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Document Reference: EP21-054(03)—004A SCM

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8 September 2021

Attention: Native Vegetation Regulation
Department of Water and Environmental Regulation
Locked Bag 10
JOONDALUP WA 6919

Delivered by email to: info@dwer.wa.gov.au

Dear Sir/Madam

CLEARING PERMIT (PURPOSE PERMIT) APPLICATION TO SUPPORT THE BELMONT PARK RACECOURSE REDEVELOPMENT

Overview

Golden River Developments (WA) Pty Ltd ('the applicant') engaged Emerge Associates (Emerge) to provide environmental consultancy services to support the Belmont Park Racecourse Redevelopment (BPRR). The BPRR extends across several precincts within the following landholdings:

- Lot 102 on Deposited Plan 72026 (Lot 102 Goodwood Parade), Burswood
- Lot 9101 on Deposited Plan 73845, Burswood
- Lot 9103 on Deposited Plan 73845 (23 Seabiscuit Drive), Burswood
- Lot 9104 on Deposited Plan 73845 (51 Seabiscuit Drive), Burswood

Development within Lots 9103 and 9104 has already commenced, with civil construction currently underway. The current phase of development extends across a portion of Lot 102 on Deposited Plan 72026 (Lot 102 Goodwood Parade) and portion of Lot 9101 on Deposited Plan 73845, Burswood (herein referred to as the 'application area').

Once fully developed, the BPRR will provide a mix of residential development (apartments and townhouses), short-stay accommodation, commercial offices and public open space. The development will be a hub of activity that includes entertainment, cultural and recreational opportunities linking to a restored Swan River foreshore.

This clearing permit has been lodged to facilitate the pre-development works required to commence the BPRR, as the footprint for these works contain native vegetation. Specifically, pre-loading of fill material within the application area is required to allow for the consolidation of the sediments prior to construction occurring. This pre-loading fill will be required to remain in place for approximately 18 months prior to any development commencing.

The application area as shown in **Figure 1** corresponds to the boundary of the development application that is being lodged concurrently to support the pre-loading works, and is approximately 28.05 hectares (ha) in size.

The application area represents the greatest extent of the pre-loading footprint that may be required to facilitate the BPRR, with the final footprint to be determined, which may further reduce the amount of vegetation required to be cleared. Given the exact amount of native vegetation to be removed may be reduced, and the clearing permit application area extends across landholdings owned by different landowners, a purpose permit has been applied for.

Based on the results of flora and vegetation surveys, there is approximately 3.33 ha of native vegetation present within the application area. Given the potential for native vegetation to regrow whilst the pre-loading fill settles, the total area of vegetation applied to be cleared as part of this application is 4 ha within the broader application area footprint. The applicant is looking to minimise clearing of native vegetation wherever possible and the ultimate extent of clearing is likely to be less than that proposed. The remainder of the application area supports non-native vegetation that does not require a clearing permit for removal.

In addition to applying to clear the native vegetation within the application area, the applicant requests that that the clearing permit period is valid for a period of 10 years, to allow for clearing and development to correspond appropriately. The project will be staged, with development occurring over a number of years, and the extended clearing permit duration will allow for the project to respond to any unforeseen delays and ongoing vegetation management as required. This will also align with the previous clearing permit that applied to the application area (CPS 4786/1), which was approved for a duration of 10 years.

The following letter is provided in support of a clearing permit application (purpose permit) pursuant to Part V of the *Environmental Protection Act 1986* (EP Act) and includes the following attachments required by the Department of Water and Environmental Regulation (DWER):

- **Attachment 1** – Signed clearing permit application form (Form C2).
- **Attachment 2** – Certificate of Title for Lot 102 on Deposited Plan 72026 and Lot 9101 on Deposited Plan 73845.
- **Attachment 3** – Letter of Authority from the Western Australian Turf Club T/A Perth Racing.
- **Attachment 4** – Flora, Vegetation and Fauna Assessment (Emerge Associates 2021).
- **Attachment 5** – Photographs of Vegetation Within Application Area.
- **Email attachments** – a .shp file of the application area has been submitted to DWER as part of the application.

1 INTRODUCTION AND BACKGROUND

The applicant is intending to proceed with development of the BPRR within the application area. The BPRR will provide residential, commercial and retail, entertainment and civic spaces, in addition to public open space, including interfaces with the Swan River. The application area is located within the Burswood Peninsula Precinct, as identified within the Town of Victoria Park Local Planning Scheme (LPS) No. 1. The BPRR is being progressed in accordance with the Burswood Peninsula Precinct plan and the approved *Belmont Park Racecourse Redevelopment Structure Plan*.

The application area is predominantly zoned 'urban' under the Metropolitan Region Scheme (MRS), with the area fringing the Swan River reserved 'parks and recreation'. Under the Town of Victoria Park LPS No. 1, the application area is zoned 'special use' and 'parks and recreation', the boundaries of which align with the MRS boundaries. The MRS zonings within the application area are shown in **Figure 2**. The portion of the 'parks and recreation' reserved land within the application area is herein referred to as the 'foreshore reserve', which also corresponds to the extent of the Swan River Trust's Development Control Area (DCA).

The application area is bounded by the Swan River and fringing riverine vegetation to the west, north and east, and the existing Belmont Park Racecourse to the south.

The applicant is seeking approval to remove 4 ha of native vegetation within a 28.05 ha footprint. The application area is predominantly located within Lot 102, with a small portion extending within Lot 9101.The applicant has received a letter of authority from the Western Australian Turf Club T/A Perth Racing to access Lot 9101 and undertake the proposed clearing, noting that the majority of their landholding that intersects the application area contains non-native vegetation (**Attachment 3**).

A clearing permit has previously been issued to support the BPRR, CPS 4786/1. This application was valid from 13 July 2011 to 13 July 2021 but clearing was not undertaken during this period. Emerge made enquiries to DWER as extend the duration of the existing permit; however, email advice received from DWER advised that a new clearing permit application was the Department's preferred approach. Accordingly, this application has been prepared to secure a new clearing permit.

Pre-loading is the first stage in the on-ground works required to facilitate the BPRR. Due to the location of the application area adjacent to the Swan River, the existing ground levels must be increased above predicted flood levels. In addition, the existing soft alluvial sediments do not provide acceptable foundations for construction without improvement, as excessive and differential settlement is expected. Pre-loading is therefore considered the most cost-effective method to improve the geotechnical stability of the soft alluvial sediments with the importation of fill in excess of the finished levels to induce settling of the soft alluvial sediments prior to construction. After appropriate consolidation has been achieved, the excess fill will be removed to the intended finished ground elevation.

It is noted that the amount of vegetation to be cleared as part of future development is likely to be less than the identified amount, given that the amount of scattered native vegetation not mapped within broader plant communities and vegetation regrowth after the initial clearing is likely to be less than the 4 ha that has been applied for. In addition, impacts to native vegetation within the foreshore reserve will be revisited through the development process to minimise clearing where it is not required. The application boundary has been determined based on the original approved boundary (CPS 4786/1).

