

EganStreet Resources

Native Vegetation Clearing Permit Supporting Document

Native Vegetation Clearing for Waste Dump Construction, Low Grade Ore Stockpile, Putrescible Waste Storage, Groundwater Evaporation Pond, Communications Tower and Tailings Expansion

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TABLE OF CONTENTS

1. PURPOSE.....	1
2. INTRODUCTION.....	1
2.1 LOCATION.....	1
2.2 PROJECT DESCRIPTION.....	1
2.2.1 Waste Rock Landforms.....	1
2.2.2 Low Grade Ore Stockpile.....	2
2.2.3 Expansion of Existing Tailings Storage Facility.....	2
2.2.4 Establishment of Putrescible Waste Landfill and Bioremediation Area.....	2
2.2.5 Groundwater Evaporation Pond.....	3
2.2.6 Services Corridor and Communications Tower.....	3
3. EXISTING ENVIRONMENT.....	3
3.1 VEGETATION AND FLORA.....	3
3.1.1 Vegetation.....	3
3.1.2 Flora.....	6
3.2 FAUNA.....	6
3.2.1 Conservation Significance Level 1 species.....	7
3.2.2 Conservation Significance Level 2 species.....	7
3.2.3 Conservation Significance Level 3 species.....	7
4. CLEARING AND IMPACT AGAINST THE 'CLEARING PRINCIPLES'.....	9
5. CONCLUSION.....	12
6. REFERENCES.....	13

TABLES

Table 1:	Extent of Vegetation System Associations within the Clearing Permit Area (Government of Western Australia 2015)
Table 2:	Land Systems Located within the Clearing Permit Area
Table 3:	Vegetation Types within the Clearing Permit Area
Table 4:	Significant Flora Taxa Recorded within the Clearing Permit Area
Table 5:	Conservation Significant Fauna Species Potentially Occurring within the Clearing Permit Area

FIGURES

Figure 1:	Location of Rothsay Mine Site
Figure 2:	Clearing Permit Area Boundaries and Land Tenure
Figure 3:	Clearing Permit Area Vegetation Types
Figure 4:	Locations of Significant Flora within the Clearing Permit Area

1. PURPOSE

The purpose of this document is to support EganStreet Resources Limited (EganStreet) application for a native vegetation clearing permit (Purpose Permit) to clear 19.51 ha of intact native vegetation within the Rothsay Gold Project mining area. The vegetation is located adjacent to existing access tracks and mine infrastructure.

This document provides the relevant information to support assessment of the proposed clearing of native vegetation pursuant to Part V of the Environmental Protection Act 1986 (WA) (EP Act).

2. INTRODUCTION

2.1 Location

EganStreet Resources are the current proponent of the Rothsay Gold Project, located approximately 300 km north north-east of Perth, 230 km south south-east of Geraldton and 60 km north-east of Perenjori, in the Midwest region of Western Australia (Figure 1). Gold was first mined near the now-abandoned town of Rothsay in the 1890s, with mining undertaken sporadically since that time until 1991. This includes partial exploitation of the Project's reserves via shallow open pits and underground mining techniques.

The area subject to this proposal ('Clearing Permit Area') consists of three polygons located adjacent to the current tailings dam and ROM pad. A fourth polygon is located at the site of a proposed groundwater evaporation pond, with a fifth polygon located south-east of the mine offices. Clearing is also required to facilitate establishment of a services corridor between the camp and process plant, as well as an access track and pad to construct a communications tower (Figure 2). These six areas encompass a total of 36.92 ha, of which 19.51 ha is covered by intact native vegetation. The remainder of the area has been previously cleared or is highly disturbed. The Clearing Permit Area is located within mining tenements M59/39-1 and M59/40-1, which are primarily Unmanaged Crown Reserve. These tenements are held in the name of Auricup (Rothsay) Pty Ltd which is a 100% owned subsidiary of EganStreet Resources Ltd.

2.2 Project Description

Clearing of native vegetation is requested under this application for the establishment of a waste rock landform, a low grade ore stockpile, expansion to the existing tailings storage facility, a groundwater evaporation pond, access corridor and communications tower and establishment of a putrescible waste landfill/bioremediation area. A description of each of these components of the Project is provided below.

2.2.1 Waste Rock Landforms

The Project requires the establishment of two Waste Rock Landforms (WRLs), the larger of which is included in this NVCP. These WRLs are required to manage surplus waste rock volumes excavated from the underground operations. The smaller WRL will be established first and used as a stockpile location for waste that may be used at

a later date to establish Cemented Rockfill Pillars (CRF) as required underground. Discussions with DMIRS staff assessing the Mining Proposal (Reg ID 75959) have confirmed that the 1.8ha of clearing required for the smaller WRL can be approved under the Mining Proposal approval, through the exemption that enables Mining Tenement holders to clear up to 10 ha / tenement / financial year (Regulation 5, item 20). The larger WRL will be established second and used to contain any surplus waste rock volumes that are not required underground for the establishment of CRFs, in addition to any waste rock generated by the ore sorter component of the crushing circuit.

The WRL has been designed with the following dimensions:

Area – 9.0 ha; 470m x 200m; 15m height; 20° outer slopes with approximately 1,000,000 LCM capacity.

WRLs will be progressively rehabilitated over the life of mine using suitable topsoil and subsoil material stockpiled as part of the vegetation clearing process.

2.2.2 Low Grade Ore Stockpile

The project requires the establishment of a low grade ore stockpile for temporary storage of ore that will be processed at a later date towards the end of the life of mine.

The low grade ore stockpile has been designed with the following dimensions:

Area – 3.8 ha; 230m x 140m; 15m height; 37° outer slopes with approximately 460,000 LCM capacity.

The low grade stockpile footprint will be rehabilitated using suitable topsoil and subsoil material as part of mine closure activities when all of the low grade ore has been processed.

2.2.3 Expansion of Existing Tailings Storage Facility

The project requires the gradual expansion of the Tailings Storage Facility (TSF) in accordance with approved design documents. The current design allows for a further expansion of approximately 1.0 Mt over 5 years. The current TSF covers an area of 8.3 ha. The expanded TSF would have an ultimate footprint of 15.0 ha.

The final TSF footprint will be rehabilitated as part of mine closure activities using suitable capping material sourced from the WRLs and topsoil, or subsoil, material stockpiled as part of the vegetation clearing process.

2.2.4 Establishment of Putrescible Waste Landfill and Bioremediation Area

The project requires the establishment of a long-term putrescible waste landfill and bioremediation area which will be licenced under Part V of the Environmental Protection Act (1986).

An area of 1.5 ha has been allocated for establishment of the putrescible waste landfill and bioremediation area, 0.514 ha of which has been previously cleared

The area will be rehabilitated as part of mine closure activities using suitable topsoil, or subsoil material stockpiled as part of the vegetation clearing process.

