Government of Western Australia
Department of Water and Environmental Regulation

# Clearing Permit Decision Report

## 1 Application details and outcome

### 1.1. Permit application details

| | |
|---|---|
| **Permit number:** | CPS 11477/1 |
| **Permit type:** | Area permit |
| **Applicant name:** | City of Swan |
| **Application received:** | 26 February 2026 |
| **Application area:** | 0.14 hectares of native vegetation |
| **Purpose of clearing:** | Road construction |
| **Method of clearing:** | Mechanical removal |
| **Property:** | Stirling Crescent Road Reserve (PIN 11841095)<br>Stirling Crescent Road Reserve (PIN 11841792)<br>Road Reserve (PIN 11472508)<br>Road Reserve (PIN 12746158)<br>Talbot Road Reserve (PIN 1179886)<br>Talbot Road Reserve (PIN 11841097)<br>Road Reserve (PIN 12641882) |
| **Location (LGA area/s):** | City of Swan |
| **Localities (suburb/s):** | Hazelmere |

### 1.2. Description of clearing activities

The vegetation proposed to be cleared is distributed across several areas in the road verges of Stirling Crescent, Talbot Road and Adelaide Street (see Figure 1-3, Section 1.5). The proposed works is to complement the Main Roads WA Great Eastern Highway Bypass Interchange Project by installing a cul-de-sac at the intersection of Stirling Crescent and Great Eastern Highway Bypass, road widening, and roundabouts installations at intersections. These upgrades to the local road network are to accommodate the increased volume of heavy vehicles from the current industrial areas and additional industrial sites under development to the nearest Great Eastern Highway Interchange (Emerge Associates, 2026a).

The applicant will be undertaking the following activities:

- relocation of services and any remaining fencing or existing structures within site,
- removal of vegetation,
- relocation of water main works,
- road civil and drainage works,
- road works, and
- subdivisional requirements completed and clearances obtained.

## 1.3. Decision on application

| | |
|---|---|
| **Decision:** | Granted |
| **Decision date:** | 28 August 2026 |
| **Decision area:** | 0.14 hectares of native vegetation, as depicted in Section 1.5, below. |

## 1.4. Reasons for decision

This clearing permit application was submitted, accepted, assessed and determined in accordance with sections 51E and 51O of the *Environmental Protection Act 1986* (EP Act). The Department of Water and Environmental Regulation (DWER) advertised the application for 21 days and no submissions were received.

In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix B), relevant datasets (see Appendix G.1), the findings of desktop assessment and investigation by the applicant (see Appendix F), the clearing principles set out in Schedule 5 of the EP Act (see Appendix C), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3). The Delegated Officer also took into consideration that the purpose of the clearing is to upgrade the surrounding local road network to accommodate the increased volume of heavy vehicles from the current industrial areas and additional industrial sites under development to the nearest Great Eastern Highway Interchange along Abernethy Road.

The assessment identified that the proposed clearing will result in:

- loss of approximately 0.14 hectares of native vegetation that is suitable foraging habitat for Carnaby's cockatoo,
- loss of approximately 0.11 hectares of native vegetation that is suitable foraging habitat for forest red-tailed black cockatoo, and
- loss of approximately 0.11 hectares of native vegetation that is suitable foraging habitat for Baudin's cockatoo.

After consideration of the available information, as well as the applicant's minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined the proposed clearing can be minimised and managed and is unlikely lead to an unacceptable risk to environmental values.

The Delegated Officer decided to grant a clearing permit subject to conditions to:

- avoid, minimise to reduce the impacts and extent of clearing,
- take hygiene steps to minimise the risk of the introduction and spread of weeds, and
- undertake deliberate planting and ensure the long-term survival of locally-provenanced native trees comprising of nine western sheoak, 15 jarrah, 20 wandoo, and 11 coastal blackbutt trees to provide black cockatoo foraging habitat.

## 1.5. Site maps




**Figure 1**. Map of the application area. The areas crosshatched yellow indicates the areas authorised to be cleared under the granted clearing permit.




**Figure 2.** Map of the application area. The areas crosshatched yellow indicates the areas authorised to be cleared under the granted clearing permit.




**Figure 3**. Map of the application area. The areas crosshatched yellow indicates the areas authorised to be cleared under the granted clearing permit.

## 2 Legislative context

The clearing of native vegetation in Western Australia is regulated under the EP Act and the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* (Clearing Regulations).

In addition to the matters considered in accordance with section 51O of the EP Act (see Section 1.4), the Delegated Officer has also had regard to the objects and principles under section 4A of the EP Act, particularly:

- the precautionary principle
- the principle of intergenerational equity
- the polluter pays principle
- the principle of the conservation of biological diversity and ecological integrity.

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Planning and Development Act 2005* (WA) (P&D Act)

Relevant policies considered during the assessment include:

- *Environmental Offsets Policy* (2011)

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, December 2013)
- *Procedure: Native vegetation clearing permits* (DWER, October 2019)
- *Environmental Offsets Guidelines* (August 2014)

## 3 Detailed assessment of application

### 3.1. Avoidance and mitigation measures

The applicant provided the following information to demonstrate consideration of avoidance and mitigation measures for the proposed clearing:

- retain vegetation at site where possible that is not within the area required for road upgrade,
- clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared,
- ensure that no known dieback or weed-affected soil, mulch, fill or other material is brought into the area to be cleared, and
- restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

In addition, the applicant initially proposed revegetation of 0.38 hectares by planting 74 trees comprising of jarrah, wandoo, and western sheoak (Emerge Associates, 2026a). However, some of the revegetation areas were unsuitable due to inconsistencies between the pavement plan and the landscape plan and presence of a high-pressure gas pipeline, which requires maintaining a buffer of 3 metres (Emerge Associates, 2026b).

Subsequently, the applicant proposed to revegetate within a 0.24 hectare area by planting 55 trees along the road verges of Stirling Crescent and Talbot Road to mitigate the environmental impacts on the significant foraging habitat of black cockatoos (Emerge Associates, 2026b). The applicant advised that the revegetation area is mapped based on the available area at ground level, which is derived from areas to be mulched. However, future canopy providing foraging habitat is expected to extend beyond the mulched areas to the adjacent hardstand areas (Emerge Associates, 2026b). Therefore, the revegetation area including canopy cover is considered to be larger. Given the tree species and numbers proposed for revegetation (see Table 1 below), the actual mature canopy cover is estimated to be approximately 0.40 hectares.

The species to be planted are *Eucalyptus marginata* (jarrah), *Allocasuarina fraseriana* (western sheoak), *Eucalyptus wandoo* (wandoo), and *Eucalyptus todtiana* (coastal blackbutt/pricklybark). The revegetation species were selected because similar species are present in the application area and coastal blackbutt was chosen due to its smaller size as it would allow more revegetation to occur within the site's constraints (Emerge Associates, 2026b).