Condition 3 of CPS 4786/1 required that where pre-loading material was not required as part of future development (e.g. within the foreshore reserve), revegetation and rehabilitation are to be undertaken which will occur once excess pre-loading fill is removed. As no clearing occurred under CPS 4786/1, no revegetation has occurred within the application area to date. As part of this application, the applicant proposes to undertake revegetation of the foreshore reserve once pre-loading has been undertaken and landscaping within the application area has commenced. A Foreshore Management Plan is to be prepared for the BPRR, as required by the overarching structure plan, in accordance with the management strategies identified in the *Foreshore Management Strategy* (Emerge Associates 2011d), which will guide the revegetation.

An *Open Space Management Strategy* has been prepared by Hassell (2021) to guide the overall landscape plan for Precinct A within the BPRR, which responds to the original Landscape Master Plan provided within the *Foreshore Management Strategy* (Emerge Associates 2011d), with an increased extent of revegetation provided. The Foreshore Management Plan(s) to be prepared as part of future development will guide restoration and landscape works within the foreshore reserve and will detail the exact amount of revegetation that will occur. Revegetation as part of landscaping is discussed below in relation to the mitigation hierarchy.

A flora, vegetation and fauna assessment was undertaken in June 2021 (Emerge Associates 2021), to the standard required of a 'reconnaissance' flora survey and 'basic' fauna survey. These surveys were undertaken with reference to the Environmental Protection Authority's (EPA's) relevant technical guidance documents (EPA 2016a, 2020). The flora, vegetation and fauna assessment is provided as a technical memorandum (**Attachment 4**).

In addition to the 2021 survey, information from several previous surveys have informed the preparation of this application. Emerge have undertaken multiple vegetation surveys of the site since May 2011.

The surveys in 2011 were never documented into a standalone flora and vegetation assessment. Rather, they informed an *Environmental Setting and Foreshore Ecology* report (Emerge Associates 2011a), a *Foreshore Management Strategy* (Emerge Associates 2011d), an *Environmental Assessment and Justification Report* (Emerge Associates 2011c) and a subsequent clearing permit application (Emerge Associates 2011b), which resulted in the issue of CPS 4786/1.

Following the earliest surveys, in August 2013 the 'subtropical and temperate coastal saltmarsh' vegetation community was listed as a threatened ecological community (TEC) under the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act). Subsequently, in 2017 Emerge undertook a targeted vegetation assessment to determine the extent of the 'subtropical and temperate coastal saltmarsh' TEC within and adjacent to the BPRR footprint.

2 SUMMARY OF ENVIRONMENTAL CONDITIONS

2.1 Historical clearing

Review of historical images available from 1953 onwards shows that multiple large scale clearing events have previously occurred within the application area (WALIA 2021). The application area is known to have been subject to multiple historic activities which had the potential to contaminate the landholdings, including disposal of fly ash from the East Perth Power Station, filling with material dredged from the Swan River and filling with construction and demolition rubble (Emerge Associates 2011e). Native vegetation regrowth to date has been limited to the fringing vegetation along the Swan River and small pockets of regrowth within the application area. The remainder of the application supports non-native vegetation.

2.2 Flora and vegetation values

The vegetation within the application area includes remnant vegetation which is predominantly located in the northern and eastern portions, particularly within the Swan River foreshore. The majority of the application area consists of non-native vegetation or cleared areas that is either co-located or present *in lieu* of native vegetation. Eight plant communities have been identified within the application area, as shown in **Figure 3**, and described in **Table 1** below. Representative photos of the plant communities are provided in **Attachment 5**.

Table 1: Plant communities (Emerge Associates 2021)

Plant community	Description	Area (ha)
Co	Low closed forest of *Casuarina obesa* over scattered **Washingtonia robusta* and **Cortaderia selloana*.	0.10
EcJk	Low open forest of **Eucalyptus camaldulensis* over open rushland to rushland of *Juncus kraussii* subsp. *australiensis* over open to closed tussock grassland of **Cynodon dactylon* and **Cenchrus clandestinus*.	0.30
Er	Low open forest to open woodland of *Eucalyptus rudis* over sparse rushland of *Juncus spp.* over grassland to closed grassland of **Cynodon dactylon* and **Cenchrus clandestinus*.	0.63
Jk	Closed rushland *Juncus kraussii* subsp. *australiensis* over open forbland to forbland of *Salicornia quinqueflora* and *Suaeda australis*.	0.89
Pl	Closed tall shrubland of *Paraserianthes lophantha*.	0.01
SqT	Scattered *Casuarina obesa* (or absent) over open to closed shrubland *Salicornia quinqueflora* and *Tecticornia* spp. with open rushland of *Juncus kraussii* subsp. *australiensis* (or layer absent).	1.38
VjCo	Low open woodland to woodland of *Casuarina obesa* over tall closed shrubland of *Viminaria juncea* over tussock grassland **Cenchrus clandestinus and* **Polypogon monspeliensis*.	0.02

Table 1: Plant communities (Emerge Associates 2021) (continued)

Plant community	Description	Area (ha)
Non-native	Heavily disturbed areas comprising weeds with occasional native rushes and forbs and planted vegetation. Minor cleared areas, areas of open water and tracks were included in this community.	24.72

Vegetation condition within the application area was assessed as ranging from 'very good' to 'completely degraded' using methods from (Keighery 1994). Vegetation condition within the application area is shown in **Figure 4**.

The most intact native vegetation was identified within the north-western and eastern portion of the application area, which is associated predominantly with plant community **Jk**. This vegetation was classified as being in 'very good' condition. The **SqT** community was predominantly identified as ranging in condition from 'very good – good' to 'good' condition, with patches of the **Jk** community also identified as 'good' condition. The remainder of the application area was classified as being in either 'degraded' or 'completely degraded' condition, due to the historical clearing and significant weed invasion.

The majority of the plant communities were degraded and comprised too few species to infer a floristic community type (FCT). Plant communities **Jk** and **SqT** were determined to represent FCT 16 'highly saline seasonal wetlands' (Emerge Associates 2021).

Plant communities **Jk** and **SqT**, in addition to adjoining patches of non-native vegetation are identified as representing the 'subtropical and temperate coastal saltmarsh' TEC (herein referred to as 'coastal saltmarsh TEC'). The boundary of the coastal saltmarsh TEC was mapped on aerial photography based on the mosaic boundary as per the conservation advice (TSSC 2013), and is shown in **Figure 5**. In accordance with the conservation advice, the mosaic boundary was determined by combining patches of coastal saltmarsh vegetation within 30 m of each other into one patch, incorporating the bare ground, track or non-native vegetation between them. This TEC also represents the state-listed priority ecological community (PEC) of the same name.

The flora surveys undertaken within the application area did not identify any threatened or priority flora species. The majority of the threatened and priority flora species identified in the desktop assessment undertaken prior to the most recent survey are not considered to occur in the site due to lack of suitable habitat or because they were not recorded during the field survey (Emerge Associates 2021).

Two flora species, Picris compacta (extinct (EX)) and Angianthus micropodioides (Priority 3 (P3)), are annuals and would not have been visible at the time of the survey (if present). However, due to the extensive historical disturbance these species are not considered likely to occur in the site.

2.3 Fauna values

A basic fauna assessment and targeted black cockatoo habitat assessment was completed by Emerge in June 2021 (**Attachment 4**). Historical disturbance including the removal of most of the native vegetation has significantly compromised fauna habitat values within the site.

