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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 (AREA PERMIT) APPLICATION WITHIN PART OF LOT 3000 ON DEPOSITED PLAN 44066

Overview

Peet Funds Management Limited (the 'applicant') have engaged Emmerge Associates (Emmerge) to provide environment consultancy services to support the development of Burns Beach Estate within the City of Joondalup. Development of the Burns Beach Estate has progressed over several years, with the final stages of subdivision requiring clearing works within part of Lot 3000 on Deposited Plan 44066 to support roadside batters.

The proposed clearing corresponds to the footprint required to construct the batters, with an additional 5 m-wide buffer area around the base of the batter should any additional clearing be required for landform stabilisation. This proposed clearing extends over 1.63 hectares (ha) and is herein referred to as the 'application area'. The location and extent of the application area is shown in **Figure 1**.

The application area represents the greatest extent of clearing that may be required to facilitate the construction of the roadside batters, with the final footprint to be determined based on ongoing liaison between the applicant and relevant agencies as part of attaining development approval for the works. The clearing extent will be reduced should steeper batters be approved, which will limit the batter footprint. The clearing footprint also allows for the construction of a firebreak at the base of the batters, to allow for access within the broader Lot 3000 in the event of a bushfire.

The following letter is provided in support of a clearing permit application (area 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.
- **Attachment 2** – Certificate of Title for Lot 3000 on Deposited Plan 44066 and attached document caveat.
- **Attachment 3** – Letter of Authority from Peet & Co Limited.
- **Attachment 4** – Flora and Vegetation Assessment (Emmerge Associates 2021).
- **Attachment 5** – Targeted Flora Survey (Emmerge Associates 2022).

- **Email attachments** – a shapefile of the application area (GDA 1994) has been submitted to DWER as part of the application.

1 INTRODUCTION AND BACKGROUND

The applicant is intending to progress development of the remainder of the Burns Beach Estate in accordance with the approved subdivisions (WAPC ref: 159851 and 160429), as discussed in **Section 4**. As part of the proposed works, a development application is being submitted concurrently with this clearing permit application to construct batters to support the construction of roads within the subdivision areas. Similar clearing works are proposed to be undertaken adjacent to the southern boundary in October 2022, in accordance with clearing permit CPS 9620/1, which was approved to clear 0.46 ha of native vegetation for the purpose of road batters, the location of which is shown in **Figure 1**.

The application area is reserved for ‘parks and recreation’ under the *Metropolitan Region Scheme* and the City of Joondalup *Local Planning Scheme No. 3*. The application area is located within Bush Forever Site No. 322 (Burns Beach Bushland), which extends over a total area of 368 ha to the west, north and east. The application area is bounded by remnant vegetation within Bush Forever Site No. 322 to the west, north and east, a dual use pedestrian path to the west and remnant vegetation and bare areas to the south.

The applicant is seeking to clear 1.50 ha of native vegetation within Lot 3000, which extends over approximately 144 ha. Peet & Co Limited own Lot 3000 and have provided a letter of authority for the applicant to undertake the proposed clearing (**Attachment 3**). Once development of the Burns Beach Estate is complete, Lot 3000 will be transferred to the Western Australian Planning Commission as per document caveat J505437 attached to the certificate of title. In the long-term, the Department of Biodiversity, Conservation and Attractions (DBCA) will manage Lot 3000.

A flora and vegetation assessment was undertaken within the application area in December 2021 (Emerge Associates 2021) to the standard required of a ‘reconnaissance’ flora survey. This survey was undertaken with reference to the Environmental Protection Authority’s (EPA’s) relevant technical guidance documents (EPA 2016). The flora and vegetation assessment is provided as **Attachment 4**, and included the application area as part of a larger survey area. A follow-up targeted flora survey was undertaken in September 2022 and is provided as **Attachment 5**.

2 SUMMARY OF ENVIRONMENTAL CONDITIONS

2.1 Historical clearing

Review of historical images available from 1953 onwards shows that the majority of the application area supports remnant native vegetation. Relatively minor clearing of parts of this vegetation appears to have occurred on occasion associated with the construction of a firebreak and other informal access tracks (WALIA 2022).

