



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 7502/1
Permit Holder:	Central Earthmoving Company Pty Ltd
Duration of Permit:	30 September 2017 to 30 September 2032

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 limestone extraction and geotechnical investigations.

2. Land on which clearing is to be done

Lot 2580 on Plan 107114, Greenough

3. Area of Clearing

The Permit Holder must not clear more than 5.63 hectares of native vegetation within the area hatched yellow on attached Plan 7502/1.

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.

5. Period in which clearing is authorised

- (a) The Permit Holder shall not clear any native vegetation after 30 September 2022.
- (b) The Permit Holder shall not clear native vegetation unless actively extracting within 3 months of the authorised clearing being undertaken.

PART II – MANAGEMENT CONDITIONS

6. Avoid, minimise etc clearing

In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in order of preference:

- (a) avoid the clearing of native vegetation;
- (b) minimise the amount of native vegetation to be cleared; and
- (c) reduce the impact of clearing on any environmental value.

7. Dieback and weed control

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* and *dieback*:

- (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- (b) ensure that no *dieback* or *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
- (c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

8. Retain vegetative material and topsoil, revegetation and rehabilitation

The Permit Holder shall;

- (a) retain the vegetative material and topsoil removed by clearing authorised under this Permit and stockpile the vegetative material and topsoil in an area that has already been cleared and is protected from prevailing wind and away from drainage lines;
- (b) stored topsoil should be no more than two metres in height;
- (c) at any one time no more than one, two hectare quarry section can be actively extracted;
- (d) progressively rehabilitate the two hectare quarry sections that are no longer required for extraction by:
 - (i) re-shaping the surface of the land so that it is consistent with the surrounding 5 metres of uncleared land;
 - (ii) ripping the site to remove soil compaction; and
 - (iii) laying the vegetative material and topsoil retained under condition 8(a) on the cleared area at a minimal depth of 50 millimetres on 3:1 or steeper slopes and a minimum of 150 millimetres on flatter slopes.
- (e) Fence the *rehabilitated* areas to exclude stock;
- (f) establish one 10x10 metre quadrat as a reference site within adjacent vegetation of equal condition;
- (g) establish one 10x10 metre quadrat within each two hectare quarry section, and monitor vegetation condition, plant species diversity, plant density, plant structure and weed cover. Monitoring must be undertaken for ten years, with annual monitoring occurring in the first five years and twice in the last five years;
- (h) achieve the following completion criteria after the 10 year monitoring period for areas *revegetated* and *rehabilitated* under this Permit;

Criteria	Target
Vegetation Condition	To good or better <i>condition</i>
Plant Species Diversity	Minimum of 70% of native species returned, based on reference site
Plant Density	2,500 stems per hectare
Plant Structure	Vegetation structure consists of 20% overstorey, 50% midstorey and 30% understorey
Weed Cover	Less than 20% weed cover per quadrat

- (i) undertake remedial actions for areas *revegetated* and *rehabilitated* where monitoring indicates that revegetation has not met the completion criteria, outlined in 8(h), including:
 - (i) *revegetate* the area by deliberately *planting* and/or *direct seeding* native vegetation that will result in the minimum target in 8(h) and ensuring only *local provenance* seeds and propagating material are used;
 - (ii) undertake further weed control activities; and
 - (iii) annual monitoring of each two hectare quarry section, until the completion criteria, outlined in 8(h) are met.

PART III - RECORD KEEPING AND REPORTING

9. Records must be kept

The Permit Holder must maintain the following records for activities done pursuant to this Permit:

- (a) In relation to the clearing of native vegetation authorised under this Permit:
 - (i) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;
 - (ii) the date that the area was cleared; and
 - (iii) the size of the area cleared (in hectares).

- (b) In relation to the revegetation of areas pursuant to condition 10 of this Permit:
- (i) the location of any area *revegetated* and *rehabilitated* recorded as a shapefile;
 - (ii) a description of the *revegetation* and *rehabilitation* activities undertaken;
 - (iii) the size of the area *revegetated* and *rehabilitated* (in hectares); and
 - (iv) the date that the area was *revegetated* and *rehabilitated*.

