

7.3 Section 7.3 of the BCon Act

Section 7.3 of the BCon Act provides the matters that “*must be taken into account*” and the specific “*Test for determining whether [a] proposed development or activity [is] **likely to significantly** affect threatened species or ecological communities, or their habitats*” (emphases added) - as referred to in Section 7.2(a) of the BCon Act (as noted above).

In addition to the factors which “*must be taken into account*” (where relevant) pursuant to Section 7.3(1) of the BCon Act, Section 7.3(2) of the Act identifies that the “*Minister may, by order published in the Gazette with the concurrence of the Minister for Planning, issue guidelines relating to the determination of whether a proposed development or activity is likely to significantly affect threatened species or ecological communities, or their habitats*”. Where relevant, such guidelines have been taken into account by the undersigned in the consideration of potential impacts on threatened biota.

The nature, condition and circumstances of the subject land (as described in detail throughout this ERIAR) are an important and highly relevant consideration in addressing the *Assessment of Significance* pursuant to Section 7.3 of the BCon Act.

This *Assessment of Significance* is based substantially on data from the BDAR for the project (AEP 2024) as well as the personal observations, experience and considerations of the undersigned.

Section 7.3(1) of the BCon Act provides the following “*test*”.

The following is to be taken into account for the purposes of determining whether a proposed development or activity is likely to significantly affect threatened species or ecological communities, or their habitats:

- (a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,*
- (b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:*
 - (i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or*
 - (ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,*
- (c) in relation to the habitat of a threatened species or ecological community:*
 - (i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and*
 - (ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and*
 - (iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality,*
- (d) whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),*
- (e) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.*

Factor (a) Threatened Species – Risk of Extinction

There is **no** likelihood that any element of the subject land at Pleasure Point to be affected by the Project would support, or be crucial to, the **survival** of a “**viable local population**” of any “*threatened species*” known from the general locality (as discussed in Chapters 4 and 5 of this ERIAR).

No threatened flora species have been recorded on or are likely to occur within the subject land at Pleasure Point (AEP 2024) - as discussed in Chapter 4.3 of this ERIAR.

The **only** threatened fauna species which could potentially occur on the subject land itself are highly mobile and wide-ranging species (as discussed in Chapter 5.3 of this ERIAR) – individuals of a few threatened microchiropteran bats and possibly a few highly mobile threatened bird species known from the locality and/or the Grey-headed Flying Fox. The Koala is not present on the land.

The only threatened fauna actually recorded on the subject land are two threatened microchiropteran bats (the Southern Myotis and a *Vespadelus* sp.). As noted in the BDAR, individuals of a range of other threatened species (particularly other microchiropteran bats, the Grey-headed Flying Fox and/or a few highly mobile threatened birds) **could** occur on the subject land, on occasions.

However, there is no likelihood that even a single individual of any such species (including the Koala) would be, or could be, dependent solely on the subject land for their survival in this locality – given the nature and condition of the subject land at Pleasure Point, its peri-urban context, and the substantial extent of conserved habitat and resources in the general vicinity and broader locality (**Figure 3.1**).

The relevant test for Factor (a) of Section 7.3 of the BCon Act is “*whether the proposed development or activity is likely to have an adverse effect on the life cycle of*” a threatened species “*such that a **viable local population** of the species is **likely** to be placed at risk of **extinction***” (emphases added).

Given the considerations discussed above, and the data provided in this ERIAR and in the BDAR (AEP 2024), it is not “*likely*” that a “*viable local population*” of any “*threatened species*” would be “*placed at risk of extinction*” by the Pleasure Point Residential Project.

Factor (b) Threatened Ecological Communities – Risk of Extinction

As discussed above (in Chapter 4.2 of this ERIAR), there are two relevant “*threatened ecological communities*” (TECs) listed in the BCon Act - the ‘River-flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions’ community and the ‘Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions’ community.

Both of these TECs are confined to the C3-zoned and/or RE1-zoned areas of the subject land (**Figure 4.1**); and will be retained and protected; other than a small area of highly degraded ‘River-flat Forest’ (as discussed in Chapter 4 of this ERIAR). In addition, the Pleasure Point Residential Project incorporates measures to avoid and/or minimise adverse impacts on these TECs (by the management of water quality) as well as measures to enhance the vegetation and habitats in this part of the subject land - pursuant to the detailed *Landscape Plan* (Habitat8 2024) and the VMP for the Project (Restore 2024).

There is **no** likelihood that the TECs present on the subject land would be “*placed at risk of extinction*” by the Pleasure Point Residential Project; despite the small reduction in extent of the degraded ‘River-flat Forest’ in the east of the Project.

Factor (c) Impacts on Habitat for Threatened Biota

As noted above, the Pleasure Point Residential Project is the subject of a comprehensive BDAR (AEP 2024) – which has assessed the Project and has documented the removal of vegetation and habitat for threatened biota. The BDAR has also calculated the Biodiversity Offsets required for that loss – pursuant to the requirements of the BCon Act.

Given the circumstances of the subject land at Pleasure Point, the following considerations apply to “*the action proposed*” with respect to Factor (c) of Section 7.3(1) of the BCon Act.

- The “*extent*” of even potential habitat for any potential threatened biota that is to be “*removed or modified*” from the subject land at Pleasure Point is insignificant in the local and/or regional context (including with respect to the TECs present) – given the existing condition of the subject land and the substantial extent of suitable habitat and resources in the extensive conserved lands in the vicinity (see **Figure 3.1; Attachment A**).
- No threatened biota would likely be dependent on the vegetation or ‘habitats’ which are to be affected on the subject land at Pleasure Point for their survival in the vicinity or locality.
- No significant or important habitat for any potential threatened biota will be “*removed or modified*” for the proposed residential subdivision project at Pleasure Point - Factor (c)(i).
- Given the location, nature and condition of the subject land, the Pleasure Point Residential Project will not result in any relevant habitat for any threatened biota becoming “*fragmented or isolated from other areas of habitat*” – Factor (c)(ii).
- Given the lack of important habitat or resources for any of the threatened biota that could potentially be present, and given the high mobility and/or substantial home ranges of any potentially relevant threatened biota as well as the impact mitigation measures which have been incorporated into the Project, the subject land at Pleasure Point cannot be regarded as of importance with respect to “*the long-term survival*” of any of the threatened biota known or likely to occur “*in the locality*” – Factor (c)(iii).

Factor (d) Impacts on Areas of Outstanding Biodiversity Value

There is no “*declared area of outstanding biodiversity value*” in the vicinity of the land at Pleasure Point.

Factor (e) Key Threatening Processes

The Pleasure Point Residential Project will (to a limited extent) involve the imposition of 3 “*key threatening processes*” (KTPs) listed in the BCon Act.

- Clearing of Native Vegetation.

- Loss of Hollow-bearing Trees.
- Removal of Dead Wood and Dead Trees.

However.

The Pleasure Point Residential Project will result in only minimal impacts as a result of these KTPs. The subject land contains only a small cohort of 'native vegetation' and an even smaller cohort of 'hollow-bearing trees' or 'dead trees' (see Chapter 5). Furthermore, tree-hollows and/or hollow-bearing trees will be salvaged and re-deployed per a '*Tree-hollow Protocol*' contained within the VMP for the Project (Restore 2024).

The loss of those limited resources from the subject land is not likely to be relevant for the survival of any threatened species - either on the subject land or in the vicinity. There are very large areas of undisturbed and protected native vegetation in the extensive conservation lands to the south of the subject land – as far south as Lake Illawarra (see **Figure 3.1**).

7.4 Biodiversity Credit Offsets

The BCon Act provides a mechanism to evaluate and quantify the impacts of development activities on the natural environment; and a mechanism to offset any relevant impacts. The Act provides the following.

- A *Biodiversity Assessment Method* (BAM) - which details the impacts of a development and quantifies the Biodiversity Offsets required.
- A *Biodiversity Offsets Scheme* (BOS) – which provides the mechanism to acquire the Biodiversity Offsets required.

As documented in the BDAR (AEP 2024), an array of Biodiversity Credit Offsets is to be acquired and retired for the Pleasure Point Residential Project - to offset those impacts that cannot be fully avoided or minimised. The Project generates a requirement for both Ecosystem Credits and Species Credits (as documented in the BDAR – AEP 2024).

These Biodiversity Credit Offsets will satisfy the requirements and obligations for the Pleasure Point Residential Project with respect to the provisions of the BCon Act.

7.5 Conclusions – Biodiversity Conservation Act

Given the matters outlined above, the Pleasure Point Residential Project is not "*likely*" to impose a "*significant effect*" (nor, indeed, any effect in most instances) upon any "*threatened species or ecological communities, or their habitats*" that are present in the vicinity or that could occur at this location - pursuant to Section 7.3(1) of the BCon Act.

Conversely, the Project will remove an area of native vegetation that triggers the provisions of the BCon Act. As a consequence, the Pleasure Point Residential Project is the subject of a BDAR (AEP 2024) – which addresses in detail the potential impacts of the proposal on threatened biota and which provides an appropriate biodiversity offset protocol for the Project.

8 WATER MANAGEMENT ACT

8.1 The Statutory Regime

The ‘objects’ of the *Water Management Act 2000* (WM Act) include *inter alia* – to “protect, enhance and restore watersources, their associated ecosystems, ecological processes and biological diversity and their water quality” and to “recognise and foster the significant social .. benefits to urban communities”. The WM Act therefore does not impose a blanket requirement for the rehabilitation of all lands adjoining watercourses (or “watersources”) in NSW.

Of relevance to the subject land at Pleasure Point, the *Water Management Act 2000* (WM Act) defines “waterfront land” (*inter alia*) as:

“the bed of any river, together with any land lying between the bed of the river and a line drawn parallel to, and the prescribed distance inland of, the highest bank of the river”.

The “prescribed distance” is defined in the WM Act, relevantly for the Project, as “40 metres”. In most instances, development activities within “waterfront land” (as defined above) would require a *Controlled Activity Approval* (CAA) from the Natural Resources Access Regulator (NRAR).

8.2 Relevance of the Subject Land

The northeastern boundary of the subject land at Pleasure Point is located along the Georges River (**Figure 8.1**). Any physical works or development activities within 40 metres of the “highest bank” of the Georges River (*ie* immediately adjacent to the River itself) would require a CAA from the NRAR.

However, it is noted that there is a 40 metre wide band of land zoned *RE1 – Public Recreation* along the Georges River frontage (see **Figure 1.2**). The only activities to be undertaken within this area of ‘waterfront land’ will be the provision of facilities for passive recreation (chairs, pathways, retention of the existing jetty *etc*) and minor repairs to the parking lot for the jetty, with specific areas of revegetation - see the VMP (**Figure 6.2**) and the *Landscape Plan* (**Figure 6.3**) for the Project.

The only other watercourse³ (or “watersource”) on the subject land is that located through the centre of the land – flowing from the central parts northwards into the Georges River (**Figure 8.1**).

The Hydroline mapping of this part of the subject land indicates two very small 1st Order ‘streams’⁴ in the southern parts of the land, joining to form a 2nd Order stream in the centre of the land (**Figure 8.1**). However, the Hydroline mapping is based on large-scale topographic mapping (most likely 1:25,000) and has not likely been ‘ground-truthed’ or verified on the subject land (until now).

The two 1st Order ‘streams’ on the subject land are merely (at best) very shallow swales through managed paddocks (**Figure 8.1**; see *Photographic Essay* in **Attachment B**). There is no “channel” associated with either of these ‘streams’; and neither constitutes a “river” pursuant to the WM Act. Therefore, there is no “waterfront land” present along either ‘stream’. As a consequence, there would be no requirement for a CAA from the NRAR for any works or activities along either of these ‘streams’.

³ There is no definition of “watercourse” in either the WM Act or the *Regulation*.

⁴ There is no definition of “stream” in either the WM Act or the *Regulation*



Figure 8.1 Hydroline mapping through the subject land at Pleasure Point.

Note that the two 'purported' 1st Order streams in the south of the subject land are merely very shallow 'overland flow paths' and possess no channel and no 'bed' or 'banks'.

They therefore possess no "*waterfront land*" and would not be subject to any constraints from the NRAR.

8.3 Relevant Considerations

The 'Watercourse'

The only relevant 'watercourse' (or 'watersource') within the subject land at Pleasure Point is the small 'stream' that traverses the land from the central parts northwards to the Georges River (**Figure 8.1**).

That feature should be treated as a 1st Order stream - given that neither of the purported 1st Order streams above it actually exist; other than as 'overland flow paths' (see *Photographic Essay* in **Attachment B**). In any case, the relevant watercourse (a) is located within the C3-zoned land and is to be retained and enhanced and (b) is the subject of the VMP (Restore 2024; **Figure 6.2**), the comprehensive *Landscape Plan* (Habitat8 2024; **Figure 6.3**), and the SRMP (ADWJ 2024).

A 1st Order stream 'requires' a 10 metre wide *Vegetated Riparian Zone* (VRZ) whereas a 2nd Order stream 'requires' a 20 metre wide VRZ.

The 'highest banks' of the watercourse through the subject land have been surveyed (**Figure 8.2A**; **Figure 8.2B**). It is to be noted that there is no '*highest bank*' at the lowest end of the 'watercourse' – as this area has been extensively landscaped and would have been merely a 'floodplain' originally in any case (see *Photographic Essay* in **Attachment B**).

Notwithstanding the above considerations, the 'watercourse' through the central parts of the subject land has been designated a 2nd Order 'Stream', for the purposes of the Pleasure Point Residential Project; and a 20m wide VRZ on each side of the watercourse has been incorporated into the VMP (Restore 2024).

Landscape Plan and VMP

The VMP (Restore 2024; **Figure 6.2**) and the *Landscape Plan* (Habitat8 2024; **Figure 6.3**) have been developed through a consultative and iterative process - to achieve an appropriate and balanced outcome of ecological goals and enhanced amenity and access within the C3 and RE1 lands. This approach facilitates the following outcomes.

- The retention, protection and/or enhancement of native vegetation within and adjacent to the watercourse for a distance of 20 metres from the '*highest bank*'.
- The provision of passive open space and features of interest for public recreation and the enjoyment of the natural environment around the watercourse.
- The regeneration of native riparian vegetation in appropriate locations – noting that the safety of vulnerable people (children, women and the elderly) is a relevant, and important, consideration in any new residential development.
- The riparian vegetation proposed to be planted around the watercourse will include an array of vegetation types and elements (see *Landscape Plan* by Habitat8 2024; and the SRMP and VMP for the project).
- In addition, the 'Averaging Rule' allows for incursions of up to 50% into the 'Riparian Corridor' (RC) or VRZ on the *proviso* that offsets can be provided elsewhere along the watercourse. The Pleasure Point Residential Project provides for a broad area of riparian vegetation in the lower parts of the 'watercourse' (see *Landscape Plan* by Habitat8 2024 and VMP by Restore 2024).

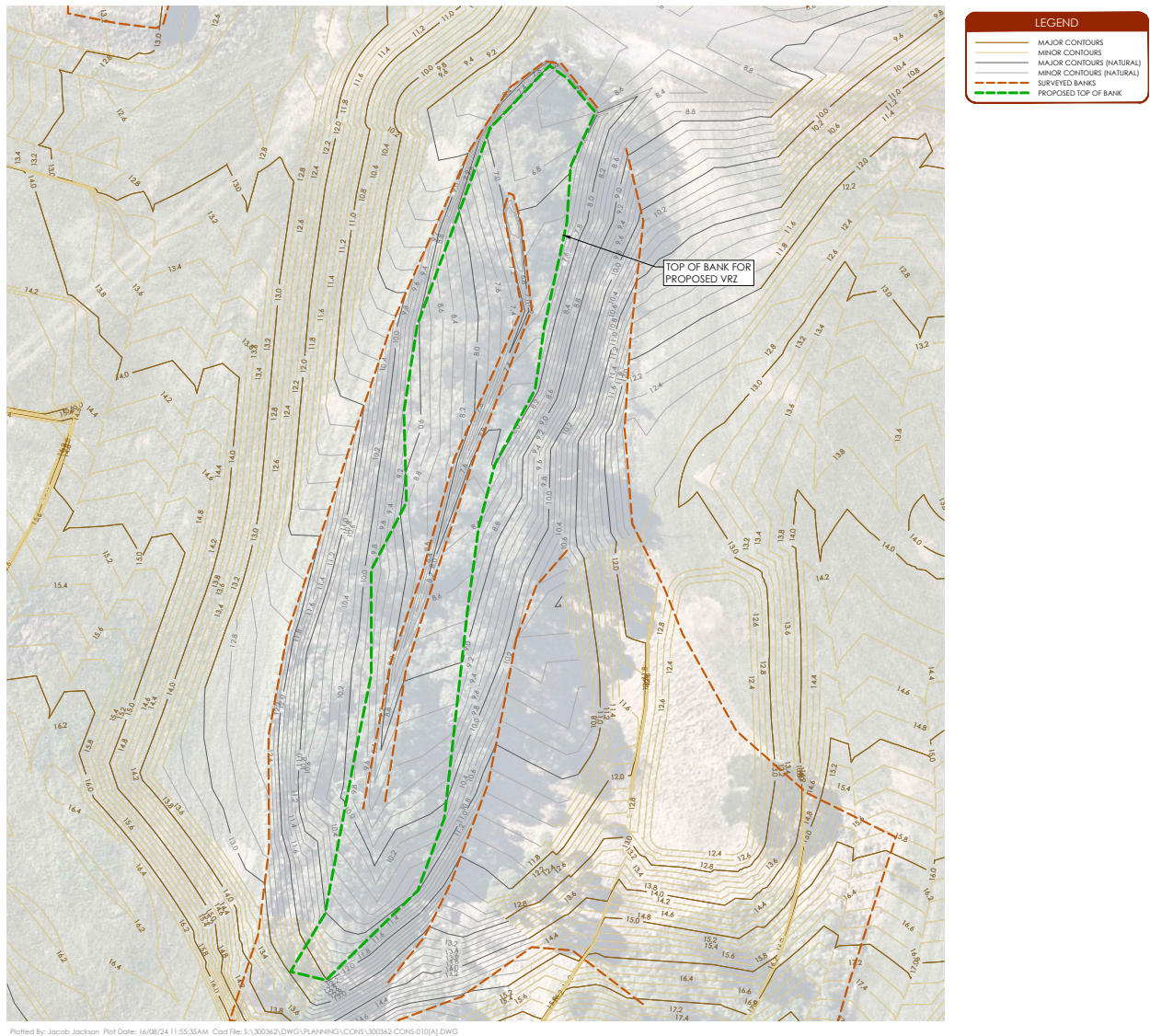


Figure 8.2A Mapping of the “highest bank” in the upper part of the main ‘watercourse’ on the subject land - prepared by ADWJ.

This surveyed mapping of contours has been used to determine the extent of landscaping and revegetation works along the watercourse - see the *Landscape Plan* (Habitat8 2024) and the VMP (Restore 2024) for the Project.

