GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 6181/1
Permit Holder:	BMT Oceanica Pty Ltd
Duration of Permit:	4 October 2014 – 4 October 2019

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

PART I –CLEARING AUTHORISED

1. **Purpose for which clearing may be done**
   Clearing for the purpose of disposing dredge material.

2. **Land on which clearing is to be done**
   Lot 1225 on Deposited Plan 219775, Jurien Bay

3. **Area of Clearing**
   The Permit Holder must not clear more than 7.998 hectares of native vegetation within the area shaded yellow on attached Plan 6181/1.

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

PART II –MANAGEMENT CONDITIONS

5. **Weed control**
   (a) When undertaking any clearing or other activity authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the introduction and spread of *weeds*:
      (i) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
      (ii) ensure that no *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
      (iii) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

   (b) At least once in each 12 month period for the term of this Permit, the Permit Holder must remove or kill any *weeds* growing within areas cleared under this Permit.

DEFINITIONS

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

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

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

weed/s means any plant -

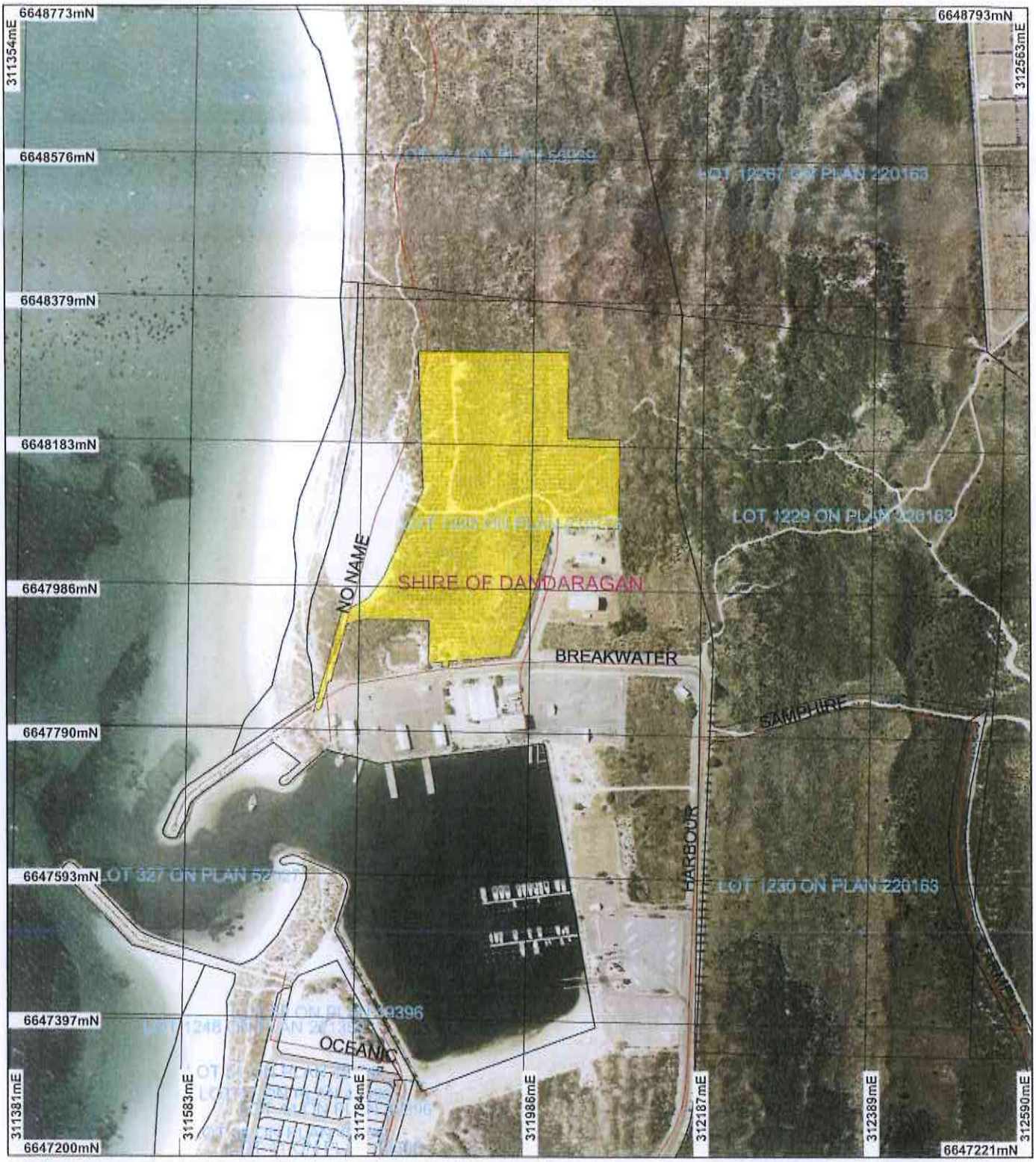
(a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; or
(b) published in a Department of Parks and Wildlife Regional Weed Rankings Summary, regardless of ranking; or
(c) not indigenous to the area concerned.

