



## CLEARING PERMIT

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

<b>Purpose Permit number:</b>	CPS 9551/1
<b>Permit Holder:</b>	Northern Star (Hampton Gold Mining Areas) Limited
<b>Duration of Permit:</b>	From 04 September 2022 to 04 September 2027

The permit holder is authorised to clear *native vegetation* subject to the following conditions of this permit.

### **PART I – CLEARING AUTHORISED**

**1. Clearing authorised (purpose)**

The permit holder is authorised to clear *native vegetation* for the purpose of converting a tailings storage facility (TSF) and associated drainage and access.

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

Lot 105 on Deposited Plan 40396, Karramindie

**3. Clearing authorised**

The permit holder must not clear more than 6.22 hectares of *native vegetation* within the area cross-hatched yellow in Figure 1 of Schedule 1.

**4. Period during which clearing is authorised**

The permit holder must not clear any *native vegetation* after 04 September 2027.

### **PART II – MANAGEMENT CONDITIONS**

**5. Avoid, minimise, and reduce impacts and extent of clearing**

In determining the *native vegetation* authorised to be cleared under this permit, the permit holder must apply the following principles, set out in descending 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.

## 6. Weed management

When undertaking any clearing authorised under this permit, the permit holder must take the following measures to minimise the risk of 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 known *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.

## 7. Wind erosion management

The permit holder must commence activities associated with the construction of the TSF and associated drainage and access no later than three (3) months after undertaking the authorised clearing activities to reduce the potential for wind erosion.

## **PART III - RECORD KEEPING AND REPORTING**

## 8. Records that must be kept

The permit holder must maintain records relating to the listed relevant matters in accordance with the specifications detailed in Table 1.

**Table 1: Records that must be kept**

No.	Relevant matter	Specifications
1.	In relation to the authorised clearing activities generally	<ol style="list-style-type: none"><li>(a) the species composition, structure, and density of the cleared area;</li><li>(b) 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;</li><li>(c) the date that the area was cleared;</li><li>(d) the date that construction activities commenced;</li><li>(e) the size of the area cleared (in hectares);</li><li>(f) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 5; and</li><li>(g) actions taken to minimise the risk of the introduction and spread of <i>weeds</i> in accordance with condition 6.</li></ol>

## 9. Reporting

The permit holder must provide to the *CEO* the records required under condition 8 of this permit when requested by the *CEO*.

## DEFINITIONS

In this permit, the terms in Table 2 have the meanings defined.

**Table 2: Definitions**

Term	Definition
CEO	Chief Executive Officer of the department responsible for the administration of the clearing provisions under the <i>Environmental Protection Act 1986</i> .
clearing	has the meaning given under section 3(1) of the EP Act.
condition	a condition to which this clearing permit is subject under section 51H of the EP Act.
department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
EP Act	<i>Environmental Protection Act 1986</i> (WA)
fill	means material used to increase the ground level, or to fill a depression.
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.
native vegetation	has the meaning given under section 3(1) and section 51A of the EP Act.
weeds	means any plant – (a) that is a declared pest under section 22 of the <i>Biosecurity and Agriculture Management Act 2007</i> ; or (b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or (c) not indigenous to the area concerned.

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## END OF CONDITIONS



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Mathew Gannaway  
MANAGER  
NATIVE VEGETATION REGULATION

