



## CLEARING PERMIT

*Granted under section 51E of the Environmental Protection Act 1986*

<b>Purpose Permit number:</b>	CPS 6465/1
<b>Permit Holder:</b>	Commonwealth Scientific and Industrial Research Organisation
<b>Duration of Permit:</b>	30 May 2015 to 30 May 2020

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 Australian Square Kilometre Array Pathfinder (ASKAP) radio telescope project.

**2. Land on which clearing is to be done**

Lot 502 on Deposited Plan 55945 (South Murchison)

**3. Area of Clearing**

The Permit Holder must not clear more than 18 hectares of native vegetation within the area cross hatched yellow on attached Plan 6465/1.

**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 activities to the extent that the Permit Holder has the power to clear native vegetation for those activities under the *Land Administration Act 1997* or any other written law.

### PART II – ASSESSMENT SEQUENCE AND MANAGEMENT PROCEDURES

**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:

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

## 7. 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*:

- (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- (b) ensure that no *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.

## DEFINITIONS

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

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

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

*weed/s* means any plant -

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

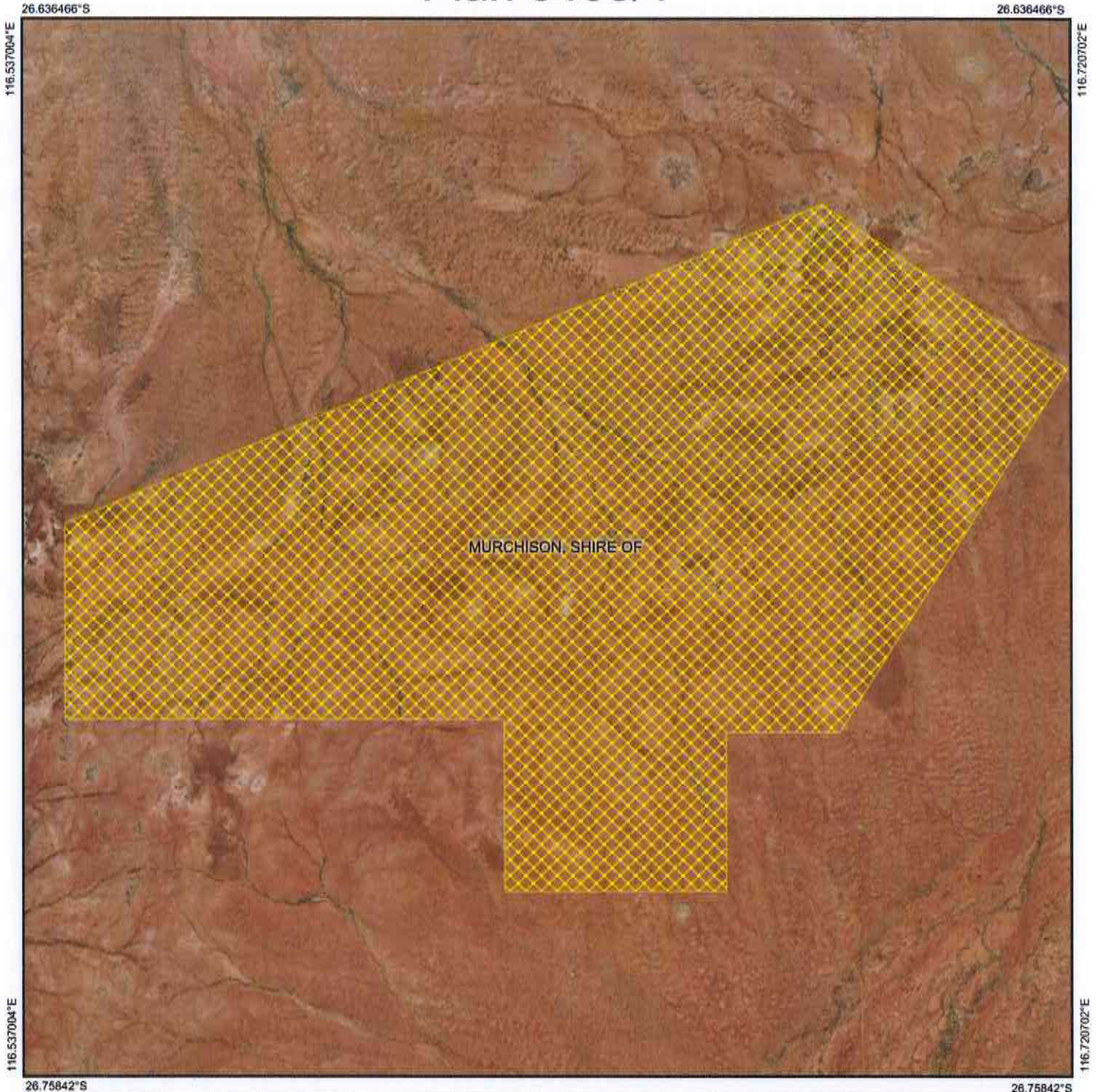


Jane Clarkson  
A/ SENIOR MANAGER  
CLEARING REGULATION




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

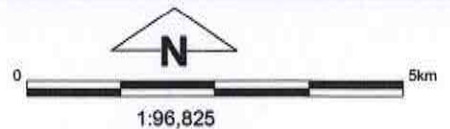
30 April 2015

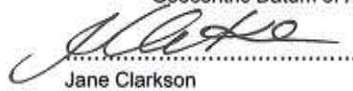
# Plan 6465/1



## Legend

-  Imagery
-  Clearing Instruments Activities
-  Local Government Authority



 Date 30.4.15  
Jane Clarkson

Officer with delegated authority under Section 20 of the Environmental Protection Act 1986  
Information derived from this map should be confirmed with the data custodian acknowledged by the agency acronym in the





## 1. Application details

### 1.1. Permit application details

Permit application No.: 6465/1  
Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: Commonwealth Scientific and Industrial Research Organisation

### 1.3. Property details

Property: LOT 502 ON PLAN 55945, SOUTH MURCHISON  
Colloquial name:  
Local Government Authority: MURCHISON, SHIRE OF

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
18		Mechanical Removal	Building or structure

### 1.5. Decision on application

Decision on Application: Grant  
Decision Date: 30 April 2015