10. Reporting

- (a) The Permit Holder must provide to the CEO on or before 30 June of each year, a written report:
- (i) of records required under condition 9 of this Permit; and
 - (ii) concerning activities done by the Permit Holder under this Permit between 1 January to 31 December of the preceding calendar year.
- (b) If no clearing authorised under this Permit was undertaken between 1 January to 31 December of the preceding calendar year, a written report confirming that no clearing under this permit has been carried out, must be provided to the CEO on or before 30 June of each year.
- (c) Prior to 30 June 2032, the Permit Holder must provide to the CEO a written report of records required under condition 9 of this Permit where these records have not already been provided under condition 10(a) of this Permit.

DEFINITIONS

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

condition means the rating given to native vegetation using the *Keighery scale* and refers to the degree of change in the structure, density and species present in the particular vegetation in comparison to undisturbed vegetation of the same type;

dieback means the effect of *Phytophthora* species on native vegetation;

direct seeding means a method of re-establishing vegetation through the establishment of a seed bed and the introduction of seeds of the desired plant species;

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

Keighery scale means the vegetation condition scale described in *Bushland Plant Survey: A Guide to Plant Community Survey for the Community (1994)* as developed by B.J. Keighery and published by the Wildflower Society of WA (Inc). Nedlands, Western Australia;

local provenance means native vegetation seeds and propagating material from natural sources within 50 kilometres and the same Interim Biogeographic Regionalisation for Australia (IBRA) subregion of the area cleared;

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;


planting means the re-establishment of vegetation by creating favourable soil conditions and planting seedlings of the desired species;

rehabilitate/ed/ion means actively managing an area containing native vegetation in order to improve the ecological function of that area;

revegetate/ed/ion means the re-establishment of a cover of *local provenance* native vegetation in an area using methods such as natural *regeneration*, *direct seeding* and/or *planting*, so that the species composition, structure and density is similar to pre-clearing vegetation types in that area.

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.