**Table 1**. Details of trees to be planted (Emerge Associates, 2026b)

| Species | Number of trees |
|---|---|
| Western sheoak *(Allocasuarina fraseriana)* | 9 |

| | |
|---|---|
| Jarrah *(Eucalyptus marginata)* | 15 |
| Wandoo *(Eucalyptus wandoo)* | 20 |
| Coastal blackbutt *(Eucalyptus todtiana)* | 11 |

The species proposed for planting are known to provide foraging resources for black cockatoos. Forest-red tailed black cockatoo primarily feeds on seeds of jarrah and marri in woodlands and forest and have been recorded feeding on wandoo, blackbutt, and western sheoak (DAWE, 2022). Although marri remains a primary food source, Baudin's Cockatoo has been recorded feeding on a diverse range of native and introduced plant species including the seeds of jarrah, western sheoak and nectar, buds and flowers from jarrah and wandoo among others (DAWE, 2022 and Johnstone et al., 2010). While Carnaby's cockatoo feed on native Proteaceae (mostly *Banskia* spp.) and non-native food sources (mostly pine) on the Swan Coastal Plain, marri and jarrah also form part of the diet in the eastern Swan Coastal Plain and Jarrah Forest (EPA, 2019). In addition, Carnaby's cockatoo have also been found to feed on wandoo and seeds of coastal blackbutt/pricklybark (Saunders, 1980 and Valentine and Stock, 2008).

As such, a mitigation calculation was conducted using the WA environmental offset metric calculator, which indicated that revegetation of 0.40 hectares with the proposed native trees would counterbalance the significant impacts to the foraging habitat of black cockatoos (see Appendix E). Given that the revegetation is planned within road verges, the risk of bird strikes was considered. The revegetation areas are in low-speed road environments including areas adjacent to roundabouts and a cul-de-sac on Stirling Cresent and sections of Talbot Road with a speed limit of 50 kilometres per hour (see landscape master plan in Appendix F (City of Swan, 2026b). Given the road speeds, setback distances and species chosen (noting the minimum tree height for western sheoak and coastal blackbutt is 15 metres and for wandoo and jarrah, 25 to 40 metres) it is considered that the revegetation is unlikely to pose a significant vehicle strike risk to foraging black cockatoos.

As part of the revegetation, the applicant advised that a landscaping plan will be implemented over 12 months following completion of the road upgrade works (Emerge Associates, 2026b). A subcontractor will be appointed to implement a landscape maintenance program in accordance to accepted horticultural practices and provide monthly reports to the applicant detailing monitoring and maintenance which may include, but is not limited to, the following:

- monitoring of plant health, watering and replacement of any trees that do not survive during the 12-month maintenance period,
- water conservation through the application of mulches,
- pest management including weeding and slashing, and
- rubbish removal including sweeping and maintaining a tidy site.

The Delegated Officer was satisfied that the applicant has made a reasonable effort to avoid and minimise potential impacts of the proposed clearing on environmental values.




**Figure 4.** Map of the revegetation area. The areas cross-hatched red indicate areas within which revegetation conditions apply.




**Figure 5.** Map of the revegetation area. The areas cross-hatched red indicate areas within which revegetation conditions apply.

## 3.2. Assessment of impacts on environmental values

In assessing the application, the Delegated Officer has had regard for the site characteristics (see Appendix B) and the extent to which the impacts of the proposed clearing present a risk to biological, conservation, or land and water resource values.

The assessment against the clearing principles (see Appendix C) identified that the impacts of the proposed clearing present a risk to biological values (fauna). The consideration of these impacts, and the extent to which they can be managed through conditions applied in line with sections 51H and 51I of the EP Act, is set out below.

### *3.2.1. Biological values (fauna) - Clearing Principles (a and b)*

Assessment

In determining the likelihood of conservation significant fauna occurring within the proposed clearing area, consideration was given to the date of each record, results of the preferred habitat types, proximity of records to the application area, and the type and condition of the vegetation within the application area. From the likelihood assessment, the application area is considered to comprise suitable habitat for four conservation significant fauna species:

- *Zanda latirostris* (Carnaby's cockatoo) (EN),
- *Zanda baudinii* (Baudin's cockatoo) (EN),
- *Calyptorhynchus banksii naso* (forest red-tailed black cockatoo) (VU), and
- *Idiosoma sigillatum* (Swan Coastal Plain shield-backed trapdoor spider) (P3)

**Black cockatoos**

According to available mapping, the proposed clearing is located within the modelled distribution of Carnaby's cockatoo, Baudin's cockatoo and forest red-tailed black cockatoo. While habitat requirements for the three species of black cockatoos differ, the requirements in general can be categorised as breeding habitat, foraging habitat and night roosting habitat.

Foraging

Critical foraging habitat for black cockatoo species includes foraging resources that is up to 12 kilometres from an active breeding site and within six kilometres of a night roosting site. Black cockatoos forage on a range of plant species, with the primary foraging resources varying between species (DAWE, 2022).

Desktop assessment and investigation advice by Emerge Associates (2025) indicated that the application area contains known foraging species for black cockatoos comprising of marri, firewood banksia, grass trees, orange wattle, western sheoak, jarrah, and coastal blackbutt. These species provide approximately 0.14 hectares of foraging habitat for Carnaby's cockatoo and 0.11 hectares each for Baudin's cockatoo and forest red-tailed black cockatoo. Of these areas, 0.086 hectares, corresponding to 61.4 percent of 0.14 hectares, represents primary foraging habitat for Carnaby's cockatoo while 0.08 hectares (corresponding to 72.72 per cent of 0.11 hectares) represents primary foraging habitat for Baudin's cockatoo and forest red-tailed black cockatoo. Considering available databases indicate that there are 13 known breeding sites and 59 known roosting sites in the local area, the vegetation within the application area may support foraging by both locally roosting and breeding populations. Given the vegetation species and condition and the above site context, the application area is considered to comprise on average moderate quality foraging habitat for all three black cockatoo species.

It is recognized that a key focus for the Swan Coastal Plain is the ongoing viability of foraging resources for black cockatoos, particularly Carnaby's cockatoo (DAWE, 2022). Given this and considering the definitions of critical habitat for the species, the proximity of the application area to roosting and breeding sites that rely on all available foraging habitat, number of records of black cockatoos in the local area, the cumulative loss of foraging habitat in Swan Coastal Plain, and the local area retaining only 22.86 percent remnant vegetation, the proposed clearing of up to 0.14 hectares of moderate quality foraging habitat for all three black cockatoo species is considered to represent a significant impact.

Breeding and roosting

Suitable breeding habitat for black cockatoos includes trees, which either have a suitable nest hollow or are of a suitable diameter at breast height (DBH) of more than 500 millimetres to develop a nest hollow (DAWE, 2022). All three species prefer to breed in woodland or forest but have been known to breed in partially cleared areas including isolated trees (DAWE, 2022). Site visit by Emerge associates (2025) identified six potential nesting trees comprising of four marri, one jarrah, and one standing dead tree however, none of them contained suitable hollows for black cockatoos. Therefore, the application area is considered unlikely to contain significant breeding habitat for black cockatoos.

