EPBC Act referral



| Title of proposal 2020/8861 - Alkimos Coastal Node | | | | |
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| Section 1 | | | | |
| Summary of your proposed action | | | | |
| 1.1 Project industry type Residential Development | | | | |
| 1.2 Provide a detailed description of the proposed action, including all proposed activities | | | | |
| The Western Australian Land Authority (trading as Development WA) has prepared the Alkimos Coastal Node Structure Plan (SP) (Attachment 1) which connects the greater Alkimos community to its regional beach. The Alkimos Coastal Node will include high density urban form regional beach facilities and significant community infrastructure in the foreshore including a surf life saving club and open space for community events. | | | | |
| Lot 9001 (Referral Area) forms part of the Alkimos Coastal Node and is owned by the Western Australian Water Corporation. The Western Australian Land Authority will be taking the action on behalf of the Western Australian Water Corporation. Lot 9001 is divided into two areas based on future land use as follows (Attachment 2): - Area A is zoned as a Public Purpose Reserve and has been set aside for the future expansion of the Alkimos Waste Water Treatment Plant (WWTP) and future Alkimos Desalination Plant. Part of Area A has been historically cleared. Future expansion of the Alkimos WWTP infrastructure may require vegetation clearing in Area A, the extent of this clearing is not known at this time. As a worst case scenario, this Referral considers that all | | | | |
| of the vegetation in Area A will be cleared as part of the action; and - Area B is zoned Urban and will be developed for residential and commercial purposes in accordance with the approved Alkimos Coastal Node SP. The central section of Area B has been historically cleared. | | | | |
| Referral Areas A and B contain 8.33ha of Carnaby's Black Cockatoo foraging habitat, four habitat trees (Tuart that have a DBH greater than 50cm) and 3.68ha of Tuart Woodland Threatened Ecological Community (Tuart TEC). | | | | |
| The proposed action is to clear 61.64ha and develop Lot 9001 in accordance with the Alkimos Coastal Node SP. | | | | |
| The impact of the proposed action will result in: - clearing of 2.819ha of foraging habitat (0.966ha is low quality and 1.853ha of high quality) in Area A (Attachment 3); and | | | | |
| - clearing of 3.412ha of foraging habitat (2.557ha of low quality and 0.855ha of high quality), four habitat trees and 3.68 ha of Tuart Woodland TEC in Area B (Attachments 3 and 4). | | | | |
| The avoidance footprint in Area B contains 2.102ha of Black Cockatoo foraging habitat (1.853ha high quality and 0.966ha low quality) which will be retained in conservation Public Open Space and Regional Open Space (Attachment 3). | | | | |
| The impact of the proposed action is not considered to be significant in terms of the recovery and survival of Carnaby's Black Cockatoo and Tuart Woodland TEC. | | | | |
| 1.3 What is the extent and location of your proposed action? See Appendix B | | | | |
| 1.5 Provide a brief physical description of the property on which the proposed action will take place and the location of the proposed action (e.g. proximity to major towns, or for off-shore actions, shortest distance to mainland) | | | | |
| The Referral Area is situated within the greater Alkimos-Eglinton district, approximately 40km north west of the Perth Central Business District (CBD) within the City of Wanneroo. The land is bordered by the Indian Ocean to the west, the Water Corporation's Alkimos Waste Water Treatment Plant (WWTP) and associated buffer to the east, Parks and Recreation reserve to the north, and the future residential development of the South Alkimos Local Structure Plan area to the south. | | | | |
| 1.6 What is the size of the proposed action area development footprint (or work area) including disturbance footprint and avoidance footprint (if relevant)? | | | | |
| The Referral Area is approximately 61.64ha. | | | | |
| 1.7 Proposed action location | | | | |
| Lot - Lot 9001 on PO69492 | | | | |



| 1.8 Primary jurisdiction | Western Aust | ralia | | | |
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| 1.9 Has the person proposing to take the action received any Australian Government grant funding to undertake this project | | | | | |
| Yes 🗹 No | | | | | |
| 1.10 Is the proposed action subject to local government plannin | g approval? | | | | |
| 🗋 Yes 🗹 No | | | | | |
| 1.11 Provide an estimated start and estimated end date for the proposed actionStart Date01/06/2021End Date01/01/2035 | | | | | |
| 1.12 Provide details of the context, planning framework and stat | e and/or local G | overnment requirements | | | |
| Area A is reserved for "Public Purposes" under the Perth Me under the MRS for the Alkimos WWTP, ocean outfall site and t "Urban Development" under the Perth MRS and City of Wanne | etropolitan Regic iuture Alkimos D eroo District Plar | on Scheme (MRS) (Water Authority of WA) Desalination Plant. Area B is zoned "Urban" and nning Scheme No. 2. | | | |
| The Alkimos Eglinton District Structure Plan (AEDSP) was a Australian Planning Commission (WAPC) in 2010. The AEDSF the more detailed local structure planning over the lifetime of th 'Coastal Node Activity Centre' uses over the Referral area and reserves in accordance with the MRS. | pproved by the P provides a bro ne project. The a reflects the 'Re | City of Wanneroo and endorsed by the Western ad district level strategic planning framework for agreed AEDSP nominates mix of 'Urban' and gional Open Space' and 'Public Purpose' | | | |
| The Alkimos Coastal Node SP is consistent with the intent of the adopted AEDSP, with the general arrangement of land uses and infrastructure as depicted on the AEDSP Map. The SP was approved by the City of Wanneroo and endorsed by the WAPC in December 2018 (Attachment 1). | | | | | |
| 1.13 Describe any public consultation that has been, is being or will be undertaken, including with Indigenous stakeholders | | | | | |
| There have been significant public consultation periods, including with indigenous stakeholders during the AEDSP and Alkimos Coastal Node SP planning processes. | | | | | |
| In addition, the Alkimos Eglinton MRS Amendment 1029/33 was subject to Environmental Review under the Environmental Protection Act (1986) (EP Act) that included a Public Consultation process. | | | | | |
| 1.14 Describe any environmental impact assessments that have been or will be carried out under Commonwealth, State or Territory legislation including relevant impacts of the project | | | | | |
| The Alkimos Eglinton MRS Amendment 1029/33 (which included the Referral Area) was referred to the Environmental Protection Authority (EPA) by the WAPC in December 2000. The EPA determined that Amendment 1029/33 should be formally assessed in accordance with Part IV of the Environmental Protection Act 1986 (EP Act). | | | | | |
| The EPA assessed a range of relevant environmental factors during the Environmental Review of MRS Amendment 1029/33 including: - Vegetation and flora; - Fauna (including black cockatoos): | | | | | |
| Odour (wastewater treatment plant) (deferred factor); Geoheritage; Abarianal baritage (deferred factor); and | | | | | |
| Aboriginal heritage (deferred factor); and Risk (groundwater treatment plant). | | | | | |
| The Amendment 1029/33 was approved by the Minister for the Environment and Ministerial Statement 722 was issued on 24 April 2006. The Alkimos Coastal Node SP has been prepared in accordance with the conditions set out in Ministerial Statement 722. | | | | | |
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| 1.15 Is this action part of a staged development (or a component of a larger project)? | | | | |
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| 🗋 Yes 🗹 No | | | | |
| 1.16 Is the proposed action related to other actions or proposals in the region? | | | | |
| Yes No | | | | |
| 1.16.1 Identify the nature/scope and location of the related action (Including under the relevant legislation) | | | | |
| The Western Australian Water Corporation has submitted an EPBC Referral for the future Alkimos Desalination Plant. The Referral 2019/8453 was accepted by the EPBC Gateway on 31 July 2019. A decision on the Referral was not determined at | | | | |

