Regional Development Assessment Panel Agenda

Meeting Date and Time: Wednesday, 13 November 2024; 9:30am
Meeting Number: RDAP/28
Meeting Venue: 140 William Street, Perth

A live stream will be available at the time of the meeting, via the following link:
RDAP/28 - 13 November - Shire of Three Springs - Town of Port Hedland

PART A – INTRODUCTION

1. Opening of Meeting, Welcome and Acknowledgement
2. Apologies
3. Members on Leave of Absence
4. Noting of Minutes

PART B – SHIRE OF THREE SPRINGS

1. Declarations of Due Consideration
2. Disclosure of Interests
3. Form 1 DAP Applications
   - 3.1 Lot 1719 (Lot 10710) Tomkins Road, Arrowsmith East – Proposed Power Generation – DAP/24/02759
4. Form 2 DAP Applications
5. Section 31 SAT Reconsiderations

PART C – TOWN OF PORT HEDLAND

1. Declarations of Due Consideration
2. Disclosure of Interests
3. Form 1 DAP Applications
   - 3.1 Lot 601, Portion of Lot 604, Lot 300 and Portion of Road Reserve Parola Court, South Hedland – Mixed Use Development – DAP/24/02737
4. Form 2 DAP Applications
5. Section 31 SAT Reconsiderations

PART D – OTHER BUSINESS

1. State Administrative Tribunal Applications and Supreme Court Appeals
2. Meeting Closure

Please note, presentations for each item will be invited prior to the items noted on the agenda and the presentation details will be contained within the related information documentation

ATTENDANCE

DAP Members

Clayton Higham (Presiding Member)
Dale Page (Deputy Presiding Member)
Karen Hyde (Specialist Member)

Part B – Shire of Three Springs
Cr Chris Connaughton (Local Government DAP Member, Shire of Three Springs)

Part C – Town of Port Hedland
Mayor Peter Carter (Local Government DAP Member, Town of Port Hedland)
Cr Camilo Blanco (Local Government DAP Member, Town of Port Hedland)

Minute Secretary

Kristen Parker (DAP Secretariat)

Officers in Attendance

Ashlee Kelly (DAP Secretariat)

PART A – INTRODUCTION

1. **Opening of Meeting, Welcome and Acknowledgement**
2. **Apologies**
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PART B – SHIRE OF THREE SPRINGS

1. Declarations of Due Consideration

2. Disclosure of Interests

3. Form 1 DAP Applications

3.1 Lot 1719 (Lot 10710) Tomkins Road, Arrowsmith East – Proposed Power Generation – DAP/24/02759

4. Form 2 DAP Applications

Nil.

5. Section 31 SAT Reconsiderations

Nil.

Part B – Item 3.1 - 1719 (LOT 10710) TOMKINS ROAD, ARROWSMITH EAST – PROPOSED POWER GENERATION

Form 1 – Responsible Authority Report
(Regulation 12)

DAP Name:	Regional	
Local Government Area:	Shire of Three Springs	
Applicant:	Element Advisory for Strike Energy	
Owner:	Project Haber Pty Ltd	
Value of Development:	$100 million ☐ Mandatory (Regulation 6) ☒ Opt In (Regulation 7)	
Responsible Authority:	Shire of Three Springs	
Authorising Officer:	Simon Lancaster	
LG Reference:	A42	
DAP File No:	DAP/24/02759	
Application Received Date:	13 September 2024	
Report Due Date:	19 November 2024	
Application Statutory Process Timeframe:	90 Days	
Attachment(s):	1. Application Plans 2. Received Submissions 3. Schedule of Submissions	
Is the Responsible Authority Recommendation the same as the Officer Recommendation?	☒ Yes ☐ N/A	Complete Responsible Authority Recommendation section
	☐ No	Complete Responsible Authority and Officer Recommendation sections

Responsible Authority Recommendation

That the Regional DAP resolve to**:**

1. **Approve** DAP Application reference DAP/24/02759 and accompanying plans (as contained in the Application Report dated 3 September 2024) in accordance with Clause 68 of Schedule 2 (Deemed Provisions) of the *Planning and Development (Local Planning Schemes) Regulations 2015* and the provisions of the Shire of Three Springs Local Planning Scheme No.2 subject to the following conditions:

Conditions

1. This decision constitutes planning approval only and is valid for a period of 5 years from the date of approval. If the subject development is not substantially commenced within the 5 year period, the approval shall lapse and be of no further effect.

2. The development shall be undertaken in accordance with the stamped approved plans and supporting documents (Air Emissions Assessment prepared by JBS&G and Environmental Noise Assessment prepared by Lloyd George Acoustics) including any amendments and additional plans and information arising from the approval conditions.

3. Prior to the commencement of the operations a Bushfire Management Plan shall be submitted to the local government for approval.

4. The landowner shall implement and thereafter maintain for the lifetime of the development the recommendations of the approved Bushfire Management Plan to the satisfaction of the local government.

5. Prior to the commencement of the development a Construction Management and associated Fire Management Plan shall be submitted to the local government for approval.

6. The landowner shall implement, and adhere to at all times during construction, the recommendations of the approved Construction Management Plan to the satisfaction of the local government.

7. The landowner shall be responsible for the repair, reinstatement or replacement of any road infrastructure that is damaged, becomes unsafe or fails to meet appropriate engineering standards where the damage to the road network is caused by reason of use of the road in connection with the approved development, and within a timeframe, to the satisfaction of the local government (or where agreed to by the local government the applicant may instead arrange payment to the local government for such repair, reinstatement or replacement works to be undertaken).

8. Prior to the commencement of the development all vehicle access point(s) onto the local road network shall be located, constructed, and thereafter maintained, to the satisfaction of the local government.

9. The installation of any directional/traffic/warning/safety signage in the vicinity of the development's access point(s) onto the road network, and relating to the development, shall be to the satisfaction of the local government.

10. All parking of vehicles associated with the development shall be provided for within the property boundary and not the road reserve.

11. The design, location, installation and maintenance of on-site wastewater/effluent systems is to be to the approval of the local government and in accordance with relevant legislative requirements.

12. Prior to commencement of the development a Lighting Strategy shall be submitted to the local government for approval.

13. Prior to the commencement of operations, certification is to be provided from a suitably qualified person demonstrating the lighting has been installed in accordance with the approved Lighting Strategy to the satisfaction of the local government.

14. Prior to the commencement of operations, an Operational Management Plan shall be submitted to the local government for approval, which includes the establishment of a complaints register to record any complaints that may be received and process for undertaking any mitigating actions that may be required.

15. The measures included in the approved Operational Management Plan shall be implemented to the satisfaction of the local government.

16. Prior to commencement of operations a Preliminary Decommissioning Plan shall be submitted to the local government for approval.

17. The applicant is required to give at least 3 months' notice to the local government if the proposed development is to cease operations and all infrastructure must be decommissioned and removed from the site. The site must be demonstrated to be free of contaminants and the site rehabilitated through deep ripping/earthworks, and other measures as included in the approved Final Decommissioning Plan to the satisfaction of the local government, within 2 years of giving this notice, unless the local government agrees otherwise.

Advice Notes

(a) The applicant/landowner is advised that this determination relates to the granting of development approval only, and does not constitute a building permit and that an application for relevant building permits may be required to be submitted to the local government and be approved before any work requiring a building permit can commence onsite.

(b) The applicant is advised that the proposed works should occur in a safe manner at all times and in accordance with all applicable legal and safety requirements (including the 'duty of care' under the laws of negligence, Worksafe requirements and guidelines, Australian Standards and Western Power policies and procedures).

(c) Prior to any ground disturbance of the site, all contractors and operators should be made aware of the obligations under the *Aboriginal Heritage Act 1972* relating to site discovery and reporting protocols. This includes stopping work and seeking the advice of both the Registrar of Aboriginal Sites and Yamatji South Regional Corporation (YSRC) in the event that materials of Aboriginal heritage value are discovered during construction activities.

(d) The applicant is advised that this planning approval does not negate the requirement for any additional approvals, and adherence to due diligence, which may be required under separate legislation. This including, but not limited to, the obtaining of any required approvals from the Department of Health, the Department of Energy, Mines, Industry Regulation & Safety, the Department of Water & Environment Regulation and Main Roads WA and consulting of Before You Dig Australia. It is the applicant's responsibility to obtain any additional approvals, and undertaking of due diligence, required before the development/use lawfully commences.

(e) The applicant will need to consult with the Main Roads WA Heavy Vehicle Services branch to ascertain any approval requirements that may be required for their proposed heavy vehicle combinations, transport routes and operations.

(f) In relation to conditions 5 & 6 the Construction Management Plan shall address the following associated with the construction of the development or any other matters considered relevant by the local government.

i) hours of construction;
ii) heritage management protocols to mitigate potential risks linked to the exposure of Aboriginal artefacts during ground-disturbing activities;
iii) temporary fencing, hoardings, gantries, and signage;
iv) site access and egress;
v) construction vehicle route and traffic management;
vi) size and frequency of construction vehicles;
vii) road upgrades/repairs and timing of works associated with the construction of the development;
viii) parking arrangements for staff and contractors;
ix) deliveries and storage of construction materials and machinery;
x) management of vibration, dust, wind, and erosion;
xi) management of any stormwater discharge;
xii) management of construction noise and other site generated noise;
xiv) demolition and construction waste management, recycling, and removal;
xv) protection of any public realm infrastructure;
xvi) public communication and complaint handling procedures.

(g) The Shire is unable to provide guarantee of all-weather access on its unsealed road network, and in the event that the applicant requires all-weather access to its site, the applicant is required to seal the road network to the local government's satisfaction to connect into the existing sealed road network.

(h) In relation to conditions 12 & 13 the Lighting Strategy is to address Australian Standard 4282:2019 - control of the obtrusive effects of lighting and the principles of the WAPC Position Statement: Dark Sky and Astrotourism.

(i) The applicant is responsible to ensure that biosecurity protocols are maintained for the site to minimise biosecurity risks for the landowner, adjoining farms and along the transport route and should further information be required on appropriate practices the applicant should contact the Department of Primary Industries & Regional Development in this regard.

(j) The applicant shall enter into a contribution agreement towards community, social or other infrastructure/programs that will benefit the local community. The agreement should establish the process by which the contributions should be directed to the Shire of Three Springs Medical Community Benefit Scheme or other local groups/ventures deemed appropriate.

(k) Should the applicant be aggrieved by this determination there is a right (pursuant to the *Planning and Development Act 2005*) to have the decision reviewed by the State Administrative Tribunal. Such application must be lodged within 28 days from the date of determination.

Details: outline of development application

Region Scheme	N/A
Region Scheme - Zone/Reserve	N/A
Local Planning Scheme	Shire of Three Springs Local Planning Scheme No.2
Local Planning Scheme - Zone/Reserve	Rural
Structure Plan/Precinct Plan	N/A
Structure Plan/Precinct Plan - Land Use Designation	N/A
Use Class and permissibility:	Power Generation (Use not listed)
Lot Size:	2,020.4029ha
Existing Land Use:	Agriculture-Extensive & Gas Drilling Operation
State Heritage Register	No
Local Heritage	☒ N/A ☐ Heritage List ☐ Heritage Area
Design Review	☒ N/A ☐ Local Design Review Panel ☐ State Design Review Panel ☐ Other
Bushfire Prone Area	No - Proposed Development Site Yes - Portion of Lot 10710
Swan River Trust Area	No

Proposal:

The applicant is seeking development approval for the South Erregulla Gas Fired Power Station (Power Generation) upon Lot 10710 Tomkins Road, Arrowsmith East.

The various plan extracts from the application have been provided as separate **Attachment 1** and a complete copy of the application report can be viewed at the following link:
24215_Arrowsmith_East_DA_F1_030924_App_1.pdf (threesprings.wa.gov.au)

This application was supported, subject to conditions of approval and advice notes being applied, at the 23 October 2024 Shire of Three Springs Council meeting, and the agenda, agenda attachments and minutes from this Council meeting can all be viewed at the following link:
2024 Council Meeting Documents (threesprings.wa.gov.au)

Background:

Lot 10710 is a 2,020.4029ha property that is largely cleared and used for agricultural purposes excepting some parcels of remnant vegetation spaced across the property.

Lot 10710 is located 43km north-west of the Three Springs townsite, 33km south-west of the Mingenew townsite, 45km south-east of the Dongara townsite and 29km east of the Brand Highway.

Figure 1 – Location map of Lot 10710 Tomkins Road, Arrowsmith East

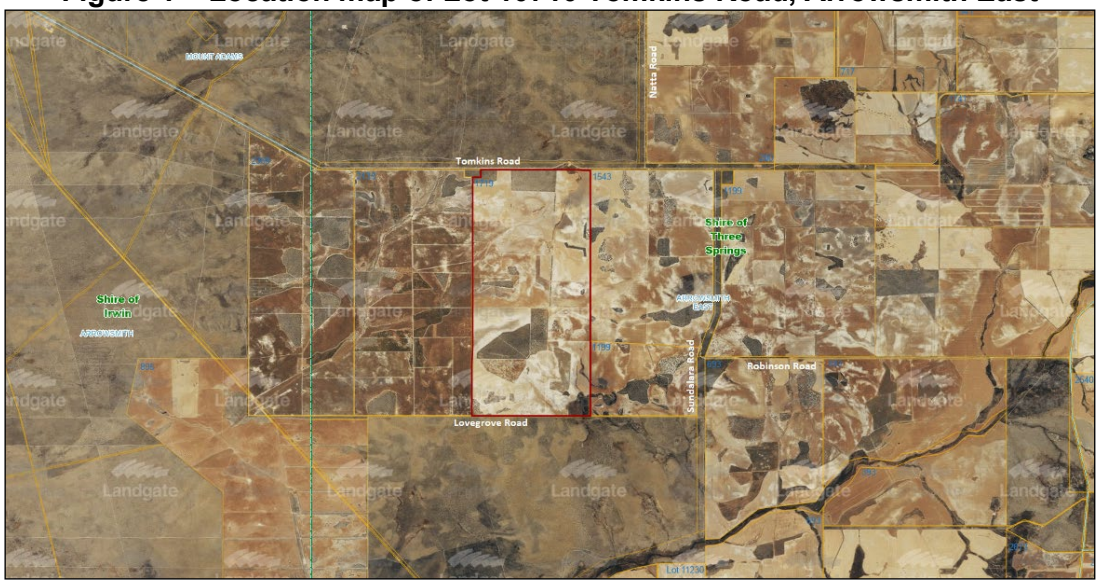


Figure 2 – Aerial photo of Lot 10710 Tomkins Road, Arrowsmith East

Lot 10710, and the neighbouring 1,483.7983ha Lot 1 to the east, are owned by Project Haber Pty Ltd.

Lot 10710 contains the South Erregulla 1 gas drilling operation that is addressed separate to the planning process through Petroleum Exploration Permit 503 issued to Strike Energy by the Department of Mines, Industry Regulation & Safety under the *Petroleum and Geothermal Energy Resources Act 1967*.

The Environmental Protection Authority (EPA) have previously determined on 7 November 2023 that the proposed South Erregulla Conventional Gas Development upon Lot 10710 that comprises a natural gas processing facility, gas gathering network and pipeline to connect to the Dampier to Bunbury Natural Gas Pipeline was not required to be assessed under Part V of the *Environmental Protection Act 1986*. Further information upon the South Erregulla Conventional Gas Development can be accessed at the following link to EPA website: South Erregulla Conventional Gas Development | EPA Western Australia

Strike Energy are also the proponents for a urea production plant that is proposed upon the north-western corner of Lot 10710 and the north-eastern corner of adjoining Lot 1. This urea production project is currently before the EPA for consideration, planning application processes relating to this project under the *Planning and Development Act 2005* have not commenced pending the outcome of the environmental application process under the *Environmental Protection Act 1986*. Further information upon the urea production project can be accessed at the following link to EPA website:
Project Haber | EPA Western Australia

An application to revegetate 338ha of Lot 10710 in 4 separate areas for the purpose of carbon farming was previously considered by Council and approved at its 22 March 2023 meeting. The proposed carbon planting areas are outside of the footprint areas for the proposed urea production plant, and the power generation facility that is the subject of this report. The Council Minutes from the 22 March 2023 meeting that provide further background to the Tree Farm application can be viewed at the following link:
11. Signed Minutes OCM 23.03.23.pdf (threesprings.wa.gov.au)

The proposed power generation facility site upon Lot 10710 is also located 7km south of the proposed West Erregulla gas processing facility upon Lot 10938 Natta Road, Arrowsmith East that is a joint venture partnership between Warrego Energy and Strike Energy who appointed the Australian Gas Infrastructure Group (AGIG) to design, build, own and operate the facility. The West Erregulla gas processing facility was approved by the WAPC at its 3 October 2024 meeting and the minutes from that meeting can be viewed at the following link:
3 Oct 2024 - WAPC Part 17 Significant Development - Minutes (planning.wa.gov.au)

Figure 3 – View of existing drilling area upon Lot 10710 Tomkins Road

Figure 4 – View of existing internal track leading to proposed power generation site to the left (east of track) with existing drill site to the right (west of track)

Figure 5 – existing drill site upon Lot 10710 Tomkins Road, Arrowsmith East

The application is for a gas fired peaking power station with a maximum export capacity of 90 Megawatts comprising:

- 20 x 4.5MW generators, located within a 22m x 150m (3,300m²),10.25m high shed;
- 20 x 10.m high silencer/combustion gas emission stacks sited on the western concrete apron and adjacent to each generator;
- 20 x elevated horizontal radiators, positioned adjacent to the silencer stacks on the concrete apron;
- substation and switchyard in a fenced enclosure adjacent to the power station building;
- 20kL wastewater treatment system;
- oil storage bund for waste oil, new oil and coolant;
- ancillary buildings for administration and staff amenities, storage and workshop;
- associated hardstand for car parking and vehicle circulation areas;
- 50m clear dirt/gravel buffer to provide fire protection.

Figure 6 – Site plan for proposed power generation facility upon Lot 10710

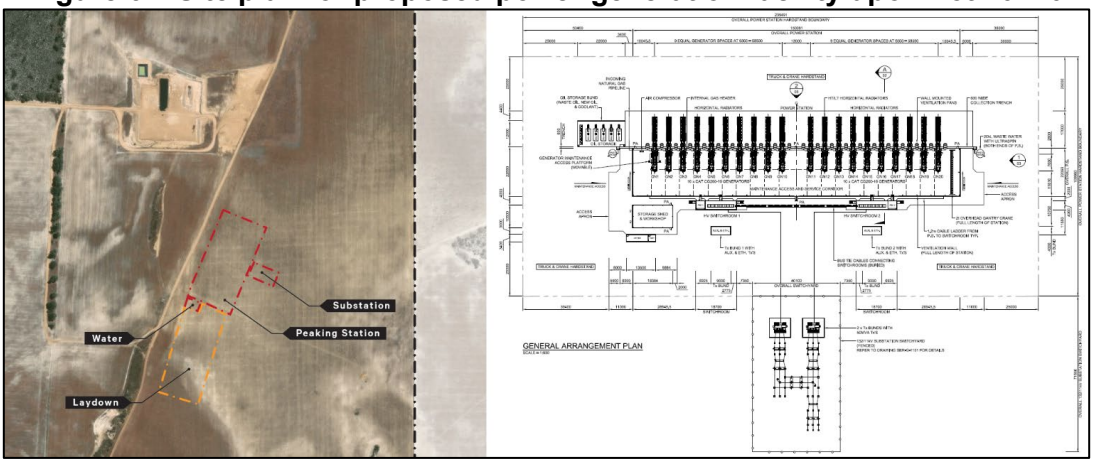
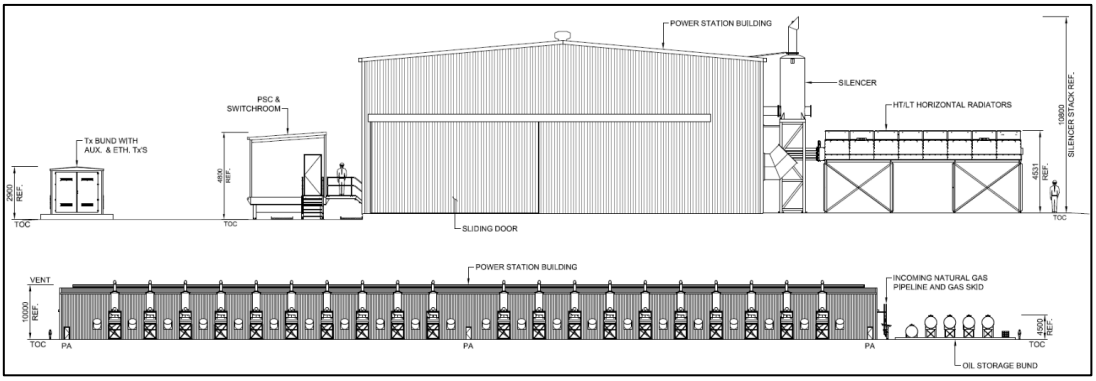


Figure 7 – Elevation plans for proposed power generation facility



The overall power generation site would be contained within a general development footprint of 5ha that would be setback approximately 1km from Tomkins Road and the proposed site has not been identified as having heritage constraints, will not require the clearing of remnant vegetation and is outside bushfire prone and acid sulphate areas, and is clear of watercourses.

The facility would have operational phase employment of 2-5 people on site.

It is noted that were a power generation project upon Lot 10710, identical in every way to this one, have been lodged by Western Power rather than by a private proponent it would have been exempt from the need to obtain planning approval as Schedule 1(24) of the *Public Works Act 1902* lists *"works for or in connection with the production, generation, transmission, distribution or storage of electricity, gas or any other form or source of energy"* and proceeded without involvement in the planning process.

Legislation and Policy:

Legislation

Planning and Development Act 2005
Planning and Development (Development Assessment Panel) Regulations 2011
Planning and Development (Local Planning Schemes) Regulations 2011
Shire of Three Springs Local Planning Scheme No.2

'Power Generation' is not listed as a specific land use in the Shire of Three Springs Local Planning Scheme No.2 and the application is therefore required to be considered pursuant to Schedule 1 Part 3 clause 18(4) of the *Planning & Development (Local Planning Schemes) Regulations 2015* which states:

> *"(4) The local government may, in respect of a use that is not specifically referred to in the zoning table and that cannot reasonably be determined as falling within a use class referred to in the zoning table-*
> *(a) determine that the use is consistent with the objectives of a particular zone and is therefore a use that may be permitted in the zone subject to conditions imposed by the local government; or*
> *(b) determine that the use may be consistent with the objectives of a particular zone and give notice under clause 64 of the deemed provisions before considering an application for development approval for the use of the land; or*

(c) *determine that the use is not consistent with the objectives of a particular zone and is therefore not permitted in the zone."*

The application was advertised for comment in accordance with clause 18(4)(b) of the model provisions and clause 64 of the deemed provisions of the Regulations.

The applicant will be required to obtain other approvals pursuant to legislation separate to the planning process, including a production approval from the Department of Mines, Industry Regulation & Safety under the *Petroleum and Geothermal Energy Resources Act 1967*.

The proposal will also require a works approval from the Department of Water & Environmental Regulations under the *Environmental Protection Regulations 1987* with this application listed by DWER as ApplicationW6938/2024/1 - South Erregulla Processing Facility & Power Station - Strike South Pty Ltd.

State Government Policies

State Planning Policy 2.5 – Rural Planning
State Planning Policy 2.5 - Rural Planning - December 2016

Local Planning Strategy

Shire of Three Springs Local Planning Strategy
Shire of Three Springs Local planning strategy
Objective 3.1.3 & 3.3.5

Structure Plans/Activity Centre Plans

Not applicable

Local Policies

Shire of Three Springs Strategic Community Plan 2024-2034
Shire_of_Three_Springs_IP_FINAL.pdf
Objectives 1.1, 2.1, 2.2, 2.3, 9.1

Consultation:

Public Consultation

The application was advertised for comment in accordance with the requirements of Clause 64 of the Regulations from 9 September 2024 until 7 October 2024 with the Shire undertaking the following actions:

- copy of the application being placed on the Shire website;
- placement of an advisory sign onsite;
- correspondence inviting comment being sent to the 8 landowners within 5km of Lot 10710;
- correspondence inviting comment being sent to the following 15 government agencies and service authorities:
  - ATCO Gas
  - Australian Gas Infrastructure Group
  - Department of Biosecurity, Conservation & Attractions
  - Department of Fire & Emergency Services

  - Department of Health
  - Department of Jobs, Tourism, Science & Innovation
  - Department of Energy, Mines, Industry Regulation & Safety
  - Department of Planning, Lands & Heritage
  - Department of Primary Industries & Regional Development
  - Department of Water & Environment Regulation
  - Horizon Power
  - Synergy Energy
  - Main Roads WA
  - Telstra
  - Water Corporation
  - Western Power
- display of the application at the Shire office.

The Shire received 12 submissions, with 10 of these being from government agencies either offering no objection or technical comment, and 2 from neighbouring landowners raising queries in regards to the proposed development. Copies of the received submissions have been provided as separate **Attachment 2**.

A Schedule of Submissions that summarises the received submissions, and provides individual comment upon the raised issues, has been provided as **Attachment 3**.

The applicant was also provided with a copy of the received submissions and their responses to the raised issues have also been included within the Schedule of Submissions provided as **Attachment 3**.

Referrals/consultation with Government/Service Agencies

Refer previous section.

Design Review Panel Advice

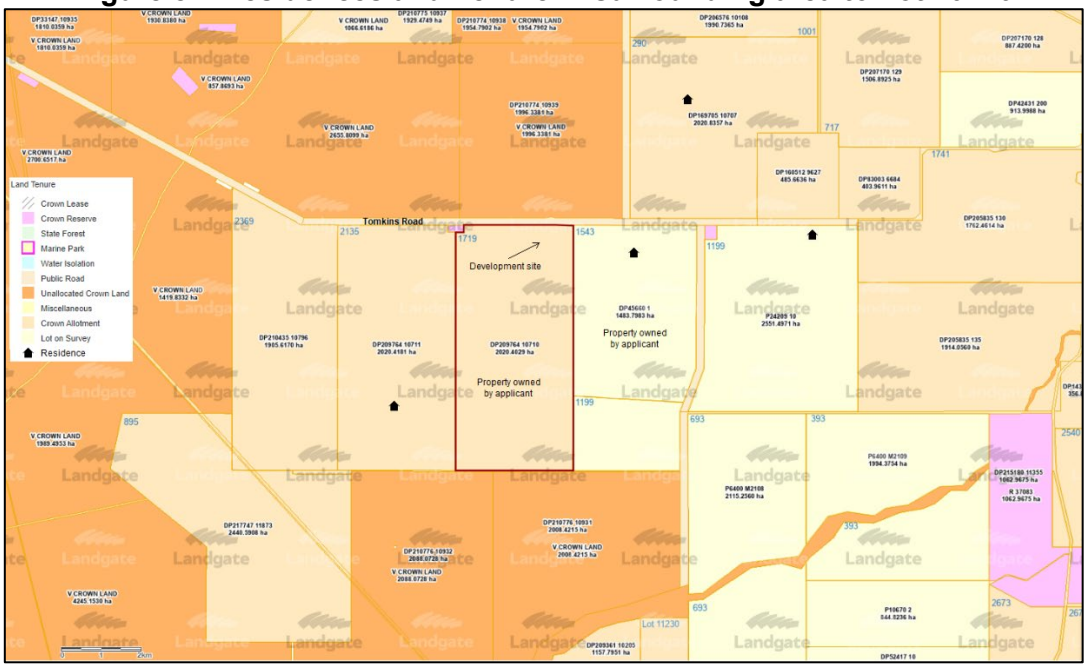
Not applicable.

Planning Assessment:

Sensitive Premises

There are 4 residences in the area surrounding Lot 10710, the closest of which is approximately 1.8km to the east, and this is a residence upon Lot 1 that is also owned by Project Haber Pty Ltd. The closest third-party residences are located 4.5km to the south-west, 5.3km to the north-east, and 5.6km to the east of the prosed power generation site.

Figure 8 – Residences and Tenure in surrounding area to Lot 10710



Air Emissions

The applicant's Air Emissions Assessment provides atmospheric dispersion modelling of pollutants anticipated to be emitted from the proposed development. The modelling has been based on the assumption that the power generation facility would be operating continuously to cater for peak demand, which is not a likely actual operating outcome but is used to provide a conservative model. It is also noted that the most unfavourable meteorology for air emissions (which informs the modelling) occurs in the early morning and it is considered that this is a period when the generators are less likely to be operating at full capacity due to peak demand on the Western Power network generally occurring in the late afternoon to mid-evening on hot or cold days.

The Air Emissions Assessment models that the power generation development will not exceed Air Guideline Values at the surrounding residences. The most significant emission was predicted to be oxides of nitrogen (nitric oxide and nitrogen dioxide) where the maximum predicted 1-hour average ground level concentrations in the (full operational capacity) modelling was 22-26% of the Air Guidelines Value at the closest sensitive premises, and 1.92% of the annual average Air Guideline Value.

It is noted that the air emissions assessment is relating to the power generation aspect of Strike Energy's operations only and does not include the overall cumulative impact of the drilling and other aspects which have been approved outside of the planning process.

Separate to the planning process, an application for works approval has been lodged with the Department of Water and Environmental Regulation (DWER) pursuant to the *Environmental Protection Regulations 1987*. The DWER Works Approval (if granted) would condition the environmental management of the use of the power station including in relation to air quality requirements.

Noise

The EPA's publication 'Guidance for the Assessment of Environmental Factors – Separation Distances between Industrial and Sensitive Land Uses' recommends that 'Electric Power Generation' generating in excess of 20 megawatts should have a buffer distance of 3-5km depending on location and size. This proposed development proposes 90MW production and would have 2 residences within 5km of the site (the closest being the applicant-owned residence and the other, third-party residence being sited 4.5km to the south-west).

The EPA guidelines provide a generic recommendation and the Shire therefore requested that the applicant provide a more detailed assessment.

The applicant's provided Environmental Noise Assessment models the anticipated acoustic impacts of the power generation development and predicts that the development will comply with the requirements of the *Environmental Protection (Noise) Regulations 1997* at the sensitive premises in the surrounding area.

At a worse case scenario, of the facility operating at peak capacity at night time it is modelled that the closest residence (this being the one owned by Strike Energy) would receive a maximum noise level of 28dB which is below the 35dB statutory requirement. The third party residences are predicted to experience 24dB, 15dB and 11dB.

It is noted, however, that the noise assessment is relating to the power generation aspect of Strike Energy's operations only and does not include the overall cumulative impact of the drilling and other aspects which have been approved outside of the planning process.

Separate to the planning process, an application for works approval has been lodged with the Department of Water and Environmental Regulation pursuant to the *Environmental Protection Regulations 1987*. The DWER Works Approval (if granted) would condition the environmental management of the use of the power station including in relation to noise requirements and it is DWER who will be responsible for ensuring compliance with the *Environmental Protection (Noise) Regulations 1997*.

Traffic

Lot 10710 has access onto Tomkins Road which is part of the RAV7 network although this is subject to speed limit restrictions and the Shire has advised the applicant that 24/7 all weather access to site can not be guaranteed due to the unsealed road network, as wet weather necessitates periodic road closures for safety reasons.

The applicant's Traffic Impact Statement states that during the construction phase, vehicle movements to and from the subject site are expected to reach up to 43 daily trips (3 of these being heavy vehicles and the remainder light vehicles). The Traffic Impact Statement does not provide a breakdown on the type of heavy vehicles (i.e. weight, configuration, length) or time of year (i.e. avoidance of harvest period).

During the operational phase, vehicle trips are expected to be generally 10 daily trips, although it would be expected this would increase during times of shutdown/maintenance

It is recommended that a condition of approval be applied requiring that the applicant submit a Construction Management Plan for Shire approval and that this plan include traffic management and road upgrade details.

The existing access point onto Tomkins Road does present some visibility issues given the proximity of curves in the road. The Recommendation of this report is that a condition be applied requiring the vehicle access point onto the local road network must be located, constructed and thereafter maintained to the Shire's satisfaction.

The applicant would then have the option to relocate/upgrade the main access point to the Shire's requirements or instead upgrade/use the secondary Tomkins Road access point into Lot 10710 that is 1.6km west of the main access point on the bend.

Figure 9 – View looking west from entrance to Lot 10710

Figure 10 – View looking east from entrance to Lot 10710

Visual Impact

The WAPC's Visual Landscape Planning in Western Australia provides guidance for the assessment of impacts on the visual landscape. A Visual Impact Assessment has not been carried out by the applicant in this instance.

The power generation facility will have some level of visual impact from various vantage points in the surrounding area. However, it is noted that Natta Road is not a significant tourism route and carries low traffic levels (with some increases during key seasonal times such as harvest). The development site is obscured by topography and vegetation from the road network in many sections.

It is also noted that the power generation facility will not be in isolation on the site but accompanied by the existing drilling operation which has already made a visual change to the landscape.

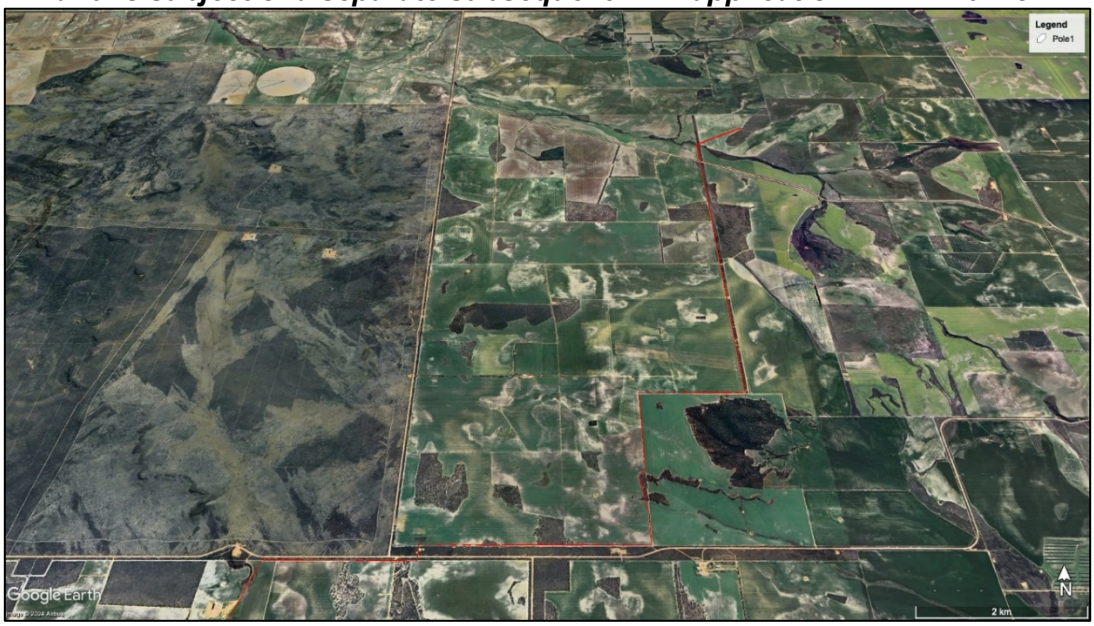
Lot 10710 also has been subject to an approval for carbon planting over a 338ha in the southern portion of the property that may be considered as offering a significant mitigating improvement to the overall landscape.

Schedule 2 – Development Requirements of the Scheme does not specify any landscaping requirement specific to this zone or particular type of development. Therefore there is no minimum landscaping requirements applicable to the proposed development. Notwithstanding this, a condition of approval could be imposed requiring a Landscape Plan be submitted for approval by the Shire prior to the commencement of development. Further a second condition of approval could be imposed requiring the applicant to implement the landscaping shown on the approved landscape plan and that the landowner must thereafter maintain the landscaping to the satisfaction of the Shire.

It may be considered that the associated power transmission line that will be subject to a separate subsequent DAP application will have a greater visual impact than the gas drilling or power generation aspects of the overall project.

The power transmission lines linking the proposed power generation facility (were it to be approved) to the South West Interconnected System is subject to the separate, subsequently lodged DAP application (DAP/24/02787), and the applicant has provided an indicative illustration of the proposed alignment that would link Lot 10710 to the wider power network. This image as contained in Figure 11 should be considered as preliminary and does not form part of this application, noting the transmission alignment is subject to separate subsequent application.

Figure 11 – indicative concept for power transmission alignment
Note: this does not form part of Power Generation application and is subject of a separate subsequent DAP application DAP/24/02787



Effluent Disposal

Table 7(14) of the Scheme requires all on-site wastewater/effluent disposal systems to be approved by the Department of Health. It is considered that the permanent workforce of 2-5 persons will not present issue for servicing by on-site wastewater/effluent disposal system.

The application proposes that sewerage be contained within a chemical toilet onsite and trucked out as required and disposed at a licenced facility.

The application was referred to the Department of Health who were not supportive of the proposed system and this is addressed in more detail in the Schedule of Submissions under the Consultation section of this report. A condition of approval to address wastewater/effluent disposal is included in the Recommendation section of this report.

The application also proposes that liquid wastes, primarily as a result of scheduled oil changes for the engines, are to be stored in tanks within a bunded area and trucked out as required for disposal at a licenced facility. This aspect of the development is anticipated to be addressed in the separate Works Approval process the applicant must obtain from DWER.

Bushfire

The proposed power generation facility site is located outside of the bushfire prone areas upon Lot 10710 as identified upon the Department of Fire & Emergency Services State Map of Bushfire Prone Areas.

The applicant proposes a 50m wide cleared dirt/gravel area around the perimeter of the facility, and perimeter of the site is approximately 300m from the closest remnant vegetation. The application also notes that water will be sourced from a farm bore.

The facility will have a standalone control system managing the engines that includes fault monitoring and fire detection on each engine. The engine hall will have a fire detection system linked to the control system that can trigger engine shutdown. The application proposes that the control system may be monitored and controlled at the site or from Strike's Perth Operations Centre.

It is recommended that a condition of approval be applied requiring that a Bushfire Management Plan be prepared, and this plan should detail the ongoing management of fuel load about the development and water access points and firefighting equipment upon the property.

Decommissioning

The application does not give regard for the development's lifespan. It may be expected that there would be an endpoint to the gas drilling operation that would impact the associated power generation.

It would be reasonable to expect that at such time as the power generation facility might be decommissioned then it should be the responsibility of the applicant/landowner to remove all structures from the subject site and rehabilitate the site so it can be used for rural purposes again. This will ensure that the development does not remain at the subject site after ceasing operations which would be a detriment to the amenity and character of the locality and a reduced primary production economic return for the local economy. A recommended condition of approval has therefore been included to address decommissioning and site rehabilitation.

Conclusion

It is considered that the application can be supported based upon the following:

- the development has potential to provide local economic benefit through the creation of employment opportunities at both the construction and operational phases and represents a significant investment in the region and further diversification of the economic base and strengthening of the electricity supply network;
- the development will increase the level of power produced to meet peak energy demands;
- whilst the facility will have some visual impact on the surrounding area it will be sited 1km from the nearest road and there is ability to reduce this to some degree through imposition of a landscaping/screening condition if considered necessary;
- much of the power generation infrastructure will be housed in a large shed and it is noted that farm sheds of several 1,000m² in floor area to house large farm machinery are not uncommon in the Mid West rural landscape;
- it might be considered that the more significant visual impact associated with this development would be the transmission line, however, this aspect will be addressed in a separate, subsequent DAP application is being advertised for comment to the surrounding community and relevant state government agencies;
- post-construction phase the traffic impact of the facility would generally be minimal with 2-5 permanent employees;

- the closest residences are some distance from the site and there is limited ability for further encroachment of residences towards the facility due to the site being surrounded by either large parcels of Crown Land or large surrounding freehold titles where there is a general disinclination of the WAPC to support subdivision of rural land;
- the identified site does not contain any Aboriginal cultural heritage sites identified by the DPLH or European heritage sites identified by the Heritage Council or local government;
- the identified site does not require clearing of remnant vegetation;
- the identified site is not in proximity to watercourses or areas subject to drainage issues;
- the consultation period with surrounding landowners indicated a level of acceptance for this development if appropriately managed;
- the consultation period with state government agencies identified no significant issues that would give reason to refuse the development, the received submissions provided technical comment and identified aspects where conditions of approval could be implemented to address the received comments;
- the relatively gentle east to west slope across the site would remove the need for extensive earthworks as part of the development;
- there should be a level of consistency and fairness applied, considering that were an identical power generation project upon this site have been proposed by Western Power (rather than by a private proponent) it would have been exempted from the planning process pursuant to Schedule 1(24) of the *Public Works Act 1902*.
- the current farming activities can still continue on the significant remaining portion of Lot 10710;
- there is ability for the site to be returned to its previous farming use at such time as the development is no longer required.

Figure 1. Location Plan

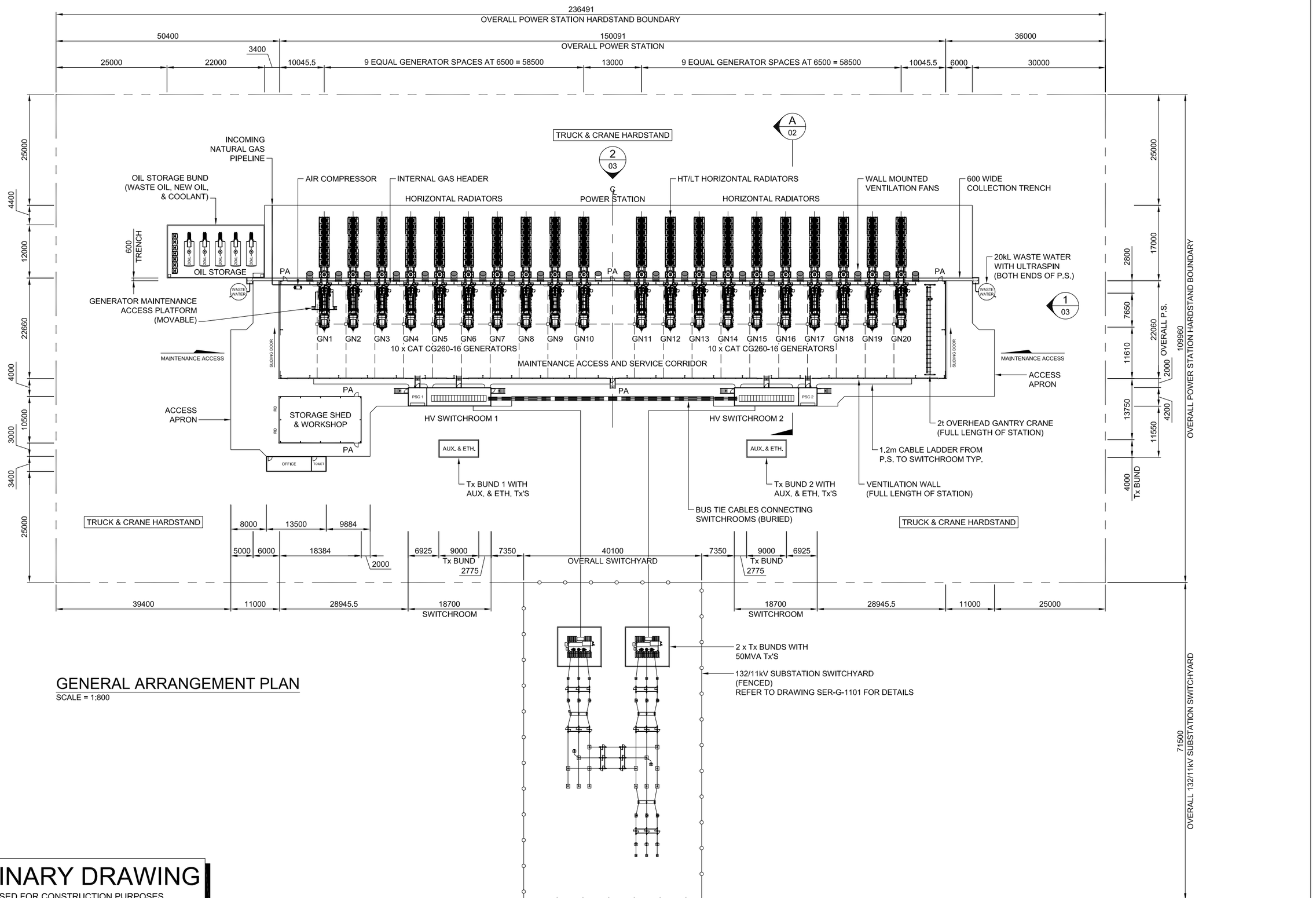
Figure 2. Aerial Plan

Figure 3. Site Plan

Photo 1 - South Erregulla Exploration Well (source: Strike)

Figure 4. Bushfire Prone Vegetation Mapping and Setbacks

Figure 5. Development Envelope Plan



GENERAL ARRANGEMENT PLAN

SCALE = 1:800

PRELIMINARY DRAWING

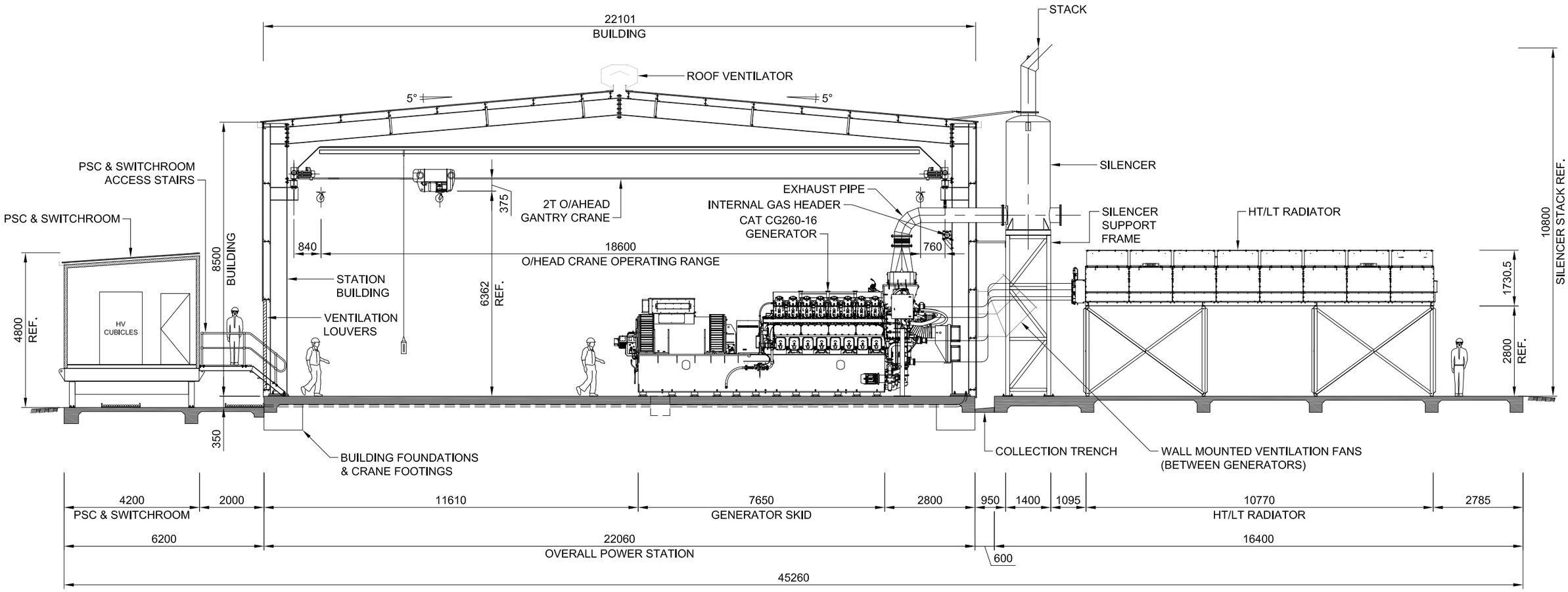
NOT TO BE USED FOR CONSTRUCTION PURPOSES

REV.	DATE	DESCRIPTION	DRAWN	APP'D
A	08/04/2024	ISSUED FOR REVIEW	T.M.	C.A.

REVISIONS

Kalgoorlie Power Group
68 Aslett Drive
Karlkurla WA 6430
Web: www.kalgoorliepower.com.au

PROJECT:	SOUTH ERREGULLA
CLIENT:	STRIKE ENERGY
AREA:	POWER STATION
TITLE:	85MW PEAKING STATION GENERAL ARRANGEMENT PLAN
STATUS:	REVIEW
SIZE:	A3
DRAWING No.	SER-00001
REV.	A



SECTION A
SCALE = 1:125 — 01

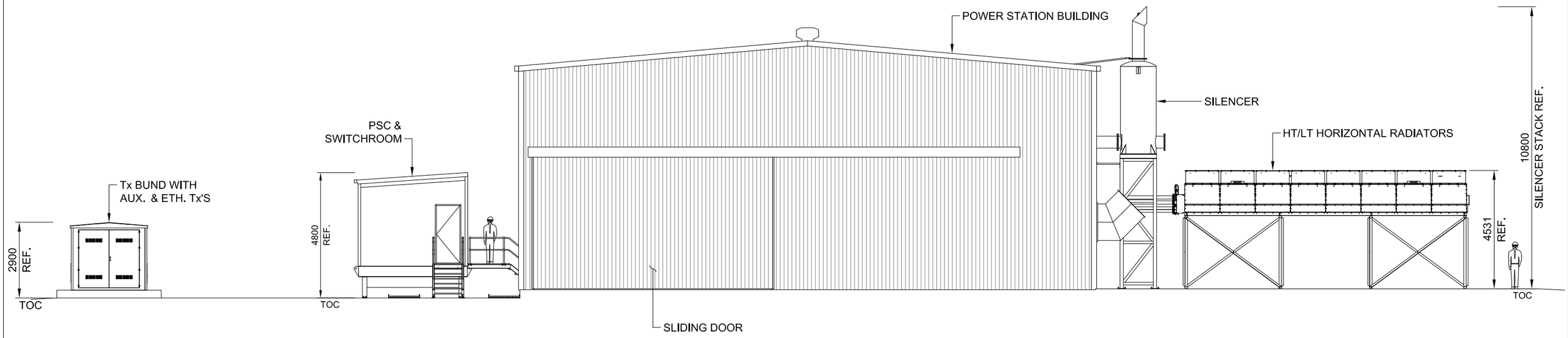
PRELIMINARY DRAWING
NOT TO BE USED FOR CONSTRUCTION PURPOSES

REV.	DATE	DESCRIPTION	DRAWN	APP'D
A	08/04/2024	ISSUED FOR REVIEW	T.M.	C.A.

REVISIONS

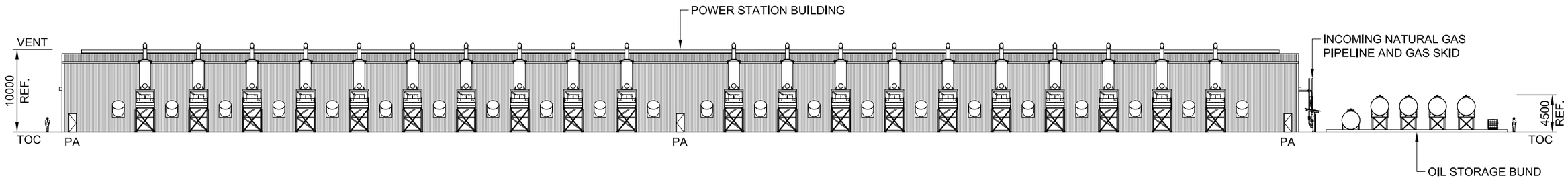
KPG
Kalgoorlie Power Group
68 Aslett Drive
Karlkurla WA 6430
Web: www.kalgoorliepower.com.au

PROJECT:	SOUTH ERREGULLA
CLIENT:	STRIKE ENERGY
AREA:	POWER STATION
TITLE:	85MW PEAKING STATION CROSS SECTION
STATUS:	REVIEW
SIZE:	A3
DRAWING No.	SER-00002
REV.	A



ELEVATION 1
SCALE = 1:150

01



ELEVATION 2
SCALE = 1:500

01

PRELIMINARY DRAWING
NOT TO BE USED FOR CONSTRUCTION PURPOSES

REV.	DATE	DESCRIPTION	DRAWN	APP'D
A	08/04/2024	ISSUED FOR REVIEW	T.M.	C.A.

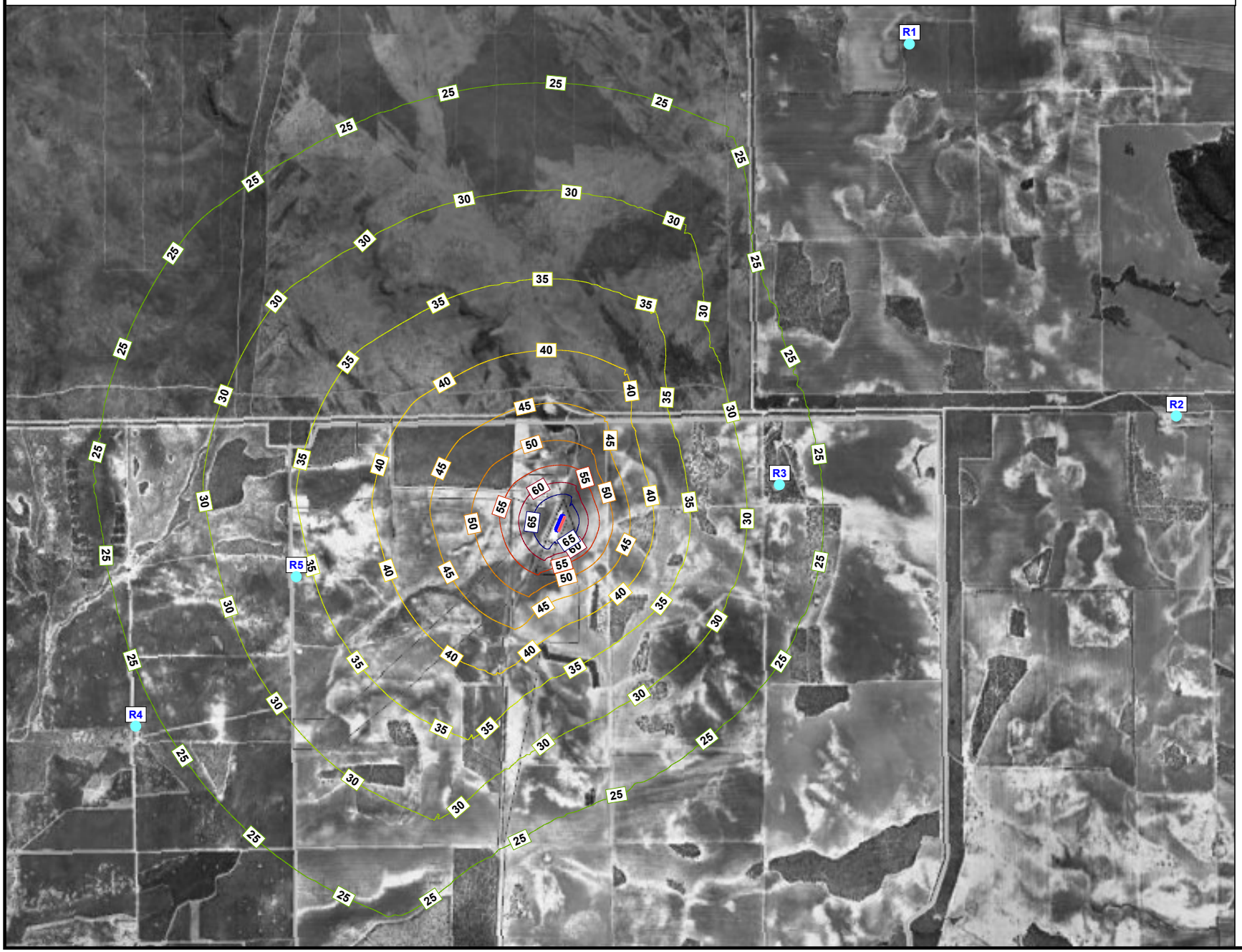
REVISIONS

Kalgoorlie Power Group
68 Aslett Drive
Karlkurla WA 6430
Web: www.kalgoorliepower.com.au

PROJECT:	SOUTH ERREGULLA
CLIENT:	STRIKE ENERGY
AREA:	POWER STATION
TITLE:	85MW PEAKING STATION ELEVATIONS
STATUS:	REVIEW
	A3
DRAWING No.	SER-00003
REV.	A

Figure 4-1 Peaking Power Station 90MW, Plant Noise, dB L_{A10}

South Erregulla Site



Predicted Noise level
dB(A)

= 25
= 30
= 35
= 40
= 45
= 50
= 55
= 60
= 65

Legend

Receiver
Plant Source
Shed source

N

Scale 1:50000

0 300 600 1200 1800 m

Project No: 24048901
Consultant: MM
Date: 12/06/2024
Algorithm: CONCAWE
SoundPLAN Version: 9.0

Lloyd George Acoustics
PO Box 717
HILLARYS WA 6923
(08) 9401 7770

PRELIMINARY DRAWING

NOT TO BE USED FOR CONSTRUCTION PURPOSES

N

W E

S

GDA94 MGA-50

SE01 WELLHEAD

FLOWLINE

GAS CONDITIONING UNIT

WESTERN POWER SWITCHYARD

EVAPORATION POND

N 6738000.000

132/11kV SUBSTATION

DISTURBANCE FOOTPRINT

85MW PEAKING STATION

WATER BATH HEATER

LAYDOWN AREA

N 6737500.000

DEVELOPMENT ENVELOPE

E 336500.000

E 337000.000

E 337500.000

REV.	DATE	DESCRIPTION	DRAWN	APP'D
C	24/04/2024	WP SWITCHYARD ADDED	T.M.	C.A.
B	23/04/2024	132/11kV SUBSTATION UPDATED	T.M.	C.A.
A	17/04/2024	ISSUED FOR REVIEW	T.M.	C.A.

REVISIONS

Kalgoorlie Power Group
68 Aslett Drive
Karlkurla WA 6430
Web: www.kalgoorliepower.com.au

PROJECT: SOUTH ERREGULLA

CLIENT: STRIKE ENERGY

AREA: POWER STATION

TITLE: 85MW PEAKING STATION OVERALL SITE LAYOUT

STATUS: REVIEW

A3

DRAWING No. SER-00004

REV. C

Submission 1

From: [redacted]
Sent: Tuesday, 10 September 2024 3:27 PM
To: General <general@threesprings.wa.gov.au>
Subject: FW: Proposed Power Generation - 1719 (Lot 10710) Tomkins Road, Arrowsmith East

Good afternoon Keith

Thank you for sending through the letter referring to the proposed power generation in Arrowsmith East. We are the owners of the properties Rainey Plains, Eraramba and Arrowsmith which all lie to the east of 1719 Tomkins rd.

The proposal represents a unique opportunity to provide a gas fired peaking power station adjacent to existing transmission lines within the SWIS, which transmits power across the >4 GW primary electricity market to assist in meeting the growing electricity needs of WA.

Reading through the proposal by Strike the power generation will be used to supply the existing transmission lines within the SWIS. My understanding is the 132 kW transmission line runs east of our properties and therefore for the power station to supply into the SWIS, Strike may need to construct a major transmission line across one of our properties as this appears to be the shortest route, depending on substation locations.

Is there a planned route for this transmission line and if so can you please send this through to us. If there isn't, is this one of the Shire priorities that Strike need to deliver on.

Appreciate your assistance

Regards
[redacted]

[redacted]

PENAGRI FARMS

PenAgri Farms Pty Ltd
PO Box 1982 West Perth WA 6872
Level 1, 32 Ord Street West Perth WA 6005
M +61 (0)434 644 881
www.penagri.com

The contents of this email and any attachments are confidential and may only be read by the intended recipient.
We acknowledge the Traditional Owners of the land upon which we live and work throughout Western Australia and those of lands across Australia. We pay our respect to their Elders, past, present and emerging.

Submission 2

From: ATCO Engineering Enquiries <eservices@atco.com>
Sent: Wednesday, 11 September 2024 11:52 AM
To: Patricia Mckeon <es@threesprings.wa.gov.au>
Subject: ATCO Response - LM01348811 - RE: Proposed Power Generation - 1719 (Lot 10710) Tomkins Road, Arrowsmith East

Good Morning,

Re: Proposed Power Generation - 1719 (Lot 10710) Tomkins Road, Arrowsmith East
ATCO Reference: LM01348811

ATCO Gas Australia (ATCO) has **no objection** to the proposed application, based on the information and plan provided.

Advice notes:

- Anyone proposing to carry out construction or excavation works must contact 'Before You Dig Australia' (www.byda.com.au) to determine the location of buried gas infrastructure. Refer to ATCO document AGA-O&M-PR24- Additional Information for Working Around Gas Infrastructure https://www.atco.com/en-au/for-home/natural-gas/wa-gas-network/working-around-gas.html
- Proposed construction and excavation works need to be managed in accordance with the ATCO document Additional Information for Working Around Gas Infrastructure - AGA-O&M-PR24 https://www.atco.com/en-au/for-home/natural-gas/wa-gas-network/working-around-gas.html

Please accept this email as ATCO's written response.

Should you have any queries regarding the information above, please contact us on 13 13 56 or eservices@atco.com.

Kind Regards

Kim Hatcher
Engineering Coordinator
ATCO, Gas Division, Australia

A. 81 Prinsep Road, Jandakot, Western Australia, 6164
atco.com.au **LinkedIn** **Facebook** **X**

ATCO acknowledges the Traditional Owners of country throughout Australia and their continuing connection to land, sea and community. We pay respect to their Elders past, present and emerging, and in the spirit of reconciliation, we commit to working together for our shared future.

Submission 3

SUBMISSION FORM

Planning and Development Act 2005
Planning and Development (Local Planning Schemes) Regulations 2015

Proposed Power Generation
1719 (Lot 10710) Tomkins Road, Arrowsmith East

Name: Neil Parry

Postal Address: Level 23 , 140 St Georges Terrace Perth

Phone Number: 9223 4944

SUBJECT OF SUBMISSION (State how your interests are affected, whether as a private citizen, on behalf of a company or other organisation, or as an owner or occupier of property). AGIG

ADDRESS OF PROPERTY AFFECTED (If applicable – include lot number and nearest street intersection)

NA

SUBMISSION: ☐ Support ☐ Object ☐ Indifferent

Give in full your comments and any arguments supporting your comments (if insufficient space, please attach additional sheets) - We have no objection

Signature: _____ Date: 11/9/2024

Please return to: Chief Executive Officer
Shire of Three Springs
PO Box 117
THREE SPRINGS WA 6519

or general@threesprings.wa.gov.au

or (fax) 9954 1183

Note: This application will be determined by a Development Assessment Panel (DAP) that is administered by the State Department for Planning, Lands & Heritage. The local government's role is to formulate a recommendation to the DAP and is not the final determining authority on this application.

Submissions Close: 4:00pm Monday October 2024

Submission 4

GOVERNMENT OF WESTERN AUSTRALIA

Department of **Biodiversity, Conservation and Attractions**

PARKS AND WILDLIFE SERVICE

Your ref: OCR246465
Our ref: PRS 52856
Enquiries: Jess Gillespie
Phone: 9964 0901
Email: jess.gillespie@dbca.wa.gov.au

Mr Keith Woodward PSM
Chief Executive Officer
Shire of Three Springs
PO Box 117
THREE SPRINGS WA 6519

Email: general@threesprings.wa.gov.au

Dear Mr Woodward

PROPOSED POWER GENERATION – 1719 (LOT 10710) TOMKINS ROAD, ARROWSMITH EAST

Thank you for your letter of 5 September 2024 regarding the proposed power station upon 1719 (Lot 10710) Tomkins Road, Arrowsmith East.

The Department of Biodiversity, Conservation and Attractions has no objections to the proposal as outlined in your letter. It is anticipated that the proposed power station and any associated environmental impacts will be appropriately managed through the existing planning framework.

Thank you for the opportunity to comment on this application. If you have any queries regarding this matter, please contact Jess Gillespie on 9964 0901.

Yours sincerely

Mark Cugley
A/REGIONAL MANAGER
Midwest Region

30 September 2024

Submission 5

Department of Energy, Mines, Industry Regulation and Safety
GOVERNMENT OF WESTERN AUSTRALIA

Your ref Enter Client Ref (optional)
Our ref Enter Our Ref (A82545550)
Enquiries Vanessa Markwitz — 9222 3618
vanessa.markwitz@demirs.wa.gov.au

Shire of Three Springs
Sent by Email — general@threesprings.wa.gov.au

Attention:

Dear Sir/Madam

PROPOSED POWER GENERATION - 1719 (LOT 10710) TOMKINS ROAD, ARROWSMITH EAST

Thank you for your letter dated 6 September 2024 inviting comment on the above proposed power generation at 1719 Tomkins Road (Arrowsmith East), as shown on the attached map.

The Geological Survey and Resource Strategy Division assessed the impact that the proposal may have on access to potential or defined resources and related infrastructure within the area.

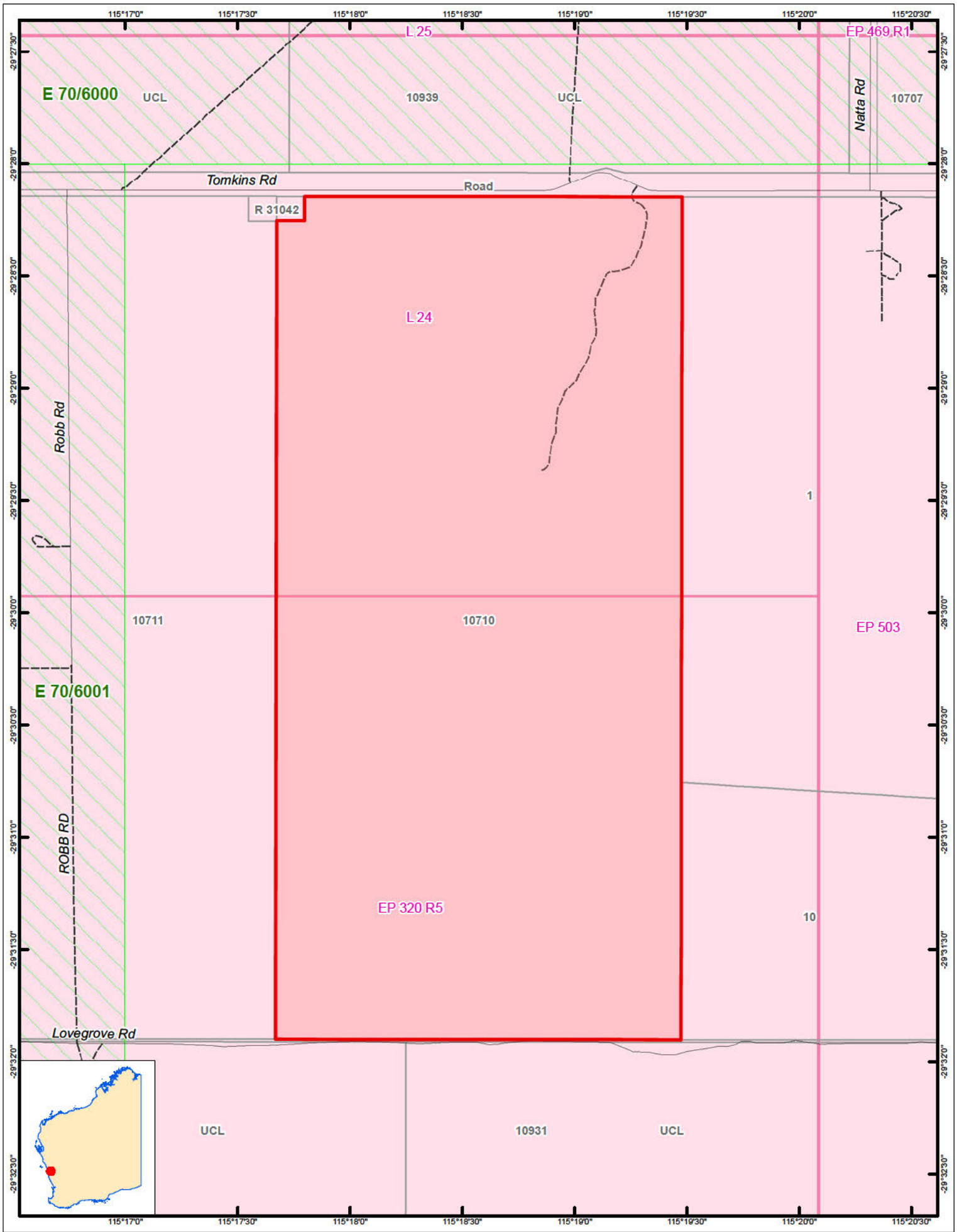
The Department of Energy, Mines, Industry Regulation and Safety (DEMIRS) has determined that this proposal raises no significant issues with respect to mineral and petroleum resources, geothermal energy, and basic raw materials.

Yours sincerely

Vanessa Markwitz
Senior Geologist — Land Use Planning
Mineral and Energy Resources Directorate

03/10/2024

Mineral House 100 Plain Street East Perth Western Australia 6004
Postal address: Locked Bag 100 East Perth WA 6892
Telephone +61 8 9222 3333 Facsimile +61 8 9222 3862
www.dmirs.wa.gov.au
ABN 69 410 335 356



Legend

- Proposal Area
- Minor Road
- Track
- Tenements - Live
- Cadastre
- WA Petroleum Titles
- Coastline

Government of Western Australia
Department of Mines, Industry Regulation and Safety

Scale: 1:39,230

0 400 800 Metres

Latitude/Longitude
GEOCENTRIC DATUM OF AUSTRALIA 1994

Map created: 25/09/2024, 09:09 AM

Proposal
Ref: DMS11468/2024:27726

Centroid lat/long
-29.5005, 115.3096

Submission 6

mainroads WESTERN AUSTRALIA

Enquiries: Mark Willson (08) 9956 1234
Our Ref: 21/3346 (002-447)
Your Ref:

3 October 2024

Chief Executive Officer
Shire of Three Springs
PO Box 117, Three Springs WA 6519

By email: general@threesprings.wa.gov.au

Dear Sir,

Strike Energy Power Station Proposal, Lot 10710 (No.1719) Tomkins Rd. Arrowsmith East

Thank you for consulting Main Roads on the proposed Work Force Accommodation.

The proposal is not located within or adjacent to a road reserve under Main Roads jurisdiction. Main Roads has no current plans in the area that would affect Lot. Accordingly, Main Roads does not object to the proposal and provides the following advice:

a) Main Roads recommends that the routes traffic may take to and from the State roads including the Brand Highway and/or Midlands Road are included in the TIS, and assessment of potential traffic impacts at intersections between Local Government and State roads.

b) Main Roads recommends the Shire consider acquiring contributions from developments creating traffic that use or impact Brand Highway intersections with Mount Adams Road and/or the Skipper Road (both intersections currently unsealed):

- to seal the intersection to improve skid resistance and facilitate the swept path movement of all vehicles and;
- seal a minimum of 60m metres from the edge of the Brand Highway along Mount Adams Road to prevent dirt and debris being deposited on the road network.

c) Extension of the Restricted Access Vehicle (RAV) Network access or Heavy Vehicle Accreditation requires a separate application made to Main Roads Heavy Vehicle Services Branch. Information can also be found on the Heavy Vehicles Access Requirements in WA section of the Main Roads website.

Main Roads support of the proposal is valid for a period of four (4) years from the date of this letter. Any changes or date extensions relating to this development application must be referred to Main Roads for comment and recommendation.

Should the Shire disagree with or resolve not to include as part of its conditional approval any of the above conditions or advice, Main Roads requests an opportunity to meet and discuss the application further, prior to a final determination being made.

If you would like any further information please contact Mark Willson on (08) 9956 1234 or by email mark.willson@mainroads.wa.gov.au

Yours sincerely,

Louise Adamson
Network Manager
Mid West-Gascoyne Region

cc. Shire of Irwin, CEO, Shane Ivers

From: Planning and Land Development Referrals <planning.land.development.referrals@westernpower.com.au>
Sent: Monday, 7 October 2024 12:42 PM
To: Patricia Mckeon <es@threesprings.wa.gov.au>; General <general@threesprings.wa.gov.au>
Subject: Proposed Power Generation - 1719 (Lot 10710) Tomkins Road, Arrowsmith East

Dear **Tricia**

Thank you for your submission to Western Power for Ref: **Proposed Power Generation - 1719 (Lot 10710) Tomkins Road, Arrowsmith East**

Unfortunately requests for general comments, feedback and approval for proposals can't be provided for without a formal application and the investigation by Western Power that follows. We suggest:

- Reviewing your query against the processes referred to in our Strategic Planning web page
- Using our provided mapping tools and Before You Dig Australia to locate any assets that may be affected by any proposed change or development,
- If there are transmission assets (66,000VOLTS-330,000 VOLTS) in proximity to your work, applying via our move or remove transmission and communication assets form,
- Ensuring any developers involved are aware that they will need to make an application to deal with any assets that are in the development area as well as for the power requirements for the development.

Submission of a proposed road closure:
Where our assets are present, continued physical access for maintenance and emergency response must be provided. If this is not via the original road path, changed access conditions should be communicated via our Land Entry Preferences form.

Thank you and we look forward to receiving your information/applications through the correct channels.

Kind Regards
Kate
Customer Service Coordinator – Planning and Land Development
Customer Connection Services

A 363 Wellington Street Perth 6000 | **T** 13 10 87
E planning.land.development.referrals@westernpower.com.au
Available – Monday to Friday 7am – 3pm | **WFH** Monday and Thursday
westernpower.com.au

Ngala kaaditj Noongar moort keyen kaadak nidja boodja.
Western Power acknowledges the Traditional Owners of the lands on which we operate, and recognises their continuing connection to lands, waters and communities.

Electricity Networks Corporation, trading as Western Power
ABN: 18 540 492 861
TO THE ADDRESSEE - this email is for the intended addressee only and may contain information that is confidential. If you have received this email in error, please notify us immediately by return email or by telephone. Please also destroy this message and any electronic or hard copies of this message.
Any claim to confidentiality is not waived or lost by reason of mistaken transmission of this email.
Unencrypted email is not secure and may not be authentic. Western Power cannot guarantee the accuracy, reliability, completeness or confidentiality of this email and any attachments.
VIRUSES - Western Power scans all outgoing emails and attachments for viruses, however it is the recipient's responsibility to ensure this email is free of viruses.

Department of
Primary Industries and Regional Development
GOVERNMENT OF WESTERN AUSTRALIA

Your reference: OCR246471
Our reference: LUP 1961
Enquiries: Greg Doncon

Keith Woodward
Chief Executive Officer
PO Box 117 Three Springs WA 6519

Email: general@threesprings.wa.gov.au

Date: 7 October 2024

Dear Keith

Proposed Power Generation - 1719 (Lot 10710) Tomkins Road, Arrowsmith East

Thank you for inviting the Department of Primary Industries and Regional Development (DPIRD) to comment on the above proposal.

DPIRD has reviewed the proposal and offers the following comments.

Rezoning

DPIRD views this land use as an industrial facility that will be located in a rural environment. To acknowledge this land use, DPIRD requests that, if this facility is approved, the footprint of the facility and surrounding activities is rezoned 'Industrial', with the necessary buffers established.

Decommissioning

The Development Application does not appear to have any details about the expected life cycle of this facility nor are there any future decommissioning plans. DPIRD suggests before commencing this development some consideration should be given to the future use of this land once the facilities are decommissioned, i.e. What are the potential contaminants that will remain? Can all the infrastructure be removed?

In the future, when the facility is decommissioned and the site is being remediated for a final land use, DPIRD requests to be included in the consultation process as a stakeholder given this site is surrounded by 'Rural' land.

General comments

DPIRD expects that the proponent and its subcontractors will:

- Observe biosecurity hygiene protocols to ensure they do not introduce or spread pests, weeds or diseases.
- Minimise land clearing and disturbance to avoid land degradation, such as erosion, and rehabilitate land disturbed during their construction and operational activities.
- Follow best practices in construction of infrastructure, including roads and access tracks, to minimise erosion.

For more information, please contact Greg Doncon on 90813117 or greg.doncon@dpird.wa.gov.au

Yours sincerely

Dr Karen Holmes
Acting Director Agriculture Resource Management Assessment
Sustainability and Biosecurity

Submission 9

From: DFES Land Use Planning <advice@dfes.wa.gov.au>
Sent: Monday, 7 October 2024 4:09 PM
To: General <general@threesprings.wa.gov.au>
Subject: OCR246466 - Lot 10710 - (1719) Tomkins Road, Arrowsmith East - Proposed Gas Fired Peaking Power Station - DFES Response

DFES Ref: D36411

Dear Sir/Madam,

I refer to your letter (undated) in relation to the referral of a Proposed Gas Fired Peaking Power Station for Lot 10710 - (1719) Tomkins Road, Arrowsmith East.

It is unclear from the documentation provided if the Shire of Three Springs has applied *State Planning Policy 3.7 – Planning in Bushfire Prone Areas* (SPP 3.7) to this proposal. It is noted that the development footprint falls outside the area designated as bushfire prone.

Exemptions from the requirements of SPP 3.7 should be applied pragmatically by the decision maker and are identified in *Guidelines for Planning in Bushfire Prone Areas (section 2.6)*.

Should you apply SPP 3.7 then, we request the relevant information pursuant to this policy be forwarded to DFES to allow us to review and provide comment prior to Shire endorsement of the proposal.

If there is some other reason which has given you cause to consider a referral to DFES, could you please provide detail on the attached 'Referral to DFES Checklist'. ***(attach Referral to DFES Checklist)***

Kind regards

Sasha De Brito
Senior Land Use Planning Officer

20 Stockton Bend, Cockburn Central, Perth WA 6164
T: 08 9395 9703 | **E:** advice@dfes.wa.gov.au | **W:** dfes.wa.gov.au

Acknowledgement of Country: DFES acknowledges the Traditional Owners of Country throughout Australia, and their connections to land, sea and community. We pay our respects to Elders past and present.

Submission 10

Government of Western Australia
Department of Health

Your Ref: OCR246467
Our Ref: F-AA-90523-4
Contact: Bethany Angus 9222 2000

Mr Keith Woodward PSM
Chief Executive Officer
Shire of Three Springs
PO Box 117
THREE SPRINGS WA 6519

Via email: general@threesprings.wa.gov.au

Dear Mr Woodward,

PROPOSED POWER GENERATION – 1719 (LOT 10710) TOMKINS ROAD, ARROWSMITH EAST

Thank you for your email dated 5 September 2024, requesting comment from the Department of Health (DoH) on the above proposal.

The DoH provides the following comment:

1. **Water Supply and Wastewater Disposal**

In relation to the management of wastewater, the DoH does not support the proposal using a chemical type of toilet where cartage of sewage is proposed off site to a septage disposal point.

The proposal needs to ensure that treatment and disposal of the wastewater that is generated on site complies with the *Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974*, and meets the Government Sewerage Policy requirements.

There is little reference made to the type of wastewater management system proposed during the construction project for 40 employees, the 20 employees that will be on site intermittently after the construction stage, and the 20 employees required for the gas pipeline. A permanent form or onsite wastewater treatment system with onsite disposal methods needs to be provided that will accommodate peak and non-peak loadings including intermittent site visits for employees.

It is recommended the proponent contact the Department of Water and Environmental Regulation (DWER) for further advice relating to the 20 kilolitre wastewater treatment system with ultraspin, and the oil storage bund/s for waste oil, new oil and coolant.

189 Royal Street East Perth Western Australia 6004
Telephone (08) 9222 4222 TTY 133 677
PO Box 8172 Perth Business Centre Western Australia 6849
ABN 28 684 750 332
www.health.wa.gov.au

All drinking (potable) water provided on site must meet the health-related requirements of the Australian Drinking Water Guidelines 2011.

Any non-potable water on site (i.e. water that is not intended or suitable for drinking) must be managed to ensure it cannot be confused with or contaminate the drinking water supply. This requires satisfactory labelling of non-drinking water taps and, depending on system configuration, suitable backflow prevention arrangements in accordance with Australian/New Zealand Standards AS3500 – Plumbing and Drainage.

2. Air Quality and Amenity

The documentation provided in support of the proposed development indicates very low level and acceptable potential impacts to the public in relation to air emissions and noise. Prior to making a final decision, it is recommended that either further clarification is sought in relation to the following, or appropriate management options are provided:

- management of fugitive gas emissions
- chemical composition of the source gas
- planned contingencies for circumstances where there is potential for sub-optimal performance, noting that sometimes combustion power generators change within a given range, and it is necessary to identify the areas of confidence for these conditions to ensure that modelled air emissions will not breach any licensed conditions.

Should you have any queries or require further information please contact Bethany Angus on 9222 2000 or eh.eSubmissions@health.wa.gov.au.

Yours sincerely

Jane Cook
A/EXECUTIVE DIRECTOR
ENVIRONMENTAL HEALTH DIRECTORATE

08 October 2024

Submission 11

From: [redacted]
Sent: Wednesday, 9 October 2024 10:46 AM
To: General <general@threesprings.wa.gov.au>; Patricia Mckeon <es@threesprings.wa.gov.au>
Subject: 1719 (Lot 10710) Tomkins Road, Arrowsmith East

Dear Councillors

Below is a submission to the 23 October Council meeting regarding the proposed Power Plant at 1719 (Lot 10710) Tomkins Road, Arrowsmith East.

I am an owner/ operator on the adjacent property. I have seen a significant increase in mining and exploration activity, resulted in increased road use and damage, decreased telecommunications and increased bushfire risk.

I strongly urge Council to consider the cumulative impact of mining and exploration activities in Arrowsmith, and how these affect the current land use: approved gas processing facility on Natta Road, exploration drilling on Tompkins and Carey Road (and likely to be more sites) and the proposed Power Plant on Tompkins Road.

Please consider the construction phase for these developments, where 100s of staff and contractors will be using the resources in this area. Traffic management plans for ALL roads to the proposed site and a bushfire management plan, that includes locally available vehicle resources (Fast Attack), training for staff and contractors and a communication mandate with the landowners is urgently needed.

Finally, I support the CEO's approach to a community benefit fund. Piecemeal grants to local groups, sporting and otherwise, will not improve the essential services (health, roads, fire response) that the mining companies will access in the future. Investment in these services benefits all community members.

Many thanks

[redacted]

[redacted]

Goldsand Farms

PO Box 55

Mingenew 6522

Submission 12

From: <karen.mckeough@dwer.wa.gov.au>
Sent: Friday, 11 October 2024 3:50 PM
To: <es@threesprings.wa.gov.au>
Subject: RE: Proposed Power Generation - 1719 (Lot 10710) Tomkins Road, Arrowsmith East

Hi Patricia,

Apologies, the Department of Water and Environmental Regulation has been unable to finalise our advice on this proposal to meet your deadline.

The department's environmental noise branch had been assessing the acoustic report, but have advised that they were unable to complete the assessment in time.

The assessor advised me that from as much as they had reviewed the report there appears to be insufficient information in the report to determine whether the assessment is reliable.

Kind regards,

Karen McKeough

Program Manager Planning Advice

Mid West Gascoyne Region

Department of Water and Environmental Regulation

T: 9841 0128 (Mon-Thurs)

E: karen.mckeough@dwer.wa.gov.au | www.dwer.wa.gov.au

Schedule of Submissions – Proposed Gas Fired Peaking Power Station (Power Generation) – 1719 (Lot 10710) Tomkins Road, Arrowsmith East				
Submission & Date Received	Respondent	Summary of Submission	Comment	Shire Recommendation
1 (10/09/24)	PenAgri Farms (Lots 10711 Tomkins Road & Lot M2108 Sundalarra Road)	No comment received relating to power generation development. Query regarding the proposed transmission alignment that would connect the proposed power generation development to the SWIS. The respondent's property is between the proposed development site and 132 kV transmission line to the east, and concern raised that Strike may need to construct a major transmission line across their property as this appears to be the shortest route, depending on substation locations. Respondents asks is there a planned route for this transmission line and if so can it please be sent to them.	The Shire requested that the applicant provide a map illustrating the proposed transmission line alignment to assist in answering the received query. The applicant provided this information and also advised the proposed transmission line would be the subject of a separate development application (this would also be a DAP application) to be lodged with the Shire. The Shire provided a copy of the alignment map to the respondent and also advised them that the transmission line would form part of a separate subsequent application that the Shire would again advertise to the local community inviting comment. The Shire gave undertaking that as part of this consultation it would write directly (again) to the respondent to ensure they were provided with opportunity to be notified and provide comment. The Shire also provided detail on the time/date/venue of the 2 information sessions that Strike would be holding in the Mingenew and Three Springs townsites so they could attend to hear information and ask questions directly of the applicant in relation to their concerns. The Shire also provided details on time/date/venue of the Three Springs Council meeting where the development application for the power generation would be discussed should they wish to attend this also. The applicant's map of the proposed transmission line map illustrated that it is proposed to run east along Tomkins Road and then northwards. This alignment would not cross the PenAgri property, which includes Lot 10711 immediately west of Lot 10710 and Lot M2108 which is to the south-east of Lot 1 (also owned by Project Haber Pty Ltd). The landowners impacted by the proposed transmission line have provided consent to the lodgement of the separate development application. In the event that the proposed transmission line were to be varied to impact the PenAgri landholding it would require PenAgri's consenting to be party to the application. The respondent replied on 16/10/24 that the information supplied by the Shire had answered their information request. The respondent was written to directly on 25/10/24 as part of the adverting process for the separate, subsequent application for the proposed Strike Energy transmission line (DAP/24/02787).	The respondent be written to directly during the adverting period for the separate application for the proposed transmission line (DAP/24/02787) Note: This has occurred.
2 (11/09/24)	ATCO Gas	No objection Advice provided. Anyone proposing to carry out construction or excavation works must contact 'Before You Dig Australia'	Copy of ATCO submission was provided to the applicant to ensure they are aware of their Before Your Dig requirements prior to commencement. The applicant advised as follows in relation to this submission: *"The applicant accepts the proposed advice notes being provided on a development approval."*	Note submission and include advice note as outlined in

Schedule of Submissions – Proposed Gas Fired Peaking Power Station (Power Generation) – 1719 (Lot 10710) Tomkins Road, Arrowsmith East				
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		(www.byda.com.au) to determine location of buried gas infrastructure. Proposed construction and excavation works need to be managed in accordance with ATCO document Additional Information for Working Around Gas Infrastructure-AGA-O&M-PR24 https://www.atco.com/en-au/for-home/naturalgas/wa-gas-network/working-around-gas.html	In the event that the application is approved it is recommended that the following advice note be included with the determination: *"The applicant is advised that this planning approval does not negate the requirement for any additional approvals, and adherence to due diligence, which may be required under separate legislation. This including, but not limited to, the obtaining of any required approvals from the Department of Health, the Department of Energy, Mines, Industry Regulation & Safety, the Department of Water & Environment Regulation and Main Roads WA and consulting of Before You Dig Australia. It is the applicant's responsibility to obtain any additional approvals, and undertaking of due diligence, required before the development/use lawfully commences."*	comment section.
3 (11/09/24)	Australian Gas Infrastruc-ture Group	No objection to the proposal.	No additional comment.	Note submission
4 (30/09/24)	Dept of Biodiversity Conserv-ation & Attractions (DBCA)	DBCA has no objection to the proposal. DBCA anticipates the proposed power station and any environmental impacts will be appropriately managed through the planning framework.	No additional comment.	Note submission
5 (3/10/24)	Dept of Energy, Mines, Industry Regulation & Safety (DEMIRS)	DEMIRS has determined that this proposal raises no significant issues with respect to mineral and petroleum resources, geothermal energy, and basic raw materials.	No additional comment.	Note submission
6 (3/10/24)	Main Roads Western Australia (MRWA)	The proposal is not located within or adjacent to a road reserve under MRWA jurisdiction. MRWA has no current plans in the area that would affect the lot. MRWA has no objection to the proposal. MRWA recommends that Traffic Impact Statement include routes to and from State roads, and assessment of potential traffic impacts at intersections between Local Government and State Roads.	Copy of MRWA submission was provided to the applicant who advised as follows in relation to this submission: *"The Applicant's traffic engineers, Stantec has reviewed MRWA's comments and has provided the following responses:* • *The proposed power generation facility will be operated remotely once it is fully operational. It is estimated 2 to 5 maintenance personnel will undertake regular site visits; hence it is estimated that a maximum of 5 vehicular trips would be generated during the AM and PM peak hour periods. According to WAPC Transport Impact Assessment Guidelines, developments generating less than 10 trips during the peak hour falls*	Note submission and approve application subject to conditions and advice notes as outlined in comments section.