James Widenbar

MANAGER

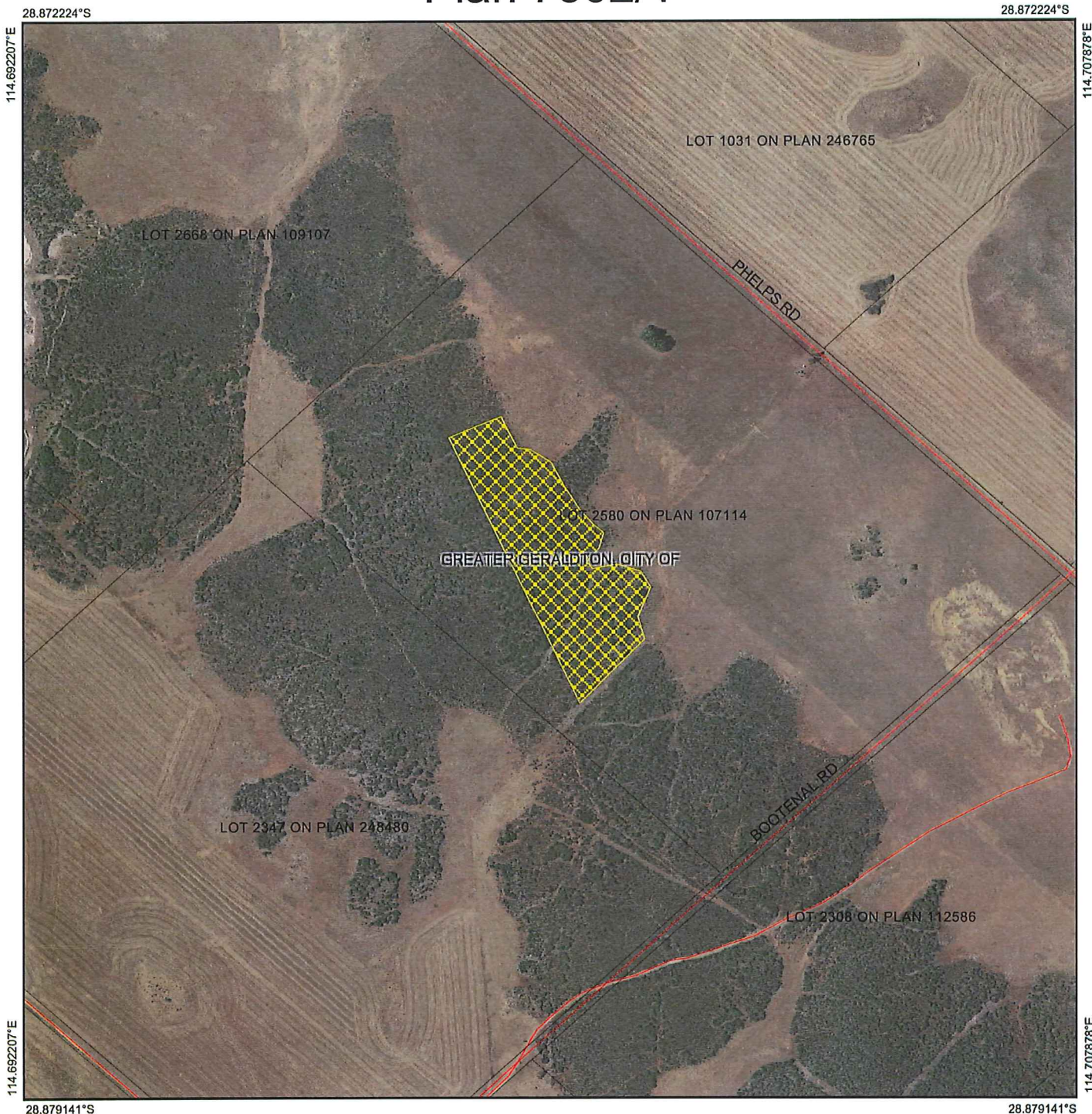
CLEARING REGULATION

*Officer delegated under Section 20
of the Environmental Protection Act 1986*

29 August 2017

CPS 7502/1, 29 August 2017

Plan 7502/1



Legend

-  Roads
-  Imagery
-  Clearing Instruments Activities
-  Local Government Authority



1:8,102

(Approximate when reproduced at A4)

GDA 94 (Lat/Long)

Geocentric Datum of Australia 1994

[Signature] Date 29/8/2017

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



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Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 7502/1
Permit type: Purpose Permit

1.2. Applicant details

Applicant's name: Central Earthmoving Company Pty Ltd

1.3. Property details

Property: LOT 2580 ON PLAN 107114, GREENOUGH
Local Government Authority: GREATER GERALDTON, CITY OF
DER Region: Midwest
DPaW District: GERALDTON
Localities: GREENOUGH

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
5.63		Mechanical Removal	Extractive industry and geotechnical investigations

1.5. Decision on application

Decision on Permit Application: Grant

Decision Date: 29 August 2017

Reasons for Decision: The clearing permit application received on 21 February 2017 has been assessed against the clearing principles, planning instruments and other matters in accordance with s51O of the *Environmental Protection Act 1986*. It has been concluded that the proposed clearing is at variance to Principle (e), may be at variance to Principles (b) and (g) and is not likely to be at variance to any of the remaining clearing principles.

Through assessment it has been determined that the application area forms part of an ecological linkage which is important for the movement of fauna across an extensively cleared landscape. The Delegated Officer considers that a requirement to revegetate areas proposed to be cleared will ensure that the application area is brought back to a comparable condition post extraction and will assist in mitigating the environmental risk of long term impacts to the ecological linkage.

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
The application area has been mapped as Beard vegetation association 359 which has been described as 'Shrublands; <i>Acacia</i> and <i>Banksia</i> scrub' (Shepherd et al., 2001).	The applicant proposes to clear 5.63 hectares of native vegetation within Lot 2580 on Plan 107114, Greenough, for the purpose of limestone extraction and geotechnical investigations.	Very Good; Vegetation structure altered; obvious signs of disturbance (Keighery, 1994). To Completely Degraded; No longer intact, completely/almost completely without native species (Keighery, 1994).	The vegetation condition and description was determined via a site inspection undertaken by the former Department of Environment Regulation (DER) Officers on 20 April 2017. The majority of the application area is closed heath, consisting predominately of <i>Melaleuca cardiophylla</i> and <i>Acacia</i> sp. (DER, 2017). The majority of the application is in very good (Keighery, 1994) condition. Areas of completely degraded (Keighery, 1994) condition was associated within access tracks).

3. Assessment of application against clearing principles

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

Comments

Proposed clearing is not likely to be at variance to this Principle

The applicant proposes to clear 5.63 hectares of native vegetation within Lot 2580 on Plan 107114, Greenough, for the purpose of limestone extraction and geotechnical investigations.

