



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: CPS 8040/1
File Number: DER2018/000618
Duration of Permit: From xx xxx xxxx to xx xxx xxxx

PERMIT HOLDER

Shire of Chittering

LAND ON WHICH CLEARING IS TO BE DONE

Road reserve (PIN 11727285), Muchea
Road reserve (PIN 11549848), Muchea
Road reserve (PIN 11727289), Muchea
Lot 5 on PLAN 49665, Muchea

AUTHORISED ACTIVITY

The Permit Holder shall not clear more than 0.09 hectares of native vegetation within the area shaded yellow on attached Plan 8040/1.

CONDITIONS

1. Avoid, minimise and reduce the impacts and extent of 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.

2. 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.

3. Records must be kept

The Permit Holder must maintain the following records for activities done pursuant to this Permit, in relation to the clearing of native vegetation authorised under this Permit:

- (a) 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 or decimal degrees;
- (b) the date that the area was cleared;
- (c) the size of the area cleared (in hectares);
- (d) actions taken to avoid, minimise and reduce the impacts and extent of clearing in accordance with condition 1 of this Permit; and
- (e) actions taken to minimise the risk of the introduction and spread of *dieback* and *weeds* in accordance with condition 2 of this Permit.

4. Reporting

The Permit Holder must provide to the *CEO* the records required under condition 3 of this Permit, when requested by the *CEO*.

DEFINITIONS

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

CEO means the Chief Executive Officer of the Department responsible for the administration of the clearing provisions under the *Environmental Protection Act 1986*;

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

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 Biodiversity, Conservation and Attractions Regional Weed Rankings Summary, regardless of ranking; or
- (c) not indigenous to the area concerned.

XXXXX XXXXXXXXXXXXX
 XXXXXXXXX
 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

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

DD MM YYYY

Draft Plan 8040/1



Legend

- Areas approved to clear
- Roads
- Local Government Authority cadastre
- Cadastre
- WANow_Imagery



MGA 94
Geocentric Datum of Australia 1994

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



GOVERNMENT OF
WESTERN AUSTRALIA



1. Application details

1.1. Permit application details

Permit application No.: CPS 8040/1
Permit type: Area Permit

1.2. Applicant details

Applicant's name: Shire of Chittering

1.3. Property details

Property: ROAD RESERVE - 11727285, MUCHEA
ROAD RESERVE - 11549848, MUCHEA
ROAD RESERVE - 11727289, LOWER CHITTERING
Lot 5 on PLAN 49665, MUCHEA

Local Government Authority: Shire of Chittering
DBCA Region: Swan
Localities: MUCHEA

1.4. Application

| Clearing Area (ha) | No. Trees | Method of Clearing | For the purpose of: |
|--------------------|-----------|--------------------|-------------------------------|
| 0.09 | 0 | Mechanical Removal | Road construction or upgrades |

1.5. Decision on application

Decision on Permit Application: Undertaking to grant

Decision Date: 26 June 2018

Reasons for Decision: The clearing permit application was received on 9 April 2018 and has been assessed against the clearing principles, planning instruments and other matters in accordance with section 51O of the *Environmental Protection Act 1986*, and it has been concluded that the proposed clearing is not likely to be at variance to any of the clearing principles.

In undertaking to grant a clearing permit, the Delegated Officer determined that the proposed clearing is not likely to have any unacceptable environmental impacts.

2. Site Information

Clearing Description: The application is for the proposed clearing of 0.09 hectares of native vegetation within Muchea East Road reserves (PINs 11727285, 11549848 and 11727289) and Lot 5 on Plan 49665, Muchea and Lower Chittering, for the purposes of a blackspot funded road realignment. The application area is shown in Figure 1.

Vegetation Description: The vegetation within the application area is mapped as Reagan Complex (System 65): Vegetation ranges from low open woodland of *Banksia* spp., *Eucalyptus tottiana* (pricklybark) to closed heath depending on the depth of soil (Government of Western Australia, 2018).