		MRWA recommends the Shire consider acquiring contributions for development that use or impact the Brand Highway intersections with Mount Adams Road and/or Skipper Road (both are unsealed): - Seal the intersection to improve skid resistance and facilitate the swept path movement of all vehicles; - Seal a minimum of 60m from the edge of the Brand Highway along Mount Adams Road to prevent dirt and debris being deposited in the road network. MRWA noted that extension to the Restricted Access Vehicle (RAV) Network or Heavy Vehicle Accreditation requires a separate application to MRWA's Heavy Vehicle Services Branch. MRWA support of the proposal is valid for 4 years and changes or date extensions must be referred to MRWA from comment. Should the Shire disagree with or not include as part of its conditional approval any of the above MRWA requests opportunity to meet and discuss the application further prior to final determination.	*under the 'low impact' category and is not considered to have any substantial impact on the surrounding road network. Hence, Stantec has advised that it is not necessary to undertake detailed assessments on the traffic impact on Brand Highway and Midlands Road.* • *Based on the RAV Assessment Guidelines, 'to be suitable for RAV access, a road should be sealed if annual average daily traffic (AADT) is over 150 and annual freight tonnage is over 300,000 tonnes per annum. No RAV vehicles are expected to be used by the proposed power generation facility and hence it is unlikely that a sealed road is required.* • *The Brand Highway intersections with Mount Adams Road and Skipper Road are located a considerable distance from the subject site. The comments provided by MRWA presumes that the generated traffic to the subject site would only approach from the west which may not be the case and is questionable. Vehicles generated by the subject site may approach from the east and not use Brand Highway.* • *MRWA indicate that contributions are required to seal the roads to improve skid resistance and facilitate the swept path movements for all vehicles. It could be questioned whether the existing intersections should already be sealed for the amount of vehicular traffic that is currently using these intersections and is not necessarily associated with the estimated traffic to be generated by the proposed power generation facility. Therefore, it is not reasonable to condition this requirement on the development of the power station."* In the event that the application is approved it is recommended that the following conditions be included with the determination: *"5. Prior to the commencement of the development a Construction Management Plan shall be submitted to the local government for approval.* *6. The landowner shall implement, and adhere to at all times during construction, the recommendations of the approved Construction Management Plan to the satisfaction of the local government.* *7. The landowner shall be responsible for the repair, reinstatement or replacement of any road infrastructure that is damaged, becomes unsafe or fails to meet appropriate engineering standards where the damage to the road network is caused by reason of use of the road in connection with the approved development, and within a timeframe, to the*	

			satisfaction of the local government (or where agreed to by the local government the applicant may instead arrange payment to the local government for such repair, reinstatement or replacement works to be undertaken).” It is also recommended that the following advice notes be included with the determination: *“(e) The applicant will need to consult with the Main Roads WA Heavy Vehicle Services branch to ascertain any approval requirements that may be required for their proposed heavy vehicle combinations, transport routes and operations.* *(f) In relation to conditions 5 & 6 the Construction Management Plan shall address the following associated with the construction of the development or any other matters considered relevant by the local government.* *i) hours of construction;* *ii) heritage management protocols to mitigate potential risks linked to the exposure of Aboriginal artefacts during ground-disturbing activities;* *iii) temporary fencing, hoardings, gantries, and signage;* *iv) site access and egress;* *v) construction vehicle route and traffic management;* *vi) size and frequency of construction vehicles;* *vii) road upgrades/repairs and timing of works associated with the construction of the development;* *viii) parking arrangements for staff and contractors;* *ix) deliveries and storage of construction materials and machinery;* *x) management of vibration, dust, wind, and erosion;* *xi) management of any stormwater discharge;* *xii) management of construction noise and other site generated noise;* *xiv) demolition and construction waste management, recycling, and removal;* *xv) protection of any public realm infrastructure;* *xvi) public communication and complaint handling procedures”*	
7 (7/10/24)	Western Power	Requests for general comments, feedback and approval for proposals can't be provided for without application and the investigation and dialogue that allows. We suggest:	Western Power were written to directly and provided sufficient information to be able to make comment on this matter. Copy of Western Power submission has been provided to applicant to ensure they are aware of their Before Your Dig requirements prior to commencement.	Note submission and include advice note as outlined in

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		• reviewing your query against the processes referred to in our strategic planning web page • using provided mapping tools and Before You Dig Australia to locate and assets that may be affected by any proposed change or development • if there are transmission assets (66,000VOLTS-330,000 VOLTS) in proximity to your work, applying via our move or remove transmission and communication assets form • ensuring any developers involved are aware that they will need to make an application to deal with any assets that are in the development area as well as for the power requirements for the development.	In the event that the application is approved it is recommended that the following advice note be included with the determination: *"The applicant is advised that this planning approval does not negate the requirement for any additional approvals, and adherence to due diligence, which may be required under separate legislation. This including, but not limited to, the obtaining of any required approvals from the Department of Health, the Department of Energy, Mines, Industry Regulation & Safety, the Department of Water & Environment Regulation and Main Roads WA and consulting of Before You Dig Australia . It is the applicant's responsibility to obtain any additional approvals, and undertaking of due diligence, required before the development/use lawfully commences."*	comment section.
8 (7/10/24)	Dept of Primary Industries & Regional Develop-ment (DPIRD)	DPIRD views this land use as an industrial facility that will be located in a rural environment. DPIRD requests that, if this facility is approved, the footprint of the facility and surrounding activities is rezoned 'Industrial' with the necessary buffers established.	Schedule 1 Part 3 clause 18(4) of the *Planning & Development (Local Planning Schemes) Regulations 2015* and matching clause 18(4) of the Three Springs Local Planning Scheme No. 2 allows for a use to be considered where it is not specifically referred to in the zoning table and cannot reasonably be determined as falling within a use class referred to in the zoning table. 'Industry' is defined under the Regulations and Scheme No.2 as: *"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."* Copy of the DPIRD submission was provided to the applicant who advised as follows in relation to this submission: *"It is not considered that this is the most appropriate definition for the power generation development and therefore clause 18(4) is being utilised in the assessment of this application.* *The correct land use is determined by an objective and logical examination of the proposed development against the land use definition.* *The correct land use definition is not selected according to an intuitive judgement as to what is the 'best' classification of a proposed land use to be*	Note submission and include conditions and advice note as outlined in comment section.

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		The Development Application does not appear to have any details about the expected life cycle of this facility nor are there any future decommissioning plans. DPIRD suggests before commencing this development some consideration should be given to the future use of this land once the facilities are decommissioned, i.e. what are the potential contaminants that will remain? can all the infrastructure be removed? In the future, when the facility is decommissioned and the site is being remediated for a final land use, DPIRD requests to be included in the consultation process as a stakeholder given this site is surrounded by 'Rural' land.	*(1). The WA State Administrative Tribunal has cautioned that the 'best fit' approach "purports to grant a planning authority… an omniscience as to how a land use should be best classified"(2) which is "not easily reconciled with accepted principles for the objective construction of … planning schemes."(3)* *(1) Dao Ji Association and City of Gosnells [2020] WASAT 10 [105].* *(2) Ibid [104]* *(3) Ibid [104]* *DPIRD has suggested the development is properly classified as 'industry'. We understand this is because DPIRD has applied a 'best fit' approach to the characterisation of the land use rather than objectively examining whether the land use satisfies the definition of an 'industry' under LPS2.* *Given that LPS2 does not contain an equivalent definition for "electricity generating facility" when not derived from renewable energy sources, it is clear that the proposed power station is a 'use not listed' and is undefined in LPS2."* *"In relation to the decommissioning issues raised by DPIRD, it is suggested that the development could be conditioned to require the Applicant to submit a Decommissioning Plan for approval by Shire of Three Springs, in consultation with DPIRD, prior to the issue of a Building Permit.* *It is not anticipated that there will be contamination issues remaining following decommissioning, on the basis that the proposed power station will be managed in accordance with the required Part 5 Works Approval from DWER, however potential contamination mitigation could be addressed as part of the Decommissioning Plan."* In the event that the application is approved it is recommended that the following conditions be included with the determination: *"16. Prior to commencement of operations a Decommissioning Plan shall be submitted to the local government for approval.* *17. The applicant is required to give at least 3 months notice to the local government if the proposed development is to cease operations and all infrastructure must be decommissioned and removed from the site. The site must be demonstrated to be free of contaminants and the site rehabilitated through deep ripping/earthworks, and other measures as included in the approved Decommissioning Plan to the satisfaction of the local government, within 2 years of giving this notice, unless the local government agrees otherwise."*	

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		DPIRD expects the proponent and its subcontractors will: • Observe biosecurity hygiene protocols to ensure they do not introduce or spread pests, weeds or diseases. • Minimise land clearing and disturbance to avoid land degradation, such as erosion, and rehabilitate land disturbed during their construction and operational activities. • Follow best practices in construction of infrastructure, including roads and access tracks, to minimise erosion.	In the event that the application is approved it is recommended that the following advice note be included with the determination: *"(i) The applicant is responsible to ensure that biosecurity protocols are maintained for the site to minimise biosecurity risks for the landowner, adjoining farms and along the transport route and should further information be required on appropriate practices the applicant should contact the Department of Primary Industries & Regional Development in this regard."*	
9 (7/10/24)	Dept of Fire & Emergency Services (DFES)	It is unclear from the documentation provided if the Shire has applied State Planning Policy 3.7 – Planning in Bushfire Prone Areas (SPP3.7) to this proposal. It is noted that the development footprint falls outside the area designated as bushfire prone. Exemptions from the requirements of SPP 3.7 should be applied pragmatically by the decision maker and are identified in Guidelines for Planning in Bushfire Prone Areas (Section 2.6). Should the Shire apply SPP3.7 then, DFES requests the relevant information pursuant to this policy be forwarded to DFES to allow us to review and provide comment prior to Shire endorsement of the proposal.	Copy of the DFES submission was provided to applicant who advised as follows in relation to this submission: *"As noted in the Planning Report submitted with the development application, the proposed development footprint is not located within mapped Bushfire Prone Vegetation. The proposed development is to incorporate a 50m wide clear dirt/gravel buffer, which is set back over 100m from the mapped bushfire prone vegetation (NB: all setbacks are all in excess of 253m). Therefore, the proposal does not trigger an assessment against State Planning Policy 3.7 (SPP 3.7) - Planning in Bushfire Prone Areas."* In the event that the application is approved it is recommended that the following condition be included with the determination: *"4. The landowner shall implement and thereafter maintain for the lifetime of the development the recommendations of the approved Bushfire Management Plan to the satisfaction of the local government."*	Note submission and include condition as outlined in comment section.
10 (8/10/24)	Dept of Health (DoH)	Wastewater Disposal In relation to the management of wastewater DoH does not support the proposal using a chemical type of toilet where cartage of sewage is proposed off site to a septage disposal point. The proposal needs to ensure that treatment and disposal of the wastewater that is generated onsite complies with the *Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974* and meets the Government Sewerage Policy requirements. There is little reference made to the type of wastewater management system proposed during the construction project for 40 employees, the 20 employees that will be	Copy of the DoH submission was provided to applicant who advised as follows in relation to the wastewater aspect of the submission: *"DoH's advice regarding wastewater disposal is noted.* *It is also noted that the DoH employee numbers quoted in the letter are incorrect. Whilst there will be up to 40 employees on site during the construction phase, the proposed power station will be operated remotely once it is fully operational and it is estimated only 2 to 5 maintenance personnel will undertake regular site visits.* *Irrespective of what waste water treatment system is proposed to deal with effluent and trade waste, a further approval is required from the Shire and Department of Health. We understand that this can be made after the issue of a development approval and is not necessary at this point in time (an Application to Construct or Install an Apparatus for the Treatment of Sewage).*	Note submission and include condition as outlined in comment section.

		onsite intermittently after the construction stage, and the 20 employees required for the gas pipeline. A permanent form or onsite wastewater treatment system with onsite disposal methods needs to be provided that will accommodate peak and non-peak loadings including intermittent site visits for employees. It is recommended the proponent contact DWER for further advice relating to the 20kL wastewater treatment system with ultraspin, and the oil storage bund/s for waste oil, new oil and coolant. Water Supply All drinking (potable) water provided on site must meet the health-related requirements of the Australian Drinking Water Guidelines 2011. Any non-potable water on site (i.e. water that is not intended or suitable for drinking) must be managed to ensure it cannot be confused with or contaminate the drinking water supply. This requires	*It is considered that a suitable on-site effluent disposal system (i.e. septic system incorporating leech drain or similar) can be readily accommodated on the subject site to meet the requirements of the Government Sewerage Policy given that:* • *there is sufficient land area;* • *it is not within a public drinking source area;* • *it is not within a sewerage sensitive area; and* • *there is sufficient separation to adjoining properties.* *Therefore, it is not considered that any further information is required at this stage. A potential condition, is provided below:* *"Prior to the commencement of the development, the landowner/applicant is to provide a site and soil evaluation to determine the type of on-site sewage treatment system required for effluent and trade waste and the appropriate location for on-site sewage disposal and obtain any necessary further approvals from the Shire and/or Department of Health."* *It is suggested that the following advice note will also address the matters raised by DoH:* *"In relation to condition X the applicant is advised that approval from the Department of Health is required for any on-site wastewater/effluent treatment.""* It is considered that the assessment and processing of wastewater/effluent disposal applications is adequately addressed through the *Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974* and the future application will need to demonstrate the proposed system's suitability with regard for soil type and other locational factors as well as the system's intended use/load. In recognition of this it is recommended that the following conditions be included with the determination: *"11. The design, location, installation and maintenance of on-site wastewater/effluent systems is to be to the approval of the local government and in accordance with relevant legislative requirements."* Copy of the DoH submission was provided to applicant who advised as follows in relation to the water aspect of the submission: *"DoH's advice regarding water supply is noted."*	

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		satisfactory labelling of non-drinking water taps and, depending on system configuration, suitable backflow prevention arrangements in accordance with Australian/New Zealand Standards AS3500 – Plumbing and Drainage. Air Quality and Amenity The documentation provided in support of the proposed development indicates very low level and acceptable potential impacts to the public in relation to air emissions and noise. Prior to making a final decision, it is recommended that either further clarification is sought in relation to the following, or appropriate management options are provided: • management of fugitive gas emissions • chemical composition of the source gas • planned contingencies for circumstances where there is potential for suboptimal performance, noting that sometimes combustion power generators change within a given range, and it is necessary to identify the areas of confidence for these conditions to ensure that modelled air emissions will not breach any licensed conditions.	Copy of the DoH submission was provided to applicant who advised as follows in relation to the air quality and emissions aspect of the submission: *"DoH's advice regarding air quality is noted. Importantly, an application for works approval has been lodged with the Department of Water and Environmental Regulation (DWER) to seek approval for Prescribed Premises No.52, electric power generation premises, as listed in Part 1 of Schedule 1 of the Environmental Protection Regulations 1987 (EP Regulations). The proposed power station cannot commence operations without a DWER Works Approval. The DWER Works approval will condition the environmental management of the use of the power station including in relation to air quality and amenity requirements to prevent, control and mitigate air pollution or environmental harm. This does not necessitate further management through the development approval process."*	
11 (09/10/24)	Goldsand Farms (Lot 10707 Natta Road)	I am an owner/operator on the adjacent property. I have seen a significant increase in mining and exploration activity, resulted in increased road use and damage, decreased telecommunications and increased bushfire risk. I strongly urge Council to consider the cumulative impact of mining and exploration activities in Arrowsmith, and how these affect the current land use: approved gas processing facility on Natta Road, exploration drilling on Tomkins and Carey Road (and likely to be more sites) and the proposed Power Plant on Tomkins Road. Please consider the construction phase for these developments, where 100's of staff and contractors will	Where traffic movements associated with a major project have an impact on the condition of the local road network, it is considered reasonable that a requirement to undertake upgrades and/or maintenance in a prompt and satisfactory manner be placed on an applicant to avoid financial burden on the Shire, and resultantly the local community it represents and whose contributing money it expends. In the event that the application is approved it is recommended that the following conditions be included with the determination: *"5. Prior to the commencement of the development a Construction Management Plan and associated Fire Management Plan shall be submitted to the local government for approval.* *6. The landowner shall implement the development, and adhere to at all times during construction, the recommendations of the approved*	Note submission and include conditions and advice notes as outlined in comment section.

		be using the resources in this area. Traffic management plans for ALL roads to the proposed site and a bushfire management plan, that includes locally available vehicle resources (Fast Attack), training for staff and contractors and a communication mandate with the landowners is urgently needed.	*Construction Management Plan to the satisfaction of the local government.* 7. *The landowner shall be responsible for the repair, reinstatement or replacement of any road infrastructure that is damaged, becomes unsafe or fails to meet appropriate engineering standards where the damage to the road network is caused by reason of use of the road in connection with the approved development, and within a timeframe, to the satisfaction of the local government (or where agreed to by the local government the applicant may instead arrange payment to the local government for such repair, reinstatement or replacement works to be undertaken)."* In the event that the application is approved the determining authority may also wish to recommend that the following condition be included with the determination: *"4. The landowner shall implement and thereafter maintain for the lifetime of the development the recommendations of the approved Fire Management Plan to the satisfaction of the local government."* It is also recommended that the following advice notes be included with the determination: *"(e) The applicant will need to consult with the Main Roads WA Heavy Vehicle Services branch to ascertain any approval requirements that may be required for their proposed heavy vehicle combinations, transport routes and operations.* *(f) In relation to conditions 5 & 6 the Construction Management Plan shall address the following associated with the construction of the development or any other matters considered relevant by the local government.* *i) hours of construction;* *ii) heritage management protocols to mitigate potential risks linked to the exposure of Aboriginal artefacts during ground-disturbing activities;* *iii) temporary fencing, hoardings, gantries, and signage;* *iv) site access and egress;* *v) construction vehicle route and traffic management;* *vi) size and frequency of construction vehicles;* *vii) road upgrades/repairs and timing of works associated with the construction of the development;*	

			viii) parking arrangements for staff and contractors; *ix) deliveries and storage of construction materials and machinery;* *x) management of vibration, dust, wind, and erosion;* *xi) management of any stormwater discharge;* *xii) management of construction noise and other site generated noise;* *xiv) demolition and construction waste management, recycling, and removal;* *xv) protection of any public realm infrastructure;* *xvi) public communication and complaint handling procedures"*	
		Finally, I support the CEO's approach to a community benefit fund. Piecemeal grants to local groups, sporting and otherwise, will not improve the essential services (health, roads, fire response) that the mining companies will access in the future. Investment in these services benefits all community members.	The planning system is failing rural and regional communities in regards to large gas, renewable energy and mineral projects. Whilst it is recognised that these projects may have a wider state benefit, there can be a very limited to negative return for the communities in which these projects operate. It is also recognised that whilst major projects do have an underlying objective of maximising the proponent's interests there is still ability for it to have regard and concern for the wider social context of the region in which it is located. Without such regard it might be asked; *if the project were to not proceed would the local community be any the worse off?*, indeed it might be better off as the local community will bear the impacts to its own transport activities and networks, particularly during the construction phase, the impact on its rural amenity through visual, noise, dust and light impacts, and the environmental risks both during the operation and post-operation legacy phases when a proponent, who is from outside the region, has made their profits and moved on. There is no statutory planning mechanism by which a significant applicant must be involved in the local community and to ensure there is some form of social benefit to those who will bear the impacts and who are already disadvantaged in access to services and facilities compared to urban areas. It is imperative that the WAPC in consultation with WALGA develop a mechanism whereby major project proponents are required to engage with local communities to ensure a lasting positive community legacy for their projects. Delay in this area in the face of the current significant activity in the gas and renewable energy sectors in rural and regional areas is resulting in poor outcomes for these disadvantaged areas and reinforces an underlying trend of centralisation. In the event that the application is approved it is recommended that the following condition should be included with the determination:	

Schedule of Submissions – Proposed Gas Fired Peaking Power Station (Power Generation) – 1719 (Lot 10710) Tomkins Road, Arrowsmith East				
Submission & Date Received	Respondent	Summary of Submission	Comment	Shire Recommendation
			"17. The applicant shall enter into a contribution agreement towards community, social or other infrastructure/programs that will benefit the local community. The agreement should establish the process by which the contributions should be distributed to local community, sporting and other local groups/ventures deemed appropriate." However, it is noted that Councils have previously requested conditions similar to the above in relation to major projects under the significant development pathway and the WAPC have advised this cannot be applied as a condition of approval, and instead applied it as an advice note. Nonetheless a local Council's role is to serve and represent its community and it may still wish to request this as a condition to draw attention to the inadequacies of the planning system in meeting the needs of rural and regional communities. It will then be the role of the DAP or WAPC (under the significant development pathway) to determine whether this should be applied as a condition or an advice note. Copy of the submission was provided to applicant who advised as follows in relation to the submission: *"Development applications assess traffic impacts in a cumulative manner in that all existing traffic is taken into account when assessing the impacts of new additional traffic associated with an individual development on the road network.* *Construction traffic impacts are short term and are managed through construction management plans, which are approved by the Shire.* *Bushfire risks are managed by proponents through various means. In this case, bushfire risk is managed by siting the power station well away from mapped Bushfire Prone Vegetation and including a cleared fire break around the perimeter of the development.* *Community benefit funds are not levied through the planning process and are outside the scope of this development application."*	
12 (11/10/24)	Dept of Water & Environ-mental Regulation (DWER)	DWER's environmental noise branch had been assessing the acoustic report but have advised that they were unable to complete the assessment in time to provide comments to the Shire. DWER has advised that from what they had reviewed there appears to be insufficient information in the noise report to determine whether the assessment is reliable.	Copy of the submission was provided to applicant who has advised as follows in relation to the submission: *"Importantly, an application for works approval has been lodged with the Department of Water and Environmental Regulation (DWER) to seek approval for Prescribed Premises No.52, electric power generation premises, as listed in Part 1 of Schedule 1 of the Environmental Protection Regulations 1987 (EP Regulations). The proposed power station cannot commence operations without a DWER Works Approval.*	Note submission

Schedule of Submissions – Proposed Gas Fired Peaking Power Station (Power Generation) – 1719 (Lot 10710) Tomkins Road, Arrowsmith East				
Submission & Date Received	Respondent	Summary of Submission	Comment	Shire Recommendation
			The DWER Works approval will condition the environmental management of the use of the power station including in relation to noise to prevent, control and mitigate noise emissions in accordance with the Environmental Protection (Noise) Regulations 1997 (Noise Regulations). Therefore, DWER will have the opportunity to seek additional information and regulate noise through the works approval process. *It is important to note that DWER deals with assessing and controlling noise from uses that are prescribed premises under the Environmental Protection Act 1986, while local governments use the Noise Regulations to deal with domestic, commercial and general industry noise (for premises that are not prescribed premises). Therefore whilst in other circumstances the Shire would need to assess the suitability of the acoustic report, in this case DWER will do this through the Works Approval process and the use cannot commence without a Works Approval.* *A potential condition to enable the Shire to be informed on the outcomes of the final noise assessment is provided below:* *Prior to the issue of a Building Permit, an updated acoustic report shall be submitted to and approved in writing by the Shire. The development shall thereafter be constructed and operate in accordance with the recommendations set out in the final approved Acoustic Report, to the satisfaction of the Shire."*	

PART C – TOWN OF PORT HEDLAND

1. Declarations of Due Consideration

2. Disclosure of Interests

3. Form 1 DAP Applications

3.1 Lot 601, Portion of Lot 604, Lot 300 and Portion of Road Reserve Parola Court, South Hedland – Mixed Use Development – DAP/24/02737

4. Form 2 DAP Applications

Nil.

5. Section 31 SAT Reconsiderations

Nil.

Part C - Item 3.1 - LOT 601, PORTION OF LOT 604, LOT 300 AND PORTION OF ROAD RESERVE PAROLA COURT, SOUTH HEDLAND - MIXED USE DEVELOPMENT

Form 1 – Responsible Authority Report
(Regulation 12)

DAP Name:	Regional Development Assessment Panel
Local Government Area:	Town of Port Hedland
Applicant:	Resolve Group Pty Ltd
Owner:	Department of Planning, Lands and Heritage
Value of Development:	$500 million ☐ Mandatory (Regulation 5) ☒ Opt In (Regulation 6)
Responsible Authority:	Town of Port Hedland
Authorising Officer:	Senior Urban Planner
LG Reference:	2024/013
DAP File No:	DAP/24/02737
Application Received Date:	19 July 2024 (Amended: 8 October 2024)
Report Due Date:	4 November 2024
Application Statutory Process Timeframe:	90 Days
Attachment(s):	1. Site Plan. 2. Floor Plan 1- Tourist Development . 3. Floor Plan 2-Tourist Development. 4. Cross Section-Tourist Development. 5. Elevation 1-Tourist Development. 6. Elevation 2-Tourist Development. 7. Elevation 3-Tourist Development. 8. Floor Plan-Central Facilities. 9. Elevation-Central Facilities. 10. Floor Plan-Gym & Wellness. 11. Elevation-Gym & Wellness. 12. Floor Plan 1-Workforce Accommodation. 13. Floor Plan 2-Workforce Accommodation. 14. Elevation-Workforce Accommodation. 15. Floor Plan-Construction Rooms. 16. Elevation-Construction Rooms. 17. Development Renders 18. Acoustic Report - NDY Tetra Tech. 19. Bushfire Management Plan – Element. 20. Environmental Due Diligence -Talis. 21. Social Impact Assessment - Creating Communities. 22. Transport Impact Assessment - Urbii. 23. Waste Management Plan - Talis. 24. Design Review Panel Report. 25. Table of Submissions. 26. Land Assembly Details

	27. Town of Port Hedland, Ordinary Council Meeting agenda report dated 30 October 2024 (Minutes yet to be confirmed).	
Is the Responsible Authority Recommendation the same as the Officer Recommendation?	☒ Yes ☐ N/A	Complete Responsible Authority Recommendation section
	☐ No	Complete Responsible Authority and Officer Recommendation sections

Responsible Authority Recommendation

That the Regional Development Assessment Panel resolves to:

1. **Accept** that the DAP Application reference DAP/24/02737 is appropriate for consideration as "South Hedland Mixed Use Development" land uses and compatible with the objectives of the zoning table in accordance with Clause 16 (2) of the Town of Port Hedland Local Planning Scheme No. 7;

2. **Approve** DAP Application reference DAP/24/02737 in accordance with Clause 74 of Schedule 2 (Deemed Provisions) of the *Planning and Development (Local Planning Schemes) Regulations 2015*, and the provisions of the Town of Port Hedland Local Planning Scheme No. 7, subject to the following conditions:

Conditions

1. All development and use of the development site must be carried out in accordance with the approved plans as listed below and all information submitted as part of this application. These details shall not be altered without the prior written consent from the Joint Development Assessment Panel (as applicable) and/or Town of Port Hedland. This approval does not relate to any other development on this lot.
    1. Site Plan
    2. Floor Plan 1- Tourist Development
    3. Floor Plan 2-Tourist Development
    4. Cross Section-Tourist Development
    5. Elevation 1-Tourist Development
    6. Elevation 2-Tourist Development
    7. Elevation 3-Tourist Development
    8. Floor Plan-Central Facilities
    9. Elevation-Central Facilities
    10. Floor Plan-Gym & Wellness
    11. Elevation-Gym & Wellness
    12. Floor Plan 1-Workforce Accommodation
    13. Floor Plan 2-Workforce Accommodation
    14. Elevation-Workforce Accommodation
    15. Floor Plan-Construction Rooms
    16. Elevation-Construction Rooms
    17. Development Renders

2. This decision constitutes development approval only and is valid for a period of four years from the date of approval. If the subject development is not substantially commenced within the four-year period, the approval shall lapse and be of no further effect.

3. This approval is for 'Tourist Development' and 'Workforce Accommodation' as defined by the Town of Port Hedland Local Planning Scheme No. 7. Use of the site for a different land use may require further development approval in accordance with the Town's Local Planning Scheme No. 7 and the Planning and Development (Local Planning Schemes) Regulations 2015.

4) The uses stated under Condition '3' are limited to forty (40) years from the date the uses commence on site.

5) Within 3 months from date of approval, Pacific Partnerships Pty Ltd (Applicant) shall enter into an agreement with Town of Port Hedland, prepared by the Town's solicitors at the developer's cost, addressing the following social/infrastructure requirements:

   i) Within three (3) years of commencement of construction, shall design and construct (including landscaping) a connector road between Parola Court and Shoata Road, to the specifications and satisfaction of the Town of Port Hedland.

   ii) Within three (3) years of commencement of construction, shall design and construct (including landscaping) the extension of North Circular Road, along the northern boundary of the subject land, westward of the Parola Court intersection, to the specifications and satisfaction of the Town of Port Hedland.

   iii) Prior to commencement of works, shall provide a 50% cost contribution to the Parola Court and North Circular Road intersection, to the satisfaction of the Town of Port Hedland.

   iii) Prior to the commencement of works, shall provide a social contribution to the value of $2.5 Million per ten (10) year period, indexed from the date of approval to CPI at the date due, for the duration of the development/use. The contribution shall be in the form of a financial contribution paid at the commencement of each ten (10) year term, or part-thereof, and shall be used for the establishment of social infrastructure in the locality.

   v) A commitment for public access to rooms and services within the commercial/retail, and 'Tourist Development' components of the development, protected by conditions relating to numbers or percentage of rooms within the facility.

6) Within 3 months from the date of approval, the Applicant shall submit an updated Traffic Impact Assessment in accordance with Annexure – A, attached to this approval, to the satisfaction of Town of Port Hedland.

7) Extensions/upgrades of all utility services including electrical power, water, wastewater, gas and internet telecommunications (nbn) connections shall be provided at the cost of the Applicant.

8) The Applicant to provide detailed plans of facade treatments of the 'Tourist Development' facility including but not limited to, materials, colour finishes, and treatment of blank walls, to the satisfaction of Town of Port Hedland.

9) The Applicant shall submit an updated Social Impact Statement and Management Plan, in accordance with the Town's Local Planning Policy 06 - Social Impact Assessment, detailing but not limited to the following:

   i. How the local public gain access to rooms and services within the development.
   ii. A plan indicating layout to tourist development rooms and detail of how many tourist development rooms remain available to public.
   iii. Implementation of the sustainability report, including use of electric vehicle charging and solar panels.

10) The Applicant shall provide public art within the development to a minimum value of 1% (capped at $150,000) of the estimated total development construction cost, in accordance with the Town of Port Hedland Local Planning Policy - 04 'Percent for Public Art'. Alternatively, a cash-in-lieu payment of this amount shall be made to the Town of Port Hedland, prior to the occupation or use of the development.

11) To comply with the Town's public art policy, the Applicant shall, submit a statutory declaration within 60 days of the date of this approval stipulating the choice of:

   a) Option 1: Applicant chooses to co-ordinate the Public Art project themselves or by engaging an art consultant; or
   b) Option 2: Applicant chooses to pay cash-in-lieu to the Town of Port Hedland.

12) Prior to lodging an application for a building permit, the Applicant to submit a detailed Stormwater Management Plan, in accordance with the Town's Local Planning Policy 11 Stormwater Management for approval by the Town of Port Hedland and include but not limited to the following:

   i. Contour and Feature survey showing existing levels (CAD data) and proposed FGL and FFL.
   ii. Details of all hardstands (car parking areas, internal footpaths) required.
   iii. Demonstrating detention and retention method including the details and capacity of proposed system 'Atlanchamber', calculating in rational method.
   iv. Cross-sectional details of excess water discharge towards the Town main drainage system. Note that direct discharge to the creek is not allowed, the plan needs to be revised accordingly.
   v. Details and location of barriers/kerbs.
   vi. Proposed surface treatment required including car park, service yard, perimeter road to be indicted on the plan.
   vii. Location of overflow spillways.
   viii. Preparation of a drainage plan, to control drainage from the site that considers Town's local and district network, connection and discharge points within the existing road reserves, adjacent to the development site.
   ix. Engineering drawings and specifications to be submitted in accordance with an approved Urban Water Management Plan (UWMP) for the site, or where no UWMP exists, to the satisfaction of the Town.
   x. Typical cross-section details for any subsurface retention storage infrastructure and calculations /reporting on stormwater capacity.
   xi. 150mm boundary kerbing to be provided (to be shown on plans).

13) The approved stormwater management plan shall be implemented in full by the Applicant prior to the occupation or use of the site and be maintained thereafter to the satisfaction of the Town.

14) Prior to lodging an application for a building permit, the Applicant shall lodge a detailed landscaping plan for the subject site for approval by the Town of Port Hedland, and must indicate but not limited to the following:

    i. Planting, pathways, car parking bays within the Parola Court road reserve, for the length/frontage of the subject land.
    ii. Planting within the subject land adjacent to the parking areas, for the entire lengths of the northern, southern and western boundaries.
    iii. All planting to be in accordance with the Town's 'Preferred Planting Guide' and a planting schedule / list of plant type and species to be identified.
    iv. Colour and material finish of all ground surfaces e.g. pavement types (e.g. sand, timber, concrete, bitumen), soft/hard mulch areas (e.g. wood mulch, gravel types and sizes), within all landscape areas.
    v. Planting areas /zones to be reticulated.
    vi. The location, number and type of proposed trees, shrubs, ground cover including planter and/or tree pit sizes and planting density.
    vii. Internal and external path network location, width sizes, purpose and pavement surface treatments.
    viii. Show connections between internal and external/surrounding path network to the satisfaction of the Town of Port Hedland.
    ix. A planting scheme for the proposed 3m low fuel zone around the modular 'workforce accommodation' building.

15) Fencing to existing and future streets shall be fully visually permeable to maximum of 2.1m height, to maintain passive surveillance over the public streets and internal carparking. All fencing to be of a high quality, consistent with the landscape design themes and consider Crime Prevention Through Environmental Design (CPTED) principles, to the satisfaction of the Town. Fencing not to include barbwire or electrification devices.

16) Lighting shall be constructed as per the approved lighting management plan and all windows facing the public open space reserve shall remain visually accessible during day and night to maintain passive surveillance of the adjacent reserve.

17) The Applicant shall prepare a 'Construction and Environmental Management Plan' (CEMP) for submission and approval by the Town of Port Hedland and thereafter be implemented throughout the construction phase of the development. The CEMP shall include, but not be limited to, the following information:

    i. Contact details of essential site personnel, construction period and operating hours.
    ii. Community information, consultation and complaints management plan.
    iii. Public safety, security and amenity management.
    iv. Traffic, access, and construction staff parking management.
    v. Noise and dust management plan.
    vi. Earthworks, excavation, land retention/piling methods and associated matters, to be contained with the approved development site.
    vii. Stormwater and sediment control; site laydown office and temporary accommodation for construction crew.

18) The Applicant must not use gravel fines (cracker dust) for covering/sealing the property, within landscaping areas or the street verges, and areas of vehicular and pedestrian movement.

19) All car parking areas shall be constructed to the satisfaction of the Town prior to the occupation or use of the development and be:

    i. designed to a 'User class 3A' with the B99 vehicle in accordance with the Australian Standards 2890.1:2004 (as amended) and the Building Codes.
    ii. sealed (concrete, bitumen or asphalt), kerbed, drained and line marked.
    iii. not be obstructed in any way or used for any other purpose other than parking.
    iv. provided with wheel stops, where bays are adjacent to any infrastructure, including landscaping, footpaths, fences etc.
    v. include provision of a car bays in accordance with AS 2890.6 – 'Off-street Parking for People with Disabilities'.
    vi. provided with shade trees at a ratio of one (1) tree to four (4) car bays, to the satisfaction of the Town.

20) The Waste Management Plan prepared by Talis Consultants dated 23 February 2024 must be updated to include amendments to the floor plan and submitted to the Town of Port Hedland for approval . The approved Waste Management Plan must be implemented, and maintained thereafter, to the satisfaction of the Town of Port Hedland.

21) The approved Acoustic Assessment, prepared by NDY - Tetra Tech dated 7 March 2024 must be fully implemented and maintained thereafter, to the satisfaction of the Town of Port Hedland. v) All waste bin storage areas must be screened from view from the streetscape by landscaping and or suitable designed fencing incorporating crime prevention through environmental design principles, to the satisfaction of the Town of Port Hedland w) Prior to occupation or use of the site, the Applicant shall construct vehicle crossovers to the specification and satisfaction of the Town's Infrastructure Services. The crossovers, to be maintained for the duration of the development to the satisfaction of the Town of Port Hedland.

22) The Applicant must submit an Operational Management Plan (OPM) within six (6) months from the date of this approval and/or prior to lodgement of a building application, for approval by the Town of Port Hedland. The OPM to incorporate but not limited to the following:

    i. Complaints Management Procedure.
    ii. Fire and Cyclone Emergency Management Plan.
    iii. Noise Management Plan.
    iv. Public Access Management Plan, to include but not be limited to the following:
        - How public access is achieved to the Tourist Development facility.
        - Rooms are made available for public accommodation at the Tourist Development component of the facility.
        - Reporting on access as part of Town's requirements under Local Planning Policy 06 - Social Impact Assessment
    v. Vehicle and Bicycle Parking Management Plan.

vi. Traffic Management Plan, to include but not be limited to workforce bus trips times and frequency, personal trips.
vii. Reference to the approved Lighting Management Plan.
viii. Health and Safety Management Plan for occupants and visitors, with reference but not limited to the following:
- location and provision of private, communal, and general open space areas on and off the property.
- how privacy / minimum areas can be achieved with screening and/or fencing.
- opportunities for recreation facilities on and off site.
- location of CCTV or other security systems to be used.
- opportunity for and location of end-of-trip facilities for service staff.

23) The development is to be carried out in accordance with the approved Operational Management Plan, for the duration of the development approval, to the satisfaction of the Town of Port Hedland.

24) A Site Rehabilitation Plan to be submitted for approval by the Town of Port Hedland within six (6) months from the date of this approval. The approved Site Rehabilitation Plan be implemented at the end of the approval period or the cessation of the uses on the land, whichever is earlier

25) The Bushfire Management Plan to be amended in accordance with the Department of Fire Emergency Services (DFES) recommendations for safe vehicular traffic and compliant emergency access way from Parola Court to Shoata Road, and other matters identified under the DFES submission.

26) The Applicant shall ensure all stages of the development and associated surface treatments tie in with surrounding developments, to the satisfaction of the Town of Port Hedland.

Advice Notes:

a) This is a development approval issued under the Town of Port Hedland Local Planning Scheme No. 7 only. It is not a building permit or an approval to commence or carry out development under any other law. It is the responsibility of the applicant/owner to obtain any other necessary approvals and to commence and carry out development in accordance with all other laws.

b) The development requires a Building Permit Application for any structural works including, including but not limited to fencing, retaining walls, signage, bin stores light posts, temporary gym and other temporary structures. Any amendment to the internal layout, specifically changes to the unit layouts and sizes, will affect the building permit. It is recommended that any changes to the design are made prior to an application for building permit being submitted.

c) With reference to Condition ‘3’, the following definitions under the Local Planning Scheme No. 7 state:

'Tourist Development': "means a building, or a group of buildings forming a complex, other than a bed and breakfast, a caravan park or holiday accommodation, used to provide –

a) short-term accommodation for guests; and
b) onsite facilities for the use of guests; and
c) facilities for the management of the development."

'Workforce Accommodation': "means premises, which may include modular or relocatable buildings, used –

i. Primarily for the accommodation of workers engaged in construction, resource, agricultural or other industries on a temporary basis; and
ii. ii. For any other associated catering, sporting and recreation facilities for the occupants and authorised visitors."

d) With respect to Condition '4', the Applicant's right to use and occupy the development land is subject to the applicable land tenure agreement with the Town of Port Hedland. The 40 year limit imposed by Condition 4 does not in any way fetter or affect the terms of the relevant land tenure agreement.

e) In reference to Condition '18', gravel fines (cracker dust) is not permitted due to its ability to erode during storm events, compromising on-site drainage systems and or the public drainage network.

f) In reference to Condition '20', the Waste Management Plan must comply with the Town of Port Hedland Waste Local Law 2020 for the duration of the development.

g) The Crown lots subject of this approval are required to be amalgamated prior to issue of a building permit.

h) The development must comply with Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974 at all times for the duration of the development.

i) This approval does not authorise or approve any signage. All signage is to be in strict accordance with the Town of Port Hedland Local Planning Policy 02 'Advertising Signs', unless further development approval is obtained. The applicant/developer should liaise with the Town's Planning and Development Services in this regard.

j) The approved development must comply with the Health (Public Building) Regulations 1992 at all times for the duration of the development.

k) The approved accommodation buildings must comply with the relevant provisions of the Health Act 1911 and the Town of Port Hedland Health Local Law 2016 at all times for the duration of the development.

l) All lodging houses are required to be registered under the Health (Miscellaneous Provisions) Act 1911 and operate in accordance with that Act and the Town of Port Hedland Health Local Law 2016. 12. The approved development must comply with the Environmental Protection (Noise) Regulations 1997 at all times for the duration of the development.

m) The approved development must comply with the Environmental Protection (Noise) Regulations 1997 at all times for the duration of the development.

n) It is a requirement under the Food Act 2008 that all food premises be registered prior to the commencement of operations. The following is relevant:

   i. The construction and use of the proposed premises is required to comply with the Food Regulations 2009, the Food Safety Standards and the Town of Port Hedland Health Local Law 2016;

   ii. A fit-out plan of all internal fixtures, finishes and fittings must be provided and approved to the specifications of the Town of Port Hedland; and

   iii. The food premises may be required to be connected to a grease trap prior to effluent entering the disposal system.

o) The Department of Water and Environmental Regulations has advised the following:

   i. clearing of this site is not exempt, and a clearing permit is required prior to any works commencing.
   ii. Flooding in the proposed area is primarily related to the localised rainfall and the capacity of the stormwater drainage network. The location would appear to be at lower risk from storm surge with the primary risks being from local creeks and overland flows.
   iii. The proposal involves the use of on-site swales and storage tanks to manage stormwater and then the discharge of this water to the existing local drainage system, an open drainage channel and a local creek.
   iv. Water Corporation will need to approve the discharge to their system to ensure there is sufficient capacity in the network.
   v. The proponent to demonstrate proposed swales and storage are sufficient for the predicted volumes of water and information regarding available capacity in the local drainage channels, and that the level and design of the discharge point are appropriate to prevent the drainage system backing up during high flows in the drainage channel.
   vi. Proposal occurs within the proclaimed Pilbara surface water and groundwater area and is subject to licensing requirements under the Rights in Water and Irrigation Act 1914. The proposal is to be connected to reticulated water supply and so no abstraction of groundwater or surface water is necessary.
   vii. If the proponent amends the proposal to use groundwater for any purpose, they will need to apply for a 5C licence to take water, and a 26D licence if new water supply bores are needed.
   viii. The WA Department of Health has advised the following:
      i. all drinking water provided onsite must meet the health-related requirements of the Australian Drinking Water Guidelines 2011.
      ii. Proposed Development must be connected to deep sewage services provided by a licensed service provider. Sewage intended to be reused or recycled for beneficial purposes such as landscape and garden bed irrigation, toilet flushing or other purposes, will require prior approval from the DoH.
      iii. The subject land is in an area that occasionally experiences problems with nuisance and disease carrying mosquitoes – mosquito

collections on surrounding land that vector mosquito's species Cx. annulirostris and Ae. vigilax breed nearby.

iv. Onsite infrastructure and constructed water bodies be designed and maintained to ensure they do not breed mosquitoes.

ix. If an Applicant is aggrieved by this decision there is a right of review by the State Administrative Tribunal in accordance with the Planning and Development Act 2005, Part 14.

ANNEXURE – A Subject to Condition 6)

i. The information in the Traffic Impact Assessment to be provided, according to Western Australian Planning Commission (WAPC) Traffic Impact Assessment (TIA) guidelines (Vol 4 Part C).
   - checklist to confirm all sections of TIA includes information according to WAPC guidelines.

ii. Section 2.6
   - show footpath connectivity to buildings from bus bays.

iii. Section 2.7
   - Pedestrian access to South Hedland Integrated Sport Hub to be mentioned. • Discuss its internal connectivity and how it will improve connectivity towards South Hedland.

iv. Section 4
   - Visitor carpark to be clearly labelled on the drawings.
   - Crossover details required and to be constructed in accordance with ToPH specifications.
   - Subsequent design stages to be confirmed and the traffic impact to discuss the impacts that will be proposed at each design stage.
   - Angled parking on the plans to be identified.

v. Section 5
   - details required on surrounding road upgrades. Assumption that upgrades will take place after 2036 are not accurate.
   - It is proposed that the existing Hudson way will be closed and North Circular will be extended from Hamilton Rd.

vi. Section 6
   - More details required.

vii. Section 7.1
   - Following scenarios to be considered: 5 year post completion, 10 year post completion.

viii. Section 7.3
   - Traffic generation has been completed on basis of previous accommodation camps, and an overall trip generation, which doesn't allow for maximum/peak trip generation in a period.
   - Although the proposed traffic generation is based on average trip generation from other accommodation camps in South Hedland, a detailed assessment based on the facilities generating traffic should be done and reflected in the report.
   - The source of the trip rates should be explained in detailed along with the AM and PM peak rates.
   - This sections notes that the AM and PM peak traffic is more than the 100 vehicle trips in the peak hour, this means that the assessment should be considered as High Impact for the proposed development. Please see attached except from TIA guidelines.

ix. Section 7.5

- The traffic growth rate has been applied on the existing scenario and what the trip generation will look like post 10 year development.
- The known and unknown disruptors are not applicable to this development as this is an accommodation camp.

x. Section 7.6
- Specify Austroads guidelines.
- include correct intersection types and the re-alignment of the road.
- A SIDRA modelling should be undertaken based on future road alignment and alignment and intersections.
- There are no 4-way intersections as specified in Figure 18 around Hamilton Rd. Similarly, table 6 to be revised according to revised SIDRA calculations.

xi. Section 7.7 & 7.8
- More information required as the Town believes there would be considerable traffic from this development with potential to impact the surrounding road network.

xii. Section 8
- Comparable facilities to be mentioned in the section.
- Discussion required if parking requirement is met if maximum occupancy is achieved.
- Parking demand to be based on individual facilities within the lot and the expected occupants for each facility.
- Parking bays should be calculated based on Local Planning Scheme No.7 Car Parking Standard.

xiii. Section 9
- Swept path analysis to show lane correct movements of service vehicles.
- Native files of Swept path analysis to be provided.

xiv. Section 11
- Walking path network details to be provided and access to SHISH site.

Details: outline of development application

Region Scheme	N/A
Region Scheme - Zone/Reserve	N/A
Local Planning Scheme	Town of Port Hedland Local Planning Scheme No. 7
Local Planning Scheme - Zone/Reserve	• Rural Zone • District Distributor Road Reserve • Environmental Conservation Reserve
Use Class and permissibility:	• Tourist Development: D • Workforce Accommodation: A
Lot Size:	1.18ha
Existing Land Use:	Vacant land
State Heritage Register	No
Local Heritage	☒ N/A ☐ Heritage List ☐ Heritage Area
Design Review	☐ N/A ☒ Local Design Review Panel ☐ State Design Review Panel ☐ Other
Bushfire Prone Area	Yes
Swan River Trust Area	No

Reasons for Responsible Authority Recommendation

The Officer Recommendation differs from the Responsibility Authority Recommendation as there was no decision by the elected members

Proposal:

The amended plans lodged 8 October 2024, depicts a 'Tourist Development' and 'Workforce Accommodation' with up to 1,653 rooms and the following changes:

- 514 rooms (6 storey Tourist Development) on the Parola Ct frontage.
- 942 rooms (Workforce Accommodation) (26 x 36 rooms and 3 storey each).
- 6 rooms Resort Cluster rooms (1 @ 6 rooms).
- 192 rooms (12 @16 rooms each) for construction workers.
- Universal Access Rooms (1 @ 6 rooms).
- Water saving and smart waste management initiatives.
- Reception area.
- Kitchen/Dining rooms.
- Maintenance workshop and waste handling and linen.
- Baggage store and lockers.
- Tavern and beer garden.
- Recreation rooms /Sports Courts.
- Retail and services.
- Bus set-down area on Parola Ct frontage.
- A total of 444 parking bays, includes 6 bus bays, 6 universal access bays and 17 heavy vehicle bays.

Background:

Site Context

The lots or portions thereof are subject of a crown subdivision/amalgamation proposal, to accommodate the development. These lots include (Refer Attachment 1):

- (94700.35m2) All of Lot 601 on Plan 071984, part of Crown Reserve 31895 (Management order to the Town for 'Recreation'). •
- (3307.74m2) Part of Lot 604 on Plan 075090, which forms part of Crown Reserve 31895 (vacant Crown land).
- (3919.87m2) Land described as the whole of Lot 300 on Plan 071522 (vacant Crown land).
- (6320.43m2) portion of the Road Reserve.

The subject development site referred to as Site '6' (Refer Figure 1 - Location Plan and Aerial Photo), with a total area of 9.6462ha. The site is located south-west of the Fortescue Metals Group mining workforce and service worker accommodation facility, 'Club Hamilton', corner of Hudson Way and Hamilton Road. The site is also immediately west of another workforce accommodation facility, 'ESS Gateway Village' (Eurest Support Services – Compass Group) at the end of Parola Court. The site is considered suitably located next to similar uses but will form a very different development form, due to the 6 storey Tourist Development component.

This subject development site is in a key location on the western urban fringe of South Hedland, north-west of the main commercial area bounded by Forrest Circle, McLarty Boulevard, and Hamilton Road. It is located outside of the standard pedestrian walking distances to the nearest shopping centre and food establishments are between 1,200m to 1,600m away on Throssell Street, but is considered close enough to take advantage of the services offered by the growing centre.

Figure 1 – Location Plan and Aerial Photo

The Town's community/sports facility 'Wanangkura Stadium' is located approximately 600 metres east of the site on Hamilton Road and major outdoor sports fields between Parola Court and Hamilton Road, are located within 400 metres.

Access to the site from Parola Court is presently through Hudson Way, connecting to Hamilton Road. Shoata Road (north-west) forms the northern edge of the urban area. Presently, there is no connector road between Shoata Road and Parola Court but improved connectivity in the road network is envisaged to facilitate development in this location.

Land Tenure

A separate land tenure process is underway to accommodate the development, involving a Crown Lease from the State of WA to the Town, and a sub-lease to the developer. The developer sought a sub-lease term of 23+20 years, aligning with the Crown lease. The 3 additional years relates to the construction period and operation of the facility. The officer's recommendation for a 40-year approval is aligned with the Town's land transaction agreement, from the date the uses commences on site after construction. The Council's decisions to support leasing and development/use for a total development period of 43 years, is subject to the development meeting the

standards for 'long term accommodation' as outlined in the Workforce Accommodation policy and described in this report.

History

Date:	Issues
27 January 2023	The Town wrote to Hon John Carey (MLA), Minister for Planning, Lands, Housing and Homelessness proposing to purchase (direct freehold) Lot 601 Parola Court to enable a lease for the construction and operation of a temporary workforce accommodation development.
26 July 2023	Following several meetings with Town of Port Hedland, Pacific Partnerships Pty Ltd (Developer), wrote to the Town seeking to lease the subject land for construction of the Tourist Development and Workforce Accommodation uses.
9 August 2023	Pacific Partnerships Pty Ltd presented a concept development plan to elected members. The Concept Plan included the following design features: - up to 1,350 rooms including 70 rooms for onsite workers. - a multi-storey (5-6) street frontage permanent hotel style building and smaller 24 rooms modular pods across the area. - room sizes ranging from 22m2 to 28m2 for single occupancy. - street fronting: long design life (40+ years) high quality hotel style with accommodation modules installed on top of an in-situ built podium structure. - 2 storey, workforce accommodation pods of high quality (25-year life) surrounded by verandas. - common facilities within in-situ buildings. - on site solar energy generation with battery storage. - electrical vehicles charging stations. - water saving and smart waste management initiatives. - proposed retail and hospitality outlets included as part of the street activation. - potential additional initiatives were to be discussed, e.g. public EV charging stations, essential workers accommodation. As part of this presentation Pacific Partnerships were clear that the project was to: "service the FIFO workers community and engaged with several mining organisations in Port Hedland, working with them to progress the design and operation brief, to gain an understanding of accommodation forecasts." *focus should be in relation to optimising community benefits for the Project.*
21 Nov 2023	The Town sent a follow up letter to Hon John Carey (MLA) seeking support for purchasing the whole of Lot 601 on Plan 071984.
29 Nov 2023	The Council at its Ordinary Meeting, resolved to support a land assembly involving land parcels/realignment of Crown land boundaries, dedication of land as future road reserve, closure of some portions of existing road reserves to create development-ready land parcels around the South Hedland Integrated Sports Hub site and amend Lot 601 boundaries to accommodate the future development.

13 Dec 2023	The Council at its Ordinary Meeting, resolved to endorse the draft Major Land Transaction Business Plan – Lot 601 Parola Court, South Hedland and to endorse advertising of the Business Plan, in accordance with the Local Government Act 1995. The Council also resolved to authorise the CEO to enter an agreement with the developer requiring leasing and development of the subject land.
7 Feb 2024	The Council at its Ordinary Meeting, resolved to initiate Scheme Amendment No.5 for referral to the Environmental Protection Authority (EPA) and public advertising. The proposed scheme amendment addresses minor adjustments to the zoning in the South Hedland (north-west) location, which will facilitate development on Lot 601 and surrounding land parcels.
13 March 2024	At a Special Council Meeting, the Council endorse the detailed floor plans for the subject development submitted by Pacific Partnership Pty Ltd and adopted the business plan for the major land transaction for the lease and or purchase of Lot 601 Parola Court, South Hedland.
18 April 2024	Following the Town's proposal to purchase the subject land, the State of Western Australia formally advised the Town, it would only support a lease over the subject land, on a 50%-50% share basis i.e. a tri-partite lease between Pacific Partnerships, the State and Town of Port Hedland. The Town has sent the draft sublease to its solicitors for review.
19 July 2024	The initial application plans lodged 'Tourist Development' and 'Workforce Accommodation' with up to 1,350 rooms, ranging from 22m2 to 28m2. The plans specified the following activities: • 510 rooms (Hotel-Style permanent accommodation - 6 levels) on the Parola Ct street frontage (Tourist Development). • 840 rooms (35 @ 24 rooms and 2 levels each). • Universal Access Rooms (1 @ 2 rooms). • On-site solar energy generation with battery storage. • Electrical vehicles charging stations. • Water saving and smart waste management initiatives. • Reception area. • Kitchen/ Dining rooms. • Maintenance workshop and waste handling and linen. • Baggage store and lockers. • Tavern and beer garden. • Recreation rooms / Sports Courts. • Retail and services. • Bus set-down area on the Parola frontage. • A total of 388 parking bays, including 4 Bus bays and 2 universal access bays.
22 Aug 2024	Meeting held with Pacific Partnerships Pty Ltd, to provide an update on proposed amendments to the design.
Sept-Oct 2024	Discussion with Pacific and the Town about acceptable changes to the design including increase in room numbers.
2 Oct 2024	Partnership Pty Ltd lodged draft amended plans for review and discussion at meeting the same day with Town staff.
8 Oct 2024	Pacific Partnership Pty Ltd lodged amended plans increasing the number of rooms to 1653, modifications to the following:

	• 514 rooms (6 storey Tourist Development). • 942 rooms (3 storey Workforce Accommodation) (26x36 rooms). • 6 rooms Resort Cluster rooms (1 @ 6 rooms). • 192 rooms (12 @16 rooms each) for construction workers. • Universal Access Rooms (1 @ 6 rooms). • Water saving and smart waste management initiatives. • Reception area. • Kitchen / Dining rooms. • Maintenance workshop and waste handling and linen. • Baggage store and lockers. • Tavern and beer garden. • Recreation rooms /Sports Courts. • Retail and services. • Bus set-down area on the Parola frontage. • A total of 444 parking bays, includes 6 bus bays, 6 universal access bays and 17 heavy vehicle bays.

Legislation and Policy:

The following legislation and policies are applicable to the development:

Building/ Environmental Health
Building Act 2011.
Health (Miscellaneous Provisions) Act 1911
Environmental Protection Act 1986.
Environmental Protection Regulations 1987.
Health (Public Buildings) Regulations 1992.
Environmental Protection (Noise) Regulations 1997.

Planning
Planning and Development Act 2005.
Planning and Development (Development Assessment Panels) Regulations 2011
Planning and Development (Local Planning Schemes) Regulations 2015.
State Planning Policy 3.6 - Infrastructure Contributions;
State Planning Policy 3.7 - Planning in Bushfire Prone Areas;
State Planning Policy 7.0 - Design of the Built Environment.
Liveable Neighbourhoods 2009.
Liveable Neighbourhoods 2015 (Draft).
Town of Port Hedland - Local Planning Strategy.
Town of Port Hedland - Local Planning Scheme No.7.
Position Statement - Workforce Accommodation
Local Planning Policy 02 - Advertising Signs;
Local Planning Policy 04 - Percent for Public Art;
Local Planning Policy 05 - Workforce Accommodation;
Local Planning Policy 06 - Social Impact Assessment;
Local Planning Policy 11 - Stormwater Management.

Engineering
Town of Port Hedland Policy - 9/005 - Vehicle Crossover.

Consultation:

Public Consultation

Pursuant to Clause 64 of Schedule 2 of the Deemed Provisions under the *Planning and Development (Local Planning Schemes) Regulations 2015*, the proposal was advertised from 2 August 2024 to 16 August 202, through the following methods:

1. A letter / email was distributed / sent to adjoining landowners within 200m.
2. Advertising on the Town's website.
3. A social media statement and invite to comment was made to the public.

Referrals/consultation with Government/Service Agencies

The proposal was referred to the following government agencies. Details of the submissions are outlined in Attachment 25 Table of Submissions:

- Department of Biodiversity, Conservation and Attractions
- Department of Fire and Emergency Services
- Department of Health
- Department of Jobs, Tourism, Science and Innovation
- Department of Water and Environmental Regulation
- Department of Communities Community
- Horizon Power
- Main Roads WA
- Pilbara Development Commission
- Port Hedland Chamber of Commerce
- Telstra

Internal Comments

Internals comments received from the Town's internal business units Building Services, Engineering Services, Environmental Health Services, Waste Services, Sustainability Services, Infrastructure Projects Team have been incorporated into the conditions and or advice notes, relating to the development.

Design Review Panel Advice

The proposal was presented to the DRP on two occasions 14 December 2023 and 7 February 2024. The Panel's second review concluded the design was an improvement to the initial design considered and noted the following:

- The recent submission focused on technical details rather than refining the design intent.
- The design should communicate both the rationale and functionality, not just document infrastructure.
- A need for substantial architectural and landscape input, with expertise beyond engineering. Mr Campion's (Architect) recent involvement was a positive step, but additional architectural and landscape features were required as crucial to enhance the project's quality.
- Visual presentation is crucial. The design should include a detailed landscape plan, representative colour palettes, and 3D renders.
- A compelling vision that aligns with the 10 principles of State Planning Policy No. 7 will strengthen support by the community and decision-makers.

- The Panel encourages investment in design expertise to ensure the project becomes a significant and well-regarded feature of South Hedland's town centre.

Subject to the DRP's recommendations, conditions have been recommended for the applicant to provide further detail on:

a) materials, colour finishes, and treatment of blank walls, to the satisfaction of Town.
b) landscaping within and external to the site; and
c) open fencing design to improve streetscapes and visual presentation of the development. This is envisaged for current and future roads as the development is likely to have future road network linkages constructed within the 40-year life of the development.

Planning Assessment:

The proposal has been assessed against all the relevant legislative requirements of the Scheme, State and Local Planning Policies outlined in the Legislation and Policy section of this report. The following matters have been identified as key considerations for the determination of this application and are discussed below:

- Local Planning Strategy
- Local Planning Scheme
- Land Assembly / Rezoning
- Local Planning Policy 04 – Percent Public Art (LPP/04)
- Local Planning Policy 05 – Workforce Accommodation (LPP/05)
- Local Planning Policy 06 – Social Impact Assessment (LPP/06)
- Road network

Town of Port Hedland Local Planning Strategy (2021)

The Town of Port Hedland Local Planning Strategy (Strategy) was endorsed by the Western Australian Planning Commission on 13 May 2021. The Strategy sets out planning directions for the Town over 15 years and provides direction for growth and development and establish strategies and actions to identified opportunities and constraints for land release to support urban growth.

Relevantly, the Strategy recognises the Town's Position Statement on Workforce Accommodation and identified "importance of workforce accommodation as a housing resource for industry and well-planned accommodation that effectively addresses both individual and cumulative impacts of developments to realise significant benefits for the community, industry and industry workforces."

The objectives for urban growth relevant to workforce accommodation is stated as:

- "*Plan for development areas that can effectively respond to fluctuations in the economy and population change while being resilient to climate change and natural systems.*
- *Facilitate consolidated urban form that maximises the efficient use of existing and planned infrastructure.*
- *Plan for a diverse range of housing typologies."*

The development within this location of South Hedland is considered suitable, which has similar workforce accommodation uses/developments on Hamilton

Road and Parola Court. Further land parcels have been identified as suitable for large format developments / housing and workforce accommodation to the north and west of North Circular Road (Refer Figure 2 below) and will be incorporated under a future update.

Figure 2. Extract from Local Planning Strategy (2021) with potential development opportunities for new large format developments (Workforce Accommodation and or Tourist Development) use areas as overlayed.

Local Planning Scheme No. 7

Under LPS7, Clause 32 'Additional site and development requirements', Table 7 sets out requirements relating to development that are additional to those set out in the R-Codes, activity centre plans, local development plans or State or local planning policies.

Table 7, states for 'Workforce Accommodation' uses in all zones:

"(1) The local government may exercise its discretion by granting development approval for workforce accommodation after giving notice in accordance with clause 64 of the deemed provisions where it is proposed within the Rural zone and is located outside a 30-minute drive of the Port Hedland / South Hedland townsite boundary. Where workforce accommodation is proposed within the Rural zone and is located within a 30-minute drive of the Port Hedland / South Hedland townsite boundary, the use is not permitted.

(2) In exercising discretion in relation to a development application for workforce accommodation, the local government shall have regard to the following:
(a) the applicable Local Planning Policies; and
(b) appropriateness of the scale design and standard of the accommodation in the context of the location and its integration with the surrounding development.

(3) Development applications for all time-limited workforce accommodation shall, to the local government's satisfaction, be accompanied by information and plans indicating how and when the development will be removed and the site rehabilitated or developed for a subsequent use which is consistent with the intent of the zone.

(4) The local government may require, by signed agreement, a commitment to the date and details of rehabilitation and development of a subsequent use the subject of subclause (3)."

The development application has been assessed considering Clauses 32 and 34 of LPS7 and in context of similar developments permitted within a 30-minute drive of the Port Hedland / South Hedland townsite boundary. Discretion is permitted under the clause 34, for a development to be considered within the context of the criteria listed in the clause and Local Planning Policy 05 - Workforce Accommodation in relation to suitable location of workforce accommodation.

Subject to an objection raised about the Town's ability to consider the development within the town site under the Scheme, a legal opinion was obtained regarding the issue in relation to Scheme Clauses 32 and 34. The legal opinion supported the view that discretion is permitted to the Town to consider and approve the application.

Land Assembly / Rezoning

The Town initiated action to rationalise land boundaries and zoning in consultation with the Department of Planning, Lands and Heritage in 2023, for the area around Parola Court, Hudson Way and Hamilton Road.

The land assembly component involves realignment of Crown land boundaries and drain reserves, dedication of road reserves, closure of portions of existing road reserves. Included in the changes were adjustments to Lot 601 and the Parola Road boundaries reserve boundaries to facilitate development on the subject land. The land assembly will be by Crown subdivision undertaken by DPLH. DPLH advised the Town in September 2024 that their agency consultation process is near completion before soon to initiate the amalgamations/subdivisions, boundary adjustments, closures etc (Refer Attachment 26 – Land Assembly Details).

Further to the land assembly, is minor zoning / reserves adjustments are underway through scheme Amendment No.5. The Town resolved to finalise Amendment No.5 on 25 June 2024 (Council Resolution CM202324/289) and refer it to the Minister for Planning for final adoption and gazettal.

The land assembly process is not anticipated to affect the determination of this application, as no buildings are proposed over lot boundaries and the rezoning proposal is very close to finalisation. Both processes will be have to be completed before the development can proceed.

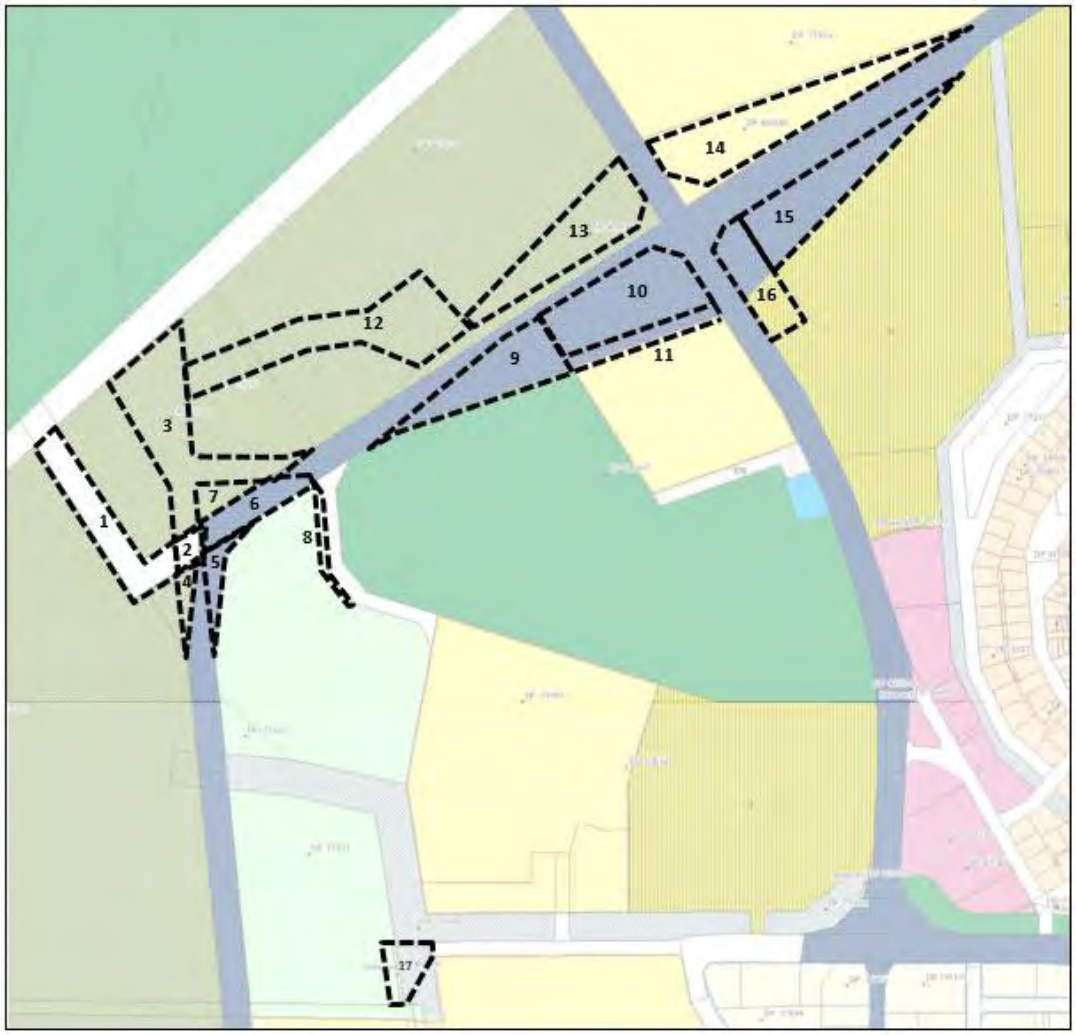


Figure 3 – Land Assembly and Current Zoning

Local Planning Policy 04 – Percent for Public Art (LPP/04)

The proposal is subject to assessment under LPP/04. In this instance, the Town considers that a cash-in-lieu contribution may be a suitable for the following reasons:

- The developer has the ability to work with a variety of local artists, including promoting local and/or Indigenous art.
- The artwork could be located within a public place in which a wider population can access and enjoy, such as the Town's sports precinct opposite.
- Funds can contribute to art that celebrates the environment, industry or lifestyles, and promote awareness to the value of public art in the community.

A condition has been included in the Officer Recommendation section for the applicant to either provide the art onsite themselves or $150,000 for a public art contribution, in accordance with Clause 4.4 of LPP/04. This contribution will assist with providing a piece of public art within the locality, or the art to be installed in a "publicly visible" location on the development site.

The original plans incorporated significant architectural / art like features into the east elevation of the Tourist Development component but was later removed due to a variety of reasons, involving development costs. The issue of whether a significant art feature is applied is uncertain but will be subject to further negotiation with the Developer and is covered under the applicable recommended public art condition.

Local Planning Policy 05 – Workforce Accommodation (LPP/05)

The proposal is subject to assessment under LPP/05, as the proposal includes a large portion of the site for workforce accommodation. In accordance with Clause 5.1 Demand Driven (Refer to Attachment 16), Pacific Partnerships Pty Ltd have been clear about the proposal being demand driven by the existing and expected future mining business community. The Applicant has demonstrated that the proposal meets the objectives of the Policy:

"1. To integrate workforce accommodation into the surrounding local environment through physical design and management measures which promote social cohesion.
2. To ensure the application of design standards to workforce accommodation are commensurate with the development lifespan and location.
3. To encourage workforce accommodation to be located close to urban settings and commercial centres that ensures reciprocal benefits for the local community and local business from an integrated workforce accommodation facility.
4. To support high-quality, adaptive and sustainable design of workforce accommodation that responds to regional climatic conditions, provides a high level of amenity for occupants and promotes articulated frontages that avoid sterile streetscapes .
5. To facilitate workforce accommodation that is demonstrated to meet the temporary needs of a specific industry or project and allow decision makers to apply discretion regarding the duration (term) of approval, acknowledging it as a temporary and transitional use."

The $500 million investment and development proposed by Pacific Partnerships Pty Ltd will be the most significant development of its type for the Town, with potential to provide high living standard for the workforce-based residents.

The Town's assessment against Table 1 of LPP5, is below:

Design Element			Acceptable Development Provisions	Town's assessment
1	Siting the Development	(a)	Street setbacks should be consistent with the surrounding streetscape or applicable Design Guidelines.	The development proposes buildings with open and active areas to the street frontage. This aspect of the design provides strong urban form providing a positive outlook and overlooking of the public facilities opposite of the South Hedland Integrated Sports Hub.
2	Designing the Buildings	(a)	Where development includes 'transportable buildings' as defined by *Local Planning Policy 03*	General building designs are not standard transportable building design and therefore not applicable. The design will

Design Element			Acceptable Development Provisions	Town's assessment
			- S*hipping, Sea Containers and Transportable Buildings* (LPP/03), they shall incorporate all building design elements as per LPP/03.	be 2 to 3 storey modules with verandas and other design features with improved amenity.
3	Fencing	(a)	No barbed wire or razor fencing is permitted.	Details of fencing design is to be provided at the building application stage. A condition has been included to exclude use of barb wire or electrification devices.
		(b)	Front fencing includes visually permeable materials above 1.2m, and the height of solid walls or fences to the street does not exceed 1.2m.	A condition has been included requiring fencing to the northern, southern and western boundaries be visually permeable.
4	Landscaping	(a)	Landscaping zones shall be established and maintained along street frontages to screen the development.	Landscape plan/ design must be updated to integrate a site-wide master plan as advised by the Design Review Panel along with the other recommendations.
5	Movement network	(a)	Proposals shall be accompanied by a Traffic Impact Statement (TIS) or Traffic Impact Assessment (TIA) in accordance with the *Transport Impact Assessment Guidelines* by the Department of Planning, Lands and Heritage.	A Traffic Impact Statement will require considerable modifications as explained in this report. A condition has been applied in the Officer Recommendation section. The development is proposed for a cul-de-sac location with 1653 room facility. Further discussion and detail of improvements to the road network is discussed in the Report. A condition has been applied requiring construction and or contributions towards key connections to the road network.
		(b)	Shall connect to a footpath network if there is one in the area.	A condition has been included in the Officer Recommendation section.
		(c)	All road infrastructure shall be informed by the recommendations of the	As above Part 5 (a).

Design Element			Acceptable Development Provisions	Town's assessment
			TIS or TIA, to the satisfaction of the Town.	
6	Storage, waste and collection	(a)	Shall be fully screened from view from all public areas and set back to mitigate any observation or odours.	A condition has been applied requiring screening of the waste bin storage/collection areas be screened from to public areas.
7	Signage	(a)	As per Local Planning Policy 02 - Advertising signs (LPP/2).	Not provided. To comply with LPP2 if any signages are proposed. May require a separate application.
8	Drainage	(a)	Proposals shall be accompanied by a detailed stormwater management plan in accordance with the Town's *Stormwater Drainage Design Guidelines*, and should ensure: • A minimum of a 1:5 ARI event is contained on-site. • No standing water in excess of 72 hours to prevent mosquito breeding. • Sediment traps are included to prevent sediment entering the Town's reserves and drainage infrastructure; and • Erosion control measures are incorporated to prevent the erosion of embankments, swales and other areas that are unsealed.	Stormwater Management Plan (SMP) requires amending/detailed designing in accordance with Town's Local Planning Policy 11 – Stormwater Management (LPP/11). The SMP to include reference to design site layout changes and district drainage network within adjoining streets. A condition has been recommendation.
		(b)	All habitable floor areas to have a minimum vertical freeboard of 300mm above the 1% AEP.	Details to be provided at the building application stage.
9	Cyclone safety	(a)	Provide a building or buildings that are designed for emergency cyclone sheltering purposes for all	To be considered during the building application stage.

Design Element			Acceptable Development Provisions	Town's assessment
			occupants the site is designed to accommodate. Such buildings shall be designed and constructed to a Building Code of Australia importance level four (4), unless otherwise agreed by the Town's emergency services.	

Local Planning Policy 06 – Social Impact Assessment (LPP/06)

The proposal is subject to assessment under LPP/06, as the proposal is for a Workforce Accommodation (expansion). As per Clause 4.2 of this policy a Social Impact Assessment (SIA) and a Social Impact Management Plan (SIMP) are to be submitted with the application. The intent of the SIA and SIMP is to provide a structured approach to planning for and offsetting demand on the limited infrastructure and services on-site by considering the integration of the development residents with community social infrastructure.

Pacific Partnerships Pty Ltd on 20 June 2024 submitted a Social Impact Assessment prepared by Creating Communities dated 20 June 2024, for the workforce accommodation facility.

The report is generally acceptable subject to modifications. A condition has been recommended to be applied to ensure the document be amended for clarity in accordance with the following:

i. integration measures are clearly stated in the SIA to ensure management measures are implemented.
ii. which 'recommendations' will be actioned. Wording refers to 'consider'.
iii. The report indicates potential onsite para-medical staff i.e. nurse or paramedic. Discuss opportunities to target medical /health care providers and businesses to fill spaces within complex, and potential attraction packages.
iv. Is there still opportunity for the tourist development as a conference venue?
v. Is there opportunity for allocation of accommodation to key service workers?
vi. Providing detail on potential access to transport through a shared bus service and/or e-bikes for whole site.
vii. Define table of actions.

Local Road Network

The local road network requires connection improvements in the immediate area of subject development site. These connections are required between Hamilton Road /Hudson Way, Parola Court and Shoata Road.

The Crown subdivision / land assembly will assist by providing a modified road reserve for extension of North Circular Road westward, past the northern most boundary of the development site. At present all traffic from the development site can only

access/egress to Hamilton Road from Hudson Way. The Developer's Bush Fire Management Plan recommends a connection to Shoata Road as a second exit point for fire emergencies. This accessway/road will require a formal and sizable culvert construction over a major creek line for the district drainage. As this accessway / connector to Shoata Road is required it is recommended that a formal roadway (sealed, drained and lit) be constructed as part of this development.

A condition has been recommended to be applied requiring construction and or contributions toward key connections to the road network and intersection improvement at the corner of Parola Court and extension to North Circular Road/Hudson Way due to the need and nexus linked to the development.

The Department of Fire Emergency Services have recommended changes to the Bushfire Management Plan with reference to upgrading the emergency access way, to a public road standard (Refer details of DFES comments in Attachment 25 – Table of Submissions).

Car Parking

The development proposes a total of 444 parking bays, including 6 universal access bays and 17 heavy vehicle bays, plus 10 street front parking bays, in front of the tourist development building. The design also includes six (6) bus bays and a set-down area partly located on the Parola Court frontage.

The Schedule 1 of Local Planning Scheme No. 7 identifies a parking requirement for the Tourist Development as 1.5 bays per unit plus 1 bay per employee for a 514 room facility. This requirement is developed considering traditional tourist accommodation consisting of combinations of several rooms. The Applicant has indicated that this facility could be used for sharing with workforce accommodation use. Given, an uncertain amount of sharing, a total requirement has not been determined, but the overall provision on site could be suitable.

Schedule 1 also indicates parking requirement for Workforce Accommodation as determined by the local government. Considering the transportation of all workforce residents to and from the site strategy, places a reduced demand for the development.

Given the Tourist Development use and associated demands by staff parking, the development could have a minor shortfall. The developer proposes that all the workforce residents will be transported to and from the site by bus, details of the parking and traffic implication details are required to be updated in an amended traffic and parking impact statement, based on the amended design.

The applicant has not provided information of formal arrangements / agreements with their clients supporting controlled transportation of workforce residents. Discretion has been exercised considering confidentially reasons for disclosing clientele names and agreements, but controls will be put in place under Operational Management Plan restricting use of buses for transporting all workforce residents, which will be the majority of the occupiers at the development.

The officers are satisfied there is sufficient opportunity within vacant unallocated crown land to provide additional and temporary off-street parking, if parking issues arise due to client demands.

Table 7 of the Town's Local Planning Scheme No. 7 provides guidance for the provision of car parking, and for cash in lieu payments to be made if insufficient parking is provided for a development. Cash-in-lieu of parking has not been considered for the development.

Operational Management Plan (OMP)

There is potential for the operational phase of the development to have impacts on the surrounding environment and the amenity of occupants and visitors to the existing surrounding land uses. The OMP can address matters of day-to-day operations relating to cyclone preparedness, maintenance of verge area, use and security of outdoor elements associated with the office and restaurant/cafe. It is recommended that should approval be granted, a condition be applied requiring an OEMP to be submitted to and approved by the Town prior to operation.

Construction Management Plan (CMP)

There is potential for the construction phase of the development to have detrimental impacts on the surrounding environment and the amenity of occupants and visitors to the existing surrounding land uses. This can be mitigated through the preparation and implementation of a CMP. It is recommended that should JDAP grant approval, a condition be applied requiring a CMP to be submitted to and approved by the Town prior to any construction beginning on site.

Conclusion:

This report has provided a detailed assessment of the proposed JDAP application at, Lot 601, Portions of Lot 604 and Lot 300 and Portion of Road Reserve Parola Court, South Hedland.

The development has been considered by the Town on several occasions, through briefings from the developer (Pacific Partnerships Pty Ltd) and reports presented to the Council Meetings regarding a major land transaction proposal concerning Lot 601 and the rezoning and land assembly requirements.

The development is considered suitably located next to other workforce accommodation facilities, 'Club Hamilton' (Fortescue Mining Group), corner of Hudson Way and Hamilton Road, 'ESS Gateway Village' (Eurest Support Services – Compass Group) at the end of Parola Court and the Town's South Hedland Integrated Sports Hub.

It is considered that development generally meets the development standards under the planning framework and may be approved. It's proposed the development will present a high-quality building form with a six (6) level tourist development building and 3 storey workforce accommodation modules. The development is recommended for support by the Regional Development Assessment Panel, subject to conditions as outlined in the officer recommendation.

Based on the assessment against LPS7 and the relevant planning framework, it is considered that the proposal, inclusive of all proposed conditions and advice notes, is appropriate for an approval recommendation.

Officer Recommendation

That the Regional Joint Development Assessment Panel resolves to:

3. **Accept** that the DAP Application reference DAP/24/02737 is appropriate for consideration as "South Hedland Mixed Use Development" land uses and compatible with the objectives of the zoning table in accordance with Clause 16 (2) of the Town of Port Hedland Local Planning Scheme No. 7;

4. **Approve** DAP Application reference DAP/24/02737 in accordance with Clause 74 of Schedule 2 (Deemed Provisions) of the *Planning and Development (Local Planning Schemes) Regulations 2015*, and the provisions of the Town of Port Hedland Local Planning Scheme No. 7, subject to the following conditions:

Conditions

4. All development and use of the development site must be carried out in accordance with the approved plans as listed below and all information submitted as part of this application. These details shall not be altered without the prior written consent from the Joint Development Assessment Panel (as applicable) and/or Town of Port Hedland. This approval does not relate to any other development on this lot.
    1. Site Plan
    2. Floor Plan 1- Tourist Development
    3. Floor Plan 2-Tourist Development
    4. Cross Section-Tourist Development
    5. Elevation 1-Tourist Development
    6. Elevation 2-Tourist Development
    7. Elevation 3-Tourist Development
    8. Floor Plan-Central Facilities
    9. Elevation-Central Facilities
    10. Floor Plan-Gym & Wellness
    11. Elevation-Gym & Wellness
    12. Floor Plan 1-Workforce Accommodation
    13. Floor Plan 2-Workforce Accommodation
    14. Elevation-Workforce Accommodation
    15. Floor Plan-Construction Rooms
    16. Elevation-Construction Rooms
    17. Development Renders

5. This decision constitutes development approval only and is valid for a period of four years from the date of approval. If the subject development is not substantially commenced within the four-year period, the approval shall lapse and be of no further effect.

6. This approval is for 'Tourist Development' and 'Workforce Accommodation' as defined by the Town of Port Hedland Local Planning Scheme No. 7. Use of the site for a different land use may require further development approval in accordance with the Town's Local Planning Scheme No. 7 and the Planning and Development (Local Planning Schemes) Regulations 2015.

4) The uses stated under Condition '3' are limited to forty (40) years from the date the uses commence on site.

5) Within 3 months from date of approval, Pacific Partnerships Pty Ltd (Applicant) shall enter into an agreement with Town of Port Hedland, prepared by the Town's solicitors at the developer's cost, addressing the following social/infrastructure requirements:

   iv) Within three (3) years of commencement of construction, shall design and construct (including landscaping) a connector road between Parola Court and Shoata Road, to the specifications and satisfaction of the Town of Port Hedland.

   v) Within three (3) years of commencement of construction, shall design and construct (including landscaping) the extension of North Circular Road, along the northern boundary of the subject land, westward of the Parola Court intersection, to the specifications and satisfaction of the Town of Port Hedland.

   iii) Prior to commencement of works, shall provide a 50% cost contribution to the Parola Court and North Circular Road intersection, to the satisfaction of the Town of Port Hedland.

   vi) Prior to the commencement of works, shall provide a social contribution to the value of $2.5 Million per ten (10) year period, indexed from the date of approval to CPI at the date due, for the duration of the development/use. The contribution shall be in the form of a financial contribution paid at the commencement of each ten (10) year term, or part-thereof, and shall be used for the establishment of social infrastructure in the locality.

   v) A commitment for public access to rooms and services within the commercial/retail, and 'Tourist Development' components of the development, protected by conditions relating to numbers or percentage of rooms within the facility.

6) Within 3 months from the date of approval, the Applicant shall submit an updated Traffic Impact Assessment in accordance with Annexure – A, attached to this approval, to the satisfaction of Town of Port Hedland.

7) Extensions/upgrades of all utility services including electrical power, water, wastewater, gas and internet telecommunications (nbn) connections shall be provided at the cost of the Applicant.

8) The Applicant to provide detailed plans of facade treatments of the 'Tourist Development' facility including but not limited to, materials, colour finishes, and treatment of blank walls, to the satisfaction of Town of Port Hedland.

9) The Applicant shall submit an updated Social Impact Statement and Management Plan, in accordance with the Town's Local Planning Policy 06 - Social Impact Assessment, detailing but not limited to the following:

   i. How the local public gain access to rooms and services within the development.
   ii. A plan indicating layout to tourist development rooms and detail of how many tourist development rooms remain available to public.
   iii. Implementation of the sustainability report, including use of electric vehicle charging and solar panels.

10) The Applicant shall provide public art within the development to a minimum value of 1% (capped at $150,000) of the estimated total development construction cost, in accordance with the Town of Port Hedland Local Planning Policy - 04 'Percent for Public Art'. Alternatively, a cash-in-lieu payment of this amount shall be made to the Town of Port Hedland, prior to the occupation or use of the development.

11) To comply with the Town's public art policy, the Applicant shall, submit a statutory declaration within 60 days of the date of this approval stipulating the choice of:

    c) Option 1: Applicant chooses to co-ordinate the Public Art project themselves or by engaging an art consultant; or
    d) Option 2: Applicant chooses to pay cash-in-lieu to the Town of Port Hedland.

12) Prior to lodging an application for a building permit, the Applicant to submit a detailed Stormwater Management Plan, in accordance with the Town's Local Planning Policy 11 Stormwater Management for approval by the Town of Port Hedland and include but not limited to the following:

    i. Contour and Feature survey showing existing levels (CAD data) and proposed FGL and FFL.
    ii. Details of all hardstands (car parking areas, internal footpaths) required.
    iii. Demonstrating detention and retention method including the details and capacity of proposed system 'Atlanchamber', calculating in rational method.
    iv. Cross-sectional details of excess water discharge towards the Town main drainage system. Note that direct discharge to the creek is not allowed, the plan needs to be revised accordingly.
    v. Details and location of barriers/kerbs.
    vi. Proposed surface treatment required including car park, service yard, perimeter road to be indicted on the plan.
    vii. Location of overflow spillways.
    viii. Preparation of a drainage plan, to control drainage from the site that considers Town's local and district network, connection and discharge points within the existing road reserves, adjacent to the development site.
    ix. Engineering drawings and specifications to be submitted in accordance with an approved Urban Water Management Plan (UWMP) for the site, or where no UWMP exists, to the satisfaction of the Town.
    x. Typical cross-section details for any subsurface retention storage infrastructure and calculations /reporting on stormwater capacity.
    xi. 150mm boundary kerbing to be provided (to be shown on plans).

13) The approved stormwater management plan shall be implemented in full by the Applicant prior to the occupation or use of the site and be maintained thereafter to the satisfaction of the Town.

14) Prior to lodging an application for a building permit, the Applicant shall lodge a detailed landscaping plan for the subject site for approval by the Town of Port Hedland, and must indicate but not limited to the following:

    x. Planting, pathways, car parking bays within the Parola Court road reserve, for the length/frontage of the subject land.

xi. Planting within the subject land adjacent to the parking areas, for the entire lengths of the northern, southern and western boundaries.
xii. All planting to be in accordance with the Town's 'Preferred Planting Guide' and a planting schedule / list of plant type and species to be identified.
xiii. Colour and material finish of all ground surfaces e.g. pavement types (e.g. sand, timber, concrete, bitumen), soft/hard mulch areas (e.g. wood mulch, gravel types and sizes), within all landscape areas.
xiv. Planting areas /zones to be reticulated.
xv. The location, number and type of proposed trees, shrubs, ground cover including planter and/or tree pit sizes and planting density.
xvi. Internal and external path network location, width sizes, purpose and pavement surface treatments.
xvii. Show connections between internal and external/surrounding path network to the satisfaction of the Town of Port Hedland.
xviii. A planting scheme for the proposed 3m low fuel zone around the modular 'workforce accommodation' building.