Black cockatoo night roosts are generally the tallest trees in an area, which are close to foraging habitat and surface water (DAWE, 2022). It is recognised that the larger jarrah and marri potential nesting trees may also represent suitable roosting habitat for black cockatoo species. However, given the extent of clearing and availability of roosting sites in the local area, it is unlikely that the proposed clearing would result in the loss of significant roosting habitat for the black cockatoos.

**Swan Coastal Plain shield-backed trapdoor spider (SCP trapdoor spider)** occurs from Dalyellup to Ledge Point and extends inland to the Darling Escarpment. This species prefers sandy soils within Banksia woodlands and heathlands, where it constructs characteristic twig-lined burrow entrances (Rix et al., 2018). Mason et al. (2018) has recorded adult SCP trapdoor spiders predominately occurring in *Allocasuarina fraseriana* (western sheoak) leaf litter. Although the application area contains sheoak, it is noted that none of the records of this species within the local area were recorded post-1993 and the nearest record, which is 2.77 kilometres from the application was recorded in 1989. Based on the location of the known records of this species, the application area represents the easternmost extent of the species' range, with most records situated further west of the Darling Scarp. Given the extent of the application area and the degraded vegetation condition, lack of recent records in the local area, and location of the application area on the edge of the Darling Scarp relative to most known records of this species, there is a low risk of SCP trapdoor spider occurring within the application area.

Conclusion

Based on the above assessment, the proposed clearing will result in clearing of 0.14 hectares of moderate quality foraging habitat for Carnaby's cockatoo and 0.11 hectares each of moderate quality foraging habitat for Baudin's cockatoo and forest red-tailed black cockatoo. It is considered that SCP trapdoor spider is unlikely to occur in the application area and does not require management measures.

For the reasons set out above, it is considered that the impacts of the proposed clearing to significant foraging habitat for Carnaby's cockatoo, Baudin's cockatoo and forest red-tailed black cockatoo constitutes a significant impact and will require revegetation condition to counterbalance the loss of significant foraging habitat.

Conditions

To address the above impacts, the following management measures will be required as conditions on the clearing permit:

- undertake deliberate planting and ensure the long-term survival of locally-provenanced native trees comprising of nine western sheoak, 15 jarrah, 20 wandoo, and 11 coastal blackbutt trees to provide foraging habitat for Carnaby's cockatoo, Baudin's cockatoo, and forest red-tailed black cockatoo.

### 3.3. Relevant planning instruments and other matters

Several Aboriginal sites of significance have been mapped within the local area. It is the permit holder's responsibility to comply with the *Aboriginal Heritage Act 1972* (WA) and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

## End

# Appendix A. Additional information provided by applicant

| Summary of comments | Consideration of comment |
|---|---|
| Revegetation plan received including species and number of trees to be planted (Emerge Associates, 2026a). | Revegetation plan is considered in Avoidance and mitigation measures (see Section 3.1) Assessment and WA offset metric calculator (see Appendix E) |
| Revised revegetation areas received including species and number of trees to be planted (Emerge Associates, 2026b). | Revised revegetation plan is considered in Avoidance and mitigation measures (see Section 3.1) Assessment and WA offset metric calculator (see Appendix E) |

# Appendix B. Site characteristics

## B.1. Site characteristics

| Characteristic | Details |
|---|---|
| Local context | The area proposed to be cleared is distributed across isolated areas of native vegetation in the intensive land use zone of Western Australia. It is surrounded by industrial area and roads.<br><br>Spatial data indicates the local area (10-kilometre radius from the centre of the area proposed to be cleared) retains approximately 22.86 per cent of the original native vegetation cover. |
| Ecological linkage | The nearest ecological linkage (link id 33) is approximately 0.81 kilometres from application area, which links native vegetation on the plain between the Helena River and the Darling Scarp through Bush Forever site 213. However, vegetation within the application area is unlikely to form part of a formal or informal ecological linkage in the local area. |
| Conservation areas | The closest conservation area to the application area is bush forever site number 481, approximately 0.22 kilometres from the application area. |
| Vegetation description | Site visit (Emerge Associates, 2025) indicates the vegetation within the proposed clearing area include *Acacia saligna, Adenanthos cygnorum* (woollybush)*, Allocasuarina fraseriana* (western sheoak)*, Banksia menziesii* (firewood banksia), *Corymbria calophylla* (marri), *Eucalyptus todtiana* (pricklybark) and *Xanthorrhoea preissii* (grass tree). It is also noted that response to request for information indicated presence of *Eucalyptus marginata* (jarrah) (Emerge Associates, 2026a).<br><br>Representative photos are available in Appendix F.<br><br>This is consistent with the mapped vegetation type(s):<br>• Southern River Complex (42), which is described as Open woodland of Corymbia calophylla (Marri) - Eucalyptus marginata (Jarrah) - Banksia species with fringing woodland of Eucalyptus rudis (Flooded Gum) - Melaleuca rhaphiophylla (Swamp Paperbark) along creek beds (Heddle et. al., 1980).<br><br>The mapped vegetation type retains approximately 17.53 per cent of the original extent (Government of Western Australia, 2025*).* |
| Vegetation condition | Site visit conducted by Emerge Associates (2025) and photographs indicates the vegetation within the proposed clearing area is in degraded to completely degraded condition (Keighery, 1994) condition, described as:<br>• Degraded: Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management.<br>• Completely Degraded: The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These |

| Characteristic | Details |
|---|---|
| | areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.<br><br>The full Keighery (1994) condition rating scale is provided in Appendix D.<br><br>Representative photos are available in Appendix F. |
| Climate and landform | Mean annual rainfall in the nearby Perth airport station is 753.4 mm with the maximum mean rainfall occurring in July (154 mm) and the minimum mean rainfall in January (10.2 mm) (BoM, n.d.).<br><br>The topography of the site is gently undulating with elevations within the site ranging from 14 m Australian height datum (AHD) at the western extent of talbot road to 24 m AHD at the eastern extent of talbot road (Emerge Associates, 2025) |
| Soil description | The soil is mapped:<br>• Mostly as Pinjarra, Phase Gf7 (213Pj__Gf7), which is described as minor rises with deep rapidly drained brownish, siliceous or bleached sands underlain by mottled yellow clay. Low woodland of B. prionotes and some tall E. calophylla with E. rudis along streamlines.<br>• Pinjarra, Ya2 Phase (213Pj__Ya3), which is described as seasonally inundated swamps with shallow very poorly drained grey siliceous sand over clay.<br>• EnvGeol S8 Phase (212Bs__S8), which is described as SAND - very light grey at surface, yellow at depth, fine to medium-grained, sub-rounded quartz, moderately well sorted of eolian origin<br>• EnvGeol S10 Phase (213Pj__S10), which is described as SAND - as S8 as relatively thin veneer over sandy clay to clayey sand. Of eolian origin. |
| Land degradation risk | The mapped soils have low to moderate risk of water erosion, low to high risk of salinity and waterlogging, moderate to high risk of wind erosion, phosphorus export, and water repellence, and high risk of subsurface acidification.<br><br>The soils within application area have moderate to low risk of acid sulfate soils. Groundwater salinity in application area is 500-1000 mg/L TDS. |
| Waterbodies | The desktop assessment and aerial imagery indicated that a portion of the application area intersects multiple use dampland. The closest water body is a manmade perennial lake, located 169 metres from the application area.<br><br>A portion of application area is mapped as moderate potential aquatic groundwater dependent ecosystem, which is consistent with the extent of the dampland. |
| Hydrogeography | The application area falls within Perth Groundwater Area and Swan River System, as proclaimed under the *Rights in Water and Irrigation Act 1914* (RIWI Act).<br><br>Groundwater salinity: 500-1000 mg/L TDS |
| Flora | There are records of 87 conservation significant flora species within the local area, with the closest being Priority 4 species *Jacksonia sericea*, recorded approximately 0.31 kilometres from the application area. Of these flora species, 28 flora records have been found in a similar vegetation type and on at least one of the four soil types mapped in the application area. |
| Ecological communities | There are records of 15 conservation significant ecological communities within the local area, the closest to the application area is Banksia Woodlands of the Swan Coastal Plain threatened ecological community (state-listed Priority 3), located approximately 190 metres northeast of the application area. |
| Fauna | There are records of 52 conservation significant fauna within the local area, of which 20 fauna species were recorded within the same vegetation type as application area. The nearest record is *Isoodon fusciventer* (quenda), a priority 4 species, recorded 0.27 kilometres from the application area. Of these, it is considered that four may use the application area as habitat. |