the time of submitting this Referral.



| Section 2 Matters of national environmental significance 2.1 Is the proposed action likely to have any direct or indirect impact on the values of any World Heritage properties? Yes No 2.2.1 Is the proposed action likely to have any direct or indirect impact on the values of any National Heritage places? Yes No 2.3 Is the proposed action likely to have any direct or indirect impact on the ecological character of a Ramsar wetland? Yes No 2.4 Is the proposed action likely to have any direct or indirect impact on the members of any listed species or any threatened ecological community, or their habitat? Yes No Species or threatened ecological community Carnaby's Black Cockatoo (Calyptorhynchus latirostris) Endangered Impact The impact of taking the action on Carnaby's Black Cockatoo will result in the following: - Clearing of 0.966ha of low quality foraging habitat and clearing of 1.853ha of high quality foraging habitat from Area A (Attachment 3); and - Clearing of 2.557ha of low quality foraging habitat, clearing of 0.855ha of high quality foraging habitat from habitat Tuart trees (Attachment 3); There was no evidence of roosting sites recorded in the Referral Area (PGV Environmental, 2018). The known closest roosting site is 4km to the north east in Pipidinny Swamp (Johnstone and Kirkby, 2011). There was no evidence of nesting sites recorded in the Referral Area (PGV Environmental, 2018). The structure an | Note. PDF may contain neids not relevant to your application. These neids will appear of | ank of unlicked. Please disregard these fields. |
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| nabitat Tuart trees (Attachment 3). There was no evidence of roosting sites recorded in the Referral Area (PGV Environmental, 2018). The known closest roosting site is 4km to the north east in Pipidinny Swamp (Johnstone and Kirkby, 2011). There was no evidence of nesting sites recorded in the Referral Area (PGV Environmental, 2018). The structure and form of the Tuarts in the Referral Area are typically stunted in height and tend to not form hollows (Banks,2008). It is highly unlikely that the species would be able to nest on the Referral Area. The Referral Area is not known to be a nesting site(Johnstone and Kirkby, 2011). Approximately 2.102ha of foraging habitat (1.137ha of low quality and 0.965ha high quality) will be retained in conservation open space and Parks and Recreation in Area B (Attachment 3). Implementing the Alkimos Coastal Node SP will not have a significant impact on Carnaby's Black Cockatoo due to the sma area of good quality foraging habitat 2.708ha (Area A -1.853ha and Area B - 0.855ha) that will be cleared (Attachment 3). The Referral Area is not used for roosting or nesting currently and is unlikely to be used in the future due to the stature of the trees not being suitable. There areas of Bush Forever sites within 5km containing abundant foraging and potential roosting and breeding | The impact of taking the action on Carnaby's Black Cockatoo will result - Clearing of 0.966ha of low quality foraging habitat and clear Area A (Attachment 3); and - Clearing of 2.557ha of low quality foraging habitat, clearing | t in the following: tring of 1.853ha of high quality foraging habitat from of 0.855ha of high quality foraging habitat and four |
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| Approximately 2.102ha of foraging habitat (1.137ha of low quality and 0.965ha high quality) will be retained in conservation open space and Parks and Recreation in Area B (Attachment 3). Implementing the Alkimos Coastal Node SP will not have a significant impact on Carnaby's Black Cockatoo due to the sma area of good quality foraging habitat 2.708ha (Area A -1.853ha and Area B - 0.855ha) that will be cleared (Attachment 3). The Referral Area is not used for roosting or nesting currently and is unlikely to be used in the future due to the stature of the trees not being suitable. There are large areas of Bush Forever sites within 5km containing abundant foraging and potential roosting and breeding | There was no evidence of nesting sites recorded in the Referral Area (the Tuarts in the Referral Area are typically stunted in height and tend to that the species would be able to nest on the Referral Area. The Referral and Kirkby, 2011). | PGV Environmental, 2018). The structure and form of not form hollows (Banks,2008). It is highly unlikely Area is not known to be a nesting site(Johnstone |
| Implementing the Alkimos Coastal Node SP will not have a significant impact on Carnaby's Black Cockatoo due to the sma area of good quality foraging habitat 2.708ha (Area A -1.853ha and Area B - 0.855ha) that will be cleared (Attachment 3). The Referral Area is not used for roosting or nesting currently and is unlikely to be used in the future due to the stature of the trees not being suitable. There are large areas of Bush Forever sites within 5km containing abundant foraging and potential roosting and breeding | Approximately 2.102ha of foraging habitat (1.137ha of low quality and open space and Parks and Recreation in Area B (Attachment 3). | 0.965ha high quality) will be retained in conservation |
| The Referral Area is not used for roosting or nesting currently and is unlikely to be used in the future due to the stature of the trees not being suitable. There are large areas of Bush Forever sites within 5km containing abundant foraging and potential roosting and breeding | Implementing the Alkimos Coastal Node SP will not have a significant i area of good quality foraging habitat 2.708ha (Area A -1.853ha and Area | mpact on Carnaby's Black Cockatoo due to the small B - 0.855ha) that will be cleared (Attachment 3). |
| There are large areas of Bush Forever sites within 5km containing abundant foraging and potential roosting and breeding | The Referral Area is not used for roosting or nesting currently and is ur the trees not being suitable. | likely to be used in the future due to the stature of |
| habitat. The Bush Forever sites within 5km of the site that contain Black Cockatoo habitat are: Site 130 – Link between Yanchep and Neerabup National Park; Site 288 – Yanchep National Park and Adjacent Bushland; Site 289 – Ningana Bushland, Yanchep/Eglinton; and | There are large areas of Bush Forever sites within 5km containing abu habitat. The Bush Forever sites within 5km of the site that contain Black (- Site 130 – Link between Yanchep and Neerabup National Park; - Site 288 – Yanchep National Park and Adjacent Bushland; - Site 289 – Ningana Bushland, Yanchep/Eglinton; and | ndant foraging and potential roosting and breeding Cockatoo habitat are: |



