



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 8696/1
Permit Holder:	City of Swan
Duration of Permit:	26 September 2020 to 26 September 2025

The Permit Holder is authorised to clear native vegetation subject to the following conditions of this Permit.

PART I – CLEARING AUTHORISED

1. Purpose for which clearing may be done

Clearing for the purpose of upgrading and the extension of Stock Road.

2. Land on which clearing is to be done

Lot 7 on Diagram 55166, Bullsbrook
Lot 6 on Diagram 58220, Bullsbrook
Lot 6 on Diagram 55166, Bullsbrook
Lot 55 on Diagram 69135, Bullsbrook
Lot 45 on Plan 23177, Bullsbrook
Lot 44 on Plan 23177, Bullsbrook
Lot 43 on Plan 23177, Bullsbrook
Lot 42 on Plan 23177, Bullsbrook
Lot 3054 on Plan 143778, Bullsbrook
Lot 300 on Plan 33215, Bullsbrook
Lot 2 on Diagram 61074, Bullsbrook
Lot 1 on Diagram 61074, Bullsbrook
Lot 188 on Plan 4804, Bullsbrook
Lot 187 on Plan 6225, Bullsbrook
Lot 186 on Plan 6225, Bullsbrook
Lot 184 on Plan 4804, Bullsbrook
Lot 1361 on Plan 248504, Bullsbrook
Lot 1355 on Plan 231314, Bullsbrook
Lot 128 on Plan 406021, Bullsbrook
Lot 127 on Plan 406021, Bullsbrook
Lot 101 on Plan 27953, Bullsbrook
Lot 1001 on Plan 25292, Bullsbrook
Lot 1000 on Plan 25292, Bullsbrook
Stock Road Reserve (PINS 11720308, 1268973, 11720307, 1343303), Bullsbrook
Great Northern Highway Road Reserve (PIN 11720295, 11720279, 1268974, 1255800, 1255799, 11720296), Bullsbrook
Almeria Parade Road Reserve (PIN 11720343), Bullsbrook
Moolicar Road Reserve (PIN 11720299), Bullsbrook
Railway Parade Road Reserve (PIN 11727300), Bullsbrook
Railway Reserve (PIN 11523665), Bullsbrook
Easement (PIN 12357649), Bullsbrook

3. Area of Clearing

The Permit Holder must not clear more than 4.41 hectares of native vegetation within the area hatched yellow on attached Plan 8696/1a.

4. Application

This Permit allows the Permit Holder to authorise persons, including employees, contractors and agents of the Permit Holder, to clear native vegetation for the purposes of this Permit subject to compliance with the conditions of this Permit and approval from the Permit Holder.

5. Type of clearing authorised

This Permit authorises the Permit Holder to clear native vegetation for the activities described in condition 1 of this Permit to the extent that the Permit Holder has the power to carry out works involving clearing for those activities under the *Local Government Act 1995* or any other written law.

PART II –MANAGEMENT CONDITIONS

6. Avoid, minimise and reduce the impacts and extent of clearing

In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in order of preference:

- (a) avoid the clearing of native vegetation;
- (b) minimise the amount of native vegetation to be cleared; and
- (c) reduce the impact of clearing on any environmental value.

7. Weed and Dieback control

When undertaking any clearing or other activity authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the introduction and spread of *weeds* and *dieback*:

- (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- (b) ensure that no known *dieback* or *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
- (c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

8. State Planning Policy 2.8 Offset

The Permit Holder shall plant and maintain 1180 native trees, comprising a 50/50 ratio of *Eucalyptus Rudis* and *Melaleuca raphiophylla* tubestock within the offset area cross-hatched red on Plan 8696/1b, within Lot 6 on Diagram 55166, Bullsbrook.

The Permit Holder must implement the following activities in relation to the offset:

- (a) install a fence of 1.8 metres high around the offset area;
- (b) undertake weed management prior to planting within the offset area;
- (c) undertake annual weed management for a period of three (3) years post-planting within the offset area by;
 - (i) spraying weeds with the use of herbicides at a distance of no less than 1.5 metres from seedlings planted; and
 - (ii) hand weeding at a distance of no less than 1.5 metres from seedlings planted.
- (d) undertake annual monitoring of the offset area for a period of three (3) years post-planting; and
- (e) implement further planting as required to ensure the designated native tree survival rate of 25 per cent is achieved within three years of the initial planting within the offset area.