M Warnock
SENIOR MANAGER
CLEARING REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

4 September 2014

Plan 6181/1



LEGEND

- Road Centrelines
- Clearing Instruments
- Areas Approved to Clear
- Cadastre
- Towns
- Local Government Authorities

Hill River 50cm Orthomosaic - Landgate 2006

N

0 200 m

Scale 1:7000
(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

Note: the data in this map have not been projected. This may result in geometric distortion or measurement inaccuracies.

M Warnock Date 4/9/14

Officer with delegated authority under Section 20 of the Environmental Protection Act 1986

Information derived from this map should be confirmed with the data custodian acknowledged by the agency acronym in the legend

Government of Western Australia
Department of Environment Regulation

GOVERNMENT OF WESTERN AUSTRALIA

Clearing Permit Decision Report

Government of Western Australia
Department of Environment Regulation

1. Application details

1.1. Permit application details

Permit application No.: 6181/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: BMT Oceanica Pty Ltd

1.3. Property details

Property: LOT 1225 ON PLAN 219775 (JURIEN BAY 6516)
Local Government Area: Shire of Dandaragan
Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
7.998		Mechanical Removal	Infrastructure Maintenance

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 4 September 2014

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
Mapped Beard Vegetation Association 1026: Mosaic: Shrublands; Acaci'a rostellifera, A. cyclops (in the south) & Melaleuca cardiophylla (in the north) thicket / Shrublands; Acacia lasiocarpa & Melaleuca acerosa heath (Shepherd et al 2001).	The application is to clear up to 7.998 hectares of native vegetation within Lot 1225 on Deposited Plan 219775, Jurien Bay, for the purpose of disposing dredge material.	Completely Degraded: No longer intact; completely/almost completely without native species (Keighery 1994) To Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	The description and condition of the vegetation has been determined by aerial imagery.

3. Assessment of application against clearing principles

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

Comments

Proposal is not likely to be at variance to this Principle

The application is to clear 7.998 hectares of native vegetation for the purpose of dredge material disposal. The dredging is for the maintenance of the Jurien Bay Boat Harbour. There are vehicular tracks within the application area and the vegetation ranges from a completely degraded to very good (Keighery 1994) condition.

Several priority flora species are mapped within the local area (10 kilometre radius). A number of these are located within the same vegetation association and soil type as the application area, all of which are Priority 3 except for one Priority 2 species. Priority 3 species are generally known from collections from several different localities not under imminent threat (DEC 2012). The Department of Parks and Wildlife (2014) has advised that the Priority 2 species is known from more than 10 locations and has a coastal distribution of approximately 180 kilometres north-south. The proposed clearing is not likely to have a significant impact on the conservation status of the taxon, should it occur within the application area (Department of Parks and Wildlife, 2014).

There are no priority or threatened ecological communities mapped within the local area.

Approximately 75 per cent of the pre-European vegetation remains within the local area. Given the extent of pre-European vegetation remaining in the local area, the application area does not serve as a significant remnant of vegetation and its clearing is not likely to impact on indigenous fauna habitat.

The application area is located within a large tract of intact vegetation in very good condition. The disturbance cause by the proposed clearing will increase the risk of weeks spreading into this area. Weed management

practices will help mitigate this risk.

Considering the above, the application area is not likely to comprise a high level of biodiversity. Therefore, the application is not likely to be at variance to this principle.

Methodology

References:
- DEC (2102)
- Department of Parks and Wildlife (2014)
- Keighery (1994)

GIS Dataset:
- SAC Biodatasets - accessed September 2014

(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.

Comments

Proposal is not likely to be at variance to this Principle

Several fauna species have been recorded within the local area and are classified as 'rare or likely to become extinct' under the Wildlife Conservation Act 1950 including; Ctenotus lancelini (Lancelin Island Skink, Lancelin Island Ctenotus), Liopholis pulchra subsp. longicauda (Jurien Bay Skink), Parantechinus apicalis (Dibbler), Sterna nereis subsp. nereis (Fairy Tern) (DER, 2007-). The three ground dwelling species have been found on the Jurien islands but not on the Jurien mainland (DEC 2000; DotE 2013a; DEC 2004). The remaining species is Sterna nereis subsp. nereis (Fairy Tern), a migratory bird species (DotE 2013b).

The application area is mapped within an unconfirmed Carnaby's cockatoo feeding area. However, the Department of Parks and Wildlife (2014) has advised that the vegetation within the application area is not considered to be a priority feeding area for this species.

