GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 8219/1
Permit Holder:	Commissioner of Main Roads
Duration of Permit:	5 January 2019 – 5 January 2024

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 the construction of a grade separated interchange and associated road construction.

2. Land on which clearing is to be done

LOT 1 ON DIAGRAM 64351, HIGH WYCOMBE
LOT 11347 ON PLAN 16894, MAIDA VALE
LOT 12730 ON PLAN 219534, MAIDA VALE
LOT 13 ON PLAN 4666, HIGH WYCOMBE
LOT 14 ON PLAN 4666, HIGH WYCOMBE
LOT 152 ON DIAGRAM 44764, HIGH WYCOMBE
LOT 20 ON DIAGRAM 53191, HIGH WYCOMBE
LOT 3 ON PLAN 12981, MAIDA VALE
LOT 50 ON PLAN 6909, HIGH WYCOMBE
LOT 726 ON DIAGRAM 70190, MAIDA VALE
LOT 800 ON PLAN 63033, MAIDA VALE
ROAD RESERVE – 11111515, HIGH WYCOMBE
ROAD RESERVE – 11303142, HIGH WYCOMBE
ROAD RESERVE – 11303149, HIGH WYCOMBE
ROAD RESERVE – 11558844, MAIDA VALE
ROAD RESERVE - 11569635, HIGH WYCOMBE
ROAD RESERVE - 11569683, HIGH WYCOMBE
ROAD RESERVE – 11572178, MAIDA VALE
ROAD RESERVE – 11572989, HIGH WYCOMBE
ROAD RESERVE – 11573952, HIGH WYCOMBE
ROAD RESERVE - 11574214, MAIDA VALE
ROAD RESERVE - 11574215, HIGH WYCOMBE
ROAD RESERVE – 11841152, HIGH WYCOMBE
ROAD RESERVE – 11845972, MAIDA VALE
ROAD RESERVE – 11846030, HIGH WYCOMBE
ROAD RESERVE – 11879977, HIGH WYCOMBE
ROAD RESERVE – 11879979, MAIDA VALE
ROAD RESERVE – 11879980, HIGH WYCOMBE
ROAD RESERVE – 12283554, HIGH WYCOMBE
ROAD RESERVE – 12283585, HIGH WYCOMBE

3. Area of Clearing

The Permit Holder must not clear more than 0.33 hectares of native vegetation within the area cross-hatched yellow on attached Plan 8219/1.

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. Type of clearing authorised

This Permit authorises the Permit Holder to clear native vegetation for the activities described in condition 1 of this Permit to the extent that the Permit Holder has the power to carry out works involving clearing for those activities under the *Main Roads Act 1930* or any other written law.

PART II –MANAGEMENT CONDITIONS

6. 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.

PART III - RECORD KEEPING AND REPORTING

7. Records must be kept

The Permit Holder must maintain the following records 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 the extent of clearing in accordance with condition 6 of this Permit; and

8. Reporting

The Permit Holder must provide to the CEO the records required under Condition 7 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;*

Ryan Mincham
2018.12.06
16:20:16 +08'00'

_____

Ryan Mincham
MANAGER
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

6 December 2018

Plan 8219/1

Legend

- Imagery
- Clearing Instruments Activities
- Local Government Authority

N

0 500m

1:10,240

(Approximate when reproduced at A4)

GDA 94 (Lat/Long)

Geocentric Datum of Australia 1994

Ryan Mincham
2018.12.06 16:18:52
+08'00'

..... Date .....

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

GOVERNMENT OF WESTERN AUSTRALIA

Government of Western Australia
Department of Water and Environmental Regulation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 8219/1
Permit type: Purpose Permit

1.2. Applicant details

Applicant's name: Commissioner of Main Roads
Application received date: 10 October 2018