15 Fencing to existing and future streets shall be fully visually permeable to maximum of 2.1m height, to maintain passive surveillance over the public streets and internal carparking. All fencing to be of a high quality, consistent with the landscape design themes and consider Crime Prevention Through Environmental Design (CPTED) principles, to the satisfaction of the Town. Fencing not to include barbwire or electrification devices.

16) Lighting shall be constructed as per the approved lighting management plan and all windows facing the public open space reserve shall remain visually accessible during day and night to maintain passive surveillance of the adjacent reserve.

17) The Applicant shall prepare a 'Construction and Environmental Management Plan' (CEMP) for submission and approval by the Town of Port Hedland and thereafter be implemented throughout the construction phase of the development. The CEMP shall include, but not be limited to, the following information:

i. Contact details of essential site personnel, construction period and operating hours.
ii. Community information, consultation and complaints management plan.
iii. Public safety, security and amenity management.
iv. Traffic, access, and construction staff parking management.
v. Noise and dust management plan.
vi. Earthworks, excavation, land retention/piling methods and associated matters, to be contained with the approved development site.
vii. Stormwater and sediment control; site laydown office and temporary accommodation for construction crew.

18) The Applicant must not use gravel fines (cracker dust) for covering/sealing the property, within landscaping areas or the street verges, and areas of vehicular and pedestrian movement.

19) All car parking areas shall be constructed to the satisfaction of the Town prior to the occupation or use of the development and be:

i. designed to a 'User class 3A' with the B99 vehicle in accordance with the Australian Standards 2890.1:2004 (as amended) and the Building Codes.
ii. sealed (concrete, bitumen or asphalt), kerbed, drained and line marked.
iii. not be obstructed in any way or used for any other purpose other than parking.
iv. provided with wheel stops, where bays are adjacent to any infrastructure, including landscaping, footpaths, fences etc.
v. include provision of a car bays in accordance with AS 2890.6 – 'Off-street Parking for People with Disabilities'.
vi. provided with shade trees at a ratio of one (1) tree to four (4) car bays, to the satisfaction of the Town.

20) The Waste Management Plan prepared by Talis Consultants dated 23 February 2024 must be updated to include amendments to the floor plan and submitted to the Town of Port Hedland for approval . The approved Waste Management Plan must be implemented, and maintained thereafter, to the satisfaction of the Town of Port Hedland.

21) The approved Acoustic Assessment, prepared by NDY - Tetra Tech dated 7 March 2024 must be fully implemented and maintained thereafter, to the satisfaction of the Town of Port Hedland. v) All waste bin storage areas must be screened from view from the streetscape by landscaping and or suitable designed fencing incorporating crime prevention through environmental design principles, to the satisfaction of the Town of Port Hedland w) Prior to occupation or use of the site, the Applicant shall construct vehicle crossovers to the specification and satisfaction of the Town's Infrastructure Services. The crossovers, to be maintained for the duration of the development to the satisfaction of the Town of Port Hedland.

22) The Applicant must submit an Operational Management Plan (OPM) within six (6) months from the date of this approval and/or prior to lodgement of a building application, for approval by the Town of Port Hedland. The OPM to incorporate but not limited to the following:

i. Complaints Management Procedure.
ii. Fire and Cyclone Emergency Management Plan.
iii. Noise Management Plan.
iv. Public Access Management Plan, to include but not be limited to the following:
    - How public access is achieved to the Tourist Development facility.
    - Rooms are made available for public accommodation at the Tourist Development component of the facility.
    - Reporting on access as part of Town's requirements under Local Planning Policy 06 - Social Impact Assessment
v. Vehicle and Bicycle Parking Management Plan.
vi. Traffic Management Plan, to include but not be limited to workforce bus trips times and frequency, personal trips.
vii. Reference to the approved Lighting Management Plan.
viii. Health and Safety Management Plan for occupants and visitors, with reference but not limited to the following:

- location and provision of private, communal, and general open space areas on and off the property.
- how privacy / minimum areas can be achieved with screening and/or fencing.
- opportunities for recreation facilities on and off site.
- location of CCTV or other security systems to be used.
- opportunity for and location of end-of-trip facilities for service staff.

23) The development is to be carried out in accordance with the approved Operational Management Plan, for the duration of the development approval, to the satisfaction of the Town of Port Hedland.

24) A Site Rehabilitation Plan to be submitted for approval by the Town of Port Hedland within six (6) months from the date of this approval. The approved Site Rehabilitation Plan be implemented at the end of the approval period or the cessation of the uses on the land, whichever is earlier

25) The Bushfire Management Plan to be amended in accordance with the Department of Fire Emergency Services (DFES) recommendations for safe vehicular traffic and compliant emergency access way from Parola Court to Shoata Road, and other matters identified under the DFES submission.

26) The Applicant shall ensure all stages of the development and associated surface treatments tie in with surrounding developments, to the satisfaction of the Town of Port Hedland.

Advice Notes:

p) This is a development approval issued under the Town of Port Hedland Local Planning Scheme No. 7 only. It is not a building permit or an approval to commence or carry out development under any other law. It is the responsibility of the applicant/owner to obtain any other necessary approvals and to commence and carry out development in accordance with all other laws.

q) The development requires a Building Permit Application for any structural works including, including but not limited to fencing, retaining walls, signage, bin stores light posts, temporary gym and other temporary structures. Any amendment to the internal layout, specifically changes to the unit layouts and sizes, will affect the building permit. It is recommended that any changes to the design are made prior to an application for building permit being submitted.

r) With reference to Condition '3', the following definitions under the Local Planning Scheme No. 7 state:

'Tourist Development': "means a building, or a group of buildings forming a complex, other than a bed and breakfast, a caravan park or holiday accommodation, used to provide –

a) short-term accommodation for guests; and

b) onsite facilities for the use of guests; and

c) facilities for the management of the development."

'Workforce Accommodation': "means premises, which may include modular or relocatable buildings, used –

iii. Primarily for the accommodation of workers engaged in construction, resource, agricultural or other industries on a temporary basis; and

iv. ii. For any other associated catering, sporting and recreation facilities for the occupants and authorised visitors."

s) With respect to Condition '4', the Applicant's right to use and occupy the development land is subject to the applicable land tenure agreement with the Town of Port Hedland. The 40 year limit imposed by Condition 4 does not in any way fetter or affect the terms of the relevant land tenure agreement.

t) In reference to Condition '18', gravel fines (cracker dust) is not permitted due to its ability to erode during storm events, compromising on-site drainage systems and or the public drainage network.

u) In reference to Condition '20', the Waste Management Plan must comply with the Town of Port Hedland Waste Local Law 2020 for the duration of the development.

v) The Crown lots subject of this approval are required to be amalgamated prior to issue of a building permit.

w) The development must comply with Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974 at all times for the duration of the development.

x) This approval does not authorise or approve any signage. All signage is to be in strict accordance with the Town of Port Hedland Local Planning Policy 02 'Advertising Signs', unless further development approval is obtained. The applicant/developer should liaise with the Town's Planning and Development Services in this regard.

y) The approved development must comply with the Health (Public Building) Regulations 1992 at all times for the duration of the development.

z) The approved accommodation buildings must comply with the relevant provisions of the Health Act 1911 and the Town of Port Hedland Health Local Law 2016 at all times for the duration of the development.

aa) All lodging houses are required to be registered under the Health (Miscellaneous Provisions) Act 1911 and operate in accordance with that Act and the Town of Port Hedland Health Local Law 2016. 12. The approved development must comply with the Environmental Protection (Noise) Regulations 1997 at all times for the duration of the development.

bb) The approved development must comply with the Environmental Protection (Noise) Regulations 1997 at all times for the duration of the development.

cc) It is a requirement under the Food Act 2008 that all food premises be registered prior to the commencement of operations. The following is relevant:

i. The construction and use of the proposed premises is required to comply with the Food Regulations 2009, the Food Safety Standards and the Town of Port Hedland Health Local Law 2016;

ii. A fit-out plan of all internal fixtures, finishes and fittings must be provided and approved to the specifications of the Town of Port Hedland; and

iii. The food premises may be required to be connected to a grease trap prior to effluent entering the disposal system.

dd) The Department of Water and Environmental Regulations has advised the following:

x. clearing of this site is not exempt, and a clearing permit is required prior to any works commencing.

xi. Flooding in the proposed area is primarily related to the localised rainfall and the capacity of the stormwater drainage network. The location would appear to be at lower risk from storm surge with the primary risks being from local creeks and overland flows.

xii. The proposal involves the use of on-site swales and storage tanks to manage stormwater and then the discharge of this water to the existing local drainage system, an open drainage channel and a local creek.

xiii. Water Corporation will need to approve the discharge to their system to ensure there is sufficient capacity in the network.

xiv. The proponent to demonstrate proposed swales and storage are sufficient for the predicted volumes of water and information regarding available capacity in the local drainage channels, and that the level and design of the discharge point are appropriate to prevent the drainage system backing up during high flows in the drainage channel.

xv. Proposal occurs within the proclaimed Pilbara surface water and groundwater area and is subject to licensing requirements under the Rights in Water and Irrigation Act 1914. The proposal is to be connected to reticulated water supply and so no abstraction of groundwater or surface water is necessary.

xvi. If the proponent amends the proposal to use groundwater for any purpose, they will need to apply for a 5C licence to take water, and a 26D licence if new water supply bores are needed.

xvii. The WA Department of Health has advised the following:

v. all drinking water provided onsite must meet the health-related requirements of the Australian Drinking Water Guidelines 2011.

vi. Proposed Development must be connected to deep sewage services provided by a licensed service provider. Sewage intended to be reused or recycled for beneficial purposes such as landscape and garden bed irrigation, toilet flushing or other purposes, will require prior approval from the DoH.

vii. The subject land is in an area that occasionally experiences problems with nuisance and disease carrying mosquitoes – mosquito collections on surrounding land that vector mosquito's species Cx. annulirostris and Ae. vigilax breed nearby.

viii. Onsite infrastructure and constructed water bodies be designed and maintained to ensure they do not breed mosquitoes.

xviii. If an Applicant is aggrieved by this decision there is a right of review by the State Administrative Tribunal in accordance with the Planning and Development Act 2005, Part 14.

ANNEXURE – A Subject to Condition 6)

xv. The information in the Traffic Impact Assessment to be provided, according to Western Australian Planning Commission (WAPC) Traffic Impact Assessment (TIA) guidelines (Vol 4 Part C).
- checklist to confirm all sections of TIA includes information according to WAPC guidelines.

xvi. Section 2.6
- show footpath connectivity to buildings from bus bays.

xvii. Section 2.7
- Pedestrian access to South Hedland Integrated Sport Hub to be mentioned. • Discuss its internal connectivity and how it will improve connectivity towards South Hedland.

xviii. Section 4
- Visitor carpark to be clearly labelled on the drawings.
- Crossover details required and to be constructed in accordance with ToPH specifications.
- Subsequent design stages to be confirmed and the traffic impact to discuss the impacts that will be proposed at each design stage.
- Angled parking on the plans to be identified.

xix. Section 5
- details required on surrounding road upgrades. Assumption that upgrades will take place after 2036 are not accurate.
- It is proposed that the existing Hudson way will be closed and North Circular will be extended from Hamilton Rd.

xx. Section 6
- More details required.

xxi. Section 7.1
- Following scenarios to be considered: 5 year post completion, 10 year post completion.

xxii. Section 7.3
- Traffic generation has been completed on basis of previous accommodation camps, and an overall trip generation, which doesn't allow for maximum/peak trip generation in a period.
- Although the proposed traffic generation is based on average trip generation from other accommodation camps in South Hedland, a detailed assessment based on the facilities generating traffic should be done and reflected in the report.
- The source of the trip rates should be explained in detailed along with the AM and PM peak rates.
- This sections notes that the AM and PM peak traffic is more than the 100 vehicle trips in the peak hour, this means that the assessment should be considered as High Impact for the proposed development. Please see attached except from TIA guidelines.

xxiii. Section 7.5
- The traffic growth rate has been applied on the existing scenario and what the trip generation will look like post 10 year development.
- The known and unknown disruptors are not applicable to this development as this is an accommodation camp.

xxiv. Section 7.6
- Specify Austroads guidelines.
- include correct intersection types and the re-alignment of the road.
- A SIDRA modelling should be undertaken based on future road alignment and alignment and intersections.

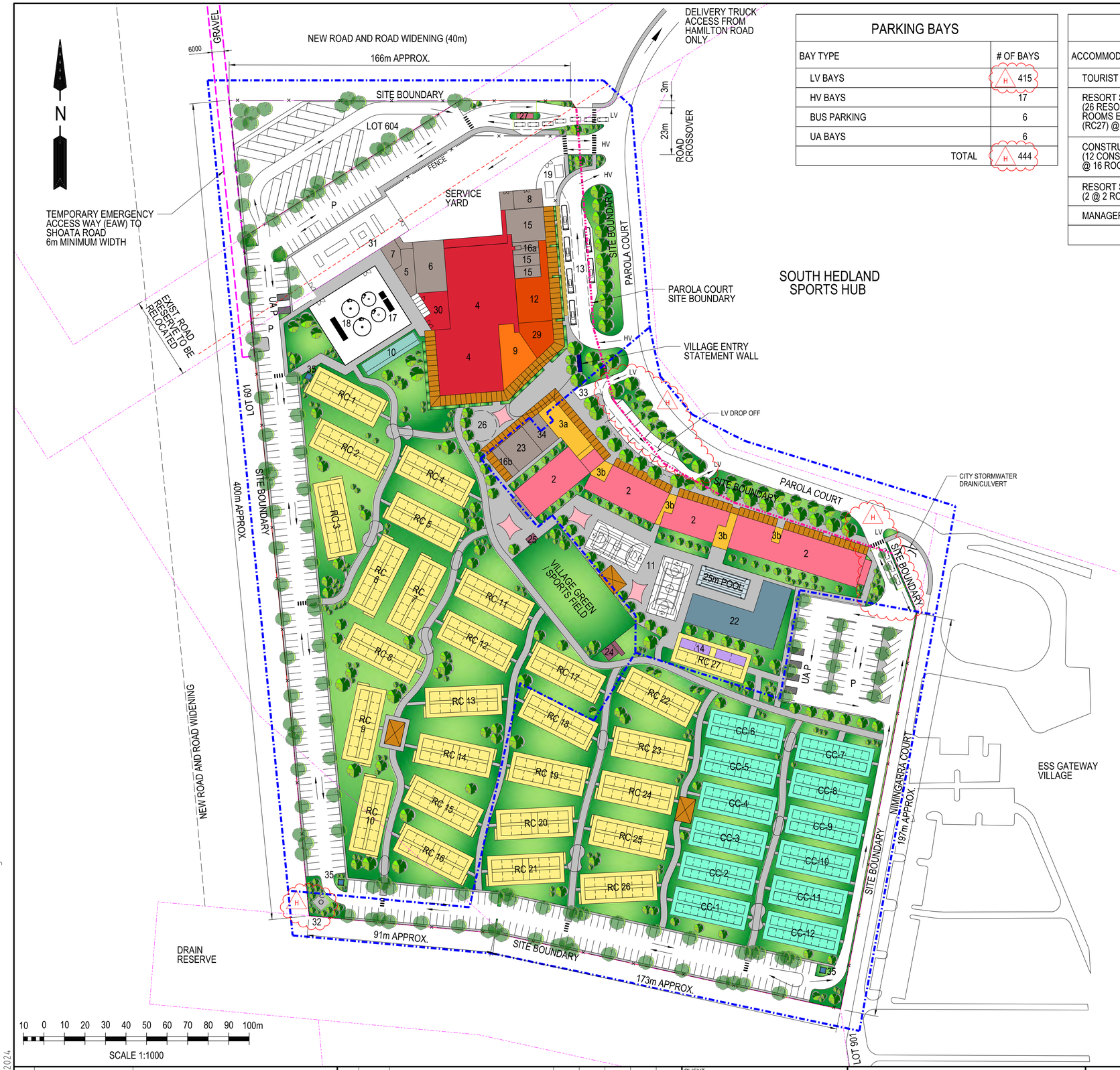
- There are no 4-way intersections as specified in Figure 18 around Hamilton Rd. Similarly, table 6 to be revised according to revised SIDRA calculations.

xxv. Section 7.7 & 7.8
- More information required as the Town believes there would be considerable traffic from this development with potential to impact the surrounding road network.

xxvi. Section 8
- Comparable facilities to be mentioned in the section.
- Discussion required if parking requirement is met if maximum occupancy is achieved.
- Parking demand to be based on individual facilities within the lot and the expected occupants for each facility.
- Parking bays should be calculated based on Local Planning Scheme No.7 Car Parking Standard.

xxvii. Section 9
- Swept path analysis to show lane correct movements of service vehicles.
- Native files of Swept path analysis to be provided.

xxviii. Section 11
- Walking path network details to be provided and access to SHISH site.



PARKING BAYS

BAY TYPE	# OF BAYS
LV BAYS	H 415
HV BAYS	17
BUS PARKING	6
UA BAYS	6
TOTAL	H 444

VILLAGE CAPACITY

ACCOMMODATION	# OF ROOMS
TOURIST - STYLE ROOMS	514
RESORT STYLE MODULAR ROOMS (26 RESORT CLUSTERS (RC 1-26) @ 36 ROOMS EACH & 1 RESORT CLUSTER (RC27) @ 6 ROOMS)	942
CONSTRUCTION MODULAR ROOMS (12 CONSTRUCTION CLUSTERS CC1 - CC12) @ 16 ROOMS EACH	192
RESORT STYLE MODULAR UA ROOMS (2 @ 2 ROOMS EACH)	4
MANAGER'S RESIDENCE	1
TOTAL	1653

LOCATION PLAN

GENERAL NOTES

1. DO NOT SCALE OFF DRAWINGS.
2. PLOT RATIO REQUIREMENT NOT APPLICABLE.

LEGEND

- 24 EQUIPMENT SHED
- 25 ANZAC MEMORIAL
- 26 COMMUNITY SPACE
- 27 SECURITY OFFICE
- 28 NOT USED
- 29 CAFE
- 30 RESTAURANT PLANT ROOM
- 31 2.0 MVA SUBSTATION KIOSK & 2.0 MVA BACK UP GENERATOR WITH RMU ENCLOSURE
- 32 SEWER TANKS 160KL (2 x TANKS 12m LONG x 3mDIA) & WETWELL
- 33 AMBULANCE BAY
- 34 VENTIA OFFICES
- 35 SMOKERS HUT (x3)
- P CAR PARKING
- BBQ GAZEBO 8m x 12m (x3)
- SHADE SAIL / SEATS
- VERANDA / DECKING
- FOOTPATH
- LANDSCAPING
- EASEMENT
- SITE BOUNDARY
- ADJACENT SITE BOUNDARIES
- FENCE
- NEW BOUNDARY LINE

- 1 RESORT STYLE ACCOMMODATION BLOCK (3 LEVELS)
- 2 TOURIST - STYLE ACCOMMODATION (6 LEVELS)
- 3a RECEPTION / ADMINISTRATION
- 3b TOURIST COMPLEX LOBBY / LIFTS
- 4 RESTAURANT CENTRAL KITCHEN / DINING/ FOOD STORES
- 5 MAINTENANCE WORKSHOP
- 6 LAUNDRY
- 7 RECYCLING SHED
- 8 RUBBISH SHED
- 9 TAVERN
- 10 MANAGERS RESIDENCE
- 11 MULTI - SPORT COURTS BASKETBALL / VOLLEYBALL/ TENNIS
- 12 RETAIL
- 13 BUS SET - DOWN
- 14 UA ROOM (SINGLE STOREY)
- 15 TRANSIT LOUNGE / SHOWER
- 16a TOILETS
- 16b ICE ROOM
- 17 POTABLE WATER PLANT
- 18 FIRE WATER PLANT (2 x TANKS 8m DIA x 5.3m HIGH)
- 19 SITE MAIN RMU, 2.0 MVA SUBSTATION KIOSK & 4 (1MW) BATTERY ENERGY STORAGE SYSTEM
- 20 CONSTRUCTION MODULAR ROOMS (1 LEVEL)
- 21 NOT USED
- 22 GYMNASIUM WELLNESS
- 23 BAGGAGE STORE

INFORMATION ONLY

PRELIMINARY UNCHECKED

No	REF. DRG. No.	TITLE	REV	DATE	DESCRIPTION	DRN	DCHK	DESN	ECHK	APP
7	W1766-RSV-TTP-DRG-AA-40-002	SITE ROOF PLAN	G	02.10.24	ISSUED FOR CLIENT REVIEW	MV	MR	MR		
6	W1766-AUX-TTP-DRG-AA-20-001	SITE SCREENS AND FENCING DETAILS	F	30.09.24	ISSUED FOR CLIENT REVIEW	CH	MR	MR		
5	W1766-AUX-TTP-DRG-AA-30-001	MAINTENANCE BUILDING FLOOR PLAN	E	27.09.24	ISSUED FOR CLIENT REVIEW	CH	MR	MR		
4	W1766-CFC-TTP-DRG-AA-10-001	CENTRAL FACILITIES COMPLEX FLOOR PLAN	D	02.05.24	ISSUED FOR CLIENT REVIEW	CH	MR	MR		
3	W1766-RSV-TTP-DRG-AA-20-001	RESORT STYLE ACCOMMODATION UA FLOOR PLAN	C	26.04.24	ISSUED FOR CLIENT REVIEW	CH	MR	MR		
2	W1766-FCL -TTP-DRG-AA-00-001	HOTEL STYLE ACCOMMODATION FLOOR PLANS	B	19.04.24	ISSUED FOR CLIENT REVIEW	MW	MR	MR		
1	W1766-RSV-TTP-DRG-AA-10-001	RESORT STYLE ACCOMMODATION FLOOR PLANS	H	03.10.24	ISSUED FOR CLIENT REVIEW	MV	MR	MR		

CLIENT

PACIFIC PARTNERSHIPS

UGL CPB CONTRACTORS

TETRA TECH PROTEUS
CONSULTING ENGINEERS • PROJECT MANAGERS
Ph +61 8 6218 2300 • Email proteus@tetratech.com

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TTP DOCUMENT CODE: 331492-DA-017

	BY	DATE	SIGN
DRN	M. VLOT	03.10.24	
DCHK	M. RODRIGO	03.10.24	
DESN	M. RODRIGO	03.10.24	
ECHK			
APP			

TITLE
SOUTH HEDLAND VILLAGE
MASTERPLAN CONCEPT
OPTION 9

SCALE		DRG. No.	REV.
1:1000	A1	W1766-AUX-TTP-DRG-AA-00-001	H

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6.04.03 PM 3/10/2024

ROOM CAPACITY

LEVEL	QTY
GROUND FLOOR	84 ROOMS
FIRST FLOOR	86 ROOMS
SECOND FLOOR	86 ROOMS
THIRD FLOOR	86 ROOMS
FOURTH FLOOR	86 ROOMS
FIFTH FLOOR	86 ROOMS
TOTAL	514 ROOMS

LEGEND

AC	AIR CONDITIONING
AS	AUSTRALIAN STANDARDS
AFL	ABOVE FLOOR LEVEL
BCA	BUILDING CODE OF AUSTRALIA
BMT	BASE METAL THICKNESS
C/W	COMPLETE WITH
dB	DECIBEL
FCL	FINISHED CEILING LEVEL
GL	GROUND LEVEL
HWS	HOT WATER SYSTEM
mm	MILLIMETRES
NCC	NATIONAL CONSTRUCTION CODE
UA	UNIVERSAL ACCESS/DISABLED
o	SEWER DUCT FROM CEILING VOID ABOVE GROUND FLOOR

ACCOMMODATION ROOMS (PRIVATE)

SERVICES (PUBLIC)

LINEN STORE (PRIVATE)

CHEMICAL STORE (PRIVATE)

TEMPORARY STORAGE AREAS (PRIVATE)

SMOKE RATED CORRIDOR DOORS

GENERAL NOTES

1. ACCOMMODATION LAYOUT IS BASED ON A CIMC MODULAR FLOOR PLAN ON A TYPICAL 16.7 x 3.85m MODULE.
2. DO NOT SCALE OFF DRAWING.
3. MAXIMUM TRAVEL DISTANCE OF 60m FIRE PERFORMANCE BASIS BETWEEN FIRE STAIRS.
4. FIRE SEPARATION REQUIRED BETWEEN FLOORS AND BETWEEN ROOM & ROOM / CORRIDOR.
5. FIRE ISOLATED STAIRS REQUIRED.
6. DIMENSIONS ARE APPROXIMATE. CHECK ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF WORKS.
7. BUILDING DESIGN TO COMPLY WITH REGION D, IMPORTANCE LEVEL 2 BUILDING CLASSIFICATION 3, AS PER NCC/BCA.
8. FLOOR TO FLOOR HEIGHT OF 3350m TO ALLOW FOR HVAC DUCTWORK.
9. ENSURE SOUND INSULATION RATING OF WALLS BETWEEN EACH ROOM IS NO LESS THAN RW + CTR 50
10. ENSURE EXTERNAL ENVELOPE TO ROOMS TO HAVE A MINIMUM SOUND INSULATION RATING OF RW + CTR 45 FOR SOLID ELEMENTS AND RW + CTR FOR GLAZED ELEMENTS.
11. ENSURE SOUND INSULATION RATING OF NO LESS THAN RW + CTR 50 AND IMPACT ISOLATION RATING OF NO MORE THAN LNTW 62 BETWEEN FLOORS.
12. ALL DIMENSIONS IN MILLIMETRES (mm) UNLESS OTHERWISE NOTED. DIMENSIONS SHOWN ARE APPROXIMATE ONLY. CHECK ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF WORK.

LOCATION PLAN

GROUND FLOOR PLAN (84 HOTEL ROOMS)

1:250

No	REF. DRG. No.	TITLE	REV	DATE	DESCRIPTION	DRN	DCHK	DESN	ECHK	APP
7	W1766-TSA-TTP-DRG-AA-00-004	TOURIST ACCOMMODATION ACCOMMODATION SECTIONS								
6	W1766-FCL-TTP-DRG-AA-60-001	TOURIST ACCOMMODATION TRANSIT LOUNGE FLOOR PLAN								
4	W1766-FCL-TTP-DRG-AA-40-002	TOURIST ACCOMMODATION GYMNASIUM GROUND FLOOR PLAN	E	30.09.24	ISSUED FOR CLIENT REVIEW	MV	MR	MR		
5	W1766-FCL-TTP-DRG-AA-50-001	TOURIST ACCOMMODATION WELLNESS CENTRE FLOOR PLAN	D	27.09.24	ISSUED FOR CLIENT REVIEW	MV	MR	MR		
3	W1766-FCL-TTP-DRG-AA-10-001	ADMINISTRATION / RECEPTION / BAGGAGE STORAGE	C	19.04.24	ISSUED FOR CLIENT REVIEW	MW	MR	MR		
2	W1766-TSA-TTP-DRG-AA-10-002	TOURIST ACCOMMODATION TYPICAL ROOM LAYOUT FLOOR PLANS	B	12.04.24	ISSUED FOR CLIENT REVIEW	CH	MR	MR		
1	W1766-AUX-TTP-DRG-AA-00-001	SOUTH HEDLAND VILLAGE MASTERPLAN	A	10.01.24	ISSUED FOR CLIENT REVIEW	MV	MR	MR		

CLIENT

PACIFIC PARTNERSHIPS

UGL CPB CONTRACTORS

TETRA TECH PROTEUS
CONSULTING ENGINEERS • PROJECT MANAGERS
Ph +61 8 6218 2300 • Email proteus@tetratech.com

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TTP DOCUMENT CODE: 331492-DA-028

	BY	DATE	SIGN
DRN	M.VLOT	30.09.24	
DCHK	M.RODRIGO	30.09.24	
DESN	M.RODRIGO	30.09.24	
ECHK			
APP			

TITLE
SOUTH HEDLAND VILLAGE
TOURIST ACCOMMODATION
GROUND FLOOR PLAN - OPTION 6

SCALE		DRG. No.	REV.
1:250	A1	W1766-FCL-TTP-DRG-AA-00-001	E

INFORMATION ONLY

PRELIMINARY UNCHECKED

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ROOM CAPACITY

LEVEL	QTY
GROUND FLOOR	84 ROOMS
FIRST FLOOR	86 ROOMS
SECOND FLOOR	86 ROOMS
THIRD FLOOR	86 ROOMS
FOURTH FLOOR	86 ROOMS
FIFTH FLOOR	86 ROOMS
TOTAL	514 ROOMS

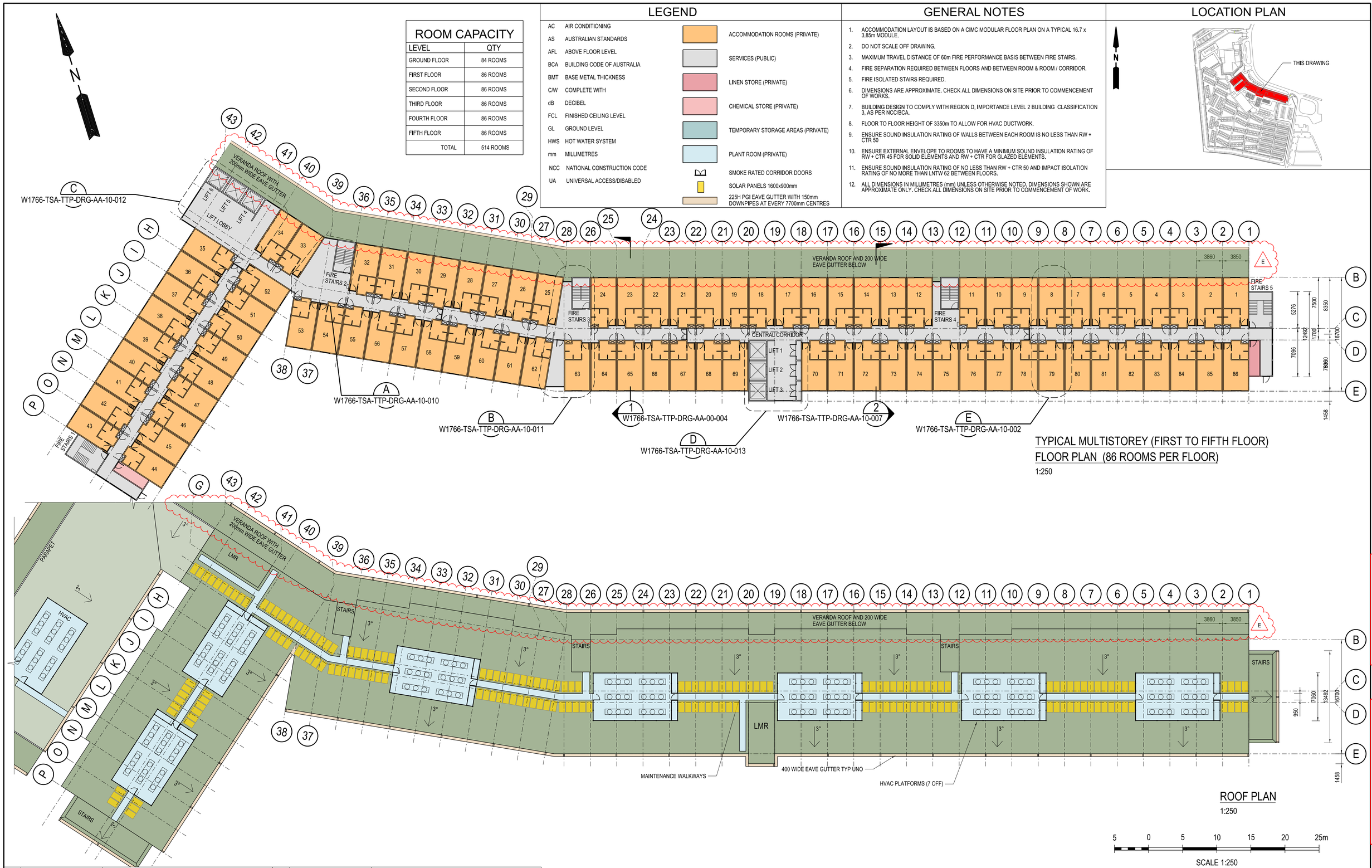
LEGEND

AC	AIR CONDITIONING	ACCOMMODATION ROOMS (PRIVATE)
AS	AUSTRALIAN STANDARDS	SERVICES (PUBLIC)
AFL	ABOVE FLOOR LEVEL	LINEN STORE (PRIVATE)
BCA	BUILDING CODE OF AUSTRALIA	CHEMICAL STORE (PRIVATE)
BMT	BASE METAL THICKNESS	TEMPORARY STORAGE AREAS (PRIVATE)
C/W	COMPLETE WITH	PLANT ROOM (PRIVATE)
dB	DECIBEL	SMOKE RATED CORRIDOR DOORS
FCL	FINISHED CEILING LEVEL	SOLAR PANELS 1600x900mm
GL	GROUND LEVEL	225H PGI EAVE GUTTER WITH 150mm DOWNPIPES AT EVERY 7700mm CENTRES
HWS	HOT WATER SYSTEM	
mm	MILLIMETRES	
NCC	NATIONAL CONSTRUCTION CODE	
UA	UNIVERSAL ACCESS/DISABLED	

GENERAL NOTES

1. ACCOMMODATION LAYOUT IS BASED ON A CIMC MODULAR FLOOR PLAN ON A TYPICAL 16.7 x 3.85m MODULE.
2. DO NOT SCALE OFF DRAWING.
3. MAXIMUM TRAVEL DISTANCE OF 60m FIRE PERFORMANCE BASIS BETWEEN FIRE STAIRS.
4. FIRE SEPARATION REQUIRED BETWEEN FLOORS AND BETWEEN ROOM & ROOM / CORRIDOR.
5. FIRE ISOLATED STAIRS REQUIRED.
6. DIMENSIONS ARE APPROXIMATE. CHECK ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF WORKS.
7. BUILDING DESIGN TO COMPLY WITH REGION D, IMPORTANCE LEVEL 2 BUILDING CLASSIFICATION 3, AS PER NCC/BCA.
8. FLOOR TO FLOOR HEIGHT OF 3350m TO ALLOW FOR HVAC DUCTWORK.
9. ENSURE SOUND INSULATION RATING OF WALLS BETWEEN EACH ROOM IS NO LESS THAN RW + CTR 50
10. ENSURE EXTERNAL ENVELOPE TO ROOMS TO HAVE A MINIMUM SOUND INSULATION RATING OF RW + CTR 45 FOR SOLID ELEMENTS AND RW + CTR FOR GLAZED ELEMENTS.
11. ENSURE SOUND INSULATION RATING OF NO LESS THAN RW + CTR 50 AND IMPACT ISOLATION RATING OF NO MORE THAN LNTW 62 BETWEEN FLOORS.
12. ALL DIMENSIONS IN MILLIMETRES (mm) UNLESS OTHERWISE NOTED. DIMENSIONS SHOWN ARE APPROXIMATE ONLY. CHECK ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF WORK.

LOCATION PLAN



TYPICAL MULTISTOREY (FIRST TO FIFTH FLOOR) FLOOR PLAN (86 ROOMS PER FLOOR)

1:250

ROOF PLAN

1:250

5 0 5 10 15 20 25m

SCALE 1:250

No	REF. DRG. No.	TITLE
9	W1766-TSA-TTP-DRG-AA-10-012	TOURIST ACCOMMODATION LOBBY 3 FLOOR AND CEILING PLANS
8	W1766-TSA-TTP-DRG-AA-10-011	TOURIST ACCOMMODATION LOBBY 2 FLOOR AND CEILING PLANS
7	W1766-TSA-TTP-DRG-AA-10-010	TOURIST ACCOMMODATION LOBBY 1 FLOOR AND CEILING PLANS
6	W1766-TSA-TTP-DRG-AA-10-002	TOURIST ACCOMMODATION TYPICAL ROOM LAYOUT
5	W1766-TSA-TTP-DRG-AA-00-004	TOURIST ACCOMMODATION SECTIONS
4	W1766-TSA-TTP-DRG-AA-00-001	TOURIST ACCOMMODATION PAROLA COURT ELEVATIONS
3	W1766-FCL -TTP-DRG-AA-00-001	TOURIST ACCOMMODATION GROUND FLOOR PLAN - OPTION 6
2	W1766-TSA-TTP-DRG-AA-10-002	TOURIST ACCOMMODATION TYPICAL ROOM LAYOUT
1	W1766-AUX-TTP-DRG-AA-00-001	SOUTH HEDLAND VILLAGE MASTERPLAN

No	REF. DRG. No.	TITLE
11	W1766-TSA-TTP-DRG-AA-10-007	TOURIST ACCOMMODATION GROUND FLOOR/ TYP MODULE SECTION
10	W1766-TSA-TTP-DRG-AA-10-013	TOURIST ACCOMMODATION LOBBY 4 FLOOR AND CEILING PLANS

REV	DATE	DESCRIPTION	DRN	DCHK	DESN	ECHK	APP
E	30.09.24	ISSUED FOR CLIENT REVIEW	MV	MR	MR		
D	27.09.24	ISSUED FOR CLIENT REVIEW	CH	MR	MR		
C	19.04.24	ISSUED FOR CLIENT REVIEW	MW	MR	MR		
B	12.04.24	ISSUED FOR CLIENT REVIEW	CH	MR	MR		
A	28.03.24	ISSUED FOR CLIENT REVIEW	MV	MR	MR		

CLIENT

PACIFIC PARTNERSHIPS

UGL CPB CONTRACTORS

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TTP DOCUMENT CODE: 331492-DA-029

	BY	DATE	SIGN
DRN	M. VLOT	30.09.24	
DCHK	M.RODRIGO	30.09.24	
DESN	M.RODRIGO	30.09.24	
ECHK			
APP			

TITLE

SOUTH HEDLAND VILLAGE
TOURIST ACCOMMODATION
TYPICAL MULTISTOREY & ROOF FLOOR PLANS

SCALE		DRG. No.	REV.
1:250	A1	W1766-TSA-TTP-DRG-AA-10-001	E

PRELIMINARY UNCHECKED

INFORMATION ONLY

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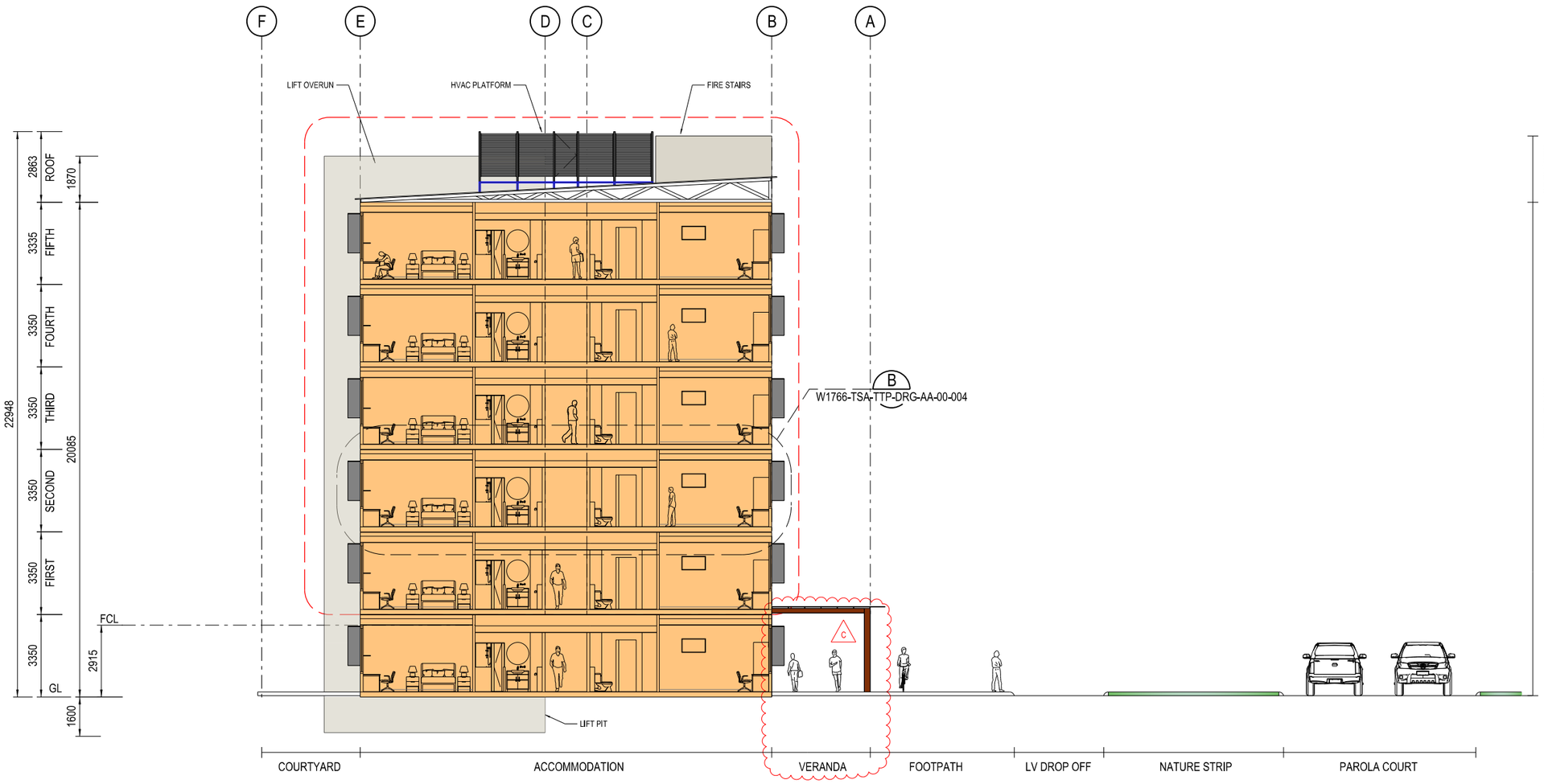
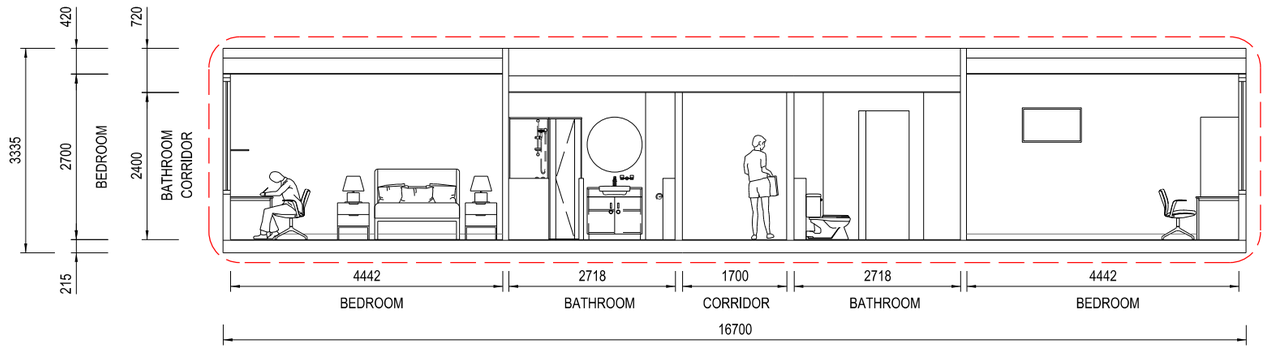


SECTION AA

SCALE 1:100

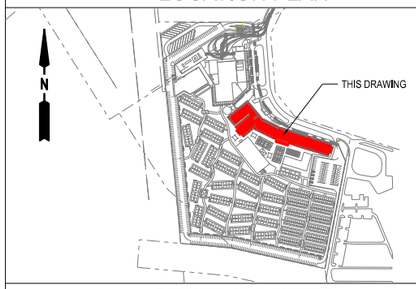


SECTION B

SCALE 1:50

* REFER TO DRAWING W1766-TSA-TTP-DRG-AA-10-007 FOR SECTION VIEW SHOWING THE RISER.

LOCATION PLAN



GENERAL NOTES

1. ALL DIMENSIONS IN MILLIMETRES (mm) UNLESS OTHERWISE NOTED. DIMENSIONS SHOWN ARE APPROXIMATE. CHECK ALL DIMENSIONS ON SITE PRIOR COMMENCEMENT OF WORKS.
2. DO NOT SCALE OFF DRAWINGS.
3. SPRAY ON VERMICULITE FIRE RETARDANT ON ALL STRUCTURAL STEELWORK FRL 120. CONCEALED SPACE SPRINKLER SYSTEM REQUIRED

LEGEND

AC	AIR CONDITIONING	FCL	FINISHED CEILING LEVEL
AS	AUSTRALIAN STANDARDS	GL	GROUND LEVEL
AFL	ABOVE FLOOR LEVEL	HWS	HOT WATER SYSTEM
BCA	BUILDING CODE OF AUSTRALIA	mm	MILLIMETRES
BMT	BASE METAL THICKNESS	NCC	NATIONAL CONSTRUCTION CODE
C/W	COMPLETE WITH	UA	UNIVERSAL ACCESS/DISABLED
dB	DECIBEL		

CIMC MODULAR CONSTRUCTION

INSITU CONSTRUCTION

1 0 1 2 3 4 5 6 7 8 9 10m

SCALE 1:100

INFORMATION ONLY

PRELIMINARY UNCHECKED

No	REF. DRG. No.	TITLE	REV	DATE	DESCRIPTION	DRN	DCHK	DESN	ECHK	APP
4	W1766-TSA-TTP-DRG-AA-10-001	TOURIST ACCOMMODATION TYPICAL MULTISTOREY & ROOF PLANS								
3	W1766-FCL-TTP-DRG-AA-00-001	TOURIST ACCOMMODATION GROUND FLOOR PLAN - OPTION 6	C	30.09.24	ISSUED FOR CLIENT REVIEW	CH	MR	MR		
2	W1766-TSA-TTP-DRG-AA-10-002	TOURIST ACCOMMODATION TYPICAL ROOM LAYOUT	B	27.09.24	ISSUED FOR CLIENT REVIEW	MV	MR	MR		
1	W1766-AUX-TTP-DRG-AA-00-001	SOUTH HEDLAND VILLAGE MASTERPLAN	A	12.04.24	ISSUED FOR CLIENT REVIEW	MV	MR	MR		

CLIENT

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TTP DOCUMENT CODE: 331492-DA-064

	BY	DATE	SIGN
DRN	M.VLOT	30.09.24	
DCHK	M.RODRIGO	30.09.24	
DESN	M.RODRIGO	30.09.24	
ECHK			
APP			

TITLE

SOUTH HEDLAND VILLAGE
TOURIST ACCOMMODATION
SECTIONS

SCALE 1:100 UNO | A1 | DRG. No. W1766-TSA-TTP-DRG-AA-00-004 | REV. C

c:\pwworking\augmp\d0547042\W1766-TSA-TTP-DRG-AA-00-004.dgn
30/09/2024
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PAROLA COURT ELEVATION (EAST)

SCALE 1:150

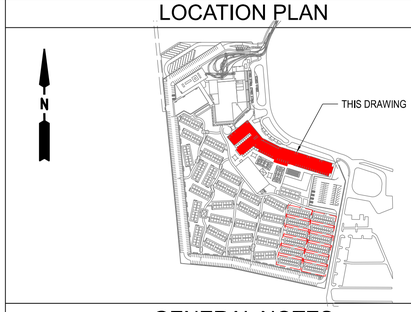
PAROLA COURT ELEVATION (EAST CONTINUED)

SCALE 1:150

3 0 3 6 9 12m

SCALE 1:150

LOCATION PLAN



GENERAL NOTES

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2. DO NOT SCALE OFF DRAWINGS.
3. CIMC COMPOSITE ALUMINIUM CLADDING IS SHOWN IN ORANGE AND DARK BLUE COLOURS - WHICH CONTINUES TO THE GROUND FLOOR FOR ALL LIFT SHAFTS, FIRE STAIRS AND ACCOMMODATION MODULES. THE STANDARD CIMC FIRE STAIR DETAIL SHOWS STEEL STUDWORK WALLS WITH STEEL SHEETING CLADDING. FOR BETTER AESTHETICS, THE ELEVATIONS SHOW IN DARK BLUE COLOUR THE CIMC ALUMINIUM COMPOSITE CLADDING INSTEAD.
4. GREY AREAS SHOWN ON THE GROUND FLOOR WALL AREAS OF THE ELEVATIONS ARE STANDING SEAM STEEL WALL CLADDING VERTICALLY LAID IN COLORBOND COLOUR MONUMENT, TO CLAD THE PRECAST CONCRETE WALLS OF THE ADMIN / BAGGAGE BUILDING; AND TO CLAD THE STEEL STUDWORK OF REMAINING GROUND FLOOR WALLS.
5. ALL GROUND LEVEL SHOPFRONT GLAZING HAS REGION D CYCLONE RATED ROLLER SHUTTERS ABOVE THE HEADS OF THE GLAZING. THIS IS NOT VISIBLE IN THE 1:150 SCALE ELEVATIONS. THE ROLLER SHUTTERS ARE SHOWN IN TTP DRAWING 'SHADE STRUCTURE TYPES SHEET 1', DRAWING 'W1766-RSV-TTP-DRG-AA-40-003'.

LEGEND

AC	AIR CONDITIONING	FCL	FINISHED CEILING LEVEL
AS	AUSTRALIAN STANDARDS	GL	GROUND LEVEL
AFL	ABOVE FLOOR LEVEL	HWS	HOT WATER SYSTEM
BCA	BUILDING CODE OF AUSTRALIA	mm	MILLIMETRES
BMT	BASE METAL THICKNESS	NCC	NATIONAL CONSTRUCTION CODE
C/W	COMPLETE WITH	UA	UNIVERSAL ACCESS/DISABLED
dB	DECIBEL		

No	REF. DRG. No.	TITLE	REV	DATE	DESCRIPTION	DRN	DCHK	DESN	ECHK	APP
7	W1766-RSV-TTP-DRG-AA-40-003	VILLAGE SHADE STRUCTURE TYPES - SHEET 1								
6	W1766-TSA-TTP-DRG-AA-80-007	TOURIST ACCOMMODATION EXTERNAL STREET VIEW								
5	W1766-TSA-TTP-DRG-AA-00-008	TOURIST ACCOMMODATION NORTH AND SOUTH ELEVATION								
4	W1766-TSA-TTP-DRG-AA-00-002	TOURIST ACCOMMODATION WEST ELEVATION	D	30.09.24	ISSUED FOR CLIENT REVIEW	MV	CH	MR		
3	W1766-TSA-TTP-DRG-AA-10-001	TOURIST ACCOMMODATION TYPICAL MULTISTOREY & ROOF PLANS	C	28.06.24	ISSUED FOR CLIENT REVIEW	MV	CH	MR		
2	W1766-FCL-TTP-DRG-AA-00-001	TOURIST ACCOMMODATION GROUND FLOOR PLAN - OPTION 6	B	19.06.24	ISSUED FOR CLIENT REVIEW	MV	CH	MR		
1	W1766-AUX-TTP-DRG-AA-00-001	SOUTH HEDLAND VILLAGE MASTERPLAN CONCEPT OPTION 9	A	18.06.24	ISSUED FOR CLIENT REVIEW	MV	CH	MR		

CLIENT

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TTP DOCUMENT CODE: 331492-DA-033

	BY	DATE	SIGN
DRN	M. VLOT	30.09.24	
DCHK	C. HEALY	30.09.24	
DESN	M. RODRIGO	30.09.24	
ECHK			
APP			

TITLE
SOUTH HEDLAND VILLAGE
TOURIST ACCOMMODATION
PAROLA COURT EAST ELEVATION

SCALE		DRG. No.	REV.
1:150	A1	W1766-TSA-TTP-DRG-AA-00-001	D

INFORMATION ONLY

PRELIMINARY UNCHECKED

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30/09/2024
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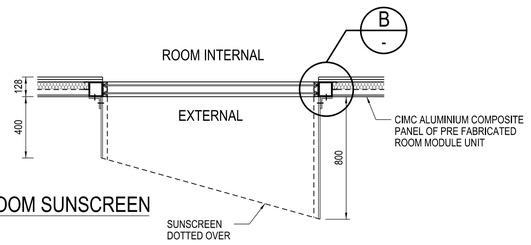
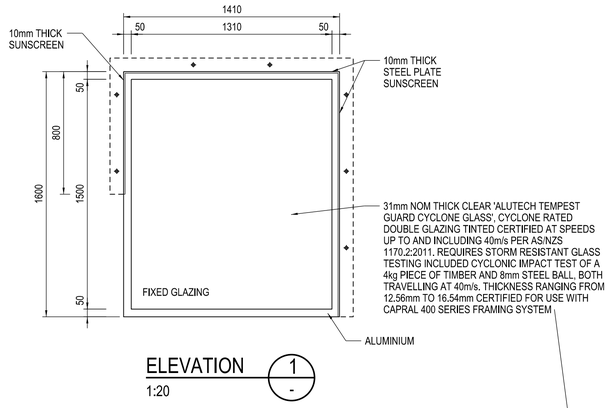
SOUTH ELEVATION

SCALE 1:150



HOTEL ROOM SUNSCREEN PLAN DETAIL A

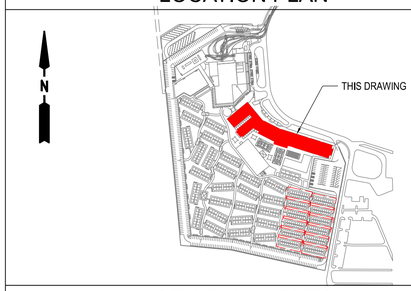
1:20



ELEVATION 1

1:20

LOCATION PLAN

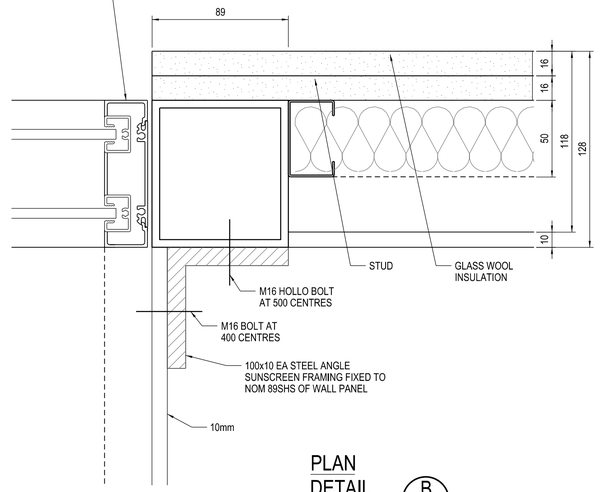


GENERAL NOTES

1. ALL DIMENSIONS IN MILLIMETRES (mm) UNLESS OTHERWISE NOTED. DIMENSIONS SHOWN ARE APPROXIMATE. CHECK ALL DIMENSIONS ON SITE PRIOR COMMENCEMENT OF WORKS.
2. DO NOT SCALE OFF DRAWINGS.
3. CIMC COMPOSITE ALUMINIUM CLADDING IS SHOWN IN ORANGE AND DARK BLUE COLOURS - WHICH CONTINUES TO THE GROUND FLOOR FOR ALL LIFT SHAFTS, FIRE STAIRS AND ACCOMMODATION MODULES. THE STANDARD CIMC FIRE STAIR DETAIL SHOWS STEEL STUDWORK WALLS WITH STEEL SHEETING CLADDING. FOR BETTER AESTHETICS, THE ELEVATIONS SHOW IN DARK BLUE COLOUR THE CIMC ALUMINIUM COMPOSITE CLADDING INSTEAD.
4. GREY AREAS SHOWN ON THE GROUND FLOOR WALL AREAS OF THE ELEVATIONS ARE STANDING SEAM STEEL WALL CLADDING VERTICALLY LAID IN COLORBOND COLOUR MONUMENT, TO CLAD THE PRECAST CONCRETE WALLS OF THE ADMIN / BAGGAGE BUILDING; AND TO CLAD THE STEEL STUDWORK OF REMAINING GROUND FLOOR WALLS.
5. ALL GROUND LEVEL SHOPFRONT GLAZING HAS REGION D CYCLONE RATED ROLLER SHUTTERS ABOVE THE HEADS OF THE GLAZING. THIS IS NOT VISIBLE IN THE 1:150 SCALE ELEVATIONS. THE ROLLER SHUTTERS ARE SHOWN IN TTP DRAWING 'SHADE STRUCTURE TYPES SHEET 1', DRAWING 'W1766-RSV-TTP-DRG-AA-40-003'.

LEGEND

AC	AIR CONDITIONING	FCL	FINISHED CEILING LEVEL
AS	AUSTRALIAN STANDARDS	GL	GROUND LEVEL
AFL	ABOVE FLOOR LEVEL	HWS	HOT WATER SYSTEM
BCA	BUILDING CODE OF AUSTRALIA	mm	MILLIMETRES
BMT	BASE METAL THICKNESS	NCC	NATIONAL CONSTRUCTION CODE
C/W	COMPLETE WITH	UA	UNIVERSAL ACCESS/DISABLED
dB	DECIBEL		



NORTH ELEVATION

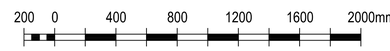
SCALE 1:150

PLAN DETAIL B

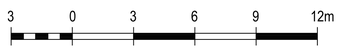
1:2

SUN SCREEN

SCALE 1:2



SCALE 1:20



SCALE 1:150

No	REF. DRG. No.	TITLE	REV	DATE	DESCRIPTION	DRN	DCHK	DESN	ECHK	APP
7	W1766-RSV-TTP-DRG-AA-40-003	VILLAGE SHADE STRUCTURE TYPES - SHEET 1								
6	W1766-TSA-TTP-DRG-AA-80-007	TOURIST ACCOMMODATION EXTRENAL STREET VIEW								
5	W1766-TSA-TTP-DRG-AA-00-002	TOURIST ACCOMMODATION WEST ELEVATION								
4	W1766-TSA-TTP-DRG-AA-00-001	TOURIST ACCOMMODATION PAROLA COURT EAST ELEVATION	D	30.09.24	ISSUED FOR CLIENT REVIEW	MV	MR	MR		
3	W1766-TSA-TTP-DRG-AA-10-001	TOURIST ACCOMMODATION TYPICAL MULTISTOREY & ROOF PLANS	C	28.06.24	ISSUED FOR CLIENT REVIEW	MV	CH	MR		
2	W1766-FCL-TTP-DRG-AA-00-001	TOURIST ACCOMMODATION GROUND FLOOR PLAN - OPTION 6	B	19.06.24	ISSUED FOR CLIENT REVIEW	MV	CH	MR		
1	W1766-AUX-TTP-DRG-AA-00-001	SOUTH HEDLAND VILLAGE MASTERPLAN CONCEPT OPTION 9	A	18.06.24	ISSUED FOR CLIENT REVIEW	MV	CH	MR		

CLIENT

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UGL CPB CONTRACTORS

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TTP DOCUMENT CODE: 331492-DA-137

	BY	DATE	SIGN
DRN	M.VLOT	30.09.24	
DCHK	M. RODRIGO	30.09.24	
DESN	M. RODRIGO	30.09.24	
ECHK			
APP			

TITLE

SOUTH HEDLAND VILLAGE
TOURIST ACCOMMODATION
NORTH AND SOUTH ELEVATION

SCALE		DRG. No.	REV.
1:150	A1	W1766-TSA-TTP-DRG-AA-00-008	D

INFORMATION ONLY

PRELIMINARY UNCHECKED

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30/09/2024
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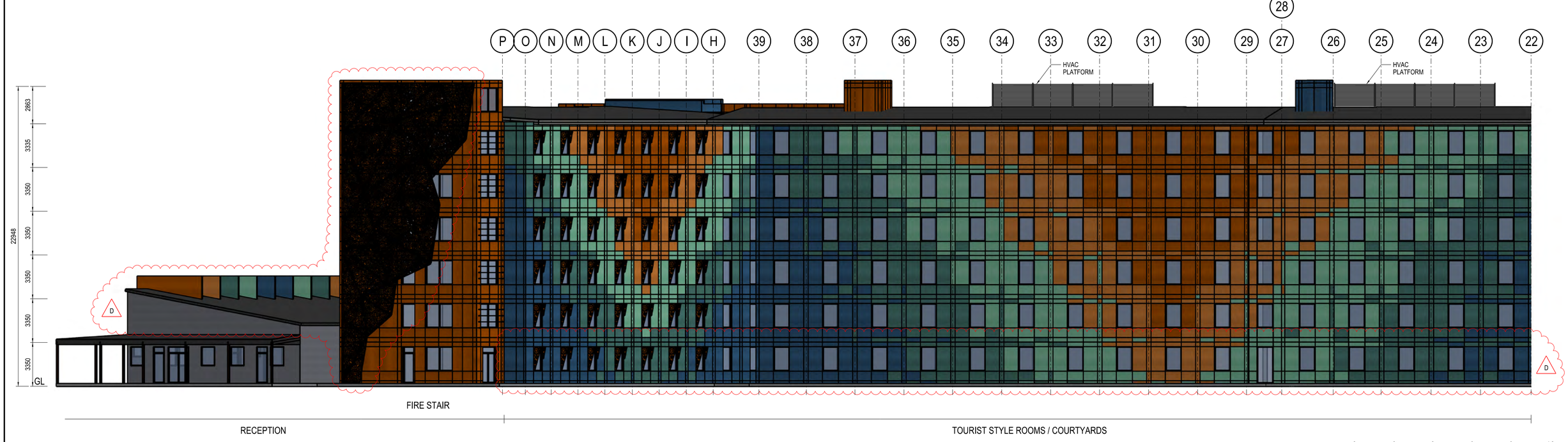
WEST ELEVATION

SCALE 1:150



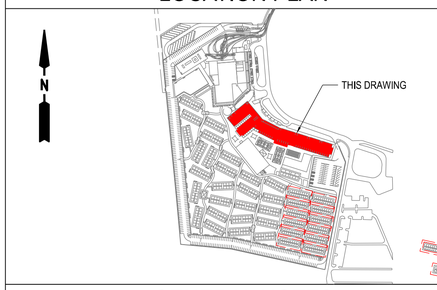
WEST ELEVATION (CONTINUED)

SCALE 1:150

3 0 3 6 9 12m

SCALE 1:150

LOCATION PLAN



GENERAL NOTES

1. ALL DIMENSIONS IN MILLIMETRES (mm) UNLESS OTHERWISE NOTED. DIMENSIONS SHOWN ARE APPROXIMATE. CHECK ALL DIMENSIONS ON SITE PRIOR COMMENCEMENT OF WORKS.
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3. CIMC COMPOSITE ALUMINIUM CLADDING IS SHOWN IN ORANGE AND DARK BLUE COLOURS - WHICH CONTINUES TO THE GROUND FLOOR FOR ALL LIFT SHAFTS, FIRE STAIRS AND ACCOMMODATION MODULES. THE STANDARD CIMC FIRE STAIR DETAIL SHOWS STEEL STUDWORK WALLS WITH STEEL SHEETING CLADDING. FOR BETTER AESTHETICS, THE ELEVATIONS SHOW IN DARK BLUE COLOUR THE CIMC ALUMINIUM COMPOSITE CLADDING INSTEAD.
4. GREY AREAS SHOWN ON THE GROUND FLOOR WALL AREAS OF THE ELEVATIONS ARE STANDING SEAM STEEL WALL CLADDING VERTICALLY LAID IN COLORBOND COLOUR MONUMENT, TO CLAD THE PRECAST CONCRETE WALLS OF THE ADMIN / BAGGAGE BUILDING; AND TO CLAD THE STEEL STUDWORK OF REMAINING GROUND FLOOR WALLS.
5. ALL GROUND LEVEL SHOPFRONT GLAZING HAS REGION D CYCLONE RATED ROLLER SHUTTERS ABOVE THE HEADS OF THE GLAZING. THIS IS NOT VISIBLE IN THE 1:150 SCALE ELEVATIONS. THE ROLLER SHUTTERS ARE SHOWN IN TTP DRAWING 'SHADE STRUCTURE TYPES SHEET 1', DRAWING 'W1766-RSV-TTP-DRG-AA-40-003'.

LEGEND

AC	AIR CONDITIONING	FCL	FINISHED CEILING LEVEL
AS	AUSTRALIAN STANDARDS	GL	GROUND LEVEL
AFL	ABOVE FLOOR LEVEL	HWS	HOT WATER SYSTEM
BCA	BUILDING CODE OF AUSTRALIA	mm	MILLIMETRES
BMT	BASE METAL THICKNESS	NCC	NATIONAL CONSTRUCTION CODE
C/W	COMPLETE WITH	UA	UNIVERSAL ACCESS/DISABLED
dB	DECIBEL		

No	REF. DRG. No.	TITLE	REV	DATE	DESCRIPTION	DRN	DCHK	DESN	ECHK	APP
7	W1766-RSV-TTP-DRG-AA-40-003	VILLAGE SHADE STRUCTURE TYPES - SHEET 1								
6	W1766-TSA-TTP-DRG-AA-80-007	TOURIST ACCOMMODATION EXTRENAL STREET VIEW								
5	W1766-TSA-TTP-DRG-AA-00-008	TOURIST ACCOMMODATION NORTH AND SOUTH ELEVATION								
4	W1766-TSA-TTP-DRG-AA-00-001	TOURIST ACCOMMODATION PAROLA COURT EAST ELEVATION	D	30.09.24	ISSUED FOR CLIENT REVIEW	MV	MR	MR		
3	W1766-TSA-TTP-DRG-AA-10-001	TOURIST ACCOMMODATION TYPICAL MULTISTOREY & ROOF PLANS	C	28.06.24	ISSUED FOR CLIENT REVIEW	MV	CH	MR		
2	W1766-FCL-TTP-DRG-AA-00-001	TOURIST ACCOMMODATION GROUND FLOOR PLAN - OPTION 6	B	19.06.24	ISSUED FOR CLIENT REVIEW	MV	CH	MR		
1	W1766-AUX-TTP-DRG-AA-00-001	SOUTH HEDLAND VILLAGE MASTERPLAN CONCEPT OPTION 9	A	18.06.24	ISSUED FOR CLIENT REVIEW	MV	CH	MR		

CLIENT

PACIFIC PARTNERSHIPS

UGL CPB CONTRACTORS

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TTP DOCUMENT CODE: 331492-DA-066

	BY	DATE	SIGN
DRN	M.VLOT	30.09.24	
DCHK	M. RODRIGO	30.09.24	
DESN	M. RODRIGO	30.09.24	
ECHK			
APP			

TITLE

SOUTH HEDLAND VILLAGE
TOURIST ACCOMMODATION
WEST ELEVATION

SCALE		DRG. No.	REV.
1:150	A1	W1766-TSA-TTP-DRG-AA-00-002	D

INFORMATION ONLY

PRELIMINARY UNCHECKED

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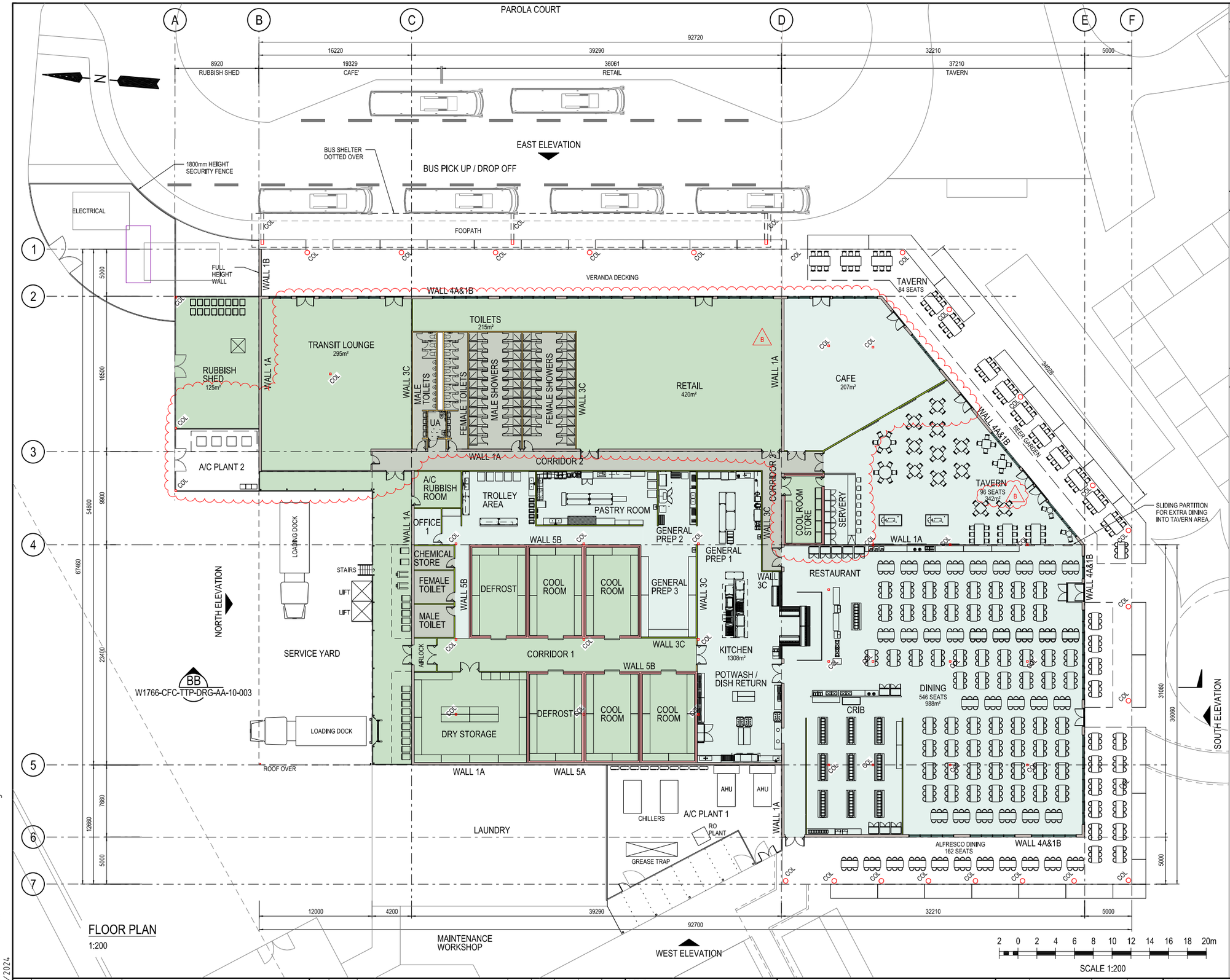
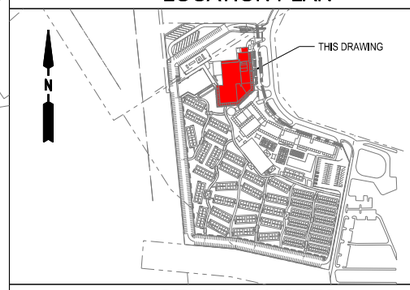


FLOOR PLAN
1:200

LOCATION PLAN



GENERAL NOTES

1. ALL DIMENSIONS IN MILLIMETRES (mm) UNLESS OTHERWISE NOTED. DIMENSIONS SHOWN ARE APPROXIMATE. CHECK ALL DIMENSIONS ON SITE PRIOR COMMENCEMENT OF WORKS.
2. DO NOT SCALE OFF DRAWINGS.
3. BUILDING DESIGN TO COMPLY WITH REGION D. IMPORTANCE LEVEL 2 BUILDING CLASSIFICATION 6, AS PER NCC/BCA.
4. IN-SITU BUILDING CONSTRUCTION. THIS IS A CONCEPT DRAWING ONLY. FUTURE FINAL CONSTRUCTION DRAWINGS TO BE REVIEWED AND APPROVED BY PACIFIC PARTNERSHIPS.

GROSS FLOOR AREA	
CENTRAL FACILITIES COMPLEX	3,742.5m²
MAINTENANCE BUILDING	600.15m²
TOTAL	4,342.65m²

LEGEND

AC	AIR CONDITIONING
AS	AUSTRALIAN STANDARDS
AFL	ABOVE FLOOR LEVEL
BCA	BUILDING CODE OF AUSTRALIA
BMT	BASE METAL THICKNESS
C/W	COMPLETE WITH
dB	DECIBEL
FCL	FINISHED CEILING LEVEL
GL	GROUND LEVEL
HWS	HOT WATER SYSTEM
mm	MILLIMETRES
NCC	NATIONAL CONSTRUCTION CODE
UA	UNIVERSAL ACCESS/DISABLED

- WALL TYPE 1 - PRECAST CONCRETE
- WALL TYPE 2 - 92mm STUD WALL
- WALL TYPE 3 - STEEL STUDWORK
- WALL TYPE 4 - ALUMINIUM FRAMED GLAZING
- WALL TYPE 5 - PIR REFRIGERATED PANEL
- WALL TYPE 6 - CIMC MODULAR HIGH RISE
- WALL TYPE 7 - FIRE RATED
- FLOOR TYPE 1 - STONE TILES
- FLOOR TYPE 2 - VINYL
- FLOOR TYPE 3 - CONCRETE
- FLOOR TYPE 4 - CARPET
- FLOOR TYPE 5 - RUBBLE
- FLOOR TYPE 6 - CERAMIC TILES

INFORMATION ONLY

PRELIMINARY UNCHECKED

No	REF. DRG. No.	TITLE	REV	DATE	DESCRIPTION	DRN	DCHK	DESN	ECHK	APP
3	W1766-AUX-TTP-DRG-AA-90-010	SCHEDULE OF WALL TYPES								
2	W1766-AUX-TTP-DRG-AA-30-001	SOUTH HEDLAND VILLAGE MAINTENANCE BUILDING	B	27.09.24	ISSUED FOR CLIENT REVIEW	CH	MR	MR		
1	W1766-AUX-TTP-DRG-AA-00-001	SOUTH HEDLAND VILLAGE MASTERPLAN	A	28.03.24	ISSUED FOR CLIENT REVIEW	CH	MR	MR		

CLIENT: PACIFIC PARTNERSHIPS; UGL CPB CONTRACTORS

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TTP DOCUMENT CODE: 331492-DA-023

	BY	DATE	SIGN
DRN	C. HEALY	27.09.24	
DCHK	M.RODRIGO	27.09.24	
DESN	M.RODRIGO	27.09.24	
ECHK			
APP			

TITLE: SOUTH HEDLAND VILLAGE
CENTRAL FACILITIES COMPLEX
FLOOR PLAN

SCALE: 1:200 UNO | A1 | DRG. No. W1766-CFC-TTP-DRG-AA-10-001 | REV. B

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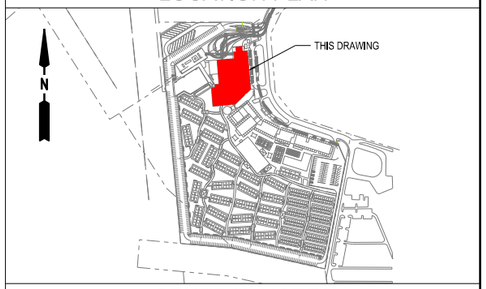
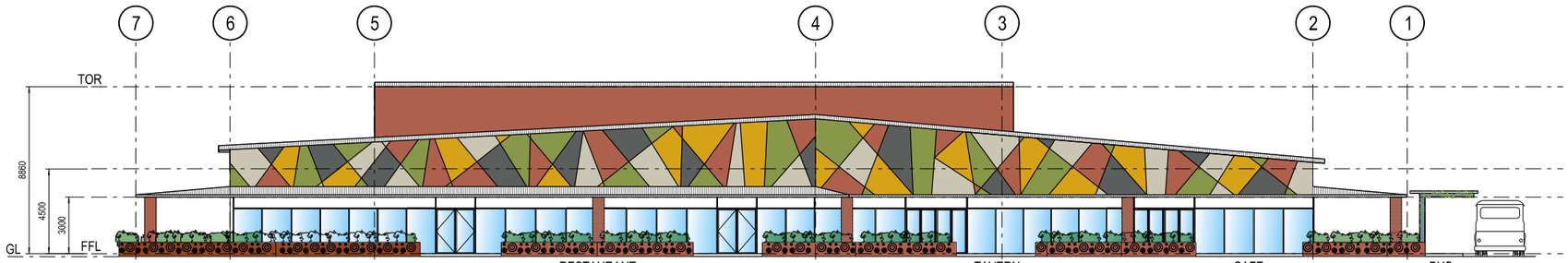
LOCATION PLAN

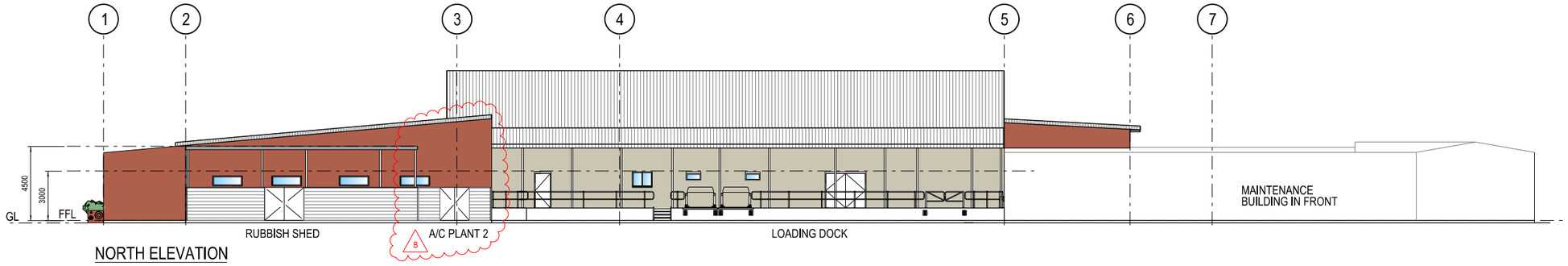


GENERAL NOTES

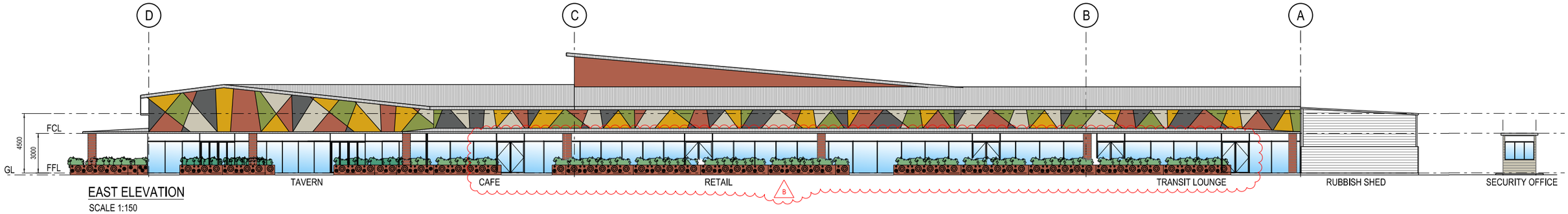
1. ALL DIMENSIONS IN MILLIMETRES (mm) UNLESS OTHERWISE NOTED. DIMENSIONS SHOWN ARE APPROXIMATE. CHECK ALL DIMENSIONS ON SITE PRIOR COMMENCEMENT OF WORKS.
2. DO NOT SCALE OFF DRAWINGS.