| Characteristic | Details |
|---|---|
| | There are 59 known black cockatoo roost sites within the local area, and the closest roost site was recorded 2.02 kilometres from the application area. |

## B.2. Vegetation extent

| | Pre-European extent (ha) | Current extent (ha) | Extent remaining (%) | Current extent in all DBCA managed land (ha) | Current proportion (%) of pre-European extent in all DBCA managed land |
|---|---|---|---|---|---|
| IBRA bioregion* | | | | | |
| Swan Coastal Plain* | 977,183.94 | 327,360.32 | 33.5 | 140,616.7 | 14.4 |
| **Vegetation complex** | | | | | |
| Heddle vegetation complex* (Southern River Complex, 42) | 58,781.48 | 10,832.18 | 17.53 | 1407.19 | 2.39 |
| **Local area** | | | | | |
| 10km radius | 33,531.85 | 7,666.78 | 22.86 | - | - |

*Government of Western Australia (2025)

## B.3. Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix G.1), impacts to the following conservation significant flora required further consideration.

| Species name | Conservation status | Suitable habitat features ? [Y/N] | Suitable vegetation type? [Y/N] | Suitable soil type? [Y/N] | Distance of closest record to application area (km) | Number of known records (total) | Are surveys adequate to identify? [Y, N, N/A] |
|---|---|---|---|---|---|---|---|
| *Jacksonia sericea* | P4 | N | Y | Y | 0.31 | 5 | N/A |
| *Lepyrodia curvescens* | P2 | N | Y | Y | 0.43 | 2 | N/A |
| *Isopogon autumnalis* | P3 | N | Y | Y | 0.73 | 14 | N/A |
| *Johnsonia pubescens* subsp. *Cygnorum* | P2 | N | Y | Y | 1.4 | 6 | N/A |
| *Conospermum undulatum* | T | N | Y | Y | 2.05 | 94 | N/A |
| *Macarthuria keigheryi* | T | N | Y | Y | 3.67 | 22 | N/A |
| *Amanita carneiphylla* | P3 | N | Y | Y | 7.6 | 1 | N/A |
| *Banksia mimica* | T | N | Y | Y | 8.15 | 7 | N/A |
| *Grevillea thelemanniana* | T | N | Y | Y | 9.37 | 1 | N/A |

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority

## B.4. Fauna analysis table

| Species name | Conservation status | Suitable habitat features? [Y/N] | Suitable vegetation type? [Y/N] | Distance of closest record to application area (km) | Number of known records (total) | Are surveys adequate to identify? [Y, N, N/A] |
|---|---|---|---|---|---|---|
| *Zanda latirostris* (Carnaby's cockatoo) | EN | Y | Y | 0.69 | 662 | N/A |
| *Calyptorhynchus banksii naso* (forest red-tailed black cockatoo) | VU | Y | Y | 2.69 | 6 | N/A |
| *Zanda baudinii*- Zanda sp. 'white-tailed black cockatoo' (Baudin's cockatoo) | EN | Y | Y | 4.70 | 14 | N/A |
| *Idiosoma sigillatum* (Swan Coastal Plain shield-backed trapdoor spider) | P3 | N | Y | 2.77 | 22 | N/A |
| *Isoodon fusciventer* (quenda) | P4 | N | Y | 0.27 | 2426 | N/A |

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority

# Appendix C. Assessment against the clearing principles

| Assessment against the clearing principles | Variance level | Is further consideration required? |
|---|---|---|
| **Environmental value: biological values** | | |
| Principle (a): *"Native vegetation should not be cleared if it comprises a high level of biodiversity."*<br>Assessment:<br>The area proposed to be cleared contains significant foraging habitat for Carnaby's cockatoo, forest red-tailed black cockatoo, and Baudin's cockatoo. Given the vegetation condition within the application area and noting that no ecological communities are mapped and conservation significant flora species are unlikely to occur, the application area is unlikely to contain high biodiversity. | Not likely to be at variance | No |
| Principle (b): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna."*<br>Assessment:<br>The area proposed to be cleared contains significant foraging habitat for Carnaby's cockatoo, Baudin's cockatoo and forest red-tailed black cockatoo. | At variance | Yes<br>*Refer to Section 3.2.1, above.* |
| Principle (c): *"Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."*<br>Assessment:<br>The area proposed to be cleared is unlikely to contain habitat for flora species listed under the BC Act as the application area comprises of isolated areas of trees devoid of native understorey. | Not likely to be at variance | No |
| Principle (d): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community."*<br>Assessment:<br>The area proposed to be cleared contains isolated areas of native vegetation with limited native understorey and does not contain species indicative of a threatened ecological community. As such, vegetation within the application area is unlikely to be representative of a threatened ecological community. | Not likely to be at variance | No |