9. Offsets – agreement to reserve

The Permit Holder shall:

- (a) provide evidence within 12 months of the permit commencement date that an agreement to reserve under section 30B of the *Soil and Land Conservation Act 1945* has been placed over the *agreement area* for the protection and management of vegetation; and
- (b) provide to the CEO a copy of the executed agreement to reserve.

PART III – RECORD KEEPING AND REPORTING

10. Records must be kept

The Permit Holder must maintain the following records for activities done pursuant to this Permit, in relation to the clearing of native vegetation authorised under this Permit:

- (a) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
- (b) the date that the area was cleared;
- (c) the size of the area cleared (in hectares);
- (d) actions taken to avoid, minimise and reduce the impacts and extent of clearing in accordance with condition 6 of this Permit;
- (e) actions taken to minimise the risk of the introduction and spread of *weeds* and *dieback* in accordance with condition 7 of this Permit; and
- (f) actions taken to implement the State Planning Policy 2.8 offset in accordance with condition 8 of this Permit.

11. Reporting

- (a) The Permit Holder must provide to the CEO on or before 30 June of each year, a written report:
 - (i) of records required under condition 10 of this Permit; and
 - (ii) concerning activities done by the Permit Holder under this Permit between 1 January and 31 December of the preceding calendar year.
- (b) If no clearing authorised under this Permit was undertaken between 1 January to 31 December of the preceding calendar year, a written report confirming that no clearing under this permit has been carried out, must be provided to the CEO on or before 30 June of each year.
- (c) Prior to 26 June 2025 the Permit Holder must provide to the CEO a written report of records required under condition 10 of this Permit where these records have not already been provided under condition 11(a) of this Permit.

DEFINITIONS

The following meanings are given to terms used in this Permit:

CEO means the Chief Executive Officer of the Department responsible for the administration of the clearing provisions under the *Environmental Protection Act 1986*;

agreement area means the area of land cross-hatched red on attached Plan 8696/1b;


dieback means the effect of *Phytophthora* species on native vegetation;

fill means material used to increase the ground level, or fill a hollow;

mulch means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation;

weed/s means any plant -

- (a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*;
or
- (b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or
- (c) not indigenous to the area concerned.

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MANAGER
NATIVE VEGETATION REGULATION

