



ATTACHMENTS

COUNCIL MEETING

15 August 2024

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APPENDICES

ELECTRONIC FUNDS TRANSFERS FROM MUNICIPAL FUND

EFT #	Date	Name/Payee	Description	Amount
EFT26548	09/07/2024	COHESIS PTY LTD	IT STRATEGIC PLAN	6875.00
EFT26549	09/07/2024	FUTURE SYSTEMS (KEITH ANTHONISZ)	ECONOMIC DEVELOPMENT FRAMEWORK	5280.00
EFT26550	09/07/2024	RAY WHITE KALBARRI (TRUST)	BATEMAN ST HOUSE INGOING PROPERTY INSPECTION	400.00
EFT26551	09/07/2024	WBS MODULAR PTY LTD T/AS EVOKE LIVING HOMES	MODULAR HOUSES DEPOSIT	53328.11
EFT26552	10/07/2024	RAUBEX CONSTRUCTION PTY LTD	KALB RD WIDENING 5TH PROGRESS CLAIM	286205.41
EFT26553	17/07/2024	AFGRI GERALDTON	NTON DEPOT TOOLS	190.17
EFT26554	17/07/2024	AW CRAGAN & ALLCAPRI PTY LTD	CLEANUP RDS NTON MRWA PRIVATE WORKS	825.00
EFT26555	17/07/2024	KALBARRI IGA	ALLEN CENTRE SUPPLIES	260.00
EFT26556	17/07/2024	AUSTRALIA POST	POSTAGE	176.91
EFT26557	17/07/2024	AUSSIE NATURAL SPRING WATER GERALDTON	NTON OFFICE WATER BOTTLES	29.90
EFT26558	17/07/2024	BABA MANDA ROAD SERVICES	HRKS RD GUIDEPOST TMP	440.00
EFT26559	17/07/2024	BLACKWOODS	CONFINED SPACE HARNES & WINCH	7007.50
EFT26560	17/07/2024	HAYDN GEORGE BRIMSON	KERB DEPOSIT REFUND	500.00
EFT26561	17/07/2024	BUILDING AND CONSTRUCTION INDUSTRY TRAINING FUND	BCITF JUNE 24	2984.13
EFT26562	17/07/2024	BUNNINGS (GERALDTON WAREHOUSE)	GEN ROADS ASPHALT, PARKS TIMBER	1346.60
EFT26563	17/07/2024	RICHARD BURGESS	COUNCIL FEES JUNE 2024	1998.02
EFT26564	17/07/2024	CENTRAL WEST PUMP SERVICE	SPRAY UNIT PUMP REPAIRS	957.00
EFT26565	17/07/2024	CITY OF GREATER GERALDTON	REFUSE DISPOSAL - MERU	18541.96
EFT26566	17/07/2024	CIVIC LEGAL	LEGAL FEES	8788.43
EFT26567	17/07/2024	CLEANAWAY OPERATIONS PTY LTD	DOM/COMM 240LT REFUSE COLLECTION, FRONT LIFT	35334.29
EFT26568	17/07/2024	COASTAL ELECTRICAL & SOLAR	BINS COLLECTION	121.00
EFT26569	17/07/2024	BOC GASES AUSTRALIA	17 RICHARDSON KAL ELECTRICAL INSPECTION	43.70
EFT26570	17/07/2024	CONCEPT MEDIA PTY LTD	INDUSTRY GASES	1776.50
EFT26571	17/07/2024	RM WILLIAMS & CO COOLOOLOO NOMINEES PTY LTD	KVC ADVERTISING WINTER IN THE WEST	808.50
EFT26572	17/07/2024	WINC AUSTRALIA PTY LTD	GRAVEL	1214.34
EFT26573	17/07/2024	CORSIGN WA PTY LTD	P/COPIER MTCE	3366.00
EFT26574	17/07/2024	TEAM GLOBAL EXPRESS PTY LTD	SIGNS	59.41
EFT26575	17/07/2024	WENDY DALLYWATER	FREIGHT	3664.70
EFT26576	17/07/2024	ANNA & DANIEL DOOLEY	REIMB IFEHA CONFERENCE/ACCOMM EXPS	500.00
EFT26577	17/07/2024	DOUGLAS & CO CONSTRUCTION PTY LTD	KERB DEPOSIT REFUND	17655.00
EFT26578	17/07/2024	GARY DUNGATE	KAL ARTS & CRAFTS BUILDING RECLAD	2860.00
EFT26579	17/07/2024	ECO-FLORA CRANE, TRUCK & EXCAVATOR SERVICES	NTON LIONS PK STONE WALL	1425.00
EFT26580	17/07/2024	ELDERS RURAL SERVICES AUSTRALIA LTD	MHS ROAD GRADE	8564.10
EFT26581	17/07/2024	ENGIN	GLYPHOSATE/FERTILISERS, FENCING, TOILET PAPERS TELEPHONE CHARGES	372.87

ELECTRONIC FUNDS TRANSFERS FROM MUNICIPAL FUND

EFT26582	17/07/2024	DPT OF MINES, INDUSTRY REGULATION AND SAFETY	BRB JUNE 24	2757.05
EFT26583	17/07/2024	FENN PLUMBING & GAS	PLUMBING REPAIRS	1420.23
EFT26584	17/07/2024	FIVE STAR BUSINESS EQUIPMENT AND COMMUNICATIONS	PHOTOCOPIER MTCE	580.45
EFT26585	17/07/2024	FLEET HYDRAULICS PTY LTD	PT GREG FIRE TRUCK HYDRAULIC HOSE	230.49
EFT26586	17/07/2024	FREEMANS LIQUID WASTE PTY LTD	VARIOUS SITES SEPTIC/LEACH PUMP OUTS	8547.50
EFT26587	17/07/2024	GERALDTON BRICK	NTON CEMETERY BRICKS FOR NICHE WALL	2417.43
EFT26588	17/07/2024	GCO AUSTRALIA PTY LTD	RCD TESTING 2024	3881.82
EFT26589	17/07/2024	GEOFABRICS AUSTRALASIA PTY LTD	HKS FORESHORE SAND BAG REPAIR KITS	814.00
EFT26590	17/07/2024	ATOM GERALDTON	TRAFFIC CONES, FLAGGING, BUNTING	3777.44
EFT26591	17/07/2024	GERALDTON AUTO WHOLESALERS	DMAX SX SPACE CAB (KALB LH)	56662.61
EFT26592	17/07/2024	GERALDTON FUEL COMPANY PTY LTD	FUEL CARD PURCHASES	1618.10
EFT26593	17/07/2024	GHD PTY LTD	NTON DISASTER RECOVERY WORKS	16589.10
EFT26594	17/07/2024	TREVOR GRAEME GIBB	COUNCIL FEES JUNE 2024	2144.06
EFT26595	17/07/2024	GREAT NORTHERN RURAL SERVICES	KAL ECO FLORA RETIC PARTS	490.14
EFT26596	17/07/2024	GREENFIELD TECHNICAL SERVICES	FIFTH AVE DRAINAGE SYSTEM DESIGN	2552.00
EFT26597	17/07/2024	GREAT SOUTHERN FUEL SUPPLY	DEPOT FUELS, FUEL CARDS	32028.04
EFT26598	17/07/2024	CJ AND PJ HASLEBY	GRAVEL	7045.50
EFT26599	17/07/2024	TIM HAY	COUNCIL FEES JUNE 2024	1478.22
EFT26600	17/07/2024	ROBERT HORSTMAN	COUNCIL FEES JUNE 2024	2525.25
EFT26601	17/07/2024	HOSEXPRESS	BACKHOE HYD HOSE	240.40
EFT26602	17/07/2024	AJS HULME & CO	GRAVEL	1663.20
EFT26603	17/07/2024	INDEPENDENT RURAL PTY LTD	RETIC, SPRINKLERS, HARDWARE, CULVERT PIPES	7819.43
EFT26604	17/07/2024	INDEPENDENT RURAL NORTHAMPTON	RETIC, SPRINKLERS, HARDWARE	2489.44
EFT26605	17/07/2024	ELIZA JANE JASHAR	RATES REFUND	17.86
EFT26606	17/07/2024	JCB CONSTRUCTION EQUIPMENT AUST	BACKHOE TOEPLATE & PLOUGH BOLTS	2175.07
EFT26607	17/07/2024	JMH MECHANICAL SERVICES	BACKHOE STEEL HYD PIPE	175.84
EFT26608	17/07/2024	KALBARRI AUTO CENTRE	KAL GARDENER UTE SERVICE & TYRES	1474.00
EFT26609	17/07/2024	KALBARRI EXPRESS FREIGHT	FREIGHT	41.18
EFT26610	17/07/2024	BP KALBARRI	RETIC, HARDWARE, ADBLUE	654.76
EFT26611	17/07/2024	KALBARRI WAREHOUSE	SOIL, RETIC, HARDWARE	83.10
EFT26612	17/07/2024	KALBARRI CARRIERS	FREIGHT	151.25
EFT26613	17/07/2024	KALBARRI REFRIGERATION AND AIRCONDITIONING	ALLEN CNT A/C REPAIRS	1345.60
EFT26614	17/07/2024	GRAEME RALPH	CLEANUP RDS KAL RAIN EVENT	9058.50
EFT26615	17/07/2024	KEMPTON ELECTRICAL CONTRACTING	NTON OFFICE, DRS & HKS TOILETS ELECTRICAL	3976.93
EFT26616	17/07/2024	KIMBERLEY QUARRY PTY LTD	AGGREGATE STOCKPILE	14246.07
EFT26617	17/07/2024	SUSAN FRANCIS KOPPENSTEINER	REIMB FUEL	372.10
EFT26618	17/07/2024	STATE LIBRARY OF WESTERN AUSTRALIA	BETTER BEGINNINGS BOOKS 23/24	121.00
EFT26619	17/07/2024	MALKANA FARMS PTY LTD	GRAVEL	16193.10

ELECTRONIC FUNDS TRANSFERS FROM MUNICIPAL FUND

EFT26620	17/07/2024	MARK ARMSTRONG ELECTRICAL	KAL AIRPORT LIGHTING REPAIRS	2712.60
EFT26621	17/07/2024	MCLEODS BARRISTERS & SOLICITORS	LEGAL FEES	1630.89
EFT26622	17/07/2024	LGRCEU	PAYROLL DEDUCTIONS	41.00
EFT26623	17/07/2024	MID WEST AUTO AIR CONDITIONG	KAL TIP TRUCK DIAGNOSE A/C FAULT	215.60
EFT26624	17/07/2024	M L COMMUNICATIONS	LIGHTS/RADIO INSTALL, PT GREG WATER COMMS	7881.59
EFT26625	17/07/2024	MOOREVIEW PLANTS & TREES	PLANTS	1065.17
EFT26626	17/07/2024	MOORE	TRAINING/WORKSHOPS	2816.00
EFT26627	17/07/2024	MOOCHER CONTRACTING	SEMI TRAILER HIRE	2816.00
EFT26628	17/07/2024	NAPA	SUNDRY VEHICLE HARDWARE	1980.97
EFT26629	17/07/2024	NORTHAMPTON IGA	REFRESHMENTS, GOODS	184.90
EFT26630	17/07/2024	NORTHAMPTON NEWSAGENCY	STATIONERY, NEWSPAPERS	15.20
EFT26631	17/07/2024	NORTHAMPTON PHARMACY	IMMUNISATIONS	30.00
EFT26632	17/07/2024	DESMOND RAY PIKE	COUNCIL FEES JUNE 2024	1800.00
EFT26633	17/07/2024	PURCHER INTERNATIONAL	PARTS, TRUCK SERVICE	7246.72
EFT26634	17/07/2024	QUANTUM SURVEYS	FIFTH AVE DRAINAGE SURVEY	9736.65
EFT26635	17/07/2024	ROAD RUNNER MECHANICAL SERVICES	PARTS	225.89
EFT26636	17/07/2024	LINDSAY DREW ROWE	REIMB PRESCRIPTION GLASSES	300.00
EFT26637	17/07/2024	SYNERGY	ELECTRICITY CHARGES	18636.39
EFT26638	17/07/2024	THE SHEARING SHED CAFE	REFRESHMENTS	269.50
EFT26639	17/07/2024	PAUL SHERIFF	COMPUTER SUPPORT SERVICES	275.00
EFT26640	17/07/2024	STAR TRACK EXPRESS	FREIGHT	6.63
EFT26641	17/07/2024	STRATAGREEN	GARDEN SUPPLIES, GABION SEATING	1226.18
EFT26642	17/07/2024	ROSLYN SUCKLING	COUNCIL FEES JUNE 2024	2030.69
EFT26643	17/07/2024	KARL SUCKLING	COUNCIL FEES JUNE 2024	1482.18
EFT26644	17/07/2024	ELEANOR ELIZABETH SUDLOW	COUNCIL FEES JUNE 2024	3177.23
EFT26645	17/07/2024	TELSTRA	TELEPHONE CHARGES	3040.07
EFT26646	17/07/2024	TERRANCE GARDINER	KAIBER ST DAYCARE KAL PAINTING	1578.00
EFT26647	17/07/2024	THURKLE'S EARTHMOVING & MAINTENANCE PTY LTD	GRAVEL STOCKPILE, FROSTY GULLY DOZER HIIE	13227.50
EFT26648	17/07/2024	TOTALLY WORKWEAR - GERALDTON	SAFETY BOOTS	187.56
EFT26649	17/07/2024	VAC WEST	STREET SWEEPING NTON/KAL/PORT/HKS RDS	8868.24
EFT26650	17/07/2024	LANDGATE	VALUATION EXPENSES	1136.04
EFT26651	17/07/2024	WESTRAC EQUIPMENT PTY LTD	CUTTING EDGES	987.47
EFT26652	17/07/2024	WESTERN AUSTRALIAN TREASURY CORPORATION	LOAN GUARANTEE FEES JUN 24	3061.39
EFT26653	17/07/2024	PAUL WESTON	NTON OFFICE FLAGPOLES, REPAIR DUPS NTON	5600.00
EFT26654	17/07/2024	NORTHAMPTON TYRES	BACKHOE & TRUCK TYRES, VALVE REPAIRS	4685.00
EFT26655	17/07/2024	WHELLER PLAINS PASTORAL	GRAVEL	3257.10
EFT26656	17/07/2024	WILLIAMS & HUGHES	LEGAL FEES	931.11
EFT26657	17/07/2024	P MARKHAM AND M A WILSON (WILSON COMPLETE)	NCC SHADE SAIL, STADIUM REPAIRS	1144.00

ELECTRONIC FUNDS TRANSFERS FROM MUNICIPAL FUND

EFT26658	17/07/2024	WREN OIL	REFUSE SITE OIL DISPOSALS	2123.00
EFT26659	22/07/2024	FUTURE SYSTEMS (KEITH ANTHONISZ)	ECONOMIC DEVELOPMENT FRAMEWORK FINAL	2970.00
EFT26660	22/07/2024	KALBARRI STATE EMERGENCY SERVICE	ESL PAYMENT 24/25	10287.50
EFT26661	22/07/2024	MID WEST AUTO AIR CONDITIONING	KAL RUBBISH TRUCK STARTER MOTOR	1228.92
EFT26662	23/07/2024	MICHELLE HELEN ALLEN	REIMB OFFICE KEYS CUT & USB STICKS	76.16
EFT26663	23/07/2024	FAB828 METAL FABRICATION PTY LTD	WATER TRUCK FUEL TANK REPAIRS	495.00
EFT26664	23/07/2024	KARENE LEANNE SEDGWICK	REIMB TRAVEL	345.80
			\$ 816,790.65	

MUNICIPAL FUND CHEQUES

Chq #	Date	Name/Payee	Description	Amount
22496	17/07/2024	PETTY CASH - NORTHAMPTON	PETTY CASH RECOUP	170.60
22497	17/07/2024	GERALDTON MOWER & REPAIR SPECIALISTS	MOWER SERVICE KITS	522.60
22498	17/07/2024	SHIRE OF NORTHAMPTON	BRB & BCITF COMMISSION JUN 24	83.00
22499	24/07/2024	PETTY CASH - NORTHAMPTON	PETTY CASH RECOUP	157.20
			\$ 933.40	

FUEL CARD PURCHASES

Payment #	Payment Date	Name/Payee	Transaction Date	Description	Transaction Amount	Total
EFT26592	17/07/2024	GERALDTON FUEL COMPANY PTY LTD	6/06/2024	CEO TOYOTA PRADO	190.16	
			28/06/2024	CEO TOYOTA PRADO	155.68	
			17/06/2024	EHO CAMRY	69.95	
			26/06/2024	EHO CAMRY	73.83	
			17/06/2024	BS FORTUNA	109.00	
			5/06/2024	EMCDR FORD RANGER	137.73	
			7/06/2024	EMCDR FORD RANGER	139.78	
			10/06/2024	EMCDR FORD RANGER	139.51	
			14/06/2024	EMCDR FORD RANGER	88.65	
			16/06/2024	EMCDR FORD RANGER	99.80	
			17/06/2024	EMCDR FORD RANGER	137.66	
			25/06/2024	EMCDR FORD RANGER	135.67	
			24/06/2024	SUNDRY PLANT	77.20	
			24/06/2024	SUNDRY PLANT	63.48	
					<u>1,618.10</u>	
EFT26597	17/07/2024	GREAT SOUTHERN FUEL SUPPLY		DEPOT BOWSERS, OILS	31,827.05	
			22/06/2024	CEO TOYOTA PRADO	200.99	
					<u>32,028.04</u>	

Existing Property Boundary – No 6 (Lot 65) Horan Way, Horrocks



31st JULY 2024

BRIAN ROBINSON
EXECUTIVE MANAGER
COMMUNITY, DEVELOPMENT
& REGULATION
SHIRE OF
NORTHAMPTON

DEAR BRIAN,

RE: EXTENSION COMPLETED IN 1999-2000 (APPROX.)
BY OTHERS WITH CORNER OF EXTENSION
OVER REAR BOUNDARY.

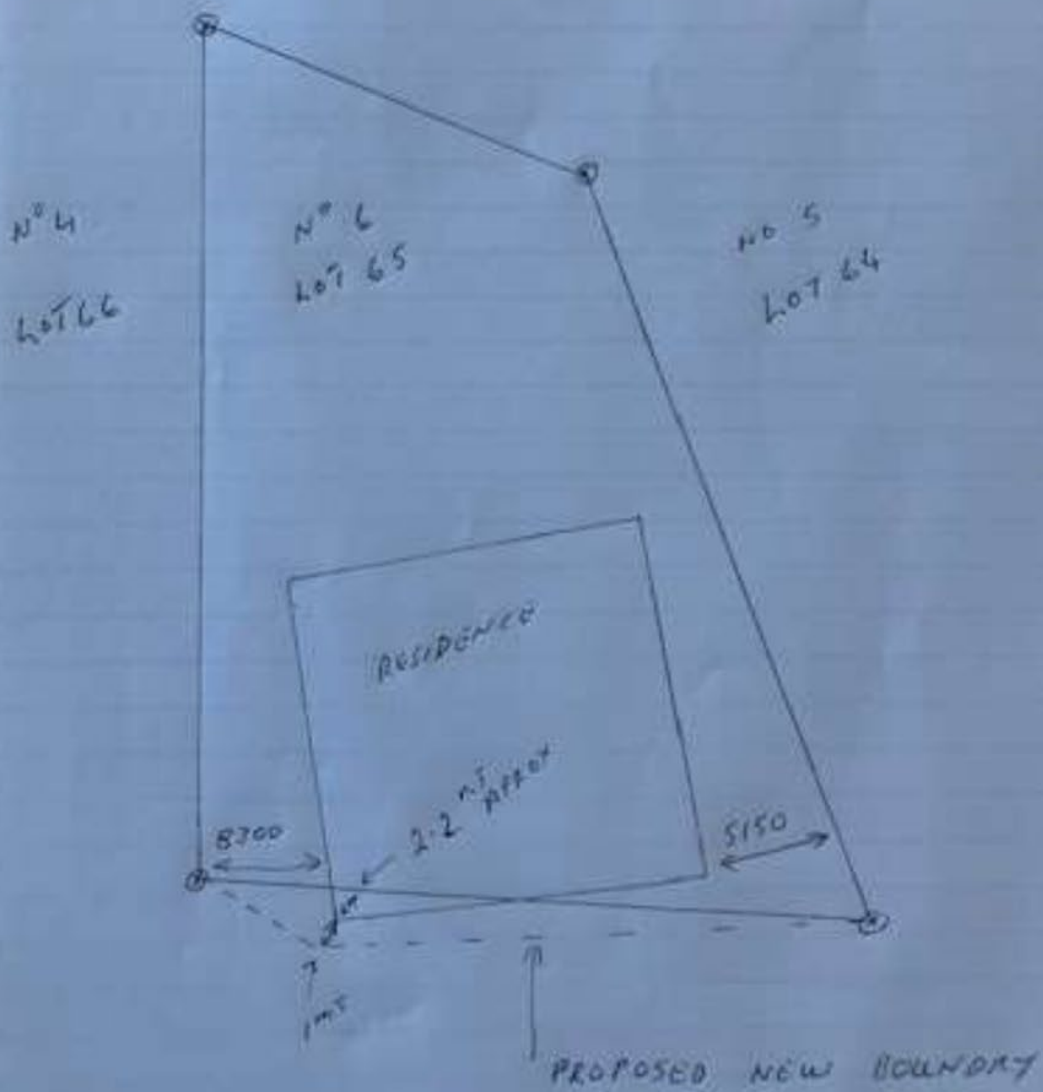
Further to our previous conversation on 29th
JULY 2024, please find the attachment for
the proposed realignment of the rear boundary
LOT 65 HORAN WAY HORROCKS for your
perusal.

I look forward to your reply.

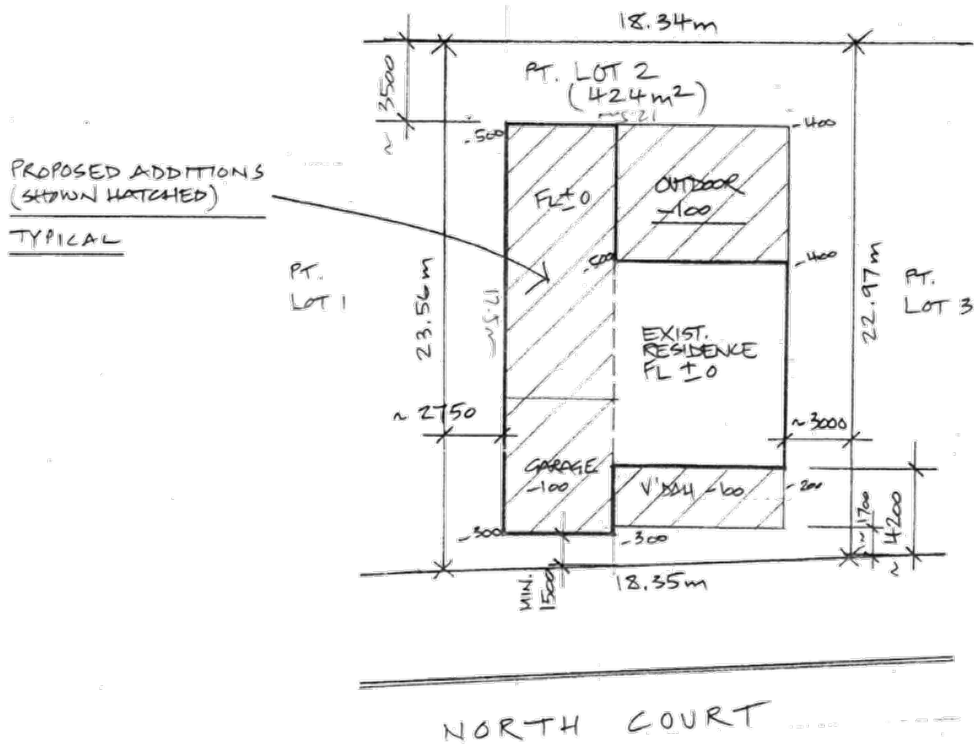
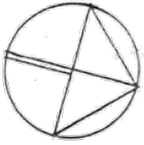
Kind regards,

MORT DAVIDSON
0407 389 862

ATTACHMENT LOT 65 HORN WAY HORROCKS



NOT TO SCALE



SITE PLAN 1:200

PROPOSED ADDITIONS AT LOT 2
ON STRATA PLAN 15011
2/3 NORTH COURT, HORROCKS
FOR M. HASLEBY

1

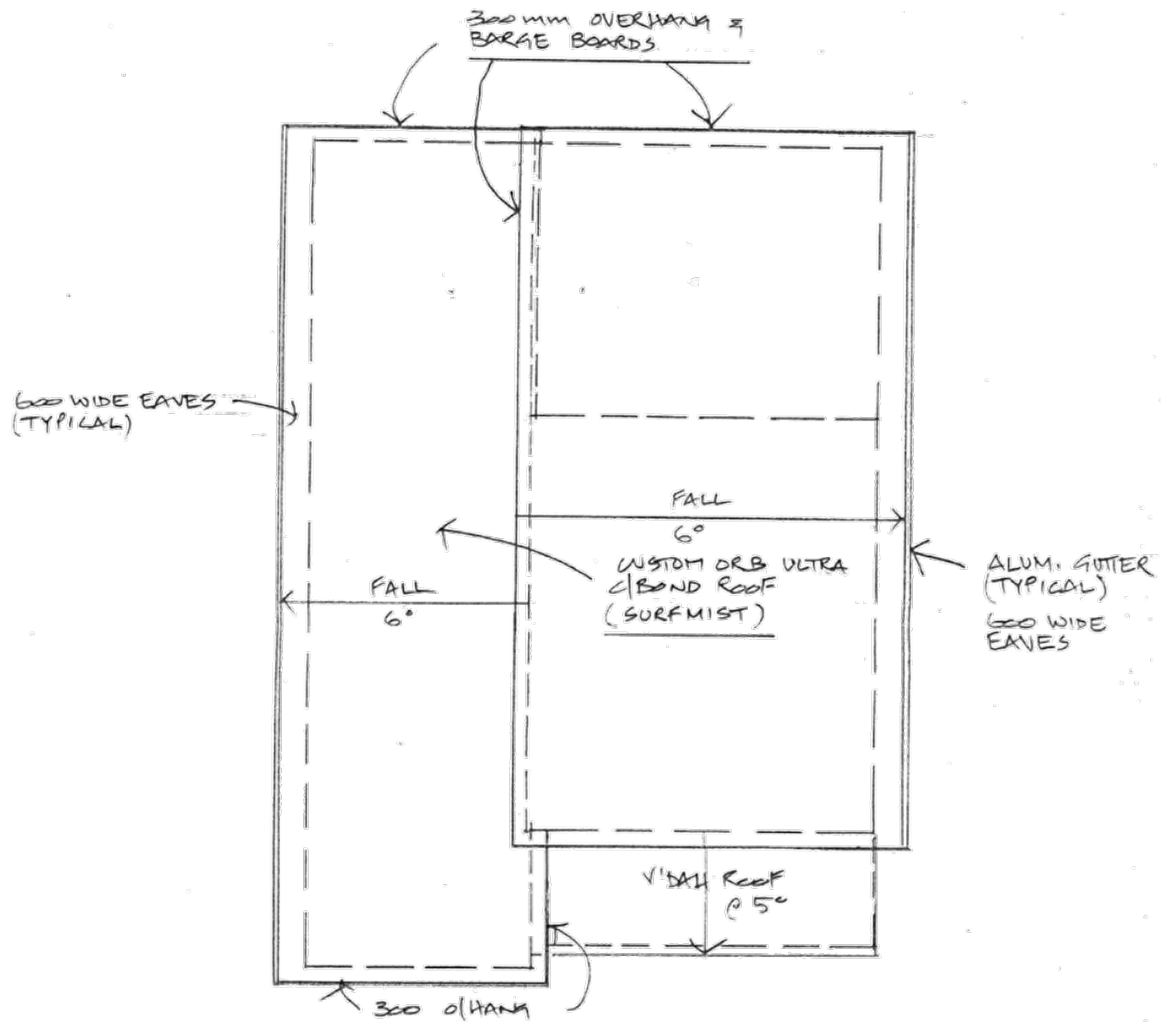
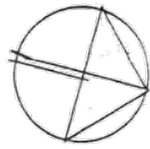
SUNSET DESIGN
3D Design
MARC STAHLI
0427 382 063
www.sunsetdesign.com.au



EXIST.	70 m ²
NEW LIVING	60 m ²
GARAGE	30 m ²
OUTDOOR	45 m ²
VINYL	23 m ²
<hr/> TOTAL	<hr/> 228 m ²

2

Attachments - Ordinary Meeting of Council - 15 August 2024

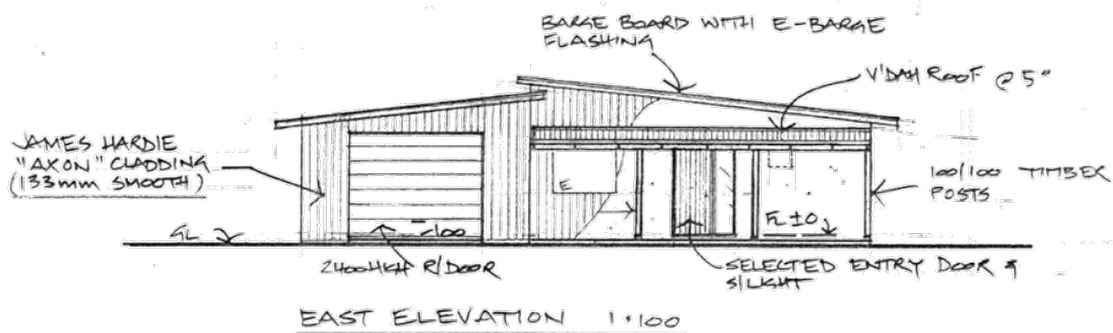
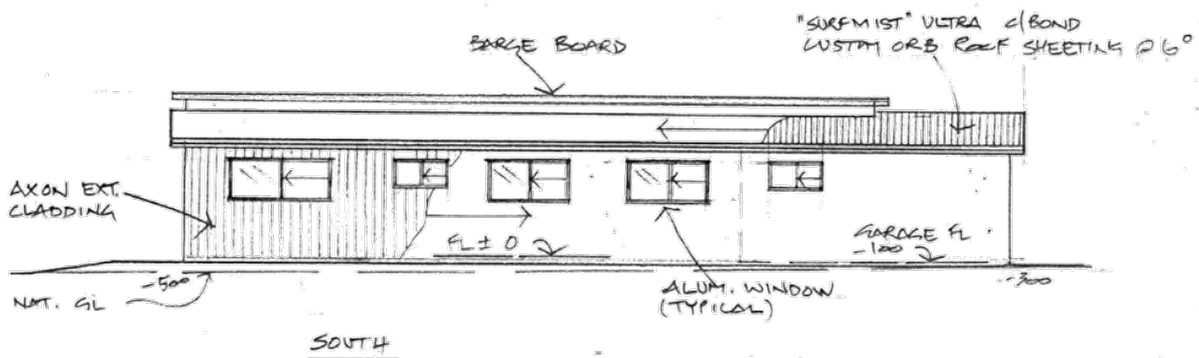
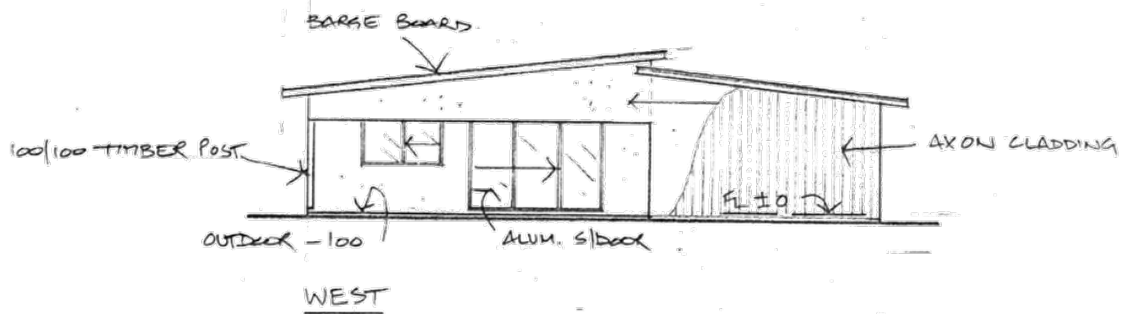
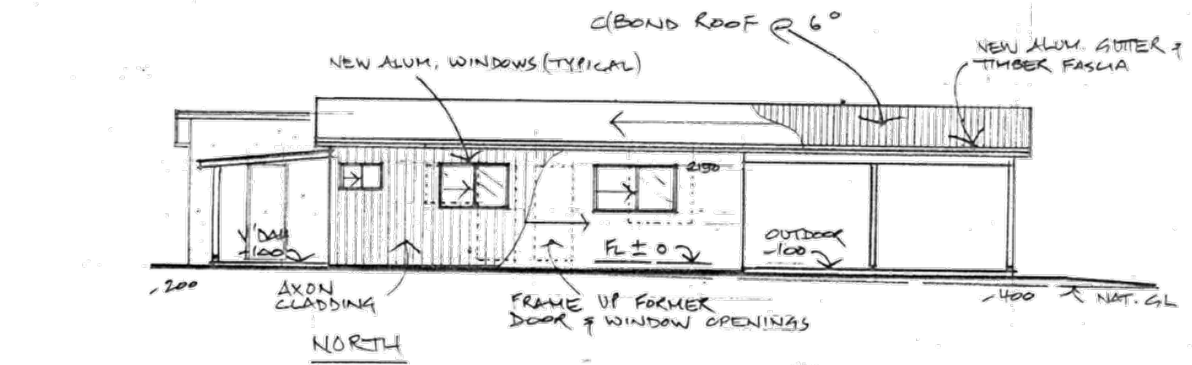


ROOF LAYOUT PLAN 1:100

PROPOSED ADDITIONS AT LOT 2
ON STRATA PLAN 15011
2/3 NORTH COURT, HORROCKS
FOR M. HASLEBY

3

SUNSET DESIGN
and Drafting
MARC STAHLI
0427 382 063
www.sunsetdesign.com.au



PROPOSED ADDITIONS AT LOT 2
ON STRATA PLAN 15011
2/3 NORTH COURT, HORROCKS
FOR M. HASLEBY

4

SUNSET DESIGN
S'Design
MARC STAHL
0427 382 063
www.sunsetdesign.com.au

ATTACHMENT: (1)

Delegated Planning Decisions for July 2024

D/A No	Applicant	Property	Purpose	Decision	Value
2024-046	ML & JC PHYLAND	LOT 179 (NO. 13) GLASS STREET KALBARRI	COMMERCIAL VEHICLE PARKING	16 July 2024	**
			FOOD VAN 'BEAN DRIFTING'		

** Includes administrative applications which are allocated no value and can include Commercial Vehicle Parking, Mobile Food Vehicle, Commercial Recreational Tourism License and Temporary and Exemption Approval Applications.

Michelle Allen

From: CHRIS BELINDA hazell <[REDACTED]>
Sent: Monday, August 21, 2023 2:21 PM
To: Michelle Allen
Subject: Bush Camping in Ajana

Hi Michelle,

Belinda Hazell here, I wanted to officially let you know that we have started selling camping sites on our property at 180 Eastough Rd, Ajana. We've stopped in a couple of times at the shire to have a chat with you about shire approval, but you've been busy. Are there any shire permits required, to continue our new venture? We have listed our campsites online through Hipcamp which provides a booking service and insurance coverage. I would also be interested in purchasing road signs similar to Northbrook Farm Stay, if possible. I look forward to hearing from you,

Cheers,

Belinda <https://www.hipcamp.com/en-AU/land/western-australia-ajana-kalbarri-rd-bush-camping-1xmh05j7?adults=1&children=0>



Ajana - Kalbarri Rd Bush Camping - Hipcamp in Geraldton, Western Australia

Caravan friendly 😊 ! FREE FIREWOOD! from \$18 per 2 guests, 5 sites to choose from. This bush camp is near Kalbarri, halfway from Perth to Carnarvon located on Eastough rd, Ajana-Kalbarri, 10 minutes off the North West Coastal Highway. Our property is a family-owned sheep farm. It offers bushland th...

www.hipcamp.com



Government of Western Australia
Department of Local Government and Communities

Nature Based Parks Management Plan

A Nature Based Park operator is required to submit a Management Plan together with a **Schedule 1, Form 1 Application for Grant or Renewal of Licence** to the relevant local government. The Management Plan, as approved by the local government, will form the basis for the licence issued. This is a template Management Plan to assist operators and local governments.

Operators should complete the **Operator to complete** sections in blue, sign on pages 17-18 and submit it to the Licensing Authority for assessment. The Licensing Authority is to complete the **Licensing Authority to complete** sections in copper, sign on page 18 and return the Management Plan to the Operator to accept the terms and conditions of the licence.

Once accepted and returned to the Licensing Authority, the Licensing Authority is to provide a copy to the Operator.

Should you require further information, please telephone the Department on (08) 6551 8700 or toll free for country callers on 1800 620 511 or email caravan@dlgc.wa.gov.au

1. Market Segment

(Sections 2, 4, 8 of the Guidelines)

Operator to complete
1.1 What is the market segment this facility will be targeting?
Nature based camping
1.2 How does this facility seek to meet the expectations of the target market?
Providing a low cost, stopover on a long drive, close to Brand Highway, nature based campsite to self contained / self sufficient travellers.

2. Environmental Impact and Sustainability

(Sections 4, 5, 8 and 9 of the Guidelines)

Operator to complete
2.1 What are the unique environmental characteristics for the area in which this facility is located?
Natural bush and farm land
2.2 Is there a stream or other water source located in or adjacent to the facility?
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
2.3 Are there any particular risks to the surrounding environment posed by the target market segment? If yes, please provide details below.
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
[Click here to enter text.]
2.4 What steps will be taken to minimise any potential environmental impact caused by

the target market?
Campers will be expected to follow Hipcamps' guidelines. Drive only on tracks, take rubbish with them. Periodic inspections and clean-up of the facility and surrounding areas will be made in between stays.
Licensing Authority to complete
Ref Questions 2.1-2.4 – Do additional licence conditions need to be imposed?
Yes <input type="checkbox"/> No <input type="checkbox"/>
If yes, please list below
[Click here to enter text.]

3. Site Planning

(Sections 5, 6 of the Guidelines)

Operator to complete
3.1 What is the proposed density (one site per _____ square metres)?
Campsite #1 1400ms campsite #2 1200ms, campsite #3 600ms, campsite #4 1040ms, campsite #5 1500ms
3.2 What are the key considerations in arriving at this figure? (Examples may include environmental sustainability, fire risk and other safety issues)
Privacy
3.3 What is the minimum distance between one caravan/camp and another?
100m

Licensing Authority to complete
Ref Questions 3.1 – Has the minimum standard of one site per 50 square metres been

met?
Yes <input type="checkbox"/> No <input type="checkbox"/>
Ref Questions 3.1-3.3 – Is this density suitable for this facility?
Yes <input type="checkbox"/> No <input type="checkbox"/>
Ref Questions 3.1-3.3 – Does the density need to be less than this to mitigate risk factors?
Yes <input type="checkbox"/> No <input type="checkbox"/>
Ref Questions 3.1-3.3 – If yes, what density is required?
[Click here to enter text.]

4. Infrastructure

(Sections 7, 14, 15, 16, 19 of the Guidelines)

Operator to complete
4.1 What buildings/structures will be constructed or are present on the site?
Nil

Licensing Authority to complete
Ref Question 4.1 – Is this appropriate for a nature based park? (Refer to Schedule 7, Clause 11)
Yes <input type="checkbox"/> No <input type="checkbox"/>

4.1.1 Water (Section 17 of the Guidelines)

Operator to complete

4.1.1 Will the facility have a potable supply of water at least 300 litres per day?
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
4.1.2 How much potable water will be supplied?
Nil
4.1.3 Will the facility be providing a centrally located tap?
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
4.1.4 Is it proposed that this facility will provide a washing up facility? (If yes, potable water is required at the washing up facility)
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

Licensing Authority to complete
Ref Questions 4.1.1 and 4.1.2 – Has this arrangement received written approval of the Executive Director, Public Health or local government under delegation?
Yes <input type="checkbox"/> No <input type="checkbox"/>
Ref Question 4.1.3 – Is this facility given exemption from providing a centrally located tap?
Yes <input type="checkbox"/> No <input type="checkbox"/>
Ref Question 4.1.4 – Is this facility given exemption from providing a washing up facility?
Yes <input type="checkbox"/> No <input type="checkbox"/>

4.2 Power (Section 20 of the Guidelines)

Operator to complete
4.2.1 Is a power source reasonably available?

Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
4.2.2 Will lighting be provided to public areas?
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
4.2.3 If no, how will any associated risks be minimised?
Campers are self sufficient as per Hipcamp guidelines
4.2.4 Will the ablution block have at least 1 power point per four hand basins, with a minimum of one?
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

Licensing Authority to complete
Ref Question 4.2.1 – Is it reasonably practicable to provide a power source for lighting at the facility?
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Ref Question 4.2.2 – Is this facility given exemption from the requirements of Schedule 7 Clause 32 (lighting)?
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Ref Question 4.2.4 – Is this facility given exemption from the requirements of Schedule 7 Clause 27 (powerpoints)?
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

4.3 Toilets (Section 20 of the Guidelines)

Operator to complete
4.3.1 Will the facility be providing the minimum of two toilets (unisex or otherwise) per 20 sites?

Yes (go to question 4.3.3) <input type="checkbox"/> No <input checked="" type="checkbox"/> X
4.3.2 What is the alternative arrangement proposed? (further questions on chemical dump points below)
Self contained vehicles only, campers referred to nearest dump points in Kalbarri and Northampton.
4.3.3 Will the facility provide at least one toilet within 90 metres of each site?
Yes <input type="checkbox"/> No (see question 4.3.4 below) <input checked="" type="checkbox"/> X
4.3.4 If no, provide details.
N/A
4.3.5 Detail the means and frequency of toilet maintenance.
N/A

Licensing Authority to complete
Ref Question 4.3.1 – Does the facility comply with the toilet number provisions?
Yes <input type="checkbox"/> No <input type="checkbox"/>
Ref Questions 4.3.1 and 4.3.2 – Is it reasonable for this facility to comply?
Yes <input type="checkbox"/> No <input type="checkbox"/>
Ref Questions 4.3.1 - 4.3.5 – Does the facility comply with Schedule 7, Clause 47? (See Waste Management below)
Yes <input type="checkbox"/> No <input type="checkbox"/>
Ref Questions 4.3.1 - 4.3.5 – Is an exemption from Schedule 7, Clause 23 granted? (This can only be granted if Clause 47 is complied with)
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>

Ref Questions 4.3.1 - 4.3.5 – Is the location of the toilets reasonable?

Yes ☐ No ☐

4.4 Showers (Section 17 of the Guidelines)

Operator to complete

4.4.1 Will showers be provided?

Yes ☐ No ☒

4.4.2 If yes, how many?

N/A

Licensing Authority to complete

Ref Questions 4.4.1 – Is this reasonable given the location and market segment?

Yes ☐ No ☐

Ref Question 4.4.2 – How many showers are required?

[Click here to enter text.]

4.5 Hand basins (Section 17 of the Guidelines)

Operator to complete

4.5.1 Will hand basins be provided?

Yes ☐ No ☒

4.5.2 If yes, how many?

N/A

Licensing Authority to complete
Ref Questions 4.5.1 – Is this reasonable given the location and market segment?
Yes <input type="checkbox"/> No <input type="checkbox"/>
Ref Question 4.5.2 – How many hand basins are required?
[Click here to enter text.]

4.6 Hot water (Section 17 of the Guidelines)

Operator to complete
4.6.1 Will hot water be provided to showers and hand basins?
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

Licensing Authority to complete
Ref Questions 4.6.1 – Is this reasonable?
Yes <input type="checkbox"/> No <input type="checkbox"/>
Ref Question 4.6.1 – Is this facility given an exemption under Schedule 7, Clauses 24, 26 and 31?
Yes <input type="checkbox"/> No <input type="checkbox"/>

5. Waste Management

(Sections 17 and 18 of the Guidelines)

5.1 Toilets and communal chemical soil waste dump/points

If the facility is providing the number of toilets specified in the Regulations i.e. 2 toilets for every 20 sites then skip to 'Grey water'

Operator to complete

5.1.1 Please outline the reasons or obstacles preventing this facility from providing the specified number of toilets?

Cost prohibitive and unnecessary for the target market.

If a communal chemical soil waste dump point is required in accordance with the Regulations:

Operator to complete

5.1.2 Is the chemical dump point in logical proximity?

Yes ☒ No ☐

5.1.3 Provide details of its location in relation to the nature-based park?

Dump points at Porter St Kalbarri 59 km from campsite and Stephen St Northampton 51km from campsite

5.1.4 Do park users have ready access?

Yes ☒ No ☐

5.1.5 If it is not provided by the licence holder, is there a written agreement guaranteeing access?

Yes (please attach a copy to this document) ☐ No ☒

Licensing Authority to complete

Ref Questions **5.1.1 - 5.1.5** – Is there compliance with Schedule 7, Clause 23?

Yes ☐ No ☐

Ref Questions **5.1.1 - 5.1.5** – If No, is the requirement in Schedule 7, Clause 47 complied with?

Yes ☐ No ☐

5.2 Waste disposal

Grey water

Operator to complete

5.2.1 Is the greywater system you are planning to install at the facility a Health Department approved system?

Yes ☐ No ☒

5.2.2 Describe the system below

N/A

Licensing Authority to complete

Ref Question **5.2.1** and **5.2.2** – Does the proposed waste management satisfy the statutory requirements?

Yes ☐ No ☐

Solid

Operator to complete

5.2.3 What is the means for solid waste (rubbish) disposal at this facility?

Campers are to take rubbish with them as per Hipcamp guidelines.

5.2.4 Detail the means and frequency of solid waste collection and ultimate disposal.

Periodic inspections and clean-up of the facility and surrounding areas will be made in between stays.

5.2.5 Do all buildings with toilets have napkin disposal units approved by the Licensing authority?

Yes ☐ No ☐ NA ☒

5.2.6 If yes to 5.2.5, how will these disposal units be maintained?

N/A

6. Infrastructure Summary

Operator to complete

6.1 How does the infrastructure align with the market segment?
--

N/A

7. Informing of Shortfalls in Infrastructure

(Section 12 of the Guidelines)

Operator to complete

7.1 What are the key infrastructure or amenities not provided at this facility? (Regulation 19(1)(m))

Remote bush camp

7.2 What avenues will the operator use to ensure the target market is aware of these shortfalls?
--

List the details of this camp on the Hipcamp website with along with camping rules.

Licensing Authority to complete

Ref Questions 7.1 and 7.2 – Does this need to form a licence condition?

Yes <input type="checkbox"/> No <input type="checkbox"/>
--

8. Traffic Management

(Section 13 of the Guidelines)

Operator to complete
8.1 Are the one-way roads within the facility 4 metres wide?
Yes <input checked="" type="checkbox"/> No (go to question 8.2) <input type="checkbox"/>
8.2 If no, what is the minimum width?
N/A
8.3 Are the two-way roads within the facility at least 6 metres wide?
Yes <input checked="" type="checkbox"/> No (go to question 8.4) <input type="checkbox"/>
8.4 If no, what is the minimum width?
N/A
8.5 If no to 8.1 or 8.3, what system of ingress and egress is to be put in place to minimise risk?
N/A
8.6 How do the roads and paths identified in the facility plan meet the needs of the market segment?
The entrance enables all vehicles with caravans to turn and all campsites can facilitate turning.

Licensing Authority to complete
Ref Questions 8.1 - 8.4 – Is approval given under Schedule 7, Clause 16A for narrower roads?
Yes <input type="checkbox"/> No <input type="checkbox"/>
Ref Questions 8.5 and 8.6 – Does the proposed traffic management plan minimise risk?