| Assessment against the clearing principles | Variance level | Is further consideration required? |
|---|---|---|
| **Environmental value: significant remnant vegetation and conservation areas** | | |
| Principle (e): *"Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared."*<br><br>Assessment:<br><br>The extent of the mapped vegetation type and native vegetation in the local area is inconsistent with the national objectives and targets for biodiversity conservation in Australia.However, the application area is zoned as industrial and urban within the Metropolitan Region Scheme and is considered a constrained area (EPA, 2008). It is therefore consistent with the 10 per cent threshold for constrained areas, as recognised by the Environmental Protection Authority (EPA, 2008).<br><br>While the application area is a significant remnant of native vegetation within an extensively cleared landscape, the extent of clearing is limited and the overall minimum vegetation representation thresholds for the mapped vegetation complex and the local area, are maintained. It is noted that the applicant has committed to planting 55 native trees within the road verges, which will contribute to the reinstatement of native vegetation in the local area.<br><br>The vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area. | At variance | No |
| Principle (h): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area."*<br><br>Assessment:<br><br>Given the nearest conservation area is 220 metres from the application area, the proposed clearing is not likely to have an impact on the environmental values of nearby conservation areas. | Not likely to be at variance | No |
| **Environmental value: land and water resources** | | |
| Principle (f): *"Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland."*<br><br>Assessment:<br><br>A portion of the application area intersects multiple use dampland and aquatic groundwater dependent ecosystem classified as moderate potential. Based on aerial imagery and photographs, the application area is unlikely to be associated with a dampland noting the extent of modification in the application area and surrounding area. Aerial imagery indicates presence of waterlogged area adjacent to the application area. However, considering the extent of clearing and existing degradation in the surrounding area, the proposed clearing is unlikely to impact the values of the dampland.<br><br>In addition, while a portion of application area intersects aquatic groundwater dependent ecosystem classified as moderate potential, the vegetation in the application area is not associated with a watercourse or wetland. Given the extent of clearing and vegetation condition, the proposed clearing is unlikely to impact the values of the terrestrial ground water dependent ecosystem. | Not likely to be at variance | No |
| Principle (g): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."*<br><br>Assessment:<br><br>The mapped soils have high risk of subsurface acidification, low to moderate risk of water erosion, low to high risk of salinity and waterlogging, and | Not likely to be at variance | No |

| Assessment against the clearing principles | Variance level | Is further consideration required? |
|---|---|---|
| moderate to high risk of wind erosion, phosphorus export, and water repellence. Given the extent of clearing and vegetation condition, the risk of proposed clearing resulting in appreciable land degradation is low. | | |
| Principle (i): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water."*<br>Assessment:<br>Given the extent of the clearing, distance to the nearest surface water bodies and that no sensitive groundwater resources, including Public Drinking Water Sources Areas, are present within the application area, the proposed clearing is unlikely to impact surface or ground water quality. | Not likely to be at variance | No |
| Principle (j): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."*<br>Assessment:<br>The mapped soils and topographic contours in the surrounding area do not indicate the proposed clearing is likely to contribute to increased incidence or intensity of flooding. | Not likely to be at variance | No |

## Appendix D. Vegetation condition rating scale

Vegetation condition is a rating given to a defined area of vegetation to categorise and rank disturbance related to human activities. The rating refers to the degree of change in the vegetation structure, density and species present in relation to undisturbed vegetation of the same type. The degree of disturbance impacts upon the vegetation's ability to regenerate. Disturbance at a site can be a cumulative effect from a number of interacting disturbance types.

Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from

Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.

**Measuring vegetation condition for the South West and Interzone Botanical Province (Keighery, 1994)**

| Condition | Description |
|---|---|
| Pristine | Pristine or nearly so, no obvious signs of disturbance. |
| Excellent | Vegetation structure intact, with disturbance affecting individual species; weeds are non-aggressive species. |
| Very good | Vegetation structure altered, with obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and/or grazing. |
| Good | 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 and/or grazing. |
| Degraded | 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 and/or grazing. |

| Condition | Description |
|---|---|
| Completely degraded | The structure of the 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. |

# Appendix E. WA Offset Metric

## Carnaby's cockatoo foraging habitat

**WA environmental offset calculator**
**Rationale for scores used in the offset calculator – Rehabilitation and conservation**

| Calculation | Score (Area) | Rationale |
|---|---|---|
| **Conservation significance** | | |
| Description | Native vegetation that represents foraging habitat for Carnaby's cockatoo | The proposed clearing will impact 0.14 hectares of native vegetation that is significant as Carnaby's cockatoo foraging habitat. |
| Type of environmental value | Species (flora/fauna) | Carnaby's cockatoo is listed as Endangered under both the EPBC Act and BC Act. |
| Conservation significance of environmental value | Rare/threatened species – endangered | Carnaby's cockatoo is listed as Endangered under both the EPBC Act and BC Act. |
| Landscape-level value impacted | yes/no | The impact is to an area of foraging habitat in hectares. |
| **Significant impact** | | |
| Description | Clearing of 0.14 hectares of vegetation that represents foraging habitat for Carnaby's cockatoo | Native vegetation that comprises significant foraging habitat for Carnaby's cockatoo including foraging species such as firewood banksia, marri, jarrah, A*caia saligna*, grass trees and coastal blackbutt. |
| Significant impact (hectares) / Type of feature | 0.14 | Application area contains vegetation that provide primary and secondary foraging habitat for Carnaby's cockatoo including foraging species such as banksia, marri, jarrah*, Acaia saligna*, grass trees and coastal blackbutt. |
| Quality (scale) / Number | 5.00 | Based on the photographs, trees to be cleared are predominantly immature and occurs in an industrial area in degraded - completely degraded (Keighery, 1994) condition. However, there are 59 known roosts and 12 confirmed breeding sites within the local area and local area retains 22.86 per cent remnant vegetation. The application area is in the Swan Coastal Plain, where native vegetation has been extensively cleared. |
| **Rehabilitation credit** | | |
| Description | Revegetation of 0.24 hectares (0.40 hectares canopy cover providing foraging habitat) | Revegetation of 0.24 hectares (0.40 hectares canopy cover that provide foraging habitat) hectares with jarrah, western sheoak, wandoo, and coastal blackbutt/pricklybark. |
| Proposed rehabilitation (area in hectares) | 0.40 | The area in which revegetation will occur is 0.24 hectares at ground level. However, given the number of trees to be planted, the tree canopy cover is expected to be larger than this area. It is estimated that, given the different tree species which will vary in canopy cover at maturity, the canopy cover will be approximately 0.40 hectares. |

| Calculation | Score (Area) | Rationale |
|---|---|---|
| Current quality of rehabilitation site / Start number (of type of feature) | 0.00 | There is no vegetation present in the proposed revegetation site. |
| Future quality WITHOUT rehabilitation (scale) / Future number WITHOUT rehabilitation | 0.00 | Future quality would remain the same as current quality without revegetation. |
| Future quality WITH rehabilitation (scale) / Future number WITH rehabilitation | 3.00 | Noting applicant proposed to plant sheoak, jarrah and wandoo, coastal blackbutt/pricklybark, which are predominantly secondary foraging habitat although jarrah is considered to be a primary foraging plant for Carnaby's cockatoo, revegetation is proposed in the same road reserve within an industrial area, it is unlikely better quality habitat than this can be achieved. |
| Time until ecological benefit (years) | 17.00 | It is assumed that benefit of revegetation of black cockatoo foraging habitat will be available after 15 years as a conservative measure. This is based on available literature (Lee et al., 2013), which found evidence of foraging on jarrah in rehabilitated mine pit areas ranging from 7-14 years of age. An additional two years has been allowed for the clearing permit duration, resulting in a total period of 17 years. |
| Confidence in rehabilitation result (%) | 0.80 | Revegetation will be undertaken as per landscape implementation plan. There is a moderate level of confidence that the revegetation will achieve the predicted result. |
| **Offset** | | |
| N/A | N/A | No offsets proposed |