*Officer delegated under Section 20
of the Environmental Protection Act 1986*

3 September 2020

Plan 8696/1a

116°0'0.000"E

116°1'12.000"E

116°2'24.000"E

31°40'48.000"S

31°40'48.000"S

31°42'0.000"S

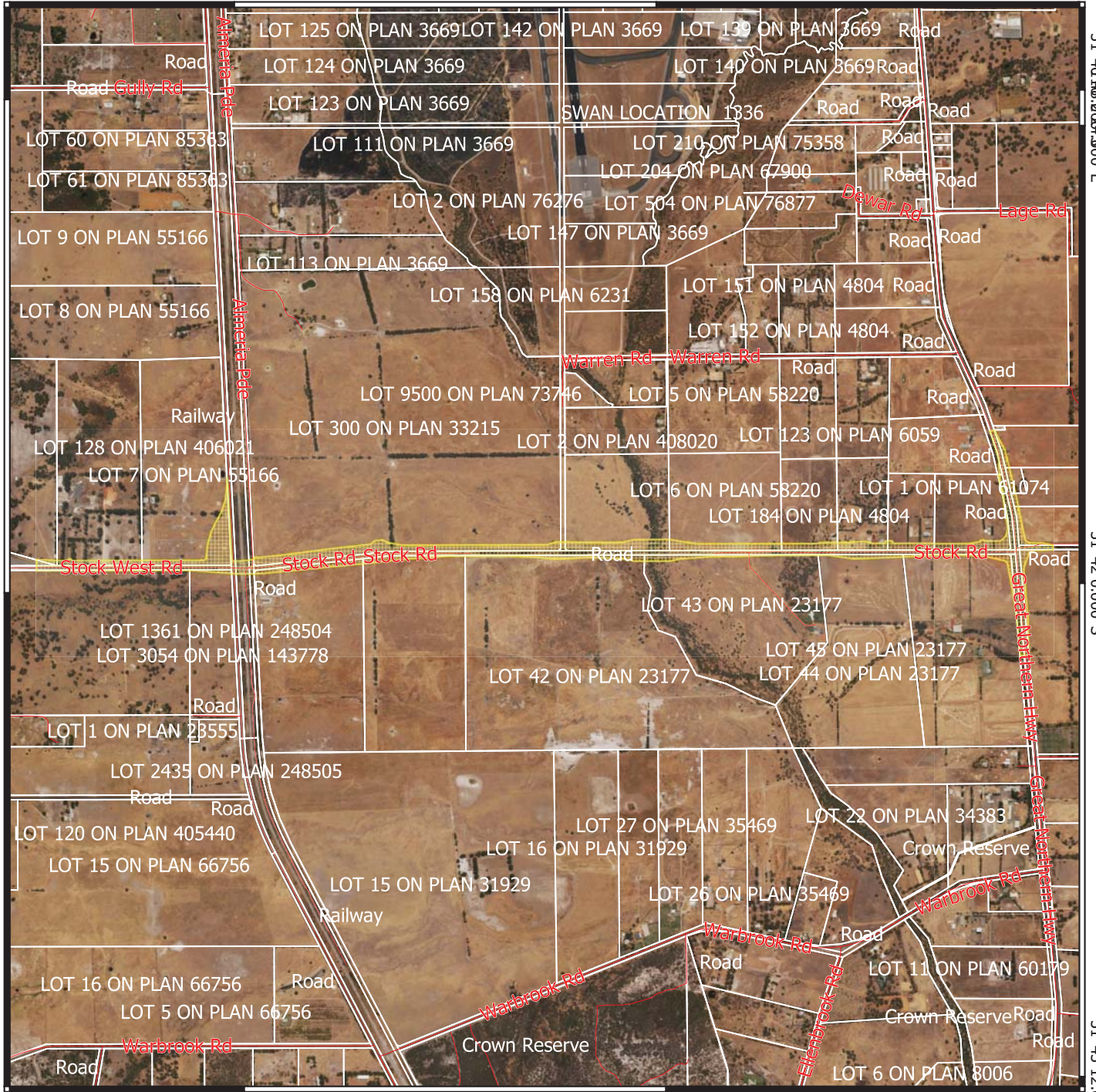
31°42'0.000"S

31°43'12.000"S

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116°0'0.000"E

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CPS layers

CPS areas approved to clear

base layers

Road Centrelines

Cadastre - LGATE 218

Legend

Local Government Authorities

N



MGA Zone 50
Geocentric Datum of Australia 1994

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Officer delegated under section 20 of the
Environmental Protection Act 1986



GOVERNMENT OF
WESTERN AUSTRALIA

CPS 8696/1b - Plan

115°59'31.200"E

115°59'38.400"E

115°59'45.600"E

LOT 8 ON PLAN 55166

31°41'31.200"S

31°41'31.200"S

LOT 128 ON PLAN 406021

LOT 6 ON PLAN 55166

BULLSBROOK

LOT 7 ON PLAN 55166





31°41'38.400"S

31°41'38.400"S

115°59'31.200"E

115°59'38.400"E

115°59'45.600"E

-  CPS subject to conditions
-  Cadastre - LGATE 218
-  Local Government Authorities
-  Localities - Landgate




0 25 50 75 100 m



1:2783

MGA Zone 50
Geocentric Datum of Australia 1994


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Officer delegated under section 20 of the
Environmental Protection Act 1986





1. Application details

1.1. Permit application details

Permit application No.: 8696/1
Permit type: Purpose Permit

1.2. Applicant details

Applicant's name: City of Swan
Application received date: 14 October 2019

1.3. Property details

Property:

- Lot 7 on Diagram 55166, Bullsbrook
- Lot 6 on Diagram 58220, Bullsbrook
- Lot 6 on Diagram 55166, Bullsbrook
- Lot 55 on Diagram 69135, Bullsbrook
- Lot 45 on Plan 23177, Bullsbrook
- Lot 44 on Plan 23177, Bullsbrook
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- Railway Parade Road Reserve (PIN 11727300), Bullsbrook
- Railway Reserve (PIN 11523665), Bullsbrook
- Easement (PIN 12357649), Bullsbrook

Local Government Authority: City of Swan
Localities: Bullsbrook

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	Purpose category:
4.41		Mechanical Removal	Road construction or upgrades

1.5. Decision on application

Decision on Permit Application: Granted
Decision Date: 3 September 2020
Reasons for Decision: The clearing permit application was received on 14 October 2019 and has been assessed against the clearing principles, planning instruments and other matters in accordance with section 51O of the *Environmental Protection Act 1986*. It has been concluded that the proposed clearing is at variance with clearing principles (f) and (h) and is not likely to be at variance with the remaining clearing principles.