The local area considered in the assessment of this application is defined as a 10 kilometre radius measured from the perimeter of the application area.

Seven priority flora species have been recorded within the local area. Four of the seven priority flora species occur in habitat which is different to that found within the application area and therefore are not likely to occur.

One priority 3 species occurs within similar habitat to that within the application area. This species is known from at least 10 locations and has a range of approximately 130 kilometres east-west and 400 kilometres north-south, between Denham and Illawong. This species occurs on conservation estate within Kalbarri National Park and Beekeepers Nature Reserve. The application area is within this species known distribution, with three relatively recent collection records in the local area. If present within the application area, impacts would be unlikely to be significant to the conservation of this species (Parks and Wildlife, 2017a).

A priority 2 species is known to occur on red or yellow sand and loam, on limestone hills and sandplains. This species has been recorded in shrubland and heathland, with most records observed to have vegetation dominated by *Acacia* species and *Thryptomene* species and has also been recorded in grassland (Parks and Wildlife, 2017a). Many records are associated with creeks and with sandstone, with only two having been recorded in association with limestone. This species is unlikely to occur in the habitat present in the application area (Parks and Wildlife, 2017a).

A priority 1 species is known from seven Western Australian Herbarium records with only one collection recording habitat information which is on a slope with brown sand. There is only one recent collection (2007) with the rest historical collections between 1899 and 1932. Given the uncertainty of the preferred habitat of this species, there is a medium likelihood that this species could occur in the application area, however this species is unlikely to occur in habitat present in an area with a similar habitat to the application area (Parks and Wildlife, 2017a).

Two priority ecological communities (PEC) have been recorded within the local area, being; Coastal sands with *Acacia rostellifera*, mallees and Subtropical and Temperate Coastal Saltmarsh. The closest PEC is the Coastal sands with *Acacia rostellifera*, mallees which has been mapped approximately 2.8 kilometres north east of the application area. Suitable habitat for these communities is not located within the application area.

As discussed in principle (b) two terrestrial fauna species listed as rare or likely to become extinct under the *Wildlife Conservation Act 1950* (WC Act) have been recorded within the local area. Significant habitat for indigenous fauna is not located within the application area.

As discussed in principle (e) the application area falls within the Geraldton Sandplains Interim Biogeographic Regionalisation of Australia (IBRA) bioregion and Beard vegetation association 359. This IBRA bioregion and vegetation association contain approximately 45 per cent and 24 per cent their pre-European extents (Government of Western Australia, 2015). The local area retains approximately 12 per cent native vegetation.

The Geraldton Local Biodiversity Strategy states that maintenance of biodiversity of a fragmented landscape is dependent on the distribution of its remaining natural areas. Ecological function can potentially be maintained through a series of linkages or connected patches of remnant vegetation of suitable size. This connectivity is important in assisting with facilitating movement of animals, seeds and pollen and providing resilience to disturbances such as fires and climate change (Department of Environment and Conservation, 2010).

The Geraldton Local Biodiversity Strategy maps the application area within a Regional Ecological Linkage. Although the application area forms part of an ecological community it does not contain a high level of biodiversity. Therefore the proposed clearing is not likely to be at variance to this Principle.

Methodology

References:
Department of Environment and Conservation (2010)
Government of Western Australia (2016)
Parks and Wildlife (2017a)

GIS Datasets:
SAC Bio Datasets – accessed December 2016

(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 Proposed clearing may be at variance to this Principle

Two terrestrial fauna species listed as rare or likely to become extinct under the WC Act have been recorded within the local area (10 kilometre radius), being; Carnaby's cockatoo (*Calyptorhynchus latirostris*) and curlew sandpiper (*Calidris ferruginea*) (Parks and Wildlife, 2007-).

Carnaby's cockatoo is listed as endangered under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Carnaby's cockatoo breed in large hollow-bearing trees, generally within woodlands or forests or in isolated trees (Commonwealth of Australia, 2012). This species nests in hollows in live or dead trees of karri, marri, wandoo, tuart, salmon gum, jarrah, flooded gum, York gum, powder bark, bullich and blackbutt (Commonwealth of Australia, 2012). The application area is mapped outside of the known breeding range of this species.