### 1.6. Existing environment and information

#### 1.6.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
The area under application comprises of Beard Vegetation Associations;  - 18; Low woodland; mulga (Acacia aneura);  - 39; Shrublands; mulga scrub;  - 29; Sparse low woodland; mulga, discontinuous in scattered groups;  - 184; Shrublands; mulga & bowgada scrub; and  - 341; Low woodland over scrub; mulga over Acacia sclerosperma bowgada, A. victoriae & minnieritchie (A. grasbyi) (Shepherd et al, 2001).	The application is to clear 18 hectares of native vegetation within Lot 502 on Deposited Plan 55945, South Murchison, Shire of Murchison for the purpose of constructing the Australian Square Kilometre Array Pathfinder radio telescope project.	Very Good; Vegetation structure altered; obvious signs of disturbance (Keighery, 1994).	A total of 11 land units based upon their vegetation and soil types have been recorded within the clearing footprint (Alexander Holm & Associates, 2008). The area under application is within the Boolardy Pastoral Station with the area being subject to past grazing.  The vegetation under application is in a very good (Keighery, 1994) condition (Holm, 2008).  The condition and description of the area under application was determined via the use of aerial imagery and flora and vegetation surveys conducted by Alexander Holm & Associates (2008).

## 2. Assessment of application against clearing principles

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

**Comments** **Proposal is not likely to be at variance to this Principle**  
The application is to clear 18 hectares of native vegetation within a 12,793 hectare clearing footprint within Lot 502, South Murchison for the purpose of constructing the Australian Square Kilometre Array Pathfinder radio telescope (ASKAP) project.

One priority flora species has been mapped within 20 kilometres of the proposed clearing footprint. There has been no rare flora recorded within 20 kilometres of the proposed clearing footprint.

A flora and vegetation survey undertaken over the clearing footprint recorded one priority (P3) species within the clearing footprint (Alexander Holm & Associates, 2008). The locations of the priority flora species within the clearing footprint will not be impacted upon from the proposed clearing. The flora and vegetation survey over the clearing footprint did not record any rare flora species (Alexander Holm & Associates, 2008).

No priority or threatened ecological communities have been recorded within 20 kilometres of the clearing footprint.

A total of five Beard Vegetation Associations have been recorded within the clearing footprint, all of them are well represented within the Murchison IBRA Bioregion. There is approximately 95 per cent of pre-European vegetation remaining within 20 kilometres of the clearing footprint.