The composition and structure of the vegetation within the application area was determined from photographs provided by the applicant (Shire of Chittering, 2018):

- introduced pasture species, *Banksia sessilis* (parrot bush), *Xanthorrhoea preissii* (grass tree), *Acacia* sp. and *Eucalyptus* spp. saplings in completely degraded condition (Photograph 1, Figure 2);
- *Corymbia calophylla* (marri) and *Eucalyptus marginata* (jarrah) over pasture species in completely degraded condition (Photographs 2-3, Figure 2);
- planted regrowth area with a mixture of introduced *Eucalyptus* spp., *Eucalyptus wandoo* (wandoo), marri over *Melaleuca* sp. in degraded condition (Photographs 4-7, Figure 2); and
- the western portion of the application area comprises marri and *Eucalyptus* spp. in completely degraded condition (Photograph 8, Figure 2).

Vegetation Condition: The condition of the vegetation within the application area was determined from photographs provided by the applicant (Shire of Chittering, 2018):

- Degraded: basic vegetation structure severely impacted by disturbance, scope for regeneration but not to a state approaching good condition without intensive management; to
- Completely Degraded: the structure of the vegetation is no longer intact and the area is completely or almost completely without native species (Keighery, 1994).

Soil and Landform Type: The application area is mapped as Reagan 5 Subsystem (222Re_5), described as level to very gently inclined swampy drainage lines with poorly drained grey siliceous and pale yellow-brown sands (Schoknecht et al., 2004).

The soil within the application area is mapped as Wd9, described as broad valleys and undulating interfluvial areas with some discontinuous breakaways and occasional mesas; lateritic materials mantle the area: chief

soils are sandy acidic yellow mottled soils, containing much ironstone gravel in the A horizons, forming a complex pattern with lateritic sandy gravels; associated are leached sands underlain by lateritic gravels and mottled clays that occur at a progressively greater depth down slope (Northcote et al. 1960-68).

Comments: The local area referred to in the assessment of this application is defined as a 10 kilometre radius measured from the perimeter of the application area. The local area contains approximately 35 per cent native vegetation cover.

Figure 1: Map of application area (cross-hatched blue)



Figure 2: Photographs of vegetation within the application area
 (Photographs 1-7: eastern portion of the application area; Photograph 8: western portion of the application area)



Photograph 1: Introduced pasture species, parrot bush, grass tree, *Acacia* sp. and *Eucalyptus* spp. saplings; vegetation in completely degraded condition (Shire of Chittering, 2018).



Photograph 2: marri and jarrah over pasture species; vegetation in completely degraded condition (Shire of Chittering, 2018).



Photograph 3: marri and jarrah over pasture species; vegetation in completely degraded condition (Shire of Chittering, 2018).



Photograph 4: Planted regrowth area with a mixture of introduced *Eucalyptus* spp., wandoo, marri over *Melaleuca* sp.; vegetation in degraded condition (Shire of Chittering, 2018).



Photograph 5: Planted regrowth area with a mixture of introduced *Eucalyptus* spp., wandoo, marri over *Melaleuca* sp.; vegetation in degraded condition (Shire of Chittering, 2018).



Photograph 6: Planted regrowth area with a mixture of introduced *Eucalyptus* spp., wandoo, marri over *Melaleuca* sp.; vegetation in degraded condition (Shire of Chittering, 2018).



Photograph 7: Planted regrowth area with a mixture of introduced *Eucalyptus* spp., wandoo, marri over *Melaleuca* sp.; vegetation in degraded condition (Shire of Chittering, 2018).



Photograph 8: Western portion of application area comprise one marri and two *Eucalyptus* spp. trees over introduced grasses; vegetation in completely degraded condition (Shire of Chittering, 2018).