In determining to grant a clearing permit subject to conditions, the Delegated Officer considered that the proposed clearing is not likely to lead to an unacceptable risk to the environment and that no significant residual environmental impacts will result from the

clearing. Standard conditions relating to avoiding and minimising clearing, and managing the spread of weeds and dieback have been imposed on the permit.

The Delegated Officer noted wetlands of significance and an ecological linkage will be impacted by the proposed clearing. The Delegated Officer also noted that the application area provided foraging habitat for black cockatoos. However, taking into consideration of the applicant's measures to avoid and minimise impacts, including the design of the bridge along, as well as the current landuse and vegetation condition, it was determined the impacts to wetlands and linkage values were not significant. In determining the impacts to habitat for black cockatoos, the Delegated Officer had regard to the quality of the foraging habitat within the application area and the broad extent of foraging resources available within the local area.

Noting the impacts to Bush Forever Site 296, the Delegated Officer gave consideration to State Planning Policy 2.8 (SPP 2.8) in determining to grant this clearing permit subject to appropriate regulatory controls. Based on consideration of Appendix 4 of SPP 2.8, the Delegated Officer determined to apply an offset to the clearing permit consistent with an offset proposal endorsed by the Department of Planning, Lands and Heritage.

2. Site Information

Clearing Description

The application is to clear 4.41 hectares of native vegetation along Stock Road, Bullsbrook within a 37.65 hectare footprint, for road construction and upgrades (Figure 2).

Vegetation Description

The vegetation within the application area is mapped within Swan Coastal Plain vegetation complexes;

- Beermullah Complex : low open forest and open woodland (approximately 69.65% of the clearing footprint)
- Guildford Complex : open forest to tall open forest and woodland (approximately 25.1% of the clearing footprint)
- Yanga Complex : closed scrub and low open forest (approximately 5.25% of the clearing footprint)

A flora survey undertaken by Emerge Associates (2019) described eight native vegetation communities within the application area:

- As: Tall shrubland *Acacia saligna* over open formland *Dianella revolute* over closed non-native grassland (0.37 hectares)
- Cc: Forest *Corymbia calophylla* over non-native grassland (0.18 hectares)
- CcM: Occasional *Corymbia calophylla* over tall shrubland *Melaleuca huegelii* over closed non-native grassland over occasional *Baumea juncea* (0.26 hectares)
- Co: Open forest *Casuarina obesa* over non-native grassland (0.95 hectares)
- ErMr: Open forest *Eucalyptus rudis* and *Melaleuca raphiophylla* over sparse hermland *Lobelia anceps* over open non-native grassland (0.58 hectares)
- Ew: Woodland *Eucalyptus wandoo* over occasional native species such as *Hypocalymma* sp. (or absent) over non-native grassland (0.42 hectares)
- M: Shrubland *Melaleuca viminea*/M. *raphiophylla*/M. *preissiana* over non-native grassland (0.57 hectares)
- Mixed: Occasional native species such as *Corymbia calophylla* and *Eucalyptus rudis* over planted native and non-native shrubs over non-native grassland (0.74 hectares)

Vegetation Condition

Vegetation condition within this assessment has been assigned using the vegetation condition scale developed by Keighery (1994). All references to vegetation condition throughout this assessment, therefore, reference this scale.

A flora survey of the application area undertaken by Emerge Associates (2019) identified vegetation condition to be in 'degraded' (Keighery, 1994) condition.

Plant community	Vegetation condition	Area (ha)
As	'Degraded'	0.37
Cc	'Degraded'	0.18
CcM	'Degraded'	0.26
Co	'Degraded'	0.95
ErMr	'Degraded'	0.58
Ew	'Degraded'	0.42
M	'Degraded'	0.57
Mixed	'Degraded'	0.74
Total		4.07

Figure 1: Excerpt from Emerge Associates (2019) showing breakdown of condition by vegetation community. During the assessment stage, an additional 0.34 hectares was added to the amount of proposed clearing which is not represented in the above figure.

Local Area

The local area is defined as 10 kilometres from the edge of the application area.