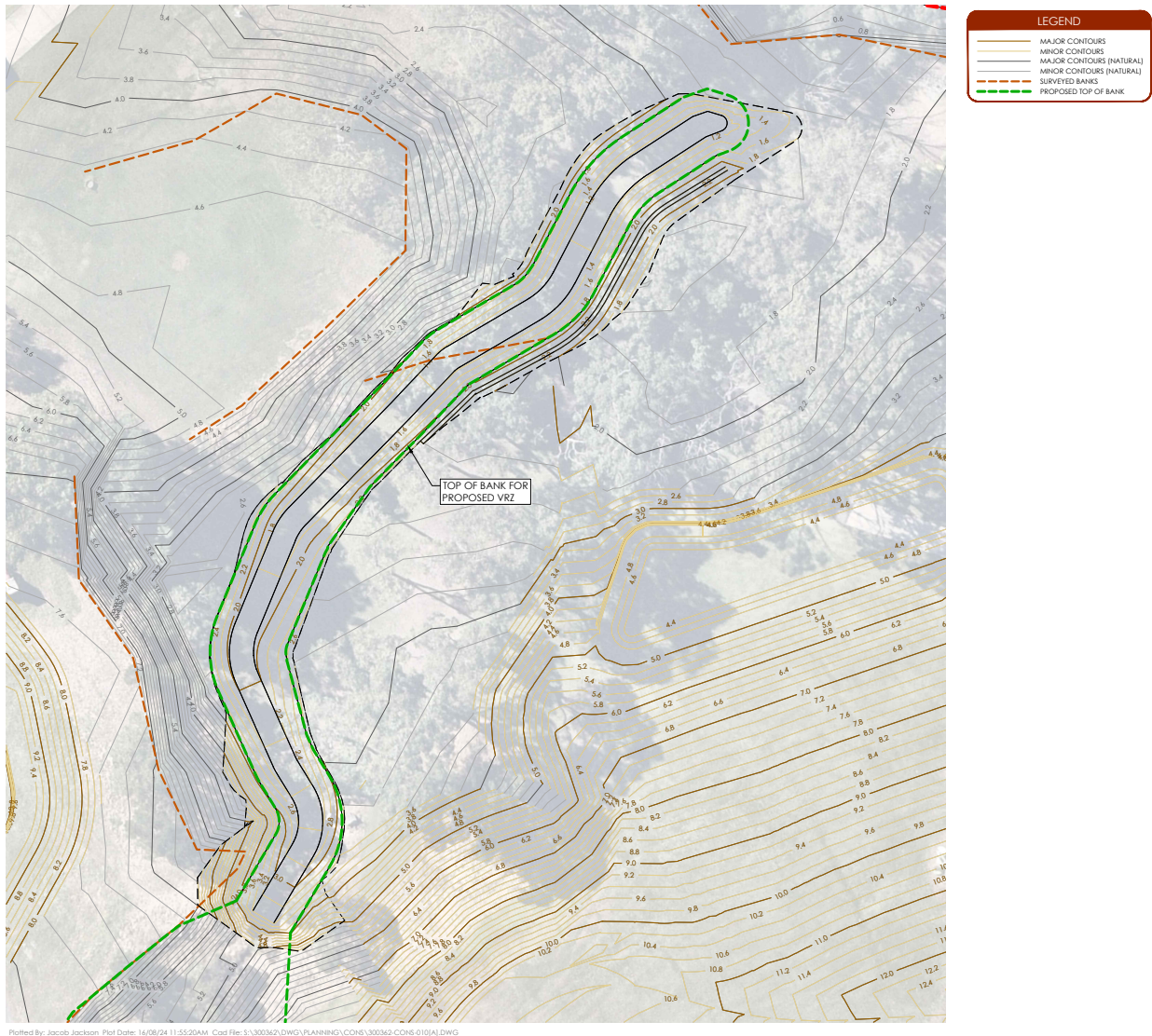


Figure 8.2B Mapping of the “highest bank” in the lower part of the main watercourse on the subject land, as well as the proposed channel for stormwater flows - prepared by ADWJ.

This area has long been highly modified; and the proposed works are designed to significantly improve both water quality and flow management and ecological outcomes.

A new constructed channel and ‘stream’ is to be created in this location – to replace the current broad contoured and landscaped swale (see Photographic Essay in **Attachment B**); and to provide a more natural rock-lined watercourse (see the *Landscape Plan Habitat8* 2024).

Link Road

The residential areas on the subject land at Pleasure Point are located in the eastern and western quadrants of the site; with the C3-zoned land dividing the two (**Figure 1.3**). A Link Road across the C3 land is required - as designed by the planners and engineers for the Project.

A previous iteration of the Pleasure Point Residential Project, in addition to Council's DCP, had the Link Road passing through the middle of the incised watercourse and its riparian vegetation (downstream of its current location). The Link Road has subsequently been relocated above the watercourse - in order to avoid and/or limit potential impacts on those features.

Whilst the Link Road is located immediately adjacent to the upper end of the watercourse, the large area of rehabilitated and revegetated land at the lower end of the watercourse (on Lot 2) will offset this incursion into the 'Riparian Corridor' (RC) or VRZ (noting that both areas are currently dominated by managed exotic grassland in any case). The VMP (Restore 2024; **Figure 6.2**) and the *Landscape Plan* for the Project (Habitat8 2024; **Figure 6.3**) provide details of the substantial supplementary native vegetation plantings proposed - which offset any disturbance in the upper parts of the watercourse for the Link Road and the stormwater treatment basins.

8.4 Conclusions – Water Management Act

The 'objects' of the WM Act and the NRAR *Guidelines* with respect to watercourses and riparian matters have been taken into account in this ERIAR for the Pleasure Point Residential Project.

The Project has incorporated appropriate measures for the protection and enhancement of the relevant riparian elements of the subject land – as documented in this ERIAR as well as in the *Landscape Plan* for the project (Habitat8 2024) and the VMP for the project (Restore 2024).

In addition, the comprehensive *Water Cycle Management Plan* (WCMP - ADJW 2024), as well as the *Stream & Riparian Management Plan* (SRMP - ADJW 2024) for the Project document the measures for the protection of water quality and quantity discharges from the Project – both during construction activities and in the long-term for the completed project.

9 COASTAL MANAGEMENT ACT and SEPP

9.1 Coastal Management Act

The *Coastal Management Act 2016* (CM Act) provides an array of general ‘objects’ (Section 3 of the Act) intended “to manage the coastal environment of New South Wales in a manner consistent with the principles of ecologically sustainable development for the social, cultural and economic well-being of the people of the State”.

The objects of the CM Act are as follows.

“to manage the coastal environment of New South Wales in a manner consistent with the principles of ecologically sustainable development for the social, cultural and economic well-being of the people of the State, and in particular:

- (a) to protect and enhance natural coastal processes and coastal environmental values including natural character, scenic value, biological diversity and ecosystem integrity and resilience, and*
- (b) to support the social and cultural values of the coastal zone and maintain public access, amenity, use and safety, and*
- (c) to acknowledge Aboriginal peoples’ spiritual, social, customary and economic use of the coastal zone, and*
- (d) to recognise the coastal zone as a vital economic zone and to support sustainable coastal economies, and*
- (e) to facilitate ecologically sustainable development in the coastal zone and promote sustainable land use planning decision-making, and*
- (f) to mitigate current and future risks from coastal hazards, taking into account the effects of climate change, and*
- (g) to recognise that the local and regional scale effects of coastal processes, and the inherently ambulatory and dynamic nature of the shoreline, may result in the loss of coastal land to the sea (including estuaries and other arms of the sea), and to manage coastal use and development accordingly, and*
- (h) to promote integrated and co-ordinated coastal planning, management and reporting, and*
- (i) to encourage and promote plans and strategies to improve the resilience of coastal assets to the impacts of an uncertain climate future including impacts of extreme storm events, and*
- (j) to ensure co-ordination of the policies and activities of government and public authorities relating to the coastal zone and to facilitate the proper integration of their management activities, and*
- (k) to support public participation in coastal management and planning and greater public awareness, education and understanding of coastal processes and management actions, and*
- (l) to facilitate the identification of land in the coastal zone for acquisition by public or local authorities in order to promote the protection, enhancement, maintenance and restoration of the environment of the coastal zone, and*
- (m) to support the objects of the Marine Estate Management Act 2014”.*

The Pleasure Point Residential Project has taken into account the relevant objects of the CM Act cited above and has incorporated relevant measures and features into the proposal dealing with - water quality management and flows; the control of discharges and potential contaminants; the retention and enhancement of riparian and riverside vegetation (including in the RE1 land along the Georges River foreshore); the avoidance of adverse impacts on the Georges River foreshore; and the provision of enhanced public access along the foreshore.

The Pleasure Point Residential Project satisfies the relevant objects of the CM Act by virtue of the following elements and features of the Project.

- The protection of the environment associated with relevant elements of the 'Coast' along the Georges River – thus protecting and enhancing “*natural coastal processes and coastal environmental values*”.
- The avoidance of adverse impacts on the relevant elements of the 'Coast' along the Georges River.
- The appropriate management and treatment of stormwater runoff from the future development before its discharge into the Georges River.
- The provision of significantly improved human resources, access and facilities within the Coastal Environment and Coastal Use Areas along the Georges River foreshore – pursuant to the *Landscape Plan* for the Project (**Figure 6.3**; Habitat8 2024).

These outcomes will be achieved by implementation of the following elements of the proposed Pleasure Point Residential Project.

- The control and management of potential sediment and contaminant discharges throughout the clearing and construction phases of the Project – pursuant to the Water Cycle MP (ADJW 2024), the SRMP (ADJW 2024) and a comprehensive *Construction Environmental Management Plan* (CEMP) to be prepared for the Project.
- The ongoing management and treatment of runoff and stormwater throughout the Pleasure Point Residential Project prior to discharge into the Georges River (Water Cycle MP - ADJW 2024).
- Retention of the 40m wide band of RE1 land along the Georges River foreshore (**Figure 1.2**) and its enhancement and ultimate dedication to Council - pursuant to the draft *Voluntary Planning Agreement* (VPA) for the provision of public access and passive recreation.
- The avoidance of any activities associated with the Project along the foreshore that could conceivably adversely affect any “*natural coastal processes and coastal environmental values including natural character, scenic value, biological diversity and ecosystem integrity and resilience*”.
- The retention and enhancement of riparian vegetation within the C3 lands – to assist in protecting the foreshore lands and ecosystems.

9.2 SEPP HAZARDS and RESILIENCE

State Environmental Planning Policy (SEPP) 'Hazards and Resilience' has incorporated the previous Coastal Management SEPP; and gives effect to the CM Act – by providing (a) the requisite mapping of areas within the 'Coastal Zone' and (b) the 'development controls' for the relevant elements of the 'Coastal Zone' (as discussed in detail below).

Chapter 2 of the *Hazards and Resilience SEPP* addresses the requirements for 'Coastal Management'.

The 'aim' of Chapter 2 of the *Hazards and Resilience SEPP* is “to promote an integrated and co-ordinated approach to land use planning in the coastal zone in a manner consistent with the objects of the Coastal Management Act 2016, including the management objectives for each coastal management area, by:

- (a) managing development in the coastal zone and protecting the environmental assets of the coast, and
- (b) establishing a framework for land use planning to guide decision-making in the coastal zone, and
- (c) mapping the 4 coastal management areas that comprise the NSW coastal zone for the purpose of the definitions in the Coastal Management Act 2016”.

Relevant Features of the Subject Land

The *Hazards and Resilience SEPP* identifies portions of the subject land at Pleasure Point (predominantly on Lot 2) as follows.

- 'Coastal Wetland' and/or 'Proximity Areas' (Chapter 9.3; **Figure 9.1**).
- 'Coastal Environment Area' (Chapter 9.4; **Figure 9.2**).
- 'Coastal Use Area' (Chapter 9.5; **Figure 9.3**).

Most of these 'Areas' are located within Lot 2 on the subject land; and most have been modified, developed and used for residential purposes for a long period (see **Figure 1.1**; *Photographic Essay in Attachment B*).

The Pleasure Point Residential Project on the subject land will protect, manage and, where appropriate, enhance the 'Coastal Zone' identified on the land; as discussed in detail below (notwithstanding the existing high levels of disturbance within the relevant areas on the subject land).

It is noted that the 'Coastal Environment Area', 'Coastal Use Area' and 'Proximity Areas for Coastal Wetlands' are all an arbitrary approximately 100 metres in width and largely overlap on the subject land (**Figure 9.1**; **Figure 9.2**; **Figure 9.3**; **Attachment A**).

It is also to be noted that, in the vicinity of the subject land, there are extensive tracts of existing urban and residential development within the identified “*coastal management areas*”. Most of that urbanisation occurred prior to the establishment of the CM Act and the *Hazards and Resilience SEPP*; and would not have had the same specific regard to these matters as does the current Pleasure Point Residential Project (as discussed below).

9.3 Coastal Wetlands

Relevance of the Subject Land

As indicated in **Figure 9.1** below, the subject land at Pleasure Point contains the following mapped areas.

- A narrow discontinuous band of mapped 'Coastal Wetland' along the Georges River frontage (solid blue patches).
- An extensive area which is mapped as "Proximity Area for Coastal Wetlands" (hashed).

It is noted that there are many existing dwellings located within the mapped 'Coastal Wetlands Proximity Area' to the immediate east of the subject land (east of Pleasure Point Road) as well as to the north of the Georges River at this location (see **Figure 1.1**).

There is no 'Littoral Rainforest' on or associated with the subject land at Pleasure Point.

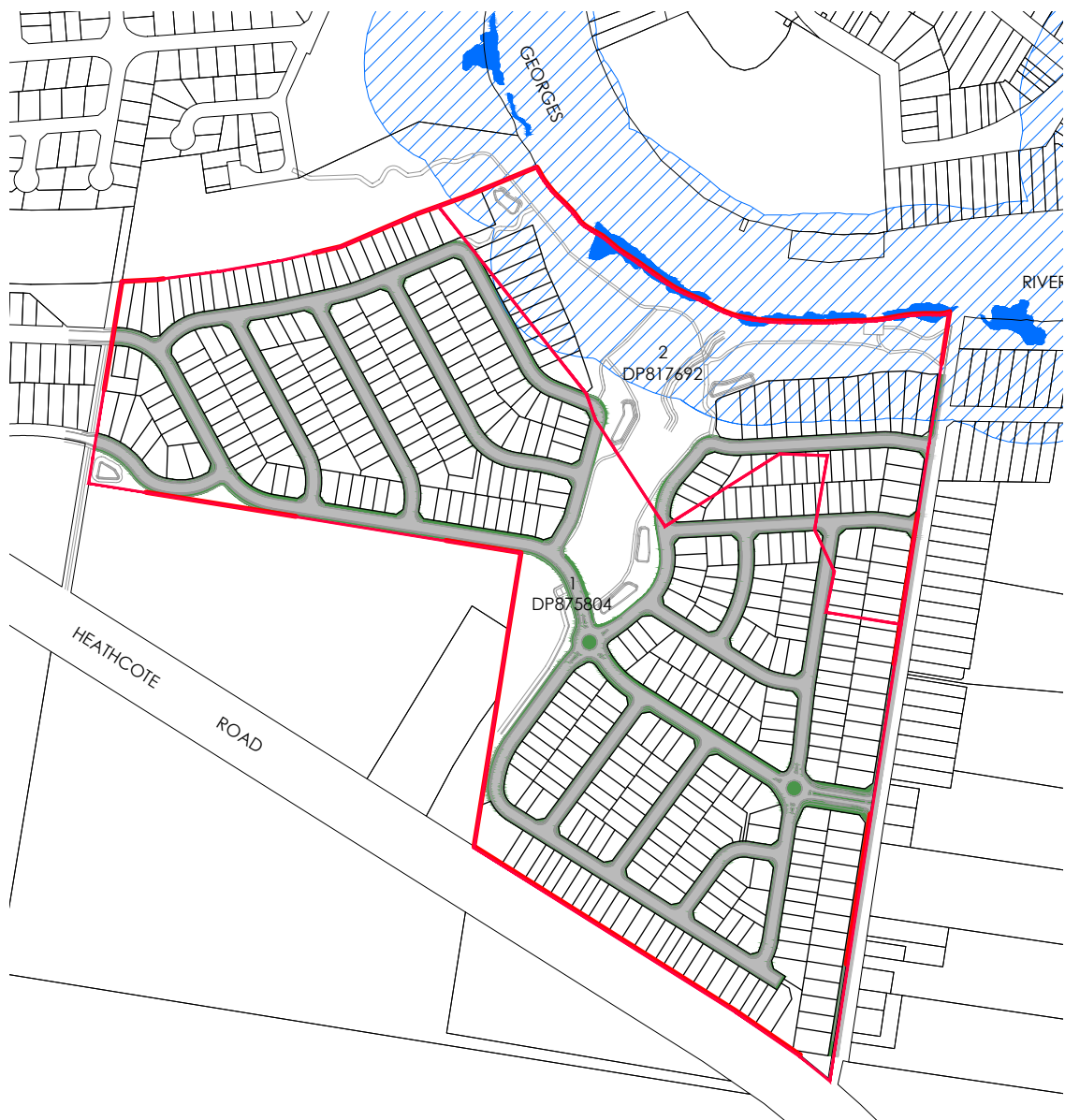


Figure 9.1 'Coastal Wetlands' and 'Proximity Areas' associated with the Pleasure Point Residential Project.

Management Objectives for Coastal Wetlands

The “management objectives” for ‘Coastal Wetlands’ (Section 6 of the CM Act) are as follows -

- (a) *to protect coastal wetlands and littoral rainforests in their natural state, including their biological diversity and ecosystem integrity,*
- (b) *to promote the rehabilitation and restoration of degraded coastal wetlands and littoral rainforests,*
- (c) *to improve the resilience of coastal wetlands and littoral rainforests to the impacts of climate change, including opportunities for migration,*
- (d) *to support the social and cultural values of coastal wetlands and littoral rainforests,*
- (e) *to promote the objectives of State policies and programs for wetlands or littoral rainforest management.*

The Pleasure Point Residential Project will **not** remove or adversely affect any of the mapped ‘Coastal Wetlands’ or their associated vegetation on the subject land. There is **no** requirement for “*the rehabilitation and restoration*” of the ‘Coastal Wetlands’ on or adjacent to the subject land; although adjoining vegetation is to be managed and enhanced.

Development Controls for Coastal Wetlands

Part 2.2 (*Development Controls for Coastal Management Areas*) of the *Hazards and Resilience SEPP* states the following with respect to ‘Coastal Wetlands’ (Section 2.7 of the SEPP).

- “A consent authority must not grant consent for development ... unless the consent authority is satisfied that sufficient measures have been, or will be, taken to protect, and where possible enhance the biophysical, hydrological and ecological integrity of the coastal wetland”.

As noted above, the Pleasure Point Residential Project will not remove or adversely affect any of the mapped ‘Coastal Wetlands’ or their associated vegetation on the subject land; and does not propose any works within the mapped ‘Coastal Wetlands’. Further, the Project already incorporates appropriate measures to protect the Georges River foreshore.

Development Controls for Proximity Areas

Part 2.2 (*Development Controls for Coastal Management Areas*) of the *Hazards and Resilience SEPP* states the following with respect to ‘Proximity Areas for Coastal Wetlands’ (Section 2.8 of the SEPP).