2.2.5 Groundwater Evaporation Pond

To manage surplus groundwater generated by the operation and not required by the process plant, an evaporation pond has been designed which can cater for an inflow of 10 l/second. This evaporation pond has been situated in a location to the east of the TSF that has been mapped by Woodman Environmental Consulting (2017) as "Cleared land". As a contingency, in the event that short term groundwater flow rates exceed the modelled 10 l/second design, EganStreet has included a larger development envelope in this area to enable the establishment of additional evaporation ponds, if required at a later date.

2.2.6 Services Corridor and Communications Tower

The project requires the establishment of a services corridor and communications tower. The services corridor will contain power and water services between the process plant area and the accommodation camp. In addition, approximately 300m from the camp, an access track will be established to an elevated location where a communications tower will be established. The communications tower requires a flat level pad, approximately 40m wide x 40m long.

3. EXISTING ENVIRONMENT

3.1 Vegetation and Flora

3.1.1 Vegetation

The Clearing Permit Area is located in the Yalgoo Interim Biogeographic Regionalisation for Australia (IBRA) region, specifically within the Talling IBRA Subregion (Commonwealth of Australia 2012). The vegetation of the region is characterised by low woodlands to open woodlands of *Eucalyptus*, *Acacia* and *Callitris* on red sandy plains of the Western Yilgarn Craton and southern Carnarvon Basin (Desmond and Chant 2001). In the vicinity of the Clearing Permit Area, the vegetation was described as *A. ramulosa*-*A. acuminata* scrub on hills and *A. ramulosa*-*A. murrayana* on sandplains, with thickets of *A. ramulosa*, *A. acuminata* and *Melaleuca uncinata* (now considered to be *M. hamata* on midslope positions, and scrub of *Acacia ramulosa* with scattered *Callitris* and *Eucalyptus* in valleys (Beard 1976).

Beard (1976) mapped vegetation of the Yalgoo area related to physiognomy, at a scale of 1:1,000,000. The vegetation mapping by Beard (1976) was used by Shepherd et al. (2002) to describe vegetation system associations, at a scale of 1:250,000. Two vegetation system associations occur in the Clearing Permit Area, as summarised in Table 1. Table 1 also presents the current extent of each vegetation system association in relation to its pre-European extent (Government of Western Australia 2015), and the percentage of the current extent of each vegetation system association currently protected for conservation (in Department of Biodiversity, Conservation and Attractions (DBCA)-managed land). The vegetation system associations within the Clearing Permit Area have undergone minimal clearing, with each having over 97 % of its pre-European extent remaining. Currently, these vegetation system associations are not currently well-conserved, however, significant areas are proposed to be conserved within the former pastoral leases in the vicinity of the Study Area, including ex-Karara, ex-Lochada and ex-Warriedar Stations (Government of Western Australia 2015).

Table 1: Extent of Vegetation System Associations within the Clearing Permit Area (Government of Western Australia 2015)

Vegetation System Association	Description	Current Extent (ha)	Percentage of Pre-European Extent Remaining	Percentage of Current Extent Protected for Conservation
Yalgoo_358 (26.16ha)	Shrublands; bowgada & Acacia quadrimarginea on stony ridges	55,540.47	99.85	0
Yalgoo_936 (10.76ha)	Medium woodland; salmon gum	1,017.71	100	0

In 1998, the Department of Agriculture and Food described land systems within the Sandstone-Yalgoo-Paynes Find area, considering general ecological information, vegetation physiognomy and composition, patterns of variation, conservation status, gradational association and land system representation (Payne *et al.* 1998). Three land systems occur within the Clearing Permit Area (Table 2).

Table 2: Land Systems Located within the Clearing Permit Area

Land System	Mapped Extent (ha)	Description of Land System
Graves (1.04ha)	17,200	Basalt and greenstone rises and low hills, supporting eucalypt woodlands with prominent saltbush and bluebush understoreys.
Moriarty (4.92ha)	82,500	Low greenstone rises and stony plains supporting halophytic and acacia shrublands with patchy eucalypt overstoreys.
Singleton (30.96ha)	23,800	Rugged greenstone ranges with dense casuarina and acacia shrublands

Native vegetation within the Clearing Permit Area was mapped by Woodman Environmental Consulting in 2017. The vegetation consists of five vegetation types (VTs) as described below.

VT1: Tall shrubland to open shrubland of mixed species dominated by *Acacia latior*, *Acacia sibina*, *Melaleuca nematophylla* and occasionally *Acacia incognita* over mid open to sparse shrubland dominated by *Aluta aspera* subsp. *hesperia* over low sparse shrubland dominated by *Xanthosia kochii* and *Dianella revoluta* over low open to sparse forbland dominated by *Waitzia acuminata* var. *acuminata*, *Helipterum craspedioides*, *Velleia rosea*, *Brunonia australis* and *Haloragis odontocarpa* forma *rugosa* on red brown to pale brown clay loam soils with ironstone gravel on lower slopes and undulating plains

VT4: Low open woodland to woodland dominated by *Allocasuarina dielsiana* and *Melaleuca hamata* over tall shrubland to open shrubland dominated by *Acacia acuminata* and *Allocasuarina tessellata* over mid sparse shrubland dominated by *Acacia karina* and occasionally *Melaleuca radula* over low open to sparse forbland and tussock grassland of mixed species including *Waitzia nitida*, *Lobelia rhytidosperra*, *Goodenia berardiana*, *Ptilotus helipteroides* and *Austrostipa blackii* on red clay-loam soils with basalt stones on the slopes and crests of low hills

VT5: Low open woodland dominated by *Melaleuca hamata* over tall shrubland to open shrubland of mixed species dominated by *Acacia ramulosa* var. *ramulosa* and *Acacia tetragonophylla* and *Acacia sibina* over low sparse shrubland dominated by *Eremophila ericalyx* and *Ptilotus obovatus* over low sparse forbland of mixed species

including *Waitzia acuminata* var. *acuminata*, *Calocephalus multiflorus*, *Velleia rosea*, *Ptilotus gaudichaudii* subsp. *eremita* and *Cephalipterum drummondii* on red or red brown clay loam soils with quartz and ironstone gravel on lower slopes, undulating plains and in minor drainage lines

VT7: Low open woodland dominated by *Eucalyptus salubris* over sparse tall to mid shrubland of mixed species including *Eremophila pantonii* and *Exocarpos aphyllus* over low sparse samphire shrubland dominated by *Tecticornia disarticulata* over low sparse chenopod shrubland of mixed species including *Rhagodia drummondii*, *Sclerolaena densiflora*, *Sclerolaena diacantha*, *Maireana tomentosa* subsp. *tomentosa* and *Enchylaena tomentosa* var. *tomentosa* over low sparse tussock grassland and forbland of mixed species including *Erymophyllum glossanthus*, *Austrostipa scabra* subsp. *scabra*, *Ptilotus gaudichaudii* subsp. *eremita* and **Rostraria pumila* on pale brown clay loam soils with colluvial gravel on lower slopes and flats