Six fauna habitat types were identified within the application area: woodland, river, dam, fringing riverine vegetation, grassland and cleared area. The highest fauna habitat values within the application area are associated with the woodland and fringing riverine vegetation, with the fringing riverine vegetation referring to the vegetation within the foreshore reserve. One conservation significant species, *Isoodon fusciventer* (quenda) was recorded within the application area, with two threatened species of black cockatoo (Carnaby's and forest red-tailed black cockatoo) considered possible to occur within the application area. Overall, the application area mainly provides habitat for common and widespread fauna species, with the species recorded in the application area being generally common and widespread on the Swan Coastal Plain.

The vegetation within the application area does not represent significant foraging habitat for the black cockatoo species as no primary food plants were recorded, with only scattered secondary food plants recorded. A total of 28 potential breeding habitat trees were recorded within the application area, none of which contain hollows potentially suitable for use by black cockatoo species. No evidence of roosting activity such as droppings, feathers or branch clippings were observed during the field survey.

3 APPLICATION OF MITIGATION HIERARCHY

In accordance with *A guide to the assessment of applications to clear native vegetation* (DER 2014), the impact mitigation sequence has been considered in order to ensure the environmental impact from the proposed clearing for the project was kept to a minimum.

3.1 Avoidance

As part of the initial clearing permit application, the pre-loading footprint was refined and reduced to minimise the impact on fringing foreshore vegetation, which during the vegetation surveys was identified as being in 'very good' condition. The revised footprint has been continued through to the current clearing permit and development application.

In addition, the BPRR is located within areas that have been previously cleared of native vegetation, and where it does impact native vegetation, it impacts lower quality vegetation, relative to the higher quality vegetation adjacent to the application area. Ongoing liaison with the project team is occurring, to ensure that areas of clearing is minimised.

3.2 Mitigation

Where avoidance is not possible, mitigation measures will be undertaken to reduce the duration, intensity and/or extent of impacts on conservation significant communities and species (including direct, indirect and cumulative impacts).

An existing *Construction Environmental Management Plan* (CEMP) (Emerge Associates 2012) was prepared to support the initial pre-loading that was proposed in 2012, specifically relating to the north-eastern portion of the application area. This CEMP was reviewed and approved as part of the initial development application received to commence initial pre-loading works, and included input from the Department of Environment and Conservation (now the Department of Biodiversity, Conservation and Attractions (DBCA)) and the Swan River Trust. A CEMP applicable to the remainder of the application area will be prepared prior to pre-loading occurring, to ensure that the surrounding environment will not be impacted once clearing works commence within the application.

Mitigation of clearing impacts will occur through the application of double strength hydro-mulch on the pre-loading fill to prevent erosion of this material impacting the adjacent foreshore vegetation. In addition, windbreak fencing and jute matting will be employed to ensure the fill material is appropriately secured. A batter drain will be constructed at the base of the pre-load fill to capture and slow any surface runoff during heavy rainfall events. This will allow the runoff to infiltrate and prevent any loss of material to the foreshore vegetation and further to the Swan River.

3.3 Rehabilitation

Rehabilitation of the application area is aimed to return specific biodiversity features to an area following exposure to impacts that cannot be completely avoided or minimised. Rehabilitation efforts will be aimed at restoring the maximum environmental value that is reasonably practicable through revegetation, control of weeds, disease and feral animals.

As part of the proposed development of the BPRR, a *Foreshore Management Strategy* (Emerge Associates 2011d) has been prepared to guide the revegetation and rehabilitation of the foreshore reserve.

Revegetation and rehabilitation will occur once the pre-loading fill is removed from the foreshore reserve. The revegetation and rehabilitation will focus on naturalistic restoration to existing degraded areas with a strong focus on endemic plant species. The overall design approach aims to balance the needs for river edge stabilisation, storm water management, habitat creation, foreshore restoration and controlled human activity. These areas of the foreshore can broadly be described as 'public/passive recreation', 'public/foreshore rehabilitation zone' and 'restricted access/foreshore rehabilitation zone (Emerge Associates 2011d). This will include the restoration of the coastal saltmarsh TEC.

3.4 Offset

Environmental offsets address significant environmental impacts that remain after on-site avoidance and mitigation measures have been undertaken. According to Principle Two of the *WA Environmental Offsets Policy* (Government of Western Australia 2011); while environmental offsets may be appropriate for significant residual impacts or risks, they will not be applied to minor environmental impacts (i.e. where the residual impact is not considered to be significant, no offset will be required). Environmental offsets will only be applied where the residual impacts of a project are determined to be significant, after avoidance, minimisation and rehabilitation have been pursued.

The proponent has applied the first three steps in the mitigation hierarchy; Avoid, Minimise and Rehabilitate in the design of the BPRR to reduce the environmental impact and therefore the residual impacts. The requirement for environmental offsets has been considered unnecessary, as the project will have no significant residual impacts. The application of the mitigation hierarchy has been demonstrated under each of the ten clearing principles as far as they are relevant to the proposed expansion in **Section 5** below.

4 PLANNING INSTRUMENTS AND OTHER ENVIRONMENTAL APPROVALS

A development application is being lodged concurrently with the Town of Victoria Park to facilitate the pre-loading of the application area. No further planning approvals are required to support the pre-development works associated with the BPRR, excluding this application.

As per the conservation advice for the coastal saltmarsh TEC (TSSC 2013), this community is classified as 'vulnerable'. Under Section 18 of the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act), impacts to 'vulnerable' communities are not listed as a prohibited action. Under Section 67 of the EPBC Act, a controlled action is one which would otherwise be prohibited under Part 3 (including Section 18) without receiving approval from the federal Department of Agriculture, Water and the Environment (DAWE). Given this, impacts to threatened ecological communities that are classified as 'vulnerable' are not considered to be a significant impact, and therefore no referral to DAWE is required.

The application area is similar in size to the clearing permit application previously been lodged to support the BPRR, CPS 4786/1. This application was valid from 13 July 2011 to 13 July 2021 and no clearing was undertaken during this period. As no clearing was undertaken, there was no reporting requirements to comply with associated with the conditions of the permit.

5 PROPOSED CLEARING OF NATIVE VEGETATION

As outlined above, the proposed clearing is sought to facilitate the pre-loading of the application area to support the BPRR. A breakdown of the vegetation proposed to be cleared within the application area, grouped by plant community and vegetation condition, is shown in **Table 2**.

Table 2: Native vegetation proposed to be cleared within the application area

Plant community	Vegetation condition	Area (ha)
Co	'Degraded'	0.10
EcJk	'Degraded'	0.30
Er	'Degraded'	0.63
Jk	'Very good'	0.49
	'Good'	0.26
	'Degraded'	0.14
Pl	'Degraded'	0.01
SqT	'Very good' – 'good'	0.52
	'Good'	0.76
	'Degraded'	0.10
ViCo	'Degraded'	0.02
	Total	**3.33**

The remainder of the application area (24.72 ha) supports non-native vegetation, bare areas or open water that do not require a clearing permit for approval to remove.

6 RESPONSE TO EP ACT CLEARING PRINCIPLES

Under Section 51C of the EP Act, clearing of native vegetation is an offence unless a clearing permit has been obtained or an exemption applies. When assessing clearing permit applications, DWER has regard to the ten clearing principles contained in Schedule 5 of the EP Act so far as they are relevant to the matter under consideration.