Yes ☐ No ☐

9. Risk Management

(Sections 20-22 of the Guidelines)

9.1 Fire

Operator to complete
9.1.1 Is every site within the reach of the nozzle end of a fire hose as required?
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
9.1.2 Does the facility have at least one fire extinguisher?
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
9.1.3 Will every person in the facility be able to access the fire extinguisher?
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
9.1.4 How will this facility continue to keep the firefighting equipment accessible and ready for use at all times?
There are two fire fighting units on the farm. In case of fire, campers are to notify the host immediately.
9.1.5 How is the risk of fire and any loss due to fires to be managed?
This camp will operate seasonally and be shut down during October – March to avoid high fire risk. Hipcamp also offers a fire safety guide to prevent bush fires. We will post relevant emergency information such as phone numbers and the location of the nearest hospital.

Licensing Authority to complete

Ref Question 9.1.1 – Is the water supply adequate to operate fire hoses effectively?

Yes <input type="checkbox"/> No <input type="checkbox"/>
Ref Question 9.1.5 and 3.3 – Is the power to increase minimum distances between camps at this facility being exercised?
Yes <input type="checkbox"/> No <input type="checkbox"/>
Ref Question 9.1.5 – If yes, what is the distance that is required between camps at this facility?
[Click here to enter text.]

9.2 Cyclone (if the facility is in a cyclonic region)

Operator to complete
9.2.1 Where is the manager or other responsible person for the facility residing?
At the same address, 180 Eastough Rd Ajana
9.2.2 What communication system is available for the manager or other responsible person in case of a cyclone?
Camp host is available via phone, email, in person, UHF channel 9
9.2.3 How will the manager or other responsible person notify all occupants in a timely manner?
Hipcamp chat notifications are the fastest and most reliable way of communicating a cyclone warning. We also have the campers' phone details upon booking.

9.3 Other

Operator to complete
9.3.1 Detail any other risks that require consideration in the area this facility is located.
Hiking, campfires, mountain biking.
9.3.2 What steps are being taken to minimise the impact?

1. Campfires are to be put out before you leave. (Open Fires are prohibited from 1st October - 7th April)
2. Dogs on leashes.
3. Take your rubbish.
4. Once inside the gate vehicles are only permitted to drive to and from the campsites, not around the property.

9.4 Communications / Emergency Contacts

Operator to complete
9.4.1 Will a public telephone be provided?
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
9.4.2 Will there be a sign or a point at the facility providing emergency contact details?
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
9.4.3 How will communication be addressed in an emergency situation?
Campers are contactable through the Hipcamp chat and available via phone, in person or UHF channel 9
9.4.4 Name and contact details of manager at facility
Belinda Hazell 0428291102

Licensing Authority to complete
Ref Questions 9.1 – 9.4 – Does the facility have an adequate risk mitigation and management plan?
Yes <input type="checkbox"/> No <input type="checkbox"/>

10. Length of Stay

(Section 9 of the Guidelines)

Operator to complete

10.1 Based on the above information, what is the appropriate length of stay for users of this facility?

Maximum 3 days

10.2 How will the length of stay be monitored?

Hipcamp booking details allow 3 night maximum

Licensing Authority to complete

Ref Questions **10.1** and **10.2** – Detail any restrictions on the 28 day length of stay in a three month period for any market segment at this facility.

[Click here to enter text.]

Signatures

1. Operator to sign:

I provide the above information as an accurate reflection of the proposed nature based park.

Operator Name

Signature

Date

2. Licensing Authority to sign:

I have assessed the information provided and determine that a licence should be offered subject to the above conditions.

Operator Name _____

Signature _____

Date _____

3. Operator to sign:

I accept the terms and conditions on this nature based park licence.

Operator Name _____

Signature _____

Date _____

Licensing Authority: Signed copy provided to operator?

Yes ☐ No ☐

For more information, please contact:**Department of Local Government and Communities**

Gordon Stephenson House, 140 William Street, Perth WA 6000

GPO Box R1250, Perth WA 6844

Telephone: (08) 6551 8700 Fax: (08) 6552 1555

Freecall: 1800 620 511 (Country only)

Email: info@dlgc.wa.gov.au Website: www.dlgc.wa.gov.au

Translating and Interpreting Service (TIS) – Tel: 13 14 50

2. Licensing Authority to sign:

I have assessed the information provided and determine that a licence should be offered subject to the above conditions.

Operator Name

Signature

Date

3. Operator to sign:

I accept the terms and conditions on this nature based park licence.

BELINDA HAZELL
Operator Name

Bd Hazell
Signature

26/2/2024
Date

Licensing Authority: Signed copy provided to operator?

Yes ☐ No ☐

For more information, please contact:**Department of Local Government and Communities**

Gordon Stephenson House, 140 William Street, Perth WA 6000

GPO Box R1250, Perth WA 6844

Telephone: (08) 6551 8700 Fax: (08) 6552 1555

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Translating and Interpreting Service (TIS) – Tel: 13 14 50

Nature Based Parks Management Plan, December 2014 - Page 18 of 18

PHOTOS COPIED FROM HIPCAMP – LOT 180 EASTOUGH ROAD, AJANA



Brian Robinson

From: Amanda Le Moine <[REDACTED]>
Sent: Wednesday, July 31, 2024 1:39 PM
To: Brian Robinson
Cc: Andrew Campbell; Shohan Seneviratne
Subject: July 2024 - Development Agreement response and updated Scheme Amendment report
Attachments: 12553823-REP-2-Revised Updated Shire of Northampton LPS No. 10 Scheme Amendment Report.pdf; Murchison Green Hydrogen - Community and Industry Advisory Group.pdf; Murchison Green Hydrogen Community and Industry Advisory Group.pdf; Shire of Northampton and MHR Development Agreement 30.07.2024.docx

Dear Brian,

Please find attached:

1. the Development Agreement, updated for Civic Legal's recommendations and the discussions between us. The following table identifies how all matters have been addressed;
2. a document providing additional information on the Murchison Green Hydrogen Community and Industry Advisory Group; and
3. the Scheme Amendment report, updated to include information requested by the Shire and Council.

MHR also notes that:

1. The proposed method to be used in calculating the total expenditure within the Community Benefit Sharing Plan is to address the social impacts of the Project as identified by the detailed Social Impact Assessment. The Development Agreement will be a legal binding agreement and require MHR to complete and implement the detailed Social Impact Assessment and the associated Community Benefit Sharing Plan. The method and timing for the development of the plan for this is shown in Schedule 1 of the Development Agreement.
2. Clause 16.2(b) of the Development Agreement has been updated for MHR to reimburse the Shire's legal expenses for the Development Agreement up to \$5,000. This is committed on the basis that, given all of Civic Legal's recommendations have been incorporated, the Development Agreement does not need further amendment and can now proceed to signing.

11(a)	We recommend the words "must" and "agree to" be used throughout the Agreement instead.	See clauses: 4.1 & (b) 4.2(a)(ii)(A), (B), (C) & 4.2(b) 5(a) & (b) Also included in following clauses throughout the Agreement: 6(a) 8(a), (b) & (c) 9(a) & (b) 10 11(a) & (b) 12(a) & (b) 16.2(b)

11(b)	We recommend that the Agreement adopts the same definition of "SIA" as used in the Shire's Social Impact Statement Local Planning Policy.	See "SIA" definition.
11(c)&(d)	If the Shire requires an SIS to be developed by MHR as part of the SIA process, then we recommend that such obligation be expressly set out in the Agreement.	See clause 5(b) included reference to SIS and "SIS" definition.
11(e)	We recommend that the Shire considers incorporating clear timeframes in the Agreement as to when the SIA / SIS must be commenced and/or completed.	See clause 5(b) included timeframe of "prior to".
11(f)&(g)	The current wording of cl 5(b) does not specifically require MHR to provide a copy of the final SIA report to the Shire. Rather, it requires MHR to prepare it "for submission with the application for development approval", which may bypass the Shire and be submitted directly to the State Development Assessment Unit. We therefore recommend that the Shire consider amendments to incorporate an express obligation on MHR to provide the final SIA report to the Shire for the Shire's consideration, comment and approval (if required).	See clause 5(b) included requirement to provide final SIA report to the Shire.
11(h)	We recommend that Attachment 2 – <i>Outline of Social Impact Assessment Process</i> of the LPP be attached as a schedule to the Agreement.	See clause 5(b) and Schedule 2.
15(d)	We recommend that cl 6 be amended to incorporate: (i) language that creates positive legal obligations such as "must" and "agree to". (ii) details pertaining to each step outlined in Schedule 1, such as: A. the purpose or aim of the Advisory Group Meetings; B. the composition of the Advisory Group; and C. the topics or agendas to be discussed at the Advisory Group meetings; (iii) timeframes for the delivery of the benefits sharing framework and benefits sharing plan; (iv) flexibility to review and change the process, Advisory Group Meetings and timeframes in consultation with the Shire.	See clause 6 and Schedule 1 and 'Murchison Green Hydrogen Community and Industry Advisory Group' document. Following engagement with the Shire it is understood the intent of cl 6 is to outline the method, timing and the Shire's role in the development of the Community Benefit Sharing Plan and not the specifics of the Advisory Group. Cl 6 and Schedule 1 have been amended accordingly and details requested on the Advisory Group are provided separately in the document 'Murchison Green Hydrogen Community and Industry Advisory Group'. It provides the Shire with details of the Community and Industry Advisory Group including: (i) the purpose or aim of the Advisory Group Meetings; (ii) the composition of the Advisory Group; (iii) the topics of agendas to be discussed at the Advisory Group meetings; and (iv) timeframes for the delivery of the Community Benefits Sharing Plan.
16	Clause 16.2 stipulates that each party must pay its own expenses incurred in negotiating, preparing, executing, administering and performing the Agreement. This clause is clearly inconsistent with paragraph 4 of the Shire's resolution which requires MHR to enter into a legal binding agreement, at MHR's cost.	See clause 16.2(b).

19	This can be achieved through, for examples, the incorporation of clauses such as regular review of the framework, consultation in good faith, early notice to the other party if timeframes cannot be met, as well as the incorporation of milestones or timeframes in a separate schedule which can be more easily amended by agreement between the parties.	See clauses 8(c) (good faith communication and notice if timeframes cannot be met), 13.1 (review) and Schedule 1 (timeframes).

Kind regards

Amanda Le Moine

Permitting & Approvals Manager (Murchison Green Hydrogen)
Projects

E:

M:

cisc Copenhagen
Infrastructure
Service Co.



Copenhagen Infrastructure Service Co.
Level 45, 108 St Georges Terrace Perth, Western Australia
6000 Perth
AU

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Copenhagen Infrastructure Partners (CIP) Australia pays respects to all Traditional Owners on the lands on which we work. We recognise all Aboriginal and Torres Strait Islander Peoples' deep and enduring connection with the lands, oceans, waterways, air, and skies of this continent and adjacent lands, and their valuable contributions to Australia's energy transition. We acknowledge that the land on which we operate always was, and always will be, Aboriginal and Torres Strait Islander land.

Disclaimer

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Shire of Northampton

**Scheme Amendment Request | Local
Planning Scheme No. 10**

Murchison Hydrogen Renewables

 **The Power of Commitment**

The project team responsible for this application include the following:

	Murchison Hydrogen Renewables Pty Ltd Project Owner
	GHD Pty Ltd Urban and Regional Planning

Project name		Murchison Green Hydrogen Project					
Document title		Shire of Northampton Scheme Amendment Request Local Planning Scheme No. 10					
Document Date		31 July 2024					
Project number		12553823					
File name		12553823-REP-2-Revised Updated Shire of Northampton LPS No. 10 Scheme Amendment Report.docx					
Status Code	Revision	Author	Reviewer		Approved for issue		
			Name	Signature	Name	Signature	Date
S4	Final	A Augustson	H Shigeyoshi	On file	T Sleigh	On file	21.11.23
S4	1	A Augustson	T Sleigh		N Houldsworth	On file	08.05.24
S4	2	A Augustson	T Sleigh		A Piper		

Revision	CISC Reviewer		Approved for issue		
	Name	Signature	Name	Signature	Date
Final	A Le Moine	On file	A Le Moine	On file	21.11.23
1	A Le Moine		S Seneviratne		

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Scope and limitations

This report: has been prepared by GHD for Murchison Hydrogen Renewables and may only be relied on by Murchison Hydrogen Renewables for the purpose agreed between GHD and Murchison Hydrogen Renewables. HD otherwise disclaims responsibility to any person other than Murchison Hydrogen Renewables arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The information provided by other parties is considered to be correct and accurate for the purposes of this report and GHD have not verified this information.

➔ **The Power of Commitment**

Shire of Northampton

Local Planning Scheme No. 10

Amendment No. 9

Amendments to the Scheme Map to rezone Portion of Lot 1544 on Deposited Plan 74340 (Certificate of Title Volume LR3163 Folio 265), Portion of Lot 944 on Deposited Plan 74339 (Certificate of Title Volume LR3163 Folio 264) and Portion of Unallocated Crown Land (Land ID #3846146) from 'Rural' to 'General Industry' and apply site and development requirements in the Scheme Text.

Planning and Development (Local Planning Schemes) Regulations 2015

Form 2A

Planning and Development Act 2005

RESOLUTION TO ADOPT AN AMENDMENT TO A LOCAL PLANNING SCHEME

Shire of Northampton Local Planning Scheme No. 10

Amendment No. 9

RESOLVED THAT the local government pursuant to section 75 of the *Planning and Development Act 2005*, amend the above Local Planning Scheme by:

1. Amending the Scheme Map to rezone Portion of Lot 1544 on Deposited Plan 74340 (Certificate of Title Volume LR3163 Folio 265), Portion of Lot 944 on Deposited Plan 74339 (Certificate of Title Volume LR3163 Folio 264) and Portion of Unallocated Crown Land (Land ID #3846146) from 'Rural' to 'General Industry' and designating the land as 'ASR1'.
2. Replacing clause 33 (Site specific development standards and requirements) with the following:

'33. Additional site and development requirements

- (1) *Table 6 sets out requirements relating to development that are additional to those set out in this Scheme, the R-Codes, precinct structure plans, local development plans or State or local planning policies.*
- (2) *To the extent that a requirement referred to in subclause (1) is inconsistent with a requirement in this Scheme, the R-Codes, a precinct structure plan, a local development plan or a State or local planning policy the requirement referred to in subclause (1) prevails.*

Table 6 – Additional requirements that apply to land in Scheme area

No	Description of land	Requirement
ASR1	Portion of Lot 1544 on Deposited Plan 74340, Portion of Lot 944 on Deposited Plan 74339 and Portion of Unallocated Crown Land (Land ID #3846146)	<p>1. Despite anything contained in Table 2 (Zoning Table) or this Scheme, the land is permitted to be used for and may only be used for a land use that is for, ancillary to or associated with the production, conversion, storage and export of renewable energy, including green hydrogen and green ammonia.</p> <p>2. Development shall have a maximum footprint of 635 hectares.</p> <p>3. Development is to be in accordance with a Ministerial Statement authorisation granted under section 45 of Part IV of the Environmental Protection Act 1986 (WA) arising from EPA Assessment Number 2339, including any amendments or replacements to the Ministerial Statement, by or for Murchison Hydrogen Renewables Pty Ltd (or other proponent authorised under the Ministerial Statement).</p> <p>4. Clause 32(14) and clause 32(22)(b) of this Scheme do not apply.</p> <p>5. In considering an application for development approval, the local government shall consider the following matters as part of the matters which it may have regard to under the Scheme:</p> <p>a. A preliminary risk analysis for the production, conversion, storage and export of green hydrogen and/or green ammonia which examines:</p> <p>i. Security and safety measures.</p> <p>ii. Buffer distances between the development and</p>

		<p>surrounding sensitive uses.</p> <p>iii. Emergency response plans.</p> <p>b. Offsite impacts on public use of the coastline, including for fishing, tourism and recreational uses.</p> <p>c. The visual impact of the development on the amenity of the locality.</p> <p>d. Arrangements are to be made for legal and permanent vehicular access to the land, to the satisfaction of the local government.</p> <p>e. Development shall comply with any approved Bushfire Management Plan to the satisfaction of the local government.</p> <p>f. The potential socio-economic impacts of the development, as identified in a Social Impact Assessment. The Social Impact Assessment shall identify the potential impacts on the socio-economic conditions of the surrounding district. The Social Impact Assessment shall describe whether these impacts are acceptable, or how such impacts may be reduced or mitigated.</p> <p>6. Actions to reduce or mitigate impacts identified in a Social Impact Assessment shall be outlined in a Community Benefit Sharing Plan accompanying the development application and shall be implemented as part of the development.</p>
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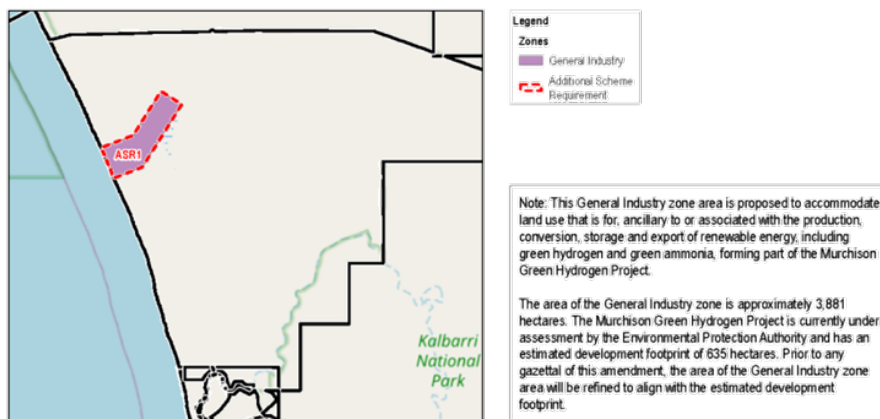
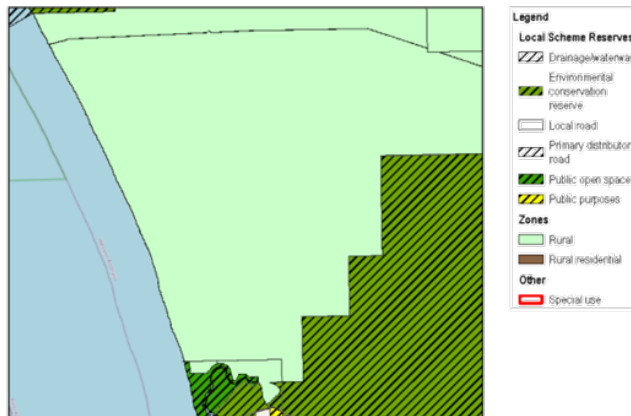
The Amendment is a **complex** amendment under the provisions of the *Planning and Development (Local Planning Schemes) Regulations 2015* for the following reason(s):

- The amendment is not addressed by any local planning strategy.
- The amendment relates to development that is of a scale, or will have an impact, that is significant relative to development in the locality.

Dated this _____ day of _____

 Andrew Campbell
 Chief Executive Officer

Shire of Northampton Local Planning Scheme No.10 Scheme Amendment Request



Form 6A**Council Adoption**

This Complex Amendment was ADOPTED by resolution of the Council of the Shire of Northampton at the Council Meeting held on the _____ day of _____

Cr Liz Sudlow
Shire President

Andrew Campbell
Chief Executive Officer
Council Resolution to Advertise

By resolution of the Council of the Shire of Northampton at the Council Meeting held on the _____ day of _____, proceed to advertise this amendment.

Cr Liz Sudlow
Shire President

Andrew Campbell
Chief Executive Officer

Council Recommendation

This Amendment is recommended _____ by resolution of the Council of the Shire of Northampton at the Council Meeting held on the _____ day of _____ and the Common Seal of the Shire of Northampton hereunto affixed by the authority of a resolution of Council in the presence of:

SHIRE OF NORTHAMPTON SEAL

Cr Liz Sudlow
Shire President

Andrew Campbell
Chief Executive Officer
WAPC Endorsement (r. 63)

Delegated under s.16 of the PD Act 2005

Dated _____
Approval Granted

Minister for Planning

Dated _____

Proposal to Amend a Local Planning Scheme

Local Authority	Shire of Northampton
Description of Local Planning Scheme	Local Planning Scheme No. 10
Type of Scheme	Local Planning Scheme
Serial No. of Amendment	9
Proposal	Amendments to the Scheme Map to rezone Portion of Lot 1544 on Deposited Plan 74340 (Certificate of Title Volume LR3163 Folio 265), Portion of Lot 944 on Deposited Plan 74339 (Certificate of Title Volume LR3163 Folio 264) and Portion of Unallocated Crown Land (Land ID #3846146) from 'Rural' to 'General Industry' and apply site and development requirements in the Scheme Text.
Report by:	GHD Pty Ltd on behalf of Murchison Hydrogen Renewables Pty Ltd

Scheme Amendment Report

Executive Summary

This report has been prepared by GHD Pty Ltd (GHD) on behalf of the Murchison Hydrogen Renewables Pty Ltd (MHR) in support of a request to amend the Shire of Northampton (Shire) Local Planning Scheme No. 10 (LPS10) in respect of Portion of Lot 1544 on DP74340 (Certificate of Title Volume LR3163 Folio 265), Portion of Lot 944 on Deposited Plan 74339 (Certificate of Title Volume LR3163 Folio 264) and Portion of Unallocated Crown Land (Land ID #3846146) as shown on Figure 1 (the land).

The amendment is to zone the land 'General Industry' and apply additional site and development requirements in the Scheme Text (the Proposed Amendment). The Proposed Amendment is to enable consideration of land use associated with the production, conversion, storage, and export of renewable energy, including green hydrogen and green ammonia, within the General Industry zoned area.

The Proposed Amendment is associated with the Murchison Green Hydrogen Project (the Project). The provisions of the Proposed Amendment do not apply to land and components of the Project outside of the area proposed to be zoned General Industry.

This report discusses various aspects relevant to the Proposed Amendment, these being:

- Site details
- Project details
- Strategic and statutory planning considerations
- Detailed rationale in support of the Proposed Amendment

The reasons for supporting the Proposed Amendment are detailed in the following sections of this report.

Abbreviations

Table 1 Abbreviations

Abbreviation	Definition
AH Act	<i>Aboriginal Heritage Act 1972</i>
APZ	Asset Protection Zone
BAL	Bushfire Attack Level
BHL	Bushfire Hazard Level
BMP	Bushfire Management Plan
CALM	Catenary Anchor Leg Mooring
CIP	Copenhagen Infrastructure Partners
DWER	Department Water and Environmental Regulation
DBCA	Department of Biodiversity, Conservation and Attractions
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DE	Development Envelope
DFES	Department of Fire and Emergency Services
DJTSI	Department of Jobs, Tourism, Science, and Innovation
DEMIRS	Department of Energy Mines, Industry Regulation and Safety
DoT	Department of Transport
DPIRD	Department of Primary Industries and Regional Development
DPLH	Department of Planning, Land and Heritage
EASD	Environmental Assessment Supporting Document
EP Act	<i>Environmental Protection Act 1986</i>
EPA	Environmental Protection Authority
EPBC Act	<i>Environmental Protection and Biodiversity Conservation Act 1999</i>
FTE	Full Time Equivalent
GDP	Gross Domestic Product
GHD	GHD Pty Ltd
GL/pa	Giga Litre per annum
GSP	Gross State Product
GW	Giga Watt
IBRA	Interim Biogeographic Regionalisation for Australia
ILUA	Indigenous Land Use Agreement
LAA	<i>Land Administration Act 1997</i>
LPS10	Local Planning Scheme No. 10
MHR	Murchison Hydrogen Renewables Pty Ltd
Mtpa	Million tonnes per annum
MW	Mega Watt
NAC	Nanda Aboriginal Corporation
pa	per annum
PD Act	<i>Planning and Development Act 2005</i>
Project	Murchison Green Hydrogen Project

Abbreviation	Definition
PtX	Power-to-X
PV	Photovoltaics
SBWHA	Shark Bay World Heritage Area
Shire	Shire of Northampton
SIA	Social Impact Assessment
SIS	Social Impact Statement
SPM	Single Point Mooring
SPP	State Planning Policy
UCL	Unallocated Crown Land
WA	Western Australia
WAPC	Western Australian Planning Commission
YMAC	Yamatji Marlpa Aboriginal Corporation

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Appendix B	Stakeholder Engagement Activities
Appendix C	Photomontages of infrastructure within scheme amendment area
Appendix D	Summary Preliminary Social Impact Assessment

1. The Proponent

The amendment proponent is Murchison Hydrogen Renewables Pty Ltd (MHR).

MHR is a subsidiary of Copenhagen Infrastructure Partners (CIP). CIP is a global fund management company specialised in investments in energy infrastructure assets, particularly within the renewables and greenfield segments.

CIP is a trusted partner in projects across a wide range of technologies, including offshore and onshore wind, solar photovoltaics (PV), biomass and energy-from-waste, transmission and distribution, reserve capacity and storage, and other energy assets like Power-to-X (PtX). Delivering a range of infrastructure projects globally, including renewable projects since 2014, CIP currently has a renewables portfolio consisting of the following:

Offshore wind:

- Twelve operational, under construction and development projects in North America, Europe, Asia, and Australia.
- Total operational/under construction capacity of ~ 1-gigawatt (GW).
- Under development offshore wind capacity of up to 16 GW.

Onshore wind:

- Twelve operational, under construction and development projects in the UK and US.
- Total operational/under construction capacity of ~ 1.5 GW.
- Under development onshore wind capacity of up to 2 GW.

Solar PV:

- Eight under construction and under development projects in the US.
- Total under construction capacity of ~ 0.5 GW.
- Under development capacity of up to 1.3 GW.

Thermal and transmission:

- Eight operational, under construction and development projects in the UK and Germany.
- Total operational, under construction and under development capacity of ~ 350 MW.
- Total transmission capacity of ~ 1 GW.

Power-to-X:

- Developing a global PtX portfolio with projects located in Europe, Australia, North America, and Middle East.
- Total portfolio under development of ~ 14 GW electrolyser capacity.
- Further ~ 23 GW capacity under evaluation.

2. Consultation

MHR is committed to the development of ongoing relationships with the communities and stakeholders that might be affected by the Project. Stakeholder engagement began in March 2019, with community members and other key stakeholders occurring via a range of channels.

Key stakeholder and local community engagement has included:

- Hon Roger Cook, Hon Bill Johnston, Hon John Carey and previously Hon Alannah MacTiernan, to provide information on the project, discuss hydrogen, land tenure, and undertake early consultation prior to initiating the approvals processes.
- Government departments and decision-making agencies including the Environmental Protection Authority (EPA); Commonwealth Department of Climate Change, Energy, the Environment and Water (DEECCW); Department of Water and Environmental Regulation (DWER); Department of Energy, Mines, Industry Regulation and Safety (DEMIRS); the Department of Biodiversity, Conservation and Attractions (DBCA); Department of Transport – Marine (DoT); Department of Planning, Lands and Heritage (DPLH); Development WA, Department of Jobs, Tourism, Science and Innovation (DJTSI) to provide information on the project and undertake early consultation prior to initiating the approvals processes.
- The Shire of Northampton (Shire) to provide information and explore planning approval requirements.
- The Mid West Ports Authority to provide information and explore export facility options.
- The pastoral lessees of Murchison House Station to provide information on the Project and seek access to land for the project.
- Dedicated working groups – run and organised by MHR to inform stakeholders of Project updates.
- Regional stakeholders including the Mid West Chamber of Commerce and Industry; the Mid West Development Commission and Tourism Western Australia – Geraldton; to provide information on the project and undertake early consultation prior to initiating the approvals processes.
- Nanda Aboriginal Corporation – ongoing engagement and consultation regarding the Project.
- Kalbarri Community public information sessions to provide early project information.
- Recfishwest, Western Australian Fishing Association, Kalbarri Commercial Rock Lobster Association and Western Rock Lobster Council to provide project information prior to initiating the formal approvals process.
- Stakeholder briefings with Local, State, and Federal government representatives and other stakeholders occur on a regular basis. The meetings provide an opportunity for MHR to provide updates on business developments and for questions and concerns to be raised by stakeholders.
- Community engagement – regular face-to face community engagement occurs, inviting a two-way discussion between the MHR and local stakeholders.

A summary of stakeholder engagement activities related to the Project is attached in **Appendix B**.

2.1 Ongoing consultation

MHR will continue to engage with relevant stakeholders throughout the approval processes to ensure that concerns are addressed. This includes engagement with decision-making authorities, other relevant government agencies, the local community, as well as non-government organisations.

MHR is committed to building effective relationships and working transparently with all stakeholders.

3. Scheme Amendment Request

The Proposed Amendment to the Shire's LPS10 is to rezone the land from 'Rural' to 'General Industry' and apply additional site and development requirements in the Scheme Text.

The Proposed Amendment is to enable consideration of a land use that is ancillary to or associated with the production, conversion, storage and export of renewable energy, including green hydrogen and green ammonia, as part of the Project. The Proposed Amendment ensures the land can only be used for purposes associated with the Project.

Specifically, the Proposed Amendment seeks to amend LPS10 as follows:

1. Amending the Scheme Map to zone Portion of Lot 1544 on Deposited Plan 74340 (Certificate of Title Volume LR3163 Folio 265), Portion of Lot 944 on Deposited Plan 74339 (Certificate of Title Volume LR3163 Folio 264) and Portion of Unallocated Crown Land (Land ID #3846146) from 'Rural' to 'General Industry' and designating the land as 'ASR1'.
2. Replace clause 33 (Site specific development standards and requirements) with the following:

33. Additional site and development requirements

- (1) Table 6 sets out requirements relating to development that are additional to those set out in this Scheme, the R-Codes, precinct structure plans, local development plans or State or local planning policies.
- (2) To the extent that a requirement referred to in subclause (1) is inconsistent with a requirement in this Scheme, the R-Codes, a precinct structure plan, a local development plan or a State or local planning policy the requirement referred to in subclause (1) prevails.

Table 6 – Additional requirements that apply to land in Scheme area

No	Description of land	Requirement
ASR1	Portion of Lot 1544 on Deposited Plan 74340, Portion of Lot 944 on Deposited Plan 74339 and Portion of Unallocated Crown Land (Land ID #3846146)	<p>1. Despite anything contained in Table 2 (Zoning Table) or this Scheme, the land is permitted to be used for and may only be used for a land use that is for, ancillary to or associated with the production, conversion, storage and export of renewable energy, including green hydrogen and green ammonia.</p> <p>2. Development shall have a maximum footprint of 635 hectares.</p> <p>3. Development is to be in accordance with a Ministerial Statement authorisation granted under section 45 of Part IV of the Environmental Protection Act 1986 (WA) arising from EPA Assessment Number 2339, including any amendments or replacements to the Ministerial Statement, by or for Murchison Hydrogen Renewables Pty Ltd (or other proponent authorised under the Ministerial Statement).</p> <p>4. Clause 32(14) and clause 32(22)(b) of this Scheme do not apply.</p> <p>5. In considering an application for development approval, the local government shall consider the following matters as part of the matters which it may have regard to under the Scheme:</p> <ol style="list-style-type: none"> a. A preliminary risk analysis for the production, conversion, storage and export of green hydrogen and/or green ammonia which examines: <ol style="list-style-type: none"> i. Security and safety measures. ii. Buffer distances between the development and surrounding sensitive uses. iii. Emergency response plans. b. Offsite impacts on public use of the coastline, including

		<p>for fishing, tourism and recreational uses.</p> <p>c. The visual impact of the development on the amenity of the locality.</p> <p>d. Arrangements are to be made for legal and permanent vehicular access to the land, to the satisfaction of the local government.</p> <p>e. Development shall comply with any approved Bushfire Management Plan to the satisfaction of the local government.</p> <p>f. The potential socio-economic impacts of the development, as identified in a Social Impact Assessment. The Social Impact Assessment shall identify the potential impacts on the socio-economic conditions of the surrounding district. The Social Impact Assessment shall describe whether these impacts are acceptable, or how such impacts may be reduced or mitigated.</p> <p>6. Actions to reduce or mitigate impacts identified in a Social Impact Assessment shall be outlined in a Community Benefit Sharing Plan accompanying the development application and shall be implemented as part of the development.</p>
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General Industry zone area subject to change

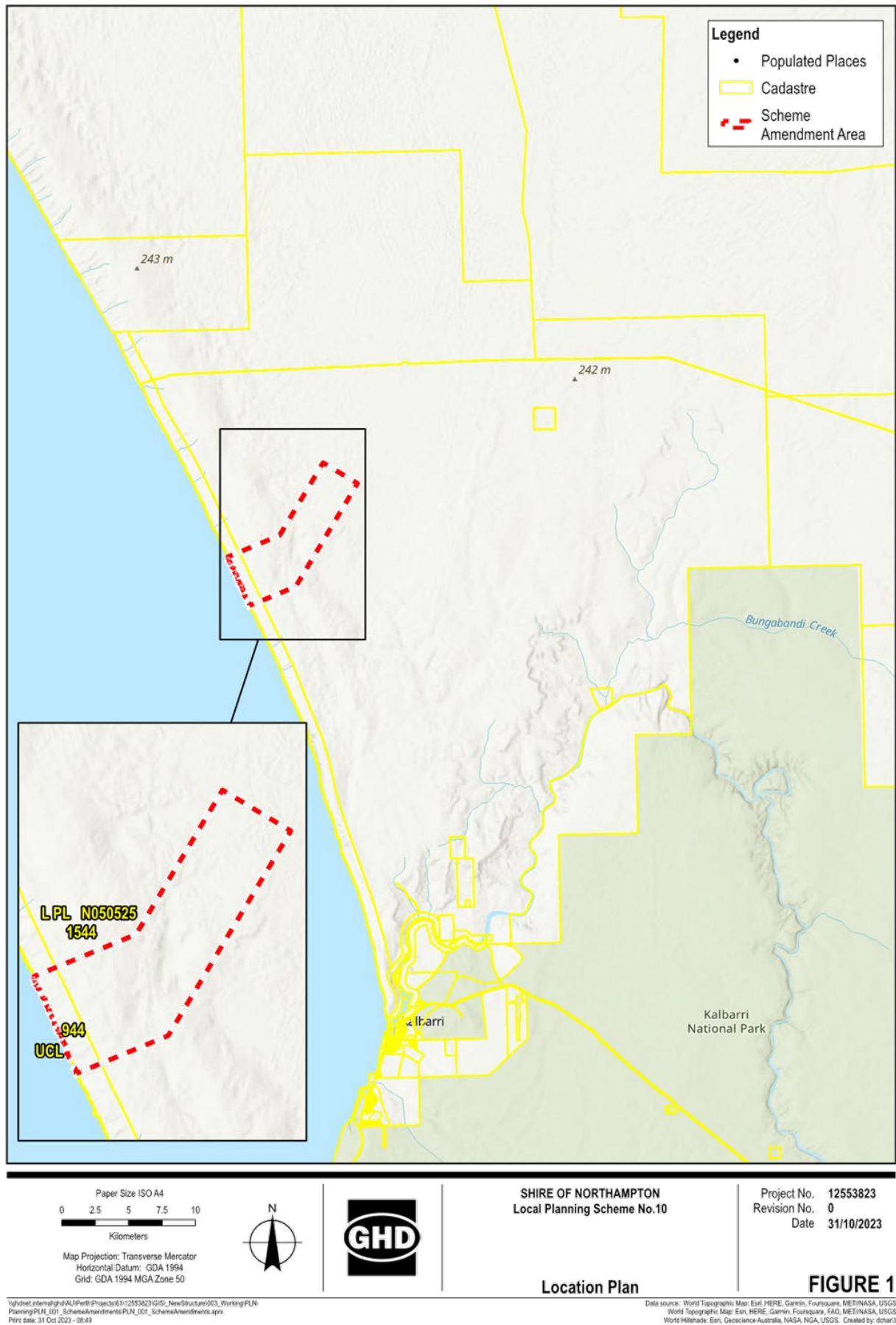
The area of the proposed General Industry zone is currently approximately 3,881 hectares.

It is expected that, by the time the Proposed Amendment is in a position for finalisation, the extent of proposed General Industry zone will be able to be rationalised to an area of no greater than 635 hectares.

3.1 Amendment Classification

Pursuant to Regulation 35(2)(a) of the *Planning and Development (Local Planning Schemes) Regulations 2015* (the Regulations), the Proposed Amendment is classified as a 'complex amendment' for the following reasons:

- The amendment is not addressed by any local planning strategy.
- The amendment relates to development that is of a scale, or will have an impact, that is significant relative to development in the locality.



4. Project Description

4.1 The Project

The Project will use combined onshore wind and solar energy of up to 6.3 GW capacity to produce green hydrogen. This will be converted to an estimated 2 million tonnes per annum (Mtpa) of green ammonia, for export to emerging Asian green energy markets.

The Project has a capex of ~AUD\$19 billion and received Lead Agency Status from the Western Australian Government in 2021 and is in the process of applying for Major Project Status from the Federal Government.

Green hydrogen is produced by splitting water into hydrogen and oxygen using renewable electricity. Green ammonia is the result of an additional step in this process, combining hydrogen with atmospheric nitrogen. This converts hydrogen into a form that can be shipped to overseas markets.

Green hydrogen and ammonia will play a critical role in a transition to a carbon neutral economy. For areas where it is not feasible to produce renewable electricity, green hydrogen/ammonia will act as an energy dense intermediary between production and the end user. These products will replace polluting fuels currently used in the electricity generation, transport, and heavy industry sectors. The future uses of green hydrogen and green ammonia will continue to grow, with many uses for the products still under research and development.

The Project is set to remove ~ 5.3m tonnes of CO₂ emissions annually, through the creation of an alternative green fuel source.

The parent company of MHR, CIP, is committed to tackling rising carbon emissions through investment in renewable energy, green hydrogen, and green ammonia. The Project will contribute to a larger global portfolio of climate solutions currently in operation and under development by CIP.

The description of the Project in this report is the current expectation, but it is noted aspects of the Project may be subject to change as the design is refined.

4.2 Industrial Elements

The Project comprises the following main industrial elements which would be located within the proposed General Industry zone:

- PtX plant
- Ammonia storage and export facilities
- Ammonia and water pipelines.

The following describes these industrial elements of the project as outcome of pre-Front-End-Engineering Design and will be subject to change following further studies, investigations, engineering and design, as the Project is developed.

4.2.1 Power-to-X Plant

The Project will include construction and operation of a PtX plant (in this instance Power-to-Ammonia plant), which constitutes the primary 'Industry' land use the subject of the Proposed Amendment. The PtX plant will be located between approximately 1.7 kilometres and 8 kilometres north-east of the coast in a central location on the land shown in Figure 1, to minimise transmission requirements.

The PtX plant comprises of the following main units:

- Sub-station
- Battery
- Electrolyser
- Hydrogen storage
- Ammonia production plant

- Ammonia storage and pumping station
- Water desalination and demineralisation plants
- Administration buildings and workshops

These infrastructure components are described further in the sections below.

The PtX plant converts renewable energy into green ammonia, as shown in the process flow diagram below.

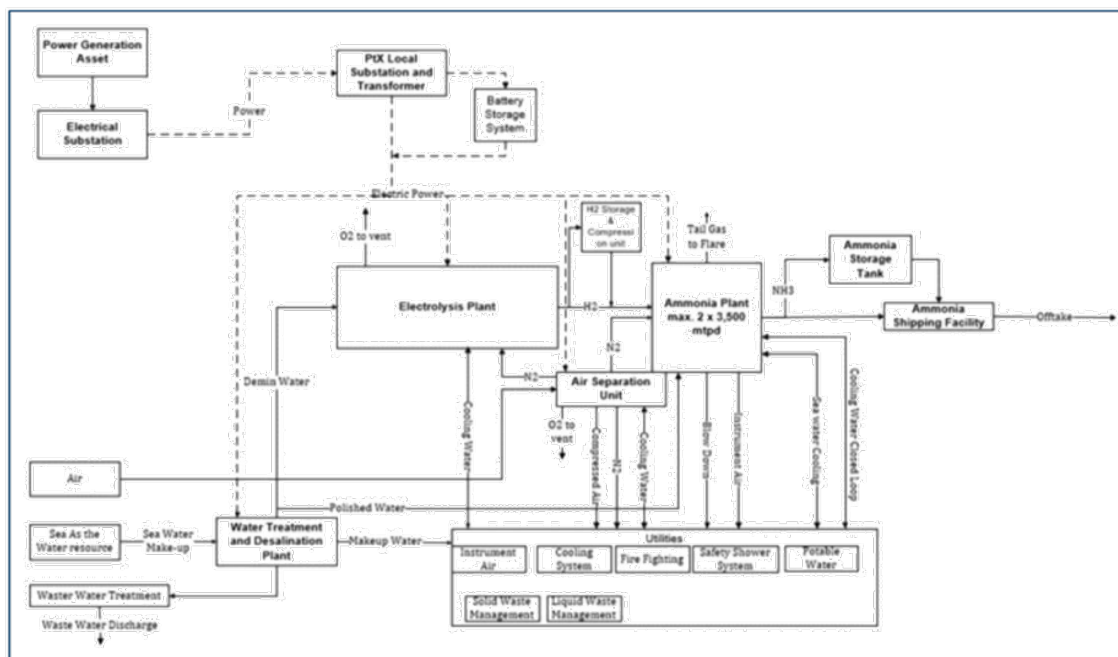


Figure 2 Process Diagram

4.2.1.1 Substation

Renewable energy from the Solar PV Farm and Wind Farm will be transmitted to the PtX Plant at high voltage. A transformer will reduce the voltage to a level suitable for distribution at the site.

4.2.1.2 Battery

The battery will operate to smooth short-term transients in the incoming renewable energy supply prior to distribution to the power consumers. It also provides a back-up power supply to the plant. The size of battery storage is likely to be approximately 250 MW.

4.2.1.3 Electrolysers

The Project is intended to have an ultimate electrolyser capacity of ~3 GW. The electrolysers will use renewable energy to split demineralised water into hydrogen and oxygen. The oxygen produced will be discharged to the atmosphere at a safe distance from any ignition sources. The electrolyser units are expected to use up to approximately 4.8 GL/yr of demineralised water for conversion to hydrogen and oxygen.

4.2.1.4 Hydrogen storage

Hydrogen storage will manage short-term discrepancies between the hydrogen supply from the electrolysers and the hydrogen demand from the ammonia plant. The electrolysers will be operated flexibly to respond rapidly to renewables generation supply. The ammonia plant will also operate flexibly but with a slower response time, hydrogen storage will be used to manage the difference between the two flows.

Hydrogen storage will consist of multiple hydrogen storage vessels with a total capacity of approximately 100 tonnes of hydrogen.

4.2.1.5 Ammonia Production Plant

The ammonia plant will react hydrogen with nitrogen using the well-established Haber-Bosch process. The nitrogen is sourced from atmospheric air using an air separation unit. The ammonia will be chilled and condensed as a liquid for transport and storage.

Various utility systems will support the operation of the ammonia plant, including:

- Cooling systems
- Firewater
- Instrument and plant air
- Steam and power generation

4.2.1.6 Water desalination and demineralisation plants

Seawater will be pumped from the ocean via an intake pipeline for use in the PtX plant cooling system make-up and for treatment at the desalination and demineralisation plants.

Cooling for the PtX plant is achieved using an open-loop seawater system using evaporative cooling. Make-up seawater is supplied to the loop to replace evaporative losses and blowdown.

Part of the seawater will be desalinated using membranes to provide potable water, firewater make-up and feed to the demineralisation unit. The demineralisation unit provides ultra-pure water as feed for the electrolyzers.

Brine (salty water) from the cooling water blowdown and desalination plant reject will be discharged into the ocean via multi-point diffusers.

The water infrastructure components will include:

- Sea-water intake pipeline
- Seawater pumping station near the coast
- Desalination and Demineralisation Plants
- Brine facilities and discharge pipeline
- Administration buildings, workshops, and plant storage
- Control Rooms, administration buildings, workshops and maintenance storage will be required, and it is anticipated that these will be co-located within the PtX area.

4.2.2 Ammonia Storage and Export Facilities

Ammonia will be exported to Asia as a refrigerated liquid via marine tanker. Ammonia will be stored in refrigerated tanks onshore between ship-loadings to accumulate a full ship's load and to provide a storage buffer in the event a ship export is not available. The ammonia storage is envisaged to hold between 90,000 to 180,000 t.

Any off-gas from the tanks will be re-liquefied and returned to the tanks. The ammonia will be pumped to the ships via dual, insulated, buried pipelines.

4.2.3 Ammonia and Water Pipelines

Insulated ammonia pipelines will be required to transport the ammonia between the plant elements and export infrastructure. Water pipelines will be required to supply seawater to the plant and to collect and discharge the brine to the ocean.

4.3 Other Project Elements

The following project elements, with the exception of onshore components of the marine export facility, are not the subject of the Proposed Amendment. The elements have been described below to provide context for the wider Project.

4.3.1 Renewable Energy

All power used for the project will be generated on-site. Current studies indicate 6.3 GW of renewable energy will be generated from a solar PV farm and a wind farm as follows:

- ~2.5 GW from the solar PV farm; and
- ~3.8 GW from the wind farm.

4.3.1.1 Solar PV Farm

The solar PV farm will be developed within a footprint of up to 10,000 ha, with a capacity of ~2.5 GW. The final locations, layout and disturbance footprint will depend on the arrangement and performance of the solar panels. The solar farm will consist of parallel solar PV panels rows with access tracks for ongoing maintenance. An optimised panel layout will be determined during the detailed design phase.

The solar PV farm will be accessed via unsealed tracks/roads. A perimeter security fence will be installed around the solar PV farm infrastructure with enough distance reserved between the fence and farm infrastructure for maintenance and fire response.

4.3.1.2 Wind Farm

The Project involves installation of wind turbines with a capacity of ~3.8 GW. Each turbine will have a permanent footprint of up to approximately 0.9 ha, with a total final footprint of up to 450 hectares for all turbines (excluding any access tracks). Each turbine will have associated infrastructure to support safe energy transmission from the turbine to the PtX plant, which contains the on-site energy storage.

4.3.2 Marine Export Facility

The Project will produce green ammonia for export. The following marine export infrastructure will be required:

- Dual insulated, buried ammonia export pipelines that connect the ammonia and storage facility to the marine export facility.
- Marine export facility comprising a seabed valve manifold and a Single Point Mooring (SPM) System which could comprise either a Catenary Anchor Leg Mooring (CALM) buoy or a Tower Loading Unit.
- Ammonia export tankers, to be moored directly to the SPM. It is anticipated that approximately 3-4 vessels will offload at the facility per month.
- Navigation aids within the proximity of the marine export facility. Consultation with Department of Transport and Midwest Ports Authority is ongoing regarding navigation requirements.
- A support craft facility for approximately four tug/line boats and onshore components including refuelling infrastructure, administration office and workshop, crew facilities and accommodation.

