Technical Memorandum

October 28, 2022

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From	Sarah Isbister Pali Jayasekara	**Project No.**	12582802
Project Name	Burrup Expansion Project – EP/EPBC Act Referral		
Subject	Rev-0 Burrup Additional Areas Reconnaissance/Basic Survey		

1. Introduction

1.1 Background

Horizon Power is a Western Australian (WA) Government Trading Enterprise (GTE) and the state's regional and remote energy provider. Horizon Power operates under the *Electricity Corporations Act 2005* and is governed by a Board of Directors accountable to the Minister for Energy.

Horizon Power is proposing to expand the North West Interconnected System (NWIS) electricity network, by constructing an approximately 7 kilometer (km) long 132 kilovolt (kV) overhead transmission line between the Dampier substation and the Burrup Strategic Industrial Area (SIA) (the Proposal). The Burrup SIA is not currently connected to the NWIS.

The Proposal will provide common user transmission infrastructure, owned and operated by Horizon Power. As a result, the Proposal will also provide opportunities for tenants on the Burrup to access the higher efficiency generation portfolio, including proposed renewable energy resources available on the NWIS. The Proposal is considered the first step to providing enabling infrastructure to support the transition towards State and Federal Government emission reduction targets.

The Proposal has also been designed to limit impacts to Flora and Vegetation, and Terrestrial Fauna. Final design of the Proposal will limit (where possible) direct and indirect impacts to identified environmental values.

Horizon Power has previously engaged GHD Pty Ltd (GHD) to complete biological surveys for the Project, these included:

– (GHD 2020) – Horizon Power Burrup Expansion Project Flora and Vegetation Survey
– (GHD 2022) – Maitland to Karratha Terminal Flora and Fauna Survey.

These existing surveys cover 88% of the Project Development Envelope (DE). Through progressive Project design iterations an optimised transmission line route was developed, reducing the overall environmental impact of the Project. The purpose of this reconnaissance/basic survey was to assess native vegetation and flora present in previously unsurveyed areas comprising 12% of the DE boundary (the additional survey areas). The additional survey includes areas adjacent to existing vehicle access tracks and Burrup Road.

This survey is intended to inform and facilitate referral of the Project under the *Environmental Protection Act 1986* (EP Act) and the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

1.2 Purpose

Horizon Power commissioned GHD to undertake a reconnaissance survey of the additional survey areas. The survey is required to verify that the dominant vegetation units, vegetation condition and associated fauna habitats of the additional survey areas are consistent with the results of the adjacent recent surveys (GHD 2020; 2022).

The purpose of the survey is to support referral of the Project under the EP Act and the EPBC Act.

This memorandum should be read in conjunction with the existing surveys identified in Section 1.1.

1.3 Scope of works

GHD undertook the following scope of works:

– Review of existing surveys within the vicinity of the Project
– A site visit by a qualified botanist to verify the flora and vegetation and fauna values (which were verified by a Senior ecologist), including vegetation condition and undertaking opportunistic searches for significant flora and fauna
– A site visit by a qualified botanist to confirm the presence and extent of significant vegetation
– The preparation of a memorandum summarising the findings of the survey.

The areas being assessed for the Project include the three areas shown on Figure 1, Appendix A. The survey area covered 13.67 ha.

1.4 Limitations and assumptions

This memorandum has been prepared by GHD for Horizon Power and may only be used and relied on by Horizon Power for the purpose agreed between GHD and Horizon Power as set out in section 1.2 of this memorandum. GHD otherwise disclaims responsibility to any person other than CBH arising in connection with this memorandum. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this memorandum were limited to those specifically detailed in the memorandum and Horizon Power request correspondence. The opinions, conclusions and any recommendations in this memorandum are based on conditions encountered, locations surveyed and information reviewed at the date of preparation of the memorandum. GHD has no responsibility or obligation to update this memorandum to account for additional sampling locations, events or changes occurring subsequent to the date the survey was completed and memorandum prepared.

The opinions, conclusions and any recommendations in this memorandum are based on assumptions made by GHD described in this memorandum. GHD disclaims liability arising from any of the assumptions being incorrect.

GHD has prepared this memorandum on the basis of information provided by Horizon Power and others who provided information to GHD (including Government authorities), which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

The opinions, conclusions and any recommendations in this memorandum are based on information obtained from, and testing undertaken at or in connection with, specific sample points. Site conditions may change after the date of this Report. GHD does not accept responsibility arising from, or in connection with, any change to the site conditions. GHD is also not responsible for updating this memorandum if the site conditions change.

This memorandum has assessed the flora and fauna within the defined additional survey areas. Should the survey area change or be refined, further assessment may be required.

2. Methodology

2.1 Field survey

GHD senior botanist Pali Jayasekara (flora licence no. FB62000208-2) completed the field survey over two days on 3-4 August 2022. Pali Jayasekara has extensive experience in undertaking biological surveys across Western Australia, and in particular the Pilbara region. Additionally, Pali Jayasekara was involved in the project team on the original surveys, and a similar methodology and approach has been maintained for the current reconnaissance/basic survey.

The field survey was undertaken to verify the dominant vegetation units, vegetation condition and associated fauna habitats of the additional survey areas are consistent with the results of adjacent recent surveys (GHD 2020; 2022). Searches for significant flora and fauna species were also undertaken within the additional survey areas.

The survey method involved placing waypoints within each of the three distinct additional survey areas. The area around the waypoints was then traversed on foot, with opportunistic recordings and photographic reference points within identified vegetation units taken. The vegetation within the additional survey areas was mapped using the data collected from the waypoints, and in some areas extrapolated based on similar surrounding vegetation.

Navigation across the site and the recording of data in the field was achieved using hand-held GPS tools, including a Samsung tablet and Garmin GPS. This ensured accurate representation of features observed on the ground into spatial mapping.

The survey methodology employed by GHD was undertaken with reference to the EPA *Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA 2016) and the EPA T*echnical Guidance - Terrestrial vertebrate fauna surveys for environmental impact assessment* (EPA 2020).

Vegetation condition

The vegetation condition was assessed and mapped in accordance with the Eremaean and Northern Botanical Provinces of Western Australia scale devised by Keighery (1994) and adapted by EPA (2016). The scale recognises the intactness of vegetation and consists of six rating levels.

2.2 Survey limitations

The EPA (2016, 2020) states that flora and fauna survey reports for environmental impact assessment in WA should contain a section describing the limitations of the survey methods used. The limitations and constraints associated with this field survey are discussed in Table 1.