In support of this purpose permit clearing application, we have considered and responded to the ten clearing principles in the following sections.

<u>Principle (a) – Native vegetation should not be cleared if it comprises a high level of biological diversity.</u>

The application area is located on the Swan Coastal Plain, which is recognised as an area of high biological diversity (EPA 2007). As discussed above, plant communities **Jk** and **SqT** were determined to represent FCT 16, in addition to representing the coastal saltmarsh TEC. No other vegetation within the application area was considered representative of a FCT, due to the degraded nature of the vegetation.

The majority of the vegetation within the application area is in 'degraded' or 'completely degraded' condition. In addition, 46 of the 63 flora species recorded within the application area were non-native species, indicating that the overall floral diversity is low. Where vegetation was identified as being in 'good' or better condition, the flora species diversity was still only moderate to low.

Additionally, as discussed above the fauna values within the site have been significantly compromised due to historical disturbance. The fauna assessment identified that the highest fauna value habitats were primarily associated with vegetation located outside of the application area that will not be impacted through the clearing works.

Whilst the vegetation will need to be cleared to support the pre-loading of the application area, the revegetation works that will occur within the foreshore reserve will allow for an improvement in the existing vegetation, where the vegetation is predominantly in 'completely degraded' condition and heavily dominated by non-native flora species.

Due to the level of historical disturbance, the majority of vegetation being in a 'degraded' or 'completely degraded' condition, and the limited fauna habitat present within the application area, the application area does not support a high level of biological diversity. The proposed clearing is therefore not considered to be at variance with Principle (a).

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 indigenous to Western Australia.

As discussed above, fauna values within the application area are limited due to the historical clearing, vegetation degradation, and the presence of weeds. The fauna assessment (Emerge Associates 2021) identified one species of conservation significance, *Isoodon fusciventer* (quenda) (Priority 4), during the survey, with a further 21 species of conservation significance deemed possible to occur.

The majority of the conservation significant species that were deemed possible to occur would utilise vegetation located outside of the application area, specifically the fringing vegetation adjacent to the Swan River. The proposed clearing will therefore not impact these species. Accordingly, only the two black cockatoo species (Carnaby's cockatoo and the forest red-tailed black cockatoo), are considered to potentially occur within the application area.

Quenda habitat

Characteristic foraging holes attributed to quenda were recorded within the application area. Quenda habitat within the application area consists of the scrubby foreshore vegetation and dense non-native grasses.

Quenda are commonly encountered in urban and suburban areas in the southwest of Western Australia (DBCA 2017). Habitat is generally dense scrubby, often swampy, vegetation with dense cover up to one metre high (DEC 2012). Whilst non-native vegetation within the application area that represents potential habitat will be removed as part of the proposed clearing, fringing riverine vegetation adjacent to the application area will not be impacted by the proposed clearing. Additionally, the proposed revegetation will provide suitable habitat for quenda, by including, dense, native low-growing species that provide suitable cover.

Additionally, given that quenda are known to persist within the Perth metropolitan region, it is unlikely that the application area specifically provides significant habitat for the species.

Black cockatoo habitat

Overall, the vegetation within the application area does not represent significant foraging habitat for the black cockatoo species. No primary food plants were recorded within the application area, with only scattered secondary food plants recorded. Foraging plants within the application area consist of occasional *Acacia saligna* and **Eucalyptus camaldulensis.* Given the lack of significant foraging habitat within the application area, it unlikely that the removal of vegetation will fragment an existing foraging source for the species

A total of 28 potential breeding habitat trees with a DBH ≥ 50 cm were recorded within the application area, as shown in **Figure 6**. Of the 28 trees identified, 27 were *Eucalyptus rudis* (flooded gum), with one stag recorded. None of the trees within the application area contain hollows potentially suitable for use by black cockatoo species. Therefore, the application area does not currently provide breeding habitat for black cockatoos and the proposed clearing is unlikely to have a significant impact on habitat significant for the breeding purposes of the black cockatoo species.

There are no known Carnaby's cockatoo breeding locations within 12 km of the application area (Johnstone *et al.* 2011). The forest red-tailed black cockatoo are also less likely to breed on the Swan Coastal Plain, with the preferred breeding habitat located in the south-west forests (DoEE 2008). As there are no known breeding locations within the vicinity of the application area, it is not considered to support breeding habitat significant to either of the black cockatoo species.

Native and non-native trees within the application area have the potential to provide roosting and foraging habitat for black cockatoos. No evidence of black cockatoo roosting activity was observed during the field survey, and no roosts within the application area are recorded within the BirdLife

Australia black cockatoo dataset (Peck *et al.* 2019). Therefore, there is no reason to suspect that roosting occurs within the application area.

Summary

Whilst the presence of quenda were recorded within the application area, there is no habitat which can be considered significant for the species, given their ability to persist across the Swan Coastal Plain. In addition, there is marginal foraging habitat and the application area is not considered to support breeding or roosting by black cockatoo species.

Therefore, clearing within the application area is not considered to be at variance with Principle (b). Based on the fauna species known to utilise the application area, or deemed possible to occur, the removal of vegetation is unlikely to have a significant impact on a habitat for fauna indigenous to Western Australia.

Principle (c) – Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.

No threatened or priority flora species were recorded within the site.

The majority of the threatened and priority flora species identified in the desktop assessment are not considered to occur in the site due to lack of suitable habitat or because they were not recorded during the field survey.

The survey was unable to confirm the presence or absence of annual species *Picris compacta* (EX) and *Angianthus micropodioides* (P3). *Picris compacta* is 'presumed extinct' and has not been recorded since 1941 (WA Herbarium 2021). Whilst these species are annuals and would not have been detectable at the time of the survey, given the highly degraded nature of the site, it is not considered likely that either species occurs within the site. It is also noted that the 2011 surveys were undertaken during the flowering period for *Angianthus micropodioides* and the species was not recorded.

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.

The Emerge survey (2021) confirmed unpublished data that plant communities **Jk** and **SqT** represent the 'subtropical and temperate coastal saltmarsh' TEC. This TEC also represents a state-listed priority ecological community (PEC) (P3) of the same name. Given the clearing will remove a part of the coastal saltmarsh TEC, the clearing has the potential to be at variance to Principle (d).

As per the conservation advice for the coastal saltmarsh TEC (TSSC 2013), this community is classified as 'vulnerable'. Under Section 18 of the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act), impacts to 'vulnerable' communities are not listed as a prohibited action. Given this, impacts to threatened ecological communities that are classified as 'vulnerable' are not considered to be a significant impact. In addition, the community is identified as a state-listed P3 PEC. Priority 3 ecological communities are the lowest priority for survey and/or definition of the community, and evaluation of conservation status. Based on this, the clearing is therefore not having a significant impact on a TEC.

A total of 3.45 ha of the coastal saltmarsh TEC is mapped within the application area. It is noted that the mapping of the TEC includes 2.18 ha of native vegetation, the remainder (1.27 ha) of the TEC includes areas of non-native vegetation, bare areas and water, in accordance with the TEC conservation advice (TSSC 2013). These areas of non-native vegetation would not require a clearing permit. A further 3.03 ha of the coastal saltmarsh TEC occurs outside of the application area and will not be impacted by the proposed clearing works, with the majority of this community consisting of native vegetation. A breakdown of the extent of the TEC within and surrounding the application area is provided below in **Table 3**.

