



1. Application details

1.1. Permit application details

Permit application No.: 2277/1

Permit type: Area Permit

1.2. Proponent details

Proponent's name: Eastern Metropolitan Regional Council

1.3. Property details

Property: LOT 12 ON PLAN 26468 (House No. 1204 TOODYAY GIDGEGANNUP 6083)

Local Government Area: City Of Swan

Colloquial name:

1.4. Application

| | | | |
|--------------------|-----------|--------------------|---------------------|
| Clearing Area (ha) | No. Trees | Method of Clearing | For the purpose of: |
| 5 | | Mechanical Removal | Extractive Industry |

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 |
|---|--|---|---|
| <p>Beard Vegetation Type: 2003 - Medium forest; jarrah and marri on laterite with blackbutt (<i>E. patens</i>) in valleys, swampy bottomlands with bullich (<i>E. megacarpa</i>) and <i>Agonis flexuosa</i>. (Hopkins et al, 2001; Shepherd et al, 2001)</p> <p>Heddle Vegetation Complexes: Dwellingup Complex In Medium\To High Rainfall - No description available; Murray And Bindoon Complex In Low\To Medium Rainfall - No description available. (Heddle et al, 1980)</p> <p>Mattiske Vegetation Complex: D2 - Open forest of <i>E. marginata</i> subsp. <i>marginata</i>-<i>Corymbia calophylla</i> on lateritic uplands in subhumid and semiarid zones. (Mattiske Consulting 1998)</p> | <p>The area under application (5.0ha of vegetation within a 12.3ha area) is located within Lot 12, which is a 166ha property that is owned by the Eastern Metropolitan Regional Council. The clearing is for the extraction of lateritic caprock and clay, with the end landuse being a future Red Hill Landfill Cell (EMRC, 2007).</p> <p>The vegetation under application is described as <i>Corymbia calophylla</i>, <i>Eucalyptus marginata</i> and <i>Allocasuarina fraseriana</i> open woodland over pasture grasses.</p> <p>The vegetation includes: marri (<i>Corymbia calophylla</i>), jarrah (<i>Eucalyptus marginata</i>), and sheoak (<i>Allocasuarina fraseriana</i>), which is parkland cleared with the area dominated with introduced pasture grasses. The vegetation has a sparse tree layer (upper storey), no shrub layer (middle storey), and a lower storey of pasture grasses.</p> <p>A majority of the area under application (~7.3ha) was considered to be completely degraded. The area comprised isolated trees with introduced pasture grasses.</p> | <p>Completely Degraded: No longer intact; completely/almost completely without native species (Keighery 1994)</p> | <p>The condition of the native vegetation under application was sourced from the Site Inspection (2008). The condition of the area under application ranged from completely degraded to degraded.</p> |

As above

A section of the area under application (~5ha) was considered to be in a degraded condition. This area comprised stands of trees with introduced pasture grasses.

Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)

As above

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 area under application includes approximately 5ha of native vegetation within a 12.3ha area. The area under application has been subject to intensive sheep grazing with the area showing signs of disturbance from introduced pasture grasses (Site Inspection, 2008).

A site inspection (2008) of the area under application identified the vegetation as including marri (*Corymbia calophylla*), jarrah (*Eucalyptus marginata*), and sheoak (*Allocasuarina fraseriana*), which is parkland cleared with the area dominated with introduced pasture grasses. The vegetation has a sparse tree layer (upper storey), no shrub layer (middle storey), and a lower storey of predominantly pasture grasses with the overall condition considered to be degraded (Site Inspection, 2008).

A flora survey (EMRC, 2007) conducted in late October 2007 identified three native tree species (*Corymbia calophylla*, *Eucalyptus marginata* and *Allocasuarina fraseriana*), one large native shrub (*Dryandra sessilis*) and isolated plants of five native understorey species (*Thysanotus thyrsoides*, *Drosera erythrorhiza*, *Thelymitra macrophylla*, *Haemodorum paniculatum* and *Austrostipa semibarbata*) with the remainder of the plant species on the site being introduced.

Given the high level of disturbance from sheep grazing and introduced pasture grasses it is considered not likely that the area under application comprises a high level of biological diversity.

Methodology

References:

- EMRC (2007)
- Site inspection (2008)

(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**

Two fauna species of conservation significance, Chuditch (*Dasyurus geoffroii*) and Western Brush Wallaby (*Macropus irma*), have been recorded within the local area (5km radius). The nearest recorded fauna species is located approximately 3.9km north-east of the area under application.

The vegetation within the area under application included marri (*Corymbia calophylla*), jarrah (*Eucalyptus marginata*), and sheoak (*Allocasuarina fraseriana*), which is parkland cleared, with the area dominated with introduced pasture grasses (Site Inspection, 2008). The area under application was mostly devoid of native vegetation in the middle storey and lower storey, except for a few isolate plants (EMRC, 2007), which would provide minimal habitat value for ground dwelling fauna. Furthermore, no hollows were observed within the area under application (Site Inspection, 2008).

