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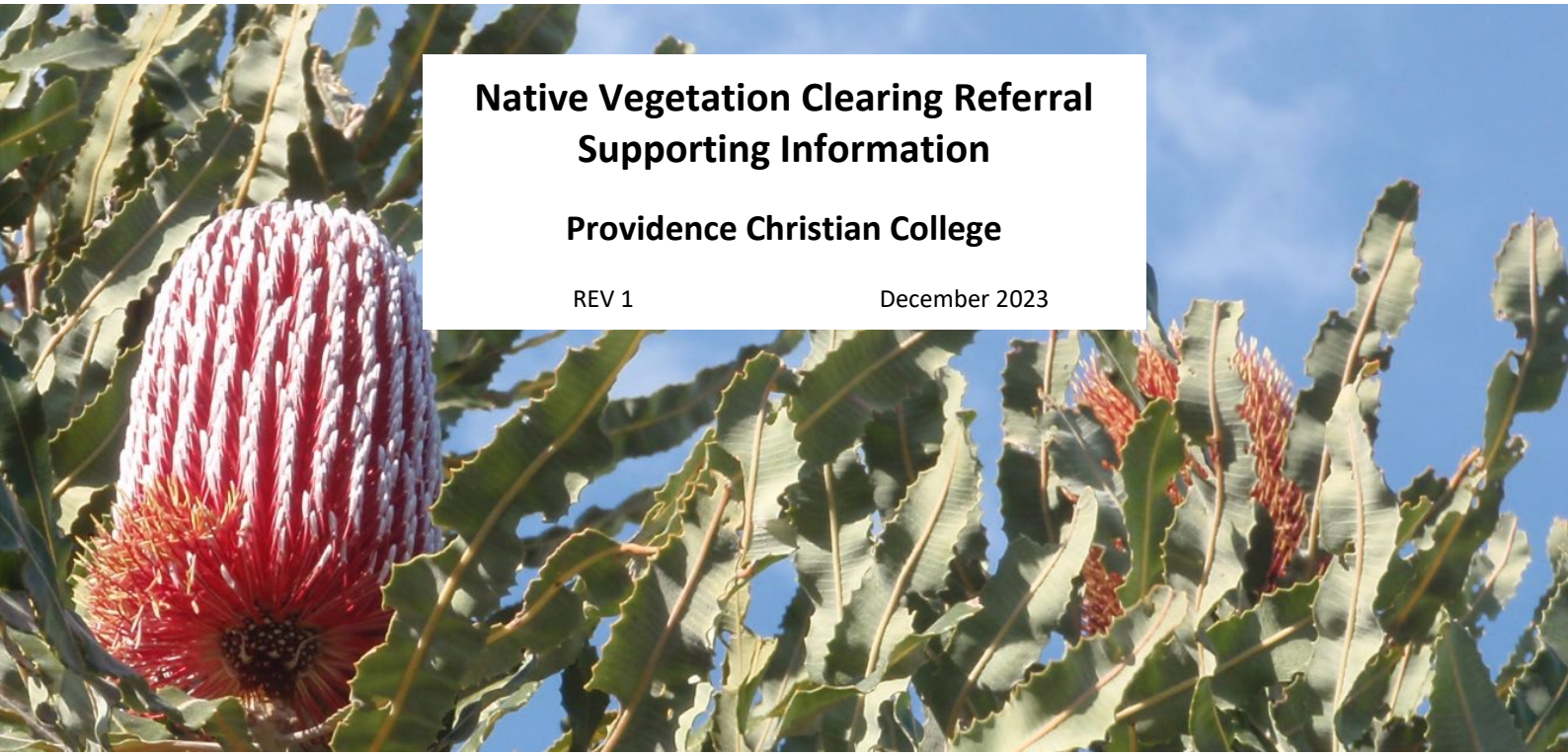

Native Vegetation Clearing Referral Supporting Information

Providence Christian College

REV 1 December 2023

CALIBRE | COMMITMENT | COLLABORATION

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1 Introduction

1.1 Background

Providence Christian College is located at 19 Furley Road, Southern River ('the site'), within the City of Gosnells (CoG), approximately 19 kilometres southeast from the Perth Central Business District (CBD) (Figure 1). The school currently facilitates learning for approximately 840 students, ranging from early learning up to Year 12, as well as up to 95 staff on site during school hours (Bushfire Safety Consulting, 2023). The school currently sits on approximately 10 ha of land.

Providence Christian College is currently progressing approvals for upgrades and expansion of the school campus. The school proposes an expansion on the existing science building, to develop a new science laboratory building ('the development footprint', Figure 2).

In order for the above building to be constructed and meet bushfire safety requirements, clearing of native and non-native vegetation is required within the Asset Protection Zone (APZ) (Appendix 1).

1.2 Proposal Details and Proposed Clearing Extent

To facilitate the proposed development, the school will be required to clear some vegetation, to meet bushfire safety requirements. The development of the new science building comprises approximately 355 m^2 and has an additional APZ buffer extending up to 20 m from the building.

The clearing extent (i.e., area of vegetation proposed to be cleared) is located solely within the APZ, and extends over 452 m^2.

1.3 Proposed Clearing Approval Process

The proposed clearing has been identified as potentially suitable to be approved through the NVCR process based on the clearing extent and condition of vegetation at the site, which are considered very low impact clearing. Assessment against the NVCR criteria is provided in Section 3.

1.4 Alternative Considered/Actions to Minimise Clearing Actions

The location of the development has been chosen to reduce the amount of native vegetation to be cleared, whilst also providing community benefit in the form of additional school resources. The expansion of the current building reduces the requirement for clearing of better-quality vegetation in alternative locations on the site, if an entirely new, independent building were to be constructed.

1.5 Proposed Development Timeframes

The school endeavours to begin ground works in April 2024 to facilitate opening of the new facility at the start of the 2025 school year. It is expected that clearing will occur between April 2024 to May 2024.