Table 1 Survey limitations

Aspect	Constraint	Comment
Sources of information and availability of contextual information.	Nil	Adequate information is available for the survey area, this includes broadscale (1:1,000,000) mapping by Beard (1975) and digitised by Shepherd et al. (2002) and database searches (DBCA and ALA).
Scope (what life forms were sampled etc.)	Nil	Vascular flora and terrestrial vertebrate fauna were surveyed. Non-vascular flora, invertebrate and aquatic fauna were not surveyed.
Proportion of flora and fauna collected and identified (based on sampling, timing and intensity)	Minor	The Reconnaissance/Basic Survey was completed on 3-4 August 2022, outside of the primary survey season (March to June) for the Eremaean region. Based on the EPA (2016) guidance (refer to Table 3 of the guidance), supplementary surveys can be completed in the dry season after winter rainfall. The primary objective of this survey was to expand vegetation mapping, vegetation condition mapping and fauna habitat mapping in previously unsurveyed areas of the DE. The conditions experienced were not expected to limit the survey findings for these objectives.
Flora determination	Nil	Flora determination was undertaken by the survey botanist in the field. Species that could not be identified in the field were collected and

Aspect	Constraint	Comment
		identified at the WA Herbarium by the experienced GHD taxonomic botanist Pali Jayasekara. The taxonomy and conservation status of the WA flora is dynamic. This report was prepared with reliance on taxonomy and conservation status current at the time report development, but it should be noted this may change in response to ongoing research and review of International Union for Conservation Nature criteria.
Completeness and further work which might be needed (e.g. was the relevant area fully surveyed)	Nil	Waypoints were placed within each of the additional survey areas. The area around the waypoints was then traversed on foot, with opportunistic recordings and photographic reference points within identified vegetation units taken. The vegetation within the additional survey areas was mapped using the data collected from the waypoints, and in some areas extrapolated based on similar surrounding vegetation. The survey areas were adequately surveyed during the field survey in line with the scope. Additional opportunistic sampling was undertaken throughout all survey areas to develop a comprehensive species inventory.
Mapping reliability	Nil	The vegetation and fauna habitats were mapped using high-resolution ESRI aerial imagery obtained from Landgate, topographical features, previous broad scale mapping (Beard 1975) and field data. Data was recorded in the field using hand-held GPS tools. Certain atmospheric factors and other sources of error can affect the accuracy of GPS receivers. The Garmin GPS units and GPS enabled tablets used for this survey are accurate to within 2-5 metres on average.
Timing/weather/ season/cycle	Moderate	The field survey was conducted during the dry-season (3-4 August 2022). In the four months prior to the survey (November-February), the Karratha Aero (station No. 004083) recorded a total of 249.2 mm of rainfall (Bureau of Meteorology 2022). Large rainfall was experienced in late May 2022. The Reconnaissance/Basic Survey was completed on 3-4 August 2022, outside of the primary survey season (March to June) for the Eremaean region. Based on the EPA (2016) guidance (refer to Table 3 of the guidance), supplementary surveys can be completed in the dry season after winter rainfall. The primary objective of this survey was to expand vegetation mapping, vegetation condition mapping and fauna habitat mapping in previously unsurveyed areas of the DE. The conditions experienced were not expected to limit the survey findings for these objectives.
Disturbances (e.g. fire, flood, accidental human intervention)	Nil	Some of the survey areas have been subjected to historical disturbance events (e.g. clearing, weeds); however, these disturbances did not affect the survey.
Intensity (in retrospect, was the intensity adequate)	Nil	The vascular flora of the survey area was sampled in accordance with EPA (2016) and terrestrial fauna sampled in accordance with EPA (2020). The survey area was sufficiently covered by the field botanist during the survey.
Resources	Nil	Adequate resources were employed during the field survey. One botanist undertook the survey over two days (total survey time being two person days).
Access restrictions	Nil	The survey area was accessed on foot and vehicle. There were no access restrictions.
Experience levels	Nil	The botanist who executed the survey is a practitioner suitably qualified and experienced in his field. The field team lead, Pali Jayasekara (flora licence no. FB62000208-2), is a senior botanist with more than 17 years' experience leading and conducting vegetation and flora surveys (detailed, basic and targeted) in the Eremaean province.

3. Results

3.1 Vegetation types and condition

The vegetation identified within the additional survey areas is consistent with the vegetation types and conditions previously identified by GHD (2020; 2022).

Four of the vegetation types identified by GHD (2020) extend into the additional survey areas. These vegetation types are detailed in Table 2 and shown on Figure 2, Appendix A. The additional survey areas are located along the existing Burrup Road. Vegetated areas cover 11.27 ha of the additional survey areas, with the remaining 2.40 ha being cleared.

Table 2 Vegetation types recorded within the Burrup additional survey area

GHD (2020) vegetation type code	Vegetation type description	Total extent (ha)
VT02	*Corymbia hamersleyiana* open woodland over *Acacia bivenosa, Grevillea pyramidalis* subsp. *pyramidalis* and *Hakea lorea* subsp. *lorea* scattered shrubs over *Triodia epactia* open hummock grassland with **Cenchrus ciliaris* scattered grasss over over *Hybanthus aurantiacus*, *Cleome viscosa* and *Trichodesma zeylanicum* var. *zeylanicum* open forbland on brown sandy loam on elevated rocky plain.	0.10
VT04	*Tecticornia ?indica* subsp. *leiostachya* and *Tecticornia ?pterygosperma* low chenopod shrubland with scattered *Avicennia marina* on saline flats with tidal inundation.	0.32
VT05	**Cenchrus ciliaris* open grassland over *Trianthema turgidifolia* and *Neobassia astrocarpa* open chenopod shrubland on disturbed edges of saline flats.	0.41
VT06	*Grevillea pyramidalis* subsp. *pyramidalis* and **Vachellia farnesiana* scattered shrubs over *Ipomoea costata, Indigofera monophylla* and *Scaevola spinescens* open shrubland over *Triodia epactia* open hummock grassland over *Cleome viscosa, Rhynchosia minima* and *Hybanthus aurantiacus* scattered herbs on red/brown sandy loam on rocky slopes with frequent basalt outcropping. Associated species include *Abutilon lepidum, Gomphrena cunninghamii, Streptoglossa decurrens* and *Indigofera monophylla*	10.44
Total native vegetation		**11.27**
Cleared areas		2.40
Total		**13.67**

Vegetation condition within the additional survey areas ranges from Very Good to Good as detailed in Table 3 and shown on Figure 3, Appendix A. The majority of vegetation is in Good condition. The vegetation structure across the additional survey areas is identified as being in Good to Very Good condition, due to the minimal signs of disturbance and presence of little to no weeds.

Table 3 Vegetation condition within the Burrup additional survey area

Vegetation condition	Total extent (ha)
Excellent	0
Very Good	2.50
Good	8.77
Degraded	0
Completely Degraded	0
Cleared	2.40
Total	**13.67**

3.2 Significant vegetation

No vegetation types recorded within the additional survey areas were considered to represent Threatened Ecological Communities (TECs) or Priority Ecological Communities (PECs). In addition, the vegetation was not considered to represent riparian vegetation. The vegetation located in the tidal inlet between Hearson Cover and King Bay (VT04 and VT05) may have some significance due to limited distribution and impacts from threatening processes such as clearing and development on the Burrup Peninsula.

3.3 Significant flora

No significant flora taxa were recorded within the additional survey areas during the survey, however, one Priority species, *Terminalia supranitifolia* (Priority 3) was recorded 50 m to the west.

Based on the GHD (2020) survey, an additional two significant flora taxa are considered likely to occur within the additional survey areas, due to observations of these species within the immediate vicinity and the presence of suitable habitat:

– *Vigna triodiophila* (Priority 3)
– *Rhynchosia bungarensis* (Priority 4).

Rhynchosia bungarensis

Rhynchosia bungarensis (Plate 1) is listed as Priority 4 by the DBCA and is a compact, prostrate shrub, to 0.5 m high with yellow flowers. It is known to occur on pebbly, shingly coarse sand amongst boulders and banks of flow line in the mouth of a gully wall (WA Herbarium 1998–).

According to *FloraBase* there are 84 records of this species, with a large number of records concentrated on the Burrup Peninsula (WA Herbarium 1998-).

Rhynchosia bungarensis was not recorded within the additional survey areas, however, is considered likely to occur due to observations of these species within the immediate vicinity and the presence of suitable habitat (GHD 2020).