Given the above, and considering that approximately 75 per cent of pre-European vegetation remains within the local area, the proposed clearing is not likely to significantly impact on the habitat of indigenous fauna.

The application is therefore not likely to be at variance to this principle.

Methodology

References:
- DEC (2004)
- DEC (2000)
- DER (2007-)
- Department of Parks and Wildlife (2014)
- DotE (2013a)
- DotE (2013b)

GIS Dataset:
- Carnaby's Cockatoo Feeding SCP Unconfirmed

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

Comments

Proposal is not likely to be at variance to this Principle

The only rare flora mapped within the local area is situated within a vegetation association and soil type that differ to those of the application area, and is mapped approximately nine kilometres from the application area.

Therefore, the application is not likely to be at variance to this principle.

Methodology

GIS Dataset:
- SAC Biodatasets - accessed September 2014

(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.

Comments

Proposal is not likely to be at variance to this Principle

There are no threatened ecological communities mapped within the local area.

Therefore, the application is not likely to be at variance to this principle.

Methodology

GIS Dataset:
- SAC Biodatasets - accessed September 2014

(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.

Comments

Proposal is not likely to be at variance to this Principle

The area under application occurs within the Swan Coastal Plain IBRA Bioregion which retains approximately 39 per cent of its original extent of native vegetation (Government of Western Australia 2013). The vegetation proposed to be cleared is mapped as Beard Vegetation Association 1026 (Shepherd et al 2001) which retains approximately 94 per cent of its original extent of native vegetation within the Swan Coastal Plain IBRA Bioregion (Government of Western Australia 2013). The Shire of Dandaragan retains approximately 44 per cent of its original vegetation extent (Government of Western Australia 2013).

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001).

The local area (10 kilometre radius) retains approximately 75 per cent of its pre-European vegetation.

Considering the extent of native vegetation remaining within the local area and the bioregion, the area under application is not considered to be a significant remnant in a highly cleared area.

Therefore, the application is not likely to be at variance to this principle.

	Pre-European (ha)	Current Extent (ha)	Remaining Extent in DPaW Managed Lands (%)	(%)
IBRA Bioregion*				
Swan Coastal Plain	1,501,221	586,975	39	36
Shire*				
Shire of Dandaragan	670,531	297,436	44	42
Beard Vegetation Association in Bioregion*				
1026	58,419	54,978	94	81

Methodology

References:
- Commonwealth of Australia (2001)
- *Government of Western Australia (2013)
- Shepherd et al (2001)

GIS Datasets:
- NLWRA, Current Extent of Native Vegetation
- Pre-European Vegetation

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

Comments

Proposal is not likely to be at variance to this Principle

No wetlands or watercourses are mapped within the application area. The application area is approximately 70 metres east of the coastal waterline and 750 metres northwest of a non-perennial lake.

Given the above, the application is not likely to be at variance to this principle.

Methodology

GIS Dataset:
- Hydrography, linear

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

Comments

Proposal may be at variance to this Principle

The application area slopes towards the coastline, situated approximately 70 metres from the site. Soils mapped within the area under application are described as coastal dune formations backed by the low-lying deposits of inlets and estuaries: chief soils are calcareous sands on the dunes (Northcote et al 1960-68). Given the soil type and the exposure of the application area to strong winds, the proposed clearing renders the area susceptible to wind erosion.

Considering the size of the area under application (7.998 hectares) and its susceptibility to wind erosion, the proposed clearing, but more so the intended land use, may result in appreciable land degradation. With appropriate management practices, this risk can be minimised.

The proponent has stated that only a portion of the application area will be cleared. Both dredging and the vegetation clearance are expected to take place over several stages with only the area of land required for a given stage being cleared. The surface 200-300 millimetres of topsoil will be stripped and stockpiled then stabilised with cut brushwood or mulch for the duration of the dredging program (BMT Oceanica Pty Ltd (2014a).

Given the above, the application may be at variance to this principle.

Methodology

Reference:
- BMT Oceanica Pty Ltd (2014a)
- Northcote et al (1960-68)

GIS Datasets:
- Soils, statewide
- Topographic Contours Statewide

(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.

Comments

Proposal is not likely to be at variance to this Principle

Jurien Bay Marine Park is situated approximately 100 metres west of the application area. The Department of Parks and Wildlife supports the application (BMT Oceanica Pty Ltd 2014b).

Beekeepers Nature Reserve and Drovers Cave National Park are located approximately 3.5 and 4.5 kilometres, north and northwest, respectively, of the application area. An un-named conservation park and Southern Beekeepers Nature Reserve are located approximately six and eight kilometres, east and southeast, respectively, of the application area. The proposed clearing is unlikely to impact upon the conservation values of these conservation areas due to their distances from the proposed clearing.

Given the above, the application is not likely to be at variance to this principle.