2 Site Description

2.1 Topography, Landforms and Soils

2.1.1 Topography and Landform

Site elevation is relatively flat, with regional topographic elevations at the site measured from 24 to 26 metres Australian Height Datum (mAHD) (Figure 3; Landgate, 2023a).

The site does not contain any outstanding natural landform features.

2.1.2 Landforms and Soils

Regional environmental geology mapping indicates that soils at the site predominantly comprise the following geological units (Jordan, 1986):

- Bassendean Sand (S8) – white to pale grey at surface, yellow at depth, fine to medium grained, moderately sorted, subangular to subrounded, minor heavy minerals of eolian origin.
- Bassendean Sand over Guildford Formation (S10) – S8 over sandy clay to clayey sand of the Guildford Formation, of eolian origin.

Land degradation risk for the Bassendean B2 Phase is largely attributed to wind erosion (Table 2-1).

Table 2-1: Land Degradation Risk Categories

Land Degradation Risk Category	EnvGeol Bassendean B2 phase (212Bs__B2)
Water Erosion	0% of map unit has a very high to extreme hazard
Wind Erosion	40% of map has high to extreme hazard
Waterlogging and Inundation	5% of map unit has a moderate to very high risk
Flood Hazard	0% of the map unit has a moderate to high hazard
Salinity risk	0% of map unit has a moderate hazard

Source: DPIRD (2023)

2.1.3 Acid Sulphate Soils

The Acid Sulfate Soil (ASS) risk at the site is noted to be of moderate to low risk within 3 m of natural soil surface but high to moderate risk of ASS beyond 3 m of natural soil surface (Figure 3; Landgate, 2023a).

2.2 Hydrology

2.2.1 Groundwater

The site forms part of the Canning River groundwater system, falling within the Southern River subarea, which comprises several hydrogeological units (aquifers), including the following (DWER, 2023a):

- Unconfined Superficial Swan aquifer
- Confined Leederville aquifer
- Confined Yarragadee North aquifer

The superficial aquifer is also known as the Jandakot mound which is made up of Bassendean sands.

Maximum groundwater contours indicate groundwater levels range from approximately 24 to 26 mAHD, which equates to a separation distance of approximately 0 to 1 m below ground level. Superficial aquifer groundwater flow direction is north toward the Canning River (Figure 4; DWER, 2023a).

The site is not within a Public Drinking Water Source Area (DWER, 2023a).

Groundwater salinity ranges from 500-1000 g/L (DWER, 2023a).

2.2.2 Surface Water

No streams or tributaries are located within the site (Landgate, 2023a), although a waterbody was constructed in the eastern corner in the early 2000s as can be seen on historical aerial photography. The waterbody appears to have been vegetated and dried up since (Landgate, 2023b).

2.2.3 Geomorphic Wetlands

The broader school site contains areas mapped as a Conservation Category Wetland (CCW) (UFI 15,624), Resource Enhancement Wetland (REW) (UFI 15,623) and Multiple Use Wetland (MUW) (UFI 14,896) (Figure 4; Table 2-2; Landgate, 2023a).

CCWs are of the highest priority for management, however no part of the development footprint is overlapped by the mapped CCW. Wetland category management objectives are outlined on Table 2-3.

Within the APZ, approximately 715 m^2 is mapped as REW, although it is noted that the mapped REW extent comprises existing buildings, cleared areas as well as degraded vegetation. The vegetated area of the REW extends over approximately 133 m^2.

The remainder of the building footprint and APZ is within a MUW or are not identified as a wetland. As with the REW area, much of the MUW mapped extent comprises buildings, roads or other infrastructure and cleared areas.

Table 2-2: Wetlands on site

Wetland Category	UFI	Wetland Type	Landform	Total Extent (ha)	Extent on site (ha)
CCW	15,624	Dampland	Basin	1.13	1.13
REW	15,623	Dampland	Basin	1.36	1.36
MUW	14,896	Dampland	Basin	5.15	4.50

Source: Landgate (2023)

Table 2-3: Wetland Management Categories

Management Category	General Description	Management Objective
Conservation	Wetlands which support a high level of attributes and functions	Highest priority wetlands. Objective is to preserve and protect the existing conservation values of the wetlands through various mechanisms including: • reservation in national parks, crown reserves and State-owned land, • protection under Environmental Protection Policies, and • wetland covenanting by landowners. No development or clearing is considered appropriate. These are the most valuable wetlands and any activity

Management Category	General Description	Management Objective
		that may lead to further loss or degradation is inappropriate.
Resource Enhancement	Wetlands which may have been partially modified but still support substantial ecological attributes and functions	Priority wetlands. Ultimate objective is to manage, restore and protect towards improving their conservation value. These wetlands have the potential to be restored to Conservation category. This can be achieved by restoring wetland function, structure and biodiversity. Protection is recommended through a number of mechanisms.
Multiple Use	Wetlands with few remaining important attributes and functions	Use, development and management should be considered in the context of ecologically sustainable development and best management practice catchment planning through landcare.

Source: DBCA (2023)

2.3 Flora and Vegetation

2.3.1 Vegetation Association

Broad scale mapping of pre-European vegetation within the Perth region was undertaken by Beard (1976) which recorded 75 major categories of plants. Shepherd et al. (2002) reassessed Beard's mapping and divided some of the larger vegetation units into smaller units, which then resulted in a total of 819 vegetation types being mapped across the state.

One vegetation association occurs within the site:

- Bassendean 1001: Low forest, woodland or low woodland with scattered trees

This vegetation system occurs at 11.48% of the pre-European extent within the City of Gosnells (Table 2-4).