VT8: Low open woodland dominated by *Eucalyptus loxophleba* subsp. *supralaevis* and/or *Eucalyptus salubris* over tall sparse shrubland of mixed species including *Eremophila oldfieldii* subsp. *oldfieldii*, *Eremophila oppositifolia* subsp. *angustifolia*, *Acacia tetragonophylla* and *Exocarpos aphyllus* over sparse mid shrubland of mixed species including *Senna artemisioides* subsp. *filifolia*, *Dodonaea inaequifolia* and *Scaevola spinescens* over low sparse shrubland and tussock grassland of mixed species including *Acacia erinacea*, *Ptilotus obovatus* and *Austrostipa elegantissima* over low sparse chenopod shrubland of mixed species including *Maireana georgei*, *Maireana trichoptera*, *Sclerolaena diacantha*, *Sclerolaena densiflora* and *Rhagodia drummondii* over low sparse tussock grassland and forbland of mixed species including *Austrostipa scabra* subsp. *scabra*, *Cephalipterum drummondii*, *Ptilotus nobilis*, *Zygophyllum ovatum* and *Mesembryanthemum nodiflorum* on red, red brown or brown clay loam soils with colluvial gravel, and occasionally with laterite outcropping, on lower slopes, plains and occasionally lateritic breakaways

In addition, 16.15 ha of the Clearing Permit Area has been previously cleared and an additional 1.26 ha was mapped as a highly degraded area of VT 4 (VT 4d), at the base of a basalt hill, with re-growing taxa typical of VT 4 (e.g. *Acacia karina* (P1), *Acacia acuminata*) (Woodman Environmental 2017).

A summary of the area of each VT mapped within the Clearing Permit Area, and the greater Rothsay Study Area, is presented in Table 3, with VT polygons presented on Figure 3. VTs 1, 4, 5 and 8 are common and widespread throughout the Rothsay Study Area, and none are considered to be locally or regionally significant (Woodman Environmental 2017). VT 7 is locally restricted within the Rothsay Study Area and may also be regionally restricted.

Statistical analysis of the data within the Rothsay Study Area and a regional dataset (comprised of multiple regional surveys) indicated that the *Eucalyptus salubris* woodlands of VT 7 are restricted to the general vicinity of the Rothsay Study Area (Woodman Environmental Consulting 2017). VT 7 does occur outside the Rothsay Study Area, but is likely to be relatively geographically restricted and limited in occurrence size, based on the small number of similar quadrats in the regional dataset and the location of these quadrats, which indicate that this VT has a close association with the basalt hills in the vicinity of Rothsay.

Clearing as a result of this proposal will represent a relatively small impact to each VT (< 0.1 % of each VT to be impacted).

Table 3: Vegetation Types within the Clearing Permit Area

Vegetation Type	Total Mapped in Rothsay Study Area (ha)	Total Mapped in Clearing Permit Area (ha)	Impact to VT (%)
VT 1	98	0.28	0.003
VT 4	369	12.70	0.034
VT 5	157	0.71	0.004
VT 7	26	2.1	0.08
VT 8	313	3.72	0.011

3.1.2 Flora

A flora survey of the Rothsay Study Area (incorporating the Clearing Permit Area) was carried out by Woodman Environmental in 2017. This survey recorded a total of 17 significant flora taxa. Four of these occur within the Clearing Permit Area, as shown in Figure 4 and summarised in Table 4. The potential impacts to significant flora taxa are also summarised in Table 4, with regard to the number of known individuals from the Rothsay Study Area.

The potential impacts to these Priority flora taxa in the Clearing Permit Area is not considered to be significant, with individuals to be potentially impacted representing less than 0.04 % of total known individuals in the Rothsay area for any given taxon.

Table 4: Significant Flora Taxa Recorded Within the Clearing Permit Area

Taxon	Conservation Code	No. of Individuals in Clearing Proposal Area	Total No. of Individuals Known from Rothsay Study Area	Proportion Potentially Impacted by Proposal (%)
<i>Acacia karina</i>	P1	80	6,057	0.013
<i>Allocasuarina tessellata</i>	P1	760	26,695	0.028
<i>Grevillea scabrida</i>	P1	7	4,320	0.002
<i>Grevillea subtiliflora</i>	P3	10	284	0.035

3.2 Fauna

A fauna assessment of the Rothsay project area was carried out in 2017 based upon a site inspection and a desktop review (Bamford 2017). The desktop review was comprehensive as Bamford Consulting has undertaken multiple fauna investigations for the nearby Karara, Blue Hills and Minjar Projects. The fauna of the region is thus very well known. The fauna study concluded that the fauna assemblage in the wider Rothsay Study Area was widespread in distribution.

The desktop study identified 234 vertebrate fauna species as potentially occurring in the Rothsay Study Area, eight frogs, 62 reptiles, 133 birds and 30 mammals. Many of these species were considered to be irregular visitors or vagrants and 194 species were classed as residents or regular visitors. No general information on invertebrate fauna was available, but some invertebrate species of conservation significance were documented.

Conservation significant fauna were listed under three categories:

- Conservation significance 1 (CS1): those listed under legislation;

- Conservation significance 2 (CS2): those listed as Priority by the DBCA;
- Conservation significance 3 (CS3): those considered to be locally significant, such as species that have declined regionally but remain abundant elsewhere.

There have been some changes in conservation listings since early 2017 and an updated list is presented in Table 5. There are 32 species of conservation significance, including three invertebrates. The majority (24 species) are of local significance only (CS3), two species are of CS2 and six species are of CS1. Many of the conservation significant species are irregular visitors or vagrants, but those that are considered to be residents are discussed below.

3.2.1 Conservation Significance Level 1 species

Gilled Slender-bluetongue: Not recorded in the Rothsay Study Area but found on ironstone ridges further north (Karara area). It is therefore potentially resident in rocky and gravelly soils within VT 4 of the Clearing Permit Area.

Western Spiny-tailed Skink: Not recorded in the Rothsay Study Area despite targeted searching being undertaken during the site inspection. This species is restricted to environments with large trees (usually York Gum as in VT 8), but the habitat in the Clearing Permit Area appears to not be of sufficient quality to support the species. Despite this, any very large, partly dead York Gum within the Clearing Permit Area should be checked for the species.

Malleefowl: Not recorded in the Rothsay Study Area despite targeted searching being undertaken during the site inspection. Studies nearby have found nesting mounds are constructed in gravelly and gravelly loam soils, but not in heavy clayey-loam and clay soils of valleys. Mounds could therefore be present in VT 4 and VT 5 but most of the proposed Clearing Permit Area was visited in 2017 and no mounds were found. If clearing is to occur during the breeding season (approximately May to January), then these two VTs should be checked for active mounds prior to any clearing activities.