- Site 383 – Neerabup National Park and Adjacent Bushland.

In addition, there is Parrot Bush (Banksia sessilis) and Banksia Woodland within the Wastewater Treatment Plant Buffer and the associated Regional Open Space extending to the east to Neerabup National Park. Therefore, clearing of 2.708ha of High quality foraging habitat is not considered significant.

The Black Cockatoo Habitat Assessment Report has a detailed assessment against the significance criteria set out in the EPBC Significant impact guidelines 1.1 and EPBC Black Cockatoo Referral guidelines is provided in Attachment 6.

Species or threatened ecological community

Tuart Woodland and Forests of the Swan Coastal Plain Ecological Community (Eucalyptus gomphocephala) Critically Endangered

Impact

The impact of taking the action will result in clearing 3.68ha of Tuart Woodland TEC from Area B (Attachment 4). The structure and form of the Tuart Woodland TEC in the Referral Area is stunted and branching which is typical of coastal Tuarts in high wind locations.

The Tuart Woodland TEC Assessment Report provides a detailed assessment of the impact on Tuart Woodland TEC is provided at Attachment 5. The report provides a number of photos showing the structure and form of the Tuarts.

The clearing of the 3.68ha of Tuart Woodland TEC was assessed against the seven significant impact criteria for Critically Endangered ecological communities as follows:

- Reduce the extent of an ecological community

- YES the clearing will lead to a small reduction in the extent of the ecological community in terms of area but not the overall range of the TEC.

- Fragment or increase fragmentation of an ecological community, for example by clearing vegetation for roads or transmission lines

- NO the clearing will not fragment a patch of the Tuart Woodland TEC as it is the western extent of a larger patch that occurs on adjacent land;

- Adversely affect habitat critical to the survival of an ecological community

-NO

- Modify or destroy abiotic (non-living) factors (such as water, nutrients, or soil) necessary for an ecological community's survival, including reduction of groundwater levels, or substantial alteration of surface water drainage patterns

- NO

- Cause a substantial change in the species composition of an occurrence of an ecological community, including causing a decline or loss of functionally important species, for example through regular burning or flora or fauna harvesting

- NO

- Cause a substantial reduction in the quality or integrity of an occurrence of an ecological community, including, but not limited to:

-- assisting invasive species, that are harmful to the listed ecological community, to become established, - NO

-- causing regular mobilisation of fertilisers, herbicides or other chemicals or pollutants into the ecological community which kill or inhibit the growth of

species in the ecological community;

- NO
- -- Interfere with the recovery of an ecological community.

- NO

The clearing of 3.68ha of the Tuart Woodland TEC meets one of the significant impact criteria however the clearing is unlikely to interfere with the recovery of the ecological community. Tuart Trees will be used in landscaped parkland in the rehabilitation of conservation POS.

2.4.2 Do you consider this impact to be significant?



| 2.5 Is the proposed action likely to have any direct or indirect impact on the members of any listed migratory species or their habitat? | | | | |
|--|--------|--------------|------|---|
| | Yes | \mathbf{r} | No | |
| 2.6 Is | the pr | oposed ac | tion | to be undertaken in a marine environment (outside Commonwealth marine areas)? |
| | Yes | S | No | |
| 2.7 Is | the pr | oposed ac | tion | likely to be taken on or near Commonwealth land? |
| | Yes | S | No | |
| 2.8 Is | the pr | oposed ac | tion | taking place in the Great Barrier Reef Marine Park? |
| | Yes | S | No | |
| 2.9 Is the proposed action likely to have any direct or indirect impact on a water resource from coal seam gas or large coal mining development? | | | | |
| | Yes | \mathbf{r} | No | |
| 2.10 Is the proposed action a nuclear action? | | | | |
| | Yes | S | No | |
| 2.11 Is the proposed action to be taken by a Commonwealth agency? | | | | |
| | Yes | S | No | |
| 2.12 Is the proposed action to be undertaken in a Commonwealth Heritage place overseas? | | | | |
| | Yes | S | No | |
| 2.13 Is the proposed action likely to have any direct or indirect impact on any part of the environment in the Commonwealth marine area? | | | | |
| | Yes | | No | |



Section 3

Description of the project area

3.1 Describe the flora and fauna relevant to the project area

Flora

The EPBC Act Protected Matters Database search identified three protected flora species as possibly occurring in the Referral Area as follows:

- Diuris micrantha (found in sandy patches in Jarrah Banksia Woodland or thickets of Spearwood (FloraBase, 2020));
- Drakaea elastica (found in winter wet swamps (Florabase, 2020)); and
- Lepidosperma rostratum (found in peaty sand, clay (Florabase, 2020))

The habitat in the Referral Area is not suitable for these three species.