**Baudin's cockatoo foraging habitat**

**WA environmental offset calculator**
**Rationale for scores used in the offset calculator – Rehabilitation and conservation**

| Calculation | Score (Area) | Rationale |
|---|---|---|
| **Conservation significance** | | |
| Description | Native vegetation that represents foraging habitat for Baudin's cockatoo | The proposed clearing will impact 0.11 hectares of native vegetation that is significant as Baudin's cockatoo foraging habitat. |
| Type of environmental value | Species (flora/fauna) | Baudin's cockatoo is listed as Endangered under both the EPBC Act and BC Act. |
| Conservation significance of environmental value | Rare/threatened species – endangered | Baudin's cockatoo is listed as Endangered under both the EPBC Act and BC Act. |
| Landscape-level value impacted | yes/no | The impact is to an area of foraging habitat in hectares. |
| **Significant impact** | | |
| Description | Clearing of 0.11 hectares of vegetation that represents foraging habitat for Baudin's cockatoo | Native vegetation that comprises significant foraging habitat for Baudin's cockatoo including foraging species such as marri, jarrah, western sheoak, and grass trees. |

| Calculation | Score (Area) | Rationale |
|---|---|---|
| Significant impact (hectares) / Type of feature | 0.11 | Application area contains vegetation that provide primary and secondary foraging habitat for Baudin's cockatoo including foraging species such as marri, jarrah, western sheoak, and grass trees. |
| Quality (scale) / Number | 5.00 | Based on the photographs, trees to be cleared are predominantly immature and occurs in an industrial area in degraded - completely degraded (Keighery, 1994) condition. However, there are 59 known roosts and 12 confirmed breeding sites within the local area and local area retains 22.86 per cent remnant vegetation. The application area is in the Swan Coastal Plain, where native vegetation has been extensively cleared. |
| **Rehabilitation credit** | | |
| Description | Revegetation of 0.24 hectares (0.40 hectares canopy cover providing foraging habitat) | Revegetation of 0.24 hectares (0.40 hectares canopy cover that provide foraging habitat) hectares with jarrah, western sheoak, wandoo, and coastal blackbutt/pricklybark. |
| Proposed rehabilitation (area in hectares) | 0.40 | The area in which revegetation will occur is 0.24 hectares at ground level. However, given the number of trees to be planted, the tree canopy cover is expected to be larger than this area. It is estimated that, given the different tree species which will vary in canopy cover at maturity, the canopy cover will be approximately 0.40 hectares. |
| Current quality of rehabilitation site / Start number (of type of feature) | 0.00 | There is no vegetation present in the proposed revegetation site. |
| Future quality WITHOUT rehabilitation (scale) / Future number WITHOUT rehabilitation | 0.00 | Future quality would remain the same as current quality without revegetation. |
| Future quality WITH rehabilitation (scale) / Future number WITH rehabilitation | 3.00 | Noting applicant proposed to plant sheoak, jarrah and wandoo, coastal blackbutt/pricklybark, which are secondary foraging habitat and revegetation is proposed in the same road reserve within an industrial area, it is unlikely better quality habitat than this can be achieved. |
| Time until ecological benefit (years) | 17.00 | It is assumed that benefit of revegetation of black cockatoo foraging habitat will be available after 15 years as a conservative measure. This is based on available literature (Lee et al., 2013), which found evidence of foraging on jarrah in rehabilitated mine pit areas ranging from 7-14 years of age. An additional two years has been allowed for the clearing permit duration, resulting in a total period of 17 years. |
| Confidence in rehabilitation result (%) | 0.80 | Revegetation will be undertaken as per landscape implementation plan. There is a moderate level of confidence that the revegetation will achieve the predicted result. |
| **Offset** | | |
| N/A | N/A | No offsets proposed |

**Forest red-tailed black cockatoo foraging habitat**

**WA environmental offset calculator**

## Rationale for scores used in the offset calculator – Rehabilitation and conservation

| Calculation | Score (Area) | Rationale |
|---|---|---|
| **Conservation significance** | | |
| Description | Native vegetation that represents foraging habitat for forest red-tailed black cockatoo | The proposed clearing will impact 0.11 hectares of native vegetation that is significant as forest red-tailed black cockatoo's foraging habitat. |
| Type of environmental value | Species (flora/fauna) | Forest red-tailed black cockatoo is listed as Vulnerable under both the EPBC Act and BC Act. |
| Conservation significance of environmental value | Rare/threatened species – endangered | Forest red-tailed black cockatoo is listed as Vulnerable under both the EPBC Act and BC Act. |
| Landscape-level value impacted | yes/no | The impact is to an area of foraging habitat in hectares. |
| **Significant impact** | | |
| Description | Clearing of 0.11 hectares of vegetation that represents foraging habitat for forest red-tailed black cockatoo | Native vegetation that comprises significant foraging habitat for forest red-tailed black cockatoo including foraging species such as marri, jarrah, and western sheoak. |
| Significant impact (hectares) / Type of feature | 0.11 | Application area contains vegetation that provide primary and secondary foraging habitat for forest red-tailed black cockatoo including foraging species such as marri, jarrah, and western sheoak. |
| Quality (scale) / Number | 5.00 | Based on the photographs, trees to be cleared are predominantly immature and occurs in an industrial area in degraded - completely degraded (Keighery, 1994) condition. However, there are 59 known roosts and 12 confirmed breeding sites within the local area and local area retains 22.86 per cent remnant vegetation. The application area is in the Swan Coastal Plain, where native vegetation has been extensively cleared. |
| **Rehabilitation credit** | | |
| Description | Revegetation of 0.24 hectares (0.40 hectares canopy cover providing foraging habitat) | Revegetation of 0.24 hectares (0.40 hectares canopy cover that provide foraging habitat) hectares with jarrah, western sheoak, wandoo, and coastal blackbutt/pricklybark. |
| Proposed rehabilitation (area in hectares) | 0.40 | The area in which revegetation will occur is 0.24 hectares at ground level. However, given the number of trees to be planted, the tree canopy cover is expected to be larger than this area. It is estimated that, given the different tree species which will vary in canopy cover at maturity, the canopy cover will be approximately 0.40 hectares. |
| Current quality of rehabilitation site / Start number (of type of feature) | 0.00 | There is no vegetation present in the proposed revegetation site. |
| Future quality WITHOUT rehabilitation (scale) / Future number WITHOUT rehabilitation | 0.00 | Future quality would remain the same as current quality without revegetation. |
| Future quality WITH rehabilitation (scale) / | 4.00 | Noting applicant proposed to plant sheoak, jarrah and wandoo, coastal blackbutt/pricklybark, which provide primary and secondary foraging habitat and revegetation is proposed |

| Calculation | Score (Area) | Rationale |
|---|---|---|
| Future number WITH rehabilitation | | in the same road reserve within an industrial area, it is unlikely better quality habitat than this can be achieved. |
| Time until ecological benefit (years) | 17.00 | It is assumed that benefit of revegetation of black cockatoo foraging habitat will be available after 15 years as a conservative measure. This is based on available literature (Lee et al., 2013), which found evidence of foraging on jarrah in rehabilitated mine pit areas ranging from 7-14 years of age. An additional two years has been allowed for the clearing permit duration, resulting in a total period of 17 years. |
| Confidence in rehabilitation result (%) | 0.80 | Revegetation will be undertaken as per landscape implementation plan. There is a moderate level of confidence that the revegetation will achieve the predicted result. |
| **Offset** | | |
| N/A | N/A | No offsets proposed |