Plate 1 ***Rhynchosia bungarensis***

Terminalia supranitifolia

Terminalia supranitifolia (Plate 2) is a spreading, tangled shrub or tree, 1.5-3 m high with green-yellow flowers appearing in May, July or September. It is listed as Priority 3 by the DBCA. Habitat includes sandy areas among basalt rocks (WA Herbarium 1998–). There are 54 records of *T. supranitifolia* reported on *FloraBase* across WA (WA Herbarium 1998-).

This species was not recorded within the additional survey areas, however, one individual was recorded approximately 11.5 m to the west. Some records were isolated plants, whilst most occurred in close proximity along the undulating rockpiles.

Plate 2 ***Terminalia supranitifolia***

Vigna triodiophila

Vigna triodiophila (Plate 3) is a fine-stemmed prostrate or scrambling vine with small, ovate to elliptic leaves and known to flower and fruit between May and September. It is listed as Priority 3. It is endemic to basalt rockpile habitats in shallow, red-brown or brown, clayey sand or loam. There are 16 records of *Vigna triodiophila* reported on *FloraBase* across WA (WA Herbarium 1998-).

Vigna triodiophila was not recorded within the additional survey areas, however, is considered likely to occur due to observations of these species within the immediate vicinity and the presence of suitable habitat (GHD 2020).

Plate 3 ***Vigna triodiophila***

3.4 Fauna habitats

Three of the fauna habitats identified by GHD (2020 & 2022) extend into the additional survey areas (Table 4, Figure 4 of Appendix A). These habitat types closely align with the vegetation types described in Section 3.1. Some of the habitats within the additional survey areas have been impacted by past disturbances including land clearing for infrastructure and linear corridors (i.e. roads). Fauna habitats cover 11.27 ha of the additional survey areas, with the remaining 2.40 ha being cleared. Cleared areas are not considered to be of value to fauna species.

Table 4 Fauna habitats recorded within the Maitland additional survey area

Fauna habitat	Total extent (ha)
Rocky Hills with exposed boulder piles This habitat type is mostly dominated by a *Triodia* hummock grassland, however, does support tussock grasses and scattered *Acacia* shrubs. However, the boulder rock piles are typically devoid of ground cover. The crests of hills contain extensive rock outcropping or boulder piles and support scattered *Ficus platypoda* and *Brachychiton sp*. The *Ficus, Brachychiton* and *Acacia* provided litter and scattered woody debris, however the boulder piles provide extensive cover via crevices, small caves and cavities. No evidence of recent fire was recorded in the survey area. Evidence of old fire scars were present and determined based on the age of the vegetation.	10.44
Hummock Grassland on Rocky Plain This habitat type is often associated with slight undulation where there is association to low hills or rocky substrates. This habitat type is mostly dominated by a *Triodia* hummock grassland with heavy loam stony soils. The vegetation is a mosaic of shrubs however is dominated by *Acacia*, *Hakea* and *Grevillia* over hummock grasses. Litter, woody debris and branches were present in areas where shrubs were present. No logs or hollows were observed due to the vegetation structure present. No recent fire scaring was present in the survey area but historical evidence was obvious via the age of vegetation present.	0.10
Mudflat with tidal inundation, Mangroves and supportive scattered Samphire Vegetation within this habitat type is minimal except where the mudflats fringe mangroves and samphire. Vegetation was generally sparse and scattered, however, in areas clustered to form low samphire shrublands. Areas were inundated with water during high tides and retracts to several small pools and a minor drainage line during the low period.	0.73
Total fauna habitat	**11.27**
Cleared areas	2.40
Total	**13.67**

3.5 Significant fauna

No significant fauna species were recorded within the additional survey areas. However, based on the GHD (2020) survey, six significant fauna species are known to occur adjacent to the additional survey areas (Table 5). Based on previous surveys conducted within the area (GHD 2020), an additional fourteen significant fauna species are considered likely to occur. These species are discussed further in Table 6.

Table 5 Significant fauna species known to occur adjacent to the Burrup additional survey area (GHD 2020)

Fauna species	EPBC Act	BC Act/DBCA status
North-western Free-tail Bat (*Mormopterus (Ozimops) cobourgianus*)	-	Priority 1
Western Pebble-mound Mouse (*Pseudomys chapmani*)	-	Priority 4
Whimbrel (*Numenius phaeopus*)	Migratory	Protected under International Agreement
Gull-billed Tern (*Gelochelidon nilotica*)	Migratory	Protected under International Agreement
Caspian Tern (*Hydroprogne caspia*)	Migratory	Protected under International Agreement
Crested Tern (*Thalasseus bergii*)	Migratory	Protected under International Agreement

Table 6 Significant fauna species considered likely to occur within the Burrup additional survey area

Fauna species	EPBC Act	BC Act/DBCA status	Likelihood of occurrence
Northern Quoll (*Dasyurus hallucatus*)	Endangered	Endangered	**Likely** The species was not recorded during the field survey, however, the species is known from the Burrup Peninsula in low numbers. Suitable habitat within the DE is present, including the Rocky Hills with exposed boulder piles habitat type.
Pilbara Olive Python (*Liasis olivaceus barroni*)	Vulnerable	Vulnerable	**Likely** The Rocky Hills with exposed boulder piles would be regarded as important habitat for the species. The remainder of the habitat in the Burrup additional survey area is supportive only and the plain habitat off the Burrup is not habitat for Pilbara Olive Python.
Peregrine Falcon (*Falco peregrinus*)	-	Other Specially Protected Fauna	**Likely** The Rocky Hills with exposed boulder piles, Hummock Grassland of Rocky Plain and the Mudflat with tidal inundation, Mangroves and supportive scattered Samphire provides suitable habitat. The Burrup additional survey area is likely part of the species broader home range.
Northern Short-tailed Mouse (*Leggadina lakedownensis*)	-	Priority 4	**Likely** The Hummock Grassland of Rocky Plain habitat type provides suitable habitat for the species. The species has been recorded within the vicinity of the Burrup additional surveyarea, and is likely present.
Lined Soil-crevice Skink (*Notoscincus butleri*)	-	Priority 4	**Likely** The Hummock Grassland of Rocky Plain habitat type provides suitable habitat for the species. The species has been recorded within the vicinity of the Burrup additional surveyarea, and is likely present.
Bridled Tern (*Onychoprion anaethetus*)	Migratory	Protected under International Agreement	**Likely** Most records for this species are on or around the offshore islands, however the species has been recorded breeding on the mainland adjacent to the Maitland Industrial Estate (AECOM 2003) (exact location unknown). A small amount of habitat is present for this species particularly within Mudflat with tidal inundation, Mangroves and supportive scattered Samphire habitat type. However, use would be irregular and opportunistic.
Wood Sandpiper (*Tringa glareola*)	Migratory	Protected under International Agreement	**Likely** The Mudflat with tidal inundation, Mangroves and supportive scattered Samphire habitat type is suitable for the species.
Common Greenshank (*Tringa nebularia*)	Migratory	Protected under International Agreement	**Likely** The Mudflat with tidal inundation, Mangroves and supportive scattered Samphire habitat type is suitable for the species.
Oriental Pratincole (*Glareola maldivarum*)	Migratory	Protected under International Agreement	**Likely** The Mudflat with tidal inundation, Mangroves and supportive scattered Samphire habitat type is suitable for the species.
Oriental Plover (*Charadrius veredus*)	Migratory	Protected under International Agreement	**Likely** The Mudflat with tidal inundation, Mangroves and supportive scattered Samphire habitat type is suitable for the species.
Common Sandpiper (*Actitis hypoleucos*)	Migratory	Protected under International Agreement	**Likely** The Mudflat with tidal inundation, Mangroves and supportive scattered Samphire habitat type is suitable for the species.