Ecologia (2017) undertook a Level 2 Flora and Vegetation Survey over the Referral Area. No EPBC Act Threatened Flora Species were recorded during this survey.

A total of 156 vascular plant taxa representing 47 families and 116 genera were recorded from the Referral Area. Of these, 56 (36%) were annuals or short-lived perennials, four were Priority Flora species, and 45 (28.8%) were introduced. The most diverse families were the Fabaceae (21 taxa), Asteraceae (18 taxa) and Poacaeae (17 taxa), while Acacia (7 taxa), Hibbertia (5 taxa) and Conostylis (4 taxa) were the most diverse genera. No WC Act-listed Threatened Flora species were recorded during the Ecologia (2017) survey.

Fauna

The EPBC Act Protected Matters Database search identified 37 fauna species as potentially occurring in the Referral Area, 33 of these species are marine or wetland related and were disregarded as the referral area is land based and there are no wetlands in the Referral Area. Of the remaining 4 species only one is known to occur in the Referral Area, Carnaby's Black Cockatoo (Calyptorhynchus latirostris). The Referral Area does not provide suitable habitat for the Chuditch. The Grey Wagtail and Rainbow Bee Eater may frequent the Referral Area as occasional seasonal visitors.

A number of fauna surveys have been completed in the Alkimos region over the last 20 years. These surveys have been conducted using a range of trapping programs and opportunistic surveys. The only conservation significant species identified in these surveys as occurring in the Referral Area is Carnaby's Black Cockatoo (Calyptorhynchus latirostris).

The Referral Area contains limited Black Cockatoo foraging habitat and there was no evidence of breeding or roosting (PGV Environmental, 2018; Bamford Consulting Ecologists, 2008).

The Referral Area is not a known roosting or nesting site (Johnson and Kirby, 2011).

Black Cockatoo Foraging habitat

Based on the observations of Johnstone and Kirkby (2011), the assessment of foraging value by Groom (2011) and PGV Environmental observations in the Alkimos-Eglinton region over many years the vegetation types containing Banksia sessilis and the other Proteaceous species (Banksia and Hakea) the following vegetation types were rated as having a high value as foraging habitat for Carnaby's Black Cockatoo:

- Bs: Banksia sessilis open shrubland
- BsSg: Banksia sessilis and Spyridium globulosum open shrubland
- McMsMhs: Melaleuca cardiophylla, M. systena, M huegelii low open shrubland (also contains Banksia sessilis)
- McBs: Melaleuca cardiophylla and Banksia sessilis low open shrubland
- MsMh: Melaleuca systema and M. huegelii low open shrubland (also contains Banksia sessilis).

The total area of high-quality foraging habitat in Referral Areas A and B is 3.673ha of which 1.853ha will be cleared in Referral Area A and 0.855ha in Referral Area B) (Attachment 3).

The following vegetation types were rated as having a low value as foraging habitat for Carnaby's Black Cockatoo: - AsMs: Acacia saligna open shrubland over Melaleuca systema low open shrubland

-EgMs: Eucalyptus gomphocephala open woodland over Melaleuca systema low open shrubland over Lomandra maritima sparse herbland

-XpMs Xanthorrhoea preissii mid open shrubland over Melaleuca systena low open shrubland

The total area of low-quality foraging habitat in Referral Areas A and B is 4.66ha of which 0.966ha will be cleared in Referral Area A and 2.557ha in Referral Area B (Attachment 3).



The remaining 2.102ha of foraging habitat (0.965ha of high quality and 1.137ha of low quality) will be retained in Public Open Space and Parks and Recreation in Referral Area B (Attachment 3)

3.2 Describe the hydrology relevant to the project area (including water flows)

Surface Water and Wetlands

There are no wetlands or surface water flows on or in the vicinity of the Referral Area.

Groundwater

Groundwater data from the Perth Groundwater Atlas (DoW 2019) show that groundwater levels across the site are less than 1 m AHD with groundwater flowing in a westerly direction. Depth to groundwater is highly variable due to the undulating topography of the site.

3.3 Describe the soil and vegetation characteristics relevant to the project area

Soils

The soils of the Referral Area were mapped by McArthur and Bartle (1980). The following soil types are found in the Referral Area:

- Quindalup (Qp) Quindalup Deep Sand Flat Phase: Dark Grey-brown sand to about 50cm and then pale brown sand

- Quindalup (Q1) Quindalup Oldest Dune Phase: Calcareous sands with organic staining to about 30cm, overlying pale brown sand with definite cedementation below 1m

- Quindalup (Q3) Quindalup Third Phase: Loose, calcareous sand with some organic matter in the first 10 cm and incipient cementation at depth

- Quindalup (Q4) Quindalup Youngest Dune Phase: loose pale brown calcareous sand
- Quindalup Shallow Sand Flat Phase (Qs): Shallow calcareous sands over limestone
- Karrakatta Shallow Soils Phase (Kls): Bare rock, yellow/brown shallow sands and stony soils.