Carnaby's cockatoo has a preference for foraging habitat that includes jarrah and marri woodlands and forest heathland and woodland dominated by proteaceous plant species such as *Banksia* sp., *Hakea* sp. and *Grevillea* sp. (Commonwealth of Australia, 2012). A site inspection conducted by DER officers on 20 April 2017 did not identify suitable foraging habitat for Carnaby's cockatoo (DER, 2017).

The curlew sandpiper mainly occurs on intertidal mudflats in sheltered coastal areas (TSSC, 2015). This type of habitat is not found within the application area.

As discussed in principle (a) the Geraldton Local Biodiversity Strategy maps the application area within a Regional Ecological Linkage (Department of Environment and Conservation, 2010). This ecological linkage is important in maintaining connectivity across a fragmented landscape facilitating the movement of fauna.

The application area does not provide significant breeding or foraging habitat for indigenous fauna, however it is part of an ecological linkage which is important for the movement of fauna across an extensively cleared landscape. Therefore, the proposed clearing may be at variance to this principle.

Revegetation of the site following extraction to a good or better (Keighery 1994) condition, representative of Community 12 'Limestone Ridge: *Melaleuca cardiophylla*' (as mapped in the Geraldton Regional Flora and Vegetation Survey), will ensure no permanent loss of vegetation in this linkage occurs.

Methodology

References:

Commonwealth of Australia (2012)
Department of Environment and Conservation (2010)
Keighery (1994)
Parks and Wildlife (2007-)
TSSC (2015)

GIS Datasets:

SAC Bio Datasets – accessed December 2016

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

Comments Proposed clearing is not likely to be at variance to this Principle

Two rare flora species have been recorded within the local area (10 kilometre radius).

The first species is found within a restricted area in the Moresby Range. The 2001 Western Australian Herbarium record located north-west of the application area is not within the species known distribution and is likely to be a coordinate error (Park and Wildlife, 2017b).

The second species is found on white, pale yellow or grey-brown sand over laterite, in open scrub and dense low heath with *Allocasuarina humilis*, *Jacksonia nutans*, *Daviesia daphnoides*, *Hakea prostrata*, *H. trifurcata*, *Acacia blakelyi*, *Hibbertia hypericoides*, *Eremaea beaufortoides*, *Banksia scabrella*, *B. prionotes*, *Grevillea candelabroides* and *Melaleuca* sp. (Parks and Wildlife, 2017a). The vegetation within the application area, *Melaleuca cardiophylla* and *Acacia* sp. closed heathland has not been associated with this species and so it is unlikely that this species would occur within the application area (Parks and Wildlife, 2017a).

Given the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology

References:

Parks and Wildlife (2017a)
Parks and Wildlife (2017b)

GIS Datasets:

SAC Bio Datasets – accessed December 2016

(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 **Proposed clearing is not likely to be at variance to this Principle**
 No threatened ecological communities (TEC) have been recorded within the local area (10 kilometre radius). Therefore, the application area is not likely to comprise the whole or part of, or be necessary for the maintenance of a TEC.

Methodology The proposed clearing is not likely to be at variance to this principle.
 GIS Datasets:
 SAC Bio Datasets – accessed December 2016

(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 **Proposed clearing is at variance to this Principle**
 The area under application is located within the Geraldton Sandplains Interim Biogeographic Regionalisation of Australia (IBRA) bioregion. This IBRA bioregion has approximately 45 per cent of its pre-European vegetation extent remaining (Government of Western Australia, 2016).

The vegetation under application is mapped as Beard vegetation association 359 of which there is approximately 24 per cent of its pre-European extent remaining within the Geraldton Sandplains bioregion (Government of Western Australia, 2016).

Beard vegetation association is described as 'Shrublands; *Acacia* and *Banksia* scrub' (Shepherd et al., 2001). The vegetation observed within the application area was 'closed heath, consisting predominately of *Melaleuca cardiophylla* and *Acacia* sp.' (DER, 2017). Therefore the vegetation present does not fit the description of this vegetation association, this could be due to the broad scale of Beard's mapping (Parks and Wildlife, 2017a). The Geraldton Regional Flora and Vegetation Survey maps the application area as Community 12 'Limestone Ridge: *Melaleuca cardiophylla*'. Community 12 is one of the more widespread communities in the survey area and this community is considered of conservation significance where the condition is better because most areas are grazed and degraded (Parks and Wildlife, 2017a).