## Appendix F. Photographs of the vegetation /Landscape master plan











Figure 7 Photographs of the application area (City of Swan, 2025)





Figure 8 Photographs of the application area (City of Swan, 2025)

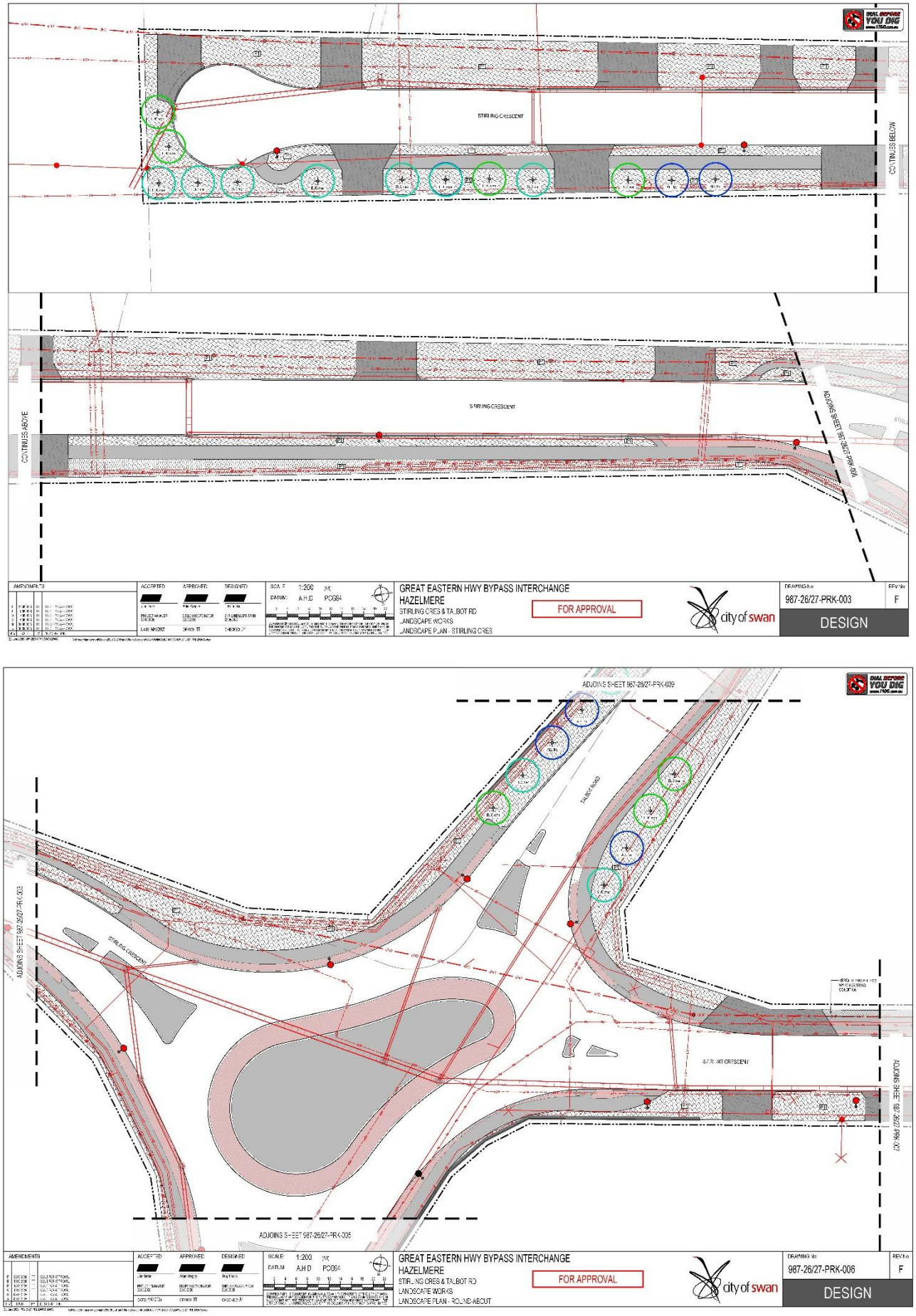



Figure 9 Landscape master plan (City of Swan, 2026b)