2.2 Flora and vegetation values

Two native plant communities, **ArSgXp** and **EgMsLm** occur within the site. **ArSgXp** extends across the majority of the application area (1.41 ha), with **EgMsLm** present in the north-western portion, extending across 0.07 ha. A small portion of the application area (0.02 ha) includes areas of revegetation associated with the construction of a pathway outside of the Burns Beach Estate. The remainder (0.13 ha) comprises non-native vegetation or bare ground associated with a firebreak and informal tracks (Emerge Associates 2021). The extent of the plant communities within the application area is shown in **Figure 2** and descriptions of the communities are provided below in **Table 1**.

Table 1: Description and extent of plant communities within the application area (Emerge Associates 2021)

Plant community	Description	Area (ha)
ArSgXp	Occasional <i>Eucalyptus gomphocephala</i> over closed shrubland <i>Acacia rostellifera</i> , <i>Spyridium globulosum</i> , <i>Xanthorrhoea preissii</i> and <i>Alyogyne huegelii</i> over low open shrubland <i>Phyllanthus calycinus</i> over herbland * <i>Trachyandra divaricata</i> , * <i>Crassula glomerata</i> and <i>Clematis linearifolia</i> over open grassland <i>Austrostipa</i> spp. and * <i>Lagurus ovatus</i> (Plate 1).	1.41
EgMsLm	Open woodland <i>Eucalyptus gomphocephala</i> over shrubland <i>Melaleuca systema</i> , <i>Olearia axillaris</i> , <i>Acacia lasiocarpa</i> and <i>Hibbertia</i> spp. over herbland <i>Lomandra maritima</i> , <i>Desmocladius flexuosus</i> and <i>Opercularia vaginata</i> over scattered grasses <i>Poa ?porphyroclados</i> (Plate 2).	0.07
Revegetation	Recent revegetation over jute matting comprising a low open shrubland/sedgeland with <i>Acacia rostellifera</i> , <i>Olearia axillaris</i> , <i>Scaevola crassifolia</i> and <i>Lepidosperma gladiatum</i> (Plate 3).	0.02
Non-native vegetation or bare ground (non-vegetated)	Areas of bare ground such as tracks (Plate 4).	0.13

Plate 1: Plant community **ArSgXp** in 'very good' condition



Plate 2: Plant community **EgMsLm** in 'very good' condition



Plate 3: Plant community **revegetation** (no condition category applied)