4.3.3 Supporting Infrastructure

The Project will require a range of supporting infrastructure to facilitate construction, operation, and on-going maintenance, including:

- A network of access roads
- Construction accommodation, including:
 - Kitchen and Dry Mess
 - Tavern

- Office Complex
- Medical and Emergency Response Facilities
- Camp Laundry & Waste Collection Centre
- Recreation Room
- Gymnasium
- Specialist Sports Facilities
- Communication equipment including radio towers
- Maintenance, security, and support services workshops/buildings and hardstand areas
- Security fencing as necessary
- Wind monitoring masts
- Overhead transmission towers
- Underground electric cables
- Wind farm substations
- Solar farm substations



5. Site Details

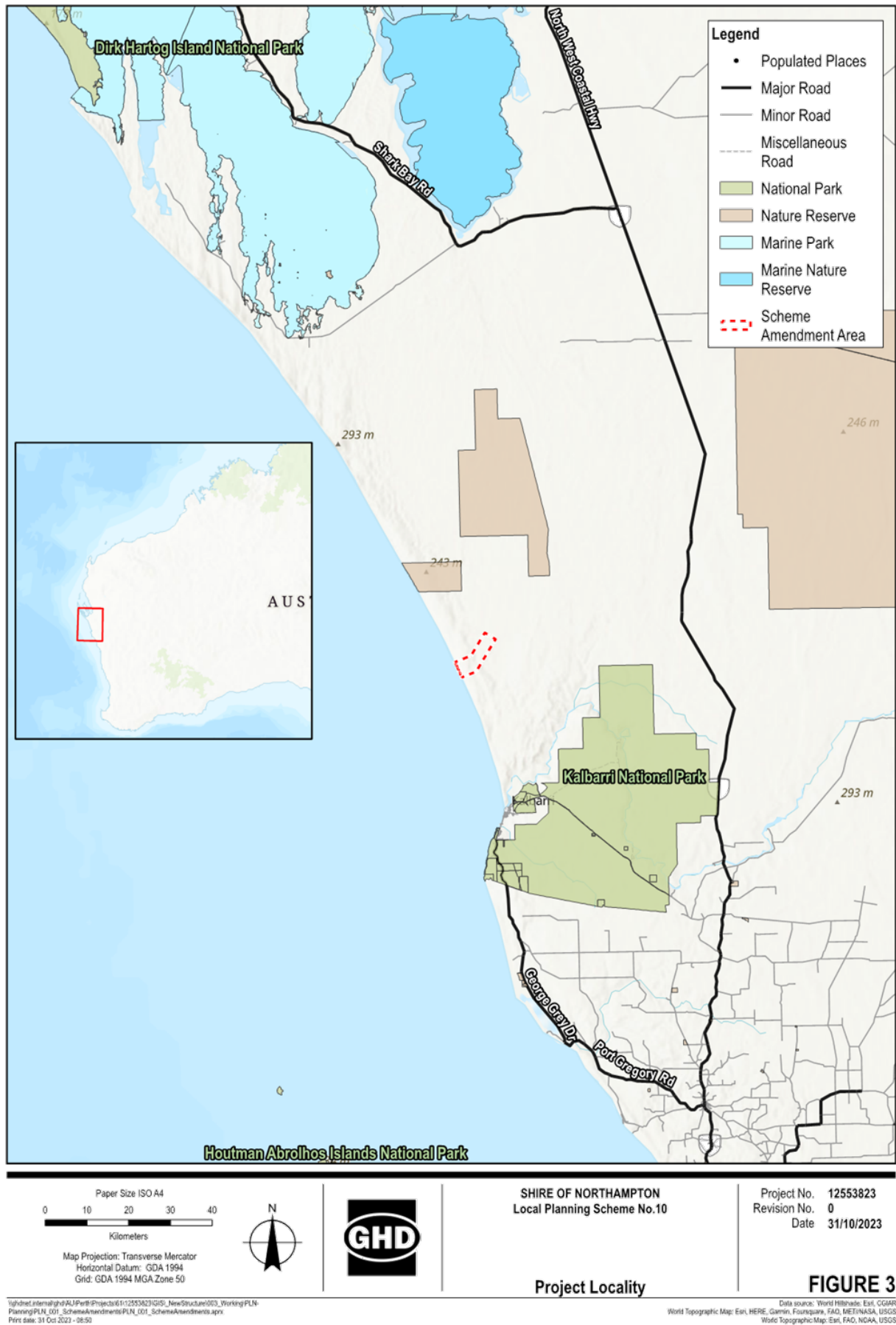
5.1 Site Location

The Project is located within the Mid West Region of Western Australia, approximately 20 kilometres north of Kalbarri in the Shire of Northampton (refer Figure 3). The Project is approximately 550 kilometres north of the Perth metropolitan area.

The Proposed Amendment relates to portions of the lots described in Table 2, totalling an area of approximately 3,881 hectares. The 3,881-hectare portion of land is proposed to be rezoned 'General Industry'.

Table 2 Lot Description

Lot	Deposit Plan	Volume / Folio	Lot Area (m ²)
944	74339	LR3163/264	46,131,857
1544	74340	LR3163/265	1,204,110,000
Unidentified lot	Land ID 3846146	N/A	2,112,246



5.2 Regional and Local Context

Most of the land-based portion of the Project lies within the Murchison House Pastoral Station (registered number N050525). The marine-based portion is directly offshore to the west, in the Indian Ocean.

The Project is bound by the State Barrier Fence Reserve to the north (Reserve Number 36656), the Murchison House Pastoral Station to the east and south, and Unallocated Crown Land (UCL) to the west. Land uses surrounding the land include pastoral lease, reserves, and UCL.

The land is located approximately 10 kilometres north-west of the Kalbarri National Park, 3 kilometres south of the Shark Bay World Heritage Area and 5 kilometres to the north of the Murchison River at its closest point.

The land is characterised by relatively flat, arid shrubland with an expansive coastline. A review of the Department of Primary Industries and Regional Development's (DPIRD) soil landscape land quality mapping places the land within the Port Gregory soil zone, characterised by calcareous deep sand coastal dunes, and undulating sandplain on limestone. The land lies within the Geraldton Sandplains Interim Biogeographic Regionalisation for Australia (IBRA) bioregion and within the Geraldton Hills IBRA subregion, characterised by shrubland heath on coastal limestone.

At present, the land is used primarily for grazing goats. The land is essentially undeveloped; however, an informal network of private roads, fences, and other minor structures/improvements exist.

5.2.1 Land Tenure

Current land tenure is summarised in Table 3 below.

Table 3 Existing land tenure

Lot	Tenure Status	Purpose	Registered proprietor
944	Crown Land; Lease (Murchison House Station Pastoral Lease)	Pastoral	BJ Sparkhal; CG Carruth; Williamson Brothers Property Pty Ltd
1544	Crown Land; Lease (Murchison House Station Pastoral Lease)	Pastoral	BJ Sparkhal; CG Carruth; Williamson Brothers Property Pty Ltd
Unidentified lot	Unallocated Crown Land	Various	State of Western Australia

On 5 August 2022, two licences were granted pursuant to s. 91 of the *Land Administration Act 1997* (LAA) for a term of two years. These licences allowed for investigative works including Aboriginal heritage, environmental and geotechnical engineering surveys, and assessments to be undertaken on the land.

MHR has engaged with the pastoral lessees and the State to progress appropriate tenure for the construction and operation of the Project.

5.2.1.1 Native Title

MHR acknowledges the Nanda People (the determined native title holders) as the Traditional Owners of the land on which the Project will be located. Nanda Aboriginal Corporation (NAC) is the prescribed body corporate representing the Nanda People.

MHR and the Nanda People have been engaging in respect of the Project since 2019, with the support of Yamatji Marlpa Aboriginal Corporation (YMAC) and NAC's legal and other advisors.

MHR seeks to obtain the consent of the Nanda People for the Project and is committed to engaging with Nanda people in relation to heritage management and protection, as well as employment and contracting opportunities associated with the Project.

5.2.1.2 Proposed Tenure

MHR has discussed potential tenure options for the Project with the relevant State departments, including the DJTSI and the DPLH, which include:

- In the first instance, an option to lease granted by the Minister for Lands pursuant to s. 88 of the LAA (Option to Lease).
- If MHR exercises the Option to Lease, a number of Crown leases granted by the Minister for Lands under s. 79 of the LAA (for different part of the project footprint and infrastructure) and a Diversification Lease granted under the LAA.
- Where tenure is required for any ancillary Project purposes (for example access roads to connect the Project to main roads nearby) – one or more easements granted by the Minister pursuant to s. 144 of the LAA (Easement), and (for the marine-based portion of the Project) tenure in respect of any port infrastructure and use from the relevant Port Authority, once the area has been vested in that authority as a port.

6. Planning Framework

6.1 State Planning Context

6.1.1 State Planning & Environmental Strategies

6.1.1.1 State Planning Strategy 2050

The *State Planning Strategy 2050* provides a framework of planning principles, strategic goals and State strategic directions that respond to the challenges and opportunities presented by drivers of change for future land use planning and development in Western Australia. An assessment of the Proposed Amendment against relevant goals identified in the Strategy is provided below:

Table 4 State Planning Strategy 2050 Strategic Goals

Goal	Description	Comments
Global Competitiveness	<i>Global competitiveness will be enhanced through continued economic diversification.</i>	The Proposed Amendment will enable development of an innovative renewable energy production, conversion, storage and export facility to capture a share of an emerging global market. The Project will diversify the economic profile at the local, state, and national scale, supporting Australia's continuing global competitiveness in the energy export sector during the renewable energy transition.
Strong and resilient regions	<i>Strong and resilient regions will be built through economic expansion and inter-regional collaboration.</i>	<p>The Proposed Amendment will strengthen Western Australia's regional economy, by facilitating a major renewable energy project in the Shire. The Project will increase resilience within the local economy and facilitate inter-regional collaboration by preferencing suitable, localised employment and expenditure during construction and operation.</p> <p>Recognising the dynamic between the proposed workforce population and the existing community, the Project intends to make direct and meaningful contributions to social infrastructure in the region.</p> <p>Investment in local infrastructure and social benefit will occur through a requirement to prepare a Social Impact Assessment and delivery of a Social Impact Assessment and Community Benefit Sharing Plan, as enforced by condition 5(f) and 6 of the Proposed Amendment.</p> <p>The Community Benefit Sharing Plan will be co-developed throughout 2024 with input from local community, businesses, industry, Government and special interest groups.</p>
Conservation	<i>Conservation of the environment will be enhanced by sustainable development and efficient resource use.</i>	<p>The Proposed Amendment will facilitate productive use of the land for the purpose of sustainable economic development. The location of the Project capitalises on WA's natural advantage, with abundant renewable energy and marine access, facilitating efficient use of renewable resources.</p> <p>The Project is set to remove ~ 5.3m tonnes of CO₂ emissions annually through the creation of an alternative green fuel source.</p> <p>The Proposed Amendment limits the maximum floor area and controls the location of the proposed future industry use. The Project constitutes a legitimate, conservation-compatible method of energy production that can be assessed for its suitability for co-location with existing rural uses and environmental values.</p>

6.1.1.2 Western Australian Renewable Hydrogen Strategy and Roadmap

Launched in 2019, the *Western Australian Renewable Hydrogen Strategy and Roadmap* will drive WA's position as a major producer and exporter of renewable hydrogen.

An assessment of the Proposed Amendment demonstrates alignment with the Export Strategic Focus Area of the Strategy:

Table 5 Western Australian Renewable Hydrogen Strategy and Roadmap Strategic Focus Areas

Strategic Focus	Description	Comments
Export	<i>The global market for renewable hydrogen is expected to grow significantly over the coming decades. Western Australia is well placed to capture a significant share of this market due to its excellent renewable energy resources, skilled oil and gas workforce, proximity to Asia, and export infrastructure.</i>	The location of the Project is well placed to capitalise on abundant renewable energy resources and marine export capacity within the Shire, leveraging existing workforces and Western Australia's trade relationships to capture a share of an emerging global market. The Proposed Amendment will support WA's position as a major producer and exporter of renewable ammonia.

In 2021, the *Western Australian Renewable Hydrogen Strategy and Roadmap* was updated to include refreshed objectives and goals for the establishment of a hydrogen export industry in Western Australia.

The Project strongly aligns with the updated Vision for hydrogen in Western Australia, set out in the strategy as follows:

'Western Australia will develop industry and markets to be a major exporter of renewable hydrogen. To enable the export of renewable hydrogen, Western Australia will develop domestic production capabilities and applications of renewable hydrogen, thereby improving the State's hydrogen industry expertise, contributing to global decarbonisation and decarbonising the State's economy. It will also contribute to improving air quality across the State.'

The Project has the potential to generate:

- ~ 5.3 Mtpa CO₂ emission reductions
- \$113.8B to Gross Domestic Product (majority Gross State Product (GSP))
- \$55.7B in taxation
- ~24,300 Full-time equivalent (FTE) jobs in Western Australia
- ~10,200 FTE annual jobs during construction
- Training opportunities in renewable energy technology
- Local economic and business opportunities
- Potential for improved water and power infrastructure for the region
- Innovation and skills transfer in an emerging industry

6.1.1.3 Western Australian Climate Policy

The *Western Australian Climate Policy* outlines the priorities and actions to prepare Western Australia for climate change and achieve an aspiration of net zero emissions by 2050. The climate policy includes actions to support the development of a hydrogen industry in Western Australia by:

- Identifying opportunities for international hydrogen partnerships and investment attraction
- Modelling Western Australia's supply chains to identify bottlenecks and limitations affecting the hydrogen industry identifying suitable locations for geological hydrogen storage
- Developing options to blend hydrogen in the Western Australia gas distribution systems
- Identifying optimal locations for the development of hydrogen hubs.

The Project aligns with the intent of the climate policy and will support Western Australia becoming a significant producer, exporter, and user of renewable energy. The production and export of renewable energy represents an

opportunity for Western Australia to support international decarbonisation efforts, while also supporting Australia's commitments to global emissions reductions.

The export of renewable ammonia from Western Australia to countries that are highly dependent on imported energy supplies and lack sufficient domestic renewable energy resources represents a significant economic opportunity for the State.

6.1.1.4 Mid West Regional Planning and Infrastructure Framework 2015

The *Mid West Regional Planning and Infrastructure Framework 2015* (Mid West Framework) covers the seventeen Mid West local government areas. The Mid West region is divided into three sub-regions, under which the Shire of Northampton is included in the 'Batavia Coast' sub-region.

The Mid West Framework builds on the *State Planning Strategy 2050*, providing several interrelated principles designed to strengthen development in at region and state levels. An assessment against the relevant strategic goals of the Mid West Framework is provided below:

Table 6 Mid West Regional Planning and Infrastructure Framework 2015 Strategic Goals

Strategic Goal	Description	Comments
A globally competitive region	<i>Making the region a globally competitive region by diversifying its economic base and by attracting and retaining human and monetary capital.</i>	<p>The Project will establish the Mid West region as a major producer and exporter of renewable energy.</p> <p>Diversifying the economic profile, it will support continuing global competitiveness in the energy export sector during the renewable energy transition.</p> <p>The Project will also support retention of human and monetary capital in the Mid West region by preferencing suitable, localised employment and expenditure during construction and operation.</p>

The Mid West Framework notes that pastoralism is the region's most widespread land use, particularly in the Murchison region. The Framework encourages the intensification of agricultural uses where soil conditions allow, and the diversification of land use in lesser quality agricultural areas, namely pastoral lease areas, to ensure long-term economic viability. The Project, supported by the Proposed Amendment, will utilise lower-quality agricultural land to diversify existing economic activity in the Mid West region.

6.1.2 State Planning Policies

The proposed amendment relates to land use and works that are subject to several State Planning Policies (SPPs). An assessment of the Proposed Amendment against the relevant objectives of the SPPs is provided below:

Table 7 Relevant State strategic policy documents

SPP	Objective	Assessment
SPP 2.0 – Environment and natural resources policy	Protect, conserve, and enhance the natural environment. Promote the wise and sustainable use and management of natural resources.	<p>The Proposed Amendment supports conservation and sustainable use of natural resources. By facilitating the Project, it promotes productive use of WA's abundant renewable resources while establishing key conditions to protect and conserve the surrounding natural environment.</p> <p>Amongst other provisions, the Proposed Amendment establishes key limits on the Project, including a maximum development footprint of 635 hectares for the proposed uses. The Proposed Amendment also provides a mechanism for assessment of offsite impacts, including public use of the coastline and the visual impact of the Project. Through this, a future decision-maker will have the ability to assess the Project's relationship with surrounding natural values.</p> <p>Importantly, the Proposed Amendment includes a requirement that the development is in accordance with a Ministerial Statement arising from EPA Assessment Number 2339, granted under section 45 of Part IV of the <i>Environmental Protection Act 1986</i> (WA) (EP Act). This ensures assessment of any environmental impacts and development of environmental management plans, which will arise through environmental</p>

SPP	Objective	Assessment
		surveys and studies specific to the Project. The EPA's assessment will precede, and therefore guide assessment at the development approval phase.
SPP 2.5 – Rural Planning	Guide protection and preservation of rural land assets to avoid land use conflicts. Protect and sustainably manage environmental, landscape and water resource assets.	<p>The Proposed Amendment relates to land that is significantly removed from 'high quality agricultural land', as defined in the Shire of Northampton Local Planning Strategy 2022. By facilitating the Project, the Proposed Amendment will utilise low-quality agricultural land for the purpose of sustainable economic development, without impacting the availability of designated 'high quality agricultural land'.</p> <p>Environmental, landscape and water resource considerations will be integrated into the final design of the project and addressed by the Ministerial Statement.</p>
SPP 2.6 – State coastal planning	Ensure the identification of appropriate areas for the sustainable use of the coast for maritime industry and commercial activities. Protect, conserve and enhance coastal zone values, particularly in areas of landscape, biodiversity and ecosystem integrity, indigenous and cultural significance.	<p>While proposed (offshore) marine export facility components are not the subject of the Proposed Amendment, protection of coastal values of the land is important.</p> <p>Onshore components of the Project will be subject to coastal planning investigations as part of the detailed environmental surveys and studies to be completed prior to the development application stage.</p> <p>Management of coastal values will seek to minimise impacts on coastal areas, visual amenity, and preserve environmental qualities. This includes offsite impacts on public use of the coastline, including for fishing, tourism, and recreation.</p> <p>The Environmental Assessment Supporting Document (EASD), discussed in Section 7.3, identifies surveys and investigations MHR need to do to meet environmental Regulator requirements and Ministerial approval. These investigations are well advanced and include:</p> <ul style="list-style-type: none"> – Flora and vegetation survey – Marine fauna survey – Underwater noise monitoring – Hydrology and hydrogeological assessment – Coastal processes impact assessment – Air quality modelling and assessment – Construction and operational noise impact assessment – Odour impact assessment – Visual impact assessment; and – Indigenous and European impact assessment. <p>The Proposed Amendment includes a condition requiring the development to be in accordance a Ministerial Statement authorisation arising from EPA Assessment Number 2339, granted under section 45 of Part IV of the EP Act.</p> <p>As part of MHR's community and stakeholder engagement, it is working with recreational and commercial fishing groups, as well as the Mid West Ports Authority, to minimise impacts to fishing grounds and coastal access.</p> <p>Furthermore, condition 5(b) of the Proposed Amendment requires a decision maker to consider public use of the coastline, including for fishing, tourism and recreational uses.</p>
SPP 3.7 – Planning in Bushfire Prone Areas	Ensure that development applications consider bushfire protection requirements and include specified bushfire protection measures.	<p>The land is designated as a Bushfire Prone Area. A Bushfire Management Plan (BMP) will be prepared to the specifications of SPP 3.7 at the development application stage. Condition 5(e) of the Proposed Amendment requires compliance with an approved BMP to ensure bushfire management measures are addressed at an appropriate future juncture.</p> <p>SPP 3.7 seeks to ensure that decision making at strategic planning phases does not result in unacceptable bushfire risk in future statutory planning decision making. As relevant to the Proposed Amendment, the following is evident:</p> <ul style="list-style-type: none"> – The PtX will be located within a bushfire prone area. – The Bushfire Hazard Level (BHL) across the PtX site will be greater than BHL-LOW.

SPP	Objective	Assessment
		<ul style="list-style-type: none"> – The Bushfire Attack Level (BAL) across the PtX site will be greater than BAL-LOW. – The PtX will require a considerable Asset Protection Zone (APZ). – The siting of the PtX and the accompanying APZ will be subject to consideration of topography, vegetation, and other constraints imposed by regulatory requirements (i.e., native vegetation clearing). – The APZ will not be constrained by available land area, extent of clearing or adjacent land use. – The PtX location will be highly remote and emergency access, fire water availability and shelter-in-place responses will need to be considered as part of facility siting and design. <p>It is evident that the Project will need to address bushfire risks through design and management measures. Accordingly, MHR engaged a Bushfire Management specialist who provided the following preliminary advice:</p> <ul style="list-style-type: none"> – A single access/egress road to the Project is sufficient, given the scale of the Project area and planned on-site fire-fighting equipment and infrastructure; – The accommodation camp, with a surrounding 100m vegetation clearance, is appropriate for a shelter-in-place fire refuge; and – A 100m vegetation clearance around infrastructure, together with on-site fire-fighting equipment and infrastructure, will likely meet asset protection requirements. <p>Bushfire hazards will be fully assessed, and a Bushfire Management Plan (BMP) developed, once building locations and designs are finalised and following consultation with the Department of Fire and Emergency Services (DFES).</p> <p>The above aspects will be established and included as part of a detailed future development application, enforced through Condition 5(e) of the Proposed Amendment.</p>
SPP 4.1 – State industrial interface	Provide a consistent approach to the establishment of buffer areas to protect sensitive land uses from encroachment incompatible development.	<p>As the Proposed Amendment is significantly removed from other uses and interfacing impacts are minimised. Nevertheless, siting and design aspects intend to minimise any potential risk arising from the proposed use and visual impacts on the amenity of the surrounding area.</p> <p>Condition 5(a) requires the preparation of a preliminary risk analysis for the production, conversion, storage, and export of green hydrogen and green ammonia. Condition 5(c) of the Proposed Amendment requires a decision maker to have regard to the potential visual and landscape impacts of the development.</p>

6.1.3 WAPC Position Statement: Renewable Energy Facilities

In March 2020 the WAPC endorsed *Position Statement: Renewable Energy Facilities*. The objective of the Position Statement is to guide the establishment of renewable energy facilities and to promote the consistent assessment of such facilities. The Position Statement notes that renewable energy potential in Western Australia largely consists of wind and solar potential; and that this potential largely exists in more remote regional, pastoral, and rural areas.

The Position Statement recommends that Local Planning Strategies should identify landscape and environmental protection areas as well as areas of high-quality agricultural capacity. Further, the Position Statement requires that Renewable Energy Facility projects are assessed for their impact on the environment, visual landscape, heritage, and public safety. The Position Statement does not consider uses closely associated with Renewable Energy Facilities, such as green hydrogen and ammonia production facilities as proposed by the Project.

The Position Statement strongly supports the development of Renewable Energy Facility land use in areas without high agricultural, landscape, heritage, or other environmental value. Further discussion relating to the Proposed Amendment's consistency with the Position Statement is included in section 7.2.

6.2 Local Planning Framework

6.2.1 Shire of Northampton Local Planning Strategy

The Shire of Northampton Local Planning Strategy (Strategy) was adopted in May 2022. The purpose of the Strategy is to provide strategic direction to land use and development within the Shire over the next 15 years.

The Strategy notes that incremental growth occurred within the Shire over the period between 2011 and 2016 (to an overall population of 3,319 persons), which represents an annual growth rate of 0.98%. However, at the 2021 census, the Shire's population had decreased to 3,227 persons. The WAPC's WA Tomorrow projections indicate ongoing population decline, at approximately -1.25% per annum (pa) with the Shire's population predicted to reduce to 2,840 persons by 2031, representing decline over the next decade.

The Strategy notes that the prospect of even moderate population decline is a significant risk to investment in the region, as well as the stability and provision of community services. The Strategy includes several actions that are specifically targeted at increasing the number and diversity of local employment opportunities to address potential population decline.

Table 8 below describes the key 'Strategies' identified in the Strategy and how the Project and the Proposed Amendment contribute towards addressing them.

Table 8 Key 'Strategies' of the Local Planning Strategy

Strategy	Relevant Actions	Comment
1.1 Protect High Quality Agricultural land and promote and facilitate the expansion and diversification of the rural economy.	a. Include within the Scheme provisions for protecting High Quality Agricultural land from fragmentation and incompatible land uses in accordance with WAPC Policy.	<p>The 'Overall Strategy Map' contained on page 23 of the Strategy identifies areas of 'High Quality Agricultural land'. These areas are centred on land in the southern parts of the Shire, around the town of Northampton and north to the Binu locality.</p> <p>The designation of 'high quality agricultural lands' within the Strategy is consistent with the recommendations of the WAPC's <i>Position Statement: Renewable Energy Facilities</i>. The Position Statement suggests that renewable energy facilities outside of these areas are preferred, when proposed in a rural/pastoral context.</p> <p>The Proposed Amendment relates to land that is not within or nearby land identified as 'high quality agricultural land'. The Proposed Amendment will enable the consideration of land use that does not reduce or impact the availability of designated 'High Quality Agricultural' land within the district.</p>
6.1 Protect and manage the existing conservation reserve system, areas of environmental significance and the natural environment to maintain biodiversity and enhance tourism and recreational opportunities.	<p>c. Require the potential impact on water bodies, land/soil quality and vegetation to be considered as an integral component in assessment of all land use Projects.</p> <p>d. Where land use and development are to be established, require compliance with practical and reasonable conditions to prevent or minimise risk of degradation to these natural attributes, whilst maintaining the economic viability of the land use</p>	<p>A search of the DBCA Legislated Lands and Waters database did not identify any reserves at the land. It is noted that inland waters at the land are limited, and there are no permanent surface water bodies on the site.</p> <p>A search of various databases and results from a survey conducted on the Proposed Amendment area indicates possible occurrence of 22 significant species of flora and 34 species of fauna.</p> <p>The Proposed Amendment includes conditions that will ensure consideration of the landscape and environmental values at the Project site. Potential impacts will be considered as part of the design of industry use(s), which will be given regard through the Ministerial Statement issued under Part IV of the EP Act; and assessed at development application phase.</p> <p>Most of the infrastructure relating to the industry land use the subject of this amendment will allow for micro-siting to avoid environmental and heritage values on the Project site.</p>

6.2.2 Shire of Northampton Town Planning Scheme No.10

The Project comprises two distinct components, infrastructure for the generation of renewable energy and infrastructure for the conversion of renewable energy for export.

Clause 38 (Terms Used) of LPS10 provides the following definition of Renewable Energy Facility:

renewable energy facility: means premises used to generate energy from a renewable energy source and includes any building or other structure used in, or in connection with, the generation of energy by a renewable resource. It does not include solar panels or a wind turbine located on a lot with a single house where the energy produced only supplies that house or private rural use or anemometers.

The Project will incorporate a large-scale wind turbine facility as well a solar PV farm. The generation infrastructure is proposed to be supported by battery storage, substation and transformer infrastructure.

While subject to detailed assessment at the development application stage, these components of the Project are likely to be assessed as forming part of a Renewable Energy Facility land use.

Further, clause 38 provides the following term for Industry:

industry: means premises used for the manufacture, dismantling, processing, assembly, treating, testing, servicing, maintenance or repairing of goods, products, articles, materials or substances and includes facilities on the premises for any of the following purposes –

- (a) the storage of goods;
- (b) the work of administration or accounting;
- (c) the selling of goods by wholesale or retail;
- (d) the provision of amenities for employees;
- (e) incidental purposes.

Clause 18(3) of LPS10 prescribes that:

'(3) A specific use class referred to in the zoning table is excluded from any other use class described in more general terms.'

The nature of activities proposed as part of the PtX and on-shore aspects of the marine export facility are considered to be more closely aligned to the terms used to describe the 'Industry' land use.

The PtX and on-shore marine export facility elements of the Project involve the processing and transferring of materials for export that are not, strictly, part of the generation of a renewable energy source.

The critical element of the Renewable Energy Facility term is that the activity must be part of the energy production process.

The Project involves the development of a PtX Plant, ammonia storage and export facilities and ammonia and water pipelines, as described in section 4. In addition, infrastructure and works for a marine export facility are also proposed onshore.

The production and handling of hydrogen and ammonia product, whilst wholly produced from a renewable energy process, is more closely described as an industrial process and therefore excluded from the 'renewable energy facility' term by virtue of clause 18(3) of LPS10.

Land Use Permissibility

The land is zoned 'Rural' under LPS10. Table 2 – Zoning of LPS10 provides permissibility for each Land Use class. In the Rural zone, the following land use permissibility applies:

- 'Renewable Energy Facility' – 'A'
- 'Industry' – 'X'

Clause 18(2) of LPS10 prescribes that an 'X' land use is not permitted in the zone. Clause 18(6) of LPS6 prescribes that:

(6) If a use of land is identified in a zone as being a class X use, the local government must refuse an application for development approval for that use in that zone unless –

- (a) the development approval application relates to land that is being used for a non-conforming use; and

- (b) *the local government considers that the proposed use of the land would be less detrimental than the non-conforming use.*

The proposed PtX facility, subject to an Industry land use classification, does not constitute a non-conforming use for the land and therefore cannot be approved without first amending LPS10.

The Proposed Amendment will enable the consideration of the Industry land use on a portion of the land to support the wider Renewable Energy Facility. This is achieved by rezoning the land General Industry and applying site and development requirements that ensure the portion of General Industry zoned land is used only for the purpose of the Project; and no other forms of industrial land use.

Clause 16 of LPS10 provides the objectives of each zone within the scheme area. Table 9 below describes the compatibility of the Proposed Amendment with each objective of the General Industry zone.

Table 9 *Local Planning Scheme Zone Objectives*

LPS10 Zone Objective (General Industry Zone)	Comments
To provide for a broad range of industrial, service and storage activities which, by the nature of their operations, should be isolated from residential and other sensitive land uses.	<p>The Industry land use subject to this amendment is remote from any population centres and any intensive agricultural/rural land use.</p> <p>The Industry Use will be a secondary component of the wider renewable energy facility project. Its location and scale will be comparatively minor compared to the scale of the wider Project.</p>
To accommodate industry that would not otherwise comply with the performance standards of light industry.	<p>There is no Light Industry zone in the Shire's LPS10. As the land use associated with the Project are unlikely to be considered 'Industry – Light' uses, it is appropriate that such uses be accommodated in the General Industry zone.</p>
Seek to manage impacts such as noise, dust and odour within the zone.	<p>The proposed General Industry zone is intended to allow for uses that may produce noise, dust and odour albeit that these impacts are appropriately managed with respect to their surrounding zones and uses.</p> <p>These impacts will be considered in detail as part of the design of the Industry use(s), will be given regard through the Ministerial Statement issued under Part IV of the EP Act and any authorisations under Part V of the EP Act and assessed at the development application phase.</p> <p>It is noted that the proposed General Industry zone is located centrally within the overall Project area, resulting in its separation from non-Project properties. Furthermore, the General Industry zone will ultimately be refined down to an estimated area of 635 hectares.</p>

6.2.3 Local Planning Policies

6.2.3.1 Local Planning Policy – Social Impact Assessment

In December 2023, the Shire adopted *Local Planning Policy – Social Impact Assessment* (LPP – SIA).

The policy identifies the circumstances where a Social Impact Assessment (SIA) or Social Impact Statement (SIS) is to be prepared, including to accompany any complex scheme amendment request.

As described in Policy Measure 3.3.2 of LPP – SIA, the level of detail provided by an SIA/SIS should relate to the scale of the proposal and the extent of issues inherent in its consideration. It is noted that to complete a meaningful assessment of the ultimate social impact of the Project, detailed engineering and decisions surrounding the nature of construction and operation must be firmly established.

As described in Policy Measure 3.4.1, an SIA report should include the following:

- A brief description of the subject site and surrounds.
- A description of the development project.
- Likely direct and indirect impacts and the potential for cumulative impacts.

- The significance of likely and potential impacts.
- Completed SIA findings report (being the SIS) outlining the type and significance of impacts (temporary and permanent) and the applicant's proposed response to mitigating negative impacts and enhancing positive impacts.

The preparation of a SIA to support significant development applications occurs in some jurisdictions, including several local government areas in Western Australia. However, it is not commonplace at the scheme amendment stage.

Under the Project schedule, a SIA will be prepared, and a Community Benefit Sharing Plan developed over the next 12 months. The SIA will be undertaken in accordance with the (LPP – SIA). MHR recognises the magnitude of impacts the project may have in the region and is committed to addressing the social impacts of the proposal, with input from the community and the Shire.

Notwithstanding, work to formulate the SIA is underway. A Social Impact Summary has been prepared which outlines key potential impact, mitigations and enhancement measures (refer section 9 and Appendix D).

6.2.3.2 Local Planning Policy – Renewable Energy Facilities

In December 2023, the Shire adopted *Local Planning Policy – Renewable Energy Facility* (LPP – REF). The policy specifies a range of measures intended to manage the environmental, landscape, visual, and amenity impacts of renewable energy facilities.

Clause 3.2.2 of the LPP – REF provides that the policy does not apply to '*additional industrial land uses that may be associated with a 'Renewable Energy Facility' such as resource processing, chemical manufacture and/or transportation of the end product*'. The LPP – REF is therefore not applicable to the Proposed Amendment or the Industry land use it facilitates, including the PtX facility and on-shore aspects of the marine export facility.

In accordance with Clause 3.2.1, LPP – REF will apply to Project components associated with the Solar PV Farm and Wind Farm, including ancillary infrastructure. A detailed assessment of LPP – REF against applicable Project components will be undertaken at the development application stage.



7. Environmental and Heritage Considerations

7.1 Heritage

7.1.1.1 Aboriginal Cultural Heritage

A review of the Aboriginal Heritage Inquiry System confirms that there are no registered sites of Aboriginal cultural heritage significance within the Proposed Amendment area. There are several Registered Aboriginal Sites and Other Heritage Places in the wider land for the Project, some of which are in the vicinity of the Proposed Amendment area. While there is potential for the Project and heritage places to overlap, all infrastructure will allow for micro-siting to avoid heritage places.

MHR will undertake detailed archaeological and ethnographic Aboriginal heritage surveys across the Project land, in accordance with any heritage agreements or Indigenous Land Use Agreement (ILUA), and prior to any ground disturbance works.

Section 17 of the *Aboriginal Heritage Act 1972* (AH Act) makes it an offence to disturb, destroy, alter, or damage an Aboriginal heritage site, unless consent is granted under s 18 of the AH Act.

Once detailed surveys are complete, any approval requirements under the AH Act will be addressed appropriately and in accordance with the AH Act.

7.1.1.2 European Heritage

No impacts to European heritage are expected from the Project. A qualified consultant has been engaged to undertake a European Heritage impact assessment which will be assessed under the *Heritage Act 2018*.

Murchison House Station

Lot 1544, which forms the balance of the Project site and the majority of the Proposed Amendment area, intersects with Place 05522 – Murchison House Station – Outbuildings and Graveyard (the Place). The Place is located on the southern banks of the Murchison River, approximately 8.6 kilometres south-east of the Project's expected extent and approximately 15 kilometres from the Proposed Amendment area (refer Figure 4).

Place 05522 is entered into the State Register of Heritage Places under the *Heritage Act 2018* and is adopted in the Shire's Heritage List.

The physical description of Place 05522 includes the following:

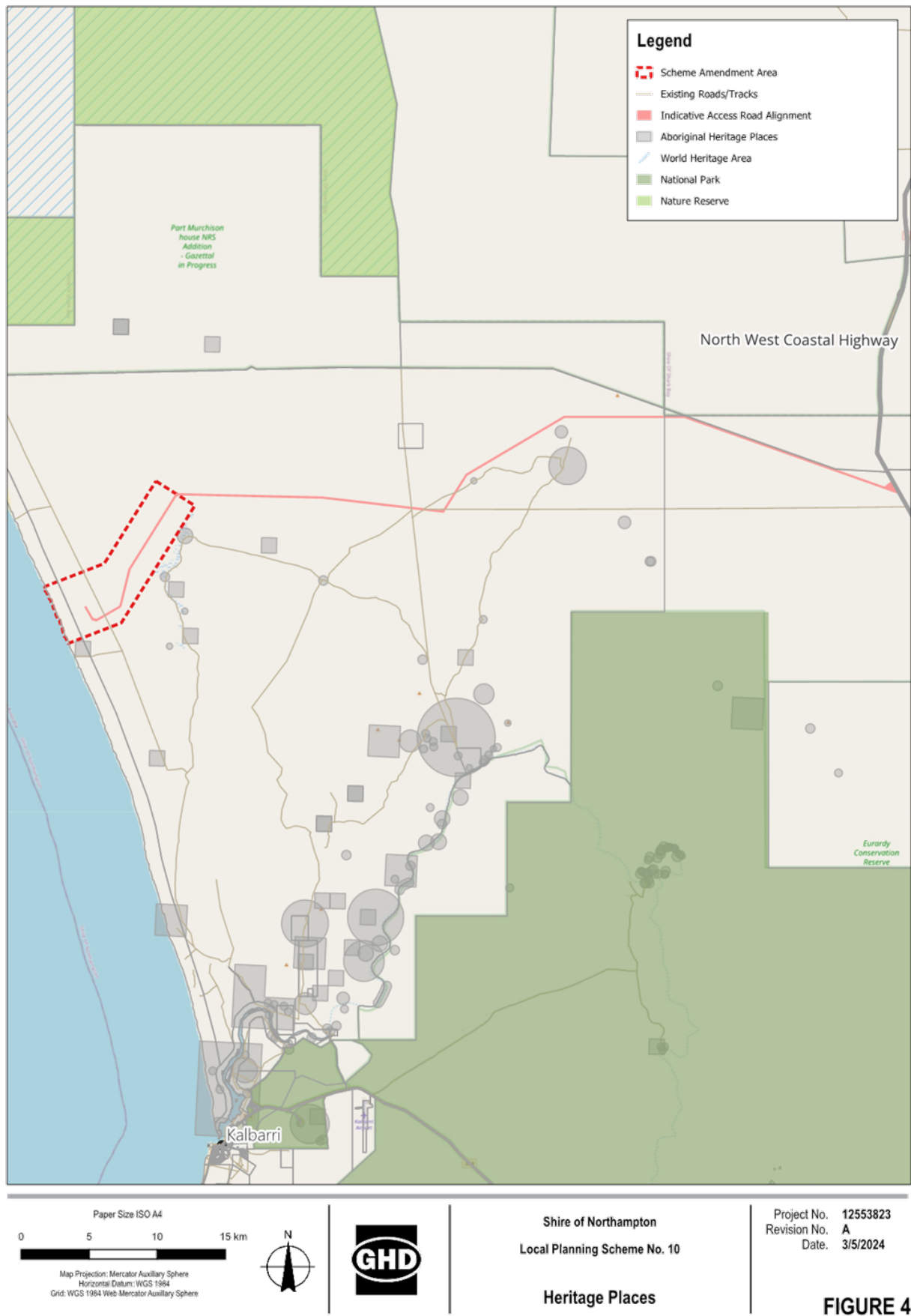
The place is located on the southern bank of the Murchison River. The main residence is located within a fenced garden area the drops down to the river. The place comprises a group of buildings including the original stone cottage (Von Bibra's Cottage), the main residence, workers quarters, kitchen, original shearing shed, cemetery and other farm buildings.

Due to the considerable separation between the proposed amendment area and Place 05522 no adverse impacts to the cultural heritage value of the Place and its curtilage are expected.

7.1.1.3 World Heritage

Shark Bay World Heritage Area

The Project is nearby to the Shark Bay World Heritage Area, located 3 kilometres north of the land. Shark Bay's waters, islands and peninsulas cover a large area of approximately 2.2 million hectares, 70% of which are marine waters. Neither the Project nor development within the Proposed Amendment area are expected to impact the Shark Bay World Heritage Area (SBWHA).



7.2 Environmental Assessment

On 11 May 2022 the EPA published notice that the Project would be assessed pursuant to section 39 of the *EP Act*. In publishing notice of assessment, the EPA described the potential significant effects of the Project as follows:

'There are potential impacts on: benthic communities and habitats, coastal processes, marine environmental quality, and marine fauna from the construction and operation of the marine elements of the Project; flora and vegetation from clearing and disturbance, introduction of weeds, disease and pests, and on-going operation, terrestrial fauna from the clearing or modification of habitat, collision with infrastructure, and ongoing operation; landforms from disturbance to the Zuytdorp Cliffs; inland waters from changes to hydrological processes; air quality from emissions of nitrous oxides and carbon monoxide; and social surroundings from disturbance of Aboriginal and European Heritage sites, and impacts to the visual amenity and recreation use.'

On 24 June 2022, the DCCEEW announced that the Project is considered a Controlled Action (EPBC No. 2022/09217) under the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act). The DCCEEW also announced that the Project will be assessed via accredited assessment under the EP Act.

The Project is currently in the active assessment phase and the Environmental Review Document is likely to be published in late 2024. The Proposed Amendment includes a range of conditions that:

- Mitigate a number of the potential significant effects outlined above.
- Specifically require development to be in accordance with a Ministerial Statement authorisation granted under s. 45 of Part IV of the EP Act (WA) arising from EPA Assessment Number 2339.

7.3 Environmental Characteristics

An Environmental Assessment Supporting Document (EASD) has been prepared by GHD in support of this Proposed Amendment and at the request of the EPA. The EASD is contained in **Appendix A**. The EASD investigated:

- Topography, landforms, and soil conditions
- Flora and Vegetation
- Terrestrial Fauna
- Inland Waters
- Heritage

The EASD presents preliminary findings from surveys undertaken on Murchison House Station. Importantly it does not report on impacts on the environment resulting from the Project. Impacts and any associated environmental approval to construct the Project will be the subject of a full environmental impact assessment by State and Commonwealth Regulators and Ministers under the EP Act (WA) and the EPBC Act.

7.4 Bushfire Risk

The Project land is a designated bushfire prone area under SPP 3.7 – Planning for Bushfire Prone Areas. The *Guidelines for Planning in Bushfire Prone Areas (version 1.4)* provides the following guidance for local scheme amendments within bushfire prone areas:

'The supporting documentation for the scheme amendment should identify any issues arising from the bushfire risk assessment/s and consider how compliance with the bushfire protection criteria can be achieved in subsequent planning stages. This is to be in the form of a BMP.'

SPP 3.7 seeks to ensure that decision making at strategic planning phases does not result in unacceptable bushfire risk situations in future statutory planning decision making.

The Proposed Amendment area is 3,881 hectares, with the footprint of development to be limited to a maximum of 635 hectares. The Proposed Amendment relates to the development of a PtX facility (and associated infrastructure) as part of the wider Project. Design and siting of the PtX facility will be determined in the future, with reference to a range of environmental and physical considerations, including bushfire risk.

A Bushfire Hazard Level (BHL) assessment provides a 'broad-brush' means of determining the potential intensity of bushfire risk in a particular area, categorising land as having a low, moderate, or extreme BHL, based on the pre-development state of vegetation. BHL assessments are to be prepared when the lot layout and/or detail of a development is not yet known.

The following bushfire risk characteristics apply to the Proposed Amendment area:

- The whole extent of the Proposed Amendment area is designated as a 'bushfire prone area' by the Fire and Emergency Services Commissioner under s.18P of the *Fire and Emergency Services Act 1998*.
- The amendment area consists of a variety of vegetation types (refer **Appendix A**), some of which will generate bushfire risk, potential for ember attack and varying levels of radiant heat during a fire event.
- The undulating topography of the Proposed Amendment area will influence bushfire risk.
- For the purpose of the Proposed Amendment, the BHL across the amendment area is assumed to be greater than BHL-LOW.
- For the purpose of the Proposed Amendment, the Bushfire Attack Level (BAL) across the amendment area is assumed to be greater than BAL-LOW.
- The Proposed Amendment area will be highly remote and emergency access, fire water availability and shelter-in-place responses will need to be considered as part of facility siting and design.
- The PtX will require a considerable Asset Protection Zone (APZ). Any APZ required to reduce bushfire attack at the PtX facility will not be constrained by land area, extent of clearing or adjacent land use.
- Establishment of any appropriate APZ will be influenced by vegetation type/condition and ecological value, which will be considered when siting the PtX and other infrastructure is finalised.

Preliminary Bushfire Management advice on the Project from an independent specialist indicated:

- A single access/egress road to the Project is likely sufficient, given the scale of the Project area and planned on-site, fire-fighting equipment and infrastructure;
- The accommodation camp, with a surrounding 100 metres vegetation clearance, is appropriate for a shelter-in-place fire refuge; and
- A 100 metres vegetation clearance around infrastructure, together with on-site fire-fighting equipment and infrastructure, will meet asset protection requirements.

Bushfire hazards will be fully assessed and a Bushfire Management Plan developed for the Project as a whole, once building locations and designs are finalised and following consultation with the Department of Fire and Emergency Services.

The above aspects will be established and included as part of a detailed future development application, enforced though Condition 5(e) of the Proposed Amendment.

7.5 Landscape and Visual Impact

The Project has the potential to influence the visual and landscape qualities of the land. The scale of development, as well as the height of wind turbine infrastructure have the potential to influence perceptions of visual amenity from various surrounding locations.

Natural landscape and visual qualities are highly subjective and are influenced by considerations of heritage, cultural and social significance and perceptions of scenic qualities.

The Proposed Amendment includes provisions that require the preparation of a detailed Landscape and Visual Impact Assessment (LVIA) to accompany a future development application for the Project. The LVIA will be prepared to be consistent with the WAPC's *Visual Landscape Planning in Western Australia* manual and include considerations of:

- Visual management objectives, including definition of key geographic features.
- Potential visual impacts, including defining key landscape character units/types.
- Visual impact management measures.
- Recommendations and monitoring options to achieve acceptable landscape and visual impact outcomes.

The LVIA process ensures objective and robust assessment of landscape and visual impacts, following a recognised methodology. The LVIA report outcomes will accompany a future development application and support environmental approvals processes.

Photomontages depicting the visibility outcomes of infrastructure within the scheme amendment area from two locations around Kalbarri, being Chinamans Beach and Meanarra Hill, have been completed. These photomontages are included in **Appendix C** and demonstrate that the infrastructure will be obscured from view by existing landscape features from these locations.

Project infrastructure that is not subject to the Scheme Amendment, including Solar PV Farm and Wind Farm infrastructure components, have been excluded from the photomontages at the request of the Shire. A detailed assessment of the visual impact of all infrastructure components will be undertaken at the development application stage, as required by Condition 5(c) of the Proposed Amendment.

8. Infrastructure Considerations

8.1 Site Access

8.1.1 External Vehicle Connections

Primary vehicle access to the Project will be established by a new intersection constructed on the North West Coastal Highway. The intersection will be located to the south of the State Barrier Fence, and north of an existing south-bound parking/rest area at (approximately) the following coordinates:

- 27°19'41.53"S, 114°36'43.89"E

Design and construction of the intersection is subject to further detailed investigation and approval by Main Roads Western Australia (MRWA), but will broadly consist of:

- An at-grade T-junction of sufficient width for B-Double vehicles and prime mover with a jinker arrangement (two independent equipment/trailers at approximately 100 metres in length) for transport of wind turbine blades to make a lane-correct manoeuvre from the highway.
- Widening of North West Coastal Highway to enable the creation of sufficient turning lanes, sightlines and sufficient manoeuvring widths.
- Dedicated turning lanes to accommodate the approach of large vehicles from both a northern and southern direction.
- Drainage swales to retain stormwater flows.
- Sufficient lighting, guidance schemes and line controls.
- Consideration of vehicle sightlines and grades that allow for manoeuvring of large vehicles and long-loads.

Additional, future points of external access to the Project site may be considered if required for safety, logistics or other reasons.

8.1.2 Internal Access Routes

New internal access roads will be constructed from North West Coastal Highway to the PtX facility and associated infrastructure locations (e.g. marine export facility). Main internal access routes will include:

- A combination of sealed and unsealed roads with appropriate shoulders and stormwater management design features.
- A primary vehicle access road to connect the Proposed Amendment area to North West Coastal Highway along the alignment depicted on Figure 5.
- Two-way passing of all vehicle types expected to use the access road.
- Planning to ensure they are sufficient for emergency access, evacuation and attendance of emergency firefighting appliances and personnel.
- Planning to avoid areas of significant vegetation, identified fauna habitat and places of cultural heritage significance as much as reasonably possible.

Several informal access tracks exist across the Project site. Additional access tracks and roads will be created to support construction and maintenance of wind turbine and solar infrastructure.

8.1.3 Vehicle Movements & Deliveries

8.1.3.1 Existing traffic volumes

According to MRWA, in 2018/19 there were approximately 694 average daily vehicle movements along North West Coastal Highway north of Nerren Nerren Road, Meadow. In 2020/21, this volume increased to 744 average daily movements. The split of movements is approximately equal in each direction (northbound and southbound).

As a two-lane sealed road, these volumes are considerably below the designed capacity of North West Coastal Highway through the Meadow locality.

However, the potential for increased traffic volumes in/out of the Project site will impact existing traffic, especially at any newly created intersections. This is particularly the case for movements involving large equipment and components.

MRWA classifies the entire stretch of North West Coastal Highway from South Headland to Geraldton as 'OBD1 – 27.5m Oversize B-Double (Without Condition)', making the highway suitable for accommodating movements of Over Size Over Mass (OSOM) vehicles.

8.1.3.2 Construction traffic

A preliminary economic impact assessment was prepared by ACIL Allen in June 2023. The assessment provides a construction and operational workforce profile that has been used to contextualise likely workforce dynamics in the sections below. The assessment is based on preliminary economic modelling, which will be refined as the project develops.