Peregrine Falcon: Although the Rothsay Study Area is considered to be within the range of a pair of this species, there is no suitable nesting habitat (clifflines and very large trees) in the proposed Clearing Permit Area. The extent of clearing is a very small part of the likely foraging range of the birds.

3.2.2 Conservation Significance Level 2 species

Northern Shield-backed Trapdoor Spider: This species is abundant on the gravelly slopes of ironstone hills through the Karara, Blue Hill, Mungada and Minjar area to the north, but was not found, despite searching in apparently suitable environments during the 2017 site inspection. Theoretically the species could be present in the gravelly slopes of VT 4 and VT 5, but results of the site inspection suggest that if it is present at all it occurs only at low densities.

3.2.3 Conservation Significance Level 3 species.

Resident CS3 species include one frog, three reptiles, six birds, two mammals and two invertebrates. The frog and several of the birds (eg Redthroat and White-browed Babbler) are associated with drainage lines and dense vegetation in the Karara area. These habitats are not present within the Clearing Permit Area.

The Reticulated Velvet Gecko, Major Mitchell's Cockatoo, Regent Parrot and Rufous Treecreeper are associated with eucalypt areas (VT 7 and VT 8), although records of these species around Karara have always been in areas where the eucalypt are tall and dense, and the understorey in good condition. Vegetation in VT 7 and VT 8 in

the Rothsay Study Area tends to be low and open with sparse understorey. Therefore, while these species are classed as residents, they may occur irregularly or at low densities.

Based on observations made around Karara, Woolley's Pseudantechinus and the two CS3 invertebrates are associated with ironstone ridges and while they may be resident in the rocky areas of VT 4, the amount of habitat is limited.

Environmental associations of the Kulturr are poorly understood, but it has been observed on sparsely vegetated gravelly plains (M. Bamford pers. obs.). There is little, if any of this environment in the proposed Clearing Permit Area, although parts of old cleared areas with scattered regeneration may be suitable. However, the Kulturr has never been recorded during multiple regional surveys so it's status as a resident is purely a prediction.

Table 5: Conservation Significant Fauna Species Potentially Occurring within the Clearing Permit Area

English Name	Latin Name	Conservation Level			Possible Status in Clearing Permit Area
		CS1	CS2	CS3	
Frogs					
Desert Trilling Frog	<i>Neobatrachus centralis</i>			CS3	Resident
Reptiles					
Reticulated Velvet Gecko	<i>Hesperoedura reticulata</i>			CS3	Resident
Mulga Dragon	<i>Diporiphora amphiboluroides</i>			CS3	Resident
Gilled Slender Blue-tongue	<i>Cyclodomorphus branchialis</i>	S3			Resident
Western Spiny-tailed Skink	<i>Egernia stokesii badia</i>	E S3			Resident
South-West Carpet Python	<i>Morelia spilota imbricata</i>			CS3	Resident
Birds					
Malleefowl	<i>Leipoa ocellata</i>	V S3			Resident
Fork-tailed Swift	<i>Apus pacificus</i>	Mig S5			Migrant
Grey Falcon	<i>Falco hypoleucos</i>	V S3			Vagrant
Peregrine Falcon	<i>Falco peregrinus</i>	S7			Resident
Australian Bustard	<i>Ardeotis australis</i>			CS3	Irregular visitor
Bush Stone-curlew	<i>Burhinus grallarius</i>			CS3	Irregular visitor
Major Mitchell's Cockatoo	<i>Cacatua leadbeateri</i>			CS3	Resident
Regent Parrot	<i>Polytelis anthopeplus</i>			CS3	Resident
Scarlet-chested Parrot	<i>Neophema splendida</i>			CS3	Vagrant
Rainbow Bee-eater	<i>Merops ornatus</i>			CS3	Migrant
Rufous Treecreeper	<i>Climacteris rufa</i>			CS3	Resident
Rufous Fieldwren	<i>Calamanthus campestris</i>			CS3	Irregular visitor
Redthroat	<i>Pyrrholaemus brunneus</i>			CS3	Resident
Southern Scrub-robin	<i>Drymodes brunneopygi</i>			CS3	Irregular visitor
White-browed Babbler	<i>Pomatostomus superciliosus</i>			CS3	Resident
Crested Bellbird	<i>Oreoica gutturalis</i>			CS3	Resident
Gilbert's Whistler	<i>Pachycephala inornata</i>			CS3	Irregular visitor
Golden Whistler	<i>Pachycephala pectoralis</i>			CS3	Resident
Western Yellow Robin	<i>Eopsaltria griseogularis</i>			CS3	Resident

English Name	Latin Name	Conservation Level			Possible Status in Clearing Permit Area
		CS1	CS2	CS3	
Mammals					
Kultarr	<i>Antechinomys laniger</i>			CS3	Resident
Woolley's Pseudantechinus	<i>Pseudantechinus woolleyae</i>			CS3	Resident
Brush Wallaby	<i>Notamacropus irma</i>		P4		Visitor
Brush-tailed Possum	<i>Trichosurus vulpecula</i>			CS3	Visitor
Invertebrates					
Northern Shield-backed Trapdoor Spider	<i>Idiosoma clypeatum</i>		P4		Resident
Trapdoor spider	<i>Idiosoma sp.</i>			CS3	Resident
Karara Millipede	<i>Antichiropus sp. nov.</i> 'Karara'			CS3	Resident

4. CLEARING AND IMPACT AGAINST THE 'CLEARING PRINCIPLES'

The impacts of clearing under this proposal are discussed below with regard to the 10 Clearing Principles as defined in Schedule 5 of the *Environmental Protection Amendment Act 2003*.

Principle 1. Native vegetation should not be cleared if it comprises a high level of biological diversity.

The Clearing Permit Area is located in the Yalgoo Interim Biogeographic Regionalisation for Australia (IBRA) region, specifically within the Talling IBRA Subregion (Commonwealth of Australia 2012). This region is not considered to be highly biodiverse, with low levels of endemism (Desmond and Chant 2001).

Clearing under this proposal is likely to have a minimal impact on the overall biodiversity of the Talling subregion and the local area within which the Clearing Permit Area is located. The impacts of the proposed clearing to intact native vegetation is relatively small (approximately 19.51 ha), with the remainder of the clearing impacting lands which have either already been cleared or are highly degraded.

This proposal is therefore not considered to be at variance to this principle.

Principle 2. 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.

The fauna habitats within the Clearing Permit Area are widespread and any significant fauna species potentially residing within it are likely to be present at low densities due to the quality and condition of this habitat.

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

Principle 3. Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.

No Threatened flora taxa are known to occur within the Rothsay Study area.

Four Priority flora taxa were recorded in the Clearing Permit Area. The potential impact to these taxa is minimal with less than 0.04% of the local population of each to be impacted.