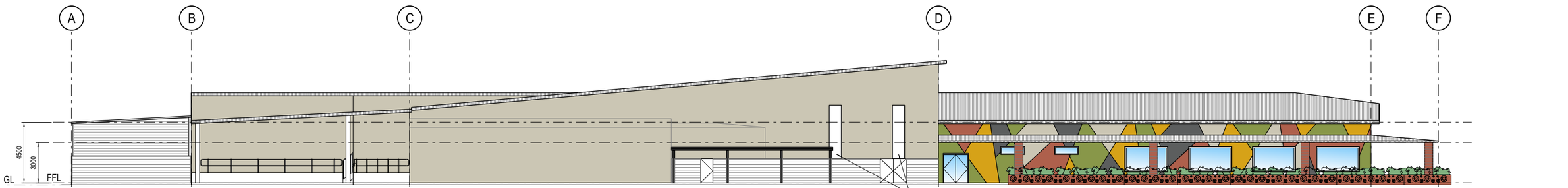
SOUTH ELEVATION
SCALE 1:150



NORTH ELEVATION
SCALE 1:150



EAST ELEVATION
SCALE 1:150



WEST ELEVATION
SCALE 1:150

3 0 3 6 9 12m
SCALE 1:150

No	REF. DRG. No.	TITLE
3	W1766-CFC-TTP-DRG-AA-10-001	SOUTH HEDLAND VILLAGE CENTRAL FACILITIES FLOOR PLAN
2	W1766-AUX-TTP-DRG-AA-30-001	SOUTH HEDLAND VILLAGE MAINTENANCE BUILDING
1	W1766-AUX-TTP-DRG-AA-00-001	SOUTH HEDLAND VILLAGE MASTERPLAN

REV	DATE	DESCRIPTION	DRN	DCHK	DESN	ECHK	APP
B	27.09.24	ISSUED FOR CLIENT REVIEW	CH	MR	MR		
A	28.03.24	ISSUED FOR CLIENT REVIEW	CH	MR	MR		

CLIENT
PACIFIC PARTNERSHIPS
UGL CPB CONTRACTORS

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TTP DOCUMENT CODE: 331492-DA-032

	BY	DATE	SIGN
DRN	C. HEALY	27.09.24	
DCHK	M.RODRIGO	27.09.24	
DESN	M.RODRIGO	27.09.24	
ECHK			
APP			

TITLE
SOUTH HEDLAND VILLAGE
CENTRAL FACILITIES COMPLEX
ELEVATIONS

SCALE 1:150 | A1 | DRG. No. W1766-CFC-TTP-DRG-AA-10-002 | REV. B

INFORMATION ONLY

PRELIMINARY UNCHECKED

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27/09/2024
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EQUIPMENT LIST

ITEM	MODEL / DESCRIPTION	QTY
1	FIRE INDICATOR PANEL (FIP) AMPAC FIREFINDER PLUS	1
2	LOUNGE CHAIR	16
3	600mm DIA. COFFEE TABLE	4
4	WATER FOUNTAIN	1
5	FULL HEIGHT CUPBOARD	2
6	WORK STATION	2
7	ERGONOMIC CHAIR	5
8	SINGLE SCREEN	2
9	UNDER DESK CREDENZA ON ROLLERS	6
10	MULTI-ZONE AUDIO SYSTEM / CCTV CONNECTION	2
11	DUAL SCREENS	4
12	OPEN BOOK SHELF	1
13	PIN BOARD	2
14	WORKSTATION DESK	4
15	WAITING ROOM CHAIR	8
16	1800mm HIGH OPEN SHELVING	2
17	SKILL TOOLS KIT	3
18	AEROBIC STEP 880x350	12
19	AEROBIC ADJUSTABLE RISER	28
20	WALL STORAGE MAT	1
21	FITNESS MAT	10

EQUIPMENT LIST

ITEM	MODEL / DESCRIPTION	QTY
22	POWERBAND - LOOPED LATEX	2
23	SKILLROW 7"	2
24	SYNCHRO AR LIVE 16 P 7000 METEOR BLACK	2
25	TREADMILL RUN LIVE 19 7000 METEOR BLACK	4
26	RECLINE LIVE 16 P 7000 METEOR BLACK	2
27	VARIO LIVE 16 P 7000 METEOR BLACK	2
28	SKILLMILL 7"	1
29	CLIMB LIVE 16 P 7000 METEOR BLACK	2
30	BIKE LIVE 16 P 7000 METEOR BLACK	3
31	TV 55 INCH	3
32	CHIN UP / DIP / LEG RAISE	1
33	PURE LEG EXTENSION	2
34	PURE STANDING LEG CURL	1
35	PURE HIP THRUST	2
36	PURE BICEPS	2
37	PURE SEATED DIP	1
38	PURE REAR KICK	1
39	PURE SEATED CALF	1
40	OLYMPIC FLAT BENCH PURE	2
41	ADJUSTABLE BENCH	4
42	8 PRONG OLYMPIC WEIGHT TREE	2

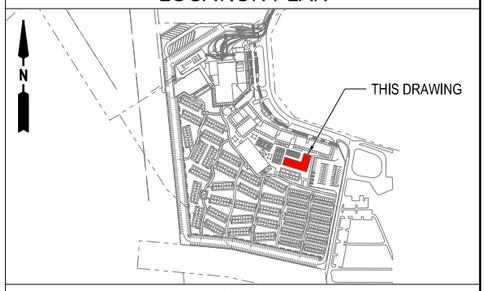
EQUIPMENT LIST

ITEM	MODEL / DESCRIPTION	QTY
43	OLYMPIC PU GRIP SERIES PLATE SETS - BLACK	2
44	DOUBLE TIER DUMBBELL RACKS WITH VARIOUS DUMBBELL WEIGHTS	1
45	KETTLEBELL RACK - DOUBLE TIER	2
46	KETTLEBELL VARIOUS WEIGHT SETS	2
47	2 SEATER LOUNGE	2
48	1000mm DIA. COFFEE TABLE	2
49	3000(L) x 1000(D)mm W ISLAND BENCH WITH STORAGE BELOW	1
50	FRIDGE	2
51	STAINLESS STEEL DOUBLE SINK COMPLETE WITH TAPSET	1
52	KITCHEN BENCH WITH STORAGE BELOW 6790(L)mm	1
53	MULTIFUNCTIONAL GAMES TABLE	4
54	BAR STOOL	6
55	ACCESSIBLE BATHROOM SOLUTIONS PACK INCLUDING TOILET SUITE , WALL-MOUNTED BACKREST, TOILET GRAB RAILS, T-SHAPED GRAB RAIL SHOWER KIT WITH ADJUSTABLE SHOWER ON RAIL, SHOWER MIXER, FOLD DOWN SHOWER SEAT, HAND BASIN, BASIN MIXER WITH EXTENDED LEVER HANDLE, BOTTLE TRAP, AND THERMOSTATIC MIXING VALVE IN LOCKABLE STAINLESS STEEL CABINET WITH HINGED LID, TBC	1
56	REFORMER PILATES MACHINE	12

EQUIPMENT LIST

ITEM	MODEL / DESCRIPTION	QTY
57	YOGA MAT	10
58	TOILET	8
59	COMPACT LAMINATE CUBICLE, 2100mm HIGH, C/W DOOR, LOCKABLE PRIVACY SET, LIFT-OFF HINGES, COAT HOOK, INDICATOR BOLT, AND TOILET ROLL HOLDER.	8
60	URINAL TROUGH	1
61	HANDBASIN	6
62	HAND DRYER	4
63	PAPER TOWEL DISPENSER	2
64	BIN	2
65	SOAP DISPENSER	4
66	WALL MOUNTED ADJUSTABLE HAND SHOWER ON RAIL, C/W SOAP HOLDER AND TAPWARE	8
67	LAMINATE SHOWER CUBICLE, 2100mm HIGH, C/W DOOR, LOCKABLE PRIVACY SET, LIFT OFF HINGES, SHOWER SEAT, 2 x COAT HOOKS OVER SHOWER SEAT, AND SHOWER TRAY OF SIZE 925(W)x920(D)mm	8
68	STEEL LOCKERS DOUBLE STACKED, 'PREMIER LOCKERS' 2 DOOR STEEL LUGGAGE LOCKERS 1830(H)x495(W)x9100(D), RFID ELECTRO-MAGNETIC LOCKING, PREMIER NUMBERED DOORS PLAQUES, PREMIER RFID MASTER CARD, PREMIER RFID ADMIN CARD, PREMIER RFID USER CARDS.	16

LOCATION PLAN



GENERAL NOTES

1. ALL DIMENSIONS IN MILLIMETRES (mm) UNLESS OTHERWISE NOTED. DIMENSIONS SHOWN ARE APPROXIMATE. CHECK ALL DIMENSIONS ON SITE PRIOR COMMENCEMENT OF WORKS.
2. DO NOT SCALE OFF DRAWINGS.
3. BUILDING DESIGNTO COMPLY WITH REGION D IMPORTANCE LEVEL 2, BUILDING CLASSIFICATION 7b(SHOWERS/LOCKERS)
4. BUILDING DESIGN TO COMPLY WITH NCC/BCA AND AS.
5. IN-SITU BUILDING CONSTRUCTION. THIS IS A CONCEPT DRAWING ONLY. FUTURE FINAL CONSTRUCTION DRAWINGS TO BE REVIEWED AND APPROVED BY PACIFIC PARTNERSHIPS.
6. REFER TO STRUCTURAL SKETCH FOR COLUMN SIZES.
7. FOR ALUMINIUM FRAME GLAZING, CONTACT: DARREN@ALUTECH.COM.AU; TEL: 9437 5300

LEGEND

AC	AIR CONDITIONING
AS	AUSTRALIAN STANDARDS
AFL	ABOVE FLOOR LEVEL
BCA	BUILDING CODE OF AUSTRALIA
BMT	BASE METAL THICKNESS
C/W	COMPLETE WITH
dB	DECIBEL
FCL	FINISHED CEILING LEVEL
GL	GROUND LEVEL
HWS	HOT WATER SYSTEM
mm	MILLIMETRES
NCC	NATIONAL CONSTRUCTION CODE
UA	UNIVERSAL ACCESS/DISABLED
UNO	UNLESS NOTED OTHERWISE

WALL TYPE 1 - PRECAST CONCRETE

WALL TYPE 2 - CONCRETE BLOCKWORK

WALL TYPE 3 - STEEL STUDWORK

WALL TYPE 4 - ALUMINIUM FRAMED GLAZING

WALL TYPE 5 - PIR REFRIGERATED PANEL

WALL TYPE 6 - CIMC MODULAR HIGH RISE

WALL TYPE 7 - FIRE RATED

FLOOR TYPE 1 - STONE TILES

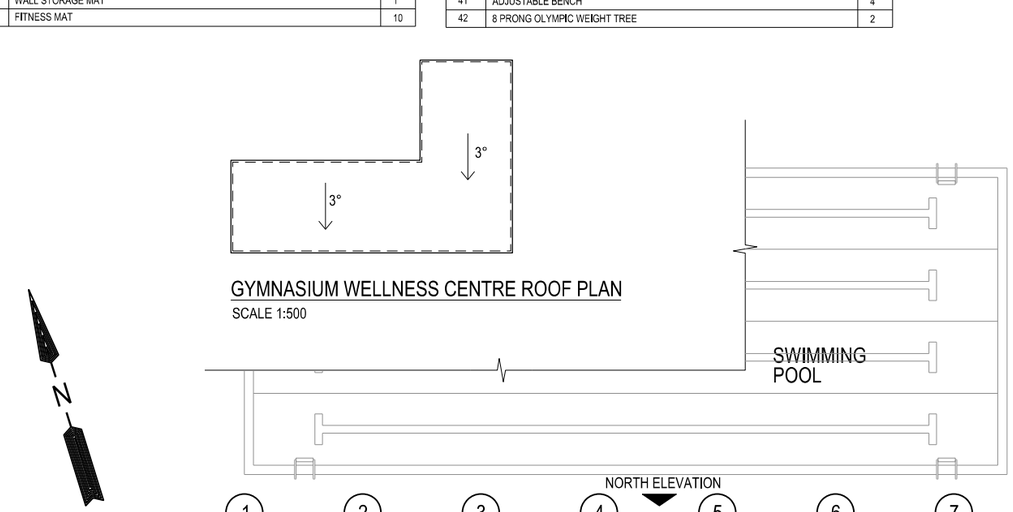
FLOOR TYPE 2 - VINYL

FLOOR TYPE 3 - CONCRETE

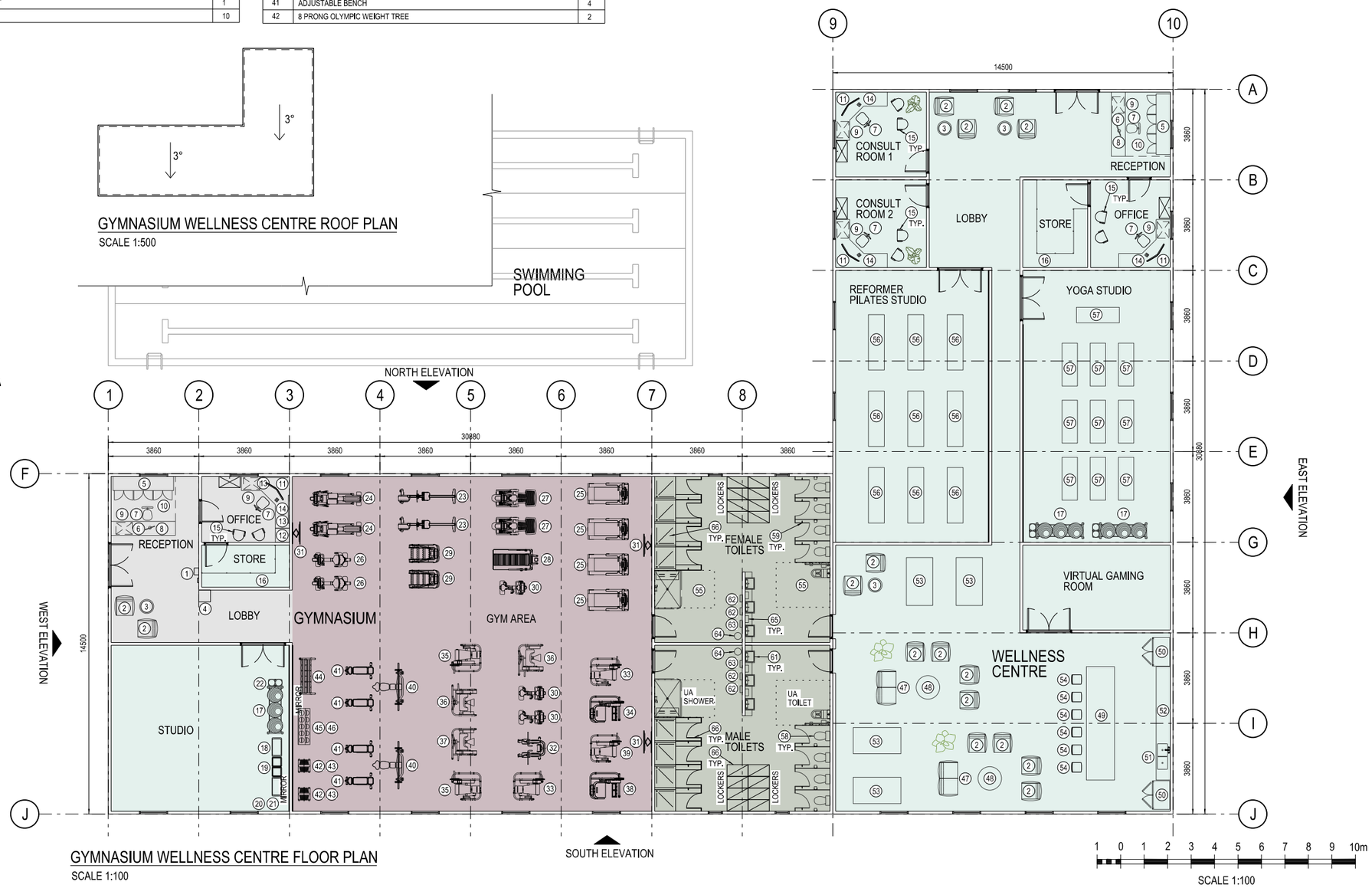
FLOOR TYPE 4 - CARPET

FLOOR TYPE 5 - RUBBER

FLOOR TYPE 6 - CERAMIC TILES



GYMNASIUM WELLNESS CENTRE ROOF PLAN
SCALE 1:500



GYMNASIUM WELLNESS CENTRE FLOOR PLAN
SCALE 1:100

1 0 1 2 3 4 5 6 7 8 9 10m
SCALE 1:100

INFORMATION ONLY

PRELIMINARY UNCHECKED

No	REF. DRG. No.	TITLE	REV	DATE	DESCRIPTION	DRN	DCHK	DESN	ECHK	APP
2	W1766-AUX-TTP-DRG-AA-00-005	GYMNASIUM WELLNESS CENTRE ELEVATIONS								
1	W1766-AUX-TTP-DRG-AA-00-001	SOUTH HEDLAND VILLAGE MASTERPLAN	A	27.09.24	ISSUED FOR CLIENT REVIEW	CH	MR	MR		

CLIENT: PACIFIC PARTNERSHIPS, UGL, CPB CONTRACTORS

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TTP DOCUMENT CODE: 331492-DA-140

	BY	DATE	SIGN
DRN	C. HEALY	27.09.24	
DCHK	M. RODRIGO	27.09.24	
DESN	M. RODRIGO	27.09.24	
ECHK			
APP			

TITLE: SOUTH HEDLAND VILLAGE GYMNASIUM WELLNESS CENTRE FLOOR PLAN

SCALE: 1:100 | A1 | DRG. No. W1766-AUX-TTP-DRG-AA-00-004 | REV. A

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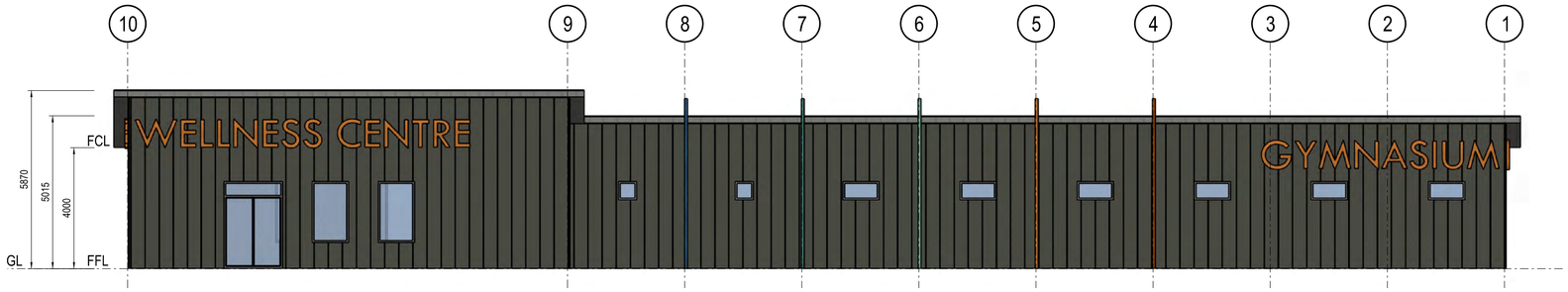
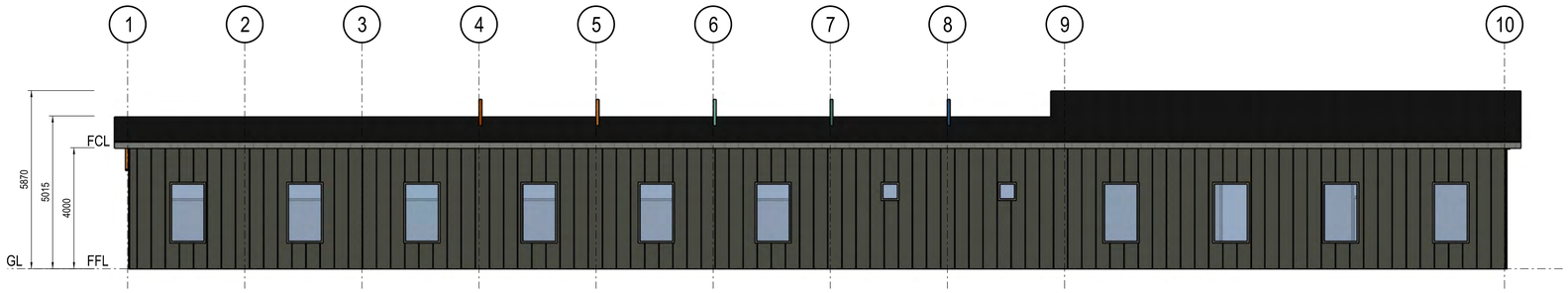


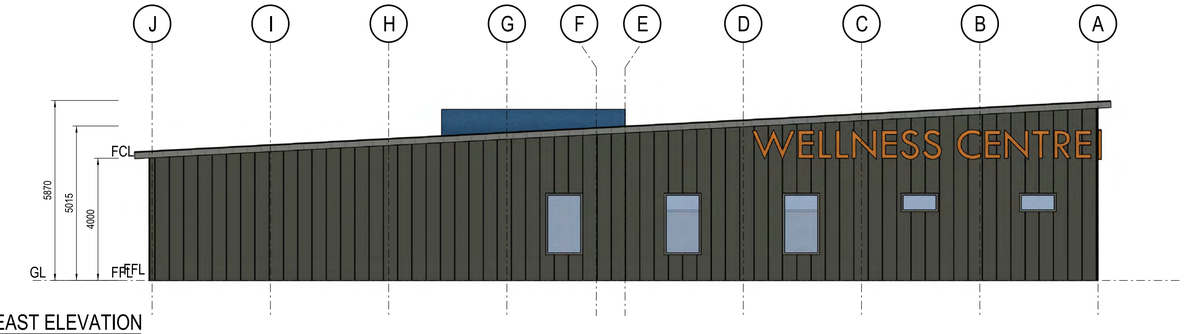
NORTH ELEVATION

SCALE 1:100



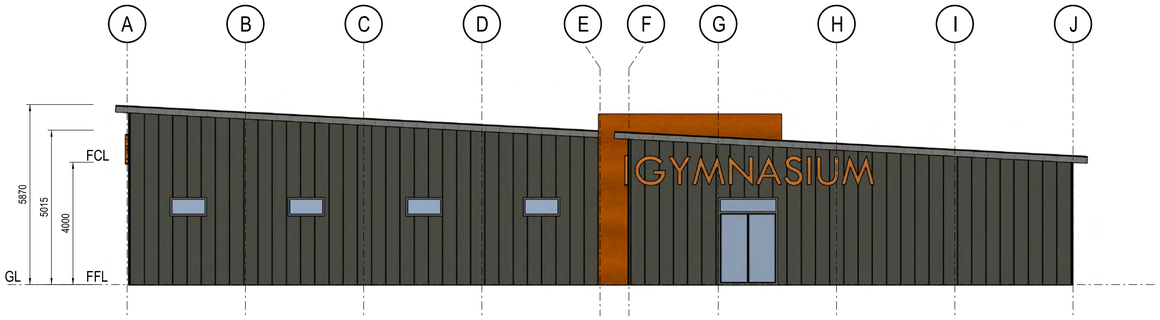
SOUTH ELEVATION

SCALE 1:100



EAST ELEVATION

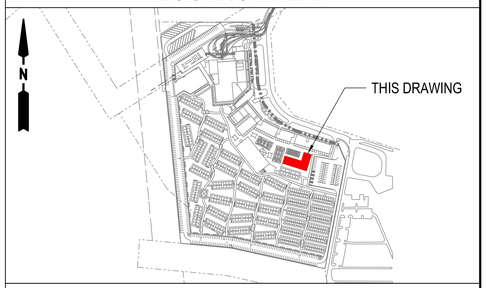
SCALE 1:100



WEST ELEVATION

SCALE 1:100

LOCATION PLAN



GENERAL NOTES

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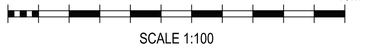
2. DO NOT SCALE OFF DRAWINGS.



SCALE 1:100

No	REF. DRG. No.	TITLE
2	W1766-AUX-TTP-DRG-AA-00-004	GYMNASIUM WELLNESS CENTRE FLOOR PLAN
1	W1766-AUX-TTP-DRG-AA-00-001	SOUTH HEDLAND VILLAGE MASTERPLAN

REV	DATE	DESCRIPTION	DRN	DCHK	DESN	ECHK	APP
A	30.09.24	ISSUED FOR CLIENT REVIEW	MV	MR	MR		

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UGL CPB CONTRACTORS

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TTP DOCUMENT CODE: 331492-DA-141

	BY	DATE	SIGN
DRN	M. VLOT	30.09.24	
DCHK	M. RODRIGO	30.09.24	
DESN	M. RODRIGO	30.09.24	
ECHK			
APP			

TITLE

SOUTH HEDLAND VILLAGE
GYMNASIUM WELLNESS CENTRE
ELEVATIONS

SCALE		DRG. No.	REV.
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INFORMATION ONLY

PRELIMINARY UNCHECKED

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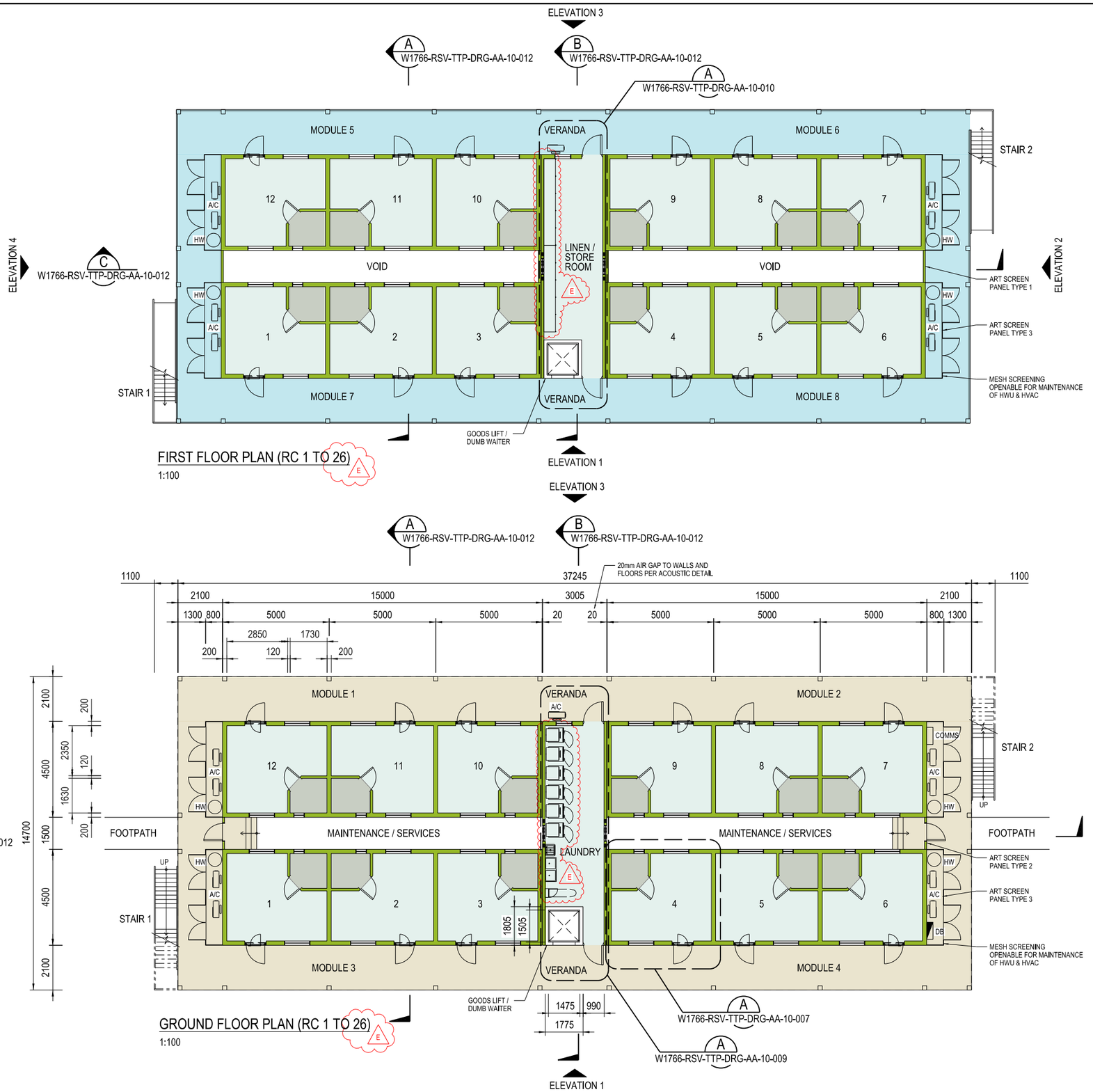

LOCATION PLAN

GENERAL NOTES

1. ACCOMMODATION MODULAR BUILDING 15000x4500.
2. BUILDING DESIGN TO COMPLY WITH REGION D, IMPORTANCE LEVEL 2 BUILDING CLASSIFICATION 3, AS PER NCC/BCA.
3. EXTERNAL WALL 0.42mm CUSTOM ORB COLORBOND SHEETING VERTICALLY LAID ON INSULATED STEEL STUDWORK WALL.
4. INTERNAL WALL 102mm COMPRISING 76mm RONDO STEEL STUD SECTIONS AND 13mm AQUACHECK SHEETING ON BOTH SIDES.
5. DO NOT SCALE OFF DRAWINGS.
6. DIVIDING WALLS BETWEEN ROOMS TO BE 60/60/60.
7. DIVIDING FLOOR BETWEEN ROOMS TO BE 30/30/30.
8. STRUCTURAL COLUMN SUPPORTING FIRST FLOOR PLAN TO BE FIRE RATED 90 MINUTES.
9. ENSURE SOUND INSULATION RATING OF WALLS BETWEEN EACH ROOM IS NO LESS THAN RW + CTR 50
10. ENSURE EXTERNAL ENVELOPE TO ROOMS TO HAVE A MINIMUM SOUND INSULATION RATING OF RW + CTR 45 FOR SOLID ELEMENTS AND RW + CTR FOR GLAZED ELEMENTS.
11. ENSURE SOUND INSULATION RATING OF NO LESS THAN RW + CTR 50 AND IMPACT ISOLATION RATING OF NO MORE THAN LNTW 62 BETWEEN FLOORS.
12. REFER TO RESORT ROOM DATA SHEET FOR SPECIFIC CONFIGURATIONS REQUIRED TO MEET ACOUSTIC PERFORMANCE REQUIREMENTS (ITEMS 9, 10 AND 11)

LEGEND

AC	AIR CONDITIONING
AS	AUSTRALIAN STANDARDS
AFL	ABOVE FLOOR LEVEL
BCA	BUILDING CODE OF AUSTRALIA
BMT	BASE METAL THICKNESS
C/W	COMPLETE WITH
dB	DECIBEL
DS	DOUBLE SINK
FCL	FINISHED CEILING LEVEL
GL	GROUND LEVEL
HWS	HOT WATER SYSTEM
IB	IRONING BOARD
mm	MILLIMETRES
NCC	NATIONAL CONSTRUCTION CODE
FHS	FULL HEIGHT SHELVING
UA	UNIVERSAL ACCESS/DISABLED
WM	WASHING MACHINE WITH DRYER ON TOP

- WALL TYPE 3 - STEEL STUDWORK
- FLOOR TYPE 2 - VINYL
- FLOOR TYPE 3 - CONCRETE
- FLOOR TYPE 6 - CERAMIC TILES
- FLOOR TYPE - CFC SHEETING

1 0 1 2 3 4 5 6 7 8 9 10m
SCALE 1:100

INFORMATION ONLY

PRELIMINARY UNCHECKED

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8	W1766-RSV-TTP-SPC-AA-10-001	RESORT 2 STOREY ROOM DATA SHEET
7	W1766-RSV-TTP-DRG-AA-10-010	FIRST FLOOR LINEN FLOOR PLAN
6	W1766-RSV-TTP-DRG-AA-10-012	RESORT STYLE ACCOMMODATION SECTIONS
5	W1766-AUX-TTP-DRG-AA-90-009	ACCOMMODATION AND RECREATION SCHEDULE OF FINISHES 6
4	W1766-AUX-TTP-DRG-AA-90-008	ACCOMMODATION AND RECREATION SCHEDULE OF FINISHES 5
3	W1766-RSV-TTP-DRG-AA-10-007	DETAILED FLOOR PLAN - OPTION 1
2	W1766-RSV-TTP-DRG-AA-10-002	ELEVATIONS
1	W1766-AUX-TTP-DRG-AA-00-001	SOUTH HEDLAND VILLAGE MASTERPLAN

REV	DATE	DESCRIPTION	DRN	DCHK	DESN	ECHK	APP
E	27.09.24	ISSUED FOR CLIENT REVIEW	CH	MR	MR		
D	14.06.24	ISSUED FOR CLIENT REVIEW	CH	MR	MR		
C	02.05.24	ISSUED FOR CLIENT REVIEW	CH	MR	MR		
B	26.04.24	ISSUED FOR CLIENT REVIEW	CH	MR	MR		
A	19.04.24	ISSUED FOR CLIENT REVIEW	CH	MR	MR		

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TTP DOCUMENT CODE: 331492-DA-058

	BY	DATE	SIGN
DRN	C. HEALY	27.09.24	
DCHK	M. WOODS	27.09.24	
DESN	M.RODRIGO	27.09.24	
ECHK			
APP			

TITLE
SOUTH HEDLAND VILLAGE
RESORT STYLE ACCOMMODATION ROOM CONCEPT
GROUND AND FIRST FLOOR PLAN (RC 1 TO 26) E

SCALE		DRG. No.	REV.
1:100	A1	W1766-RSV-TTP-DRG-AA-10-001	E

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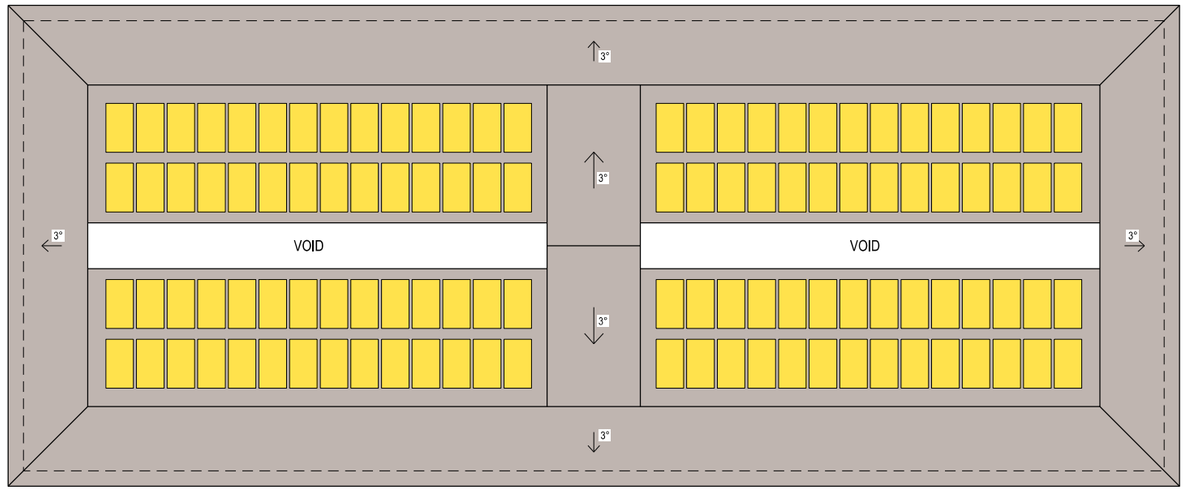

ROOF PLAN

1:100

SOLAR PANELS NOTES

1. SOLAR PANEL CONCEPTUAL ARRANGEMENT.
2. SOLAR PANELS TO BE REGION D COMPLIANT.

SECOND FLOOR PLAN (RC 1 TO 26)

1:100

1 0 1 2 3 4 5 6 7 8 9 10m

SCALE 1:100

LOCATION PLAN

GENERAL NOTES

1. ALL DIMENSIONS IN MILLIMETRES (mm) UNLESS OTHERWISE NOTED. DIMENSIONS SHOWN ARE APPROXIMATE. CHECK ALL DIMENSIONS ON SITE PRIOR COMMENCEMENT OF WORKS.
2. DO NOT SCALE OFF DRAWINGS.
3. ROOF INSULATION TO ALL ROOMS TO ACHIEVE MINIMUM THERMAL RATING R4.1 AND IN COMPLIANCE WITH BCA SECTION J REQUIREMENTS.
4. INTERNAL LIGHTING LAYOUT SHOWN IS NOMINAL ONLY, AND IS TO MEET AS/NZS1680.

LEGEND

AC	AIR CONDITIONING
AS	AUSTRALIAN STANDARDS
AFL	ABOVE FLOOR LEVEL
BCA	BUILDING CODE OF AUSTRALIA
BMT	BASE METAL THICKNESS
C/W	COMPLETE WITH
dB	DECIBEL
DS	DOUBLE SINK
FCL	FINISHED CEILING LEVEL
GL	GROUND LEVEL
HWS	HOT WATER SYSTEM
IB	IRONING BOARD
mm	MILLIMETRES
NCC	NATIONAL CONSTRUCTION CODE
FHS	FULL HEIGHT SHELVING
UA	UNIVERSAL ACCESS/DISABLED
WM	WASHING MACHINE WITH DRYER ON TOP

B

- WALL TYPE 3 - STEEL STUDWORK
- FLOOR TYPE 2 - VINYL
- FLOOR TYPE 3 - CONCRETE
- FLOOR TYPE 6 - CERAMIC TILES
- FLOOR TYPE - CFC SHEETING
- SOLAR PANELS - 1600 x 900mm
- COLORBOND ROOF SHEETING 0.48 BMT

INFORMATION ONLY

PRELIMINARY UNCHECKED

No	REF. DRG. No.	TITLE
5	W1766-AUX-TTP-DRG-AA-90-009	ACCOMMODATION AND RECREATION SCHEDULE OF FINISHES 6
4	W1766-AUX-TTP-DRG-AA-90-008	ACCOMMODATION AND RECREATION SCHEDULE OF FINISHES 5
3	W1766-RSV-TTP-DRG-AA-10-007	DETAILED FLOOR PLAN
2	W1766-RSV-TTP-DRG-AA-10-002	ELEVATIONS
1	W1766-AUX-TTP-DRG-AA-00-001	SOUTH HEDLAND VILLAGE MASTERPLAN

REV	DATE	DESCRIPTION	DRN	DCHK	DESN	ECHK	APP
B	27.09.24	ISSUED FOR CLIENT REVIEW	CH	MR	MR		
A	19.04.24	ISSUED FOR CLIENT REVIEW	CH	MR	MR		

CLIENT

PACIFIC PARTNERSHIPS

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TTP DOCUMENT CODE: 331492-DA-086

	BY	DATE	SIGN
DRN	C. HEALY	27.09.24	
DCHK	M.RODRIGO	27.09.24	
DESN	M.RODRIGO	27.09.24	
ECHK			
APP			

TITLE

SOUTH HEDLAND VILLAGE
RESORT STYLE ACCOMMODATION
SECOND FLOOR AND ROOF PLAN (RC1 TO 26) B

SCALE		DRG. No.	REV.
1:100	A1	W1766-RSV-TTP-DRG-AA-10-003	B

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GENERAL NOTES

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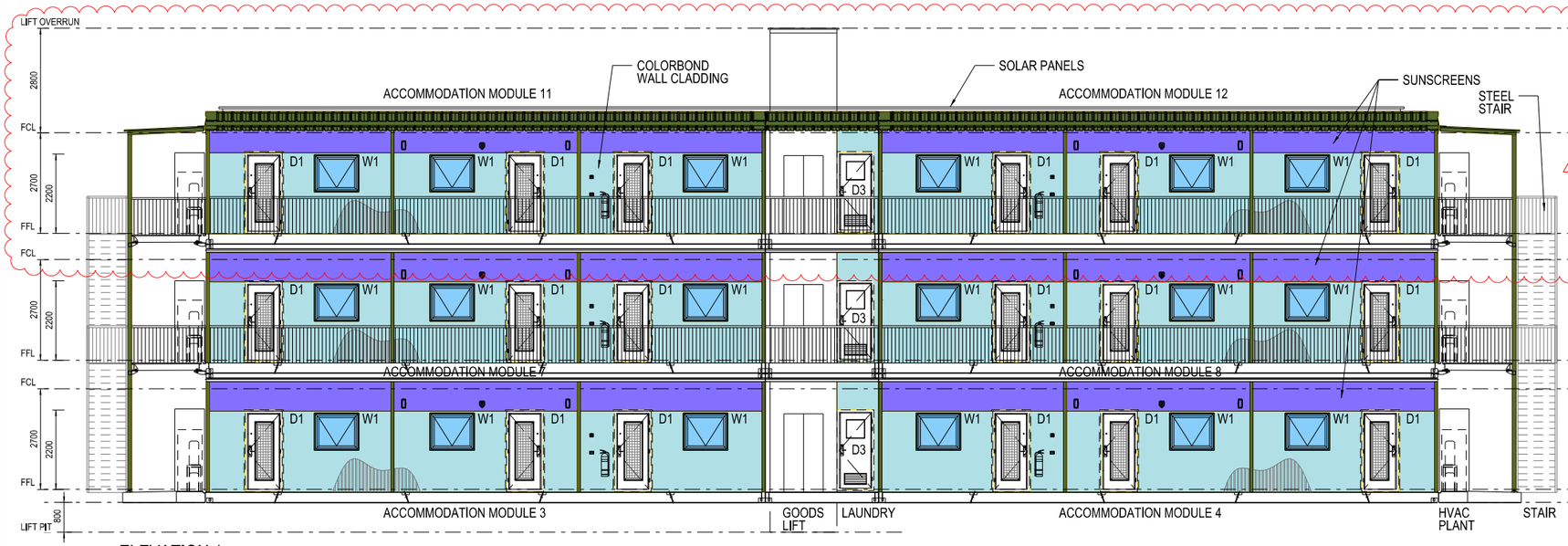
2. DO NOT SCALE OFF DRAWINGS.



ELEVATION 1

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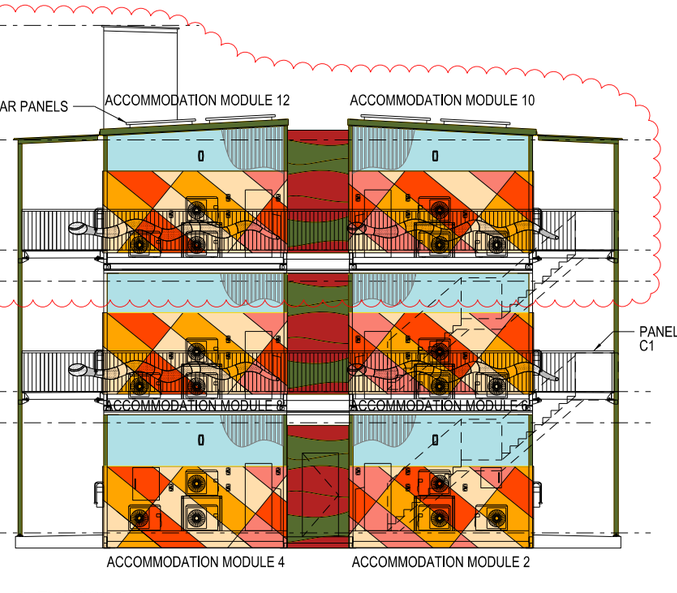
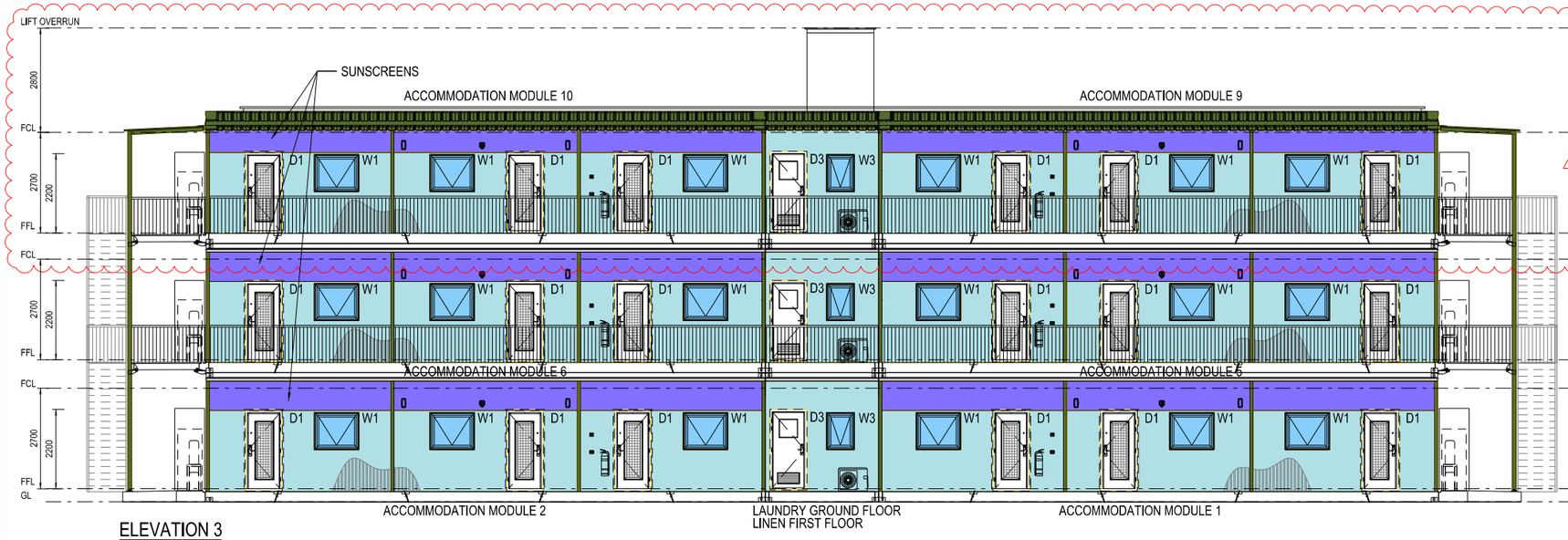


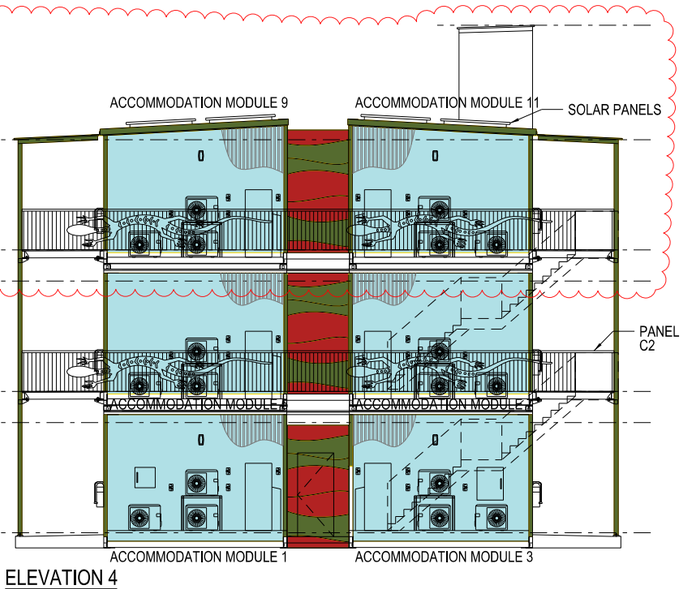
ELEVATION 2

1:75



ELEVATION 3

1:75



ELEVATION 4

1:75

1 0 1.5 3 4.5 6 7.5m

SCALE 1:75

INFORMATION ONLY

PRELIMINARY UNCHECKED

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			C	02.05.24	ISSUED FOR CLIENT REVIEW	CH	MR	MR		
2	W1766-RSV-TTP-DRG-AA-10-001	RESORT STYLE ACCOMMODATION ROOM CONCEPT FLOOR PLAN	B	26.04.24	ISSUED FOR CLIENT REVIEW	CH	MR	MR		
1	W1766-AUX-TTP-DRG-AA-00-001	SOUTH HEDLAND VILLAGE MASTERPLAN	A	22.04.24	ISSUED FOR CLIENT REVIEW	CH	MR	MR		

CLIENT: PACIFIC PARTNERSHIPS, UGL, CPB CONTRACTORS

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TTP DOCUMENT CODE: 331492-DA-059

	BY	DATE	SIGN
DRN	C. HEALY	27.09.24	
DCHK	M.RODRIGO	27.09.24	
DESN	M.RODRIGO	27.09.24	
ECHK			
APP			

TITLE: SOUTH HEDLAND VILLAGE
RESORT STYLE ACCOMMODATION ROOM CONCEPT
ELEVATIONS (RC 1 TO 26) D

SCALE: 1:75 UNO | A1 | DRG. No. W1766-RSV-TTP-DRG-AA-10-002 | REV. D

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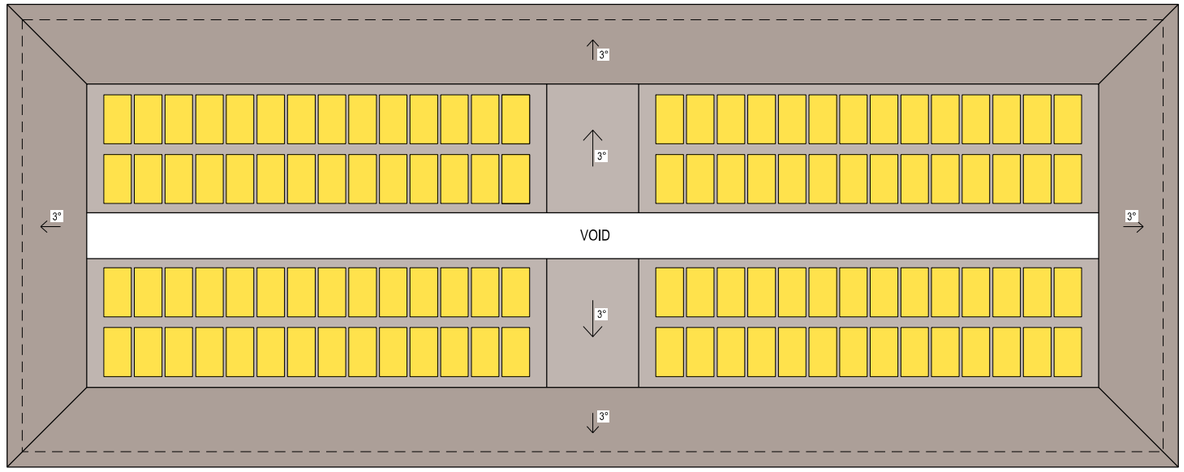
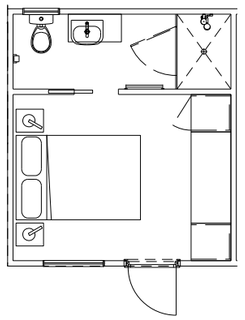


ROOF PLAN
1:100

SOLAR PANELS NOTES

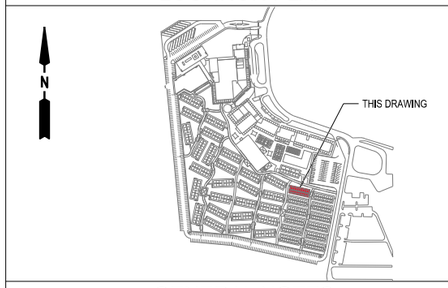
1. SOLAR PANEL CONCEPTUAL ARRANGEMENT.
2. SOLAR PANELS TO BE REGION D COMPLIANT.



TYPICAL ROOM
DETAIL A -
1:50

GROUND FLOOR PLAN
1:100

LOCATION PLAN



GENERAL NOTES

1. ACCOMMODATION MODULAR BUILDING 15000x4500.
2. BUILDING DESIGN TO COMPLY WITH REGION D, IMPORTANCE LEVEL 2 BUILDING CLASSIFICATION 3, AS PER NCC/BCA.
3. EXTERNAL WALL 0.42mm CUSTOM ORB COLORBOND SHEETING ON INSULATED STEEL STUDWORK WALL.
4. INTERNAL WALL 102mm COMPRISING 76mm RONDO STEEL STUD SECTIONS AND 13mm AQUACHECK SHEETING ON BOTH SIDES.
5. DO NOT SCALE OFF DRAWINGS.
6. DIVIDING WALLS BETWEEN ROOMS TO BE 60/60/60.
7. DIVIDING FLOOR BETWEEN ROOMS TO BE 30/30/30.
8. ENSURE SOUND INSULATION RATING OF WALLS BETWEEN EACH ROOM IS NO LESS THAN RW + CTR 50
9. ENSURE EXTERNAL ENVELOPE TO ROOMS TO HAVE A MINIMUM SOUND INSULATION RATING OF RW + CTR 45 FOR SOLID ELEMENTS AND RW + CTR FOR GLAZED ELEMENTS.

LEGEND

AC	AIR CONDITIONING
AS	AUSTRALIAN STANDARDS
AFL	ABOVE FLOOR LEVEL
BCA	BUILDING CODE OF AUSTRALIA
BMT	BASE METAL THICKNESS
C/W	COMPLETE WITH
dB	DECIBEL
DS	DOUBLE SINK
FCL	FINISHED CEILING LEVEL
GL	GROUND LEVEL
HWS	HOT WATER SYSTEM
IB	IRONING BOARD
mm	MILLIMETRES
NCC	NATIONAL CONSTRUCTION CODE
FHS	FULL HEIGHT SHELVING
UA	UNIVERSAL ACCESS/DISABLED
WM	WASHING MACHINE WITH DRYER ON TOP

- WALL TYPE 3 - STEEL STUDWORK
- FLOOR TYPE 2 - VINYL
- FLOOR TYPE 3 - CONCRETE
- FLOOR TYPE 6 - CERAMIC TILES

500 0 1000 2000 3000 4000 5000mm
SCALE 1:50

1 0 1 2 3 4 5 6 7 8 9 10m
SCALE 1:100

INFORMATION ONLY

PRELIMINARY UNCHECKED

No	REF. DRG. No.	TITLE	REV	DATE	DESCRIPTION	DRN	DCHK	DESN	ECHK	APP
2	W1766-RSV-TTP-DRG-AA-00-002	CONSTRUCTION STYLE ROOM ELEVATIONS								
1	W1766-AUX-TTP-DRG-AA-00-001	SOUTH HEDLAND VILLAGE MASTERPLAN	A	27.09.24	ISSUED FOR CLIENT REVIEW	CH	MR	MR		

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TTP DOCUMENT CODE: 331492-DA-138

	BY	DATE	SIGN
DRN	C. HEALY	27.09.24	
DCHK	M.RODRIGO	27.09.24	
DESN	M.RODRIGO	27.09.24	
ECHK			
APP			

TITLE
SOUTH HEDLAND VILLAGE
CONSTRUCTION STYLE ROOM
GROUND FLOOR PLAN (CC1 TO CC12)

SCALE 1:100 UNO | A1 | DRG. No. W1766-RSV-TTP-DRG-AA-00-001 | REV. A

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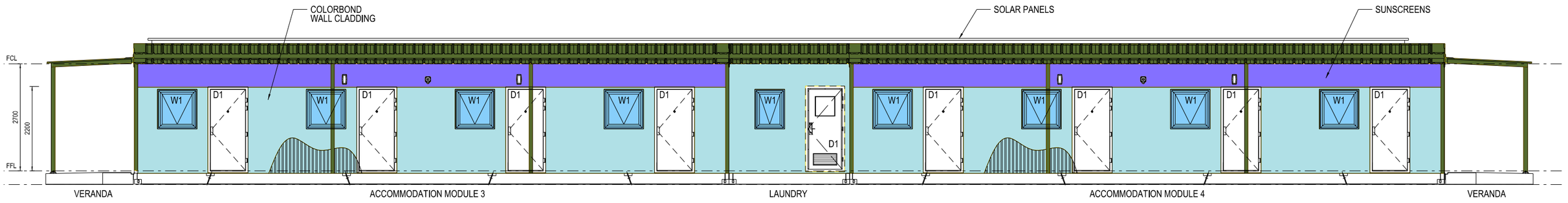
GENERAL NOTES

1. DIMENSIONS SHOWN ARE APPROXIMATE. CHECK ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF WORKS.
2. DO NOT SCALE OFF DRAWINGS.



ELEVATION 1
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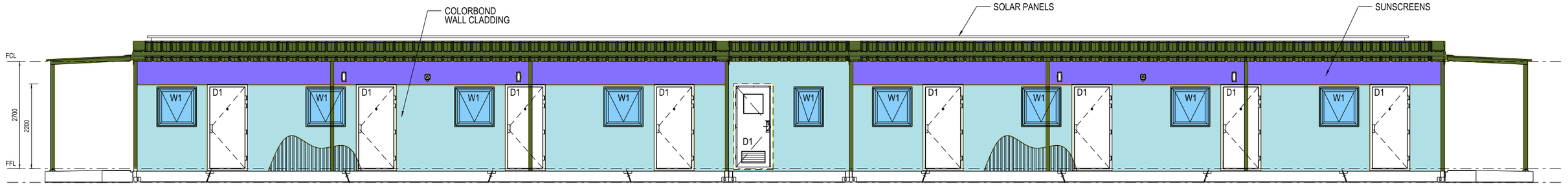

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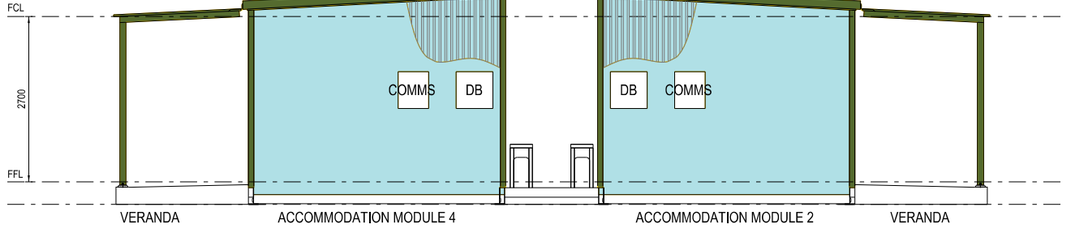
1:50



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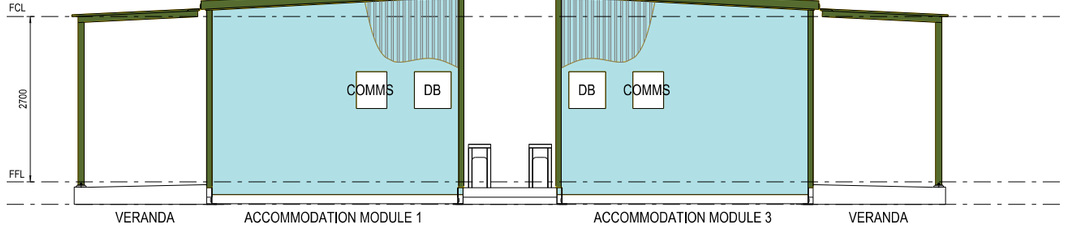
1:50



ELEVATION 4
1:50

500 0 1000 2000 3000 4000 5000mm
SCALE 1:50

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1	W1766-AUX-TTP-DRG-AA-00-001	SOUTH HEDLAND VILLAGE MASTER PLAN	A	27.09.24	ISSUED FOR CLIENT REVIEW	CH	MR	MR		

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PACIFIC PARTNERSHIPS
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TTP DOCUMENT CODE: 331492-DA-139

	BY	DATE	SIGN
DRN	C. HEALY	27.09.24	
DCHK	M.RODRIGO	27.09.24	
DESN	M.RODRIGO	27.09.24	
ECHK			
APP			

TITLE
SOUTH HEDLAND VILLAGE
CONSTRUCTION STYLE ROOM
ELEVATIONS (CC1 TO CC12)

SCALE 1:50 | A1 | DRG. No. W1766-RSV-TTP-DRG-AA-00-002 | REV. A

INFORMATION ONLY
PRELIMINARY UNCHECKED

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10:51:52 AM 27/09/2024

PACIFIC
RECEPTION

ACOUSTIC REPORT

South Hedland Village Development

South Hedland Village, Port Hedland - Pacific Partnerships

Pacific Partnerships Pty Ltd

CONFIDENTIAL

Revision: A – DA Report | Issued: 7 March 2024

Document name: rp240122p0001

VERIFICATION

REVISION	DATE ISSUED	PREPARED BY	VERIFIED BY	AUTHORISED BY	COMMENT
A	07/03/24	Jim Wu	Max Cyril	Brett Gray	DA Report

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NDY
A TETRA TECH COMPANY

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APPENDIX A – ACOUSTIC CADNAA MODEL 20

EXECUTIVE SUMMARY

The proposed South Hedland Village development is located to the west of South Hedland and consists of various buildings. These include various accommodation units, a tourist accommodation complex (both of which are constructed of modular units), and a central complex (including maintenance buildings, a tavern, and a restaurant).

Noise intrusion into the buildings on-site has also been considered. With the proposed façade constructions, these are expected to readily meet the requirements listed within the NCC as well as meeting the non-mandatory recommended criteria listed in AS/NZS 2107:2016.

The location of the site is relatively far away from nearby receivers, however it borders the ESS Gateway Village, which also has several accommodation units. Noise emissions from on-site plant to these sensitive receivers has been calculated using a CadnaA model and was found to be compliant at all times with the criteria listed in the EPNR.

1 INTRODUCTION

The South Hedland Village development is proposed to be located off Parola Court in South Hedland, WA 6722. This document provides discussion, comment, and recommendations on design matters relating to the acoustics of the development in support of the development application for the project.

It is intended that the document will be made available to all stakeholders in the project, including the Client, Design, Project Management and Construction teams. All parties are encouraged to review the document in detail. They should question and satisfy themselves as to the appropriateness of the advice defined in the report, and provide feedback to NDY, as appropriate.

1.1 AUTHORITY

Authority to undertake this report was provided by Brett Gray of Tetra Tech Proteus.

1.2 INFORMATION SOURCES

The following guidelines, standards and documentation have been referenced in preparation of this report:

- Western Australia Environmental Protection (Noise) Regulations 1997
- Australian / New Zealand Standards including AS/NZS 2107:2016 — Recommended design sound levels and reverberation times for building interiors
- Architectural Layout by Tetra Tech Proteus, dated 12.01.24.
- CIMC Modular Building Systems Design Guide, dated 07.10.15
- Town of Port Hedland Local Planning Policy LPP/08
- Western Australia State Planning Policy 5.1 - Land use planning in the vicinity of Perth Airport (SPP 5.1)

2 PROJECT DESCRIPTION

2.1 PROJECT SITE

The proposed South Hedland Village development is located to the west of the South Hedland area off Parola Court, next to the South Hedland Sports Hub and ESS Gateway Village. The approximate location is shown in Figure 1.

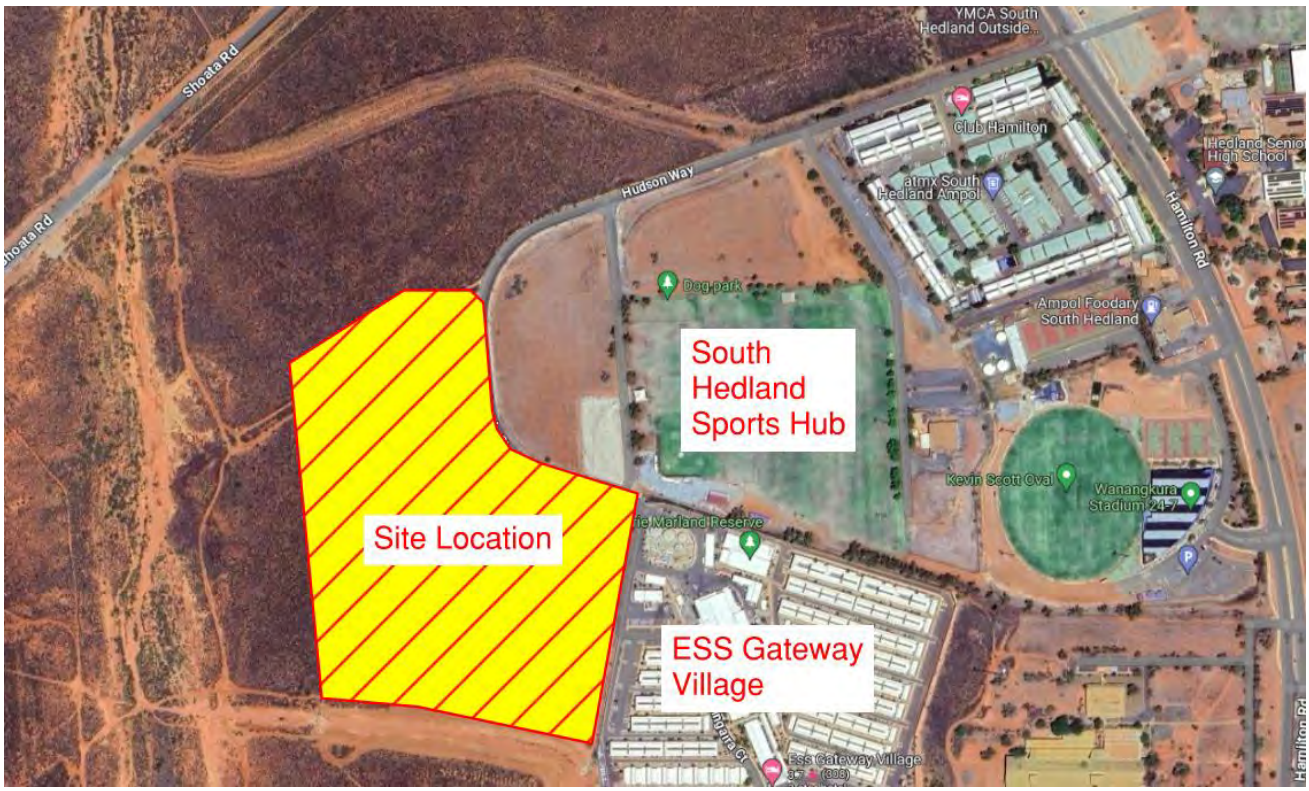


FIGURE 1: SOUTH HEDLAND VILLAGE SITE LOCATION

FIGURE 2: SOUTH HEDLAND VILLAGE PROPOSED SITE LAYOUT

2.2 NEAREST SENSITIVE RECEIVER

Figure 3 highlights the site location and nearest sensitive receivers to the east of the site. The closest sensitive receiver locations are the residential buildings of the ESS Gateway Village, the closest of which is marked in Figure 3. Figure 4 provides the zoning of the area, with the site located within a rural zone.

FIGURE 3: DISTANCE FROM STRUCTURES ON SOUTH HEDLAND VILLAGE SITE TO CLOSEST RESIDENTIAL RECEIVERS AT THE ESS GATEWAY VILLAGE. THE LOCATION MEASURED TO AT THE ESS GATEWAY VILLAGE IS A RESIDENTIAL BLOCK.

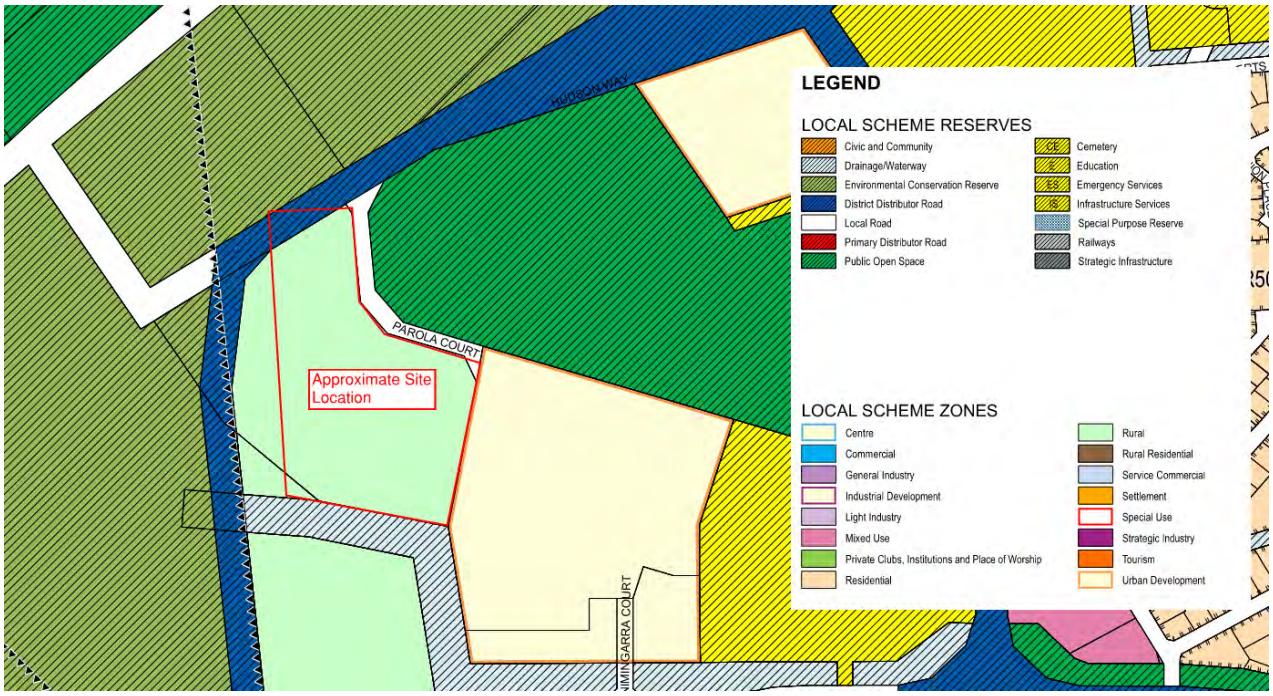


FIGURE 4: ZONING MARKUP OF SOUTH HEDLAND, SHOWING AREA AROUND THE PROPOSED SOUTH HEDLAND VILLAGE DEVELOPMENT.

3 PROJECT CRITERIA

3.1 ENVIRONMENTAL PROTECTION (NOISE REGULATIONS) 1997

Noise emissions from the development are to comply with the Western Australian Environmental Protection (Noise) Regulations 1997 (*State Noise Regulations*).

To achieve compliance with this policy, noise levels at nearby areas are not to exceed assigned levels. Assigned levels are determined from consideration of prevailing background noise levels and 'influencing factors' that consider the level of commercial and industrial zoning in the locality.

A summary of applicable noise limits are provided in Table 1, with the most 'at-risk' criteria to this project highlighted.

The assigned noise levels were determined on the basis of an Influencing Factor of 0 dB applicable at the nearest noise receivers, as there are no major transport corridors and commercial/industrial zoned land within a 450m radius (e.g. closest commercial zone is ~1km away from the nearest sensitive receiver location)

ZONING CIRCLES ARE DEMONSTRATED IN FIGURE 5.

Noise emitted from the building must not;

- Cause a level of noise which exceeds the assigned levels at the receiving premise, refer Table 1; and
- Significantly contribute to a level of noise which exceeds the assigned levels at the receiving premise, refer Table 1, taking into consideration surrounding site noise emitting developments. Note as per the State Noise Regulations, a noise emission significantly contributes to the overall noise level when is 5dB below the assigned level at the point at reception.

Penalties of up to 15dB may be applied if the noise from the development contains annoying characteristics such as tones, modulation or impulses as defined in the Environmental Protection (Noise) Regulations, 1997.

TABLE 1 – ASSIGNED NOISE LEVELS SUMMARY

PART OF PREMISES RECEIVING NOISE	TIME OF DAY	ASSIGNED LEVEL, DB(A)		
		L_{A10}	L_{A1}	L_{Amax}
Noise Sensitive premises: highly sensitive area	0700 to 1900 hours Monday to Saturday	45	55	65
	0900 to 1900 hours Sunday and public holidays	40	50	65
	1900 to 2200 hours all days	40	50	55
	2200 hours on any day to 0700 Monday to Saturday and 0900 hours Sunday and public holidays	35	45	55
Noise Sensitive premises: any area other than highly sensitive	All hours	60	75	80
Commercial premises	All hours	60	75	80
Industrial and utility premises	All hours	65	80	90

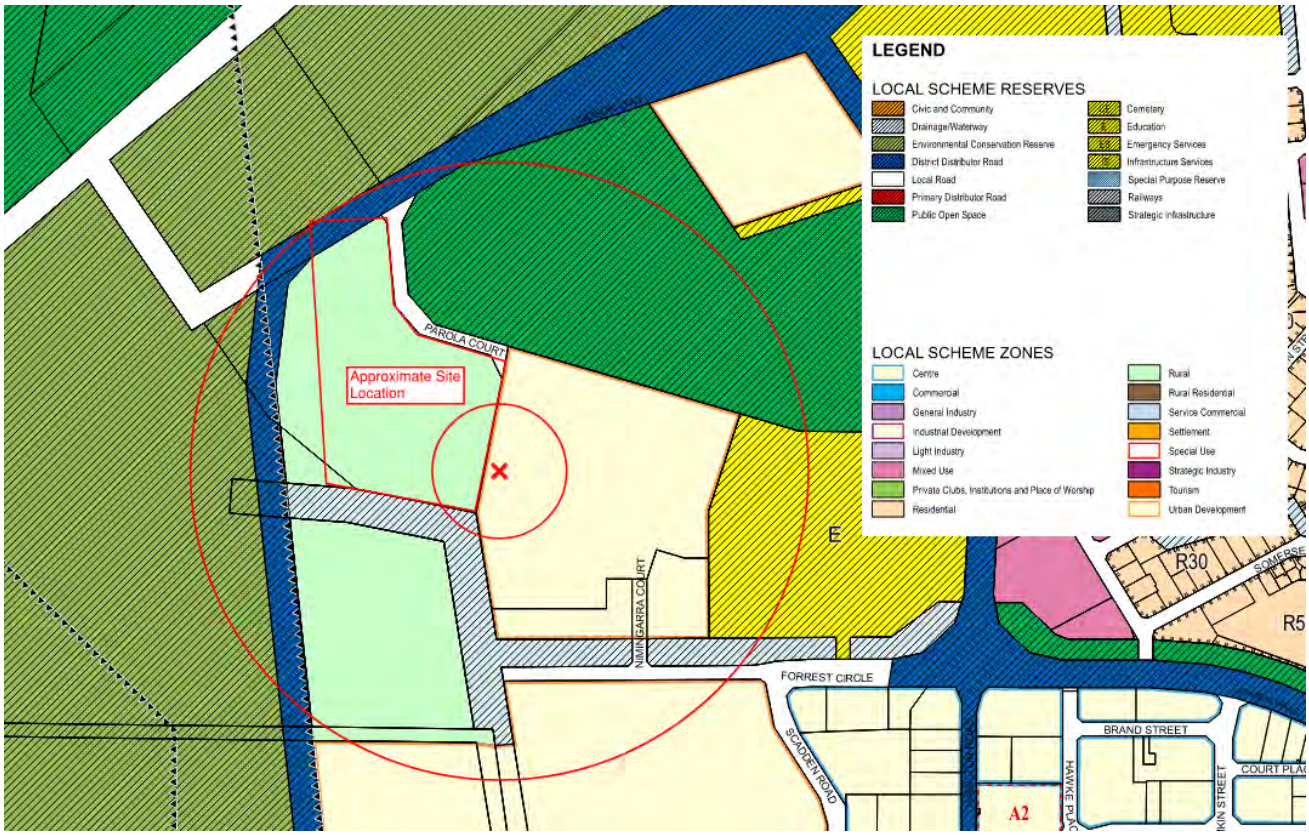


FIGURE 5: DETERMINATION OF INFLUENCING FACTOR – ZONING MAP

3.2 NATIONAL CONSTRUCTION CODE 2019

The National Construction Code 2019 (NCC) sets minimum building construction performance requirements for multiple occupancy dwellings to control the standard of sound isolation between Sole Occupancy Units. Compliance with the NCC requires either that the adopted constructions are those scheduled as "Deemed to Satisfy" within the NCC, or if alternative constructions are implemented, that these achieve a specified acoustic rating. The methods of verifying the constructions as satisfactory for compliance with the NCC may require verification testing.

The following table summarises the performance requirements for the development based on NCC Design Requirements. This table presents the minimum recommended requirements, and higher performance will result in a better acoustic environment. Consideration may be given to more stringent criteria to increase the acoustic quality of the project, bearing in mind that this may have a considerable impact on construction cost.

TABLE 2: RESIDENTIAL INTERTENANCY DESIGN CRITERIA

	MINIMUM AIRBORNE INSULATION RATING	MAXIMUM IMPACT INSULATION RATING
Sound Insulation of Floors		
Separating SOUs	$R_{w+}C_{tr}$ 50	$L_{n,w}$ 62
Separating a dwelling from a plantroom, lift shaft, stairway, public corridor, public lobby, etc.	$R_w + C_{tr}$ 50	$L_{n,w}$ 62
Separating a balcony from a dwelling below	-	$L_{n,w}$ 62
Sound Insulation of Walls		
Separating dwellings, generally	$R_w + C_{tr}$ 50	-
Separating a habitable room in one dwelling from a bathroom, sanitary compartment, laundry or kitchen in an adjoining dwelling	$R_w + C_{tr}$ 50	Discontinuous
Separating a dwelling from a stairway, public corridor, public lobby, etc.	R_w 50	-
Separating a dwelling from a plantroom or lift shaft	R_w 50	Discontinuous
Between a car park and a dwelling	R_w 50	Discontinuous
Separating rooms within the same dwelling	No specific requirements	-
Door separating a dwelling from a stairway, public corridor, public lobby, etc.	R_w 30	-
Sound Insulation of Services		
Riser, wall or ceiling construction separating a duct, soil, waste, storm water or water supply pipe passing through more than one dwelling from - - a habitable room - a non-habitable room or kitchen	 $R_w + C_{tr}$ 40 $R_w + C_{tr}$ 25	 - -
Circulating or other pumps	Flexible coupling required	
ELECTRICAL OUTLETS LOCATED IN A WALL SEPARATING DWELLINGS	ELECTRICAL OUTLETS MUST BE OFFSET FROM EACH OTHER: • IN MASONRY WALLING, NOT LESS THAN 100MM; AND • IN TIMBER OR STEEL FRAMED WALLING, NOT LESS THAN 300MM.	

3.3 AUSTRALIAN STANDARDS AS 2107

Table 3 below outlines the recommended project internal noise levels and reverberation times, which are based on AS/NZS 2107:2016 - *Acoustics - Recommended design sound levels and reverberation times for building interiors*.

The internal noise level criteria is inclusive of both external noise intrusion and building services noise contributions. We have assumed this includes steady state traffic noise.

The reverberation time (RT) of an enclosed space is defined as the time that would be required for the sound to decay by 60dB. The recommended reverberation times outlined below are in general alignment to AS/NZS 2107:2016 – *Acoustics – Recommended design sound levels and reverberation times for building interiors.*

TABLE 3 – AS2107 RECOMMENDED INTERNAL NOISE AND REVERBERATION TIMES

TYPE OF OCCUPANCY	INTERNAL NOISE CRITERIA DB L_{AEQ}	RECOMMENDED REVERBERATION TIMES [S]
Bedrooms	35	Minimised as far as possible
Living Rooms	35 to 45	-
Retail	< 50	Minimised as far as possible
Restaurant	< 50	0.6 to 1.0
Gym	< 50	-
Hotel Lobby	40 to 45	0.5 to 1.0
Wellness	40 to 45	< 0.6

4 NOISE INTRUSION ASSESSMENT

Noise from background noise has been assessed to determine the impact of external noise on the buildings within the development. This primarily is from traffic sources and aircraft noise from the Port Hedland International Airport.

4.1 TRAFFIC NOISE

The location of the village is largely away from major roadways, with roads adjacent to the development being local roads. Shoata Road is the only potential major through road, however this is located at a minimum of 200m away.

Based on these sources and noise assessments previously conducted in the general South Hedland area, it is estimated that traffic noise will be up to 55 dBA at the various buildings located within the village. At this level and the recommended façade construction, noise levels within bedroom spaces are expected to be under the 35 dBA recommended criteria as outlined in AS/NZS 2107:2016 for bedroom spaces.

4.2 AIRCRAFT NOISE ASSESSMENT

The site is located close to Port Hedland International Airport. The noise effects of the airport to surrounding areas is quantified by the Australian Noise Exposure Forecast (ANEF) curves prepared for the airport. This has been included from the Port Hedland Local Planning Policy LPP/08 in this report as Figure 6.

The curves indicate that the site location is predicted to be exposed to noise levels under 5 ANEF. Although not specifically applicable to this project, the recommended façade construction considerations from the *Western Australia State Planning Policy 5.1 - Land use planning in the vicinity of Perth Airport* (SPP 5.1) has been referenced as a guide in regard to the appropriate building envelope required for this project.

The recommendations for the façade construction considerations of various buildings as per the SPP 5.1 has been provided in Table 4. With a low 5 ANEF prediction, noise from aircraft landing at Port Hedland International Airport is not expected to be an issue requiring further consideration aside from the requirements stipulated to meet the NCC and AS/NZS 2107:2016 recommendations.

TABLE 4: AIRPORT NOISE EFFECTS ON EXTERNAL NOISE INTRUSION TO SURROUNDING BUILDING RECOMMENDATIONS BASED ON ANEF FORECASTS FOR PERTH AIRPORT.

Building type	Forecast noise exposure level (ANEF)			
	less than 20 ANEF (Note 1)	20 to 25 ANEF (Note 2)	25 to 30 ANEF	30 to 35 ANEF
House, home unit, flat, caravan park	Acceptable	Conditionally Acceptable	Unacceptable (Note 4) (Note 5)	Unacceptable (Note 4) (Note 5)
School, university	Acceptable	Conditionally Acceptable	Unacceptable (Note 4) (Note 5)	Unacceptable (Note 4) (Note 5)
Hospital, nursing home	Acceptable	Conditionally Acceptable	Unacceptable (Note 4) (Note 5)	Unacceptable (Note 4) (Note 5)
Hotel, motel, hostel	Acceptable	Acceptable	Conditionally Acceptable	Unacceptable (Note 4) (Note 5)
Public building	Acceptable	Conditionally Acceptable	Conditionally Acceptable	Unacceptable (Note 4) (Note 5)
Commercial building	Acceptable	Acceptable	Conditionally Acceptable	Conditionally Acceptable
Light Industrial	Acceptable	Acceptable	Acceptable	Conditionally Acceptable
Other industrial	Acceptable	Acceptable	Acceptable	Acceptable

FIGURE 6: PORT HEDLAND INTERNATIONAL AIRPORT N70 NOISE CONTOURS. SITE LOCATION SHOWN CLOUDED.

5 EXTERNAL BUILDING ENVELOPE

The proposed external building envelope will be constructed using modular component to the roof and walls. The sections below provide recommended sound insulation levels that should be achieved along with the respective configurations to meet these levels.

The facade system should have a minimum sound insulation performance of $R_w + C_{tr}$ 45. The configuration stated in Table 5 will be sufficient.

The roof system should have a minimum sound insulation performance of $R_w + C_{tr}$ 35. The configuration stated in Table 5 will be sufficient.

TABLE 5: FACADE CONSTRUCTION RECOMMENDATIONS

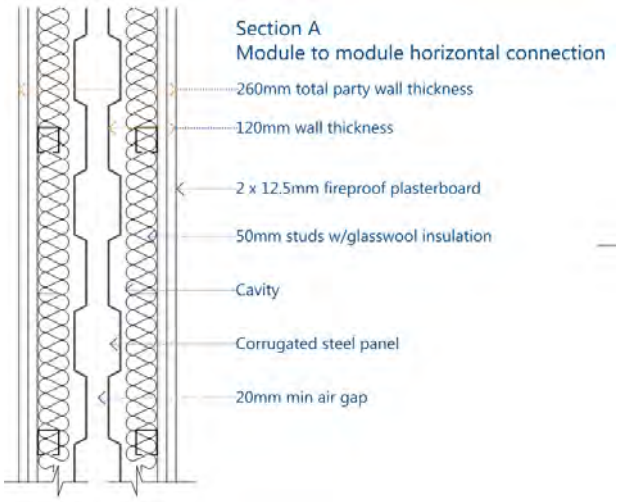
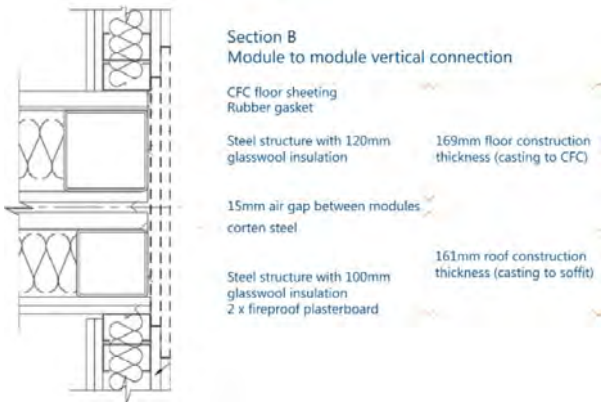
RECOMMENDED CONFIGURATION
External walls to accommodation are recommended to achieve a minimum performance of $R_w + C_{tr}$ 45. This can be achieved with the following construction: • 1 x 0.42mm Colorbond sheet (min. surface mass of 3.1kg/m2) • 1 x 6mm thick K-Flex Sisalation • 1 x 16mm thick fire rated plasterboard (min. surface mass of 10.5kg/m2) • 1 row of 89mm steel studs (0.55BMT) at 600mm centres with 75mm thick glass wool insulation (14kg/m^3) packed within the stud cavity (thicker insulation ~150mm may be required for thermal requirements) • 2 x16m fire rated plasterboard (min. surface mass of 10.5kg/m2)
Lightweight roof are recommended to achieve a minimum performance of $R_w + C_{tr}$ 35. This can be achieved with the following construction: • 0.42mm thick steel Lysaght sheet (min. surface mass 3.1 kg/m^2) with vapour barrier • Min. 300mm ceiling cavity; • 90mm thick glass wool insulation within the stud cavity with min. density of 14kg/m^3 laid above the ceiling; • 2 layers of 16mm fire rated plasterboard (min. surface mass of 12.5kg/m^2) to be hung on steel joists.
Glazing is recommended to achieve a minimum performance of $R_w + C_{tr}$ 34. This can be achieved with the following construction: • 6mm float • 12mm airgap • 6.5mm laminate OR • 10.5mm laminate

6 INTERNAL PARTITIONS

6.1 WALL AND FLOOR CONSTRUCTIONS

The proposed internal walls will also form part of the modular system that has been proposed for the building. Hence, this will be a typical configuration that will be applied across all internal walls. Internal walls shall have a minimum sound insulation performance of $R_w + C_{tr}$ 50. Based on review of the currently proposed typical architectural wall and floor details Section A and Section B, the configuration stated in Table 6 will be sufficient.

TABLE 6: INTERNAL WALL CONSTRUCTION

RECOMMENDED CONFIGURATION	ARCHITECTURAL SECTIONAL DETAIL
• 2 layers of 12.5mm fire rated plasterboard (min. surface mass of 8.5kg/m^2) • Min. 92mm structural steel studs (1.6BMT) at 300-600mm centres; • Min. 90mm thick glass wool insulation within the stud cavity with min. density of 14kg/m^3; • 2x 0.42mm thick steel Lysaght sheet (min. surface mass 3.1 kg/m^2); • Min. 90mm thick glass wool insulation within the stud cavity with min. density of 14kg/m^3 (2 x for WI1); • Min. 92mm structural steel studs (1.6BMT) at 300-600mm centres; • 2 layers of 12.5mm fire rated plasterboard (min. surface mass of 8.5kg/m^2) • Partition extends from floor to ceiling	
Ceiling/floor to consist of: • Carpet with underlay • Min. 19mm compressed fibre cement • Min. 120mm structural steel studs (1.6 BMT) at 300-600mm centres; • Min. 120mm thick glass wool insulation within the stud cavity with min. density of 14kg/m^3 • 15mm airgap between modules • Min. 120mm thick glass wool insulation within the stud cavity with min. density of 14kg/m^3; • Min. 120mm structural steel studs (1.6 BMT) at 300-600mm centres • 2 layers of 12.5mm fire rated plasterboard (min. surface mass of 8.5kg/m^2)	

6.2 FLOOR/CEILING CONFIGURATIONS

The following suggested constructions will meet NCC minimum requirements for both airborne and impact noise isolation. These are applicable to all residential spaces, as the NCC makes no distinction between ratings to habitable areas and non-habitable areas.

6.2.1 FINISHES

The following floor finishes are acceptable to meet NCC impact noise requirements (in conjunction with one of the floor structure constructions in the following section).

TABLE 7: FLOOR-FINISHES

APPLICATION / NCC IMPACT AND SOUND INSULATION REQUIREMENT	FLOOR FINISH CONSTRUCTION
Carpeted Areas, Including in SOUs, Communal Corridors and Lobbies $L_{n,w}$ 62	• Carpet on underlay
Non-carpeted Areas, Including in SOUs, Balconies, Communal Corridors and Lobbies $L_{n,w}$ 62	• Floor tiles or other hard floor finish • Approved acoustic underlay system (Acceptable products include 3mm Damtec, 3mm Impactamat, or equivalent)

6.3 DOORS

In order to meet the NCC requirement of R_w 30, doors separating a dwelling from a stairway, public corridor, public lobby, etc should be of the following construction:

- Door Type: Solid core, with a minimum surface weight of 27kg/m2
- Perimeter Seals: Raven RP24 or RP87Si
- Bottom Seals: Raven RP38, RP99Si or RP127Si
- Threshold Plate: RP96 or similar

7 NOISE EMISSION ASSESSMENT

Noise emissions from the development shall comply with the WA EPNR 1997 noise limits. The main noise source produced by the development is expected to be the mechanical equipment that will be servicing the development. This section provides details in regard to the noise emission assessment from the development to the nearest sensitive noise receiver located to the east at the ESS Gateway Village accommodation buildings.

7.1 MECHANICAL EQUIPMENT

Several external building services plant are expected throughout the South Hedland Village site. These include in the following:

- Central facilities complex
    - 2x AHUs
    - 2x Chillers
    - 10x AC outdoor units
- Tourist accommodation complex (rooftop)
    - 42x VRV/VRF Condensers
- Modular accommodation units
    - 12x AC outdoor units per block of units

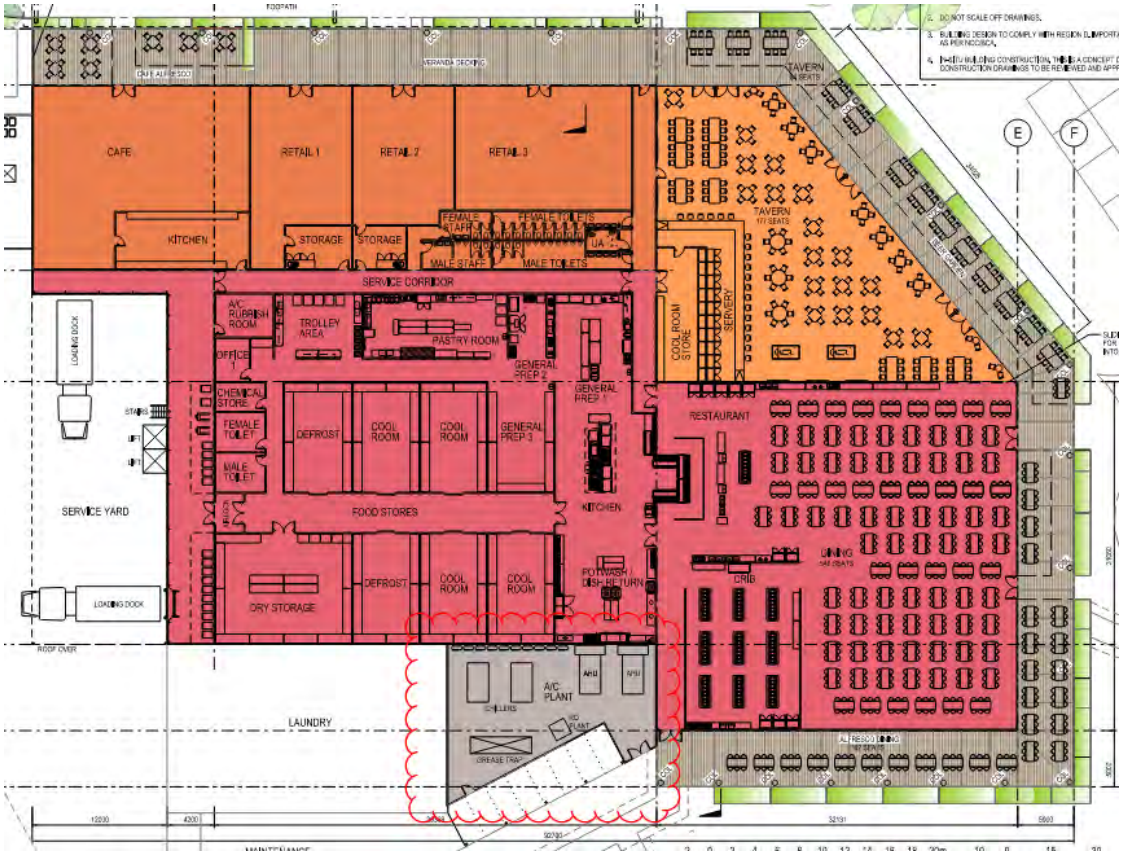


FIGURE 7: CENTRAL FACILITIES COMPLEX, WITH HVAC PLANT SHOWN CLOUDED

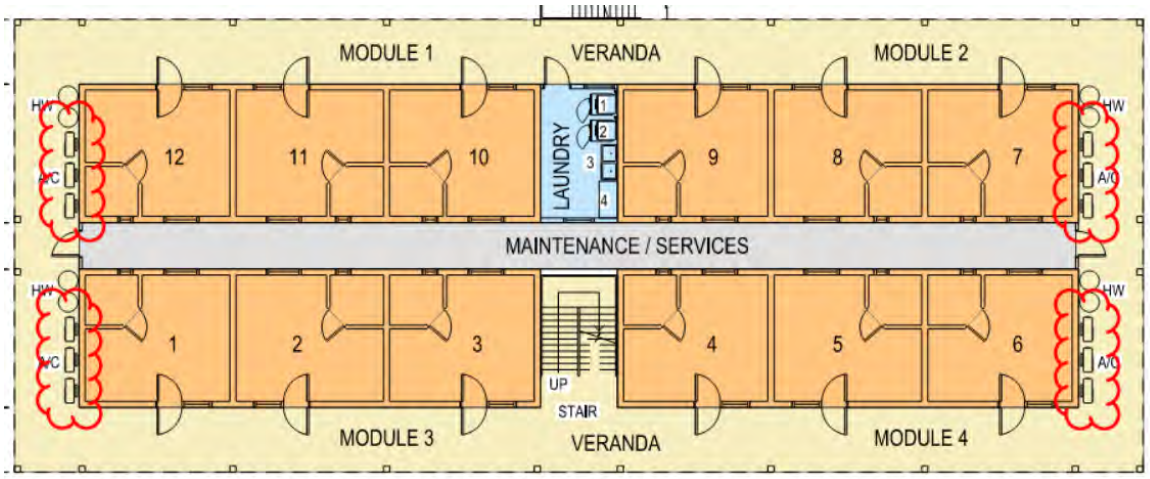


FIGURE 8: MODULAR ACCOMMODATION UNITS, WITH AC OUTDOOR UNITS SHOWN CLOUDED

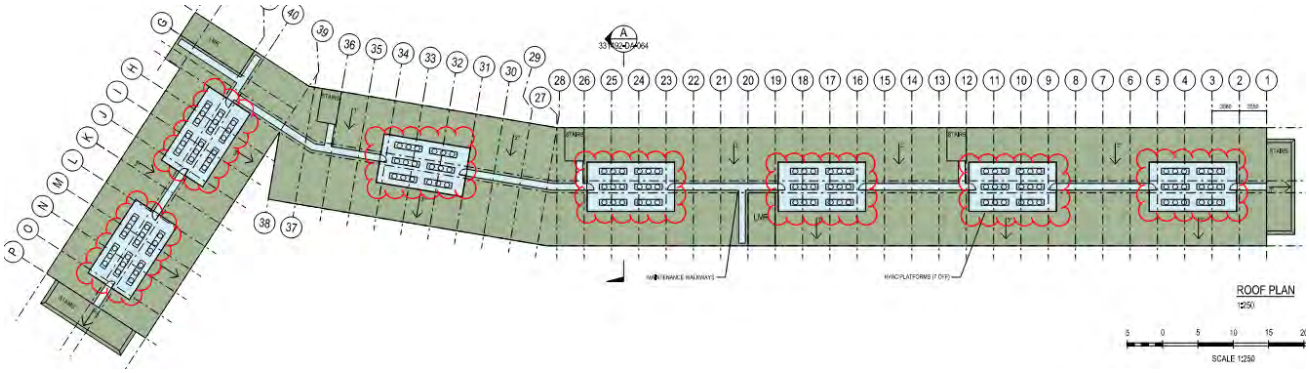


FIGURE 9: TOURIST ACCOMODATION BLOCK, WITH ROOFTOP PLANT LOCATIONS SHOWN CLOUDED

Typical sound data based on preliminary equipment load and capacity used on similar sized projects have been provided in Table 8

TABLE 8: MECHANICAL EQUIPMENT SOUND DATA

EQUIPMENT	MODEL	SOUND POWER LEVEL [DB]								
		63	125	250	500	1k	2k	4k	8k	dBA
AHU	Radipac K3G400-PI92-02	62	72	70	73	77	73	75	67	81
Chiller	York YLAA0457HE52	87	90	92	87	84	79	73	71	89
KEF	Fantech 18SLW	79	84	82	83	81	79	68	62	85
AC Outdoor Units	Toshiba RAS-10SAVR-A	71	53	56	57	57	45	39		59
VRV/VRF Outdoor Units		86	68	71	72	72	60	54		74

7.2 3D NOISE MODEL

A CadnaA model has been prepared to identify any significant noise impacts on the nearest noise sensitive receivers (accommodation units within the ESS Gateway Village) in alignment with the WA EPNR 1997 noise limits. This was made using CadnaA Version 2022 MR 2 to predict the noise emissions from the site.