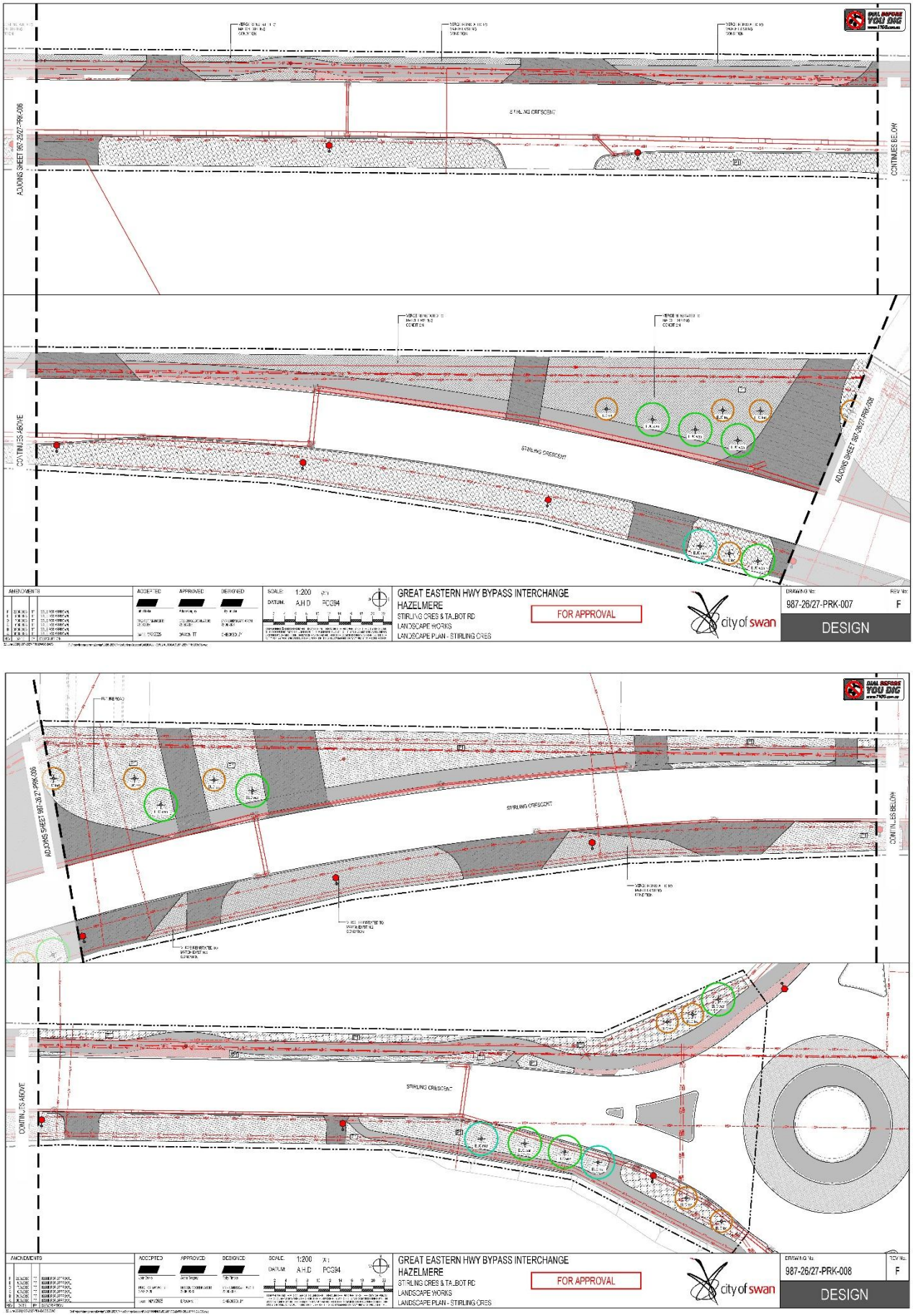



Figure 10 Landscape master plan (City of Swan, 2026b)

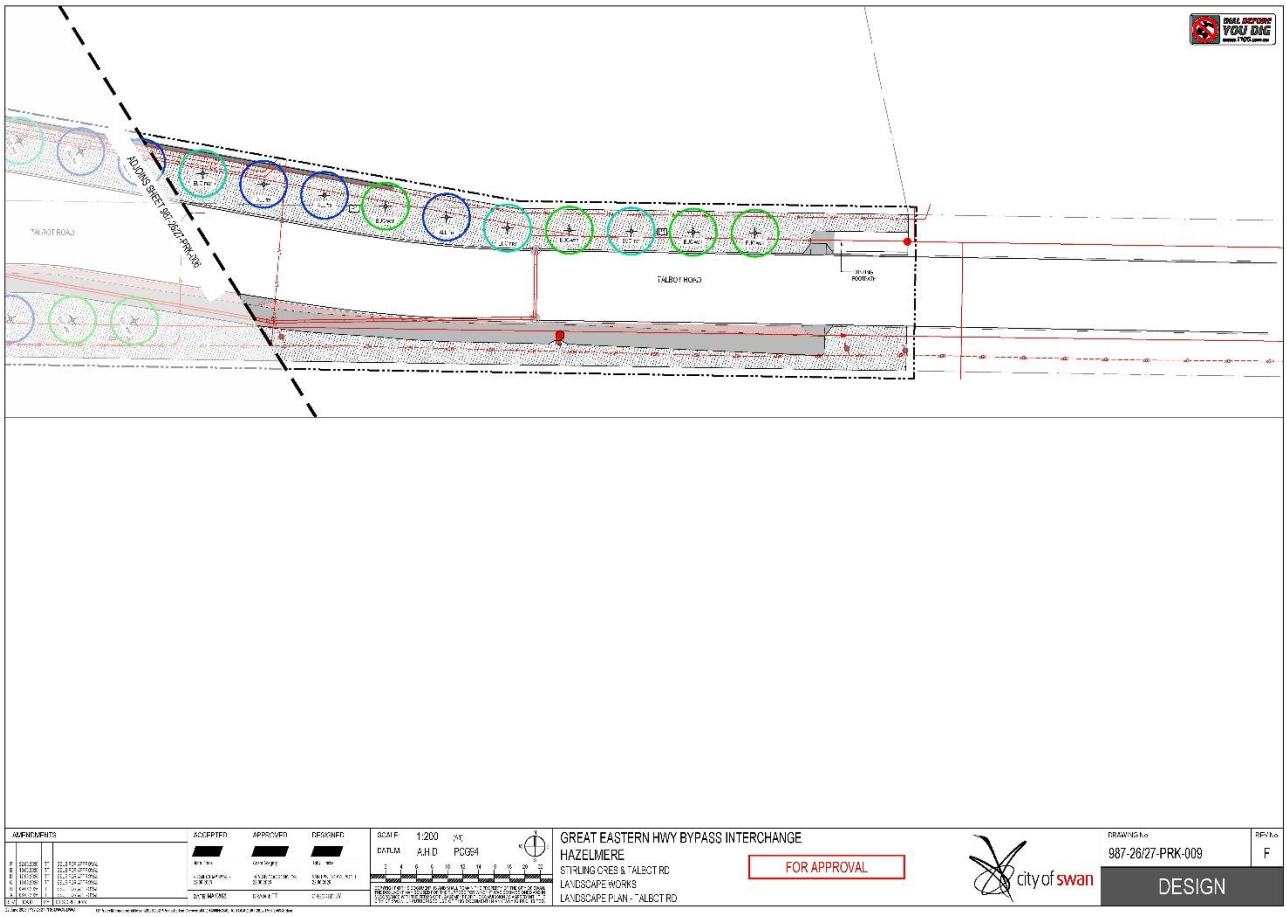



Figure 11 Landscape master plan (City of Swan, 2026b)

# Appendix G. Sources of information

## G.1. GIS databases

Publicly available GIS Databases used (sourced from www.data.wa.gov.au):

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- Aboriginal Heritage Places (DPLH-001)
- Cadastre (LGATE-218)
- Cadastre Address (LGATE-002)
- Contours (DPIRD-073)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Flood Risk (DPIRD-007)
- Groundwater Salinity Statewide (DWER-026)
- Hydrography – Inland Waters – Waterlines
- Hydrological Zones of Western Australia (DPIRD-069)
- IBRA Vegetation Statistics
- Imagery
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Native Title (ILUA) (LGATE-067)
- Offsets Register – Offsets (DWER-078)
- Pre-European Vegetation Statistics
- Public Drinking Water Source Areas (DWER-033)
- Ramsar Sites (DBCA-010)

- Regional Parks (DBCA-026)
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Land Quality – Flood Risk (DPIRD-007)
- Soil Landscape Land Quality – Phosphorus Export Risk (DPIRD-010)
- Soil Landscape Land Quality – Subsurface Acidification Risk (DPIRD-011)
- Soil Landscape Land Quality – Water Erosion Risk (DPIRD-013)
- Soil Landscape Land Quality – Water Repellence Risk (DPIRD-014)
- Soil Landscape Land Quality – Waterlogging Risk (DPIRD-015)
- Soil Landscape Land Quality – Wind Erosion Risk (DPIRD-016)
- Soil Landscape Mapping – Best Available
- Soil Landscape Mapping – Systems

Restricted GIS Databases used:

- ICMS (Incident Complaints Management System) – Points and Polygons
- Threatened Flora (TPFL)
- Threatened Flora (WAHerb)
- Threatened Fauna
- Threatened Ecological Communities and Priority Ecological Communities
- Threatened Ecological Communities and Priority Ecological Communities (Buffers)

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