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

Principle 4. 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.

There are no occurrences of any Threatened Ecological Community (TEC) or Priority Ecological Community (PEC) within the Clearing Permit Area.

The proposed clearing is not at variance to this principle.

Principle 5. Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.

The proposed clearing area is located within the Yalgoo_358 and Yalgoo_936 Vegetation System Associations. These associations have greater than 99 % of the pre-european extent of vegetation remaining (Government of Western Australia 2014), with more than 30% of the pre-European extent of this entire subregion considered extant.

The proposed clearing area represents relatively small areas of native vegetation surrounded by extensive tracts of uncleared. The Clearing Permit Area does not represent an area that is significant as a remnant of native vegetation in an area that has been extensively cleared.

The proposed clearing is not at variance to this principle.

Principle 6. Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

There are no watercourses or wetlands associated with the Clearing Permit Area.

The proposed clearing is not at variance to this principle.

Principle 7. Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

The area to be cleared is relatively small and will be utilised for mining activities under an environmental management plan until decommissioned and rehabilitated. Final rehabilitation of the site will ensure that surface water patterns are managed to prevent erosion and landforms will be rehabilitated with native plant species.

The proposed clearing is not at variance to this principle.

Principle 8. 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.

The Clearing Permit Area is not within the immediate vicinity of any conservation areas.

The proposed clearing is not at variance to this principle.

Principle 9. 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.

The waste rock dumps will not contain any materials likely to leach and impact on the quality of surface or groundwater. The putrescible waste facility will be constructed to encapsulate waste materials and prevent leaching of chemicals to the environment. All activities will be managed in accordance with an environmental management plan. It is not considered that the proposal will cause any deterioration in the quality of surface or ground water at the Mine Site. No impact to groundwater quality or levels will be experienced as a result of the proposal.

The proposed clearing is not at variance to this principle.

Principle 10. Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

The project area is not located in the vicinity of significant drainage features or floodplains. The small area of clearing and associated project footprint will be managed to prevent uncontrolled loss of water to the surrounding environment through surface flows.

The proposed clearing is therefore not at variance to this principle.

5. CONCLUSION

This proposal outlines EganStreet Resources Limited application for a clearing permit (Purpose Permit) in accordance with the EP Act to clear 19.51 ha of native vegetation. The proposed clearing is required in order to construct a waste rock dump, a putrescible waste storage, a low grade ore stockpile, a groundwater evaporation pond, communications tower and expansion of the existing tailings dam.

The Clearing Permit Area contains areas of native vegetation in predominantly Excellent Condition. One of the VTs mapped, VT 7, is considered to be locally and regionally restricted. However, the area of VT 7 to be cleared under this permit application represents only 0.08% of the known mapped extent of this VT and will therefore have no significant impact on its total extent. The remaining VTs mapped within the Clearing Permit Area are not considered to be locally or regionally significant. No extant individuals or habitat of Threatened flora taxa were recorded during the survey of the Clearing Permit Area.

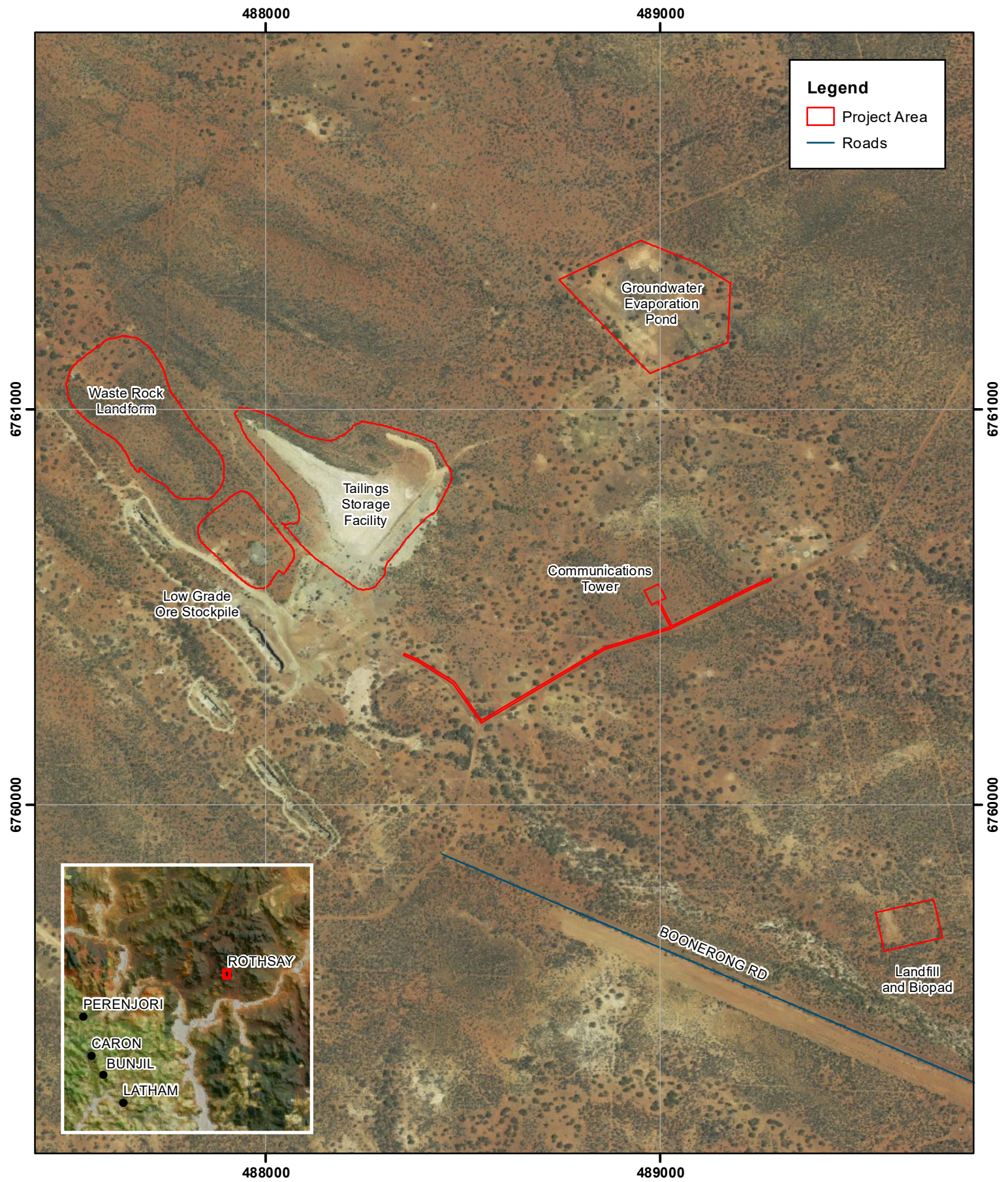
Four Priority flora taxa also occur within the Clearing Permit Area, and may potentially be impacted, with none at risk of high impact. All Priority flora taxa that occur within the Clearing Permit Area are known to occur at other locations locally and regionally. Clearing under this permit application represents less than 0.04% of the known populations of these taxa within the Rothsay Study Area.