Fauna species	EPBC Act	BC Act/DBCA status	Likelihood of occurrence
Osprey (*Pandion haliaetus*)	Migratory	Migratory	**Likely** The Burrup additional survey area is situated near the coastline. This species is likely to fly over, and opportunistically utilise portions of the habitat.
Water-rat (*Hydromys chrysogaster*)	-	Priority 4	**Likely** Known to occur on the Burrup Peninsula however not on the mainland. The habitat within the Burrup additional survey area is considered marginally suitable.
Lined soil-crevice skink (Dampier) (*Notoscincus butleri*)	-	Priority 4	**Likely** The rocky habitats are considered suitable habitat however there are no major creeks or rivers within the Burrup additional survey area.

4. Conclusion

The vegetation identified within the additional survey areas is consistent with the vegetation types and conditions previously identified by GHD (2020; 2022).

Overall, there are four vegetation types within the additional survey areas, with vegetation condition ranging from Very Good to Good. The majority of vegetation is in Good condition. Vegetation within the additional survey areas has been previously impacted by the presence of existing roads, access tracks and infrastructure.

No vegetation within the additional survey areas represents TECs and/or PECs. In addition, no vegetation is considered to be riparian vegetation. Two vegetation types are located within the tidal inlet between Hearson Cover and King Bay. This vegetation may have some significance due to limited distribution and impacts from threatening processes such as clearing and development on the Burrup Peninsula.

No Priority flora species were recorded within the additional survey areas, however, one species, *Terminalia supranitifolia,* was recorded 50 m to the west. In addition, two Priority flora species, *Vigna triodiophila* and *Rhynchosia bungarensis* are considered likely to occur within the additional survey areas.

No significant fauna species were recorded, however six significant fauna species are known to occur adjacent the additional survey areas (GHD 2020) and an additional fourteen species are considered likely to occur. Within the additional survey areas, three fauna habitat types were recorded.

Regards

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5. References

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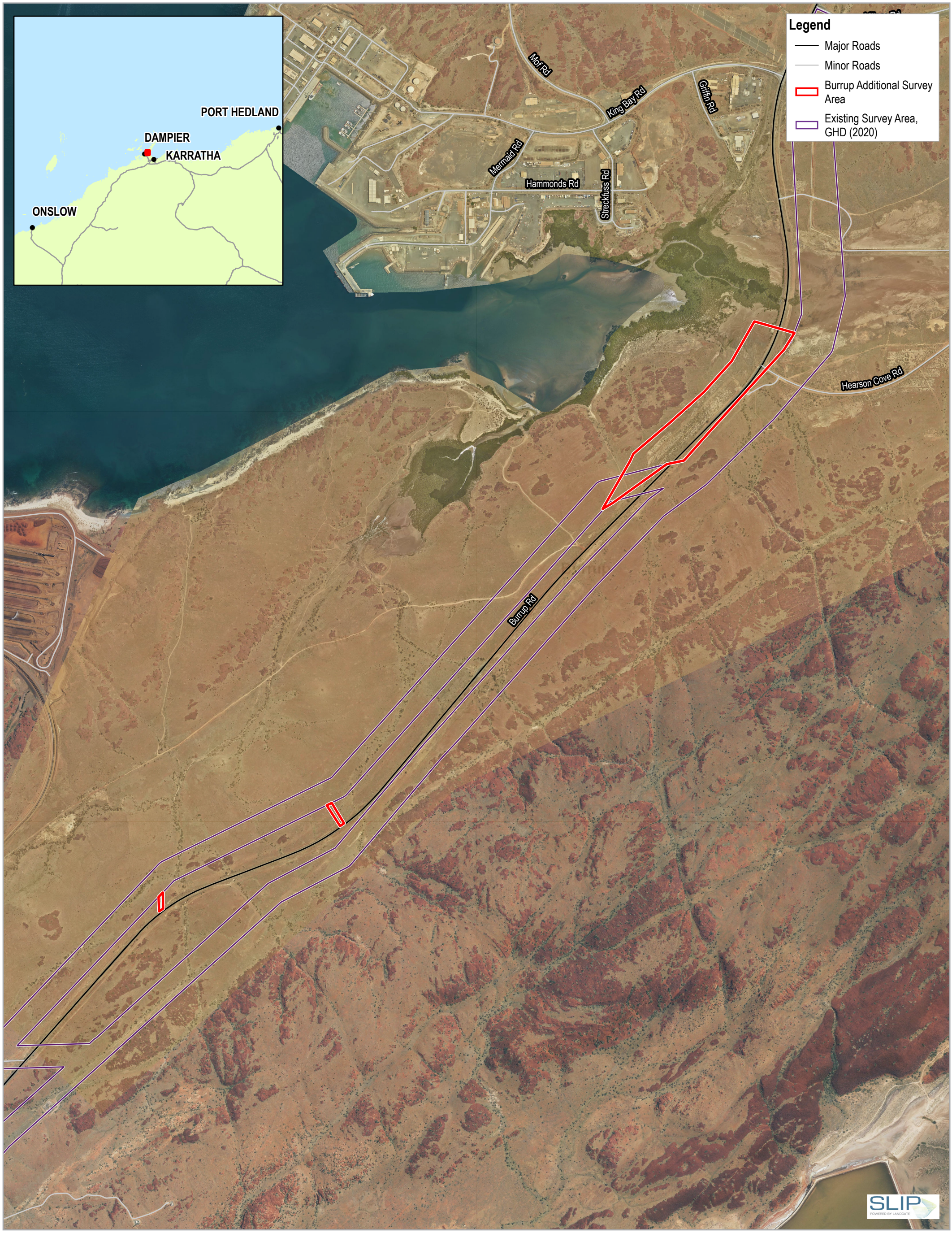
Appendices

Appendix A

Figures



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Meters

Map Projection: Transverse Mercator
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Grid: GDA 1994 MGA Zone 50

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Horizon Power
Burrup Expansion Program