Table 2-4: Bassendean 1001 - Vegetation Statistics

Area	Pre-European Extent (ha)	Current Extent (ha)	Current Extent Protected for Conservation (ha)
Western Australia (1b)	53,283.54	11,394.19 (21.38%)	1,602.84 (3.01%)
Swan Coastal Plain (2b)	53,283.54	11,394.19 (21.38%)	1,602.84 (3.01%)
City of Gosnells (4b)	5,173.51	593.99 (11.48%)	4.64 (0.78%)

Source: GoWA (2019a)

2.3.2 Vegetation Complex

Remnant vegetation in this area forms part of the Southern River Complex, which is described as an "open woodland of marri (*Corymbia calophylla*), jarrah (*Eucalyptus marginata*) and Banksia species with fringing woodland of flooded gum (*Eucalyptus rudis*) and *Melaleuca rhaphiophylla* along creek beds" (Heddle, et. al 1980).

Vegetation complexes are used by the EPA to determine regional representation of biodiversity (EPA, 2008). The EPA has an objective to retain 30% of the pre-clearing extent of each ecological community or at least

10% of the pre-clearing extent of each ecological community within defined constrained areas including the Perth Metropolitan Region (EPA ,2008).

The current extent of the Southern River Complex occurs above the 10% threshold within the Perth Metropolitan Region (Table 2-5).

Table 2-5: Southern River Vegetation Complex Statistics

Area	Pre-European Extent (ha)	Current Extent (ha)	Current Extent Protected for Conservation (ha)
Swan Coastal Plain	58,781	10,832 (18.4%)	803 (1.4%)
Perth Metropolitan Region – Swan Coastal Plain portion	31,146	4,360 (14.0%)	233 (0.8%)
City of Gosnells	4,836	556 (8.2%)	-

Source: GoWA (2019b)

2.3.3 Flora and Vegetation Survey

A detailed flora and vegetation survey of the broader school site was undertaken by Focused Vision Consulting (FVC) in Spring 2023. The data analysis and reporting has not yet been finalised, but preliminary results have identified six vegetation types occurring on the site, with three vegetation types being identified within or adjacent to the development footprint (Table 2-6).

Table 2-6: Vegetation Units at the site

Vegetation Unit	Description	Area within Development footprint (m^2)
EmAfXp	Open Low Woodland of *Eucalyptus marginata* with *Allocasuarina fraseriana* over occasional associated *Banksia menziesii*, over Open Shrubland of *Xanthorrhoea preissii* over Low Sedgeland of *Dasypogon bromeliifolius*.	0
MpKg	Open Low Woodland of *Melaleuca preissiana* over Thicket of *Kunzea glabrescens*, over Open Shrubland of *Xanthorrhoea preissii* over Low Sedgeland of *Dasypogon bromeliifolius*.	452
BaKg	Closed forest of *Banksia attenuata* and of *Kunzea glabrescens* over Isolated Low Sedgeland of *Dasypogon bromeliifolius* and *Phlebocarya ciliata.*	0
Tuart	Isolated Tuart trees over cleared or planted areas.	One tree (to be retained)
Planted	Planted non-endemic trees, gardens and parklands.	0
Cleared areas	Cleared areas.	n/a

Vegetation condition in the development footprint and APZ ranges from 'Completely Degraded' to 'Degraded'. Based on a review of historical aerial photography, it is evident that much of this vegetation present within the APZ is regrowth following clearing of most of this area in the early 2000s (Landgate, 2023b).

A site inspection was undertaken by Coterra Environment on 1 November 2023, which recorded the following vegetation characteristics within the development footprint:

- Predominant species included Spearwood trees (*Kunzea glabrescens*), with some isolated individual Sheoak (*Allocasuarina fraseriana*), Prickly Moses (*Acacia pulchella*) and Grass Trees (*Xanthorrhoea preissii*)
- A large Tuart (*Eucalyptus gomphocephala*) was recorded to the east of the new science laboratory building

The vegetation composition mostly consisted of Spearwood trees within the overstorey, a weedy mid and understorey, and few scattered juvenile grass trees and weeds in the understorey (Plate 2-1 to Plate 2-3)

Plate 2-1: Northwest corner of vegetation within APZ facing south

Plate 2-2: Northeast corner of vegetation within APZ, facing southwest

Plate 2-3: Easternmost vegetation, facing west

Source: Coterra, 1 November 2023

Table 2-7: Keighery Vegetation Condition Scale

Condition	Description
Pristine (1)	Pristine or nearly so, no obvious signs of disturbance.
Excellent (2)	Vegetation structure intact; disturbance affecting individual species; weeds are non-aggressive species.
Very Good (3)	Vegetation structure altered, obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires; the presence of some more aggressive weeds; dieback; logging & grazing.
Good (4)	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires; the presence of some very aggressive weeds at high density; partial clearing; dieback & grazing.
Degraded (Poor) (5)	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires; the presence of very aggressive weeds; partial clearing; dieback; & grazing.
Completely Degraded (6)	The structure of vegetation is no longer intact, and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.

Source: EPA (2016)

2.3.4 Conservation Significant Flora

A desktop review of conservation significant flora relevant to this general location identified 78 conservation significant flora species that may occur within 10 km of the site. Of these 17 conservation significant flora

species are considered to have a higher potential to occur within the broader site (Anders Environment, 2023). These include the following Threatened flora species:

- *Austrostipa jacobsiana* - Critically Endangered (Commonwealth and WA)
- *Caladenia huegelii* - Endangered (Commonwealth), Critically Endangered (WA)
- *Diuris purdiei* - Endangered (Commonwealth and WA)
- *Drakaea elastica* - Endangered (Commonwealth) and Critically Endangered (WA)
- *Drakaea micrantha* - Vulnerable (Commonwealth) and Endangered (WA)

Six TECs were considered to have the potential to occur within this general location including:

- Banksia Woodlands of the Swan Coastal Plain ecological community – Endangered (Commonwealth) and Priority 3 (WA)
- Muchea Limestone of the Swan Coastal Plain – Endangered (Commonwealth and WA)
- Shrublands on dry clay flats - SCP10a – Critically Endangered (Commonwealth) and Endangered (WA)
- *Banksia attenuata* and/or *Eucalyptus marginata* woodlands of the eastern side of the Swan Coastal Plain - SCP20b – Endangered (Commonwealth and WA)
- Low-lying *Banksia attenuata* woodlands or shrublands – SCP21c – Endangered (Commonwealth) and Priority 3 (WA)
- *Banksia ilicifolia* woodlands, southern Swan Coastal Plain – SCP22 – Endangered (Commonwealth) and Priority 3 (WA).