7.2.1 MODEL ASSUMPTIONS

Equipment modelled reflects the layouts of the site provided in the site drawings reviewed. The mechanical plant data used are those listed in Section 7.1.

TABLE 9: NOISE MODEL INPUTS AND PARAMETERS

ITEM	INPUTS AND PARAMETERS
Industrial noise propagation standard	ISO 9613-1:1998
Ground Absorption	0.80
Noise Receptor Heights	1.5 meters above ground and respective floor levels
Max. order of reflection	3
Temperature	30°C
Relative Humidity %	50%

FIGURE 10: 3D IMAGE OF MODEL, SHOWING BUILDINGS OF THE SITE AND THE ADJACENT ESS GATEWAY VILLAGE

7.2.2 RESULTS

The closest sensitive receiver are the accommodation units of the ESS Gateway Village. The following results can be drawn from the results of noise to these units:

- Predicted noise levels from the site in full operation is expected to reach up to 35 dBA at the closest ESS Gateway Village accommodation blocks.
    - This is compliant with the noise limits stipulated in the EPNR at all times.

Noise to the accommodation units was found to primarily be due to the outdoor rooftop plant units located on the tourist accommodation complex.

The results of the model are included in Appendix A. A 3D image of one result is also shown in Figure 10.

A full acoustic review is required once the building services strategy is finalised. Additionally, noise emissions to the end state buildings will need to be considered once more building and equipment information is available. The cumulative noise from all equipment resulting at the nearest sensitive noise receivers shall be design so as not to exceed the noise limits as per the WA EPNR 1997.

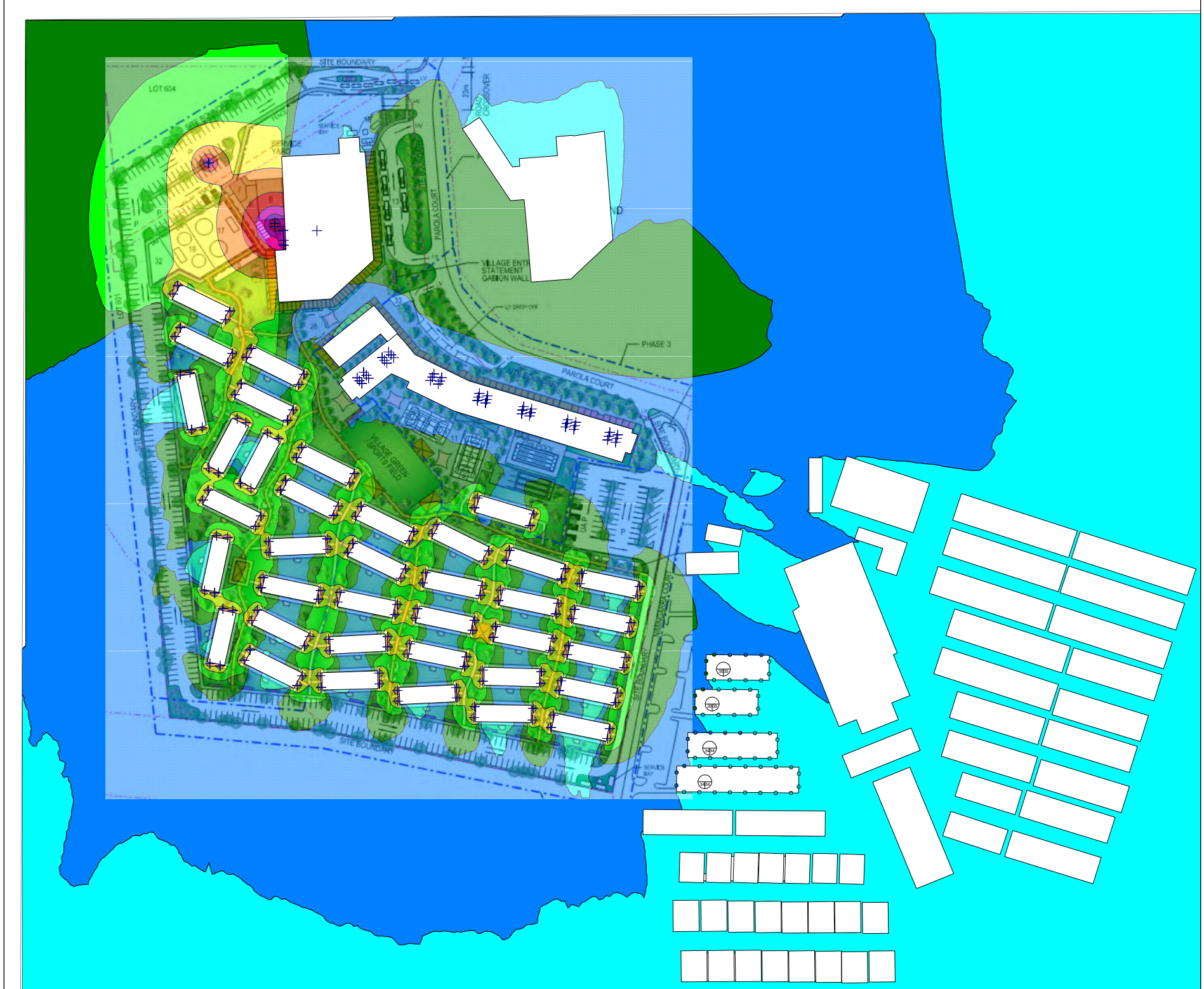
CONCLUSIONS

The proposed South Hedland Village development is expected to meet the acoustic requirements and criteria as stipulated by the EPNR, the NCC, and meet recommended internal noise levels per the AS/NZS 2107:2016 standard.

An assessment was conducted to determine the effects of noise intrusion from surrounding sources. It was determined with the unit selections and sound power levels as presented in Table 8, internal noise levels within the residential units would readily meet criteria listed in AS/NZS 2107:2016.

An assessment for noise emissions from the site was also conducted based on the proposed and predicted mechanical plant, with a CadnaA model being built to visualise the noise levels. Noise levels to the surrounding receivers are expected to be compliant at all times with the criteria set in the EPNR.

APPENDIX A – ACOUSTIC CADNAA MODEL


Point Source
Parking Lot
Railway
Building
Foliage
Building Evaluation
Calculation Area
SITE BOUNDARY
LOT 604
PAROLA COURT
PHASE 3
VILLAGE GREEN SPORTS FIELD
SERVICE BAY
Model Date 07.03.2024
Day-time noise level, dBA
... < 30
30 <= ... < 35
35 <= ... < 40
40 <= ... < 45
45 <= ... < 50
50 <= ... < 55
55 <= ... < 60
60 <= ... < 65
65 <= ... < 70
70 <= ... < 75
75 <= ... < 80
80 <= ... < 85
85 <= ...

CONTACT US

AUSTRALIA

ADELAIDE

T: +61 8 8290 6800
E: adelaide@ndy.com

BRISBANE

T: +61 7 3120 6800
E: brisbane@ndy.com

CANBERRA

T: +61 2 6295 1788
E: canberra@ndy.com

GOLD COAST

T: +61 7 5512 1235
E: goldcoast@ndy.com

MELBOURNE

T: +61 3 9862 6800
E: melbourne@ndy.com

PERTH

T: +61 8 9281 6800
E: perth@ndy.com

SYDNEY

T: +61 2 9928 6800
E: sydney@ndy.com

CANADA

VANCOUVER

T: +1 604 734 9338
E: vancouver@ndy.com

NEW ZEALAND

AUCKLAND

T: +64 9 307 6596
E: auckland@ndy.com

WELLINGTON

T: +64 4 471 0151
E: wellingtonadmin@ndy.com

UNITED KINGDOM

LONDON

T: +44 20 7553 9494
E: london@ndy.com

IRELAND

DUBLIN

T: +353 1 264 6995
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element.
the art and science of place

Bushfire Management Plan

Proposed Accommodation Village
Lot 601 Parola Court, South Hedland

March 2024 | 23-421

Document ID: 23-421			
Issue	Date	Status	Prepared by
			Name
1	28/02/24	Draft – Client Review	Dylan Wray – BPAD 44656
2	07/03/24	Final – Lodgement	Dylan Wray – BPAD 44656

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Bushfire management plan/Statement addressing the Bushfire Protection Criteria coversheet

Site address: Lot 601 Parola Court, South Hedland

Site visit: Yes ☑ No ☐

Date of site visit (if applicable): Day 02 Month February Year 2024

Report author or reviewer: Dylan Wray

WA BPAD accreditation level (please circle):

Not accredited ☐ Level 1 BAL assessor ☐ Level 2 practitioner ☑ Level 3 practitioner ☐

If accredited please provide the following.

BPAD accreditation number: 44656 Accreditation expiry: Month March Year 2025

Bushfire management plan version number: 2

Bushfire management plan date: Day 07 Month March Year 2024

Client/business name: Pacific Partnerships

	Yes	No
Has the BAL been calculated by a method other than method 1 as outlined in AS3959 (tick no if AS3959 method 1 has been used to calculate the BAL)?		✔
Have any of the bushfire protection criteria elements been addressed through the use of a performance principle (tick no if only acceptable solutions have been used to address all of the bushfire protection criteria elements)?		✔

Is the proposal any of the following (see SPP 3.7 for definitions)?	Yes	No
Unavoidable development (in BAL-40 or BAL-FZ)		✔
Strategic planning proposal (including rezoning applications)		✔
High risk land-use		✔
Vulnerable land-use	✔	

None of the above ☐

Note: Only if one (or more) of the above answers in the tables is yes should the decision maker (e.g. local government or the WAPC) refer the proposal to DFES for comment.

Why has it been given one of the above listed classifications (E.g. Considered vulnerable land-use as the development is for accommodation of the elderly, etc.)?

Vulnerable Land Use

The information provided within this bushfire management plan to the best of my knowledge is true and correct:

Signature of report author or reviewer

Date 07/03/24

1. Proposal Details

1.1 Background

Pacific Partnerships are seeking approval to construct an accommodation village at Lot 601 Parola Court, South Hedland (the subject site), as shown in Figure 1.

This Bushfire Management Plan (BMP) has been prepared in accordance with State *Planning Policy 3.7 Planning in Bushfire Prone Areas* (SPP 3.7) and the *Guidelines to Planning in Bushfire Prone Areas* (the Guidelines) to accompany the development application to the Town of Port Hedland (the Town).

1.2 Purpose

The aim of this BMP is to assess bushfire hazards within the subject site and surrounding areas to ensure the threat posed by any identified hazards can be appropriately managed and mitigated.

This BMP provides an assessment of the general bushfire management strategies to be considered as part of the proposed development, including:

- Assessment of vegetation and effective slope within the 150m assessment area of the subject site, in accordance with *Australian Standard 3959-2018 Construction of buildings in bushfire prone areas* (AS3959);
- Consideration of environmental, biodiversity and conservation values which may require the retention of bushfire hazards;
- Consideration of bushfire hazards that will exist post development and whether there are any temporary hazards or constraints;
- Assessment of the proposed development against the bushfire protection criteria of the Guidelines;
- Recommended mitigation measures to reduce the risk of bushfire from within the subject site; and
- Recommended roles and responsibilities associated with implementing the requirements of this BMP.

1.3 Proposal Description

The proposed accommodation village will have a capacity of 1,311 people and will be constructed over three (3) stages comprising of the following components:

- Two storey resort style accommodation blocks with 870 rooms;
- Two single storey universally accessible buildings with 4 rooms;
- Six storey tourist accommodation facility with 437 rooms;
- Central facilities including reception, administration, dry mess, laundries, toilets, tavern, café, offices, gym, first aid building and maintenance workshop; and
- Incidental infrastructure including vehicle parking and access, potable water and fire water tanks, electrical substation, etc.

A copy of the site plan is provided in Appendix A.

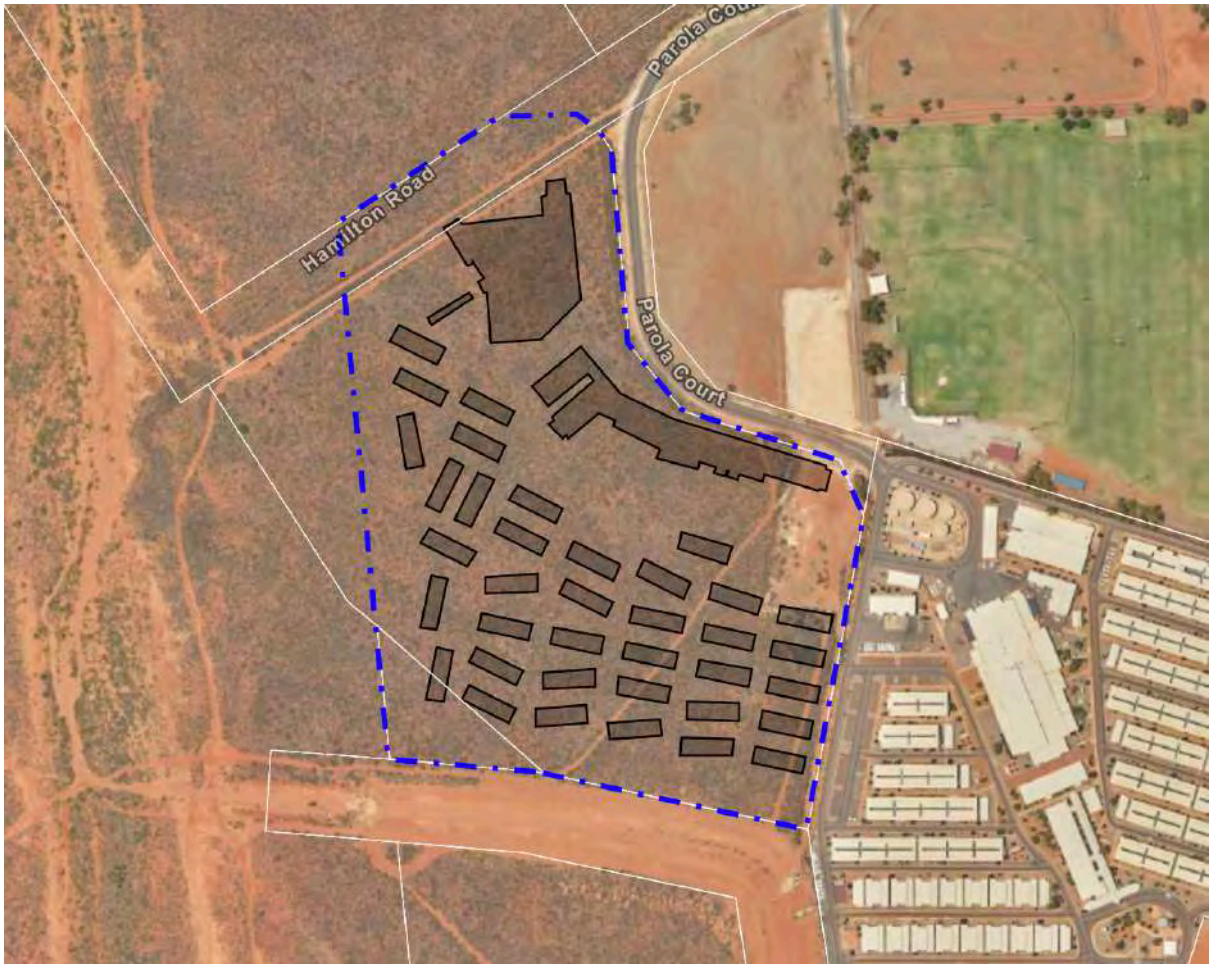

Figure 1 - Location Plan

1.4 Map of Bushfire prone Areas

The subject site is designated as bushfire prone on the Office of Bushfire Risk Management (OBRM) Map of Bushfire Prone Areas, as shown in Figure 2. The designation of an area as bushfire prone reflects the potential for bushfire attack and acts as a mechanism to initiate an assessment in accordance with SPP3.7.

A BMP is required in accordance with SPP3.7 given the proposed development will result in the intensification of development in an area that may be prone to bushfires.

Figure 2 - Map of Bush Fire Prone Areas

2. Environmental Considerations

2.1 Native Vegetation – Modification and Clearing

Policy Objective 5.4 of SPP 3.7 recognises the need to consider bushfire risk measures alongside environmental, biodiversity and conservation values. This BMP considers the environmental values specific to the subject site that may require consideration through protection, retention, or revegetation.

Table 2.1 provides a summary of the relevant environment considerations obtained from public databases.

Table 2.1 - Summary of Potential Environmental Considerations

Environmental Features	Dataset	Relevant to subject site?	Relevant to assessment area?	Comments
Conservation Category Wetland (CCW) and Buffer	DBCA-019	No	No	N/A
RAMSAR Wetlands	DBCA-010	No	No	N/A
Threatened and Priority Flora	DBCA-036	No	No	N/A
Threatened Ecological Communities (TECs)	DBCA-038	No	No	N/A
Bush Forever Areas	DOP-071	No	No	N/A
Environmentally Sensitive Areas	DWER-046	No	No	N/A
Swan Bioplan Regionally Significant Natural Areas	DWER-070	No	No	N/A
Native Vegetation Extent	DPIRD-005	Yes	Yes	Native vegetation has been identified on the subject site and throughout the assessment area.

Native vegetation identified on the subject site will be cleared to facilitate the proposed development and associated bushfire mitigation strategies. It is understood that the developer is aware of the environmental considerations identified in Table 2.1 and that any clearing of native vegetation may be subject to a clearing permit under the Environmental Protection Act.

Prior to the clearing of land, the developer will be responsible for determining whether permits or approvals are required from the relevant authorities.

2.2 Landscaping Plans

The proposed development includes landscaping to provide residents an increased level of amenity while also complying with the landscaping requirements under the Town's local planning framework. All onsite landscaping shall meet the definition of low threat vegetation in accordance with Clause 2.2.3.2 (f) of AS3959 and include a 3m low fuel zone around all habitable buildings.

A copy of the landscape plan is provided in Appendix B.

2.3 Revegetation

The proposed development does not include any areas intended for revegetation.

3. Bushfire Assessment Results

3.1 Assessment Inputs

The bushfire assessment has been undertaken in accordance with SPP 3.7, the Guidelines and AS3959.

3.1.1 Vegetation Classifications

A site visit was undertaken on the 02nd February 2024 with all vegetation classified in accordance with Table 2.3 of AS3959 and the Visual Guide for Bushfire Risk Assessment in Western Australia (WAPC 2016). The classified vegetation within the assessment area is shown in Figure 3 with a description of each area provided in Table 3.1.

Photographic evidence to support the vegetation classification has been provided in Appendix C.

3.1.2 Effective Slope

The assessment area is generally flat with a slight downward slope to the west of the subject site. Slope analysis is based on site observations with a rangefinder, cross checked with available contour data over the assessment area, as shown in Figure 3.

3.1.3 Post Development Assumptions

The assessment has been based on the following post development assumptions:

- All classified vegetation on the subject site and the adjoining road reserve will be cleared and managed in a low fuel state, in perpetuity;
- All classified vegetation on surrounding properties will remain unchanged and will continue to pose a bushfire risk post development; and
- Low threat vegetation contained on surrounding properties will remain managed which is a continuation of existing management regimes.

Table 3.1 - Assessment Summary

Plot	Vegetation Classification	Effective Slope	Description
Plot 1	Class C Shrubland	Flat / Upslope	Shrubland vegetation surrounding the subject site. The vegetation is characterised by small shrubs less than 2m in height with foliage cover greater than 30%.
Plot 2	Class C Shrubland	Downslope 0-5°	
Plot 3	Class G Grassland	Flat / Upslope	Grassland vegetation on the vacant lot to the east of the subject site. The vegetation is characterised by unmanaged grasses greater than 100mm in height
Plot 4	Excluded: Non-vegetated \ Low Threat	N/A	Areas excluded in accordance with Clause 2.2.3.2 (e) and (f) of AS3959, including: • Non-vegetated areas including public roads, driveways, access tracks, buildings and cleared areas. • Low threat vegetation including playing fields, gardens and landscaping.
Plot 5	Excluded – Subject Site	N/A	The subject site has been excluded on the post development scenario given all vegetation will be cleared to facilitate the proposed development.

The classified vegetation and effective slope identified in Table 3.1 has been used to determine the radiant heat flux on the proposed lots through the determination of the Bushfire Attack Level (BAL) in accordance with Method 1 of AS3959. Table 3.2 provides an extract of the applicable separation distances from Table 2.5 of AS3959.

Table 3.2 - Vegetation Separation Distances (Table 2.5 of AS3959-2018)

Plot	Vegetation Classification	Effective Slope	BAL-FZ	BAL-40	BAL-29	BAL-19	BAL-12.5	BAL-LOW
Plot 1	Shrubland	Flat / Upslope	<7	7-<9	9-<13	13-<19	19-<100	>100
Plot 2	Shrubland	Downslope 0-5°	<7	7-<10	10-<15	15-<22	22-<100	>100
Plot 3	Grassland	Flat / Upslope	<6	6-<8	8-<12	12-<17	17-<50	>50

3.2 Assessment Outputs

The BAL Contour Map in Figure 4 has been prepared for the assessment area based on the following considerations:

- The vegetation classifications and slope analysis in Table 3.1;
- AS3959 separation distances in Table 3.2;
- The subject site and adjoining road reserve being managed in a low fuel state, in perpetuity.

The BAL Contour Map demonstrates that upon completion, all habitable buildings will be subject to a radiant heat flux of 29kW/m^2 (BAL-29) or below, in accordance with SPP 3.7.

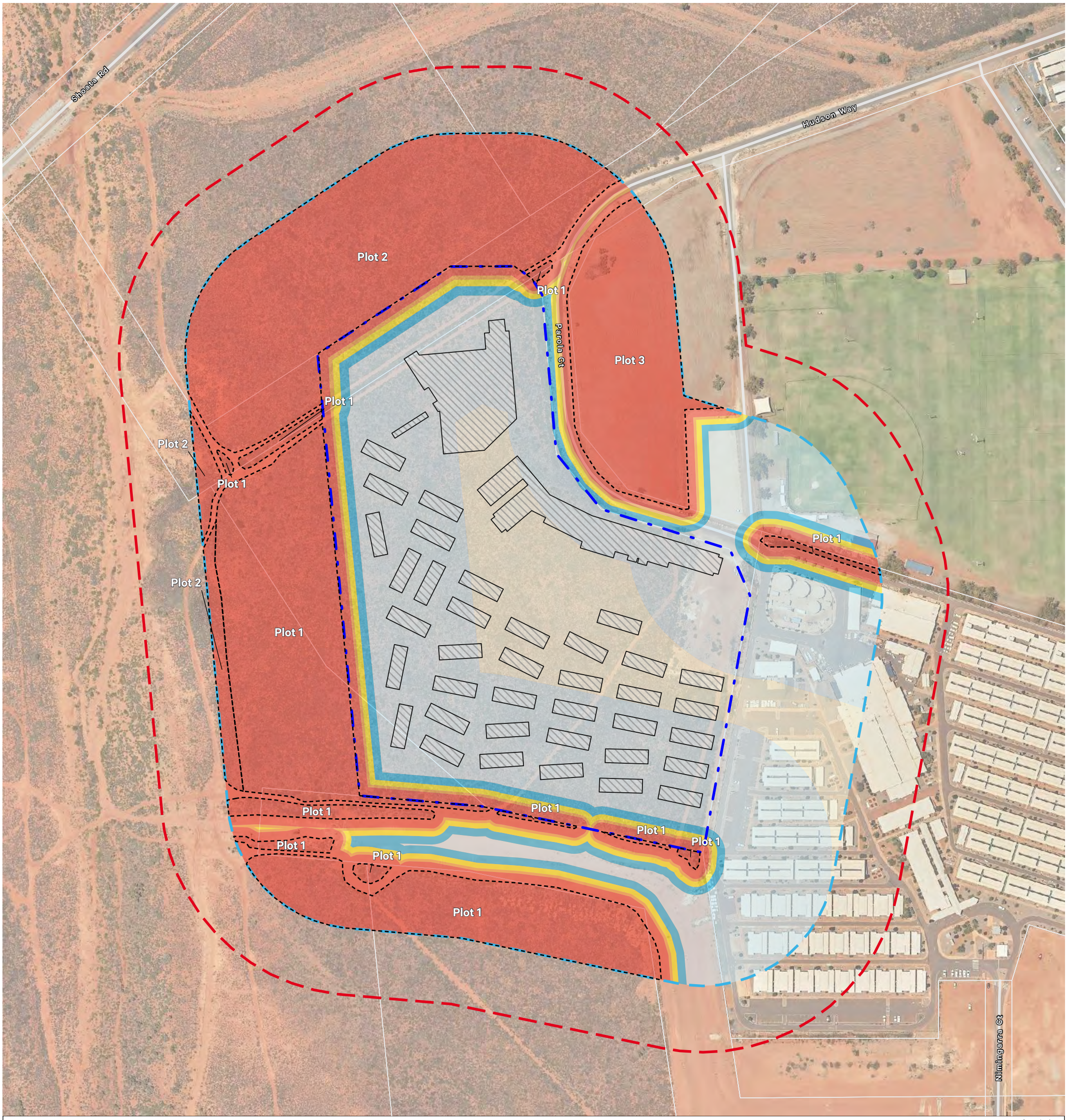

Figure 4 - BAL Contour Map

Pacific Partners South Hedland Village
Lot 601 Parola Court, South Hedland

Assessment Date: 18/10/2023

Accreditation Details: BPAD 44656 (Level 2)

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element.

Level 18, 191 St Georges Terrace, Perth Western Australia 6000
PO Box 7375 Cloisters Square, Perth Western Australia 6850
T. +61 8 9289 8300 I **E.** hello@elementwa.com.au **elementwa.com.au**

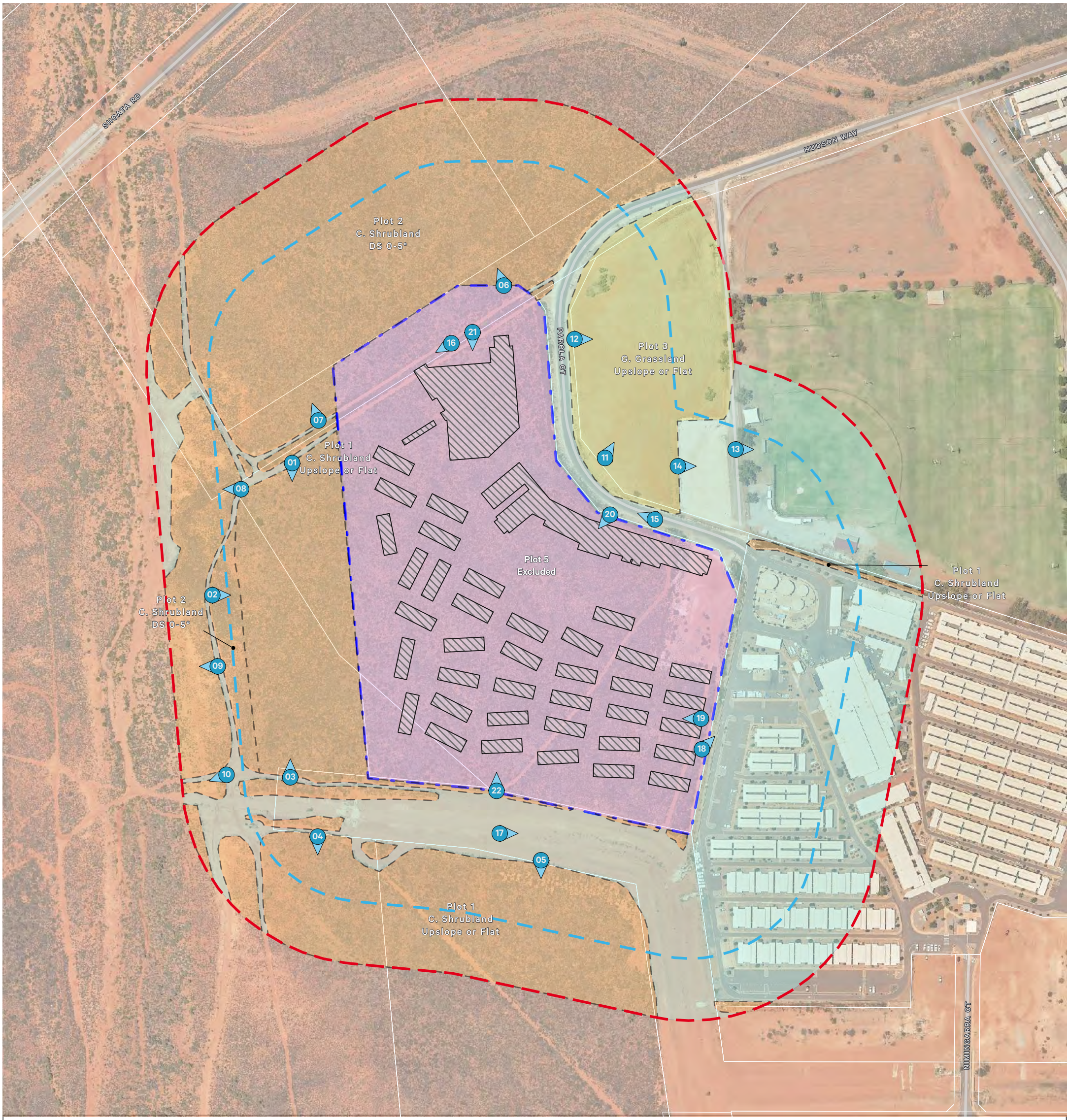

Figure 3 - Site Assessment Map

Pacific Partners South Hedland Village

Lot 601 Parola Court, South Hedland

Assessment Date: 18/10/2023

Accreditation Details: BPAD 44656 (Level 2)

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Level 18, 191 St Georges Terrace, Perth Western Australia 6000
PO Box 7375 Cloisters Square, Perth Western Australia 6850
T. +61 8 9289 8300 I **E.** hello@elementwa.com.au
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4. Identification of Bushfire Hazard Issues

4.1 Key Issues

SPP 3.7 and AS3959 aim to minimise the likelihood of radiant heat exposure, flame contact and ember attack to habitable buildings. However, these requirements cannot guarantee that damage will not occur from bushfires or that the land use intensification will not increase the likelihood and risk of bushfire ignition. The below key issues have been identified as requiring consideration in the overarching bushfire management response.

It is acknowledged that the bushfire risk to the proposed development posed by the identified bushfire hazards can be managed through standard application of the acceptable solutions of the bushfire protection criteria, as detailed in Section 5.1. Additional bushfire mitigation measures have been recommended in response to the issues identified above to further improve the site response and resilience to a bushfire, as detailed in Section 5.2.

4.1.1 Location

Vegetation on surrounding properties will continue to pose a bushfire risk to the locality and the proposed development. Shrub vegetation has potential to spread quickly, especially when aided by strong winds. Prevailing winds in this location are typically either easterly in the mornings and northerly in the afternoons, which in the context of the proposed development, could cause fire to spread to the northern extents of the subject site and impact Parola Court / Hudson Way.

Permanent separation between proposed habitable buildings and remnant bushfire prone vegetation will need to be provided to further reduce potential risks and enable suitable time for effective decision making.

4.1.2 Vehicular Access

The subject site is accessed via Parola Court / Hudson Way which is currently a no-through road approximately 1km in length. Access to the subject site will therefore be limited to a single road which could impact evacuation procedures in the event of a bushfire emergency. Considering the scale of the proposed development, a contingency will be required to enable an alternative means of accessing the public road network in the event the primary access route is compromised.

4.1.3 Water Supply

The subject site does not have access to a reticulated water supply which may limit the availability of water for the suppression of a bushfire. Suitable arrangements will need to be in place to ensure reticulated water is available to service the proposed development.

4.1.4 Occupants

The proposed development will be used to accommodate a transient workforce who may be unfamiliar with the area and the broader road network. The vulnerable nature of the proposed development will need to be considered in the bushfire management response, including arrangements for evacuation and onsite refuge.

5. Bushfire Protection Criteria

5.1 Compliance Table

This BMP provides an outline of the mitigation strategies that will ensure the proposed development meets the bushfire protection criteria of the Guidelines. The bushfire protection criteria addressed as part of this BMP includes:

- Element 1 – Location of the development;
- Element 2 – Siting and design of the development;
- Element 3 – Vehicle access; and
- Element 4 – Water supply.

The proposed development meets the intent of the bushfire protection criteria of the Guidelines through compliance with the acceptable solutions, as detailed in Table 5.1.

Table 5.1 – Bushfire Protection Criteria

Bushfire Protection Criteria	Acceptable Solution	Compliance Comments
Element 1: Location	A1.1 Development Location The development is located in an area that is or will, on completion, be subject to BAL–29 or below.	**Compliant** All habitable buildings will be subject to a radiant heat flux of 29kw/m^2 (BAL-29) or below upon completion of the development.
Element 2: Siting and Design	A2.1 Asset Protection Zone (APZ) Every habitable building is surrounded by, and every proposed lot can achieve, an APZ depicted on submitted plans, which meets the following requirements: • Width: Measured from any external wall or supporting post or column of the proposed building, and of sufficient size to ensure the potential radiant heat impact of a bushfire does not exceed 29kW/m^2 (BAL-29) in all circumstances. • Location: the APZ should be contained solely within the boundaries of the lot on which the building is situated, except in instances where the neighbouring lot or lots will be managed in a low-fuel state on an ongoing basis, in perpetuity. • Management: the APZ is managed in accordance with the requirements of Standards for Asset Protection Zones.	**Not Applicable** APZs are not required given the proposed development will have compliant setbacks from permeant bushfire hazards based on the post development scenario. Once the subject site has been cleared, all building will be subject to a radiant heat exposure of 29kw/m^2 (BAL-29) or below. This will be achieved through site clearing and ongoing management of future onsite landscaping in a low threat state, as per Clause 2.2.3.2 (f) of AS3959. Permanent separation to permanent bushfire hazards will be maintained through the construction of perimeter access roads which provide a non-vegetated barrier to retained vegetation on adjacent properties.
Element 3: Vehicular Access	A3.1 Public Road Public roads are to meet the minimum technical requirements in Appendix D. All proposed and existing public roads are to comply with the requirements of the Local Government Guidelines for Subdivisional Development (IPWEA Subdivision Guidelines), Liveable Neighbourhoods, Austroad Standards and/or any applicable standards for the local government area.	**Compliant** Parola Court and Hudson Way are local access roads with a 7.5m wide sealed surface within a 20m road reserve. The existing public road network servicing the subject site meets the minimum requirements prescribed under Table 3.2 of the IPWEA Subdivision Guidelines.

Bushfire Protection Criteria	Acceptable Solution	Compliance Comments
Element 3: Vehicular Access Cont.	A3.2a Multiple Access Routes Public road access is to be provided in two different directions to at least two different suitable destinations with an all-weather surface (two-way access). If the public road access to the subject site is via a no-through road which cannot be avoided due to demonstratable site constraints, the road access is to be a maximum of 200m from the subject lot(s) boundary to an intersection where two-way access is provided. The no-through road may exceed 200m if it is demonstrated that an alternative access, including an emergency access way, cannot be provided due to site constraints and the following requirements are met: • The no-through road travels towards a suitable destination; and • The balance of the no-through road, that is greater than 200m from the subject site, is wholly within BAL-LOW, or is within a residential built-out area.	**Compliant** The subject site will have access to multiple access routes providing connection to the existing public road network. This includes: • Parola Court / Hudson Way to Hamilton Road; and • A temporary Emergency Access Way (EAW) through to Shoata Road in accordance with Acceptable Solution A3.2b. While the subject site does not currently comply with Acceptable Solution A3.2a given it is accessed via a no-through road, the provision of a temporary EAW is deemed compliant due to the site constraints associated with the existing public road network. The EAW will only be required on a temporary basis until the planned public road network is constructed within the adjacent road reserves, as envisaged under the Town's Local Planning Strategy.
	A3.2b Emergency Access Way (EAW) Where it is demonstrated that A3.2a cannot be achieved due to site constraints, or where an alternative design option does not exist, an EAW can be considered as an acceptable solution.	**Compliant** A temporary EAW will be constructed as an alternative means of access to the existing public road network to achieve compliance with Acceptable solution A3.2a. The EAW will be approximately 340m in length extending from the northern boundary of the subject site through to Shoata Road. The EAW will comply with the technical specifications of the Guidelines, as follows: • Minimum 6m trafficable width constructed of gravel (or similar all weather surface material); • Weight capacity of 15 tonnes; • Gradient less than 10%; and • Sign posted with gates to remain unlocked. The EAW will be provided as an easement in gross under Section 195 and 196 of the Land Administration Act 1997 in favour of the Town and/or the Department of Fire and Emergency Services.

Bushfire Protection Criteria	Acceptable Solution	Compliance Comments
	A3.3 Through Roads All public roads should be through-roads. No-through roads should be avoided and can only be considered as an acceptable solution where: • It is demonstrated that no alternative road layout exists due to site constraints; and • The no-through road is a maximum length of 200m to an intersection providing two-way access.	**Not Applicable** Acceptable Solution A3.3 does not apply to development applications.
	A3.4a Perimeter Roads A perimeter road is a public road and should be provided for greenfield or infill development where 10 or more lots are being proposed (including as part of a staged subdivision).	**Not Applicable** Acceptable Solution A3.4a does not apply to development applications.
	A3.4b Fire Service Access Route (FSAR) Where proposed lots adjoin classified vegetation under AS3959, and a perimeter road is not required in accordance with A3.4a, a fire service access route can be considered as an acceptable solution to provide firefighter access, where access is not available, to the classified vegetation.	**Not Applicable** Acceptable Solution A3.4b does not apply to development applications.
	A3.5 Battle-Axe Access Legs Where it is demonstrated that a battle-axe cannot be avoided due to site constraints, it can be considered as an acceptable solution.	**Not Applicable** Acceptable Solution A3.5 does not apply to development applications.
	A3.6 Private Driveways The private driveway is to meet all the following requirements: • Technical Specifications in Appendix D; • Passing bays every 200 metres with a minimum length of 20 metres and a minimum additional trafficable width of two metres; and • Turn-around areas within 30 metres of the habitable building. Note, there are no technical requirements for private driveways less than 70m in length where the lot is serviced by reticulated water and access from a public road where the speed limit is less than 70km/h.	**Compliant** The proposed accommodation village has direct access from Parola Court with the main entrance and car parking areas designed for two-way access. The internal perimeter access road has been designed for loop access which enables light vehicles to access and egress the site in an efficient manner. The proposed internal access arrangements achieve compliance with the following requirements: • Minimum 4m trafficable width with 1m clearance either side; • Minimum 6m horizontal and 4.5m vertical clearance maintained, in perpetuity; • Gradient less than 10% and designed with minimum weight capacity of 15 tonnes; and • Internal access to the fire water tanks suitable for a Type 3.4 fire appliance.

Bushfire Protection Criteria	Acceptable Solution	Compliance Comments
Element 4: Water	A4.1 Identification of Future Water Supply Evidence that a reticulated or sufficient non-reticulated water supply for bushfire fighting can be provided at the subdivision and/or development application stage, in accordance with the specifications of the relevant water supply authority or the requirements detailed in Appendix E.	**Not Applicable** Acceptable Solution A4.1 is not applicable to development applications.
	A4.2 Provision of Water for Firefighting Purposes Where a reticulated water supply is existing or proposed, hydrant connection(s) should be provided in accordance with the specifications of the relevant water supply authority.	**Compliant** The proposed development will be serviced by a reticulated water supply with the existing main servicing the adjacent ESS Gateway Village extended to the subject site. The developer will be responsible for ensuring there is capacity within the existing reticulated water supply to meet the demand of the proposed development. The proposed development will also provide fire water tanks which can be used to defend and supress a bushfire. The fire water tank will have an approximate capacity of 268kl which will be connected to the reticulated water mains. Fire service vehicle can access the fire water tanks via the internal access roads with Storz vale connection provided adjacent the tanks.

5.2 Additional Management Strategies

The following additional bushfire management strategies have been recommended to inform ongoing planning stages and increase the level of bushfire risk mitigation and resilience across the subject site. The responsibilities and timeframes for the below recommendations are provided in Section 6.

5.2.1 Fuel Management

All proposed landscaping on the subject site and adjoining road reserve shall be managed in a minimum fuel condition in accordance with Clause 2.2.3.2 (f) of AS3959. Low threat vegetation includes managed landscaping, reticulated lawns, gardens and natures strips. Management may include regular clearing of vegetation, removal of weeds, removal of dead plant material, tree pruning and mowing of grass to reduce the fuel load surrounding the proposed development.

The landscape design includes a 3m wide defendable space around all habitable buildings to further improve the overall site response to the identified bushfire risk. Only groundcovers and grasses less than 100mm in height are permitted within the 3m defendable space.

Refer to Landscape Plan in Appendix B.

5.2.2 Temporary Emergency Access Way

The EAW will only be required on a temporary basis until the public road network is expanded, as envisaged under the Town's Local Planning Strategy. The EAW will be subject to ongoing management to ensure an alternative egress option is aways available to occupants of the accommodation village.

5.2.3 Construction Standards

The proposed Class 1, 2 and 3 buildings and associated Class 10a buildings and decks proposed in a designated bushfire prone area are required to comply with the applicable bushfire construction requirements of the *National Construction Code* (NCC). This includes compliance with either AS3959, the NASH Standard or a performance-based solution.

Based on the BAL Contour Map in Figure 4, the proposed Class 1, 2 and 3 buildings and associated Class 10a buildings will need to be designed and constructed in accordance with the BAL-12.5 construction requirements.

It is recommended that a bushfire compliance certificate is provided with the building permit application to verify the BAL ratings shown in the BAL Contour Map (Figure 4).

5.2.4 Water Supply and Suppression Equipment

Proposed fire suppression equipment such as fire water tanks, hydrants, hose reels and extinguishers required to comply with the NCC can also be used to defend and suppress a bushfire. All fire suppression equipment shall be commissioned and routinely checked to ensure it is in working order.

5.2.5 Firebreak and Fuel Hazard Reduction Notice

The Town's Firebreak and Fuel Hazard Reduction Notice provides a structure for managing bushfire throughout the local government area. The Firebreak and Fuel Hazard Reduction Notice is issued under Section 33 of the *Bush Fires Act 1954* which authorises the Town to enforce bushfire preparation works such as fuel reduction, firebreaks and fire bans.

The Firebreak and Fuel Hazard Reduction Notice requires landowners or occupiers of the property to provide 3m wide firebreaks along all lot boundaries. The landowner or occupier will be responsible for ensuring ongoing compliance with the Firebreak and Fuel Hazard Reduction Notice.

A copy of the Firebreak and Fuel Hazard Reduction Notice is provided in Appendix F.

5.2.6 Vulnerable Land Use

The proposed accommodation village meets the definition of a vulnerable land use under SPP3.7 and the Guidelines. A vulnerable land use is defined as any use where occupants may be unfamiliar with their surrounds and less likely to respond in a bushfire emergency.

Policy Measure 6.6 of SPP 3.7 requires the development application to be accompanied by a Bushfire Emergency Plan (BEP) to ensure occupants of the development can safely and effectively evacuate the site in the event of a bushfire. All occupants will be responsible for reviewing and familiarising themselves with the evacuation procedures of the accommodation village as part of their induction.

A BEP has been prepared in accordance with the Department of Planning, Lands and Heritage (DPLH) *A Guide to Developing a Bushfire Emergency Evacuation Plan*. The BEP shall be updated and implemented prior to occupation of the development which shall be enforced through a standard condition of the development approval.

A copy of the BEP is provided in Appendix G.

5.2.7 Onsite Refuge

The primary evacuation to follow in the event of a bushfire is to evacuate the area to a safer location, as identified in the BEP. However, in the event evacuation is not possible on the advice of DFES or emergency services personnel, shelter in place will need to be undertaken as a last resort option. The village green within the centre of the subject site will provide an open-air refuge area which can be used to shelter-in-place in the event evacuation is not possible.

The Guidelines require an open-air refuge area to achieve a maximum radiant heat flux of less than 2kW/m^2 (BAL-2) with an assumed flame temperature of 1200K. The Method 2 calculation in Appendix H demonstrate compliance with this requirement, as follows:

- A minimum separation of 96m is required to the worst-case shrubland vegetation (Plot 2) in order to achieve 2kW/m^2 (BAL-2). The village green is setback a minimum 115m from all areas of classified shrubland vegetation; and
- A minimum separation of 87m is required to grassland vegetation (Plot 3) in order to achieve 2kW/m^2 (BAL-2). The village green is setback a minimum 90m from all areas of classified grassland vegetation.

A copy of the AS3959 Method 2 Calculations is provided in Appendix H.

5.2.8 Public Education and Preparedness

The Town provides fire and emergency advice to landowners which is available on their website:

https://www.porthedland.wa.gov.au/bushfire-management.aspx

Additional information and resources can also be sourced from the Department of Fire and Emergency Services (DFES) website. This includes educational programs and safety guidelines to assist landowners with preparing for and surviving bushfire events.

In the event of a bushfire, specific advice and recommendations will be given to landowners from DFES, emergency services personnel and/ or the Town.

5.2.9 Responsible Service of Alcohol

The proposed accommodation village includes a tavern which involves the service of alcohol to guests. Management will be responsible for ensuring alcohol is served in a responsible manner and that there are sufficient employees available to legally operate vehicles in the event evacuation is required.

Management Requirements

1. All landscaping proposed on the subject site shall meet the definition of low threat vegetation in accordance with Clause 2.2.3.2 (f) of AS3959-2018 and maintained in a minimal fuel condition, in perpetuity. A 3m wide defendable space will be maintained around all habitable buildings.
2. The internal perimiter access road shall maintain a minimum trafficable width of 4m with traffic permitted in a single direction only (loop access). All other internal roads shall be a minimum 6m in width to enable two-way access in the event of a bushfire emergency.
3. A temporary Emergency Access Way (EAW) shall be provided from the northern boundary through to Shoata Road. The EAW shall maintain a minimum trafficable width of 6m with gates to remain unlocked.
4. The proposed development shall be connected to the reticulated water supply. The existing water main along Nimingarra Court will be extended through to the subject site with street hydrants to be provided in accordance with Water Corporations technical specifications.
5. A fire water tank with a Storz valve and capacity of 268kl will be provided on site. The potable fire water supply can be used to supress a bushfire should mains be unavailable.
6. The proposed accommodation buildings and associated class 10a buildings or decks shall comply with the bushfire construction requirements of the NCC.

Notes

- The subject site shall comply with the Town of Port Hedland Firebreak and Fuel Hazard Reduction Notice.
- Vegetation outside of the lease area will continue to pose a bushfire threat post development. The proposed development shall be subject to ongoing management regimes to ensure permenant separation to bushfire hazards.
- The proposed development will be subject to a Bushfire Emergency Plan which shall be implemented prior to occupancy and adhered to in a bushfire emergency.

Source: NearMap

Legend

- Subject Site
- Proposed Development
- Proposed Landscaping
- Permanent Bushfire Hazards
- Existing Public Roads (7.5m)
- Internal Private Roads (6m)
- Internal Private Roads (4m)
- Temporary EAW (6m)
- Driving Direction
- Potable Water Supply (268kl)
- Onsite Refuge Area
- Evacuation Assembly Area

0 50 100
Metes

Scale: 1:3,000 @ A3

Staff: DW Date: 27/02/24 File: 23-421

Figure 5 - Spatial Representation of BMP Strategies

Proposed Accommodation Village
Lot 601 Parola Court, South Hedland

Assessment Date: 02 February 2024
Accreditation Details: BPAD 44656 (Level 2)

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element.
Level 18, 191 St Georges Terrace, Perth Western Australia 6000
PO Box 7375 Cloisters Square, Perth Western Australia 6850
T. +61 8 9289 8300 I **E.** hello@elementwa.com.au
elementwa.com.au

6. Responsibilities

6.1 Implementation

Table 6.1 - Implementation Actions – Prior to Issuance of Titles (Developer / Landowner)

No.	Implementation Actions
1	The subject site and adjoining road reserve shall be managed in a low threat state in perpetuity. This may include regular clearing of vegetation, removal of weeds, removal of dead plant material, tree pruning and mowing of grass to reduce the fuel load surrounding the proposed development.
2	A 3m wide defendable space shall be provided around all habitable buildings.
3	All light vehicle access roads shall be a minimum 4m in width constructed of all-weather surface materials. Roads designed for a minimum weight capacity of 15 tonnes and compliant turning circles for a Type 3.4 fire appliance.
4	The proposed development shall be connected to reticulated water mains.
5	Proposed fire suppression equipment must be installed and commissioned by the relevant authorities, including pumps, tanks, hose reels and fire extinguishers, as required under the NCC.
6	Ensure the subject site complies with the Town's Firebreak and Fuel Hazard Reduction Notice.
7	Design and construct all Class 1, 2 and 3 buildings and associated 10a buildings with the BAL-12.5 construction requirements prescribed under the NCC.
8	Finalise the BEP to include current contact details and clearly display the evacuation diagram in all habitable buildings.

6.2 Management

Table 6.2 - Ongoing Management Actions (Landowner / Occupier)

No.	Management Actions
1	Maintain the subject site and adjoining road reserve in a low threat state, in perpetuity. All landscaping shall be subject to routine management regimes including clearing of vegetation, removal of weeds, removal of dead plant material, tree pruning and mowing of grass.
2	Ensure the 3m wide defendable space around all habitable buildings remains clear of vegetation greater than 100mm in height.
3	Maintain internal access roads to the required standards and surface conditions as stipulated in this BMP.
4	Maintain fire suppression equipment in good working order, including pumps, tanks, hydrants, hose reels and fire extinguishers, as required under the NCC.
5	Ensure ongoing compliance with the Town's Firebreak and Fuel Hazard Reduction Notice.
6	Annually review the BEP and follow any DFES or emergency services warning and announcements in the event of a nearby bushfire or extreme/catastrophic fire danger ratings.

Table 6.2 - Ongoing Management Actions – Shire of Northam

No.	Management Actions
1	Enforce compliance with the Town's Firebreak and Fuel Hazard Reduction Notice enforced under Section 33 of the Bush Fires Act 1954.
2	Maintain the public roads to ensure access to the subject site is always available.

7. References

Office of Bushfire Risk Management (OBRM) Map of Bush Fire Prone Areas, accessed October 2023, https://maps.slip.wa.gov.au/landgate/bushfireprone/

Jacobs (2023). Traffic Impact Assessment

Shire of Northam Firebreak and Fuel Load Notice, accessed October 2023, https://www.northam.wa.gov.au/services/fire-emergency-management/firebreaks-and-fuel-loads.aspx

Standards Australia. AS 3959: 2018 Construction of buildings in bushfire-prone areas. Australian Standard published 14 November 2018.

Western Australian Planning Commission (WAPC, 2015) State Planning Policy 3.7 Planning in Bushfire Prone Areas. Western Australian Planning Commission.

Western Australian Planning Commission (WAPC, 2016) Visual guide for bushfire risk assessment in Western Australia. Western Australian Planning Commission.

Western Australian Planning Commission (WAPC) (2021) Guidelines for Planning in Bushfire Prone Areas Version 1.4. Western Australian Planning Commission.

Appendix A – Site Plan

VILLAGE CAPACITY

ACCOMMODATION	# OF ROOMS
TOURIST - STYLE ROOMS	437
MODULAR ROOMS (36 @ 24 ROOMS EACH & 1 @ 6 ROOMS)	870
MODULAR UA ROOMS (2 @ 2 ROOMS EACH)	4
TOTAL	1311

PARKING BAYS

BAY TYPE	# OF BAYS
LV BAYS	436
BUS PARKING	6
UA BAYS	6
TOTAL	448

LOCATION PLAN

GENERAL NOTES

1. DO NOT SCALE OFF DRAWINGS.
2. PLOT RATIO REQUIREMENT NOT APPLICABLE.

LEGEND

- CHANGEROOM
- ANZAC MEMORIAL
- COMMUNITY SPACE
- SECURITY OFFICE
- BUSINESS CENTRE / OFFICES
- CAFE
- RESTAURANT PLANT ROOM
- 2.0 MVA SUBSTATION KIOSK & 2.0 MVA BACK UP GENERATOR WITH RMU ENCLOSURE
- SEWER TANKS 160KL (2 x TANKS 12m LONG x 3mDIA) & WETWELL
- AMBULANCE BAY
- VENTIA OFFICES
- CAR PARKING
- BBQ GAZEBO 8m x 12m (x5)
- SHADE SAIL / SEATS
- VERANDA / DECKING
- COVERED WALKWAY
- FOOTPATH
- LANDSCAPING
- EASEMENT
- SITE BOUNDARY
- ADJACENT SITE BOUNDARIES
- PHASING
- FENCE
- GABION / ACOUSTIC WALL
- RESORT STYLE ACCOMMODATION BLOCK (2 STOREY)
- TOURIST - STYLE ACCOMMODATION (6 STOREY)
- RECEPTION / ADMINISTRATION
- TOURIST COMPLEX LOBBY / LIFTS
- RESTAURANT CENTRAL KITCHEN / DINING/ FOOD STORES
- MAINTENANCE WORKSHOP
- LAUNDRY
- RECYCLING SHED
- RUBBISH SHED
- TAVERN
- MANAGERS RESIDENCE
- MULTI - SPORT COURTS BASKETBALL / VOLLEYBALL/ TENNIS
- RETAIL
- BUS SET - DOWN
- UA ROOM (SINGLE STOREY)
- TRANSIT LOUNGE / SHOWER
- TOILETS
- ICE ROOM
- POTABLE WATER PLANT
- FIRE WATER PLANT (2 x TANKS 8m DIA x 5.3m HIGH)
- SITE MAIN RMU, 2.0 MVA SUBSTATION KIOSK & 4 (1MW) BATTERY ENERGY STORAGE SYSTEM
- OUTDOOR GYMNASIUM
- CRICKET NET
- WELLNESS CENTRE
- GYMNASIUM
- BAGGAGE STORE

No	REF. DRG. No.	TITLE
7	331492-DA-069	SHADE STRUCTURE TYPES - SHEET 1
6	331492-DA-065	SITE SCREENS AND FENCING DETAILS
5	331492-DA-024	MAINTENANCE BUILDING FLOOR PLAN
4	331492-DA-023	CENTRAL FACILITIES COMPLEX FLOOR PLAN
3	331492-DA-007	RESORT STYLE ACCOMMODATION UA FLOOR PLAN
2	331492-DA-028	HOTEL STYLE ACCOMMODATION FLOOR PLANS
1	331492-DA-058	RESORT STYLE ACCOMMODATION FLOOR PLANS

REV	DATE	DESCRIPTION	DRN	DCHK	DESN	ECHK	APP
E	07.03.24	ISSUED FOR DA SUBMISSION	CH	MR	MR		
D	31.01.24	ISSUED FOR DRP	CH	MR	MR		
C	24.01.24	RE-ISSUED FOR CLIENT REVIEW	CH	MR	MR		
B	12.01.24	RE-ISSUED FOR CLIENT REVIEW	CW	MR	MR		
A	10.01.24	ISSUED FOR CLIENT REVIEW	MV	MR	MR		

CLIENT
PACIFIC PARTNERSHIPS

TETRA TECH PROTEUS
CONSULTING ENGINEERS • PROJECT MANAGERS
Ph +61 8 6218 2300 • Email proteus@tetratech.com

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Coffey Services Australia Pty Ltd ABN 55 139 460 521 trading as TETRA TECH PROTEUS

TTP DOCUMENT CODE: 331492-DA-017

	BY	DATE	SIGN
DRN	C. HEALY	07.03.24	
DCHK	M. RODRIGO	07.03.24	
DESN	M. RODRIGO	07.03.24	
ECHK			
APP			

TITLE
SOUTH HEDLAND VILLAGE
MASTERPLAN CONCEPT
OPTION 9

SCALE 1:1000 | A1 | DRG. No. 331492-DA-017 | REV. E

INFORMATION ONLY

PRELIMINARY UNCHECKED

c:\pwworking\augmp\d0506356\331492-DA-017.dgn
3/6/2024
1:27:27 PM

Appendix B – Landscape Plan

REFER OTA1484-01

REFER OTA1484-02

REFER OTA1484-03

REFER OTA1484-04

REFER OTA1484-05

REFER OTA1484-06

REFER OTA1484-07

REFER OTA1484-08

NIMINGARRA CL

PAROLA CT

ACCOMMODATION

WELLNESS CENTRE

CHANGE ROOM

CRICKET

LOBBY / LIFTS

UK ROOMS

GYM

OUTDOOR GYM

BUSINESS CENTRE & OFFICES

LV DROP OFF

BBQ (6m x 12m)

VILLAGE GREEN

RECEPTION/ADMIN RETAIL

VENTIA OFFICES

BAGGAGE STORE

TOILETS

TRANSIT

ARTZAC TENANCIES

COMMUNITY SPACE

BUS SET DOWN

ELEC

SECURITY

GATEHOUSE

REFUSE

RETAIL

CAFE/RETAIL

TAVERN

RESTAURANT/DINING

SERVICE YARD

LAUNDRY

PLANT ROOM

MAINT/WKSHOP

RECYCLING

POTABLE WATER

FIRE WATER

SEWER TANKS

YARNING CIRCLE

GENERAL NOTES:

1. ALL PLANTS AND LAWN WATERED BY FULLY AUTOMATIC UNDERGROUND RETICULATION.
2. ALL LANDSCAPING WORKS CARRIED OUT IN CONSULTATION WITH SITE ENGINEER. FINAL PLACEMENT AND POSITIONING ACCORDING TO SITE CONDITIONS (LOCATION OF DRAINAGE AREAS, UNDERGROUND SERVICES, ACCESSWAYS ETC.).
3. SPECIES SELECTION TBC SUBJECT TO AVAILABILITY.

LEGEND

- SEMI-ADVANCED TREE [30/45L]
- SEMI-ADVANCED TREE [20L]
- PALM/EXOTIC [12/30L]
- LARGE SHRUB [5L/140mm]
- MASS PLANTING - GRASSES WITH 30mm DECORATIVE STONE MULCH
- LOW PLANTING MIX 1 WITH 30mm DECORATIVE STONE MULCH
- LOW PLANTING MIX 2 WITH 30mm RIVER SHINGLE STONE MULCH
- LOW PLANTING MIX 3 [LOW DENSITY] WITH 30mm RIVER SHINGLE STONE MULCH
- ROLL ON LAWN
- DRY RIVERBED DECORATIVE ROCK 75/150mm
- STEEL GARDEN EDGING
- GB — GABION BENCH
- TG — STAINLESS STEEL TREE GRATE
- TR — CORTEN STEEL TREE RING
- FEATURE BOULDERS
- GABION SEATING WALL
- GABION ACOUSTIC WALL

outback trees of australia

UNIT 6, 611 HAY STJOLIMONT WA 6014 T: 08 9388 1666 www.outbacktrees.com.au

REVISION	DATE	REVISION NOTE
A	05.02.24	ISSUED FOR DA SUBMISSION
B	27.02.24	RE-ISSUED FOR DA SUBMISSION

NOTES
Notes

PROJECT
SOUTH HEDLAND VILLAGE

ADDRESS

CLIENT
PACIFIC PARTNERSHIPS
177 Pacific Highway North Sydney NSW 2060 T +61 2 8668 6444

DRAWING
LANDSCAPING OVERVIEW

0 20 40 M

PROJECT #	1484	DWG STATUS	
DWG DATE	Date	OTA DRG #	REVISION
SHEET SIZE	A1	1484-00	B
SCALE @ A1	1:650	CLIENT DRG#	
DRAWN AG	CHKD LOM		

NIMINGARRA CL

PAROLA CT

PAROLA CT

ACCOMMODATION

WELLNESS CENTRE

CHANGE ROOM

CRICKET

LOBBY / LIFTS

GYM

OUTDOOR GYM

BUSINESS CENTRE & OFFICES

MAROOMS

BBQ (6m x 12m)

LV DROP OFF

BUS SET DOWN

LOBBY / LIFTS

RECEPTION/ADMIN RETAIL

VENTIA OFFICES

TRANSIT

BAGGAGE STORE

TOILETS

VILLAGE GREEN

BBQ (6m x 12m)

BBQ (6m x 12m)

ANZAC MEMORIAL

BBQ (6m x 12m)

ELEC

SECURITY

GATEHOUSE

REFUSE

RETAIL

CAFE/RETAIL

TAVERN

RESTAURANT/DINING

COMMUNITY SPACE

SERVICE YARD

LAUNDRY

PLANT ROOM

MAINT/WKSHOP

RECYCLING

POTABLE WATER

FIRE WATER

SEWER TANKS

YARNING CIRCLE

GENERAL NOTES:

1. ALL PLANTS AND LAWN WATERED BY FULLY AUTOMATIC UNDERGROUND RETICULATION.
2. ALL LANDSCAPING WORKS CARRIED OUT IN CONSULTATION WITH SITE ENGINEER. FINAL PLACEMENT AND POSITIONING ACCORDING TO SITE CONDITIONS (LOCATION OF DRAINAGE AREAS, UNDERGROUND SERVICES, ACCESSWAYS ETC.).
3. SPECIES SELECTION TBC SUBJECT TO AVAILABILITY.

LEGEND

- SEMI-ADVANCED TREE [30/45L]
- SEMI-ADVANCED TREE [20L]
- PALM/EXOTIC [12/30L]
- LARGE SHRUB [5L/140mm]
- MASS PLANTING - GRASSES WITH 30mm DECORATIVE STONE MULCH
- LOW PLANTING MIX 1 WITH 30mm DECORATIVE STONE MULCH
- LOW PLANTING MIX 2 WITH 30mm RIVER SHINGLE STONE MULCH
- LOW PLANTING MIX 3 [LOW DENSITY] WITH 30mm RIVER SHINGLE STONE MULCH
- ROLL ON LAWN
- DRY RIVERBED DECORATIVE ROCK 75/150mm
- STEEL GARDEN EDGING
- GB — GABION BENCH
- TG — STAINLESS STEEL TREE GRATE
- TR — CORTEN STEEL TREE RING
- FEATURE BOULDERS
- GABION SEATING WALL
- GABION ACOUSTIC WALL
- 3m LOW FUEL ZONE

outback trees of australia

UNIT 6, 611 HAY STJOLIMONT WA 6014 T: 08 9388 1666 www.outbacktrees.com.au

REVISION	DATE	REVISION NOTE
A	27.02.24	ISSUED FOR INFORMATION

NOTES
Notes

PROJECT
SOUTH HEDLAND VILLAGE

ADDRESS

CLIENT
PACIFIC PARTNERSHIPS

177 Pacific Highway North Sydney NSW 2060 T +61 2 8668 6444

DRAWING
LANDSCAPING OVERVIEW
3m LOW FUEL ZONE

0 20 40 M

PROJECT #	1484	DWG STATUS	
DWG DATE	Date	OTA DRG #	REVISION
SHEET SIZE	A1	1484-11	A
SCALE @ A1	1:650	CLIENT DRG#	
DRAWN AG	CHKD LOM		

Appendix C – Vegetation Assessment

APPENDIX C – VEGETATION ASSESSMENT

PLOT 1	
Classification: Class C Shrubland	**Effective Slope: Flat / Upslope**
Pre-Development Description: Dense areas of small shrubs less than 2m in height with foliage cover in excess of 70%. The slope under the vegetation is relatively flat with a slight upslope away from the subject site.	**Post Development Description:** The plot will remain unchanged.

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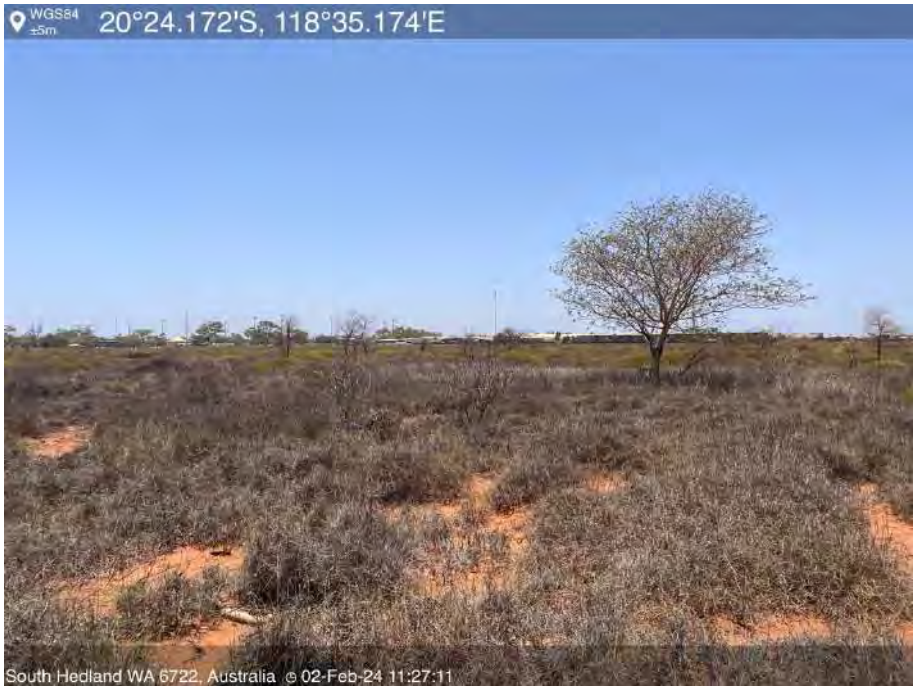

Photo ID: 02

APPENDIX C – VEGETATION ASSESSMENT

PLOT 1	
Classification: Class C Shrubland	**Effective Slope: Flat / Upslope**
Pre-Development Description: Dense areas of small shrubs less than 2m in height with foliage cover in excess of 70%. The slope under the vegetation is relatively flat with a slight upslope away from the subject site.	**Post Development Description:** The plot will remain unchanged.

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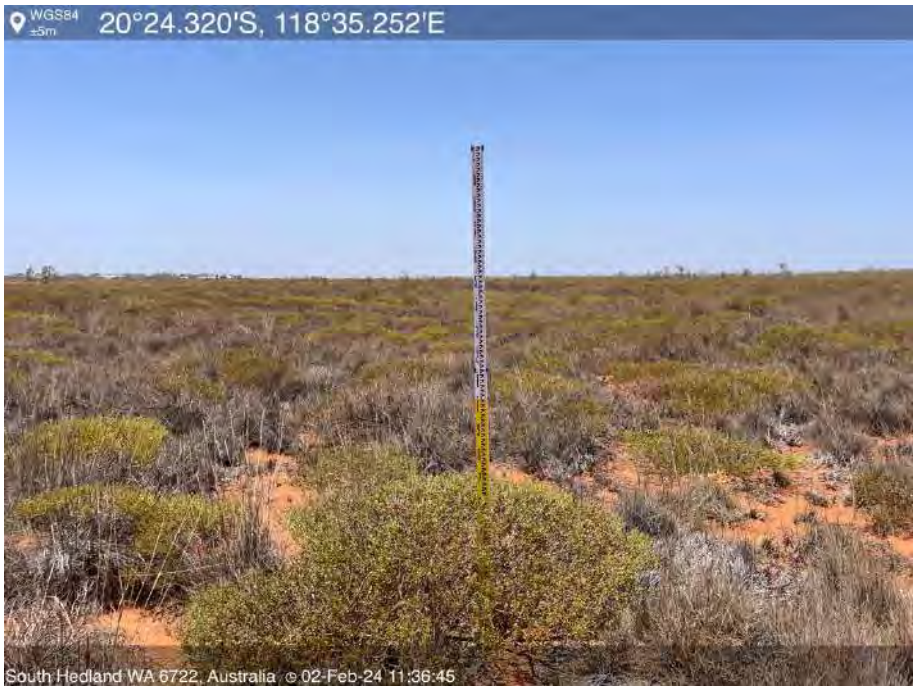

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APPENDIX C – VEGETATION ASSESSMENT

PLOT 1	
Classification: Class C Shrubland	**Effective Slope: Flat / Upslope**
Pre-Development Description: Dense areas of small shrubs less than 2m in height with foliage cover in excess of 70%. The slope under the vegetation is relatively flat with a slight upslope away from the subject site.	**Post Development Description:** The plot will remain unchanged.

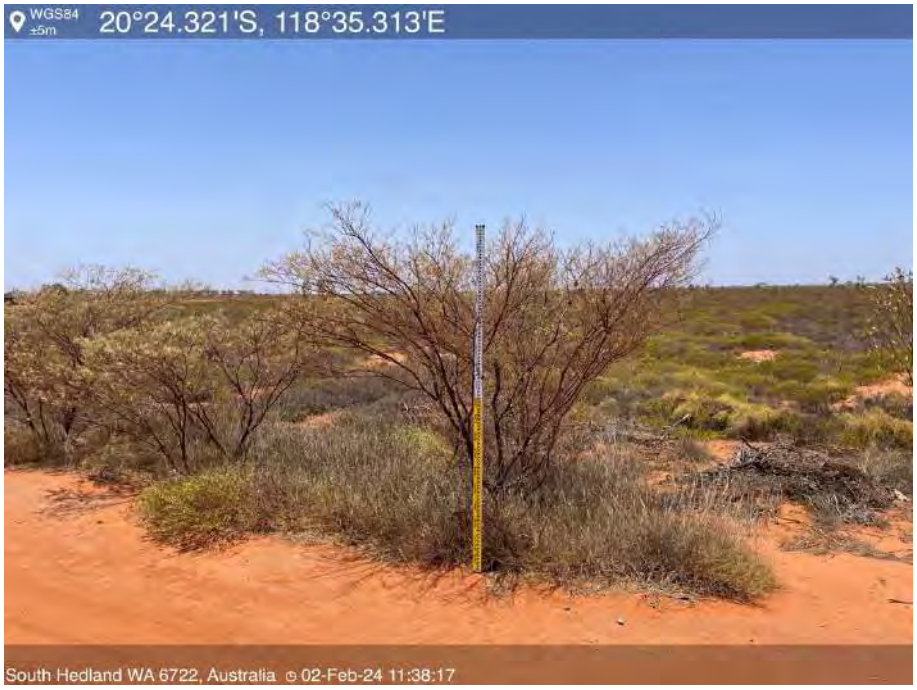


Photo ID: 05

APPENDIX C – VEGETATION ASSESSMENT

PLOT 2	
Classification: Class C Shrubland	**Effective Slope: Downslope 0 – 5°**
Pre-Development Description: Dense areas of small shrubs less than 2m in height with foliage cover in excess of 70%. The slope under the vegetation is relatively flat with a slight downslope away from the subject site.	**Post Development Description:** The plot will remain unchanged.

Photo ID: 06

Photo ID: 07

APPENDIX C – VEGETATION ASSESSMENT

PLOT 2	
Classification: Class C Shrubland	**Effective Slope: Downslope 0 – 5°**
Pre-Development Description: Dense areas of small shrubs less than 2m in height with foliage cover in excess of 70%. The slope under the vegetation is relatively flat with a slight downslope away from the subject site.	**Post Development Description:** The plot will remain unchanged.

Photo ID: 08

Photo ID: 09

APPENDIX C – VEGETATION ASSESSMENT

PLOT 2	
Classification: Class C Shrubland	**Effective Slope: Downslope 0 – 5°**
Pre-Development Description: Dense areas of small shrubs less than 2m in height with foliage cover in excess of 70%. The slope under the vegetation is relatively flat with a slight downslope away from the subject site.	**Post Development Description:** The plot will remain unchanged.

Photo ID: 10

APPENDIX C – VEGETATION ASSESSMENT

PLOT 3	
Classification: Class G Grassland	**Effective Slope: Flat / Upslope**
Pre-Development Description: Sparse grasses and small shrubs to the east of the subject site. The vegetation has been classified on the basis that it has an average height greater than 100mm and is in an unmanaged state.	**Post Development Description:** Plot will remain unchanged.

Photo ID: 11

Photo ID: 12

APPENDIX C – VEGETATION ASSESSMENT

PLOT 4	
Exemption: Clause 2.2.3.2 (e) & (f)	**Reason: Non-Vegetated / Low Threat**
Pre-Development Description: Areas excluded in accordance with Clause 2.2.3.2 (e) and (f) of AS3959, including: • Non-vegetated areas including public roads, driveways, access tracks, buildings and cleared areas. • Low threat vegetation including landscaping on private properties and public playing fields.	**Post Development Description:** Excluded areas will remain unchanged.

Photo ID: 13

Photo ID: 14

APPENDIX C – VEGETATION ASSESSMENT

PLOT 4	
Exemption: Clause 2.2.3.2 (e) & (f)	**Reason: Non-Vegetated / Low Threat**
Pre-Development Description: Areas excluded in accordance with Clause 2.2.3.2 (e) and (f) of AS3959, including: • Non-vegetated areas including public roads, driveways, access tracks, buildings and cleared areas. • Low threat vegetation including landscaping on private properties and public playing fields.	**Post Development Description:** Excluded areas will remain unchanged.

Photo ID: 15

Photo ID: 16

APPENDIX C – VEGETATION ASSESSMENT

PLOT 4	
Exemption: Clause 2.2.3.2 (e) & (f)	**Reason: Non-Vegetated / Low Threat**
Pre-Development Description: Areas excluded in accordance with Clause 2.2.3.2 (e) and (f) of AS3959, including: • Non-vegetated areas including public roads, driveways, access tracks, buildings and cleared areas. • Low threat vegetation including landscaping on private properties and public playing fields.	**Post Development Description:** Excluded areas will remain unchanged.

Photo ID: 17

Photo ID: 18

APPENDIX C – VEGETATION ASSESSMENT

PLOT 4	
Exemption: Clause 2.2.3.2 (e) & (f)	**Reason: Development Site**
Pre-Development Description: The subject site which currently contains areas of Class C Shrubland which will be cleared to facilitate the proposed development. The subject site has been excluded on the post development scenario.	**Post Development Description:** The subject site will be cleared to facilitate the proposed development.

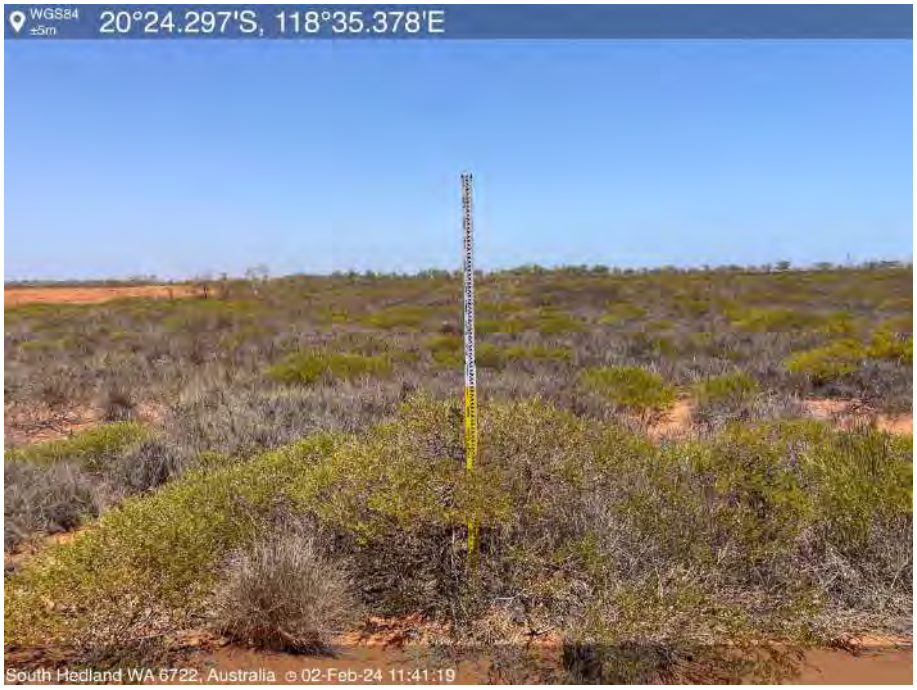


Photo ID: 19

Photo ID: 20

APPENDIX C – VEGETATION ASSESSMENT

PLOT 4	
Exemption: Clause 2.2.3.2 (e) & (f)	**Reason: Development Site**
Pre-Development Description: The subject site which currently contains areas of Class C Shrubland which will be cleared to facilitate the proposed development. The subject site has been excluded on the post development scenario.	**Post Development Description:** The subject site will be cleared to facilitate the proposed development.

Photo ID: 21

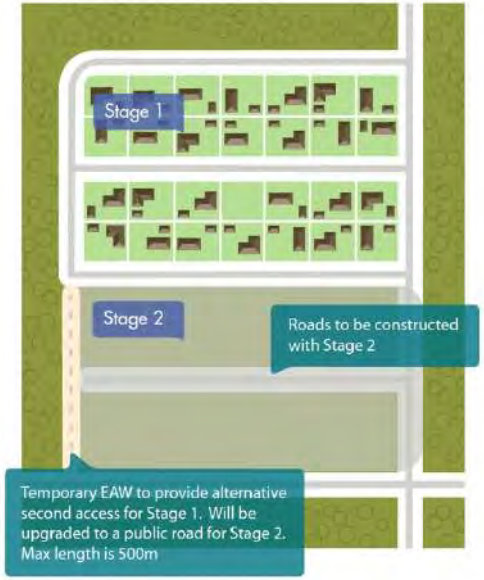
Photo ID: 22

Appendix D – Vehicle Access Requirements

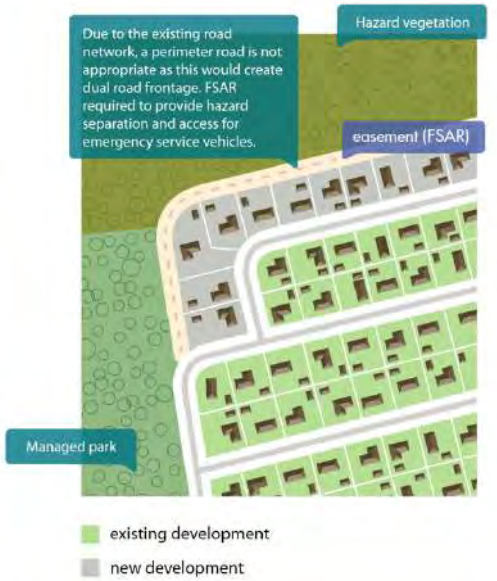
APPENDIX D – VEHICULAR ACCESS TECHNICAL REQUIREMENTS

TECHNICAL REQUIREMENTS	1. Public Road	2. Emergency Access Way	3. Fire Service Access Rout	4. Battle-Axe and Private Driveways
Minimum trafficable surface	In accordance with A3.1	6m	6m	4m
Horizontal clearance	N/A	6m	6m	6m
Vertical clearance	4.5m			
Minimum weight capacity	15 tonnes			
Maximum grade unsealed road	As per the Subdivision Guidelines.	1:10 (10%)		
Maximum grade sealed road		1:7 (14.3%)		
Maximum average grade sealed road		1:10 (10%)		
Minimum inner radius of road curves		8.5m		

Example of a Public Road

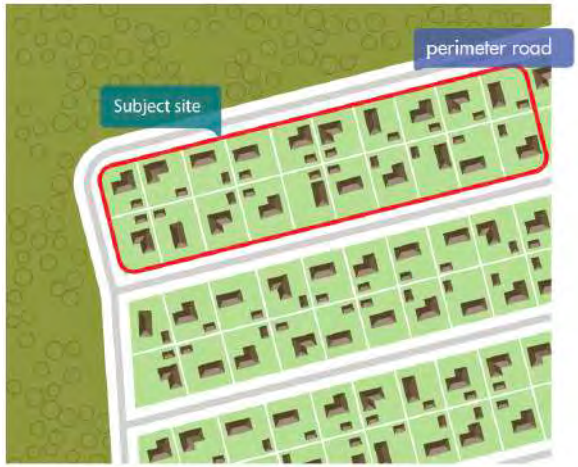


Example of Emergency Access Way

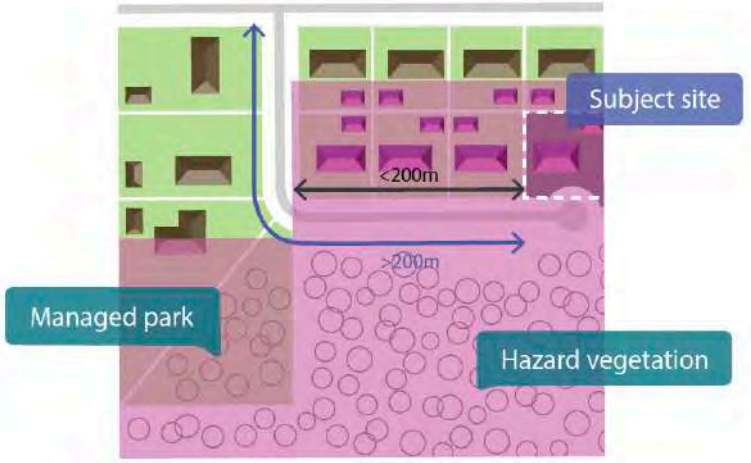


Example of Fire Service Access Way

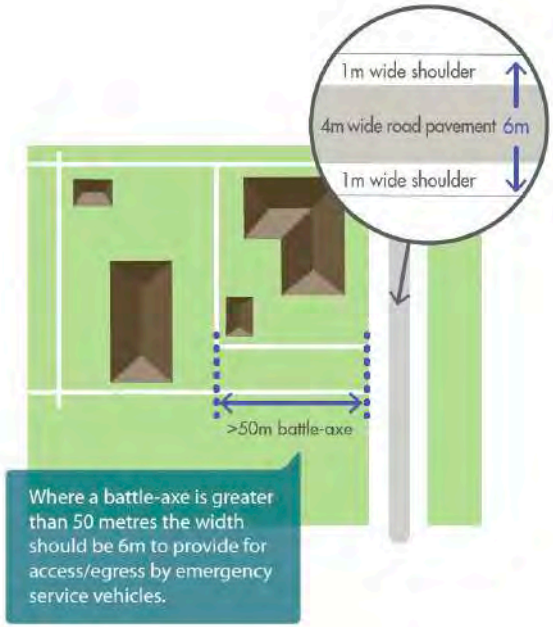
APPENDIX D – VEHICULAR ACCESS TECHNICAL REQUIREMENTS



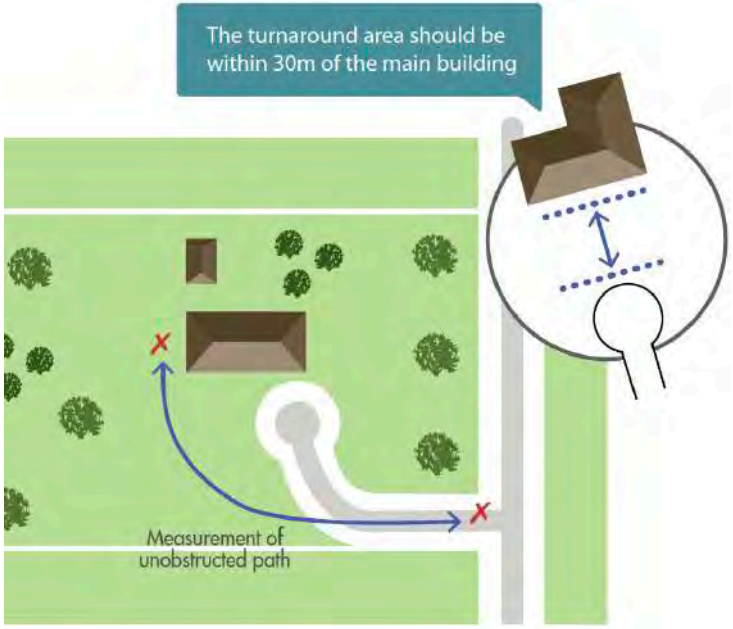
Example of a Perimeter Road



Example of a Cul-de-sac

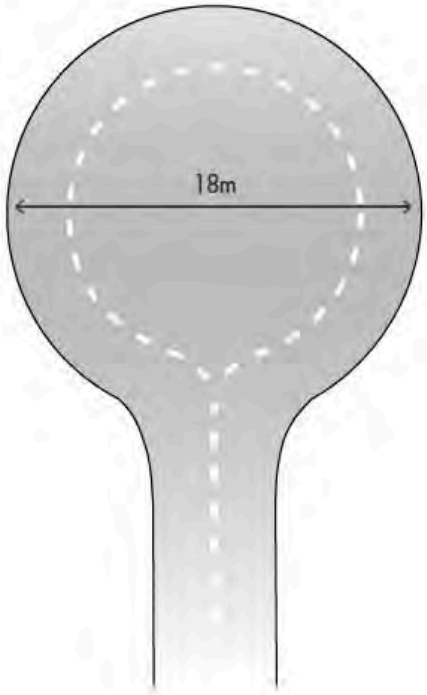


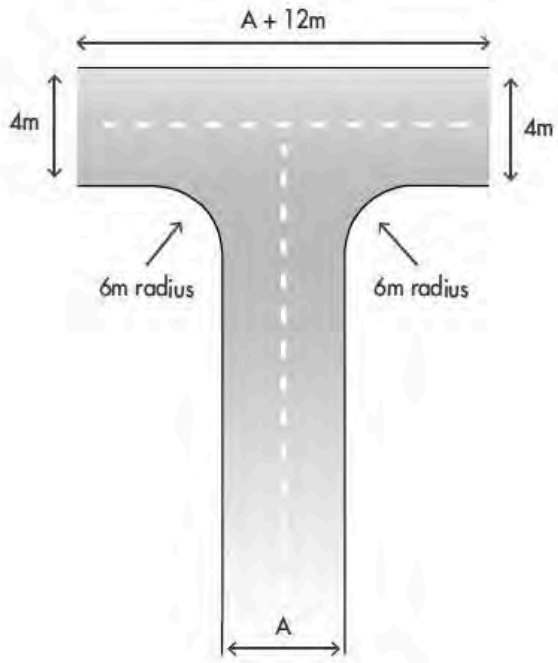
Example of a Battle-Axe Access Leg

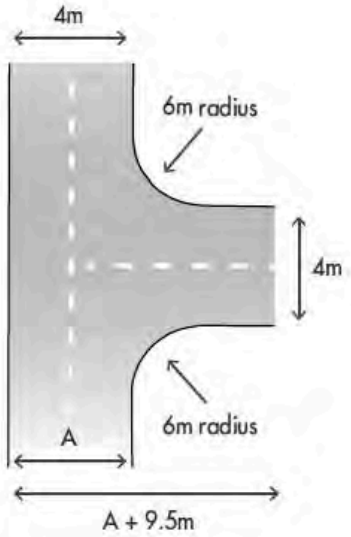


Example of a Private Driveway

APPENDIX D – VEHICULAR ACCESS TECHNICAL REQUIREMENTS







Example of Turn Around Areas

Appendix E – Water Supply Requirements

APPENDIX E – WATER TECHNICAL REQUIREMENTS

Water Supply Requirements:
Water dedicated for firefighting should be provided in accordance with the below table and be in addition to water required for drinking purposes.

