



PERDAMAN

## Impacts Reconciliation Procedure

Perdaman Urea Project

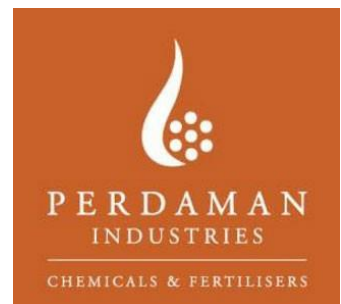
Burrup Peninsula, Western Australia  
PCF-PD-EN-IRP

Proponent:  
Perdaman Chemicals and Fertilisers Pty Ltd  
ABN: 31 121 263 741

Date: 21 March 2022

Environmental Protection Act 1986  
Part IV, Ministerial Statement No: 1180

Assessment No:2184 (WA)  
2018/8383 (Commonwealth)





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## Document History

Version	Effective Date	Description of Revision	Prepared by	Reviewed by
A	14/01/2022	Draft for AWE comments	DC	SFB
B	04/02/2022	Amended addressing AWE comments. Submission to EPA and AWE for FINAL Comments	SFB	VR
C	07/02/2022	Submission to EPA	SFB	VR
D	18/02/2022	Addressed comments from EPA dated 17/02/2022	SFB	VR
0	08/03/2022	FINAL for Implementation	SFB	VR
1	21/03/2022	Minor Changes Requested by AWE	SFB	VR

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## Abbreviations

Abbreviation	Description
AUD	Australian Dollar
Burrup SIA	Burrup Strategic Industrial Agreement
CAR	Compliance Assessment Report
CPI	Consumer Price Index
DAWE	Department of Agriculture, Water and the Environment
DBCA	Department of Biodiversity Conservation and Attractions
DoEE	Department of the Environment and Energy
EMS	Environmental Management System
EPA	Environmental Protection Authority
EPC	Engineering, Procurement and Construction
EPBC	Environmental Protection and Biodiversity Conservation Act 1999
ERD	Environmental Review Document
EWSC	Burrup East West Services Corridor
GDA	Ground Disturbing Activities
GDP	Ground Disturbance Permit
IBRA	Interim Biogeographic Regionalisation for Australia
IRP	Impacts Reconciliation Procedure
MAC	Murujuga Aboriginal Corporation
MS 1180	Ministerial Statement 1180
Mtpa	Million tonnes per annum
MNES	Matters of national environmental Significance
PEOF	Pilbara Environmental Offsets Fund
PDE	Project Development Envelope
PEC	Priority Ecological Community
PEMP	Project Environmental Management Plan
TEC	Threatened Ecological Community

*Environmental Protection Act 1986 Part IV Impact Reconciliation Procedure*

WA EPA Assessment No. 2184  
EPBC Referral No. 2018/8383  
Ministerial Statement No. 1180

Impact  
Reconciliation  
Procedure

# 1 The Project and condition requirements

## 1.1 The Project

Perdaman Chemicals and Fertilisers Pty Ltd proposes to establish a state-of-the-art urea production plant (“the Project”) using natural gas as feedstock within the Burrup Strategic Industrial Area (BSIA), on the Burrup Peninsula approximately 8 km from Dampier and 20 km north-west of Karratha on the north-west coastline of Western Australia ( Figure 1, Appendix B).

The urea plant will have a production capacity of approximately two (2) million tonnes per annum (Mtpa) on Site C (Figure 2, Appendix B) and Site F (Figure 3, Appendix B) within the BSIA, with a causeway linking the two sites. The project will access these sites through a 40-year lease, with option to extend for a further 40 years (i.e. for a project life of up to 80 years), from Development WA (formerly LandCorp). The Project proposes to utilise common-user infrastructure and corridors to transfer urea for product export through the Port of Dampier.

The Project involves piping natural gas from the nearby Woodside LNG plant to the Project site under a long-term commercial off-take agreement.

The Project has been granted Project of State Significance status under the Lead Agency Framework by the WA Government and has also been granted Major Project Facilitation (MPF) status by the Commonwealth Government.

Perdaman received conditional approval to proceed with the construction and operation of the Perdaman Urea Production Plant under section 45A of the *Environmental Protection Act 1986* (EP Act) as stated by Ministerial Statement 1180 (MS 1180) published on 24 January 2022.

The Environmental Protection Authority (EPA) considered the Project to have significant impacts on several key environmental factors including:

- Flora & Vegetation
- Terrestrial Fauna
- Air Quality
- Greenhouse Gas Emissions
- Inland Waters
- Coastal Processes
- Social Surroundings

The Perdaman Urea Project was determined under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) to be a controlled action and to be assessed by the EPA under an accredited process. Perdaman received approval to undertake the action under the EPBC Act, subject to the conditions of approval issued on 26<sup>th</sup> February 2022.

## 1.2 Document Purpose

This procedure has been developed to meet the requirement for developing and submitting an **Impact Reconciliation Procedure (IRP)** as required by MS 1180 Condition 11-5 and Condition Part A – 9 (c) of the EPBC Act Decision Notice (2018-8383). Details within include the timing, rationale and framework required to be included in this IRP as per MS 1180 Condition 11 and EPBC Act Decision Notice (2018-8383), Condition Part A – 8, 9 and 10. It ensures that the value of offset paid for a project accurately reflects the actual disturbance that has occurred and ensures compliance to environmental approval offset conditions.

This document has been prepared in accordance with Instructions on how to prepare Environmental Protection Act 1986 Part IV Impact Reconciliation Procedures and Impact Reconciliation Reports.

Perdaman and its EPC Contractor are cognisant of the fact that **Ground Disturbing Activities** are **not** to commence until the **CEO** has confirmed by notice in writing that this Impact Reconciliation Procedure satisfies the requirements of Condition 11-5 of MS 1180.

### 1.3 Condition Requirements

Table 1 presents the MS 1180 specific conditions to offsets for the Project as required by implementation of Condition 11.

*Table 1 - Conditions and procedures set out under section 44(2) of the Environmental Protection Act 1986 to be followed for the implementation of this Project.*

Condition No.	Condition
11-1	<p>The proponent shall contribute funds to the <b>Pilbara Environmental Offsets Fund (PEOF)</b>, (for the implementation of offset projects preferably located in Murujuga) calculated pursuant to condition 11-2, to counterbalance the significant residual impacts to:</p> <ul style="list-style-type: none"> <li>(1) 'Good' to 'Excellent' condition native vegetation, including foraging and dispersal habitat for the Pilbara olive python, northern quoll, ghost bat and EPBC Act listed migratory/marine bird habitat; and</li> <li>(2) Priority 1 Priority Ecological Community (PEC) – Burrup Peninsula rock pile communities, which is also critical habitat for the Pilbara olive python and northern quoll.</li> </ul>
11-2	<p>The proponent's provisional contribution to the <b>Pilbara Environmental Offsets Fund</b> shall be paid after the conclusion of the biennial reporting period specified in conditions 11-5(4) and 11-5(5), with the provisional amount to be contributed calculated based on the clearing undertaken during that biennial reporting period in accordance with the highest applicable rate specified in condition 11-3 for the relevant type of vegetation.</p>
11-3	<p>Calculated on the 2019–2020 financial year, the contribution rates are:</p> <ul style="list-style-type: none"> <li>(1) \$826 AUD (excluding GST) per hectare of 'Good to Excellent' condition native vegetation, including foraging and dispersal habitat for the Pilbara olive python, northern quoll, ghost bat and EPBC Act listed Migratory/marine bird habitat, cleared for the proposal within the Roebourne IBRA subregion within that financial year; and</li> <li>(2) \$1,653 AUD (excluding GST) per hectare of Priority 1 PEC – Burrup Peninsula rock pile communities, which is also critical habitat for the Pilbara olive python and northern quoll (rocky outcrop), cleared for the proposal within the Roebourne IBRA subregion within that financial year.</li> </ul>
11-4	<p>The rates in condition 11-3 change annually each subsequent financial year in accordance with the percentage change in the <b>CPI</b> applicable to that financial year.</p>
11-5	<p>The proponent must prepare and submit a Perdaman Urea Impact Reconciliation Procedure to the <b>CEO</b> prior to the <b>Ground Disturbing Activities</b> which must:</p> <ul style="list-style-type: none"> <li>(1) spatially define the environmental value(s) identified in condition 11-1;</li> <li>(2) spatially define the areas in respect of which offsets required by condition 11-1 are to be calculated.</li> <li>(3) include a methodology to calculate the amount of clearing undertaken during each year of the biennial reporting period for each of the environmental values identified in conditions 11-3(1) and (2);</li> <li>(4) state that the clearing calculation for the first biennial reporting period will commence from the first date of <b>Ground Disturbing Activities</b> in accordance with condition 11-2 and end on the second 30 June following the commencement of <b>Ground Disturbing Activities</b>;</li> </ul>