Based on the economic impact assessment, the Project is predicted to generate a peak construction workforce of approximately 3,600 FTEs. The construction workforce is expected to be accommodated on the Project land, within a workforce accommodation facility.

The Project's location limits the proportion of the construction workforce that can attend the land via private vehicle. Bus services are therefore likely to be used to transport workers to/from the Project land. Bus movements will be limited to transferring workforce to/from the Project land at shift/swing change.

The majority of buses are expected to originate at Geraldton, with the workforce to be sourced there directly, or indirectly from connecting flights from Perth and other locations. No significant volume of bus traffic is expected to originate at or transfer through Kalbarri.

Geraldton is the preferred origin point as its airport runway is longer and can therefore accommodate larger aircraft than the Kalbarri Airport, which is necessary to accommodate the transport of the volume of workforce required at peak construction.

Appropriate bus parking facilities will be established to accommodate vehicle loading, as required. The location of bus parking will be determined at the detailed design phase, once workforce requirements are fully understood. It is expected that bus parking will be arranged at Geraldton Airport and the workforce accommodation facility. Bus parking is not expected to be required in Kalbarri or Northampton.

Further evaluation of construction requirements will determine:

- The available construction workforce that can be drawn from the Mid West region.
- Transportation and accommodation of the workforce at different periods of the construction program.
- Logistical considerations for delivery of equipment and large components.

This evaluation, set out in a Transport Impact Assessment accompanying a future development application will demonstrate how impacts to the road network will be appropriately managed.

8.1.3.3 Operational traffic

As described in section 9, the Project is predicted to generate approximately 600 FTE positions during operation. MHR will endeavour to source the majority of workers from within the Mid West region. Given the Project's isolation from major settlements, it is expected that most of the attending workforce will commute to the Project land via bus, and a small proportion by light vehicle. Some operational factors may result in workforce being accommodated on the land for a period of time.

Appropriate bus parking facilities will be established to accommodate vehicle loading. The location of bus parking will be determined in collaboration with the Shire once a Workforce/Manning Assessment has been undertaken at a later project stage.

8.1.3.4 Large deliveries

Although subject to further review, it is expected that large Project equipment and materials will be delivered by vehicle, via multiple ports across Western Australia. The port of origin will be determined based on the scale of the equipment/components and delivery route implications.

Large delivery items include various forms of plant, nacelles and turbine hubs and blades.

8.1.3.5 Managing traffic impacts

A future development application will be supported by a detailed:

- Transport Impact Assessment (TIA) prepared in accordance with the WAPC's *Transport Impact Assessment Guidelines*.
- Traffic Management Plan (TMP) prepared in accordance with Main Roads *Traffic Management Plan Guidelines and Template*.

The TIA will demonstrate how the traffic and transport movements generated by the Project are compatible with designed infrastructure.

A TMP accompanying the development application will identify how large traffic volumes (if applicable), or OSOM deliveries will be managed to ensure functionality and safety on the road network. This includes a route assessment for deliveries of OSOM items.

8.2 Utility Infrastructure

The Project does not require the use of any external infrastructure including connection to power, water, gas and waste water networks.

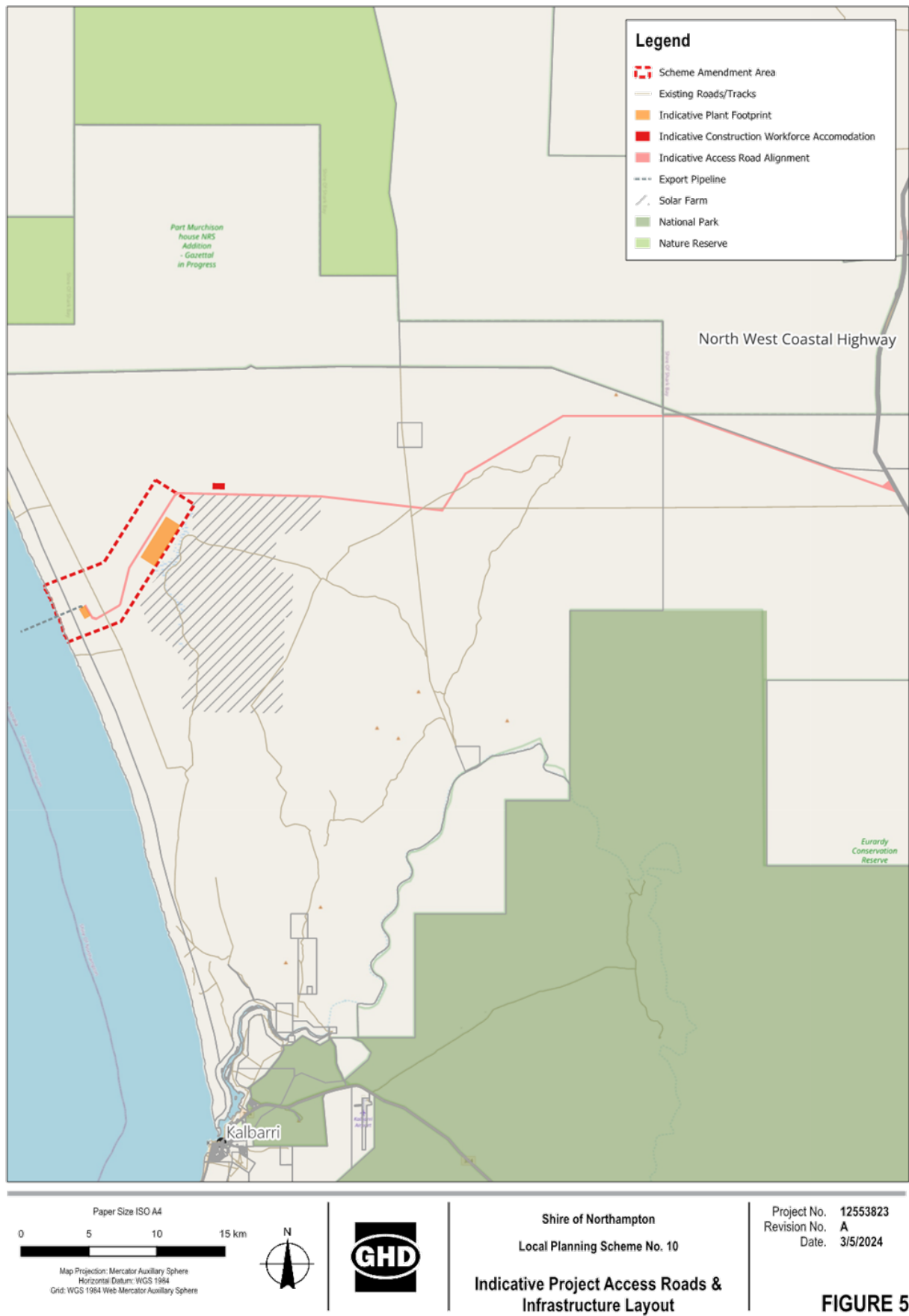
Electrical power for normal operations will be generated from on-site renewable power generation equipment. A battery energy storage system will provide back-up power to maintain the plant in standby mode during no/low renewable production. Power generators will be installed for the Project's initial construction phase and for minor emergency power demands.

Seawater will be extracted for operational requirements, including to supply the cooling water system and the desalination plant.

Water supply for construction has yet to be determined. Both desalination and groundwater options are being considered. Any groundwater use for construction will only occur following hydro-geotechnical studies and an environmental impact assessment and approval. Further, a section 5C licence under the *Rights in Water and Irrigation Act 1914* would be sought from the Department of Water and Environmental Regulation (DWER). A 5C licence to take water allows the licence holder to take a specified amount of water from a groundwater or surface water resource. The specified amount is set to an annual extraction quantity, determined to be sustainable for the short and long-term health and viability of the water body.

Waste water will be treated via an on-site treatment plant. Treated water will be used for irrigation and/or dust control. A temporary effluent disposal system will be developed to capture, remove, and treat waste water until construction of the on-site treatment plant is complete.

Water and waste water facilities will be developed nearby to the PtX facility, within the Proposed Amendment area. Water and waste water facilities for any workforce accommodation facility will be co-located at the facility.



9. Socio-Economic Considerations

9.1 Project Benefits

The Project is estimated to generate approximately \$569.4 million pa (per annum) in maintenance and operational costs. An estimated 98% of operational expenditure will take place within Australian businesses – spent on goods, wages, and other services. It is estimated that \$210.5 million pa of this expenditure will be spent in the Mid West region. Operationally, Mid West local content is expected to achieve approximately 37% of all Project consumption/economic activity.

9.2 Socio-Economic Impacts

As noted in the Shire's Local Planning Strategy, incremental population growth occurred within the Shire between 2011 and 2016. At the 2016 census, the population was recorded to be 3,319 persons, with almost half the Shire's population living in the town of Kalbarri.

However, at the 2021 census, the Shire's population had decreased to 3,227 persons. The WAPC's WA Tomorrow projections indicate ongoing population decline, at approximately -1.25% per annum (pa). Based on B and C (median) population forecasts, the Shire's population will reduce to 2,840 persons by 2031.

In the context of population decline and the significant scale of the Project, it is important that the Project responds to the socio-economic conditions of the district. Socio-economic impacts will primarily relate to the availability of labour, materials, and equipment in the region.

MHR recognises impacts the Project may have in the region and is committed to:

- Using subject matter experts to identify socio-economic impacts, once the Project has been appropriately defined
- Ensuring compliance with all relevant legislative requirements
- Engaging with all relevant stakeholders, particularly the Shire, the local community, and the WA Government, to appropriately manage impacts; and
- Address social impacts through a Social Impact Assessment, accompanying management plan and a Community Benefit Sharing Plan, as required by condition 5(f) and 6 in the Proposed Amendment.

The following sections provide an overview of expected construction and operational workforce requirements and the investigation of the potential socio-economic implications arising from the Project, based on the projections provided in the preliminary assessment of economic impacts by ACIL Allen. The preliminary assessment was undertaken to develop an understanding of the broad economic and socio-economic benefits and broad workforce requirements of the Project. The preliminary assessment was not undertaken to estimate Project impacts.

9.2.1 Construction Phase Impacts

During the Project's construction phase, it is estimated that on average 1,466 FTE jobs will be created, with a mid-construction peak demanding approximately 3,600 workers. MHR will endeavour to source all labour within Australia and as much as possible within Western Australia and the Mid West region.

The Project is expected to achieve steady-state production by 2031-2032, meaning most of the Project's resourcing demands will occur during the current decade.

The existing workforce within the Shire is approximately 1,744 persons. The total employment workforce of the Mid West region is approximately 30,377 persons, which represents about 2% of the total available workforce in WA. As such, the Project will need to source a portion of its workforce from outside of the Mid West.

Workforce accommodation facility

A workforce accommodation facility is currently sited approximately 3 kilometres (north-east) from the indicative footprint PtX plant footprint as depicted on Figure 5. The final location of the facility will be subject to further

studies and considerations including safety, heritage, environment and logistics management. The facility will enable short-term accommodation of the Project's construction workforce and will be:

- Sized to accommodate the peak construction workforce, including for shift change requirements.
- Self-contained, as much as possible, to minimise impacts on Kalbarri and other surrounding settlements.
- Constructed to include all facilities required for the accommodation's day-to-day functioning, including dry and wet mess areas and recreational facilities, as well as to comply with state policy.
- Managed to enhance supply and business opportunities associated with the camp's construction and operations, whilst minimising any impacts to local community cohesion, services, networks or infrastructure.

9.2.2 Operational Phase Impacts

During operations, the Project will employ an average of 600 FTE workers. The majority of this workforce is expected to be accommodated in key settlements at Kalbarri, Northampton and Geraldton, with access to the Project gained via a combination of bus and light vehicle. Acute housing shortages in some of these locations (Kalbarri in particular) will require detailed consideration of housing supply to mitigate impacts on affordability. A smaller proportion of the operational workforce may be accommodated at the land to satisfy operational requirements, for a period of time. Should this occur, it is expected that accommodation will be provided in a down-sized form of the construction workforce accommodation facility.

Together with the SIA and Community Benefit Sharing Plan, MHR will work closely with the Shire, the Mid West Development Commission and other agencies, to understand and plan for additional social infrastructure requirements, resulting from the Project. It is understood public and private funding will be required to ensure a sustainable transition of the operational workforce, and their families, into the region.

9.2.3 Social Impact Assessment

Condition 5(f) of the Proposed Amendment requires the preparation of a detailed SIA. The SIA is to evaluate the socio-economic impacts of the Project and where negative impacts are identified, include measures to reduce, mitigate or off-set the impacts. Further, a Community Benefit Sharing Plan, required through Condition 6 of the Proposed Amendment ensures that MHR makes contributions aligned to the SIA that reduce and mitigate impacts and otherwise contribute to improving the socio-economic sustainability of the surrounding district.

A Deed of Agreement between MHR and the Shire will be established to guide the preparation and implementation of the SIA, confirming MHR's commitment to appropriately addressing the socio-economic impacts of the proposal.

Attachment 1 of the LPP – SIA sets out a range of impact criteria that an SIA is to address when making its evaluation. A Summary Preliminary Social Impact Assessment has been prepared by a suitably qualified social impact practitioner and is included in this report at **Appendix D**. The Social Impact Summary describes the key impact categories of LPP – SIA, the potential impacts related to each category and preliminary mitigation and enhancement responses.

To establish and investigate each socio-economic impact item in sufficient detail, various elements relating to the Project need to be confirmed. This includes final sizing of the workforce, a detailed construction program and infrastructure requirements. A full and detailed SIA process will be undertaken to fully inform mitigation and enhancement measures, which will then be implemented through a development application and accompanying Community Benefit Sharing Plan.

As there are a number of stakeholders whose input must be sought as part of the SIA process and various potential mitigations available, a working group will be established. The working group will comprise various stakeholders, including the Shire, members of the community, the Mid West Development Commission, and others.

A critical component of preparing SIA's is direct and fulsome engagement with impacted stakeholders.

Stakeholder engagement on socio-economic impacts is critical in ensuring:

- Socio-economic and community contexts are fully understood
- Future trends/needs emerging in the community are accounted for
- Effective relationships are developed for implementation of the SIA; and
- Greatest socio-economic license is achieved for the benefit of the Shire's community.

The Proposed Amendment includes the provision of a detailed SIA to accompany a future development application for the Project, which is expected to be formulated over the next 12-month period.



10. Amendment Justification

The Proposed Amendment addresses the key objectives of the State and local planning framework, to enable the consideration of an Industry land use to support the Project.

The Project is strongly aligned with goals of the State Government Western Australian *Renewable Hydrogen Strategy and Roadmap*; and significant consultation on the Project has occurred with key government and community stakeholders. The Proposed Amendment has the potential to facilitate land use that will provide significant economic, environmental, and social benefit to the Shire of Northampton district and the State of Western Australia.

The Project is a complex proposal, involving several competing and interrelated environmental, social, economic and regulatory considerations. The further development of the Project will occur over the coming years and operation of the Project will occur over a number of decades. The complexity of considerations means that, while defined at a high level, significant detail relating to Project components is still being developed.

Limited to uses that support renewable energy production

The Proposed Amendment introduces provisions into clause 33 (Additional Site and Development Requirements) that have the effect of only permitting uses that associated with the production, conversion, storage and export of renewable energy, including green hydrogen and green ammonia.

Requirements are applied that ensure uses that are unrelated to green hydrogen and green ammonia production cannot occur.

Aligned with EPA Assessment

The Project is currently subject to assessment under Part IV of the EP Act. To ensure alignment between environmental and planning conditions/requirements for the Project, the Proposed Amendment includes provisions that development is to be in accordance with a Ministerial Statement authorisation granted under s. 45 of Part IV of the Environmental Protection Act 1986 (WA) arising from EPA Assessment Number 2339 (refer requirement 3).

Further reduction in extent General Industry zone prior to gazettal

The Proposed Amendment rezones approximately 3,880 hectares of land from 'Rural' to 'General Industry'. Requirement 2 of the proposed Table 6 limits the development footprint to a maximum of 635 hectares.

It is proposed that, by the time the Proposed Amendment is in a position for gazettal, the extent of the General Industry zone will be able to be rationalised to an area no greater than 635 hectares.

Other development requirements

The Project involves a series of complex site and environmental considerations that warrant investigation. The need for these investigations has been identified through the review of the various strategic framework relevant to the land, as well as the sites physical characteristics. This includes:

- Conservation of significant flora, fauna and cultural heritage
- Risk, security and safety of the Project
- Impacts to the land's coastline and marine environment
- Visual impact on the surrounding landscape and key view points
- Management of bushfire risk
- Socio-economic impacts and investment in the local community.

As the design of the Project continues, greater detail will be able to inform investigation of specific environmental, social economic and regulatory outcomes. To carry out such investigations would require a level of detail regarding Project design that is unwarranted and not practically achievable at this stage. Progression of the Proposed Amendment would provide confidence to undertake detailed investigation of the abovementioned elements, in conjunction with further design of the Project.

To ensure these matters are given full and proper consideration at development application stage, a number of requirements are requested to be inserted into Table 6 that requires assessment of:

- Risks, security and safety measures (refer requirement 5(a)).
- Impacts to the coastline adjacent to the Proposed Amendment area (refer requirement 5(b)).
- The visual impact of the Project (refer requirement 5(c)).
- Vehicle access to the Project (refer requirement 5(d)).
- Compliance with bushfire risk and management requirements (refer condition 5(e)).
- Preparation of a SIA (condition 5(f)) and implementation of a Community Benefit Sharing Plan (condition 6).

10.1 Justification

The Proposed Amendment addresses and range of planning and environmental considerations, as set out below:

Table 10 Amendment Justification

Summary	Justification
The proposed Industry use is a secondary aspect of the Project, attending to the Renewable Energy Facility which is a discretionary use in the Rural zone of LPS10.	<p>The Proposed Amendment allows for the consideration of Industry land uses over a 3,881 hectares area. The Industry land use will enable the development of structures, buildings and infrastructure for the production, conversion, storage and export of renewable energy, including green hydrogen and green ammonia. These activities are a necessary component of the wider Renewable Energy Facility land use.</p> <p>The Renewable Energy Facility land use is a discretionary use under LPS10 and contemplated on all Rural zoned land throughout the Shire. However, in order to facilitate the Renewable Energy Facility use, industrial land use elements are required.</p> <p>The proposed Industry use is consistent with the objectives of the surrounding Rural zone as:</p> <ul style="list-style-type: none"> – The Industry land use will be remote from any population centres and any intensive agricultural/rural land use. – The Proposed Amendment will not unreasonably reduce the capacity of land available for rural agricultural use. It is noted that the floor space of buildings within the General Industry area is limited to a maximum of 635 hectares . – The Proposed Amendment will ensure the Industry land use is developed in a way that does not result in unacceptable landscape, vegetation reduction, soil degradation or water quality impacts.
The Proposed Amendment limits the size, scale and location of the Industry land use to ensure minimisation of impacts.	<p>The maximum floor area of 635 hectares ensures the industry uses associated with the Project are limited in scale. Industry uses will be concentrated nearby to the marine export facility to ensure construction and operational efficiency.</p> <p>Industry use will be a secondary component of the wider Renewable Energy Facility project. It's location and scale will be comparatively minor compared to the scale of the wider Project.</p> <p>Notwithstanding, it is recognised that the appearance of industry land use will be different to other uses in the surrounding Rural zone and along the Murchison coastline. The Proposed Amendment includes a specific condition that ensures future development should be assessed for its visual impact on the surrounding area. A comprehensive Landscape and Visual Impact Assessment, consistent with the WAPC's <i>Manual for Evaluation, Assessment, Siting and Design</i> will be prepared to support the Project.</p>
The Proposed Amendment will not compete with demand for industrial zoned land	<p>The Local Planning Strategy identifies a deficiency in industrial land use and employment opportunities within the Shire. It identifies several actions to increase industrial economic activity within the district, but predominately within the Northampton townsite.</p> <p>The Project is remote from existing towns and industrial areas, though is likely to generate significant employment demand during construction and operation. The Project involves a unique Industry land use that will not generate, detract or compete with demand for industrial land in and around population centres.</p> <p>It is necessary that the industry land use aspects of the Project are located at the generation source of renewable energy. The Proposed Amendment includes requirements that ensure land use is limited only to that associated with the broader Renewable Energy Facility, and specifically the Project.</p>

Summary	Justification
The Proposed Amendment ensures land use addresses the outcomes of existing and/or future environmental review by the Environmental Protection Authority.	<p>The Project is highly complex, involving many environmental, social, economic and governance considerations.</p> <p>Consideration of the environmental constraints of the Proposed Amendment area, and the Project's wider development envelope are of critical importance.</p> <p>The Proposed Amendment ensures future development be consistent with a Ministerial Statement under the EP Act. Regard must also be given to several other factors including security and safety measures, separation to sensitive land uses, public use of coastline, visual impacts and vehicle access.</p>
The Proposed Amendment and Project will facilitate significant employment growth in the region.	<p>It is estimated that the Project will create 3,600 construction jobs (at peak of the construction period) and 600 direct and in-direct permanent jobs.</p> <p>The Shire's local economy is agricultural based. Agriculture has experienced a significant decline in local employment, from 17.3% of the workforce (233 persons) to 12.1% (155 persons) between 2011 and 2016. At the 2021 census, the Shire's population had decreased to 3,227 persons since the 2016 census; a decline of approximately 1.25%. The Shire's population is forecast to decrease further by 2030. The employment in the agricultural sector will need to be replaced if the Shire is to avoid population decline.</p> <p>The Proposed Amendment facilitates critical aspects of the Project, which overall, has the potential to provide significant employment opportunities within the Mid West region.</p> <p>The Project is estimated to generate approximately \$569.4 million per annum in maintenance and operational costs, of which an estimated 37% is expected to be provided in the Mid West region. This represents significant economic and employment benefit for the region and the Shire.</p> <p>The Proposed Amendment includes conditions requiring the preparation of a SIA and accompanying Community Benefit Sharing Plan. These provisions ensure the identification of potential socio-economic impacts and measures to reduce, mitigate or off-set impacts as appropriate.</p>
The Project aligns with goals of Western Australia's Renewable Hydrogen Strategy and Roadmap and Climate Policy.	<p>The State Government, through the <i>Western Australian Renewable Hydrogen Strategy and Roadmap</i>, has recognised the need to facilitate green hydrogen production and ammonia export in pursuit of significant opportunities for economic growth stemming from this emerging industry.</p> <p>The Project aligns with objectives of the State Government <i>Western Australia Renewable Hydrogen Strategy and Roadmap</i>, by harnessing the competitive advantages afforded by its location on the Shire of Northampton coastline and expansive renewable energy resources to deliver green ammonia to growing export markets.</p> <p>The Project will contribute to WA's position as a major producer and exporter of renewable hydrogen and ammonia.</p> <p>The Project further aligns with the Western Australian Climate Policy. The production and export of renewable energy represents an opportunity for Western Australia to support international decarbonisation efforts, while also supporting Australia's commitments to global emissions reductions.</p>
The Proposed Amendment considers the impact of potential future Industry uses on other users of the area, including impacts to safety and security, as well as impacts on the public use of the nearby coastline.	<p>The Shire of Northampton's coastline has abundant renewable resource potential and coastal access. This makes the area highly desirable for renewable energy generation and export. These activities will provide significant economic, environmental, and social benefit to the Shire's district and Western Australia as a whole.</p> <p>Notwithstanding, there are potential notable safety and security implications associated with the overall Project. It is appropriate that, given the unique nature of the land use, that these manageable risks be subject to specific consideration.</p> <p>The Proposed Amendment includes conditions that require the preparation of a preliminary risk analysis for the production, conversion, storage and export of green hydrogen and/or green ammonia which examines:</p> <ul style="list-style-type: none"> – Security and safety measures – Buffer distances between the development and surrounding sensitive uses; and – Emergency response plans. <p>These matters are critical to the safe operating of industry land use, recognising the interface with surrounding low intensity land use and the publicly accessible coastline.</p>

Summary	Justification
<p>The amendment provides regulatory confidence for the Proponents to further develop and investigate the Project.</p>	<p>As described above, the Project has the potential to provide significant economic, social and environmental benefit to the Shire of Northampton and Western Australia as a whole. The Proposed Amendment is an important component in providing the Project and initiation of the amendment process will provide the regulatory confidence required to continue detailed technical, environmental, social, economic and regulatory investigations. These investigations will ensure outcomes from the Project provides maximised benefits, while mitigating negative characteristics.</p>

11. Summary

The Proposed Amendment is to rezone a 3,881 hectares portion of the land from 'Rural' to 'General Industry' and apply additional site and development requirements. The Proposed Amendment is to enable consideration of land use associated with the production, conversion, storage and export of renewable energy, including green hydrogen and green ammonia.

The Proposed Amendment will contribute to addressing the key issues and strategies of the Shire Local Planning Strategy, by supplying industrial uses, diversifying the economy and providing local employment opportunities. Further, the Proposed Amendment ensures that any land use:

- Is associated with the Project.
- Is limited in scale to a maximum development footprint of 635 hectares.
- Is developed in accordance with a Ministerial Statement granted under Part IV of the EP Act.
- As part of any development application, considers safety and security risks, public use of the coastline, visual impact, vehicular access, bushfire risk and social impact.

The Project has the potential to deliver significant economic, social and environmental benefits to the Shire of Northampton and the State of Western Australia. The Project is set to remove ~ 5.3m tonnes of CO₂ emissions annually, through the creation of an alternative green fuel source. The Project is not located in an area with a high agricultural capacity.

The Project is strongly aligned with goals of the *Western Australian Renewable Hydrogen Strategy and Roadmap* and Climate Policy; and significant consultation on the Project has occurred with State government stakeholders.

Appendix A

Environmental Assessment Supporting Document




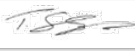
Environmental Assessment Supporting Document

Shire of Northampton LPS No. 10 Scheme Amendment

Murchison Hydrogen Renewables Pty Ltd as trustee for
the Murchison Hydrogen Renewables Trust

11 April 2024

➔ **The Power of Commitment**

Project name		Murchison Green Hydrogen					
Document title		Environmental Assessment Supporting Document					
Project number		12553823					
File name		12553823-REP-0_DA Env Supporting Doc.docx					
Status Code	Revision	Author	Reviewer		Approved for issue		
			Name	Signature	Name	Signature	Date
S3	Final	T Raschilla N Thomas	T Sleigh		N Holdsworth		21.11.23
S4	Final	B Palm	T Sleigh		N Holdsworth		11.04.24

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➔ The Power of Commitment

Executive Summary

This report is subject to, and must be read in conjunction with, the limitations set out in section 1.3 and the assumptions and qualifications contained throughout the Report.

Overview

Murchison Hydrogen Renewables Pty Ltd as trustee for the Murchison Hydrogen Renewables Trust (MHR) is seeking approval to develop the Murchison Green Hydrogen Project (the Project). The Project will use combined onshore wind and solar energy of up to 6.1 gigawatt (GW) capacity to produce green hydrogen, which will be converted to an estimated 2 Million tonnes per annum (Mtpa) of green ammonia for export to emerging green energy markets.

The Project is located within the Murchison Region of Western Australia, approximately 20 km north of Kalbarri within the Shire of Northampton. The majority of the Project lies within the Murchison House Station (registered number N050525). All the land necessary for the Project lies within a Development Envelope (DE). Within the DE is an area where MHR are seeking to amend the Shire of Northampton (Shire) Local Planning Scheme No. 10 (LPS10) across three (3) lots.

The amendment seeks to rezone land within a portion of the DE to 'General Industry' and apply additional site and development requirements provisions. The amendment intends to enable consideration of land use that is associated with the production, storage and export of green hydrogen and green ammonia within the General Industry zoned area.

The General Industry zoned area is approximately 3,881 ha in size and is in the northwest portion of the DE. The General Industry zoned area is referred to as the Proposed Amendment area (PAA).

An Environmental Assessment (EA) of the PAA was undertaken to identify potential environment and heritage values that may be either directly or indirectly impacted by this Project. The assessment involved review of publicly available spatial datasets (sourced from the Government of Western Australia (GoWA)), purchased government databases (sourced from the DBCA, 2022) and preliminary results from draft ecology surveys undertaken within the DE (GHD 2023a, 2023b).

Flora and Vegetation

The PAA predominantly lies within the Geraldton Sandplains IBRA bioregion and within the Geraldton Hills IBRA subregion. Broad scale (1:250,000) pre-European vegetation mapping of the area was completed by (Beard 1976) at an association level. Mapping indicates three vegetation associations are present within the PAA; Mosaic; Shrublands; scrub-heath on coastal association on yellow sandplain / Shrublands; acacia patchy scrub (association 401), Shrublands; heath on coastal limestone (association 402) and Shrublands; *Acacia ligulata* scrub-heath (association 403). All vegetation association are currently maintained at greater than 94% of their pre-European extent at all scales (e.g. State, IBRA bioregion, IBRA subregion and LGA).

GHD (2023a) undertook a detailed survey of the PAA, as part of a wider survey of the DE, between August and November 2022. Preliminary results indicate the presence of nine unique native vegetation types within the PAA. The dominant vegetation type found within the PAA is VT14, with a total of 1,259.31 ha and comprising 32.5% of the PAA. Following VT14 in percentage of area within the PAA is VT22 which occurs across 1,159.21 ha (29.9%) and VT02 which occurs across 1,012.78 ha (26.1%). The remainder of the PAA is comprised of six further unique vegetation types as described in Table 4. Together, these six vegetation types represent 11.3% of the PAA. Preliminary results for extents of vegetation condition were unavailable for this EA, however it is known that condition ranged from Pristine to Completely Degraded.

The NatureMap (DBCA 2007-, Attachment A) database identified 256 flora taxa previously recorded within a 5 km buffer surrounding the PAA. The EPBC Act Protected Matters Search Tool (PMST, DCCEEW 2023a, Attachment A), NatureMap (DBCA 2007-) and DBCA TPFL and WAHerb databases (DBCA 2022b) identified the presence/potential presence of 16 significant flora species within the PAA, with preliminary results from the GHD (2023a) study including an additional six significant species. A likelihood of occurrence (LOO) assessment was undertaken on the 22 significant flora species considered as potentially occurring. Three Threatened flora species are considered unlikely or highly unlikely to occur. Of the 19 Priority flora taxa considered in the LOO, 13 are known to occur within the PAA.

Terrestrial fauna

Preliminary results of the GHD (2023b) survey identified six terrestrial fauna habitat types within the PAA, these fauna habitat types include; Banksia Shrubland, Beach and associated dunes and limestone ridge, Clay Pans/ Lake Culcurdoo, Cleared/Farmland, Coastal Heathlands, and Limestone hills and Ridgelines. The dominant fauna habitat is the Coastal Heathlands which comprises an area of 3,690.53 ha (64.5% of the PAA). The dominant fauna habitat is the Limestone hills and Ridgelines which comprises an area of 1,331.34 ha (34.3% of the PAA). This habitat is considered high value to terrestrial fauna and is considered habitat for several conservation significant species, including Malleefowl (*Leipoa ocellata*), Gilled Slender Blue-tongue (*Cyclodomorphus branchialis*) and Chuditch (*Dasyurus geoffroii*). Following Limestone hills and Ridgelines in percentage occupied of the PAA is Banksia Shrubland, the second dominant fauna habitat type, occupying 1,136.59 ha (30.0%) and Coastal Heathlands, occupying 1,151.88 ha (29.69%) of the PAA. Both areas are considered High Value and Moderate Value habitat respectively.

The NatureMap (DBCA 2007) database and the EPBC Act PMST, considering the PAA and a 5 km buffer (Attachment A), identified the presence/potential presence of 26 conservation significant species potentially occurring within the terrestrial environment of the PAA. Preliminary results from the GHD (2023b) detailed survey of the DE, indicated that an additional eight conservation significant species may occur within the PAA, bringing the total of potentially occurring conservation significant species to 34. Of these, 17 species are considered known or likely to occur within the PAA. The majority of these species (10) are migratory birds that utilise the beaches and coastal habitat for foraging.

Inland Waters

The PAA falls within the Gascoyne Groundwater Area, proclaimed under the *Rights in Water and Irrigation Act 1914* (RIWI Act). No groundwater investigations have been undertaken within the PAA, however online records for groundwater within the DE exist through the Water Information Reporting (WIR) system, maintained by the Western Australian Department of Water and Environmental Regulation (DWER).

Drilled bore depths were in the range 93.3 m to 163.1 m below ground level (bgl). Depths to water are indicated for seven of the ten bores as occurring at the time of drilling below depths in the range 79 mbgl to 139 mbgl. There are indications in the drilling notes that water was only recovered from isolated zones in the ground profile at some of the bore locations. Two of the other three boreholes for which water depths are not provided do not indicate that water was encountered.

The PAA is not located within a Surface Water Area, Irrigation District or River proclaimed under the RIWI Act. No rivers or surface water bodies intersect the PAA.

No Wetlands of International Importance (Ramsar) or Nationally Important Wetlands intersect the PAA. The PAA also does not intersect any Geomorphic Wetlands.

Social Surroundings

A review of the Aboriginal Heritage Inquiry System (DPLH 2023, Attachment C) has confirmed that no 'Registered' Aboriginal Sites are found within the PAA. Two registered sites are within 1 km of the PAA boundary. Detailed archaeological and ethnographic Aboriginal heritage surveys will be undertaken across the DE, inclusive of the PAA, prior to ground disturbance works, in consultation with and together with the Traditional Owners and determined native title owners.

The Shark Bay World and National Heritage Area is located to the north of the PAA. Shark Bay's waters, islands and peninsulas cover a large area of approximately 2.2 million ha, 70% of which are marine waters. The PAA will not directly impact on any of the values of this World/National Heritage Area.

Desktop research indicates that there are no known sites within the DE that have State or Local heritage status (GoWA 2019b; GoWA 2019c).

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Attachment B	Likelihood of occurrence assessment
Attachment C	Aboriginal Heritage Inquiry System

1. Introduction

Murchison Hydrogen Renewables Pty Ltd as trustee for the Murchison Hydrogen Renewables Trust (MHR) is proposing to develop the Murchison Green Hydrogen Project (the Project). The Project will use combined onshore wind and solar energy of up to 6.1 gigawatt (GW) capacity to produce green hydrogen, which will be converted to an estimated 2 Million tonnes per annum (Mtpa) of green ammonia for export to emerging green energy markets.

1.1 Project location

The Project is located within the Murchison Region of Western Australia, approximately 20 km north of Kalbarri (Figure 1) within the Shire of Northampton. The majority of the Project is within Murchison House Station (registered number N050525) (Figure 2). All the land necessary for the Project is within the DE, as shown on Figure 2.

MHR are seeking a scheme amendment to the Shire's LPS10 to rezone land within a portion of the DE to 'General Industry' and apply additional site and development requirements. The amendment intends to enable consideration of land use that is associated with the production, conversion, storage and export of green hydrogen and green ammonia within the General Industry zoned area.

The General Industry zoned area is approximately 3,881 ha in size and is in the northwest of the DE (Figure 2). The General Industry zoned area is referred to as the Proposed Amendment area (PAA) for the purpose of this supporting document.

The surrounding land use for the Project is pastoral and reserves, with the Kalbarri National Park approximately 30 km southeast of the PAA. The PAA is located 27 km to the north of the Murchison River at its closest point. The Shark Bay World Heritage Area is located to the north of the PAA. The northern boundary of the Project's DE borders the State Barrier Fence Reserve.

1.2 Project approvals context

The Project was simultaneously referred to the Environmental Protection Authority (EPA) under the *Environmental Protection Act 1986* (EP Act) and the Department of Climate Change, Energy, the Environment and Water (DCCEEW) under the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act). On May 11th, 2022, the EPA set the level of assessment of the Project at Public Environmental Review (PER, Assessment No. 2339) and on the June 24th 2022, DCCEEW announced their referral decision that the Project would be considered a Controlled Action (EPBC No. 2022/09217). Additionally, DCCEEW announced that the Project would be assessed via accredited assessment under the EP Act.

The EPA have chosen to assess the Project as it may have potentially significant impacts on; Air Quality, Social Surroundings, Benthic Communities and Habitats, Coastal Processes, Marine Environmental Quality, Flora and Vegetation, Landforms, Terrestrial Fauna and Inland Waters. While DCCEEW have determined the Project to be a Controlled Action as it may have significant impacts on the following controlling provisions; listed threatened species and communities, listed migratory species, Commonwealth marine area, the heritage values of a National Heritage place and the world heritage values of a declared World Heritage property.

The Project is currently in the active assessment phase and the Environmental Review Document is likely to be published in late 2024/early 2025.

1.3 Purpose and scope of this report

The scope of this report was to undertake an Environmental Assessment (EA) intended to support the Proposed Amendment. The EA will take into account existing public/paid for data and preliminary results of ecological surveys relevant to the PAA where data has been available at the time of this EA.

1.4 Limitations and assumptions

This report has been prepared by GHD for Murchison Hydrogen Renewables Pty Ltd as trustee for the Murchison Hydrogen Renewables Trust and may only be relied on by Murchison Hydrogen Renewables Pty Ltd as trustee for the Murchison Hydrogen Renewables Trust for the purpose agreed between GHD and Murchison Hydrogen Renewables Pty Ltd as trustee for the Murchison Hydrogen Renewables Trust as set out in section 1.3 of this report.

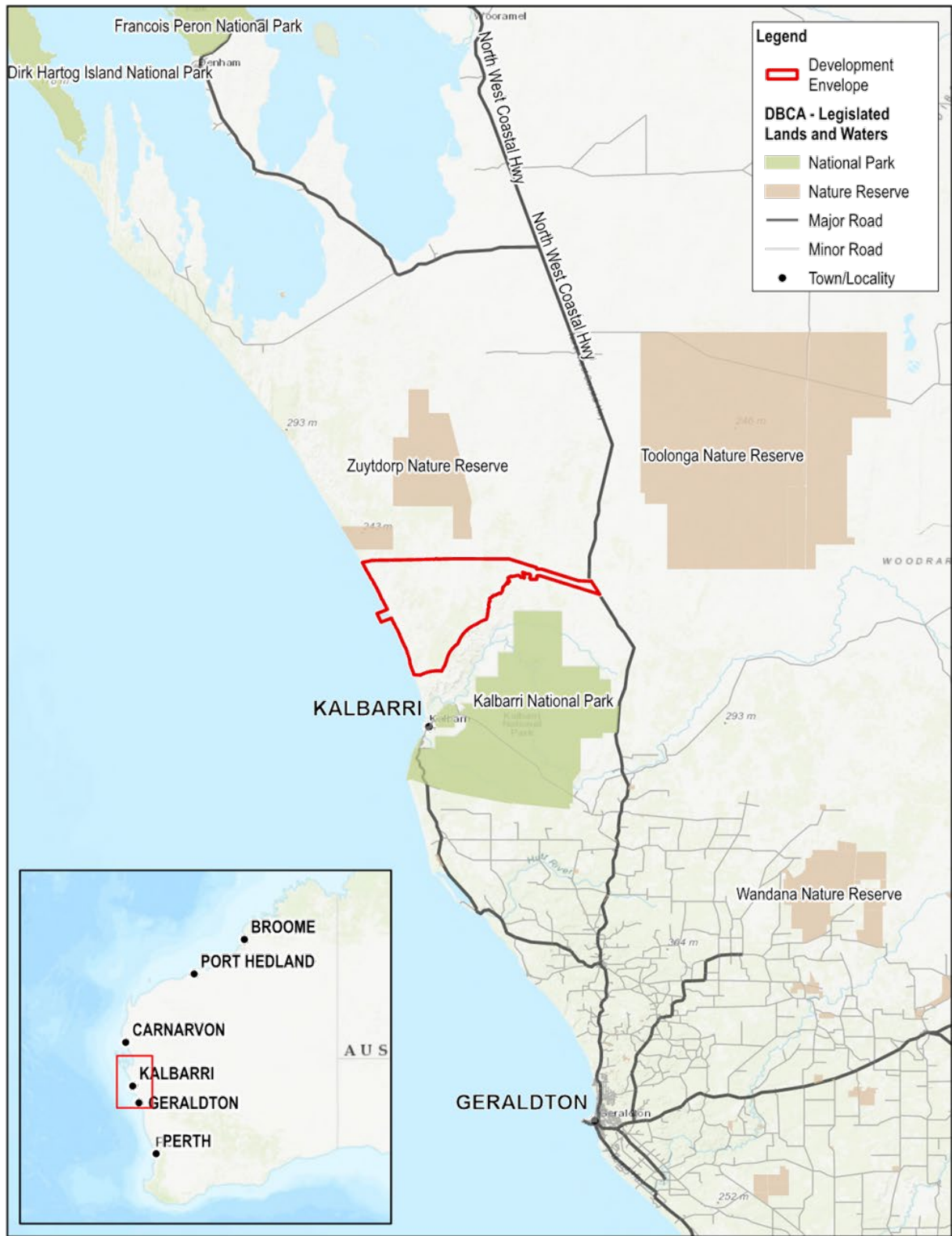
GHD otherwise disclaims responsibility to any person other than Murchison Hydrogen Renewables Pty Ltd as trustee for the Murchison Hydrogen Renewables Trust arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report (refer section(s) 1.3 of this report). GHD disclaims liability arising from any of the assumptions being incorrect.

GHD has prepared this report on the basis of information provided by Murchison Hydrogen Renewables Pty Ltd as trustee for the Murchison Hydrogen Renewables Trust 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.



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Kilometers



Horizontal Datum: GDA 94
Grid: Longitude / Latitude (GDA 94)



Murchison Hydrogen Renewables Pty Ltd
Murchison Hydrogen Renewables Project

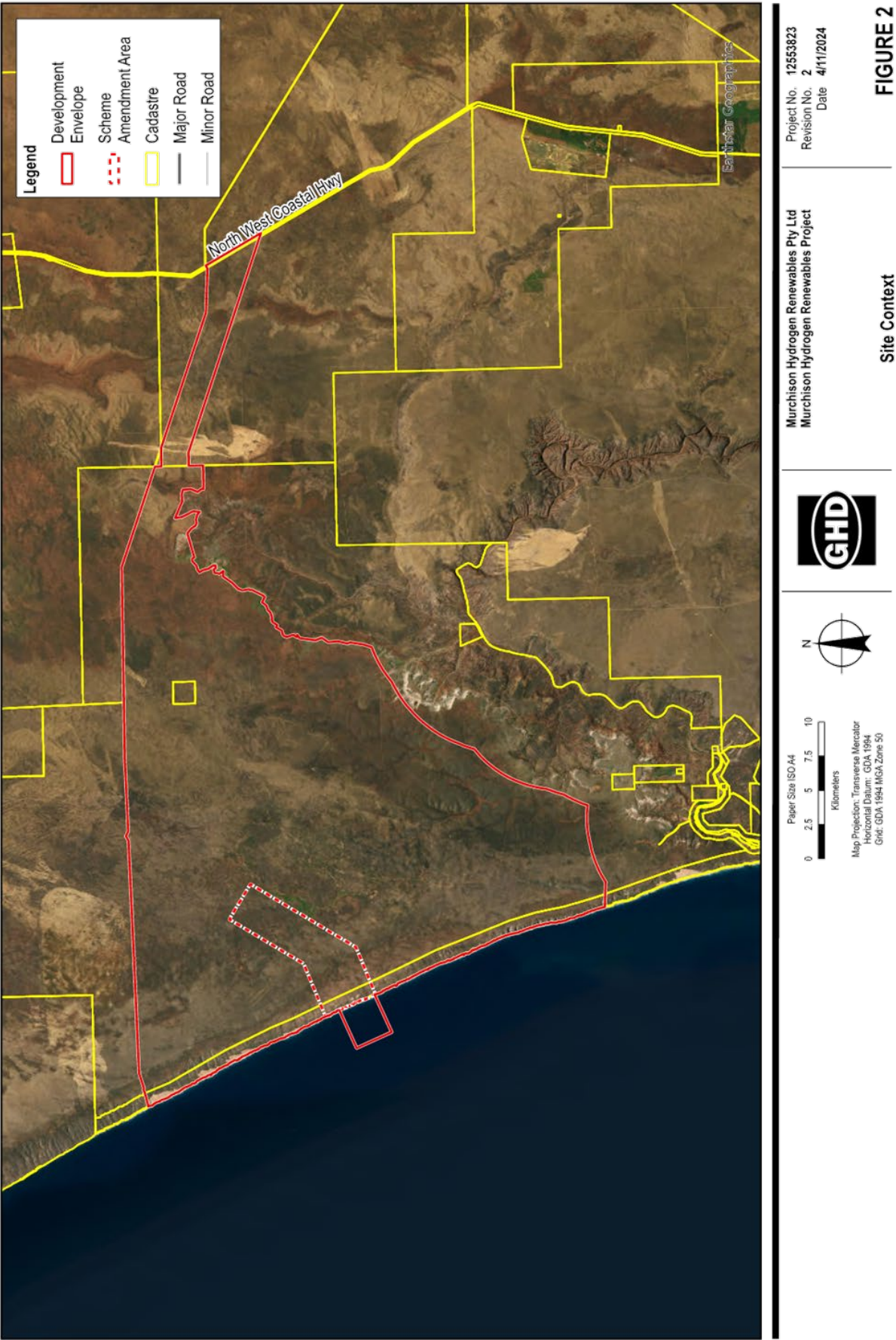
Project No. 12553823
Revision No. 0
Date 4/11/2024

Regional Locality

FIGURE 1

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Print date: 11 Apr 2024 - 10:44

Data source: World Topographic Map: Esri, HERE, Garmin, FAO, NOAA, USGS
World Topographic Map: Esri, HERE, Garmin, FAO, USGS, NOAA. Created by: Ismail



2. Methodology

2.1 Desktop assessment

A desktop assessment of the PAA was undertaken to identify potential environment and heritage values that may be either directly or indirectly impacted by this Project. The assessment involved review of publicly available spatial datasets (sourced from the Government of Western Australia (GoWA)) and purchased government databases (sourced from the DBCA, 2022), Table 1.

Table 1 Information sources

Aspect	Information Source
Land use	<ul style="list-style-type: none"> – Region Scheme - Zones and Reserves (DPLH-023) (GoWA 2019e) – Local Planning Scheme – Zones and Reserves (DPLH-071) (GoWA 2019f)
Conservation reserves and areas	<ul style="list-style-type: none"> – DBCA – Legislated Lands and Waters (DBCA-011) (GoWA 2017b) – DBCA – Lands of Interest (DBCA-012) (GoWA 2017c)
Environmentally Sensitive Areas (ESAs)	<ul style="list-style-type: none"> – Clearing Regulations - Environmentally Sensitive Areas (DWER-046) (GoWA 2018f)
Hydrology	<ul style="list-style-type: none"> – Public Drinking Water Source Areas (DWER-033) (GoWA 2018b) – <i>Rights in Water and Irrigation Act 1914</i> (RIWI Act), Surface Water Areas and Irrigation Districts (DWER-037) (GoWA 2018e) – RIWI Act, Groundwater Areas (DWER-034) (GoWA 2018c) – RIWI Act, Rivers (DWER-036) (GoWA 2018d) – <i>Waterways Conservation Act</i> Management Areas (DWER-072) (GoWA 2018g) – Ramsar Sites (DBCA-010) (GoWA 2017a) – Directory of Important Wetlands in Australia - Western Australia (DBCA-045) (GoWA 2018a) – Geomorphic Wetlands, Swan Coastal Plain (DBCA-019) (GoWA 2017d)
Boundaries	<ul style="list-style-type: none"> – IBRA Bioregions (DCCEEW 2022a) – LGA Boundaries (LGATE-233) (GoWA 2023)
Vegetation	<ul style="list-style-type: none"> – Pre-European Vegetation (Beard 1979) – Statewide Vegetation Statistics (GoWA 2019a) – Native Vegetation Extent (DPIRD-005) (GoWA 2020)
Threatened and Priority Ecological Communities	<ul style="list-style-type: none"> – EPBC Act Protected Matters Search Tool (PMST) (DCCEEW 2023) – Threatened Ecological Communities (DBCA-038) (GoWA 2017f)
Flora and Fauna	<ul style="list-style-type: none"> – EPBC Act PMST (DCCEEW 2023) – Department of Biodiversity, Conservation and Attractions (DBCA) <i>NatureMap</i> database (DBCA 2007–) – Threatened and Priority flora (DBCA-036) (GoWA 2017e)
Heritage	<ul style="list-style-type: none"> – Aboriginal Heritage Places (DPLH-001) (GoWA 2019b) – Heritage Council WA - State Register (DPLH-006) (GoWA 2019c) – Heritage Council WA - Local Heritage Survey (DPLH-008) (GoWA 2019d)
MNES	<ul style="list-style-type: none"> – EPBC Act PMST (DCCEEW 2023)

2.2 Technical studies

The following technical reports and data are currently preliminary and are still under revision however, the preliminary results have been made available to inform the EA:

- GHD 2023a, Murchison Green Hydrogen Project, Flora and vegetation survey DRAFT.
- GHD 2023b, Murchison Green Hydrogen Project, Fauna assessment DRAFT.