Impacts to fauna from this proposal are expected to be minimal as the fauna habitats within the Clearing Permit Area are widespread. Any significant fauna species potentially residing within it are likely to be present at low densities due to the quality and condition of this habitat. It is recommended that prior to any clearing occurring, the areas are checked for active Mallee Fowl mounds. In addition, if any large, partly dead York Gum is present within the Clearing Permit Area these should be checked for the Western Spiny-Tailed Skink.

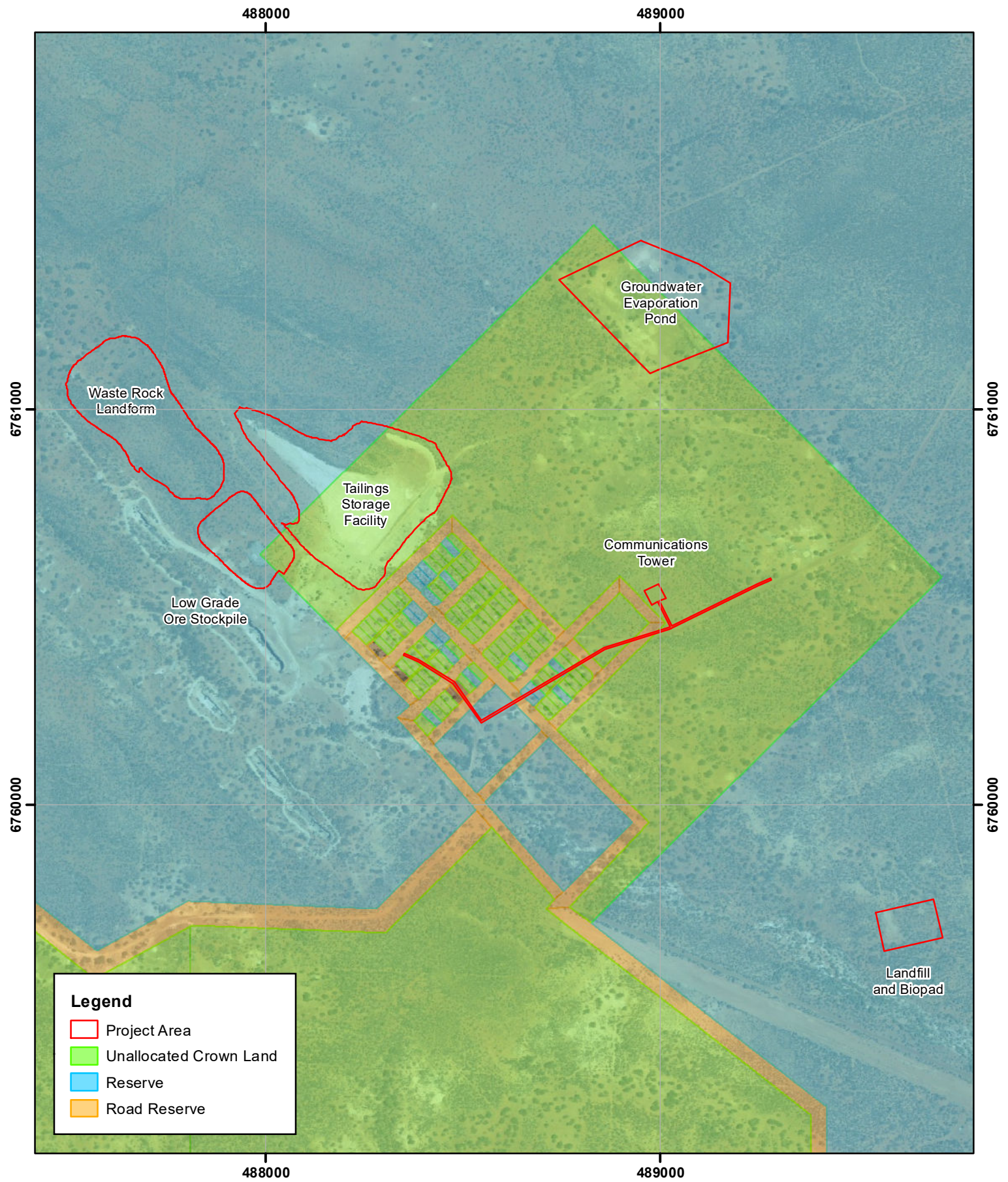
It is therefore considered that there will be no net loss of habitat or biodiversity in the long-term as a result of this proposal.



6. REFERENCES

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Location of the Rothsay Project Area	Author: Debbie Woodman	
	WEC Ref: EganStreet18-59-01	
 WOODMAN ENVIRONMENTAL	Filename: EganStreet18-59-01-f01.mxd	Figure 1
	Scale: 1:12,500 (A4)	
	Projection: GDA 1994 MGA Zone 50	
	Revision: 0 - 14 November 2018	
This map should only be used in conjunction with WEC report EganStreet18-59-01.		






Clearing Permit Boundaries and Land Tenure	Author: Debbie Woodman	 Figure 2
	WEC Ref: EganStreet18-59-01	
Filename: EganStreet18-59-01-f02.mxd		
Scale: 1:12,500 (A4)		
Projection: GDA 1994 MGA Zone 50		
 <small>This map should only be used in conjunction with WEC report EganStreet18-59-01.</small>	Revision: 0 - 14 November 2018	