The area under application is located within the City of Greater Geraldton, within which there is approximately 43 per cent pre-European extent remaining (Government of Western Australia, 2016).

The local area (10 kilometre radius) retains approximately 12 per cent native vegetation.

The national objectives and targets for biodiversity conservation in Australia have a target to prevent clearance of ecological communities with an extent below 30 percent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001). The local area retain less than the threshold level of 30 per cent and therefore the application area is considered to occur within an extensively cleared area.

As discussed in principle (a) the Geraldton Local Biodiversity Strategy maps the application area within a Regional Ecological Linkage. This strategy states that the distribution of natural areas across the landscape becomes critically important for maintaining biodiversity once a habitat type is reduced to less than 30 per cent of its original extent (Department of Environment Regulation, 2010). Therefore, the application area is a significant remnant as it forms part of a Regional Ecological Linkage.

Given the above, the proposed clearing is at variance to this principle.

Revegetation of the site following extraction to a good or better (Keighery 1994) condition consistent with Community 12 would ensure no permanent loss of extensively cleared vegetation types occurs. Management measures limiting extraction to a two hectare area at any one time and the progressive rehabilitation of quarried areas will assist in minimising the impact to extensively cleared vegetation types.

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in Parks and Wildlife Managed Lands (%)
IBRA Bioregion*				
Geraldton Sandplains	3,316,038	1,404,373	45	40
Shire*				
City of Greater Geraldton	988,399	428,564	43	16
Beard Vegetation Association in Bioregion*				
359	44,418	10,761	24	4

Methodology References:
 Commonwealth of Australia (2001)
 Government of Western Australia (2016)
 Keighery (1994)
 Parks and Wildlife (2017a)
 Shepherd et al. (2001)

GIS Datasets:
 Remnant vegetation – Mid West

(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 **Proposed clearing is not at variance to this Principle**
 No watercourses or wetlands have been recorded within the vicinity of the application area.

The closest watercourse to the application area is a major, non-perennial watercourse (Greenough Inlet) which is located approximately 2.7 kilometres east of the application area.

Given the distance to the closest watercourse the proposed clearing is not at variance to this principle.

Methodology GIS Databases:
 Hydrology, linear

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

Comments **Proposed clearing may be at variance to this Principle**
 The Department of Food and Agriculture WA has mapped the soil within the application area as Tamala South 5 shallow sand Phase which is described as 'Undulating to gently undulating relict dune crests with shallow sand and common limestone rock outcrop. Shallow red and brown sand' (Schoknecht et al., 2004).

The following land degradation risks have been mapped within the application area:

Land Deg Risk Category	Tamala South 5 shallow sand Phase
Water Erosion	10-30% of map unit has a high to extreme water erosion risk
Wind Erosion	>70% of the map unit has a high to extreme wind erosion risk
Waterlogging	<3% of map unit has a moderate to very high waterlogging risk
Flooding	<3% of the map unit has a moderate to high flood risk
Salinity Risk	30-50% of map unit has a moderate to high salinity risk or is presently saline

Based on the mapped land degradation risk outlined above, the application area has a relatively low likelihood of water erosion, waterlogging and flooding (Schoknecht et al., 2004).

Wind erosion is mapped at greater than 70 per cent of the map unit having a high to extreme risk of wind erosion (Schoknecht et al., 2004). Given the sandy nature of the soils and mapped land degradation risk, the proposed clearing may lead to appreciable land degradation through wind erosion. Management measures requiring extraction to commence within three months of clearing, along with the requirement to progressively rehabilitate will assist in mitigating the risk of appreciable land degradation occurring.

As discussed in principle (e) the Geraldton Sandplains has approximately 45 per cent of native vegetation remaining. The Geraldton Local Biodiversity Strategy states that this remaining 45 per cent is highly fragmented, degraded and susceptible to dryland salinity (Department of Environment and Conservation, 2010). Given the application area is located on a ridge with raised elevation, is not in close proximity to a watercourse and contains well-drained soils, the proposed clearing is not likely to cause land degradation via salinity.

Given the potential for wind erosion, the proposed clearing may be at variance to this Principle. The risk of wind erosion will be minimised through staged clearing and progressive clearing.