The Spring 2023 survey included targeted searches for conservation significant flora including as well as assessing the potential presence of vegetation representing TECs.

Jacksonia sericea (Priority 4) was recorded onsite (pending confirmation from specimen identification). No other conservation significant flora species or ecological communities were identified to be present onsite.

The data analysis will be completed, and the flora and vegetation survey report will be finalised in 2024.

2.4 Fauna and Habitat

2.4.1 Black Cockatoos

The site is located within the mapped distribution for Carnaby's Black Cockatoo (*Zanda latirostris*), Baudin's Black Cockatoo (*Zanda baudinii*) and Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii naso*). The development footprint is within the buffer of a known Carnaby's Black Cockatoo roost, located across Warton Road at Gosnells Golf Club (Landgate, 2023a).

Much of the vegetation within the building footprint and APZ comprises Spearwood (*Kunzea glabrescens*), which is not used by any of the three black cockatoo species for foraging, roosting or breeding. A number of grass trees (*Xanthorrhoea preissii*) are present which are identified as having some foraging habitat value for Carnaby's Black Cockatoos, being a medium priority species (Groom, 2011), however, most grass trees within the proposed clearing area are small and would likely not provide a significant food resource.

Tuart (*Eucalyptus gomphocephala*) trees are identified as being of high value for Carnaby's Black Cockatoo, in relation to foraging, roosting and breeding (Groom, 2011). The single Tuart tree located within the APZ, adjacent to the development footprint will be retained.

Forest Red-tailed Black Cockatoos rely on Marri (*Corymbia calophylla*) and Jarrah (*Eucalyptus marginata*) seeds for 90% of their diet (WA Museum, 2010). These flora species are not present within the clearing area.

Baudin's Black Cockatoos primarily rely on Marri as a food source, but can also feed on Jarrah, cultivated apples and pears, *Banksia* and *Hakea* species and Long Storksbill (*Erodium botrys)* (TSSC, 2017). None of these species are present within the development footprint.

2.4.2 Other Significant Fauna

The vegetation proposed for clearing may provide some habitat for Quenda (*Isoodon fusciventer*), which is listed as a priority 4 species under the *Biodiversity Conservation Act* (2016). Priority 4 species are defined as 'Ecological communities that are adequately known, rare but not threatened or meet criteria for Near Threatened, or that have been recently removed from the threatened list.' (DEC, 2013).

It is not expected that the Quenda will be reliant on habitat available at the site given the abundance of better quality habitat in proximity to the development footprint, including 'very good' condition vegetation approximately 20 m west of the APZ including within the adjacent Lot 112.

2.5 Conservation Areas

2.5.1 Bush Forever

The site is in proximity to several Bush Forever (BF) areas (Table 2-8), however none of these sites intersect the school site.

Table 2-8: Bush Forever areas within 1 km of the site

BF Area Number	BF area name	Approximate distance to site
253	Harrisdale Swamp	630 m southwest
125	Holmes Street Bushland	660 m east
467	Gosnells Golf Course Bushland	800 m northwest
472	Canning Vale Prison Bushland	950 m southwest
413	Balannup Lake and Adjacent Bushland	1.0 km southeast

Source: Landgate (2023a)

2.5.2 Ecological Linkages

A regional ecological linkage is mapped to the south and east of the site, however does not intersect the site (Figure 5).

2.5.3 Environmentally Sensitive Areas

The APZ is partially within an Environmentally Sensitive Area (ESA), associated with the mapped CCW and it's 50 m buffer, located to the south of the development footprint (Figure 5; Landgate 2023a).

2.6 Bushfire

The development footprint is mapped as a Bush Fire Prone area, as defined by the Department of Fire and Emergency Services (Landgate, 2023a). These areas are defined as being subject to, or likely to be subject to, bush fire attack, and are identified by the presence of and proximity to bush fire prone vegetation and includes both the area containing the bush fire prone vegetation and a 100 m buffer zone immediately surrounding it. Additional planning and building requirements may apply to development within these areas (DFES, 2021). A further assessment of the bushfire risk may also be required under the Planning and Development (Local Planning Scheme) Regulations 2015 and the Building Code of Australia (DFES, 2021).

A Bushfire Management and Emergency Evacuation Plan has been prepared to accompany the Development Application (Bushfire Safety Consulting, 2023).

2.7 Contamination

The site and its surrounds are not classified under the *Contaminated Sites Act 2003* as contaminated and site development is not restricted under this Act (DWER, 2023b).

2.8 Heritage

A search of the Aboriginal Heritage Enquiry System Identifies that the site does not contain any Registered Aboriginal Sites (DPLH, 2023).

A search of the Heritage Council InHerit database (Heritage Council, 2023) indicates that the site does not contain any European Heritage Sites.

3 Native Vegetation Clearing Referral Assessment Criteria

3.1 Criterion 1: The area proposed to be cleared is small relative to the total remaining vegetation

Assessment against the Criteria 1 factors is outlined in Table 3-1. The area proposed to be cleared is considered small relative to the total remaining vegetation and is below all the DWER thresholds.

Table 3-1: NVCR Assessment Criteria Review - Criteria 1

Factor	DWER Threshold and criteria used to determine if a clearing permit is required for 'Remaining areas in WA'	Assessment Against Clearing Proposed
Extent of proposed clearing for each referral	If more than 1 ha is proposed to be cleared, a permit is required.	Less than 1 ha will be cleared (total 0.0452 ha).
Threshold for remaining extent of that native vegetation association or complex in the relevant IBRA bioregion	If less than 10% of that native vegetation association or complex is remaining within the relevant IBRA bioregion, a permit is required	The Southern River Complex occurs at 14.0% in the Perth Metropolitan Region Swan Coastal Plain IBRA bioregion.
Threshold for remaining native vegetation surrounding the boundary of the proposed clearing	If less than 10% native vegetation is remaining within a 5 km buffer of the proposed clearing, a permit is required.	The total extent of regionally mapped native vegetation within 5 km of the site is approximately 1614 ha. This represents approximately 21% of the total land area within 5 km of the site (Figure 6).