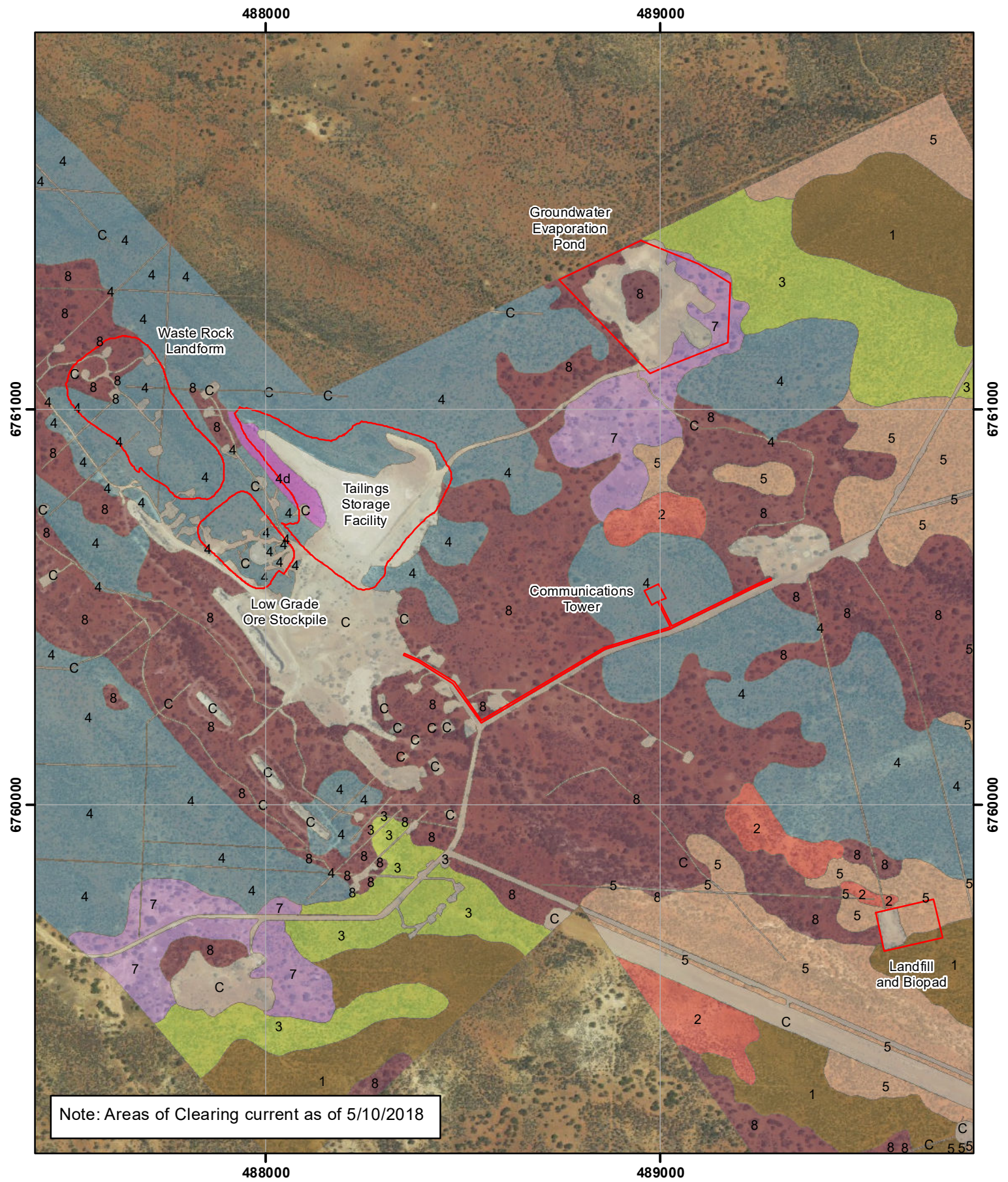
Legend



 Project Area

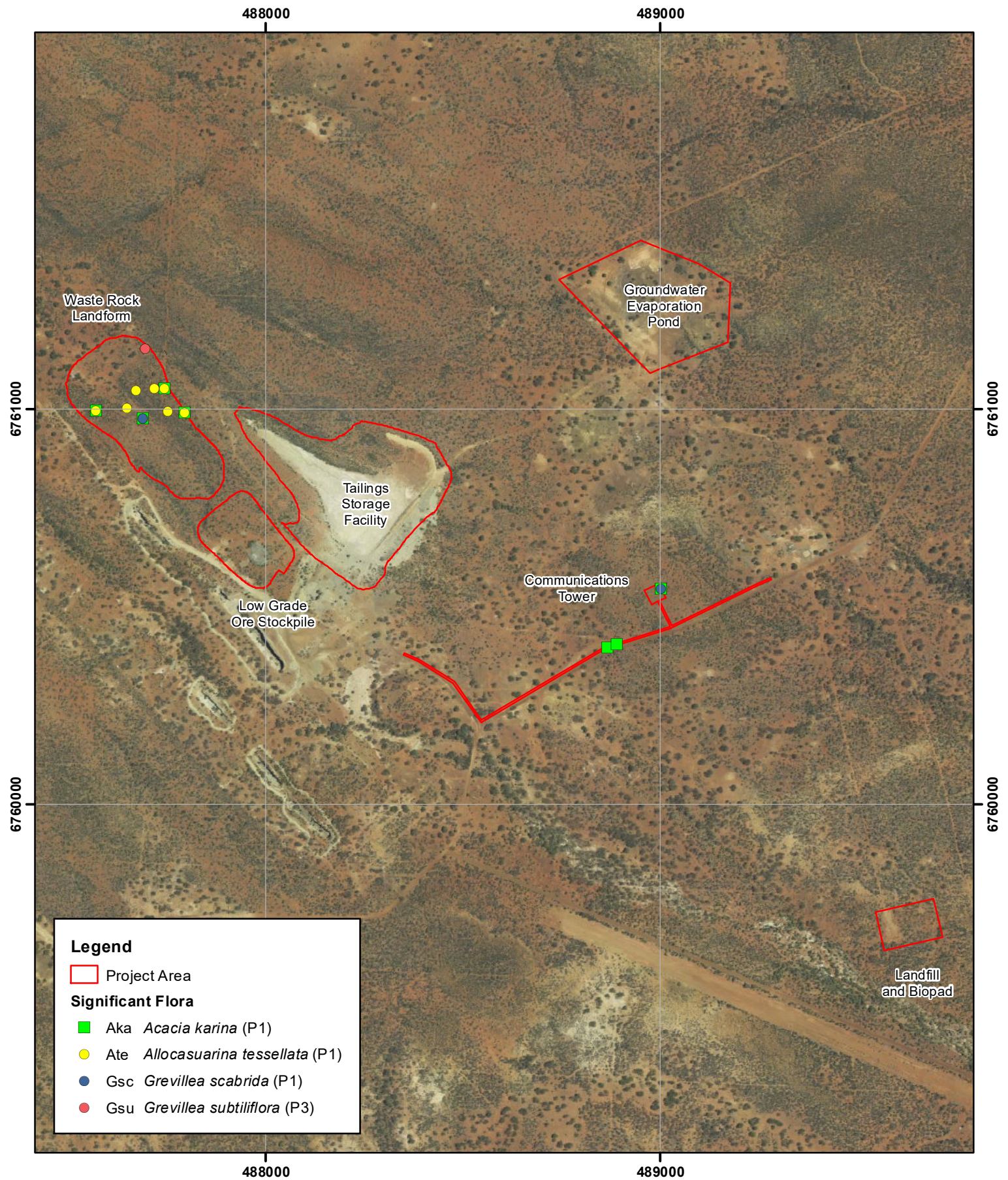
Vegetation Types



-  1 Tall shrubland to open shrubland of mixed species dominated by *Acacia latior*, *Acacia sibina*, *Melaleuca nematophylla* and occasionally *Acacia incognita* over mid open to sparse shrubland dominated by *Aluta aspera* subsp. *hesperia* over low sparse shrubland dominated by *Xanthosia kochii* and *Dianella revoluta* over low open to sparse forbland dominated by *Waitzia acuminata* var. *acuminata*, *Helipterum craspedioides*, *Velleia rosea*, *Brunonia australis* and *Haloragis odontocarpa* forma *rugosa* on red brown to pale brown clay loam soils with ironstone gravel on lower slopes and undulating plains
-  2 Tall open to sparse shrubland of mixed species dominated by *Acacia aulacophylla* and *Acacia umbraculiformis* over mid open to sparse shrubland of mixed species dominated by *Philothea brucei* subsp. *brucei*, *Thryptomene costata*, *Mirbelia* sp. Bursarioides (T.R. Lally 760) and *Grevillea extorris* over sparse low shrubland of mixed species dominated by *Prostanthera patens* and *Astroloma serratifolium* over sparse low forbland of mixed species dominated by *Borya sphaerocephala*, *Waitzia acuminata* var. *acuminata* and *Podolepis lessonii* on pale brown clay loam with duricrust stones over duricrust outcropping on low breakaways
-  3 Tall shrubland to open shrubland of mixed species dominated by *Acacia ramulosa* var. *ramulosa*, *Acacia assimilis* subsp. *assimilis*, *Allocasuarina acutivalvis* subsp. *prinsepiana*, *Melaleuca nematophylla* and *Calycopeplus paucifolius* over mid open to sparse shrubland dominated by *Philothea brucei* subsp. *brucei*, *Eremophila latrobei* subsp. *latrobei* and *Eremophila clarkei* over low sparse shrubland dominated by *Xanthosia kochii* over low sparse forbland of mixed species including *Waitzia acuminata* var. *acuminata*, *Calocephalus multiflorus* and *Cheilanthes sieberi* subsp. *sieberi* on red brown clay loam soils with banded or laterised ironstone stones over banded or laterised ironstone outcropping on upper slopes and crests of low hills
-  4 Low open woodland to woodland dominated by *Allocasuarina dielsiana* and *Melaleuca hamata* over tall shrubland to open shrubland dominated by *Acacia acuminata* and *Allocasuarina tessellata* over mid sparse shrubland dominated by *Acacia karina* and occasionally *Melaleuca radula* over low open to sparse forbland and tussock grassland of mixed species including *Waitzia nitida*, *Lobelia rhytidosperma*, *Goodenia berardiana*, *Ptilotus helipteroides* and *Austrostipa blackii* on red clay-loam soils with basalt stones on the slopes and crests of low hills
-  4d Degraded VT 4
-  5 Low open woodland dominated by *Melaleuca hamata* over tall shrubland to open shrubland of mixed species dominated by *Acacia ramulosa* var. *ramulosa* and *Acacia tetragonophylla* and *Acacia sibina* over low sparse shrubland dominated by *Eremophila eriocalyx* and *Ptilotus obovatus* over low sparse forbland of mixed species including *Waitzia acuminata* var. *acuminata*, *Calocephalus multiflorus*, *Velleia rosea*, *Ptilotus gaudichaudii* subsp. *eremita* and *Cephalopterum drummondii* on red or red brown clay loam soils with quartz and ironstone gravel on lower slopes, undulating plains and in minor drainage lines