Table 3: Extent of coastal saltmarsh TEC within and surrounding the application area

Location	Native vegetation (ha)	Non-native vegetation (ha)	Total area (ha)
Within application area	2.18	1.27	3.45
Outside application area	2.67	0.36	3.03
Total across the Burswood Peninsula	4.85	1.63	6.48

It is relevant to note that due to the historical contamination of the application area and adjacent foreshore, extensive works are required to remediate the BPRR footprint, regardless of whether the BPRR progresses. This will require impacting the vegetation within the foreshore, where the historic dumping of Swan River dredge material has resulted in extremely low soil pH, and dumped fly ash has contaminated the soil as remediation will require clearing of vegetation. The remediation of these areas will assist in the removal of weeds, which will lead to greater areas available for the restoration of the TEC. In addition, an existing bund located to the west of the adjacent area prevents tidal inundation from entering the application area, restricting the ability of the TEC to colonise this area. Future works associated with the BPRR will result in the removal of this bund, allowing for further tidal inundation and increased habitat for the coastal saltmarsh TEC.

Avoidance of impacts to the TEC has occurred through the initial refinement of the clearing permit application area boundary that occurred in 2011, allowing for greater retention of the plant communities associated with the coastal saltmarsh TEC. A further 3.03 ha of the coastal saltmarsh TEC occurs outside of the application area and will not be impacted by the proposed clearing works. It is important to acknowledge that the TEC located outside of the application area contains a substantially higher proportion of native vegetation than that within the application area. The TEC that will not be impacted by the proposed clearing contains 88% native vegetation, whereas the TEC within the application area only contains 63% native vegetation.

Whilst the TEC is proposed to be impacted by the clearing, the revegetation and rehabilitation proposed to occur within the foreshore will assist in the TEC increasing in size and will likely result in a net gain in the size of the TEC on the Burswood Peninsula. The colonising tendency of the coastal saltmarsh TEC will assist in natural regeneration of the foreshore, with future revegetation undertaken to reduce the time taken to achieve the revegetation of the foreshore. The revegetation will utilise species that form the TEC, which will allow for connection and expansion of the existing TEC. In addition, existing areas within the foreshore that consist of degraded areas with high weed coverage will be restored.

The vegetation across the remainder of the application area is predominantly in a degraded or worse condition, and not aligned to any floristic community types, and therefore not identified as representing any state or federally-listed TECs.

The proposed clearing is potentially at variance to Principle (d) as the coastal saltmarsh TEC has been identified within the application area. However, as per the conservation advice for the community, the proposed clearing would not be considered a significant impact. Further, impacts to the community are mitigated through the avoidance of the TEC within the BPRR design and the proposed revegetation and rehabilitation of the foreshore reserve post-removal of the pre-loading fill. This will allow for the reestablishment of the TEC within the foreshore reserve, mitigating the impact of the initial clearing and avoiding a significant residual impact.

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.

Vegetation complex mapping for the Swan Coastal Plain undertaken by Heddle *et al.* (1980) indicates that the application area occurs within an area mapped as the 'Swan complex'. This complex is described as 'fringing woodland of *Eucalyptus rudis - Melaleuca rhaphiophylla* with localized occurrence of low open forest of *Casuarina obesa* and *Melaleuca cuticularis*'.

The Swan complex has 13.57% of its pre-European extent remaining on the Swan Coastal Plan with 0.82% under formal protection across the Swan Coastal Plain (Government of Western Australia 2019). Within the Town of Victoria Park, 4.70% of the original extent of the Southern River complex is remaining (Government of Western Australia 2019).

The Environmental Protection Authority's (EPA) (2006) *Guidance Statement No. 10. Guidance for the Assessment of Environmental Factors – Level of Assessment for Proposals Affecting Natural Areas Within the System 6 Region and Swan Coastal Plain Portion of the System 1 Region* identified a standard level of native vegetation retention of at least 10% of the pre-clearing extent of the vegetation complex in 'constrained areas' such as the Swan Coastal Plain portion of the Perth Metropolitan Region.

It is acknowledged that whilst over 10% of the Swan complex remains on the Swan Coastal Plain, there is currently very low levels of this complex retained in formal protection.

The majority of the vegetation contained within the application area has been assessed as being in a 'degraded' or 'completely degraded' condition. In addition, there are only scattered occurrences of *Eucalyptus rudis* and *Casuarina obesa* within the application area, due to the historical disturbance that has removed the majority of native vegetation. Due to this degradation, the vegetation therefore does not represent significant vegetation of the Swan complex.

The western, northern and north-eastern portions of the application area are located within a mapped regional ecological linkage (WALGA and PBP 2004). This linkage is associated with the Swan River, and the portions of the application area that have the greatest environmental values linked with the ecological linkage are the foreshore reserve. Noting that the foreshore reserve support non-native vegetation, the restoration of this area post-clearing will increase the environmental values associated with the linkage. Therefore, the clearing is not considered to be impacting any vegetation that is significant in providing an ecological linkage.

Based on the small amount of vegetation proposed to be removed and the degraded condition of the vegetation, the proposed clearing is not considered to be at variance with Principle (e).

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.

The flora surveys undertaken within the application area identified that the plant communities are dominated by wetland species growing in association with the Swan River foreshore. A review of the *Geomorphic Wetlands of the Swan Coastal Plain* dataset (DBCA 2020) indicates that no wetlands are mapped within the application area. One conservation category wetland, the Swan River estuary (unique feature identifier (UFI) 13316) has been mapped adjacent to the western and northern boundary of the application area.

Whilst no wetlands are located within the application area, *A guide to the assessment of applications to clear native vegetation* (DER 2014) specifies that this principle also refers to the buffer area surrounding wetlands. A 50 m buffer is generally applied to conservation category wetlands to afford protection to the wetland values. Given that this buffer extends within the application area, the vegetation within the application area can be considered to be growing in association with a wetland.

A review of the *Hydrography Linear (Hierarchy)* online dataset (DWER 2020) indicates that there are no mapped watercourses within the application area. Two constructed drains were identified within the application area during the surveys. No plant communities were identified as growing in association with these features, and no other environmental values were identified with these features. Therefore, the proposed clearing will not impact any watercourses within the application area.

Based on the application area being located adjacent to the Swan River, the proposed clearing is therefore potentially at variance with Principle (f) as it is impacting vegetation growing in association with a wetland.

Whilst the proposed clearing will remove vegetation growing in association with the Swan River, the watercourse will not be impacted, nor will the native fringing vegetation growing directly adjacent to the Swan River. The clearing will therefore not have a significant impact on the Swan River.

The proposed clearing will not impact any native fringing vegetation growing adjacent to the Swan River. Vegetation growing in association with the watercourse will be impacted through the initial clearing required for the pre-loading of the application area. However, once the pre-loading fill is appropriately settled and can be removed from the foreshore reserve, this area will be revegetated with native species that provide an ecological buffer to the watercourse. This revegetation will enhance the existing buffer, which predominantly consists of non-native vegetation. This revegetation will ensure any minor impacts that occur to the foreshore during pre-loading are appropriately mitigated.