Condition No.	Condition
	<p>(5) state that clearing calculations for each subsequent biennial reporting period will commence on 1 July of the required reporting period, unless otherwise agreed by the <b>CEO</b>;</p> <p>(6) indicate the timing and content of the Impact Reconciliation Reports; and</p> <p>(7) be prepared in accordance with Instructions on how to prepare Environmental Protection Act 1986 Part IV Impact Reconciliation Procedures and Impact Reconciliation Reports (or any subsequent revisions)</p>
11-6	The proponent must not commence <b>Ground Disturbing Activities</b> until the <b>CEO</b> has confirmed by notice in writing that the Impact Reconciliation Procedure satisfies the requirements of condition 11-5.
11-7	The proponent: <ul style="list-style-type: none"> <li>(1) may review and revise the <b>Confirmed</b> Impact Reconciliation Procedure; or</li> <li>(2) shall review and revise the <b>Confirmed</b> Impact Reconciliation Procedure as and when directed by the <b>CEO</b> by a notice in writing.</li> </ul>
11-8	The proponent shall submit Impact Reconciliation Reports in accordance with the <b>Confirmed</b> Impact Reconciliation Procedure.
11-9	<p>Despite payment of the provisional contribution, the proponent's liability to make a contribution under this condition shall be finally determined:</p> <p>(1) by the Minister upon application by the proponent in writing to the Minister to reduce in part or whole the proponent's liability under this condition where:</p> <ul style="list-style-type: none"> <li>(a) a payment has been made to satisfy a condition of an approval under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> in relation to the proposal; and/or</li> <li>(b) the payment is made for the purpose of counterbalancing impacts of the proposal on matters of national environmental significance identified in condition 11-1; or</li> </ul> <p>(2) to be equivalent to the provisional contribution if no application of the kind described in condition 11-9(1) is made within 12 months of the conclusion of the relevant biennial reporting period.</p>

The EPBC Act (2018/8383) Decision Notice includes the conditions presented in Table 2 specific to offsets for the Project.

*Table 2 - Conditions and procedures from the EPBC Act approval 2018/8383 set out under Part 9 of the Environment Protection and Biodiversity Conservation Act 1999 (Cth) to be followed for the implementation of this project.*

Condition No.	Condition
8	To compensate for the residual significant <b>impacts</b> of <b>clearing</b> habitat for the <b>Northern Quoll Pilbara Olive Python, Ghost Bat and Migratory Shorebirds</b> , the approval holder must make financial contributions to the <b>Pilbara Environmental Offsets Fund</b> .
9	In contributing to the <b>Pilbara Environmental Offsets Fund</b> , the approval holder must: <ul style="list-style-type: none"> <li>a. Comply with condition 11 of the <b>Western Australian Approval</b>.</li> <li>b. Contribute funds towards an offset or offset activity that: <ul style="list-style-type: none"> <li>a. reduces the rate of decline of the <b>Northern Quoll, Ghost Bat, Pilbara Olive Python and Migratory Shorebirds</b>;</li> <li>b. ensures a viable population of <b>Northern Quoll, Ghost Bat, Pilbara Olive Python, and Migratory shorebirds</b> remain in the Pilbara bioregion;</li> </ul> </li> </ul>



Condition No.	Condition
	<ul style="list-style-type: none"> <li>c. has specified outcomes and performance indicators; timeframes and milestones for their achievement;</li> <li>d. includes sufficient monitoring to detect achievement of performance indicators, milestones and the outcomes; and</li> <li>e. requires regular reporting to the approval holder of the outcomes of the monitoring.</li> </ul> <p>c. In complying with condition 11-5 of the <b>Western Australian Approval</b>,</p> <ul style="list-style-type: none"> <li>a. submit the <b>Impact Reconciliation Procedure</b> to the <b>Department</b> prior to the <b>commencement of the action</b> for the approval of the <b>Minister</b>; and</li> <li>b. not <b>commence the action</b> unless the <b>Impact Reconciliation Procedure</b> has been approved by the <b>Minister</b> in writing.</li> </ul> <p>d. provide a payment of 10 per cent of the total contribution to the <b>Pilbara Environmental Offsets Fund</b>, as stated in the approved <b>Impact Reconciliation Procedure</b>, within 30 <b>business days</b> of the date on which the <b>Minister</b> approves the <b>Impact Reconciliation Procedure</b>, which will contribute towards achieving the requirements of condition 9(b).</p> <p>e. make biennial payments in accordance with the timing specified in condition 11-5 of the <b>Western Australian Approval</b>, based on <b>evidence</b> of the <b>actual clearing footprint</b>, to the <b>Pilbara Environmental Offsets Fund</b> that is equivalent to or greater than the value of the following amounts on the date of this approval, by adjustment in accordance with the <b>CPI</b> from the date of this approval decision until the date on which any payment is made of:</p> <ul style="list-style-type: none"> <li>a. A minimum of \$3,306 AUD (excluding GST) per hectare of <b>cleared Rocky Outcrops habitat</b>;</li> <li>b. A minimum of \$1,653 AUD (excluding GST) per hectare of <b>cleared</b> good to excellent quality <b>Hummock Grasslands</b>;</li> <li>c. A minimum of \$1,653 AUD (excluding GST) per hectare of <b>cleared Drainage Line habitat</b>; and</li> <li>d. A minimum of \$1,653 AUD (excluding GST) per hectare of <b>cleared</b> good to excellent quality <b>Samphire Shrubland/Supratidal flats</b>.</li> </ul> <p>f. Submit <b>evidence</b> of each payment made to the <b>Department</b> within 10 <b>business days</b> of the date of making the payment.</p> <p>g. Include details of progress towards, or achievement of, the outcomes specified under condition 9(b) for the <b>Pilbara Olive Python, Northern Quoll, Ghost Bat</b> and <b>Migratory Shorebirds</b> in each <b>annual compliance report</b> submitted to the <b>Department</b>.</p> <p>h. Write to the <b>Minister</b>, within 10 <b>business days</b> of being aware or having concerns, that the offset outcomes specified for the <b>Pilbara Environmental Offsets Fund</b> project(s) may not be achieved for each or all of the species to be offset: <b>Pilbara Olive Python, Northern Quoll, Ghost Bat</b> and <b>Migratory Shorebirds</b>.</p> <p>i. On completion of <b>clearing</b>, submit to the <b>Department</b> a final <b>Impact Reconciliation Report</b>.</p> <p>The <b>Minister</b> may agree to adjust the final year's payment to the <b>Pilbara Environmental Offsets Fund</b> and notify the approval holder in writing of the adjusted final payment amount based on <b>evidence</b> of the <b>actual clearing footprint</b>.</p>
10	<p>Should the <b>Minister</b> determine that the <b>Pilbara Environmental Offsets Fund</b> is likely to <b>fail</b> for one or more <b>protected matter(s)</b>, the <b>Minister</b> may write to the approval holder asking it to provide <b>evidence</b> that <b>failure</b> has not occurred or is unlikely to occur</p>