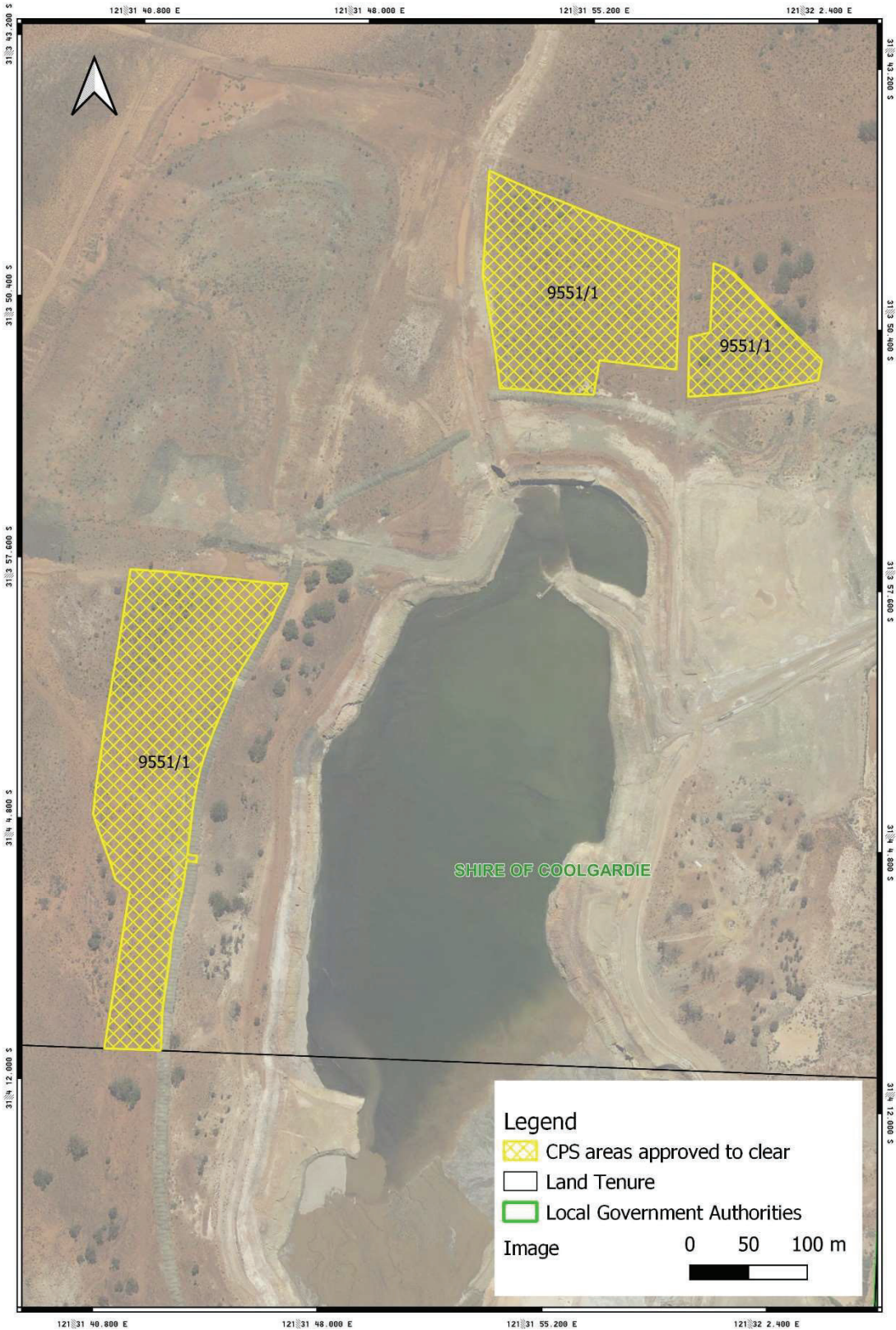
*Officer delegated under Section 20  
of the Environmental Protection Act 1986*

11 August 2022

# Schedule 1

## Plan 9551/1

The boundary of the areas authorised to be cleared is shown in the map below (Figure 1).



**Figure 1: Map of the boundary of the areas within which clearing may occur**



# Clearing Permit Decision Report

## 1 Application details and outcome

### 1.1. Permit application details

<b>Permit number:</b>	CPS 9551/1
<b>Permit type:</b>	Purpose permit
<b>Applicant name:</b>	Northern Star (Hampton Gold Mining Areas) Limited
<b>Application received:</b>	4 January 2022
<b>Application area:</b>	6.22 hectares of native vegetation
<b>Purpose of clearing:</b>	Tailings storage facility and associated drainage and access
<b>Method of clearing:</b>	Mechanical removal
<b>Property:</b>	Lot 105 on Deposited Plan 40396, Karramindie
<b>Location (LGA area/s):</b>	Shire of Coolgardie

### 1.2. Description of clearing activities

The vegetation proposed to be cleared is distributed across three separate areas (see Figure 1, Section 1.5). The proposed clearing areas are within the immediate surrounds of an existing in-pit tailings storage facility (TSF) that is to be converted to a 'paddock style' TSF. The cleared land will be used for earthen embankments which will form the walls of the converted TSF, as well as a toe drain at the base of the embankments and access roads around the TSF (Northern Star, 2022).

### 1.3. Decision on application

<b>Decision:</b>	Granted
<b>Decision date:</b>	11 August 2022
<b>Decision area:</b>	6.22 hectares of native vegetation, as depicted in Section 1.5, below.

### 1.4. Reasons for decision

This clearing permit application was submitted, accepted, assessed and determined in accordance with sections 51E and 51O of the *Environmental Protection Act 1986* (EP Act). The Department of Water and Environmental Regulation (DWER) advertised the application for 21 days and no submissions were received.

In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix A), relevant datasets (see Appendix E.1), the findings of a flora and fauna survey (see Appendix D), the clearing principles set out in Schedule 5 of the EP Act (see Appendix B), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3).

The assessment identified that the proposed clearing may result in:

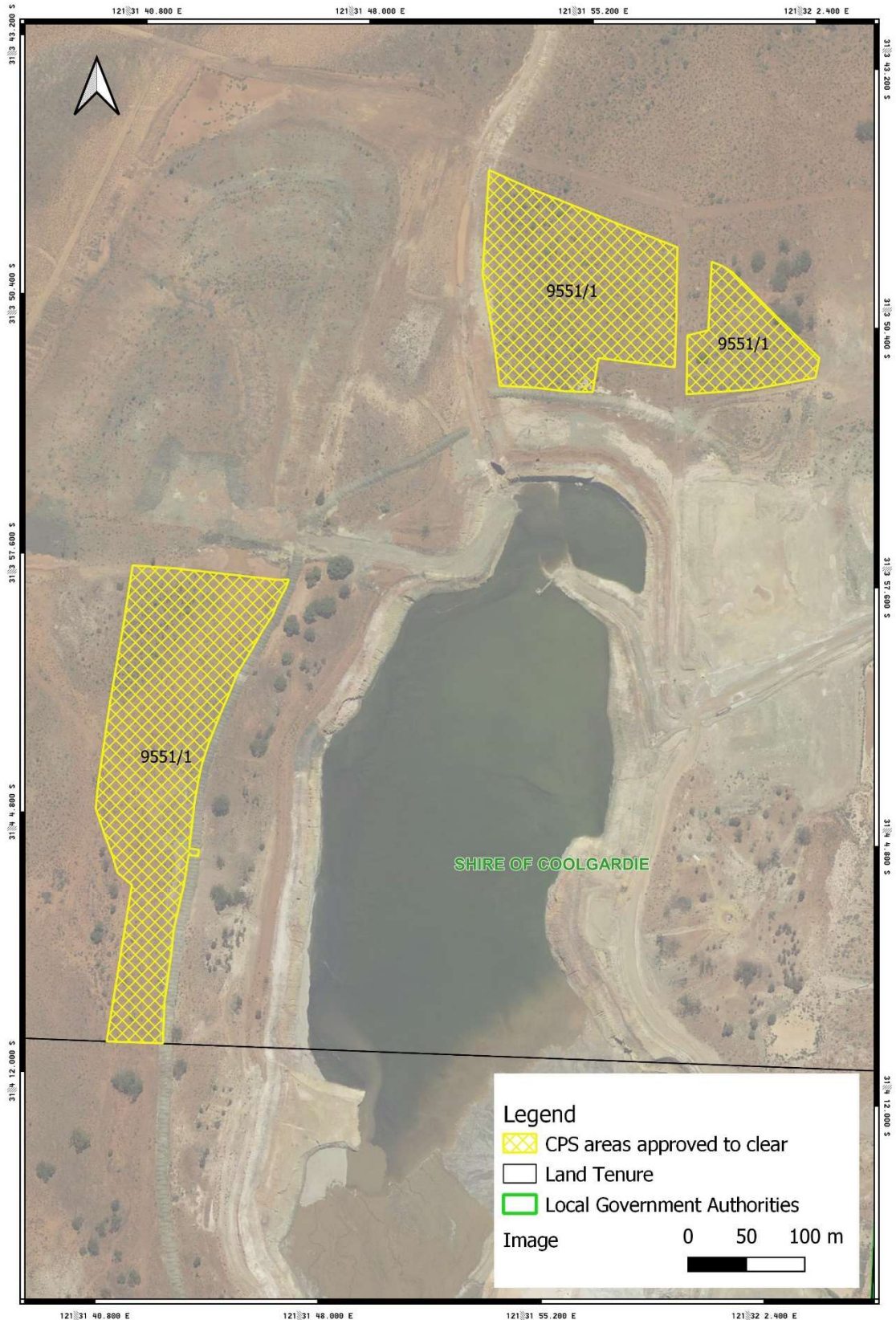
- the potential introduction and spread of weeds into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values; and
- the potential for water and/or wind erosion.

After consideration of the available information, as well as the applicant's minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined the proposed clearing can be minimised and managed to unlikely lead to an unacceptable risk to environmental values.

The Delegated Officer decided to grant a clearing permit subject to conditions to:

- avoid, minimise to reduce the impacts and extent of clearing;
- take hygiene steps to minimise the risk of the introduction and spread of weeds; and
- commence construction no later than three months after undertaking clearing to reduce the risk of erosion.

## 1.5. Site maps



**Figure 1:** Map of the application area

The areas cross-hatched yellow indicate the areas authorised to be cleared under the granted clearing permit.

## 2 Legislative context

The clearing of native vegetation in Western Australia is regulated under the EP Act and the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* (Clearing Regulations).

In addition to the matters considered in accordance with section 51O of the EP Act (see Section 1.4), the Delegated Officer has also had regard to the objects and principles under section 4A of the EP Act, particularly:

- the precautionary principle
- the principle of intergenerational equity
- the principle of the conservation of biological diversity and ecological integrity.

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Conservation and Land Management Act 1984* (WA) (CALM Act)
- *Mining Act 1978* (WA)

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, December 2013)
- *Procedure: Native vegetation clearing permits* (DWER, October 2019)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)
- Technical guidance – *Terrestrial Fauna Surveys for Environmental Impact Assessment* (EPA, 2016)

## 3 Detailed assessment of application

### 3.1. Avoidance and mitigation measures

The proposed clearing is within the immediate surrounds of an existing in-pit TSF, that is to be converted to a 'paddock style' TSF. Land cleared will be used to create earthen embankments which will form the walls of the converted TSF, as well as a toe drain at the base of the embankments and access roads around the TSF (Northern Star (Hampton Gold Mining Areas) Limited, 2022).

To design the TSF in accordance with: *DMIRS (20135), 'Code of practice: tailings storage facilities in Western Australia'; and ANCOLD (20196), 'Guidelines on Tailings Dams: Planning, Design, Construction, Operation and Closure'*, clearing vegetation in the areas subject to this application is unavoidable (Northern Star (Hampton Gold Mining Areas) Limited, 2022).

Given the above, the Delegated Officer acknowledged the limited opportunities to avoid clearing vegetation and was satisfied that the applicant has given reasonable consideration to measures to avoid and minimise potential impacts of the proposed clearing on environmental values.