Location of Burrup Additional Survey Areas

Project No. **12582802**
Revision No. **0**
Date **19/10/2022**

FIGURE 1

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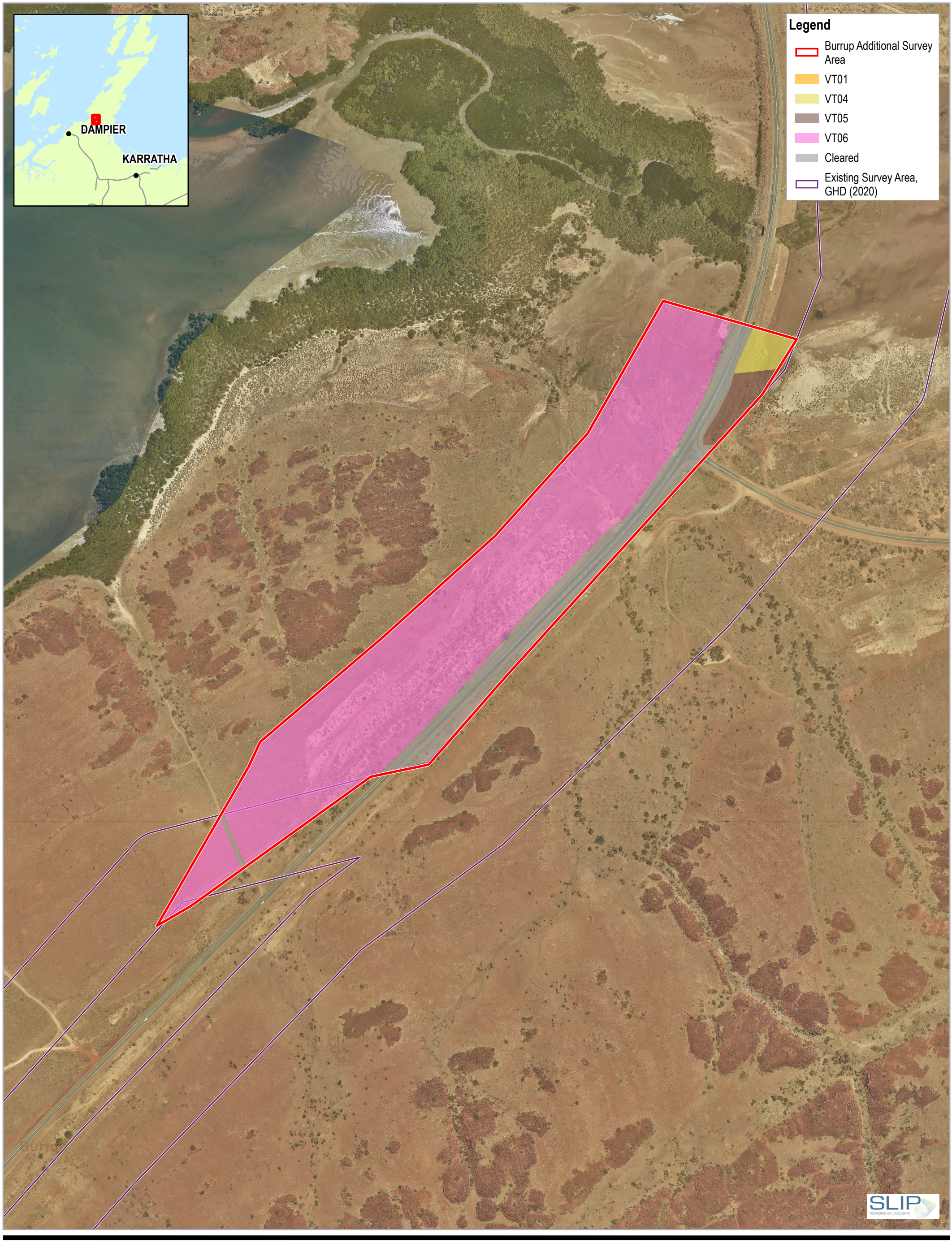

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Map Projection: Transverse Mercator
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Horizon Power
Burrup Expansion Program

Vegetation Types
Burrup Additional Survey Areas

Project No. **12582802**
Revision No. **0**
Date **19/10/2022**

FIGURE 2

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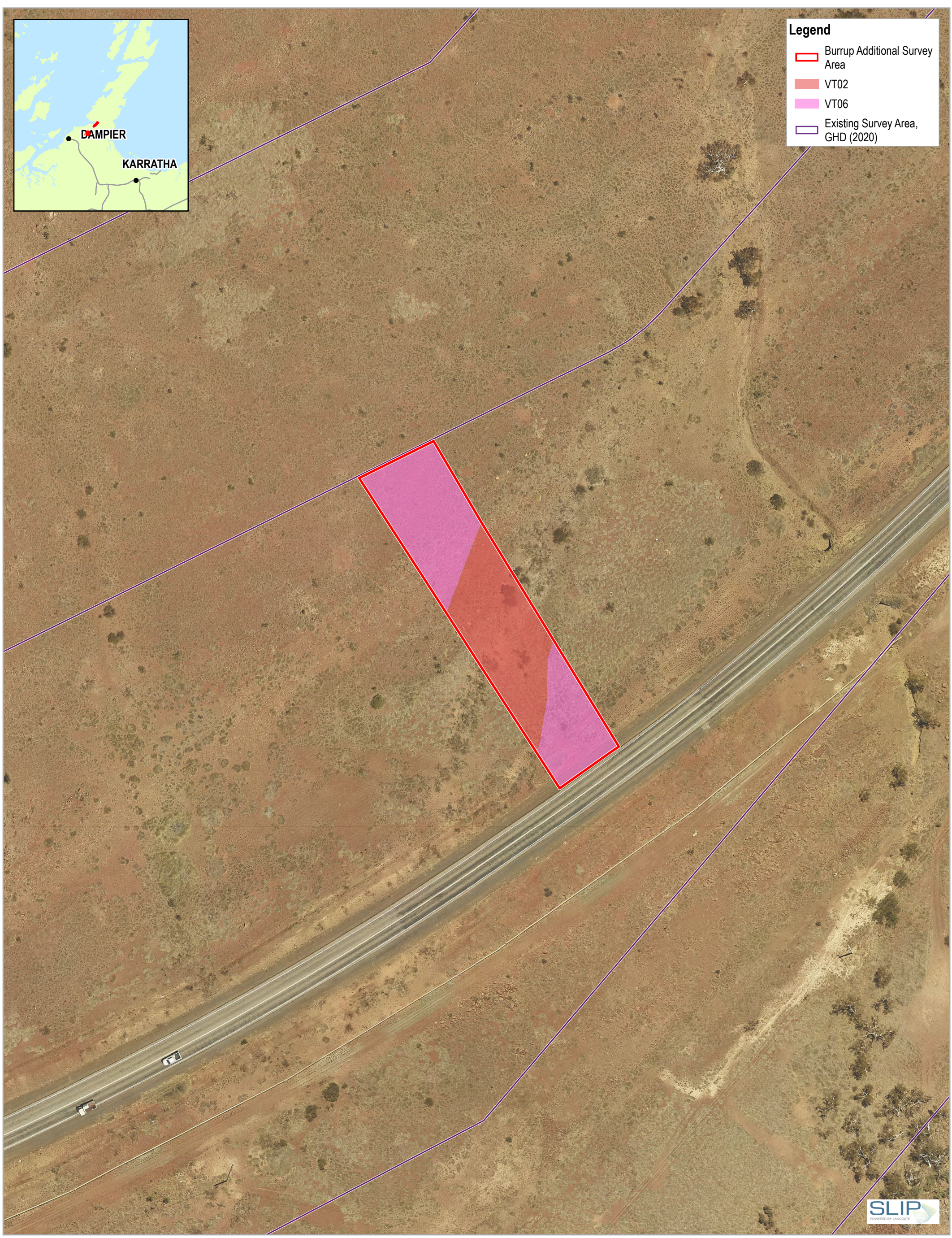

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Horizon Power
Burrup Expansion Program