1.3. Property details

Property:
LOT 1 ON DIAGRAM 64351, HIGH WYCOMBE
LOT 11347 ON PLAN 16894, MAIDA VALE
LOT 13 ON PLAN 4666, HIGH WYCOMBE
LOT 14 ON PLAN 4666, HIGH WYCOMBE
LOT 152 ON DIAGRAM 44764, HIGH WYCOMBE
LOT 20 ON DIAGRAM 53191, HIGH WYCOMBE
LOT 3 ON PLAN 12981, MAIDA VALE
LOT 726 ON DIAGRAM 70190, MAIDA VALE
LOT 50 ON PLAN 6909, HIGH WYCOMBE
LOT 12730 ON PLAN 219534, MAIDA VALE
LOT 800 ON PLAN 63033, MAIDA VALE
ROAD RESERVE - 11574214, MAIDA VALE
ROAD RESERVE - 11574215, HIGH WYCOMBE
ROAD RESERVE - 11569635, HIGH WYCOMBE
ROAD RESERVE - 11569683, HIGH WYCOMBE
ROAD RESERVE – 11846030, HIGH WYCOMBE
ROAD RESERVE – 11879977, HIGH WYCOMBE
ROAD RESERVE – 11303142, HIGH WYCOMBE
ROAD RESERVE – 11845972, MAIDA VALE
ROAD RESERVE – 11879979, MAIDA VALE
ROAD RESERVE – 11841152, HIGH WYCOMBE
ROAD RESERVE – 11111515, HIGH WYCOMBE
ROAD RESERVE – 11572989, HIGH WYCOMBE
ROAD RESERVE – 11303149, HIGH WYCOMBE
ROAD RESERVE – 12283554, HIGH WYCOMBE
ROAD RESERVE – 11879980, HIGH WYCOMBE
ROAD RESERVE – 11573952, HIGH WYCOMBE
ROAD RESERVE – 11558844, MAIDA VALE
ROAD RESERVE – 12283585, HIGH WYCOMBE
ROAD RESERVE – 11572178, MAIDA VALE

Local Government Authority: City of Kalamunda
Localities: High Wycombe and Maida Vale

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	Purpose category:
0.33		Mechanical Removal	Road construction or upgrades

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 6 December 2018
Reasons for Decision: The clearing permit application was received on 10 October 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*. It has been concluded that the proposed clearing is not likley to be at variance to the clearing Principles.

The Delegated Officer noted the degraded (Keighery, 1994) condition of the application area (the road corridor). It is also noted that prior to the original construction of Roe Highway in the 1980's by Main Roads Western Australia (MRWA), the majority of the (current) clearing footprint was used for agricultural purposes and comprised scattered remnant trees (MRWA, 2018). Following construction, MRWA intentionally planted the area with jarrah, marri, tuart, banksia and various shrub species (360 Environmental, 2018).

In determining to grant a clearing permit with reporting conditions, the Delegated Officer determined that the proposed clearing is unlikely to lead to any unacceptable impact to the environment.

2. Site Information

Clearing Description

The application is to clear 0.33 hectares of native vegetation within a 23 hectare clearing footprint over various land parcels (as outlined in section 1.3 above) in order to upgrade the Roe Highway and Kalamunda Road intersection to a grade separated intersection. The vegetation under application occurs north of Kalamunda Road along the Roe Highway western and eastern corridor. Reference to 'the application area' in this assessment covers ten scattered remnants, comprising either isolated trees or clumps of trees (refer to Figure 1).

Vegetation Description

The local area is historically mapped as Heddle's Forrestfield Vegetation Complex described as an open forest and fringing woodland ranging from open forest of *Corymbia calophylla* (marri) - *Eucalyptus wandoo* (wandoo) – *E. marginata* (jarrah) to open forest of jarrah – marri - *Allocasuarina fraseriana* (sheoak) and *Banksia* species. Fringing woodland of *E. rudis* (flooded gum) in the gullies that dissect this landform (Government of Western Australia, 2018; Heddle et al, 1980).

Prior to the original construction of Roe Highway in the 1980's by Main Roads Western Australia (MRWA), the majority of the (current) clearing footprint was used for agricultural purposes and comprised scattered remnant trees (MRWA, 2018). Following construction, MRWA intentionally planted the area with jarrah, marri, tuart, banksia and various shrub species (360 Environmental, 2018).

Based on a Level 2 flora, vegetation and fauna survey by consultants '360 Environmental' (360 Environmental, 2018), the vegetation in the clearing footprint was noted as being extremely fragmented with the majority of the footprint area devoid of vegetation, or consisting of intentionally planted endemic and non-endemic species and exotic species. There are however several remnants of native vegetation in a good or better (Keighery, 1994) condition outside the northern end of the current clearing footprint, which do not form part of this clearing assessment, or the current intersection upgrade.

The proposed clearing will also include 7.38 hectares of endemic vegetation historically planted by MRWA following Roe Highway construction, as noted above. This assessment will not include this planted vegetation as it is not considered 'native vegetation' as defined in Part 5, section 51A of the *Environmental Protection Act 1986*.