3.2 Criterion 2: There are no known or likely significant environmental values within the area

The following table outlines the potential impacts of the proposed clearing on significant environmental values within the site and surrounding area.

Factor	DWER Considerations used to determine if a permit is required	Assessment Against Clearing Proposed
Vegetation condition	The quality of the existing remnant vegetation within and nearby the area to be cleared, based on the Keighery (1994) and/or Trudgen (1988) vegetation condition scales.	The clearing represents approximately 2% of the vegetated areas on the school site, and will not comprise any vegetation in Good or Very Good condition. Vegetation condition within the area to be cleared was assessed as 'Degraded'.
Significant fauna	Whether the proposed clearing area provides habitat for any threatened, priority, or specially protected fauna.	Black Cockatoos are known to occur across the Swan Coastal Plain. Grass trees (*Xanthorrhoea preissii*) are identified as species which may provide medium-value foraging opportunities (Groom, 2011), and are a known resource for Quenda nesting (Haby et al., 2013). Grass trees proposed to be cleared are juvenile and do not currently offer significant fauna habitat.

Factor	DWER Considerations used to determine if a permit is required	Assessment Against Clearing Proposed
Fauna habitat	Whether the proposed clearing area provides critical habitat for fauna.	The clearing extent has not been identified as critical habitat for any fauna species (Section 2.4). The school site and its surrounds contain several areas of better quality vegetation, as well as nearby Bush Forever areas which provide expansive and more connected habitat opportunities.
Significant ecological linkage	Whether the proposed clearing is part of a significant ecological linkage.	The site is not within a mapped ecological linkage (Section 2.5.2).
Mapped ecological community	The proximity of the proposed clearing to any threatened ecological communities (TEC) or priority ecological communities (PEC).	No TEC or PEC vegetation is present at the site (Section 2.3)
Significant flora	The proximity of the proposed clearing to any records of threatened or priority flora.	No Threatened or Priority flora species are identified as occurring within the site (Landgate, 2023). *Jacksonia sericea* (Priority 4) was recorded during the Spring 2023 flora survey (pending confirmation of specimen identification).
Mapped wetland	The proximity of the proposed clearing to any wetlands listed under the Convention on Wetlands of International Importance (Ramsar Convention) or the Directory of Important Wetlands in Australia, or wetlands classified as 'Conservation category' or 'Resource Enhancement'.	No Wetlands of International Importance (Ramsar Convention) are located in proximity to the site. The site is partially within a REW, however as noted in Section 2.2.3, the ecological value of this REW is low as most areas consist of buildings, cleared areas or degraded vegetation. Therefore, this regionally mapped REW has limited attributes and low function as a wetland and the development will have minimal impact on the overall value of this wetland.
Mapped watercourse	Whether the proposed clearing may impact on a watercourse (e.g., the structural stability of a watercourse or deterioration of water quality).	No watercourses are located within the proposal area (Section 2.2.2).
Water resources (e.g., public drinking water supply areas)	Whether the clearing is in an area with high risk of decreasing water quality, rising groundwater levels, or increasing salinity.	The site is not located in a Public Drinking Water Source Area (Section 2.2.1). Depth to groundwater is estimated to vary between 17 to 24 m below ground level (Section 2.2.1).
Conservation reserve	Whether the proposed clearing is within a 'conservation reserve' (e.g., Bush Forever; Environmental Protection Policy areas; land managed by the Department of Biodiversity, Conservation and Attractions; Regional Open Spaces; crown reserves vested for conservation purposes).	The proposed clearing is not within a conservation reserve (Section 2.5).
Land and soil quality	Whether the clearing is in an area with high risk of land and/or soil degradation. Factors to	The proposed clearing does not appear to present a high risk of land degradation as it

Factor	DWER Considerations used to determine if a permit is required	Assessment Against Clearing Proposed
	determine this may include (among other matters) contaminated sites records, risk of dieback disease or acid sulfate soils (ASS), and susceptibility to erosion.	does not contain any contamination and has a low to moderate risk of ASS. Whilst the soils are susceptible to wind erosion, building construction is expected to commence shortly after clearing (Section 2.1; Table 2-1).
Heritage-related values and native title matters	Proximity to heritage-related values, including sites of Aboriginal significance, and native title matters.	No sites of Aboriginal or European heritage are recorded within the site (Section 2.8).

3.3 Criterion 3: The state of scientific knowledge of native vegetation within the region is adequate

The site is located within the Perth Metropolitan Region and within the Swan Coastal Plain floristic region. Regional information regarding vegetation types and representation is readily available and can be accessed through the following sources:

- DBCA Threatened and Priority Flora Database
- DBCA Threatened and Priority Ecological Community Database
- DBCA NatureMap Species Report / DBCA Dandjoo system
- DBCA vegetation statistics (DBCA, 2019)
- Flora and vegetation datasets available through the Landgate Shared Land Information Platform (SLIP)

In addition, the following flora and vegetation assessments have occurred on site:

- Coterra Environment site inspection
- FVC flora and vegetation survey (field survey undertaken in spring 2023)

Table 3-2: NVCR Assessment Criteria Review - Criteria 3

Factor	Comments Provided
The state of scientific knowledge of native vegetation within the region is adequate	Adequate information has been provided within this report as to the state of vegetation within the proposal area (Section 2.3).