Vegetation Types
Burrup Additional Survey Areas

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FIGURE 2

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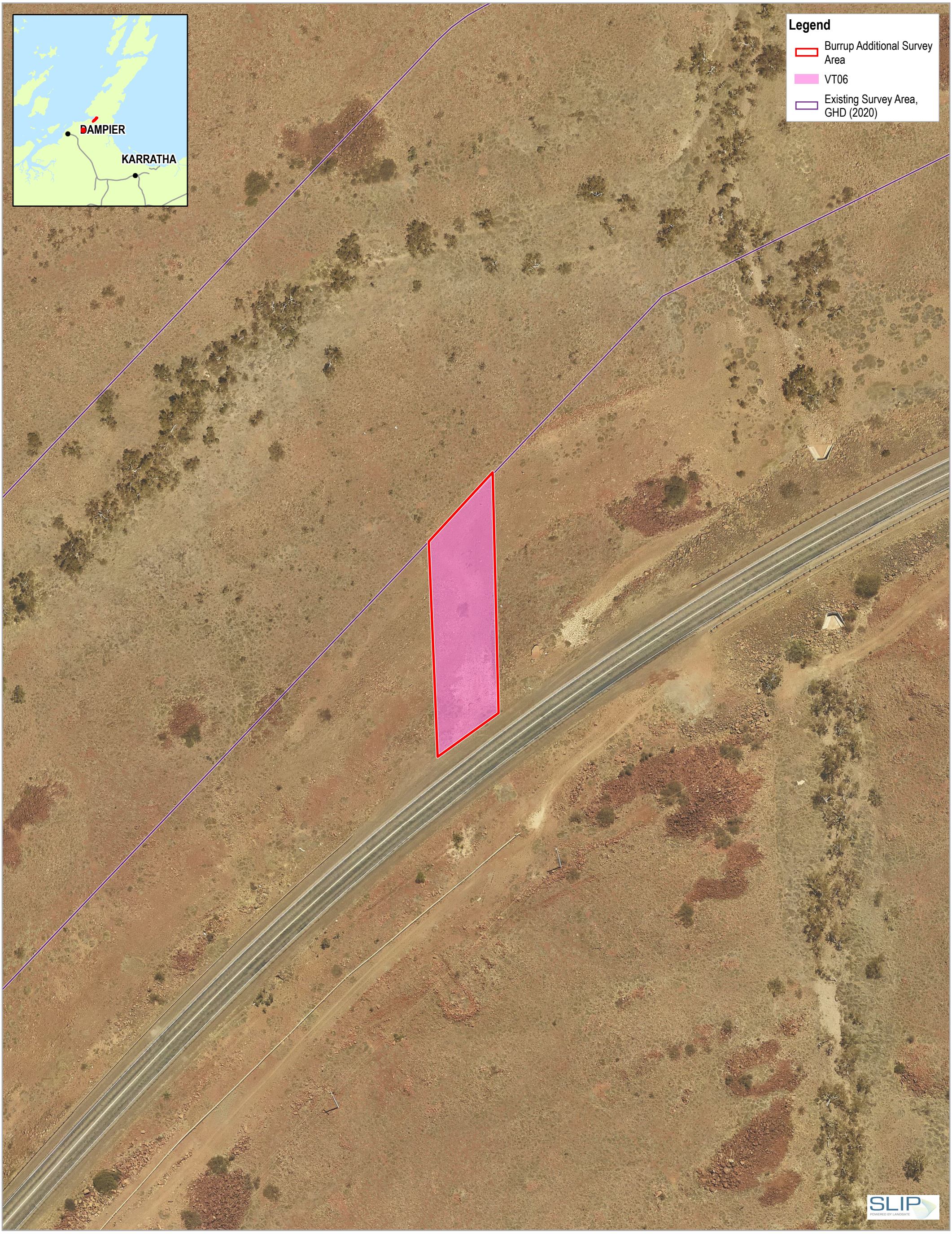

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Horizon Power
Burrup Expansion Program

Vegetation Types
Burrup Additional Survey Areas

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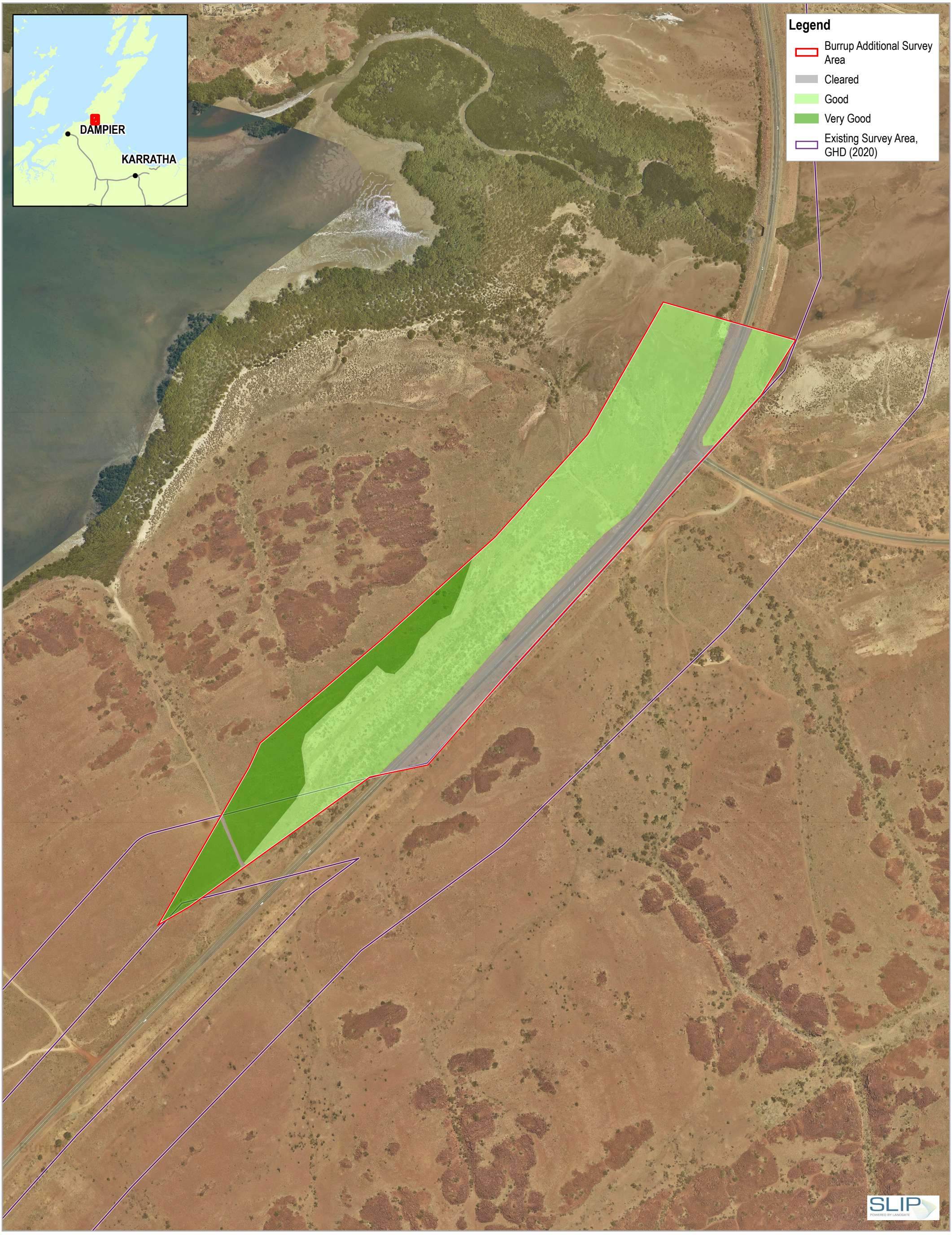
Date **19/10/2022**

FIGURE 2

\\ghdnet\ghd\AU\Perth\Projects\61\12582802\GIS\Maps\Working\VegWorking\VegWorking2.aprx\12582802_002_BurrupVegTypes_Rev0
Print date: 19 Oct 2022 - 12:50