2.2.1 GHD 2023a, Murchison Green Hydrogen Project, Flora and Vegetation Survey Draft

GHD (2023a) undertook detailed and targeted flora and vegetation surveys for the DE of the Murchison Green Hydrogen Project. The surveys were completed between November 2021 through to November 2022. Field survey methods involved a combination of quadrat sampling, relevés, transects and traversing the survey area by vehicle and foot, in line with EPA guidance (EPA 2016).

Vegetation types were identified and boundaries delineated using a combination of aerial photography, topographical features and field data/observations. The vegetation condition was assessed and mapped in accordance with the vegetation condition rating scale for the South West and Interzone Botanical Provinces devised by Keighery (1994) and adapted by EPA (2016). Areas devoid of vegetation were mapped as cleared (e.g. tracks, coastal sand dunes, beach). Preliminary results defined 28 vegetation types within the DE, ranging from Completely Degraded to Pristine.

2.2.2 GHD 2023b, Murchison Green Hydrogen Project, Fauna Assessment Draft.

GHD (2023b) undertook a reconnaissance, detailed and targeted terrestrial fauna survey for the DE of the Project. The surveys comprised:

- A reconnaissance survey in November 2021 including preliminary habitat assessment and establishment of migratory bird survey points and assessment.
- A targeted assessment in March 2022 for migratory birds and targeted transects for Western Spiny-tailed Skink. Basic fauna assessment over the survey area and deployment of remote cameras.
- A basic fauna assessment in April 2022 and establishment of additional remote cameras and rotation.
- A detailed two-phase (winter- August and spring- October) vertebrate fauna survey including targeted significant survey to determine the suite of fauna species that occur within the survey area and expand the area of fauna habitat mapping.
- A targeted significant fauna survey, for locally occurring conservation significant vertebrate fauna.

Preliminary results defined 12 broad fauna habitats within the DE and records of a total of 262 vertebrate fauna species, including mammals, birds, reptiles, and amphibians. Three species recorded are considered conservation significant and an additional seven species are included under migratory/marine and/or protected under International Agreement.

2.3 Future Technical Studies

The following investigations are planned to be undertaken, under the project schedule:

- Flora and Vegetation Survey
- Marine Fauna Survey
- Underwater Noise Monitoring
- Hydrology and Hydrogeological Assessment
- Coastal Processes Impact Assessment
- Air Quality Modelling and Assessment
- Construction and Operational Noise Assessment
- Odour Impact Assessment.

3. Environmental Assessment

3.1 Project setting

The PAA is located in the Murchison Region of Western Australia and experiences an arid climate with mild, wet winters and warm, dry summers accompanied by occasional summer storms. The nearest meteorological recording station is located in Kalbarri (No. 008251). Data from this station indicated the mean maximum temperature ranges from 34.0°C in February to 21.9°C in July. The mean minimum temperature ranges from 20.7°C in February to 9.8°C in July.

3.2 Flora and vegetation

3.2.1 Regional biogeography

The PAA predominantly is within the Geraldton Sandplains IBRA bioregion and the Geraldton Hills IBRA subregion. The Geraldton Sandplains bioregion comprises the central and northern Perth Basin, the Pinjarra Orogen, and the south end of the Carnarvon Basin. Outcrops of Jurassic siltstones and sandstones can be heavily lateralized. Extensive proteaceous heaths and scrub-heaths often with emergent mallees, *Banksia* and *Callitris*, occur on an undulating, lateritic sandplain mantling Permian to Cretaceous strata. These heaths are rich in endemics. Sandplains are most extensive in the north and southeast where the region overlaps the edges of the Carnarvon Basin and Yilgarn Craton respectively. Extensive York gum and *Acacia* woodlands occur on alluvial outwash plains associated with drainage and with valleys in the hill country. Areas of coastal aeolian sands and limestone support proteaceous heath and *Acacia* scrubs (Desmond and Chant 2002).

3.2.2 Conservation reserves and areas

A search of the DBCA Legislated Lands and Waters database did not identify any reserves within the PAA; however one reserve, Zuytdorp Nature Reserve, exists approximately 11.5 km north of the PAA (Figure 3).

Table 2 DBCA conservation estate and reserves

Name of Reserve	Parcel Identifier	Class	Proximity to Study Area
Zuytdorp Nature Reserve	R 34771	IUCN Category 1a	Located approximately 11.5 km north of the PAA.

3.2.3 Environmentally Sensitive Areas

No Environmentally Sensitive Areas (ESAs) occur within the PAA or within the 5 km surrounding study area. The closest ESAs to the PAA (Ref no. 10470 and 15513) are both associated with heritage values of the Shark Bay National/World Heritage Place and are 11.5 km north of the PAA. ESA boundaries are shown on Figure 3.

3.2.4 Vegetation

Native vegetation

The PAA is mapped predominantly as Native Vegetation (3,880.01 ha out of a total of 3,880.56 ha). The remaining PAA not mapped as native vegetation (0.55 ha), is likely as a result of where the coastline is drawn within the data and involves the nearshore environment.

Broad vegetation mapping and extent

Broad scale (1:250,000) pre-European vegetation mapping of the area was completed by (Beard 1976) at an association level. Mapping indicates three vegetation associations are present within the PAA (Figure 4):

- Mosaic: Shrublands; scrub-heath on coastal association on yellow sandplain / Shrublands; acacia patchy scrub (association 401)

- Shrublands; heath on coastal limestone (association 402)
- Shrublands; *Acacia ligulata* scrub-heath (association 403)

The pre-European mapping has been adapted and digitised by (Shepherd, Beeston and Hopkins 2001). The extent of vegetation associations have been determined by the state-wide vegetation remaining extent calculations maintained by DBCA (GoWA 2019, current as of 2019). As shown in Table 3, both vegetation association are currently maintained at greater than 94% of their pre-European extent at all scales (e.g. State, IBRA bioregion, IBRA subregion and LGA).

Table 3 Extent of pre-European vegetation associations within the PAA, current as of 2019 (Beard 1975 (GoWA 2019))

Pre-European Vegetation Association	Scale	Pre-European extent (ha)	Current extent (ha)	Remaining (%)	%current extent in all DBCA managed land (proportion of current extent)	Area within the PAA (ha)
401	State: Western Australia	32,726.65	32,726.65	100.00	24.91	1,426.63
	IBRA bioregion: Geraldton Sandplains	32,603.86	32,603.86	100.00	24.63	1,426.63
	IBRA subregion: Geraldton Hills	32,603.86	32,603.86	100.00	24.63	1,426.63
	LGA: Shire of Northampton	32,401.50	32,401.50	100.00	24.16	1,426.63
402	State: Western Australia	51,592.94	51,155.81	99.15	63.13	1,927.02
	IBRA bioregion: Geraldton Sandplains	50,723.54	50,406.65	99.38	62.78	1,927.02
	IBRA subregion: Geraldton Hills	50,723.54	50,406.65	99.38	62.78	1,927.02
	LGA: Shire of Northampton	21,286.52	20,913.05	98.25	14.65	1,927.02
403	State: Western Australia	11,635.38	11,113.55	95.52	56.89	521.66
	IBRA bioregion: Geraldton Sandplains	11,536.78	11,105.99	96.27	56.93	521.66
	IBRA subregion: Geraldton Hills	11,536.78	11,105.99	96.27	56.93	521.66
	LGA: Shire of Northampton	5,740.51	5,440.62	94.78	12.15	521.66
Unmapped (coastal strip)	-	-	-	-	-	5.24

Vegetation types and condition


GHD undertook a detailed survey of the PAA, as part of a wider survey of the DE, between August and November 2022 (GHD 2023a). The detailed survey included the identification of nine vegetation types, with preliminary results shown in Table 4 and presented in Figure 5.

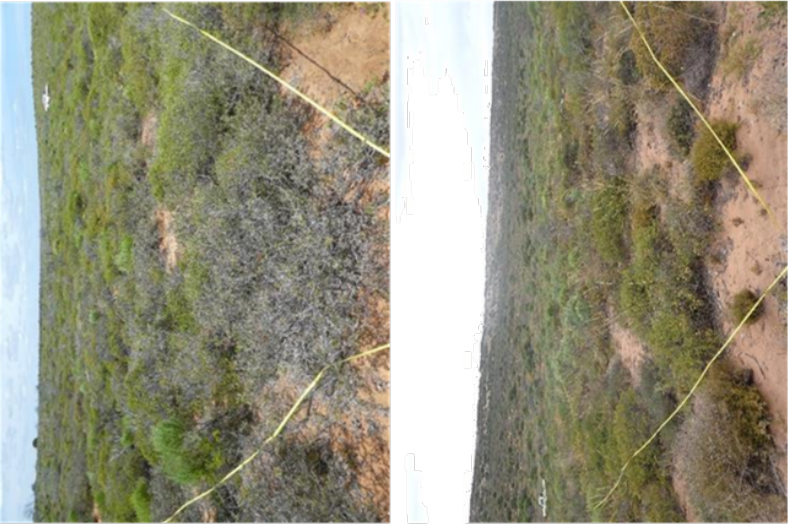
The dominant vegetation type found within the PAA is VT14, with a total of 1,259.31 ha and comprising 32.5% of the PAA. Following VT14 in percentage of area within the PAA, is VT22 which occurs across 1,159.21 ha (29.9%) and VT02 which occurs across 1,012.78 ha (26.1%). The remainder of the PAA is comprised of six further unique vegetation types as described in Table 4. Together, the six vegetation types represent 11.3% of the PAA.


The remainder of the PAA that is not considered a native vegetation type is classified as Sand Dune (<0.01 ha, <0.001%), Beach (0.43 ha, 0.01%) and Cleared (9.86 ha, 0.3%).


Vegetation condition within the PAA ranged from Pristine to Completely Degraded.


Table 4 Preliminary vegetation types mapped within the PAA (GHD 2023a)


Vegetation type	Description	Extent (ha)	% of PAA	Photograph
VT01 (McOaRdSo) Coastal low shrubland	<p><i>Melaleuca cardiophylla</i> sparse low shrubland over <i>Olearia axillaris</i>, <i>Rhagodia drummondii</i> and <i>Scholtzia oligandra</i> low open shrubland over <i>Acanthocarpus robustus</i> and <i>Desmocladius asper</i> sparse sedgeland over <i>Lomandra maritima</i>, <i>Ptilotus exiliflorus</i> and <i>Pimelea gilgiana</i> open forbland on light brown sand over limestone rocks and outcropping on coastal cliffs and drainage coastal gullies.</p> <p>Other associated species include <i>Eremophea spinosa</i>, <i>Solanum oldfieldii</i>, <i>Austrostipa crinita</i>, <i>Diplopeltis intermedia</i> var. <i>intermedia</i> and <i>Frankenia pauciflora</i>.</p>	221.34	5.7%	


Vegetation type	Description	Extent (ha)	% of PAA	Photograph
VT02 – (ArMcMIOk) Coastal shrublands on secondary dunes and slopes.	<p><i>Acacia rostellifera</i> isolated shrubs over <i>Melaleuca cardiophylla</i>, <i>Melaleuca leproyxis</i> and <i>Olearia</i> sp. Kennedy Range (G. Byrne 66) open shrubland over <i>Lepidosperma</i> sp. Zuytdorp (G.J. Keighery & N. Gibson 1710), <i>Acanthocarpus</i> sp. Ajana (C.A. Gardner 8596) and <i>Desmocladius asper</i> open sedgeland over <i>Lomandra maritima</i>, <i>Roepera apiculata</i> and <i>Conostylis aculeata</i> subsp. <i>septentrionora</i> open forbland over <i>Rytidosperma setaceum</i> and <i>Austrostipa crinita</i> open tussock grassland on pale brown sand over limestone on coastal low secondary dunes and slopes.</p> <p>Other associated species include <i>Calothamnus oldfieldii</i>, <i>Scholtzia oligandra</i>, <i>Diploaena mollis</i>, <i>Rhagodia latifolia</i> subsp. <i>latifolia</i>, <i>Melaleuca campanae</i>, <i>Quoya atriplicina</i> and <i>Lysianthra calycina</i>.</p>	1,012.78	26.1%	

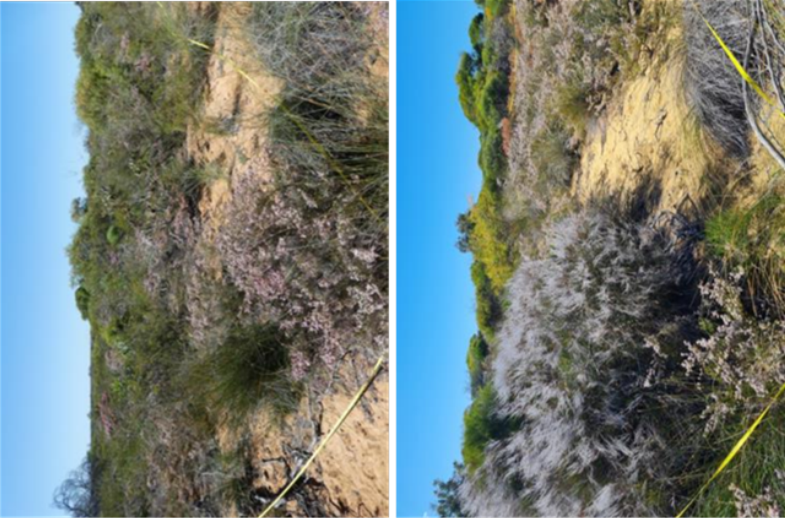
Vegetation type	Description	Extent (ha)	% of PAA	Photograph
VT05 – (AbMcEa) Coastal Alyxia buxifolia shrublands on pale brown/pink sand on low dunes.	<i>Alyxia buxifolia</i> , <i>Melaleuca cardiophylla</i> and <i>Exocarpos aphyllus</i> open shrubland over <i>Olearia</i> sp. Kennedy Range (G. Byrne 66), <i>Scholtzia oligandra</i> and <i>Rhagodia drummondii</i> low open shrubland over <i>Desmodium asper</i> and <i>Acanthocarpus</i> sp. Ajana (C.A. Gardner 8596) open sedgeland over <i>Lomandra maritima</i> , <i>Ptilotus eremita</i> and <i>Ptilotus divaricatus</i> open forbland over <i>Austrostipa elegantissima</i> and <i>Rytidosperma setaceum</i> open tussock grassland on pale brown/pink sand over limestone on low dunes. Other associated species include <i>Anthocercis intricata</i> (P3), <i>Lysiantha calycina</i> , <i>Lysiantha scabra</i> , <i>Threlkeldia diffusa</i> , <i>Pimelea gligiana</i> and <i>Solanum oldfieldii</i> .	138.69	3.6%	

Vegetation type	Description	Extent (ha)	% of PAA	Photograph
VT06 – (AbOaOkTc) Coastal mixed shrublands on pale brown/pink sand on pale brown/pink sand over limestone on low dunes, gullies and limestone rocky ridges/outcrops.	<p><i>Alyxia buxifolia</i>, <i>Olearia axillaris</i>, <i>Olearia</i> sp. Kennedy Range (G. Byrne 66) and <i>Thryptomene</i> sp. Carrarang (M.E. Trudgen 7420) open shrubland over <i>Acanthocarpus verticillatus</i>, <i>Acanthocarpus</i> sp. Ajana (C.A. Gardner 8596) and <i>Desmocladius asper</i> open sedgeland over <i>Ptilotus eremita</i>, <i>Calandrinia</i> sp. Shark Bay (A. Markey 1405) and *<i>Lysimachia arvensis</i> open forbland over <i>Austrostipa crinita</i>, *<i>Rostraria pumila</i> and *<i>Ehrharta longiflora</i> open tussock grassland on pale brown/pink sand over limestone on low dunes, gullies and limestone rocky ridges/outcrops.</p> <p>Other associated species include <i>Melaleuca cardiophylla</i>, <i>Diplolaena grandiflora</i>, <i>Goodenia berardiana</i>, <i>Rhagodia drummondii</i>, <i>Rhagodia eremaea</i>, <i>Threlkeldia diffusa</i>, <i>Dioscorea hastifolia</i>, <i>Pimelea microcephala</i> subsp. <i>microcephala</i> and <i>Tetragonia implexicoma</i>.</p>	0.41	0.01%	

Vegetation type	Description	Extent (ha)	% of PAA	Photograph
VT08 – (McOkEoPgDg) <i>Melaleuca</i> <i>cardiophylla</i> open shrubland on limestone low hills, outcrops and ridges.	<p><i>Melaleuca cardiophylla</i> open shrubland over <i>Olearia</i> sp. Kennedy Range (G. Byrne 66), <i>Eremophila oldfieldii</i> subsp. <i>oldfieldii</i>, <i>Pimelea gigliana</i> and <i>Diplolaena grandiflora</i> open shrubland over <i>Ptilotus eriostichus</i>, <i>Ptilotus divaricatus</i> and *<i>Lysimachia arvensis</i> open forbland over <i>Austrostipa crinita</i>, *<i>Ehrharta brevifolia</i> var. <i>cuspidata</i> and *<i>Rostraria pumila</i> tussock grassland on brown sand on limestone low hills, outcrops and ridges.</p> <p>Other associated species include <i>Dioscorea hastifolia</i>, *<i>Arctotheca calendula</i>, *<i>Brassica tournefortii</i>, *<i>Centaurea melitensis</i>, <i>Pimelea microcephala</i> subsp. <i>microcephala</i> and *<i>Sonchus oleraceus</i>.</p>	72.03	1.9%	

Vegetation type	Description	Extent (ha)	% of PAA	Photograph
VT14 – (ArMc) <i>Acacia rostellifera</i> and <i>Melaleuca cardiophylla</i> open woodland to shrubland over <i>Pimelea microcephala</i> subsp. <i>microcephala</i> , <i>Olearia</i> sp. Kennedy Range (G. Byrne 66) and <i>Rhagodia latifolia</i> subsp. <i>latifolia</i> open shrubland over <i>Desmodium asper</i> open sedgeland over <i>*Lysimachia arvensis</i> , <i>*Hypochaeris glabra</i> and <i>Roeperia apiculata</i> open formland on brown sand on limestone rocky slopes and ridges and brown sandy flats. Other associated species include <i>Austrostipa elegantissima</i> , <i>Calandrinia polyandra</i> , <i>*Centauria melitensis</i> , <i>Dendrophylanthus erwinii</i> and <i>Trachymene pilosa</i> .	1,259.31	32.5%		

Vegetation type	Description	Extent (ha)	% of PAA	Photograph
VT17 – (BsCbAcHc) <i>Banksia sceptrum</i> isolated trees over open shrubland over <i>Calothamnus</i> <i>blepharosperrmus</i> , <i>Allocasuarina</i> <i>campestris</i> and <i>Hibbertia conspicua</i> open shrubland on yellow/cream sand plains and low rises.	<i>Banksia sceptrum</i> isolated trees over open shrubland over <i>Calothamnus blepharosperrmus</i> , <i>Allocasuarina campestris</i> and <i>Hibbertia conspicua</i> open shrubland over <i>Ecdiocola monostachya</i> , <i>Mesomelaena pseudostygia</i> and <i>Lepidobolus</i> <i>preissianus</i> subsp. <i>preissianus</i> open sedgeland over <i>Neurachne alopecuroides</i> and <i>Austrostipa</i> <i>nodosa</i> open tussock grassland over <i>Calandrinia</i> <i>laniflora</i> , <i>Opercularia spermacoceae</i> and <i>Stylidium</i> <i>kalbarriense</i> open forbland on yellow/cream sand plains and low rises. Other associated species include <i>Comesperma</i> <i>scoparium</i> , <i>Pimelea microcephala</i> subsp. <i>microcephala</i> , <i>Melaleuca ?bisulcata</i> , <i>Acanthocarpus robustus</i> , <i>Desmocladius asper</i> , <i>Cassylha aurea</i> var. <i>aurea</i> , <i>Paterosonia occidentalis</i> var. <i>occidentalis</i> , <i>Malleostemon microphyllus</i> , <i>Phymatocarpus porphyrocephalus</i> , <i>Triodia</i> <i>bromioides</i> (P4) and <i>Stenanthemum notiale</i> subsp. <i>notiale</i> .	5.38	0.1%	

Vegetation type	Description	Extent (ha)	% of PAA	Photograph
VT22 – (BsArAbAc) <i>Banksia sceptrum</i> open woodland to isolated trees over <i>Acacia rostellifera</i> , <i>Acacia blakelyi</i> and <i>Allocasuarina</i> <i>campestris</i> open shrubland on yellow sandplains and low rises.	<p><i>Banksia sceptrum</i> open woodland to isolated trees over <i>Acacia rostellifera</i>, <i>Acacia blakelyi</i> and <i>Allocasuarina campestris</i> open shrubland over <i>Calytrix brevifolia</i>, <i>Olearia</i> sp. Kennedy Range (G. Byrne 66) and <i>Malleostemon microphyllus</i> (P2) open low shrubland over <i>Ecdiocola monostachya</i>, <i>Lepidobolus preissianus</i> subsp. <i>preissianus</i> and <i>Mesomelaena preissii</i> open sedgeland over <i>Triodia bromoides</i> (P4) open hummock grassland over <i>Trachymene pilosa</i>, <i>Conostylis stylidioides</i> and <i>Poranthera drummondii</i> open forbland on yellow sandplains and low rises.</p> <p>Other associated species include <i>Conospermum microflorum</i>, <i>Grevillea eriostachya</i>, <i>Hibbertia conspicua</i>, <i>Melaleuca lelopyxis</i>, <i>Persoonia acicularis</i>, <i>Seringia hermannifolia</i> (P2) and <i>Baeckea</i> sp. East Nabawa (M.E. Trudgen MET 21623).</p>	1,159.21	29.9%	

Vegetation type	Description	Extent (ha)	% of PAA	Photograph
VT31 – (AvEdPa) <i>Austrostipa variabilis</i> , <i>Eragrostis dielsii</i> and <i>Pentameris airoides</i> subsp. <i>airoides</i> tussock grassland on brown heavy clay on large claypan/lake system (Lake Culcurdoo).	<i>Austrostipa variabilis</i> , <i>Eragrostis dielsii</i> and * <i>Pentameris airoides</i> subsp. <i>airoides</i> tussock grassland over <i>Angianthus milnei</i> , * <i>Trifolium</i> <i>arvense</i> and <i>Crassula colorata</i> var. <i>colorata</i> open forbland on brown heavy clay on large claypan/lake system (Lake Culcurdoo).	1.11	0.02%	
Beach	Beach sands with no vegetation present	0.43	0.01%	N/A
Sand dune	Coastal dunes with no vegetation present	<0.01	<0.01%	N/A
Cleared	Cleared for tracks	9.86	0.25%	N/A

Significant ecological communities

A search of DBCA's Threatened and Priority ecological community database was undertaken within 5 km buffer of the PAA. No TEC/PECs were identified as occurring within the PAA or within the 5 km buffer. The nearest significant ecological community is the Kalbarri Ironstone Community (Priority 1), found approximately 35 km south east of the PAA. The Kalbarri Ironstone Community has three known locations, within and bordering Kalbarri National Park.

3.2.5 Flora

Flora diversity

The NatureMap (DBCA 2007-, Attachment A) database identified 256 taxa previously recorded within a 5 km buffer surrounding the PAA, forming a desktop study area.

Significant flora

The EPBC Act PMST (DCCEE 2023a, Attachment A), NatureMap (DBCA 2007-) and DBCA TPFL and WAHerb databases (DBCA 2022b) identified the presence/potential presence of 16 significant flora species within the PAA. The desktop searches recorded:

- Three Threatened taxa
- Two Priority 1 (P1) taxa
- Four Priority 2 (P2) taxa
- Four Priority 3 (P3) taxa
- Three Priority 4 (P4) taxa.

The locations of significant flora registered on the DBCA database searches are illustrated in Figure 6.

A likelihood of occurrence (LOO) assessment has been undertaken on the 16 significant flora considered as potentially occurring and an additional six significant taxa recorded within the PAA during the detailed survey. This assessment has been undertaken post-survey of the DE (GHD 2023a). The three Threatened flora species are considered unlikely or highly unlikely to occur. Of the 19 Priority flora taxa considered in the LOO, 13 are known to occur within the PAA.

Table 5 Post-survey likelihood of occurrence assessment

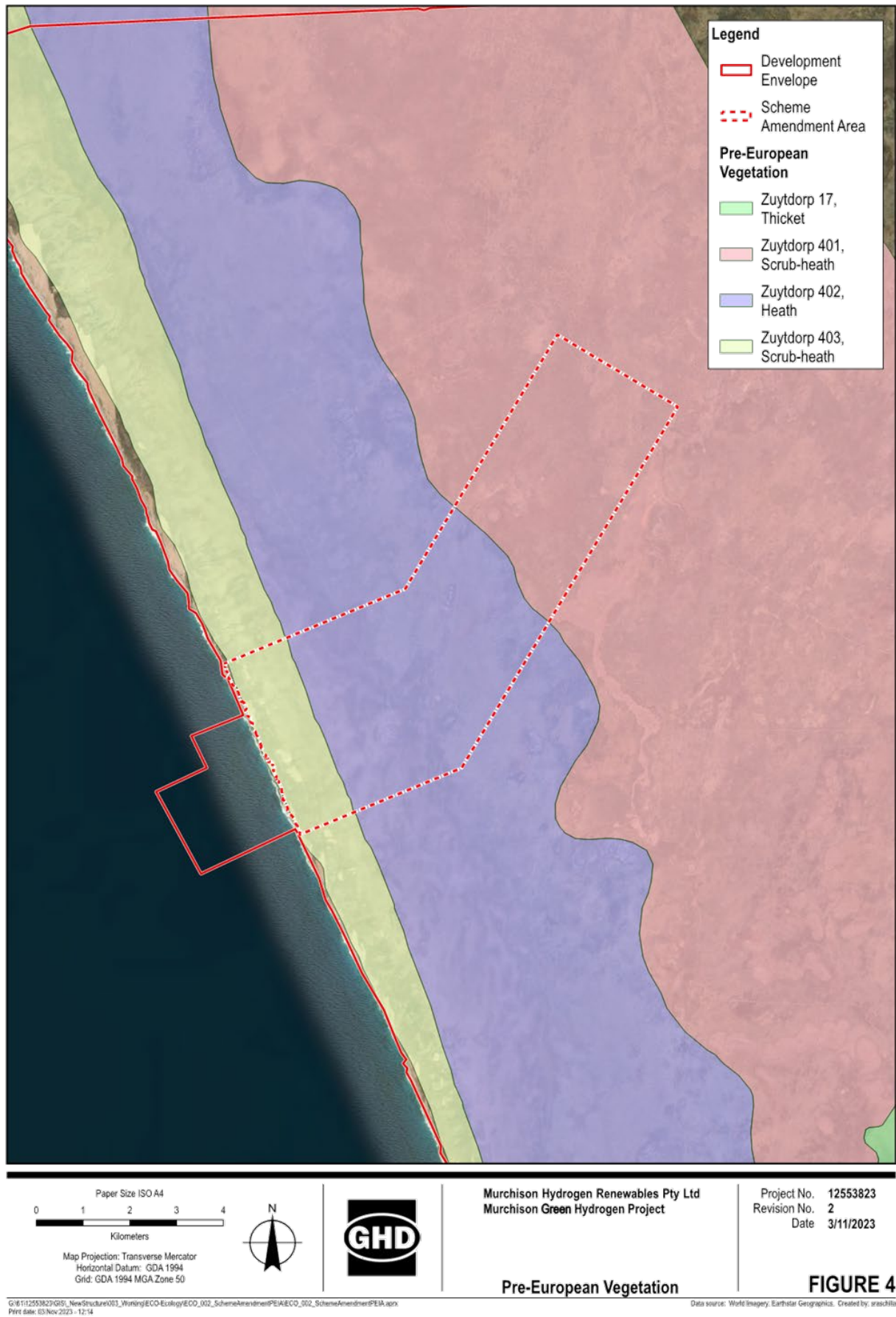
Taxon	Status	Likelihood of occurrence (post-survey of DE)
<i>Caladenia barbarella</i>	T	Highly unlikely
<i>Caladenia hoffmanii</i>	T	Highly unlikely
<i>Eucalyptus beardiana</i>	T	Unlikely
<i>Mirbelia</i> sp. Zuytdorp (G.J. Keighery & N. Gibson 1688)	P1	Possible
<i>Thryptomene</i> sp. Carrarang (M.E. Trudgen 7420)	P1	Known
<i>Grevillea stenomera</i>	P2	Known
<i>Malleostemon microphyllus</i>	P2	Known
<i>Ptilotus alexandri</i>	P2	Known
<i>Scholtzia corrugate</i>	P2	Possible
<i>Scholtzia</i> sp. Folly Hill (M.E. Trudgen 12097)	P2	Possible
<i>Thryptomene</i> sp. Eagle Gorge (A.G. Gunness 2360)	P2	Known
<i>Anthocercis intricata</i>	P3	Known
<i>Carpobrotus</i> sp. Thevenard Island (M. White 050)	P3	Known

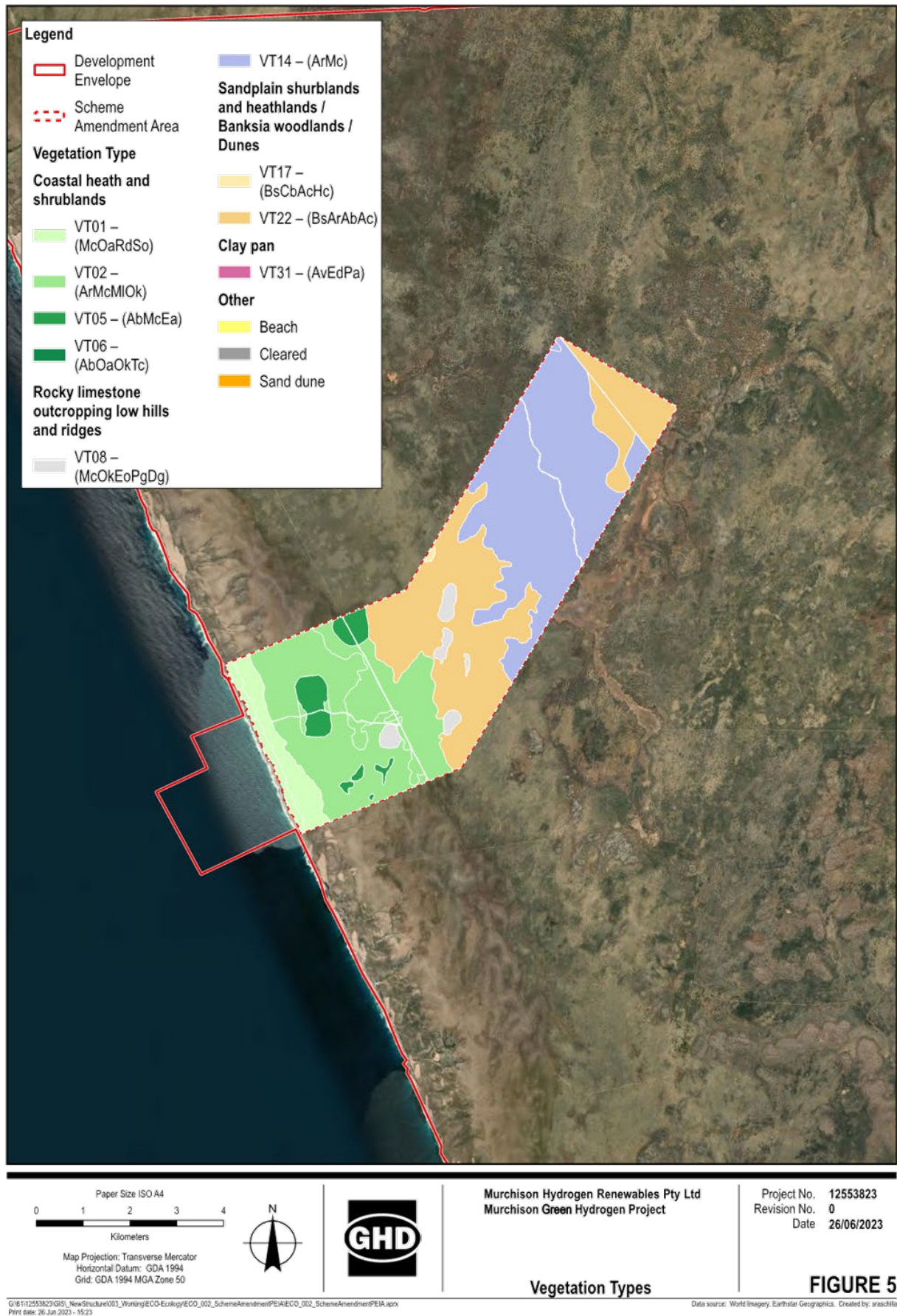
Taxon	Status	Likelihood of occurrence (post-survey of DE)
<i>Dicrastylis micrantha</i>	P3	Known
<i>Grevillea erinacea</i>	P3	Known
<i>Hemigenia saligna</i>	P3	Possible
<i>Lasiopetalum oppositifolium</i>	P3	Known
<i>Lepidium biphicatum</i>	P3	Known
<i>Verticordia dichroma</i> var. <i>dichroma</i>	P3	Likely
<i>Eucalyptus zopherophloia</i>	P4	Known
<i>Lepidium puberulum</i>	P4	Possible
<i>Triodia bromoides</i>	P4	Known

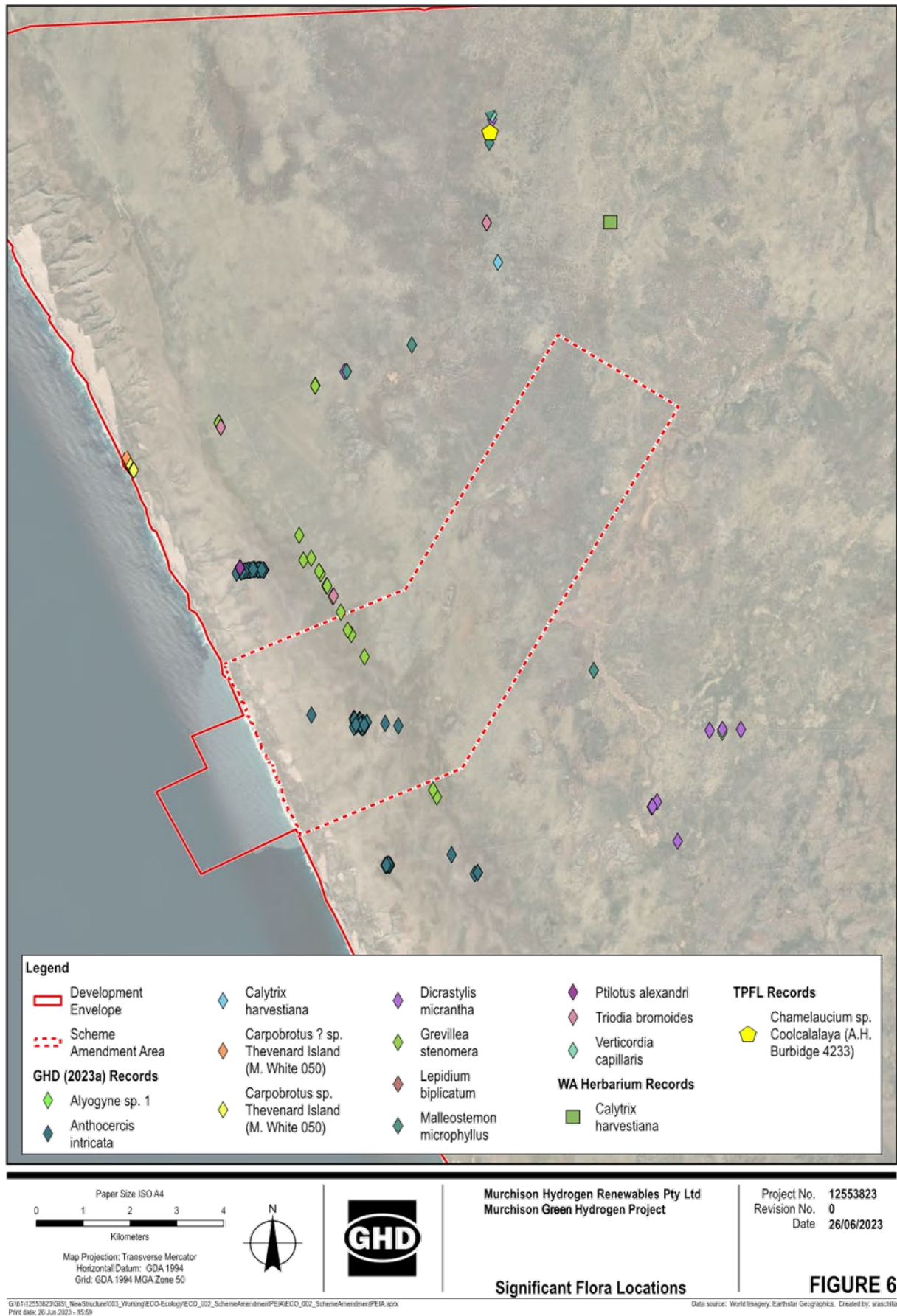
Flora likelihood of occurrence assessment guidelines

Likelihood of occurrence	Guideline
Likely	Species previously recorded within the study area and large areas of suitable habitat occur in the survey area.
Possible	Species previously recorded within the study area and areas of suitable habitat occur/may occur in the survey area.
Unlikely	Species previously recorded within the study area, but suitable habitat does not occur in the survey area.
Highly unlikely	Species not previously recorded within the study area, suitable habitat does not occur in the survey area and/or the survey area is outside the natural distribution of the species.









3.3 Terrestrial fauna

3.3.1 Fauna habitats

GHD undertook a detailed survey of the PAA, as part of a wider survey of the DE, in 2022 (GHD 2023b). The detailed survey identified six terrestrial fauna habitat types within the PAA, which are consistent with the vegetation types identified. These fauna habitat types include:

- Banksia Shrubland
- Beach and associated dunes and limestone ridge
- Clay Pans/ Lake Culcurdoo
- Cleared/Farmland
- Coastal Heathlands
- Limestone hills and Ridgelines


These fauna habitat types are described in further detail in Table 6 and shown in Figure 7.


The dominant fauna habitat is the Limestone hills and Ridgelines which comprises an area of 1,331.34 ha (34.3% of the PAA). This habitat is considered high value to terrestrial fauna and is considered habitat for several conservation significant species, Malleefowl was recorded in this habitat type consisting of inactive and active mounds. The Gilled Slender Blue-tongue (*Cyclodomorphus branchialis*) may utilise this habitat despite none recorded during the surveys. The Chuditch (*Dasyurus geoffroii*) may also periodically utilise this habitat due to the denning capabilities of limestone outcropping and capping. Following Limestone hills and Ridgelines in percentage occupied of the PAA is Banksia Shrubland, the second dominant fauna habitat type, occupying 1,136.59 ha (30.0%) and Coastal Heathlands, occupying 1,151.88 ha (29.69%) of the PAA. Both areas are considered High Value and Moderate Value habitat respectively.


The remaining three fauna habitat types, Beach and associated dunes and limestone ridge, Clay Pans/Lake Culcurdoo and Cleared/Farmland, comprise a total area of 232.75 ha (6.00% of the PAA). Beach and associated dunes and limestone ridge (221.3 ha, 5.7% of the PAA) is considered High Value habitat as it provides important foraging, shelter and breeding habitat for a range of conservation significant species, mainly coastal birds. Clay Pans/Lake Culcurdoo and Cleared/Farmland (11.40 ha, 0.3% of the PAA) is considered Low Value habitat and are likely only used as potential opportunistic foraging habitat.


Table 6 Preliminary fauna habitat types within the PAA

Habitat type	Extent in PAA (ha)	% of PAA	Representative Image
<p>Coastal Heathlands</p> <p>Vegetation types</p> <ul style="list-style-type: none"> VT02 – (ArMcMIOk) Coastal shrublands VT05 – (AbMcEa) Coastal <i>Alyxia buxifolia</i> shrublands on pale brown/pink sand on low dunes VT06 – (AbOaOkTc) Coastal mixed shrublands on pale brown/pink sand on pale brown/pink sand over limestone on low dunes, gullies and limestone rocky ridges/outcrops <p>Description</p> <p>Dominated by low coastal heathlands on coastal dunes, moving sands or minor limestone ridges. Coastal heaths are continuous along the coast however the beach and associated limestone is described as a separate habitat type due to the possible uses by fauna species and features present. The coastal heathland vegetation is much lower (up to about 50cm) along the coast, than further inland which reaches up to 1.5m. The difference in vegetation growth structure appears to be influenced by winds and in some areas grazing by goats. It is also possible that changes in soil composition i.e. limestone capping or moving sands will influence growth and structure. This habitat supports a continuous homogenous vegetation belt along the coast which varies in species composition from the southern to northern portions of the survey area i.e. Lomandra densities much higher in the south of the DE. This is likely due to slight changes in rainfall as the habitat extends north. However, the environment supports mixed shrubs of <i>Olearia</i>, <i>Frankenia</i>, <i>Carpobrotus</i>, <i>Acacia</i>, <i>Thryptomene</i>, <i>Eremophila glabra</i>, <i>Ptilotus</i> and <i>Lomandra</i>. The environment has dominant ground covers, some litter and debris with few logs. This is possibly due to the lack of tall or structured vegetative material and/or by grazing from goats and rabbits. There was no evidence of fire within this habitat type. Other disturbances present include old farming fencing and yards, however these compromise small areas of the environment.</p> <p>Due to the habitat present specialised coastal species such as Western Heath Dragon (<i>Ctenophorus adelaidensis</i>), West Coast Banded Snake (<i>Simoselaps littoralis</i>), Javelin Legless Lizard (<i>Delma concinna</i>) and White-spotted Ground Gecko (<i>Lucasium alboguttatum</i>) were present. Small passerine birds were also abundant which included White-winged Fairy-wren (<i>Malurus leucopterus</i>), Splendid Wren (<i>Malurus splendens</i>), Purple-backed Fairy-wren (<i>Malurus assimilis</i>), Southern Emu-wren (<i>Stipiturus malachurus</i>) and Rufous Field-wren (<i>Calamanthus campestris</i>).</p> <p>Conservation significant fauna</p> <p>Due to the close proximity to the coast numerous coastal avian species were recorded using or flying over the habitat type. This includes the Osprey (<i>Pandion cristatus</i>), Fork-tailed Swift (<i>Apus pacificus</i>), Crested Tern (<i>Thalasseus bergii</i>) and</p>	1,151.88	29.7%	

Habitat type	Extent in PAA (ha)	% of PAA	Representative Image
<p>Gull-billed Tern (<i>Sterna nilotica</i>) and would be considered supportive habitat to the species needs. A brief unconfirmed sighting of the Western Grasswren (<i>Amytornis textilis</i>) was made in the eastern portion of this habitat type. This species was not confirmed during the remainder of the surveys however based on habitats available is likely to be present. The Peregrine Falcon (<i>Falco peregrinus</i>) is also likely to utilise this habitat for foraging along the coastal strip.</p> <p>Moderate value</p>			
<p>Banksia Shrubland</p> <p>Vegetation types</p> <ul style="list-style-type: none"> – VT17 – (BsCbAcHc) <i>Banksia sceptrum</i> isolated trees over open shrubland over <i>Calothamnus blepharosperrmus</i>, <i>Allocasuarina campestris</i> and <i>Hibbertia conspicua</i> open shrubland on yellow/cream sand plains and low rises – VT20 – (BsCoSuHc) <i>Banksia sceptrum</i> open woodland to isolated trees over <i>Calothamnus oldfieldii</i>, <i>Scholtzia umbellifera</i> and <i>Hibbertia conspicua</i> low open shrubland on pale yellow/white sand plains, low rises and hills – VT22 – (BsArAbAc) <i>Banksia sceptrum</i> open woodland to isolated trees over <i>Acacia rostellifera</i>, <i>Acacia blakelyi</i> and <i>Allocasuarina campestris</i> open shrubland on yellow sandplains and low rises <p>Description</p> <p>The southern, western and eastern portions of the survey area is characterised by Banksia shrubland with dominant species of <i>Banksia ashbyi</i>, <i>B. sceptrum</i> and <i>B. prionotes</i>. The understorey is of mixed low proteaceous and myrtaceous shrubs, with ground cover of sedges, hummock grasses or low shrubs. This habitat is quite dense with some areas almost impenetrable. Banksia shrubland had areas of dense litter, fallen branches and debris over deep sands creating excellent habitat for fossorial reptile and amphibian species. Limited tree hollows are available in this habitat however dead banksia provides excellent exfoliating bark for sheltering species, particularly bats and arboreal reptiles. Most of this habitat appeared long unburnt with grazing from goats the biggest impact.</p> <p>This habitat is an important foraging resource for Carnaby's Cockatoo, and also provides nectar for many nectivorous species such as the 11 honeyeater species recorded. Additionally the flowering plants lure insects to the area and in turn predatory birds with large flocks of Masked and Black Faced Wood-swallows utilising the resource.</p> <p>Conservation significant fauna</p> <p>This habitat is the main feeding resource for the Carnaby's Cockatoo that utilise the region. The Banksia shrublands within the survey area fall within the known foraging range of the species therefore could be utilised during the breeding season. Malleefowl were also recorded utilising this habitat type particularly where it fringed or had scattered Mallee present with prints and mounds recorded. The Chuditch, Woma, Peregrine Falcon would utilise this habitat for hunting/foraging</p>	1,164.59	30.0%	

Habitat type	Extent in PAA (ha)	% of PAA	Representative Image
<p>High Value</p> <p>Beach and associated dunes and limestone ridge</p> <p>Vegetation types</p> <ul style="list-style-type: none"> – VT01 (McOaRdSo) – Coastal low shrubland <p>Description</p> <p>The coastal strip comprises a mosaic of beaches, reef, rock shelf, pools, dunes and limestone ridges (with areas of breakaway or wind-swept ridgelines) creating a diverse sweet of micro environments for species. The vegetation consisted of coastal heathlands however the primary dune contains scattered areas of Beach Spinifex (<i>Spinifex longifolius</i>) and coastal Saltbush (<i>Atriplex cinerea</i>) as well as other low salt and wind tolerant plants. This habitat was diverse in structure and was evidently sculptured by wind, water and salt. Some areas were deep sands while others loam, shell or rock or combinations of all. There were high points in the environment and areas where water ran or pooled during large weather events. There was no evidence of fire in this environment. Most tracks leading to the coast had evidence of human use such as camping, fishing, old shacks and associated rubbish. Additionally, goats were recorded on all habitat features and seen grazing on sea weed and drinking water. Some areas were degraded from goat use however large portions were in very good condition.</p> <p>This habitat provides a variety of habitat resources for fauna species, and patches had a greater structural diversity than the surrounding coastal heaths and shrublands. This habitat provides for burrowing species such as West Coast Banded Snake (<i>Simoselaps littoralis</i>), Northern Dotted-line Robust Slider (<i>Lerista miopus</i>) and rocky area provide for Barking Gecko (<i>Underwoodisaurus millii</i>). The Shark Bay Heath Dragon (<i>Ctenophorus butlerorum</i>) was only recorded in this habitat.</p> <p>Conservation significant fauna</p> <p>Eight conservation significant species were recorded in this habitat type and include Greater Sand Plover (<i>Charadrius leschenaultii</i>), Red-necked stint (<i>Calidris ruficollis</i>), Sanderling (<i>Calidris alba</i>), Bar-tailed Godwit (<i>Limosa lapponica menzibieri</i>), Gull-billed Tern (<i>Gelochelidon nilotica</i>), Osprey (<i>Pandion cristatus</i>), Caspian Tern (<i>Hydroprogne caspia</i>) and Crested Tern (<i>Thalasseus bergii</i>). All of these species were either feeding along the beach or loafing. The Gull-billed and Caspian Tern were seen flying along the coastline.</p> <p>This habitat within the survey area is likely to support other migratory species opportunistically and include the Roseate Tern (<i>Sterna dougallii</i>), Fairy Tern (<i>Sterna nereis</i>), Common Sandpiper (<i>Actitis hypoleucos</i>), Common Greenshank (<i>Tringa nebularia</i>), Sharp-tailed Sandpiper (<i>Calidris acuminata</i>), Ruddy Turnstone (<i>Arenaria interpres</i>), Red Knot (<i>Calidris canutus</i>), Lesser Sand Plover (<i>Charadrius mongolus</i>), Grey Plover (<i>Pluvialis squatarola</i>), Pacific Golden Plover (<i>Pluvialis fulva</i>), Grey-tailed Tattler (<i>Tringa brevipes</i>), Eastern Curlew (<i>Numenius madagascariensis</i>), Whimbrel (<i>Numenius phaeopus</i>). The Common Sandpiper and Common Greenshank were recorded along the Murchison River while undertaking</p>	221.34	5.7%	