The proposed clearing of vegetation is potentially at variance with Principle (f), given vegetation within the application area is growing in association with the Swan River. However, the application area does not include the riparian edges of the river, and much of the fringing vegetation will remain during the initial clearing. In addition, the foreshore reserve will be revegetated once the pre-loading is settled, enhancing the ecological values of the existing area, which predominantly supports non-native vegetation in completely degraded condition. Therefore, the clearing is unlikely to have a significant residual impact on the wetland and watercourse adjacent to the application area, and therefore impacts is not at variance with Principle (f).

Principle (g) – Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

Examination of broad scale mapping places the application area within the Swan association which consists of alluvial terraces with red earths and duplex soils (Churchward and McArthur 1980). The soil profile within the application area is variable, and includes localised areas of natural soils, which primarily consist of Swan River alluvium (silty clays), with clay and sand present in patches within the eastern portion. In addition to the natural soils, the application area predominantly consists of imported fill including Swan River dredge fill, fly ash and uncontrolled fill (Emerge Associates 2011e). Site investigations determined that there are conditions within the application favourable for the formation of acid sulfate soils (ASS) (Emerge Associates 2011e).

Given the existing soil conditions within the application area, the potential for land degradation will primarily be associated with soil erosion, nutrification and acidification.

An existing CEMP (Emerge Associates 2012) was prepared to support the initial pre-loading that was proposed in 2012, specifically relating to the north-eastern portion of the application area. This CEMP was reviewed and approved as part of the initial development application received to commence initial pre-loading works, and included input from the Department of Environment and Conservation (now the Department of Biodiversity, Conservation and Attractions (DBCA)) and the Swan River Trust. A CEMP applicable to the remainder of the application area will be prepared prior to pre-loading occurring, to ensure that the surrounding environment will not be impacted once clearing works commence within the application.

The proposed clearing of vegetation is unlikely to cause substantial soil erosion within the application area, as the pre-load fill material will be applied immediately once the vegetation and topsoil has been removed which will act to prevent the erosion of the sub-surface soil. Once the pre-load fill is applied to the application area, this material will be secured with double-strength hydro-mulch. This mulch will be monitored during the compression period, and reapplied as required to prevent soil and water erosion. In addition, windbreak fencing and jute matting will be employed to ensure the fill material is appropriately secured and does not enter the Swan River.

The risk of nutrification of surrounding environmental values will be avoided through the retention of fringing vegetation adjacent to the Swan River to allow for the continued ecological function of the riparian vegetation including filtering of water and prevention of bank erosion. Additionally, due to the high permeability of the fill material, regular surface runoff is unlikely to occur. A batter drain will

be constructed at the base of the pre-load fill to capture and slow any surface runoff during heavy rainfall events. This will allow the runoff to infiltrate and prevent any loss of material to the Swan River.

Due to the removal of topsoil required to allow for the importation of pre-loading fill, there is the potential that ASS will be disturbed during the clearing process. The CEMP provides a neutralisation treatment methodology for any ASS disturbed during the construction process, which includes treatment on site to prevent the spread of ASS material. Once the clearing has occurred, the importation of the pre-load fill will reduce the risk of any ASS impacting the surrounding environment, as it will be contained beneath the pre-loading fill material.

Based on the above, the proposed clearing is not at variance to Principle (g).

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.

No conservation areas are located within the application area. The Swan River reserve (as vested in the Swan River Trust under the *Swan and Canning Rivers Management Act 2006*) is located adjacent to the northern and western boundaries of the application area.

The proposed clearing will not impact this conservation area directly, as no vegetation clearing is proposed to occur within the reserve boundary, nor is any fringing river vegetation growing in association with the Swan River proposed to be cleared.

In addition, no indirect impacts to the conservation area will occur as a result of the proposed clearing. As discussed above, there are several management measures that will be put in place during and post-clearing, including the batter drain, jute matting, application of hydro-mulch and windbreak fencing that will prevent any fill material within the site impacting the fringing vegetation.

Weed and dieback management will be controlled through the clearing process, including ensuring that all vehicles are washed down prior to entering the application area and ensuring that no dieback infected mulch, soil or fill is used. Weed management will also be undertaken to ensure that any weed species that establish whilst the fill is consolidating are treated appropriately to prevent any further expansion of weeds within the foreshore reserve, noting there is significant existing weed coverage within the foreshore reserve.

As no conservation areas are located within the application area, and the clearing will not have any indirect impacts to any adjacent conservation areas, the clearing is not at variance with Principle (h).

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.

Deterioration in quality of surface water or underground water can occur as a result of activities that result in sedimentation, increased nutrient levels, changes to pH (through acid sulfate soils), salinity or changes in water regimes of groundwater dependent ecosystems. As outlined above, given the mitigation measures to be employed during clearing (dust suppression and surface stabilisation where required); and the long-term management of exposed surfaces post-clearing (development of the BPRR and revegetation of the foreshore reserve), clearing is not likely to cause a deterioration in water quality. Further, as no riparian vegetation is to be removed as part of the proposed clearing, there will be no changes to the bank morphology that would result in increased soil erosion or sedimentation.

Acid sulfate soil (ASS) risk mapping prepared by DWER (2020) indicates that the entire application area has been identified as having a high to moderate risk of ASS occurring within 3 m of the natural soil surface. Site investigations determined that there are conditions within the application area favourable for the formation of acid sulfate soils (ASS) (Emerge Associates 2011e, 2016a, b). Soil sampling identified that existing acidity containing material and potential ASS (PASS) material was identified within the application area.

Whilst existing acidity and PASS was identified within the application area, the risk associated with ASS can be managed through the construction process, through the treatment of any ASS onsite. The broader development, including installation of stormwater pipes underneath the development, and installation of the sewer, are going to be the principal risks for exposure of ASS, and these are associated with earthworks in areas that are predominantly cleared. The risk of exposing ASS during construction works will be dealt with through the development process separately.

In addition, it is relevant to note that due to the historic dumping of Swan River dredge material has resulted in extremely low soil pH that contain ASS. The remediation of these areas will be required to assist revegetation efforts which will lead to greater areas available for the restoration of the TEC and enhance the environmental values of the foreshore reserve within and adjacent to the BPRR. The remediation will likely result in the exposure of ASS material that will require treatment, to prevent the deterioration of surface or groundwater.

It is therefore unlikely that the proposed clearing will cause ASS or other issues that could cause a deterioration in water quality within or surrounding the application area, and therefore the proposed clearing is not at variance with Principle (i).

Principle (j) – Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

Flood mapping prepared by DWER (2021) indicates that the northern portion of the application area is located within the Swan River floodway, whilst the remainder of the application area (except for a portion within the south) is located within the flood fringe. Given that the application area is located within the flood fringe, it is regularly inundated and therefore proposed clearing may be at variance to Principle (j) by exacerbating the flooding.

In order to support the initial clearing permit application, flood modelling was undertaken by Golder Associates (2012) to determine the proposed impact of the BPRR on flood levels within the BPPR as well as upstream of the application area. The findings of this modelling identified that there is unlikely to be any significant impacts on flood levels within the application area or upstream as a result of the BPRR. In addition, given the depth of fill required to during the pre-loading process, the increase in ground levels will reduce the risk for any flooding within the application area.