Given that the area under application is mostly devoid of native vegetation in the middle and lower story, there are no hollows and that the overall condition of the vegetation under application is degraded, the vegetation under application is not considered to be significant for native fauna; therefore the clearing as proposed is considered not likely to be at variance to this Principle.

Methodology

References:

- EMRC (2007)
 - Site Inspection (2008)
- GIS Database:
- SAC Bio Datasets 18012008

(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**

Four Declared Rare Flora (DRF) species are known to occur within the local area (8km radius), being *Thelymitra dedmaniarum*, *Anthocercis gracilis*, *Grevillea flexuosa* and *Acacia aphylla*. The closest known population of DRF is *Thelymitra dedmaniarum*, located approximately 5.3km north-west of the area under application. Of the four DRF, *Grevillea flexuosa* and *Acacia aphylla* are known to occur on the same soil type and within the same vegetation associations as the area under application.

In addition, nine Priority flora species are known to occur within the local area (5km radius), the closest being a population of *Templetonia drummondii* (Priority 4) located approximately 2.2km west of the area under application. Of these nine species *Grevillea pimeleoides* (Priority 4), *Templetonia drummondii* (Priority 4), *Calothamnus rupestris* (Priority 4), *Verticordia lindleyi* subsp. *lindleyi* (Priority 4) and *Tetratheca pilifera* (Priority 3) are known to occur within the same vegetation associations and on the same soil type as the area under application.

A flora survey (EMRC, 2007) conducted in late October 2007 identified three native tree species (*Corymbia calophylla*, *Eucalyptus marginata* and *Allocasuarina fraseriana*), one large native shrub (*Dryandra sessilis*) and isolated plants of five native understorey species (*Thysanotus thyrsoideus*, *Drosera erythrorhiza*, *Thelymitra macrophylla*, *Haemodorum paniculatum* and *Austrostipa semibarbata*) with the remainder of the plant species on the site being introduced. No declared rare or priority flora were identified (EMRC, 2007).

Given no Declared Rare flora or Priority flora were identified during the flora survey, the clearing is considered not likely to be at variance to this Principle.

Methodology Reference:
 - EMRC (2007)
 GIS Databases:
 - Matiske Vegetation - CALM 24/3/98
 - Pre-European Vegetation - DA 01/01
 - SAC Bio Datasets 18012008
 - Soils, Statewide - DA 11/99

(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 two occurrences of an Ecological Community located within the local area (5km radius). This recorded Ecological Community, being a Priority Ecological Community (PEC) is located approximately 4.2km west and 4.8km south of the area under application. This PEC has been identified as being Central Granite Shrublands. The nearest recorded Threatened Ecological Community, being Floristic Community type 3c: *Eucalyptus calophylla*-*Xanthorrhoea preissii* woodlands and shrublands, is located approximately 5.2km south-west of the area under application. Community type 3c typically occurs on the eastern side of the Swan Coastal Plain (Gibson et al, 1994).

Given the area under application is located on the Darling Range and not on the Swan Coastal Plain, the vegetation applied to be cleared is not likely to comprise or is necessary for the maintenance of a Threatened Ecological Community. Therefore the clearing as proposed is not likely to be at variance to this Principle.

Methodology Reference:
 - Gibson et al (1994)
 GIS Database:
 - SAC Bio Datasets 18012008

(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 vegetation under application is identified as Beard vegetation type 2003 and Matiske vegetation complex Dwellingup 2, of which there is 86.0% and 90.5% of native vegetation remaining, respectively (Shepherd et al, 2001; Matiske Consulting, 1980). In addition, the area under application is located within the Jarrah Forest Bioregion, of which there is 53.8% of native vegetation remaining.

The State Government is committed to the National Objectives and Targets for Biodiversity Conservation which includes a target that prevents the clearance of ecological communities with an extent below 30% of that present Pre-European settlement (Commonwealth of Australia, 2001). The Beard vegetation type and the Matiske vegetation complex in the area under application are above the recommended minimum of 30% representation. Further, aerial imagery and vegetation mapping of the local area (5km radius) shows ~75% remnant vegetation to be remaining.