Acid Sulfate Soils

Acid Sulfate Soils (ASS) are naturally occurring soils and sediments that contain sulphide minerals, predominately pyrite (an iron sulfide). In an undisturbed state below the water table, these soils are benign and non-acidic. However, if the soils are exposed to the atmosphere by drainage, excavation or lowering of the water table, the sulfides may react with oxygen to form sulfuric acid. The ASS Mapping indicates there is no risk of ASS occurring generally at depths of greater than 3 m (SLIP, 2019) in the Referral Area.

Karstic Ground Formations

Karstic ground formations are known to occur in the limestone rock band running north-south along the eastern side of Wanneroo Road, well clear of the Referral Area. The Alkimos Water Alliance has excavated an area, east of the Referral Area, for the Alkimos WWTP. The excavation extends 3m AHD in some areas, in limestone rock, and there has been no evidence of karstic ground conditions. Similarly, there has been no karstic evidence experienced in excavation at Peet's Shorehaven (to the north), at Satterley's Eden Beach (to the south) or Lend Lease/LandCorp's Alkimos Beach (to the south east) to date (CD&P, 2018).

Vegetation

The Referral Area predominantly supports Quindalup Vegetation Complex with the north east portion associated with the Cottesloe Complex Central and South.

The remnant dune vegetation is dominated by Melaleuca systena and Lomandra maritima. The only trees on the site are scattered Tuart Trees (Eucalyptus gomphocephala), which generally occur in/or on the peaks of the dune near the WWTP buffer and the foreshore reserve. The Tuart Trees are typical of the coastal form of the species, short in stature and spreading in form. The coastal Tuarts generally do not form hollows (Banks, 2008).

The vegetation in the Referral Area was first mapped by Trudgen (1990), 17 vegetation types were described and mapped. ATA Environmental conducted a flora and vegetation survey in the Alkimos-Eglinton MRS area in July 2002 (ATA Environmental 2003). Eighteen vegetation types were described and mapped within the Referral Area. Ecologia (2017) undertook a flora and vegetation survey over the Referral Area. The survey described and mapped 15 vegetation types as shown in Attachment 6 Figure 2.

Banksia Woodlands of the Swan Coastal Plain ecological community

The Protected Matters Search Tool identified the Banksia Woodlands of the Swan Coastal Plain ecological community (Endangered) as occurring in the Alkimos Eglinton Region. The key species (Banksia attenuata; B. menziesii B. prionotes; B. ilicifolia; Banksia littoralis) found in this ecological community do not occur in the Referral Area.



Tuart Woodlands and Forests of the Swan Coastal Plain Ecological Community

The Protected Matters Search Tool identified the Tuart Woodlands and Forests of the Swan Coastal Plain ecological community (Critically Endangered) (Tuart Woodland TEC) as occurring in the Alkimos Eglinton Region. The Referral Area contains vegetation identified as meeting the criteria set out in the Department of Environment and Energy's Tuart Woodlands and Forests of the Swan Coastal Plain: A Nationally Significant Ecological Community Advice (DoEE, 2019). The Tuart woodland is open and low in stature which is the typical form of coastal Tuarts.

PGV Environmental undertook a Tuart Woodland TEC Assessment (Attachment 5) in the Referral Area and recorded Tuart vegetation in a low woodland structure over a low open heath understorey. The understorey was rated as Good to Very Good using the Keighery condition ration scale and Very High using the Tuart Woodland TEC condition categories. The Tuart vegetation in the Referral Area meets the definition of the Tuart Woodlands and Forests of the Swan Coastal Plain TEC (Attachment 6).

The area of Tuart Woodland TEC is 7.92ha of which 3.68ha (includes buffer of 30m) occurs in the Referral Area B, the remainder of the patch is in the adjacent Alkimos WWTP. Under the SP the 3.68ha of Tuart Woodland TEC will be cleared (Attachment 4).

3.4 Describe any outstanding natural features and/or any other important or unique values relevant to the project area

The Referral Area is adjacent to the Bush Forever Site No. 397 to the west and north which is zoned as Parks and Recreation under the Perth MRS. These areas are retained for public purpose and conservation.

A portion of land within the southern extent of the Referral Area has been set aside for conservation Public Open Space (POS). This conservation POS (3.75ha) has been retained to provide an alternative ecological linkage around the eastern and southern side of the Alkimos WWTP

3.5 Describe the status of native vegetation relevant to the project area

Ecologia (2017) rated the vegetation condition based on the criteria described by the Technical Guide – Flora and Vegetation Surveys for Environmental Impact Assessment (EPA and DPaW 2015).

The condition of most vegetation (Attachment 5) of the Referral Area was 2 or 3, with vegetation structure generally intact to slightly altered, and with the presence of sparse to abundant weed species in most areas. In general, vegetation communities dominated by Acacia rostellifera

were particularly affected by weed infestation. The most common weed species in the Referral Area were typical of the Swan Coastal Plain, including Euphorbia terracina, Trachyandra divaricata, Lysimachia arvensis, Romulea rosea, and Trifolium spp., and weedy grasses including Avena barbata, Briza minor, Bromus diandrus, Ehrharta longiflora, and Lolium perenne.

Vehicle and other cleared tracks are common across the entire Referral Area, in addition to large areas of previously cleared vegetation.

3.6 Describe the gradient (or depth range if action is to be taken in a marine area) relevant to the project area

The existing topography within the Referral Area comprises undulating limestone and sand dune landform with younger dunes close to the coast and older more stable dunes further inland. The area varies in height from 43m above sea level in the east along the dunal ridges to less than 4m AHD to the west within the foreshore reserve.

3.7 Describe the current condition of the environment relevant to the project area

Sections of the Referral Area are relatively intact however there is a high density of weeds and a number of tracks traversing the area. A large portion in the centre of the Referral Area has been cleared previously by others.

3.8 Describe any Commonwealth Heritage places or other places recognised as having heritage values relevant to the project

There are no Commonwealth Heritage Places or other places recognised as having heritage values relevant to the Referral Area.

3.9 Describe any Indigenous heritage values relevant to the project area

There are no listed Indigenous heritage values mapped in the Department of Planning, Land and Heritage Aboriginal Heritage

Enquiry System.