Planning Application Type	Non-Reticulated Areas
Development Application	10,000L per habitable building
Structure Plan / Subdivision: Creation of 1 additional lot	10,000L per lot
Structure Plan / Subdivision: Creation of 3 to 24 lots	10,000L tank per lot or 50,000L strategic water tank
Structure Plan / Subdivision: Creation of 25 lots or more	50,000L per 25 lots or part thereof provided as a strategic water tank(s) or 10,000L tank per lot.

Construction and Design:

- An above-ground tank and associated stand should be constructed of non-combustible material. The tank may need to comply with AS/NZS 3500.1:2018.
- Below ground tanks should have a 200mm diameter access hole to allow tankers or emergency service vehicles to refill direct from the tank, with the outlet location clearly marked at the surface. The tank may need to comply with AS/NZS 3500.1:2018. An inspection opening may double as the access hole provided that the inspection opening meets the requirements of AS/NZS 3500.1:2018. If the tank is required under the BCA as part of fire hydrant installation, then the tank will also need to comply with AS 2419.
- Where an outlet for an emergency service vehicle is provided, then an unobstructed, hardened ground surface is to be supplied within four metres of any water supply.

Pipes and Fittings:

- All above-ground, exposed water supply pipes and fittings should be metal. Fittings should be located away from the source of bushfire attack and be in accordance with the applicable section below, unless otherwise specified by the local government.

Fitting for Above-Ground Water Tanks:

- Commercial land uses: 125mm Storz fitting; or
- Strategic water tanks: 50mm or 100mm (where applicable and adapters are available) male camlock coupling with full flow valve; or
- Standalone water tanks: 50mm male camlock coupling with full flow valve; or
- Combined water tanks: 50mm male camlock coupling with full flow valve or a domestic fitting, being a standard household tap that enables an occupant to access the water supply with domestic hoses or buckets for extinguishing minor fires.

Remote Outlets:

- In certain circumstances, it may be beneficial to have the outlet located away from the water supply. In such instances in which a remote outlet is to be used, the applicant should consult the local government and DFES on their proposal.

Example of good and bad landscaping around a water tank

APPENDIX E – WATER TECHNICAL REQUIREMENTS

Hydrant Requirements (Water Corp Design Standard 63)

Hydrants shall be screw-down hydrant with built-in isolation valve and installed only on DN100 or larger pipes. Hydrants shall be located:

- so that the maximum distance between a hydrant and the rear of a building envelope, (or in the absence of a building envelope the rear of the lot) shall be 120m and the hydrants shall be no more than 200m apart;
- a maximum of 100m spacing in Industrial and Commercial areas;
- hydrant spacing in rural residential areas where minimum site areas per dwelling is 10,000m^2 (1ha), a maximum 400m hydrant spacing be applied. If area is further subdivided to land parcels less than 1ha, then the residential standard (200m) is to be applied;
- centrally along the frontage of a lot to avoid being under driveways;
- where appropriate at the truncation of road junctions or intersections so that they can serve more than one street and can be readily located;
- on both sides of the major roads at staggered intervals where there are mains on both sides of the road;
- at major intersections on dual multi-lane roads, where two hydrants are to be sited on diagonally opposite corners;
- hydrants should be located at least 20m from traffic calming devices i.e. median slow points or chokers, chicanes, mini traffic circles, and intersection ‘pop-outs’ to ensure traffic is not impeded;
- in a position not less than 10m from any high voltage main electrical distribution equipment such as transformers and distribution boards (AS 2419.1-2005).
- hydrants with washout bends shall be used only in cul-de-sac situations.

Appendix F – Firebreak Notice

Important Dates	
Variation to Firebreak Notice completed by	30 September
Variation to Firebreak Notice, as approved by Council to be complied with by	31 October
Firebreaks Installed by	31 October
Maintenance of Firebreaks ALL YEAR ROUND	1 November to 31 October

FAILURE TO COMPLY MAY RESULT IN A $5000 FINE

Fire Danger Rating describes the potential danger if a fire was to start. See what action you should take:

Life-threatening Emergency	000
DFES Information Line	133 337
Bureau of Meteorology	9263 2222
Ranger Services	9158 9300
Horizon Power	132 351
State Emergency Service	132 500
Total Fire Ban Information	1800 709 355

Alerts and Warnings:
www.emergency.wa.gov.au

ARE YOU BUSHFIRE READY?

www.areyouready.wa.gov.au

Town of Port Hedland Civic Centre
13 McGregor Street, Port Hedland
PO Box 41 Port Hedland WA 6721

Mon – Fri: 8.00am – 4.00pm

t (08) 9158 9300
f (08) 9158 9399
council@porthedland.wa.gov.au
www.porthedland.wa.gov.au

Town of Port Hedland

Firebreak and Fuel Hazard Reduction Notice 2023-24

BUSH FIRES ACT 1954
TOWN OF PORT HEDLAND
Please read carefully
These are your legal requirements

This notice applies to all owners and/or occupiers of land within the Town of Port Hedland.

Pursuant to Section 33 of the *Bush Fires Act 1954* you are required to take action in accordance with this notice in your land category.

The following categories detail what you must do to comply, with no exemptions. Failure to comply may result in you being fined and/or Council entering your land to install firebreak works at the owner's expense.

This Notice and information has effect 1 October 2022. All previous Firebreak Notices are hereby cancelled.

By order of the Chief Executive Officer.

Your legal requirements

1. Land in townsites/rural residential zoned lots—including Mining, Transient Workforce or Construction Accommodation facilities

1a. Land less than 2000 square metres must:

- ☐ Cut all grass to less than 50mm in height
- ☐ Trim trees and bushes that overhang access ways, driveways, buildings

1b. Land more than 2000 square metres must:

- ☐ Install firebreaks that are:
- ✓ Immediately inside all external boundaries
- ✓ Mineral earth with a width of no less than 5 metres
- ☐ Trim trees and bushes that overhang access ways, driveways, buildings and firebreaks
- ☐ Maintain a 20 metre asset protection zone around dwelling and outbuildings

2. Land outside townsites/rural residential zoned lots—including Mining, Transient Workforce or Construction Accommodation facilities

- ☐ Install firebreaks that are:
- ✓ Immediately inside all external boundaries
- ✓ Mineral earth with a width of no less than 5 metres
- ✓ Mineral earth with a width of no less the 3 metres around all structures, outbuilding and haystacks
- ☐ Trim trees and bushes that overhang access ways, driveways, buildings and firebreaks
- ☐ Maintain a 20 metre asset protection zone around dwelling and outbuildings

2. Variation to Firebreak Notice must:

Apply in writing to the Town by 30 September requesting your variation and the reasons for your application. If approved, all firebreak conditions will be as per the variation and compliance will be for three years.

If your variation is not approved or on change of ownership, the variation is cancelled. The owner must comply with the Firebreak Notice requirements for the category of land.

Definitions

Firebreak
A strip of land that has been cleared of all flammable material, leaving bare mineral earth. This includes the trimming back of anything overhanging the fire break area. Mowed firebreaks are not acceptable

Flammable material
Any vegetation (bushes, grasses, trees, mulch and green waste), object or material that is likely to catch fire.

Asset Protection Zone (APZ)
An APZ is a low-fuel area immediately surrounding a building. It should include a defendable space adjacent to the building, which has minimal vegetation and is free from combustible items and obstructions.

Restrictions

Gazetted townsite of Port Hedland Backyard burning, burning off, and the use of incinerators are banned at all times.

Barbeques
Solid fuel BBQs (wood stoves etc) must only be used for the purpose of cooking. This cannot be done on days between fire danger ratings of High to Catastrophic.

Total Fire Bans
May be declared by the Department of Fire and Emergency Services (DFES), which will be advertised in local media, press, radio and television.

No fires are permitted when a Total Fire Ban is in place. Please be aware that infringements may be issued or prosecution may commence as a result.

Further legal requirements to this Firebreak Notice are available at web address.

Appendix G – Bushfire Emergency Plan

BUSHFIRE EMERGENCY PLAN

FOR DA (UPDATE PRIOR TO OCCUPANCY

Pacific Partnerships Accommodation Village

Lot 601 Parola Court,
South Hedland WA 6722

Emergency Response Team

Name	Position	Role	Contact Details
TBC	TBC	Chief Fire Warden	TBC
TBC	TBC	Fire Warden	TBC
TBC	TBC	Traffic Warden	TBC
TBC	TBC	Communications Officer	TBC
TBC	TBC	First Aid Personnel	TBC
TBC	TBC	Area Wardens	TBC

Prepared by: **Dylan Wray (BPAD Level 2 – 44656)**

Operator: **Pacific Partnerships**

Date: **7 March 2024**

UPDATE PRIOR TO OCCUPANY

REFER TO THE EVACUATION DIAGRAM IN THE EVENT OF A BUSHFIRE EMERGENCY.

TO BE REVIEWED ANNUALLY

FOR DA (UPDATE PRIOR TO OCCUPANCY)

Document ID: 23-421			
Issue	Date	Status	Prepared by
			Name
1	07/03/24	Draft – Client Review	Dylan Wray – BPAD 44656

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FOR DA (UPDATE PRIOR TO OCCUPANCY)

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FOR DA (UPDATE PRIOR TO OCCUPANCY)

Facility Details

This Bushfire Emergency Plan (BEP) is for the Pacific Partnerships Workforce Village at Lot 601 Parola Court, South Hedland. The BEP has been developed to assist **Pacific Partnerships** in the protection of life, property and infrastructure in the event of a bushfire.

The BEP has been prepared in accordance with *A Guide to developing a Bushfire Emergency Evacuation Plan* (DPLH 2019) and shall be read in conjunction with the Bushfire Management Plan (**element**, 2024).

Prior to occupation of the proposed development, this BEP shall be updated to include the outstanding information highlighted in blue. At the time of preparing this BEP, certain details such as the names and contact details of key personnel were not available.

This BEP outlines procedures for both **EVACUATION** and **SHELTER-IN-PLACE** (on-site refuge) to enhance the protection of occupants from the threat of bushfire. Always follow the advice of the Department of Fire and Emergency Services (DFES) or emergency services personnel during a bushfire emergency.

The **Primary Management** action is:

PRE-EMPTIVE CLOSURE OF THE VILLAGE UNDER CATASTROPHIC FIRE DANGER RATINGS.

The **Primary Action** to follow in a bushfire emergency is to:

EVACUATE OFF-SITE

The **Secondary Action** to follow in a bushfire emergency is to:

SHELTER-IN-PLACE

Proposal Details

Address	Lot 601 Parola Court, South Hedland
Site Contact	(Insert Name)
Position/ Role	(Insert Role)
Contact Number	(Insert Contact Number)

Facility Name	Pacific Partnerships Accommodation Village
Type of Facility	Workforce Accommodation
Number of occupants	1,311 Occupants
Number of vulnerable persons with support needs	TBC
Number of visitors	TBC

FOR DA (UPDATE PRIOR TO OCCUPANCY)

Roles and Responsibilities

Emergency Response Team

Pacific Partnerships are to establish an emergency response team (ERT) who will be responsible for implementing the emergency response procedures of this BEP. The ERT shall comprise of the following positions:

- Chief Fire Warden
- Deputy Fire Warden
- Traffic Warden
- Communications Officer
- First Aid Personnel
- Area Wardens

It is acknowledged that certain individuals may have the necessary training and experience to undertake multiple roles within the ERT.

Responsibilities

The responsibilities for implementing the response procedures in the event of a bushfire emergency have been outlined in the table below.

Position	Name	Responsibilities	Phone Number
Chief Fire Warden	(Insert Name)	Coordinate and implement emergency procedures of this BEP.	(Insert Number)
		Delegate roles and responsibilities as required.	
		Respond to and take control as appropriate.	
		Determine the nature of the emergency and implement appropriate actions.	
		Determine when to evacuate and arrange the orderly evacuation from the site.	
		Oversee the evacuation from the site.	
Deputy Fire Wardens	(Insert Name)	Assist Chief Fire Warden or take control in the absence of the Chief Fire Warden.	(Insert Number)
		Maintain communication with and updating Chief Fire Warden with situation reports.	
		Implement emergency procedures of this BEP.	
		Ensure staff have received the necessary training for their roles and responsibilities in an emergency.	

FOR DA (UPDATE PRIOR TO OCCUPANCY)

Position	Name	Responsibilities	Phone Number
		Determine any special needs of occupants and visitors that may impact the ability to effectively evacuate.	
		Account for all occupants and visitors during an emergency.	
		Always remain contactable.	
		Contribute to post bushfire event debrief.	
Traffic Warden	(Insert Names)	Confirm availability of private vehicles and organise bus transport.	(Insert Number)
		Coordinate the orderly movements of vehicles during evacuation.	
Communications Officer	(Insert Names)	Maintain communication with the Fire Wardens including situation reports.	(Insert Number)
		Check DFES website or weather forecast daily for any warnings or alerts.	
		Monitor Fire Danger Ratings (FDR).	
		Monitor conditions on days that have an FDR of extreme or catastrophic.	
First Aid Personnel (Green Hat)	(Insert Names)	Evaluate the extent of any injuries.	(Insert Number)
		Administer first aid.	
		Assess if the injured can be evacuated safely.	
		Report injuries to the Fire Wardens.	
Area Wardens	(Insert Names)	Take direction from and carry out tasks allocated by the Fire Wardens.	(Insert Number)
		Check all buildings to account for all occupants, visitors and staff members.	
		Assemble all occupants, visitors and staff members in the designated assembly areas.	
		Ensure all staff have been alerted and evacuation has been initiated in an orderly manner.	
		Maintain communication and keep occupants and visitors calm.	
		Continually update Fire Wardens with situation reports.	
		Keep occupants and visitors together.	
		Use fire suppression facilities to pre-wet areas.	
		Check buildings and extinguish small fires after the fire front has passed.	
		Contribute to post bushfire event debrief.	

FOR DA (UPDATE PRIOR TO OCCUPANCY)

Emergency Contacts

Primary Emergency Contacts

Name or Organisation	Office/ Contact	Contact Details
Fire, Police or Ambulance	**Fire or Emergency**	**000**
Department of Fire & Emergency Services (DFES)	**Emergency Information Line**	**13 33 37 (13 DFES)**
Emergency WA	**Warnings, incidents, Fire Danger Ratings and Fire Bans**	**www.emergency.wa.gov.au**

Secondary Emergency Contacts

Name or Organisation	Office/ Contact	Contact Details
South Hedland Volunteer Fire and Rescue Services	Emergency information and assistance	(08) 9172 3176
Port Hedland Volunteer Fire and Rescue Services	Emergency information and assistance	(08) 9173 1118
Hedland State Emergency Services (SES)	Information and Assistance	(08) 9140 1300 0419 909 744
State Emergency Services (SES)	Information and Assistance	132 500
Town of Port Hedland	Emergency information and assistance	(08) 9111 5000
Ranger Services	Non-emergency assistance	(08) 9158 9300
WA Police	Non-emergency police assistance	13 14 44
South Hedland Police	Non-emergency police assistance	(08) 9160 2100
Main Roads WA	Road closures	13 81 38 www.mainroads.wa.gov.au
Horizon Power	Power outages	132 351
Water Corporation	Water outages	13 13 75
Hedland Health Campus	Medical Assistance	(08) 9174 1000

FOR DA (UPDATE PRIOR TO OCCUPANCY)

Preparedness

Equipment

The following equipment shall be readily available:

- Personal protection equipment for the ERT including masks, gloves, eyewear, coveralls and identification hats.
- Bushfire emergency kit including first aid supplies, eyewash, torches and masks.
- Communication equipment including mobile phones, two-way handheld radios and a satellite phone.
- Occupant and visitor registers.

Transport

The nominated Traffic Warden shall ensure there is sufficient transport readily available for the number of occupants on site at any one time. This will include a combination of private vehicle and bus transport for occupants, visitors and employees.

In the event there is insufficient transport vehicles available, evacuation to the primary evacuation assembly area (South Hedland Sports Hub) can be undertaken by foot.

In extreme conditions, it may not be safe to complete the evacuation. If there are signs of a bushfire, the advice of DFES or emergency services should be sort as to whether evacuation could be safely undertaken.

Fire Alarm

The accommodation village shall provide an audible fire alarm which shall be installed on the central admin building with signage installed for easy identification and use in an emergency.

Training and Education

All fire wardens and staff members assigned responsibilities under this BEP should attend emergency evacuation and first aid training courses.

All those who have received training should formally acknowledge that they have read and understood the emergency procedures of this BEP and understand their roles and responsibilities during an emergency.

Annual Reviews

This BEP shall be treated as a 'live document' and reviewed prior to each bushfire season, with updates undertaken by the operator, in conjunction with a bushfire practitioner or emergency management expert.

FOR DA (UPDATE PRIOR TO OCCUPANCY)

Seasonal Checklist

Prior to each bushfire season (October to April), it is important to be prepared for potential bushfire threats. The following seasonal works are to be undertaken by Pacific Partnerships prior to and during the bushfire season.

Seasonal Checklists

Ongoing Actions	Responsible Person
Ongoing	
Implement and maintain the requirements of the Bushfire Management Plan, including vegetation management, fuel reduction, availability of water and firefighting equipment.	Fire Wardens or nominated personnel.
Maintain occupant, staff and visitor registers with up-to-date contact details.	
Ensure ongoing compliance with the Town of Port Hedland Firebreak and Fuel Hazard Notice.	

Pre-Bushfire Season Actions	Responsible Person
To be completed prior to the bushfire season (October)	
Review BEP to ensure details, procedures and contact details are up to date.	Fire Wardens or nominated personnel.
Ensure firebreaks are installed in accordance with the Town of Port Hedland Firebreak and Fuel Hazard Notice.	
Ensure all staff members have undertaken necessary training and are aware of their roles and responsibilities contained within this BEP.	
Ensure a bushfire emergency kit is complete with procedures, first aid supplies, PPE and emergency contact details.	
Remove all flammable materials within 3m of the buildings.	
Inspect fire extinguishers and firefighting equipment to ensure they are in working order with the instructions attached.	
Test the fire alarm to ensure it is in working order.	
Ensure Evacuation Diagrams are clearly displayed in all habitable rooms.	
Provide current copy of this BEP at reception.	

Bushfire Season Actions	Responsible Person
To be completed during the bushfire season	
Continually check the DFES website for FDR and any alerts for the area.	Fire Wardens or nominated personnel.
Maintain landscaping and onsite vegetation as low threat vegetation, in accordance with the Bushfire Management Plan.	
Ensure all occupants, visitors and staff are made aware of the potential for bushfire threats and put in place the necessary transport arrangements.	
Continually remove all flammable materials within 3m of the buildings.	
Routinely check the bushfire emergency kit and top up with equipment, as required.	
Routinely check firefighting equipment to ensure they are clear from obstructions.	
Routinely check communications equipment to ensure they are charged and in working order.	

FOR DA UPDATE PRIOR TO OCCUPANCY)

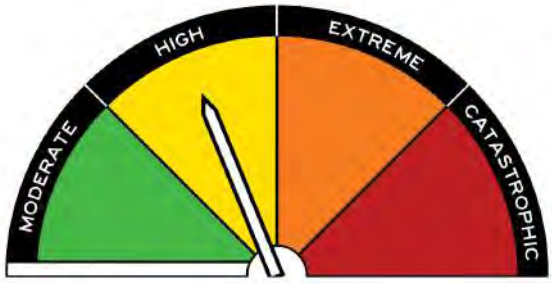
Awareness and Pre-Emptive Procedures

Fire Danger Ratings

The Bureau of Meteorology determines the Fire Danger Rating (FDR) which is based on the forecasted weather for that area. The FDR predicts the level of bushfire threat on any given day which is used by DFES to inform the community on the predicated and current fire weather conditions.

The FDR provides an indication of how difficult a bushfire will be for authorities to extinguish and on what days a bushfire is going to pose the greatest threat to properties and lives.

Pacific Partnerships shall close the accommodation village on days where the FDR is **Catastrophic**. Pre-emptive closure of the village should also be considered on days where the FDR is **Extreme**.



MODERATE
Plan and prepare

HIGH
Be ready to act

EXTREME
Take action now to protect life and property

CATASTROPHIC
For your survival, **leave bushfire risk areas**

Total Fire Bans

A Total Fire Ban (TFB) is declared on days when bushfires are most likely to threaten lives and property due to extreme fire weather or when there are widespread fires already burning.

DFES Warnings

DFES provide bushfire warnings to reflect the increased risk to life and properties when a bushfire has been identified. These warnings have been used as triggers for enacting bushfire preparation and evacuation procedures.

EMERGENCY WARNING
An out of control fire is approaching fast and you need to take immediate action to survive. If you haven't prepared your home it is too late.
You must seek shelter or leave now if it is safe to do so.

WATCH AND ACT
A fire is approaching and there is a possible threat to lives or homes. Put your plan into action. If your plan is to leave, make sure you leave early. If your plan is to stay, check all your equipment is ready.
Only stay and defend if you are mentally and physically prepared.

ADVICE
A fire has started but there is no immediate danger. Stay alert and watch for signs of a fire.
Be aware and keep up to date.

FOR DA (UPDATE PR OCCUPANCY)

Actions

The actions below must be undertaken to ensure all occupants and visitors are aware of the bushfire threat and follow the appropriate procedures.

Actions

Actions	Responsible Person
Extreme FDR or an official 'Advice' warning has been issued	
Inform all occupants, visitors and staff members of the 'Advice' warning and/or potential bushfire conditions.	Fire Wardens or nominated personnel.
Monitor bushfire alerts on the Emergency WA website, DFES information line (13 13 37) and/or local ABC radio (603 AM).	
Consider pre-emptive closure of the accommodation village if an Extreme or Catastrophic FDR is forecast.	
Ensure two-way handheld radios and mobile phones are available and charged.	
Remove any flammable materials from within 3m of the building.	
Ensure the bushfire emergency kit is accessible and stocked with first aid supplies, PPE and emergency contact details.	
Maintain awareness for potential bushfires in the vicinity and continually check for smoke or fire. If observed, emergency evacuation procedures should be enacted.	

Actions	Responsible Person
Total Fire Ban or an official 'Watch and Act' has been issued	
Alert all occupants, visitors and staff members of the 'Watch and Act' warning, TFB and/or potential bushfire conditions.	Fire Wardens or nominated personnel.
Assess situation and assign a delegate to monitor Emergency WA website, DFES information line (13 13 37) and/or local ABC radio (603 AM).	
Consider pre-emptive closure of the accommodation village if an Extreme or Catastrophic FDR is forecast.	
Check availability of vehicles in the event evacuation is required and arrange for bus transport to be on standby.	
Liaise with DFES and enact emergency procedures, including evacuation on advice from DFES or emergency services personnel.	

Actions	Responsible Person
A bushfire threatens the site, Catastrophic FDR or an official 'Emergency Warning' has been issued	
Close the accommodation village as soon as possible.	Fire Wardens or nominated personnel.
Alert all occupants, visitors and staff members of the 'Emergency' warning and/or potential bushfire conditions.	
Seek instructions for DFES to determine if evacuation is required and public roads are safe to evacuate.	
If yes, sound the alarm and action emergency evacuation procedures.	
If no, action shelter-in-place procedures and remain within the outdoor refuge area until instructed by emergency services personnel.	

FOR DRAFT UPDATE PRIOR TO OCCUPANCY)

Evacuation Procedures

Communication

The ERT will communicate during a bushfire event using two-way handheld radios or mobile phones.

The communications officer shall maintain contact with DFES or emergency services personnel through the use of a mobile phone or a satellite phone, if the bushfire disrupts mobile phone reception.

Implementation of Evacuation

Early evacuation is the safest option in a bushfire emergency. The following procedures shall be implemented by the Chief Fire Warden, on advice from DFES or emergency services personnel.

Procedures for Evacuation	
The primary action to following with an imminent bushfire threat is to **EVACUATE.**	
Trigger to Evacuate	**On any direction from DFES / emergency services personnel or a 'Watch & Act' or 'Emergency Warning' alert has been issued for the area.**

Action	Responsible Person
Advise DFES (000) of fire if emergency services personnel are not in attendance.	Fire Wardens or nominated personnel.
Act on any advice from DFES or emergency services personnel.	
Sound the alarm and inform all occupants, visitors and staff members of the bushfire emergency.	
Collect the bushfire emergency kits.	
Observe outside conditions and monitor the buildings.	
Account for all occupants, visitors and staff members.	
Check all rooms, communal buildings and amenities for occupants, visitors and staff members.	
Assemble all occupants, visitors and staff members in the designated assembly areas.	
Supervise the orderly evacuation of all occupants, visitors and staff members, in accordance with the staging plan.	
Relocate all occupants, visitors and staff members to the evacuation centre, as determined by DFES, emergency services personnel and/or this BEP.	
Advise DFES or emergency services personnel of the decision to evacuate, the proposed route and location.	
Account for all occupants, visitors and staff members upon reaching the evacuation centre and attend to any first aid needs.	
Advise DFES or emergency services personnel once evacuation is complete.	
Only return to the site once safe and on advice from DFES or emergency services personnel.	
If evacuation becomes unsafe, all remaining occupants, visitors and staff members shall remain at the village green open-air refuge. The Fire Warden shall advise DFES (000) and follow Shelter-in-Place procedures.	

FOR DA (UPDATE PRIOR TO OCCUPANCY)

Staging Plan

Evacuation of the accommodation village should be undertaken in stages given the potential for 1311 occupants to be on site at any one time. The evacuation of the village shall be undertaken in the following stages:

1. Occupants, visitors and non-essential staff who require assistance due to factors such as injuries, disabilities, age, breathing difficulties, etc. should be evacuated as a priority via bus or private vehicles.
2. Occupant, visitors and non-essential staff with access to a private vehicle shall be evacuated next.
3. All remaining occupants, visitors and non-essential staff shall be loaded onto buses while the Stage 1 and Stage 2 evacuation is occurring. If buses are unavailable, the remaining persons shall walk to the primary evacuation assembly area (South Hedland Sports Hub).
4. The ERT shall evacuate the site last via private vehicles once the site is completely vacated.

Evacuation Centres

The evacuation assembly areas shall be in the designated carparks within close proximity to the central dining hall which is clear from bushfire hazards and subject to a radiant heat exposure of BAL-LOW. Evacuation procedures shall be enacted on advice from DFES or emergency services personnel that the route is safe to the nominated evacuation centres.

The primary evacuation assembly area has been identified based on the proximity to the accommodation village and the potential requirement for occupants to evacuate by foot.

Primary Off-Site Evacuation Centre	
Name of Venue	South Hedland Sports Hub / Kevin Scott Oval
Address of Venue	Hamilton Road, South Hedland
Contact Number	(08) 9158 9300
Transport	Buses, private vehicles and walking
Estimated Response Time	30 minutes
Estimated Assembly Time	30 minutes
Estimated Travel Time	5 minutes
Total Evacuation Time	1 hour 5 minutes

The secondary evacuation centre has been identified in the Town of Port Hedland Emergency Evacuation Plan

Secondary Off-Site Evacuation Centre	
Name of Venue	JD Hardie Community Centre
Address of Venue	Lot 5991 Cottier Drive, South Hedland
Contact Number	(08) 9158 9380
Transport	Buses and private vehicles
Estimated Response Time	30 minutes
Estimated Assembly Time	30 minutes
Estimated Travel Time	10 minutes
Total Evacuation Time	1 hour 10 minutes

FOR DA (UPDATE PRIOR TO OCCUPANCY)

Shelter-in-Place Procedures

Communication

The ERT will communicate during a bushfire event using two-way handheld radios or mobile phones.

The communications officer shall maintain contact with DFES or emergency services personnel through the use of a mobile phone or a satellite phone, if the bushfire disrupts mobile phone reception.

Implementation of Shelter-in-Place

The primary action to follow if there is an imminent bushfire threat is to **EVACUATE** to a designated evacuation assembly area determined by DFES or emergency services personnel, or as determined in this BEP.

Shelter-in-Place shall only be considered on the advice from DFES or emergency services that it is too late to leave or adequate transportation is not available. Occupants, visitors and staff members should shelter in the village green open-air refuge area which is clear from bushfire hazards and subject to a radiant heat exposure less than 2kW/m^2, as identified in the Bushfire Management Plan.

Procedures for Shelter-in-Place (Last Resort)	
The primary action to following with an imminent bushfire threat is to **EVACUATE.**	
Trigger to Shelter-in-Place	**On advice from DFES / emergency services personnel.**
Action	**Responsible Person**
Advise DFES (000) of sheltering-in-place including location, number of persons and primary contact number.	Fire Wardens or nominated personnel.
Inform all occupants, visitors and staff members of the bushfire emergency.	
Assemble the emergency response team and assign roles and responsibilities.	
Account for all occupants, visitors and staff members sheltering-in-place.	
Issue water and masks, assist occupants and visitors to remain calm and hydrated.	
Act on any advice from DFES or emergency services personnel.	
Monitor bushfire alerts on Emergency WA website, DFES information line and/or ABC radio.	
Attend to any first aid needs of people sheltering-in-place.	
Await the 'All Clear' advice from DFES.	
Supervise the departure of occupants, visitors and staff members once safe to leave the area.	
Inspect buildings after the fire has passed and extinguish any small fires.	
Determine if buildings are safe to return to or evacuate the area if it is safe to do so.	

FOR DA (UPDATE PRIOR TO OCCUPANCY)

Recovery Procedures

Return to Site

Occupants, visitors and staff members shall not return to site until it has been declared by the Chief Fire Warden that the site is safe, on advice from DFES or emergency services personnel.

Post Emergency Debrief

Following a bushfire emergency, the emergency response team shall review the procedures of this BEP and make any necessary amendments to improve efficiencies of the evacuation and/or shelter in place arrangements.

Recovery

Once the bushfire event has passed, the following recovery procedures should be followed upon the 'All Clear' advice from DFES.

Recovery Procedures (Post Bushfire Event)	
Trigger to Recovery	**On advice from DFES that it is 'All Clear' to return to site.**

Action	Responsible Person
Act on any advice from DFES or emergency services personnel.	Fire Wardens or nominated personnel.
Monitor bushfire alerts on Emergency WA website, DFES information line and/or ABC radio (603 AM).	
Await the 'All Clear' advice from DFES.	
Inspect buildings for damage and extinguish any remaining smouldering objects.	
Monitor the condition of impacted buildings for 24 hours prior to reoccupation. Damaged buildings shall not be reoccupied until the damage has been rectified.	
Upon being declared safe, the village may re-open.	
Advise occupants, visitors and staff members of the reopening of the village.	
Debrief by assessing the severity of the event, effectiveness of this BEP, identification of any unexpected problems and refine procedures, as necessary.	

FOR DA (UPDATE PRIOR TO OCCUPANCY)

Attachments

Attachments
Bushfire Emergency Evacuation Plan
Fire Danger Ratings
Bushfire Warning System Alerts

FOR DA (UPDATE PRIOR TO OCCUPANCY)

BUSHFIRE EMERGENCY EVACUATION PLAN

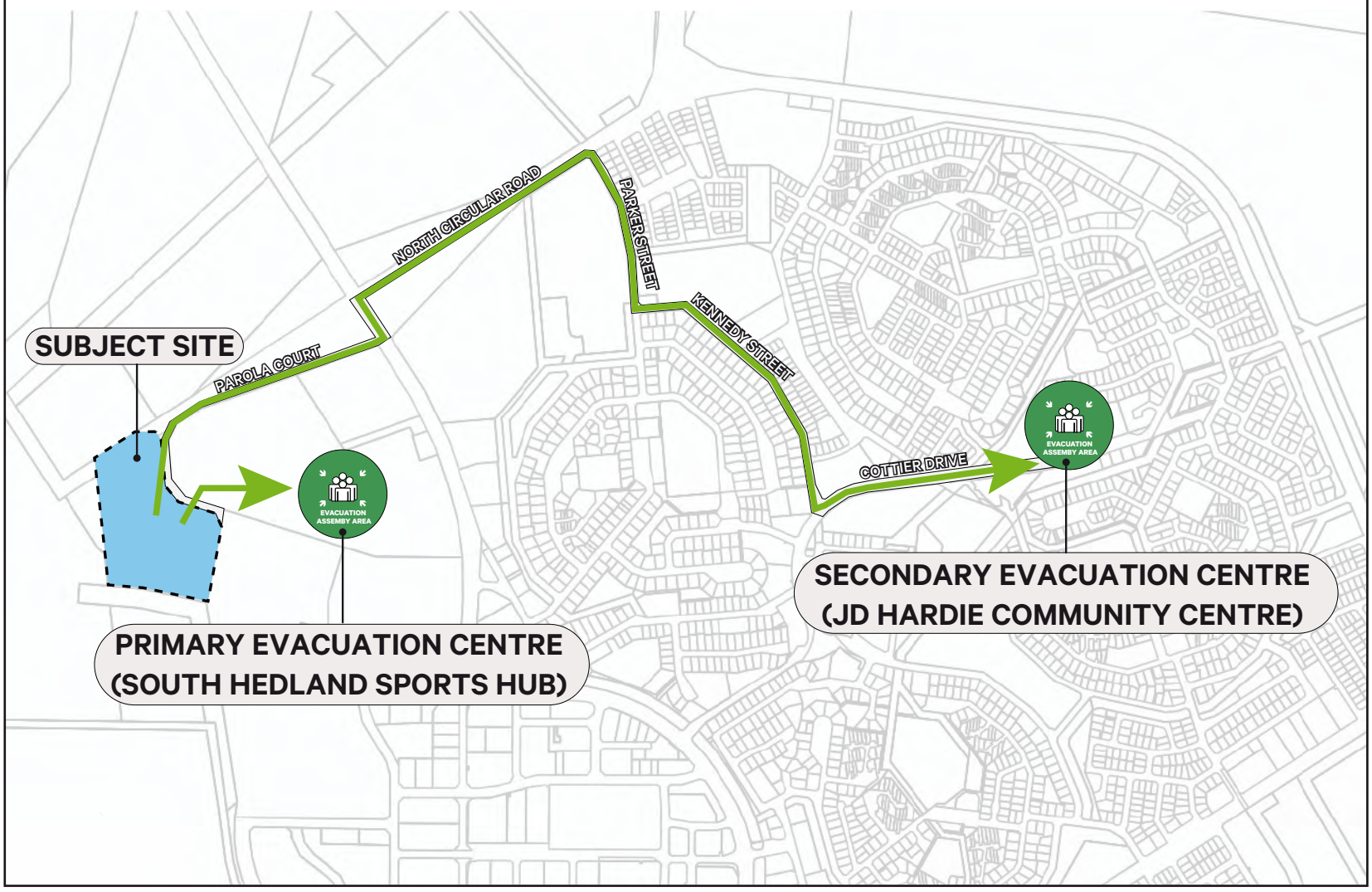
Name / Role	Number
Chief Fire Warden	TBC
Deputy Fire Warden	TBC
First Aid Personnel	TBC
Reception (24 hours)	TBC

Emergency Contacts	Number
Police, Fire or Ambulance	000
DFES	131 444
Town of Port Hedland	(08) 9111 5000
Emergency Information	13 33 37

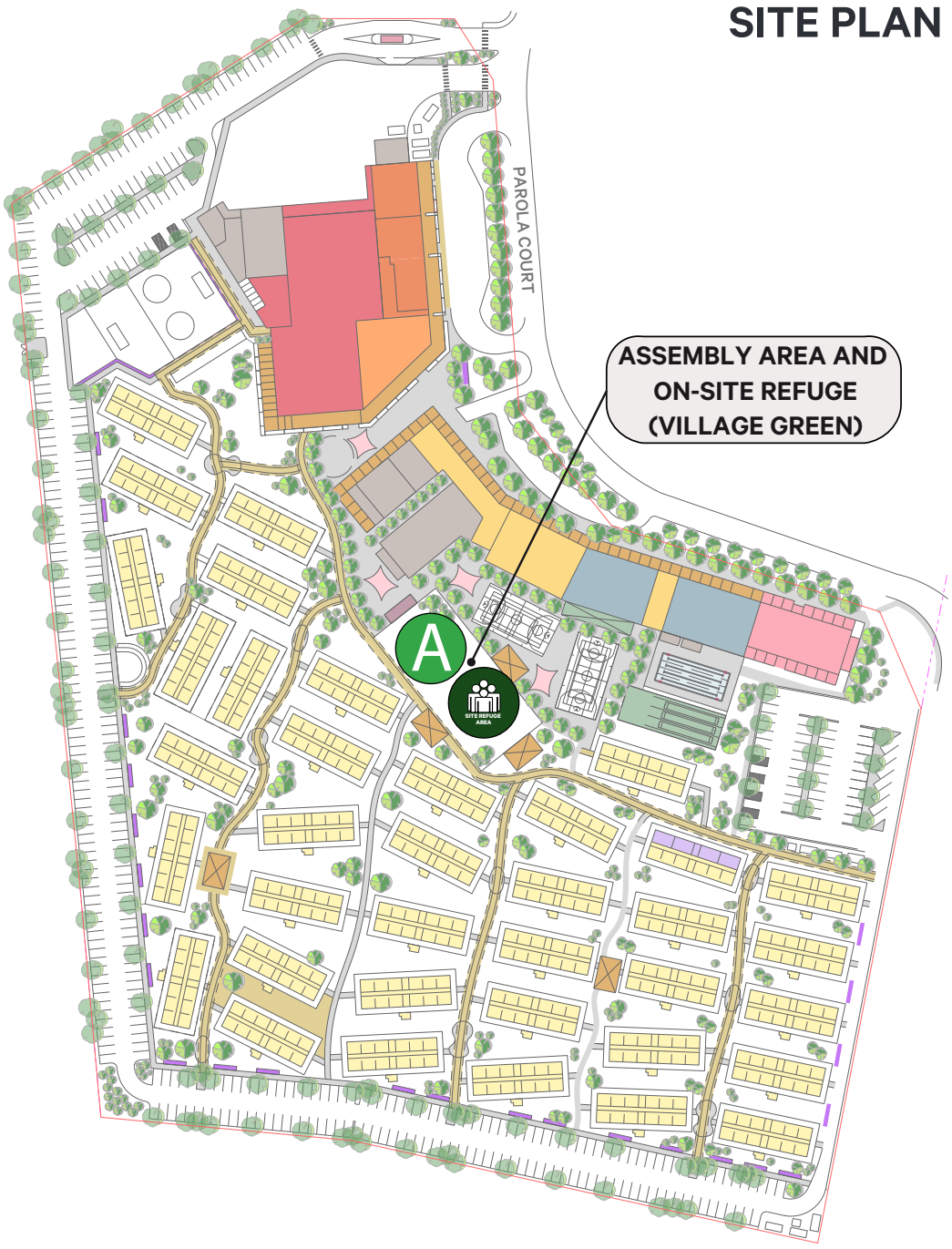
MAP LEGEND

- Evacuation Route
- Assembly Point
- Onsite Refugre
- Evacuation Centre

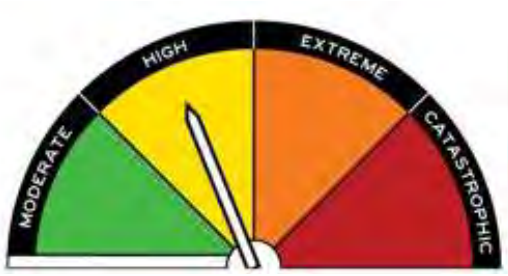
EVACUATION DIAGRAM



SITE PLAN



FIRE DANGER RATING



MODERATE
Plan and prepare

HIGH
Be ready to act

EXTREME
Take action now to protect life and property

CATASTROPHIC
For your survival, leave bushfire risk areas

ADVICE - BE AWARE AND KEEP UP TO DATE

On an **Advice Warning** for a bushfire threat, the following should be enacted:

- Account for all occupants and visitors of the village and inform them of potential bushfire conditions.
- Assess situation and assign a delegate to monitor Emergency WA website, DFES information line and/or ABC radio.
- Ensure mobile phones are available and charged.
- Remove any flammable materials within 3m of the buildings.
- Ensure bushfire emergency kits are accessible with first aid supplies.
- Check availability of private vehicles and arrange bus transport if insufficient vehicles are available.
- Check for smoke or nearby fire. If observed, enact emergency evacuation procedures.
- Consider pre-emptive closure of the village and early evacuation if FDR is extreme or catastrophic.

WATCH AND ACT - LEAVE OR GET READY TO DEFEND

On a **Watch and Act Warning** for a bushfire threat, the following should be enacted:

- Account for all occupants and visitors and inform them of potential bushfire conditions.
- Assess situation and assign a delegate to monitor Emergency WA website, DFES information line and/or ABC radio.
- Seek instructions from DFES or Emergency Services to confirm if evacuation is required and if public roads are safe to evacuate.
- Check availability of private vehicles and arrange bus transport if insufficient vehicles are available.
- Consider pre-emptive closure of the village and early evacuation if FDR is extreme or catastrophic.

EMERGENCY WARNING - ACT IMMEDIATELY TO SURVIVE

On an **Emergency Warning** for a bushfire threat, the following should be enacted:

- Account for all occupants and visitors and inform them of potential bushfire conditions.
- Assess situation and assign a delegate to monitor Emergency WA website, DFES information line and/or ABC radio.
- Seek instructions from DFES or Emergency Services to confirm if evacuation is required and if public roads are safe to evacuate to the determined evacuation centres.
- **If yes**, action emergency evacuation procedures and evacuate to safer place via the public road network or by foot.
- **If no**, action shelter in place procedures and remain on site until instructed otherwise.
- Monitor conditions and observe the passing of the fire.
- Maintain communication and keep occupants and visitors calm, hydrated and prevent smoke inhalation by providing masks.

ALL CLEAR

After the fire has passed, the following shall be enacted:

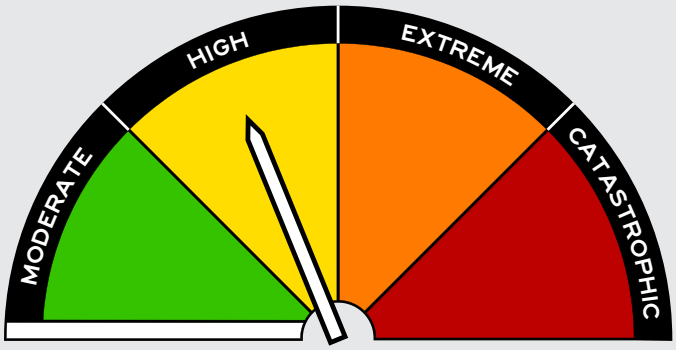
- Seek instructions from DFES or Emergency Services Personnel.
- Monitor the building condition for 24 hours prior to reoccupation.
- Advise occupants, visitors and staff members that it is safe to return to the site once **All Clear** has been issued and the building is deemed safe.

1 Australian Fire Danger Ratings System

The Fire Danger Ratings describe the potential danger level you could face if a bushfire starts, while the Bushfire Warnings System provides information about what to do during a bushfire.

Fire Danger Ratings provide you with important information so you can take action to protect yourself and others from the potentially dangerous impacts of bushfires.

Before a bushfire



Fire Danger Rating	Fire behaviour	Action required
Moderate Plan and prepare	Most fires can be controlled	Stay up to date and be alert for fires in your area
High Be ready to act	Fires can be dangerous	Decide what you will do if a fire starts
Extreme Take action now to protect life and property	Fires will spread quickly and be extremely dangerous	Put your bushfire plan into action (see pages 11 and 17)
Catastrophic For your survival, leave bushfire risk areas	If a fire starts and takes hold, lives are likely to be lost	Homes cannot withstand fires in these conditions. Stay safe by going to a safer location early in the morning or the night before.

When there is minimal risk, Fire Danger Ratings will be set to **'No Rating'**.
At this level, fires are not expected to spread in a fast or life-threatening way.

2 Australian Warning System – Bushfire

During a bushfire, emergency services will issue a warning if the fire is impacting, or likely to impact the community.

There are three levels of warning. These change to reflect the increasing risk to your life or property, and the decreasing amount of time you have until the fire arrives.

During a bushfire

EMERGENCY WARNING

An out of control fire is approaching fast. There is a threat to lives and homes and you need to take immediate action to survive.

You must seek shelter or leave now if it is safe to do so.

WATCH AND ACT

If your plan is to leave, leave now. If your plan is to stay, get ready to actively defend.

Only stay and defend if you are mentally and physically prepared.

ADVICE

A fire has started but there is no immediate threat to lives or homes. Stay alert and watch for signs of fire.

Be aware and keep up to date.

Don't wait for a text message or a knock on the door.
Make your own decision on when to leave.

Stay informed at emergency.wa.gov.au

Emergency WA is the primary and most up to date source of emergency information for:

- Current warnings
- Fire Danger Ratings
- Total Fire Bans

See back cover for other information sources.

Appendix H – Method 2 Calculations

Calculated March 7, 2024, 4:56 pm (BALc v.4.9)

Open Air Refuge (BAL-2)

Bushfire Attack Level calculator - AS3959-2018 (Method 2)			
Inputs		Outputs	
Fire Danger Index	80	Rate of spread	3.28 km/h
Vegetation classification	Shrubland	Flame length	8.24 m
Understorey fuel load	15 t/ha	Flame angle	86 °
Total fuel load	15 t/ha	Panel height	8.220000000000001 m
Vegetation height	1.5 m	Elevation of receiver	4.11 m
Effective slope	2 °	Fire intensity	25,494 kW/m
Site slope	0 °	Transmissivity	0.736
Distance to vegetation	96 m	Viewfactor	0.0243
Flame width	100 m	Radiant heat flux	2 kW/m²
Windspeed	45 km/h	Bushfire Attack Level	BAL-12.5
Heat of combustion	18,600 kJ/kg		
Flame temperature	1,200 K		

Rate of Spread - Catchpole et al. 1998

Flame length - Byram, 1959

Elevation of receiver - Douglas & Tan, 2005

Flame angle - Douglas & Tan, 2005

Radiant heat flux - Drysdale, 1999, Sullivan et al., 2003, Douglas & Tan, 2005

Calculated March 7, 2024, 5:07 pm (BALc v.4.9)

Open Air Refuge (BAL-2)

Bushfire Attack Level calculator - AS3959-2018 (Method 2)			
Inputs		Outputs	
Grassland Fire Danger Index	110	Rate of spread	14.3 km/h
Vegetation classification	Grassland	Flame length	6.87 m
Understorey fuel load	4.5 t/ha	Flame angle	86 °
Total fuel load	4.5 t/ha	Panel height	6.85 m
Vegetation height	n/a	Elevation of receiver	3.42 m
Effective slope	0 °	Fire intensity	33,247 kW/m
Site slope	0 °	Transmissivity	0.742
Distance to vegetation	87 m	Viewfactor	0.024
Flame width	100 m	Radiant heat flux	1.99 kW/m²
Windspeed	n/a	Bushfire Attack Level	BAL-12.5
Heat of combustion	18,600 kJ/kg		
Flame temperature	1,200 K		

Rate of Spread - Noble et al. 1980

Flame length - Purton, 1982

Elevation of receiver - Douglas & Tan, 2005

Flame angle - Douglas & Tan, 2005

Radiant heat flux - Drysdale, 1999, Sullivan et al., 2003, Douglas & Tan, 2005

Environmental Due Diligence

Lot 601 On Deposited Plan 71984, South Hedland

Prepared for Resolve Group Pty Ltd

1 March 2024

Project Number: TE23107

DOCUMENT CONTROL

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Approval for Release

Name	Position	File Reference
Jemma Kirke	Environmental Consultant	TE23107_Resolve Lot 601 SH DD_1.1
Signature		

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1 Introduction

Talis Consultants Pty Ltd (Talis) was commissioned by Resolve Group Pty Ltd (Resolve) to undertake an environmental due diligence across an area of land in South Hedland that Resolve is considering for development of a short-term/FIFO accommodation (the Project). The subject site is located on Lot 601 on Deposited Plan (DP) 71984, with some overlap into Lot 604 DP75090 and Lot 300 DP71522 (study area/the Project), South Hedland, and is on Crown Land that has never been developed. The development area covers a total area of 9.63 ha.

Talis' desktop assessment has been undertaken to identify any attributes of the locality which could have the potential to represent an environmental constraint, in relation to the development of the land in question, and also identify any further investigations that may be required. Further information is also provided through a biological assessment conducted across the subject site by EcoScape Australia Pty Ltd (Ecoscape).

A review of the available information for the study area was undertaken and the findings of the due diligence assessment are presented below.

1.1 Scope of Works

The following scope of works was undertaken as part of the due diligence assessment:

- Review of tenure;
- Review of Environmental Attributes, including:
    - Topography;
    - Biogeographic Regions and Landscapes;
    - Landuses;
    - Geology;
    - Acid Sulfate Soils;
    - Bushfire Prone Areas;
    - Ecological Values (including flora and fauna);
    - Environmentally Sensitive Areas;
    - EPBC Protected Matters;
    - Threatened Ecological Communities;
    - Priority Ecological Communities;
    - Threatened Priority Flora and Fauna;
    - Groundwater including:
        - Groundwater Proclaimed Areas;
        - Monitoring bores;
        - Public Drinking Water Source Areas;
    - Surface Water including:
        - Wetlands and associated buffers;
        - Surface Water Proclaimed Areas;
        - Streams, Rivers and Stormwater Drains;

        - Floodplains;
    - Contaminated Sites, including:
        - Interrogation of the Contaminated Sites Database and Register;
        - Review of historical aerial photography for any potential contaminating land-uses;
        - Review of historical Certificates of Title (again for any potential contaminating land-uses);
- Review of Social Attributes, including:
    - Aboriginal Heritage;
    - Australian Heritage;
    - Native Title; and
    - Local Government Heritage.

In addition to the desktop work described above, Talis commissioned Ecoscape to undertake a biological assessment of the subject site, the results of which are also discussed within this report.

1.2 Project Overview

The study area focuses primarily on Lot 601 On Deposited Plan (DP) 71984, with some overlap into Lot 604 DP 75090 and Lot 300 DP71522, South Hedland, within the Town of Port Hedland (see **Figure 1-1**). The study area covers a total area of 9.4397 hectares and lies on the eastern outskirts of South Hedland, adjacent to the existing Gateway Village. The area consists of previously undeveloped land covered sparsely by native vegetation.

It is Talis' understanding that any future developments from Resolve are likely to be located within the study area (Lot 601, Lot 604 and Lot 300). The following sections of the report outline the environmental constraints that Resolve may encounter before acquisition of the property and development commences.

P: PO Box 454, Leederville WA 6903 | A: 604 Newcastle St, Leederville WA 6007 | T: 1300 251 070 | W: www.talisconsultants.com.au

LEGEND

Site Boundary

Western Australian Roads

Freeway / Highway

Main Road

Minor Road

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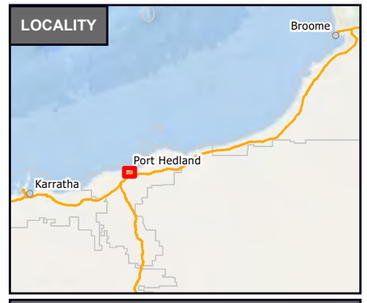
LOCALITY



0 100 200 300 400 500 km

LOCALITY

Lot 601 on DP71984
South Headland

Environmental Due Diligence

Resolve Group Pty Ltd

N 0 500 1,000 1,500 2,000 2,500 m

Coordinate System: GDA2020 MGA Zone 50
Scale @ A3: 1:60,000

Prepared:	E Jackson	Date:	30/01/2024
Reviewed:	J Kirke	Revision:	A
Project:	TE23107		

talis consultants

Figure 1-1

Document Path: \\server\talis\SECTIONS\Environment\Projects\TE2023\TE23107 - Lot 601 South Hedland DD\GIS\Maps\TE23107 - Lot 601 South Headland DD\TE23107 - Lot 601 South Headland DD.aprx

2 Review of Cadastre

The following details in **Table 2-1** have been sourced from the Department of Planning, Lands and Heritage (DPLH)**.** The proposed development area covers a total area of 9.63 ha.

Table 2-1: Cadastral Details

Lot Number	Deposited Plan	Status Order / Interest	Primary Interest Holder	Local Government Authority	Responsible Agency
300	71522	Unallocated crown land	State of Western Australia	Town of Port Hedland	DPLH
601	71984	Reserve Under Management Order	Town of Port Hedland	Town of Port Hedland	DPLH
604	75090	Unallocated crown land	State of Western Australia	Town of Port Hedland	DPLH

DPLH will need to be engaged through the Town of Port Hedland to obtain approval for any development on the proposed Lots (300, 601 and 604). Lot 601's status is listed as a Reserve Under Management Order, with the land use reserved for recreation purposes. This is unlikely to pose any constraints to the development, as the Town of Port Hedland is the primary interest holder and it is within their control to approve alternative land uses.

3 Review of Environmental Attributes

3.1 Topography

The proposed development area occurs within the North-West Division of Western Australia (WA) on alluvial plains (Tille & Payne, 1992). The Town of Port Hedland within which the development area is located has an average elevation of 6 m, ranging from a minimum of -1 m to a maximum of 34 m.

3.2 Biogeographic Regions and Landscapes

The latest version of the Interim Biogeographic Regionalisation for Australia (IBRA7) classifies Australia's landscapes into 89 bioregions based on climate, geology, landform, native vegetation and species information, and are further refined to form 419 sub-regions (DCCEEW, 2023).

The bioregions and sub-regions are the reporting unit for assessing the status of native ecosystems and their level of protection in the National Reserve System. The study area is located within the Roebourne sub-region of the Pilbara Craton bioregion.

The Roebourne sub-region is described as "Quaternary alluvial plains with a grass savanna of mixed bunch and hummock grasses, and dwarf shrub steppe of *Acacia translucens* over *Triodia pungens*. Samphire, *Sporobolus* and Mangal occur on marine alluvial flats. Arid (semi-desert) tropical with summer rain." (DCCEEW, 2023).

3.3 Land uses

The Town of Port Hedland is 1,800 km north of Perth, WA. The Town of Port Hedland covers approximately 11,844 square kilometres (km^2) of the Pilbara region, and includes two main residential centres, Port and South Hedland.

The major land uses within the study area and surrounds are residential centres, light and service industry premises, iron ore crushing and shipping facilities and a major Port. The Port is the largest bulk export port in Australia and is managed by the Pilbara Ports Authority. Adjacent areas to the Project area have a similar land-use to what is proposed, such as the existing Gateway Village, a short-stay residential development and permanent residences (private property).

The proximal residential areas are potential receptors to impacts resulting from construction activities, and mitigation measures will need to be considered as part of the development approvals. Impacts from industrial land uses to the amenity of the development will also need to be considered.

Due to the location of the Project area within a highly developed area with similar land-uses to the proposed development, there are minimal environmental constraints expected.

3.4 Climate

The study area has an arid climate, with climatic conditions strongly influenced by tropical cyclones. Climate statistics calculated from Port Hedland Airport Station (Station 004032) between 1948 and 2023 (**Figure 3-1**) indicate the mean annual rainfall is 318.5 millimetres (mm), predominantly occurring during the summer months of January to March which is associated with the passage of the 'north-west monsoons' (Payne and Tille, 1992 and BOM, 2023).

The mean annual pan evaporation for the Town of Port Hedland local area is between 3,600 mm and 4,000 mm (BOM, 2023). The highest monthly rates of evaporation occur in the summer months (December to March) when the mean maximum temperatures are in excess of 36 degrees Celsius (°C) and minimum temperatures exceed 23 °C (**Figure 3-1**).

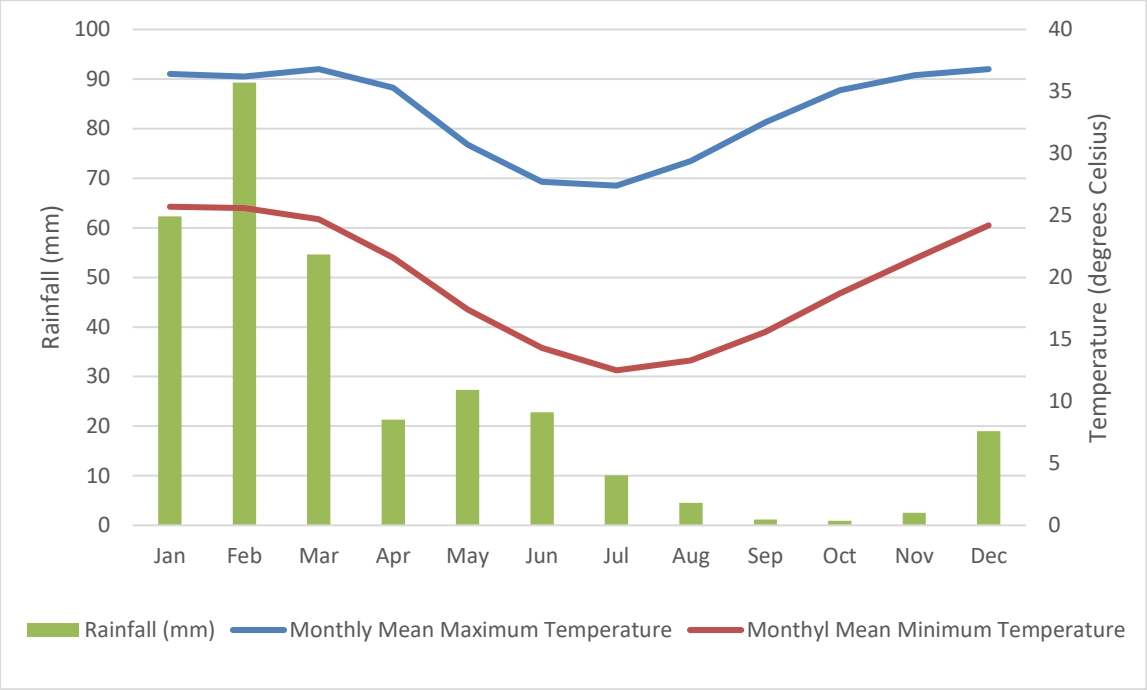
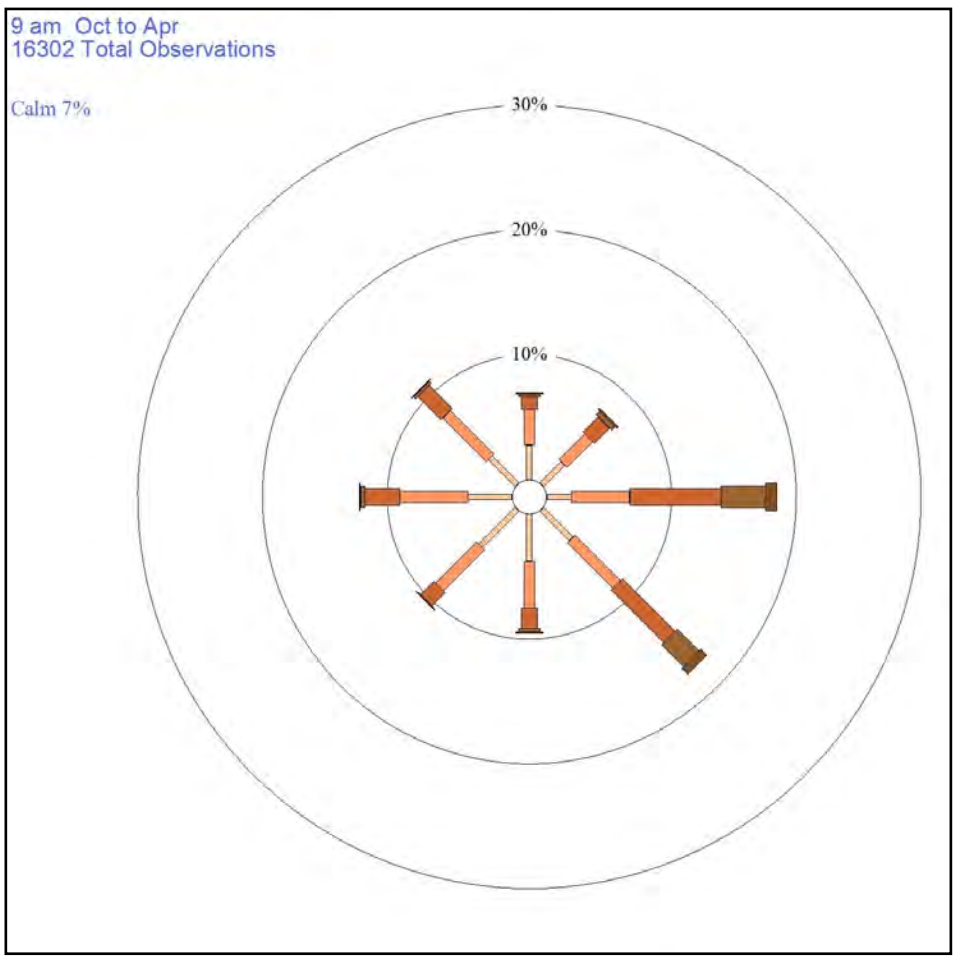
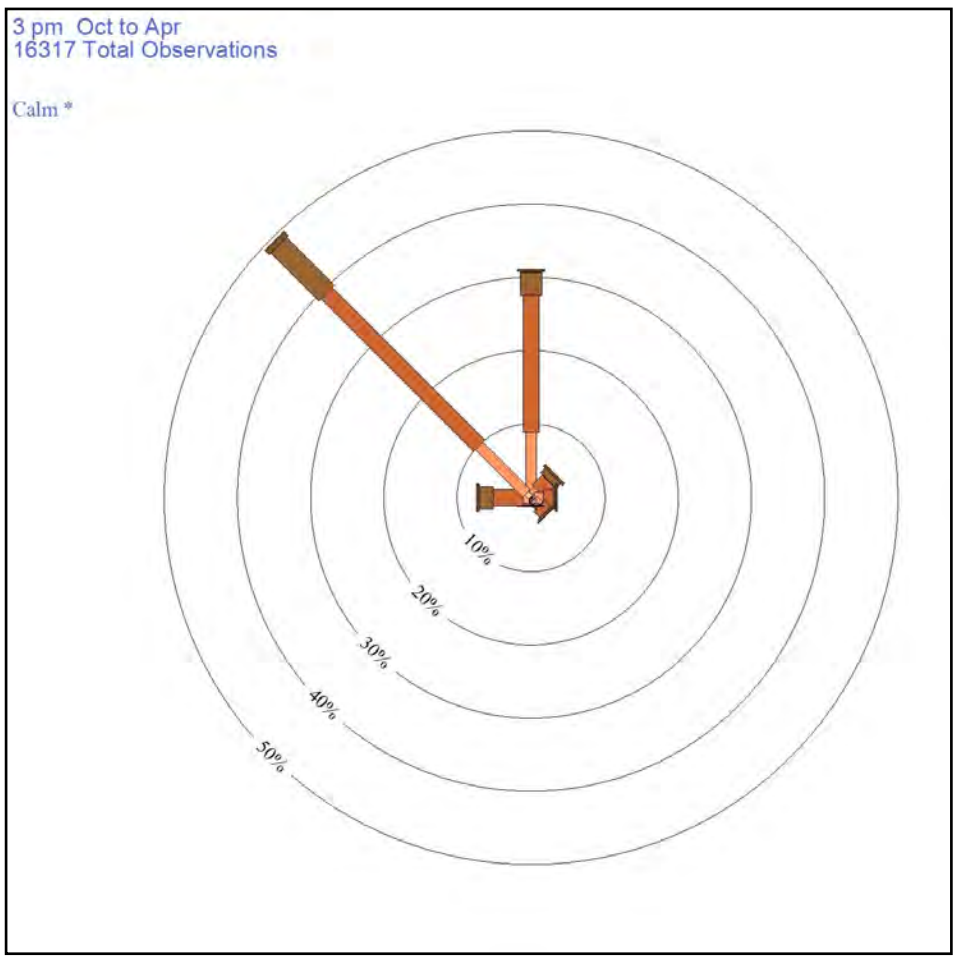


Figure 3-1: Mean annual climate statistics for Port Hedland Airport (Station 004032) (1948-2023)

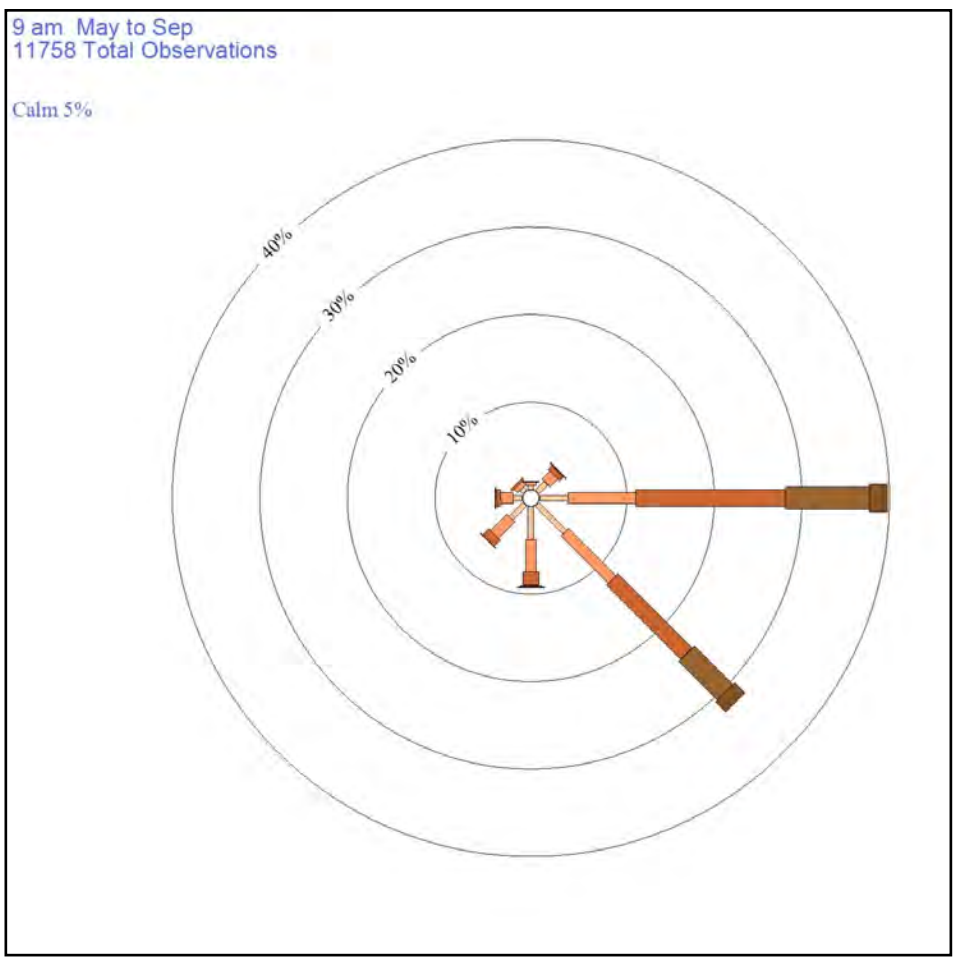
Summer afternoon winds are consistently between 20-30 km/hr in a west north-westerly direction with winter afternoon winds varying between 10-20 km/hr and 20-30 km/hr in a predominantly northern direction (**Figure 3-2**).

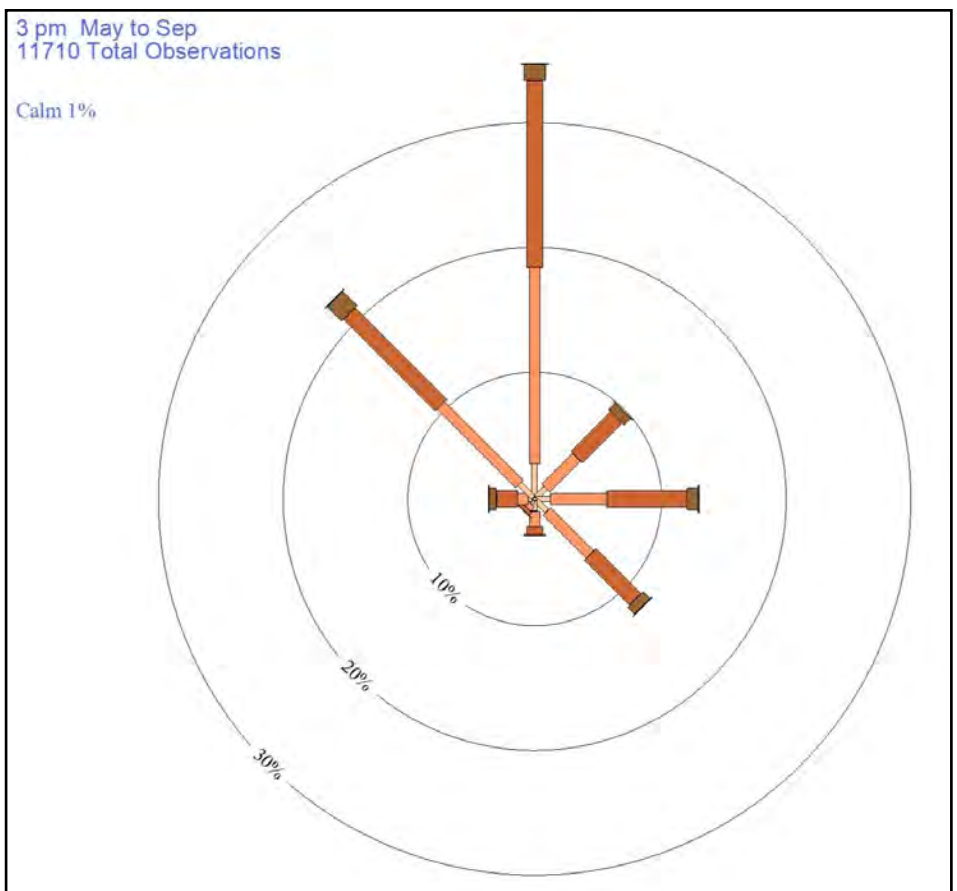
Average Wind Conditions - Summer





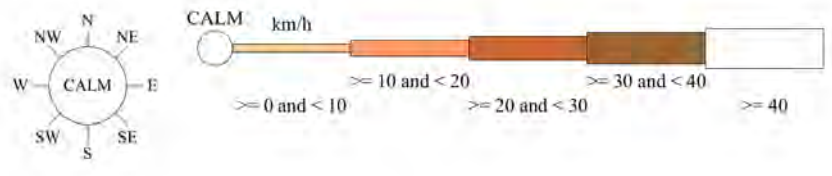
Average Wind Conditions - Winter





Data source: Wind Roses - Bureau of Meteorology Climate Statistics, 2023.

LEGEND



WIND CONDITIONS

Lot 601 on DP71984
South Headland

Environmental Due Diligence

Resolve Group Pty Ltd

Prepared:	E Jackson
Reviewed:	J Kirke
Project:	TE23107
Revision:	A
Date:	30/01/2024

Figure 3-2

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3.5 Geology

The surface geology mapping for Western Australia (DMIRS 2021, data set) indicates the geology of the study area to be (**Figure 3-3**):

- Qa: Channel and flood plain alluvium; gravel, sand, silt, clay; may be locally calcreted.

No environmental constraints relating to geology are anticipated for the study area. Despite this, further assessment as to the geotechnical suitability of the site should be undertaken ahead of any design work.

3.6 Acid Sulfate Soils

Acid Sulfate Soils (ASS) are naturally occurring soils, sediments and peats that contain iron sulfides predominantly in the form of pyrite materials. If disturbed by soil excavation, dewatering or drainage, these soils can then oxidise resulting in the release of acidity and potentially cause adverse environmental impacts.

ASS are widespread around coastal regions of WA and are also locally associated with freshwater wetlands and saline, sulfate-rich groundwater in some agricultural areas. Shallow ASS are known to be present in riverine, estuarine, salt pans, swamps and seasonally-inundated plains (DER, 2015).

Projects involving the disturbance of ASS must therefore assess the risk associated with disturbance by considering potential impacts.

ASS data provided by the Department of Water, Environment and Regulation (DWER) shows the likelihood of occurrence of ASS in the study area and surrounds (**Figure 3-4**). Mapping indicates there to be no ASS within or in the immediate surrounding area of the proposed Project location, with the closest risk areas being over 4 km to the north along the coast.

No environmental constraints relating to ASS are anticipated for the study area.

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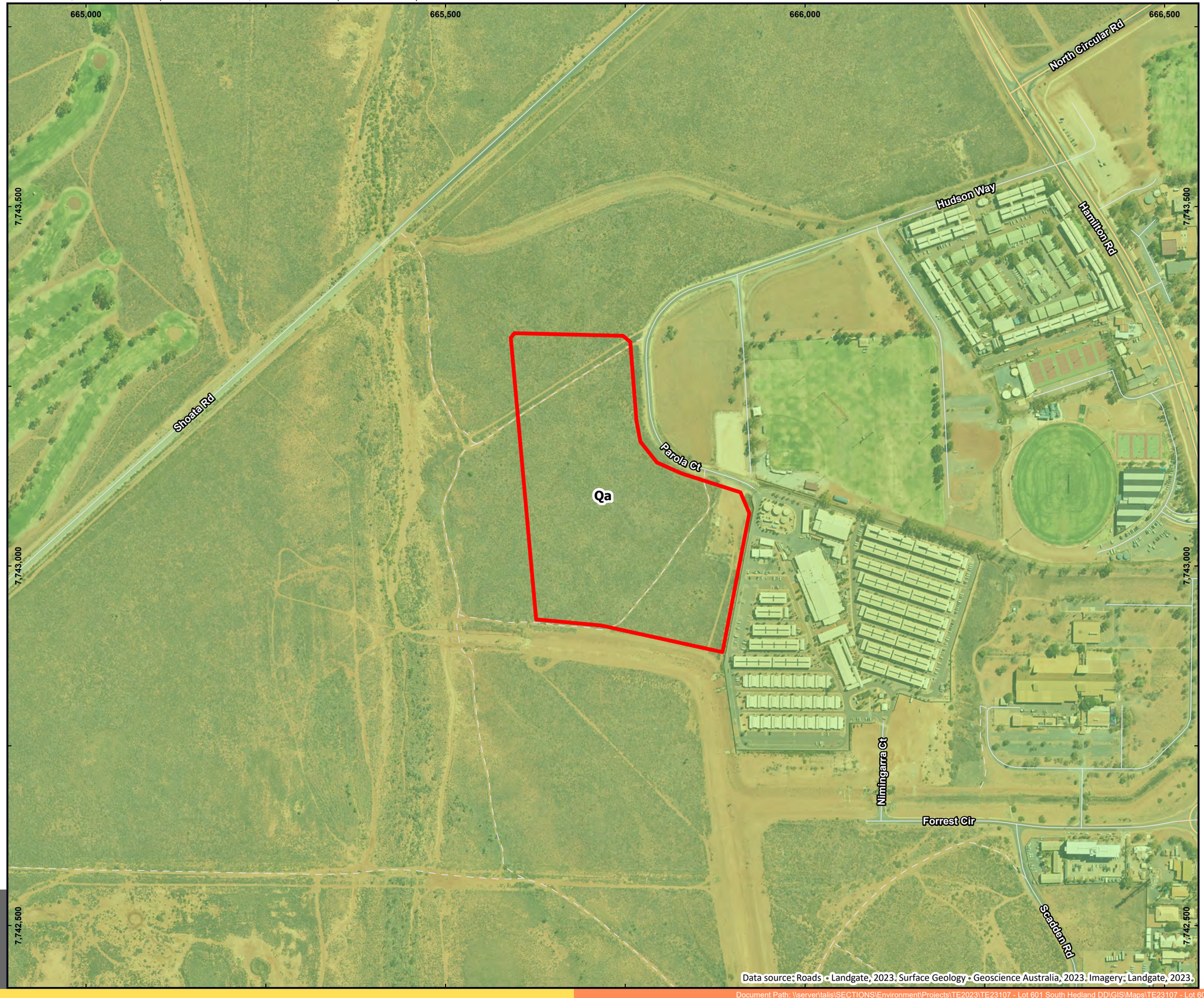

LEGEND

Site Boundary

Surface Geology (GA)

Qa: Channel and flood plain alluvium; gravel, sand, silt, clay; may be locally calcreted

Western Australian Roads

Main Road

Minor Road

Other

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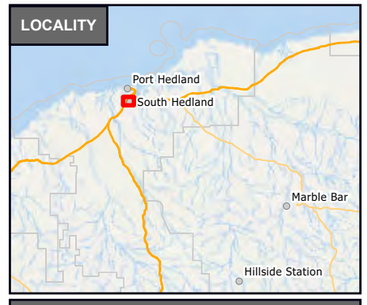
LOCALITY



0 50 100 150 200 250 km

GEOLOGY

Lot 601 on DP71984
South Headland

Environmental Due Diligence

Resolve Group Pty Ltd

N

0 50 100 150 200 m

Coordinate System: GDA2020 MGA Zone 50
Scale @ A3: 1:5,000

Prepared:	E Jackson	Date:	13/02/2024
Reviewed:	J Kirke	Revision:	A
Project:	TE23107		

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Figure 3-3

Data source: Roads - Landgate, 2023. Surface Geology - Geoscience Australia, 2023. Imagery: Landgate, 2023.

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658,000 660,000 662,000 664,000 666,000 668,000 670,000 672,000 674,000 676,000

7,754,000 7,752,000 7,750,000 7,748,000 7,746,000 7,744,000 7,742,000 7,740,000

Port Hedland

Wilson St

Wilson St

Great Northern Hwy

Great Northern Hwy

South Hedland

Data source: Roads • Landgate, 2023. Acid Sulfate Soils • DWER, 2023. Imagery: Landgate, 2023.

LEGEND

Site Boundary

Acid Sulfate Soil Risk Map

1 - High to Moderate Risk

2 - Moderate to Low Risk

Western Australian Roads

Freeway / Highway

Main Road

Minor Road

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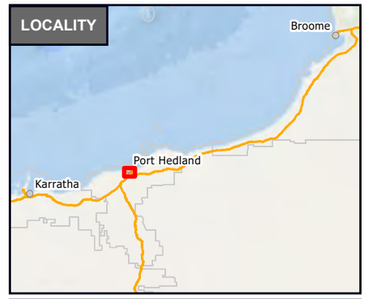
LOCALITY



0 100 200 300 400 500 km

ACID SULFATE SOILS

Lot 601 on DP71984
South Headland

Environmental Due Diligence

Resolve Group Pty Ltd

N 0 500 1,000 1,500 2,000 m

Coordinate System: GDA2020 MGA Zone 50
Scale @ A3: 1:60,000

Prepared:	E Jackson	Date:	13/02/2024
Reviewed:	J Kirke	Revision:	A
Project:	TE23107		

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Figure 3-4

3.7 Bushfire Prone Area

Bush fire prone areas are subject to, or likely to be subject to, bush fire attack. A bush fire prone area is identified by the presence of and proximity to bush fire prone vegetation and includes both the area containing the bush fire prone vegetation and a 100 m buffer zone immediately surrounding it.

A search for bush fire prone areas was conducted using Department of Fire Services (DFES) 2022 Bush Fire Prone Areas dataset which identifies land in WA that has the potential to be impacted by bushfires. This land is designated by the Fire and Emergency Services (FES) Commissioner in WA.

The study area is classified as being in a bush fire prone area (**Figure 3-5**) and therefore additional planning and building requirements may apply to the Project. A further assessment of bushfire risk may also be required to ensure future developments in bushfire prone areas are safer.

Consultation with local agencies and the DFES will be required and comments from the consultation process incorporated into a Bush Fire Management Plan.

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665,000
665,500
666,000
666,500
7,743,500
7,743,000
7,742,500
Shoata Rd
Parola Ct
Hudson Way
North Circular Rd
Hamilton Rd
Nimingarra Ct
Forrest Cir
Scaddan Rd

LEGEND

- Site Boundary
- Bushfire Prone Areas

Western Australian Roads

- Main Road
- Minor Road
- Other

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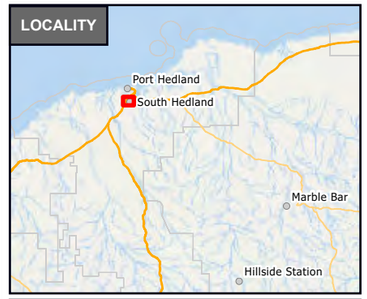

0 50 100 150 200 250 km

BUSHFIRE PRONE AREAS

Lot 601 on DP71984
South Headland

Environmental Due Diligence

Resolve Group Pty Ltd

N
0 50 100 150 200 m

Coordinate System: GDA2020 MGA Zone 50
Scale @ A3: 1:5,000

Prepared:	E Jackson	Date:	13/02/2024
Reviewed:	J Kirke	Revision:	A
Project:	TE23107		

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Figure 3-5

Data source: Roads - Landgate, 2023. Bushfire Prone Areas - Department of Fire & Emergency Services, 2023. Imagery: Landgate, 2023.

3.8 Ecological Values

3.8.1 Environmentally Sensitive Areas

Environmentally Sensitive Areas (ESAs) are classes or areas of native vegetation where the exemptions for clearing vegetation under the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* (Clearing Regulations) do not apply.

The *Environmental Protection Act 1986* (EP Act) makes it an offence to clear native vegetation unless the clearing is done in accordance with a clearing permit, or where an exemption applies. Exemptions are not able to be used in areas covered by an ESA.

There are no ESAs within the study area or in the immediate vicinity. The closest ESA lies 10.86 km to the north of the study area (see **Figure 3-6**). There are unlikely to be any constraints to the advancement of the Proposal relating to ESAs due to lack of ESAs within or proximal to the study area.

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7,754,000 7,752,000 7,750,000 7,748,000 7,746,000 7,744,000 7,742,000 7,740,000

Port Hedland

Wilson St

Wilson St

Great Northern Hwy

Great Northern Hwy

South Hedland

Data source: Roads - Landgate, 2023. ESAs - DWER,2023. Imagery: Landgate, 2023.

LEGEND

Environmentally Sensitive Areas

Western Australian Roads

Freeway / Highway

Main Road

Minor Road

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LOCALITY

0 100 200 300 400 500 km

ENVIRONMENTALLY SENSITIVE AREAS

Lot 601 on DP71984
South Headland

Environmental Due Diligence

Resolve Group Pty Ltd

N

0 500 1,000 1,500 2,000 2,500 m

Coordinate System: GDA2020 MGA Zone 50
Scale @ A3: 1:60,000

Prepared:	E Jackson	Date:	13/02/2024
Reviewed:	J Kirke	Revision:	A
Project:	TE23107		

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Figure 3-6

Document Path: \\server\talis\SECTIONS\Environment\Projects\TE2023\TE23107 - Lot 601 South Hedland DD\GIS\Maps\TE23107 - Lot 601 South Headland DD\TE23107 - Lot 601 South Headland DD.aprx

3.8.2 Flora and Vegetation

3.8.2.1 Threatened Ecological Communities

Threatened Ecological Communities (TECs) are listed under the *Environmental Protection and Biodiversity Conservation Act* 1999 (EPBC Act) as either critically endangered, endangered or vulnerable. Types of ecological communities include woodlands, grasslands, shrublands, forests, wetlands, marine, ground springs and cave communities.

Based on a review of available data from the Department of Biodiversity, Conservation and Attractions (DBCA, 2023) there are no TECs present in the study area. This was confirmed by the biological field survey completed in February 2024, where no vegetation or habitat was assessed as being representative of any currently described TEC (see **Section 3.9**) (Ecoscape, 2024).

3.8.2.2 Priority Ecological Communities

Ecological communities identified as threatened, but not listed as TECs, can be classified as Priority Ecological Communities (PECs). These communities are under threat, but there is insufficient information available concerning their distribution to make a proper evaluation of their conservation status. PECs are listed under priorities 1, 2, 3, 4 and 5 (DEC, 2013):

- **Priority 1:** Ecological communities that are known from very few occurrences with a very restricted distribution (generally ≤5 occurrences or a total area of ≤ 100ha).
- **Priority 2:** Communities that are known from few occurrences with a restricted distribution (generally ≤10 occurrences or a total area of ≤200ha).
- **Priority 3:**
  - Communities that are known from several to many occurrences, a significant number or area of which are not under threat of habitat destruction or degradation or:
  - communities known from a few widespread occurrences, which are either large or with significant remaining areas of habitat in which other occurrences may occur, much of it not under imminent threat (within approximately 10 years), or;
  - communities made up of large, and/or widespread occurrences, that may or may not be represented in the reserve system, but are under threat of modification across much of their range from processes such as grazing by domestic and/or feral stock, inappropriate fire regimes, clearing, hydrological change etc.
- **Priority 4**:
  - Rare: Ecological communities known from few occurrences that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change. These communities are usually represented on conservation lands;
  - Near Threatened: Ecological communities that are considered to have been adequately surveyed and that do not qualify as Conservation Dependent, but that are close to qualifying for a higher threat category;
  - Ecological communities that have been removed from the list of threatened communities during the past five years.
- **Priority 5:** Ecological communities that are not threatened but are subject to a specific conservation program, the cessation of which would result in the community becoming threatened within five years.

A search on the available DBCA 2024 Threatened and Priority Flora, Fauna and Ecological Communities (EC's) database showed there are no PECs present in the study area. The closest identified PEC is 34.54 km northeast of the study area. This was confirmed by the biological field survey completed in February 2024, where no vegetation was assessed as being representative of any currently described PEC (see **Section 3.9**) (Ecoscape, 2024). There are no anticipated constraints to the study area regarding PECs.

3.8.2.3 Pre-European Vegetation Extent

During the 1970s, John Beard and associates conducted a systematic survey of native vegetation, describing the vegetation systems in WA at a scale of 1:250,000 in the southwest and at a scale of 1:1,000,000 in less developed areas (Ecoscape, 2024).

Beard's vegetation maps attempted to depict the native vegetation as it was presumed to be at the time of settlement and is known as the pre-European vegetation type and extent. Beard's vegetation maps have since been developed in digital form by Sheperd, Beeston and Hopkins (2002), updated by DPIRD (2019) and published by the DBCA (2019). This mapping indicates that the survey area intersects two pre-European vegetation units:

- Association 647 described as: Shrub-steppe; Hummock grassland with scattered shrubs or Mallee, *Triodia* spp., *Acacia* spp., *Grevillea* spp., *Eucalyptus* spp.; and
- Association 589 described as: Short bunch-grass savanna/Grass-steppe; Hummock grasslands, soft Spinifex.

The pre-European vegetation associations identified from the survey area (DPIRD, 2019) and their pre-European and current extents are listed in **Table 3-1** (DBCA, 2019) and shown on **Figure 3-7.**

Table 3-1: Pre-European vegetation association representation (DBCA, 2019)

Region	Vegetation Association	Original extent (ha)	Current extent (ha)	% remaining
Western Australia	589	807,698.58	802,713.40	99.38
	647	195,860.89	191,711.41	97.88
IBRA biogeographic region (Pilbara)	589	728,768.20	724,695.82	99.44
	647	195,859.95	191,710.92	97.88
IBRA biogeographic subregion (Roebourne)	589	675,391.80	671,327.48	99.40
	647	188,901.32	184,774.70	97.82
LGA (Town of Port Hedland)	589	338,269.05	335,921.21	99.31
	647	180,908.49	176,759.02	97.71

The EPA's Guidance Statement No. 33 has identified a minimum threshold of retention of 30% of pre-European extent of each community (EPA, 2008). As the remaining extents of the identified vegetation associations are well above 30% at the State, bioregion, subregion and local government level, no constraints to Project development pertaining to clearing of vegetation are anticipated.