- “Development consent must not be granted to development on land identified as “proximity area for coastal wetland” ... unless the consent authority is satisfied that the proposed development will not significantly impact on –
- (a) *the biophysical, hydrological or ecological integrity of the adjacent coastal wetland, or*
- (b) *the quantity and quality of surface and ground water flows to and from the adjacent coastal wetland”.*

The Pleasure Point Residential Project will not remove or adversely affect any of the mapped ‘Coastal Wetlands’ or their associated vegetation on the subject land. The Project also incorporates appropriate measures to protect “*the quantity and quality of surface and ground water flows to and from the adjacent coastal wetland*” (see the *Water Cycle MP* and the *Stream & Riparian MP* for the Project).

9.4 Coastal Environment Area

Relevance of the Subject Land

As indicated in **Figure 9.2** below, the subject land at Pleasure Point contains a band of mapped 'Coastal Environment Area' along the Georges River foreshore – located entirely within Lot 2 of the land.

It is noted that there are many existing dwellings within the mapped 'Coastal Environment Area' to the immediate east of the subject land as well as to the north of the Georges River at this location (see **Figure 1.1**).

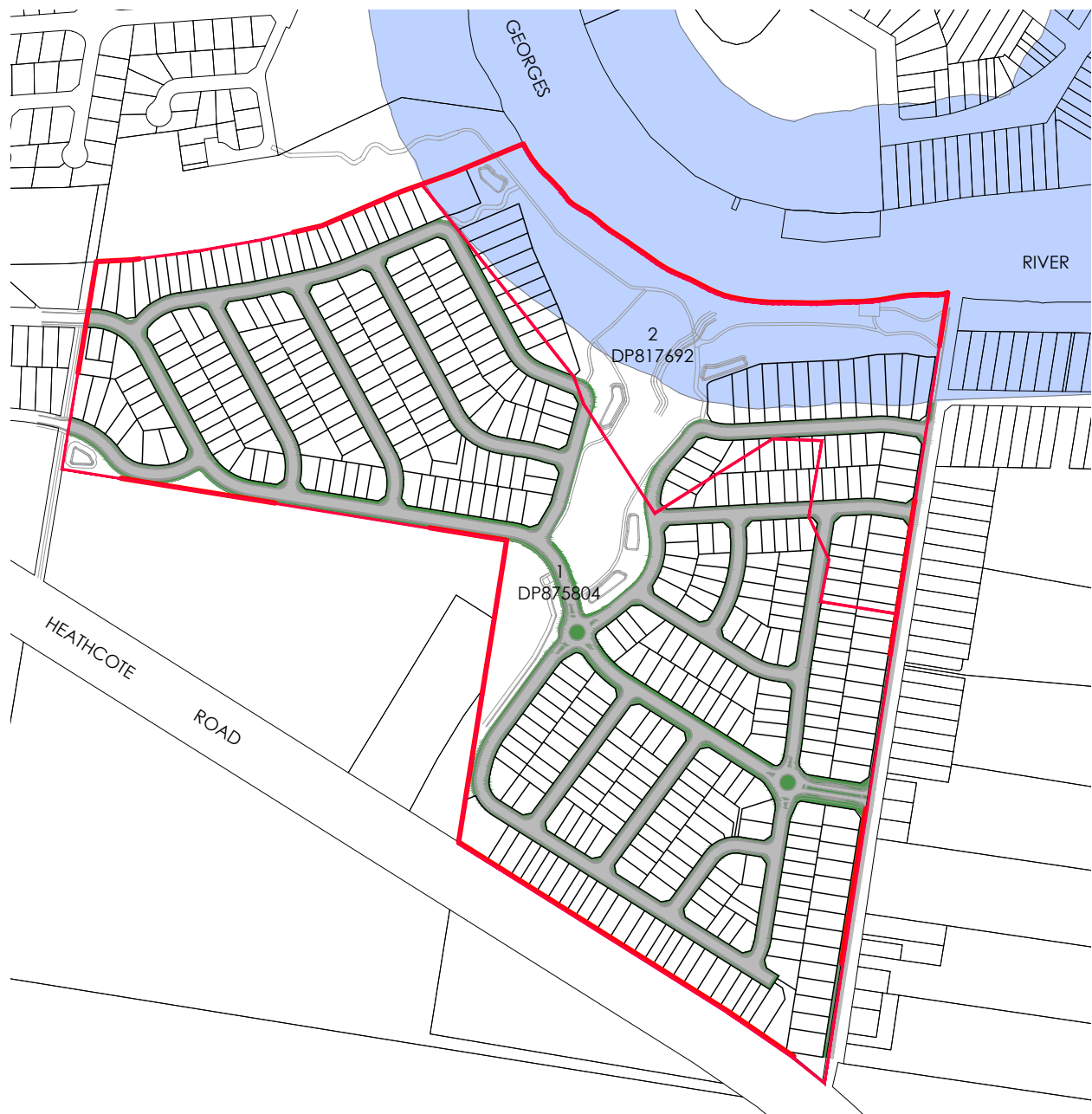


Figure 9.2 'Coastal Environment Area' associated with the Pleasure Point Residential Project

Management Objectives for Coastal Environment Areas

The “*management objectives*” for ‘Coastal Environment Areas’ (Section 8 of the CM Act) are as follows -

- (a) *to protect and enhance the coastal environmental values and natural processes of coastal waters, estuaries, coastal lakes and coastal lagoons, and enhance natural character, scenic value, biological diversity and ecosystem integrity,*
- (b) *to reduce threats to and improve the resilience of coastal waters, estuaries, coastal lakes and coastal lagoons, including in response to climate change,*
- (c) *to maintain and improve water quality and estuary health,*
- (d) *to support the social and cultural values of coastal waters, estuaries, coastal lakes and coastal lagoons,*
- (e) *to maintain the presence of beaches, dunes and the natural features of foreshores, taking into account the beach system operating at the relevant place,*
- (f) *to maintain and, where practicable, improve public access, amenity and use of beaches, foreshores, headlands and rock platforms.*

The Pleasure Point Residential Project will “*protect and enhance the coastal environmental values and natural processes*” of the relevant parts of the subject land; especially by virtue of the retention and maintenance of a strip of land 40 metres wide along the Georges River foreshore as well as due to implementation of the *Water Cycle MP* and the *Stream & Riparian MP* for the Project.

The appropriate management of existing native vegetation along that portion of the subject land will contribute positively to the “*natural character, scenic value, biological diversity and ecosystem integrity*” of this part of the Georges River foreshore.

Further, the 40m wide band of land along the Georges River foreshore is zoned *RE1 – Public Recreation* (see **Figure 1.3**) and is to be dedicated to Council – thus improving “*public access, amenity and use*” of the foreshore land along the Georges River at this location; and contributing to a continuous band of public land along the River – to the east and the north.

Development Controls for Coastal Environment Areas

Part 2.2 (*Development Controls for Coastal Management Areas*) of the *Hazards and Resilience SEPP* states the following with respect to 'Coastal Environment Areas' (Section 2.10).

(1) *Development consent must not be granted to development on land that is within the coastal environment area unless the consent authority has considered whether the proposed development is likely to cause an adverse impact on the following -*

- (a) the integrity and resilience of the biophysical, hydrological (surface and groundwater) and ecological environment,*
- (b) coastal environmental values and natural coastal processes,*
- (c) the water quality of the marine estate (within the meaning of the Marine Estate Management Act 2014), in particular, the cumulative impacts of the proposed development on any of the sensitive coastal lakes identified in Schedule 1,*
- (d) marine vegetation, native vegetation and fauna and their habitats, undeveloped headlands and rock platforms,*
- (e) existing public open space and safe access to and along the foreshore, beach, headland or rock platform for members of the public, including persons with a disability,*
- (f) Aboriginal cultural heritage, practices and places,*
- (g) the use of the surf zone.*

(2) *Development consent must not be granted to development on land to which this section applies unless the consent authority is satisfied that:*

- (a) the development is designed, sited and will be managed to avoid an adverse impact referred to in subclause (1), or*
- (b) if that impact cannot be reasonably avoided—the development is designed, sited and will be managed to minimise that impact, or*
- (c) if that impact cannot be minimised—the development will be managed to mitigate that impact.*

The Pleasure Point Residential Project will not impose an adverse impact on any of the matters raised in Section 2.10(1) of the *Hazards and Resilience SEPP*; by virtue of the following considerations.

- The Project has been designed *inter alia* to avoid any adverse impact on any of the relevant matters raised in Section 2.10(1) of the CM Act.
- There will be no relevant impacts on any “*coastal environmental values and natural coastal processes*”.
- There will be no relevant impacts on any “*hydrological (surface and groundwater)*” elements of the subject land or the ‘Coastal Environment Area’ by virtue of the stormwater management regime for the Pleasure Point Residential Project on the subject land (see the *Water Cycle MP* and the *Stream & Riparian MP* for the Project).
- The project will improve “*public open space and safe access to and along the foreshore*” – by removing existing dwellings and by rehabilitating and revegetating the RE1 land.

Further, the Pleasure Point Residential Project satisfies the requirements of Section 2.10(2) of the *Hazards and Resilience SEPP* – by avoiding adverse impacts on the ‘Coastal Environment Area’ on and adjoining the subject land and/or by minimising any such impacts and/or by mitigating any such impacts – as described throughout this ERIAR.

9.5 Coastal Use Area

Relevance of the Subject Land

As indicated in **Figure 9.3** below, the subject land at Pleasure Point contains a band of mapped 'Coastal Use Area' along the Georges River foreshore – contained entirely within Lot 2 of the subject land. This coincides with the mapped 'Coastal Environment Area' on the land (see above).

It is noted that there are many existing dwellings located within the mapped 'Coastal Use Area' to the immediate east of the subject land as well as to the north of the Georges River at this location (see **Figure 1.1**).



Figure 9.3 'Coastal Use Area' associated with the Pleasure Point Residential Project

Management Objectives for Coastal Use Areas

The “management objectives” for ‘Coastal Use Areas’ (Section 9 of the CM Act) are as follows -

- (a) *to protect and enhance the scenic, social and cultural values of the coast by ensuring that:*
 - (i) *the type, bulk, scale and size of development is appropriate for the location and natural scenic quality of the coast, and*
 - (ii) *adverse impacts of development on cultural and built environment heritage are avoided or mitigated, and*
 - (iii) *urban design, including water sensitive urban design, is supported and incorporated into development activities, and*
 - (iv) *adequate public open space is provided, including for recreational activities and associated infrastructure, and*
 - (v) *the use of the surf zone is considered,*
- (b) *to accommodate both urbanised and natural stretches of coastline.*

The Pleasure Point Residential Project will satisfy the “management objectives” for ‘Coastal Use Areas’ – by virtue of the following features.

- The development is consistent with the urbanised nature of the ‘coast’ at this locality.
- The Pleasure Point Residential Project will impose no “adverse impacts .. on cultural and built environment heritage”.
- The Project incorporates “water sensitive urban design” and an appropriate stormwater management regime for the proposed future development on the subject land (see the *Water Cycle MP* and the *Stream & Riparian MP* for the Project).
- Substantial open space has been incorporated into the Project design.
- The Pleasure Point Residential Project includes the dedication of the C3 and RE1 portions of the subject land to Liverpool City Council for future and ongoing public use; pursuant to the *Voluntary Planning Agreement (VPA)* for the project.

Development Controls for Coastal Use Areas

Part 2.2 (*Development Controls for Coastal Management Areas*) of the *Hazards and Resilience SEPP* states the following with respect to ‘Coastal Use Areas’ (Section 2.11).

- (1) *Development consent must not be granted to development on land that is within the coastal use area unless the consent authority:*
 - (a) *has considered whether the proposed development is likely to cause an adverse impact on the following:*
 - (i) *existing, safe access to and along the foreshore, beach, headland or rock platform for members of the public, including persons with a disability,*
 - (ii) *overshadowing, wind funnelling and the loss of views from public places to foreshores,*
 - (iii) *the visual amenity and scenic qualities of the coast, including coastal headlands,*
 - (iv) *Aboriginal cultural heritage, practices and places,*
 - (v) *cultural and built environment heritage, and*

(b) *is satisfied that -*

(i) *the development is designed, sited and will be managed to avoid an adverse impact referred to in paragraph (a), or*

(ii) *if that impact cannot be reasonably avoided—the development is designed, sited and will be managed to minimise that impact, or*

(iii) *if that impact cannot be minimised—the development will be managed to mitigate that impact, and*

(c) *has taken into account the surrounding coastal and built environment, and the bulk, scale and size of the proposed development.*

The Pleasure Point Residential Project will not impose any adverse impacts on the matters raised in Section 2(11) of the *Hazards and Resilience SEPP*; and satisfies all of the Development Controls for ‘Coastal Use Areas’ – by virtue of the measures detailed above. In particular, the Project will facilitate increased public use of the Georges River foreshore and ongoing management to protect environmental values. In addition, the Pleasure Point Residential Project will also remove 4 large residences from the ‘Coastal Use Area’ on the subject land.

Further, the Pleasure Point Residential Project satisfies the requirements of Section 2.11(2) of the *Hazards and Resilience SEPP* – by avoiding adverse impacts on the ‘Coastal Use Area’ on and adjoining the subject land and/or by minimising any such impacts and/or by mitigating any such impacts – as described throughout this ERIAR.

9.6 Conclusions – Coastal Management Act

The Pleasure Point Residential Project satisfies all of the “*objects*”, “*management objectives*” and “*planning controls*” contained in the *Coastal Management Act* and in the *Hazards and Resilience SEPP*, where relevant, by virtue of the following elements of the Project (as discussed above).

- The protection of the environment associated with relevant elements of the ‘Coast’ along the Georges River.
- The avoidance of adverse impacts on the relevant elements of the ‘Coast’ along the Georges River.
- The appropriate management and treatment of stormwater runoff from the future development before its discharge into the Georges River – by virtue of the *Water Cycle MP* and the *Stream & Riparian MP* for the Project.
- The provision of significantly improved human resources, access and facilities within the ‘Coastal Areas’ along the Georges River foreshore – by virtue of the dedication of this private land to Council (pursuant to the draft VPA and virtue of implementation of the *Landscape Plan* (Habitat8 2024) and the VMP (Restore 2024) for the Project.

10 FISHERIES MANAGEMENT ACT

10.1 The Statutory Regime

The ‘objects’ contained in Section 3 of the *Fisheries Management Act 1994* (the FM Act) are as follows.

- (a) *to conserve fish stocks and key fish habitats.*
- (b) *to conserve threatened species, populations and ecological communities of fish and marine vegetation.*
- (c) *to promote ecologically sustainable development, including the conservation of biological diversity.*

The Pleasure Point Residential Project satisfies the ‘objects’ of the FM Act - on the basis of the following considerations.

- No habitat or resources for any native fish, fish habitats or marine vegetation will be removed or adversely affected by the Project.
- Currently untreated stormwater runoff from the gravel parking area near the jetty will be managed with a new carpark and water quality swales.
- Stormwater runoff discharged from the whole of the subject land into the adjoining Georges River will be treated according to the Water Cycle MP (ADWJ 2024) and the Stream & Riparian MP (ADWJ 2024).

It is noted in addition that, whilst the Georges River at this location constitutes “*key fish habitat*” (as does virtually every river or creek in NSW), there is **no** likelihood that the Pleasure Point Residential Project would adversely affect any fish habitat; much less any “*key fish habitat*” at this location.

10.2 Part 7A Considerations

Section 220A (in Part 7A) of the FM Act has the following ‘objects’.

- (a) *to conserve biological diversity of fish and marine vegetation and promote ecologically sustainable development and activities,*
- (b) *to prevent the extinction and promote the recovery of threatened species, populations and ecological communities of fish and marine vegetation,*
- (c) *to protect the critical habitat of those threatened species, populations and ecological communities that are endangered,*
- (d) *to eliminate or manage certain processes that threaten the survival or evolutionary development of threatened species, populations and ecological communities of fish and marine vegetation,*
- (e) *to ensure that the impact of any action affecting threatened species, populations and ecological communities of fish and marine vegetation is properly assessed,*
- (f) *to encourage the conservation of threatened species, populations and ecological communities of fish and marine vegetation by the adoption of measures involving co-operative management.*

The Pleasure Point Residential Project satisfies the ‘objects’ of Part 7A of the FM Act. The Project will have no impact on any relevant matters in the FM Act - on the basis of the considerations described above (in Chapter 10.1 of this ERIAR). The Project will not adversely affect any fish habitat or any fish species likely to be present or resident in the Georges River at this location.

There is absolutely no likelihood that the Pleasure Point Residential Project would adversely affect any of the threatened biota listed in the FM Act; as **no** such species are likely to occur in the vicinity of the subject land, other than possibly as rare or occasional individuals.

10.3 Section 221ZV of the FM Act

Division 12 of Part 7A of the FM Act (Section 221ZT) requires that development consent pursuant to Part 4 of the EP&A Act (such as the Pleasure Point Residential Project) is subject to an assessment as to “*whether a proposed development or activity is likely to significantly affect threatened species, populations or ecological communities*”.

Section 221ZV of the FM Act provides the particular matters to be “*taken into account*” in determining whether a proposal is “*likely to significantly affect threatened species, populations or ecological communities*” listed in the FM Act (emphases added).

The considerations below are based on the details provided in the preceding chapters of this ERIAR regarding the nature and condition of the subject land, and the nature of the Pleasure Point Residential Project and its design, and substantial and extensive mitigation measures.

Factor (a) Threatened Species – Risk of Extinction

There is no likelihood that the Pleasure Point Residential Project would adversely affect (either directly or indirectly) any “*threatened species*” relevant to the FM Act that are known or likely to occur in the locality.

No species listed in the relevant *Schedules* to the FM Act would likely be present in the Georges River adjacent to or in the proximity of the subject land or would be dependent on the habitats and resources in the vicinity.

It is not “*likely*” that a “*viable local population*” of any “*threatened species*” would be “*placed at risk of extinction*” by the Pleasure Point Residential Project; given the environmental protection measures incorporated into the Project, and given its location.

Factor (b) Endangered Populations – Risk of Extinction

There is **no** likelihood that the Pleasure Point Residential Project would adversely affect (either directly or indirectly) any “*endangered population*” in the locality (even assuming any such population is present).

No “*endangered population*” listed in the relevant *Schedule* to the FM Act would likely be present in the Georges River adjacent to or in the proximity of the subject land or would be dependent on the habitats and resources in the vicinity.

It is **not** “*likely*” that a “*viable local population*” of any “*endangered population*” would be “*placed at risk of extinction*” by the Pleasure Point Residential Project; given the environmental protection measures incorporated into the Project, and given its location.

Factor (c) Threatened Ecological Communities – Risk of Extinction

None of the ‘Threatened Ecological Communities’ listed in the FM Act are of any relevance to the Pleasure Point Residential Project.

Factor (d) Impacts on Habitat for Threatened Biota

The subject land at Pleasure Point and the adjoining Georges River do **not** contain any relevant habitat for any of the threatened biota listed in the FM Act.

- No habitat for any potential threatened biota will be “*removed or modified*” for the Pleasure Point Residential Project - Factor (d)(i).
- No habitat for any threatened biota will become “*fragmented or isolated from other areas of habitat*” – Factor (d)(ii); given the location, nature and condition of the subject land.
- The subject land at Pleasure Point cannot be regarded as of any importance for any threatened biota known or likely to occur “*in the locality*” – Factor (d)(iii).

Factor (e) Impacts on Critical Habitat

There is no relevant “*critical habitat*” in the vicinity of the subject land at Pleasure Point.