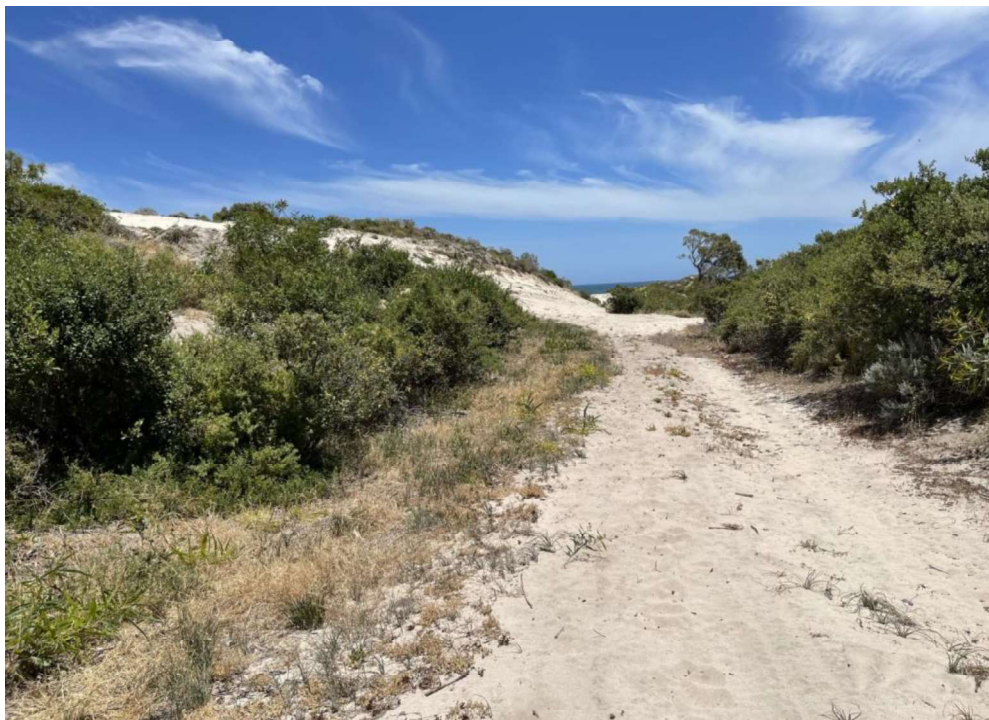


Plate 4: Non-native vegetation or bare ground in 'completely degraded' condition (right)

The **ArSgXp** and **EgMsLm** plant communities are present within the application area in 'very good' condition as mapped using the methodology from Keighery (1994). The **revegetation** plant community was not assigned a condition category and the non-native vegetation was mapped as being in 'completely degraded' condition. The vegetation condition shown in **Figure 3**.

One threatened ecological community (TEC), the 'tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plain' was identified in two individual patches in the north-western portion of the application area, extending over 0.43 ha and including both the **ArSgXp** and **EgMsLm** plant communities. The vegetation that is representative of the TEC also represents the state-listed priority ecological community (PEC) of the same name.

Plant community **ArSgXp** was determined to represent floristic community type (FCT) 24 'northern Spearwood shrublands and woodlands'. FCT 24 is synonymous with the state-listed priority ecological community (PEC) 'SCP24: northern Spearwood shrublands and woodlands' (P3). Plant community **EgMsLm** was determined to represent FCT 29b 'acacia shrublands on taller dunes, southern Swan Coastal Plain'. FCT 29b is synonymous with the state-listed PEC 'SCP29b acacia shrublands on taller dunes, southern Swan Coastal Plain' (P3).

There is limited formal advice for the SCP24 and SCP29b PECs so it is unclear whether a condition threshold should be applied when identifying their presence. DBCA has historically applied 'good' condition as a threshold for the identification of conservation significant vegetation. Using good condition as a basis for identification, the **ArSgXp** vegetation is considered to represent SCP24 (total of 1.41 ha) and the **EgMsLm** vegetation is considered to represent SCP29b (total of 0.07 ha).

No threatened or priority flora species were recorded in the application area. 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 Emerge Associates (2021) field survey. However, the presence or absence of three priority flora species: *Conostylis bracteata* (P3), *Conostylis pauciflora* subsp. *euryrhipis* (P4) and *Conostylis pauciflora* subsp. *pauciflora* (P4), could not be confirmed during the initial Emerge Associates (2021) field survey as it was undertaken outside of the flowering period for these species. A subsequent targeted survey undertaken in September 2022 was completed confirmed the absence of these three species, in addition to any priority species within the application area (Emerge Associates 2022).

2.3 Fauna values

No site-specific fauna assessments have been undertaken within the application area. Given the vegetation present within the application area is in 'very good' condition and as such comprises intact native bushland, the vegetation is expected to provide habitat for native fauna. In particular, invertebrates, birds and volant mammals and smaller ground-dwelling vertebrate fauna species.

A desktop review of NatureMap (DBCA 2022) indicated that no records of conservation significant fauna species have occurred within the application area. Based on the NatureMap results, 50 conservation significant taxa (threatened or priority fauna species as listed under the *Biodiversity Conservation Act 2016*) have the potential to occur within 10 km of the application area.