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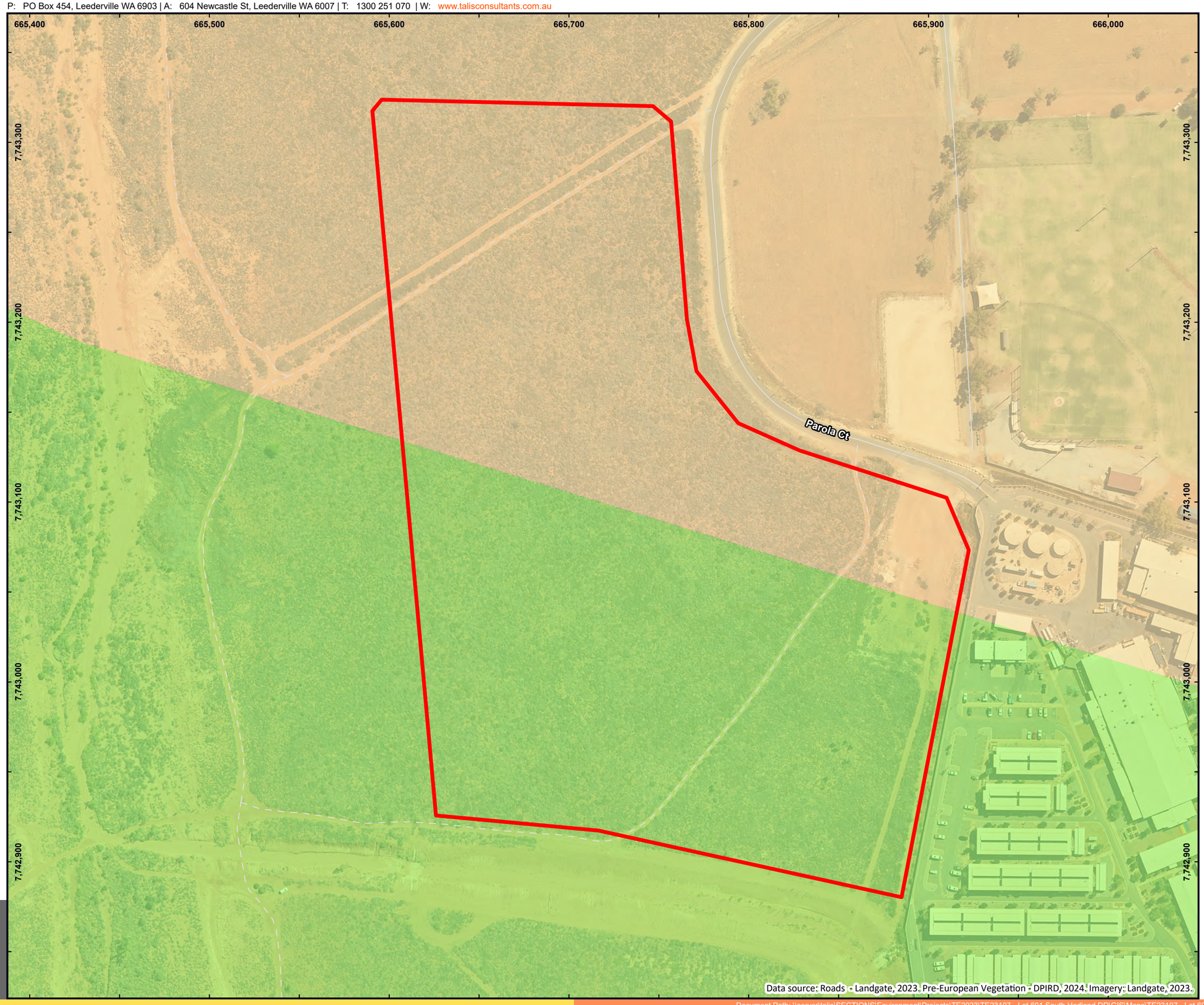

LEGEND

Site Boundary

Pre-European Vegetation

Short bunch-grass savanna / Grass-steppe

Shrub-steppe

Western Australian Roads

Minor Road

Other

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LOCALITY

0 100 200 300 400 500 km

PRE-EUROPEAN VEGETATION

Lot 601 on DP71984
South Headland

Environmental Due Diligence

Resolve Group Pty Ltd

N

0 20 40 60 80 m

Coordinate System: GDA2020 MGA Zone 50
Scale @ A3: 1:2,000

Prepared:	E Jackson	Date:	29/02/2024
Reviewed:	J Kirke	Revision:	A
Project:	TE23107		

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Figure 3-7

Data source: Roads - Landgate, 2023. Pre-European Vegetation - DPIRD, 2024. Imagery: Landgate, 2023.

3.8.2.4 Threatened and Priority Flora

A *Protected Matters Search Tool* (PMST) search (DCCEEW, 2024) was undertaken of the development area with a 50 km buffer. The search identified one EPBC Act listed threatened species, *Quoya zonalis*, as being likely to occur within the 50 km search buffer.

A search of DBCA databases (2024) was conducted using a 100 km buffer around the development area. **Figure 3-8** depicts the results of the DBCA database search (Ecoscape, 2024).

The combined database searches identified 27 species, consisting of one threatened flora, five Priority 1 (P1), two Priority 2 (P2), 17 Priority three(P3) and two Priority 4 (P4) species (Ecoscape, 2024) (**Appendix A**).

A likelihood assessment was conducted by Ecoscape (2024) to identify the threatened and priority flora species that have the potential to occur in the development area. No conservation-listed fauna have been previously recorded within the development area. Three P3 species (*Euploca mutica, Gomphrena leptophylla* and *Rothia indica* subsp. *australis*) were identified as being 'likely to occur' based on the information available during the desktop assessment and were prioritised for the field survey (Ecoscape, 2024).

3.8.3 Fauna

3.8.3.1 Threatened and Priority Fauna

A *Protected Matters Search Tool* (PMST) search (DCCEEW, 2024) was undertaken of the development area with a 50 km buffer. The search identified four mammals, 44 birds and one reptile as being known or likely to occur within the development area (and buffer) (Ecoscape, 2024).

A search of DBCA databases (2024) was conducted using a 100 km buffer around the development area. **Figure 3-9** depicts the results of the DBCA database search, with 59 conservation listed species identified as having previously been recorded from within the search area buffer (nine mammals, 48 birds and two reptiles) (Ecoscape, 2024).

A likelihood assessment was conducted by Ecoscape (2024) to identify the threatened and priority fauna species that have the potential to occur in the development area. No species were assessed as being 'likely to occur' within the development area and seven were assessed as 'may occur':

- *Ctenotus angusticeps* (Airlie Island/Northwestern Coastal Ctenotus) – P3;
- *Dasycercus blythi* (Brush-tailed Mulgara) – P4;
- *Dasycercus cristicauda* (Crest-tailed Mulgara) – P4;
- *Falco hypoleucos* (Grey Falcon) – VU;
- *Falco peregrinus* (Peregrine Falcon) – OS;
- *Hirundo rustica* (Barn Swallow) – MI; and
- *Pandion haliaetus* (Osprey) – MI.

Likelihood of occurrence does not take into consideration factors such as frequency, duration or dependence. Highly mobile species potentially only occur within the survey area for very brief periods. The likelihood of occurrence for fauna species was re-evaluated following the field survey, when the development area characteristics were better understood (see **3.9.2**).

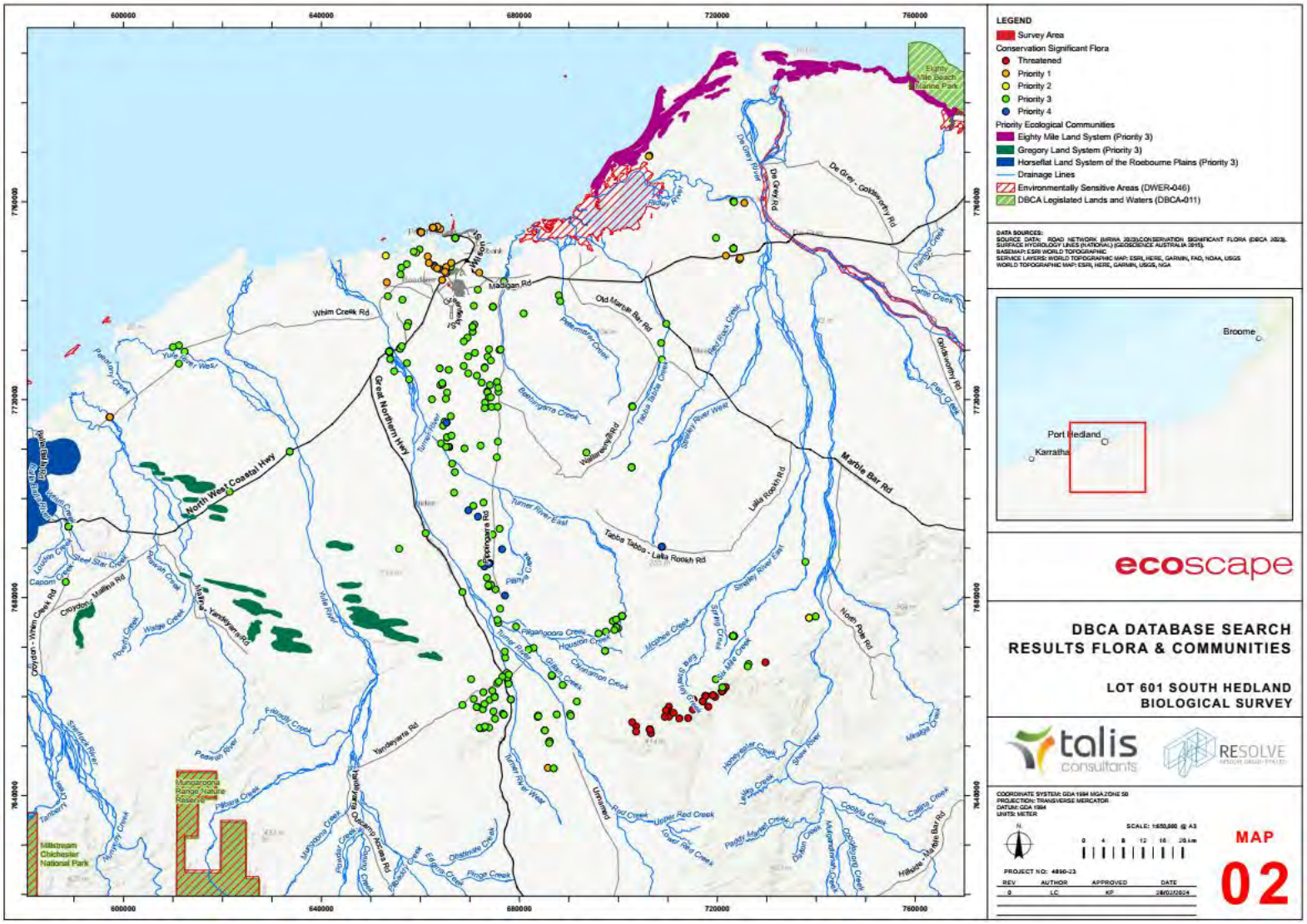

Figure 3-8: DBCA Database Flora search

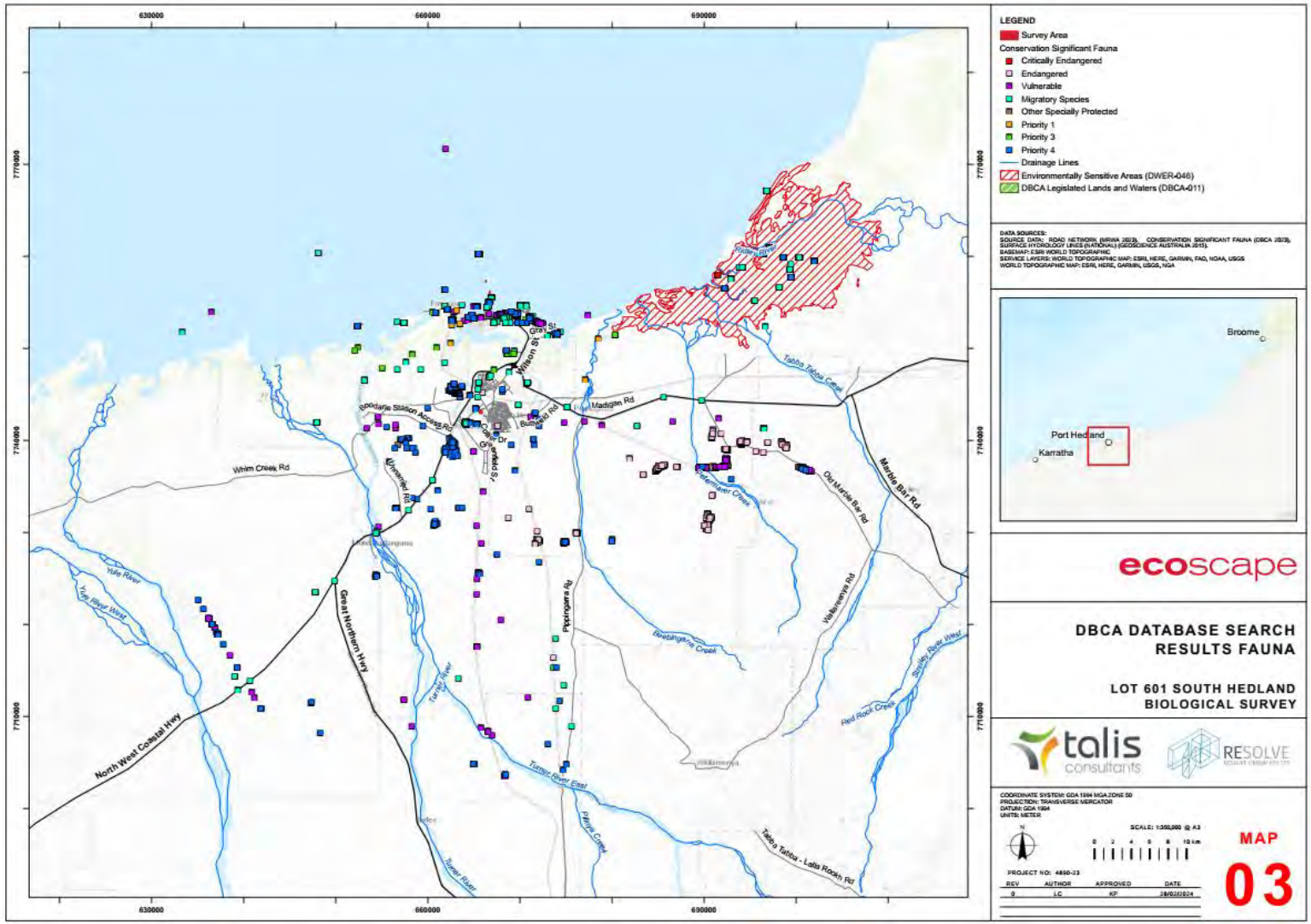

Figure 3-9: DBCA Database fauna search

3.9 Biological Field Survey

Further to the desktop work conducted by Talis and Ecoscape detailed above, a site-specific field survey was completed by Ecoscape. The findings of this work are described below with a copy of the Ecoscape report provided in **Appendix A**.

The biological field survey consisted of a single-phase reconnaissance and targeted flora and vegetation survey and a single phase basic targeted terrestrial vertebrate fauna survey (Ecoscape, 2024). Both surveys were conducted in accordance with EPA technical guidance documents: Flora and Vegetation Technical Guidance (EPA, 2016) and Fauna Technical Guidance (EPA, 2020).

3.9.1 Flora

One floristic quadrat was recorded from within the development area. Thiry one vascular flora were recorded from the quadrat and opportunistic observation and searches for conservation-listed flora. The most commonly represented families were Fabaceae (nine taxa), Malvaceae (five taxa) and Poaceae (five taxa) (Ecoscape, 2024).

Of the recorded species, none were EPBC Act or *Biodiversity Conservation Act 2006* (BC Act) listed. No priority flora or flora taxa having other significance were recorded. Four introduced flora species (weeds) were recorded during the survey, representing 12.9% of the overall flora inventory. None of the introduced flora were classified as Declared Pests or Weeds of National Significance (WoNS) (Ecoscape, 2024).

Following the field survey, the P3 taxa, *Euploca mutica*, had the likelihood of occurrence downgraded to 'unlikely to occur' following extensive survey of the development area, disturbances present and the absence of records within close proximity of the development area (Ecoscape, 2024).

One vegetation type was recorded within the development area, described as *Acacia stellaticeps* open shrubland over *Triodia epactia* open hummock grassland (**Figure 3-10**) (Ecoscape, 2024). The single vegetation type comprised 90.65% (8.73 ha) of the development area, with the remainder being noted as cleared (0.9 ha).

No vegetation recorded within the development area was assessed as being representative of any currently described TEC or PEC (Ecoscape, 2024). Vegetation condition within the development area ranged from degraded to good, with the majority (87.85%, 8.46 ha) being in good condition (**Figure 3-11**) (Ecoscape, 2024). The main contributors affecting vegetation condition were disturbances associated with its close proximity to town, clearing and the presence of weeds (Ecoscape, 2024).

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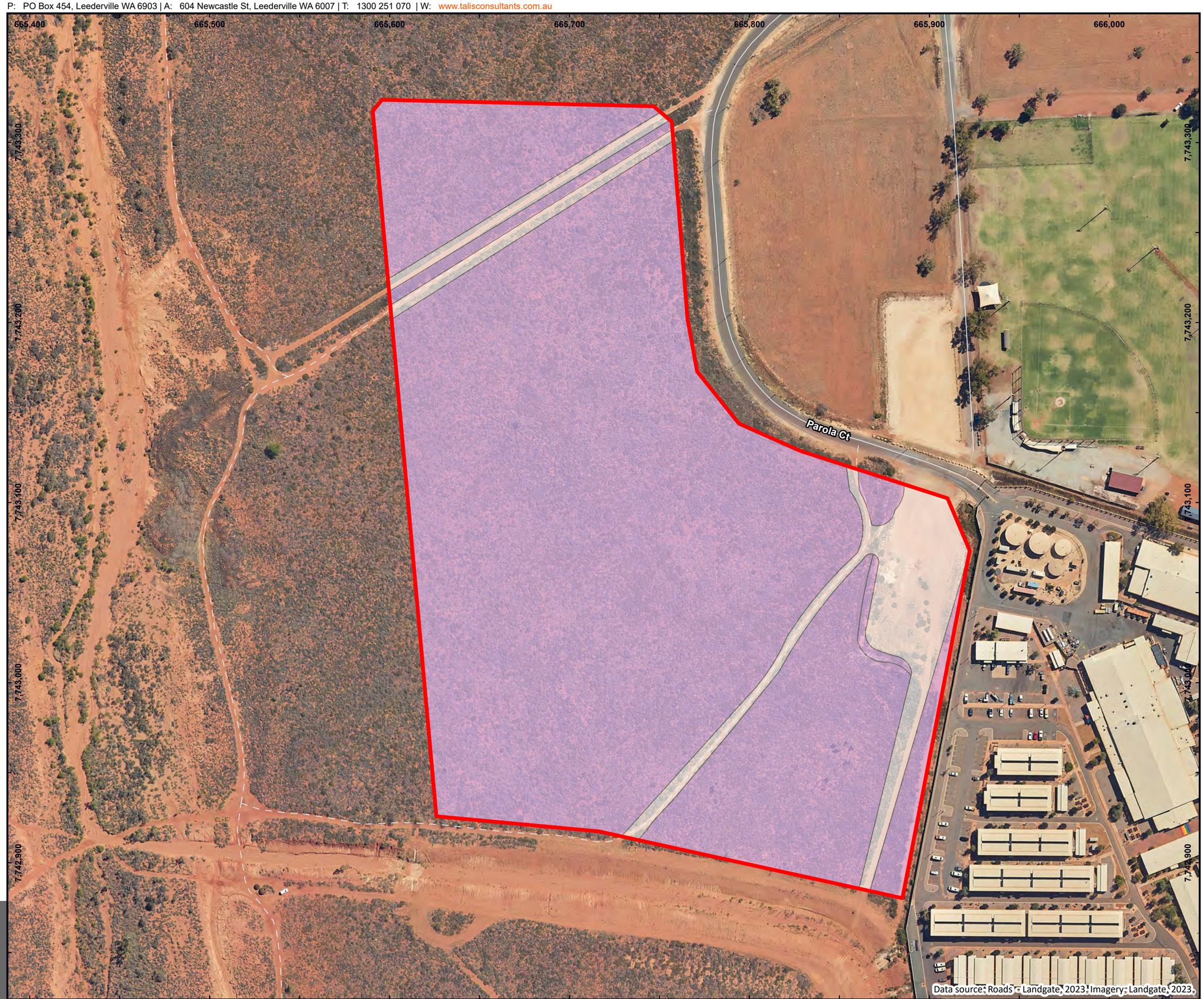

LEGEND

Site Boundary

Vegetation Type

AsTe

Clear

Western Australian Roads

Minor Road

Other

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LOCALITY

0 100 200 300 400 500 km

VEGETATION TYPE

Lot 601 on DP71984
South Headland

Environmental Due Diligence

Resolve Group Pty Ltd

N

0 20 40 60 80 m

Coordinate System: GDA2020 MGA Zone 50
Scale @ A3: 1:2,000

Prepared:	E Jackson	Date:	29/02/2024
Reviewed:	J Kirke	Revision:	A
Project:	TE23107		

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Figure 3-10

Data source: Roads - Landgate, 2023. Imagery: Landgate, 2023.

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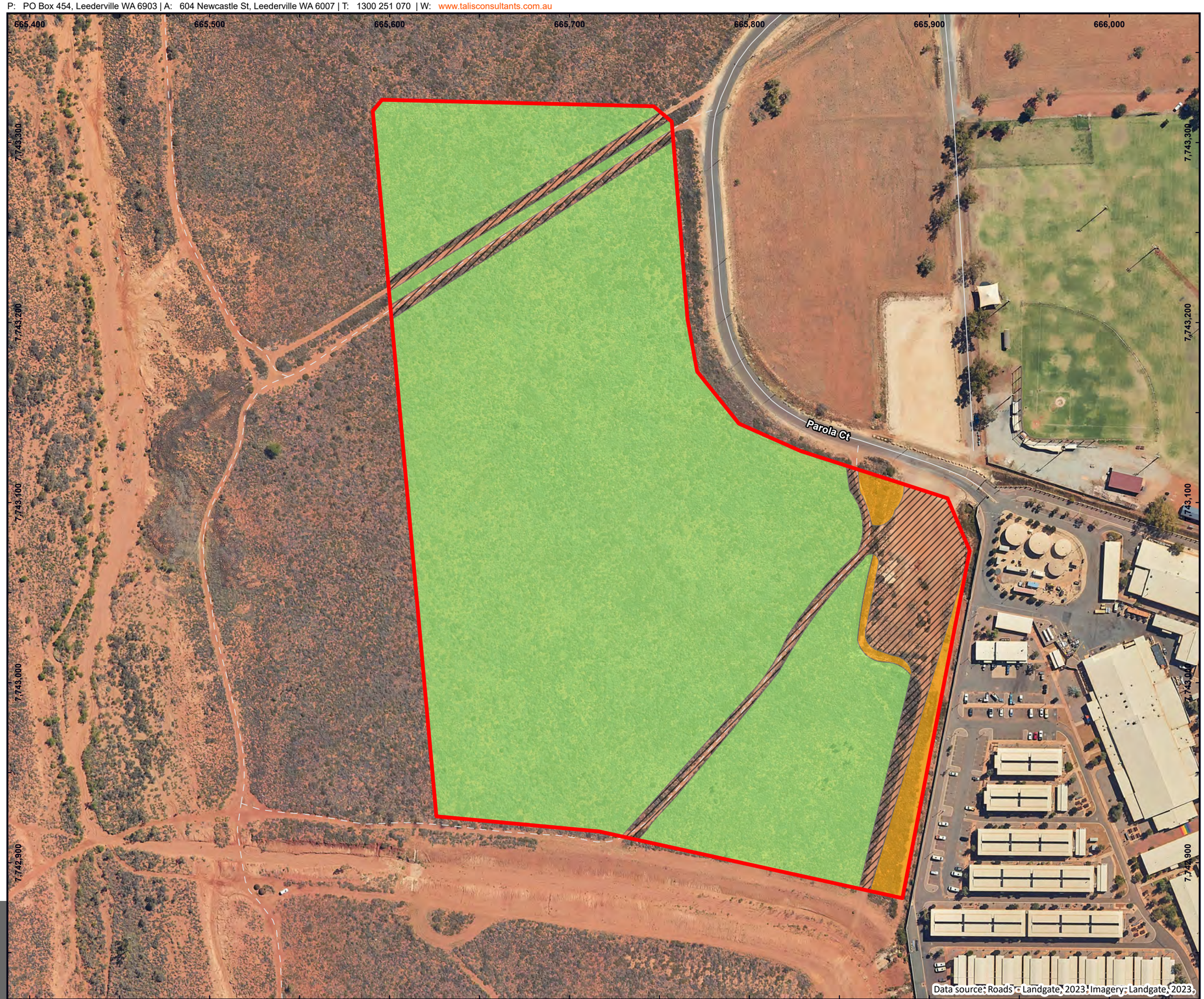

LEGEND

- Site Boundary

Vegetation Condition

- Degraded
- Good
- NA

Western Australian Roads

- Minor Road
- Other

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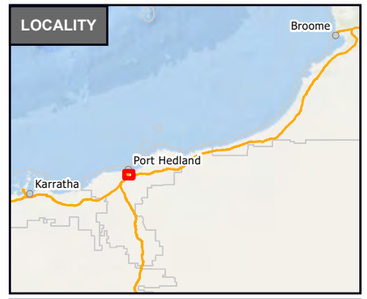
LOCALITY



0 100 200 300 400 500 km

VEGETATION CONDITION

Lot 601 on DP71984
South Headland

Environmental Due Diligence

Resolve Group Pty Ltd

N

0 20 40 60 80 m

Coordinate System: GDA2020 MGA Zone 50
Scale @ A3: 1:2,000

Prepared:	E Jackson	Date:	29/02/2024
Reviewed:	J Kirke	Revision:	A
Project:	TE23107		

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Figure 3-11

Data source: Roads - Landgate, 2023. Imagery: Landgate, 2023.

Document Path: \\server\talis\SECTIONS\Environment\Projects\TE2023\TE23107 - Lot 601 South Hedland DD\GIS\Maps\TE23107 - Lot 601 South Headland DD\TE23107 - Lot 601 South Headland DD.aprx

3.9.2 Fauna

One fauna habitat type was recorded within the development area, Open Shrubland (**Figure 3-12**). Quality of the habitat within the development area ranged from poor to good, based on the level of disturbance. The majority was found to be of average quality (Ecoscape, 2024). The habitat type recorded within the development area is typical of the local area and extends beyond the development boundary in equal or better quality (Ecoscape, 2024). Habitat within the development area provides resources for general fauna assemblages, however, it is unlikely to critically important to the survival of any fauna (Ecoscape, 2024).

Ten vertebrate fauna species were recorded during the field survey, none of which were conservation-listed species. Two of the identified fauna species were introduced (dog and horse) (Ecoscape, 2024).

Following the field survey, the likelihood of occurrence of fauna species was re-evaluated. The seven species noted as 'may occur' within the development area were downgraded to 'unlikely to occur' due to their habitat requirements either not being present or disturbance levels being too high for the habitat to be considered viable (Ecoscape, 2024).

Given the lack of threatened and priority fauna within the development area and the lack of suitable supporting habitat, no constraints to any clearing associated with the development are anticipated.

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LEGEND

- Site Boundary

Fauna Habitats

- Clear
- Open Shrubland

Western Australian Roads

- Minor Road
- Other

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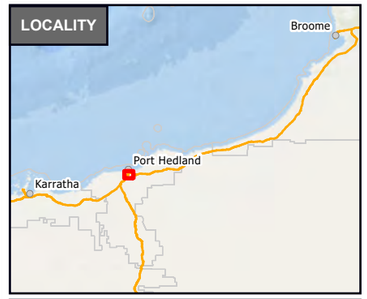

0 100 200 300 400 500 km

FAUNA HABITATS

Lot 601 on DP71984
South Headland

Environmental Due Diligence

Resolve Group Pty Ltd

N

0 20 40 60 80 m

Coordinate System: GDA2020 MGA Zone 50
Scale @ A3: 1:2,000

Prepared:	E Jackson	Date:	29/02/2024
Reviewed:	J Kirke	Revision:	A
Project:	TE23107		

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Figure 3-12

Data source: Roads - Landgate, 2023. Imagery: Landgate, 2023.

3.10 EPBC Protected Matters

The Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) protects certain nationally significant (protected) animals, plants, habitats or places that are referred to as "protected matters". Under the EPBC Act, actions that have, or are likely to have, a significant impact on a Matter of National Environmental Significance (MNES) require approval from the Commonwealth Environment Minister. An 'action' is generally defined as a project, development, undertaking, activity or a series of activities, or an alteration of any of these (sections 523–524A of the EPBC Act).

The matters of national environmental significance (or 'triggers') are set out in Part 3 of the EPBC Act.

The EPBC Act covers nine protected matters:

- world heritage areas;
- national heritage places;
- wetlands of international importance (listed under the Ramsar Convention);
- listed threatened species and ecological communities;
- listed migratory species (protected under international agreements);
- Commonwealth marine areas;
- Great Barrier Reef Marine Park;
- nuclear actions (including uranium mines); and
- water resources (that relate to coal seam gas development and large coal mining development).
- The Act also protects the environment when actions are taken:
- on Commonwealth land or impact upon Commonwealth land;
- by an Australian Government agency anywhere in the world; and
- that impact Commonwealth heritage places overseas.

Both desktop and in field survey indicate that there are no EPBC Act protected matters within or in proximity to the development area.

3.11 Hydrogeology

Depending on the nature of the development, impacts to groundwater may include potential risk of contamination, drawdown and associated implications for groundwater dependent vegetation and impacts to downstream users. There can be various issues requiring consideration during construction.

3.11.1 Groundwater Proclaimed Areas

Certain areas of WA are proclaimed to protect, manage and regulate water under the *Rights in Water and Irrigation Act 1914* (RIWI Act). Proclaimed Groundwater Areas are areas which require a licence to take groundwater and to construct or alter a groundwater resource. Licences define how much and when water may be taken and specify any obligations the licence holder must meet when using the water.

A search of Proclaimed Groundwater Areas was undertaken utilising the available Groundwater and Surface Water data from DWER (2022). The study area is located within the Pilbara Proclaimed Groundwater Area (**Figure 3-13**)**.** As such, any groundwater abstraction or alteration to the resource will require licencing under the RIWI Act.

The proposed development does not necessitate the abstraction of groundwater, nor will there be any alterations to the groundwater resource. Therefore, it is not anticipated that there will be any constraints to the development of Lot 601 despite it being located within a Groundwater Proclaimed Area.

3.11.2 Monitoring Bores

DWER manages a large network of groundwater monitoring bores across WA. They are used to assess the quantity and quality of the state's groundwater resources.

A search of monitoring bores was conducted utilising the available data from DWER 2022 and found that there are no DWER, Department of Primary Industries and Regional Development (DPIRD) and Water Corporation monitoring bores in the study area. The closest bore is within 400 m of the development boundary (**Figure 3-13**) and will not be impacted by the proposed works.

3.11.3 Public Drinking Water Source Areas

Public drinking water source areas (PDWSAs) are surface water catchments and groundwater areas that provide drinking water to cities, towns and communities throughout WA. PDWSAs are proclaimed under the *Metropolitan Water Supply, Sewerage, and Drainage Act 1909* or the *Country Areas Water Supply Act 1947*. Groundwater sources are normally referred to as underground water pollution control areas or water reserves. Surface water sources are generally referred to as catchment areas.

According to Water Quality Protection Note no. 75 *Gazetted Public Drinking Water Source Areas*, the Town of Port Hedland sources its public drinking water from the De Grey River Water Reserve and the Yule River Water Reserve. The De Grey River Water Reserve is located over 58 km east of Lot 601 and the Yule River Water Reserve over 34 km to the west.

Based on a review of available DWER data, there are no PDWSAs located in or near the study area. There are no constraints to the study area regarding PDWSAs.

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Data source: Roads - Landgate, 2023. Groundwater Areas - DWER, 2023. Monitoring Bores - Bureau of Meteorology, 2023. Imagery: Landgate, 2023.

LEGEND

- Site Boundary

Groundwater Monitoring

- Monitoring Bore
- Pilbara Proclaimed Groundwater Area

Western Australian Roads

- Main Road
- Minor Road
- Other

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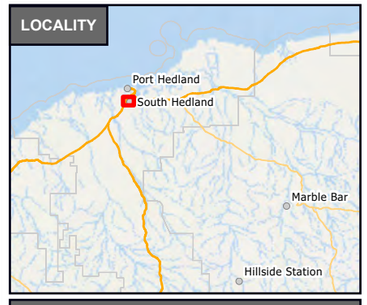

0 50 100 150 200 250 km

HYDROGEOLOGY

Lot 601 on DP71984
South Headland

Environmental Due Diligence

Resolve Group Pty Ltd

N

0 50 100 150 200 m

Coordinate System: GDA2020 MGA Zone 50
Scale @ A3: 1:5,000

Prepared:	E Jackson	Date:	29/02/2024
Reviewed:	J Kirke	Revision:	A
Project:	TE23107		

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Figure 3-13

3.12 Hydrology

3.12.1 Wetlands and Associated Buffers

A wetland buffer zone is an area of vegetation which usually begins from the boundary of wetland dependent vegetation and extends outward, ending at the interface with another land use. The retention and management of vegetated buffers is vital in ensuring healthy wetland ecosystems are maintained and protected.

There are no mapped wetlands or associated buffers within or adjacent to the study area (**Figure 3-14**). The closest wetland to the study area is the Leslie Port Hedland Saltfields System, over 16 km from the development boundary. There are no constraints regarding wetlands and associated buffers anticipated with the development of Lot 601, 604 and 300.

3.12.2 Surface Water Proclaimed Areas

Certain areas of WA are proclaimed to protect, manage and regulate water under the *Rights in Water and Irrigation Act 1914* (RIWI Act). Proclaimed Surface Areas are areas which require a licence to take surface water and to construct or alter a surface water resource. Licences define how much and when water may be taken and specify any obligations the licence holder must meet when using the water.

A search of Proclaimed Surface water Areas was undertaken utilising the available Groundwater and Surface Water data from DWER (2023). The study area is located within the Pilbara Surface Water Area (**Figure 3-14**). As such, any surface water abstraction or alteration to the resource will require licencing under the RIWI Act. No abstraction of surface water is required as part of the development of Lot 601, 604 and 300 and therefore no licencing will need to be applied for under the RIWI Act.

3.12.3 Streams, Rivers and Stormwater Drains

The study area does not intersect with any rivers, creeks or drainage lines (**Figure 3-14**). An unnamed tributary lies within 200 m to the west of the edge of the proposed development area. Development of the study area is unlikely to have an impact on existing hydrological regimes and therefore does not require consideration under the RIWI Act. The lowest point of the development area is 3 m higher than the creek bed, and contouring further indicates that surface water will flow away from the development area towards the west. It is likely that there is only a risk of the development area being impacted by surface water flows from the adjacent tributary following a significant rainfall event.

The potential for any contaminants spilled to ground to be carried out of the development area and into the tributary by surface water flows following rainfall needs to be considered during construction of the development area. There is the potential for the development to impact water quality in surface water features if materials are not adequately managed. These potential impacts will need to be addressed in a Construction Environmental Management Plan (CEMP). Given the low rainfall in the region and the limited use of hazardous materials for the construction works, the potential impacts are considered to be low, and likely negligible if appropriately addressed in a CEMP.

3.12.4 Floodplains

The study area is not located in any floodplains or flood risk areas (**Figure 3-14**). There are no potential impacts to floodplains or risks associated with high flood risk areas that will need to be managed as part of the proposed works for the Project.

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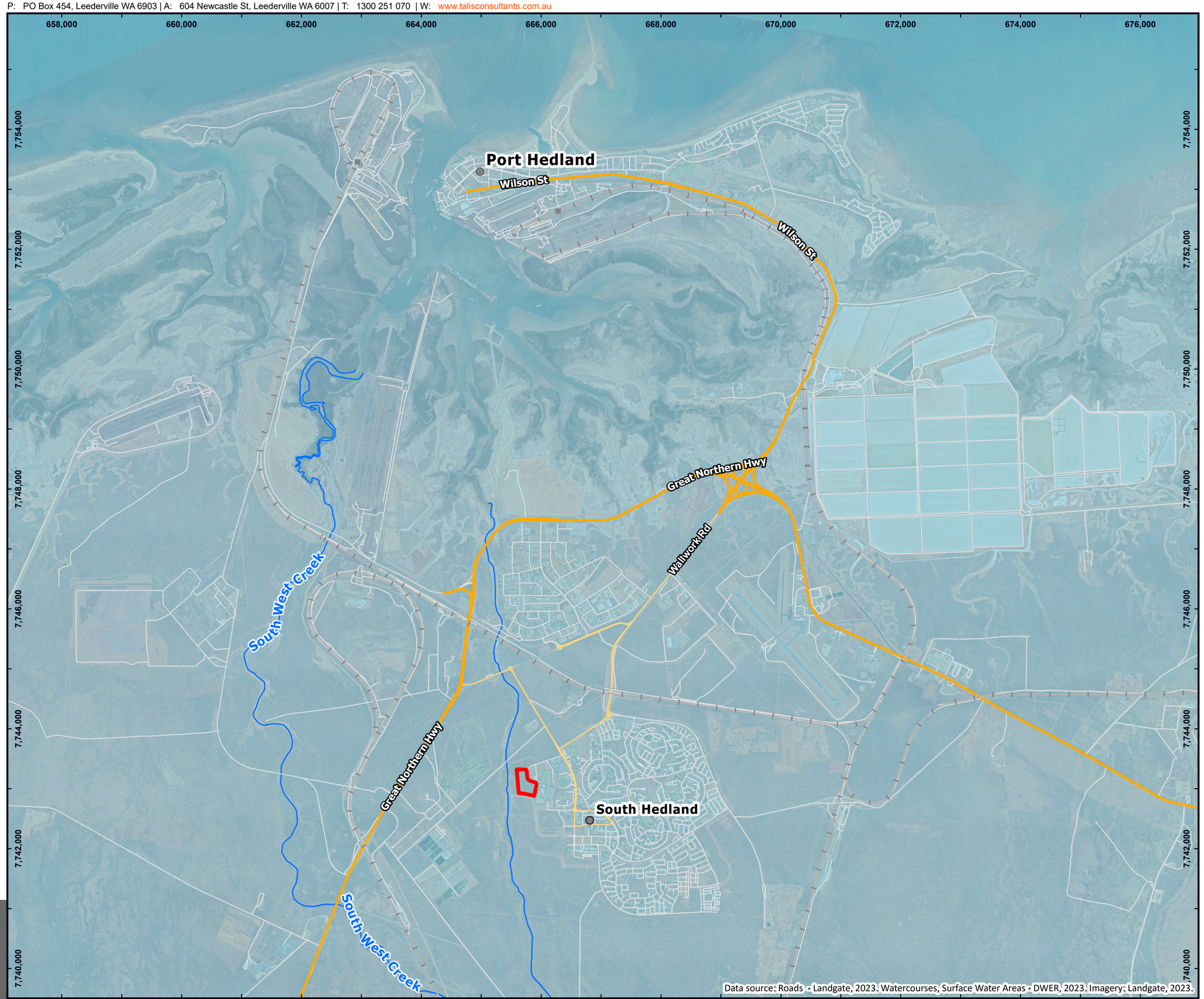

Data source: Roads - Landgate, 2023. Watercourses, Surface Water Areas - DWER, 2023. Imagery: Landgate, 2023.

LEGEND

- Site Boundary
- Major River
- Surface Water Area

Western Australian Roads

- Freeway / Highway
- Main Road
- Minor Road

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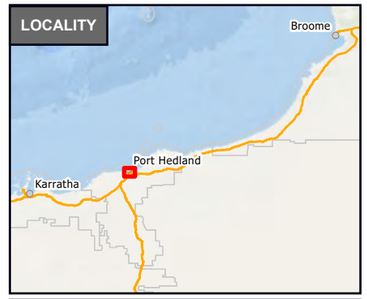

0 100 200 300 400 500 km

HYDROLOGY

Lot 601 on DP71984
South Headland

Environmental Due Diligence

Resolve Group Pty Ltd

N

0 500 1,000 1,500 2,000 2,500 m

Coordinate System: GDA2020 MGA Zone 50
Scale @ A3: 1:60,000

Prepared: E Jackson	Date: 29/02/2024
Reviewed: J Kirke	Revision: A
Project: TE23107	

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Figure 3-14

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3.13 Contaminated Sites

DWER currently records information of contaminated sites within WA on a contaminated sites database in accordance with the *Contaminated Sites Act 2003 (CS Act).* Under the CS Act, DWER can allocate any known or suspected contaminated report under the following classifications:

- Report not substantiated;
- Possibly contaminated – investigation required;
- Not contaminated – unrestricted use;
- Decontaminated;
- Contaminated – restricted use;
- Contaminated – remediation required; and
- Remediated for restricted use.

Of the above, only the last three bullet points are publicly displayed on the DWER Contaminated Sites database.

The study area contained no listed sites on the contaminated sites database, however, there is one listed within 550 m of Lot 601 (**Figure 3-15**). Lot 400 on Plan 411247 was listed as a 'Contaminated – remediation required' by DWER on 28/1//2017 following the detection of hydrocarbons in the groundwater beneath the east and south-easter portions of the site. The site is currently being used as a service station and Department of Health advises further analytical testing is required should the extraction of the groundwater beneath the site be proposed (DWER, 2019).

There are no anticipated constraints to the study area regarding contaminated sites due to the relative distance of the contaminated site from the study area and as the proposed development at Lot 601, 604 and 300 does not require the extraction of groundwater.

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Data source: Roads - Landgate, 2023. Contaminated Sites - DWER, 2023. Imagery: Landgate, 2023.

LEGEND

Site Boundary

Contaminated Sites Database

Contaminated - remediation required

Western Australian Roads

Main Road

Minor Road

Other

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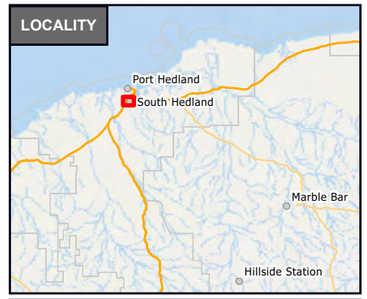

0 50 100 150 200 250 km

CONTAMINATED SITES

Lot 601 on DP71984
South Headland

Environmental Due Diligence

Resolve Group Pty Ltd

N

0 50 100 150 200 m

Coordinate System: GDA2020 MGA Zone 50
Scale @ A3: 1:5,000

Prepared:	E Jackson	Date:	29/02/2024
Reviewed:	J Kirke	Revision:	A
Project:	TE23107		

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Figure 3-15

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3.14 Review of Social Attributes

3.14.1 Aboriginal Heritage

A search for mapped Aboriginal Heritage Sites was conducted by using the data from the Department of Planning, Lands and Heritage (DPLH) online Aboriginal Heritage Inquiry System, which incorporates both the Heritage Site Register and Heritage Survey Database. These databases list the following sites:

- Registered Aboriginal Sites;
- Other Heritage Places; and
- Heritage Survey Areas.

There are nine Aboriginal Heritage Sites located in proximity to the study area, the closest being 2.5 km (ID 15905) (**Figure 3-16**). No sites were identified within the study area. Details of the nine Aboriginal Heritage sites are outlined in Table 2-1**Table 3-2** below:

Table 3-2: Aboriginal Heritage Sites located in proximity to the study area

Place ID	Name	Status
15905	BOODARIE 31	Registered Site
23611	FMG PAR 06-08	Lodged
23607	FMG PAR 06-04	Registered Site
23548	FMG PAR 06-01 (Shell midden scatter)	Registered Site
25462	Boodarie 29	Lodged
26407	KAR12	Lodged
26406	KAR11	Lodged
23605	FMG PAR 06-02	Registered Site
23606	FMG PAR 06-03	Registered Site

From the desktop study, it can be concluded that it is unlikely that the development will have an impact on Aboriginal heritage. It is an offence under the *Aboriginal Heritage Act 1972* as amended (AHA) to disturb Aboriginal sites or artefacts without approval. Given the location of the proposed works, this is unlikely to occur, however, it is recommended that if Aboriginal sites or artefacts are identified, that works cease and further investigations are undertaken. It is also recommended that prior to construction of any of the three proposed options, engagement with local traditional owner groups is undertaken to demonstrate due diligence and consideration of Aboriginal Heritage and other potential significant heritage sites.

3.14.2 Native Title

Native Title is a collection of Aboriginal people and their rights arising from their traditional laws and customs and is governed by the *Native Title Act 1993* (NTA).

A Native Title search was conducted on the National Native Title Tribunal which found the locality had a Native Title Claim (WCD2018/015 – Kariyarra). Lot 601, 604 and 300 lie within an area listed under Schedule Four – Areas Where Native Title Does Not Exist (Paragraph 2(a)) (**Figure 3-17**). These are areas within the Native Title Determination Area that are not applicable to the Native Title Claim.

No constraints regarding Native Title are anticipated, however Talis recommends that Resolve is committed to working with the Kariyarra people in its planning and management as the Traditional Owners of the local area.

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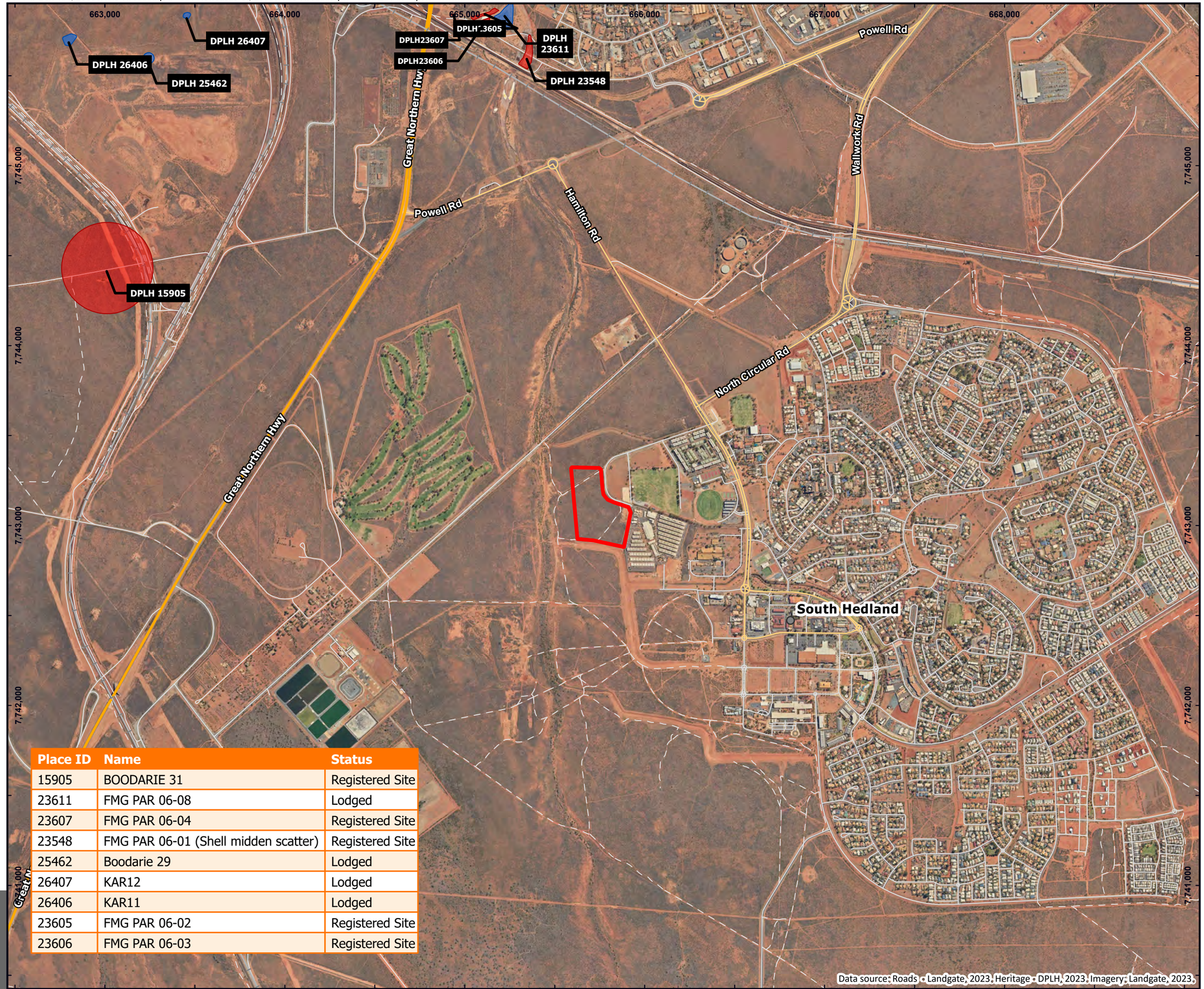

Place ID	Name	Status
15905	BOODARIE 31	Registered Site
23611	FMG PAR 06-08	Lodged
23607	FMG PAR 06-04	Registered Site
23548	FMG PAR 06-01 (Shell midden scatter)	Registered Site
25462	Boodarie 29	Lodged
26407	KAR12	Lodged
26406	KAR11	Lodged
23605	FMG PAR 06-02	Registered Site
23606	FMG PAR 06-03	Registered Site

Data source: Roads - Landgate, 2023. Heritage - DPLH, 2023. Imagery: Landgate, 2023.

LEGEND

- Site Boundary

Aboriginal Heritage

- Lodged
- Registered Site

Western Australian Roads

- Freeway / Highway
- Main Road
- Minor Road
- Other

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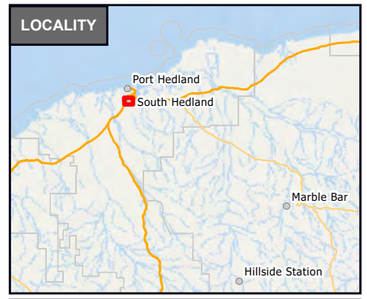

0 50 100 150 200 250 km

ABORIGINAL HERITAGE

Lot 601 on DP71984
South Headland

Environmental Due Diligence

Resolve Group Pty Ltd

N 0 200 400 600 800 m

Coordinate System: GDA2020 MGA Zone 50
Scale @ A3: 1:20,000

Prepared:	E Jackson	Date:	29/02/2024
Reviewed:	J Kirke	Revision:	A
Project:	TE23107		

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Figure 3-16

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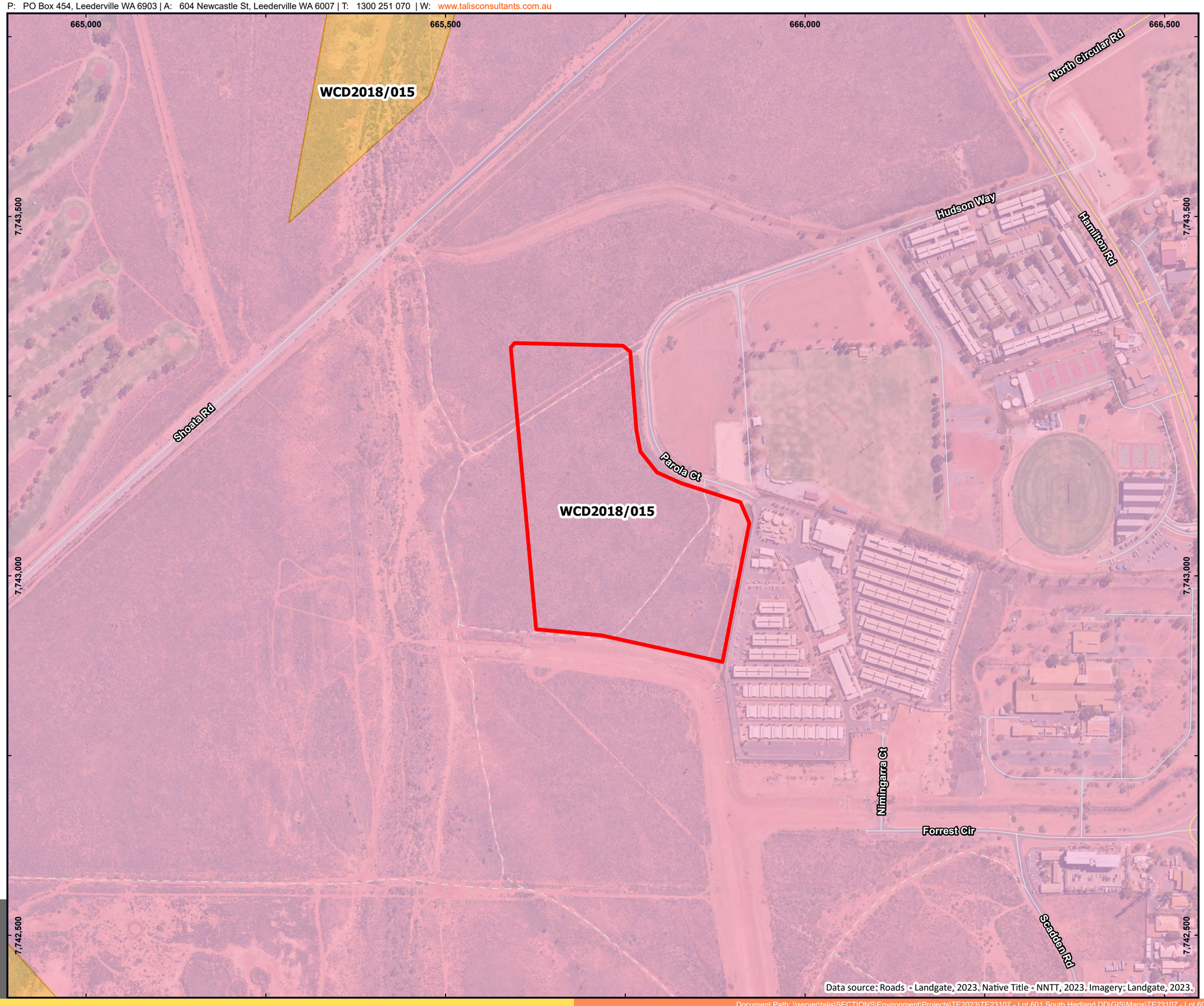

LEGEND

- Site Boundary

Native Title Determination Outcomes

- Native title does not exist
- Native title exists (non-exclusive)

Western Australian Roads

- Main Road
- Minor Road
- Other

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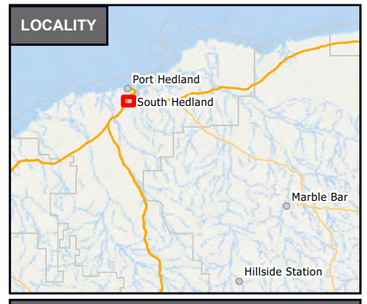

km
0 50 100 150 200 250

NATIVE TITLE

Lot 601 on DP71984
South Headland

Environmental Due Diligence

Resolve Group Pty Ltd

N
m
0 50 100 150 200

Coordinate System: GDA2020 MGA Zone 50
Scale @ A3: 1:5,000

Prepared:	E Jackson	Date:	29/02/2024
Reviewed:	J Kirke	Revision:	A
Project:	TE23107		

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Figure 3-17

Data source: Roads - Landgate, 2023. Native Title - NNTT, 2023. Imagery: Landgate, 2023.

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3.14.3 Post-Colonial Heritage

An online search of the following records was undertaken:

- State register;
- National heritage list;
- Commonwealth heritage list; and
- The inherit database.

Inherit contains detailed information about cultural heritage places entered in the State Register of Heritage Places, local government inventories and other lists, the Australian Government's heritage list, and other non-government lists and surveys.

There are no Australian Heritage sites within the study area, but four are located within South Hedland. Details of the sites are outlined in **Table 3-3** and mapped in **Figure 3-18**. The development of the study area will not impact on the identified sites, and it is anticipated that there will be no constraints associated with Australian Heritage sites.

Table 3-3: Australian Heritage sites within South Hedland (Town of Port Hedland)

Place ID	Place Name
18423	South Hedland town concept
5113	De Grey – Mullewa Stock Route No. 9701
18422	Water Tank
14240	Railway Line from Port Hedland to Newman

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663,000 663,500 664,000 664,500 665,000 665,500 666,000 666,500 667,000 667,500 668,000 668,500 669,000 669,500 670,000 670,500 671,000

7,748,000 7,745,500 7,745,000 7,744,500 7,744,000 7,743,500 7,743,000 7,742,500 7,742,000 7,741,500 7,741,000 7,740,500 7,740,000

Great Northern Hwy

Powell Rd

Hamilton Rd

Wallwork Rd

North Circular Rd

18422: Water Tank

5113: De Grey - Mullewa Stock Route No. 9701

South Hedland

18423: South Hedland town concept

14240: Railway Line from Port Hedland to Newman

Data source: Roads - Landgate, 2023. Heritage - DPLH, 2024. Imagery: Landgate, 2023.

LEGEND

- Site Boundary
- Local Heritage Survey

Western Australian Roads

- Freeway / Highway
- Main Road
- Minor Road

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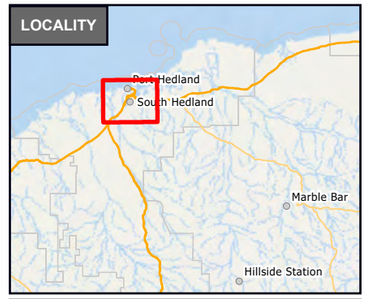
LOCALITY



0 50 100 150 200 250 km

POST COLONIAL HERITAGE

Lot 601 on DP71984
South Headland

Environmental Due Diligence

Resolve Group Pty Ltd

N 0 200 400 600 800 1,000 m

Coordinate System: GDA2020 MGA Zone 50
Scale @ A3: 1:25,000

Prepared:	E Jackson	Date:	29/02/2024
Reviewed:	J Kirke	Revision:	A
Project:	TE23107		

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Figure 3-18

Document Path: \\server\talis\SECTIONS\Environment\Projects\TE2023\TE23107 - Lot 601 South Hedland DD\GIS\Maps\TE23107 - Lot 601 South Headland DD\TE23107 - Lot 601 South Headland DD.aprx

3.14.4 Amenity

The study area is located in the Town of Port Hedland, on the eastern outskirts of South Hedland, a residential centre within the local government area. Sensitive social attributes in proximity of the proposed development have the potential to impact approval, construction and operations of the development through the addition of constraints. Further, certain attributes may also have impacts on the amenity of the final facility, limiting the success of the Project in the long term.

An online search of DPLH databases indicates the following sensitive social attributes in proximity to the study area (**Figure 3-19**):

- National Wastewater Treatment Facility;
- Landfill/Waste Facility; and
- Industrial Development Areas.

The South Hedland landfill facility lies 4.5 km to the east of the study area. As a Class II facility, the EPA recommended generic separation distance between the facility and sensitive land uses is 150 m for a single residence and 500 m for a subdivision – as per *Guidance for the Assessment of Environmental Factors No.3: Separation Distances between Industrial and Sensitive Land Uses* (2005) (Guidance No. 3). Given the study area is located at a distance far greater than what is recommended by the EPA, it is not anticipated that there will be any adverse impacts from odour emissions from the landfill to the proposed development.

The study area Is located within 2 km of the Water Corporation South Hedland Wastewater Treatment Plant. EPA Guidance No. 3 does not specify a generic recommended separation distance for wastewater treatment plants and sensitive land uses. Instead, advising assessment is made on a case-by-case basis. It is likely that the wastewater treatment facility has had the required odour modelling done to inform its placement within a sufficient distance from South Hedland, so as not to have any adverse impacts on the area.

As the study area is located on the eastern outskirts of South Hedland, it is also likely that the proposed development will not encounter any adverse impacts from odour emissions from the wastewater facility. Discussions with representatives from the Town of Port Hedland local government can help to clarify this more explicitly.

The presence of a similar facility as the proposed development, Gateway Village, directly adjacent to the study area would also suggest that previous assessments have identified no adverse impacts relating to odour emissions of sufficient magnitude to deter development within the surrounding area. This can be confirmed with further studies if so desired by Resolve.

A designated industrial area lies approximately 3.2 km north of the development area and South Hedland residential area. Activities within the industrial areas will produce noise, dust, odour and light emissions that may have the potential to impact the amenity of the area. Given the presence of existing residences adjacent to the development area, and the distance of the industrial area from the Project, it is unlikely that these emissions have a substantial adverse impact on the amenity of the South Hedland area. Further, the industrial area is likely to be subject to legislative and regulatory requirements outlined in their respective approval instruments. Confirmatory studies by Resolve will provide the necessary assurances regarding the nature of these impacts, however Talis does not believe that any approvals required for the development will be contingent upon having these studies completed.

P: PO Box 454, Leederville WA 6903 | A: 604 Newcastle St, Leederville WA 6007 | T: 1300 251 070 | W: www.talisconsultants.com.au

LEGEND

- Site Boundary

Society and Infrastructure

- Health and Medical Facility
- National Wastewater Treatment Facility
- Education Facility
- Landfill / Waste Facility
- Industrial Development Areas

Western Australian Roads

- Freeway / Highway
- Main Road
- Minor Road

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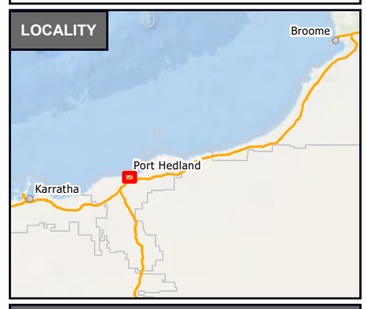

0 100 200 300 400 500 km

SOCIAL ATTRIBUTES

Lot 601 on DP71984
South Headland

Environmental Due Diligence

Resolve Group Pty Ltd

N

0 500 1,000 1,500 2,000 2,500 m

Coordinate System: GDA2020 MGA Zone 50
Scale @ A3: 1:60,000

Prepared:	E Jackson	Date:	29/02/2024
Reviewed:	J Kirke	Revision:	A
Project:	TE23107		

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Figure 3-19

Document Path: \\server\talis\SECTIONS\Environment\Projects\TE2023\TE23107 - Lot 601 South Hedland DD\GIS\Maps\TE23107 - Lot 601 South Headland DD\TE23107 - Lot 601 South Headland DD.aprx

4 Summary

A summary of all the assessed environmental factors and the potential constraints they pose on the development is provided in Table 4-1 below.

Table 4-1: Assessment of Environmental Attributes

Environmental attribute	Assessment
Topography and Landscape	The development is located on a relatively uniform and flat topography. No constraints to development relating to topography and landscape are anticipated.
Land Use	The proposed development does not deviate from the existing land use of the surrounding area, being temporary residential housing within a primarily residential area. No constraints to development relating to land use are anticipated.
Geology	No major geological features exist within the proposed Project area. Further geotechnical assessment is recommended to confirm the suitability of the ground for the proposed development. No constraints to development relating to geology are anticipated.
Acid Sulphate Soils	The Project area does not fall within a risk area for encountering ASS, as mapped by DWER, with the closest mapped risk area being 4 km from the Project area. It is highly unlikely that any excavation or earthworks relating to the development will encounter ASS. No constraints to development relating to ASS are anticipated.
Bushfire Prone Area(s)	The proposed development falls within a bush-fire prone area. Consultation with local DFES for input on the development of a Bushfire Management Plan is recommended. The risk of bushfire will need to be considered at all stages of the development. No constraints to development relating to bushfire risk are anticipated if the risk is adequately addressed in a Bushfire Management Plan.
Environmentally Sensitive Area(s)	There are no ESAs mapped within or in proximity to the proposed development. The closest ESA lies over 10 km to the north of the development boundary. The proposed development poses no potential impacts to any ESAs due to their distance from the development area. No constraints to development relating to ESAs are anticipated.
EPBC Protected Matters	There are no EPBC Act protected matters within or in proximity to the proposed development. No constraints to development relating to EPBC Protected Matters are anticipated.
Threatened Ecological Communities	The Project does not lie within or in proximity to any TECs, as such the proposed development will not have an impact on TECs. No constraints to development relating to TECs are anticipated.
Priority Ecological Communities	The Project does not lie within or in proximity to any PECs, as such the proposed development will not have an impact on PECs.

Environmental attribute	Assessment
	No constraints to development relating to TECs are anticipated.
Threatened Flora	Preliminary desktop assessments indicated no records of threatened flora within the development area and a 50 km buffer of the boundary. It was considered likely that three P3 species may occur within the development area. A field survey of the development area confirmed no presence of threatened flora species and downgraded the likelihood of the P3 flora species occurring to 'unlikely to occur'. No constraints to development relating to threatened flora are anticipated.
Threatened Fauna	Desktop assessment and supplementary field survey confirmed no threatened fauna species occur or are likely to occur within the development area. The fauna habitat present is not unique to the development area, existing in similar or better quality beyond the development boundary. It is considered unlikely to be a critical resource to fauna within the area. No constraints to development relating to threatened fauna are anticipated.
Groundwater Proclaimed Areas	The Project area is within the Pilbara Groundwater Proclaimed Area, necessitating a licence under the RIWI Act for any groundwater abstraction. The proposed development does not involve any groundwater abstraction or potential impacts to groundwater, as such no constraints to development relating to Groundwater Proclaimed Areas are anticipated.
Monitoring Bores	One monitoring bore was identified within 400 m of the proposed Project area. It is expected that the development will have no impact on this bore due to the distance from the Project area and there being no scope for groundwater abstraction for the development. No constraints to development relating to monitoring bores are anticipated.
Public Drinking Water Source Areas (PDWSA)	The development is not located within a PDWSA, the closest source for the Town of Port Hedland being 34 km to the west (Yule River Water Reserve). No constraints to development relating to PDWSA are anticipated.
Wetlands and Associated Buffers	The development does not fall within a wetland and/or associated buffers. The closest wetland is the Leslie Port Hedland Saltfields System, over 16 km from the development area. No constraints to development relating to wetlands and associated buffers are anticipated.
Surface Water Proclaimed Areas	The development area is located within a Surface Water Proclaimed Area; however, the proposed development does not require the abstraction of surface water or alter any existing surface water structures.

Environmental attribute	Assessment
	No constraints to development relating to Surface Water Proclaimed Areas are anticipated.
Streams, Rivers and Stormwater Drains	There are no streams, river or drainage lines that intersect the development area. An established creek lies 200 m to the west of the development boundary that has the potential to impact the development area if it is prone to flooding following significant rainfall events. Assessment of the topography and elevation of the proposed development area and creek bed indicate the development area lies 3 m above the creek bed at its lowest point, and the land gradually slopes downwards from the development area towards the creek. It is therefore unlikely that the creek will pose any potential impacts to the development area. Construction works within the development area will need to consider the risk of any contaminants spilled to ground will have the potential to be carried by surface water flows into the adjacent creek. This risk will need to be addressed in a CEMP. Given the minimal rainfall in the region and limited use of hazardous materials for the proposed development, the potential impacts are considered to be negligible, if appropriately managed by a CEMP. No constraints to development relating to streams, rivers and stormwater drains are anticipated.
Contaminated Sites	There are no contaminated sites within the development area. The closest registered contaminated site is Lot 400 on Plan 411247, located approximately 550 m from the development boundary. The site was registered following detection of hydrocarbons within the groundwater. There are no groundwater abstraction activities proposed for the development, and as such the contaminated site is unlikely to have any potential impacts on the development. No constraints to development relating to contaminated sites are anticipated.
Heritage	Nine registered Aboriginal Heritage site and four registered European Heritage sites occur in proximity to the Project. The development area does not intersect with the listed sites and will have no direct impacts on any of the Heritage areas. Regardless, it is recommended that traditional owners and local councils are engaged throughout the Project to ensure any potential indirect impacts to the sites are identified and appropriately managed. No constraints to development relating to Heritage are anticipated.
Amenity	The development area is located in proximity to a landfill, wastewater treatment facility and industrial area. None of the listed features are likely to constrain or preclude development of the area, however, noise, odour, light and dust emissions have the potential to impact the amenity of the proposed development and its future success. The risk of these impacts is likely low due to other similar developments in proximity to the Project, and further

Environmental attribute	Assessment
	studies could be undertaken to qualify the nature of the impact is so desired. No constraints to development relating to Amenity are anticipated.

5 Approval Pathways

5.1 *Environmental Protection Act 1986* (EP Act)

Part IV of the EP Act provides for the referral of proposals that are likely to have a significant effect on the environment to the Environmental Protection Authority (EPA) for further assessment. A review of the proposed works and potential environmental impacts for the Project indicate that a Part IV referral is unlikely to be required for the proposed development.

Part V of the EP Act regulates premises with the potential to cause emissions and discharges to air, land and/or water. None of the proposed activities for the Project meet the requirements of a Prescribe Premises Category listed in Schedule 1 of the Environmental Protection Regulations. As such, no licencing or approvals under Part V of the EP Act are required for the Project.

In the event that a scheme amendment is required to develop the land, there is an expectation that this will be considered under s48A of the EP Act. This is considered unlikely for this Project.

5.1.1 *Environmental Protection (Clearing of Native Vegetation) Regulations 2004*

A Native Vegetation Clearing Permit is required from DWER or DEMIRS for the clearing of any native vegetation unless a valid exemption applies. It is an offence to clear native vegetation without the authority of a permit or an exemption. Exempt clearing does not require a permit, the two types of exemptions are as follows:

- Schedule 6 of the EP Act exemptions
- Exemptions under the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004*

The exemptions under Regulations do not apply in ESAs declared under section 51B of the EP Act.

Regulation 5, Item 1 of the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* lists clearing to construct a building as exempt from requiring a permit, where the clearing for these purposes does not add up to more than 5 ha in a financial year.

As the development area is in excess of 5 ha (9.63 ha), a clearing permit will need to be applied for. Results from the biological survey can be utilised to inform the permit supporting documentation. The lack of conservation significant features within the development area makes it unlikely for there to be any constraints associated with obtaining a permit, aside from the delays associated with the drafting, submission and assessment of a permit. Permit assessment can take approximately 60 business days, with more complex permits often requiring more time.

5.2 *Aboriginal Heritage Act 1972* (AHA)

The development area does not intersect with an Aboriginal Heritage site as no sites were identified within the development boundary. As such, no request for consent to disturb a registered site under section 18 of the AHA is required to be lodged for the Project.

It is an offence under the *Aboriginal Heritage Act 1972* (AHA) to disturb Aboriginal sites or artefacts without approval. Given the location of the proposed works, this is unlikely to occur, however, it is recommended that where Aboriginal sites or artefacts are identified, that works cease and further investigations are undertaken.

5.3 *Planning and Development Act 2005* (PD Act)

The Project will need to obtain approval under the PD Act for development and associated building licences. Documentation will need to be provided to the local government authority, the Town of Port Hedland, to be considered as part of the Development Assessment Process. The development assessment will need to be accompanied by supporting information relating to environmental impacts (this document) and any proposed mitigation and remediation required (CEMP).

5.4 *Contaminated Sites Act 2003* (CS Act)

No considerations under the CS Act are required for the development.

5.5 Construction

The proposed works the Project will require the development and implementation of a Construction Environment Management Plan (CEMP) to manage dust and noise that will result from construction works, as well as any other identified environmental risks. A CEMP is essential to mitigate the risk of potential offences under other Acts.

For this Project, the CEMP will primarily need to address the risk of dust and noise emissions from construction activities impacting the adjacent residential areas. Consideration should be given to the to the surface water structure to the west of the development area and the potential impacts construction activities might have on water quality if there is to be a major rainfall event.

6 Recommendations

Based on the review of environmental factors that could potentially be impacted by the development of the Project, Talis has determined that there are no potential constraints that will preclude development of the proposed area.

7 References

Aboriginal Heritage Act 1972.

A.L Payne and P. J. Tille (1992). *An inventory and condition survey of the Roebourne Plains and Surrounds, Western Australia.* Technical Bulletins: Natural Resources.

Australian Soil Resource Information System (ASRIS), 2014 http://www.asris.csiro.au/mapping/viewer.htm, website.

Biodiversity Conservation Act 2016.

Bureau of Meteorology (BOM), 2023. Climate Data Online. http://www.bom.gov.au/climate/data, website.

Contaminated Sites Act 2003.

Department of Biodiversity Conservation and Attractions 2019, *DBCA Statewide Vegetation Statistics*. Available from: https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics.

Department of Environment and Conservation, 2013. Definitions, Categories and Criteria for Threatened and Priority Ecological Ccommunities.

Department of Planning, Lands and Heritage (DPLH), 2020. Aboriginal Heritage Inquiry System, Government of Western Australia; Perth. https://www.daa.wa.gov.au/heritage/place-search/, website.

Department of Climate Change, Energy, The Environment and Water (DCCEEW), 2023. Australia's Bioregions (IBRA). https://www.dcceew.gov.au/environment/land/nrs/science/ibra, website.

Department of Environment Regulation (DER). 2015. Identification and Investigation of Acid Sulfate Soils and Acidic Landscapes. Government of Western Australia.

Department of Primary Industries and Regional Development 2019a, *Soil Landscape Mapping - Best Available (DPIRD-027)*. Available from: https://catalogue.data.wa.gov.au/dataset/soil-landscape-mapping-best-available.

Department of Water and Environmental Regulation (DWER). 2019. Contaminated Sites Database. Government of Western Australia; Perth.

Department of Water and Environmental Regulation (DWER). 2022. Proclaimed area maps. https://www.wa.gov.au/service/natural-resources/water-resources/proclaimed-area-maps

Department of Water and Environmental Regulation (DWER). 2023. Water quality protection note no. 75: Gazetted public drinking water source areas.

Environment Protection and Biodiversity Conservation Act 1999.

Environmental Protection (Clearing of Native Vegetation) Regulations 2004.

Environmental Protection Act 1986.

Environmental Protection Authority. 2008. Guidance Statement No.33 - Environmental Guidance for Planning and Development.

Environmental Protection Authority, 2005. Guidance for the Assessment of Environmental Factors No.3: Separation Distances between Industrial and Sensitive Land Uses.

Environmental Protection Authority 2016a, *Technical Guidance - Flora and Vegetation Surveys for Environmental Impact Assessment* , EPA, Western Australia. Available from: http://www.epa.wa.gov.au/policies-guidance/technical-guidance-flora-and-vegetation-surveys-environmental-impact-assessment.

Environmental Protection Authority 2020, *Technical Guidance - Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment*, EPA, Perth, Western Australia. Available from: https://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/EPA-Technical-Guidance-Vertebrate-Fauna-Surveys.pdf.

Heritage Council State Heritage Office, 2020 inHerit: Search Heritage Places. Government of Western Australia; Perth, http://www.inherit.stateheritage.wa.gov.au/Public/, website.

Native Title Act 1993.

Native Title Tribunal. 2023. National Native Title Register. http://www.nntt.gov.au/searchRegApps/NativeTitleRegisters/Pages/Search-National-Native-Title-Register.aspx

Planning and Development Act 2005.

Rights in Water and Irrigation Act 1914.

Shepherd, DP, Beeston, GR & Hopkins, AJM 2002, 'Native Vegetation in Western Australia: Extent, Type and Status'., *Resource Management Technical Report 249*.

APPENDIX A Ecoscape (2024) Biological Survey Report

LOT 601 SOUTH HEDLAND BIOLOGICAL SURVEYS

Talis Consultants

ecoscape

(*Environment Protection and Biodiversity Conservation Act 1999*)
(*Environmental Protection Act 1986*)
(*Biodiversity Conservation Act 2016*)
(*Biodiversity Conservation Regulations 2018*)
(*Animal Welfare Act 2002*)
(*Biosecurity and Agriculture Management Act 2007*)

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Revision	Author	QA Reviewer	Approved	Date
Draft	Louisa Carlsson	KP	KP	28/02/2024

Direct all inquiries to:
Ecoscape (Australia) Pty Ltd
Lvl 1 38 Adelaide Street Fremantle (Walyalup) WA 6160
Whadjuk Boodja
Ph: (08) 9430 8955

This document should be cited as 'Ecoscape (Australia) Pty Ltd (2024) Lot 601 South Hedland Biological Surveys, prepared for Talis Consultants

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ACKNOWLEDGEMENTS

Ecoscape would like to thank Jemma Kirke and Lee-Anne Stewart for project management and facilitation.

EXECUTIVE SUMMARY

Resolve Group Pty Ltd is investigating potential development options of Lot 601 and portions of adjacent lots in South Hedland. Talis Consultants subcontracted Ecoscape to undertake a biological survey of the area of interest.

A single-season Reconnaissance flora and vegetation and Basic terrestrial vertebrate fauna survey, incorporating targeted searches, was undertaken within an area totalling 9.63 ha. The surveys were undertaken by Louisa Carlsson (Senior Ecologist) over two days from 23 to 24 January 2024.

The key findings of the desktop assessment were:

- two pre-European vegetation associations intersect the survey area, each with greater than 97% extent remaining within the State
- no conservation-listed flora or fauna species have previously been recorded from within the survey area and none were considered likely to occur
- no Threatened Ecological Community (TEC) or Priority Ecological Community (PEC) have been previously recorded from within the survey area and none were considered likely to occur.

The reconnaissance and targeted flora and vegetation survey identified:

- 31 vascular flora species (including four introduced flora) recorded from one floristic quadrat and opportunistic observations. None of the introduced flora are significant weeds (i.e. Declared Pest Plants or Weeds of National Significance (WoNS)).
- no Threatened flora (TF) or Priority flora (PF) and none identified during the desktop assessment were considered likely to occur based on the results of the post-survey likelihood assessment
- one vegetation type associated with sandy plains and not representative of any currently described TEC or PEC
- vegetation condition of the survey area ranged from Degraded to Good with the majority (87.85%) in Good condition.

The basic and targeted terrestrial vertebrate fauna survey identified:

- no conservation-listed species from within the survey area
- 10 vertebrate fauna species comprising six birds, three mammals (two introduced) and one reptile
- one fauna habitat within the survey area, ranging in quality.

ACRONYMS AND ABBREVIATIONS

Table 1: Acronyms and abbreviations

Acronyms	
BAM Act	Western Australian *Biosecurity and Agriculture Management Act 2007*
BC Act	Western Australian *Biodiversity Conservation Act 2016*
BoM	Bureau of Meteorology
CALM	Western Australian Department of Conservation and Land Management (1985-2006, now DBCA)
CD	Conservation Dependent (fauna; specially protected species under the Western Australian BC Act)
CR	Critically Endangered (listed under Commonwealth EPBC Act and/or Western Australian BC Act)
DAFWA	Department of Agriculture and Food, Western Australia (2006-2017, now DPIRD)
DAWE	Commonwealth Department of Agriculture, Water and Environment (2020-2022, now DCCEEW)
DBCA	Western Australian Department of Biodiversity, Conservation and Attractions
DCCEEW	Commonwealth Department of Climate Change, Energy, the Environment and Water
DEC	Western Australian Department of Environment and Conservation (2006-2013, now DBCA)
DEWHA	Commonwealth Department of the Environment, Water, Heritage and the Arts (2007-2010, now DCCEEW)
DMIRS	Western Australian Department of Mines, Industry Regulation and Safety
DPaW	Western Australian Department of Parks and Wildlife (2013-2017, now DBCA)
DoE	Commonwealth Department of the Environment (2013-2016, now DCCEEW)
DotEE	Commonwealth Department of the Environment and Energy (2016-2020)
DPIRD	Western Australian Department of Primary Industries and Regional Development
DSEWPaC	Commonwealth Department of Sustainability, Environment, Water, Population and Communities (2010-2013, now DCCEEW)
DWER	Western Australian Department of Water and Environmental Regulation
EN	Endangered (listed under Commonwealth EPBC Act and/or Western Australian BC Act)
Ecoscape	Ecoscape (Australia) Pty Ltd
EP Act	Western Australian *Environmental Protection Act 1986*
EPA	Western Australian Environmental Protection Authority
EPBC Act	Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*
GDA 94	Geographic Datum of Australia 1994
GDE	Groundwater Dependent Ecosystem
GIS	Geographic Information System
GPS	Global Positioning System
GWA	Government of Western Australia
ha	hectare/hectares
IBRA	Interim Biogeographic Regionalisation for Australia
km	kilometre/kilometres
m	metre/metres
MGA	Map Grid of Australia
MA	Marine species (fauna; protected under international agreements and EPBC Act)
MI	Migratory species (fauna; specially protected species under the Western Australian BC Act, also EPBC Act)
NVIS	National Vegetation Inventory System
MNES	Matters of National Environmental Significance
OS	Other specially protected species (fauna; specially protected species under the Western Australian BC Act)
P; P1, P2, P3, P4, P5	Priority Flora and Fauna species rankings (P1-P4) or Priority Ecological Communities (P1-P5)
PEC	Priority Ecological Community
PF	Priority Flora
PMST	Protected Matters Search Tool (hosted by DCCEEW, used to search for MNES)
sp.	Species (generally referring to an unidentified taxon or when a phrase name has been applied)
subsp.	Subspecies (infrataxon)

Acronyms	
TEC	Threatened Ecological Community
TF	Threatened Flora (formerly termed Declared Rare Flora, DRF, in Western Australia)
var.	Variety (infrataxon)
VU	Vulnerable (listed under Commonwealth EPBC Act and/or Western Australian BC Act)
WAH	Western Australian Herbarium
WAM	Western Australian Museum
WAOL	Western Australian Organism List
WONS	Weeds of National Significance
*	Introduced flora species (i.e. weed)

1 INTRODUCTION

1.1 BACKGROUND

Resolve Group Pty Ltd is a surveying company providing building/construction consultancy, compliance and certification services to a wide range of clients across Western Australia.

Talis Consultants, on behalf of Resolve Group Pty Ltd, engaged Ecoscape to undertake a single-season Reconnaissance flora and vegetation survey, and a Basic terrestrial vertebrate fauna survey, including targeted searches, of Lot 601 and portions of surroundings lots in South Hedland. The purpose of the biological surveys was to identify and map vegetation types, vegetation condition and fauna habitats and identify conservation-listed flora and fauna occurring within the survey area. The report will be used to inform and support future development of the site.

1.2 SURVEY AREA

The Resolve Group Pty Ltd project area, known as the 'survey area' in this report, is located within the Town of Port Hedland in the Pilbara region (**Figure 1**). The survey area encompasses 9.63 ha and consists mainly of native vegetation and some clearing for tracks and is immediately adjacent to the townsite of South Hedland.

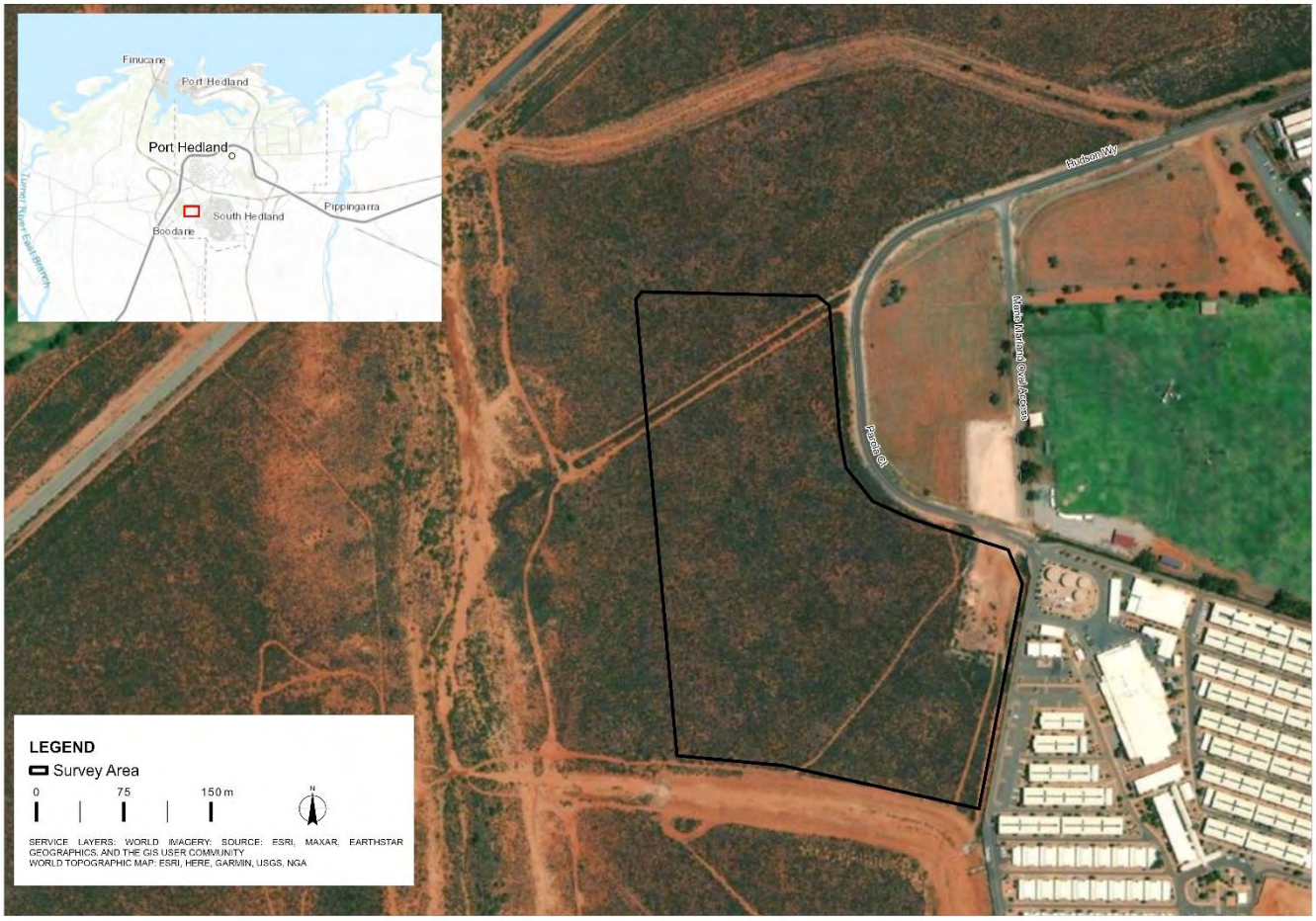

Figure 1: Survey area location

1.3 SURVEY REQUIREMENTS

The survey was conducted as a Reconnaissance and Targeted flora and vegetation survey, and a Basic and Targeted vertebrate fauna assessment.

The requirements of the survey were to:

- identify and map vegetation types, condition and fauna habitat within the survey area
- conduct targeted searches for conservation-listed flora and fauna known to occur or considered likely to occur within the survey area
- preparation of digital data to IBSA standard.