Data source: Landgate_Subscription_Imagery\WANow:
World Topographic Map: Esri, HERE, Garmin, USGS. Created by: rbrown3



Paper Size ISO A3

0 30 60 90 120

Meters

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 50

N

GHD

Horizon Power
Burrup Expansion Program

Vegetation Condition
Burrup Additional Survey Areas

Project No. **12582802**
Revision No. **0**
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FIGURE 3

\\ghdnet\ghd\AU\Perth\Projects\61\12582802\GIS\Maps\Working\VegWorking\VegWorking2.aprx\12582802_003_BurrupVegCon_Rev0
Print date: 19 Oct 2022 - 12:59

Data source: Landgate_Subscription_Imagery\WANow: World Topographic Map: Esri, HERE, Garmin, USGS, METI/NASA. Created by: rbrown3

Paper Size ISO A3

0 8 16 24 32

Meters

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 50

N

Horizon Power
Burrup Expansion Program

Vegetation Condition
Burrup Additional Survey Areas

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FIGURE 3

\\ghdnet\ghd\AU\Perth\Projects\61\12582802\GIS\Maps\Working\VegWorking\VegWorking2.aprx\12582802_003_BurrupVegCon_Rev0
Print date: 19 Oct 2022 - 13:00

Data source: Landgate_Subscription_Imagery\WANow:
World Topographic Map: Esri, HERE, Garmin, USGS. Created by: rbrown3

Paper Size ISO A3

0 8 16 24 32

Meters

N

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 50

Horizon Power
Burrup Expansion Program

Vegetation Condition
Burrup Additional Survey Areas

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FIGURE 3

\\ghdnet\ghd\AU\Perth\Projects\61\12582802\GIS\Maps\Working\VegWorking\VegWorking2.aprx\12582802_003_BurrupVegCon_Rev0
Print date: 19 Oct 2022 - 13:00

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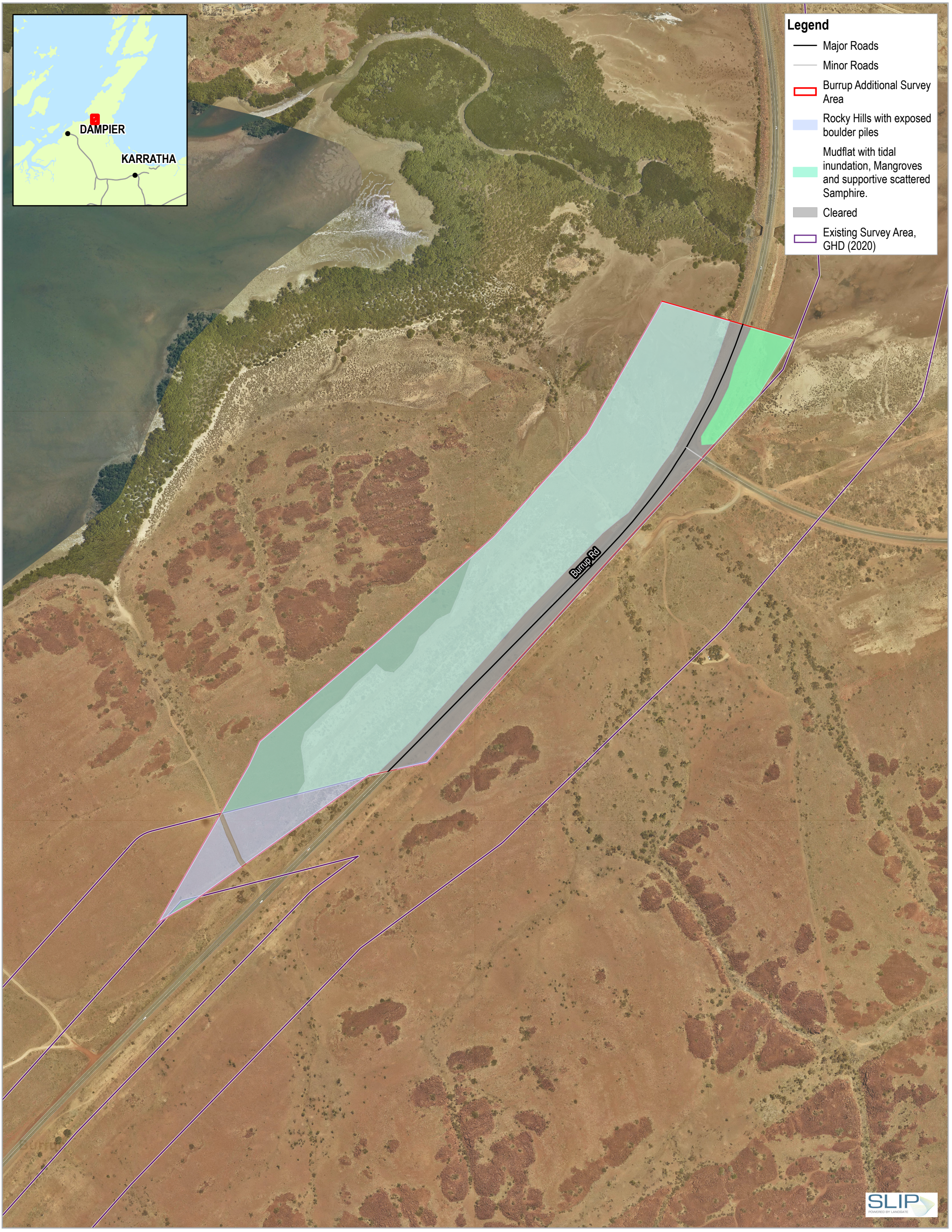