3.10 Describe the tenure of the action area (e.g. freehold, leasehold) relevant to the project area

The Referral Area is owned by the Western Australian Water Corporation. the Western Australian Land Authority have written authority to act on behalf of the Water Corporation.



3.11 Describe any existing or any proposed uses relevant to the project area

The future use is residential, commercial, public use, conservation and future water infrastructure purposes.



Section 4

Measures to avoid or reduce impacts

4.1 Describe the measures you will undertake to avoid or reduce impact from your proposed action

Onsite Mitigation

The Proponent has retained (avoided) approximately 2.102ha or 25.2% of the existing Black Cockatoo foraging habitat. Implementation of the proposed action will result in the removal of 2.708ha of high quality foraging habitat, 3.523ha of low quality habitat and 3.68ha of Tuart Woodland TEC. Additional remnant vegetation within the Referral Area cannot be retained due to the engineering constraints and the earth works necessary to implement the Alkimos Coastal Node SP.

This Referral assumes that all of the vegetation in Area A will be cleared in the future for the Water Corporation desalination plant and expansion of the Alkimos WWTP. The final design of the water infrastructure is not available at this time. Should the water infrastructure expansion not require the entire Referral Area A some additional native vegetation including Black Cockatoo foraging habitat may be retained.

To further mitigate the proposed action the Proponent will implement specific design and management measure to manage the interface with Bush Forever Site No. 397 which extends along the western and northern boundary of the Referral Area and the conservation open space in the south. The areas will be managed and rehabilitated in accordance with a Conservation Area Management Plan as part of the subdivision works. Tuart Trees will be planted in rehabilitation areas within the ROS and POS Conservation areas. Landscaping within POS areas and landscaped corridors will include Black Cockatoo foraging species and Tuart Trees.

Construction activities will be guided by a Vegetation and Fauna Management Plan/Construction Environmental Management Plan which will detail management actions to protect the environmental values during construction. The following measures will be undertaken:

- native vegetation to be retained will be surveyed and demarcated using highly visible bunting or fencing to minimise any overclearing;

- hygiene controls will be put in place to minimise weed and dieback infestations; and

- fauna relocation including inspection of Tuart Trees one week prior to clearing for evidence of Black Cockatoos will be undertaken.

4.2 For matters protected by the EPBC Act that may be affected by the proposed action, describe the proposed environmental outcomes to be achieved

The action is not considered significant when assessed against the EPBC Significant impact Guidelines 1.1 and the Black Cockatoo EPBC Referral Guidelines (Attachment 6).

Carnaby's Black Cockatoo will continue to have foraging habitat in the Alkimos Coastal Node during and post construction. The condition of the retained foraging habitat will be improved through implementation of a Conservation Area Management Plan. In addition, where appropriate, Black Cockatoo foraging species will be used in the landscaped areas on approval of the City of Wanneroo. The removal of four significant trees is unlikely to impact on the species due to the low stature of the Tuarts which is typical of the coastal form and that they are unlikely to form suitable hollows (Banks, 2008).

The proposed action will clear 3.68ha of Tuart Woodland TEC from Area B. Where appropriate, Tuart Trees will be planted in ROS, landscaped parkland and conservation open space to offset the trees being cleared.