Several species of conservation significant fauna have been predicted or known to occur within the clearing footprint (Parsons Brinckerhoff, 2011). The fauna habitats within the clearing footprint that are likely to be impacted upon are well represented in the local area and no significant loss of fauna habitat is likely to occur.

The proposed clearing will increase the risk of weeds spreading into adjacent vegetated areas. Weed management practices will help to mitigate this impact.

The application area is unlikely to represent an area of high biodiversity when compared to representative vegetation in a local and regional context.

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

**Methodology** References  
Alexander Holm & Associates (2008)  
Parsons Brinckerhoff (2011)

GIS Layers  
- Pre European Vegetation  
- SAC Bio Datasets April 2015

**(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**

One fauna species of conservation significance being the Western Spiny-tailed Skink (*Egernia stokesii* subsp. *badia*) has been recorded within 20 kilometres of the clearing footprint (Parks and Wildlife, 2007-).

Ten fauna species of conservation significance are predicted or known to occur within the vicinity of the clearing footprint (Parsons Brinckerhoff, 2011). An ecological assessment of the clearing footprint suggests that five of these species are likely to occur within the application area, being; Western Spiny-tailed Skink (*Egernia stokesii* subsp. *badia*), Peregrine Falcon (*Falco peregrinus*), Australian Bustard (*Ardeotis australis*), Rainbow Bee-eater (*Merops ornatus*) and Bush Stone-curlew (*Burhinus grallarius*) (Parsons Brinckerhoff, 2011).

The fauna habitats within the area proposed to be cleared are well represented elsewhere within the local and regional area and no significant loss of habitat for conservation significant fauna is expected.

The proposed clearing will not remove an ecological linkage that is necessary for the maintenance of fauna.

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

**Methodology** References  
Parks and Wildlife (2007- )  
Parsons Brinckerhoff (2011)

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

**Comments** **Proposal is not at variance to this Principle**

There have been no rare flora species recorded within a 20 kilometre radius of the area under application.

A flora and vegetation survey over the clearing footprint did not record any rare flora species (Alexander Holm & Associates, 2008).

Given the above the clearing as proposed is not at variance to this principle.

**Methodology** References  
Alexander Holm & Associates (2008)

**(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 at variance to this Principle**  
There were no records of threatened ecological communities recorded within 20 kilometres of the area under application.

Given the above the clearing as proposed is not at variance to this principle.

**Methodology**    GIS Layers  
- SAC Bio Datasets April 2015

**(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 at variance to this Principle**  
The vegetation under application is mapped as Beard Vegetation Associations 18, 29, 39, 184 and 341 all of which have approximately 99 to 100 per cent of their pre- European extent remaining in the Murchison bioregion (Government of Western Australia, 2013).

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). All of the vegetation types mapped within the area under application are above the 30 per cent threshold.

This IBRA bioregion has approximately 100 per cent of its Pre European vegetation extent remaining (Government of Western Australia, 2013). Approximately 95 per cent of pre-European vegetation remains within 20 kilometres of the clearing footprint.

Given the vegetation extent remaining within the local area, the vegetation under application is not significant as a remnant in an extensively cleared landscape.

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

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in DPaW Managed Lands (%)
<b>IBRA Bioregion</b>				
Murchison	28 120 587	28 044 823	99	8
<b>Shire</b>				
Shire of Murchison	4 504 528	4 503 583	99	8
<b>Beard Vegetation Association in Bioregion</b>				
18	12 403 172	12 363 252	99	5
29	2 956 382	2 955 695	99	3
39	1 148 400	1 138 064	99	3
184	39 150	39 150	100	0
341	10 420	10 420	100	0

**Methodology**    References  
Commonwealth of Australia (2001)  
Government of Western Australia (2013)

GIS Layers  
- Interim Biogeographic Regionalisation of Australia  
- Pre European Vegetation

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

**Comments Proposal may be at variance to this Principle**

There have been no wetlands or major watercourses mapped within 20 kilometres of the area under application. Minor, non perennial watercourses, mainly drainage lines, have been mapped within the proposed clearing footprint.

It is possible the proposed clearing may impact on some of these drainage lines however, given the relatively small amount of vegetation proposed to be cleared within a large footprint it is unlikely any significant impacts will occur on the mapped watercourses.

The proposed clearing may be at variance to this principle.