Condition No.	Condition
	<p>and nominating a deadline by which this must be provided.</p> <ol style="list-style-type: none"> <li>a. If, after considering any information provided by the approval holder as required under condition 9(h) of this approval, by the deadline nominated by the <b>Minister</b>, the <b>Minister</b> determines that the <b>Pilbara Environmental Offsets Fund</b> has <b>failed</b> for one or all species named in condition 9 of this approval, the approval holder must submit for the <b>Minister's</b> approval, within 4 months of being notified by the <b>Minister</b>, an Offset Strategy consistent with the principles of the <b>Environmental Offsets Policy</b> to the satisfaction of the <b>Minister</b>.</li> <li>b. If the Offset Strategy has not been approved by the <b>Minister</b> in writing within 6 months of the notification by the <b>Minister</b> under condition 10(a) of this approval, and the <b>Minister</b> notifies the approval holder that the Offset Strategy is not suitable for approval, the <b>Minister</b> may, at least two months after so notifying the approval holder, approve a version of the Offset Strategy revised by the <b>Department</b>. The approval holder must commence implementation of the approved Offset Strategy within 2 months of the approval of the Offset Strategy by the <b>Minister</b> in writing, or another time as agreed in writing by the <b>Minister</b>. The approval holder must implement the approved Offset Strategy for the <b>life of the project</b>.</li> <li>c. The Offset Strategy to be provided for the <b>Minister's</b> approval, if required by condition 10(a) of this approval, must provide a framework for how the residual significant <b>impacts</b> from the approved action on the <b>Pilbara Olive Python, Northern Quoll, Ghost Bat</b> and <b>Migratory Shorebirds</b> will be offset and must detail: <ol style="list-style-type: none"> <li>a. how the strategy will achieve the outcomes required under condition 9(b) of this approval;</li> <li>b. how it accounts for relevant approved <b>conservation advices, recovery plans</b> and <b>threat abatement plans</b>;</li> <li>c. the party to be responsible for implementing the proposed offset(s);</li> <li>d. the location and nature of the proposed offset(s);</li> <li>e. detailed objectives, outcomes, and timeframes for their achievement;</li> <li>f. budget;</li> <li>g. performance and completion criteria for evaluating conservation or research outcomes;</li> <li>h. project monitoring (with indicators and measures) capable of detecting progress towards and achievement of the required outcomes,</li> <li>i. reporting of specified outputs/offset activities, progress towards and achievement of the required outcomes, and evaluation of appropriateness of measures implemented;</li> <li>j. a description of the potential risks to the successful implementation of each proposed offset (including but not limited to environmental, administrative, financial, and governance risks);</li> <li>k. a description of the measures that will be implemented to mitigate risk associated with each proposed offset and a description of the <b>contingency actions</b> that will be implemented if performance or completion criteria are not met;</li> <li>l. processes to adaptively manage the proposed offset;</li> <li>m. how the proposed offset is consistent with the <b>Environmental Offsets Policy</b>; and</li> </ol> </li> </ol>

Condition No.	Condition
	n. how the approval holder will ensure that the measures to be implemented as part of the Offsets Strategy have no detrimental <b>impact</b> on any threatened species listed under the <b>EPBC Act</b> .

## 2 Procedure

### 2.1 Identification of Biodiversity Values Requiring Offsets

Table 3 - Environmental values from Ministerial Statement 1180 that require offsets

Condition	Amount of area to be offset in hectare(s)	Environmental value rating category	Clearing matter	IBRA subregion	Offset rate documented in Statement (\$/ha)	Total To be Offset*
11-1(1)	64 ha	Base Rate	'Good' to 'Excellent' condition native vegetation, including foraging and dispersal habitat for the Pilbara olive python, northern quoll, ghost bat and EPBC Act listed migratory/marine bird habitat	Roebourne	\$ 826  Contribution to be made through the EPBC Act offset.	
11-1(2)	0.16 ha	Higher Rate	Priority 1 PEC – Burrup Peninsula rock pile community, which is also critical habitat for the Pilbara olive python and northern quoll	Roebourne	\$ 1,653  Contribution to be made through the EPBC Act offset	
<b>Sub-Total for Table 2-A (State requirement)</b>						

Note: rates used are the 2019/2020 rates published on the Department of Water and Environmental Regulation's website.

\* - Offset value not included as this offset is addressed in EPBC Table 4.

Table 4 - Protected matters from EPBC 2018/8383 that will require offsets.

EPBC Act protected matter to be offset	Amount of area to be offset in hectare(s)	Protected matter value rating category	Environmental value justification	IBRA subregion	Offset rate documented in Statement / EPBC Approval (\$/ha)	Total payment of all clearing as of Feb 2022
Pilbara Olive Python and Northern Quoll	0.16 ha	Critical habitat	Direct impacts to Burrup Peninsula rock pile community that is considered critical habitat for both Pilbara Olive Python and Northern Quoll	Roebourne	\$ 3,306	<b>\$ 528.96</b>
Pilbara Olive Python and	49.17ha	Supporting habitat	Direct impacts to Hummock Grasslands on Mid-slopes habitat	Roebourne	\$ 1,653	<b>\$ 81,278.01</b>

EPBC Act protected matter to be offset	Amount of area to be offset in hectare(s)	Protected matter value rating category	Environmental value justification	IBRA subregion	Offset rate documented in Statement / EPBC Approval (\$/ha)	Total payment of all clearing as of Feb 2022
Northern Quoll			supporting the foraging of Pilbara Olive Python and Northern Quoll			
Ghost Bat	2.7 ha	Supporting habitat	Direct impacts to Drainage Lines habitat supporting the foraging of the Ghost Bat.	Roebourne	\$ 1,653	<b>\$ 4,463.10</b>
Migratory/ marine bird habitat	11.97 ha	Supporting habitat	Direct impacts to Samphire Shrubland/Supratidal flats habitat supporting the foraging of the migratory and marine shorebirds.	Roebourne	\$ 1,653	<b>\$ 19,786.41</b>
<b>Total for 4 (Commonwealth requirement)</b>						<b>\$ 106,056.48</b>
<b>Upfront Payment (10% of the overall clearing allowance for Table 4 only)</b>						<b>\$ 10,605.65</b>

## 2.2 Method to Determine Impacts

This section provides:

- A description of the approved clearing baseline against which clearing activity will be monitored and measured.
- An overview of the Ground Disturbance Procedure that will be implemented by SCJV – an internal process established to approve, control and verify ground disturbance.
- A description of how the extent of clearing will be measured for the purpose of reporting.

The baseline data detailed below provides the rationale for clearing offsets as determined by 'Good' to 'Excellent' quality vegetation utilised by EPBC listed fauna. Table 5 breaks down the extents of habitat and associated health condition subject to clearing outlined in the *Approved Clearing Baseline Section* from the approved 73.05 ha total, including the total area to be cleared that may provide habitat to EPBC listed species (64 ha). Figure 4, Appendix B shows the environmental values requiring offsetting as mapped from surveys, while Figure 5 Appendix B shows the vegetation condition as assessed in 2019. The spatial datasets have been provided as Attachment 2.

### Baseline Data

#### Vegetation

Two flora and vegetation surveys were undertaken for the Project in different seasons. Vegetation was mapped by Animal Plant Mineral Pty Ltd (APM). A pre-wet season survey was conducted in November 2018 and a post-wet season survey which was conducted in March 2019. The survey area covered Sites C and F, the area between the 2 sites, the site access easements, and the section of the proposed product conveyor route east of Burrup Road. The surveys were consistent with the *Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA 2016b).

Approximately 64 ha of native vegetation of the 73.05 ha is in 'Good to Excellent' condition. The approximately

64 ha in 'Good to Excellent' condition vegetation includes 0.16 ha of Rocky Outcrops, 49.17 ha of Hummock Grasslands on Mid Slopes, 11.97 ha of Samphire Shrubland / Supratidal Flats, and 2.7 ha of Drainage Lines vegetation which is considered significant as it provides habitat for the conservation significant fauna species; Ghost Bat, Northern Quoll, the Pilbara Olive Python, and EPBC Act listed Migratory / marine birds.

Vegetation type and condition mapping has previously been provided in the Environmental Review Document (Cardno, 2020).

### Fauna

Two fauna surveys were undertaken for the Project in different seasons by Animal Plant Mineral Pty Ltd (APM). A pre-wet season survey was conducted in November 2018 and a post-wet season survey which was conducted in March 2019.

There are four main fauna habitats within the development envelope. These habitats are Rocky Outcrops, Hummock Grasslands on Mid-slopes, Samphire Shrublands / Saltplains, and Drainage Lines (Cardno 2020). The two bat species are the Ghost Bat (*Macroderma gigas*), a threatened fauna species listed as Vulnerable under both the EPBC Act and the BC Act, and the North-Western Free-Tailed Bat (*Ozimops cobourgianus*), listed as a Priority 1 species under the BC Act (Cardno 2020). The Northern Quoll (*Dasyurus hallucatus*) and the Pilbara Olive Python (*Liasis olivaceus barroni*) were not recorded during the fauna surveys despite having the potential to occur in the region (Cardno 2020).

Habitat mapping in relation to conservation significant species has previously been provided in the ERD (Cardno, 2020).

### Approved Clearing Baseline

The construction phase of the Project will include the disturbance of approximately **73.05 ha**, consisting of native vegetation, salt plains and heavily impacted areas (roads and vehicle tracks). The identified potential significant residual impacts are listed below and presented in Table 5.