3. Assessment of application against clearing principles

According to available databases, eight rare flora species and 27 priority flora species have been recorded within the local area. Based on the mapped soil and vegetation types within application area, four rare flora species, five Priority 2 flora species (being species that are known from a few populations, some occurring within conservation lands such as nature reserves or national parks (Jones, 2015)), three Priority 3 flora species (being species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat (Jones, 2015)) and two Priority 4 flora species (being species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change (Jones, 2015)), could potentially occur within the application area:

- *Drosera sewelliae* (red woolly sundew, Priority 2) is known from a total of 10 records between Muchea and Toodyay, at sites generally associated with lateritic and siliceous sandy soils with open jarrah and marri woodlands (Western Australian Herbarium, 1998-). The nearest record of this species is approximately three kilometres from the application area.
- *Verticordia lindleyi* subsp. *lindleyi* (Priority 4) is known from a total of 81 records between Dandaragan and Busselton, in swampy areas with sandy clay soils with open woodlands (Western Australian Herbarium, 1998-). The nearest record of this species is approximately 3.2 kilometres from the application area.
- *Grevillea althoferorum* subsp. *fragilis* (Threatened) is known from a total of 10 records between Chittering and Bullsbrook, in flat plains associated with greyish-yellow sand and *Banksia* spp.-marri woodland (Western Australian Herbarium, 1998-). The nearest record of this species is approximately four kilometres from the application area.
- *Eryngium pinnatifidum* subsp. *palustre* (G.J. Keighery 13459) (Priority 3) is known from a total of 13 records between Chittering and Mandurah, associated with winter wet flats with sand over clay and *Melaleuca* spp. open scrublands (Western Australian Herbarium, 1998-). The nearest record of this species is approximately 4.3 kilometres from the application area.
- *Adenanthos cygnorum* subsp. *chamaephyton* (Priority 3) is known from a total of 21 records between Moora and Collie, at sites generally associated with grey sand over loam with jarrah woodlands (Western Australian Herbarium, 1998-). The nearest record of this species is approximately 4.5 kilometres from the application area.
- *Darwinia foetida* (Threatened) is known from a total of 16 records between Muchea and Bullsbrook, in winter wet flats with grey sandy soils, in *Banksia-Regelia-Kunzea-Hakea* species associated woodlands over heath (Western Australian Herbarium, 1998-). The nearest record of this species is approximately 4.5 kilometres from the application area.
- *Grevillea curviloba* subsp. *curviloba* (Threatened) is known from a total of 19 records between Bullsbrook and Ellenbrook, generally found in winter wet areas with peaty sand over clay, in association with open scrublands of *Melaleuca-Acacia-Regelia-Hakea* species (Western Australian Herbarium, 1998-). The nearest record of this species is approximately 4.5 kilometres from the application area.
- *Grevillea curviloba* subsp. *incurva* (Threatened) is known from a total of 45 records between Gingin and Chittering, in semi-disturbed areas having white sandy soils with scrublands having scattered marri trees (Western Australian Herbarium, 1998-). The nearest record of this species is approximately 4.5 kilometres from the application area.
- *Isotropis cuneifolia* subsp. *glabra* (Priority 2) is known from a total of 17 records between Gingin and Gosnells, in low-lying seasonally inundated flat areas with brown-grey sandy-clay-loamy soils with open low woodlands/scrublands over herbs (Western Australian Herbarium, 1998-). The nearest record of this species is approximately five kilometres from the application area.
- *Platysace ramosissima* (Priority 3) is a perennial herb known from a total of 15 records between Dandaragan and Capel, in association with sandy soils and *Banksia* woodlands (Western Australian Herbarium, 1998-). The nearest record of this species is approximately five kilometres from the application area.
- *Gastrolobium nudum* (Priority 2) is known from a total of 14 records in Lower Chittering, Gidgegannup and the Avon Valley national park area, in sites associated with brown sand-gravel over laterite in woodlands of jarrah, marri and wandoo over tall open scrublands (Western Australian Herbarium, 1998-). The nearest record of this species is approximately 7.6 kilometres from the application area.
- *Eryngium pinnatifidum* subsp. *umbrophilum* (G.J. Keighery 13967) (Priority 2) is known from a total of five records between Gingin and Mandurah in association with winter wet flats having grey sandy clay soils with woodlands of *Eucalyptus* spp.-*Melaleuca* spp.-*Banksia* spp. species (Western Australian Herbarium, 1998-). The nearest record of this species is approximately eight kilometres from the application area.
- *Schoenus griffinianus* (Priority 4) is a perennial grass-like herb known from a total of 38 records between Dongara and Mundaring, in association with white sandy soils and disturbed vegetation such as cleared areas and rehabilitation sites (Western Australian Herbarium, 1998-). The nearest record of this species is approximately 9.4 kilometres from the application area.
- *Leucopogon squarrosus* subsp. *trigynus* (Priority 2) is known from a total of 16 records between Gingin and Chittering, at sites generally associated with white sandy soils with *Banksia* spp. woodlands (Western Australian Herbarium, 1998-). The nearest record of this species is approximately 9.6 kilometres from the application area.