### 3.2. Assessment of impacts on environmental values

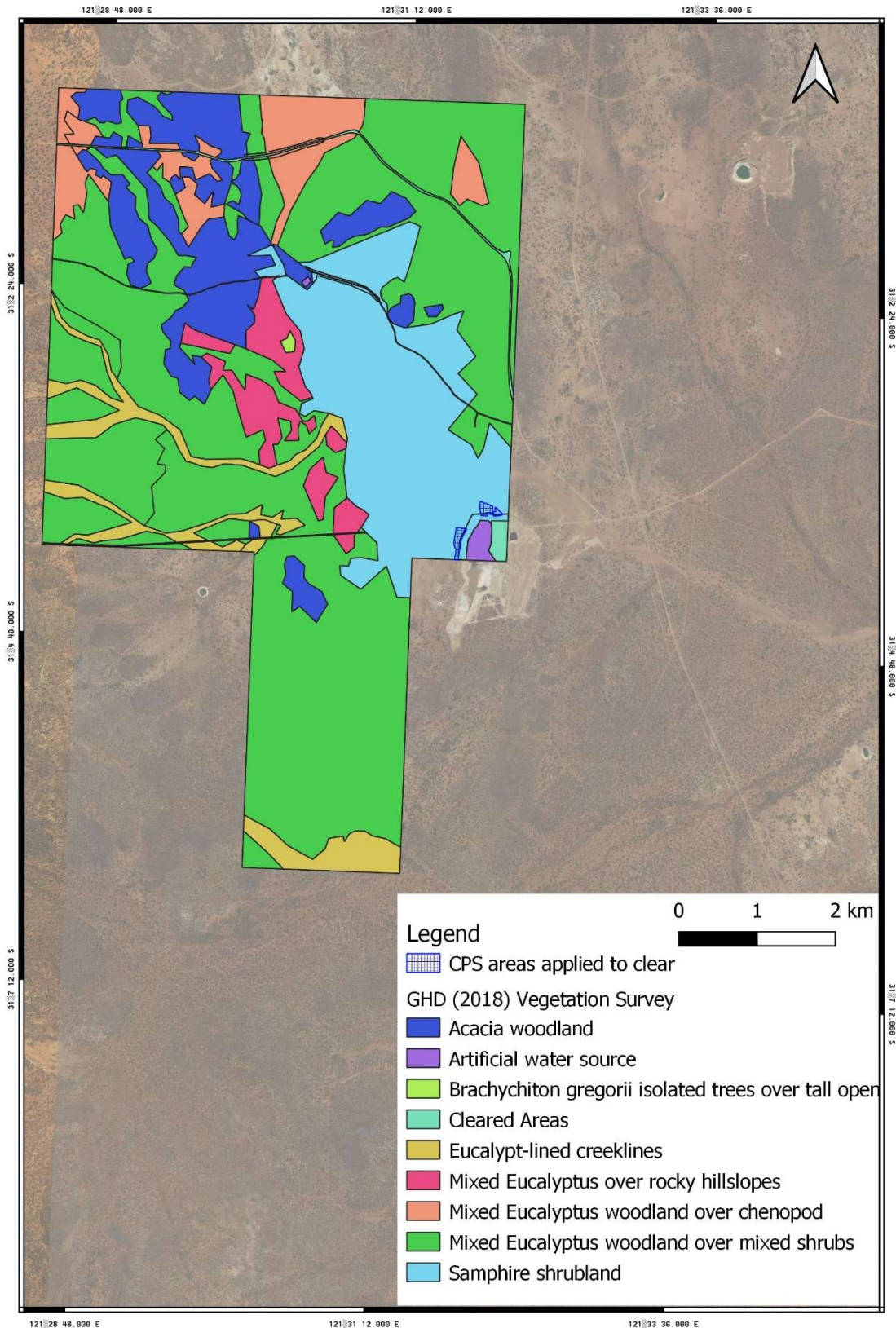
In assessing the application, the Delegated Officer has had regard for the site characteristics (see Appendix A) and the extent to which the impacts of the proposed clearing present a risk to biological, conservation, or land and water resource values.

The assessment against the clearing principles (see Appendix B) identified the impacts of the proposed clearing are limited and able to be managed to be environmentally acceptable with standard management conditions.

#### 3.2.1. Biological values (Flora and Fauna) - Clearing Principles (a) and (b)

A reconnaissance vegetation and flora survey and a Level 1 fauna assessment by GHD (2018) were undertaken on the same allotment for Purpose Permit CPS 8235/1. These surveys included the current application area for CPS 9551/1 (see Figure 2). Only the findings relevant to the current application area have been reviewed and discussed in this report.





**Figure 2:** Map of the vegetation and flora survey and a Level 1 fauna assessment undertaken by GHD (2018) that encompasses the application area

Eleven conservation significant flora taxa are known to occur within the local area (20-kilometre radius from the center of the area proposed to be cleared). The closest record identified is *Thryptomene planiflora* (Priority 1), located approximately 6.9 kilometres southwest from the application area. No threatened flora have been recorded within the local area. No threatened (TEC) or priority (PEC) ecological communities have been recorded within the local area.