Vegetation Condition

The 0.33 hectares of native vegetation under application is naturally occurring, but given the historic and current landuse as a transport corridor, it is in a degraded to completely degraded (Keighery, 1994) condition (360 Environmental, 2018; MRWA, 2018) and defined as:

- 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: structure of the vegetation is no longer intact and the area is completely or almost without native species

Soil type

The soil type of the application area is mapped as Bassendean Sand described as sand, very light grey at surface, yellowing at depth, fine to medium grained, sub-rounded quartz, trace of feldspar, moderately sorted, of residual origin (360 Environmental, 2018; DPIRD, 2017).

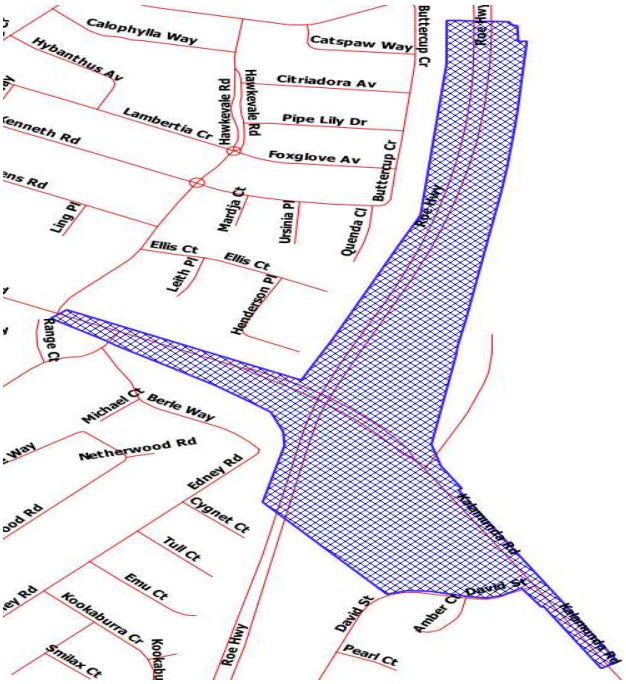

Figure 1 – Vegetation clearing footprint

3. Minimisation and mitigation measures

MRWA have advised the following minimisation and mitigation measures will be implemented to reduce environmental harm (MRWA, 2018):

- road design has been altered and retaining walls to be installed adjacent to a threatened ecological community and rare flora population to avoid clearing native vegetation in these areas;
- site office, materials storage areas, construction vehicles/machinery and access tracks will be located on previously disturbed or cleared areas; and
- vegetation to be removed will be marked prior to clearing.

4. Assessment of application against clearing principles

The application from MRWA is to clear 0.33 hectares of remnant native vegetation within a 23 hectare clearing footprint within various land parcels (refer to section 1.3 above) to upgrade the Roe Highway and Kalamunda Road intersection to a grade separated intersection. The vegetation under application occurs north of Kalamunda Road along the Roe Highway corridor. The native vegetation exists as scattered remnants, either as isolated trees or clumps of trees (MRWA, 2018).

Prior to the original construction of Roe Highway in the 1980's (by MRWA), the majority of the application area, and other sections of the clearing footprint, were being utilised for residential or agriculture purposes. At the time, the area comprised only of scattered remnant trees (360 Environmental, 2018; MRWA, 2018). Following construction, MRWA intentionally planted the area with jarrah, marri, tuart, banksia and various shrub species (360 Environmental, 2018). As noted in section 2 above, this vegetation is not considered 'native vegetation' and will not be included in this assessment.

A 2018 level 2 flora, vegetation and fauna survey conducted by consultants '360 Environmental' reported the application area comprises intentionally planted endemic and non-endemic species and weeds, naturally occurring vegetation (scattered, eucalyptus trees occurring in small clumps or as individuals) and sections devoid of native vegetation (only weeds present). The vegetation within the application area is in a degraded to completely degraded (Keighery, 1994) condition (360 Environmental, 2018).

According to available datasets and given the historical survey effort in the broader metropolitan area, a total of six Priority One (P1) listed flora species, four P2 species, 33 P3 species and 21 P4 species are mapped within the local area (WAH, 1998-). However, the level 2 survey only recorded a P3 species, *Isopogon drummondii*, in the broader clearing footprint, within vegetation in a very good (Keighery, 1994) condition. No individuals were recorded within the degraded to completely degraded (Keighery, 1994) application area and therefore this species will not be impacted (360 Environmental, 2018).