Figure 1: The area cross-hatched blue defines the clearing footprint



Figure 2: Photos of each of the vegetation communities represented within the clearing footprint



Photo 1: Plant Community As

Photo 2: Plant community Cc



Photo 3: Plant Community CcM



Photo 4: Plant Community Co



Photo 5: Plant Community ErMr



Photo 6: Plant Community Ew



Photo 7: Plant Community M



Photo 8: Plant Community Mixed

3. Minimisation and mitigation measures

The applicant has advised that:

"The alignment of the proposed road upgrade project is dictated by the location of the existing road reserve, thus alternative alignments are not viable. Impact avoidance and mitigation measures within the alignment have been considered throughout the road design process. This has included a reduction in the clearing footprint where practical to reduce the magnitude of clearing, in addition to the use of a full-span bridge design over Ellen Brook to minimise environmental impacts" (City of Swan, 2019). The full-span bridge as opposed to a bridge with support pylons provides enhanced environmental outcomes, as it minimises disturbance to the river banks and bed and allows unrestricted flows of surface water, and provides a wide, unrestricted corridor for movement of any fauna along the waterway. Furthermore, mitigation measures such as native planting and use of rock pitching will assist in mitigating any environmental impacts.

4. Assessment of application against clearing principles and planning instruments and other matters

The applicant proposes to clear up to 4.41 hectares of native vegetation along Stock Road for the purpose of road upgrades. Native vegetation within the application footprint is significantly altered as a result of edge effects from Stock Road dating back to 1965.

According to the available databases, a number of state listed threatened ecological communities (TEC) have been recorded within the local area. Based upon the geomorphology, soil and regional vegetation patterns, the following TEC's were considered to have potential to occur on the site;

- SCP15, Forests and woodlands of deep seasonal wetlands of the Swan Coastal Plain, with the closest occurrence located approximately 890 metres north of the application area;
- SCP3c, *Corymbia calophylla* - *Xanthorrhoea preissii* woodlands and shrublands, Swan Coastal Plain, with the closest occurrence located approximately 1.9 kilometres north of the application area; and
- Herb rich shrublands in claypans TEC, with the closest occurrence located approximately 5.9 kilometres south of the application area.

There are also a number of occurrences of the priority ecological community (PEC) 'Banksia Dominated Woodlands of the Swan Coastal Plain' that occur within the local area. In accordance with the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act), the Banksia Dominated Woodlands of the Swan Coastal Plain is listed as a TEC.

A flora survey undertaken by Emerge Associates in February and September 2019 described the vegetation within the application area as; "Where native vegetation does occur, it is primarily as isolated patches with low species diversity. Whilst a number of plant communities were identified within the application area, all were determined to have been altered from their natural state and were assessed to be in 'degraded' condition. As such, no plant communities within the application are representative of intact native ecological communities." (Emerge Associates, 2019).

Noting the above, the eight vegetation communities identified within the application area are not a representation of a PEC or TEC.

According to available datasets, nine threatened and 42 priority flora populations have been recorded within 10 kilometres of the application area (WA Herb, 1998-). A survey of the application area identified one threatened flora species within the application area, *Grevillea thelemanniana*. This species "was recorded in the eastern portion of the application area, within the Great Northern Highway road reserve. However, the individual/s in the application area are cultivars and are located within other planted non-native vegetation which was likely planted during previous works associated with the Great Northern Highway. Liaison with DBCA Species & Communities Branch has confirmed that the individual/s recorded do not represent the threatened form of the species." (Emerge Associates, 2019). The survey did not identify any other threatened or priority flora within the application footprint. Noting this and the degraded (Keighery, 1994) condition of the vegetation within the clearing footprint as a result of edge effects from Stock Road and surrounding land uses e.g. grazing, the application area is unlikely to represent significant habitat for threatened or priority flora known to occur in the local area.

According to available datasets, six conservation significant fauna species have potential habitat within the application area including:

- Quenda (*Isoodon fusciventer*) (Priority 4)
- Grey wagtail (*Motacilla cinerea*) (Migratory)
- Pacific swift (*Apus pacificus*) (Migratory)
- Forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*) (Vulnerable)
- Carnaby's black cockatoo (*Calyptorhynchus latirostris*) (Endangered)
- Baudin's black cockatoo (*Calyptorhynchus baudinii*) (Endangered)

A fauna habitat assessment undertaken by Emerge Associates (2019) noted that of these species, four possibly occur within the application area (Quenda, Grey wagtail, Pacific swift and Baudin's black cockatoo) and two are likely to occur within the application area (Carnaby's black cockatoo and Forest red-tailed black cockatoo) based on their general habitat requirements and known distributions. However, given the condition of the vegetation within the application area and limited extent of habitat within the application area, the fauna habitat assessment concluded that the vegetation within the application area is not significant habitat for conservation significant fauna (Emerge Associates, 2019).