Based on the above factors, the proposed removal of native vegetation within the application area will not cause or exacerbate an incidence of flooding. The proposed clearing is not considered to be at variance with Principle (j).

7 SUMMARY AND CLOSING

The application proposes to clear up to 4 ha of native vegetation within a 28.05 ha footprint, and contains:

- Eight native plant communities, ranging in condition from ‘very good’ to ‘completely degraded’.
- A federally listed ‘vulnerable’ threatened ecological community, ‘subtropical and temperate coastal saltmarsh’, which a state-listed priority ecological community (P3) of the same name.
- Habitat for a priority 4 conservation significant species, *Isoodon fusciventer* (quenda).
- 28 potential breeding habitat trees for black cockatoo species. No potentially suitable nesting hollows were identified within the trees.

Overall, the majority of native vegetation within the application area is in ‘completely degraded’ or ‘degraded’ condition.

Emerge believe that the proposed clearing is consistent with the majority of the EP Act Clearing Principles. However, in relation to Principles (d) and (f) the proposed may be considered to be at variance. After the mitigation hierarchy has been applied, including revegetation, the residual

impacts of the clearing are not significant and therefore the clearing is consistent with the ten EP Act Clearing Principles.

A summary of response to clearing principles is provided in **Table 4**.

Table 4: Summary of response to each clearing principle

Clearing principle	Response to clearing permit principle
Principle (a)	The majority of native vegetation within the application area has been assessed as being in a 'degraded' or 'completely degraded' condition. Due to the degraded nature of vegetation, the small size of the clearing, the impact of weeds and that no threatened flora were identified within the application area, the application area is not considered to represent a high level of flora diversity. In addition, due to the degraded nature of vegetation, the vegetation provides only limited fauna habitat. Therefore, this vegetation does not represent a high level of biological diversity.
Principle (b)	Within the application area, no primary food plants known to be foraged by Carnaby's or forest red-tailed black cockatoos were recorded, and only scattered secondary food plants were recorded. This vegetation does not provide significant foraging habitat for these two species. A total of 28 potential breeding habitat trees were recorded within the application area with none of the trees containing hollows potentially suitable for use by black cockatoo species. Therefore, the application area does not currently provide breeding habitat for black cockatoos. Native and non-native trees within the application area have the potential to provide roosting and foraging habitat for black cockatoos. No evidence of black cockatoo roosting activity was observed during the field survey. Therefore, there is no reason to suspect that roosting occurs within the application area.
Principle (c)	No threatened or priority flora species were recorded in the application area, and none are considered likely to occur.
Principle (d)	One federally listed threatened ecological community was identified as occurring within the application area, 'subtropical and temperate coastal saltmarsh'. This community is also identified as a state-listed priority ecological community of the same name. The proposed clearing is therefore at variance with Principle (d). Clearing will directly impact a total of 3.45 ha of the coastal saltmarsh TEC. It is noted that the mapping of the TEC includes 2.18 ha of native vegetation, with the remainder (1.27 ha) of the TEC including areas of non-native vegetation, bare areas and water. The impacts to the TEC will be mitigated through the revegetation and rehabilitation of the foreshore reserve, which will allow for the restoration of the TEC post-clearing, and increasing the size of the TEC through the removal of existing weeds and non-native vegetation.
Principle (e)	Based on the small amount of vegetation proposed to be removed, the degraded condition of the vegetation and it not contributing to an ecological linkage, the vegetation within the application area is not representative of a significant constituent of a vegetation complex.
Principle (f)	The Swan River estuary is located to the west and north of the application area and is identified as a conservation category wetland. Vegetation within the application area is considered to be growing in association with this wetland feature, particularly within the foreshore reserve. Based on the application area being located adjacent to the Swan River, the proposed clearing is therefore at variance with Principle (f) as it is impacting vegetation growing in association with a wetland. Whilst the proposed clearing will remove vegetation growing in association with the Swan River, the watercourse will not be impacted, nor will the native fringing vegetation growing directly adjacent to the Swan River. The clearing will therefore not have a significant impact on the Swan River. Vegetation growing in association with the watercourse will be impacted through the initial clearing required for the pre-loading of the application area. However, once the pre-loading fill is appropriately settled and can be removed from the foreshore reserve, this area will be revegetated with native species that provide an ecological buffer to the watercourse. This revegetation will enhance the existing buffer, which predominantly consists of non-native vegetation. This revegetation will ensure any minor impacts that occur to the foreshore during pre-loading are appropriately mitigated.

Table 4: Summary of response to each clearing principle (continued)

Clearing principle	Response to clearing permit principle
Principle (g)	Given the existing soil conditions within the application area, the potential for land degradation will primarily be associated with soil erosion, nutrification and acidification. Mitigation measures put in place during clearing and construction will ensure that the surrounding environment will not be impacted once clearing works commence within the application. Once the pre-load fill is applied to the application area, this material will be secured with double-strength hydro-mulch, in addition to the installation of windbreak fencing and jute matting to ensure the fill material is appropriately secured and does not enter the Swan River. A batter drain will be constructed at the base of the pre-load fill to capture and slow any surface runoff during heavy rainfall events. This will allow the runoff to infiltrate and prevent any loss of material to the Swan River. Due to the removal of topsoil required to allow for the importation of pre-loading fill, there is the potential that ASS will be disturbed during the clearing process. The CEMP provides a neutralisation treatment methodology for any ASS disturbed during the construction process, which includes treatment on site to prevent the spread of ASS material. The proposed clearing will therefore not cause appreciable land degradation.
Principle (h)	No conservation areas are located within the application area. The Swan River reserve is located adjacent to the northern and western boundaries of the application area. The proposed clearing will not impact this conservation area directly, as no vegetation clearing is proposed to occur within the reserve boundary, nor is any fringing river vegetation growing in association with the Swan River proposed to be cleared. In addition, no indirect impacts to the conservation area will occur as a result of the proposed clearing. As discussed above, there are several management measures that will be put in place during and post-clearing, including the batter drain, jute matting, application of hydro-mulch and windbreak fencing that will prevent any fill material within the site impacting the fringing vegetation. The proposed clearing will therefore not impact any conservation areas.
Principle (i)	The mitigation measures to be employed during clearing (dust suppression and surface stabilisation where required); and the long-term management of exposed surfaces post-clearing (development of the BPRR and revegetation of the foreshore reserve) will ensure clearing is not likely to cause a deterioration in surface or groundwater quality. Further, as no riparian vegetation is to be removed as part of the proposed clearing, there will be no changes to the bank morphology that would result in increased soil erosion or sedimentation. Due to the removal of topsoil required to allow for the importation of pre-loading fill, there is the potential that ASS will be disturbed during the clearing process. The CEMP provides a neutralisation treatment methodology for any ASS disturbed during the construction process, which includes treatment on site to prevent the spread of ASS material. The proposed clearing is therefore not considered to pose a risk in terms of the deterioration of surface or groundwater.
Principle (j)	Flood modelling identified that there is unlikely to be any significant impacts on flood levels within the application area or upstream as a result of the BPRR. In addition, given the depth of fill required to during the pre-loading process, the increase in ground levels will reduce the risk for any flooding within the application area. The proposed clearing is not likely to cause or exacerbate a risk of flooding.