Habitat type	Extent in PAA (ha)	% of PAA	Representative Image
<p>regional surveys and are likely to utilise the beach habitats. The Peregrine Falcon may also utilise the area for foraging only.</p> <p>Several oceanic avian species were recorded while undertaking the migratory bird survey, these birds were out to sea but were recorded within a few hundred meters of the coast foraging on the wing. These species included Wedge-tailed Shearwater (<i>Ardenna pacifica</i>) and Wilson's Storm Petrel (<i>Oceanites oceanicus</i>).</p> <p>High Value</p> <p>Limestone hills and Ridgelines</p> <p>Vegetation types</p> <ul style="list-style-type: none"> VT08 - Rocky limestone outcropping low hills and ridges <p>Description</p> <p>The formations are usually associated with <i>Melaleuca</i> spp. vegetation types or other low shrubs probably due to the shallow soils and limestone cap rock. Other species associated include <i>Acacia</i>, <i>Eremophila</i>, <i>Grevillia</i>, <i>Hakea</i>, and <i>Borya</i> and an abundance of grasses and herbs. The environment had areas of good ground covers, litter and debris but lacked large logs due to vegetation present. This habitat appeared particularly use by feral goats and pigs with noticeable grazing present and large areas where rocks and surface soils were ploughed by pigs. However despite the disturbances the habitat provides a range of cover to fauna species of outcropping with exfoliating rock, crevices and large rocks.</p> <p>Numerous reptile species were recorded in this habitat and include Soft Spiny-tailed Gecko (<i>Strophurus spinigerus</i>), Western Netted Dragon (<i>Ctenophorus reticulata</i>) and Yellow-faced Whipsnake (<i>Demansia reticulatus</i>). While mammals such as Sandy Inland Mouse (<i>Pseudomys hermannsburgensis</i>) were also common.</p> <p>Conservation significant fauna</p> <p>The Malleefowl was recorded in this habitat type consisting of inactive and active mounds. Mounds however on taller ridgelines appeared all inactive possibly due to feral species disturbance. Peregrine Falcon may also utilise these areas for foraging. The Gilled Slender Blue-tongue (<i>Cyclodomorphus branchialis</i>) may utilise this habitat despite none recorded during the surveys. The Chuditch (<i>Dasyurus geoffroyi</i>) may also periodically utilise this habitat due to the denning capabilities of limestone outcropping and capping.</p> <p>High Value -provides shelter and breeding sites for habitat specialist species of conservation significance.</p>	1,331.34	34.3%	

Habitat type	Extent in PAA (ha)	% of PAA	Representative Image
<p>Clay Pans/ Lake Culcurdoo</p> <p>VT30 – (CoMIRdTTd) <i>Casuarina obesa</i> isolated trees over <i>Maireana tomentosa</i>, <i>Rhagodia drummondii</i>, <i>Tecticornia indica</i> and <i>Threlkeldia diffusa</i> chenopod open shrubland on seasonal claypan</p> <p>VT31 – (AvEdPa) <i>Austrostipa variabilis</i>, <i>Eragrostis dielsii</i> and *<i>Pentameris airoides</i> subsp. <i>airoides</i> tussock grassland on brown heavy clay on large claypan system (Lake Culcurdoo)</p> <p>VT32 (Ec) <i>Eucalyptus camaldulensis</i> open woodland on white/cream sand near drainage clay pans</p> <p>Description</p> <p>Numerous small clay pans are scattered throughout the survey area. Additionally Lake Culcurdoo is in the central region and runs north /south. The clay pans and Lake Culcurdoo all show a level of historical disturbance from clearing, water point activity (including wells, old troughs, yards) as well as dams and tracks. These areas have weeds and grasses present and demonstrated high use by goats and native species like Western Grey Kangaroo (<i>Macropus fuliginosus</i>), Common Wallaroo (<i>Osphranter robustus</i>) and Emu (<i>Dromaius novaehollandiae</i>). This habitat comprise a relatively small portion of the Survey Area. The habitat comprised a mix of soils from fine sands or a layer of heavy loam with an over storey dominated by hardy, low and tall shrub species (primarily <i>Acacia</i> sp.) with herbs and grasses (mostly weeds). The dams - surface water along Lake Culcurdoo appeared to have some water present for most of the year and used as a drinking source for pastoral and native animals. As such in these areas bovine grazing (showing signs of heavy grazing, soil compaction and trampling) noticeably impacted the surrounding habitats. Being an open habitat birds such as Banded Lapwing (<i>Vanellus tricolor</i>) and Australasian Pipit (<i>Anthus novaeseelandiae</i>) were recorded breeding with use also recorded by White-fronted Chat (<i>Ephianura albigrons</i>) and Magpie-lark (<i>Grallina cyanoleuca</i>). Water retention also supports frogs such as Western Banjo Frog (<i>Limnodynastes dorsalis</i>), Crawling Toadlet (<i>Pseudophryne guentheri</i>) and Humming Frog (<i>Neobatrachus pelobatoides</i>). Other disturbances on Lake Culcurdoo include Gee Gei outcamp with historical yards and homestead. No fire was recorded in this habitat.</p> <p>Conservation significant fauna</p> <p>No conservation significant fauna were recorded in this habitat however some Zuytdorp Worm Slider (<i>Lerista humphriesi</i>) historical records are present in the surrounding supportive habitat. The Peregrine Falcon may also utilise these areas for foraging.</p> <p>Seasonally after large rain events migratory birds may utilise portions of this habitat if suitable. Areas that inundate including the dams maybe utilised as required.</p> <p>Low Value</p>	1.11	0.03%	

Habitat type	Extent in PAA (ha)	% of PAA	Representative Image
Cleared/Farmland Description Cleared areas including tracks, tank infrastructure and farmland, some scattered native shrubs/trees over weeds. Habitat value: Low to negligible	10.29	0.3	

3.3.2 Fauna diversity

The *NatureMap* (DBCA 2007-) database identified 73 species previously recorded within a 5 km buffer surrounding the PAA, forming a desktop study area. This total comprised three amphibians, one bird, 33 invertebrates, six mammal and 30 reptile species.

3.3.3 Significant fauna

The *NatureMap* (DBCA 2007) database and the EPBC Act PMST, considering the PAA and a 5 km buffer (Attachment A), identified the presence/potential presence of 42 conservation significant fauna. Of the 42 conservation significant species identified, 16 were marine species that are highly unlikely to utilise the terrestrial environment within the PAA and have therefore been ruled out of potentially occurring. This results in 26 conservation significant species potentially occurring within the PAA based off the desktop assessment.

The desktop assessment identified:

- 24 species listed as Threatened under the EPBC Act
- Two species listed at Priority 3 under the BC Act

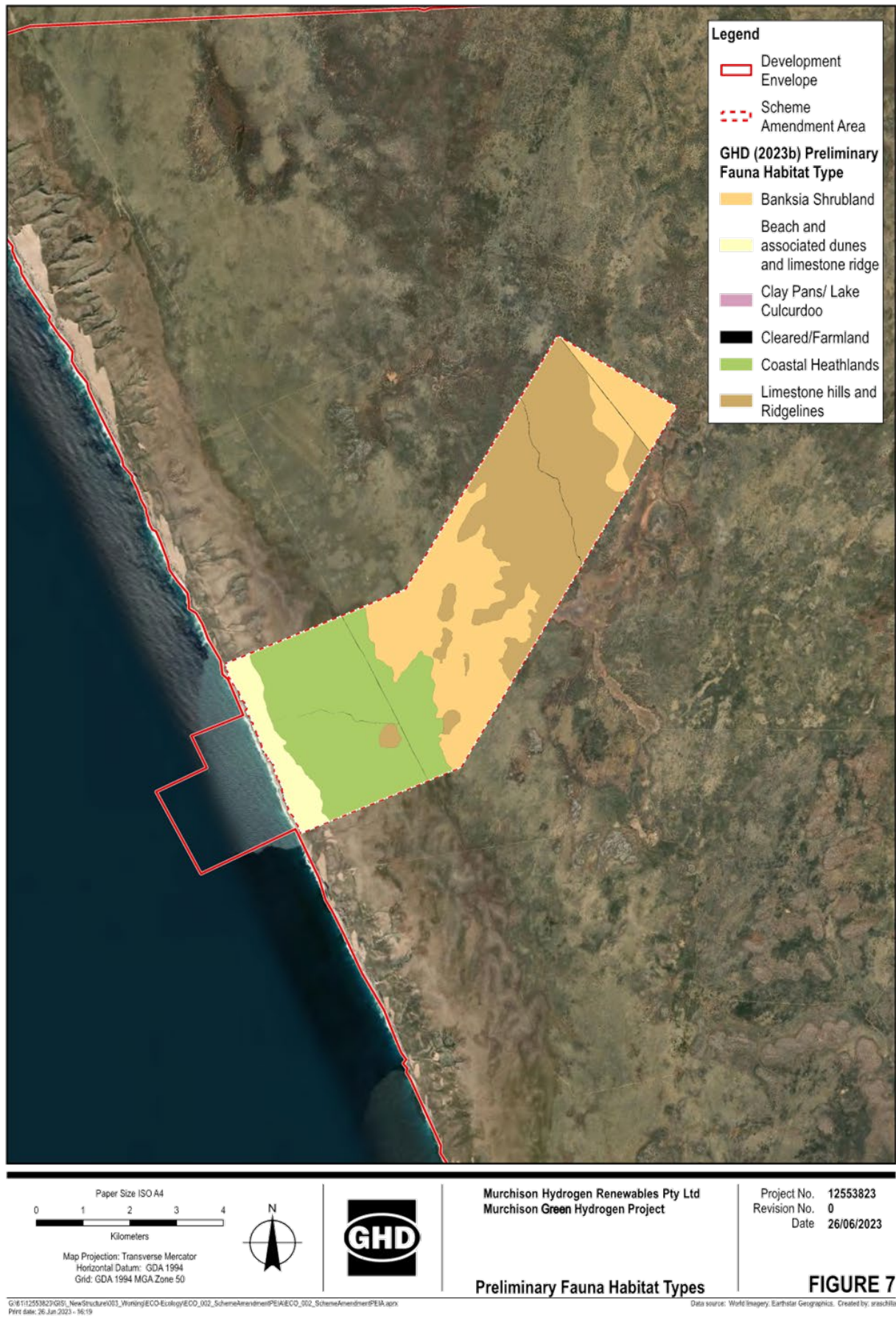
Preliminary results from the GHD (2023b) detailed survey of the DE, indicated that an additional eight conservation significant species may occur within the PAA, bringing the total of potentially occurring conservation significant species to 34. A likelihood of occurrence assessment of these conservation significant fauna species was undertaken (Attachment B), with a summary is provided in Table 7.

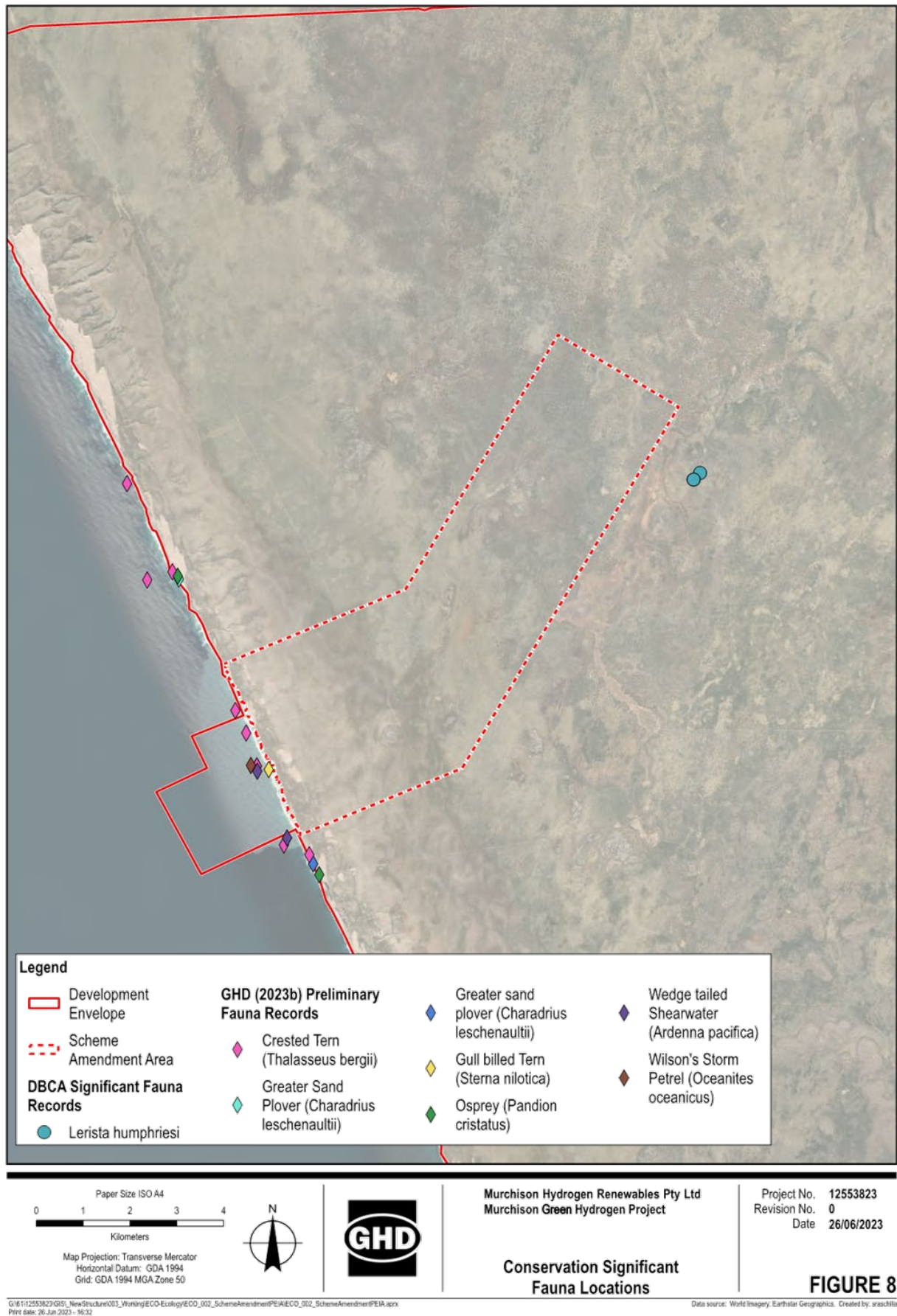
Of the 34 conservation significant taxa potentially occurring, 17 are considered known or likely to occur within the PAA. The majority of these species (10) are migratory birds that utilise the beaches and coastal habitat for foraging.

Table 7 Preliminary likelihood of occurrence assessment (GHD 2023b)

Taxa	Common Name	Status		Likelihood of occurrence within the project area
		BC Act	EPBC Act	
<i>Ardenna pacifica</i>	Wedge-tailed Shearwater	MI	MI	Known. Recorded during the GHD (2023b) survey.
<i>Calidris alba</i>	Sanderling	MI	MI	Known. Recorded during the GHD (2023b) survey.
<i>Calidris canutus</i>	Red Knot	EN	EN & MI	Likely. There is suitable habitat within the PAA.
<i>Calidris ferruginea</i>	Curlew Sandpiper	CR	CR & MI	Likely. The nearest record is at Chinaman's Rock Lookout 35 km south of the Survey Area.
<i>Calidris ruficollis</i>	Red-necked stint	MI	MI	Known. Recorded during the GHD (2023b) survey.
<i>Charadrius leschenaultii</i>	Greater sand plover	VU	VU & MI	Known. Recorded during the GHD (2023b) survey.
<i>Gelochelidon nilotica</i>	Gull-billed tern	MI	MI	Known. Recorded during the GHD (2023b) survey.
<i>Limosa lapponica</i>	Bar-tailed godwit	MI	MI	Known. Recorded using coastal habitat.
<i>Limosa lapponica menzbieri</i>	Northern Siberian Bar-tailed Godwit, Russkoye Bar-tailed Godwit	CR	CR	Likely. There is suitable habitat within the Survey Area on the coastal strip.
<i>Numenius madagascariensis</i>	Eastern curlew	CR	CR & MI	Likely. There is suitable habitat within the Survey Area on the coastal strip and the closest known record is 45 km east of the Survey Area.
<i>Oceanites oceanicus</i>	Wilson's storm-petrel	MI	MI	Known. Recorded during the GHD (2023b) survey.

Taxa	Common Name	Status		Likelihood of occurrence within the project area
		BC Act	EPBC Act	
<i>Pandion haliaetus</i>	Eastern Osprey	MI	MI	Known. Recorded during the GHD (2023b) survey.
<i>Sternula nereis nereis</i>	Australian Fairy Tern	VU	VU	Likely. There is suitable habitat within the Survey Area on the coastal strip and the species has been identified from database searches as being in the Survey Area.
<i>Thalasseus bergii</i>	Crested tern	MI	MI	Known. Recorded during the GHD (2023b) survey.
<i>Dasyurus geoffroii</i>	Chuditch, Western Quoll	VU	VU	Likely. There are known records of approximately 9 km south of the Survey Area within the Kalbarri gorge system. The species has also been recorded from Eurady Station to the east and Hamelin Station to the north.
<i>Lerista humphriesi</i>	Taper-tailed West Coast slider (Murchison River)	P3	-	Known. Recorded during the GHD (2023b) survey.
<i>Idiosoma arenaceum</i>	Geraldton Sandplain shield-backed trapdoor spider	P3	-	Likely. The species has been trapped previously in the northern portion of the DE. The species has a moderately widespread distribution in Geraldton north to Zuytdorp (Rix <i>et. al</i> 2018)





3.4 Inland Waters

Hydrological aspects for the PAA are summarised in Table 8.

Table 8 Hydrology aspects within the PAA

Aspect	Details	Results
Groundwater Areas	Groundwater areas proclaimed under the RIWI Act	Gascoyne Groundwater Area
Surface Water Areas	Surface water areas proclaimed under the RIWI Act	None present
Irrigation District	Irrigation Districts proclaimed under the RIWI Act	None present
Rivers	Rivers proclaimed under the RIWI Act	None present
Public Drinking Water Source Areas (PDWSA)	PDWSA is a collective term used for the description of Water Reserves, Catchment Areas and Underground Pollution Control Areas declared (gazetted) under the provisions of the Metropolitan Water Supply, Sewage and Drainage Act 1909 or the Country Area Water Supply Act 1947	None present
Waterways Conservation Areas	Areas proclaimed under the Waterway Conservation Act 1976.	None present

3.4.1 Groundwater

The PAA falls within the Gascoyne Groundwater Area, proclaimed under the *Rights in Water and Irrigation Act 1914* (RIWI Act). No groundwater investigations have been undertaken within the PAA however online records for groundwater within the DE exist through the Water Information Reporting (WIR) system, maintained by the Western Australian Department of Water and Environmental Regulation (DWER). The database has records for nine historical water bores drilled within the DE and one additional bore north of the DE. Each of the bores are reported with a date that varies during the period of 1935 to 1938.

Drilled bore depths were in the range 93.3 m to 163.1 m below ground level (bgl). Depths to water are indicated for seven of the ten bores as occurring at the time of drilling below depths in the range 79 mbgl to 139 mbgl. There are indications in the drilling notes that water was only recovered from isolated zones in the ground profile at some of the bore locations. Two of the other three boreholes for which water depths are not provided do not indicate that water was encountered. The drilling notes explicitly state that water was not encountered within one of the bores, which was drilled to 102 mbgl. For those bores for which water quality observations were recorded, the water was generally reported to be "too salty" for human consumption or for other uses such as irrigation.

3.4.2 Surface water and drainage

The PAA is not located within a Surface Water Area, Irrigation District or River proclaimed under the RIWI Act. No rivers or surface water bodies intersect the PAA.

3.4.3 Wetlands

No Wetlands of International Importance (Ramsar) or Nationally Important Wetlands intersect the PAA. The PAA also does not intersect any Geomorphic Wetlands.

3.5 Social Surroundings

3.5.1 Aboriginal heritage

Murchison Hydrogen Renewables and the Traditional Owners have a well-established relationship and have been engaging now for more than two years in respect of the Project. Murchison Hydrogen Renewables and the Traditional Owners are well progressed in their engagement and are currently progressing an Indigenous Land Use Agreement (ILUA) and Aboriginal Heritage Agreement. The ILUA will include business, employment, and training opportunities for the aboriginal groups relevant to the project area.

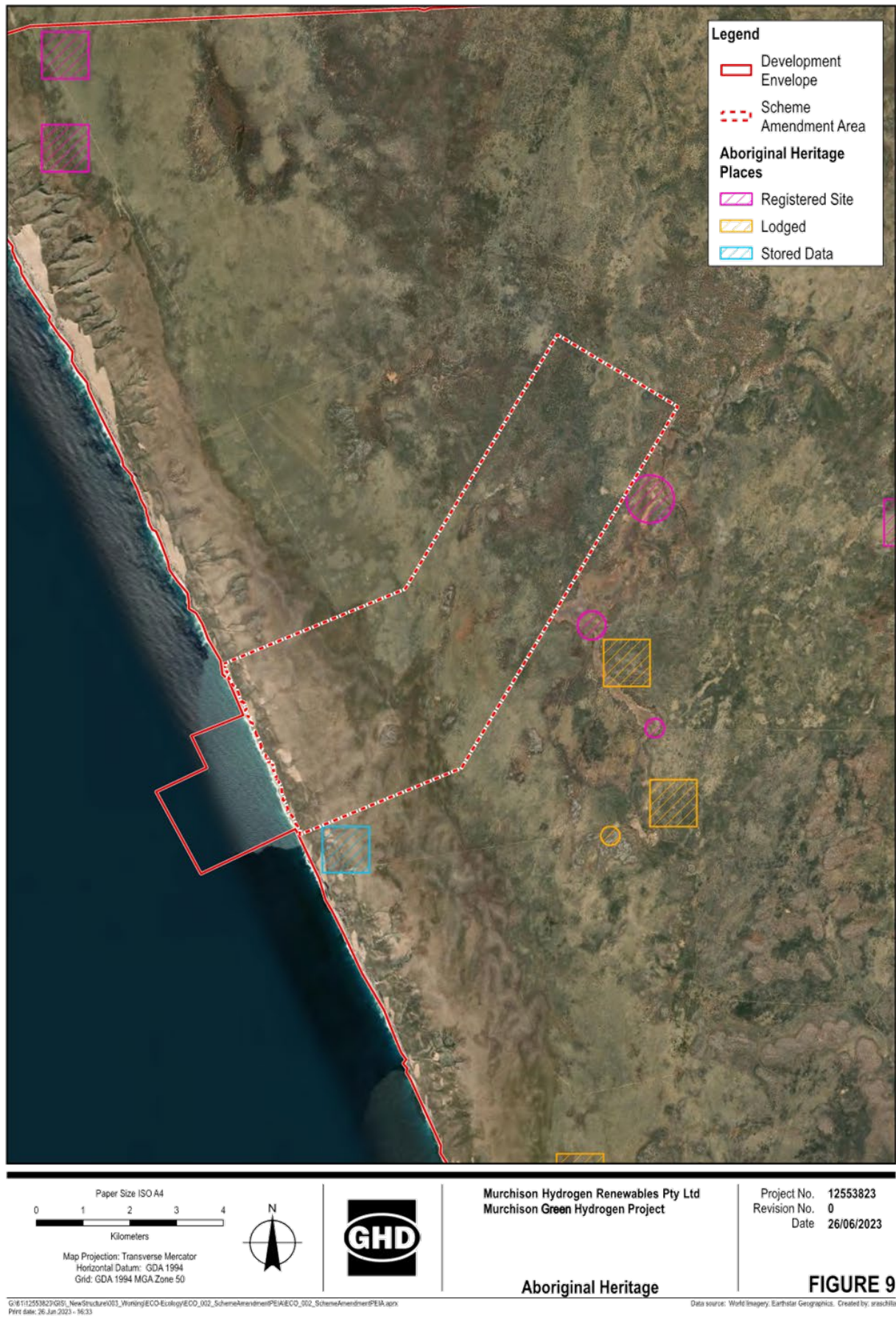
A review of the Aboriginal Heritage Inquiry System (DPLH 2023, Attachment C) has confirmed that no 'Registered' Aboriginal Sites are found within the PAA. No 'Other Heritage Places' have been recorded within the PAA. Two Registered Aboriginal Sites are within a 1 km search area surrounding the PAA, as shown in Figure 9.

Detailed archaeological and ethnographic Aboriginal heritage surveys will be undertaken across the DE, inclusive of the PAA, prior to ground disturbance works, in consultation with and together with the Traditional Owners and determined native title owners.

3.5.2 European heritage

The Shark Bay World and National Heritage Area is located 11.5 km north of the PAA. Shark Bay's waters, islands and peninsulas cover a large area of approximately 2.2 million ha, 70% of which are marine waters. The PAA will not directly impact on any of the values of this World/National Heritage Area.

Desktop research indicates that there are no known sites within the DE that have State or Local heritage status (GoWA 2023).



4. References

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- EPA 2016, Technical Guidance Flora and Vegetation Surveys for Environmental Impact Assessment, The Government of Western Australia.
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- GoWA 2017b - DBCA - Legislated Lands and Waters (DBCA-011) - Datasets - data.wa.gov.au
- GoWA 2017c - DBCA - Lands of Interest (DBCA-012) - Datasets - data.wa.gov.au
- GoWA 2017d - Geomorphic Wetlands, Swan Coastal Plain (DBCA-019) - Datasets - data.wa.gov.au
- GoWA 2017e - Threatened and Priority Flora (DBCA-036) - Datasets - data.wa.gov.au
- GoWA 2017f - Threatened Ecological Communities (DBCA-038) - Datasets - data.wa.gov.au
- GoWA 2018a - Directory of Important Wetlands in Australia - Western Australia (DBCA-045) - Datasets - data.wa.gov.au
- GoWA 2018b - Public Drinking Water Source Areas (DWER-033) - Datasets - data.wa.gov.au
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- GoWA 2018d - RIWI Act, Rivers (DWER-036) - Datasets - data.wa.gov.au
- GoWA 2018e - RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037) - Datasets - data.wa.gov.au
- GoWA 2018f - Clearing Regulations - Environmentally Sensitive Areas (DWER-046) - Datasets - data.wa.gov.au
- GoWA 2018g - Waterways Conservation Act Management Areas (DWER-072) - Datasets - data.wa.gov.au
- GoWA 2019a - DBCA Statewide Vegetation Statistics – Datasets - data.wa.gov.au
- GoWA 2019b - Aboriginal Heritage Places (DPLH-001) - Datasets - data.wa.gov.au
- GoWA 2019c - Heritage Council WA - State Register (DPLH-006) - Datasets - data.wa.gov.au
- GoWA 2019d - Heritage Council WA - Local Heritage Survey (DPLH-008) - Datasets - data.wa.gov.au
- GoWA 2019e - Region Scheme - Zones and Reserves (DPLH-023) - Datasets - data.wa.gov.au
- GoWA 2019f - Local Planning Scheme - Zones and Reserves (DPLH-071) - Datasets - data.wa.gov.au
- GoWA 2020 - Native Vegetation Extent (DPIRD-005) - Datasets - data.wa.gov.au
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Attachments

Attachment A

**Desktop Search Results – PMST /
NatureMap**



Australian Government

Department of Climate Change, Energy,
the Environment and Water

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 23-Mar-2023

[Summary](#)

[Details](#)

[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)

Summary

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	1
National Heritage Places:	1
Wetlands of International Importance (Ramsar)	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	1
Listed Threatened Ecological Communities:	None
Listed Threatened Species:	42
Listed Migratory Species:	44

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <https://www.dcceew.gov.au/parks-heritage/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	62
Whales and Other Cetaceans:	13
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	1
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	2
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	1
Key Ecological Features (Marine):	None
Biologically Important Areas:	4
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

World Heritage Properties		[Resource Information]	
Name	State	Legal Status	Buffer Status
Shark Bay, Western Australia	WA	Declared property	In buffer area only

National Heritage Places		[Resource Information]	
Name	State	Legal Status	Buffer Status
Natural			
Shark Bay, Western Australia	WA	Listed place	In buffer area only

Commonwealth Marine Area		[Resource Information]
Approval is required for a proposed activity that is located within the Commonwealth Marine Area which has, will have, or is likely to have a significant impact on the environment. Approval may be required for a proposed action taken outside a Commonwealth Marine Area but which has, may have or is likely to have a significant impact on the environment in the Commonwealth Marine Area.		
Feature Name		Buffer Status
EEZ and Territorial Sea		In buffer area only

Listed Threatened Species	[Resource Information]		
Status of Conservation Dependent and Extinct are not MNES under the EPBC Act. Number is the current name ID.			
Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Anous tenuirostris melanops Australian Lesser Noddy [26000]	Vulnerable	Species or species habitat may occur within area	In feature area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Diomedea amsterdamensis Amsterdam Albatross [64405]	Endangered	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
<u>Diomedea exulans</u> Wandering Albatross [89223]	Vulnerable	Species or species habitat may occur within area	In feature area
<u>Falco hypoleucos</u> Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area	In feature area
<u>Leipoa ocellata</u> Malleefowl [934]	Vulnerable	Species or species habitat likely to occur within area	In feature area
<u>Limosa lapponica menzbieri</u> Northern Siberian Bar-tailed Godwit, Russkoye Bar-tailed Godwit [86432]	Critically Endangered	Species or species habitat may occur within area	In feature area
<u>Macronectes giganteus</u> Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In feature area
<u>Macronectes halli</u> Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area	In feature area
<u>Numenius madagascariensis</u> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
<u>Pterodroma mollis</u> Soft-plumaged Petrel [1036]	Vulnerable	Species or species habitat may occur within area	In buffer area only
<u>Rostratula australis</u> Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area	In feature area
<u>Sternula nereis nereis</u> Australian Fairy Tern [82950]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
<u>Thalassarche carteri</u> Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Thalassarche cauta Shy Albatross [89224]	Endangered	Species or species habitat may occur within area	In feature area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	In feature area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area	In feature area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Species or species habitat may occur within area	In feature area
Zanda latirostris listed as Calyptorhynchus latirostris Carnaby's Black Cockatoo, Short-billed Black-cockatoo [87737]	Endangered	Species or species habitat likely to occur within area	In feature area
FISH			
Thunnus maccoyii Southern Bluefin Tuna [69402]	Conservation Dependent	Species or species habitat likely to occur within area	In feature area
MAMMAL			
Balaenoptera borealis Sei Whale [34]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat likely to occur within area	In feature area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Dasyurus geoffroii Chuditch, Western Quoll [330]	Vulnerable	Species or species habitat may occur within area	In feature area
Eubalaena australis Southern Right Whale [40]	Endangered	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Macroderma gigas Ghost Bat [174]	Vulnerable	Species or species habitat may occur within area	In feature area
PLANT			
Caladenia barbarella Small Dragon Orchid, Common Dragon Orchid [68686]	Endangered	Species or species habitat may occur within area	In feature area
Caladenia hoffmanii Hoffman's Spider-orchid [56719]	Endangered	Species or species habitat likely to occur within area	In feature area
Eucalyptus beardiana Beard's Mallee [18933]	Vulnerable	Species or species habitat may occur within area	In buffer area only
REPTILE			
Aipysurus foliosquama Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Breeding likely to occur within area	In feature area
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area	In feature area
Egernia stokesii badia Western Spiny-tailed Skink, Baudin Island Spiny-tailed Skink [64483]	Endangered	Species or species habitat may occur within area	In feature area
Natator depressus Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area	In feature area
SHARK			
Carcharias taurus (west coast population) Grey Nurse Shark (west coast population) [68752]	Vulnerable	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area	In feature area
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat may occur within area	In feature area
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area	In feature area
Sphyrna lewini Scalloped Hammerhead [85267]	Conservation Dependent	Species or species habitat likely to occur within area	In feature area

SPIDER

Idiosoma nigrum Shield-backed Trapdoor Spider, Black Rugose Trapdoor Spider [66798]	Vulnerable	Species or species habitat known to occur within area	In feature area
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Listed Migratory Species [Resource Information]

Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Anous stolidus Common Noddy [825]		Species or species habitat may occur within area	In feature area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
Ardenna carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		Species or species habitat likely to occur within area	In feature area
Diomedea amsterdamensis Amsterdam Albatross [64405]	Endangered	Species or species habitat may occur within area	In feature area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area	In feature area
Hydroprogne caspia Caspian Tern [808]		Foraging, feeding or related behaviour known to occur within area	In feature area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In feature area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area	In feature area
Onychoprion anaethetus Bridled Tern [82845]		Foraging, feeding or related behaviour likely to occur within area	In feature area
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat may occur within area	In feature area
Sternula albifrons Little Tern [82849]		Species or species habitat may occur within area	In feature area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat may occur within area	In feature area
Thalassarche cauta Shy Albatross [89224]	Endangered	Species or species habitat may occur within area	In feature area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	In feature area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Species or species habitat may occur within area	In feature area
Migratory Marine Species			
Balaenoptera borealis Sei Whale [34]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area	In feature area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat likely to occur within area	In feature area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Carcharhinus longimanus Oceanic Whitetip Shark [84108]		Species or species habitat may occur within area	In feature area
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area	In feature area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Breeding likely to occur within area	In feature area
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area	In feature area
Eubalaena australis as Balaena glacialis australis Southern Right Whale [40]	Endangered	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Lamna nasus Porbeagle, Mackerel Shark [83288]		Species or species habitat may occur within area	In feature area
Megaptera novaeangliae Humpback Whale [38]		Species or species habitat known to occur within area	In feature area
Mobula alfredi as Manta alfredi Reef Manta Ray, Coastal Manta Ray [90033]		Species or species habitat known to occur within area	In feature area
Mobula birostris as Manta birostris Giant Manta Ray [90034]		Species or species habitat may occur within area	In feature area
Natator depressus Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area	In feature area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area	In feature area
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat may occur within area	In feature area
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area	In feature area
Migratory Terrestrial Species			
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area	In feature area
Migratory Wetlands Species			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat likely to occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area	In feature area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat may occur within area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
Pandion haliaetus Osprey [952]		Species or species habitat likely to occur within area	In buffer area only

Other Matters Protected by the EPBC Act

Listed Marine Species		[Resource Information]	
Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat likely to occur within area	In feature area
Anous stolidus Common Noddy [825]		Species or species habitat may occur within area	In feature area
Anous tenuirostris melanops Australian Lesser Noddy [26000]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
Ardenna carneipes as Puffinus carneipes Flesh-footed Shearwater, Fleishy-footed Shearwater [82404]		Species or species habitat likely to occur within area	In feature area
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area	In feature area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat may occur within area overfly marine area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area overfly marine area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area	In feature area
Chalcites osculans as Chrysococcyx osculans Black-eared Cuckoo [83425]		Species or species habitat likely to occur within area overfly marine area	In feature area
Diomedea amsterdamensis Amsterdam Albatross [64405]	Endangered	Species or species habitat may occur within area	In feature area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area	In feature area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area	In feature area
Hydroprogne caspia as Sterna caspia Caspian Tern [808]		Foraging, feeding or related behaviour known to occur within area	In feature area
Larus pacificus Pacific Gull [811]		Foraging, feeding or related behaviour known to occur within area	In feature area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat may occur within area	In feature area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In feature area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area	In feature area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area overfly marine area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
<u>Onychoprion anaethetus as Sterna anaethetus</u> Bridled Tern [82845]		Foraging, feeding or related behaviour likely to occur within area	In feature area
<u>Pandion haliaetus</u> Osprey [952]		Species or species habitat likely to occur within area	In buffer area only
<u>Phaethon lepturus</u> White-tailed Tropicbird [1014]		Species or species habitat may occur within area	In feature area
<u>Pterodroma mollis</u> Soft-plumaged Petrel [1036]	Vulnerable	Species or species habitat may occur within area	In buffer area only
<u>Puffinus assimilis</u> Little Shearwater [59363]		Foraging, feeding or related behaviour known to occur within area	In feature area
<u>Rostratula australis as Rostratula benghalensis (sensu lato)</u> Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area overfly marine area	In feature area
<u>Stercorarius skua as Catharacta skua</u> Great Skua [823]		Species or species habitat may occur within area	In buffer area only
<u>Sternula albifrons as Sterna albifrons</u> Little Tern [82849]		Species or species habitat may occur within area	In feature area
<u>Thalassarche carteri</u> Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat may occur within area	In feature area
<u>Thalassarche cauta</u> Shy Albatross [89224]	Endangered	Species or species habitat may occur within area	In feature area
<u>Thalassarche impavida</u> Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
<u>Thalassarche melanophris</u> Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area	In feature area
<u>Thalassarche steadi</u> White-capped Albatross [64462]	Vulnerable	Species or species habitat may occur within area	In feature area
Fish			
<u>Campichthys galei</u> Gale's Pipefish [66191]		Species or species habitat may occur within area	In feature area
<u>Choeroichthys suillus</u> Pig-snouted Pipefish [66198]		Species or species habitat may occur within area	In feature area
<u>Festucalex scalaris</u> Ladder Pipefish [66216]		Species or species habitat may occur within area	In feature area
<u>Filicampus tigris</u> Tiger Pipefish [66217]		Species or species habitat may occur within area	In feature area
<u>Halicampus brocki</u> Brock's Pipefish [66219]		Species or species habitat may occur within area	In feature area
<u>Haliichthys taeniophorus</u> Ribbined Pipehorse, Ribbined Seadragon [66226]		Species or species habitat may occur within area	In feature area
<u>Hippocampus angustus</u> Western Spiny Seahorse, Narrow-bellied Seahorse [66234]		Species or species habitat may occur within area	In feature area
<u>Hippocampus histrix</u> Spiny Seahorse, Thorny Seahorse [66236]		Species or species habitat may occur within area	In feature area
<u>Hippocampus planifrons</u> Flat-face Seahorse [66238]		Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Hippocampus trimaculatus Three-spot Seahorse, Low-crowned Seahorse, Flat-faced Seahorse [66720]		Species or species habitat may occur within area	In feature area
Lissocampus fatiloquus Prophet's Pipefish [66250]		Species or species habitat may occur within area	In feature area
Nannocampus subosseus Bonyhead Pipefish, Bony-headed Pipefish [66264]		Species or species habitat may occur within area	In feature area
Solegnathus lettiensis Gunther's Pipehorse, Indonesian Pipefish [66273]		Species or species habitat may occur within area	In feature area
Solenostomus cyanopterus Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area	In feature area
Stigmatopora argus Spotted Pipefish, Gulf Pipefish, Peacock Pipefish [66276]		Species or species habitat may occur within area	In feature area
Syngnathoides biaculeatus Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area	In feature area
Trachyrhamphus bicoarctatus Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area	In feature area
Reptile			
Aipysurus foliosquama Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Aipysurus pooleorum Shark Bay Seasnake [66061]		Species or species habitat may occur within area	In feature area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Breeding likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area	In feature area
Disteira kingii Spectacled Seasnake [1123]		Species or species habitat may occur within area	In feature area
Disteira major Olive-headed Seasnake [1124]		Species or species habitat may occur within area	In feature area
Natator depressus Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area	In feature area
Pelamis platurus Yellow-bellied Seasnake [1091]		Species or species habitat may occur within area	In feature area

Whales and Other Cetaceans		[Resource Information]	
Current Scientific Name	Status	Type of Presence	Buffer Status
Mammal			
Balaenoptera acutorostrata Minke Whale [33]		Species or species habitat may occur within area	In feature area
Balaenoptera borealis Sei Whale [34]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area	In feature area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat likely to occur within area	In feature area

Current Scientific Name	Status	Type of Presence	Buffer Status
Balaenoptera physalus Fin Whale [37]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Delphinus delphis Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area	In feature area
Eubalaena australis Southern Right Whale [40]	Endangered	Species or species habitat likely to occur within area	In feature area
Grampus griseus Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area	In feature area
Megaptera novaeangliae Humpback Whale [38]		Species or species habitat known to occur within area	In feature area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area	In feature area
Stenella attenuata Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area	In feature area
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area	In feature area
Tursiops truncatus s. str. Bottlenose Dolphin [68417]		Species or species habitat may occur within area	In feature area

Australian Marine Parks	[Resource Information]	
Park Name	Zone & IUCN Categories	Buffer Status
Abrolhos	Multiple Use Zone (IUCN VI)	In buffer area only

Extra Information

State and Territory Reserves		[Resource Information]	
Protected Area Name	Reserve Type	State	Buffer Status
Part Murchison house	NRS Addition - Gazettal in Progress	WA	In feature area
Zuytdorp	Nature Reserve	WA	In buffer area only

EPBC Act Referrals		[Resource Information]		
Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area

Biologically Important Areas				
Scientific Name		Behaviour	Presence	Buffer Status
Seabirds				
Ardenna pacifica				
Wedge-tailed Shearwater [84292]		Breeding	Known to occur	In feature area
Puffinus assimilis tunneyi				
Little Shearwater [59363]		Foraging (in high numbers)	Known to occur	In feature area
Whales				
Balaenoptera musculus brevicauda				
Pygmy Blue Whale [81317]		Distribution	Known to occur	In feature area
Megaptera novaeangliae				
Humpback Whale [38]		Migration (north and south)	Known to occur	In feature area

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data are available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded
- seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [Office of Environment and Heritage, New South Wales](#)
- [Department of Environment and Primary Industries, Victoria](#)
- [Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [Department of Environment, Water and Natural Resources, South Australia](#)
- [Department of Land and Resource Management, Northern Territory](#)
- [Department of Environmental and Heritage Protection, Queensland](#)
- [Department of Parks and Wildlife, Western Australia](#)
- [Environment and Planning Directorate, ACT](#)
- [Birdlife Australia](#)
- [Australian Bird and Bat Banding Scheme](#)
- [Australian National Wildlife Collection](#)
- Natural history museums of Australia
- [Museum Victoria](#)
- [Australian Museum](#)
- [South Australian Museum](#)
- [Queensland Museum](#)
- [Online Zoological Collections of Australian Museums](#)
- [Queensland Herbarium](#)
- [National Herbarium of NSW](#)
- [Royal Botanic Gardens and National Herbarium of Victoria](#)
- [Tasmanian Herbarium](#)
- [State Herbarium of South Australia](#)
- [Northern Territory Herbarium](#)
- [Western Australian Herbarium](#)
- [Australian National Herbarium, Canberra](#)
- [University of New England](#)
- [Ocean Biogeographic Information System](#)
- [Australian Government, Department of Defence](#)
- [Forestry Corporation, NSW](#)
- [Geoscience Australia](#)
- [CSIRO](#)
- [Australian Tropical Herbarium, Cairns](#)
- [eBird Australia](#)
- [Australian Government – Australian Antarctic Data Centre](#)
- [Museum and Art Gallery of the Northern Territory](#)
- [Australian Government National Environmental Science Program](#)
- [Australian Institute of Marine Science](#)
- [Reef Life Survey Australia](#)
- [American Museum of Natural History](#)
- [Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact us](#) page.