According to available databases, nine black cockatoo roost sites have been identified in the local area with the closest being 4.5 kilometres south of the application area. There are no confirmed black cockatoo breeding sites within the local area with the closest being 15.5 kilometres north of the application area. The fauna habitat assessment identified approximately 0.93 hectares of low quality habitat suitable for foraging by threatened black cockatoos, although no evidence (primary or secondary) of black cockatoo foraging activity was observed within the application area. The application area does contain approximately 0.93 ha of scattered native trees of marri (*Corymbia calophylla*) and wandoo (*Eucalyptus wandoo*), the fruits/seeds of which are known to be foraged upon by CBC, FRTBC and BBC" (Emerge Associates, 2019).

In addition, the habitat assessment identified that approximately 22,740 ha of potential foraging habitat for Carnaby's black cockatoo occurs within 12 km of the application area, including within nearby Bush Forever Site no. 294 to the north of the application area, Walyunga National Park to the east, Bush Forever Site no. 400 to the south, and various Bush Forever sites to the west" (Emerge Associates, 2019).

A reconnaissance survey of the application area identified 83 trees within the site meet the criteria of potential black cockatoo habitat (native trees with a diameter at breast height $\geq 50\text{cm}$ or $\geq 30\text{cm}$ for *Eucalyptus wandoo*). Of the identified 83 potential

black cockatoo habitat trees, 75 trees were observed to not contain any hollows, eight (8) trees contain small hollows unsuitable for use by black cockatoos and zero (0) trees contain hollows suitable for black cockatoo breeding.” (Emerge Associates, 2019)

Given the vegetation condition, limited fauna habitat values and extent of better quality habitat within the local area, the vegetation proposed to be cleared is not considered to significant habitat for fauna. Anticipated impacts to black cockatoos from the proposed clearing would be a reduction in available foraging habitat in the local area and potential future breeding habitat, however, when considered in isolation, these impacts are not considered to be significant. The cumulative loss of foraging habitat within the vicinity of known roost and breeding sites is acknowledged as a threat to black cockatoos on the Swan Coastal Plain, however, the local area is well represented in terms of the quantity of foraging habitat and the loss of 0.93 hectares of low quality foraging resource within the application area is not considered to represent a significant impact to foraging habitat for black cockatoos.

The portion of the application area mapped as vegetation community ErMr is part of a conceptual ecological linkage noted under the Bush Forever scheme (Gnangara Mound Ecological linkages). Connected areas of native vegetation provide landscape connectivity and can act as stepping stones of habitat which facilitate the maintenance of ecological processes and the movement of organisms within, and across, a landscape. As assessed under Principle (e), the local area falls within the Perth Metropolitan Region constrained area and retains approximately 56.39 per cent pre-European vegetation extent (23,367.53 hectares within 41,437.15 hectares area). The Environmental Protection Authority (EPA) recognises the Perth Metropolitan Region to be a constrained area, within which a minimum 10 per cent representation threshold for ecological communities is recommended (EPA, 2008). On that basis, the local area is not considered to be extensively cleared for the purpose of this assessment (EPA, 2015; EPA, 2003). Of the three mapped vegetation complexes, two (Beermullah and Guildford Complex) fall below the 10 per cent target in constrained areas as defined under the Metropolitan Regional Scheme, therefore any further clearing of these vegetation complexes could be considered significant. However, none of the eight vegetation communities identified within the survey (Emerge Associates, 2019) are representative of the mapped vegetation complexes, therefore, the proposed clearing will not reduce the extent of these restricted vegetation complexes.

The application area is not likely to be significant as an ecological linkage at a landscape scale, however, at a local scale the application area intersects a north-south linkage. This linkage intersects Bush Forever Site 296, and the proposed clearing will result in a disruption to the ecological linkage function through this area.



Figure 4: Conceptual linkage of native vegetation (green) intersected by CPS 8696/1 application area (blue cross hatched).

The threats to fragmented vegetation may take some time to become evident, however, are generally more rapid in smaller remnants. Therefore, the proposed clearing has the potential to exacerbate the fragmentation of this ecological linkage. As indicated within the photos shown in figure 6, the linkage functionality has been heavily altered from the historical land use (grazing) and noting the mitigation and minimisation techniques described under Section 3, the bridge designs and landscape planting will maintain some functionality of the linkage and its values. Several other conservation areas are within the local area, including 10 or more Bush Forever Sites, several nature reserves and the Gnangara-Moore River State Forest. The vegetation within the application area does not provide a linkage to these conservation areas.