Factor (f) Priorities Action Statement

There is no *Priorities Action Statement* of any relevance to the proposed residential subdivision project on the subject land at Pleasure Point.

Factor (g) Key Threatening Processes

The Pleasure Point Residential Project will not involve the imposition of any “*key threatening process*” (KTP) listed in Schedule 6 of the FM Act.

10.4 Conclusions – Fisheries Management Act

Given the matters outlined above, and the environmental protection measures incorporated into the Project, the Pleasure Point Residential Project is not “*likely*” to impose a “*significant effect*” upon any “*threatened species or ecological communities, or their habitats*” that are either present in the vicinity or that could occur at this location - pursuant to Section 221ZV of the *Fisheries Management Act*.

11 APPLICATION of the EPBC ACT

11.1 The Statutory Regime

The *Environment Protection & Biodiversity Conservation Act 1999* (EPBC Act) requires consideration of the potential for a “**significant impact**” to be imposed by an activity on a *Matter of National Environmental Significance* (MNES).

In the event that such an “*impact*” is “*likely*” to be imposed, the activity proposed must be referred to the Commonwealth for determination as to whether it constitutes a “*controlled action*”. Where a development activity does constitute a “*controlled action*”, an approval from the Commonwealth Minister of the Environment is required.

The Pleasure Point Residential Project (**Attachment A**) could not possibly affect **any** MNES (as listed in the EPBC Act) other than (**theoretically** at least) the following.

- Listed threatened species and ecological communities.
- Migratory species.

11.2 Threatened Species

No threatened species listed in the EPBC Act have been recorded on or are likely to occur on the subject land at Pleasure Point on other than on fleeting or rare occasions – given the nature, condition and circumstances of the subject land.

No specimens of any EPBC Act listed threatened plants have been recorded on the subject land at Pleasure Point; and **none** are regarded as likely to be present – given the history, nature and current condition of the subject land.

It is possible that a few individuals of some highly mobile and wide-ranging threatened fauna species (such as the White-throated Needletail, White-bellied Sea Eagle, Glossy Black Cockatoo, Gang-gang Cockatoo, Regent Honeyeater, Swift Parrot, Large-eared Pied Bat or Grey-headed Flying Fox) could **potentially** occur on or over the subject land. However, given the nature and condition of the subject land and its urban/peri-urban circumstances, such occurrences would likely involve only single individuals or very small numbers; and only on rare occasions.

Furthermore, the subject land could not conceivably be of any relevance or significance for the survival of even a single individual of any such species – given the sparsity of even potential or theoretical habitats or resources on the subject land; the existing levels of disturbance on the land; and the extent of such resources in the general locality.

The Koala is not currently present on the subject land (BDAR - AEP 2024; Chapter 13 of this ERIAR); and has **not** been recorded on the land in recent times (see Chapter 13 of this ERIAR for a detailed discussion). Furthermore, the subject land could not conceivably constitute significant or important habitat for this species even if individuals did occur on occasions – given the nature, condition and circumstances of the land.

There are small patches of two EPBC Act listed “*threatened ecological communities*” on or adjacent to the subject land - the ‘River-flat Eucalypt Forest on Coastal Floodplains of Southern New South Wales and

Eastern Victoria' community and the 'Coastal Swamp Oak (*Casuarina glauca*) Forest of New South Wales and South East Queensland'.

As discussed elsewhere in this ERIAR, the stands of these communities are confined to the C3-zoned and/or RE1 parts of the subject land (**Figure 4.1**). All of the Swamp Oak Forest and the majority of the River-flat Forest will be protected and enhanced as part of the Pleasure Point Residential Project.

There is no likelihood of a "*significant impact*" being imposed by the Pleasure Point Residential Project upon any "*threatened species*" (including ecological communities) listed in the EPBC Act.

11.3 Migratory Species

There are no "*migratory species*" listed in the EPBC Act that are likely to be of any real or valid relevance to the Pleasure Point Residential Project. The subject land does **not** provide habitats or resources of any particular relevance or value for any of the "*migratory species*" listed in the EPBC Act.

Relevantly, as these species are 'migratory', individuals would cover large distances and areas. The subject land at Pleasure Point would constitute only a minute fraction of even potential habitat for any such species; and there are no special or potentially significant habitats or resources for any such species present on the subject land.

There is no likelihood of a "*significant impact*" being imposed by the Pleasure Point Residential Project upon even a single individual of any "*migratory species*" listed in the EPBC Act.

11.4 Conclusions – EPBC Act

The Pleasure Point Residential Project, as currently envisaged, is not even potentially likely to impose a "***significant impact***" upon any threatened or migratory species – given the following considerations.

- The nature and condition of the subject land at Pleasure Point.
- The lack of relevant or potentially relevant habitats and resources for any such species.
- The life-history and habits of the theoretically possible species.
- The extent of suitable habitat and resources in the region for such species.

There is no requirement for a '*Referral*' of the Pleasure Point Residential Project to the Commonwealth pursuant to the EPBC Act.

12 COUNCIL PLANNING INSTRUMENTS

12.1 Liverpool Local Environmental Plan 2008

The *Liverpool Local Environmental Plan 2008* (LLEP 2008) *inter alia* identifies land that is mapped as “*Environmentally Significant*”.

Relevantly, the maps for LLEP 2008 identify parts of the subject land at Pleasure Point as “*Environmentally Significant Land*” (ESL) – see **Figure 12.1** below. The ESL layer over the subject land largely matches the area zoned C3 - *Environmental Management*; but also includes a small patch in the northern part of the subject land which contains small copses of trees (**Figure 1.2**). It is noted that this patch of ESL is inaccurate and had not been ‘ground-truthed’ before the mapping was completed.

It is also noted that the mapped ESL area on the subject land includes existing dwellings and associated infrastructure (roads, paths, a swimming pool) and materials and equipment storage facilities (see **Figure 1.2**; *Photographic Essay* in **Attachment B**).

12.2 Clause 7.6 – Objectives

The objectives of Clause 7.6 of LLEP 2008 are as follows.

- (a) *To maintain bushland, wetlands and wildlife corridors of high conservation value.*
- (b) *To identify areas of significance for revegetation to connect to or buffer bushland, wetlands and wildlife corridors.*
- (c) *To protect rare and threatened native flora and native fauna.*
- (d) *To ensure consideration of the significance of vegetation, the sensitivity of the land and the impact of development on the environment prior to the giving of any development consent.*

Relevant considerations regarding the proposed Pleasure Point Residential Project on the subject land with respect to the objectives of Clause 7.6 of LLEP 2008 include the following.

- The small patches of “*bushland*” contained within the C3 area on the subject land will be retained and enhanced as part of the Project – pursuant to the *Landscape Plan* (Habitat8 2024) and the VMP (Restore 2024) for the Project.
- There are no “*bushland, wetlands and wildlife corridors of high conservation value*” on the subject land – noting the proximity of the railway line to the immediate north and existing residential development to the east, north and west.
- Most of the vegetation in the small northern portion of the ESL land (**Figure 12.2**; *Photographic Essay* in **Attachment B**) is to be retained and conserved, in any case.
- The small quantum of vegetation within the ESL area (in the northern part of the land) which is to be removed (consisting of a few trees and some limited native groundcovers - see *Photographic Essay* in **Attachment B**), is not likely to be of significance for any “*rare and threatened native flora and native fauna*”.



Figure 12.1 The extent of *Environmentally Significant Land* (ESL) mapped on the subject land at Pleasure Point by Liverpool City Council.

However, a significant proportion of the ESL mapped land is already developed - including existing dwellings, roads and pathways, and other residential infrastructure.

Note also that a significant portion of the ESL land is to be rehabilitated and/or dedicated to Council for public access purposes as well as for enhanced biodiversity conservation and ecological enhancement purposes.



Figure 12.2 The area of ESL in the northern part of the subject land at Pleasure Point.

Most of the vegetation in the eastern part of Lot 43 is to be retained, as well as that in the open space reserve between Lots 43 and 180. Native understorey will be managed according to the Landscape Plan and VMP for the Project.

In addition, the trees at the rear of Lots 39-42 are to be retained.

12.3 Clause 7.6 – Considerations

Clause 7.6 of LLEP 2008 requires that “*before determining an application to carry out development on environmentally significant land, the consent authority must consider such of the following as are relevant*”.

- (a) *The condition and significance of the vegetation on the land and whether it should be substantially retained in that location,*
- (b) *The importance of the vegetation in that particular location to native fauna,*
- (c) *The sensitivity of the land and the effect of clearing vegetation,*
- (d) *The relative stability of the bed and banks of any waterbody that may be affected by the development, whether on the site, upstream or downstream,*
- (e) *The effect of the development on water quality, stream flow and the functions of aquatic ecosystems (such as habitat and connectivity),*
- (f) *The effect of the development on public access to, and use of, any waterbody and its foreshores.*

Relevant considerations regarding the Pleasure Point Residential Project as currently envisaged with respect to the matters identified above include the following.

- Much of the small patch of vegetation contained within the small northern portion of the ESL land is to be retained and conserved as part of the subdivision project (**Figure 12.2; Photographic Essay in Attachment B**).
- The vegetation which is to be removed from that part of the subject land is not considered to be of any significance or importance for any native flora or fauna.
- All clearing of vegetation within the whole of the subject land will be subject to the sediment and erosion controls in the *Construction Environment Management Plan* (CEMP) to be prepared for the Project.
- The residential project will not adversely affect “*stability of the bed and banks of any waterbody*” or the “*water quality, stream flow and the functions of aquatic ecosystems*” on the subject land or in the vicinity – by virtue of the avoidance of disturbance to any such features on the subject land and/or by the appropriate management of any areas of such disturbance.
- The Project is the subject of several relevant Management Plans designed to protect waterways and aquatic ecosystems – including the comprehensive *Water Cycle Management Plan* (WCMP - ADJW 2024), as well as the *Stream & Riparian Management Plan* (SRMO - ADJW 2024) for the Project.
- The Pleasure Point Residential Project will also enhance “*public access to, and use of*” the Georges River and its foreshores – by virtue of the retention, enhancement and dedication to Council of the 40m wide RE1 land along the Georges River foreshore (pursuant to the draft VPA for the project); as well as by the removal of existing dwellings and other structures and materials from the subject land.

12.4 Liverpool Local Development Plan 2008

The *Liverpool Local Development Control Plan 2008* (LDCP 2008) applies to the Pleasure Point Residential Project on the subject land.

Relevant elements of LDCP 2008 for the purposes of this ERIAR include the following.

- *Part 1 Section 4 – Bushland and Fauna Habitat Preservation.*
- *Part 2.13 – Land Subdivision in Pleasure Point.*

Relevant considerations for the Pleasure Point Residential Project with respect to *Part 1 Section 4 – Bushland and Fauna Habitat Preservation* of LDCP 2008 include the following.

- The retention of mature trees and patches of bushland within the C3 and RE1-zoned portions of the subject land (Chapter 2.4 of LDCP 2008).
- The retention of a small patch of bushland in the northern part of the Project; adjacent to the vegetated part of the adjoining railway corridor (sacrificing one residential lot).
- The enhancement of retained bushland within the subject land - pursuant to the *Landscape Plan* (Habitat8 2024) and the VMP for the Project (Restore 2024).
- The Pleasure Point Residential Project will enhance the “*long-term viability*” of retained bushland and will retain the “*connectivity and contiguity of bushland stands and fauna corridors*” on the subject land and adjacent to it.

Relevant considerations for the Pleasure Point Residential Project with respect to *Part 2.13 – Land Subdivision in Pleasure Point* of LDCP 2008 include the following.

- The retention of mature trees and patches of bushland within the public open space element of the Project (Chapter 2.4 of LDCP 2008) - including along the Georges River foreshore.
- The protection and enhancement of native vegetation and aquatic habitats within the C3-zoned creek corridor present on the subject land (Chapter 2.7 of LDCP 2008).
- The implementation of a ‘*Stream & Riparian Management Plan*’ (SRMP) prepared for the project (ADWJ 2024) pursuant to Chapter 2.8 of LDCP 2008 - and a VMP for the watercourse through the C3 portion of the subject land (Restore 2024).

The relevant ‘*objectives*’ and ‘*controls*’ of LDCP 2008 have been addressed and/or satisfied by the design of the Project as well as the comprehensive management measures embodied in the Pleasure Point Residential Project.

13 KOALAS and KOALA HABITAT

13.1 SEPP 'Biodiversity and Conservation'

The *State Environmental Planning Policy (SEPP) 'Biodiversity and Conservation'* provides for the protection of Koalas and their habitat in NSW; and also provides 'Guidelines' for consent authorities with respect to approvals for development applications.

In the first instance, it must be noted that there are no current or recently confirmed records of Koalas on the subject land at Pleasure Point (BDAR – AEP 2024). Neither individual Koalas nor any Koala scats have been recorded during the site investigations for the Project BDAR - indicating that there is **no** Koala population, or part thereof, currently (or even recently) present on the subject land.

The BioNet mapping (**Figure 13.1**) indicates a record on the subject land in 1997, as well as two records to the east of Pleasure Point Road (in 2019 and 2020). However, it is important to note that each 'record' is not precisely mapped; and could be up to 1km away from where it is shown (see **Figure 13.1**). Koalas are more likely to occur in the extensive vegetation to the east of the residences along Pleasure Point Road than on the subject land or along Pleasure Point Road itself.

Nevertheless, it is clear that there is a population of Koalas in the general vicinity of Pleasure Point - concentrated in the native vegetation to the southeast of the subject land (see **Figure 13.1**) but with occasional individuals occurring from time to time to the west (including within highly urbanised lands).

13.2 Koala Habitat Protection 2020

Chapter 3 of the *Biodiversity and Conservation SEPP (Koala Habitat Protection 2020)* "aims to encourage the proper conservation and management of areas of natural vegetation that provide habitat for koalas to ensure a permanent free-ranging population over their present range and reverse the current trend of koala population decline". Whilst Chapter 3 of the SEPP does not apply directly to the subject land (because of its zoning), it does provide useful definitions in the application of the SEPP.

Clause 3.2 of Chapter 3 of the *Biodiversity and Conservation SEPP* provides the following relevant definitions with respect to Koala habitat.

- "**core koala habitat** means an area of land with a resident population of koalas, evidenced by attributes such as breeding females, being females with young, and recent sightings of and historical records of a population". It is important to note that an individual Koala does not constitute a "population"..
- "**potential koala habitat** means an area of native vegetation where trees of the types listed in Schedule 1 [of the SEPP] constitute at least 15% of the total number of trees in the upper or lower strata of the tree component".

Part 3.2 of the *Biodiversity and Conservation SEPP* provides a 3-step process to determine whether 'core koala habitat' is present on a site and whether consent can be granted to development in such habitat.

Step 1 – Is the land potential koala habitat ?

- The subject land at Pleasure Point is "*potential koala habitat*" – because, despite much of the land having been cleared and disturbed, more than 15% of the tree canopy on the land is made up of Schedule 1 Koala feed tree species (see AEP 2024).

Step 2 – Is the land core koala habitat ?

- The subject land is not “*core koala habitat*” – because there is no evidence for “*a resident population of koalas*” (ie there are no “*breeding females*” present on the subject land) and there is no evidence of “*recent sightings of and historical records of a population*”.

Step 3 – Development consent

- As the subject land is not “*core koala habitat*”, there is no constraint to Council providing consent for the Pleasure Point Residential Project with respect to Koalas.

13.3 Koala Habitat Protection 2021

Chapter 4 of the *Biodiversity and Conservation SEPP (Koala Habitat Protection 2021)* “*aims to encourage the conservation and management of areas of natural vegetation that provide habitat for koalas to ensure a permanent free-ranging population over their present range and reverse the current trend of koala population decline*”.

Chapter 4 of the SEPP is relevant to the Liverpool LGA; and provides guidance to a consent authority with respect to the assessment required for a development application in relation to potential impacts on Koalas or Koala habitat.

Clause 4.9 of the *Biodiversity and Conservation SEPP* documents the “*development assessment process*” that applies where there is no “*approved koala plan of management*” for the land the subject of a development application. This circumstance applies to the subject land at Pleasure Point.

Clause 4.9(2) states that before granting development consent on relevant land, “*the council must assess whether the development is likely to have any impact on koalas or koala habitat*”.

Clause 4.9(3) states that if the council “*is satisfied that the development is likely to have no or low impact on koalas or koala habitat, the council may grant consent to the development application*”.

As detailed above, there is **no** evidence for the current or recent presence of Koalas on the subject land at Pleasure Point; and the subject land does **not** constitute “*core koala habitat*”. Consequently, the proposed Pleasure Point Residential Project will have “**no or low impact on koalas or koala habitat**” and Council therefore “*may grant consent to the development application*”.

It is further noted that, as the land is not “*core koala habitat*”, Council “*may grant development consent*” to the proposal - pursuant to **Clause 4.9(5)(a)(ii)** of the *Biodiversity & Conservation SEPP*.

13.4 Conclusions – Koalas and Koala Habitat

There is no evidence for the current or recent presence of Koalas on the subject land at Pleasure Point; and the subject land does **not** constitute “*core koala habitat*”.

The proposed Pleasure Point Residential Project will therefore not impose any adverse impact on Koalas or Koala habitat at this location. Consequently, there is no constraint on Liverpool Council granting development consent to the proposed Pleasure Point Residential Project and its subsequent development with respect to Koalas or Koala habitat.