A likelihood of occurrence assessment was undertaken for the conservation significant species, based on known habitat preferences and the habitat present within the application area. Eight species are considered to have the potential to occur within the application area:

- *Apus pacificus* (pacific swift)
- *Falco peregrinus* (peregrine falcon)
- *Pandion cristatus* (osprey)
- *Zanda latirostris* (Carnaby's cockatoo)
- *Idiosoma sigillatum* (Swan Coastal Plain shield-backed trapdoor spider)
- *Isoodon fusciventer* (quenda)
- *Notamacropus irma* (western brush wallaby)
- *Neelaps calonotos* (black-striped snake).

During the flora and vegetation assessment no conservation significant fauna species were recorded within the application area. Common and widespread avifauna species were noted to be present within the application area and broader area. An assessment of the suitability of the vegetation within the application area for conservation significant species is provided in Section 6, in response to principle (b).

3 APPLICATION OF MITIGATION HIERARCHY

In accordance with *A guide to the assessment of applications to clear native vegetation* (DER 2014), the impact mitigation hierarchy has been applied in order to ensure the environmental impact from the proposed clearing is minimised.

3.1 Avoidance

The proposed batters have been designed to minimise the clearing required to facilitate the safe construction of the road whilst allowing for a minor grade into the surrounding vegetation. This grade will assist in the revegetation of the batters post-construction, and will allow for natural recruitment of vegetation from the adjacent Bush Forever Site No. 322. Where possible, further avoidance of vegetation within the application area will occur where practicable during clearing, particularly if steeper batters are the preferred outcome of the regulatory agencies assessing the development application.

3.2 Minimisation

Where avoidance is not possible, mitigation measures will be undertaken to minimise the duration, intensity and/or extent of impacts native vegetation (including direct, indirect and cumulative impacts).

Prior to the commencement of revegetation works within the application area, minimisation of clearing impacts will occur through the installation of jute matting and windbreak fencing (as required) to prevent erosion of soil impacting the adjacent 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. A pre-clearing fauna inspection will occur within the application area, to ensure that no fauna values are impacted during the proposed clearing works.

3.3 Rehabilitation

Rehabilitation aims to return specific values to an area following exposure to impacts that cannot be completely avoided or minimised. Rehabilitation of the entire application area is proposed, and will aim to restore the maximum environmental value that is reasonably practicable through revegetation, control of weeds, disease and feral animals.

It is expected that a rehabilitation plan will be required to be prepared through conditions imposed on the clearing permit¹. Regardless of whether a condition is imposed on the clearing permit, the applicant has committed to preparing a rehabilitation plan to ensure that impacts to the values of Bush Forever Site No. 322 are mitigated over the long-term, as per the conditions of the development approval, as discussed in **Section 4**.

The rehabilitation plan will be prepared to DBCA specifications, and will include (but not limited to) information pertaining to landform stabilisation, weed control, hygiene, revegetation methods, appropriate species and densities and completion criteria.

Stabilisation and revegetation of the batters will be proposed to rehabilitate the entire application area, including the existing track which does not support any vegetation, resulting in a net increase in vegetation within the application area. The goal of the revegetation will be to re-establish the same plant communities to the batters as is proposed to be cleared, including many of the species that currently occur in the application area and the 'tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plain' TEC (tuart woodland TEC).

The rehabilitation of the batters will act to restore flora and fauna habitat values of cleared areas, and integrate the application area with the broader values of Bush Forever Site No. 322. Due to the small extent of the application area, and the intensive revegetation effort that will be proposed, successful rehabilitation outcomes are considered likely to be achieved.

3.4 Offset

Environmental offsets address residual significant environmental impacts that remain after on-site avoidance, minimisation and rehabilitation measures have been applied. 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 applicant has applied the first three steps in the mitigation hierarchy; 'avoid', 'minimise' and 'rehabilitate' in the construction of the batters to reduce the environmental impact and therefore the residual impacts. The requirement for environmental offsets is therefore considered unnecessary, as the project will have no significant residual impacts. The application of the mitigation hierarchy for the proposed clearing has been demonstrated under each of the ten clearing principles, where applicable, in **Section 5** below.