According to available databases, a number of wetlands and watercourses occur within the local area, including the following;

- approximately 95 per cent of the application footprint falls within a multiple use wetland, with the wetland mapped as occurring over a total area of approximately 15,250 hectares;
- a conservation category wetland (CCW UFI 15734) transverses the application footprint, with approximately 0.563 hectares of the CCW occurring within the application footprint (the CCW comprises of an area of 103 hectares);
- an additional CCW (UFI 12433) occurs towards the eastern end of the application area with approximately 0.15 hectares occurring within the application footprint (the CCW comprises of an area of 3 hectares); and
- the Ellen Brook (mapped as a CCW) transverses the application footprint. Several other minor tributaries associated with the Ellen Brook also intersect with the application footprint.

Multiple use wetlands are wetlands with few remaining important attributes and functions, development and management should be considered in the context of ecologically sustainable development and best management practice (Water and Rivers Commission, 2001). Noting the purpose of the application is for road upgrades in an established and existing road, it is unlikely the impacts associated with the works will further diminish any important attributes and functions of this large multiple use wetland system. It is also noted that a large amount of the mapped wetland has been cleared.

Conservation category wetlands support a high level of ecological attributes and functions and are the highest priority for preservation, and buffers are designed to protect wetlands from potential impacts while helping to maintain ecological processes and functions within the wetland (Water and Rivers Commission, 2001).

CCW UFI 12433 occurs on private property as is currently used for farming with sheep and horses grazing in the area (Emerge Associates, 2020). The CCW is limited to *Casuarina obesa* trees over non-native paddocks grasses and was determined to be in 'degraded' condition (Keighery, 1994). This likely due to the significant grazing pressures, native understorey and midstorey species were not observed. Noting this and the size of the CCW that is mapped as occurring within the application footprint, the proposed clearing is highly unlikely to have any substantial or significant environmental impacts to the wetland, due to its high level of existing disturbance.



Figure 5: Photos taking of the CCW UFI 12433. The photos are taken from the road reserve looking into the private land where the CCW predominantly occurs and is currently being used for grazing.

CCW UFI 15734 is primarily situated within private property adjacent to active paddocks which were observed to be used for cattle grazing (Emerge Associates, 2020). Whilst some fencing between the adjacent paddocks and the brook was observed, fencing is generally in a poor state of repair and evidence of cattle entering and traversing within the brook was evident. The banks of the brook have been significantly eroded as a result are vulnerable to such degradation due to the loose sandy substrate (Emerge Associates, 2020). The flora and vegetation survey (Emerge Associates, 2019) determined vegetation within the Brook to form part of the 'ErMr' vegetation community in 'degraded' condition, which comprises an 'open forest *Eucalyptus rudis* and *Melaleuca raphiophylla* over sparse herbland *Lobelia anceps* over open non-native grassland'. The wetland supports some attributes which are consistent with a CCW classification, such as its significant hydrological function, presence of some native vegetation (mainly mature trees) and ecological linkage value, however, the wetland still remains in a highly disturbed state due to historical clearing, grazing and weed invasion. Noting the historical and ongoing disturbance to the CCW from cattle grazing and the applicant bridge design as discussed under section 3, the residual impacts to the CCW are not considered significant as the hydrology to the area and wetland will be mitigated through the bridge design and construction.



Figure 6: Photos taking of the CCW UFI 15734. The photos are taken within the banks of the Ellen Brook and clearly indicates the disturbance to the area from grazing, the banks of the brook appear to have been highly modified.

As indicated above, the application footprint intersects with wetlands and watercourses, however, noting the nature of the clearing along an existing road, the vegetation under application is in a degraded (Keighery, 1994) condition and the area has been subject historical and current grazing, the proposed clearing is unlikely to significantly impact on the water quality or contribute to land degradation or flooding in the local area. The design of the bridge and rock pitching and landscaping around the bridge will also assist with this maintaining the current water quality and hydrological flows.

Assessment of the significance of impacts identified above

Impacts to threatened flora are not considered to be significant as the population has been confirmed to be a cultivar and not representative of the naturally occurring rare flora populations (Emerge Associates, 2019).

In accordance with State Planning Policy 2.8 Bushland Policy for the Perth metropolitan region, an offset is required for proposed clearing within a Bush Forever Site. Based on the condition of the vegetation, the Policy requires a minimum 1:1 ratio. However, this ratio also needs to take into consideration the success of the revegetation/replanting which is generally considered to be a base survival rate of 25% (i.e. at least 4 new plantings per one lost). Where mature trees are proposed to be removed, SPP 2.8 recommends 5 trees to be planted to one lost for each medium mature tree that is of low significance. This ratio is based on the planted vegetation being like for like, or equivalent to the vegetation being removed. It is considered that the provision of an offset under SPP 2.8 will sufficiently mitigate the potential environmental impacts associated with the proposed clearing.