The disturbance area includes:

1. Clearing of up to **63.84 ha** of fauna foraging/roosting habitat potentially utilised by EPBC listed species: **49.17 ha** of Hummock Grasslands (on mid-slopes) in good to excellent condition, **11.97 ha** of Samphire Shrubland / Supratidal Flats in good to excellent condition and **2.7 ha** of Drainage Lines (Figure 6, Appendix B).
2. **0.16 ha** of the Priority 1 listed PEC Burrup Peninsula rock pile communities will be impacted by the Project (Figure 5, Appendix B).

Surveying and ground truthing of the clearing progress will be undertaken annually. The Consumer Price Index rate that will apply will be determined based on the financial year in which the payment to the PEOF is made.

As condition 11 of MS 1180 states that offsets shall be provided to counterbalance impacts to 'Good' to 'Excellent' condition native vegetation and to Priority 1 PEC rock pile communities, the clearing extent to be offset will be to a total of **64 ha**, as outlined in Table 5.

Table 5 - Fauna habitat types within the Project Footprint clearance area

Fauna Habitat	Potential EPBC Listed Species and Likelihood of Occurrence	Vegetation Condition	Area(ha)	Area – Good to Excellent only (ha)
Rocky Outcrops	Pilbara Olive Python – High Northern Quoll – Moderate	Excellent	0.16	0.16
		Subtotal	0.16	
Hummock Grasslands on Mid Slopes	Pilbara Olive Python – High Northern Quoll – Moderate	Excellent	32.7	49.17
		Very Good	0.71	
		Good	15.76	
		Poor	2.73	
		Completely Degraded	0.29	
Subtotal	52.19			

Fauna Habitat	Potential EPBC Listed Species and Likelihood of Occurrence	Vegetation Condition	Area(ha)	Area – Good to Excellent only (ha)	
Samphire Shrubland/ Supratidal Flats	Curlew Sandpiper – Moderate Red Knot – Moderate Lesser Sand Plover – Low Bar-tailed Godwit – Moderate Australian Fairy Tern – Low Great Knot – Low Eastern Curlew – Moderate	Excellent	11.73	11.97	
		Very Good	0.09		
		Good	0.15		
			Completely Degraded	0.94	
			Subtotal	12.91	
Drainage Lines	Ghost Bat - Recorded	Excellent	2.5	2.7	
		Good	0.2		
			Subtotal	2.7	
Disturbed		Completely Degraded	5.09		
			Subtotal	5.09	
<b>Maximum area potentially cleared by the Project</b>			<b>73.05</b>		
<b>Total area of foraging/ roosting habitat potentially utilised by EPBC listed fauna species</b>			<b>64</b>		
<b>Maximum area of native vegetation that will be cleared in Good to Excellent condition</b>			<b>64</b>		

### Ground Disturbance Permits

A Ground Disturbance Permit (GDP) is a permit issued to Project personnel, enabling Works within defined battery limits which will impact native vegetation, heritage or other environmentally sensitive values.

The Engineering, Procurement and Construction (EPC) Contractor comprising a Joint Venture between Saipem, and Clough (SCJV) is accountable and responsible for the development and implementation of a robust and auditable GDP. The EPC Contractor has prepared a detailed Clearing and Ground Disturbance Plan (45826-HSE-PL-G-1024, Rev A) that comprises the GDP and permitting system. A copy of this plan is provided as Attachment 1 of this IRP.

Activities include, but are not limited to, clearing and grubbing, grading open ground, cut and fill, movement of plant, equipment and vehicles and any other activity which will disturb or damage soil, waterways, habitat and/ or vegetation. The GDP Procedure document does not form part of this IRP itself, however the following is an outline of how it operates:

1. The need for ground disturbance (including the clearing of native vegetation) is identified.
2. A GDP application is made to the Environment Lead identifying the clearing to be undertaken, including the GPS coordinates and boundary of the area required to be cleared.
3. The GDP application is assessed to ensure it complies with relevant approval boundaries, limits and conditions. This includes Geographic Information System (GIS) mapping of the area and creation of a shape file.
4. A GDP is approved and issued to a GDP owner; a person designated as responsible for the clearing.
5. The area for clearing is surveyed and the boundaries are pegged in accordance with the GPS coordinates and shape file.
6. When clearing is finished, the GDP owner arranges for a surveyor to map the actual extent of ground disturbance and clearing via an on-ground survey ('survey pick-up').
7. The completed GDP and survey pick-up is returned to the environmental team. The environmental team follows up any overdue GDPs and closes out the relevant Permit.

8. The master ground disturbance layer in Perdaman's GIS is updated to capture clearing undertaken, including details such as the clearing date, purpose and relevant approval instruments

The purpose of the on-ground survey mentioned in step six (6) above is to accurately determine and map the edge of areas that have been cleared. The resulting product is spatial data polygons representing cleared areas. While this is the primary and most common method that will be used by Perdaman to determine clearing extents, Perdaman will obtain high resolution aerial imagery of the Project area including disturbance areas, which will be used as part of suite of mapping tools to accurately capture on-ground conditions including ground disturbance. Aerial imagery is used to help verify the extent of ground disturbance as mapped and reported by surveyors. The extent of recent ground disturbance can also be determined from recent aerial imagery where survey pick-up has not yet been completed. Once survey pick-up is complete, the master ground disturbance layer is amended accordingly.

### Determining the Extent of Clearing

The EPC Contractor will determine the extent of clearing to be reported in each Impacts Reconciliation Report (IRR) by using spatial analysis and provide this information to Perdaman's Environmental Representative. As each successive IRR relates to a specific reporting period, new clearing can be determined using the following approach (terms are defined in Table 6):

$$\text{New Clearing} = \text{Total Clearing} - \text{Previously Reported Clearing} - \text{Other Clearing}$$

*Table 6 - Definitions of Clearing Terms*

Term	Definition
New Clearing	Extent of clearing to be reported in the IRR.
Total Clearing	Extent of the master ground disturbance layer within the Development Envelope, as at the end of the reporting period. Survey pick-up must be completed and captured in GIS for all clearing undertaken during the reporting period.
Previously Reported Clearing	Total extent of clearing reported in all IRRs previously submitted. If no IRRs have been submitted, this value is zero.
Other Clearing	Extent of clearing that is not part of this Project, i.e. clearing that is not attributable to the Project. Examples include: <ul style="list-style-type: none"> <li>• Clearing that had already existed prior to the implementation of the Project, e.g. existing roads and tracks.</li> </ul>

*Note: Only native vegetation is included in calculations. Refer to the Approved Clearing Baseline described above*



## 3 Reporting

Perdaman will prepare one or more IRRs to document the clearing undertaken. IRRs will be submitted to Department of Water and Environmental Regulation (DWER) for contributions payable to be determined. The EPC contractor shall support Perdaman with this application.

### 3.1 Frequency and Timing

IRRs will be prepared biennially (i.e., every two years). The first reporting period will commence on the day clearing commences, ending on the 30<sup>th</sup> June two years following. Each successive reporting period runs from 1 July until the second 30 June date following.

All Clearing activities are to be completed within the reporting periods specified in Table 7. Should project clearing activities be delayed, an additional reporting period shall be included in a revised IRP. Table 7 outlines the timeframes and frequency of impact reconciliation activities under this IRP.