| Section 5 |
|--|
| Conclusion on the likelihood of significant impacts |
| 5.1 You indicated the below ticked items to be of significant impact and therefore you consider the action to be a controlled |
| action |
| World Heritage properties |
| National Heritage places |
| U wetlands of international importance (declared Ramsar wetlands) |
| |
| Marine environment outside Commonwealth marine areas |
| Protection of the environment from actions involving Commonwealth land |
| Great Barrier Reef Marine Park |
| A water resource, in relation to coal seam gas development and large coal mining development |
| Protection of the environment from nuclear actions |
| Protection of the environment from Commonwealth actions |
| Commonwealth Heritage places overseas |
| Commonwealth marine areas |
| 5.2 If no significant matters are identified, provide the key reasons why you think the proposed action is not likely to have a significant impact on a matter protected under the EPBC Act and therefore not a controlled action |
| The proposed action will result in the following clearing impacts: |
| - 2.708ha of high quality Black Cockatoo foraging habitat (1.853ha Area A and 0.855ha Area B); |
| - 3.523ha of low quality foraging habitat; |
| - four Tuart Trees with a DBH greater than 50cm (Area B); and |
| - 3.68ha of Tuart Woodland TEC (Area B). |
| The action of clearing 2.708ha of high quality foraging habitat and 3.523ha of low quality foraging habitat is above the 1ha threshold indicated in the Black Cockatoo EPBC Referral Guidelines. There is no evidence of Black Cockatoo roosting or nesting on the Referral Area. The action will result in the removal of four Tuart Trees with a DBH greater than 50cm. Coastal Tuarts tend to be short in stature and branching in form and generally do not form hollows suitable for Carnaby's Black Cockatoo nesting, (Banks, 2008). |
| The proposed action is unlikely to have a significant impact to any protected matters and is therefore not a controlled action because: |
| -the Black Cockatoo habitat is not critical to the species, they do not rely on the foraging habitat for their survival, coastal Tuart's are not suitable for breeding birds due to their spreading form and short stature, and the amount of Black Cockatoo |
| - Clearing of 3 68ba of Tuart Woodland TEC from Referral Area B will lead to a small reduction in the regional extent of the |
| ecological community. The significance of the impact meets one of the significant impact criteria for ecological communities, |
| however it is unlikely that the small reduction in regional extent will be detrimental to the survival of the Tuart Woodland TEC |
| (Attachment 5); and |
| -Tuart Trees will be planted in ROS, parkland and conservation POS as part of the implementation of the Alkimos Coastal |
| Node Sr. |
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| Section 6 |
|---|
| Environmental record of the person proposing to take the action |
| 6.1 Does the person taking the action have a satisfactory record of responsible environmental management? Explain in further detail |
| DevelopmentWA has undertaken a number of redevelopment and development projects throughout Western Australia. |
| 6.2 Provide details of any past or present proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against either (a) the person proposing to take the action or, (b) if a permit has been applied for in relation to the action – the person making the application |
| There are no past or present proceedings under Commonwealth or State law. |
| 6.3 If it is a corporation undertaking the action will the action be taken in accordance with the corporation's environmental policy and framework? |
| Yes No |
| 6.3.1 If the person taking the action is a corporation, provide details of the corporation's environmental policy and planning framework |
| DevelopmentWA has implemented a Sustainability Framework that helps to facilitate sustainable development. The framework sets out the key focus areas for LandCorp and outlines a plan for the integration of four sustainability elements into existing processes, sustainability elements include: - Community wellbeing; - Design excellence; - Environmental leadership; and |
| Economic health. In addition to the Sustainability Framework, the DevelomentWA Policy Statement outlines Development's commitment to: Improve sustainable outcomes for the community in everything we do; Design safe, healthy and enjoyable places to live and work, with improved educational and employment opportunities; Facilitate access to a variety of housing options and services to achieve community cohesion; Reduce business and investment risk through due diligence and risk assessment; Return greater economic benefit to the community in accordance with state needs and government policy; Protect and manage natural systems, retain landform and biodiversity wherever possible; Innovate and efficiently use materials, water and energy resources when possible; and Plan communities that are attractive, accessible and contribute to a distinctive local identity. |
| 6.4 Has the person taking the action previously referred an action under the EPBC Act, or been responsible for undertaking an action referred under the EPBC Act? |
| Yes No |
| 6.4.1 EPBC Act No and/or Name of Proposal |
| 2020/8644 LandCorp Latitude 3 Lot 4 Sayer Road, Hope Valley. 16 July 2020 2019/8399 LandCorp Latitude 32 Lots 100 and 101 Sayer Road, Hope Valley. 25 May 2019 2018/8193 Landcorp Latitude 32 Development Area 6a, Wattleup. 24 May 2018 2018/8255 Hamilton Hill Senior High School Redevelopment Project 16 July 2018 2016/7844 Commercial Development Hodges Drive, Joondalup 16 December 2016 2016/7695 LandCorp Latitude 32 Various Lots Sayer and Ashley Roads, Hope Valley. 26 May 2016 2014/7248 LandCorp/Residential development/Claremont/WA/Bold Park St John's Wood, Mt Claremont residential |
| 2012/6424 Western Australian Land Authority (trading as Landcorp)/Commercial development/Lot 701 Flynn Drive Neerabup /WA/Neerabup industrial estate 13 Jun 2012 2011/6049 Western Australia Land Authority (LandCorp)/Residential development/Approx 155km south-southeast Perth |
| /WA/Stage 2 Buckingham Way- Collie Residential Development 27 Jul 2011 2011/6021 Western Australian Land Authority (trading as LandCorp)/Residential development/45km north-west of Perth/WA/Eglinton/South Yanchep Residential Development 04 Jul 2011 |
| 2010/5479 LandCorp/Residential development/Lots 1523 and 3000, Emu Point Drive, Albany/WA/Emu Point Residential Area Project 10 May 2010 |
| 2010/5410 LandCorp/Commercial development/Mandurah Transit Station, Allnut Street/WA/Mandurah Junction Commercial and Residential Development 23 Mar 2010 2010/5358 Landcorp/Residential development/Gracetown /WA/Proposed Expansion of Existing Gracetown Townsite & |
| |



| Note. P Dr may contain heids not relevant to your application. These heids will appear blank of unticked. Please disregard these heids. |
|---|
| Section 7 |
| Information sources |
| Reference source |
| Ecologia Environment (2017) Alkimos Coastal Node Site Level 2 Flora and Vegetation Assessment. Prepared for RPS Group Pty Ltd. January 2017. |
| Reliability |
| reliable at time of survey |
| Uncertainties |
| No |
| Reference source |
| Banks, J. (2008) Arboricultural Report Considering 49 Tuart Trees at Alkimos. Prepared for RPS Pty Ltd. 5 August 2008. |
| Reliability |
| reliable at time of survey |
| Uncertainties |
| No |
| Reference source |
| CD&P (2018) Alkimos Coastal Node Local Structure Plan March 2016 Prepared for LandCorp |
| Reliability |
| reliable at time of survey |
| Uncertainties |
| No |
| Reference source |
| McArthur, W.M. and Bartle, G.A. 1980. Landforms and Soils as an Aid to Urban Planning in the Perth Metropolitan Northwest Corridor, Western Australia. Land Resources Management Series No. 5. CSIRO |
| Reliability |
| reliable at time of survey |

Uncertainties

No

Reference source

Department of Water. 2014. Perth Ground Water Atlas. http://www.water.wa.gov.au/idelve/g wa online 6 January 2019

Reliability

reliable at time of survey

Uncertainties

No

Reference source

PGV Environmental (2019) Black Cockatoo Habitat Assessment -Alkimos Coastal Node Report prepared for LandCorp