Recommended Regulatory Controls

To mitigate residual impacts to Bush Forever site 296, weed and dieback management conditions have been imposed on the clearing permit, as well as a condition requiring the establishment of an offset in accordance with SPP 2.8 for clearing within Bush Forever site 296.

Planning and Other matters

The clearing permit application was advertised on the Department of Water and Environmental Regulation's (DWER) website on 1 November 2019, inviting submissions from the public within a 21 day period. No submissions were received in relation to the application.

The applicant has received a section 11/17/21A permit to interfere with bed and banks under the *Rights in Water and Irrigation Act 1914* from DWER.

State Planning Policy 2.8 – Bushland Policy for the Perth metropolitan region aims to ensure bushland protection and management issues in the Perth Metropolitan Region are appropriately addressed and integrated with broader land use planning and decision-making. The 0.531 hectares of native vegetation within Bush Forever site 296 has low conservation significance and in accordance with Appendix 4 of SPP 2.8, clearing of low conservation significance Bush Forever areas is permitted only as part of an appropriate sustainable use response as determined by the responsible planning authority. Given that the proposed clearing is primarily for road works, the clearing is considered to be permissible under SPP 2.8. In accordance with Appendix 4, an offset of at least 1 times the calculated loss in habitat hectares is required to meet the net outcome of equivalent gain. As required by SPP 2.8, the formal agreement to achieve and secure the offset in this instance is regulated through the clearing permit conditions. The vegetation proposed to be cleared within Bush Forever Site 296 consists of *Eucalyptus rudis* and *Melaleuca raphiophylla*, therefore any offset and associated planting should be equal or greater than that of the area lost and consist of similar species to those impacted by the clearing.

The applicant proposed an offset planting of 1180 native trees seedlings, comprising a 50/50 ratio of *Eucalyptus rudis* and *Melaleuca raphiophylla* tubestock within Lot 6 on Diagram 55166, Bullsbrook. The offset planting covers an area of 1.52 hectares with a target to achieve a 25% survival rate. The site will be placed under an 'Agreement to Reserve' in accordance with s.30B of the *Soil and Land Conservation Act 1945*. This offset proposal has been endorsed by the Department of Planning, Lands and Heritage under SPP 2.8 and has been appropriately conditioned on the clearing permit.

One Aboriginal site of significance (Ellenbrook, Upper Swan; Mythological site) has been mapped across the whole application area. It is the applicant's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

5. References

- City of Swan (2020) Additional information provided to support Clearing Permit Application CPS 8696/1 – Stock Road Bridge Design (DWER Ref:A1925551)
- Department of Biodiversity, Conservation and Attractions (DBCA) (2007-) NatureMap: Mapping Western Australia's Biodiversity. Department of Parks and Wildlife. URL: <http://naturemap.dpaw.wa.gov.au/>. Accessed January 2020.
- Emerge Associates (2019) Flora Reconnaissance Survey and Fauna Habitat assessment for Stock road upgrades, prepared for the City of Swan A1831488.
- Emerge Associates (2020). Additional Supporting Information received in relation to Clearing Permit Application CPS 8696/1 – City of Swan – Wetland Impacts and Assessment (DWER Ref:A1925555).
- EPA (2003) Greater Bunbury Region Scheme. Bulletin 1108. Environmental Protection Authority, Western Australia.
- Environmental Protection Authority (EPA) (2008) Environmental Guidance for Planning and Development. Guidance Statement No. 33, dated May 2008. Government of Western Australia.
- EPA (2015) Perth and Peel @ 3.5 million Environmental impacts, risks and remedies, Interim strategic advice of the Environmental Protection Authority to the Minister for Environment under section 16(e) of the Environmental Protection Act 1986. Environmental Protection Authority, Western Australia July 2015.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Water and Rivers Commission (2001) Position Statement: Wetlands, Water and Rivers Commission, Perth.
- Western Australian Herbarium (1998-) FloraBase - The Western Australian Flora. Department of Parks and Wildlife. <http://florabase.dpaw.wa.gov.au/> (Accessed January 2020).

GIS Databases:

- Aboriginal Sites of Significance
- DAFWA Subsystems
- Groundwater salinity
- Hydrography, linear
- National Trust WA Covenant
- Remnant vegetation
- SAC bio datasets (accessed February 2019)
- Topographic contours
- Wetlands