Given that there is 53.8% of Pre-European extent remaining in the Bioregion; 86.0% and 90.5% of Pre-European extent remaining of the vegetation associations; and there is approximately 75% remnant vegetation remaining in the local area, the area under application is not considered to be significant as a remnant of native vegetation. Therefore, the clearing as proposed is considered not likely to be at variance to this Principle.

| | Pre-European (ha) | Current extent (ha) | Remaining (%) | In secure tenure (%) |
|----------------|----------------------|------------------------|------------------|-------------------------|
| IBRA Bioregion | | | | |

| | | | | |
|---------------------------------|--------------------------|-----------|-------|-----|
| Jarrah Forest* | 4,506,674 | 2,426,079 | 53.8 | NA |
| City of Swan** | 104,220 | 46,043 | 44.2 | NA |
| Local Area (5km radius) | ~7,850 | ~5,900 | ~75.0 | |
| Beard vegetation type*** | | | | |
| 2003 | 59,261 | 50,939 | 86.0 | 8.1 |
| Hedde vegetation complexes | | | | |
| Dwellingup Complex | No information available | | | |
| Murray & Bindoon Complex | No information available | | | |
| Mattiske vegetation complex**** | | | | |
| Dwellingup 2 | 860,918 | 779,190 | 90.5 | NA |

* (Shepherd, 2006)

** (Del Marco et al, 2004)

*** (Shepherd et al, 2001)

**** (Mattiske Consulting, 1980)

Methodology

References:

- Commonwealth of Australia (2001)
- Del Marco et al (2004)
- Hedde et al (1980)
- Mattiske Consulting (1998)
- Shepherd et al (2001)
- Shepherd (2006)

GIS Databases:

- Pre-European Vegetation - DA 01/01
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00
- Hedde Vegetation Complexes - DEP 21/06/95
- NLWRA, Current Extent of Native Vegetation - DA 30/01/01
- Swan Coastal Plain North 20cm Orthomosaic - DLI06

(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**

There are no wetlands or watercourses mapped within the area under application with the closest water bodies being two minor non-perennial creeks (tributaries of Susannah Brook and Jane Brook) located approximately 250m north and 950m south of the applied area. Further, a site inspection (2008) of the area under application did not identify any wetland dependant vegetation.

Given the distance to the nearest watercourse from the area under application, the clearing as proposed is considered not likely to be at variance to this Principle.

Methodology

Reference:

- Site Inspection (2008)

GIS Databases:

- Geodata, Lakes - GA 28/06/02
- Hydrography, linear - DOE 1/2/04
- Rivers, DoW

(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 landform of the area under application and its surrounds can be described as dissected plateau having a strongly undulating relief, characterized by lateritic gravels and block laterite (Northcote et al, 1960). The chief soils are ironstone gravels with sandy and earthy matrices (Northcote et al, 1960). These soils are not considered to be at risk of wind erosion and may be at risk to water erosion.

Contour mapping identifies gentle relief (~6% gradient) (Wells, 1998) with the area under application located upper slope in the landscape. The clearing as proposed (5ha of native vegetation within a 12.3ha area) may result in an increase in surface water runoff causing erosion gullies.

Given the gravel in the surface horizons and the associated water erosion risk, the clearing as proposed is considered to may be cause appreciable land degradation; however, this will be managed under the Extractive Industry Licence.

Methodology **References:**
- Northcote et al (1960)
- Wells (1998)
GIS Databases:
- Soils, Statewide - DA 11/99
- Topographic Contours, Statewide - DOLA 12/09/02

(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**

There are two conservation reserves within the local area (5km radius), being John Forest National Park (also identified as a System 6 Conservation Reserve) located 1.0km south-west and Parkerville Nature Reserve located 3.9km south south-east of the area under application. In addition, aerial mapping of the local area confirms limited connectivity from the area under application to the conservation areas. In addition, the overall condition of the native vegetation was considered to be degraded (Site Inspection, 2008).

Given the distance of the area under application to the reserves, the degraded condition of the native vegetation and the limited connectivity it is unlikely that the clearing of the vegetation under application will impact on the environmental values of the conservation areas.

Methodology **References:**
- Site Inspection (2008)
GIS databases:
- DEC Managed Lands and Waters - CALM 1/07/05
- System 6 Conservation Reserves - DEP 06/95

(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**

There are no wetlands or watercourses mapped within the area under application with the closest water bodies being two minor non-perennial creeks (tributaries of Susannah Brook and Jane Brook) located approximately 250m north and 950m south of the applied area. The area under application is located upper slope in the landscape with topographic contours identifying Susannah Brook as being down-gradient of the area under application.

The area under application is not located in a Public Drinking Water Source Area and there is a low salinity risk.

Given the distance to the nearest watercourses and the low salinity risk, the clearing as proposed is considered not likely to cause deterioration in the quality of surface water.

Methodology **GIS Databases:**
- Hydrography, linear - DOE 01/02/04
- Public Drinking Water Source Areas (PDWSAs) - DOW
- Salinity Risk LM 25m - DOLA 00
- Topographic Contours, Statewide - DOLA 12/09/02

(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**

There are no wetlands or watercourses mapped within the area under application with the closest water bodies being two minor non-perennial creeks (tributaries of Susannah Brook and Jane Brook) located approximately 250m north and 950m south of the applied area, and as such it is considered that the clearing as proposed is unlikely to cause or increase the incidence or intensity of localised flooding. Therefore, this clearing proposal is not likely to be at variance to this Principle.