Methodology

Reference:
- BMT Oceanica Pty Ltd (2014b)

GIS Dataset:
- DPaW Tenure

(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.

Comments

Proposal is not likely to be at variance to this Principle

Groundwater salinity is mapped as 500 - 1000 TDS milligrams per litre. This level of groundwater salinity is considered to be marginal.

No wetlands or watercourses are mapped within the application area.

Therefore, the proposed clearing is not likely to be at variance to this principle.

Methodology

GIS Datasets:
- Hydrography, linear
- Groundwater Salinity Statewide

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

Comments

Proposal is not likely to be at variance to this Principle

Average annual rainfall for the local area is 600 millimetres. The application area slopes towards the coastline and soils are predominantly calcareous sands (Northcote et al 1960-68) which drain readily.

Therefore, the application is not likely to be at variance to this principle.

Methodology

Reference:
- Northcote et al (1960-68)

GIS Datasets:
- Hydrography, linear
- Rainfall, Mean Annual
- Topographic Contours Statewide

Planning instrument, Native Title, Previous EPA decision or other matter.

Comments

The dredging of Jurien Bay Boat Harbour is necessary to manage and mitigate the impacts from the accumulation of sand and seagrass wrack. It was previously dredged in 2006 and is now scheduled for late 2014. Ongoing dredging is anticipated every two to three years with the intention of using the application area to service future dredging campaigns (BMT Oceanica Pty Ltd 2014a).

The Shire of Dandaragan has no objection to the proposal provided management controls are in place to avoid any dust causing nuisance (Shire of Dandaragan 2014). Methods to minimise the impact of wind-blown sand to adjacent land will include the respreading of previously stockpiled topsoil and mulch as well as the application of hydromulch. The area will be fenced to minimise potential disturbances to the site (BMT Oceanica Pty Ltd 2014a).

Dumping of dredge spoil has the potential to result in local groundwater mounding and cause secondary impacts on surrounding vegetation (Department of Parks and Wildlife 2014).

The Department of Water (DoW) recommends that prior to disposal of dredge spoil upon Lot 1225, the dredge spoil is laboratory tested to ensure the risk of contamination of soil and groundwater e.g. from metals, hydrocarbons etc. within the dredge spoil, is low. Schedule 1 of the Environmental Protection (Unauthorised Discharge) Regulation 2004 lists materials which must not be discharged to the environment (DoW 2014).

The area under application is zoned as 'Harbour' under the Town Planning Scheme Zones.

No public submissions have been received.

There are no Aboriginal Sites of Significance within the area under application.

Methodology

References:
- BMT Oceanica Pty Ltd (2014a)
- BMT Oceanica Pty Ltd (2014b)
- Department of Parks and Wildlife (2014)
- DoW (2014)
- Shire of Dandaragan (2014)

GIS Datasets:
- Aboriginal Sites of Significance
- Town Planning Scheme Zones

4. References

BMT Oceanica Pty Ltd (2014a) Advice regarding Clearing Permit Application CPS 6181/1, received 2 September 2014 (DER Ref: A801723).

BMT Oceanica Pty Ltd (2014b) Application for Clearing Permit CPS 6181/1. Received 9 July 2014 (DER Ref: A782842).

Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.

DEC (2000) Lancelin Island Skink Recovery Plan. Department of Environment and Conservation, Perth, Western Australia.

DEC (2004) Dibbler (Parantechinus apicalis) Recovery Plan. Department of Environment and Conservation, Perth, Western Australia.

DEC (2007 -) NatureMap: Mapping Western Australia's Biodiversity. Department of Environment and Conservation. URL: http://naturemap.dec.wa.gov.au/. Accessed August 2014.

DEC (2012) Threatened and Priority Flora List for Western Australia. WA Department of Environment and Conservation, Perth, Western Australia.

Department of Parks and Wildlife (2014) Advice regarding Clearing Permit Application CPS 6181/1, received 27 August 2014 (DER Ref: A798351).

Department of Water (2014) Advice regarding Clearing Permit Application CPS 6181/1, provided on 11 July 2013 (DEC Ref: A649685).

DotE (2013a) Liopholis pulchra longicauda - Jurien Bay Skink, Jurien Bay Rock-skink. URL: http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl'taxon_id=83162. Accessed September 2014.

DotE (2013b) Sternula nereis nereis - Australian Fairy Tern. URL: http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl'taxon_id=82950. Accessed August 2014.

Government of Western Australia (2013) 2012 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of October 2012. WA Department of Environment and Conservation, Perth.

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

Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68): 'Atlas of Australian Soils, Sheets 1 to 10, with explanatory data'. CSIRO and Melbourne University Press: Melbourne.

Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth.

Shire of Dandaragan (2014) Advice received in relation to clearing permit application CPS 6181/1. Received 26 August 2014 (DER Ref: A797214).