4 PLANNING INSTRUMENTS AND OTHER ENVIRONMENTAL APPROVALS

Development approval has been received from the Western Australian Planning Commission (WAPC ref: 34-50131-7) to construct the roadside batters. Prior to works commencing, Condition 2 of the

Revegetation, environmental management plan or similar.

development approval requires the preparation of an environmental management plan, whilst Condition 3 requires the preparation of a revegetation plan.

No further planning approvals are required.

Condition 10 of the subdivision approval (WAPC ref: 159851) specifically prohibits any subdivisional works resulting in impacts to vegetation within Bush Forever Site No. 322. Based on this, the proposed clearing is not exempt under Clause 9 of Schedule 6 of the *Environmental Protection Act 1986* and a clearing permit is required.

Lot 3000 is currently owned by Peet & Co Limited, with a caveat attached to the certificate of title that Bush Forever Site No. 322 will be transferred to the Western Australian Planning Commission once development within the Burns Beach Estate is complete. It is understood that DBCA will manage Lot 3000 in the long-term.

5 PROPOSED CLEARING OF NATIVE VEGETATION

As outlined above, the proposed clearing is sought to facilitate the construction of roadside batters adjacent to the final stages of the Burns Beach Estate. The proposed clearing will require the removal of 1.50 ha of native vegetation, predominantly in 'very good' condition, and minor areas of revegetation.

The remainder of the application area (0.13 ha) supports non-native vegetation or bare ground.

6 RESPONSE TO EP ACT CLEARING PRINCIPLES

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, consideration and responses to the ten clearing principles is provided in the following sections.

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

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 community **ArSgXp** was determined to represent FCT 24, in addition to representing the 'northern Spearwood shrublands and woodlands' PEC. Plant community **EgMsLm** was determined to represent FCT 29b, in addition to representing the 'acacia shrublands on taller dunes, southern Swan Coastal Plain' PEC.

The species recorded within the application area are common species that are widespread through the Quindalup Dunes, with no locally significant flora species recorded.

Due to the small size of the application area and that no threatened or priority flora are likely to occur, the application area is not considered to represent a high level of floral diversity. In addition, due to the small extent of clearing, the vegetation provides only limited fauna habitat, which will be replaced as part of the revegetation works of the batters.

Therefore, the vegetation within the application area does not comprise a high level of biological diversity, and clearing is not at variance to principle (a). In addition, the proposed rehabilitation of the application area will result in re-establishment of existing vegetation and associated biodiversity.

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.

Due to the small extent of clearing, the application area does not provide significant habitat for meta-populations of fauna, and provides only limited habitat for threatened fauna species. In addition, prior to clearing a fauna inspection will be undertaken within the application area, to ensure that no fauna is present.

A desktop review of NatureMap (DBCA 2022) indicated that eight conservation significant species could occur within the application area based on the vegetation present within the application area as part of a larger range.

Apus pacificus (pacific swift), *Falco peregrinus* (peregrine falcon) and *Pandion cristatus* (osprey) may opportunistically fly over or utilise habitat within the application area as part of a much larger home range. However, the application area is considered unlikely to provide important habitat for these species, particularly the peregrine falcon and osprey, given the lack of trees and cliffs that are utilised by these species.

Limited foraging habitat for *Zanda latirostris* (Carnaby's cockatoo) is present within the application area. However, this is limited to *Acacia saligna*, *Eucalyptus gomphocephala* and *Xanthorrhoea preissii*, which are secondary food plants that do not represent an important food source for Carnaby's cockatoo. The presence of significant areas of native vegetation containing primary food plants to the north and west of the application area, including *Banksia* spp. provides higher quality foraging habitat for Carnaby's cockatoo. In addition, there are no black cockatoo habitat trees (DSEWPaC 2012) present within the application area.

Vegetation within the application area may provide habitat for *Idiosoma sigillatum* (Swan Coastal Plain shield-backed trapdoor spider). Given that this species is widespread on the Swan Coastal Plain, the small extent of vegetation within the application area and the larger areas of vegetation to the north and east, the proposed clearing will be unlikely to impact this species.