*Table 7 - Reporting period and frequency of the Impact Reconciliation Report*

Reporting Stage	Action	Timing
Assessment Stage	Submission of IRP	08 March 2022, Rev 0
Approval Stage	Ministerial Statement Issued	24 January 2022
	EPBC Act Approval Issued	26 February 2022
Post Approval Stage	Final IRP approved and implemented	8 March 2022
	Commencement of Project	April 2022
Upfront Payment	Initial payment required prior to commencement of action EPBC Act requirement for 10 per cent of the overall clearing allowable.	April 2022
	Approval holder to submit evidence of payment to the Department of Agriculture, Water and the Environment. Must be provided within 10-days of receipt of payment.	April 2022
-	Clearing Commences	12 April 2022
Period 1	First biennial reporting period	12 April 2022 – 30 June 2024
	Aerial survey/ground-truthing Must be undertaken annually. The Consumer Price Index rate that will apply will be determined based on the financial year in which the payment to the PEOF is made.	September 2024
	Impact Reconciliation Report submitted to DWER <i>Must be submitted by 30 October 2022 in this worked example.</i>	October 2022
	Approval holder to submit evidence of payment into PEOF account to the Department of Agriculture, Water and the Environment. Must be provided within 10-days from receipt of payment.	October 2024
Period 2	Second biennial reporting period (if required)	1 July 2024 – 30 June 2026
	Aerial survey/ground-truthing Must be undertaken within 10-days either before or after the end of the biennial reporting period (i.e., 30 June).	August 2026
	Impact Reconciliation Report submitted to DWER <i>Must be submitted by 30 October 2026.</i>	October 2024

Reporting Stage	Action	Timing
	Approval holder to submit evidence of payment into PEOF account to the Department of Agriculture, Water and the Environment. Must be provided within 10-days from receipt of payment.	October 2026
Period 3 (final)	Final Impact Reconciliation Report submitted to DWER Must be submitted by 30 October 2026	October 2026
	Approval holder to submit evidence of payment into PEOF account to the Commonwealth department of environment. Must be provided within 10-days of receipt of payment.	October 2026
	The Minister may agree to adjust the final year's payment to the Pilbara Environmental Offsets Fund and notify the approval holder in writing of the adjusted final payment amount based on evidence of the actual clearing footprint.	October 2026

### 3.2 Reconciliation Report Content

The following information will be submitted in the Impact Reconciliation Report:

- Identification of the relevant Ministerial Statement, EPBC applicable conditions, the Project and the reporting period.
- Quantification of clearing undertaken during the reporting period, identified via environmental values identified in Table 3 and Table 4 of this IRP.
- Information from surveys supporting the quantification of clearing undertaken, including spatial data representing areas of ground disturbance and supporting reports.
- Forward estimate of clearing.
- Management Actions that were undertaken and associated adaptive management actions.
- Monitoring activities and associated reporting.
- Status in relation to specified completion criteria, and
- Aerial imagery from Landgate or Nearmap will be obtained to help verify the extent of ground disturbance as mapped and reported by surveyors.

Perdaman must report data against Table 4 to facilitate DAWE's evaluation of the performance of the offset.

## 4 Review & Implementation

No scheduled review of this IRP is required. However, DWER and/or DAWE at its discretion may direct Perdaman to revise this IRP. Irrespective of the schedule set out in Table 7, Perdaman will continue to implement this IRP until any of the following occurs:

- DWER/DAWE approves a revised version of this IRP, at which time the revised IRP will be implemented instead.
- DWER/DAWE advises in writing that this IRP no longer needs to be implemented.



## APPENDIX A – Ministerial 1180 Compliance Table

Condition No.	Condition	Section of this Plan
11-1	<p>The proponent shall contribute funds to the <b>Pilbara Environmental Offsets Fund</b>, (for the implementation of offset projects preferably located in Murujuga) calculated pursuant to condition 11-2, to counterbalance the significant residual impacts to:</p> <ol style="list-style-type: none"> <li>(1) 'Good' to 'Excellent' condition native vegetation, including foraging and dispersal habitat for the Pilbara olive python, northern quoll, ghost bat and EPBC Act listed migratory/marine bird habitat; and</li> <li>(2) Priority 1 PEC – Burrup Peninsula rock pile community, which is also critical habitat for the Pilbara olive python and northern quoll.</li> </ol>	Section 2.1
11-2	<p>The proponent's provisional contribution to the <b>Pilbara Environmental Offsets Fund</b> shall be paid after the conclusion of the biennial reporting period specified in conditions 11-5(4) and 11-5(5), with the provisional amount to be contributed calculated based on the clearing undertaken during that biennial reporting period in accordance with the highest applicable rate specified in condition 11-3 for the relevant type of vegetation.</p>	Table 7
11-3	<p>Calculated on the 2019–2020 financial year, the contribution rates are:</p> <ol style="list-style-type: none"> <li>(1) \$826 AUD (excluding GST) per hectare of 'Good to Excellent' condition native vegetation, including foraging and dispersal habitat for the Pilbara olive python, northern quoll, ghost bat and EPBC Act listed Migratory/marine bird habitat, cleared for the proposal within the Roebourne IBRA subregion within that financial year; and</li> <li>(2) \$1,653 AUD (excluding GST) per hectare of Priority 1 PEC – Burrup Peninsula rock pile community, which is also critical habitat for the Pilbara olive python and northern quoll (rocky outcrop), cleared for the proposal within the Roebourne IBRA subregion within that financial year.</li> </ol>	Table 3
11-4	<p>The rates in condition 11-3 change annually each subsequent financial year in accordance with the percentage change in the <b>CPI</b> applicable to that financial year.</p>	Section 2
11-5	<p>The proponent must prepare and submit a Perdaman Urea Impact Reconciliation Procedure to the <b>CEO</b> prior to the <b>Ground Disturbing Activities</b> which must:</p> <ol style="list-style-type: none"> <li>(1) spatially define the environmental value(s) identified in condition 11-1;</li> <li>(2) spatially define the areas in respect of which offsets required by condition 11-1 are to be calculated.</li> <li>(3) include a methodology to calculate the amount of clearing undertaken during each year of the biennial reporting period for each of the environmental values identified in conditions 11-3(1) and (2);</li> <li>(4) state that the clearing calculation for the first biennial reporting period will commence from the first date of <b>Ground Disturbing Activities</b> in accordance with condition 11-2 and end on the second 30 June</li> </ol>	<ol style="list-style-type: none"> <li>(1) Attachment 2</li> <li>(2) Attachment 2</li> <li>(3) Section 2.2</li> <li>(4) Section 2.2</li> </ol>

Condition No.	Condition	Section of this Plan
	<p>following the commencement of <b>Ground Disturbing Activities</b>;</p> <p>(5) state that clearing calculations for each subsequent biennial reporting period will commence on 1 July of the required reporting period, unless otherwise agreed by the <b>CEO</b>;</p> <p>(6) indicate the timing and content of the Impact Reconciliation Reports; and</p> <p>(7) be prepared in accordance with Instructions on how to prepare Environmental Protection Act 1986 Part IV Impact Reconciliation Procedures and Impact Reconciliation Reports (or any subsequent revisions)</p>	<p>(5) Section 3</p> <p>(6) Section 3</p> <p>(7) This Document</p>
11-6	The proponent must not commence <b>Ground Disturbing Activities</b> until the <b>CEO</b> has confirmed by notice in writing that the Impact Reconciliation Procedure satisfies the requirements of condition 11-5.	Section 1.2
11-7	The proponent: <ul style="list-style-type: none"> <li>(1) may review and revise the <b>Confirmed</b> Impact Reconciliation Procedure; or</li> <li>(2) shall review and revise the <b>Confirmed</b> Impact Reconciliation Procedure as and when directed by the <b>CEO</b> by a notice in writing.</li> </ul>	Section 4
11-8	The proponent shall submit Impact Reconciliation Reports in accordance with the <b>Confirmed</b> Impact Reconciliation Procedure.	Section 3
11-9	<p>Despite payment of the provisional contribution, the proponent's liability to make a contribution under this condition shall be finally determined:</p> <p>(1) by the Minister upon application by the proponent in writing to the Minister to reduce in part or whole the proponent's liability under this condition where:</p> <ul style="list-style-type: none"> <li>(a) a payment has been made to satisfy a condition of an approval under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> in relation to the proposal; and/or</li> <li>(b) the payment is made for the purpose of counterbalancing impacts of the proposal on matters of national environmental significance identified in condition 11-1; or</li> </ul> <p>(2) to be equivalent to the provisional contribution if no application of the kind described in condition 11-9(1) is made within 12 months of the conclusion of the relevant biennial reporting period.</p>	Note Only