-  7 Low open woodland dominated by *Eucalyptus salubris* over sparse tall to mid shrubland of mixed species including *Eremophila pantonii* and *Exocarpos aphyllus* over low sparse samphire shrubland dominated by *Tecticornia disarticulata* over low sparse chenopod shrubland of mixed species including *Rhagodia drummondii*, *Sclerolaena densiflora*, *Sclerolaena diacantha*, *Maireana tomentosa* subsp. *tomentosa* and *Enchylaena tomentosa* var. *tomentosa* over low sparse tussock grassland and forbland of mixed species including *Erymophyllum glossanthus*, *Austrostipa scabra* subsp. *scabra*, *Ptilotus gaudichaudii* subsp. *eremita* and **Rostraria pumila* on pale brown clay loam soils with colluvial gravel on lower slopes and flats
-  8 Low open woodland dominated by *Eucalyptus loxophleba* subsp. *supralaevis* and/or *Eucalyptus salubris* over tall sparse shrubland of mixed species including *Eremophila oldfieldii* subsp. *oldfieldii*, *Eremophila oppositifolia* subsp. *angustifolia*, *Acacia tetragonophylla* and *Exocarpos aphyllus* over sparse mid shrubland of mixed species including *Senna artemisioides* subsp. *filifolia*, *Dodonaea inaequifolia* and *Scaevola spinescens* over sparse low shrubland and tussock grassland of mixed species including *Acacia erinacea*, *Ptilotus obovatus* and *Austrostipa elegantissima* over low sparse chenopod shrubland of mixed species including *Maireana georgei*, *Maireana trichoptera*, *Sclerolaena diacantha*, *Sclerolaena densiflora* and *Rhagodia drummondii* over low sparse tussock grassland and forbland of mixed species including *Austrostipa scabra* subsp. *scabra*, *Cephalopterum drummondii*, *Ptilotus nobilis*, *Zygophyllum ovatum* and *Mesembryanthemum nodiflorum* on red, red brown or brown clay loam soils with colluvial gravel, and occasionally with laterite outcropping, on lower slopes, plains and occasionally lateritic breakaways
-  C Cleared Land

Clearing Permit Area Vegetation Types	Author: Debbie Woodman	
	WEC Ref: EganStreet18-59-01	
 WOODMAN ENVIRONMENTAL	Filename: EganStreet18-59-01-f03-1.mxd	Figure 3.1
	Scale: 1:12,500 (A4)	
	Projection: GDA 1994 MGA Zone 50	
	Revision: 0 - 14 November 2018	
	This map should only be used in conjunction with WEC report EganStreet18-59-01.	



<p>Clearing Permit Area Vegetation Types</p>	<p>Author: Debbie Woodman</p>	
	<p>WEC Ref: EganStreet18-59-01</p>	
 <p>WOODMAN ENVIRONMENTAL</p> <p>This map should only be used in conjunction with WEC report EganStreet18-59-01.</p>	<p>Filename: EganStreet18-59-01-f03-2.mxd</p>	<p>Figure 3.2</p>
	<p>Scale: 1:12,500 (A4)</p>	
	<p>Projection: GDA 1994 MGA Zone 50</p>	
	<p>Revision: 0 - 14 November 2018</p>	



Locations of Significant Flora within the Clearing Permit Area	Author: Debbie Woodman	
	WEC Ref: EganStreet18-59-01	
 WOODMAN ENVIRONMENTAL	Filename: EganStreet18-59-01-f04.mxd	Figure 4
	Scale: 1:12,500 (A4)	
	Projection: GDA 1994 MGA Zone 50	
	Revision: 0 - 14 November 2018	
<small>This map should only be used in conjunction with WEC report EganStreet18-59-01.</small>		