Vegetation within the application area may provide habitat for *Isoodon fusciventer* (quenda), *Notamacropus irma* (western brush wallaby) and *Neelaps calonotos* (black-striped snake). However, these species are only likely to utilise the application area as part of a larger home range, including contiguous vegetation to the north and east, and due to the small size of the application area it is unlikely that a population would reside in the application area.

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. In addition, the proposed rehabilitation of the application area will result in re-establishment of existing fauna habitat values.

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 application area, and none are considered likely to occur (Emerge Associates 2021, 2022).

As no rare flora are present, or are considered to possibly occur within the application area, the proposed clearing is not at variance to Principle (c).

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.

One threatened ecological community (TEC) is present within the north-western portion of the application area, the 'tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plain' TEC (tuart woodland TEC). The tuart woodland TEC extends over 0.43 ha of the site.

The tuart woodland TEC within the site is associated with two small stands of tuart trees within the application area (0.02 ha). The remainder of the TEC is associated with the 30 m buffer applied to the tuart canopy within the application area, in addition to tuart trees located outside of the application area, as per the approved conservation advice for the tuart woodland TEC (DoEE 2019).

Whilst the proposed clearing will result in the removal of 0.43 ha of the tuart woodland TEC, this TEC will be restored through revegetation of the batters post-clearing. This will allow for a minimum of 0.43 ha of tuart woodland TEC to be restored within the application area, with the potential to increase planting densities of the tuarts to increase the extent of the tuart woodland TEC.

Given the presence of the tuart woodland TEC within the application area, the proposed clearing may be at variance to Principle (d). However, based on the restoration of the batters with native species, including tuart trees, at least 0.43 ha of the tuart woodland TEC will be restored within the application area, and there is the potential that there will be a net increase in the extent of tuart woodland TEC within the application area, dependent on final planting mixes. As such, clearing is unlikely to have a significant residual impact on the tuart woodland TEC.

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 Heddlé *et al.* (1980) indicates that the application area occurs within an area mapped as the ‘Quindalup complex’.

The Quindalup complex has 60.49% of its pre-European extent remaining on the Swan Coastal Plain with 9.84% under formal protection across the Swan Coastal Plain (Government of Western Australia 2019). Within the City of Joondalup, 13.05% of the original extent of the Quindalup 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.

There are extensive areas of Quindalup complex vegetation remaining on the Swan Coastal Plain, with close to 10% of the complex under formal protection. In addition, the proposed clearing of approximately 1.50 ha of vegetation represents 0.003% of the complex remaining of the Swan Coastal Plain. Therefore, the vegetation within the application area is not considered to be a significant remnant of the Quindalup complex.

Based on the small amount of vegetation proposed to be removed, 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.

A review of the *Geomorphic Wetlands of the Swan Coastal Plain* dataset (DBCA 2021) indicates that no wetlands are mapped within the application area. A review of the *Hydrography Linear (Hierarchy)* online dataset (DWER 2020) indicates that there are no mapped watercourses within the application area. In addition, the flora and vegetation survey did not identify any wetland or riparian vegetation within the application area (Emerge Associates 2021).

Therefore, the clearing 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 physiographic mapping places the application area within the Quindalup Dunes which comprises calcareous sands (Gozzard 2011). Given the soil conditions within the application area, the key risk for land degradation is soil erosion. This is supported by soil landscape quality mapping which indicates that the majority of the application area is subject to a 50-70% risk of high to extreme wind erosion risk within the application area (DPIRD 2019).

The proposed clearing of vegetation is unlikely to cause substantial wind erosion within the application area, given the small amount of vegetation to be cleared, and mitigation measures to be employed during clearing, including dust suppression and temporary surface stabilisation where required. Once clearing has occurred and the batters have been established, they will be stabilised and revegetated in line with the rehabilitation plan which will be prepared to support the proposed clearing. Revegetation will occur with native species that reduce erosion within dune environments,

and will include the application of jute mapping to secure the batters whilst vegetation is establishing.

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.

The application area is located within Bush Forever Site No. 322 (Burns Beach Bushland). Bush Forever Site No. 322 includes vegetation within the application area and extends to the west, north and east.