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Canberra ACT 2601 Australia
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COUNT KINGDOM	CLASS	TAXON	CONS	Total
Animalia	AMPHI	Arenophryne xiphorhyncha	(blank)	41
		Neobatrachus pelobatoides	(blank)	2
		Pseudophryne guentheri	(blank)	1
	BIRD	Larus novaehollandiae subsp. novaehollandiae	(blank)	2
	INVERT	Amblyomma triguttatum	(blank)	3
		Araneus eburneiventris	(blank)	2
		Araneus senicaudatus	(blank)	1
		Argiope protensa	(blank)	3
		Asadipus phaleratus	(blank)	4
		Austracantha minax	(blank)	1
		Backbourkia heroine	(blank)	1
		Bigenditia zuytdorp	(blank)	2
		Cercophonius granulatus	(blank)	2
		Cryptoerithus halli	(blank)	1
		Cryptoerithus quobba	(blank)	1
		Dingosa murata	(blank)	2
		Dingosa serrata	(blank)	1
		Euasteron carnarvon	(blank)	4
		Hoggicosa alfi	(blank)	1
		Idiosoma nigrum	EN	11
		Lamponina scutata	(blank)	1
		Lycosa godeffroyi	(blank)	1
		Masasteron sampeyae	(blank)	2
		Meedo harveyi	(blank)	4
		Mituliodon tarantulinus	(blank)	2
		Molycra vokes	(blank)	3
		Myandra bicincta	(blank)	1
		Nephila edulis	(blank)	1
		Nicodamus mainae	(blank)	2
		Prodidomus woodleigh	(blank)	1
		Pseudolampona boree	(blank)	1
		Scolopendra laeta	(blank)	1
		Scolopendra morsitans	(blank)	1
		Spinasteron westi	(blank)	7
		Tetragnatha nitens	(blank)	1
		Trichocyclops nigropunctatus	(blank)	9
		Urodacus mckenziei	(blank)	5
	MAMMAL	Megaptera novaehollandiae	CD & MI	4
		Notomys alexis	(blank)	1
		Pseudomys albocinereus	(blank)	3
		Sminthopsis dolichura	(blank)	2
		Sminthopsis granulipes	(blank)	2
	REPTILE	Tarsipes rostratus	(blank)	5
		Crenadactylus ocellatus subsp. horni	(blank)	1
		Cryptoblepharus buechananii	(blank)	2
		Ctenophorus adelaidensis	(blank)	1
		Ctenophorus maculatus subsp. maculatus	(blank)	2
		Ctenotus australis	(blank)	3

COUNT	KINGDOM	CLASS	TAXON	CONS	Total
	Animalia	REPTILE	Ctenotus fallens	(blank)	3
			Cyclodomorphus celatus	(blank)	9
			Delma australis	(blank)	2
			Diplodactylus ornatus	(blank)	1
			Gehyra variegata	(blank)	6
			Lerista elegans	(blank)	31
			Lerista humphriesi	P3	9
			Lerista kendricki	(blank)	5
			Lerista lineopunctulata	(blank)	11
			Lerista planiventralis subsp. decora	(blank)	6
			Lerista praepedita	(blank)	10
			Lerista sp.	(blank)	1
			Lialis burtonis	(blank)	2
			Lucasium alboguttatum	(blank)	6
			Menetia greyii	(blank)	7
			Menetia surda subsp. cresswelli	(blank)	4
			Morethia lineocellata	(blank)	10
			Neelaps bimaculatus	(blank)	1
			Pletholax gracilis subsp. gracilis	(blank)	1
			Pogona minor subsp. minor	(blank)	4
			Pseudonaja mengdeni	(blank)	1
			Simoselaps littoralis	(blank)	2
			Strophurus spinigerus subsp. spinigerus	(blank)	7
			Tiliqua occipitalis	(blank)	1
			Underwoodisaurus milii	(blank)	1
	Plantae	DICOT	Acacia cavealis	(blank)	1
			Acacia ligulata	(blank)	4
			Acacia rostellifera	(blank)	3
			Acacia spathulifolia	(blank)	1
			Alectryon oleifolius subsp. oleifolius	(blank)	1
			Allocasuarina humilis	(blank)	1
			Alternanthera denticulata	(blank)	1
			Alyxia buxifolia	(blank)	3
			Anthocercis ilicifolia subsp. caldariola	(blank)	1
			Anthocercis intricata	P3	1
			Baeckea sp. East Nabawa (M.E. Trudgen MET 21623)	(blank)	1
			Banksia ashbyi	(blank)	1
			Banksia attenuata	(blank)	1
			Banksia borealis subsp. borealis	(blank)	1
			Banksia fraseri	(blank)	1
			Banksia lindleyana	(blank)	2
			Banksia prionotes	(blank)	3
			Banksia sceptrum	(blank)	1
			Beyeria cinerea	(blank)	1
			Beyeria cinerea subsp. borealis	(blank)	1
			Billardiera erubescens	(blank)	1
			Boronia coerulescens	(blank)	1
			Boronia coerulescens subsp. spicata	(blank)	1

COUNT KINGDOM	CLASS	TAXON	CONS	Total
Plantae	DICOT	Boronia purdieana	(blank)	2
		Boronia purdieana subsp. purdieana	(blank)	1
		Brachyscome latisquamea	(blank)	1
		Brachysema aphyllum	(blank)	1
		Calandrinia corrigioloides	(blank)	4
		Calandrinia liniflora	(blank)	2
		Calandrinia polyandra	(blank)	3
		Calothamnus blepharospermus	(blank)	2
		Calothamnus oldfieldii	(blank)	2
		Calothamnus quadrifidus	(blank)	1
		Calothamnus quadrifidus subsp. obtusus	(blank)	1
		Calytrix brevifolia	(blank)	2
		Carpobrotus dioica	(blank)	1
		Carpobrotus sp. Thevenard Island (M. White 050)	P3	1
		Cassytha aurea	(blank)	2
		Cassytha aurea var. hirta	(blank)	1
		Cassytha pomiformis	(blank)	3
		Cassytha racemosa	(blank)	2
		Centaurea melitensis	(blank)	2
		Chenopodium gaudichaudianum	(blank)	2
		Clematicissus angustissima	(blank)	2
		Clematis linearifolia	(blank)	1
		Clematis microphylla	(blank)	1
		Commersonia borealis	(blank)	1
		Commersonia densiflora	(blank)	1
		Conospermum microflorum	(blank)	3
		Crassula colorata	(blank)	3
		Cuscuta epithymum	(blank)	2
		Dampiera incana	(blank)	1
		Dampiera incana var. fuscescens	(blank)	1
		Diplolaena grandiflora	(blank)	3
		Diplolaena mollis	(blank)	3
		Dodonaea aptera	(blank)	2
		Drosera menziesii subsp. thysanosepala	(blank)	1
		Drosera prostrata	(blank)	1
		Drosera stolonifera subsp. humilis	(blank)	3
		Drosera stolonifera subsp. stolonifera	(blank)	1
		Drosera thysanosepala	(blank)	1
		Dryandra borealis subsp. borealis	(blank)	2
		Dysphania rhadinostachya	(blank)	1
		Enchylaena tomentosa	(blank)	2
		Eremaea ebracteata var. ebracteata	(blank)	2
		Eremophila glabra	(blank)	1
		Eremophila glabra ssp. Zuytdorp (GJK & NG 518)	(blank)	1
		Eremophila glabra subsp. psammophora	(blank)	2
		Eremophila glabra subsp. tomentosa	(blank)	2
		Erodium cicutarium	(blank)	2
		Erodium cygnorum	(blank)	1

COUNT KINGDOM	CLASS	TAXON	CONS	Total
Plantae	DICOT	Eucalyptus camaldulensis subsp. obtusa	(blank)	1
		Eucalyptus erythrocorys	(blank)	3
		Eucalyptus eudesmioides	(blank)	1
		Eucalyptus pallida	(blank)	2
		Eucalyptus zopherophloia	P4	2
		Euphorbia australis	(blank)	1
		Exocarpos aphyllus	(blank)	1
		Frankenia pauciflora	(blank)	1
		Geleznovia verrucosa	(blank)	3
		Gompholobium tomentosum	(blank)	3
		Goodenia berardiana	(blank)	2
		Grevillea annulifera	(blank)	2
		Grevillea argyrophylla	(blank)	2
		Grevillea biformis subsp. biformis	(blank)	2
		Grevillea pinaster	(blank)	2
		Grevillea preissii	(blank)	3
		Grevillea stenomera	P2	5
		Guichenotia intermedia	(blank)	2
		Guichenotia ledifolia	(blank)	1
		Guichenotia macrantha	(blank)	1
		Hakea candolleana	(blank)	3
		Hakea circumalata	(blank)	1
		Halgania bebrana	(blank)	1
		Haloragis trigonocarpa	(blank)	2
		Hemigenia pimelifolia	(blank)	1
		Hemigenia saligna	P3	1
		Hibbertia conspicua	(blank)	5
		Hibbertia pungens	(blank)	1
		Hibbertia racemosa	(blank)	6
		Hibbertia spicata	(blank)	1
		Hibbertia spicata subsp. spicata	(blank)	2
		Hibbertia subvaginata	(blank)	2
		Hypoestes floribunda	(blank)	1
		Isotropis cuneifolia	(blank)	1
		Isotropis sp. Shark Bay (M.E. Trudgen 7170)	(blank)	2
		Jasminum calcarium	(blank)	1
		Lasiopetalum angustifolium	(blank)	3
		Lasiopetalum oldfieldii	P3	1
		Lasiopetalum oppositifolium	P3	1
		Lepidium biplicatum	P3	1
		Lepidium linifolium	(blank)	1
		Lepidium phlebopetalum	(blank)	2
		Lepidium puberulum	P4	2
		Leucopogon cordifolius	(blank)	5
		Lobelia sp. indet	(blank)	1
		Logania litoralis	(blank)	2
		Lysimachia arvensis	(blank)	1
		Lysinema ciliatum	(blank)	2

COUNT KINGDOM	CLASS	TAXON	CONS	Total
Plantae	DICOT	Malleostemon microphyllus	P2	4
		Malleostemon sp. Cooloomia (Hopper 1353)	(blank)	3
		Melaleuca acerosa	(blank)	3
		Melaleuca aff leiopyxis (GJK & NG 1708	(blank)	1
		Melaleuca aff. nesophila (Beard 6768)	(blank)	1
		Melaleuca cardiophylla	(blank)	1
		Melaleuca conothamnoides	(blank)	1
		Melaleuca leiopyxis	(blank)	2
		Melaleuca scabra	(blank)	4
		Mirbelia sp. Zuytdorp (G.J. Keighery & N. Gibson 1688; P1		1
		Mirbelia sp. Zuytdorp (GJK & NG 1688)	(blank)	1
		Mirbelia spinosa	(blank)	2
		Monotaxis bracteata	(blank)	1
		Monotaxis lurida	(blank)	1
		Myriocephalus appendiculatus	(blank)	1
		Nicotiana occidentalis	(blank)	1
		Olearia axillaris	(blank)	3
		Opercularia spermacoea	(blank)	3
		Parietaria debilis	(blank)	1
		Pembertonia latisquamea	(blank)	2
		Persoonia acicularis	(blank)	3
		Petrophile brevifolia	(blank)	2
		Petrophile conifera	(blank)	1
		Petrophile pilostyla subsp. pilostyla	(blank)	1
		Petrophile semifurcata	(blank)	2
		Phyllanthus calycinus	(blank)	2
		Phyllanthus maderaspatensis	(blank)	1
		Phymatocarpus porphyrocephalus	(blank)	3
		Pimelea angustifolia	(blank)	1
		Pimelea leucantha	(blank)	4
		Pimelea microcephala	(blank)	3
		Pittosporum phillyreoides	(blank)	1
		Pittosporum phylliraeoides	(blank)	1
		Pityrodia oldfieldii	(blank)	2
		Poranthera microphylla	(blank)	2
		Ptilotus divaricatus	(blank)	2
		Ptilotus obovatus	(blank)	1
		Quoya atriplicina	(blank)	2
		Rhagodia latifolia	(blank)	2
		Rhagodia preissii	(blank)	2
		Roepera fruticulosa	(blank)	1
		Rulingia craurophylla	(blank)	1
		Rulingia malvifolia var. borealis	(blank)	1
		Rumex hypogaeus	(blank)	2
		Scaevola canescens	(blank)	1
		Scaevola crassifolia	(blank)	1
		Scaevola nitida	(blank)	1
		Scaevola tomentosa	(blank)	1

COUNT KINGDOM	CLASS	TAXON	CONS	Total
Plantae	DICOT	Scholtzia corrugata	P2	1
		Scholtzia obovata	(blank)	1
		Scholtzia sp. Folly Hill (M.E. Trudgen 12097)	P2	1
		Scholtzia sp. Folly Hill (ME Trudgen 12097)	(blank)	1
		Sida calyxhymenia	(blank)	1
		Solanum lasiophyllum	(blank)	2
		Solanum orbiculatum	(blank)	2
		Sonchus oleraceus	(blank)	1
		Stackhousia sp.	(blank)	1
		Stylidium elongatum	(blank)	3
		Stylidium kalbarriense	(blank)	1
		Stylidium macrocarpum	(blank)	3
		Stylidium repens	(blank)	3
		Stylobasium spathulatum	(blank)	2
		Tetragonia diptera	(blank)	1
		Tetragonia implexicoma	(blank)	3
		Threlkeldia diffusa	(blank)	2
		Thryptomene sp Carrarang (Trudgen 7420)	(blank)	1
		Thryptomene sp. Carrarang (M.E. Trudgen 7420)	P1	1
		Thryptomene sp. indet	(blank)	1
		Trachymene elachocarpa	(blank)	6
		Trachymene pilosa	(blank)	3
		Tripterococcus brunonis	(blank)	1
		Verticordia dichroma var. dichroma	P3	1
		Verticordia lepidophylla	(blank)	1
		Waitzia podolepis	(blank)	1
		Waitzia suaveolens	(blank)	1
		Westringia aff. damperii carn (GJK & NG 798)	(blank)	1
		Westringia dampieri	(blank)	3
		Zygophyllum fruticulosum	(blank)	2
	MONOCOT	Acanthocarpus aff. robustus (Hopper 1367)	(blank)	2
		Acanthocarpus preissii	(blank)	2
		Acanthocarpus robustus	(blank)	2
		Amphipogon turbinatus	(blank)	2
		Austrostipa crinita	(blank)	2
		Bulbine semibarbata	(blank)	1
		Caladenia bicalliata subsp. bicalliata	(blank)	1
		Caladenia flava subsp. maculata	(blank)	1
		Conostylis aculeata subsp. septentrionora	(blank)	4
		Conostylis candicans	(blank)	1
		Conostylis stylidioides	(blank)	1
		Desmocladus asper	(blank)	2
		Dianella revoluta	(blank)	1
		Dichopogon tyleri	(blank)	2
		Dioscorea hastifolia	(blank)	2
		Diuris oraria	(blank)	1
		Ecdeiocolea monostachya	(blank)	2
		Ehrharta longiflora	(blank)	1

COUNT KINGDOM	CLASS	TAXON	CONS	Total
Plantae	MONOCOT	Eragrostis barrelieri	(blank)	2
		Eriochilus dilatatus subsp. dilatatus	(blank)	1
		Hordeum leporinum	(blank)	2
		Isolepis marginata	(blank)	2
		Laxmannia sessiliflora	(blank)	1
		Lepidobolus preissianus	(blank)	2
		Lepidosperma angustatum	(blank)	1
		Lepidosperma sp. indet	(blank)	1
		Lepidosperma sp. Zuytdorp (G.J. Keighery & N. Gibson	(blank)	1
		Lomandra maritima	(blank)	1
		Loxocarya aspera	(blank)	4
		Mesomelaena preissii	(blank)	1
		Mesomelaena pseudostygia	(blank)	4
		Neurachne alopecuroidea	(blank)	2
		Paractaenum novae-hollandiae	(blank)	1
		Patersonia occidentalis	(blank)	2
		Patersonia occidentalis var. occidentalis	(blank)	1
		Plectrachne bromoides	(blank)	1
		Plectrachne danthonioides	(blank)	1
		Prasophyllum calcicola	(blank)	1
		Pterostylis microglossa	(blank)	2
		Rostraria pumila	(blank)	2
		Schoenus clandestinus	(blank)	2
		Schoenus pleiostemoneus	(blank)	2
		Schoenus sp. G Broad Sheath (K.L. Wilson 2633)	(blank)	2
		Setaria dielsii	(blank)	1
		Stipa crinita	(blank)	2
		Stipa elegantissima	(blank)	2
		Stipa nitida	(blank)	1
		Thelymitra campanulata	(blank)	1
		Thysanotus manglesianus	(blank)	5
		Thysanotus patersonii	(blank)	2
		Tricoryne arenicola	(blank)	1
		Tricoryne elatior	(blank)	1
		Tricoryne sp.	(blank)	1
		Triglochin calcitrapum	(blank)	1
		Triodia bromoides	P4	3
		Triodia danthonioides	(blank)	1
		Wurmbea inframediana	(blank)	2
		Wurmbea monantha	(blank)	1
		Wurmbea pygmaea	(blank)	1
Grand Total				739

Attachment B

Likelihood of occurrence assessment

Conservation significant fauna likelihood of occurrence assessment (GHD 2023a).

Taxa	Common Name	Status		Description and habitat requirements	Likelihood of occurrence within the project area	Source
		BC Act	EPBC Act			
Birds						
<i>Anous tenuirostris melanops</i>	Australian Lesser Noddy	EN	VU	The Australian Lesser Noddy is usually found only around its breeding islands in the Houtman Abrolhos Islands. It usually occupies coral-limestone islands that are densely fringed with White Mangrove Avicennia marina. It occasionally occurs on shingle or sandy beaches. The bird roosts mainly in mangroves, especially at night, but may sometimes rest on a beach (DotEE 2019).	Highly Unlikely. Coastal habitat is present however species is known to utilise offshore islands and atolls.	PMST
<i>Ardenna pacifica</i>	Wedge-tailed Shearwater	MI	MI	The Wedge-tailed Shearwater nests in burrows on offshore islands during November-April. Research has indicated more than one million shearwaters migrate to the Pilbara islands each year to nest (DBCA, 2017).	Known.	GHD (2023b)
<i>Calidris alba</i>	Sanderling	MI	MI	In Australia, the Sanderling is almost always found on the coast, mostly on open sandy beaches exposed to open sea-swell, and also on exposed sandbars and spits, and shingle banks, where they forage in the wave-wash zone and amongst rotting seaweed. Sanderlings also occur on beaches that may contain wave-washed rocky outcrops. Less often the species occurs on more sheltered sandy shorelines of estuaries, inlets and harbours. Rarely, they are recorded in near-coastal wetlands. There are rare inland records from sandy shores of ephemeral brackish lakes and brackish river-pools. They occur on most of the coast from Eyre to Derby, and also around Wyndham. They are more often recorded on the south and southwest coasts, north to around southern Shark Bay, with more sparsely scattered records further north in Gascoyne and Pilbara Regions and the Kimberley Division (DotEE 2019).	Known.	GHD (2023b)
<i>Calidris canutus</i>	Red Knot	EN	EN & MI	In Australasia the Red Knot mainly inhabits intertidal mudflats, sandflats and sandy beaches of sheltered coasts, in estuaries, bays, inlets, lagoons and harbours; sometimes on sandy ocean beaches or shallow pools on exposed wave-cut rock platforms or coral reefs. They are occasionally seen on terrestrial saline wetlands near the coast, such as lakes, lagoons, pools and pans, and recorded on sewage ponds and saltworks, but rarely use freshwater swamps. They rarely use inland lakes or swamps. In WA there are scattered records in the south, and it is occasionally seen around Peron Peninsula and Carnarvon. It is widespread on	Likely. There is suitable habitat within the PAA.	PMST

Taxa	Common Name	Status		Description and habitat requirements	Likelihood of occurrence within the project area	Source
		BC Act	EPBC Act			
<i>Calidris ferruginea</i>	Curlew Sandpiper	CR	CR & MI	the coast from Ningaloo and Barrow Island to the south-west Kimberley Division (DotE 2016). Curlew Sandpipers mainly occur in areas with soft mud conditions, including intertidal mudflats in sheltered coastal areas, such as estuaries, bays, inlets and lagoons, and also around non-tidal swamps, lakes and lagoons near the coast, and ponds in saltworks and sewage farms. They are found inland less often, including around ephemeral and permanent lakes, dams, waterholes and bore drains, usually with bare edges of mud or sand. They occur in both fresh and brackish waters. In WA, they are widespread around coastal and subcoastal plains from Cape Arid to south-west Kimberley Division, but are more sparsely distributed between Carnarvon and Dampier Archipelago ((DotEE 2019).	Likely. The nearest record is at Chinaman's Rock Lookout 35 km south of the Survey Area.	DBCA, NatureMap & PMST
<i>Calidris ruficollis</i>	Red-necked stint	MI	MI	The Red-necked Stint can be found in fresh and saline water, but primarily in coastal regions (Nevill 2013). It is mostly found in areas including sheltered inlets, bays, lagoons and estuaries with intertidal mudflats, often near spits, islets and banks and, sometimes, on protected sandy or coralline shores. Occasionally they have been recorded on exposed or ocean beaches, and on stony or rocky shores, reefs or shoals. They also occur in saltworks and sewage farms; saltmarsh; ephemeral or permanent shallow wetlands near the coast or inland, including lagoons, lakes, swamps, riverbanks, waterholes, bore drains, dams, soaks and pools in salt flats. They have occasionally been recorded on dry gibber plains, with little or no perennial vegetation. It has been observed at the Nullarbor Plain, Reid, Stoke's Inlet, Grassmere Lake, Warden Lake, Dalyup and Yellilup Swamp, Swan River, Bengier Swamp, Guraga Lake, Wittecarra, Harding River, coastal Gascoyne, the Pilbara and the Kimberley (DotEE 2019).	Known.	GHD (2023b).
<i>Charadrius leschenaultii</i>	Greater sand plover	VU	VU & MI	In Australasia the Greater Sand Plover is almost entirely coastal, inhabiting littoral and estuarine habitats. They mainly occur on sheltered sandy, shelly or muddy beaches with large intertidal mudflats or sandbanks, as well as sandy estuarine lagoons, and inshore reefs, rock platforms, small rocky islands or sand cays on coral reefs. They are occasionally recorded on near-coastal saltworks and salt lakes, including marginal saltmarsh, and on brackish swamps. They seldom occur at shallow freshwater wetlands (DotE 2016). Some come down the coast from Geraldton as far as Busselton, but numbers decrease from north to south (Nevill 2013).	Known.	GHD (2023b)

Taxa	Common Name	Status		Description and habitat requirements	Likelihood of occurrence within the project area	Source
		BC Act	EPBC Act			
<i>Diomedea amsterdamensis</i>	Amsterdam Albatross	CR	EN & MI	Albatross and giant petrel species exhibit a broad range of diets and foraging behaviours, and hence their at-sea distributions are diverse. Combined with their ability to cover vast oceanic distances, all waters within Australian jurisdiction can be considered foraging habitat, however the most critical foraging habitat is considered to be those waters south of 25 degrees where most species spend the majority of their foraging time (DoTE 2019).	Unlikely. It is unlikely that the species occurs within the Survey Area but opportunistically it may occur within inland waters during extreme weather events	PMST
<i>Diomedea exulans</i>	Wandering Albatross	VU	VU & MI	Albatross and giant petrel species exhibit a broad range of diets and foraging behaviours, and hence their at-sea distributions are diverse. Combined with their ability to cover vast oceanic distances, all waters within Australian jurisdiction can be considered foraging habitat, however the most critical foraging habitat is considered to be those waters south of 25 degrees where most species spend the majority of their foraging time (DoTE, 2019).	Unlikely. It is unlikely that the species occurs within the Survey Area but opportunistically it may occur within inland waters during extreme weather events.	PMST
<i>Falco hypoleucos</i>	Grey Falcon	VU	VU	The Grey Falcon inhabits lightly timbered country, especially stony, inland plains and Acacia scrub, gibber deserts, sand ridges, pastoral lands, and timbered watercourses, but seldom in driest deserts. Its distribution is centred on inland drainage systems. It also hunts in treeless areas and frequents tussock grassland and open woodland, especially in winter (Morcombe 2004; Pizzey & Knight 2012). It can mostly be seen on the northwest coast from Shark Bay to east Kimberley, and in the Pilbara and desert regions (Nevill 2013; Pizzey & Knight 2012).	Unlikely. There are no nearby records of the species. Its distribution is Shark Bay, Pilbara and desert regions.	PMST
<i>Gelochelidon nilotica</i>	Gull-billed tern	MI	MI	The Gull-billed Tern is nomadic or migratory species in Australia. Gull-billed Terns are found in freshwater swamps, brackish and salt lakes, beaches and estuarine mudflats, floodwaters, sewage farms, irrigated croplands and grasslands, where resources are favourable. They are only rarely found over the ocean. The Gull-billed Tern. Although essentially an inland species, outside breeding season it shows a distinct preference for saltmarshes and lagoons near the coast. Movements are not fully understood but it is common and widespread in Australia (Morcombe 2014).	Known.	GHD (2023b)
<i>Leipoa ocellata</i>	Malleefowl	VU	VU	The Malleefowl generally occurs in semi-arid areas of WA, in shrublands and low woodlands that are dominated by mallee vegetation, as well as native pine Callitris woodlands, Acacia shrublands, paperbark, sheoak, Broom bush (Melaleuca uncinata) vegetation, eucalypt woodlands, or coastal heathlands. Mostly they are found where there are sandy or gravel soils. The nest is	Unlikely. Known from within DE however no known suitable habitat in PAA.	GHD (2023b)

Taxa	Common Name	Status		Description and habitat requirements	Likelihood of occurrence within the project area	Source
		BC Act	EPBC Act			
<i>Limosa lapponica</i>	Bar-tailed godwit	MI	MI	<p>a large mound of sand or soil and organic matter (Jones & Goth 2008; Morcombe 2004; Nevill 2013). In WA they are found from the southwest Nullarbor to Albany, north, and then west from Moore River up to Shark Bay, past Cue, across to Wiluna and east to the northern Victoria Desert south of the Blackstone Ranges (Nevill 2013; Pizzey & Knight 2012).</p> <p>The Bar-tailed Godwit is found mainly in coastal habitats such as large intertidal sandflats, banks, mudflats, estuaries, inlets, harbours, coastal lagoons and bays. It is found often around beds of seagrass and, sometimes, in nearby saltmarsh. It has been sighted in coastal sewage farms and saltworks, saltlakes and brackish wetlands near coasts, sandy ocean beaches, rock platforms, and coral reef-flats (DotE 2016). They are uncommon in the south west, but can be sighted from Geraldton to Bunbury, at Alfred Cove, and then at a few estuaries on the south coast including Kalgan River Mouth and Oyster Harbour (Nevill 2013).</p>	Known. Recorded using coastal habitat.	GHD (2023b)
<i>Limosa lapponica menzibieri</i>	Northern Siberian Bar-tailed Godwit, Russkoye Bar-tailed Godwit	CR	CR	<p>The bar-tailed godwit (both subspecies combined) has been recorded in the coastal areas of all Australian states. In Western Australia it is widespread around the coast, from Eyre to Derby. During the non-breeding period, the distribution of <i>L. i. menzibieri</i> is predominantly in the north and north-west of Western Australia and in south-eastern Asia (Bamford et al. 2008).</p>	Likely. There is suitable habitat within the Survey Area on the coastal strip.	PMST
<i>Macronectes giganteus</i>	Southern Giant-Petrel	MI	EN & MI	<p>Albatross and giant petrel species exhibit a broad range of diets and foraging behaviours, and hence their at-sea distributions are diverse. Combined with their ability to cover vast oceanic distances, all waters within Australian jurisdiction can be considered foraging habitat, however the most critical foraging habitat is considered to be those waters south of 25 degrees where most species spend the majority of their foraging time (DotEE 2019).</p>	Unlikely. It is unlikely that the species occurs within the Survey Area but opportunistically it may occur within inland waters during extreme weather events.	PMST
<i>Macronectes halli</i>	Northern Giant Petrel	MI	VU & MI	<p>Albatross and giant petrel species exhibit a broad range of diets and foraging behaviours, and hence their at-sea distributions are diverse. Combined with their ability to cover vast oceanic distances, all waters within Australian jurisdiction can be considered foraging habitat, however the most critical foraging habitat is considered to be those waters south of 25 degrees where most species spend the majority of their foraging time (DotEE 2019).</p>	Unlikely. It is unlikely that the species occurs within the Survey Area but opportunistically it may occur within inland waters during extreme weather events.	PMST

Taxa	Common Name	Status		Description and habitat requirements	Likelihood of occurrence within the project area	Source
		BC Act	EPBC Act			
<i>Numenius madagascariensis</i>	Eastern curlew	CR	CR	The Eastern Curlew is most commonly associated with sheltered coasts, especially estuaries, bays, harbours, inlets and coastal lagoons, with large intertidal mudflats or sandflats, often with beds of seagrass. Occasionally, the species occurs on ocean beaches (often near estuaries), and coral reefs, rock platforms, or rocky islets. The birds are often recorded among saltmarsh and on mudflats fringed by mangroves, sometimes within the mangroves, and in coastal saltworks and sewage farms (Marchant & Higgins 1993). They are found commonly along the north coast of WA, but rarely south of Shark Bay (Morcombe 2004). They are uncommon further south of Geraldton (Nevill 2013).	Likely. There is suitable habitat within the Survey Area on the coastal strip and the closest known record is 45 km east of the Survey Area.	DBCA & Naturemap
<i>Oceanites oceanicus</i>	Wilson's storm-petrel	MI	MI	Albatross and giant petrel species exhibit a broad range of diets and foraging behaviours, and hence their at-sea distributions are diverse. Combined with their ability to cover vast oceanic distances, all waters within Australian jurisdiction can be considered foraging habitat, however the most critical foraging habitat is considered to be those waters south of 25 degrees where most species spend the majority of their foraging time (DotEE 2019).	Known.	GHD (2023b)
<i>Pandion haliaetus</i>	Eastern Osprey	MI	MI	Ospreys occur in littoral and coastal habitats and terrestrial wetlands of tropical and temperate Australia and offshore islands. They are mostly found in coastal areas but occasionally travel inland along major rivers, particularly in northern Australia. They require extensive areas of open fresh, brackish or saline water for foraging. They frequent a variety of wetland habitats including inshore waters, reefs, bays, coastal cliffs, beaches, estuaries, mangrove swamps, broad rivers, reservoirs and large lakes and waterholes. They exhibit a preference for coastal cliffs and elevated islands in some parts of their range but may also occur on low sandy, muddy or rocky shores and over coral cays. The distribution of the species around the northern coast (south-western WA to south-eastern NSW) appears continuous except for a possible gap at Eighty Mile Beach (DotEE 2019).	Known.	GHD (2023b)
<i>Pterodroma mollis</i>	Soft-plumaged Petrel	-	VU	Albatross and giant petrel species exhibit a broad range of diets and foraging behaviours, and hence their at-sea distributions are diverse. Combined with their ability to cover vast oceanic distances, all waters within Australian jurisdiction can be considered foraging habitat, however the most critical foraging habitat is considered to be those waters south of 25 degrees where most species spend the majority of their foraging time (DotEE 2019).	Unlikely. It is unlikely that the species occurs within the Survey Area but opportunistically it may occur within inland waters during extreme weather events.	PMST

Taxa	Common Name	Status		Description and habitat requirements	Likelihood of occurrence within the project area	Source
		BC Act	EPBC Act			
<i>Rostratula australis</i>	Australian Painted Snipe	EN	EN	The Australian Painted Snipe generally inhabits shallow terrestrial freshwater (occasionally brackish) wetlands, including temporary and permanent lakes, swamps and claypans. They also use inundated or waterlogged grassland or saltmarsh, dams, rice crops, sewage farms and bore drains. Typical sites include those with rank emergent tussocks of grass, sedges, rushes or reeds, or samphire; often with scattered clumps of lignum Muehlenbeckia, canegrass, or sometimes tea-tree. It sometimes uses areas that are lined with trees, or that have some scattered fallen or washed-up timber (DotE 2019). In the south west it can be found around Carnarvon and wetlands north of Perth, particularly those west of Moora and Gingin (Nevill 2013).	Unlikely. There are no known records within or nearby the Survey Area. Claypan and dam habitat is present however these areas are impacted by goat grazing and lack fringing vegetation	PMST
<i>Sternula nereis nereis</i>	Australian Fairy Tern	VU	VU	The Fairy Tern occurs along the coast of WA as far north as the Dampier Archipelago near Karratha, but mostly in the southern part of Australia including most of the coastline in the south west. It nests on sheltered sandy beaches, coastal inlets, spits and banks above the high tide line and below vegetation. It has been found in embayments of a variety of habitats including offshore, estuarine or lacustrine (lake) islands, wetlands, and mainland coastline (DotE 2016; Nevill 2013). They can also be seen in saltfields, saline or brackish lakes, and sewage ponds near the coast (Pizzey & Knight 2012).	Likely. There is suitable habitat within the Survey Area on the coastal strip and the species has been identified from database searches as being in the Survey Area.	PMST
<i>Thalassarche carteri</i>	Indian Yellow-nosed Albatross	EN	VU & MI	Albatross and giant petrel species exhibit a broad range of diets and foraging behaviours, and hence their at-sea distributions are diverse. Combined with their ability to cover vast oceanic distances, all waters within Australian jurisdiction can be considered foraging habitat, however the most critical foraging habitat is considered to be those waters south of 25 degrees where most species spend the majority of their foraging time (DotEE 2019).	Unlikely. It is unlikely that the species occurs within the Survey Area but opportunistically it may occur within inland waters during extreme weather events	PMST
<i>Thalassarche cauta</i>	Shy Albatross	VU	EN & MI	Albatross and giant petrel species exhibit a broad range of diets and foraging behaviours, and hence their at-sea distributions are diverse. Combined with their ability to cover vast oceanic distances, all waters within Australian jurisdiction can be considered foraging habitat, however the most critical foraging habitat is considered to be those waters south of 25 degrees where most species spend the majority of their foraging time (DotEE 2019).	Unlikely. It is unlikely that the species occurs within the Survey Area but opportunistically it may occur within inland waters during extreme weather events	PMST
<i>Thalassarche impavida</i>	Campbell Albatross	VU	VU & MI	Albatross and giant petrel species exhibit a broad range of diets and foraging behaviours, and hence their at-sea distributions are	Unlikely. It is unlikely that the species occurs within the	PMST

Taxa	Common Name	Status		Description and habitat requirements	Likelihood of occurrence within the project area	Source
		BC Act	EPBC Act			
<i>Thalassarche melanophrys</i>	Black-browed Albatross	EN	VU & MI	diverse. Combined with their ability to cover vast oceanic distances, all waters within Australian jurisdiction can be considered foraging habitat, however the most critical foraging habitat is considered to be those waters south of 25 degrees where most species spend the majority of their foraging time (DotEE 2019).	Survey Area but opportunistically it may occur within inland waters during extreme weather events	PMST
<i>Thalassarche steadi</i>	White-capped Albatross	VU	VU & MI	Albatross and giant petrel species exhibit a broad range of diets and foraging behaviours, and hence their at-sea distributions are diverse. Combined with their ability to cover vast oceanic distances, all waters within Australian jurisdiction can be considered foraging habitat, however the most critical foraging habitat is considered to be those waters south of 25 degrees where most species spend the majority of their foraging time (DotEE 2019).	Unlikely. It is unlikely that the species occurs within the Survey Area but opportunistically it may occur within inland waters during extreme weather events	PMST
<i>Thalasseus bergii</i>	Crested tern	MI	MI	Albatross and giant petrel species exhibit a broad range of diets and foraging behaviours, and hence their at-sea distributions are diverse. Combined with their ability to cover vast oceanic distances, all waters within Australian jurisdiction can be considered foraging habitat, however the most critical foraging habitat is considered to be those waters south of 25 degrees where most species spend the majority of their foraging time (DotEE 2019). There are few stretches off the Australian coastline where the Crested Tern cannot be seen — it has been known as both the Bass Straits Tern and the Torres Straits Tern. They breed in colonies on small offshore islands where their nests are so densely packed together that adjacent owners can touch each other's bills. Though the Crested Tern is usually a strictly coastal species, there are occasional records in the arid interior of Australia, where birds were possibly blown by passing tropical cyclones (Birdlife Australia, 2021).	Unlikely. It is unlikely that the species occurs within the Survey Area but opportunistically it may occur within inland waters during extreme weather events	PMST
Mammal						
<i>Dasyurus geoffroii</i>	Chuditch, Western Quoll	VU	VU	The Chuditch inhabits eucalypt forest (especially Jarrah, E. marginata), dry woodland, mallee shrublands, heaths, and desert, particularly in the south coast of WA. They also occur at lower densities in drier woodland and mallee shrubland in the goldfields and wheatbelt, as well as in Kalbarri National Park (translocated). Chuditch require adequate numbers of suitable den and refuge sites (horizontal hollow logs or earth burrows) to survive (DEC 2012). In Jarrah forest, Chuditch populations occur in both moist, GHD Murchison Hydrogen Renewables Pty Ltd as trustee for the Murchison Hydrogen Renewables Trust 12553823 Environmental Assessment Supporting Document	Likely. There are known records of approximately 9 km south of the Survey Area within the Kalbarri gorge system. The species has also been recorded from Eurady Station to the east and Hamelin Station to the north.	Naturemap, DBCA and PMST

Taxa	Common Name	Status		Description and habitat requirements	Likelihood of occurrence within the project area	Source
		BC Act	EPBC Act			
Reptile						
<i>Egernia stokesii</i> subsp. <i>badia</i>	Western Spiny-tailed Skink	VU	EN	The Western Spiny-tailed Skink is known to occur in a broad semi-arid area in south-west WA, between Shark Bay and Minnivale and east to Cue. Most records of the brown form Western Spiny-tailed Skink are in York Gum (<i>Eucalyptus loxophleba</i>) woodland with some records in Gimlet (<i>E. salubris</i>) and Salmon Gum (<i>E. salmonophloia</i>) woodland. Populations persist in woodland patches as small as one hectare and completely surrounded by wheatfields. Sites with the greatest number of individuals contain numerous fallen logs and were subjected to low-intensity grazing by domestic stock. Hollow logs are used as refuge sites in woodland habitat. Preferred refuges consist of piles of several, overlapping, hollow logs providing a combination of basking and shelter sites. An increasing number of skinks are being located in altered habitat under piles of wood, scrap metal or under buildings on private property (DotEE 2019).	Highly unlikely. The species was recorded during GHD survey, but only in the eastern portion of the DE.	GHD (2023b)
<i>Lerista humphriesi</i>	Taper-tailed West Coast slider (Murchison River)	P3	-	The Taper-Tailed West-Coast Slider is known only from the Murchison River district. It occurs in Acacia-dominated sandplains and other habitats where the <i>Lerista</i> genus is found (Cogger 2014).	Known.	GHD (2023b)
Invertebrates						
<i>Idiosoma nigrum</i>	Shield-backed Trapdoor Spider	EN	VU	The Shield-backed Trapdoor Spider is endemic to semi-arid south-west Western Australia. It occurs in a number of severely fragmented populations in the central and northern Wheatbelt (e.g. Minnivale and East Yorkkraine). Further north, the species occurs in more arid areas in the Midwest (e.g. large isolated ranges at Jack Hills, Weld Range and Blue Hills) and coastal areas of the Midwest (e.g. Zuytdorp Station north of the Murchison River and Nanga Station south of Shark Bay). The arid Midwest populations are naturally fragmented or isolated because they persist only on ranges, but the Wheatbelt and coastal Midwest populations are all severely fragmented as a result of land clearing (DotEE 2019).	Highly Unlikely. The species has been recently reclassified and the species is now not known to occur in this region (Rix et al 2018).	Naturemap, (Rix et. al 2018), (T. Moulds pers. Comms)

Taxa	Common Name	Status BC Act	EPBC Act	Description and habitat requirements	Likelihood of occurrence within the project area	Source
<i>Idiosoma arenaceum</i>	Geraldton Sandplain shield-backed trapdoor spider	P3	-	<i>Idiosoma arenaceum</i> has a moderately widespread distribution in the Geraldton Sandplains and far northern Wheatbelt bioregions of south-western Western Australia, from near Yandanooka, Canna, and Geraldton north to Zuytdorp. Burrows are adorned with a 'moustache-like' arrangement of twig-lines, sometimes under Casuarina, and male specimens have been collected wandering in search of females in late autumn and winter, with an outlying record from January (Rix <i>et al</i> 2018).	Likely. The species has been trapped previously in the northern portion of the DE. The species has a moderately widespread distribution in Geraldton north to Zuytdorp (Rix <i>et al</i> 2018)	DBCA, Naturemap, Rix <i>et. al</i> (2018), T.Moulds pers.comms

Term	Description
Study Area	a 40 km buffer around the GHD (2023b) Survey Area
Survey Area	the Development Envelope
Locality	the area within an approximate 40 km radius of the Survey Area
CR	Critically endangered
EN	Endangered
VU	Vulnerable
IA	International agreement
MI, MA	Migratory, Marine
CD	Conservation dependent
OS	Other specially protected fauna
P1 – P4	Priority 1 – Priority 4. Threatened and Priority fauna rankings
EPBC Act	<i>Environmental Protection and Biodiversity Conservation Act 1999</i>
DBCA	Department of Biodiversity and Conservation Attractions
BC Act	<i>Biodiversity Conservation Act 2016</i>

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Attachment C

Aboriginal Heritage Inquiry System



Aboriginal Heritage Inquiry System

List of Registered Aboriginal Sites

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Search Criteria

No Registered Aboriginal Sites in Shapefile - PLN_SchemeAmendmentArea_GDA2020MGA50_20230622

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Coordinate Accuracy

Coordinates (Easting/Northing metres) are based on the GDA 94 Datum. Accuracy is shown as a code in brackets following the coordinates.



Aboriginal Heritage Inquiry System

List of Registered Aboriginal Sites

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Aboriginal Heritage Inquiry System

Map of Registered Aboriginal Sites



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Appendix B

Stakeholder Engagement Activities

Stakeholder/s	Quarter (Calendar Year)	Purpose
Minister for Regional Development, Agriculture and Food; Hydrogen Industry	2019 Q1	Informed the Minister of the Project, Proponent credentials and proposed pathway to development.
Department of Jobs, Tourism, Science and Innovation	2019 Q2	Introduced Project and sought advice on potential issues and Government consultation
Nanda Aboriginal Corporation		Meeting
Shire of Northampton		Introduced Project and sought advice on potential issues and local community consultation.
Mid West Development Commission		Introduced Project and sought advice on potential issues and local business opportunities
Nanda Aboriginal Corporation	2019 Q3	Meeting
Nanda Aboriginal Corporation	2019 Q4	Meeting
Department of Jobs, Tourism, Science and Innovation		Project update and sought advice on Government engagement.
Mid West Development Corporation		Project update and sought advice on potential issues and local business opportunities.
Shire of Northampton		Project update and sought advice on potential issues and local community consultation.
Kalbarri Community		Introduced Project, sought formal feedback via survey forms to understand potential areas of concern and opportunity. Outcomes published on website.
Western Power	2021 Q1	Grid connection and power supply
Department of Jobs, Tourism, Science and Innovation		Project update and sought input on a variety of regulatory issues and requirements
Office of the Minister for Regional Development, Agriculture and Food; Hydrogen Industry	2021 Q2	Hydrogen land tenure options
Department of Jobs, Tourism, Science and Innovation; Department Planning, Lands and Heritage		Project update
Office of the Minister for Regional Development, Agriculture and Food; Hydrogen Industry		Project update
Office of the Minister for Mines and Petroleum; Energy; Corrective Services; Industrial Relations	2021 Q3	Land access and tenure
Department of Jobs, Tourism, Science and Innovation		Land access and tenure
Department of Jobs, Tourism, Science and Innovation		Hydrogen land tenure
Nanda Aboriginal Corporation		Meeting
Western Power		Grid connection options.
Department of Jobs, Tourism, Science and Innovation		Discussed port location options and constraints
Department of Jobs, Tourism, Science and Innovation		Project infrastructure (power)
Mid West Development Commission		Project update and discussed hydrogen hubs
Mid West Port Authority		Discussed port location options and constraints

Mid West Development Commission		Discussed port location options and constraints
Department of Jobs, Tourism, Science and Innovation		Discussed port location options and constraints
Minister for Regional Development, Agriculture and Food; Hydrogen Industry		Hydrogen land tenure
Mid West Development Commission		Project update
Nanda Aboriginal Corporation		Meeting
Office of the Minister for Regional Development, Agriculture and Food; Hydrogen Industry		Land tenure
Office of the Minister for Regional Development, Agriculture and Food; Hydrogen Industry	2021 Q4	Land tenure
Nanda Aboriginal Corporation		Meeting
Austrade		Austrade survey
Department Planning, Lands and Heritage		Project update
Department of the Premier and Cabinet		Renewable Hydrogen Council Meeting.
Department Planning, Lands and Heritage		Murchison Hydrogen Project Discussion.
Department of Jobs, Tourism, Science and Innovation		Project update
Mid West Development Commission		Project update
Department of Jobs, Tourism, Science and Innovation		Project update
Recfishwest Shire of Northampton, Kalbarri Offshore and Angling Club Kalbarri Wilderness Cruises WA Fishing Industry Council Department of Transport (Marine)		Temporary Notice to Mariners
Department of Transport (Marine)		Follow up on Temporary Notice to Mariners
Department of Jobs, Tourism, Science and Innovation		Project update
Department of the Premier and Cabinet		Murchison Follow-up Meeting
Environmental Protection Authority (EPA Services)		Pre-Referral Briefing - Murchison Hydrogen Renewables Project
Shire of Northampton		Kalbarri Aerodrome Discussion
Department of Transport (Marine) Department of Planning, Lands and Heritage Development WA Department of Biodiversity, Conservation and Attractions Recfishwest Department of Mines, Industry Regulation and Safety Mid West Chamber of Commerce and Industry Mid West Development Commission Tourism WA (Geraldton Office) Shire of Northampton, Mid West Port Authority Department of Agriculture, Water and the	2022 Q1	Pre-Referral Briefing - Murchison Hydrogen Renewables Project

Environment		
Nanda Aboriginal Corporation		Meeting
Department of Primary Industries and Regional Development - Fisheries		Request for Commercial Fisheries Information
Shire of Northampton		Murchison Scheme Amendment
City of Greater Geraldton	2022 Q2	Project briefing
Board of Kalbarri Visitors Centre Kalbarri Development Association		Project briefing
Western Australia Fishing Industry Council		Briefing/update on project
Kalbarri Community		Community drop-in day
Western Rock Lobster Council		Project briefing
Office of the Minister for Environment		Ministerial briefing
WA Native Orchid Study and Conservation Group		Project briefing
Office of the Premier Hon Mark McGowan		Project briefing
Manager Industry Engagement at Tafe Central Region		Project briefing
Office of Minister Saffioti		Ministerial briefing
Kalbarri Community	2022 Q3	Community drop-in day
Department of Climate change, Energy, the Environment and Water		Project briefing
Nanda Aboriginal Corporation		Meeting
Mid-West Development Commission		Project update
Shark Bay World Heritage Advisory Committee		Project briefing
Recfish		Project update
Shire of Northampton		Project update
Northampton Fishing and Angling Club Inc.		Project briefing
Western Power	2022 Q4	Project briefing
Nanda Aboriginal Corporation		Meeting
Mid West Chamber of Commerce Industry		Project briefing
Deputy Premier of WA		Project briefing
Shadow Minister for the Environment		Informed the Shadow Minister of the Project, Proponent credentials and proposed pathway to development.
Deputy Premier; Minister for State Development, Jobs and Trade; Commerce; Science		Informed the Deputy Premier of the Project, Proponent credentials and proposed pathway to development.
Bush Heritage Australia		Briefing on project
Premier of Western Australia	2023 Q1	Project update
Deputy Premier of WA and Minister for Hydrogen Industry		Project update
Minister for Lands		Project update and land tenure
Western Rock Lobster Council		Project update and stakeholder input
Kalbarri Professional Fishermen's Association		Project update and stakeholder input
Kalbarri Community		Community drop-in day
Shire of Northampton		Project update

Department of Planning, Lands and Heritage		Project tenure
Mid West Ports Authority		Port planning
Central Regional TAFE	2023 Q2	Project update and discussion regarding opportunities for local training, development, and employment
Shire of Northampton		Town Planning Scheme Amendment proposal
Department of Planning, Lands and Heritage		Project briefing and overview of environmental approval processes
Shire of Northampton		Project briefing and update on status of environmental studies
Environmental Protection Authority	2023 Q3	Project briefing
Minister for Environment		Project update
Member for North West Central, Merome Beard MLA		Northampton Show community event to provide general project update
Northampton Community (and surrounds)		Project briefing
Member for Mining and Pastoral Region, Peter Foster MLC		Project update
Shire of Northampton		Project update and discussion regarding Community Benefit Sharing Plan.
Mid West Development Commission	2023 Q4	Town Planning Scheme Amendment and Community Benefit Sharing Plan.
Shire of Northampton		Mid-West Chamber of Commerce and Industry networking event to discuss local business opportunities.
Kalbarri (and surrounds) business community		Meeting
Nanda Aboriginal Corporation		Meeting
Western Rock Lobster Council		Meeting
Minister for Environment; Climate Action; Racing and Gaming		Meeting
Minister for Emergency Services, Innovation and the Digital Economy, Medical Research, Science, assisting the Minister for State and Industry Development, Jobs and Trade.		Meeting
Department of Premier and Cabinet		Briefing
Kalbarri Rock Lobster Association		Meeting to determine sentiment
Kalbarri Development Association		Meeting – collaboration regarding education
Mid West Chamber of Commerce and Industry		Meeting
Mid West Development Association		Meeting – Project update
Murchison House Station		Meeting – Project briefing
Minister for Ports; Local Government; Road Safety; Minister assisting the Minister for Transport		Project briefing to multiple state government agencies
Department of Jobs, Tourism, Science and Innovation (JTSI), Department of Transport, Department of Water and Environmental Regulation	2024 Q1	Council Briefing
Shire of Northampton		Project briefing and knowledge sharing
Energy Club WA		

Department of Climate Change, Energy, the Environment and Water (DCCEEW)	Project briefing
Central TAFE WA, North Metropolitan TAFE	Project briefing and knowledge sharing
Department of Water and Environmental Regulation, Mid West Development Commission, Department of Planning, Lands and Heritage, Shire of Northampton, Mid West Ports Authority, Main Roads, Department of Jobs, Tourism, Science and Innovation Department of Climate Change, Energy, the Environment and Water, Department of Water and Environmental Regulation, Department of Transport, City of Greater Department of Biodiversity, Conservation and Attractions, Department of Energy, Mines and Industry Regulation, Department of Training and Workforce Development, Department of Biodiversity, Conservation and Attractions, Department of Primary Industries and Regional Development	Project briefing: JTSI Round table
Department of Climate Change, Energy, the Environment and Water (DCCEEW) and Department of Water and Environmental Regulation (DWER) - Green Energy Unit and JTSI	Clarification meeting
Environmental Protection Authority	Project update in relation to progress of environmental studies
Department of Planning, Lands and Heritage (DPLH), Department of Jobs, Tourism, Science and Innovation (JTSI),	Project update and knowledge sharing
Murchison House Station	Project and engagement update
Mid West Development Commission, Tourism WA Western Australian Indigenous Tourism Operators Council	Project briefing - visualisations
Shire of Northampton	Project briefing - visualisations
Kalbarri Development Association	Project briefing – visualisations, Community Investment Program Advisory Group establishment
Kalbarri Community	Community Drop-in project updates and visualisations

Appendix C

**Photomontages of infrastructure within
scheme amendment area**



SHIRE OF NORTHAMPTON
Local Planning Scheme No.10

Chinamans Beach Panorama

Project No. 12443823
Revision No. 0
Date 24/07/2024

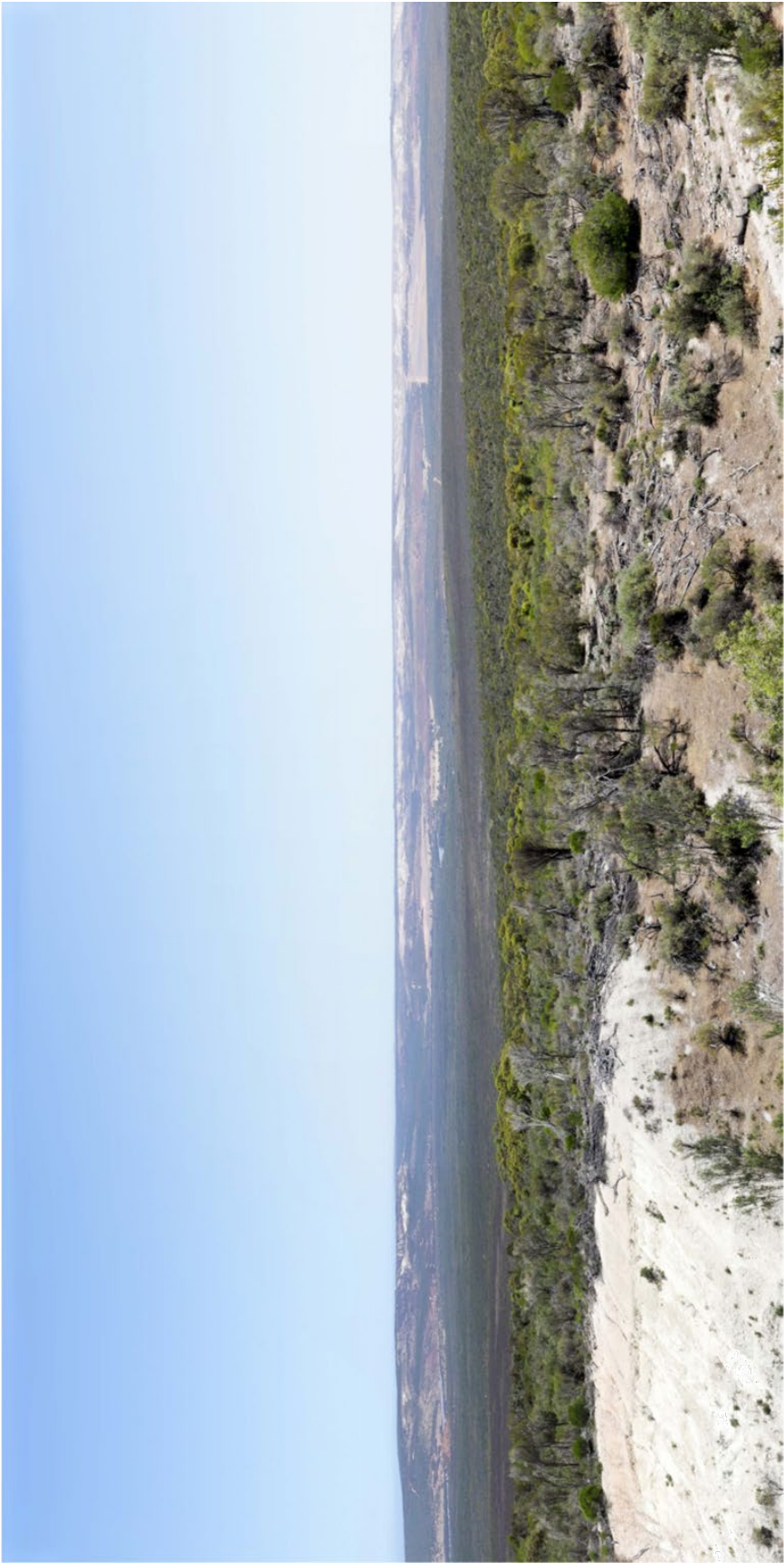


Project infrastructure that is not subject to the Scheme Amendment, including Solar PV Farm and Wind Farm infrastructure components, have been excluded from the photomontages at the request of the Shire of Northampton. A detailed assessment of the visual impact of all infrastructure components will be undertaken at the development application stage, as required by Condition 5(c) of the Proposed Amendment.