3.4 Criterion 4: Conditions will not be required to manage environmental impacts.

Table 3-3: NVCR Assessment Criteria Review - Criteria 4

Factor	Comments Provided
Conditions will not be required to manage environmental impacts	The proponent is committed to ensuring appropriate management is in place to reduce environmental impacts. These include (but are not limited to): • Retention of the tuart tree which is the highest value habitat at the site for black cockatoos

Factor	Comments Provided
	• Site selection based on minimal environmental impact, whilst still achieving the community needs of the school • Clearing only within what is required under bushfire safety regulations • Directional clearing toward retained vegetation to reduce impacts on any fauna that may be present As such, conditions will not be required to manage environmental impacts associated with this proposal.

4 Conclusion

The proposed expansion of the science building at Providence Christian College will require clearing of up to 452 m^2 of degraded native vegetation. The expansion of the current building avoids the requirement to clear better condition native vegetation on site, whilst also providing the resources that the school requires.

Based on the Spring 2023 flora and vegetation field survey observations, preliminary assessment of the vegetation within the APZ identified it as being in 'Degraded' condition. Approximately 715 m^2 of the APZ intersects the REW, with approximately 133 m^2 of this containing degraded vegetation. The mapped REW area also contains cleared areas and existing infrastructure (buildings, roads). As such, the boundaries of the REW are not considered representative of a conservation significant wetland area.

The clearing represents approximately 2% of the vegetated areas on the school site, and will not comprise any vegetation in Good or Very Good condition. The area proposed to be cleared is considered small relative to the total remaining vegetation and is below all the DWER thresholds and criteria used to determine if a clearing permit is required.

The clearing extent has not been identified as critical habitat for any fauna species. The school site and its surrounds contain several areas of better quality vegetation, as well as nearby Bush Forever areas which provide expansive and more connected habitat opportunities.

The proponent is committed to ensuring appropriate management is in place to reduce environmental impacts and has proposed several management measures outlined in the previous section. Based on the limited extent of clearing of native vegetation and the degraded nature of this vegetation, it is considered that the clearing proposed is suitable to be assessed through the Native Vegetation Clearing Referral process.

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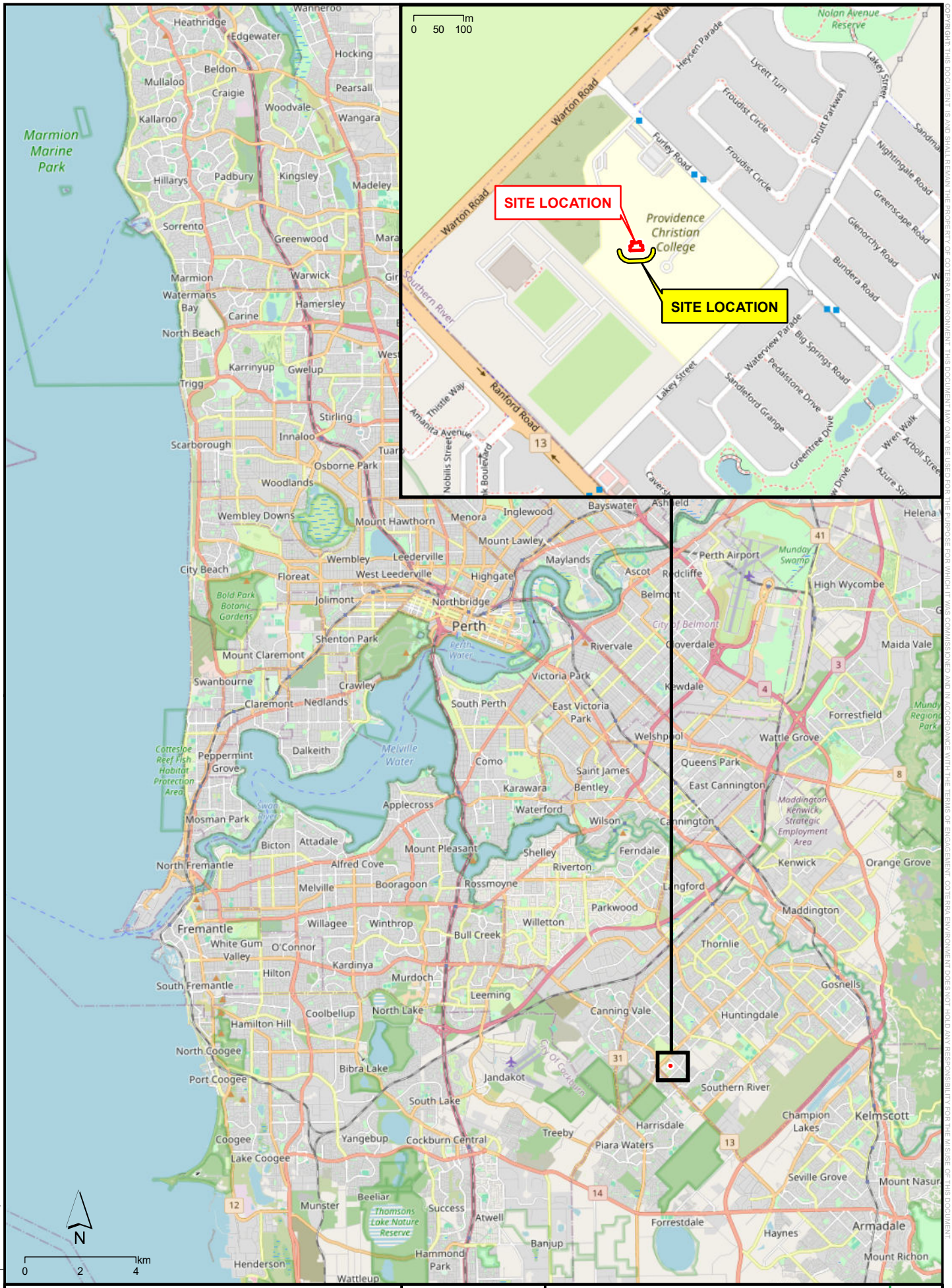
Figures