The vegetation survey (GHD, 2018) indicated that the vegetation within the proposed clearing area consists of Samphire open shrubland (VT01a) described as *Acacia acuminata* isolated shrubs over *Tecticornia halocnemoides* *Atriplex vesicaria*, *Maireana pyramidata* mid chenopod shrubland over *Sarcozona praecox*, *Disphyma crassifolium* low sparse chenopod shrubland.

The flora survey (GHD, 2018) did not identify any threatened or priority flora or vegetation consistent with a TEC or PEC. Given this, the application area is not likely to contain these environmental values. The flora survey and likelihood of occurrence assessment (GHD, 2018) did not identify any conservation significant flora or suitable habitat for conservation significant flora within the application area.

According to available datasets, there are records of three conservation listed fauna species within the local area. The closest record is *Leipoa ocellata* (Malleefowl) (listed as Vulnerable under the *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)*), located approximately 6.6 kilometres from the proposed area of clearing. There are 23 records of occurrence of Malleefowl within the local area. No evidence of Malleefowl was recorded during the field survey of the site and the proposed area to be cleared is not considered ideal habitat for this species due to the lack of leaf litter cover or debris (GHD, 2018).

No conservation significant fauna species have been recorded within the application area and the fauna assessment GHD (2018) undertook did not record any conservation significant fauna species in the application area. A likelihood of occurrence assessment also did not identify any conservation significant fauna species likely to occur within the application area.

#### Conclusion

For the reasons set out above, it is considered that the proposed clearing will not impact on significant habitat for conservation significant flora and fauna. There is the potential of weeds being present within the application area as *Xanthium spinosum* was found within the larger survey area and the proposed clearing has the potential to exacerbate the spread of weeds.

#### Conditions

To address the above impact, the following management measures have been imposed as a condition on the clearing permit:

- take hygiene steps to minimise the risk of the introduction and spread of weeds

### **3.2.2. Environmental value: land and water resources - Clearing Principles (g)**

The application area lies within the Coolgardie Land system (GIS Database). The Coolgardie Land System is described as uplands and undulating plains associated with ultramafic greenstones supporting eucalypt woodlands and halophytic shrublands (DPIRD, 2022). Where not protected by a stony mantle, footslopes and valley floors are susceptible to water erosion, particularly in areas where perennial shrub cover is substantially reduced and/or the soil surface is disturbed (DPIRD, 2022). As the area will be managed as a mining area, the potential degradation is likely to be minimised and managed through mitigation measures including staged clearing, revegetation of temporarily disturbed areas and the implementation of drains and bunds where necessary (GHD, 2018).

#### Conclusion

There is a moderate likelihood of soil erosion within the application area.

#### Conditions

To address the short-term potential impacts of erosion, the following management condition has been imposed on the clearing permit:

- construction to commence no later than three months after undertaking clearing to reduce the risk of erosion.

### **3.3. Relevant planning instruments and other matters**

Purpose Permit CPS 8235/1 was granted to Northern Star (Hampton Gold Mining Areas) Limited on 27 August 2019 for the purpose of mineral exploration on Lot 105 on Deposited Plan 40396, Karramindie. Even though the application area is similar, the current application (CPS 9551/1) is for activities relating to the development of a revised TSF, associated drainage and access that were not included within the scope of the CPS 8235/1 application.

Clearing Permit CPS 9575/1, for the portion of the TSF Project that is located on Mining Lease 15/456, has been granted by the Department of Mines, Industry Regulation and Safety.

The Project has a current Works Approval Licence L5107/1998/13 issued and a new Works Approval License W6675/2022/1 under assessment, both under Part V Division 3 of the EP Act.

The proposed site was classified under the *Contaminated Sites Act 2003* as *possibly contaminated - investigation required* on 24 April 2009. Advice from DWER - Contaminated Sites indicated that the classification was based on information submitted in March 2009. Spills associated with pipeline leakage and overspill were reported by the Kalgoorlie Regional Office. Metals and cyanide are suspected contaminants in soils, groundwater, sediments and surface water surrounding the tailings storage facility. Contamination investigations were required to be undertaken, however DWER - Contaminated Sites indicated no contamination investigations have been carried out to date.

Given the uncertainties associated with the current contamination status of the site, the DWER - Contaminated Sites cannot comment on the suitability of the site for the current land use. However, given the continuing industrial land use at the site, DWER - Contaminated Sites believe it is unlikely that the proposed expansion of the Tailings Storage Facility presents any additional health risk to site users.

DWER - Contaminated Sites recommended that the applicant prepares an appropriate management plan to address the risks associated with potential exposure of soil contamination from historic leaks and spills.

The application area is located within the Goldfields Groundwater Area proclaimed under the *Rights in Water and Irrigation Act 1914* (RIWI Act) (DWER-034) proclaimed under the RIWI Act (DWER-037). The applicant holds a valid groundwater licence (GWL106836).

The application does not fall within a public drinking water source, or a clearing control catchment protected under the *Country Areas Water Supply Act 1947* (CAWSA).