Similarly, 20 rare flora species are mapped within the local area (WAH, 1998-). The level 2 survey only recorded one species, *Conospermum undulatum* in the broader clearing footprint, also within vegetation in a very good (Keighery, 1994) condition. No individuals were recorded within the degraded to completely degraded (Keighery, 1994) application area and therefore this species will not be impacted (360 Environmental, 2018).

According to available datasets the application area's northern extent occurs 90 metres south of a mapped occurrence of the '*Banksia attenuata* woodlands over species rich dense shrublands' threatened ecological community (TEC). This occurrence is in a Department of Biodiversity, Conservation and Attractions (DBCA) nature reserve (this reserve is also a registered Bush Forever site). This TEC is listed as Endangered under the *Wildlife Conservation Act 1950* and *Environment Protection and Biodiversity Conservation Act 1999*. The level 2 survey noted that some of the vegetation associations within the clearing footprint has affiliation with this mapped TEC. However these associations are fragmented and vary greatly in vegetation condition. The application area

does not comprise any of these associations. It is noted that MRWA will protect the mapped TEC by constructing a retaining wall between it and the larger clearing footprint (MRWA, 2018).

The vegetation survey also noted that some of the other vegetation associations have affiliation with a Critically Endangered TEC, '*Corymbia calophylla –Xanthorrhoea preissii* woodlands and shrublands, Swan Coastal Plain'. Remnants of these associations occur within vegetation in a degraded to good (Keighery, 1994) condition. No mapped occurrences of this TEC occur adjacent to the clearing footprint and none of the associations occur within the application area (360 Environmental, 2018).

Three threatened avian fauna species, Carnaby's cockatoo (*Calyptorhynchus latirostris*), Baudin's cockatoo (*Calyptorhynchus baudinii*) and the forest red-tailed black Cockatoo (*Calyptorhynchus banksii naso*), are known to frequent the local area.

During a black cockatoo assessment (BCA) survey, three broad fauna habitat types were recorded within the clearing footprint: a marri/jarrah forest, banksia woodland and planted eucalypt woodland. Potential black cockatoo foraging and/or breeding habitat was also recorded in the form of: marri, jarrah, wandoo, *Eucalyptus todtiana, Banksia attenuata, Banksia menziesii, Banksia ilicifolia, Allocasuarina fraseriana, Acacia* sp., *Callistemon* sp., *Xanthorrhoea preissii* and Pinus sp. (360 Environmental, 2018; Strategen, 2018).

Black cockatoos breed in large hollow-bearing trees, generally within woodlands or forests or in isolated trees (Commonwealth of Australia, 2012). 'Breeding habitat' for black cockatoos is defined as trees of species (for example marri, jarrah, wandoo) known to support breeding within the range of the species which either have a suitable nest hollow or are of a suitable diameter at breast height (DBH) to develop a nest hollow. For most tree species, suitable DBH is 500 millimetres (Commonwealth of Australia, 2012). The BCA identified 547 potential breeding trees, with five of these having potential suitable hollows. Further investigation later determined that these hollows are too small for black cockatoos to enter and hence unsuitable for nesting (Strategen, 2018). Therefore, the proposed clearing is not likely to impact on significant breeding habitat for black cockatoos.

The above flora species are also known black cockatoo foraging species. Forest red-tailed black cockatoo (FRTBC) and Carnaby's cockatoo foraging evidence (marked and chewed fruit and nuts) was recorded throughout the clearing footprint. In addition, FRTBC was observed foraging on marri along the length of Roe Highway. It is noted that some of the application area comprises some foraging habitat, however given its degraded to completely degraded (Keighery, 1994) condition, any potential impacts are considered insignificant (Strategen, 2018).

Also recorded in the clearing footprint was digging evidence of the DBCA priority five listed fauna species *Isoodon obesulus fusciventer* (Southern Brown Bandicoot) (360 Environmental, 2018). As this ground dwelling mammal favours dense vegetation, it is unlikely it would utilise the application area given its degraded to completely degraded (Keighery, 1994) condition.

The National Objectives and Targets for Biodiversity Conservation include a target that prevents the clearance of ecological communities with an extent below 30 per cent of that present pre-European settlement (Commonwealth of Australia, 2001). In the Perth Metropolitan and Bunbury regions, the Environmental Protection Authority (EPA) has a modified objective to retain at least 10 per cent of the pre-clearing extent of vegetation complexes for defined constrained areas (intensely developed) (EPA 2015; EPA 2003; Government of Western Australia 2000). The application area is within a constrained area. The vegetation type mapped within the application area, Forrestfield vegetation complex, retains greater than the 10 per cent threshold (Government of Western Australia, 2018).