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Providence Christian College
NATIVE VEGETATION CLEARING REFERRAL
19 FURLEY ROAD SOUTHERN RIVER

SITE LOCATION

Figure 1

C:\GIS\Jobs\CoTerra\PCCSOU03 - 19 Furley Rd Southern River, NVCR\Figures\PCCSOU03_F01 Site Location_231211.mxd

Source: Cadastre - Landgate
Orthophoto - NearMaps, 14.10.23

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AERIAL PHOTOGRAPH

Figure 2

GOSNELLS GOLF CLUB

DOG WEST

Warton Rd

Heysen Pde

Furley Rd

Froudist Cir

Lycett Turn

Jones Av

Lakey St

Glenorchy Rd

Bundera Rd

Big Springs Rd

Pedalstone Dr

Sandleford Gra

Waterview Pde

Ranford Rd

Greenlink Byd

LEGEND

- Site Boundary
- Asset Protection Zone
- Cadastre
- Contour (mAHD)

Acid Sulphate Soil Risk Mapping

- Moderate to low risk

Geology - DoIR: Geological Survey of W.A., 1999

- S8: SAND - white to pale grey at surface, yellow at depth, fine to medium-grained, moderately sorted, subangular to subrounded, minor heavy minerals, of eolian origin.
- S10: SAND - as S8 over sandy clay to clayey sand of the Guildford Formation, of eolian origin.

N

0 12.5 25 50 75 100 m

Scale: 1:2,500 @ A3
GDA 1994 MGA Zone 50

Source: Cadastre - Landgate, 2022
Orthophoto - NearMaps, 14.10.23
Contours and ASS Mapping - DWER
Geology - DoIR: Geological Survey of W.A., 1999

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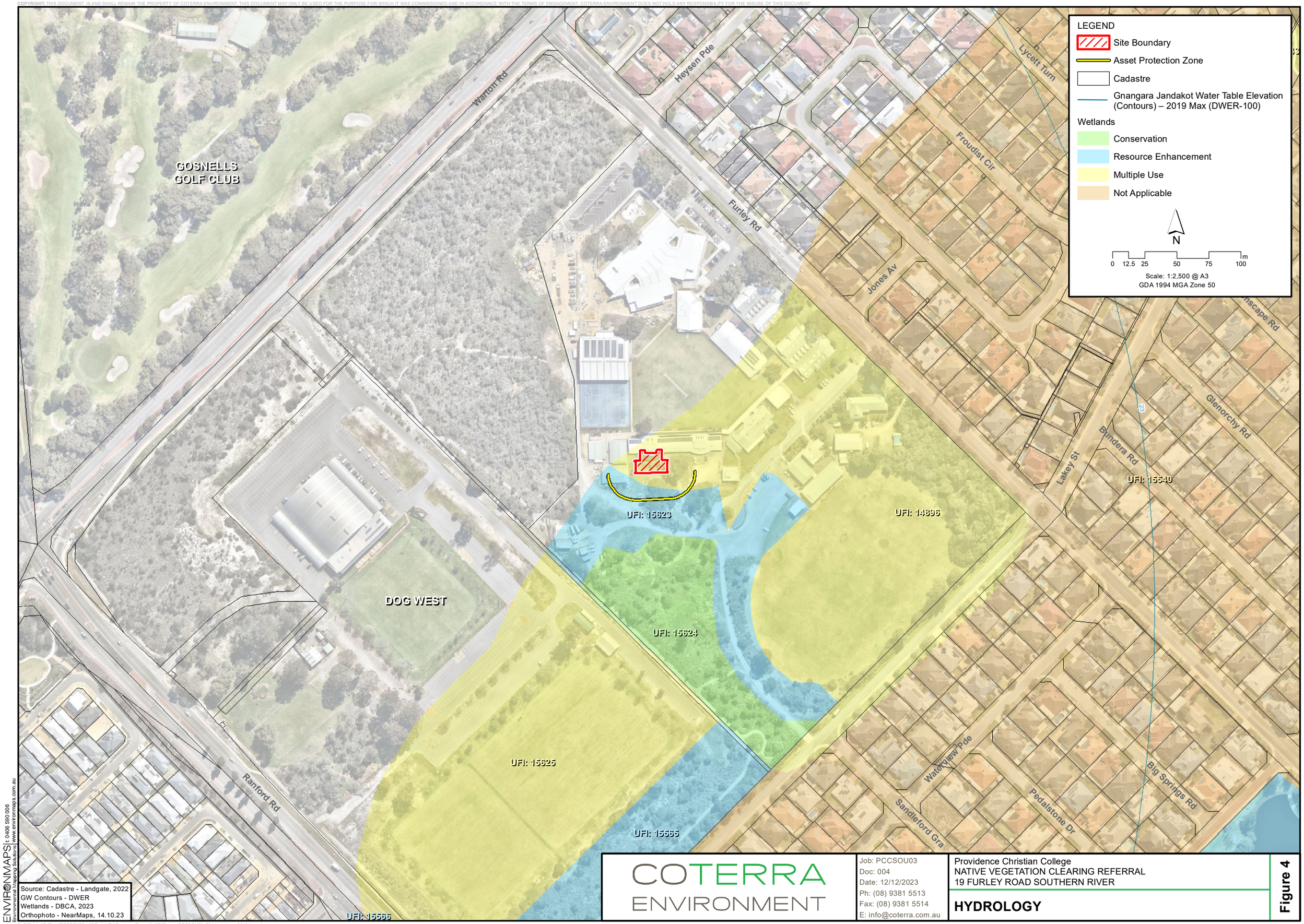
TOPOGRAPHY AND SOILS

Figure 3



Source: Cadastre - Landgate, 2022
GW Contours - DWER
Wetlands - DBCA, 2023
Orthophoto - NearMaps, 14.10.23