Methodology **GIS Databases:**
- Geodata, Lakes - GA 28/06/02
- Hydrography, linear - DOE 1/2/04
- Rivers, DoW

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

Comments

The area under application is within the Proclaimed Surface Water Area of Swan River and Tributaries Catchment. Therefore any abstraction of surface water above the riparian rights (>1,500kL) would require a licence. This application is for the extraction of lateritic caprock and clay is not associated with surface water extraction.

On the 16 November 2007 the Western Australian Planning Commission (2007) granted an Approval to Commence Development with 11 conditions. The approval allowed for extractive industry (excavation of lateritic caprock and clay) and filling the excavation with waste within Lot 12.

The City of Swan (2008) issued an Excavation Licence (Licence No. DA-826/2006) to the Eastern Metropolitan Regional Council for Lot 12 Toodyay Road.

There is no other RIWI Act Licence, Works Approval or EP Act Licence that affects the areas under application.

There is one Aboriginal Site of Significance listed within the areas under application, the applicant will be advised of their obligations under the Aboriginal Heritage Act 1972.

Lot 12 on Plan 26468 is freehold land owned by the Eastern Metropolitan Regional Council. Lot 12 is zoned Rural under the Metropolitan Regional Scheme and zoned Resource under the Local Town Planning Scheme.

Methodology

References:

- City of Swan (2008)
- WA Planning Commission (2007)

GIS databases:

- Aboriginal Sites of Significance - DIA 28/02/03
- Metropolitan Regional Scheme - DPI 07/10/05
- RIWI Act, Groundwater Areas - DOW
- RIWI Act, Surface Water Areas - DOW
- Town Planning Scheme Zones

4. Assessor's comments

| Purpose | Method | Applied area (ha)/ trees | Comment |
|---------------------|--------------------|--------------------------|--|
| Extractive Industry | Mechanical Removal | 5 | The assessable criteria have been addressed and the clearing as proposed is may be at variance to Principle (g). |

5. References

- City of Swan (2008) Excavation Licence from the City of Swan. TRIM Ref DOC45509
- Commonwealth of Australia (2001). National Targets and Objectives for Biodiversity Conservation 2001-2005, AGPS, Canberra.
- Del Marco, A., Miles, C., Taylor, R., Clarke, K. and Savage, K. (2004) Local Government Biodiversity Planning Guidelines for the Perth Metropolitan Region - Edition 1. Western Australian Local Government Association, West Perth.
- EMRC (2007) Clearing application and supporting documentation, Eastern Metropolitan Regional Council. TRIM Ref DOC42573
- Gibson N., Keighery B., Keighery G., Burbidge A. and Lyons M. (1994). A Floristic Survey of the Southern Swan Coastal Plain. Western Australian Department of Conservation and Land Management and the Western Australian Conservation Council.
- Hedde, E. M., Loneragan, O. W., and Havel, J. J. (1980) Vegetation Complexes of the Darling System, Western Australia. In Department of Conservation and Environment, Atlas of Natural Resources, Darling System, Western Australia.
- Hopkins, A.J.M., Beeston, G.R. and Harvey J.M. (2001) A database on the vegetation of Western Australia. Stage 1. CALMScience after J. S. Beard, late 1960's to early 1980's Vegetation Survey of Western Australia, UWA Press.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Mattiske Consulting (1998) Mapping of vegetation complexes in the South West forest region of Western Australia, CALM.
- 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. (2006). Adapted from: 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. Includes subsequent updates for 2006 from Vegetation Extent dataset ANZWA1050000124.
- Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia.
- Site Inspection (2008) Site Inspection Report, Department of Environment and Conservation (DEC), Western Australia. TRIM Ref DOC44084
- WA Planning Commission (2007) Approval to Commence Development, Western Australian Planning Commission. TRIM Ref

6. Glossary

| Term | Meaning |
|-------|--|
| BCS | Biodiversity Coordination Section of DEC |
| CALM | Department of Conservation and Land Management (now BCS) |
| DAFWA | Department of Agriculture and Food |
| DEC | Department of Environment and Conservation |
| DEP | Department of Environmental Protection (now DEC) |
| DoE | Department of Environment |
| DoIR | Department of Industry and Resources |
| DRF | Declared Rare Flora |
| EPP | Environmental Protection Policy |
| GIS | Geographical Information System |
| ha | Hectare (10,000 square metres) |
| TEC | Threatened Ecological Community |
| WRC | Water and Rivers Commission (now DEC) |