Noting the distances to the above records and the condition of the vegetation within the application area, in particular the degraded to completely degraded (Keighery, 1994) condition of the understorey, the above species are not likely to occur within the application area. The application area is unlikely to include, or be necessary for the continued existence of, rare flora.

According to available databases, seven threatened fauna species, four priority fauna species and two other specially protected fauna species have been recorded within the local area (DBCA, 2007-). The application area is within the mapped confirmed breeding area of Carnaby's cockatoo (*Calyptorhynchus latirostris*), and within the known range of forest red-tailed black cockatoo (*Calyptorhynchus banksii* subsp. *naso*). These species are listed as endangered and vulnerable under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* respectively. These species nest in hollows in live or dead trees, generally in woodland or forests, but may also breed in former woodland or forest now present as isolated trees (Commonwealth of Australia, 2012). Photographs proposed by the applicant (Figure 2) indicate that the trees within the application area are not of sufficient age or size to contain hollows suitable for use as breeding habitat for black cockatoos. Noting the extent of the proposed clearing and the condition of the vegetation within the application area, and the extent of native vegetation within the local area, the application area is not likely comprise significant habitat for indigenous fauna, including species of conservation significance.

According to available databases, seven threatened ecological communities (TEC) and two priority ecological communities (PEC) have been recorded in the local area. Approximately 45 per cent of the application area (western portion) is mapped as the ecological community 'Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region', listed as 'Priority 3(iii)' by the Department of Biodiversity, Conservation and Attractions, and as an 'Endangered' TEC under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*. The Approved Conservation Advice for this TEC specifies a number of key diagnostic criteria for vegetation to be considered representative of this TEC (TSSC, 2016). Noting these criteria, the vegetation within the application area does not meet the minimum patch size or condition threshold to be classified as this TEC.

The other TECs and PEC occur more than 4.6 kilometres from the application area. Noting the species composition of these TECs and PEC, the type and condition of the vegetation within the application area, and the extent of the proposed clearing, the application area is not likely to comprise these TECs or PEC. The application area is not likely to comprise the whole or part of, or be necessary for the maintenance of, a TEC.

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 Swan Coastal Plain Interim Biogeographic Regionalisation of Australia bioregion retains approximately 578,997 hectares (38 per cent) of its pre-European extent of native vegetation, and the mapped Hedde Vegetation Complex retains approximately 3,106 hectares (34 per cent) of its pre-European extent within the Swan Coastal Plain IBRA Bioregion (Government of Western Australia, 2018). On this basis, and noting the extent of the proposed clearing, the extent of native vegetation within the local area, and that the application area is not likely to include flora or ecological communities of conservation significance or comprise significant habitat for indigenous fauna, the application area is unlikely to be significant as a remnant of native vegetation in an area that has been extensively cleared.

According to available databases, no natural watercourses intersect the application area. The application area is approximately 35 metres south of an unnamed 'multiple use' wetland, and approximately 110 metres south of a watercourse. The proximity to this wetland indicates that the application area may comprise fringing vegetation associated with this wetland. However, noting the size of the application area and the type and condition of the vegetation as determined from photographs provided by the applicant, the proposed clearing is not likely to impact on vegetation growing in association with a wetland or watercourse.