Methodology References:
 Department of Environment and Conservation (2010)
 Keighery (1994)
 Schoknecht et al. (2004)

(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 Proposed clearing is not likely to be at variance to this Principle

No conservation areas have been recorded within the local area (10 kilometre radius). The closest conservation area is Cutubury Nature Reserve with is located approximately 13 kilometres north of the application area.

As discussed in principle (a) the Geraldton Local Biodiversity Strategy maps the application area within a Regional Ecological Linkage (Department of Environment and Conservation, 2010). The application area forms part of a significant ecological corridor which facilitates the movement of fauna between remnant patches of vegetation.

Given the distance to the nearest conservation area, it is unlikely that the proposed clearing will impact upon the values of conservation areas.

The proposed clearing is not likely to be at variance to this Principle.

Methodology References:
Department of Environment and Conservation (2010)

GIS Datasets:
Department of Parks and Wildlife 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 Proposed clearing is not likely to be at variance to this Principle

No watercourses or wetlands are mapped within the application area, therefore the proposed clearing is not likely to impact on the quality of surface water.

Groundwater salinity within the application area is mapped as 3,000-7,000 total dissolved solids, milligrams per litre. This level of groundwater salinity is considered to be moderately saline to saline. Given the application area is located on a ridge with raised elevation, is not in close proximity to a watercourse and contains well-drained soils, the proposed clearing is not likely to cause land degradation via salinity.

Given the above the proposed clearing is not likely to be at variance to this Principle.

Methodology References:
Keighery (1994)

GIS Datasets:
Groundwater Salinity Statewide
Hydrography linear

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

Comments Proposed clearing is not likely to be at variance to this Principle

Given the porous nature of the mapped soils and the low mapped (less than three per cent) flood risk (Schoknecht et al., 2004), the proposed clearing is not likely to increase the incidence or intensity of flooding.

The proposed clearing is not likely to be at variance to this Principle.

Methodology References:
Schoknecht et al. (2004)

GIS Databases:
Annual rainfall - Statewide
Soils, statewide
Hydrology, linear

Planning instruments and other relevant matters.

- Comments** The City of Greater Geraldton has advised it has deemed the proposal to be consistent with Local Planning Scheme No. 1 and issued approval to undertake public works by expanding the existing quarry in order to facilitate the Beresford Foreshore Development Project (City of Greater Geraldton, 2017).
- The application was advertised online on 10 March 2017 for a 21 day submission period. Publication summary was advertised in *The West Australian* on Monday 13 March 2017. No submissions were received in relation to this application.
- The application was readvertised on online on 14 March 2017 to notify of the change in purpose to include geotechnical investigations.
- No Aboriginal Sites of Significance have been recorded within the application area.
- Methodology** References:
City of Greater Geraldton (2017)

4. References

- City of Greater Geraldton (2017) Planning Advice for Clearing Permit Application CPS 7502/1. Received on 2 May 2017 (DER Ref: A1421232).
- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- Commonwealth of Australia (2012). EPBC Act referral guidelines for three threatened black cockatoo species. Department of Sustainability, Environment, Water, Populations and Communities, Canberra.
- Department of Environment and Conservation (DEC) (2010) Regional and Local Ecological Linkages for the Geraldton Local Biodiversity Strategy. A preliminary investigation of Ecological Linkages for the Geraldton Regional Flora and Vegetation Study area. Nadine Guthrie. Perth Biodiversity Project. November 2010.
- Department of Parks and Wildlife (2007-) NatureMap: Mapping Western Australia's Biodiversity. Department of Parks and Wildlife. URL: <http://naturemap.dpaw.wa.gov.au/>. Accessed March 2017.
- Department of Parks and Wildlife (2017a) Species and Communities flora advice and regional advice for Clearing Permit Application CPS 7502/1 (DER Ref: A1431822).
- Department of Parks and Wildlife (2017b) Species and Communities flora advice for Clearing Permit Application CPS 7432/1 (DER Ref: A1407245).
- DER (2017) Site Inspection Report for Clearing Permit Application CPS 7502/1. Site inspection undertaken on 20 April 2017. Department of Environment Regulation, Western Australia (DER Ref: A1425044).
- Government of Western Australia (2016). 2016 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of October 2016. WA Department of Parks and Wildlife, 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.
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