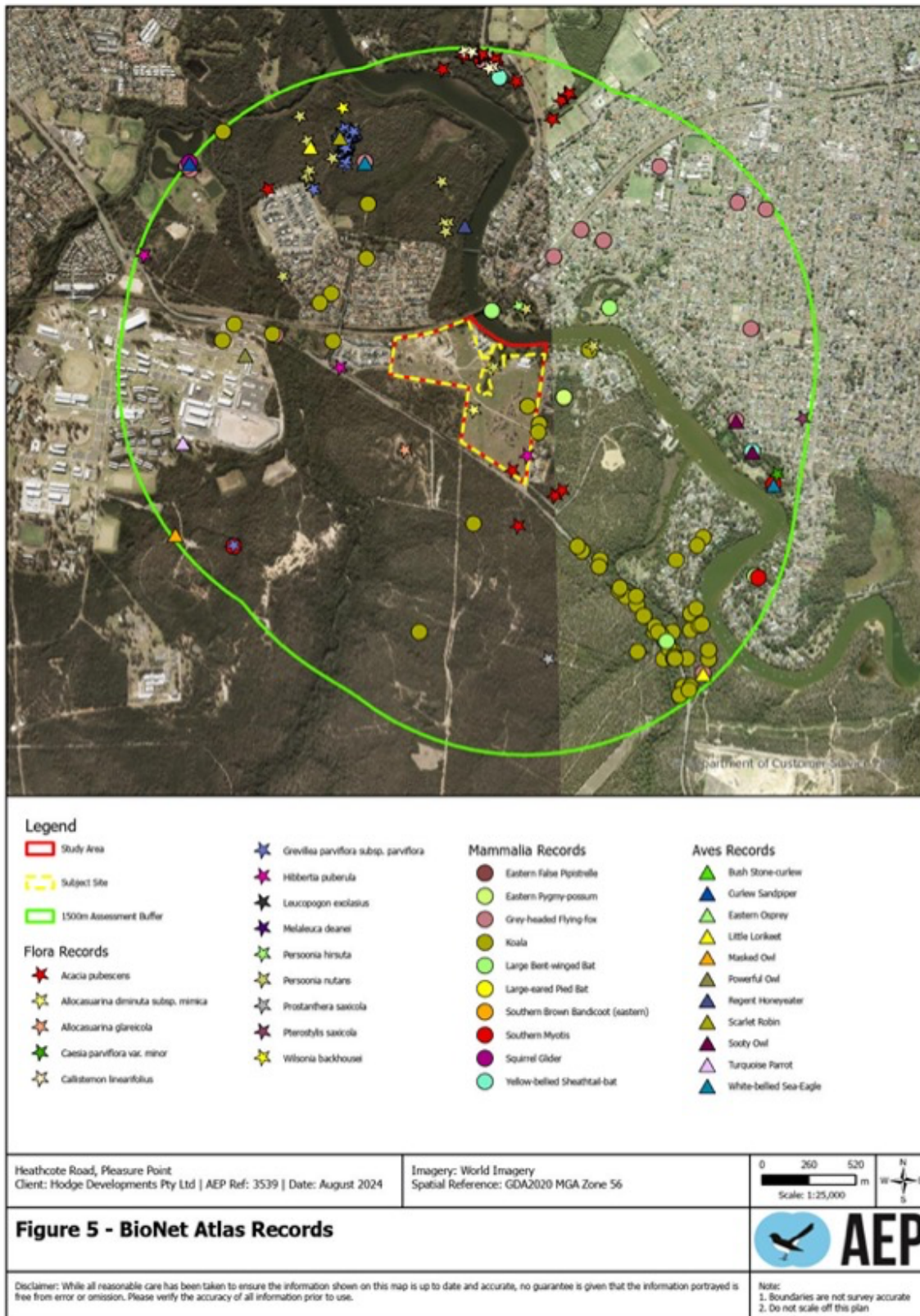


Figure 13.1 Threatened species records (OEH Bionet Atlas) in the locality around the subject land at Pleasure Point (courtesy of AEP 2024).

It is important to note that the mapped records of threatened species are mostly 'de-natured' – which means that the mapped locations are neither accurate nor precise.

GLOSSARY

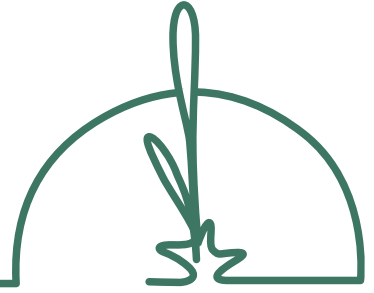
BCon Act	<i>Biodiversity Conservation Act 2016</i>
BDAR	<i>Biodiversity Development Assessment Report</i> - prepared pursuant to the BCon Act
Biota	“ <i>Biota</i> ” means the animals and plants, and other organisms, of a geographic region or locality
CEEC	A “ <i>critically endangered ecological community</i> ” listed in the BCon Act and/or the EPBC Act
CM Act	<i>Coastal Management Act 2016</i>
DA	<i>Development Application</i> - prepared pursuant to the EP&A Act
EEC	Endangered Ecological Community - “ <i>an ecological community specified in</i> ” the relevant schedules of the BCon Act and/or the EPBC Act
Ecological Community	“ <i>an assemblage of species occupying a particular area</i> ” (BCon Act)
Endangered Population	A “ <i>population specified</i> ” in the relevant schedule of the BCon Act
EP&A Act	<i>NSW Environmental Planning & Assessment Act 1979</i>
EPBC Act	<i>Commonwealth Environment Protection & Biodiversity Conservation Act 1999</i>
FM Act	<i>Fisheries Management Act 1994</i>
KTP	Key Threatening Process - “ <i>a threatening process listed in Schedule 4</i> ” of the BCon Act
LDCP 2008	<i>Liverpool Development Control Plan 2008</i>
LLEP 2008	<i>Liverpool Local Environmental Plan 2008</i>
MNES	Matters of National Environmental Significance - as listed in the EPBC Act
NRAR	Natural Resource Access Regulator – which incorporates the relevant parts of the NOW
OEH	NSW Office of Environment & Heritage
Subject Land	Lot 1 in DP 875804 and Lot 2 in DP 817692 at Pleasure Point
SEPP	<i>State Environmental Planning Policy</i>
TEC	A “ <i>threatened ecological community</i> ” – listed in Schedule 2 of the BCon Act and/or in the EPBC Act
Threatening Process	A “ <i>process that threatens, or that may threaten, the survival or evolutionary development of species or ecological communities</i> ” (BCon Act)
Threatened Species	A “ <i>critically endangered species, an endangered species or a vulnerable species listed in Schedule 1</i> ” of the BCon Act (this includes “ <i>endangered populations</i> ” previously listed in the TSC Act) and/or a species listed as threatened in the EPBC Act

BIBLIOGRAPHY

- Benson D, Howell J and McDougall L. 1996. *Mountain Devil to Mangrove: A Guide to Natural vegetation in the Hawkesbury - Nepean Catchment*. Royal Botanic Gardens, Sydney.
- Benson D and McDougall L. 1991. *Rare Bushland Plants of Western Sydney*. Royal Botanical Gardens, Sydney.
- Briggs JD and JH Leigh. 1988. *Rare or Threatened Australian Plants*. Special Publication 14. Australian National Parks & Wildlife Service.
- Briggs JD and JH Leigh. 1996. *Rare or Threatened Australian Plants*. CSIRO, Australia.
- Brooker MIH and Kleinig DA. 1990. *Field Guide to Eucalypts Volume 1 - South-eastern Australia*. Inkata Press, Melbourne.
- Brouwer J and Garnett S (eds). 1990. *Threatened Birds of Australia: An Annotated List*. Royal Australasian Ornithologists Union Report No. 68.
- Churchill S. 2008. *Australian Bats*. New Holland Publishers.
- Cogger HG. 1992. *Reptiles and Amphibians of Australia*. AH & AW Reed, Sydney.
- Cropper SC. 1993. *Management of Endangered Plants*. CSIRO, East Melbourne.
- Fairley A and Moore P. 1989. *Native Plants of the Sydney District*. Kangaroo Press, Sydney.
- Garnett ST and Crowley GM. 2000. *The Action Plan for Australian Birds*. Environment Australia, Canberra.
- Hall LS and Richards GC. 1979. *Bats of Eastern Australia*. Queensland Museum Booklet No. 12. Queensland Museum, Brisbane.
- Harden G (ed). 1992. *Flora of NSW. Vol 3*. NSW University Press, Kensington.
- Harden G (ed). 1993. *Flora of NSW. Vol 4*. NSW University Press, Kensington.
- Harden G (ed). 2000. *Flora of NSW. Vol 1 (revised)*. NSW University Press, Kensington.
- Harden G (ed). 2002. *Flora of NSW. Vol 2 (revised)*. NSW University Press, Kensington.
- Higgins PJ (ed). 1999. *Handbook of Australian, New Zealand and Antarctic Birds. Volume 4 - Parrots to Dollarbird*. Oxford University Press, Melbourne.
- Higgins PJ and Davies SJJF (eds). 1996. *Handbook of Australian, New Zealand and Antarctic Birds. Volume 3 - Snipe to Pigeons*. Oxford University Press, Melbourne.
- Higgins PJ, Peter JM and Steele WK (eds). 2001. *Handbook of Australian, New Zealand and Antarctic Birds. Volume 6 - Pardalotes to Shrike-thrushes*. Oxford University Press, Melbourne.
- Higgins PJ and Peter JM (eds). 2002. *Handbook of Australian, New Zealand and Antarctic Birds. Volume 5 - Tyrant-flycatchers to Chats*. Oxford University Press, Melbourne.
- Higgins PJ, Peter JM and Cowling SJ (eds). 2006. *Handbook of Australian, New Zealand and Antarctic Birds. Volume 7 Part A - Boatbill to Starlings*. Oxford University Press, Melbourne.
- Higgins PJ, Peter JM and Cowling SJ (eds). 2006. *Handbook of Australian, New Zealand and Antarctic Birds. Volume 7 Part B - Boatbill to Starlings*. Oxford University Press, Melbourne.
- Keith DA. 2004. *Ocean Shores to desert dunes. The Native Vegetation of New south Wales and the ACT*. Department of Environment & Conservation, Hurstville NSW.
- Marchant S and Higgins PJ. 1990a. *Handbook of Australian, New Zealand & Antarctic Birds. Volume 1 Part A - Ratites to Ducks*. Oxford University Press, Melbourne.

- Marchant S and Higgins PJ. 1990b. *Handbook of Australian, New Zealand & Antarctic Birds. Volume 1 Part B - Ratites to Ducks*. Oxford University Press, Melbourne.
- Marchant S and Higgins PJ (eds). 1993. *Handbook of Australian, New Zealand and Antarctic Birds. Volume 2 - Raptors to Lapwings*. Oxford University Press, Melbourne.
- McDonald RC, Isbell RF, Speight JG, Walker J and Hopkins M. 1990. *Australian Soil and Land Survey Field Handbook* (2nd Edition). Inkata, Melbourne.
- Robinson L. 1991. *Field Guide to the Native Plants of Sydney*. Kangaroo Press, Sydney.
- Robinson M. 1994. *A Field Guide to Frogs of Australia*. Australian Museum/Reed Books, Sydney.
- Simpson K and Day N. 1998. *The Claremont Field Guide to the Birds of Australia (5th Edition)*. Penguin Books, Australia.
- Slater P, Slater P and Slater R. 1989. *The Slater Field Guide to Australian Birds*. Weldon Publishing, Sydney.
- Specht RL. 1988. Major Vegetation Formations in Australia. In *Ecological Biogeography of Australia*. Keast A (ed). Junk, The Hague.
- Strahan R (ed). 1995. *The Mammals of Australia*. Reed Books, Chatswood.

gunninah



Lot 1 in DP 875804 and Lot 2 in DP 817692
Pleasure Point

Residential Subdivision

Ecological & Riparian Issues & Assessment Report

Attachment A
Relevant Maps and Plans

F Dominic Fanning
Gunninah

06 September 2024

**PLEASURE POINT RESIDENTIAL PROJECT
RELEVANT MAPS and PLANS**

- 1 Aerial photograph of the subject land at Pleasure Point and environs
- 2 Zoning of the subject land at Pleasure Point and environs
- 3 The Pleasure Point Residential Project Masterplan
- 4 Staging Plan for the Pleasure Point Residential Project
- 5 Protected Lands South of the Subject Land at Pleasure Point
- 6 Vegetation Mapped on the Subject Land at Pleasure Point (AEP 2024)
- 7 Hollow-bearing Trees Mapped on the Subject Land at Pleasure Point
- 8 Tree Retention and Removal Plan
- 9 Landscape Plan (Habitat8 2024) - Overview
- 10 Landscape Plan (Habitat8 2024) - Close-up of Main Features
- 11 Biodiversity Values Map of the Subject Land
- 12 Vegetation Management Plan (Restore 2024)
- 13 Hydroline Mapping on the Subject Land
- 14 Highest Bank Map (Upper Part of Central Watercourse)
- 15 Highest Bank Map (Lower Part of Central Watercourse)
- 16 Coastal Wetlands and Proximity Areas
- 17 Coastal Environment Areas
- 18 Coastal Use Areas
- 19 Environmentally Significant Land (LLEP 2014)
- 20 Environmentally Significant Land in the North of the Subject Land
- 21 Threatened Species Records in the Vicinity of the Subject Land (BIONET)



RAILWAY CORRIDOR

GEORGES RIVER

LILLI PILLI DRIVE

WILLOWIE WAY

PLEASURE POINT ROAD

HEATHCOTE ROAD

2
D.P. 1004888

8
D.P. 1059164

514
D.P. 1183310

792
D.P. 48718

485
D.P. 752034

489
D.P. 752034

1
D.P. 875804

2
D.P. 817692

7043
D.P. 1124197

10
D.P. 1176

51
D.P. 122

63
D.P. 128414

86
D.P. 1134481

5
D.P. 239468

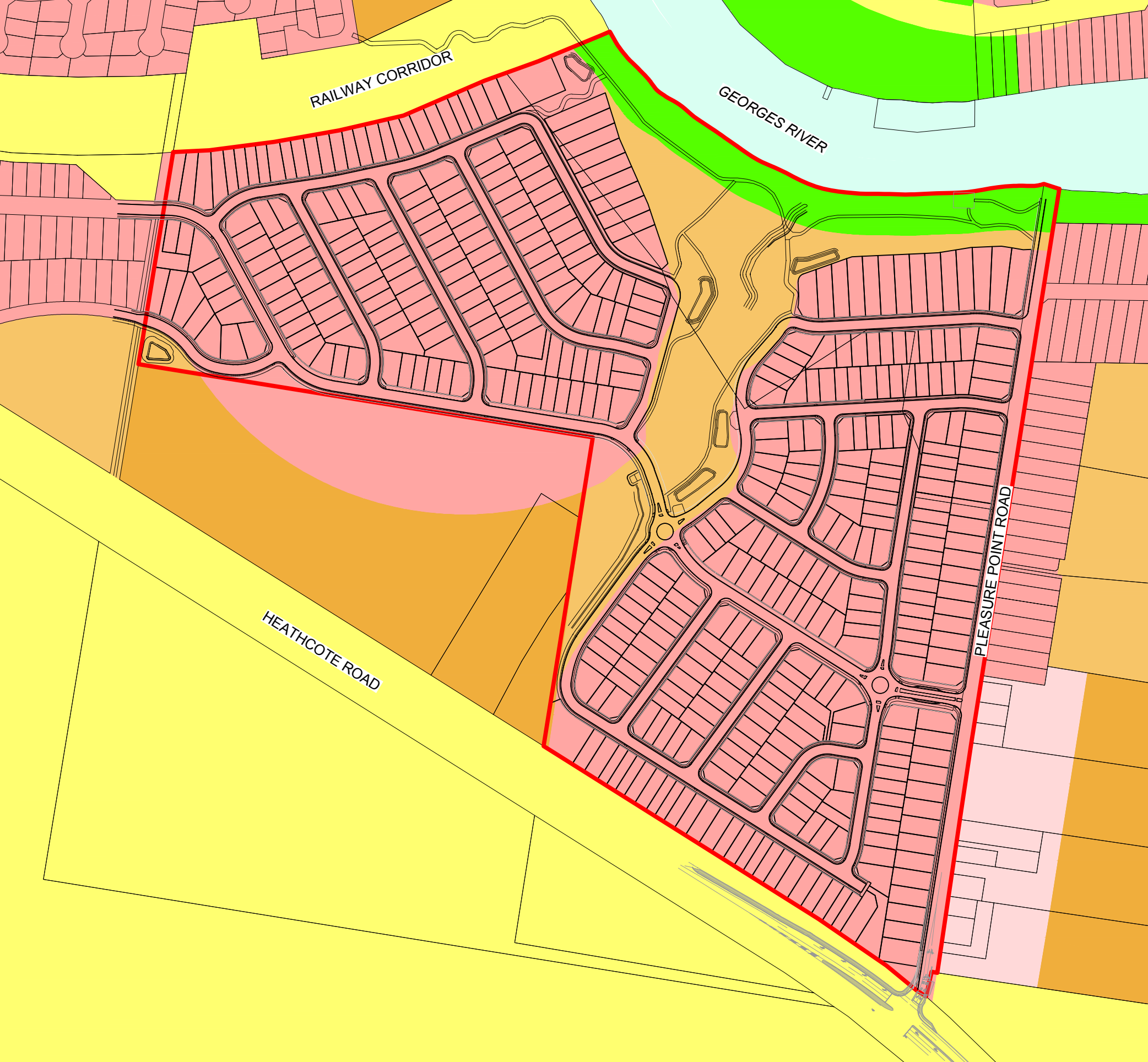
78
D.P. 1134478

74
D.P. 1134477

2
D.P. 875804

2
D.P. 1186495

791
D.P. 48718



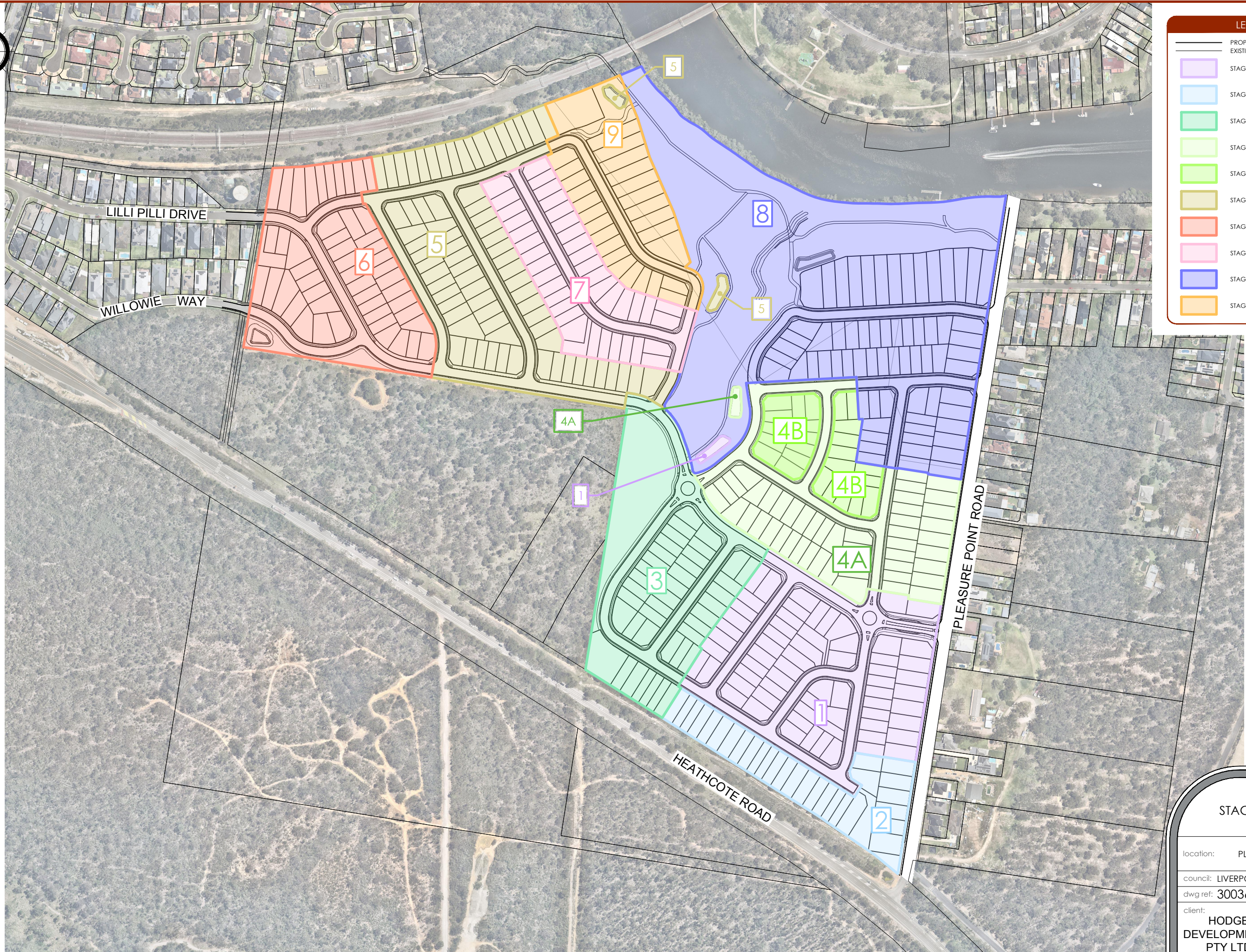
RAILWAY CORRIDOR

GEORGES RIVER

HEATHCOTE ROAD

PLEASURE POINT ROAD





LEGEND

PROPOSED LOT BOUNDARY

EXISTING LOT BOUNDARY

STAGE 1

STAGE 2

STAGE 3

STAGE 4A

STAGE 4B

STAGE 5

STAGE 6

STAGE 7

STAGE 8

STAGE 9

drawing title:

STAGING PLAN

location: PLEASURE POINT

council: LIVERPOOL CITY COUNCIL

dwg ref: 300362-PSK-017

client:

HODGE
DEVELOPMENTS
PTY LTD

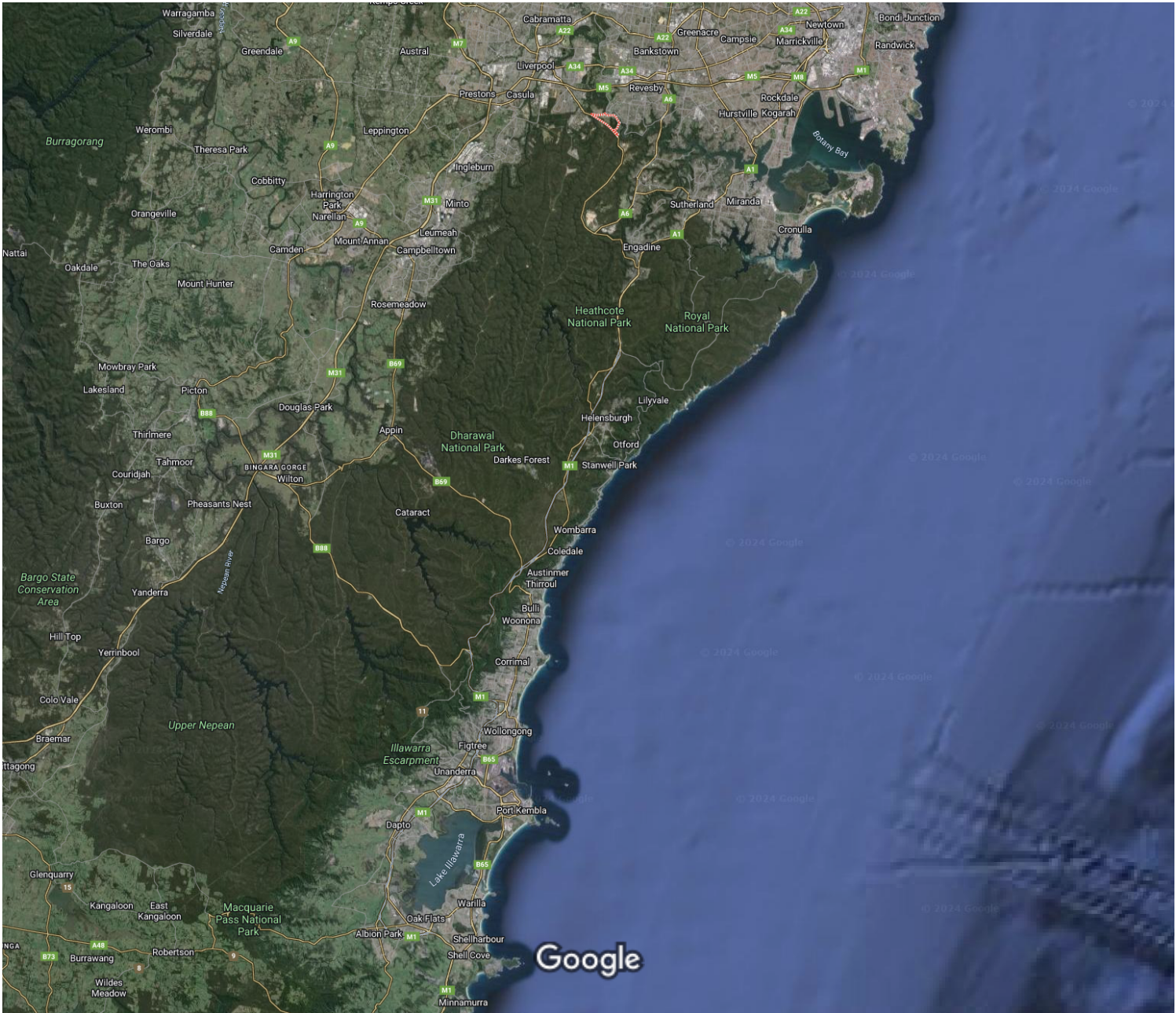


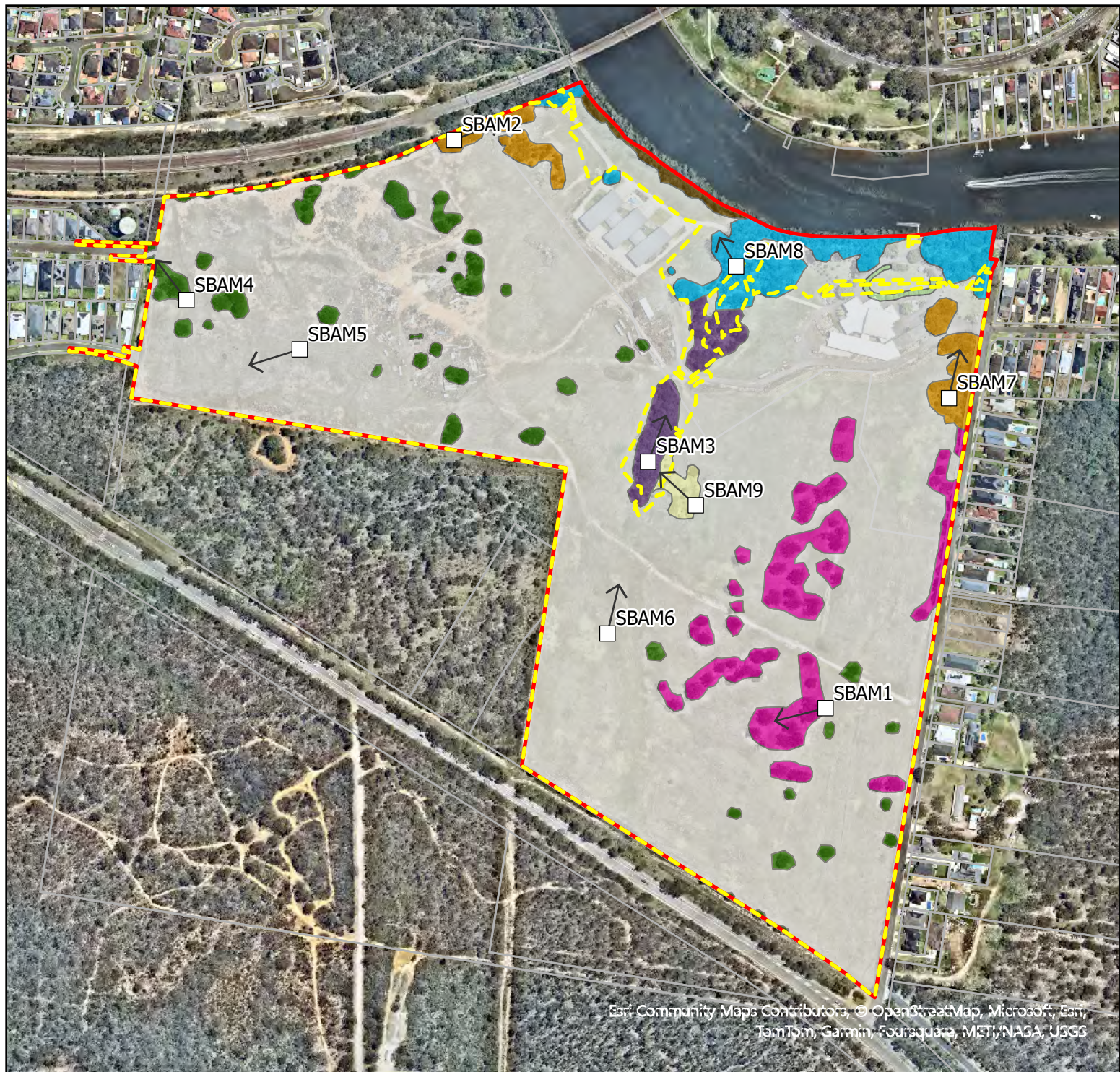
central coast office ph: (02) 4305 4300
hunter office ph: (02) 4978 5100
sydney office ph: (02) 8046 7411

www.adwjohanson.com.au

ver.	date	comment	drawn	pm	level information	scale (A1 original size)	notes
D	29.08.2024	STAGING UPDATED	JJ	BM	DATUM: GDA2020 MGA56 CONTOUR INTERVAL: N/A	A1 1:2000 0 50 100m A3 1:4000	

- project management
- civil engineering
- infrastructure
- superintendency
- social impact
- town planning
- surveying
- development feasibility
- visualisation
- urban design





Legend

- Study Area
- Subject Site
- Cadastre
- BAM Plot
- BAM Transect

Ground-truthed Vegetation

- 3616 - Sydney Hinterland Grey Gum Transition Forest - Moderate
- 3619 - Sydney Hinterland Enriched Sandstone Bloodwood Forest - Moderate
- 3619 - Sydney Hinterland Enriched Sandstone Bloodwood Forest - Poor
- 4024 - Cumberland Blue Box Riverflat Forest - Degraded
- 4028 - Estuarine Swamp Oak Twig-rush Forest
- 4059 - Sydney Hinterland Sandy Creekflat Shrub Forest - Good
- 4059 - Sydney Hinterland Sandy Creekflat Shrub Forest - Degraded
- Cleared Exotic and Infrastructure
- Planted Native

Address: Heathcote Road, Pleasure Point
Client: Hodge Developments Pty Ltd | AEP Ref: 3539 | Date: September 2024

Imagery: Nearmap
Spatial Reference: GDA2020 MGA Zone 56

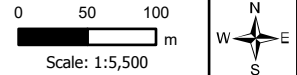


Figure 4 - Ground-truthed Vegetation



Disclaimer: While all reasonable care has been taken to ensure the information shown on this map is up to date and accurate, no guarantee is given that the information portrayed is free from error or omission. Please verify the accuracy of all information prior to use.

Note:
1. Boundaries are not survey accurate
2. Do not scale off this plan



Figure 5.1 Hollow-bearing Trees (HBTs) recorded on and/or adjacent to the subject land at Pleasure Point (AEP 2004).



1. TREES SHOWN BASED UPON SITE SURVEY UNDERTAKEN BY ADWJ ON 24/07/2024. ONLY TREES OVER 300mm DIAMETER SHOWN. REFER TO ECOLOGICAL REPORT FOR ANY ADDITIONAL VEGETATION REMOVAL

PROJECT	PROPOSED SUBDIVISION		
PLAN TITLE	TREE CLEARING PLAN		
PROJECT No.	DISCIPLINE	NUMBER	REV.

DESIGN FILE S:\300362\Design\120\Pleasure Point\Pleasure_Point.project	ALL DIMENSIONS ARE IN METRES.
Plotted By: Jacob Jackson Plot Date: 03/09/24 4:11:04AM Cad File: S:\300362\DWG\ENGINEERING\CENG\CENG(2)\300362-CENG-1005.DWG	

VEGETATION MANAGEMENT ZONE

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

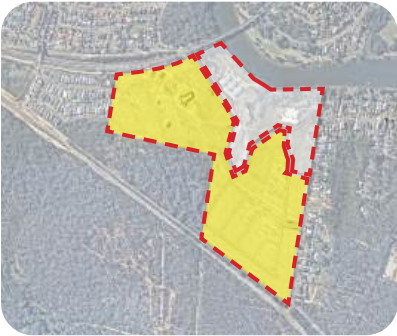


KEY

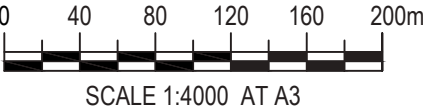
- SITE BOUNDARY
- EXTENT OF VMP WORKS

VEGETATION ZONES

- MZ1
PCT 4059 NATURAL REGENERATION (0.63 HA)
- MZ2
PCT 4059 ASSISTED REGENERATION (0.15 HA)
- MZ3
PCT 4059 RECONSTRUCTION (0.96 HA)
- MZ4
PCT 4028 NATURAL REGENERATION (0.02 HA)
- MZ5
PCT 4024 ASSISTED REGENERATION (0.61 HA)
- MZ6
PCT 4024 RECONSTRUCTION (0.36 HA)
- MZ7
SHARED PATH (0.16 HA)
- MZ8
BASINS (0.19 HA)



CONTEXT PLAN

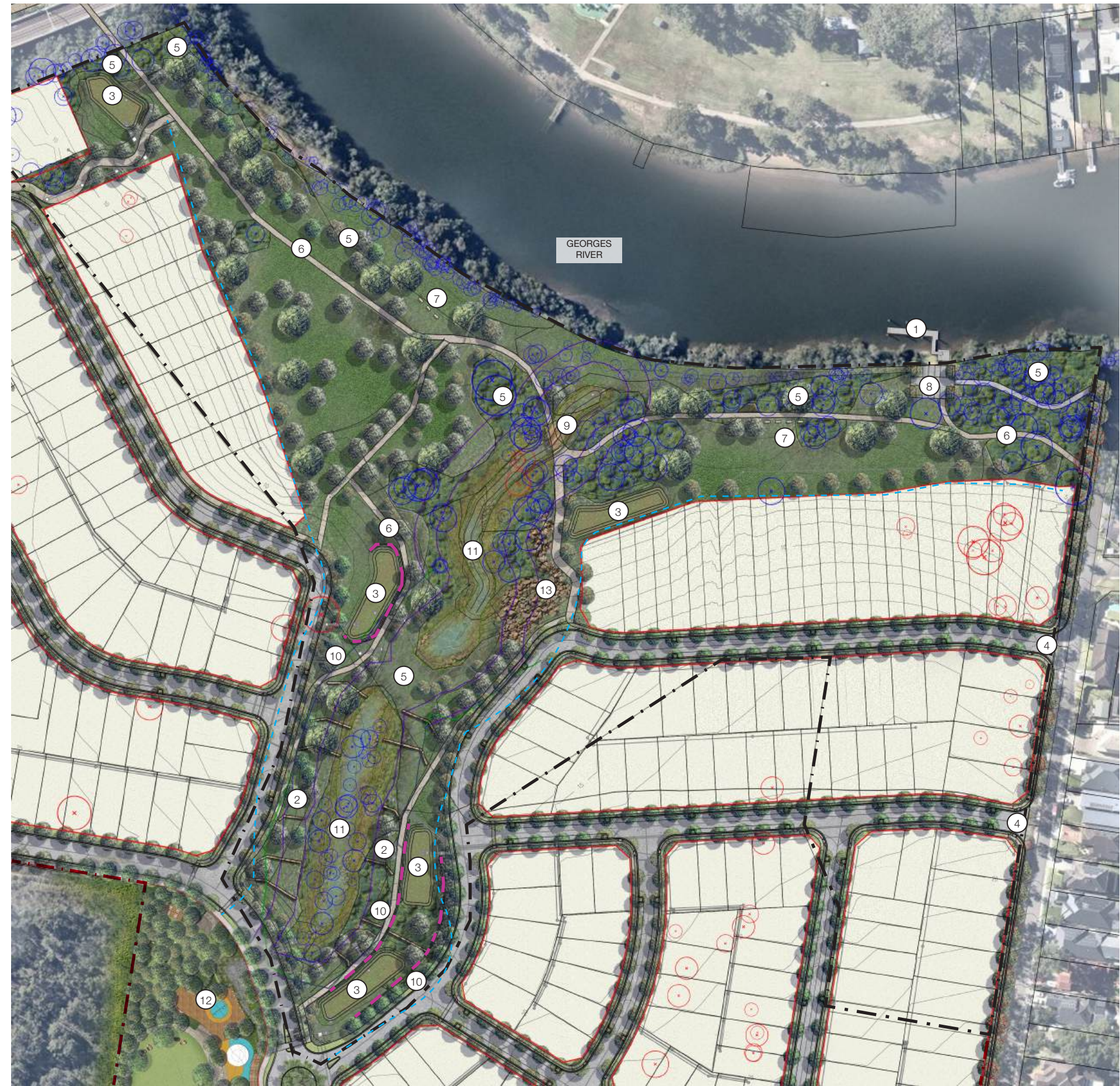


CLIENT		HODGE DEVELOPMENT PTY LTD		
PROJECT				
PLEASURE POINT SUBDIVISION 54 PLEASURE POINT ROAD HOLSWORTHY NSW				
DRAWING TITLE				
VEGETATION MANAGEMENT ZONE				
SCALE				
1:4000 @A3				
DRAWN		CHECKED		
KM / DF / GP		DV		
PROJECT NO.		DRAWING NO.		REVISION
H8-24016-2		L03		G
LANDSCAPE ARCHITECT				



LANDSCAPE CONCEPT PLAN : SUBDIVISION

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



KEY

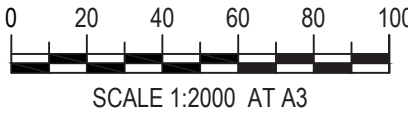
- SITE BOUNDARY - STAGE 1
- SITE BOUNDARY - STAGE 2
- FLOOD LINE
- PROPOSED RETAINING WALL TO ENGINEER'S DETAILS
- PROPOSED TREE PLANTING
- EXISTING TREES TO BE REMOVED REFER TO ARBORIST'S REPORT
- EXISTING TREES TO BE RETAINED REFER TO ARBORIST'S REPORT
- FOOTPATH
- TURF
- GARDEN BEDS
- REVEGETATION ZONE
- EXISTING VEGETATION TO BE RETAINED

DESIGN NOTES

- JETTY AND CANOE RAMP
- SANDSTONE BOULDER FEATURE WALLS
- WATER QUALITY BASINS
- SECONDARY ENTRY (SANDSTONE PLINTHS UNDER 2M HT.)
- EXISTING FORESHORE AREA
- FOOT PATH
- SITTING AREA
- CAR PARK
- PEDESTRIAN BRIDGE
- PROPOSED RETAINING WALL (TO ENGINEER'S DETAILS)
- RIPIARIAN CORRIDOR AREA
- PARK / PLAYGROUND
- ROCK LINE BATTER