**Methodology** GIS Layers  
- Hydrography linear

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

**Comments Proposal is not likely to be at variance to this Principle**

The area under application has been mapped as occurring on soil types Mz23 and BE2 (Northcote et al, 1960-68). Northcote et al (1960-68) describes these soil types as;

Mz23 - Extensive flat and gently sloping plains with a scatter of surface gravels. Red-brown hardpan occasionally outcrops and is normally present within a depth of 30 metres.

BE2 - Generally undulating terrain on granites with rocky granitic hills, bosses and tors, some breakaways, and a surface stone mantle: chief soils seem to be shallow earthy loams underlain by a red-brown hardpan.

Some short term, localised issues such as erosion of disturbed soils through wind, rain and flowing water may occur following clearing (Parsons Brinckerhoff, 2011). These impacts are unlikely to be significant, short term and prevented once the construction of the (ASKAP) project is complete.

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

**Methodology** References  
Northcote et al, (1960-68)  
  
GIS Layers  
- Soil, Statewide

**(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.**

**Comments Proposal is not at variance to this Principle**

There are no conservation areas within a 20 kilometre radius of the proposed clearing footprint.

The proposed clearing is not at variance to this principle.

**Methodology** GIS Layers  
- 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 Proposal is not likely to be at variance to this Principle**

There have been no wetlands or major watercourses mapped within 20 kilometres of the area under application. There are however, minor, non perennial watercourses, mapped within the proposed clearing footprint. The proposed clearing may cause some short term localised surface water sedimentation however, these impacts to the minor watercourses are likely to be minimal and short term.

The groundwater salinity within the application area ranges between 1,000 - 3,000 (northern portion of application area) and 300-7000 (southern portion of application area) milligrams per litre of Total Dissolved Solids (TDS). The clearing is not likely to further increase the risk of salinity and is not likely to affect the quality of groundwater or result in the groundwater level rising given the large amount of vegetation present (approximately 95 per cent with a 20 kilometres radius of the clearing footprint) within the local area.

The proposed clearing is not likely to be at variance to this principle

**Methodology** GIS Layers

- Hydrography linear
- Salinity Statewide

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

**Comments Proposal is not at variance to this Principle**

There have been minor, non perennial watercourses, mainly drainage lines, mapped within the proposed clearing footprint.

The proposed clearing of 18 hectares across a 12,793 hectare footprint will not increase the incidence or intensity of flooding in the local area.

The proposed clearing is not at variance to this principle.

**Methodology** GIS Layers  
- Hydrography linear

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

**Comments** No public submissions have been received in relation to this application.

The Shire of Murchison advises the proposed clearing area falls within the 70 kilometre Radio Quiet Zone Special Control Areas associated with the development and under the Shire's local planning scheme all radio astronomy activities and associated works will be exempt from any development approval from the Shire (Shire of Murchison, 2015).

A previous permit (CPS 3317/1) was issued to the applicant on 3 January 2010 for the clearing of 57 hectares of native vegetation for the same purpose as this current application. The permit expired on 5 January 2015 however, the applicant had not completed all the required clearing. They are now reapplying for the remaining 18 hectares not cleared under the initial permit.

The area under application is located within the Gascoyne Groundwater Area which is an area proclaimed under the Rights in Water and Irrigation Act 1914. This project does not involve the abstraction of groundwater and therefore does not require licensing from the Department of Water.

The Commonwealth Scientific and Industrial Research Organisation are the primary interest holders over Lot 502 on Deposited Plan 55945 and they hold a lease which outlines the permitted use of the sites as being; radio-astronomy projects and ancillary works and activities, including radio science studies, associated with but not limited to the Project.

**Methodology** References  
Shire of Murchison (2015)

**3. References**

- Alexander Holm & Associates (2008) Radio Astronomy Project Murchison Region Western Australia, Environmental Assessment. 18 January 2008 (DEC Ref: A405599).
- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- Government of Western Australia (2013) 2013 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of June 2013. 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.
- 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.
- Parks and Wildlife (2007- ) NatureMap: Mapping Western Australia's Biodiversity. Department of Parks and Wildlife. URL: <http://naturemap.dpaw.wa.gov.au/>. Accessed April 2015
- Parsons Brinckerhoff (2011) Murchison Widefield Array Project, Preliminary Environmental and Vegetation Clearing Assessment. Prepared for the CSIRO. June 2011 (DEC Ref: A405599).
- 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.
- Shire of Murchison (2015) Advice received in relation to Clearing Permit Application CPS 6465/1, Commonwealth Scientific and Industrial Research Organisation.