The revegetation works that will be implemented post-construction of the batters will allow for the restoration of all vegetation that is required to be cleared. As part of the revegetation of the batters, ongoing weed management will be undertaken to ensure that no indirect impacts occur to the adjacent vegetation through the introduction of weeds. In addition, whilst the revegetation is establishing, jute matting will be used to stabilise the landform, to prevent the erosion of soil material into the adjacent conservation site.

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 during clearing or revegetation works.

The proposed clearing may be at variance to Principle (h) given the location of the application area within Bush Forever Site No. 322. However, based on the small size of the application area, the impact mitigation measures that will be implemented through the clearing process (including revegetation of the application area) the clearing is unlikely to have a significant residual impact on the surrounding conservation area.

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. Given that there are no surface water features within or adjacent to the application area, the proposed clearing only has the potential to impact groundwater.

Acid sulfate soil (ASS) risk mapping prepared by DWER (2017) indicates that the application area has no known risk of ASS occurring within 3 m of the natural soil surface. Therefore, there is no risk of acidification of soils within the application area as part of the proposed clearing.

Water quality mapping taken from the *Perth Groundwater Map* (DWER 2021b) indicates that groundwater salinity within the application area is 500-1000 mg/L, with a depth to groundwater of between 10 - 35 m. Given the small size of the application area and the depth to groundwater, it is unlikely that the proposed clearing will impact groundwater quality through a change in salinity. In addition, as no potential contaminants will be brought into the application area during the clearing process, the proposed clearing is unlikely to cause a deterioration in the quality of 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 (2021a) indicates that the application area is not located within a floodplain area. In addition, no wetlands or water features are located within the application area. Due to the small amount of vegetation proposes to be removed and the significant depth to

groundwater (10 - 35 m), the proposed clearing is unlikely to cause an increase in groundwater levels that would increase the risk of flooding.

Based on the above, 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 1.50 ha of native vegetation within a 1.63 ha footprint, and contains:

- Two native plant communities, **ArSgXp** and **EgMsLm**, present in 'very good' condition, and **revegetation** areas, which were not assigned a condition category.
- One threatened ecological community, the 'tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plain' TEC and two priority ecological communities 'SCP24: northern Spearwood shrublands and woodlands' (P3) and 'SCP29b acacia shrublands on taller dunes, southern Swan Coastal Plain' (P3).
- Limited potential habitat for eight conservation significant fauna species.
- Vegetation within Bush Forever Site No. 322

The proposed clearing is considered to be consistent with the majority of the EP Act Clearing Principles. It is noted that the proposed clearing may not be consistent with Principles (d) and (h). However, based on the small amount of clearing, and the proposed impact mitigation measures (including revegetation of the application area that will occur post-construction of the batters), the clearing is not considered to have a significant impact on the tuart woodland TEC or Bush Forever Site No. 322.

The applicant has applied the impact mitigation hierarchy through the batter design process, and will continue through the construction of batters including further minimisation of clearing where possible. A rehabilitation plan will be prepared and implemented by the applicant to mitigate impacts of clearing and restore flora and fauna habitat values across the batters. This rehabilitation will allow for the application area to provide contiguous habitat values to the broader Bush Forever Site No. 322, and ensure that no significant residual impacts occur as part of the proposed clearing.

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

Yours sincerely
Emerge Associates



Sean Moylan

LEAD ENVIRONMENTAL CONSULTANT

cc: Kris Tilaka

Encl: Figure 1: Application Area Location
Figure 2: Plant Communities
Figure 3: Vegetation Condition
Figure 4: Threatened and Priority Ecological Communities

- Attachment 1: Signed Clearing Permit Application Form
- Attachment 2: Certificate of Title for Lot 3000 on Deposited Plan 44066
- Attachment 3: Letter of Authority from Peet and Co.
- Attachment 4: Flora, Vegetation and Fauna Assessment (Emerge Associates 2021)
- Attachment 5: Targeted Flora Survey (Emerge Associates 2022)

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