## APPENDIX B - Figures

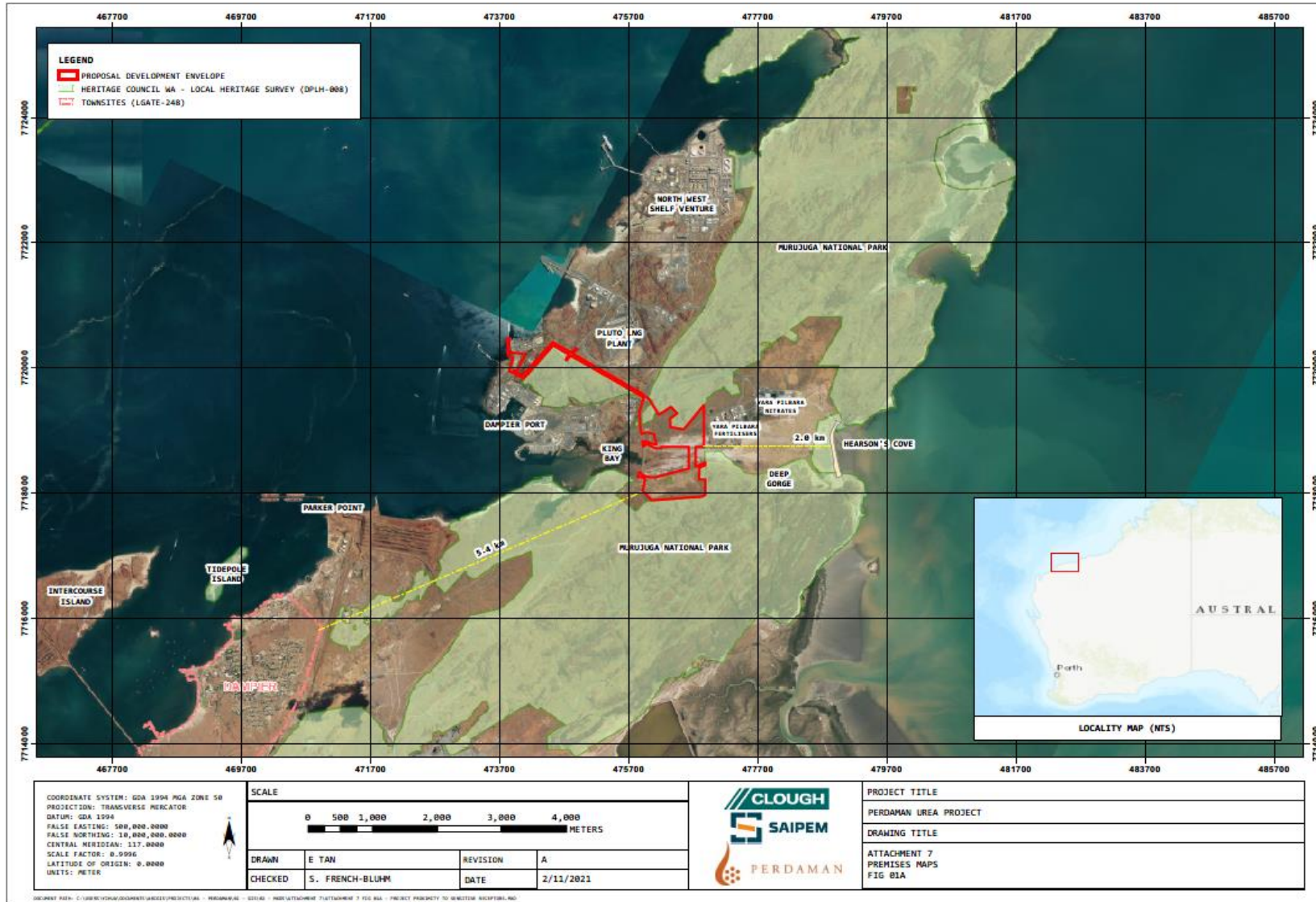


Figure 1 - Site Locality Plan



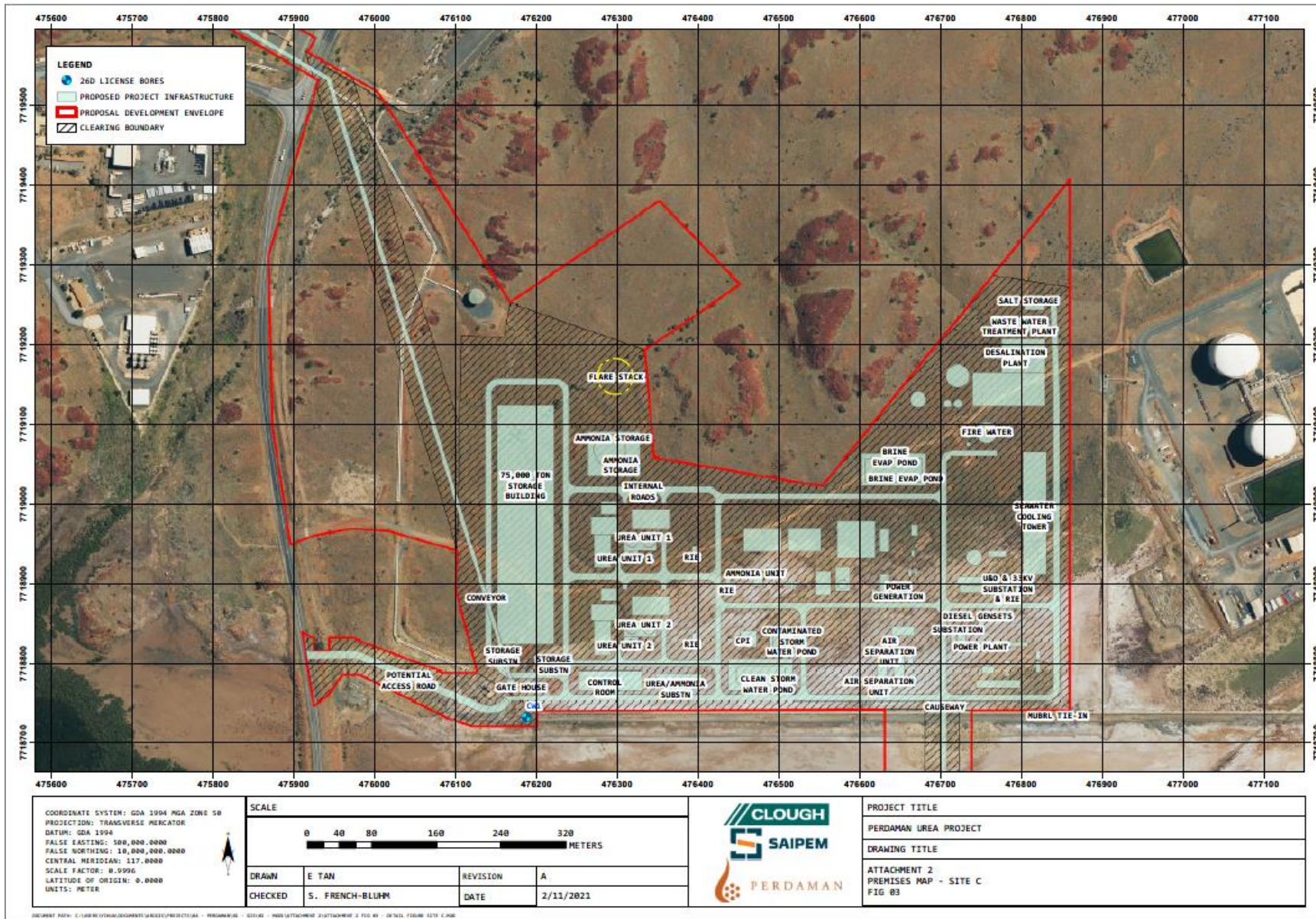


Figure 2 - Site C Layout Plan



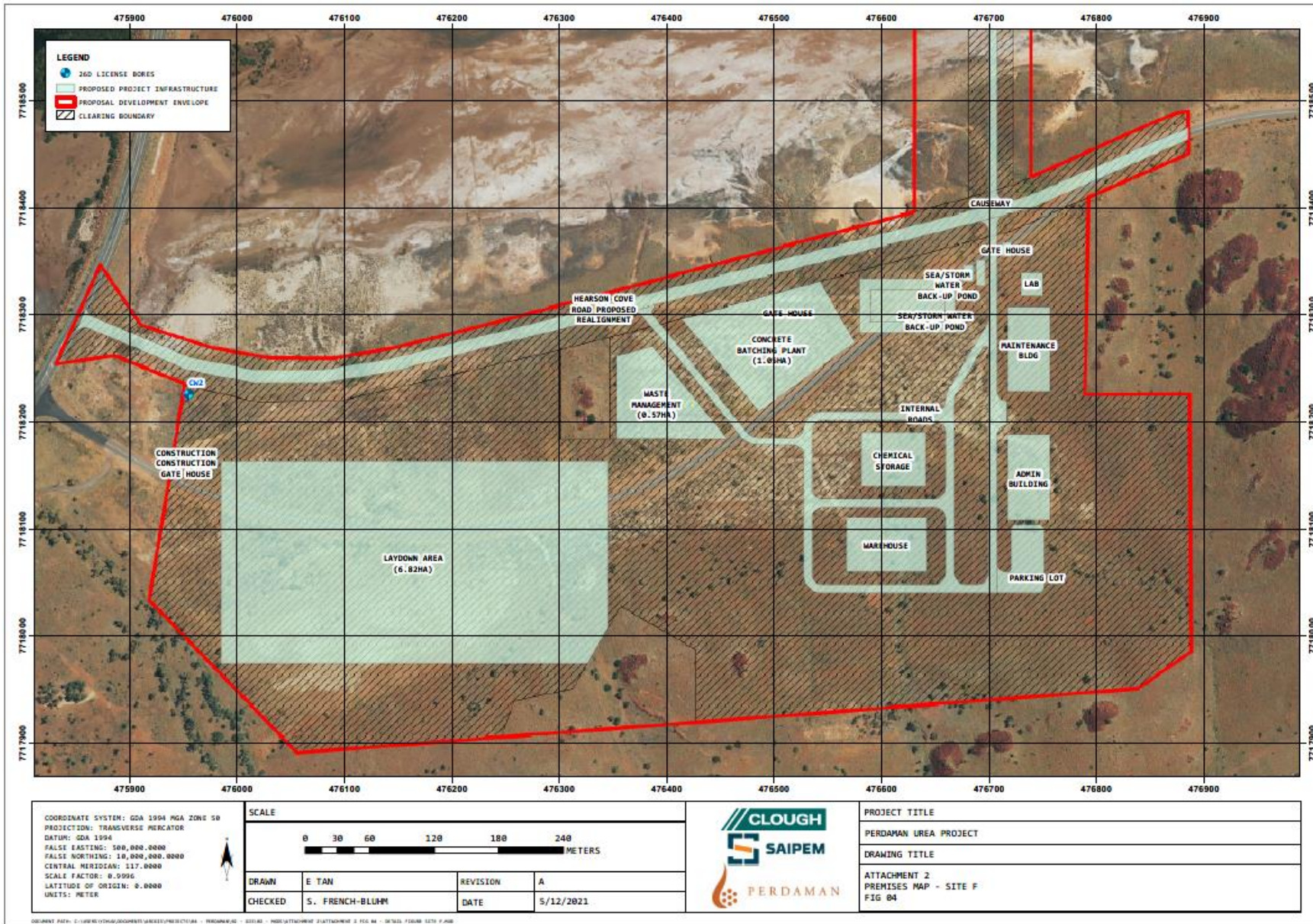


Figure 3 - Site F Layout Plan



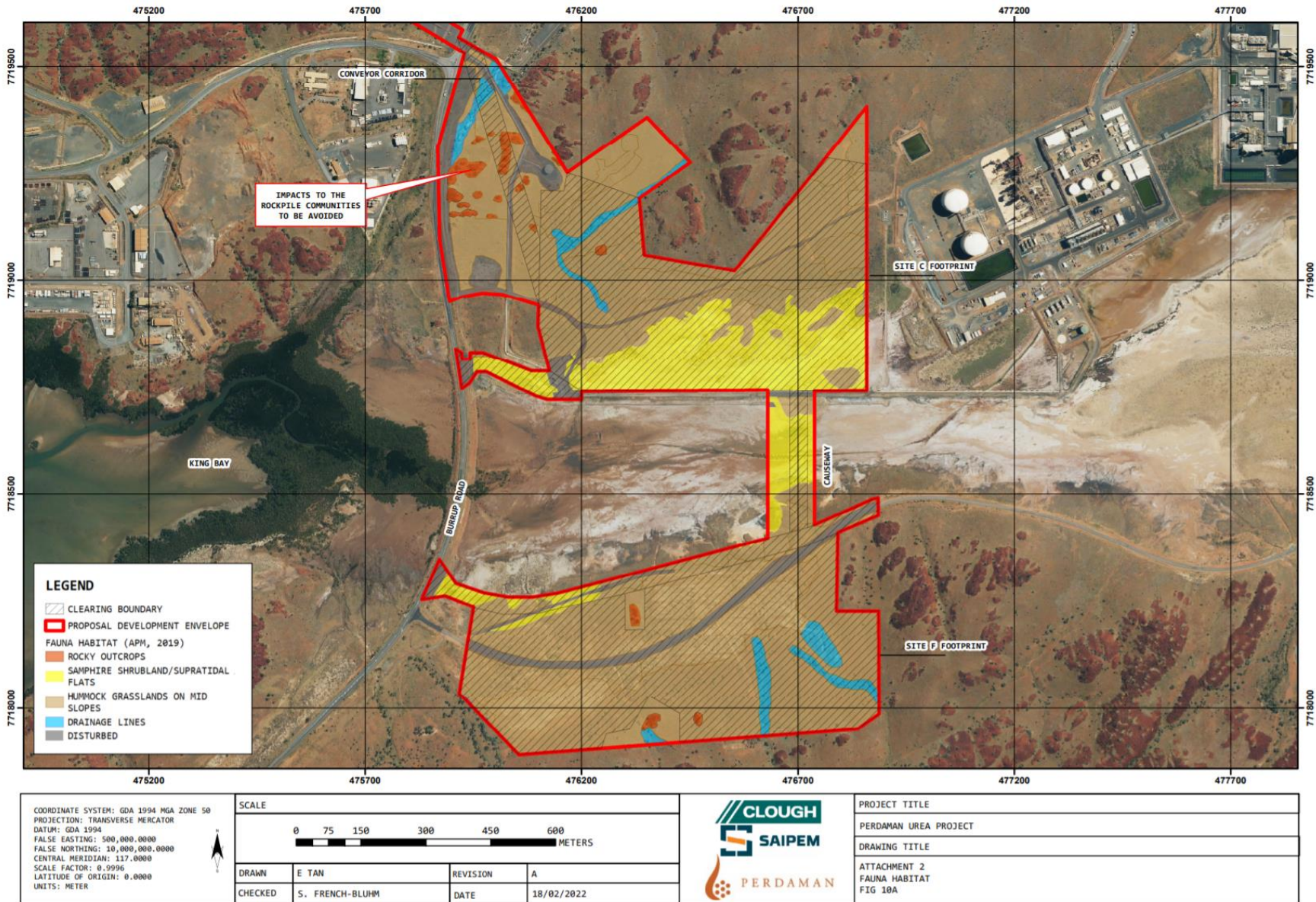


Figure 4 - Fauna Habitat



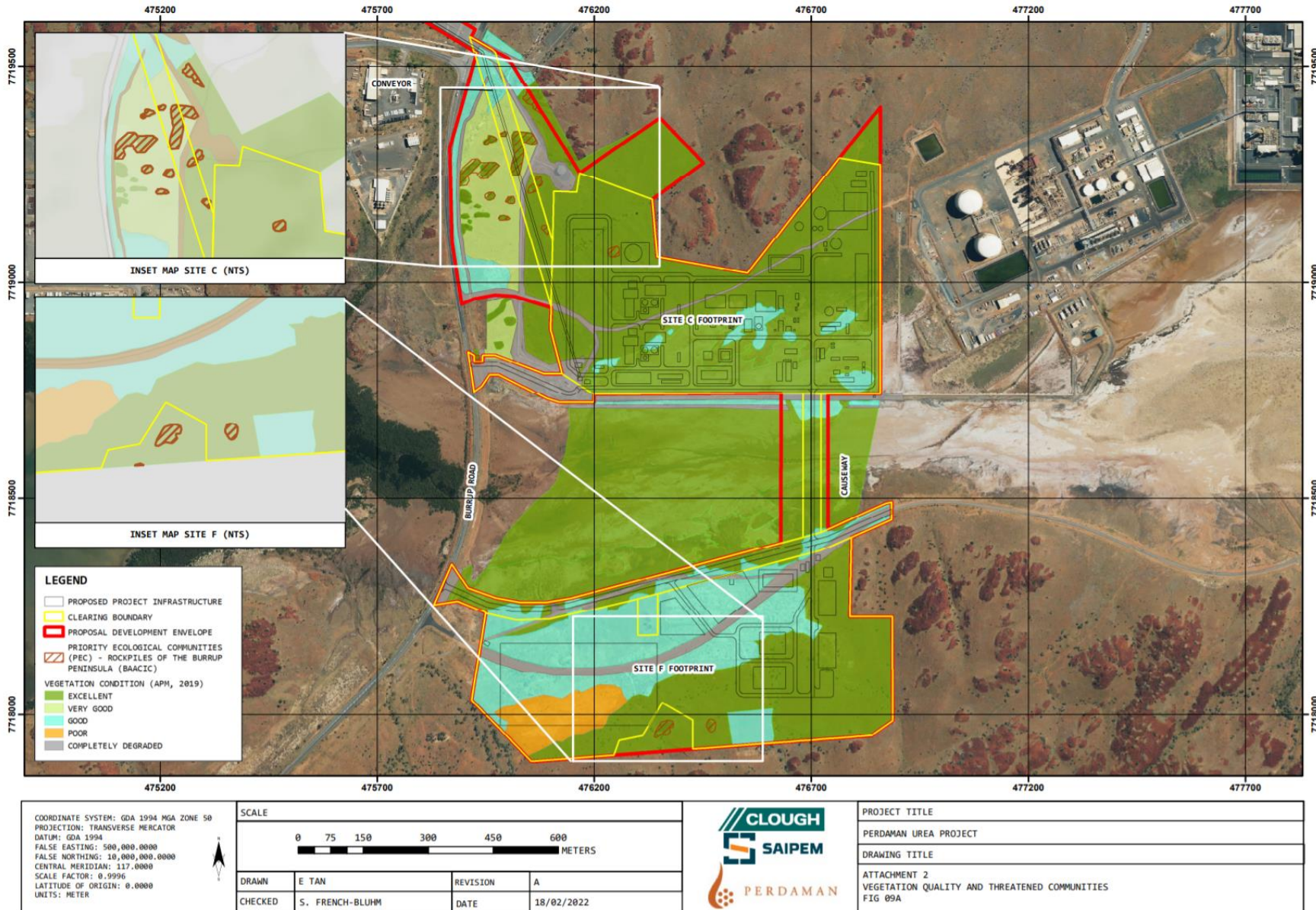


Figure 5 - Vegetation Condition



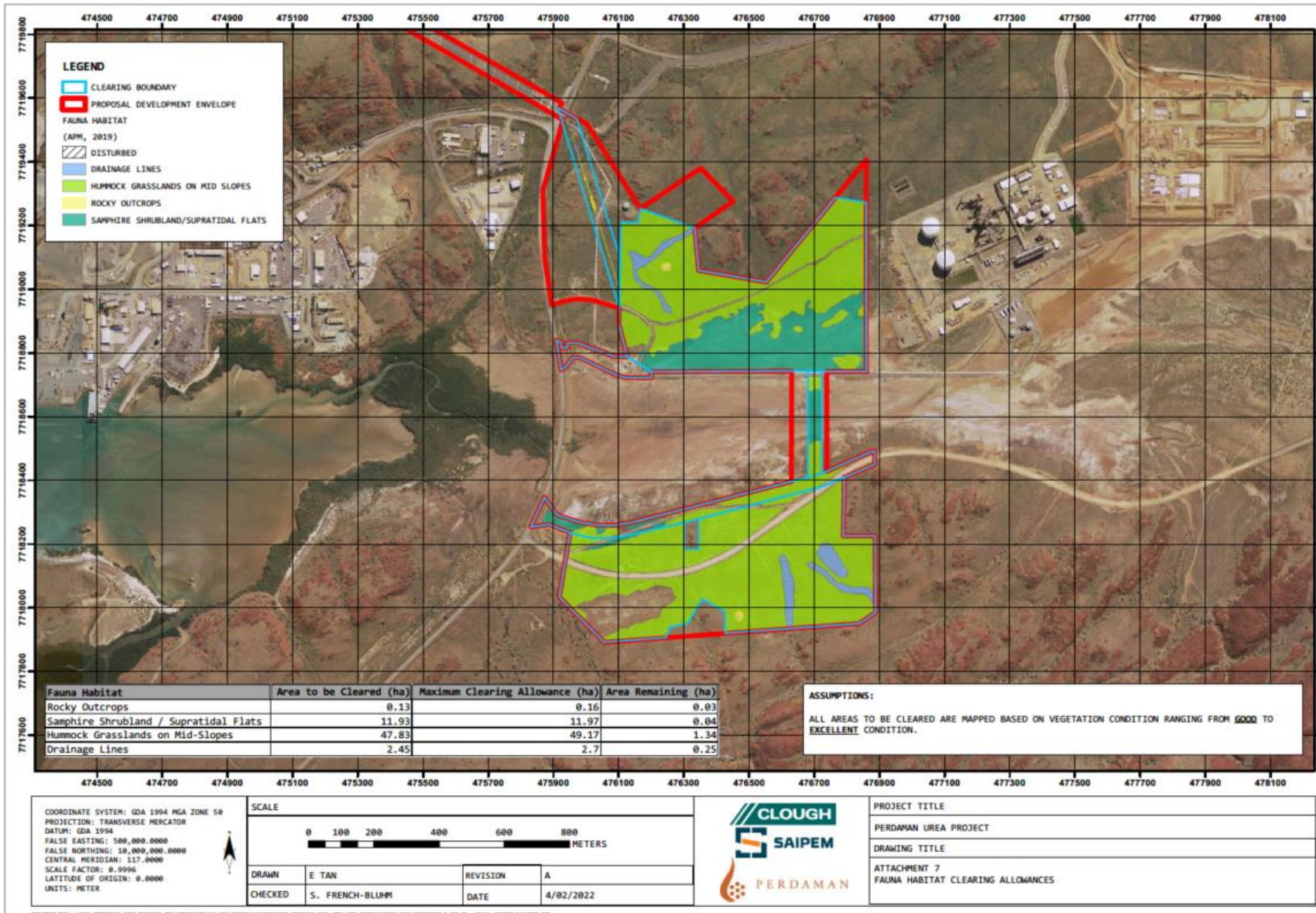


Figure 6 Fauna Habitat Clearing Allowances

## APPENDIX C - Derivation of Applicable Offset Rates Using Spatial Data

The Department of Water and Environmental Regulation has published guidance on contributions to the Pilbara Environmental Offsets Fund. For each region (DWER, 2020):

- A **base rate** applies for impacts to native vegetation in good to excellent condition.
- A **higher rate** may apply for impacts to some types of specialised environmental values, including but not limited to riparian vegetation, threatened or priority ecological communities, important vegetation types and specialised fauna habitat.