CONTEXT PLAN



CLIENT
HODGE DEVELOPMENT PTY LTD

PROJECT
PLEASURE POINT SUBDIVISION
54 PLEASURE POINT ROAD
HOLSWORTHY NSW

DRAWING TITLE
LANDSCAPE CONCEPT PLAN:
SUBDIVISION

SCALE
1:2000 @A3
DRAWN
KM / DF / GP
CHECKED
DV
PROJECT NO.
H8-24016-2
DRAWING NO.
L05
REVISION
G
LANDSCAPE ARCHITECT



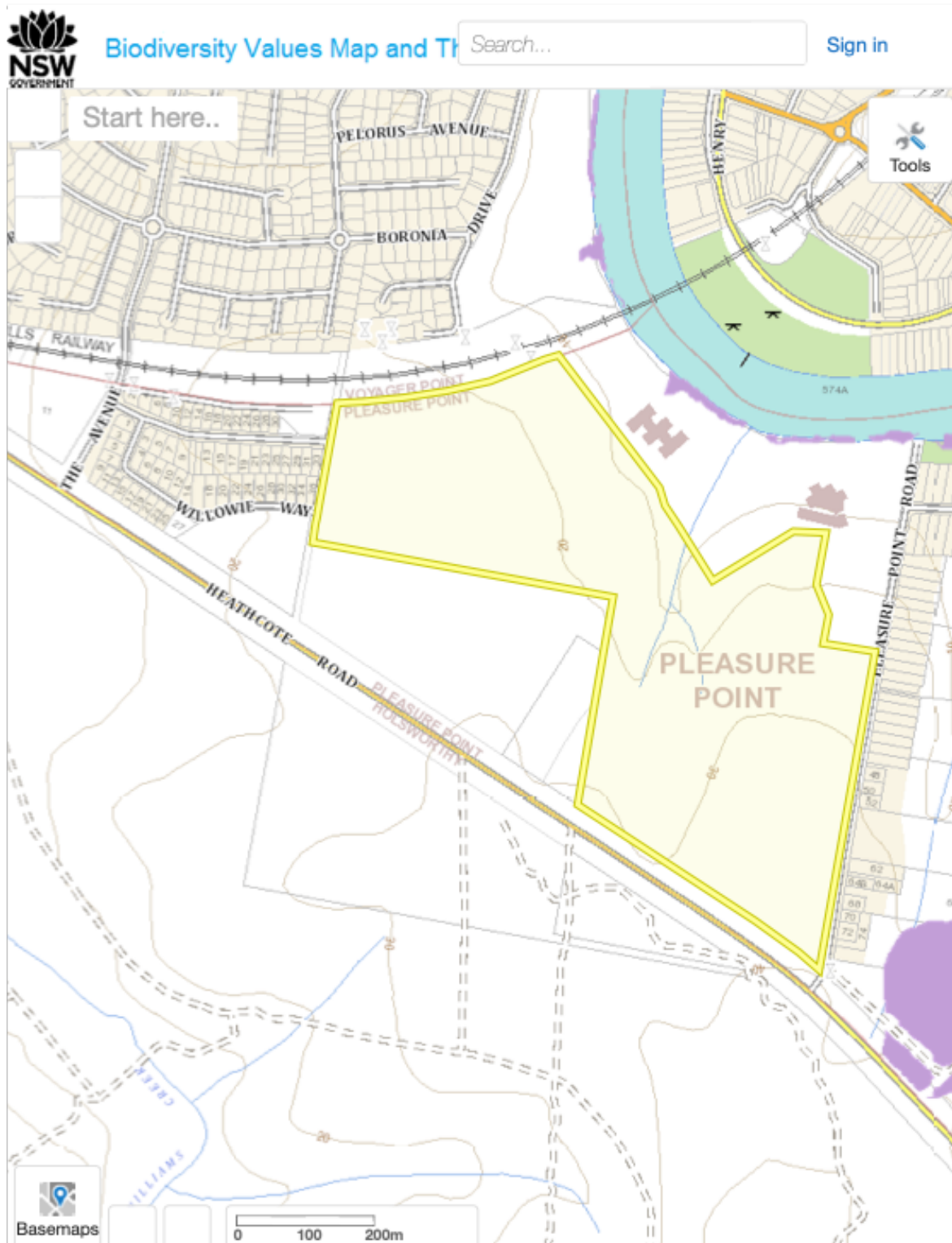
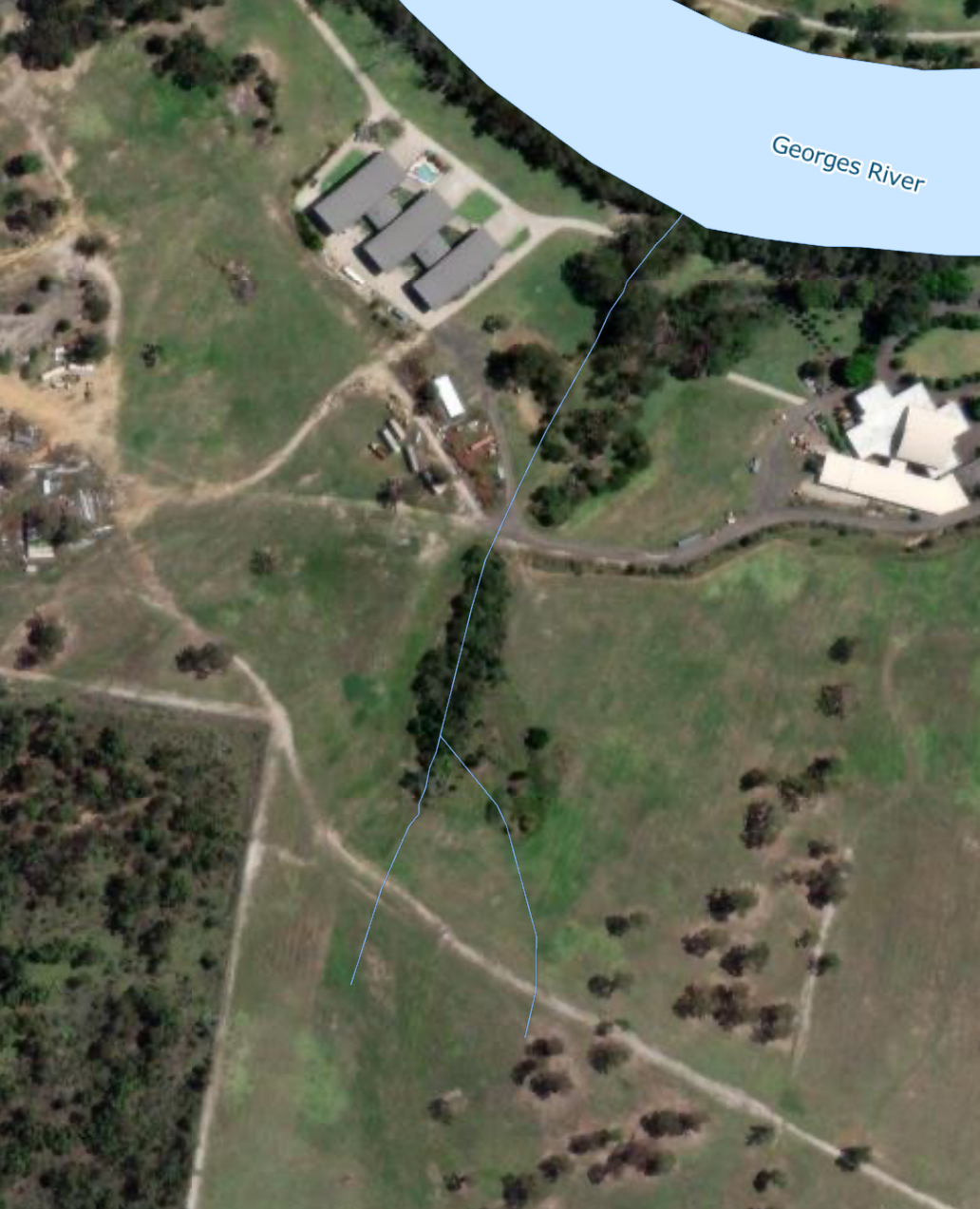


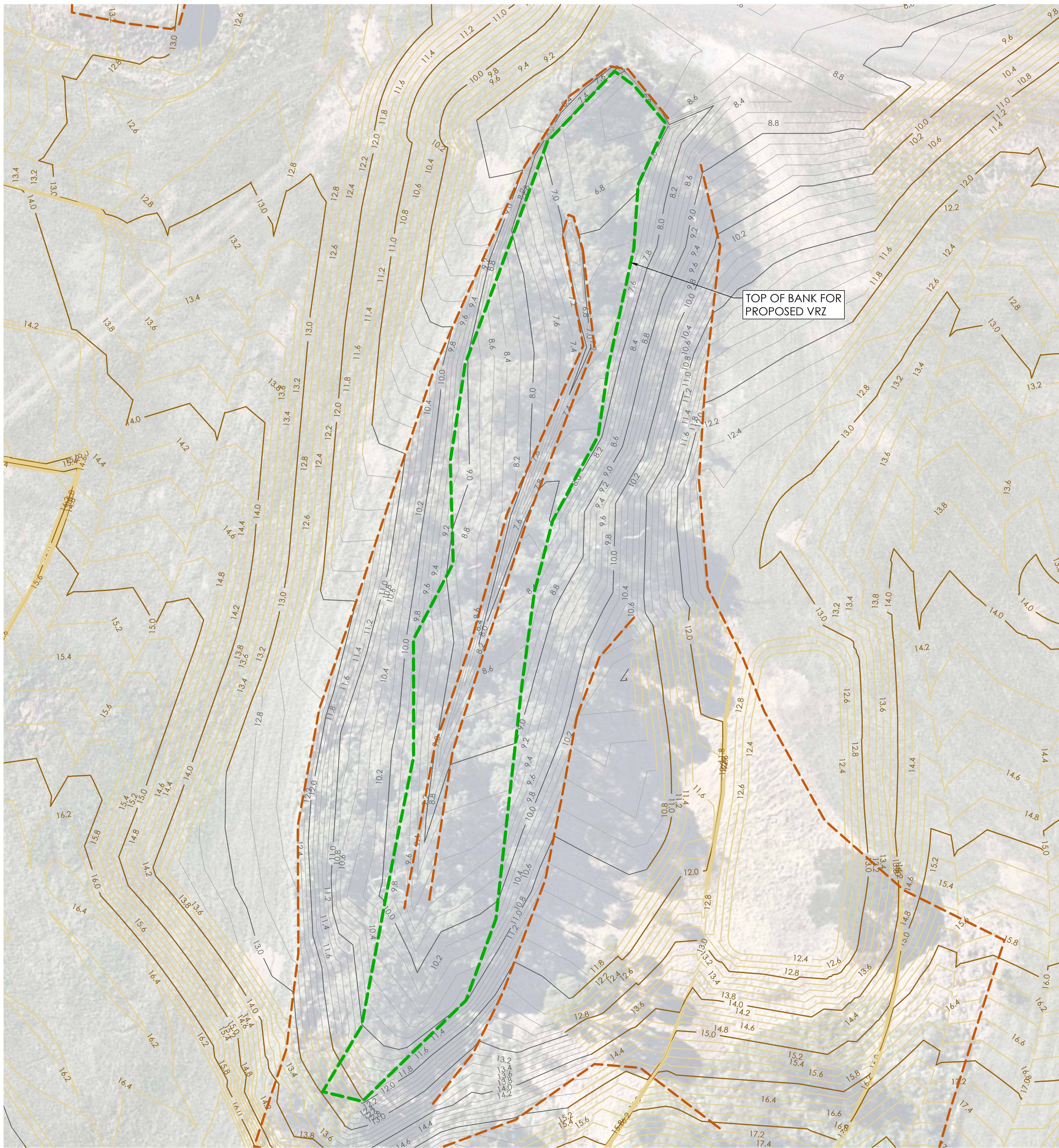
Figure 7.1 Mapping of *Biodiversity Values* land at Pleasure Point. The map highlights only Lot 1 in yellow; Lot 2 extends from Lot 1 to the Georges River.

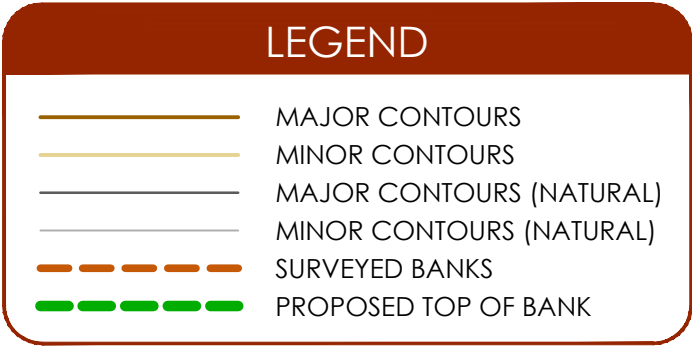
The BV mapped area along the Georges River foreshore coincides **precisely** with the mapping of Coastal Wetlands pursuant to the '*Hazards and Resilience SEPP*' (see Chapter 9 of this ERIAR).

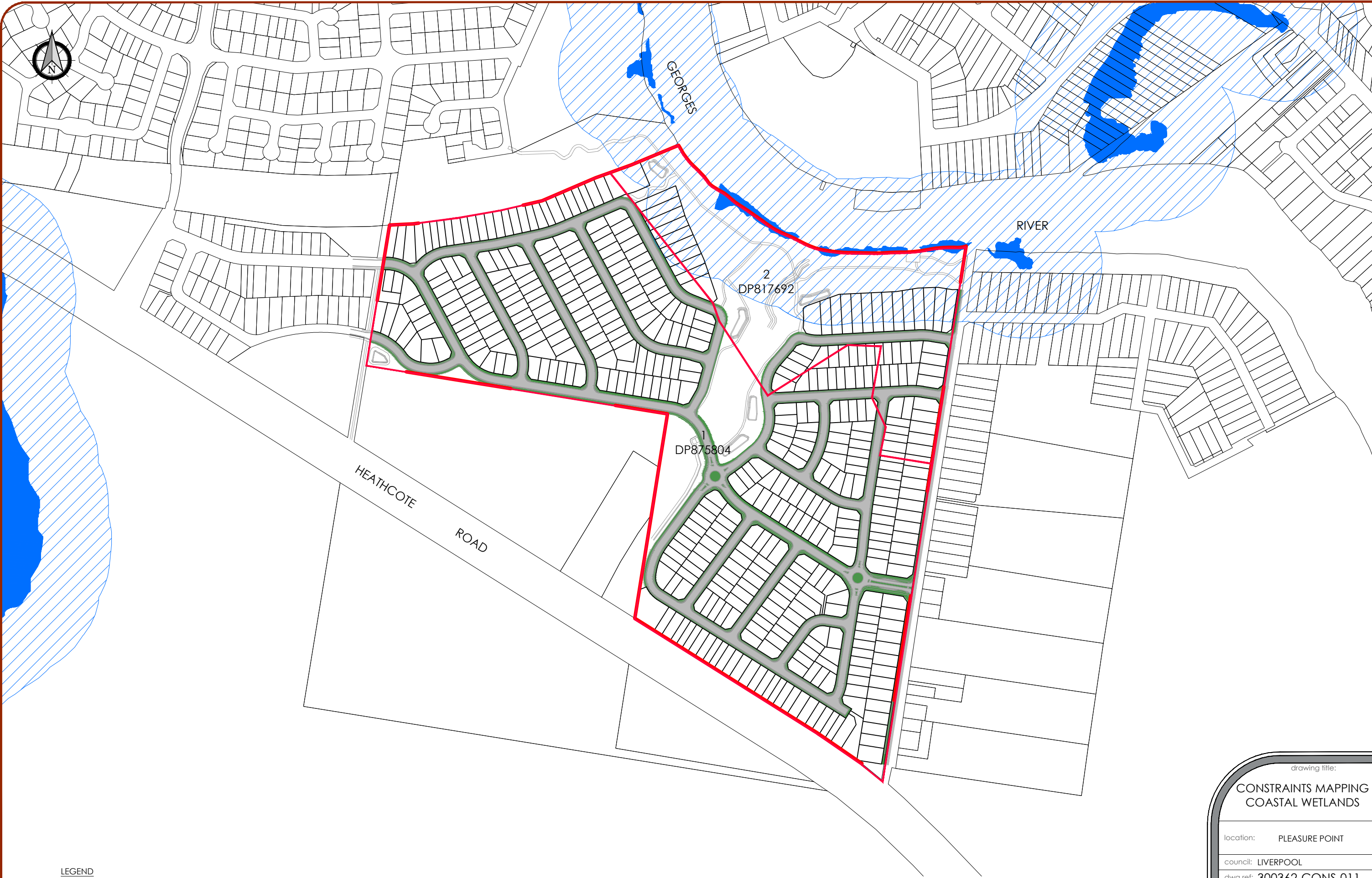
The BV mapped area on the subject land will **not** be adversely affected by the Project.