Reliability

reliable at time of survey



Uncertainties No Reference source PGV Environmental (2019) Tuart Ecological Community Assessment -Alkimos Coastal Node Report prepared for LandCorp Reliability reliable at time of survey Uncertainties no **Reference source** Johnstone, R.E & Kirkby, T. (2011) Assessment of Significant Habitat for Carnaby's Cockatoo. Prepared for the Department of Sustainability, Environment, Reliability reliable at time of survey Uncertainties No Reference source ATA Environmental (2003) Alkimos-Eglinton Structure Plan Environmental Review. Report 2000/164 prepared for LandCorp September 2003 Reliability reliable at time of survey Uncertainties no Reference source Trudgen, M and Keighery, B.J. (1990) A Report on the Flora and Vegetation of the Alkimos Area and Conservation Issues Affecting It. Unpublished report for LandCorp. Reliability reliable at time of survey Uncertainties

no



| Section 8 |
|--|
| Proposed alternatives |
| Do you have any feasible alternatives to taking the proposed action? |
| Yes 🗹 No |



| Section 9 | |
|--|---|
| Person proposing the action | |
| 9.1.1 Is the person proposing the action a member of an organisation? | |
| Organisation | |
| Organisation name | WESTERN AUSTRALIAN LAND AUTHORITY |
| Business name | LANDCORP WA |
| | 34868192835 |
| | 01000102000 |
| | Locked Bag 5 Parth Business Centre Parth 6849 Western |
| Business address | Australia, Australia |
| Postal address | |
| Main Phone number | 0894827459 |
| Fax | |
| Primary email address | sharon.clark@developmentWA.com.au |
| Secondary email address | |
| 9.1.2 I qualify for exemption from fees under section 520(4C)(e)(v) of the ☐ Small business ☑ Not applicable | EPBC Act because I am: |
| 9.1.2.2 I would like to apply for a waiver of full or partial fees under Sch | edule 1, 5.21A of the EPBC Regulations * |
| 🗋 Yes 🗹 No | |
| 9.1.3 Contact | 1 Contraction of the second |
| First name | Sharon |
| Last name | Clark |
| Job title | Project Manager |
| Phone | 0894827459 |
| Mobile | |
| Eax | |
| Email | sharon.clark@development.com.au |
| Primary address | Locked Bag 5 Perth Business Centre, Perth, 6849, Western Australia, Australia |
| Address | |
| Declaration: Person proposing the action | |
| SUARDO) NU TRIA CLARK | declare that |
| to the best of my knowledge the information I have given on or attache | d to the FPBC Act Referral is complete, current and |
| correct. I understand that giving false or misleading information is a se | rious offence. I declare that I am not taking the action on |
| behalf or for the benefit of any other person or entity. | • |
| | |
| Data: 15/3/21 | |
| Signature: | |
| | , the person |
| proposing the action, consent to the designation of | as the proponent for the |
| purposes of the action described in this EPBC Act Referral. | |
| | |
| | |
| Signature:Date: | |



Australian Government Department of Agriculture, Water and the Environment

| Proposed designated proponent | | | | | |
|---|---|--|--|--|--|
| 9.2.1 Is the proposed designated proponent a member of an organisation? | | | | | |
| 🗹 Yes 🗌 No | | | | | |
| Organisation | | | | | |
| Organisation name | WESTERN AUSTRALIAN LAND AUTHORITY | | | | |
| Business name | LANDCORP WA | | | | |
| ABN | 34868192835 | | | | |
| ACN | | | | | |
| Business address | Locked Bag 5, Perth Business Centre, Perth, 6849, Western Australia, Australia | | | | |
| Postal address | | | | | |
| Main Phone number | 0894827459 | | | | |
| Fax | | | | | |
| Primary email address | sharon.clark@developmentWA.com.au | | | | |
| Secondary email address | | | | | |
| 9.2.2 Contact | | | | | |
| First name | Sharon | | | | |
| Last name | Clark | | | | |
| Job title | Project Manager | | | | |
| Phone 0894827459 | | | | | |
| Mobile | | | | | |
| Fax | | | | | |
| Email | sharon.clark@development.com.au | | | | |
| Primary address | Locked Bag 5 Perth Business Centre, Perth, 6849, Western | | | | |
| Address | | | | | |
| Declaration: Proposed Designated Proponent | | | | | |
| I. SHARON VICTORIA CLARK , the | | | | | |
| proposed designated proponent, consent to the designation of | | | | | |
| myself as the proponent for the purposes of the action described in this EPBC Act Referral. | | | | | |
| X | | | | | |
| Signature: | | | | | |
| | | | | | |



| Referring party (person preparing the information) | | | | | |
|---|---|--|--|--|--|
| 9.3.1 Is the referring party (person preparing the information) a member of an organisation? | | | | | |
| 🗹 Yes 🔲 No | | | | | |
| Organisation | | | | | |
| Organisation name | The trustee for KNIGHTSIDE TRUST | | | | |
| Business name | | | | | |
| ABN | 44981725498 | | | | |
| ACN | | | | | |
| Business address | Suite 3, 67 Howe Street, Osborne Park, 6017, Western Australia, AU | | | | |
| Postal address | | | | | |
| Main Phone number | 0429500027 | | | | |
| Fax | | | | | |
| Primary email address | belinda@pgv.net.au | | | | |
| Secondary email address | belinda@pgv.net.au | | | | |
| 9.3.2 Contact | | | | | |
| First name Belinda | | | | | |
| Last name | Heath | | | | |
| ob title Senior Environmental Consultant | | | | | |
| Phone | 0429500027 | | | | |
| Mobile | 0429500027 | | | | |
| Fax | | | | | |
| Email | belinda@pgv.net.au | | | | |
| Primary address | Suite 3, 67 Howe Street, Osborne Park, 6017, Western | | | | |
| Australia, Australia Address | | | | | |
| Declaration: Referring party (person preparing the information) | | | | | |
| I, Belinda Heath , declare that | | | | | |
| to the best of my knowledge the information I have given on, or attached to this EPBC Act Referral is complete, current and | | | | | |
| correct. I understand that giving false or misleading information is a serious offence. | | | | | |
| Signature: | | | | | |



| Appendix A | |
|----------------------------------|------------------|
| Attachment | |
| Document Type | File Name |
| action_area_images | Attachment 1.pdf |
| action_area_images | Attachment 2.pdf |
| action_area_images | Attachment 3.pdf |
| action_area_images | Attachment 4.pdf |
| supporting_tech_reports | Attachment 5.pdf |
| supporting_tech_reports | Attachment 6.pdf |
| Appendix B | |
| Coordinates | |
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