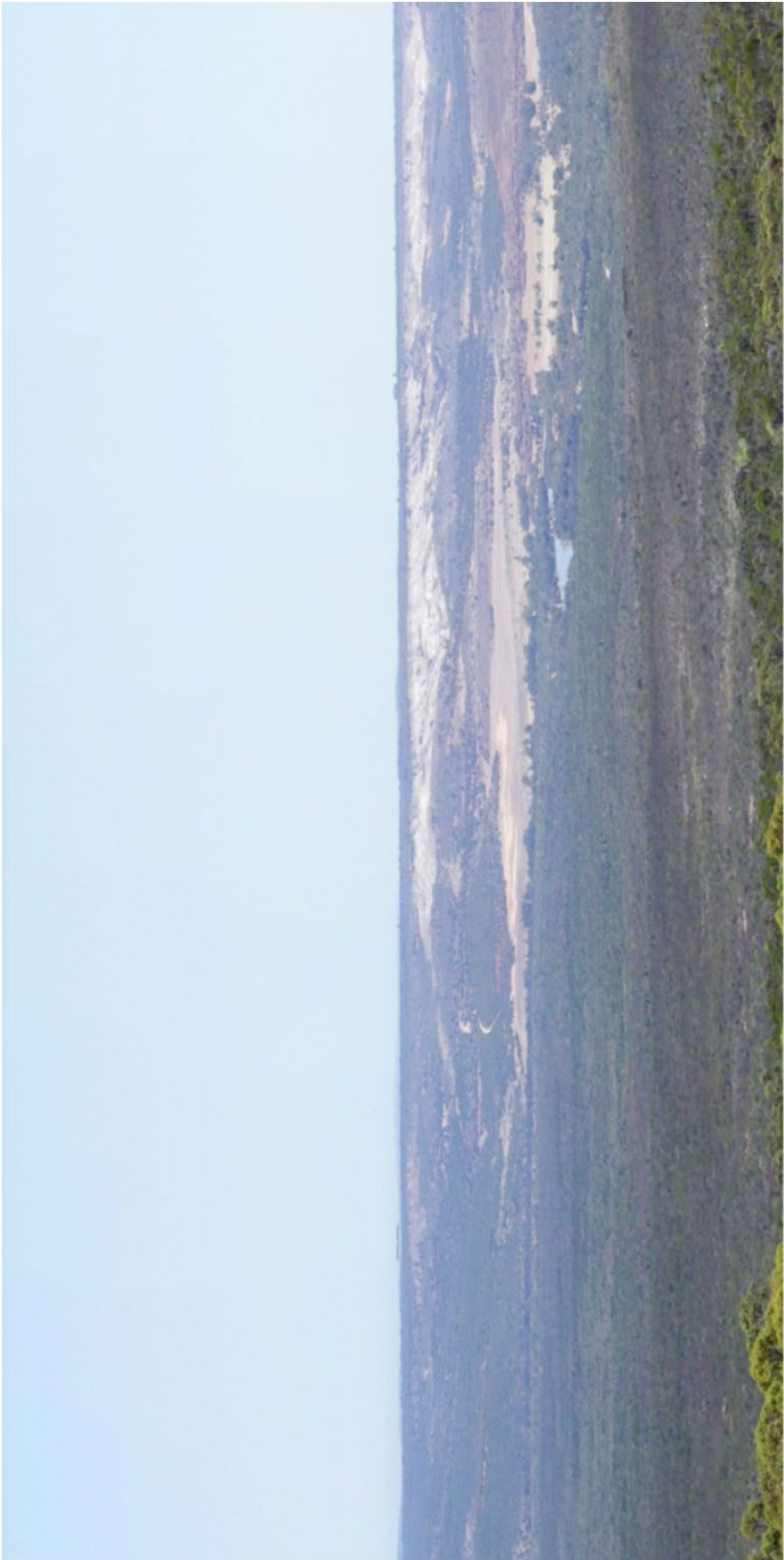
		SHIRE OF NORTHAMPTON Local Planning Scheme No.10	Project No. 12443823 Revision No. 0 Date 24/07/2024
Chinamans Beach Zoom			

Project infrastructure that is not subject to the Scheme Amendment, including Solar PV Farm and Wind Farm infrastructure components, have been excluded from the photomontages at the request of the Shire of Northampton. A detailed assessment of the visual impact of all infrastructure components will be undertaken at the development application stage, as required by Condition 5(c) of the Proposed Amendment.



		SHIRE OF NORTHAMPTON Local Planning Scheme No.10	Project No. 12443823 Revision No. 0 Date 24/07/2024
Meanarra Hill Wide-angle			

Project infrastructure that is not subject to the Scheme Amendment, including Solar PV Farm and Wind Farm infrastructure components, have been excluded from the photomontages at the request of the Shire of Northampton. A detailed assessment of the visual impact of all infrastructure components will be undertaken at the development application stage, as required by Condition 5(c) of the Proposed Amendment.



		SHIRE OF NORTHAMPTON Local Planning Scheme No.10 Meanarra Hill Zoom	Project No. 12443823 Revision No. 0 Date 24/07/2024
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Project infrastructure that is not subject to the Scheme Amendment, including Solar PV Farm and Wind Farm infrastructure components, have been excluded from the photomontages at the request of the Shire of Northampton. A detailed assessment of the visual impact of all infrastructure components will be undertaken at the development application stage, as required by Condition 5(c) of the Proposed Amendment.

Appendix D

Summary Preliminary Social Impact Assessment



Murchison Green Hydrogen
Summary Preliminary Social Impact
Assessment
Copenhagen Infrastructure Partners

2024-07-24

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Document control		aurecon				
Report title		Summary Preliminary Social Impact Assessment				
Document code			Project number		P526470	
File path						
Client		Murchison Green Hydrogen				
Client contact		Amanda Le Moine				
Rev	Date	Revision details/status		Client reference		Approver
		Author	Reviewer	Verifier (if required)		
A	2024-05-02		S. Magner/L. Pena	N. Walton		N. Walton
B	2024-07-24	Updated mitigation measures and opportunities				N. Walton
Current revision		B				

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Preliminary Social Impact Assessment

Murchison Hydrogen Renewables Pty Ltd (Project proponent) proposes to develop the Murchison Green Hydrogen Project (the Project). The Project proponent engaged Aurecon to undertake a preliminary Social Impact Assessment (SIA) to identify the Project's potential impacts on social surroundings associated with the construction and operation of the Project.

The preliminary SIA is guided by the Shire of Northampton's Social Impact Assessment Local Planning Policy (November 2023). As a preliminary SIA, it also draws from a desk-based analysis and the outcomes of the community engagement program for the Project. Table 1 includes a summary of the identified impacts and recommended mitigation strategies. A detailed SIA will be undertaken in 2025 following further determination of the workforce strategy.

Table 1 Summary of the identified social impacts and recommended mitigation

Key category	Impact category	Project impacts and opportunities	Mitigation and enhancement measures
Community	Demographic and Population Change	<p>Impacts:</p> <ul style="list-style-type: none"> The Project's construction phase is anticipated to involve a 3,600 FTE person workforce. During operations, the Project is anticipated to employ an average of 600 FTE workers per annum. It is expected that a large percentage of the operational workforce will move to Kalbarri. Consequently, it is expected that the influx of the Project-related workforce would alter the age and gender distribution of the Kalbarri residential population. Community stakeholders have shared their concern regarding the influx of a FIFO community and repercussions to existing conditions as they do not desire to see Kalbarri become a FIFO town, like Karratha or Port Hedland. Unplanned growth incorporating rapid population growth, housing issues and availability of facilities and services may impact Kalbarri. The Project may cause stress and anxiety in the local community regarding the scale of development and local community change associated with the Project and its repercussions on the local economy and local infrastructure services. Residents may be concerned that there is a lack of preparation and investment to manage the sudden population and economic growth that would be associated with the Project. 	<p>Mitigation measures:</p> <p>Stakeholder engagement</p> <ul style="list-style-type: none"> Undertake a community and stakeholder engagement program to inform the detailed assessment of socio-economic impacts and determine an approach to benefits sharing. Targeted consultation with Council and local service providers. Collaboration with relevant Agencies and Shires when impact management strategies affect asset owners' land. <p>Technical assessment(s)</p> <p>Detailed Social Impact assessment.</p> <p>Management plan(s)</p> <ul style="list-style-type: none"> Community Benefit Sharing Plan Local employment plan Industry sustainability plan. Workforce Management Plan.

Key category	Impact category	Project impacts and opportunities	Mitigation and enhancement measures
		<p>Opportunities:</p> <ul style="list-style-type: none">■ Additional employment opportunities for the local and regional workforce.■ Increased community resilience through the attraction of people with diverse qualifications, skills, and occupations to the local community, leading to an intergenerational positive impact.■ A shift to a new technology and renewable-driven workforce would enable diversifying the skill set of the local community.■ Increased employment opportunities would enable younger members of the local communities to stay within their home region rather than having to move away for work.■ The Project would revitalise the local community by attracting more people, particularly young people, to live and work in the Kalbarri and Northampton community which is experiencing population decline.	<p>Enhancement measures:</p> <ul style="list-style-type: none">■ Engage key stakeholders to co-design a local employment and industry sustainability plan.■ Engage community stakeholders to establish programs that encourage and incentivise reskilling and upskilling of local workers to remain in the region.■ Foster social procurement and employment opportunities for women, Aboriginal people, and vulnerable communities.■ Develop processes to ensure the local workforce are given equal employment opportunities.■ Collaborate with industry and state and local government stakeholders to proactively identify opportunities for positive change in the community by improving services and infrastructure.

Key category	Impact category	Project impacts and opportunities	Mitigation and enhancement measures
	Accommodation and Housing	<p>Impacts:</p> <ul style="list-style-type: none"> Housing in Kalbarri is already in short supply and lack of accommodation has been raised by the Kalbarri community as being a challenge to the ongoing socio-economic wellbeing and development of Kalbarri. The influx of Project workforce to the area may increase the demand for temporary housing and accommodation. The influx of workers on higher wages may drive up property and commodity prices beyond the reach of Kalbarri residents. The percentage of permanent workforce located in any specific area may impact surrounding property values or availability of housing. 	<p>Mitigation measures:</p> <p>Stakeholder engagement</p> <ul style="list-style-type: none"> Consult closely with local government and key stakeholders to assess whether existing accommodation facilities in the social locality have sufficient capacity for the Project's operational workforce. Engage the Mid West Development Commission (working committee) the Shire and relevant state agencies (housing, police, service providers) to understand the challenges and opportunities. <p>Management plan(s) (in addition to those captured above)</p> <ul style="list-style-type: none"> Workforce accommodation plan. Transition Strategy to facilitate a sustainable FIFO construction workforce transition into a local operational workforce. <p>Technical assessment(s) (in addition to those captured above)</p> <ul style="list-style-type: none"> Undertake a capacity survey and review to identify potential gaps in housing and/or land availability for project workers and associated indirect service workforce (e.g. police, medical staff etc) Project Operational Phase Manning Study.
		<p>Opportunities:</p> <ul style="list-style-type: none"> The Project's construction phase is anticipated to involve the construction of a self-contained workforce accommodation facility on the development site. This would contribute to alleviating housing demand in and around Kalbarri. Tourism is integral to the socio-economic base of Kalbarri. The Project may favour tourism from temporary workers and their visitors, for example, families of employees that may visit for a weekend. 	<p>Enhancement measures:</p> <ul style="list-style-type: none"> Identification and promotion of business opportunities to construct, service and maintain the construction workforce accommodation facility via a Local Participation Plan. Ensure the local accommodation providers and related industries are engaged to assess accommodation options for visiting families.

Key category	Impact category	Project impacts and opportunities	Mitigation and enhancement measures
	Health and Wellbeing	<p>Impacts:</p> <ul style="list-style-type: none"> The Project has the potential to disrupt the tranquil social surrounds, which is central to residents' mental health. The loss (or perceived loss) of peaceful surroundings and the introduction of industrial activities could lead to increased stress, anxiety, and feelings of unease within the local community. Local community have expressed concern over potential impact to air quality from emissions, dust, or odour. This may cause stress and anxiety within the local community. Local community have expressed concern over the potential for ammonia spills and the hazard related to ammonia production. This may cause stress and anxiety within the local community. 	<p>Mitigation measures:</p> <ul style="list-style-type: none"> Stakeholder engagement <ul style="list-style-type: none"> Engage stakeholders to inform them of studies, environmental and safety approvals, and regulated management controls to ensure minimal impact and disturbance associated with Project activities. Continue stakeholder engagement with the community to educate and manage information regarding health impacts around which there is substantial misinformation, including ammonia, vibration, and dust emissions. <u>Management plan(s) (in addition to those captured above)</u> <ul style="list-style-type: none"> Noise and Vibration Management Plan. This plan should be in force during construction, operations and at workforce accommodation site (s). Implement measures to ensure noise levels are in accordance with statutory and legislative requirements and appropriate standards to protect amenity of sensitive receptors. Develop a Safety Management Plan prior to construction for implementation across construction and operational phases. Dust Management Plan Emissions Management Plan <u>Technical assessment(s) (in addition to those captured above)</u> <ul style="list-style-type: none"> Noise Impact Assessment Visual Impact Assessment Air Quality Impact Assessment

Key category	Impact category	Project impacts and opportunities	Mitigation and enhancement measures
		<p>Opportunities:</p> <ul style="list-style-type: none"> ■ Green hydrogen and ammonia may play a critical role in a transition to a carbon neutral economy. For areas where it is not feasible to produce renewable electricity, green hydrogen/ammonia may act as an alternate energy source for countries with high fossil fuel demand. Therefore, the Project would play a role in the mitigation of climate change and enhancing the resilience of the local community and Australia as a whole. ■ The Project would contribute to the carbon emission goals set for the region, state, and country. ■ Improved health and community wellbeing due to the economic opportunities associated with the Project. By generating employment and income, the Project can contribute to improving the socio-economic conditions of the community, which in turn can have positive impacts on the health and wellbeing of individuals. ■ An increase in population as a result of the project could enable the financial viability of private health and medical services without the need for state and/or local government subsidies. ■ An increase in population as a result of the project could enable the expansion of health and medical services availability in the area. ■ The project related workforce and infrastructure could enable a collaborative and cooperative approach to emergency response. 	<p>Enhancement measures:</p> <ul style="list-style-type: none"> ■ Stakeholder engagement program to ensure local communities are informed about Project opportunities and the role green hydrogen and ammonia play in Australia's transition to a carbon neutral economy and to combat the effects of climate change. ■ Foster an 'open door' policy with the local community to ensure that community issues can be dealt with promptly and transparently. ■ Develop processes to ensure the local workforce are given equal employment opportunities. ■ Develop a program of community and stakeholder engagement to inform the detailed assessment of socio-economic impacts and determine an approach to benefits sharing. ■ Enhance community safety, health and wellbeing through a benefit sharing framework, co-developed with the community, local government and key stakeholders.

Key category	Impact category	Project impacts and opportunities	Mitigation and enhancement measures
Surroundings	Crime and Public Safety	<p>Impacts:</p> <ul style="list-style-type: none"> The Project may increase the chances of accidents, injuries, and property damage due to the increased vehicle numbers on local and regional roads used for project-related traffic and workforce movements. The Project may result in social dislocation, alienation, division, tensions, and increased crime due to a lack of cohesion resulting from the influx of workers and new commuters. The Project has the potential to raise concerns within the local community about crime rates, and anti-social behaviour due to the increased population associated with the influx of workers. The use of FIFO arrangements and 'newcomers' may amplify community concerns about public safety. 	<p>Mitigation measures:</p> <p><u>Stakeholder engagement</u></p> <ul style="list-style-type: none"> Engage stakeholders to inform them of studies, environmental and safety approvals, and regulated management controls to ensure minimal impact and disturbance associated with Project activities. Continue stakeholder engagement with the community to inform about studies, assessment, impacts and management plans. <p><u>Technical assessment(s) (in addition to those captured above)</u></p> <ul style="list-style-type: none"> Traffic Impact Assessment to ascertain impacts and traffic levels in the project vicinity. Assess construction activities and expected traffic volumes, haulage routes and distribution of construction traffic, and the impact of activities on road network performance, road access and safety. <p><u>Management plan(s) (in addition to those captured above)</u></p> <ul style="list-style-type: none"> Traffic Management Plan as recommended by Traffic Impact Assessment to be reviewed by asset owners (Main Roads and local government). Develop and implement a Workforce Management Strategy and Plan to ensure, as far as practicable, that the construction, operation, and decommissioning phases of the Project do not compromise public safety and potential negative impacts are mitigated or minimised. Ensure that any interruptions to roads during construction works are advertised well in advance and that appropriate access is still maintained.
		<p>Opportunities:</p> <ul style="list-style-type: none"> There are potential opportunities for investment in additional recreational facilities within the region because of increased population and therefore increased usage. 	<p>Enhancement measures:</p> <ul style="list-style-type: none"> Develop a program of community and stakeholder engagement to inform the detailed assessment of socio-economic impacts and determine an approach to benefits sharing. Enhance community safety, health and wellbeing through a benefit sharing framework, co-developed with the community.

Key category	Impact category	Project impacts and opportunities	Mitigation and enhancement measures
	Amenity	<p>Impacts:</p> <ul style="list-style-type: none"> The Project is likely to result in direct impacts to flora and fauna because of vegetation clearing. Community members may feel concern about loss of biodiversity where clearing is undertaken within the Project footprint. Vegetation clearing may also impact local character and amenity. The Project has the potential to cause visual impacts on the town of Kalbarri and tourism hot spots, resulting in potential effects on the local character and amenity. The visual impact of the project may contribute to a sense of loss for residents who may have an attachment to viewpoints and vistas within the landscape. Local communities may perceive that the Project will impact on local aquifers and drinking water for Kalbarri due to groundwater use. 	<p>Mitigation measures:</p> <p><u>Technical assessment(s) (in addition to those captured above)</u></p> <ul style="list-style-type: none"> Environmental Impact Assessment Detailed Flora and Vegetation Survey Detailed Terrestrial Fauna Survey Baseline water studies Implement optimised design strategies to minimise visual impact of the Project on Kalbarri <p><u>Management plan(s) (in addition to those captured above)</u></p> <ul style="list-style-type: none"> Environmental Management Plan Implement measures for revegetation and planting of native vegetation disturbed during construction Environmental offset management
		<p>Opportunities:</p> <ul style="list-style-type: none"> Address any foreseen environmental issues through the Environmental Approval process. Identify opportunities to minimise visual impact on community through design and placement of infrastructure. 	<p>Enhancement measures:</p> <p>Addressed in sections above</p>

Key category	Impact category	Project impacts and opportunities	Mitigation and enhancement measures
Access	Accessibility to community services, facilities, and social infrastructure	<p>Impacts:</p> <ul style="list-style-type: none"> The Project has the potential to restrict access to traditional and recreational use of the natural environment in the locality, including commercial and recreational fishers. The Project has the potential to cause disruptions to the local and regional road network due to increased traffic. This influx of vehicles and heavy equipment can lead to congestion, delays, and potential safety hazards for both residents and workers in the area. The population increased due to temporary construction and permanent operational workforce could lead to a strain on existing infrastructure and services, particularly for healthcare. 	<p>Mitigation measures:</p> <p>Stakeholder engagement</p> <ul style="list-style-type: none"> Work collaboratively with the local fishing organisations, the Mid West Ports Authority and safety regulators to minimise exclusion and access to areas. Design and locate marine infrastructure to minimise impacts on access and fishing. Explore community-based opportunities (e.g., ecotourism) to mitigate impacts with the Benefits Sharing Framework specifically with recreational service providers. Promote new recreation and ecotourism opportunities to offset potential recreational areas losses. Work closely with Northampton Shire and support strategic land use planning for future development of future infrastructure and services. Engage the Mid West Development Commission (working committee) and relevant state agencies (housing, police, service providers) to understand the challenges and opportunities and agree mitigation approaches. <p><u>Management plan (in addition to those captured above)</u></p> <ul style="list-style-type: none"> Recommended management plans outlined above will capture requirements. <p><u>Technical assessment(s) (in addition to those captured above)</u></p> <ul style="list-style-type: none"> Undertake a social infrastructure audit to determine existing availability and capacity to accommodate upcoming workforce.
		<p>Opportunities:</p> <ul style="list-style-type: none"> Kalbarri suffers from unreliable and inefficient electricity. The Project represents an opportunity to invest in a new microgrid or more efficient and reliable, renewable electricity, which would benefit the local community. The Project represents an opportunity to invest in new or upgraded telecommunications infrastructure. The project provides an opportunity to enhance advocacy for improved community services and infrastructure in the region. 	<p>Enhancement measures:</p> <ul style="list-style-type: none"> The Project benefits sharing Framework and plan co-developed with the community, local government and key stakeholders will direct the benefit sharing opportunities.

Key category	Impact category	Project impacts and opportunities	Mitigation and enhancement measures
Culture	Cultural Values and Beliefs	<p>Impacts:</p> <ul style="list-style-type: none"> Preliminary investigation indicates there are 11 registered Aboriginal heritage sites within the Project development envelope. The Project could have the potential to disturb registered Aboriginal heritage sites. Its location is also near other registered Aboriginal heritage sites, particularly along the Murchison River. Due to its location being near to the Shark Bay World and National Heritage Area and the Zuytdorp shipwreck the Project could have the potential to disturb registered European heritage sites. 	<p>Mitigation measures:</p> <p>Stakeholder engagement</p> <ul style="list-style-type: none"> Continue engagement with the Traditional Owners to ensure the Project incorporate their views on Project design and delivery and to preserve and manage cultural heritage. Consider tailored initiatives to support Aboriginal communities as part of the Project Community Benefits Sharing Framework. Design out or minimise disturbance to any European heritage sites. <p>Management plan(s) (in addition to those captured above)</p> <ul style="list-style-type: none"> First Nations Recruitment, Procurement and Engagement Plan Cultural Heritage Management Plan Ensure all Project activities are undertaken in accordance with the Heritage Act of Western Australia 1990. <p><u>Technical assessment(s) (in addition to those captured above)</u></p> <ul style="list-style-type: none"> Detailed archaeological and ethnographic Aboriginal heritage surveys across the DE prior to ground disturbance works. Detailed direct and indirect impact assessment of non-Aboriginal (i.e., European) heritage. <p>Enhancement measures:</p> <ul style="list-style-type: none"> Ensure The Project First Nations Recruitment, Procurement and Engagement Plan is leading practice to engage and provide benefits to Traditional Owners. The Project will incorporate tailored initiatives to support Aboriginal communities as part of the Project Community Benefits Sharing Framework.
		<p>Opportunities:</p> <ul style="list-style-type: none"> Implementing the Project's First Nations Recruitment, Procurement and Engagement Plan initiatives and management strategies will provide opportunities for First Nations participation on the Project. The Project represents an opportunity for Nanda living away from their ancestral lands to return to live and work on their ancestral lands. 	

Key category	Impact category	Project impacts and opportunities	Mitigation and enhancement measures
	Community Values, Identity and Cohesion	<p>Impacts:</p> <ul style="list-style-type: none"> The Project has the potential to cause visual impacts on the town of Kalbarri and tourism hot spots, resulting in potential effects on the local amenity and character. The Project has the potential to impact the community's sense of place and attachment to their surroundings due to changes in the natural environment. The Project has the potential to impact the local character of the community due to the introduction of new infrastructure. The Project has the potential to impact social dynamics and relationships in the community due to the presence of newcomers. Residents may be concerned that transient workers will not uphold the Kalbarri town's community values and pride of place. The Project may increase tension within the local community between those who are resistant to change and growth and those who support development. <p>Opportunities:</p> <ul style="list-style-type: none"> The Project will enhance community resilience. The Project would support the creation of alternative fuel and action towards combating climate change and reliance on fossil fuels. Maximise opportunity for investment in art and/or cultural initiatives in collaboration with state and local government and other stakeholders 	<p>Mitigation measures:</p> <p><u>Stakeholder engagement (in addition to those captured above)</u></p> <ul style="list-style-type: none"> Continue stakeholder engagement to manage expectations and understanding regarding the Project visual impacts. <p><u>Management plan(s) (in addition to those captured above)</u></p> <p><u>Technical assessment(s) (in addition to those captured above)</u></p> <ul style="list-style-type: none"> Avoid, mitigate, or offset potential impacts based on results and findings from environmental surveys. <p>Enhancement measures:</p> <ul style="list-style-type: none"> Promote community cohesion through a benefit sharing program which may support general community contributions, donations, arts and cultural events/installations and sponsorships to assist in building stronger connections with communities.

Key category	Impact category	Project impacts and opportunities	Mitigation and enhancement measures
Economic impact	Economic considerations	Impacts: <ul style="list-style-type: none"> The Project may impact the fishing and tourism industries due to potential marine exclusion zones and changes to the visual landscape. 	Mitigation measures: Stakeholder engagement (in addition to those captured above) <ul style="list-style-type: none"> Work collaboratively with the local fishing organisations, the Mid West Ports Authority and safety regulators to minimise exclusion zones and access to areas. Design and locate marine infrastructure to minimise impacts on access and fishing. Technical assessment(s) <ul style="list-style-type: none"> Undertake Commercial Fisheries assessment to understand potential impacts and compensation.
		Opportunities: <ul style="list-style-type: none"> The Project will contribute to the growth of the local economy and contribute to realising the Western Australia State Government's Renewable Hydrogen Strategy. The project will promote local industry sustainability through identifying local business contracting opportunities in the construction and operations phases. The Project has the potential to provide a positive impact on the local economy due to the expected increase in the construction and operation workforce seeking accommodation and goods and services in the local community. The Project would facilitate local economy diversification from fishing and tourism as a key component to ensuring long term sustainability for Kalbarri. An increase in population as a result of the project could enable the expansion of the retail, hospitality and tourism sectors in the area. 	Enhancement measures: <ul style="list-style-type: none"> Covered by measures as outlined above.
	Employment and Local Benefits	Impacts: <ul style="list-style-type: none"> Requires further assessment to ascertain and quantify if potential negative impacts, e.g. to the fisheries and tourism industry. Availability of employment and upskilling opportunities may impact workforce availability of other lower paid sectors. 	Mitigation measures: <ul style="list-style-type: none"> Local Industry Participation Plan Technical assessment(s) <ul style="list-style-type: none"> Requires Detailed Social Impact Assessment Requires updated Economic Impact Assessment

Key category	Impact category	Project impacts and opportunities	Mitigation and enhancement measures
		<p>Opportunities:</p> <ul style="list-style-type: none"> ■ The Project will increase employment and training opportunities for local people. ■ Improved local community livelihoods by prioritising opportunities for local employment and businesses. ■ Increased employment opportunities with subsequent flow on expenditure from workforce. ■ Increased expenditure would support secondary job generation. ■ Businesses likely to benefit from the influx of new customers would include entertainment businesses and tourism businesses, retail, accommodation, and hospitality. ■ The Project would present an opportunity to direct some employment opportunities to the First Nations people. ■ Employment First Nations people would benefit the individuals employed and their families. This would also benefit local communities through increased skills, reduced inequality in the longer term and increased expenditure. 	<p>Enhancement measures (in addition to those captured above)</p> <ul style="list-style-type: none"> ■ Undertake stakeholder engagement and highlight the Project job creation potential. ■ Identify opportunities to promote reconciliation, celebrate Aboriginal culture and improve life skills and academic opportunities. ■ Identify opportunities to develop tailored pathways program for school leavers. In partnership with educational service providers provide opportunities for students aspiring to careers in the renewables sector, construction, project management and the environment etc.
Decision-making systems	Stakeholder participation	<p>Impacts:</p> <ul style="list-style-type: none"> ■ The Project has the potential to create a sense of unfairness or uncertainty regarding the Project due to the risk of distributive inequity perceptions and differing views on renewable energy and Project benefits. ■ Some stakeholders may feel that the Project benefits are not being distributed fairly or that their voices are not being heard. 	<p>Mitigation measures:</p> <p><u>Stakeholder engagement</u></p> <ul style="list-style-type: none"> ■ Develop and implement a Stakeholder Consultation Management Plan to ensure that local communities, local government and key stakeholders are informed about Project opportunities. ■ Ensure the community are informed about the project and feel empowered and involved through all project phases.

Key category	Impact category	Project impacts and opportunities	Mitigation and enhancement measures
		<p>Opportunities:</p> <ul style="list-style-type: none">■ The Project has the potential to create a platform for stakeholders to have a say in decisions that affect their lives by undertaking ongoing community and stakeholder engagement efforts.■ The Project provides an opportunity for stakeholders to voice their concerns, opinions, and preferences regarding the future development of the region.	<p>Enhancement measures:</p> <ul style="list-style-type: none">■ The Project has the potential to enable community participation through the development of the Community Benefits Sharing Framework, which seeks to identify benefit sharing priorities throughout the operation phase.■ By involving the community, local government and key stakeholders in the Community Benefits Sharing Framework co-design process, the Project aims to deliver community investments that are fit-for-purpose and aligned with the needs of the local community. This co-design process provides an opportunity for the community to actively participate in decision-making and shape the allocation of Project benefits.

Document prepared by**Aurecon Australasia Pty Ltd**

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1 Purpose of the Community and Industry Advisory Group

The MGH team is developing the Community Benefit Sharing Plan (previously referred to as the Community Investment Program) to guide the project's investment in the Mid West and local community during operation.

We will be working with community and industry representatives in the design of the plan through a Community and Industry Advisory Group. These group members will provide meaningful contributions, local insights and diverse viewpoints to ensure the plan is designed to deliver against community aspirations.

MGH intend to also engage with the Shire of Northampton and key stakeholders in the development of the plan.

2 Composition of the Advisory Group

Name	Organisation/Association
Terry Ash	Kalbarri Commercial Rock Lobster Fishers Association
Belinda Carruth	Murchison House Station Pty Ltd and Mid West Chamber of Commerce and Industry sub committee member
Glenn Bangay	Retired, previously Shire of Northampton, Principal Environmental Health Officer and Building Surveyor
Stuart Teasdale	Kalbarri District High School
Beverly Brosnan (Growden)	Mid West Development Commission
Guy Acosta	D'Guy Charters
Ellen Nightingale	Kalbarri Development Association
Kane Watson	Northern Agricultural Catchments Council Natural Resource Management
Colleen Bubba	Kalbarri – us the people
Ken Dibble	Kalbarri Sports and Recreation Club Vice President
David Quimby	Kalbarri District High School, SES Kalbarri, Kalbarri Sports and Recreation Club
Raymon Pastor	N/A
Tracy Grosvenor	Kalbarri Wilderness Cruises
Serena Davies	Tidy Tides cleaning and gardening service
Hamish Turner	Mens Shed Kalbarri
Joanne Rabig	Hair salon business owner
Ilona Visser	Tidy Tides cleaning and gardening service

3 Topics of agenda

Meeting one - introduce the group, outline the intent of the Community Benefit Sharing Plan, review the terms of reference, test the findings from the social factors report and set principles, parameters and success factors for the framework.

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Date: Thursday, 6 June 2024
Time: 6.00pm to 7.30pm
Location: Allen Centre, 70 Grey Street Kalbarri

Agenda:

Timing	Item
6.00pm to 6.05pm	Welcome and Acknowledgement.
6.05 to 6.15pm	Introductions.
6.15pm to 6.20pm	Framework – introduction and intent.
6.20pm to 6.30pm	Terms of Reference establishment and meeting schedule outline.
6.30pm to 7.00pm	Agree the principles, parameters, and success factors of the framework.
7.00pm to 7.20pm	Test and refine the findings presented from the social Factors Report Review and the preliminary Social Impact Assessment findings.
7.20pm to 7.25pm	Confirm the anticipated date for the next meeting and proposed agenda.
7.25pm to 7.30pm	Questions and closing.

Meeting two - Determine the key criteria and weighting for evaluating initiatives

Date: Thursday, 18 July 2024
Time: 5.30pm to 7.00pm.
Location: Allen Centre, 70 Grey Street Kalbarri

Agenda:

Timing	Item
5.30pm to 5.35pm	Welcome and Acknowledgement
5.35pm to 5.45pm	Introductions
5.45pm to 5.50pm	Present the agenda
5.50pm to 6.00pm	Provide a recap of the first meeting
6.00pm to 6.15pm	Framework template
6.15pm to 6.30pm	Framework principles
6.30pm to 6.45pm	Determine the key criteria that could be used to evaluate initiatives
6.45pm to 6.55pm	Determine if certain criteria should be weighted
6.55pm to 7.00pm	Questions, next steps and closing

Meeting three – Benefit sharing categories and ideation of initiatives

Date: Thursday, 22 August 2024
Time: 5.30pm to 7.00pm.
Location: Allen Centre, 70 Grey Street Kalbarri

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Agenda:

Timing	Item
5.30pm to 5.35pm	Welcome and Acknowledgement
5.35pm to 5.45pm	Introductions
5.45pm to 5.50pm	Present the agenda
5.50pm to 6.00pm	Provide a recap from the last meeting
6.00pm to 6.15pm	Review the benefit sharing categories
6.15pm to 6.55pm	Ideation and list potential priorities for benefit sharing investments
6.55pm to 7.00pm	Questions, next steps and closing

Meeting four - Present recommendations from the co-design process and draft framework

Date: Thursday, 12 September 2024

Time: 5.30pm to 7.00pm.

Location: Allen Centre, 70 Grey Street Kalbarri

Agenda:

Timing	Item
5.30pm to 5.35pm	Welcome and Acknowledgement
5.35pm to 5.45pm	Introductions
5.45pm to 5.50pm	Present the agenda
5.50pm to 6.00pm	Provide a recap from the last meeting
6.00pm to 6.30pm	Present the draft framework
6.30pm to 6.55pm	Seek feedback and input from the group on the framework
6.55pm to 7.00pm	Questions, next steps and closing

4 Timeframes



Early 2025

The Community Benefit Sharing plan will be finalised, the framework will include:

- **Vision** - a vision for what success will look like when benefit sharing from the Project is achieved.

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- **Principles**- an outline of the principles that govern the Project's benefit sharing plan. The principles define how we want the program to operate.
- **Categories of Benefit Sharing** – an outline of the overarching categories that the benefit sharing plan will consider investing in. It will include a brief description of the types of initiatives that would be considered within each category and some example initiatives that could be considered.
- **Key Criteria For Initiative Assessment** - an outline of the key criteria that will be used to evaluate initiatives seeking funding from the benefit sharing plan. It may also include the weighting of specific criteria and a minimum score to be achieved for initiative to be considered successful for funding. The specific metrics for criteria will be included in the benefit sharing plan.

2025 and prior to FID in 2026

The framework and initiatives developed through engagement with the Community and Industry Advisory Group and the Shire will then be tested with the wider community and key stakeholders.

2026 post FID

The Community Benefit Sharing Plan will be implemented. The plan will include:

- Categories of investment
- Criteria for evaluating opportunities
- Governance
- Monitoring and evaluation
- Reporting and accountability
- Funding model
- Risk mitigation

SHIRE OF NORTHAMPTON - BUILDING APPROVALS - JULY 2024						
Approval Date	App. No.	Owner	Builder	Property Address	Type of Building	Value
1/07/2024	23044	Lane and Rochelle Rose	Owner Builder	34-44 (Lot 45) Carson Street, Iseska	Convert a shed to a dwelling	\$ 18,000.00
15/07/2024	23079	Roy and Robyn Guthrie	Owner Builder	20 (Lot 178) Wurmbea Way, Kalbarri	Construct four-bedroom steel-framed dwelling	\$ 180,000.00
25/07/2024	24026	Gavin Beveridge	Owner Builder	21 (Lot 65) Fifth Avenue, Northampton	Full demolition of shed	\$ 5,000.00
1/07/2024	24027	Callum Lalor	Owner Builder	Unit 8, 116 (Lot 8) Nanda Drive, Kalbarri	Construct steel-framed carport	\$ 6,000.00
22/07/2024	24054	Robert and Solitaire Cameron	Mt Global Construction Pty Ltd	1374 Horrocks Road, Sandy Gully	Construct steel-framed and claddd shed	\$ 18,295.30

SHIRE OF NORTHAMPTON

ATTACHMENT 9.8.1 (1)

WORKS CREW BUDGET - PROGRAM AND PROGRESS REPORT (2023/2024)
(August 2024)

2023/2024 Budget Works	Job No	Status	Comments
<u>REGIONAL ROAD GROUP PROJECTS - 150300</u>			
Kalbarri Road Reseal works 0.00 - 18.00 slk	RR17	COMPLETE	Revised to match budget 7.50 to 18.00 slk
<u>ROADS TO RECOVERY - 152100</u>			
Balla Whellarra Road Reseal 8.00 to 20.80 (Binnu East Road South)	RT42	COMPLETE	Revised to match budget 10.00 to 20.80 slk. Start 17/4
Northampton - Fifth Street Install Stormwater	RT43		Survey and Design with Consultants
<u>LRCU GRANT - 152140</u>			
Little Bay Road Construct Road to Little Bay	R440		Clearing Permit request submitted Land Tenure, cadastral survey and native title study included as part of clearing permit application.
<u>MUNICIPAL FUND CONSTRUCTION - 150600</u>			
Carried Over from 2022/2023			
Kalbarri			
Karina Mews Reseal and replace concrete kerbing	R982		
Gwalla and Brook Street Install drainage, carry over works from 2022/2023	R326	COMPLETE	
Cont.			

2023/2024 Budget Works		Job No	Status	Comments
<u>MUNICIPAL FUND CONSTRUCTION - 150600</u>				
New Projects				
<u>Northampton</u>				
Robinson Street		R338		
Surface Correction - 2 sections and kerbing				
Fifth Street (Council Contribution)		R345		Survey and Design with Consultants
Install Stormwater				
Bruce Road		R346	COMPLETE	Completed April 2024
Reseal				
John Street		R347	COMPLETE	Completed April 2024
Reseal				
<u>Kalbarri</u>				
Anchorage Lane		R348		
Engineering Works - Investigate and Design				
<u>Rural</u>				
Coolacalaya Road		R335		
Survey Road Reserve				
Binnu East Road		R341	COMPLETE	Reseal 2024/25
Pavement Repair 12.6 to 13.6 slk				
Parker - Wundi Road/s		R336	COMPLETE	
Outstanding Culvert headwall works				
Kalbarri Road (Council Contribution)		R343	COMPLETE	Revised to match budget 7.50 to 18.00 slk
Reseal works 7.50 - 18.00 slk				
Balla Whelarra Road (Council Contribution)		R344	COMPLETE	Revised to match budget 10.00 to 20.80 slk. Start 17/4
Reseal 8.00 to 20.80 (Binnu East Road South)				
Cont.				

2023/2024 Budget Works	Job No	Status	Comments
<u>MUNICIPAL FOOTPATHS - 150900</u> Carried Over from 2022/2023 Northampton - Stephen Street Replace DUP from NWCH to West Street Kalbarri - Grey Street Replace DUP at front of Allen Centre <u>MUNICIPAL FOOTPATHS - 150900</u> New Projects Kalbarri - Malaluca Pathway Maintenance of existing Kalbarri - Red Bluff Road - WABN Grant Red Bluff Road to Eco Flora	F702 F707 08 T379 F716		Works Commenced
Cont.			

2023/2024 Budget Works		Job No	Status	Comments
OTHER WORKS - Depots/Foreshores/Ovals/Parks/Gardens/Cemeteries etc				
Northampton - Oval - New Toilet Block			COMPLETE	
Install concrete DUP to adjacent pavilions.				
Northampton - Oval renovation		F016	COMPLETE	
Undertake Verti mowing				
Northampton - Ram Pavilion			COMPLETE	
Install window to pavilion office				
Northampton - RSL			COMPLETE	
Fabricate and install pump/retic cover				
Northampton - Northampton Community Centre				
Install disabled ramp south end				
Northampton - Northampton Community Centre				
Treatment for rising damp - stadium wall				
Northampton - Northampton Community Centre				
Brick pave commentary box south to prevent moisture				
Northampton - Depot			COMPLETE	
Supply and install cooler/drink fountain				
Northampton - Cemetery		H001		Works Commenced
Install new niche wall under existing shelter				
Northampton - Lions Park		F012		Works Commenced
Install 3 x stone wall seating				
Northampton - Lions Park		F012	COMPLETE	
Install stone wall to eastern side garden bed.				
Northampton - Wannerenooka Tanks				Works not possible
Supply and install filtration system				
Northampton - Main Street Heritage bin surrounds				
Supply heritage style bin surrounds				
Cont.				

2023/2024 Budget Works		Job No	Status	Comments
Kalbarri - Oval Renovation Undertake Verti Drain		F003	COMPLETE	
Kalbarri - Oval - Playground Replace 2 x bridge/climbing sections			COMPLETE	
Kalbarri - Skate Park area Remove central surface and replace with coloured concrete.			COMPLETE	
Kalbarri - Foreshore grass removal Cut down grass height along DUP area/s				
Kalbarri - Depot Install one central aircon to depot office			COMPLETE	
Kalbarri - Depot Install septic and connect toilet			COMPLETE	
Kalbarri - Foreshore shelter Install Foreshore shelter.				
Horrocks - Foreshore grass removal Cut down grass height along DUP area/s				
Horrocks - Foreshore water supply holding tank Remove existing and place new		3664		
Horrocks - Install shower Install shower at top of Jetty boardwalk				
Horrocks - Jetty pylons Maintenance to jetty pylons - Remove rust/corrosion protection.		08 3684	COMPLETE	
Horrocks - Caravan dump point Install additional tank to site - total 2		F017	COMPLETE	
Port Gregory - Carpark Construction/Renovations Foreshore carpark area		3714		
Port Gregory - New Community Storage Shed New shed		99 5414		Deferred to 2024/25
Port Gregory - Non Potable water supply holding tank Install new water supply holding tank		99 5414		

Cont.

#REF!	Job No	Status	Comments
Northampton Tip Site Install new fence around green waste area		COMPLETE	
Kalbarri Tip Site Maintenance to fence	B020	COMPLETE	
Binnu Tip Site Install new fence	B022	COMPLETE	
Port Gregory Tip Site Install cover over 'Oil Reciprical'			
<u>PLANT ITEMS - Major</u>			
Northampton - New Truck (Construction) Purchase new - trade/sell existing P217 Mitsi	4214/99		
Northampton - New Truck Trailer (Construction) Purchase new - trade/sell existing P218 Trailer	4214/99		
Northampton - New Backhoe Purchase New - No trade	4214/99	COMPLETE	
Northampton - Exe Manager of Works and Tech Services Purchase New - trade/sell P302 Toyota Prado	4214/99	COMPLETE	
Northampton - Exe Manager Corporate Services Purchase New - trade/sell P295 Isuzu MUX		COMPLETE	
Northampton - Exe Manager Comm, Develop and Reg Purchase New - no trade		COMPLETE	
Kalbarri - New utility - Kalbarri Leading Hand Purchase new	4214/99	COMPLETE	
Cont.			

Kalbarri		Job No	Status	Comments
<i>PLANT ITEMS - Minor/Other/Sundry tools</i>				
Northampton - 2 way radios		7362/02	COMPLETE	
Northampton - New Post hole digger		7362/02	COMPLETE	
Northampton - New Pole saw		7362/02	COMPLETE	
Northampton depot - New high pressure cleaner		7362/02	COMPLETE	
Northampton depot - New Vehicle mounted air compressor		7362/02	COMPLETE	
Northampton Gardeners- 1 x whipper snipper		7362/02	COMPLETE	
Northampton Gardeners- 1 x shredder/chipper		7362/02	COMPLETE	
Northampton Gardeners- 1 x Blower battery		7362/02	COMPLETE	
Northampton Maint Truck - Small fridge		7362/02	COMPLETE	
Kalbarri depot - New Air compressor.		7362/02	COMPLETE	
Kalbarri Gardeners - Mower		7362/02	COMPLETE	
Kalbarri Gardeners - Blower		7362/02	COMPLETE	
Kalbarri Gardeners - Whipper snipper		7362/02	COMPLETE	