No Aboriginal sites of significance have been mapped within the application area. It is the permit holder's responsibility to comply with the *Aboriginal Heritage Act 1972* (WA) and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

**End**

## Appendix A. Site characteristics

The information provided below describes the key characteristics of the area proposed to be cleared and is based on the best available information to DWER at the time of this assessment. This information was used to inform the assessment against the Clearing Principles, contained in Appendix B.

### A.1. Site characteristics

Characteristic	Details						
Local context	<p>The application area is located approximately 31 km south of Kalgoorlie in the Goldfields. The area proposed to be cleared is part of an expansive tract of native vegetation in the extensive land use zone of Western Australia. It is adjacent to the existing Samphire in-pit TSF, which forms part of Northern Star's South Kalgoorlie Operations (SKO).</p> <p>Spatial data indicates the local area retains approximately 97.87 per cent of the original native vegetation cover.</p>						
Ecological linkage	No ecological linkages are mapped or known to exist within the application area.						
Conservation areas	<p>The closest conservation area to the application area is Kambalda Nature Reserve located approximately 7.5 kilometres south of the application area, separated from the application area by the existing TSF and a large tract of remnant vegetation.</p> <p>Five DBCA managed lands occur within 20 km of the survey area and consist of Lakeside Timber Reserve (19 km to the north-east), Karamindie Forest (7 km to the west), Yallari Timber Reserve (11 km to the west), Kambalda Timber Reserve (9 km to the south) and Kambalda Nature Reserve (6 km to the south-east).</p> <p>The application area does not fall within a conservation covenant, regional park or DBCA areas of interest.</p>						
Vegetation description	<p>The vegetation survey (GHD, 2018) indicated that the vegetation within the proposed clearing area consists of Samphire open shrubland (VT01a) described as <i>Acacia acuminata</i> isolated shrubs over <i>Tecticornia halocnemoides</i> <i>Atriplex vesicaria</i>, <i>Maireana pyramidata</i> mid chenopod shrubland over <i>Sarcozonia praecox</i>, <i>Disphyma crassifolium</i> low sparse chenopod shrubland. The full survey descriptions and maps are available in Appendix D.</p> <p>This is inconsistent with the Beard (1972) mapped vegetation type:</p> <ul style="list-style-type: none"> <li>Vegetation association 468 which is described as Medium woodland; Salmon Gum and Goldfields Blackbutt (Shepherd et al, 2001).</li> </ul> <p>The mapped vegetation type retains approximately 98.63 per cent of the original extent (Government of Western Australia, 2019).</p>						
Vegetation condition	<p>The vegetation survey (GHD, 2018) indicated that the vegetation within the proposed clearing area is in Excellent to Good (Keighery, 1994) condition.</p> <p>The full Keighery (1994) condition rating scale is provided in Appendix C. The full survey descriptions and mapping are available in Appendix D.</p>						
Climate and landform	The climate of the Goldfields region is mostly hot and dry, with highly variable rainfall throughout the year. Kalgoorlie has a semi-arid climate with hot summers and mild winters, and an average rainfall of 267 mm relatively evenly distributed throughout the year. Rainfall can however be highly erratic year to year (BoM 2022).						
Soil description	<p>The soil is mapped as:</p> <table border="1"> <thead> <tr> <th>Symbol</th> <th>Description</th> <th>% of site</th> </tr> </thead> <tbody> <tr> <td>265BB5</td> <td>Rocky ranges and hills of greenstones-basic igneous rocks: Chief soils seem to be shallow calcareous loamy soils (Um5.11) and similar soils such as (Um5.41) and (Um1.43) in Sheet 10 areas, with shallow brown and grey-brown calcareous earths (Gc1.12) and (Gc1.22) below which weathered rock occurs at shallow depths. Associated soils are not described but may</td> <td>95 %</td> </tr> </tbody> </table>	Symbol	Description	% of site	265BB5	Rocky ranges and hills of greenstones-basic igneous rocks: Chief soils seem to be shallow calcareous loamy soils (Um5.11) and similar soils such as (Um5.41) and (Um1.43) in Sheet 10 areas, with shallow brown and grey-brown calcareous earths (Gc1.12) and (Gc1.22) below which weathered rock occurs at shallow depths. Associated soils are not described but may	95 %
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Characteristic	Details		
		include alkaline red earths (Gn2.13) and narrow valleys with (Ug5.38) soils in Sheet 10 areas.	
	265Gm	Extensive pedepains supporting eucalypt woodlands with halophytic and non-halophytic shrub understoreys: Alluvial plains and drainage tracts (units 4 and 5) are slightly susceptible to soil erosion if perennial shrub cover is substantially reduced, as are stony plains (units 2) if protective stone mantles are distributed or removed. Impedance to natural drainage can initiate accelerated soil erosion and loss of vigour in vegetation downslope due to water starvation. The halophytic vegetation on this land system is highly preferred for grazing by introduced and native animals rendering it susceptible to overgrazing and subsequent degradation. Overgrazing can be avoided by good land management, including control of total grazing pasture.	3%
	265GmX_MIN	Disturbed area, mines, mullock dumps etc	1%
	265My154	Undulating country on acid volcanic rocks and sedimentary materials: Chief soils are probably neutral red earths (Gn2.12) with a variable content of ironstone gravel. Other soils, such as (Gn2.13) and (Gc) soils, may occur also.	1%
Waterbodies	The desktop assessment and aerial imagery indicated that no watercourses or wetlands transect the area proposed to be cleared. The area proposed to be cleared is adjacent to an artificial dam which forms part of the existing Samphire in-pit TSF.		
Hydrogeography	The area proposed to be cleared is located within the Goldfields Groundwater Area proclaimed under the RIWI Act. Groundwater salinity level (Total Dissolved Solids) is mapped as 14,000 – 35,000 milligrams per litre (fresh water).		
Flora	<p>Eleven conservation significant flora taxa are known to occur within the local area. The closest record identified is <i>Thryptomene planiflora</i> (Priority 1), located approximately 6.9 kilometres southwest from the application area. No threatened or priority flora species are recorded within the local area.</p> <p>Based on the habitat features identified within the application area, the risk of threatened or priority flora occurring within the application area is low. The vegetation survey (GHD, 2018) did not record threatened flora listed under the EPBC Act or <i>Wildlife Conservation Act 1950</i> (WC Act) (which has subsequently been repealed and replaced by the BC Act), or DBCA Priority-listed flora within the survey area. The likelihood of occurrence assessment did not identify any conservation significant flora as being likely to occur within the proposed clearing area.</p>		
Ecological communities	The GHD flora survey did not identify any species composition that would be representative of a known Commonwealth or State listed TEC or PEC (GHD, 2018).		
Fauna	<p>According to available datasets, there are records of three conservation listed fauna species within the local area. The closest record is <i>Leipoa ocellata</i> (Malleefowl) (listed as Vulnerable under the EPBC Act, located approximately 6.6 kilometres from the proposed area of clearing. There are 23 records of occurrence of Malleefowl within the local area. No evidence of Malleefowl was recorded during the field survey of the site and the proposed area to be cleared is not considered ideal habitat for this species as it is mainly bare ground with little leaf litter (GHD, 2018).</p> <p>No conservation significant fauna were recorded in this habitat type during the fauna survey (GHD, 2018).</p>		