According to available databases, the nearest conservation area is a privately-managed conservation area located approximately 200 metres from the application area. This conservation area has linkages across the landscape with other remnant vegetation in the local area to the north and the northwest, and is separated from the application area by scattered vegetation and cleared land. Three nature reserves occur in the local area; Bullsbrook Nature Reserve is located approximately 4.6 kilometres south of the application area, Barracca Nature Reserve is approximately six kilometres north of the application area, and Chandala nature reserve approximately 9.9 kilometres north-west of the application area. Noting the extent of the proposed clearing and the condition of the vegetation within the application area, the proposed clearing is not likely to impact on the environmental values of nearby conservation areas.

According to available databases, the application area has relatively flat topography, an average rainfall of 800 millimetres per annum, and groundwater salinity between 1,000-3,000 total dissolved solids (milligrams per litre). Noting this, the mapped soil type, the extent of the proposed clearing, and the condition of the vegetation within the application area, the proposed clearing is unlikely to cause appreciable land degradation, or cause deterioration in the quality of surface or underground water, or cause or exacerbate the incidence or intensity of flooding.

The application area is adjacent to remnant vegetation, and the proposed clearing is likely to increase the risk of introduction or spread of weeds and dieback into adjacent vegetation. Weed and dieback management will assist in managing this risk.

The assessment has found that the proposed clearing is not likely to be at variance to any of the clearing principles.

Planning instruments and other relevant matters

The application was advertised on the Department of Water and Environmental Regulation's website on 2 May 2018 for a 14-day public submission period. No submissions were received in relation to this application.

According to available databases, the application area is within a registered Aboriginal site of significance 'Ellen Brook: Upper Swan'. It is the applicant's responsibility to comply with the requirements of the *Aboriginal Heritage Act 1972* and to ensure that no Aboriginal sites of significance are damaged through the clearing process.

4. References

- 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 Biodiversity, Conservation and Attractions (DBCA) (2007-) NatureMap: Mapping Western Australia's Biodiversity. Department of Parks and Wildlife. URL: <http://naturemap.dpaw.wa.gov.au/>. Accessed May 2018.
- Government of Western Australia (2018) 2017 South West Vegetation Complex Statistics. Current as of October 2017. WA Department of Biodiversity, Conservation and Attractions, Perth, <https://catalogue.data.wa.gov.au/dataset/dbca>
- Jones, A. (2015) Threatened and Priority Flora List, 11 November 2015. Department of Parks and Wildlife: Kensington, WA.
- 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.
- Schoknecht, N., Tille, P. and Purdie, B. (2004) Soil-landscape mapping in South-Western Australia – Overview of Methodology and outputs' Resource Management Technical Report No. 280. Department of Agriculture.
- Shire of Chittering (2018). Photographs of the application area sent by the applicant on request (DWER Ref: A1689276, A1689279, A1689282 and A1689284).
- Threatened Species Scientific Committee (TSSC) (2016). Approved Conservation Advice (incorporating listing advice) for the Banksia Woodlands of the Swan Coastal Plain ecological community. Canberra: Department of the Environment and Energy. Available from: <http://www.environment.gov.au/biodiversity/threatened/communities/pubs/131-conservation-advice.pdf>.
- Western Australian Herbarium (1998-). FloraBase - the Western Australian Flora. Department of Biodiversity, Conservation and Attractions. <https://florabase.dpaw.wa.gov.au/> Accessed May/June 2018.

GIS Databases:

- Aboriginal Sites of Significance
- Bush Forever Sites
- Clearing Regulations - Environmentally Sensitive Areas
- Carnaby's cockatoo: breeding, roosting, feeding
- Department of Biodiversity Conservation and Attractions, Tenure
- Geomorphic Wetlands, Swan Coastal Plain
- Groundwater salinity, statewide
- Heddl Vegetation
- Hydrology, linear
- IBRA Australia
- Land Conservation Districts
- Land for Wildlife
- PDWSA, CAWSA, RIWI Act Areas
- Remnant vegetation
- SAC Biodatasets (accessed June 2018)
- Soils, statewide
- Town Planning Scheme Zones