Paper Size ISO A3

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Meters

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 50

N

GHD

Horizon Power
Burrup Expansion Program

Fauna Habitat
Burrup Additional Survey Areas

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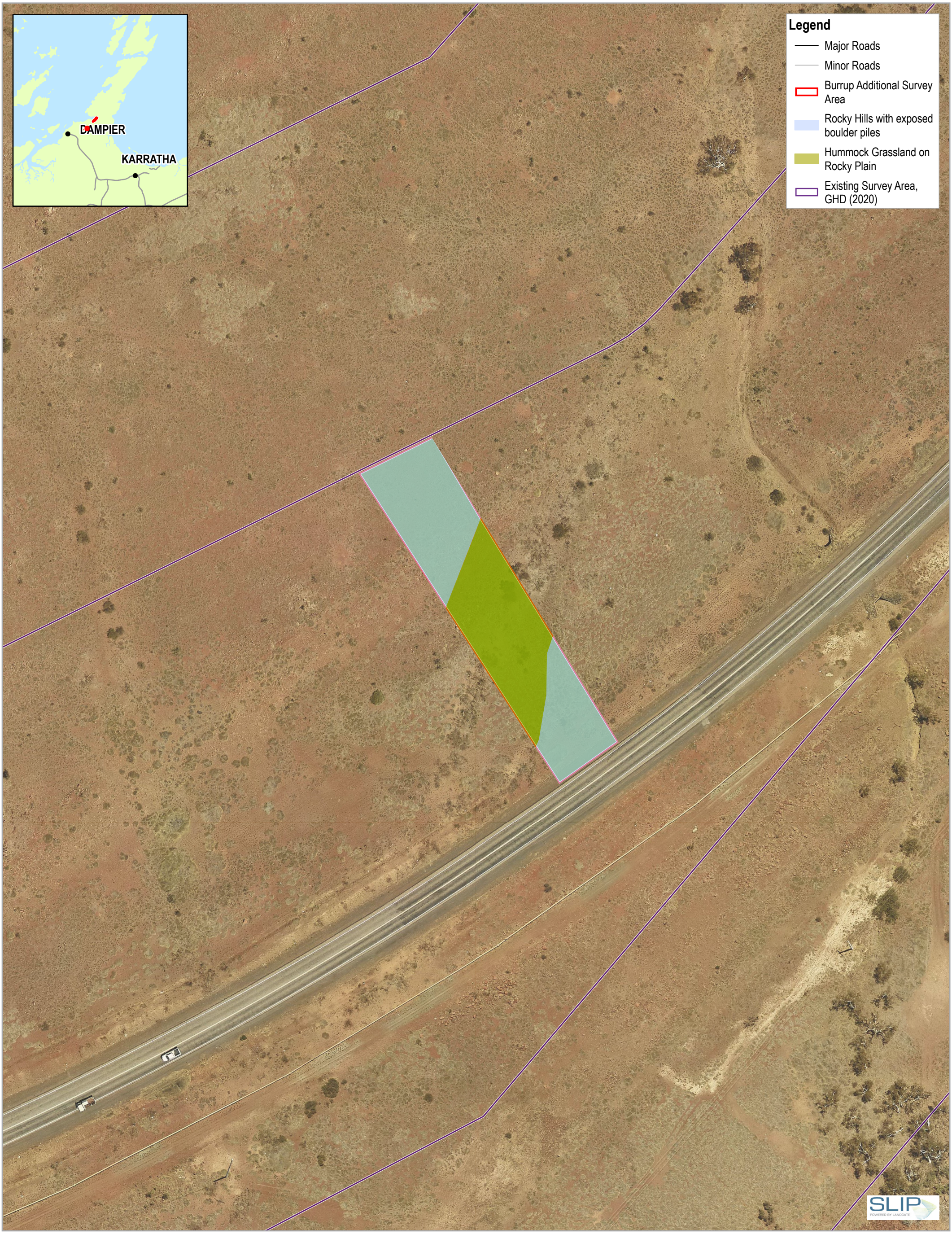
FIGURE 4

\\ghdnet\ghd\AU\Perth\Projects\61\12582802\GIS\Maps\Working\VegWorking\VegWorking2.aprx\12582802_004_BurrupFaunaHabitat_Rev0
Print date: 19 Oct 2022 - 13:16

Data source: Landgate_Subscription_Imagery\WANow:
World Topographic Map: Esri, HERE, Garmin, USGS. Created by: rbrown3



Paper Size ISO A3

0 8 16 24 32

Meters

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 50

N

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Horizon Power
Burrup Expansion Program

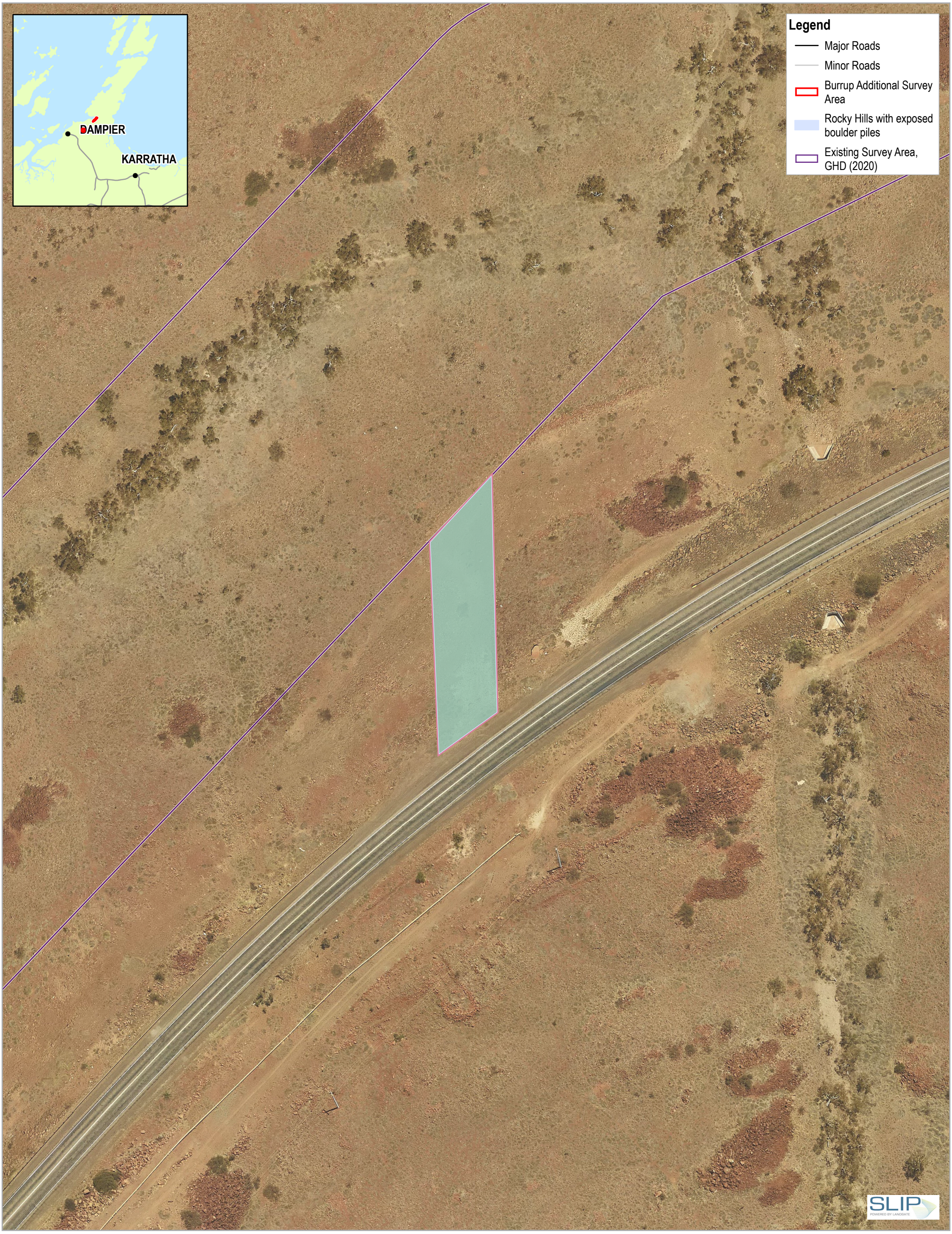
Fauna Habitat
Burrup Additional Survey Areas

Project No. **12582802**
Revision No. **0**
Date **19/10/2022**

FIGURE 4

\\ghdnet\ghd\AU\Perth\Projects\61\12582802\GIS\Maps\Working\VegWorking\VegWorking2.aprx\12582802_004_BurrupFaunaHabitat_Rev0
Print date: 19 Oct 2022 - 13:16

Data source: Landgate_Subscription_Imagery\WANow:
World Topographic Map: Esri, HERE, Garmin, USGS. Created by: rbrown3



Paper Size ISO A3

0 8 16 24 32

Meters

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 50

N

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Horizon Power
Burrup Expansion Program

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FIGURE 4

\\ghdnet\ghd\AU\Perth\Projects\61\12582802\GIS\Maps\Working\VegWorking\VegWorking2.aprx\12582802_004_BurrupFaunaHabitat_Rev0
Print date: 19 Oct 2022 - 13:16

Data source: Landgate_Subscription_Imagery\WANow:
World Topographic Map: Esri, HERE, Garmin, USGS. Created by: rbrown3