As noted above, the northern section of the application area is 90 metres south of a DBCA managed nature reserve; the next closest DBCA managed lands are over two kilometres to the east and southeast. Given the distance to these conservation areas, no direct or in-direct impacts caused by the proposed clearing is likely.

As detailed within Section 2, the majority of the soil within the application area is mapped as Bassendean Sands (DPIRD, 2017). The main land degradation risk associated with sandy soils is wind and water erosion. On-site management strategies, such as wetting down and/or hydromulching of disturbed areas, and in the longer term by revegetation of cleared areas on completion of the project, will also mitigate potential erosion issues (MRWA, 2018).

There are no watercourses or wetlands within the application area and therefore the proposed clearing is unlikely to cause deterioration in the quality of surface or groundwater quality.

Given the porous nature of the sandy soils of the application area and that no watercourses or wetlands occur within the application area, the proposed clearing is unlikely to cause or exacerbate flooding.

The proposed clearing is not likely to be at variance to the clearing Principles.

Planning instruments and other relevant matters

The tenure of the land parcels under application are a combination of Crown land, freehold owned by Commissioner Main Roads and others and road reserve. MRWA is negotiating land access with all landowners and will acquire or have legal access before clearing and construction begins (MRWA, 2018).

The application area is within the Perth Groundwater Area as proclaimed under the *Rights in Water and Irrigation Act 1914* where there may be a requirement to obtain a licence to construct or alter a well and for the take and use of groundwater for construction activities. There are currently no existing licences to take water for the proposal (DWER, 2018). MRWA are aware of the requirement to obtain a water licence if ground water is to be extracted (MRWA, 2018).

The clearing permit application was advertised on the Department of Water and Environmental Regulation's website on 20 October 2018 with a 21 day submission period. No public submissions have been received in relation to this application.

5. References

360 Environmental (2018) Roe Highway and Kalamunda Road Upgrade, Flora, Vegetation and Black Cockatoo Assessment prepared for Main Roads Western Australia January 2018 (DWER Ref: A1727935)

Main Roads Western Australia (MRWA) (2018) Application for a clearing permit and supporting documentation CPS 8219/1 (DWER Ref: A1727920 and A1727931)

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 Primary Industries and Regional Development (DPIRD) (2017) NRInfo Digital Mapping. Department of Primary Industries and Regional Development. Government of Western Australia. URL: https://maps.agric.wa.gov.au/nrm-info/ (accessed October 2018).

Department of Water and Environmental Regulation (DWER) (2018) Swan Avon Region Planning Advice Section (DWER Ref: A1744386)

Environmental Protection Authority (EPA) (2003) Bulletin 1108 – Greater Bunbury Region Scheme, Report and recommendations of the Environmental Protection Authority, Environmental Protection Authority, Perth.

Environmental Protection Authority (EPA) (2015) Perth and Peel @ 3.5 million - Environmental impacts, risks and remedies, Interim strategic advice of the Environmental Protection Authority to the Minister for Environment under section 16(e) of the *Environmental Protection Act 1986*. Office of the Environmental Protection Authority, Perth.

Government of Western Australia (2000) Bush Forever Volume 2: Directory of Bush Forever Sites. Department of Environmental Protection, Perth.

Government of Western Australia (2018) 2017 State-wide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of December 2017. WA Department of Biodiversity, Conservation and Attractions.

Heddle, 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.

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

Strategen Environmental (2018) Black Cockatoo Habitat Assessment, Roe Highway prepared for Main Roads September 2018 (DWER Ref: A1727945)

Western Australian Herbarium (WAH) (1998-) FloraBase-the Western Australian Flora. Department of Biodiversity, Conservation and Attractions. https://florabase.dpaw.wa.gov.au/

GIS Databases:

- Aboriginal Sites of Significance
- Department of Biodiversity, Conservation and Attractions, Tenure
- Groundwater salinity
- Hydrography, General Hydro
- Hydrography, Wetlands
- SAC bio datasets
- TPFL Data
- WAHerb Data
- WA TEC PEC Boundaries
- Virtual Mosaic WA Now / Aerial imagery (accessed October 2018)