The footprint of the BPRR has been designed to minimise impacts to the environmental values of the surrounding area, through the utilisation of existing degraded areas and avoiding the higher quality vegetation along the Swan River, which also provides the highest quality fauna habitat in the immediate area.

In addition to the above avoidance options that have been utilised, mitigation of the proposed clearing will occur through the revegetation and rehabilitation of the foreshore reserve, which will increase the amount of the coastal saltmarsh TEC present within the application area, as well as increasing functional fauna habitat.

Should you have any questions regarding the content of this letter, please do not hesitate to contact the undersigned.

Yours sincerely
Emerge Associates

ENVIRONMENTAL CONSULTANT

cc: 

Encl: Figure 1: Application Area Location
Figure 2: MRS Zones and Reserves
Figure 3: Plant Communities
Figure 4: Vegetation Condition
Figure 5: Threatened Ecological Communities
Figure 6: Black Cockatoo Habitat Trees
Figure 7: Environmental Features
Figure 8: Wetlands and Waterways
Attachment 1: Signed Clearing Permit Application Form (C2)
Attachment 2: Certificate of Title for Lot 102 on Deposited Plan 72026 and Lot 9101 on Deposited Plan 73845
Attachment 3: Letter of Authority from the Western Australian Turf Club T/A Perth Racing
Attachment 4: Flora, Vegetation and Fauna Assessment (Emerge Associates 2021)
Attachment 5: Photographs of Vegetation Within Application Area

General References

Churchward, H. M. and McArthur, W. M. 1980, *'Landforms and Soils of the Darling System, Western Australia'*, in Department of Conservation and Environment (ed.), *Atlas of Natural Resources Darling System Western Australia*, Department of Conservation and Environment.

Department of Biodiversity Conservation and Attractions (DBCA) 2017, *Fauna Notes - Living with Quenda*, Government of Western Australia.

Department of Biodiversity, Conservation and Attractions (DBCA) 2020, *Geomorphic Wetlands, Swan Coastal Plain (DBCA-019)*.

Department of Environment and Conservation (DEC) 2012, *Fauna profiles, Quenda Isoodon obesulus (Shaw, 1797)*, Perth.

Department of Environment Regulation (DER) 2014, *A guide to the assessment of applications to clear native vegetation under Part V Division 2 of the Environmental Protection Act 1986*, Perth.

Department of the Environment and Energy (DoEE) 2008, *Forest Black Cockatoo (Baudin's Cockatoo Calyptorhynchus baudinii and Forest Redtailed Black Cockatoo Calyptorhynchus banksii naso) Recovery Plan* Canberra, ACT.

Department of Water and Environmental Regulation (DWER) 2020, *Hydrography Linear (Heirarchy) (DWER-031)*.

Emerge Associates 2011a, *Belmont Park - Environmental Setting and Foreshore Ecology*, EP11-023--001 GFT, Version 1.

Emerge Associates 2011b, *Clearing Application - Lots 9000 and 102 Belmont Park Racecourse Redevelopment*, EP11-066(02)—001 GFT, Version A.

Emerge Associates 2011c, *Environmental Assessment and Justification Report - Belmont Park Racecourse Redevelopment*, EP11-023--006, Revision B.

Emerge Associates 2011d, *Foreshore Management Strategy - Belmont Park Racecourse Redevelopment*.

Emerge Associates 2011e, *Preliminary Site Investigation - Belmont Park Racecourse Redevelopment*, EP11-025(01)--001.

Emerge Associates 2012, *Construction Environmental Management Plan: Stage 1 Fill and Preloading - Belmont Park Racecourse Redevelopment*, EP11-066(07)--012C SPG, Version C.

Emerge Associates 2016a, *Detailed Site Investigation - Perth Riverfront Precinct A (West)*, EP12-005(05)--042B SDM, Version B.

Emerge Associates 2016b, *Detailed Site Investigation Perth Riverfront - Precinct B*, EP12-005(06)--044C.

Emerge Associates 2021, *Technical Memorandum - Flora, Vegetation and Fauna Assessment Burswood Peninsula*, EP21-054(02)--001 SKP, Version 1.

Environmental Protection Authority (EPA) 2006, *Guidance Statement No. 10. Level of Assessment for Proposals Affecting Natural Areas Within the System 6 Region and Swan Coastal Plain Portion of the System 1 Region*, Perth.

Environmental Protection Authority (EPA) 2007, *State of the Environment Report: Western Australia 2007*, Perth.

Golder Associates 2012, *Technical Memorandum - Belmont Park Redevelopment: Project Impacts on Flood Levels in Swan River*, 117642087-008-TM-Rev1.

Government of Western Australia 2011, *WA Environmental Offsets Policy*.

Government of Western Australia 2019, *2018 South West Vegetation Complex Statistics. Current as of March 2019*, WA Department of Biodiversity, Conservation and Attractions, Perth.

Hassell 2021, *Open Space Management Strategy - Bursood Peninsula Precinct A*.

Heddle, E. M., Loneragan, O. W. and Havel, J. J. 1980, *'Vegetation Complexes of the Darling System Western Australia'*, in Department of Conservation and Environment (ed.), *Atlas of Natural Resources Darling System Western Australia*, Perth.

Johnstone, R. E., Johnstone, C. and Kirkby, T. 2011, *Black Cockatoos on the Swan Coastal Plain: Carnaby's Cockatoo (Calyptorhynchus latirostris), Baudin's Cockatoo (Calyptorhynchus baudinii) and the Forest Red-tailed Black Cockatoo (Calyptorhynchus banksii naso) on the Swan Coastal Plain (Lancelin–Dunsborough), Western Australia. Studies on distribution, status, breeding, food, movements and historical changes.*, Department of Planning, Western Australia.

Keighery, B. 1994, *Bushland Plant Survey: A guide to plant community survey for the community*, Wildflower Society of WA (Inc), Nedlands.

Peck, A., Barret, G. and Williams, M. 2019, *The 2019 Great Cocky Count: a community-based survey for Carnaby's Black-Cockatoo (Calyptorhynchus latirostris), Baudin's Black-Cockatoo (Calyptorhynchus baudinii) and Forest Red-tailed Black-Cockatoo (Calyptorhynchus banksii naso).* , Birdlife Australia, Floreat, Western Australia.

Threatened Species Scientific Committee (TSSC) 2013, *Environment Protection And Biodiversity Conservation Act 1999 (EPBC Act) (S266b) Conservation Advice For Subtropical And Temperate Coastal Saltmarsh*, Department of Sustainability, Environment, Water, Population and Communities, Canberra.

Western Australian Local Government Association and Perth Biodiversity Project (WALGA and PBP) 2004, *Local Government Biodiversity Planning Guidelines for the Perth Metropolitan Region*, Perth.

Online References

Department of Water and Environmental Regulation 2021, Western Australia floodplain mapping, viewed 3 May 2021, <https://www.water.wa.gov.au/maps-and-data/maps/flood-maps>

Western Australia's Land Information Authority (WALIA) 2021, *Landgate Map Viewer Plus*, viewed August 2020, <https://www0.landgate.wa.gov.au/>