Georges River









LEGEND

- SUBJECT BOUNDARY
- ADJOINING BOUNDARY
- COASTAL WETLANDS
- COASTAL WETLANDS PROXIMITY AREA

SOURCE

BOUNDARIES - NSW DIGITAL CADASTRAL DATABASE (DCDB)
COASTAL WETLAND - NSW DEPARTMENT OF PLANNING & ENVIRONMENT

ver.	date	comment	drawn	pm	level information	scale (A1 original size)	notes
A	14.08.2024	INITIAL ISSUE	JJ	BM	DATUM: N/A CONTOUR INTERVAL: N/A	A1 1:2500 0 50 100 125m A3 1:5000	

- project management
- civil engineering
- infrastructure
- superintendency
- economic analysis
- social impact
- town planning
- surveying
- development feasibility
- visualisation
- urban design

drawing title:

CONSTRAINTS MAPPING
COASTAL WETLANDS

location: PLEASURE POINT

council: LIVERPOOL

dwg ref: 300362-CONS-011

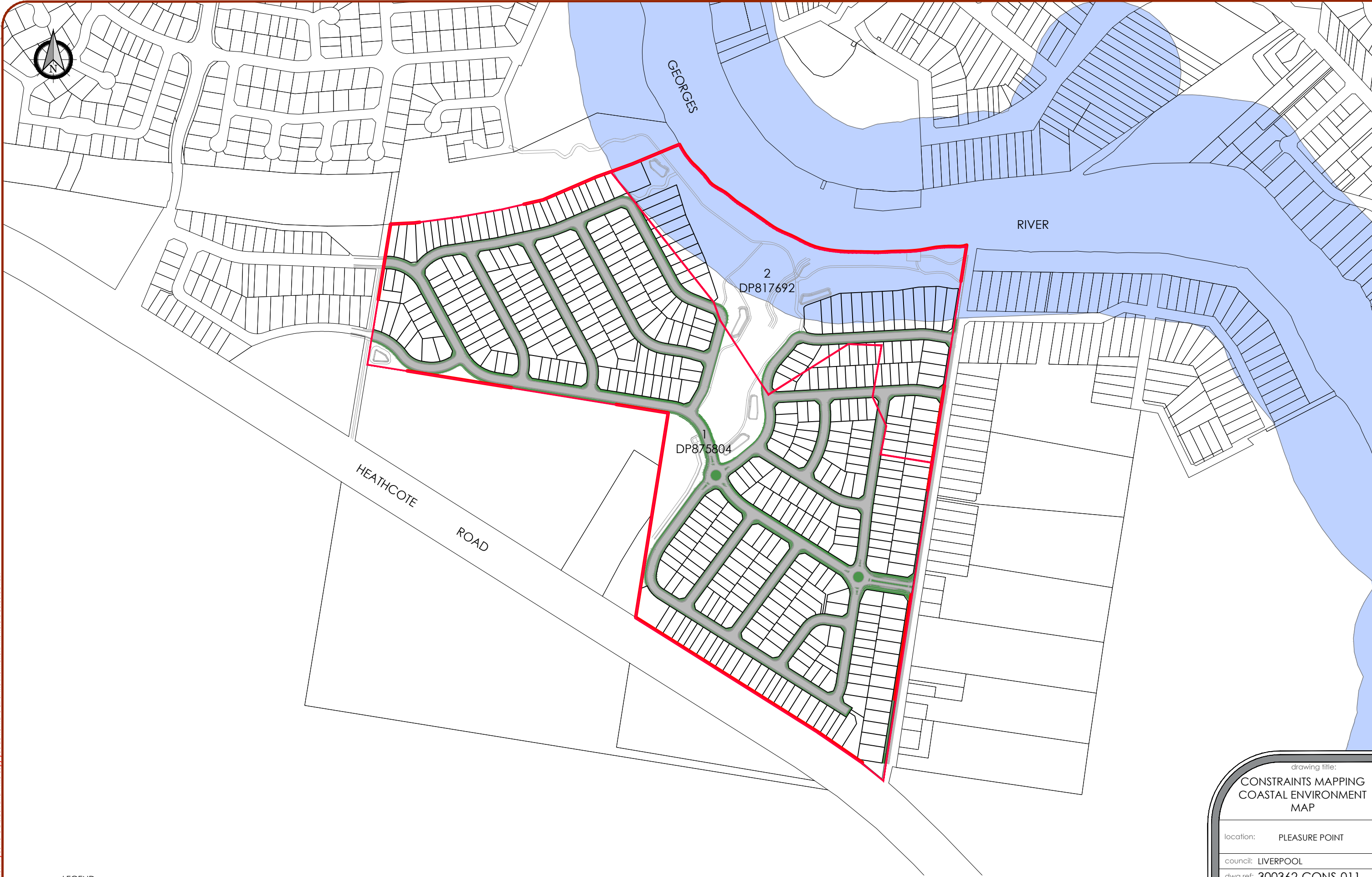
client:

HODGE
DEVELOPMENTS
PTY LTD



central coast office ph: (02) 4305 4300
hunter office ph: (02) 4978 5100
sydney office ph: (02) 8046 7411

www.adwjohnson.com.au



LEGEND

- SUBJECT BOUNDARY
- ADJOINING BOUNDARY
- COASTAL ENVIRONMENT AREA

SOURCE

BOUNDARIES - NSW DIGITAL CADASTRAL DATABASE (DCDB)
COASTAL USE AREA - NSW DEPARTMENT OF PLANNING & ENVIRONMENT

ver.	date	comment	drawn	pm	level information	scale (A1 original size)	notes
A	14.08.2024	INITIAL ISSUE	JJ	BM	DATUM: N/A CONTOUR INTERVAL: N/A	A1 1:2500 0 50 100 125m A3 1:5000	

- project management
- civil engineering
- infrastructure
- superintendency
- economic analysis
- social impact
- town planning
- surveying
- development feasibility
- visualisation
- urban design

drawing title:

CONSTRAINTS MAPPING
COASTAL ENVIRONMENT
MAP

location: PLEASURE POINT

council: LIVERPOOL

dwg ref: 300362-CONS-011

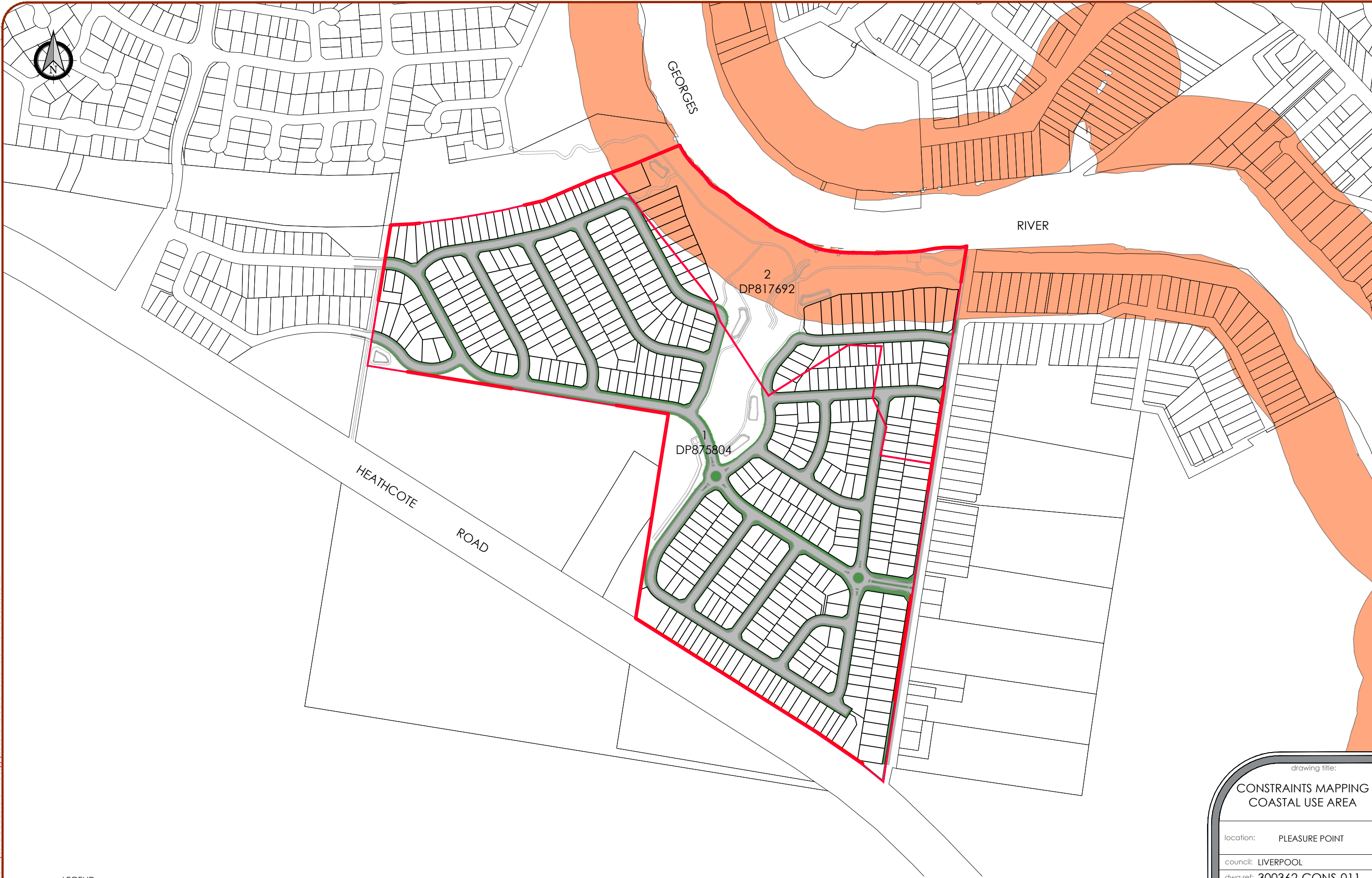
client:

HODGE
DEVELOPMENTS
PTY LTD



central coast office ph: (02) 4305 4300
hunter office ph: (02) 4978 5100
sydney office ph: (02) 8046 7411

www.adwjohanson.com.au



LEGEND

- SUBJECT BOUNDARY
- ADJOINING BOUNDARY
- COASTAL USE AREA

SOURCE

BOUNDARIES - NSW DIGITAL CADASTRAL DATABASE (DCDB)
COASTAL USE AREA - NSW DEPARTMENT OF PLANNING & ENVIRONMENT

ver.	date	comment	drawn	pm	level information	scale (A1 original size)	notes
A	14.08.2024	INITIAL ISSUE	JJ	BM	DATUM: N/A CONTOUR INTERVAL: N/A	A1 1:2500 0 50 100 125m A3 1:5000	

- project management
- civil engineering
- infrastructure
- superintendency
- economic analysis
- social impact
- town planning
- surveying
- development feasibility
- visualisation
- urban design

drawing title:

CONSTRAINTS MAPPING
COASTAL USE AREA

location: PLEASURE POINT

council: LIVERPOOL

dwg ref: 300362-CONS-011

client:

HODGE
DEVELOPMENTS
PTY LTD



central coast office ph: (02) 4305 4300
hunter office ph: (02) 4978 5100
sydney office ph: (02) 8046 7411

www.adwjohnson.com.au



SUBJECT BOUNDARY

ADJOINING BOUNDARY

ENVIRONMENTALLY SIGNIFICANT LAND

TREE TO REMAIN

TREE TO BE REMOVED

SOURCE
BOUNDARIES - NSW DIGITAL CADASTRAL DATABASE (DCDB)
ENVIRONMENTALLY SIGNIFICANT LAND - LIVERPOOL COUNCIL ONLINE VIEWER

ver.	date	comment	drawn	pm	level information	scale (A1 original size)	notes
C	14.08.2024	COASTAL ENVIRONMENT MAP ADDED	ER	BM	DATUM: AHD CONTOUR INTERVAL: 1m	A1 1:2500 0 50 100 125m A3 1:5000	

- project management
- civil engineering
- infrastructure
- superintendency
- economic analysis
- social impact
- town planning
- surveying
- development feasibility
- visualisation
- urban design

drawing title:
**CONSTRAINTS MAPPING
ENVIRONMENTALLY
SIGNIFICANT LAND**

location: PLEASURE POINT

council: LIVERPOOL

dwg ref: 300362-CONS-005

client:
**HODGE
DEVELOPMENTS
PTY LTD**

central coast office
hunter office
sydney office

ph: (02) 4305 4300
ph: (02) 4978 5100
ph: (02) 8046 7411

www.adwjohanson.com.au

adw

johnson

working beyond expectations





© Department of Customer Service 2020

Legend

- Study Area
- Subject Site
- 1500m Assessment Buffer

Flora Records

- Acacia pubescens*
- Allocasuarina diminuta* subsp. *mimica*
- Allocasuarina glauca*
- Caesia parviflora* var. *minor*
- Callistemon linearifolius*

- Grevillea parviflora* subsp. *parviflora*
- Hibbertia puberula*
- Leucopogon exolasius*
- Melaleuca deanei*
- Persoonia hirsuta*
- Persoonia nutans*
- Prostanthera saxicola*
- Pterostylis saxicola*
- Wilsonia backhousei*

Mammalia Records

- Eastern False Pipistrelle
- Eastern Pygmy-possum
- Grey-headed Flying-fox
- Koala
- Large Bent-winged Bat
- Large-eared Pied Bat
- Southern Brown Bandicoot (eastern)
- Southern Myotis
- Squirrel Glider
- Yellow-bellied Sheathtail-bat

Aves Records

- Bush Stone-curlew
- Curlew Sandpiper
- Eastern Osprey
- Little Lorikeet
- Masked Owl
- Powerful Owl
- Regent Honeyeater
- Scarlet Robin
- Sooty Owl
- Turquoise Parrot
- White-bellied Sea-Eagle

Heathcote Road, Pleasure Point
Client: Hodge Developments Pty Ltd | AEP Ref: 3539 | Date: August 2024

Imagery: World Imagery
Spatial Reference: GDA2020 MGA Zone 56

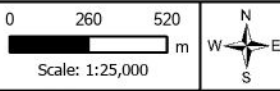


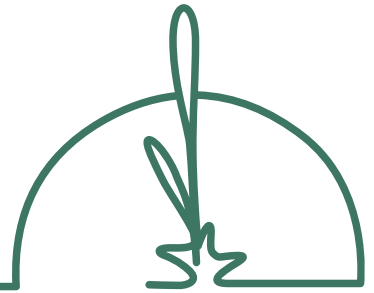
Figure 5 - BioNet Atlas Records



Disclaimer: While all reasonable care has been taken to ensure the information shown on this map is up to date and accurate, no guarantee is given that the information portrayed is free from error or omission. Please verify the accuracy of all information prior to use.

Note:
1. Boundaries are not survey accurate
2. Do not scale off this plan

gunninah



Lot 1 in DP 875804 and Lot 2 in DP 817692
Pleasure Point

Residential Subdivision

Ecological & Riparian Issues & Assessment Report

Attachment B
Photographic Essay

F Dominic Fanning
Gunninah

06 September 2024



Photo 1

The small patch of woodland/open forest near the main entrance to the Pleasure Point Residential Project land; in the northeast of the land, off Pleasure Point Road.

It is located on a rocky substrate; but the understorey is regularly slashed and maintained.

This is PCT 3616 (Sydney Hinterland Grey Gum Transition Forest) in Moderate condition (see Figure 4.1 of the ERIAR).

This small patch is proposed to be removed for residential development.



Photo 2

The patch of highly modified and degraded Cumberland Blue Box 'Forest' - immediately south of the main entrance to the Pleasure Point Residential Project land; in the northeast of the land, off Pleasure Point Road.

This vegetation is **highly** modified; and the understorey has been replaced with an exotic maintained grassland of Common Couch.

This is PCT 4024 (Cumberland Blue Box River-flat Forest) in Degraded condition (see Figure 4.1 of the ERIAR).

This small patch is proposed to be removed for residential development.



Photo 3

The larger patch of woodland/open forest south of the main entrance to the Pleasure Point Residential Project land; in the northeast of the land; adjacent to the Georges River.

The understorey has been replaced with an exotic maintained grassland of Common Couch; and is regularly slashed and maintained.

This is PCT 4024 (Cumberland Blue Box River-flat Forest) in Degraded condition (see Figure 4.1 of the ERIAR).

This patch of vegetation is to be retained and enhanced within the RE1-zoned land on the Pleasure Point Residential Project land; providing new public access and amenities.



Photo 4

The narrow band of mangroves and Swamp Oak Forest along the Georges River foreshore.

Most of this vegetation is on adjoining land immediately north of the subject land; and none will be removed or adversely affected by the Pleasure Point Residential Project.

Indeed, the enhanced management of water quality as a result of the Pleasure Point Residential Project, in addition to the habitat and rehabilitation measures contained in the VMP (Restore 2024) and *Landscape Plan* (Habitat8) for the Project will protect and enhance these vegetation communities.



Photo 5

The land along the Georges River at Pleasure Point – at the northern end of the RE1 land; with the adjoining railway line in the background.

This area has long been highly modified and intensively managed; and will be enhanced and ultimately dedicated to Council as part of an extended public foreshore parkland for the Pleasure Point Residential Project.



Photo 6

A small patch of native vegetation in the northern part of the subject land (located within the mapped ESL land) - with the railway line to the right. The trees on the right have a mostly limited native understorey and the vegetation on the left is located on a rocky substrate and has a moderate native understorey element.

This is PCT 3616 (Sydney Hinterland Grey Gum Transition Forest) in Moderate condition (see Figure 4.1 of the ERIAR).

Much of this area of vegetation is to be retained; as part of the Pleasure Point Residential Project; although in the original iteration of the Project was to be removed.



Photo 7

Characteristic view of the vegetation in the western part of the Pleasure Point Residential Project land; with the water tower located in the adjoining existing residential land in the background.

This part of the subject land at Pleasure Point has been severely modified, cleared and managed; and retains few attributes of any ecological value or significance.

The individual trees are mapped as PCT 3619 (Sydney Hinterland Enriched Sandstone Bloodwood Forest) in Poor condition (see Figure 4.1 of the ERIAR).

The whole of this part of the subject land is proposed for residential development.



Photo 8

Characteristic view of the vegetation in the western part of the Pleasure Point Residential Project land.

This part of the subject land at Pleasure Point has been severely modified, cleared and managed; and retains few attributes of any ecological value or significance.

The individual trees are mapped as PCT 3619 (Sydney Hinterland Enriched Sandstone Bloodwood Forest) in Poor condition (see Figure 4.1 of the ERIAR).

The whole of this part of the subject land is proposed for residential development.



Photo 9

View from the southeastern portion of the subject land looking northwest into the western part of the land, with vegetation in the incised watercourse through the land on the extreme right of the photograph .

This is typical of most of the land proposed for the Pleasure Point Residential Project; and most of the land depicted will be developed for the Project.

NOTE that there are **NO** 'watercourses' (*ie* **NO** channels) upstream (to the left) of the track through the centre of the photograph – in the location of the two alleged or purported' 1st Order Streams on the Hydroline mapping (see **Figure 8.1** of the ERIAR).



Photo 10

Vegetation typical of the southeastern part of the subject land at Pleasure Point (on Lot1). Scattered trees within a slashed and maintained mixed exotic and native groundcover.

Part of this vegetation is PCT 3619 (Sydney Hinterland Enriched Sandstone Bloodwood Forest) in purported Moderate condition (see Figure 4.1 of the ERIAR).

This area will be removed for residential development.



Photo 11

Vegetation typical of the southeastern part of the subject land at Pleasure Point (on Lot1). Predominantly a slashed and maintained mixed exotic and native groundcover with scattered trees.

Part of this vegetation is PCT 3619 (Sydney Hinterland Enriched Sandstone Bloodwood Forest) in purported Moderate condition (see Figure 4.1 of the ERIAR).

This area will be cleared for residential development.

Note also the forest vegetation in the background. This vegetation is located to the immediate south of the subject land – between Lot 1 (foreground) and Heathcote Road.



Photo 12

Vegetation within the main watercourse through the centre of the subject land at Pleasure Point; illustrating the complex vegetation structure present. Note also the small artificial rock-lined drain entering the main part of the watercourse (on the right).

This is PCT 4059 (Sydney Hinterland Sandy Creek-flat Shrub Forest) in Good condition (see Figure 4.1 of the ERIAR).

The whole of this vegetation patch is to be retained and enhanced as part of the Pleasure Point Residential Project – pursuant to the VMP (Restore 2024) and the *Landscape Plan* (Habitat8 2024) for the Project.

The Link Road (connecting the eastern and western parts of the Pleasure Point Residential Project) will be located immediately upstream of this vegetation patch (in the foreground of the photograph).



Photo 13

The uppermost part of the watercourse through the centre of the subject land at Pleasure Point; illustrating the substantial rock outcropping and the complex vegetation structure.

This is PCT 4059 (Sydney Hinterland Sandy Creek-flat Shrub Forest) in Good condition (see Figure 4.1 of the ERIAR).

The whole of this vegetation patch is to be retained and enhanced as part of the Pleasure Point Residential Project – pursuant to the VMP (Restore 2024) and the *Landscape Plan* (Habitat8 2024) for the Project.



Photo 14

The **lower** parts of the watercourse through the centre of the subject land at Pleasure Point; immediately below the existing formed track across the site.

This is PCT 4059 (Sydney Hinterland Sandy Creek-flat Shrub Forest) in Good condition (see Figure 4.1 of the ERIAR).

The whole of this vegetation patch is to be retained and enhanced as part of the Pleasure Point Residential Project – pursuant to the VMP (Restore 2024) and the *Landscape Plan* (Habitat8 2024) for the Project.



Photo 15

The **lowest** parts of the watercourse through the centre of the subject land at Pleasure Point; upstream of the Georges River (to the right of the photograph).

This vegetation and its landscape have been significantly modified; and is all located within the C3 and RE1-zoned parts of the subject land.

The whole of this vegetation patch is to be retained and enhanced as part of the Pleasure Point Residential Project – pursuant to the VMP (Restore 2024) and the *Landscape Plan* (Habitat8 2024) for the Project.