- A **negotiated rate** or alternative approach may be applied in special circumstances.

For the Perdaman Urea Project, the proponent has applied the base rate and higher rates as shown in Table B1.

*Table B1 - Biodiversity Values Assigned to Each Offset Rate*

PEOF Offset Rate	Biodiversity Values Assigned to Offset Rate	Mapping Units Corresponding to Biodiversity Values
Base Rate	Native vegetation in good to excellent condition	Native vegetation in good, very good and excellent condition.
Higher Rate	Critical habitat for Northern Quoll and Pilbara Olive Python,	Rocky Outcrops, Hummock Grasslands on Mid Slopes, Samphire Shrubland, Supratidal Flats, Drainage Lines

If a particular value meets the criteria for both rates, the higher rate will be applied.

Applicable EPBC Offset Rates Applied in this IRP

EPBC Act protected matter to be offset	Environmental value justification	Minimum payment in EPBC approval (\$/ha cleared) in Feb 2022 \$
Pilbara Olive Python and Northern Quoll	Direct impacts to Burrup Peninsula rock pile community that is considered critical habitat for both Pilbara olive python and Northern Quoll	\$ 3,306
Pilbara Olive Python and Northern Quoll	Direct impacts to Hummock Grasslands on Mid-slopes habitat supporting the foraging of Pilbara Olive Python and Northern Quoll	\$ 1,653
Ghost Bat	Direct impacts to Drainage Lines habitat supporting the foraging of the Ghost Bat.	\$ 1,653
Migratory/ marine bird habitat	Direct impacts to Drainage Lines habitat supporting the foraging of the migratory and marine shorebirds.	\$ 1,653

## ATTACHMENTS

### *Attachment 1:*

SCJV Clearing and Ground Disturbance Plan – 45826-HSE-PL-G-1024

SCJV Ground Disturbance Permit Request Form – 45826-HSE-TPL-G-1001

### *Attachment 2:*

Spatial Data (ESRI Shapefiles) for the following data sets:

- ENVENG\_PECGDA20\_ply.zip
- ENVENG\_FaunaHabitatsGDA20\_ply.zip
- ENVENG VegCondGDA20\_Ply.zip