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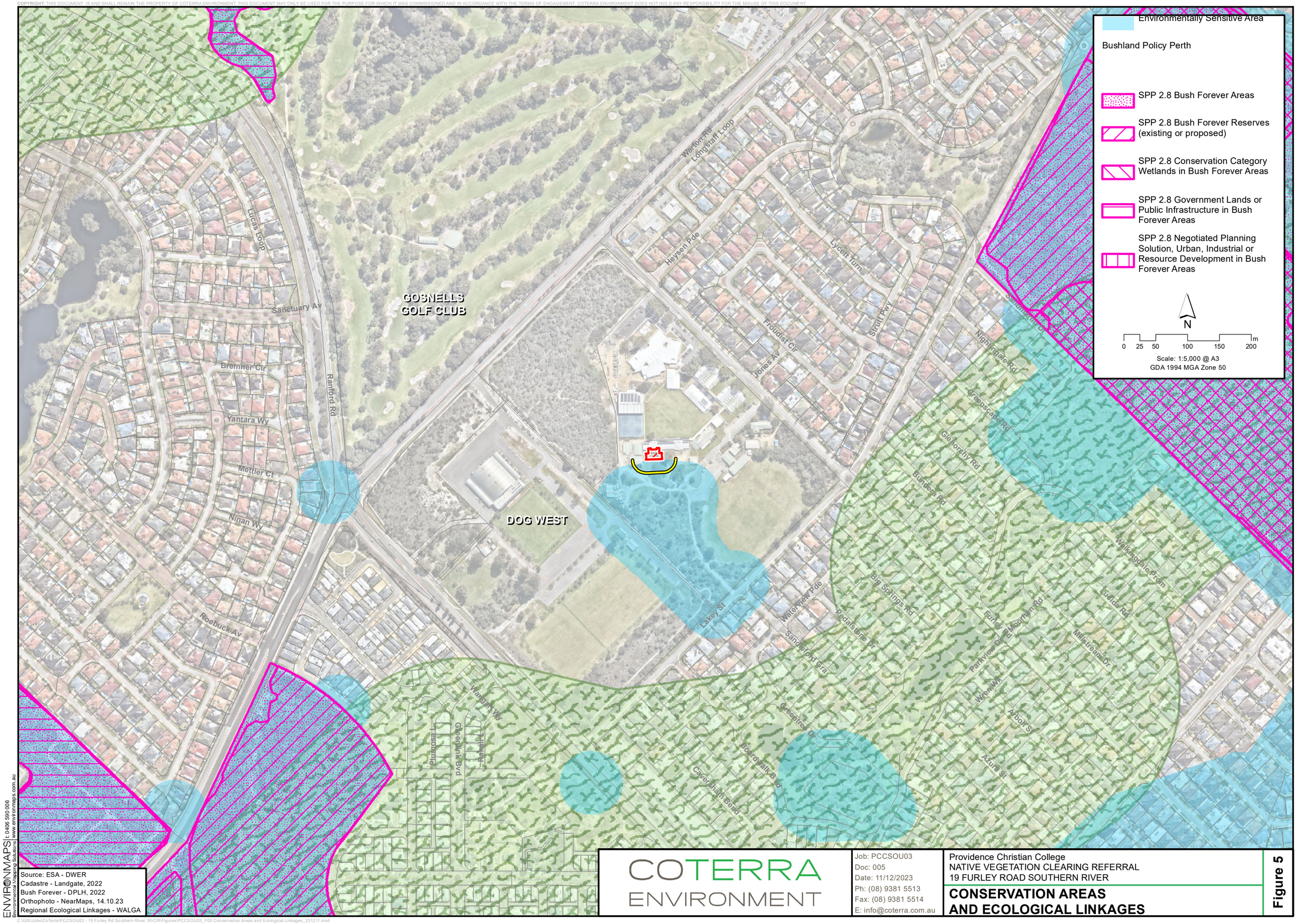
HYDROLOGY

Figure 4



Source: ESA - DWER
Cadastre - Landgate, 2022
Bush Forever - DPLH, 2022
Orthophoto - NearMaps, 14.10.23
Regional Ecological Linkages - WALGA

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19 FURLEY ROAD SOUTHERN RIVER

CONSERVATION AREAS AND ECOLOGICAL LINKAGES

Figure 5

SHELLEY
WILSON
RIVERTON
FERNDALE
BECKENHAM
KENWICK
LEACH HWY
ALBANY HWY
LYNWOOD
LANGFORD
ROE HWY
PARKWOOD
MADDINGTON
WILLETTON
THORNLIE
SOUTH ST
LEEMING
CANNING VALE
HUNTINGDALE
GOSNELLS
SITE
JANDAKOT
SOUTHERN RIVER
TONKIN HWY
WESTFIELD
KELMSCOTT
CHAMPION LAKES
ARMADALE RD
SEVILLE GROVE
BANJUP
FORRESTDALE
ARMADALE
BROOKDALE

LEGEND
- Site Location
- 5 km Site Buffer
- State Road
- Railway
- Native Vegetation

N
0 0.25 0.5 1 1.5 2 km
Scale: 1:40,000 @ A3
GDA 1994 MGA Zone 50
Source: Native Vegetation - DPIRD

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NATIVE VEGETATION EXTENT WITHIN 5 KM OF SITE

Figure 6

C:\GIS\Jobs\CoTerra\PCCSOU03 - 19 Furley Rd Southern River, NVCR\Figures\PCCSOU03_F06 Native Vegetation Extent within 5 km of Site_231211.mxd

Appendix 1 Site Plan

0m 2m 4m 8m

CLIENT

PROJECT

PROVIDENCE CHRISTIAN COLLEGE STAGE 3 - SCIENCE ADDITIONS

DRAWING:

SITE PLAN

bradquartermaine architect

A 10 Caledonia Loop, North Coogee, WA 6163
E brad@quartermaine.com.au
M 0417 931 941

SCALE	1:500 @ A1
DATE	29 NOVEMBER 2023
STATUS:	SCHEMATIC DESIGN
PROJECT NO:	23.10
DRAWING NO:	SK 02-B

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