## Appendix B. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
<b>Environmental value: biological values</b>		
<p><u>Principle (a):</u> <i>“Native vegetation should not be cleared if it comprises a high level of biodiversity.”</i></p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared does not contain locally or regionally significant flora, fauna, habitats or assemblages of plants. There are also no records of conservation significant flora, fauna or ecological communities within the application area, and none were recorded during the survey.</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.1, above.</i>
<p><u>Principle (b):</u> <i>“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.”</i></p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared does not contain significant habitat for conservation significant fauna.</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.1, above.</i>
<p><u>Principle (c):</u> <i>“Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.”</i></p> <p><u>Assessment:</u></p> <p>There are no known records of Threatened flora within the application area. No Threatened flora were identified during the field survey (GHD, 2018).</p>	Not likely to be at variance	No
<p><u>Principle (d):</u> <i>“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.”</i></p> <p><u>Assessment:</u></p> <p>The proposed clearing area does not contain species composition indicative of a TEC listed under the BC Act or EPBC Act. There are no known TEC’s within the local area (GIS Database; GHD, 2018).</p>	Not likely to be at variance	No
<b>Environmental value: significant remnant vegetation and conservation areas</b>		
<p><u>Principle (e):</u> <i>“Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.”</i></p> <p><u>Assessment:</u></p> <p>The extents of native vegetation in the local area and mapped vegetation complex are consistent with the national objectives and targets for biodiversity conservation in Australia. The vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area.</p>	Not likely to be at variance	No
<p><u>Principle (h):</u> <i>“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.”</i></p> <p><u>Assessment:</u></p> <p>Given the distance to the nearest conservation area, the proposed clearing is not likely to have an impact on the environmental values of nearby conservation areas.</p>	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
<b>Environmental value: land and water resources</b>		
<p><u>Principle (f)</u>: <i>“Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.”</i></p> <p><u>Assessment:</u></p> <p>There are no wetlands or watercourses mapped within the application area. The proposed clearing is not likely to impact on an environment associated with a watercourse or wetland.</p>	Not likely to be at variance	No
<p><u>Principle (g)</u>: <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</i></p> <p><u>Assessment:</u></p> <p>The application area lies within the Coolgardie Land system (GIS Database) which is susceptible to soil erosion, particularly in areas where perennial shrub cover is substantially reduced and/or the soil surface is disturbed (DPIRD, 2022). A management condition has been imposed to mitigate the potential risk of soil erosion due to the removal of native vegetation.</p>	May be at variance	Yes <i>Refer to Section 3.2.2, above.</i>
<p><u>Principle (i)</u>: <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.”</i></p> <p><u>Assessment:</u></p> <p>There are no wetlands or watercourses mapped within the application area. The proposed clearing is not likely to impact on the closest water feature which is an artificial lake.</p> <p>The application area falls within the proclaimed Goldfields groundwater area and the applicant holds a valid groundwater licence for the purpose of extracting water. The proposed clearing is unlikely to impact surface or ground water quality.</p>	Not likely to be at variance	No
<p><u>Principle (j)</u>: <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</i></p> <p><u>Assessment:</u></p> <p>The mapped soils, topographic contours and semi-arid climate in the surrounding area does not indicate the proposed clearing is likely to contribute to increased incidence or intensity of flooding.</p>	Not likely to be at variance	No

## Appendix C. Vegetation condition rating scale

Vegetation condition is a rating given to a defined area of vegetation to categorise and rank disturbance related to human activities. The rating refers to the degree of change in the vegetation structure, density and species present in relation to undisturbed vegetation of the same type. The degree of disturbance impacts upon the vegetation's ability to regenerate. Disturbance at a site can be a cumulative effect from a number of interacting disturbance types.

Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.

### Measuring vegetation condition for the South West and Interzone Botanical Province (Keighery, 1994)

Condition	Description
Pristine	Pristine or nearly so, no obvious signs of disturbance.
Excellent	Vegetation structure intact, with disturbance affecting individual species; weeds are non-aggressive species.
Very good	Vegetation structure altered, with obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and/or grazing.
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and/or grazing.
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and/or grazing.
Completely degraded	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.



## Appendix D. Biological survey information excerpts


The WestGold Group (WestGold) owns the South Kalgoorlie Operations (SKO) located approximately 40 kilometres (km) south of Kalgoorlie in the Coolgardie region of Western Australia (WA). As part of the SKO, WestGold is undertaking exploration and mine development activities on one of its tenements, Location 53 East.

GHD Pty Ltd (GHD) was engaged by WestGold to undertake a vegetation, flora and fauna assessment of the tenement area to identify key ecological constraints and support approvals documentation. The current application area for CPS 9551/1 falls within the area surveyed.


An enhanced reconnaissance survey of the survey area was conducted from 19–20 March 2018.

The Location 53 East tenement (referred to as the 'survey area') is located approximately 31 km south of Kalgoorlie in the Goldfields region of Western Australia. The survey area is approximately 5.9 km long, 9.8 km wide and covers 4,269.50 hectares (ha). The area to be applied for in CPS 9551/1 forms a small part of this much larger area surveyed. The location of the CPS 9551/1 application area is indicated on Figure 2.

### Vegetation description for CPS 9551/1 application area:

Habitat type	Extent (ha)	Indicative photograph
<p><b>Samphire shrubland</b></p> <p>This habitat incorporates vegetation types: VT01a</p> <p>This habitat is dominated by low open samphire shrubland with the scattered <i>Eucalyptus</i> trees. This habitat had areas of bare ground and little leaf litter cover or debris. These low shrublands provide foraging opportunities and smaller refuge areas for ground-dwelling fauna such as reptiles.</p> <p><u>Conservation significant fauna</u></p> <p>No conservation significant fauna were recorded in this habitat type during this field survey.</p>	732.18	

### Fauna Habitat for CPS 9551/1 application area:

Vegetation type	Vegetation Type Description	Landform and Substrate	Extent (ha)	Vegetation Association, relevé and photo point reference	Photograph
Samphire open shrubland (VT01a)	<i>Acacia acuminata</i> isolated shrubs over <i>Tecticornia halocnemoides</i> <i>Atriplex vesicaria</i> , <i>Maireana pyramidata</i> mid chenopod shrubland over <i>Sarcozona praecox</i> , <i>Disphyma crassifolium</i> low sparse chenopod shrubland	Plains with clayey silty orange soils,	732.18	Associations: 936 & 468 Relevés: 47, 69, 69a & 73 Photo Point: 6	

## Appendix E. Sources of information

### E.1. GIS databases

Publicly available GIS Databases used (sourced from [www.data.wa.gov.au](http://www.data.wa.gov.au)):

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- Aboriginal Heritage Places (DPLH-001)
- Cadastre (LGATE-218)
- Cadastre Address (LGATE-002)
- Contours (DPIRD-073)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Flood Risk (DPIRD-007)
- Groundwater Salinity Statewide (DWER-026)
- Hydrography – Inland Waters – Waterlines
- Hydrological Zones of Western Australia (DPIRD-069)
- IBRA Vegetation Statistics
- Imagery
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Native Title (ILUA) (LGATE-067)
- Offsets Register – Offsets (DWER-078)
- Pre-European Vegetation Statistics
- Public Drinking Water Source Areas (DWER-033)
- Ramsar Sites (DBCA-010)
- Regional Parks (DBCA-026)
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Land Quality – Flood Risk (DPIRD-007)
- Soil Landscape Land Quality – Phosphorus Export Risk (DPIRD-010)
- Soil Landscape Land Quality – Subsurface Acidification Risk (DPIRD-011)
- Soil Landscape Land Quality – Water Erosion Risk (DPIRD-013)
- Soil Landscape Land Quality – Water Repellence Risk (DPIRD-014)
- Soil Landscape Land Quality – Waterlogging Risk (DPIRD-015)
- Soil Landscape Land Quality – Wind Erosion Risk (DPIRD-016)
- Soil Landscape Mapping – Best Available
- Soil Landscape Mapping – Systems

Restricted GIS Databases used:

- ICMS (Incident Complaints Management System) – Points and Polygons
- Threatened Flora (TPFL)
- Threatened Flora (WAHerb)
- Threatened Fauna
- Threatened Ecological Communities and Priority Ecological Communities
- Threatened Ecological Communities and Priority Ecological Communities (Buffers)

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