1.4 COMPLIANCE

This environmental assessment was conducted in accordance with Commonwealth and State legislation and guidelines:

- Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)
- Western Australian *Environmental Protection Act 1986* (EP Act)
- Western Australian *Biodiversity Conservation Act 2016* (BC Act)
- Western Australian *Biodiversity Conservation Regulations 2018*
- Western Australian *Animal Welfare Act 2002*
- Department of Environment, Water, Heritage and the Arts (DEWHA 2009) *Matters of National Environmental Significance. Significant impact guidelines 1.1 - Environment Protection and Biodiversity Conservation Act 1999*
- Department of Sustainability Environment Water Population and Communities (DSEWPaC 2011a) *Survey guidelines for Australia's threatened mammals*
- DSEWPaC (2011b) *Survey guidelines for Australia's threatened reptiles*
- DEWHA (2010a) *Survey guidelines for Australia's threatened bats*
- DEWHA (2010b) *Survey guidelines for Australia's threatened birds*
- Threatened Species Scientific Committee (TSSC 2005) *Commonwealth Listing Advice on Northern Quoll (Dasyurus hallucatus)*
- Commonwealth of Australia (2016) *EPBC Act referral guidelines for the endangered Northern Quoll Dasyurus hallucatus*
- Department of Parks and Wildlife (DPaW 2017) *Interim Guideline for Preliminary Surveys of Night Parrot (Pezoporus occidentalis) in Western Australia*
- TSSC (2016) *Conservation Advice Pezoporus occidentalis.*

Summaries of the main Acts under which this assessment was conducted, and related criteria and definitions, are available in **Appendix One**.

As well as those listed above, the assessment complied with Environmental Protection Authority (EPA) requirements for environmental survey and reporting in Western Australia, as outlined in:

- EPA (2020) *Technical Guidance – Terrestrial vertebrate fauna surveys for environmental impact assessment*, known herein as the Fauna Technical Guidance
- EPA (2016a) *Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment*, known herein as the Flora and Vegetation Technical Guidance
- EPA (2016b) *Environmental Factor Guideline – Flora and Vegetation*
- EPA (2016c) *Environmental Factor Guideline – Terrestrial Fauna*
- EPA (2018) *Environmental Factor Guideline – Landforms*
- EPA (2016d) *Environmental Factor Guideline – Terrestrial Environmental Quality*
- EPA (2021) *Statement of environmental principles, factors, objectives and aims of EIA*.

Additional details (definitions and criteria) relevant to these works are available in **Appendix One**.

2 DESKTOP ASSESSMENT

2.1 PHYSICAL ENVIRONMENT

2.1.1 CLIMATE

The survey area is located within the Pilbara region which includes two broad climatic zones. Coastal areas, as well as some higher rainfall inland areas, have a semi-desert tropical climate which experience 9-11 months of dry weather, with hot humid summers and warm winters. Inland areas have a dry desert climate, typically with higher temperatures and lower rainfall, and often experience up to 12 months of dry weather, with hot dry summers and mild winters (Leighton 2004). The survey area is within the coastal area.

According to the Köppen-Geiger climate classification, the survey area has a hot arid desert (Class BWh) (Peel, Finlayson & McMahon 2007). This classification is considered to represent a desert climate where annual rainfall is generally less than 200 mm or the region loses more water via evapotranspiration than it receives as rain, generally a result of hot, sunny weather without significant cloud. The mean average temperature exceeds 18°C, and summer temperatures are frequently over 40°C.

The closest Bureau of Meteorology (BoM) station with long term records is Broome Airport (BoM 2024 station no. 4032, operating since 1942) which is located approximately 4.8 km north-east of the survey area. The mean annual rainfall is 314.9 mm with 205.4 mm (65%) falling between January and March. The rainfall during the 6-month period prior to the field survey was 34% of the long-term average for this period.

January is the hottest month with a mean maximum temperature of 36.4°C and minimum of 25.7°C. July is the coldest month with a mean maximum of 27.4°C and minimum of 12.5°C.

Figure 2 shows the average rainfall and temperatures of the survey area, with rainfall for the six months preceding the field survey.

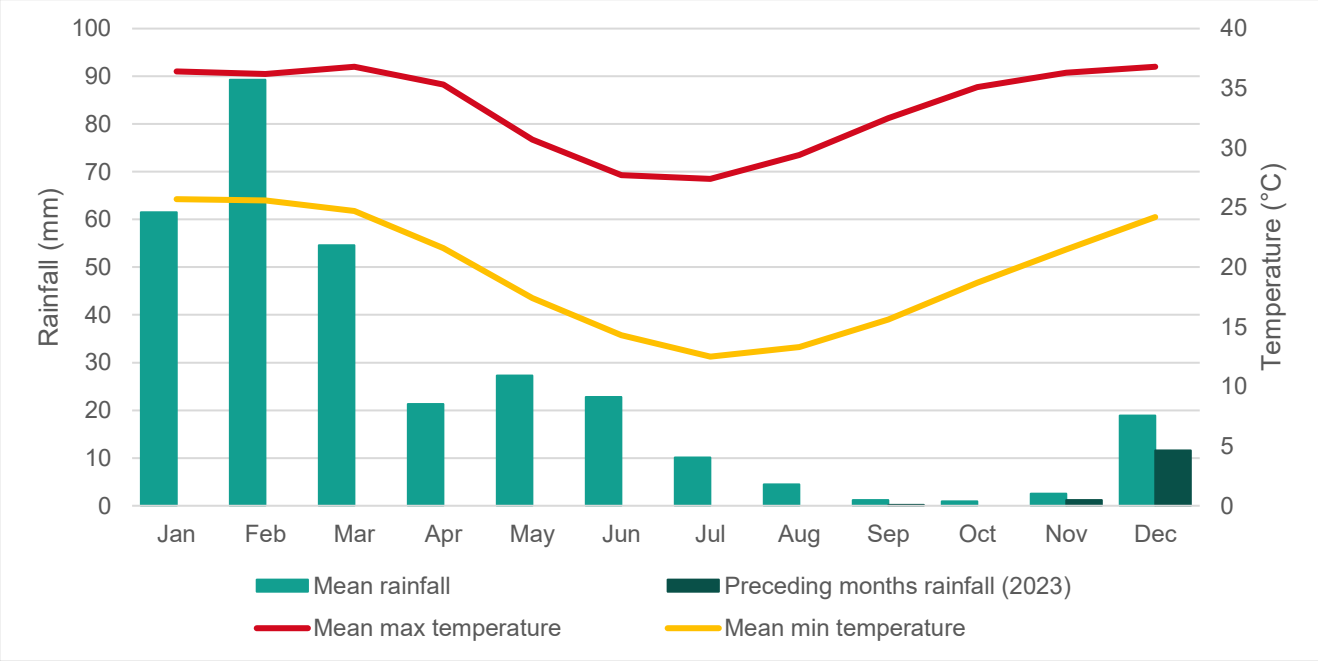

Figure 2: Rainfall and temperature data for the survey area Airport (BoM 2024)

2.1.2 LAND SYSTEMS

According to the Department of Primary Industries and Regional Development (DPIRD) (2019a) soil landscape mapping, the following land system intersects the survey area (**Table 2**).

Table 2: Land systems intersecting the survey area (DPIRD 2020)

Mapping unit	Land system	Description	Extent (ha)	%
281Ua	Uaroo System	Broad sandy plains, pebbly plains and drainage tracts supporting hard and soft Spinifex hummock grasslands with scattered Acacia shrubs	9.63 ha	100

2.1.3 GEOLOGY

According to Geoscience Australias surface geology mapping (Raymond, O.L., Liu, S., Gallagher, R., Zhang, W., Highet 2012), the following geological unit intersects the survey area (**Table 3**).

Table 3: Geological unit intersecting the survey area (Raymond et al. 2012)

Mapping symbol	Name	Description	Extent (ha)	%
Qa	Alluvium 38485	Channel and flood plain alluvium; gravel, sand, silt, clay; may be locally calcreted	9.63 ha	100

2.1.4 WETLANDS AND DRAINAGE

The survey area is situated in the Coastal water catchment (Department of Water and Environmental Regulation (DWER) 2018). The survey area does not directly intersect any drainage lines or other hydrological features. The closest non-perennial drainage line is located approximately 280 m to the west of the survey area and the closest wetland of importance is Leslie (Port Hedland) Saltfields System situated approximately 17 km north-east of the survey area.

2.1.5 GROUNDWATER DEPENDENT ECOSYSTEMS

The Groundwater Dependent Ecosystems Atlas (BoM 2024b) indicates that the survey area is considered as medium potential for terrestrial GDEs to occur.

2.1.6 ENVIRONMENTALLY SENSITIVE AREAS

The survey area does not directly intersect any mapped Environmentally Sensitive Areas (ESAs) (DWER 2021). The nearest ESAs are:

- approximately 11 km to the north, corresponding with the Port Hedland spoil bank
- approximately 17 km to the north-east, corresponding with the Leslie (Port Hedland) Saltfields System wetland.

The proposed works are not anticipated to impact these ESAs due to distance and the relatively small scale of the proposed development.

2.1.7 CONSERVATION LANDS

No conservation lands or lands of conservation interest exist within 50 km from the survey area.

2.1.8 LAND USE HISTORY

The survey area is on the town edge of South Hedland and is subject to recreational activity and in close proximity to clearing and development.

2.2 BIOLOGICAL ENVIRONMENT

2.2.1 BIOGEOGRAPHIC REGION

Biogeographic regions are delineated on the basis of similar climate, geology, landforms, vegetation and fauna and are defined in the Interim Biogeographical Regionalisation for Australia (IBRA) (Department of Agriculture Water and the Environment (DAWE) 2020).

The survey area is located in the Pilbara IBRA region in the Roebourne subregion (PIL), described as:

> *Quaternary alluvial and older colluvial coastal and sub-coastal plains with a grass savannah of mixed bunch and hummock grasses, and dwarf shrub steppe of Acacia stellaticeps or A. pyrifolia and A. inaequilatera. Uplands are dominated by Triodia hummock grasslands. Ephemeral drainage lines support Eucalyptus victrix or Corymbia hamersleyana woodlands. Samphire, Sporibolus and mangal occur on marine alluvial flats and river deltas. Resistant linear ranges of basalts occur across the coastal plains, with minor exposure of granite. Islands are either Quaternary sand accumulations, or composed of basalt or limestone, or combinations of any of these three. Climate is arid (semi-desert) tropical with highly variable rainfall, falling mainly in summer. Cyclonic activity is significant, with several systems affecting the coast and hinterland annually. Subregional area is 2,008,983 ha* (Kendrick & Stanley 2001).

2.2.2 PRE-EUROPEAN VEGETATION

During the 1970s, John Beard and associates conducted a systematic survey of native vegetation, describing the vegetation systems in Western Australia at a scale of 1:250,000 in the south-west and at a scale of 1:1,000,000 in less developed areas.

Beard's vegetation maps attempted to depict the native vegetation as it was presumed to be at the time of settlement and is known as the pre-European vegetation type and extent. Beard's vegetation maps have since been developed in digital form by Shepherd, Beeston & Hopkins (2002), updated by DPIRD (2019b) and published by the DBCA (2019). This mapping indicates that the survey area intersects two pre-European vegetation units:

- Association 647 described as: Shrub-steppe; Hummock grassland with scattered shrubs or Mallee, *Triodia* spp., *Acacia* spp., *Grevillea* spp., *Eucalyptus* spp.
- Association 589 described as: Short bunch-grass savanna/Grass-steppe; Hummock grasslands, soft Spinifex.

The pre-European vegetation associations identified from the survey area (DPIRD 2019b) and their pre-European and current extents are listed in **Table 4** (DBCA 2019) and shown on **Map 1**.

Table 4: Pre-European vegetation association representation (DBCA 2019)

Region	Vegetation association	Original extent (ha)	Current extent (ha)	% remaining
Western Australia	589	807,698.58	802,713.40	99.38
	647	195,860.89	191,711.41	97.88
IBRA biogeographic region (Pilbara)	589	728,768.20	724,695.82	99.44
	647	195,859.95	191,710.92	97.88
IBRA biogeographic sub-region (Roebourne (PIL4))	589	675,391.80	671,327.48	99.40
	647	188,901.32	184,774.70	97.82
LGA (Town of Port Hedland)	589	338,269.05	335,921.21	99.31
	647	180,908.49	176,759.02	97.71

2.2.3 THREATENED AND PRIORITY ECOLOGICAL COMMUNITIES

Threatened and Priority Ecological Communities intersecting the survey area and nearby were identified by a *Protected Matters Search Tool* (PMST) search (DCCEEW 2024, using a 50 km buffer) and DBCA database search request (search reference 13-1223EC, using a 100 km buffer).

The PMST search did not identify any Threatened or Priority Ecological Communities as intersecting the survey area or as occurring within the 50 km buffer. The DBCA search results are summarised in **Table 5** and shown on **Map 2**.

Table 5: PECs identified by the DBCA database searches

Ecological Community	WA status
Eighty Mile Land System	Priority 3
Gregory Land System	Priority 3
Horseflat Land System of the Roebourne Plains	Priority 3

2.2.4 THREATENED AND PRIORITY FLORA

The PMST search (as above) identified one EPBC-listed TF (*Quoya zonalis)* that is likely ('species or species habitat') to occur within the 50 km search buffer.

The requested DBCA databases (search reference 19-1223FL) was conducted using a 100 km buffer around the supplied shapefile of the survey area. The results incorporate the TPFL List, taken from Threatened and Priority Flora Report Forms and DBCA surveys, and WA Herb, taken from vouchered specimens held in the Western Australian Herbarium. **Map 2** shows the locations of conservation-listed flora identified by the DBCA database search.

The combined database searches identified 27 species, listed in **Table 21** in **Appendix Three**, consisting of one TF, five P1, two P2, 17 P3 and two P4.

2.2.4.1 Threatened and Priority Flora Likelihood Assessment

Ecoscape conducted a likelihood assessment to identify the TF and PF species that have potential to occur within the survey area. Information to assess the likelihood of a species occurring includes the following sources: ecology as listed on *FloraBase* (WAH 2024, WAH 1998-2024) information from recent nearby surveys and incorporating an assessment of habitats likely to be present in the survey area.

The attributes taken into consideration were:

- broad soil type usually associated with the species
- broad landform usually associated with the species
- usual vegetation (characteristic species) with which the species is usually associated
- species having previously been recorded near the survey area ('proximity' or 'close proximity'; see **Table 6**) taking locational accuracy into consideration
- time since recorded (i.e. within the previous 25 years), taking into consideration land use changes since collection
- reliability of record: species identified by only a TPFL record, without an accompanying verified vouchered specimen, may have been incorrectly identified or been subject to taxonomic updates since the record was entered
- number of records for the species
- if the record is for a not naturally occurring population (planted).

The likelihood rating is assigned using the categories listed in **Table 6**.

Table 6: Categories for likelihood of occurrence of TF and PF

Likelihood Category	Criteria
Known to occur	Species previously recorded within the survey area.
Likely to occur	Suitable habitat is known to occur within the survey area and multiple records of the species exist within close proximity*
May occur	Suitable habitat is expected to occur within the survey area and the species has previously been recorded within proximity**
Unlikely to occur	Suitable habitat is expected to occur within the survey area however previous records are limited and/or historic and/or not in proximity** OR Suitable habitat is not expected to occur within the survey area although previous records exist in proximity**
Very Unlikely to occur	Suitable habitat is not expected to occur in the survey area AND/OR previous records are limited and/or historic and/or not in proximity**

* close proximity = 25 km (¼ of the distance of the database search buffer)
** proximity = 50 km (½ of the distance of the database search buffer)

The likelihood assessment is available in **Table 21** in **Appendix Three**. No conservation-listed flora have been previously recorded from within the survey area. Three P3 (*Euploca mutica, Gomphrena leptophylla* and *Rothia indica* subsp. *australis*) were identified as being 'Likely to occur' based on the information available during the desktop assessment and were prioritised for field survey.

The likelihood of occurrence was re-evaluated following the field survey when actual survey area characteristics (vegetation types, vegetation condition, visibility for individual species) were better understood, and the level of survey effort was considered. The post-survey likelihood is also incorporated into this table and discussed further in **Section 5.1.1.2**.

2.2.5 THREATENED AND PRIORITY FAUNA

Combined database search results are incorporated into **Table 22** in **Appendix Three**.

Species identified by these database searches that are excluded from the field survey and further assessments (including likelihood assessments) are listed in **Table 23** along with the reason for their exclusion (e.g. marine species whose habitat does not occur within the survey area or non-terrestrial vertebrates are not within the scope of the survey). Such excluded species are not further referenced in this document.

2.2.5.1 EPBC-listed Threatened Fauna

The PMST search (as above) (DCCEEW 2024, using a 50 km buffer), identified the following as having been recorded or having potential to occur within the search area buffer i.e. 'species or species habitat known to occur within the area' (or buffer) or 'species or species habitat likely to occur within area' (or buffer):

- four mammals
- 44 birds
- one reptile.

2.2.5.2 DBCA Database Search

A search of the DBCA databases was conducted (search reference: FAUNA#8092) using a 40 km buffer around the provided shapefile of the survey area. Fifty-nine conservation-listed were identified as having previously been recorded from within the search area buffer, consisting of nine mammals, 48 birds and two reptiles.

2.2.5.3 Threatened and Priority Fauna Likelihood Assessment

The likelihood of conservation-listed fauna species, as identified by the database and literature searches, occurring within the survey area was assessed using the following criteria:

- suitability of habitat types likely to be present within the survey area
- distance between previous record of conservation-listed species and the survey area
- frequency and number of records in the region
- date of record of conservation-listed species (recent or historical)
- the record is naturally occurring (not from a sanctuary or translocated population).

The following were also taken into consideration during the assessment:

- sufficiency of information
- behavioural and ecological characteristics such as cryptic behaviours, size and mobility of species
- record certainty.

The categories of likelihood of occurrence, assessed using the above criteria, are shown in **Table 7**.

Table 7: Categories for likelihood of occurrence of conservation-listed fauna

Likelihood Category	Criteria
Known to occur	Species previously recorded within the survey area within 25 years.
Likely to occur	Suitable habitat is expected to occur within the survey area and records of the species within 25 years exist within close proximity*
May occur	Suitable habitat is expected to occur within the survey area and historic records of the species exist within close proximity* OR Suitable habitat is expected to occur within the survey area and recent (<25yrs) records exist within the database search buffer but not in close proximity*
Unlikely to occur	Suitable habitat is expected to occur within the survey area however previous records are limited and/or historic and/or not in proximity** OR Suitable habitat is not expected to occur within the survey area and recent (<25yrs) records do not occur in close proximity*
Very Unlikely to occur	Suitable habitat is not expected to occur in the survey area AND/OR previous records are limited and/or historic and/or not in proximity**

* close proximity = 10 km (¼ of the distance of the database search buffer)
** proximity = 20 km (½ of the distance of the database search buffer)

The likelihood of species occurring within the survey area are indicated in **Table 22** in **Appendix Three**. No species were assessed as being 'Likely to occur' within the survey area. Seven were assessed as 'May occur' within the survey area:

- *Ctenotus angusticeps* (Airlie Island/Northwestern Coastal Ctenotus) – P3
- *Dasycercus blythi* (Brush-tailed Mulgara) – P4
- *Dasycercus cristicauda* (Crest-tailed Mulgara) – P4
- *Falco hypoleucos* (Grey Falcon) – VU
- *Falco peregrinus* (Peregrine Falcon) – OS
- *Hirundo rustica* (Barn Swallow) – MI
- *Pandion haliaetus* (Osprey) – MI.

Likelihood of occurrence does not take into consideration factors such as frequency that a species occurs (or may occur), the duration that such species occupies (or may occupy) the survey area or dependence on habitat or resources within the survey area. Highly mobile species potentially only occur within (or for birds, overflying) the survey area for very brief periods and/or on very infrequent intervals. If a previous observation included in

the database search records corresponds with this event it is listed as 'Recorded'; if such a transient visitation is possible in the future the likelihood of such species occurring is likely listed as 'Likely'.

Following the field survey, when actual survey area characteristics are better understood and the level of survey effort was considered, the likelihood of occurrence was re-evaluated. The post-survey likelihood is also incorporated into this table and discussed further in **Section 5.3.3.1**, including providing an indication of dependence of species on the habitat and resources available within the survey area.

2.3 RELEVANT LITERATURE

2.3.1 PREVIOUS SURVEYS

Publicly available survey reports in close proximity to the current survey area or intersecting the current survey area are limited. The following documents had relevance to current survey:

- Emerge Associates (2019) Technical Memorandum Flora and Fauna Survey Port Hedland International Airport – Highway Precinct 2. This survey area is located approximately 5.5 km to the north-east of the current survey area. The survey consisted of a Reconnaissance flora and vegetation survey and opportunistic fauna sightings. Two vegetation types were recorded from within the survey area, they were not of any significance. While there was suitable habitat for the Night Parrot, Crest-tailed Mulgara and Bilby within the survey area it was regarded as not significant due to high disturbance.
- ENV Australia (2011a) Port Hedland Regional Flora and Vegetation Assessment. This assessment consisted of a literature review and field survey encompassing the wider Port Hedland area, including the current survey area. Forty vegetation types were recorded, four priority flora species and 12 introduced species. No priority flora or weed species were recorded from within the current survey area.
- ENV Australia (2011b) Port Hedland Regional Fauna Assessment. This assessment consisted of a literature review and field survey encompassing the wider Port Hedland area, including the current survey area. Five habitat types were identified supporting 61 conservation-listed fauna species, including 29 species listed as MI. No conservation-listed species were recorded from within the current survey area.
- GHD (2009) Report for Port Hedland Industrial Land LIA 3,4,5 general Industry/Transport Part A and Part B. This survey area is located approximately 2 km to the north of the current survey area at the closes point. The survey consisted of a Detailed Flora and Vegetation Survey and opportunistic fauna sightings.
- Biota (2008) A Flora and Fauna Assessment of RGP5 DMMA A, Port Hedland Harbour. The survey identified two vegetation types from within the survey area. One was dominated by *Triodia secunda*, which has a limited distribution within the Pilbara region. No conservation significant flora was recorded during the survey. Conservation-listed fauna (mainly Migratory species) were recorded, however they are unlikely to be significant for this project due to distance.

2.3.2 OTHER LITERATURE

No other documents have been located that provide contextual information for this assessment.

3 METHODS

3.1 SURVEY AIMS

The aims of the survey were to conduct:

- a single-phase Reconnaissance and Targeted flora and vegetation survey
- a single-phase Basic and Targeted terrestrial vertebrate fauna survey.

3.2 GUIDING PRINCIPLES

The flora and vegetation survey was conducted as a Reconnaissance survey according to the Flora and Vegetation Technical Guidance (EPA 2016a). The EPA recommends a Reconnaissance survey should:

- provide context and gather broad information
- verify the findings of the desktop assessment
- include low intensity sampling of the flora and vegetation to describe the general vegetation characteristics and condition
- clarify if the area may support any significant flora and vegetation
- identify if a Detailed survey is required.

Targeted searches were also conducted in areas of habitat suitable for TF and PF identified during the desktop assessment and previous surveys as having potential to occur.

The fauna and fauna habitat survey was conducted as a Basic survey according to the Fauna Technical Guidance (EPA 2020). The EPA recommends a Basic survey should:

- be conducted as a low intensity survey to gather broad fauna and habitat information
- verify the adequacy of the desktop assessment
- map, describe and photograph habitats
- record opportunistic fauna observations
- identify possible future survey site locations, access and logistics
- determine if a Detailed survey is required.

Targeted surveys were also conducted to gather information on significant fauna and/or habitats.

3.3 FLORA AND VEGETATION FIELD SURVEY

3.3.1 FIELD SURVEY METHODS

The methods utilised during the field survey followed those outlined in the Flora and Vegetation Technical Guidance (EPA 2016a), conducted as a single phase Reconnaissance survey.

Conservation criteria used in this assessment are outlined in **Table 15**, **Table 16** and **Table 17** in **Appendix One**.

Survey method details are outlined below.

3.3.1.1 Floristic Quadrats

Floristic quadrat ('quadrat') locations were selected using aerial photography, environmental values and field observations to represent the vegetation values existing at the site. The unmarked quadrats were 50 m x 50 m in dimension, as required according to the Flora and Vegetation Technical Guidance (EPA 2016a).

The following information was collected from within each quadrat:

- observer
- date
- quadrat/site number
- GPS location (GDA94) of the northwest corner

- digital photograph (spatially referenced with a reference number), taken from the northwest corner, looking diagonally across the quadrat
- broad soil type and colour
- topography
- list of flora species recorded with the average height and total cover within the quadrat for each species
- vegetation description (as per below)
- vegetation condition.

Quadrat locations are displayed on **Map 4**.

3.3.1.2 Targeted Searches

Threatened and Priority Flora identified during the desktop analysis and previous surveys as having potential to occur were targeted for searches in areas of potential habitat. Targeted searches were conducted in potentially suitable habitat of target species, with the remainder of the site opportunistically searched during site traverses.

The locations of all targeted taxa collected were recorded using a handheld GPS with the following data recorded:

- observer, date and time
- reproductive status and other features such as health of plants, percentage flowering and fruiting
- local abundance/population size and/or population boundary, including outside the development envelopes where possible
- landform
- brief vegetation community description
- representative photos of each species and habitat
- collection of representative specimens.

3.3.1.3 Introduced Species

Introduced species (weeds) were recorded during the collection of the overall flora inventory from flora quadrats and opportunistically during traverses of the survey area.

3.3.1.4 Vegetation Description and Classification

Vegetation was described from each of the quadrats using the height and estimated cover of dominant and characteristic species of each stratum based on the National Vegetation Information System, recorded at Level V (NVIS Technical Working Group & DotEE 2017) (**Table 18** and **Table 19** in **Appendix Two**). Up to three species per stratum from each stratum (upper, mid and ground) were used to formulate vegetation descriptions for each quadrat and each vegetation type.

Vegetation type descriptions were created by combining quadrat descriptions and modifying, where necessary, based on the wider vegetation. Vegetation codes for these were formulated using the characteristic species of the highest stratum within the vegetation type that had >2% cover (i.e. not scattered) if present, with the first series of letter codes referring to the component species (upper case first letter referring to the genus, lower case one or two letters referring to the species, e.g. **AsTe** refers to ***Acacia stellaticeps*** open shrubland.

3.3.1.5 Vegetation Condition Assessment

Vegetation condition was assessed broadly and continuously throughout the survey area and at each quadrat using the Vegetation Condition Scale for the Eremaean and Northern Botanical Province (EPA 2016a) (**Table 20** in **Appendix Two**). As quadrats are located in the best condition parts of a vegetation type, the condition rating of the quadrat may not match that of the broader vegetation type due to the scale of mapping.

3.3.1.6 Field Survey Timing

The field survey was conducted during 23-24 January 2024 which is outside the optimal period for a primary survey within the bioregion according the Flora and Vegetation Technical Guidance (EPA 2016a).

3.3.2 DATA MANAGEMENT AND ANALYSIS

3.3.2.1 Taxonomic Plant Identification

Any plants that could not be identified with certainty in the field, having potential to be conservation-listed, introduced species and having significance according to the Flora and Vegetation Technical Guidance (EPA 2016a) were collected during the field survey using Western Australian Herbarium collecting protocols.

The majority of post-survey plant collection identification was undertaken by Ecoscape taxonomists (Stephen Kern) using relevant literature, taxonomic keys and reference specimens held at the WA Herbarium.

3.3.2.2 Post-survey Likelihood Assessment

Following the field survey, a post-survey likelihood assessment was conducted to identify conservation-listed species that have potential to occur on site. This assessment was based on survey results, survey effort and habitat identified within in the survey area.

3.4 FAUNA FIELD SURVEY

The methods utilised during the field survey followed those outlined in the Fauna Technical Guidance (EPA 2020), conducted as a Basic and Targeted terrestrial vertebrate fauna survey.

Conservation criteria used in this assessment are included in **Table 15** and **Table 16** in **Appendix One**.

Survey method details are outlined below.

3.4.1 FAUNA SURVEY METHODS

The Basic fauna survey incorporated a number of survey techniques as per the Terrestrial Fauna Technical Guidance (EPA 2020) including habitat assessment, active searches (day and night-time), raking of spoil heaps and leaf litter, searches for secondary evidence such as scats and tracks, as well as opportunistic searches.

Terrestrial vertebrate fauna were the main targets of the field survey. Survey techniques included:

- opportunistic bird observations while moving through the survey area
- turning of surface debris (rocks, logs, vegetation spoil heaps) that reptiles and mammals may shelter beneath
- raking of litter beds to locate fossorial reptile species
- tree hollow inspection to detect arboreal fauna.

Fauna species were identified opportunistically based on sightings, calls, remains, diggings and other signs. Potential habitats for conservation significant species were identified and evaluated (see **Section 3.4.1.1**) and their likelihood of occurrence re-assessed.

3.4.1.1 Fauna Habitat Assessment

The fauna habitats present within the survey areas were identified and mapped. Fauna habitats were described as an area which is distinguishable from its surrounding area by its landform, vegetation and fauna assemblage occupying the area. In addition, its likelihood to harbour specialised fauna species which are not found in adjacent areas was taken into consideration.

The following information was used to identify and map all fauna habitats within the survey area:

- land systems
- vegetation type and condition mapping
- aerial imagery
- landforms

- soil characteristic
- fauna assemblage information.

The composition and characteristics of each fauna habitat type was recorded, including noting suitability for various fauna suites or conservation-listed species. Habitat types were delineated in the field and digitised upon return from the field survey.

3.4.2 TARGETED SURVEY METHODS

3.4.2.1 Other Species of Conservation Significance/Interest

Other conservation-listed species with potential to occur within the survey area (**Table 22**) were targeted using active searches (incorporating avian surveys) during the field survey. The entire site was traversed on foot and all habitats were assessed for quality and capability to support locally common and any significant fauna species.

4 FIELD SURVEY RESULTS

4.1 FLORA AND VEGETATION SURVEY

The flora and vegetation survey was conducted by Louisa Carlsson (Senior Ecologist, Flora Collecting Permit FB62000295-2; Threatened Flora Collecting Permit TFL2324-0113) during 23-24 January 2024.

4.1.1 FLORA

4.1.1.1 Flora Inventory

One floristic quadrat was recorded from within the survey area.

Thirty-one vascular flora were recorded from 23 genera and 12 families from the quadrat and opportunistic observations and searches for conservation-listed flora. Of these, four were introduced (12.9%) and two (6.5%) could not be identified to species level due to insufficient diagnostic reproductive material.

The most commonly represented families were Fabaceae (nine taxa), Malvaceae (five) and Poaceae (five). The most commonly represented genera were *Acacia* with six taxa, *Bonamia* (two), *Cenchrus* (two) and *Sida* (two).

The combined flora inventory is presented in **Table 24** in **Appendix Four**. Quadrat data is presented in **Appendix Five**.

4.1.1.2 Conservation-listed Flora

Threatened Flora

No Commonwealth EPBC Act or Western Australian BC Act-listed TF were recorded during the field survey. No taxa that were not identified with certainty resembled any currently described TF.

Priority Flora

No PF were recorded during the field survey. No taxa that were not identified with certainty resembled any currently described PF

4.1.1.3 Other Significant Flora

No flora taxa having other significance according to the Flora and Vegetation Technical Guidance (EPA 2016a) were recorded during the field survey.

4.1.1.4 Flora of Taxonomic Interest

No flora of taxonomic interest were recorded during the field survey.

4.1.1.5 Introduced Flora

Four introduced flora species (weeds) were recorded during the field survey, representing 12.9% of the overall flora inventory.

**Cenchrus ciliaris* (Buffel Grass) *and* **Cenchrus setiger* (Birdwood Grass) were frequently encountered throughout the survey area and were a major contributor to vegetation condition assessment.

None of the introduced flora have any specific significance i.e. none are Declared Pest plants or WoNS species.

Image 1: **Aerva javanica* (Kapok)

Image 2: **Cenchrus ciliaris* (Buffel Grass)

Image 3: **Cenchrus setiger* (Birdwood Grass)

No image is available for **Albizia lebbeck*.

4.1.2 VEGETATION

4.1.2.1 Vegetation Types

One vegetation type was recorded from within the survey area (**Table 8**, **Map 4**).

Table 8: Vegetation types

Landform	Mapping unit	Vegetation type	Floristic quadrats	Representative photograph	Area (ha) and extent (%)
Sandy Plain	**AsTe**	*Acacia stellaticeps* open shrubland over *Triodia epactia* open hummock grassland	**SH1**		8.73 ha 90.65%
		Not native vegetation (cleared)			0.9 ha 9.35%
		TOTAL EXTENT			**9.63 ha 100%**

4.1.3 VEGETATION SIGNIFICANCE

4.1.3.1 TECs and PECs

No vegetation recorded from the survey area was assessed as being representative of any currently described TEC or PEC.

4.1.3.2 Other Significant Vegetation

No vegetation having other significance according to the Flora and Vegetation Technical Guidance (EPA 2016a) was recorded during the field survey.

4.1.3.3 Adequacy of Survey

Adequacy of survey can be demonstrated using a species accumulation curve; if the curve has reached (or almost reached) an asymptote it is considered that most species are likely to have been recorded from the survey area. However, it is not suitable for a single quadrat survey as suitable for these circumstances and it should not be expected that a Reconnaissance flora and vegetation survey would record a complete flora inventory.

4.1.4 VEGETATION CONDITION

The vegetation condition within the survey area ranged from Degraded to Good, with the majority being in Good condition (**Table 9**, **Map 5**). The main factors affecting vegetation condition were clearing, presence of weeds and disturbance of the vegetation due to recreational uses of the survey area.

Table 9: Vegetation condition

Vegetation condition	Extent (ha)	Proportion (%)
Good	8.46	87.85
Degraded	0.27	2.8
Not vegetated	0.9	9.35

4.1.5 BOTANICAL LIMITATIONS

Survey design and type: Single phase, quadrat-based flora and vegetation survey with extensive traverses searching for conservation-listed flora.

Type of vegetation classification system: Vegetation classified at NVIS Level V (NVIS Technical Working Group & DotEE 2017) using largely structural vegetation types defined using dominant and characteristic species and vegetation structure as recorded during the field surveys.

A full summary of botanical limitations is presented in **Table 10**.

Table 10: Botanical limitations

Possible limitations	Constraints (yes/no): Significant, moderate or negligible	Comment
Availability of contextual information at a regional and local scale	No	The survey area is situated within the Pilbara IBRA region of Western Australia and many surveys have been undertaken in proximity (**Section 2.3**), providing good local and regional context.
Competence/experience of the team conducting the survey, including experience in the bioregion surveyed	No	The ecologist conducting the field survey has over five years' experience conducting flora and vegetation surveys across Western Australia, in particular the Pilbara region.

Possible limitations	Constraints (yes/no): Significant, moderate or negligible	Comment
Proportion of the flora recorded and/or collected, and any identification issues	No	Thirty one vascular flora taxa were recorded during the field survey, of which 6.5% (2 taxa) could not be identified with certainty to species level due to the lack of diagnostic reproductive material. This is not considered a constraint and none of the unidentified taxa are considered likely to represent any conservation-listed flora from the region.
Was the appropriate area fully surveyed (effort and extent)	No	The survey area was adequately surveyed for the purpose of a Reconnaissance flora and vegetation survey. with all vegetation sampled and sufficient targeted searches were undertaken to identify possible conservation-listed flora within the survey area.
Access restrictions within the survey area	No	The whole survey area was easily accessible on foot.
Survey timing, rainfall, season of survey	Minor	The field survey was conducted during January; which is outside the optimum season for surveys in the Pilbara region. The rainfall in the six month period prior to the field survey was considered below average for this region (**Section 2.1.1, Figure 3**). This represents a minor constraint as annual and ephemeral species were not present within the survey area.
Disturbance that may have affected the results of the survey e.g. fire, flood, clearing	Negligible	There were no recent disturbances (e.g. fire, flood) that would have affected the results of the survey. However, given the close proximity of the survey area to the townsite of South Hedland, disturbances from previous clearing and frequent uses for recreational activity have lead to a lowered vegetation condition rating within the survey area.

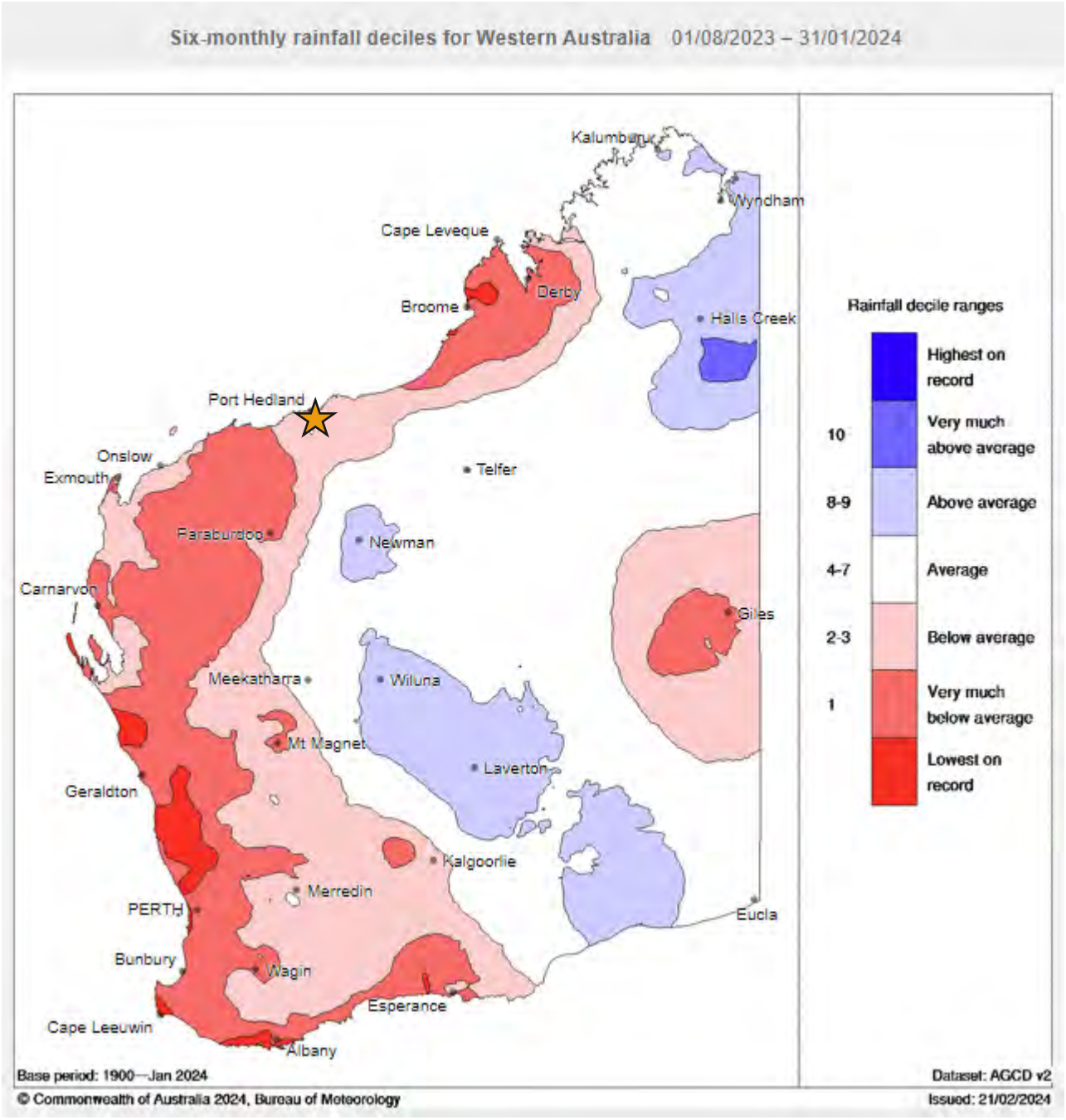

Figure 3: Rainfall deciles for the 6 months prior to the field survey (BoM 2024c).

The star in **Figure 3** indicates the approximate location of the field survey.

4.2 VERTEBRATE FAUNA SURVEY

The fauna survey was conducted by Louisa Carlsson (Senior Ecologist) during 23- 24 January 2024.

The survey was conducted in accordance with the requirements for a Basic and Targeted survey as outlined in the Fauna Technical Guidance (EPA 2020).

The entire site was traversed on foot and all habitat was assessed for quality and capability of supporting both locally common and significant fauna species.

4.2.1 FAUNA HABITAT

One fauna habitat type was recorded within the survey area (**Table 11**). The quality of each habitat type was based on the field surveyor's experience and takes into consideration the level of disturbance to habitats from weeds, the amount of native vegetation, vegetation cover (density) and the context of the habitat with the surrounding landscape.

Table 11: Fauna habitat types

Habitat type	Description	Photograph
Open shrubland	Open *Acacia* shrubland over *Triodia* hummock grassland on sandy soils, some litter cover. Within the survey area, quality of this habitat ranged from poor to good, based on level of disturbance i.e. clearing and presence of rubbish. The majority was found to be of average quality. **Extent**: 8.73 ha; 90.65%	
Cleared	**Extent**: 0.9 ha; 9.35%	

4.2.2 FAUNA ASSEMBLAGE

Ten vertebrate fauna species were recorded during the field survey. None, of the identified fauna species are conservation-listed. Two fauna species were introduced species (**Table 12**).

Table 12: Recorded fauna species

Species	Common name
Mammals	
*Canis familiaris**	Dog
*Equus ferus**	Horse
Macropus rufus	Red Kangaroo
Birds	
Cacatua roseicapillus	Galah
Cacatua sanguinea	Little Corella
Coracina novaehollandiae	Cuckoo-Shrike
Falco cenchroides	Australian Kestrel
Malurus lamberti	Variegated Fairywren
Manorinna flavigula	Yellow-throated Miner
Reptiles	
Pogona minor	Western Bearded Dragon

Survey sites are listed in **Table 13**.

Table 13: Fauna recording sites (GDA94, Zone 50)

Site Name	Site Type	Easting	Northing
B01	Ornithological Survey	665644.34	7742952.523
HAB1	Habitat Assessment Point	665644.752	7743308.444
HAB2	Habitat Assessment Point	665803.904	7742917.325

4.2.3 FAUNA SURVEY LIMITATIONS

Table 14: Fauna survey limitations

Possible limitations	Constraints (yes/no): Significant, moderate or negligible	Comment
Availability of data and information	No	The survey area is situated within the Pilbara IBRA region of Western Australia and many surveys have been undertaken in proximity (**Section 2.3**), providing good local and regional context.
Competency/experience of the survey team, including bioregion experience	No	The ecologist conducting the field survey has over five years' experience conducting biological surveys across Western Australia, in particular the Pilbara region.
Scope of survey e.g. excluded fauna groups	No	The targeted species were adequately sampled and no sampling methods were constrained to external factors.
Timing, weather, season	Negligible	The survey was conducted in January 2024, with conditions slightly drier than what it is expected in the Pilbara region during this timeframe. It is considered a negligible constraint as it had minor effects on fauna activity/detectability during the field survey.
Disturbances that may have affected results	Negligible	The survey area is adjacent to the townsite of South Hedland, is partially cleared and subject to recreational activity leading to lower quality habitat and fauna species may have vacated the area due to the disturbance.
Proportion of fauna identified, recorded, or collected	Negligible	The primary aim of the field survey was to identify fauna habitat and identify the presence/suitability of habitat for conservation-listed species which was achieved.
Adequacy of survey intensity and proportion of survey achieved	No	The whole survey area was assessed to determine fauna habitats present and the quality of these. Including targeted searches for conservation-listed species or habitat suitable to support these.
Access	No	The whole survey area was easily accessible on foot.

5 DISCUSSION

5.1 FLORA SIGNIFICANCE

A total of 31 vascular flora species were recorded from one floristic quadrat and opportunistic observations, including during searches for conservation-listed flora. A small proportion of the total flora inventory (four species; 12.9%) were introduced species reflecting the moderate level of disturbance in the survey area.

5.1.1 FLORA SIGNIFICANCE

5.1.1.1 Conservation-listed Flora

Threatened Flora

No Threatened Flora species listed for protection under the Commonwealth EPBC Act or Western Australian BC Act were recorded. None of the unidentified taxa resemble any currently described TF.

Priority Flora

No Priority-listed Flora species were recorded. None of the unidentified taxa resemble any currently described PF taxa.

5.1.1.2 Post-survey Likelihood Assessment

The likelihood of conservation significant flora occurring in the survey area was revised following the field survey. This revised likelihood, that took into account vegetation condition, grazing and other disturbances, actual habitat availability and search effort, is included in **Table 21** in **Appendix Three**.

No conservation-listed flora had previously been recorded from within 9 km of the survey area. One taxa (*Euploca mutica* (P3)) was identified at the desktop assessment stage as 'May occur' within the survey area. The post-survey likelihood was downgraded to 'Unlikely to occur' due to extensive survey effort, disturbances present within the survey area and absence of records within close proximity.

5.1.1.3 Other Significant Flora

No species having any other significance according to the Flora and Vegetation Technical Guidance (EPA 2016a) was recorded, nor any flora of taxonomic interest.

5.1.1.4 Introduced Flora

Four introduced species were recorded during the field survey. None of the recorded introduced species have any specific significance (i.e. they are not Declared pest plants or WoNS species). Introduced flora were mostly recorded from the edges of the survey area corresponding with areas of disturbance.

5.1.1.5 Local and Regional Significance of Flora

None of the flora species recorded have any local or regional significance. All native species occur commonly throughout the wider Pilbara region.

5.2 VEGETATION SIGNIFICANCE

One vegetation type (**AsTe**) was recorded from the survey area, described as *Acacia stellaticeps* open shrubland over *Triodia epactia* open hummock grassland on sandy plains.

- .

AsTe is widespread and extends beyond the survey area boundary it is also known from the wider Pilbara region and is of no particular significance.

5.2.1 PRIORITY ECOLOGICAL COMMUNITIES

No vegetation similar to any PEC recorded from nearby (**Section 2.2.3**) was recorded from within the survey area.

5.2.2 LOCAL AND REGIONAL SIGNIFICANCE OF VEGETATION

The vegetation of the survey area has no local or regional significance and is commonly found in parts of the Pilbara region.

5.2.3 VEGETATION CONDITION

The vegetation condition recorded from within the survey area ranged from Degraded to Good, with the majority (87.85%) in Good condition. The main contributors affecting vegetation condition assessment were disturbances associated with its proximity to town, clearing and presence of weeds.

5.3 FAUNA SIGNIFICANCE

5.3.1 FAUNA HABITAT TYPES

One fauna habitat type (open shrubland) was recorded during the field survey (**Section 4.2.1**).

The open shrubland habitat type recorded from within the survey area is typical of the local area and extends beyond the survey area boundary in equal or better quality and is also common for the Pilbara region. Within the survey area, habitat quality was variable and determined by the level of disturbance i.e. clearing and associated changes in cover. Evidence of introduced vertebrate fauna, potentially predatory, was observed from within the survey area. Habitat within the survey area provides resources for general fauna assemblages; however, the levels of disturbance may affect the use of habitat within the survey area by ground dwelling or fossorial species.

5.3.2 FAUNA ASSEMBLAGE

Ten vertebrate fauna species were recorded during the field survey (**Section 4.2.2**). The majority of vertebrate fauna recorded during the field survey consisted of birds (n=6), with all of them commonly found in the Pilbara region and throughout Western Australia. One native mammal (Red Kangaroo) was recorded from within the survey area, which is common and less likely to be displaced by the present disturbances compared to other mammals. One reptile species (*Pogona minor*) was recorded from within the survey area, which is likely an under presentation; however, a common limitation of Basic fauna surveys compared to Detailed fauna surveys.

5.3.3 RECORDED CONSERVATION-LISTED SPECIES

No conservation-listed species were recorded from within the survey area during the field survey.

5.3.3.1 Post-survey Likelihood Assessment

The post-survey likelihood assessment is incorporated into **Table 22** in **Appendix Three**.

No conservation-listed fauna species were identified during the desktop assessment as having been recorded (known) or as being ‘Likely to occur’ within the survey area. Seven species were considered as ‘May occur’ within the survey area; however, the likelihood was downgraded to ‘Unlikely to occur’ post field-survey due to their habitat requirements (suitable habitat not present or disturbance levels were too high).

REFERENCES

Biota Environmental Sciences 2008, *A Flora and Fauna Assessment of RGP5 DMMA A, Port Hedland Harbour*.

Bureau of Meteorology 2024a, *'*Climate Data Online*' http://www.bom.gov.au/climate/data/index.shtml*.

Bureau of Meteorology 2024b, *Groundwater Dependent Ecosystems Atlas*. Available from: http://www.bom.gov.au/water/groundwater/gde/map.shtml.

Bureau of Meteorology 2024c, *Recent and historical rainfall maps: rainfall deciles*. Available from: http://www.bom.gov.au/climate/maps/rainfall/?variable=rainfall&map=decile&period=month&region=wa&year=2023&month=05&day=31. [2 February 2024].

Commonwealth of Australia (1999), *Environment Protection and Biodiversity Conservation Act 1999*. Available from: http://www.austlii.edu.au/au/legis/cth/consol_act/epabca1999588/.

Commonwealth of Australia 2016, *EPBC Act referral guidelines for the endangered Northern Quoll Dasyurus hallucatus*. Available from: http://www.environment.gov.au/system/files/resources/d7e011a7-bf59-40ed-9387-9afcb8d590f8/files/referral-guideline-northern-quoll.pdf.

Department of Agriculture Water and the Environment 2020, *Australia's bioregions (IBRA)*. Available from: http://www.environment.gov.au/land/nrs/science/ibra.

Department of Biodiversity Conservation and Attractions 2018, *List of Threatened Ecological Communities (TECs) endorsed by the Western Australian Minister for Environment (28 June 2018)*. Available from: https://www.dpaw.wa.gov.au/images/plants-animals/threatened-species/threatened_ecological_communities_endorsed_by_the_minister_for_the_environment_june_2018.pdf.

Department of Biodiversity Conservation and Attractions 2019, *DBCA Statewide Vegetation Statistics*. Available from: https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics.

Department of Biodiversity Conservation and Attractions 2020, *Conservation Codes for Western Australian Fauna and Flora (10 December 2020)*. Available from: https://www.dpaw.wa.gov.au/images/Conservation codes for Western Australian Flora and Fauna 179KB.pdf.

Department of Climate Change Energy the Environment and Water 2023, *SPRAT EPBC Migratory List in Species Profile and Threats Database*. Available from: http://www.environment.gov.au/cgi-bin/sprat/public/publicshowmigratory.pl.

Department of Climate Change Energy the Environment and Water 2024, *Protected Matters Search Tool (PMST)*. Available from: https://pmst.awe.gov.au/#/map?lng=131.50634765625003&lat=-28.671310915880834&zoom=5&baseLayers=Imagery,ImageryLabels.

Department of Environment and Conservation 2013, *Definitions, categories and criteria for Threatened and Priority Ecological Communities*. Available from: https://www.dpaw.wa.gov.au/images/plants-animals/threatened-species/definitions_categories_and_criteria_for_threatened_and_priority_ecological_communities.pdf.

Department of Parks and Wildlife 2017, *Interim guideline for preliminary surveys of night parrot (Pezoporus occidentalis) in Western Australia*.

Department of Primary Industries and Regional Development 2019a, *Soil Landscape Mapping - Best Available (DPIRD-027)*. Available from: https://catalogue.data.wa.gov.au/dataset/soil-landscape-mapping-best-available.

Department of Primary Industries and Regional Development 2019b, *Pre-European Vegetation (DPIRD-006)*. Available from: https://catalogue.data.wa.gov.au/dataset/pre-european-dpird-006.

Department of Primary Industries and Regional Development 2020, *Soil Landscape Mapping - Rangelands (DPIRD-063)*. Available from: https://catalogue.data.wa.gov.au/dataset/soil-landscape-mapping-rangelands.

Department of Sustainability Environment Water Population and Communities 2011a, *Survey guidelines for Australia's threatened mammals: Guidelines for detecting mammals listed as threatened under the Environment Protection and Biodiversity Conservation Act 1999*. Available from: http://www.environment.gov.au/system/files/resources/b1c6b237-12d9-4071-a26e-ee816caa2b39/files/survey-guidelines-mammals.pdf.

Department of Sustainability Environment Water Population and Communities 2011b, *Survey guidelines for Australia's threatened reptiles: Guidelines for detecting reptiles listed as threatened under the Environment*

Protection and Biodiversity Conservation Act 1999. Available from: http://www.environment.gov.au/system/files/resources/eba674a5-b220-4ef1-9f3a-b9ff3f08a959/files/survey-guidelines-reptiles.pdf.

Department of the Environment Water Heritage and the Arts; Commonwealth of Australia 2009, *Matters of National Environmental Significance. Significant impact guidelines 1.1 - Environment Protection and Biodiversity Conservation Act 1999*.

Department of the Environment Water Heritage and the Arts; Commonwealth of Australia 2010a, *Survey Guidelines for Australia's Threatened Bats: Guidelines for detecting bats listed as threatened under the Environment Protection and Biodiversity Conservation Act 1999*. Available from: http://www.environment.gov.au/epbc/publications/threatened-bats.html.

Department of the Environment Water Heritage and the Arts; Commonwealth of Australia 2010b, *Survey Guidelines for Australia's Threatened Birds: Guidelines for detecting birds listed as threatened under the Environment Protection and Biodiversity Conservation Act 1999*. Available from: http://www.environment.gov.au/epbc/publications/threatened-birds.html.

Department of Water and Environmental Regulation 2018, *Hydrographic Catchments - Catchments (DWER-028)*. Available from: https://catalogue.data.wa.gov.au/dataset/hydrographic-catchments-catchments.

Department of Water and Environmental Regulation 2021, *Clearing Regulations - Environmentally Sensitive Areas (DWER-046)*. Available from: https://catalogue.data.wa.gov.au/dataset/clearing-regulations-environmentally-sensitive-areas-dwer-046.

Department of Water and Environmental Regulation 2023, *Index of Biodiversity Surveys for Assessments (IBSA)*. Available from: https://biocollect.ala.org.au/ibsa#max%3D20%26sort%3DdateCreatedSort.

Eamus, D 2009, *Identifying groundwater dependent ecosystems: a guide for land and water managers* , Land & Water Australia. Available from: http://lwa.gov.au/files/products/innovation/pn30129/pn30129_1.pdf.

Eamus, D, Froend, R, Loomes, R, Hose, G & Murray, B 2006, 'A functional methodology for determining the groundwater regime needed to maintain the health of groundwater-dependent vegetation'., *Australian Journal of Botany*, vol. 54, pp.97–114.

Emerge Associates 2019, *Technical Memorandum Flora and Fauna Survey Port Hedland International Airport - Highway Precinct 2*.

ENV Australia Pty Ltd 2011a, *Port Hedland Regional Flora and Vegetation Assessment*.

ENV Australia Pty Ltd 2011b, *Port Hedland Regional Fauna Assessment*.

Environmental Protection Authority 2016a, *Technical Guidance - Flora and Vegetation Surveys for Environmental Impact Assessment* , EPA, Western Australia. Available from: http://www.epa.wa.gov.au/policies-guidance/technical-guidance-flora-and-vegetation-surveys-environmental-impact-assessment.

Environmental Protection Authority 2016b, *Environmental Factor Guideline - Flora and Vegetation*. Available from: https://epa.wa.gov.au/sites/default/files/Policies_and_Guidance/Guideline-Flora-Vegetation-131216_4.pdf.

Environmental Protection Authority 2016c, *Environmental Factor Guideline - Terrestrial Fauna*. Available from: https://epa.wa.gov.au/sites/default/files/Policies_and_Guidance/Guideline-Terrestrial-Fauna-131216_3.pdf.

Environmental Protection Authority 2016d, *Environmental Factor Guideline - Terrestrial Environmental Quality*. Available from: https://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/Guideline-Terrestrial-Environmental-Quality-131216_2.pdf.

Environmental Protection Authority 2018, *Environmental Factor Guideline – Landforms*. Available from: https://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/Guideline-Landforms-29062018.pdf.

Environmental Protection Authority 2020, *Technical Guidance - Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment*, EPA, Perth, Western Australia. Available from: https://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/EPA-Technical-Guidance-Vertebrate-Fauna-Surveys.pdf.

Environmental Protection Authority 2021, *Statement of environmental principles, factors, objectives and aims of EIA*. Available from: https://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/Statement of environmental principles%2C factors%2C objectives and aims of EIA.pdf.

GHD Pty Ltd 2009, *Report for Port Hedland Industrial Land LIA 3,4,5 general Industry/Transport Part A and Part*

B.

Goulburn-Murray Water 2010, *Groundwater. Terms and definitions*. Available from: http://www.g-mwater.com.au/downloads/Groundwater/2977263-v5-GROUNDWATER_TERMS_AND_DEFINITIONS_GLOSS-1.pdf.

Government of Western Australia (1986), *Environmental Protection Act 1986*. Available from: http://www.slp.wa.gov.au/legislation/statutes.nsf/main_mrtitle_1384_homepage.html.

Government of Western Australia (2002), *Animal Welfare Act 2002*. Available from: http://www.austlii.edu.au/au/legis/wa/consol_act/awa2002128/.

Government of Western Australia (2007), *Biosecurity and Agriculture Management Act 2007*. Available from: http://www.slp.wa.gov.au/legislation/statutes.nsf/main_mrtitle_2735_homepage.html.

Government of Western Australia (2016), *Biodiversity Conservation Act 2016*. Available from: https://www.legislation.wa.gov.au/legislation/statutes.nsf/main_mrtitle_13811_homepage.html.

Government of Western Australia (2018), *Biodiversity Conservation Regulations 2018*. Available from: https://www.legislation.wa.gov.au/legislation/statutes.nsf/law_s50938.html.

Government of Western Australia 2022, 'Biodiversity Conservation Act 2016 Biodiversity Conservation (Species) Order 2022. 30 September 2022'., *Government Gazette*, vol. 144.

Hatton, T & Evans, R 1998, *Dependence of ecosystems on groundwater and its significance to Australia* , Land and Water Research and Development Corporation (Australia), Occasional Paper No. 12/98. Canberra, ACT.

Invasive Plants and Animals Committee 2016, *Australian Weeds Strategy 2017 to 2027* , Australian Government; Department of Agriculture and Water Resources Canberra. Available from: https://www.agriculture.gov.au/sites/default/files/sitecollectiondocuments/pests-diseases-weeds/consultation/aws-final.pdf.

Kendrick, P & Stanley, F 2001, ''Pilbara 4 (PIL4 - Roebourne synopsis)'' in *Bioregional Summary of the 2002 Biodiversity Audit for Western Australia* , Department of Conservation and Land Management, Western Australia.

Leighton, KA 2004, ''Climate'' in *Technical Bulletin 92 - An inventory and condition survey of the Pilbara region, Western Australia* , Western Australian Department of Agriculture, Perth, pp.19–38.

NVIS Technical Working Group & Department of the Environment and Energy 2017, *Australian Vegetation Attribute Manual: National Vegetation Information System, Version 7.0* , eds.M Bolton, C DeLacey, & K Bossard , Canberra.

Peel, MC, Finlayson, BL & McMahon, TA 2007, 'Updated world map of the Köppen-Geiger climate classification'., *Hydrology and Earth System Sciences*, vol. 11, pp.1633–1644.

Raymond, O.L., Liu, S., Gallagher, R., Zhang, W., Highet, LM 2012, *Surface Geology of Australia 1:1 million scale dataset 2012 edition*. Available from: https://ecat.ga.gov.au/geonetwork/srv/eng/catalog.search#/metadata/74619.

Shepherd, DP, Beeston, GR & Hopkins, AJM 2002, 'Native Vegetation in Western Australia: Extent, Type and Status'., *Resource Management Technical Report 249*.

Species and Communities Program & Department of Biodiversity Conservation and Attractions 2022, *Priority Ecological Communities for Western Australia Version 34 (21 December 2022)*. Available from: https://www.dpaw.wa.gov.au/images/images/documents/plants-animals/threatened-species/Listings/Priority Ecological Communities list.pdf.

Threatened Species Scientific Committee 2005, *Commonwealth Listing Advice on Northern Quoll (Dasyurus hallucatus)*. Available from: http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=331.

Threatened Species Scientific Committee 2016, *Conservation Advice Pezoporus occidentalis night parrot*. Available from: http://www.environment.gov.au/biodiversity/threatened/species/pubs/59350-conservation-advice-15072016.pdf.

Walker, J & Hopkins, M 1990, ''Vegetation'' in *Australian Soil and Land Survey. Field Handbook.* , eds.R McDonald, R Isbell, J Speight, J Walker, & M Hopkins, Inkata Press, Inkata Press, Melbourne.

Weeds Australia & Centre for Invasive Species Solutions 2021, *Weeds of National Environmental Significance (WoNS)*. Available from: https://weeds.org.au/weeds-profiles/.

Western Australian Herbarium 1998, *FloraBase - the Western Australian Flora. Department of Biodiversity, Conservation and Attractions*. Available from: https://florabase.dbca.wa.gov.au/search/advanced. [16 October 2023].

Western Australian Herbarium 2024a, *Descriptions by the Western Australian Herbarium, Department of Biodiversity, Conservation and Attractions*. Available from: https://florabase.dbca.wa.gov.au/help/copyright#copyright. [9 January 2024].

Western Australian Herbarium 2024b, *FloraBase: Search the Herbarium Specimens*. Available from: https://florabase.dbca.wa.gov.au/search/advanced. [9 January 2024].

Western Australian Herbarium, Department of Biodiversity Conservation and Attractions & Shire of Dalwallinu 2020, *World Wide Wattle ver. 2*. Available from: http://worldwidewattle.com/about.php.

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LEGEND

Survey Area

Pre European Vegetation Units

- Association 589: Short-bunch-gass savanna / Grass-steppe; Hummock grasslands, soft Spinifex
- Association 589: Shrub-steppe; Hummock Grassland with scattered shrubs orr Mallee, *Triodia*spp., *Acacia*spp., *Grevillea* spp., *Eucalyptus* spp.

DATA SOURCES:
SOURCE DATA: ROAD NETWORK (MRWA 2023). PRE_EUROPEAN VEGETATION (DPIRD-006)(2019). SURFACE HYDROLOGY LINES (NATIONAL) (GEOSCIENCE AUSTRALIA 2015).
BASEMAP: ESRI WORLD IMAGERY
SERVICE LAYERS: WORLD IMAGERY: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY
WORLD TOPOGRAPHIC MAP: ESRI, HERE, GARMIN, USGS, NGA

ecoscape

PRE-EUROPEAN VEGETATION

LOT 601 SOUTH HEDLAND BIOLOGICAL SURVEY

talis consultants

RESOLVE RESOLVE GROUP PTY LTD

COORDINATE SYSTEM: GDA 1994 MGA ZONE 50
PROJECTION: TRANSVERSE MERCATOR
DATUM: GDA 1994
UNITS: METER

N

SCALE: 1:2,000 @ A3

0 10 20 30 40 50 m

PROJECT NO: 4890-23

REV	AUTHOR	APPROVED	DATE
0	LC	KP	28/02/2024

MAP 01

600000 640000 680000 720000 760000

7760000 7720000 7680000 7640000

Eighty Mile Beach Marine Park

Port Hedland

Wilson Bank

Boodarie

Greenfields

Madigan Rd

Old Marble Bar Rd

De Grey River

De Grey Rd

De Grey - Goldsworthy Rd

Ridley River

Pardoo Creek

Cattle Creek

Goldsworthy Rd

Pear Creek

Red Rock Creek

Petermarer Creek

Beebingarra Creek

Tabba Tabba Creek

Wallareenya Rd

Strelley River West

Strelley River East

Lalla Rookh Rd

Marble Bar Rd

Tabba Tabba - Lalla Rookh Rd

Turner River East

Turner River West

Turner River

Pippingarra Rd

Pilinya Creek

Pilgangoora Creek

Houston Creek

Gillam Creek

Chinnamon Creek

Mcphee Creek

Spring Creek

East Strelley Creek

Six Mile Creek

North Pole Rd

Miralga Creek

Honeyeater Creek

Shaw River

Levilra Creek

Coolyia Creek

Callina Creek

Hillside - Marble Bar Rd

Paddy Market Creek

Lower Red Creek

Upper Red Creek

Unnamed Creek

Dalton Creek

Mulgandinnah Creek

Coodlegong Creek

Yandeyarra Outcamp Access Rd

Yandeyarra Rd

Whim Creek Rd

Yule River West

Peeatony Creek

Great Northern Hwy

North West Coastal Hwy

Balla Balla Rd

Balla Balla River

Whim Creek

Louden Creek

Steel Star Creek

Caporn Creek

Croydon - Whim Creek Rd

Croydon - Mallina Rd

Peawah Creek

Mallina - Yandeyarra Rd

Poverty Creek

Wattle Creek

Yule River

Peawah River

Friendly Creek

Sherlock River

Tanbery Creek

Nunyerry Creek

Pilbara Creek

Mungaroona Creek

Powdar Creek

Coung Creek

Pilbaddy Creek

Edgina Creek

Obstinate Creek

Pinga Creek

Mungaroona Range Nature Reserve

Millstream Chichester National Park

101 m 25 m 104 m 42 m 203 m 153 m 255 m 364 m 414 m 433 m 453 m 425 m

LEGEND

- Survey Area

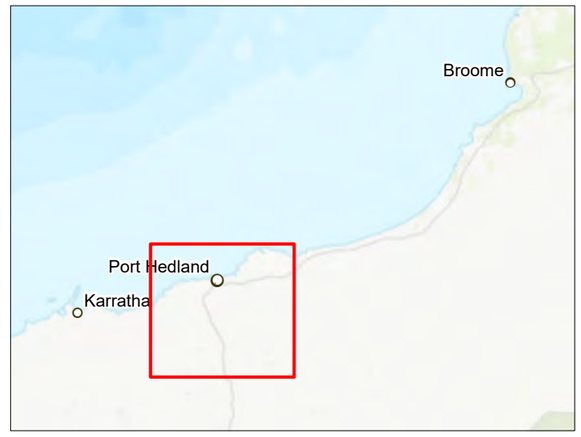
Conservation Significant Flora

- Threatened
- Priority 1
- Priority 2
- Priority 3
- Priority 4

Priority Ecological Communities

- Eighty Mile Land System (Priority 3)
- Gregory Land System (Priority 3)
- Horseflat Land System of the Roebourne Plains (Priority 3)
- Drainage Lines
- Environmentally Sensitive Areas (DWER-046)
- DBCA Legislated Lands and Waters (DBCA-011)

DATA SOURCES:
SOURCE DATA: ROAD NETWORK (MRWA 2023).CONSERVATION SIGNIFICANT FLORA (DBCA 2023).
SURFACE HYDROLOGY LINES (NATIONAL) (GEOSCIENCE AUSTRALIA 2015).
BASEMAP: ESRI WORLD TOPOGRAPHIC
SERVICE LAYERS: WORLD TOPOGRAPHIC MAP: ESRI, HERE, GARMIN, FAO, NOAA, USGS
WORLD TOPOGRAPHIC MAP: ESRI, HERE, GARMIN, USGS, NGA



ecoscape

DBCA DATABASE SEARCH RESULTS FLORA & COMMUNITIES

LOT 601 SOUTH HEDLAND BIOLOGICAL SURVEY

talis consultants

RESOLVE RESOLVE GROUP PTY LTD

COORDINATE SYSTEM: GDA 1994 MGA ZONE 50
PROJECTION: TRANSVERSE MERCATOR
DATUM: GDA 1994
UNITS: METER

N

SCALE: 1:650,000 @ A3

0 4 8 12 16 20 km

PROJECT NO: 4890-23

REV	AUTHOR	APPROVED	DATE
0	LC	KP	28/02/2024

MAP 02

630000
660000
690000
7770000
7740000
7710000

Ridley River
Tabba Tabba Creek
Wilson St
Gray St
Madigan Rd
Buttweld Rd
Collier Dr
Greenfield St
Boodarie Station Access Rd
Whim Creek Rd
Unnamed Rd
Peterimarer Creek
Old Marble Bar Rd
Marble Bar Rd
Hundredullangana
Yule River
Yule River West
Great Northern Hwy
North West Coastal Hwy
Pippingarra Rd
Wallareenya Rd
Beebingarra Creek
Turner River
Turner River East
Red Rock Creek
Syrelley River West
Wallareenya
Pilinya Creek
Tabba Tabba - Lalla Rookh Rd
Turner River

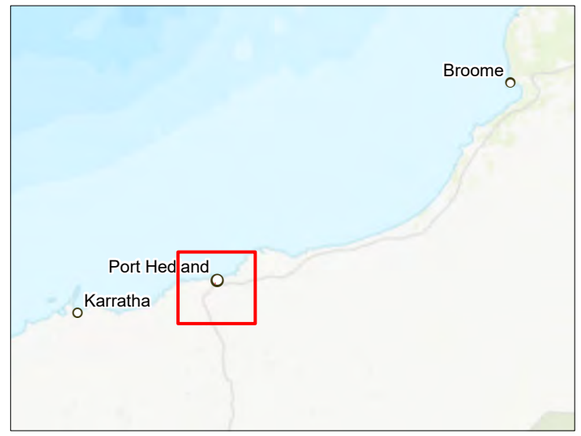
LEGEND

- Survey Area

Conservation Significant Fauna

- Critically Endangered
- Endangered
- Vulnerable
- Migratory Species
- Other Specially Protected
- Priority 1
- Priority 3
- Priority 4
- Drainage Lines
- Environmentally Sensitive Areas (DWER-046)
- DBCA Legislated Lands and Waters (DBCA-011)

DATA SOURCES:
SOURCE DATA: ROAD NETWORK (MRWA 2023). CONSERVATION SIGNIFICANT FAUNA (DBCA 2023), SURFACE HYDROLOGY LINES (NATIONAL) (GEOSCIENCE AUSTRALIA 2015).
BASEMAP: ESRI WORLD TOPOGRAPHIC
SERVICE LAYERS: WORLD TOPOGRAPHIC MAP: ESRI, HERE, GARMIN, FAO, NOAA, USGS
WORLD TOPOGRAPHIC MAP: ESRI, HERE, GARMIN, USGS, NGA



ecoscape

DBCA DATABASE SEARCH RESULTS FAUNA

LOT 601 SOUTH HEDLAND BIOLOGICAL SURVEY

talis consultants

RESOLVE
RESOLVE GROUP PTY LTD

COORDINATE SYSTEM: GDA 1994 MGA ZONE 50
PROJECTION: TRANSVERSE MERCATOR
DATUM: GDA 1994
UNITS: METER

N

SCALE: 1:350,000 @ A3

0 2 4 6 8 10 km

PROJECT NO: 4890-23

REV	AUTHOR	APPROVED	DATE
0	LC	KP	28/02/2024

MAP
03

665500 665600 665700 665800 665900

7743300 7743200 7743100 7743000 7742900

LEGEND

- Survey Area
- Quadrat Location

Vegetation Type

- AsTe: *Acacia stellaticeps* open shrubland over *Triodia epactia* open hummock grassland
- Cleared

DATA SOURCES:
SOURCE DATA: ROAD NETWORK (MRWA 2023). SURVEY DATA (ECOSCAPE 2024).
BASEMAP: ESRI WORLD IMAGERY
SERVICE LAYERS: WORLD TOPOGRAPHIC MAP: ESRI, HERE, GARMIN, USGS, NGA
WORLD IMAGERY: MAXAR

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VEGETATION TYPES & QUADRAT LOCATION

LOT 601 SOUTH HEDLAND BIOLOGICAL SURVEY

talis consultants

RESOLVE RESOLVE GROUP PTY LTD

COORDINATE SYSTEM: GDA 1994 MGA ZONE 50
PROJECTION: TRANSVERSE MERCATOR
DATUM: GDA 1994
UNITS: METER

N

SCALE: 1:1,750 @ A3

0 10 20 30 40 50 m

PROJECT NO: 4890-23

REV	AUTHOR	APPROVED	DATE
0	LC	KP	28/02/2024

MAP 04

665500 665600 665700 665800 665900

7743300 7743200 7743100 7743000 7742900

Parola Ct

Marie Marland Oval Access

LEGEND

- Survey Area
- Quadrat Condition (Very Good)

Vegetation Condition

- Good
- Degraded
- NA

DATA SOURCES:
SOURCE DATA: ROAD NETWORK (MRWA 2023). SURVEY DATA (ECOSCAPE 2024).
BASEMAP: ESRI WORLD IMAGERY
SERVICE LAYERS: WORLD TOPOGRAPHIC MAP: ESRI, HERE, GARMIN, USGS, NGA
WORLD IMAGERY: MAXAR

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VEGETATION CONDITION & QUADRAT CONDITION

LOT 601 SOUTH HEDLAND BIOLOGICAL SURVEY

talis consultants

RESOLVE RESOLVE GROUP PTY LTD

COORDINATE SYSTEM: GDA 1994 MGA ZONE 50
PROJECTION: TRANSVERSE MERCATOR
DATUM: GDA 1994
UNITS: METER

N

SCALE: 1:1,750 @ A3

0 10 20 30 40 50 m

PROJECT NO: 4890-23

REV	AUTHOR	APPROVED	DATE
0	LC	KP	28/02/2024

MAP 05

665500 665600 665700 665800 665900

7743300 7743200 7743100 7743000 7742900

LEGEND

- Survey Area
- Habitat Assessment Point
- Ornithological Survey

Fauna Habitat

- Open Shrubland
- Clear

DATA SOURCES:
SOURCE DATA: ROAD NETWORK (MRWA 2023). SURVEY DATA (ECOSCAPE 2024).
BASEMAP: ESRI WORLD IMAGERY
SERVICE LAYERS: WORLD IMAGERY: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY
WORLD TOPOGRAPHIC MAP: ESRI, HERE, GARMIN, USGS, NGA

ecoscape

FAUNA HABITAT

LOT 601 SOUTH HEDLAND
BIOLOGICAL SURVEY

talis consultants

RESOLVE
RESOLVE GROUP PTY LTD

COORDINATE SYSTEM: GDA 1994 MGA ZONE 50
PROJECTION: TRANSVERSE MERCATOR
DATUM: GDA 1994
UNITS: METER

N

SCALE: 1:1,750 @ A3

0 10 20 30 40 50 m

PROJECT NO: 4890-23

REV	AUTHOR	APPROVED	DATE
0	LC	KP	28/02/2024

MAP
06

APPENDIX ONE LEGISLATIVE CONTEXT, DEFINITIONS AND CRITERIA

COMMONWEALTH ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT 1999

The EPBC Act is a legal framework to protect and manage matters of national environmental significance (MNES) including important flora, fauna, ecological communities and heritage areas listed under the Act.

Threatened taxa (flora and fauna) are protected under the EPBC Act, which lists species and ecological communities that have been assessed as meeting the criteria to be listed as Critically Endangered, Endangered, Vulnerable, Conservation Dependant, Extinct, or Extinct in the Wild, as detailed in **Table 15**.

Threatened Ecological Communities protected under the EPBC Act are categorised as Critically Endangered, Endangered or Vulnerable, also detailed in this table.

Migratory species subject to international agreements are also protected under the EPBC Act. The definition of a migratory species under the Act follows that prescribed by the Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention) (DCCEEW 2023). The list of migratory species established under section 209 of the EPBC Act comprises:

- migratory species which are native to Australia and are included in the appendices to the Bonn Convention (Convention on the Conservation of Migratory Species of Wild Animals Appendices I and II);
- migratory species included in annexes established under the Japan-Australia Migratory Bird Agreement (JAMBA) and the China-Australia Migratory Bird Agreement (CAMBA); and
- native, migratory species identified in a list established under, or an instrument made under, an international agreement approved by the Minister, such as the Republic of Korea-Australia Migratory Bird Agreement (ROKAMBA).

Table 15: EPBC Act categories for flora, fauna and ecological communities

Category	Threatened species	Threatened Ecological Communities
Extinct	A native species is eligible to be included in the extinct category at a particular time if, at that time, there is no reasonable doubt that the last member of the species has died.	n/a
Extinct in the wild	A native species is eligible to be included in the extinct in the wild category at a particular time if, at that time: (a) it is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or (b) it has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.	n/a
Critically Endangered (CR)	A native species is eligible to be included in the *critically endangered* category at a particular time if, at that time, it is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.	An ecological community is eligible to be included in the *critically endangered* category at a particular time if, at that time, it is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria
Endangered (EN)	A native species is eligible to be included in the *endangered* category at a particular time if, at that time: (a) it is not critically endangered; and (b) it is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.	An ecological community is eligible to be included in the *endangered* category at a particular time if, at that time: (a) it is not critically endangered; and (b) it is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.

Category	Threatened species	Threatened Ecological Communities
Vulnerable (VU)	A native species is eligible to be included in the *vulnerable* category at a particular time if, at that time: (a) it is not critically endangered or endangered; and (b) it is facing a high risk of extinction in the wild in the medium term future, as determined in accordance with the prescribed criteria.	An ecological community is eligible to be included in the *vulnerable* category at a particular time if, at that time: (a) it is not critically endangered or endangered; and (b) it is facing a high risk of extinction in the wild in the medium term future, as determined in accordance with the prescribed criteria.
Conservation Dependent	A native species is eligible to be included in the conservation dependent category at a particular time if, at that time: (a) the species is the focus of a specific conservation program the cessation of which would result in the species becoming vulnerable, endangered or critically endangered; or (b) the following subparagraphs are satisfied: (i) the species is a species of fish; (ii) the species is the focus of a plan of management that provides for management actions necessary to stop the decline of, and support the recovery of, the species so that its chances of long-term survival in nature are maximised; (iii) the plan of management is in force under a law of the Commonwealth or of a State or Territory; (iv) cessation of the plan of management would adversely affect the conservation status of the species.	n/a

WESTERN AUSTRALIAN ENVIRONMENTAL PROTECTION ACT 1986

The Western Australian EP Act was created to provide for an Environmental Protection Authority (the EPA) that has the responsibility for:

- prevention, control and abatement of pollution and environmental harm
- conservation, preservation, protection, enhancement and management of the environment
- matters incidental to or connected with the above.

The EPA is responsible for providing the guidance and policy under which environmental assessments are conducted. It conducts environmental impact assessments (based on the information provided by the proponent), initiates measures to protect the environment and provides advice to the Minister responsible for environmental matters.

WESTERN AUSTRALIAN BIODIVERSITY CONSERVATION ACT 2016

The Western Australian BC Act provides for the conservation, protection and ecologically sustainable use of biodiversity and biodiversity components in Western Australia.

Threatened species (both flora and fauna) and ecological communities that meet the categories listed within the BC Act are protected under this legislation and require authorisation by the Minister to take or disturb. These are known as Threatened Flora, Threatened Fauna and Threatened Ecological Communities. The conservation categories of Critically Endangered, Endangered and Vulnerable are detailed in **Table 16**; these categories align with those of the EPBC Act. Some State-listed threatened species and ecological communities are provided with additional protection as they are also listed under the Commonwealth EPBC Act (see **Table 15** for conservation status category descriptions).

The most recent Western Australian flora and fauna listings were published in the Government Gazette on 30 September 2022 (Government of Western Australia 2022).

PRIORITY-LISTED FLORA AND FAUNA

Flora are listed as PF where populations are geographically restricted or threatened by local processes, or where there is insufficient information to formally assign them to TF categories. Whilst PF are not specifically listed in the BC Act, some may qualify as being of special conservation interest and thereby have a greater level of protection than unlisted species.

There are three categories covering Western Australian-listed TF and four categories covering PF species which are outlined in **Table 16**. PF for Western Australia are regularly reviewed by the DBCA whenever new information becomes available, with species status altered or removed from the list when data indicates that they no longer meet these requirements.

Conservation significant fauna species are listed by the DBCA as Priority Fauna where populations are geographically restricted or threatened by local processes, or where there is insufficient information to formally assign them to threatened fauna categories. Whilst Priority Fauna are not specifically listed in the BC Act, these have a greater level of significance than other native species. The categories covering Priority Fauna species are outlined in **Table 16**.

Flora and fauna species may be listed as being of special conservation interest if they have a naturally low population, have a restricted natural range, are subject to or recovering from a significant population decline or reduction of range or are of special interest, and the Minister considers that taking may result in depletion of the species. Migratory species and those subject to international agreement are also listed under the Act. These are known as 'specially protected species' in the BC Act.

Table 16: Conservation codes for Western Australian flora and fauna (DBCA 2020)

Conservation Codes for Western Australian Flora and Fauna	
Threatened, Extinct and Specially Protected fauna or flora[1] are species[2] which have been adequately searched for and are deemed to be, in the wild, threatened, extinct or in need of special protection, and have been gazetted as such. **The *Wildlife Conservation (Specially Protected Fauna) Notice 2018* and the *Wildlife Conservation (Rare Flora) Notice 2018* have been transitioned under regulations 170, 171 and 172 of the *Biodiversity Conservation Regulations 2018* to be the lists of Threatened, Extinct and Specially Protected species under Part 2 of the *Biodiversity Conservation Act 2016*.** **Categories of Threatened, Extinct and Specially Protected fauna and flora are:**	
T	**Threatened species** Listed by order of the Minister as Threatened in the category of critically endangered, endangered or vulnerable under section 19(1), or is a rediscovered species to be regarded as threatened species under section 26(2) of the *Biodiversity Conservation Act 2016* (BC Act). **Threatened fauna** is the species of fauna that are listed as critically endangered, endangered or vulnerable threatened species. **Threatened flora** is the species of flora that are listed as critically endangered, endangered or vulnerable threatened species. The assessment of the conservation status of threatened species is in accordance with the BC Act listing criteria and the requirements of Ministerial Guideline (Number 1) and Ministerial Guideline (Number 2) that adopts the use of the International Union for Conservation of Nature (IUCN) Red List of Threatened Species Categories and Criteria4, and is based on the national distribution of the species

Conservation Codes for Western Australian Flora and Fauna	
CR	**Critically endangered species** Threatened species considered to be "*facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with criteria set out in the ministerial guidelines*". Listed as critically endangered undersection 19(1)(a) of the BC Act in accordance with the criteria set out in section 20 and the ministerial guidelines.
EN	**Endangered species** Threatened species considered to be "*facing a very high risk of extinction in the wild in the near future, as determined in accordance with criteria set out in the ministerial guidelines*". Listed as endangered under section 19(1)(b) of the BC Act in accordance with the criteria set out in section 21 and the ministerial guidelines.
VU	**Vulnerable species** Threatened species considered to be "*facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with criteria set out in the ministerial guidelines*". Listed as vulnerable undersection 19(1)(c) of the BC Act in accordance with the criteria set out in section 22 and the ministerial guidelines.
Extinct species **Listed by order of the Minister as extinct under section 23(1) of the BC Act as extinct or extinct in the wild.**	
EX	**Extinct species** Species where "*there is no reasonable doubt that the last member of the species has died*", and listing is otherwise in accordance with the ministerial guidelines (section 24 of the BC Act).
EW	**Extinct in the wild species** Species that "*is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; and it has not been recorded in its known habitat or expected habitat, at appropriate seasons, anywhere in its past range, despite surveys over a time frame appropriate to its life cycle and form*", and listing is otherwise in accordance with the ministerial guidelines (section 25of the BC Act).
Specially protected species Listed by order of the Minister as specially protected under section 13(1) of the BC Act. Meeting one or more of the following categories: species of special conservation interest; migratory species; cetaceans; species subject to international agreement; or species otherwise in need of special protection. Species that are listed as threatened species (critically endangered, endangered or vulnerable) or extinct species under the BC Act cannot also be listed as Specially Protected species.	
MI	**Migratory species** Fauna that periodically or occasionally visit Australia or an external Territory or the exclusive economic zone; or the species is subject of an international agreement that relates to the protection of migratory species and that binds the Commonwealth; and listing is otherwise in accordance with the ministerial guidelines (section 15of the BC Act). Includes birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and fauna subject to the *Convention on the Conservation of Migratory Species of Wild Animals* (Bonn Convention), an environmental treaty under the United Nations Environment Program. Migratory species listed under the BC Act are a subset of the migratory animals that are known to visit Western Australia, protected under the international agreements or treaties, excluding species that are listed as Threatened species.
CD	**Species of special conservation interest (conservation dependent)** Species of special conservation need that are dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened, and listing is otherwise in accordance with the ministerial guidelines (section 14 of the BC Act)
OS	**Other specially protected species** Fauna otherwise in need of special protection to ensure their conservation, and listing is otherwise in accordance with the ministerial guidelines (section 18of the BC Act).
P	**Priority species** Priority is not a listing category under the BC Act. All fauna and flora are protected in WA following the provisions in Part 10 of the BC Act. The protection applies even when a species is not listed as threatened or specially protected, and regardless of land tenure (State managed land (Crown land), private land, or Commonwealth land). Species that may possibly be threatened species that do not meet the criteria for listing under the BC Act because of insufficient survey or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of prioritisation for survey and evaluation of conservation status so that consideration can be given to potential listing as threatened. Species that are adequately known, meet criteria for near threatened, or are rare but not threatened, or that have been recently removed from the threatened species list or conservation dependent or other specially protected fauna lists for other than taxonomic reasons, are placed in Priority 4. These species require regular monitoring. Assessment of priority status is based on the Western Australian distribution of the species, unless the distribution in WA is part of a contiguous population extending into adjacent States, as defined by the known spread of locations.

Conservation Codes for Western Australian Flora and Fauna	
1	**Priority 1: Poorly-known species – known from few locations, none on conservation lands** Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, for example, agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. These species are in urgent need of further survey.
2	**Priority 2: Poorly-known species – known from few locations, some on conservation lands** Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, for example, national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements for threatened listing and appear to be under threat from known threatening processes. These species are in urgent need of further survey.
3	**Priority 3: Poorly-known species – known from several locations** Species that are known from several locations and the species does not appear to be under imminent threat or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. These species need further survey.
4	**Priority 4: Rare, Near Threatened and other species in need of monitoring** (a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection but could be if present circumstances change. These species are usually represented on conservation lands. (b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for vulnerable but are not listed as Conservation Dependent. (c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.
[1] The definition of flora includes algae, fungi and lichens. **[2] Species includes all taxa (plural of taxon - a classificatory group of any taxonomic rank, e.g. a family, genus, species or any infraspecific category i.e. subspecies or variety, or a distinct population).**	

THREATENED AND PRIORITY ECOLOGICAL COMMUNITIES

Western Australian TECs are protected under the BC Act and are categorised much like those of the EPBC Act. Western Australian definitions and criteria for TECs are shown in **Table 17**.

Currently described TECs are listed on the DBCA website, with the most recent list endorsed by the Minister for Environment in June 2018 (DBCA 2018).

DBCA also maintains a list of Priority Ecological Communities (PECs). PECs include potential TECs that do not meet survey criteria, or that are not adequately defined. They are not protected under legislation but are taken into consideration as part of the environmental approvals process.

Currently described PECs are listed on the DBCA website, with the most recent list dated 21 December 2022 (Species and Communities Program, DBCA 2022). Definitions and criteria for PECs are shown in **Table 17**.

Table 17: DBCA definitions and criteria for TECs and PECs (DEC 2013)

Criteria	Definition
Threatened Ecological Communities	
Presumed Totally Destroyed (PD)	An ecological community that has been adequately searched for but for which no representative occurrences have been located. The community has been found to be totally destroyed or so extensively modified throughout its range that no occurrence of it is likely to recover its species composition and/or structure in the foreseeable future. An ecological community will be listed as presumed totally destroyed if there are no recent records of the community being extant and either of the following applies (A or B): A. Records within the last 50 years have not been confirmed despite thorough searches of known or likely habitats or B. All occurrences recorded within the last 50 years have since been destroyed
Critically Endangered (CR)	An ecological community that has been adequately surveyed and found to have been subject to a major contraction in area and/or that was originally of limited distribution and is facing severe modification or destruction throughout its range in the immediate future, or is already severely degraded throughout its range but capable of being substantially restored or rehabilitated. An ecological community will be listed as Critically Endangered when it has been adequately surveyed and is found to be facing an extremely high risk of total destruction in the immediate future. This will be determined on the basis of the best available information, by it meeting any one or more of the following criteria (A, B or C): A. The estimated geographic range, and/or total area occupied, and/or number of discrete occurrences since European settlement have been reduced by at least 90% and either or both of the following apply (i or ii): i. geographic range, and/or total area occupied and/or number of discrete occurrences are continuing to decline such that total destruction of the community is imminent (within approximately 10 years); ii. modification throughout its range is continuing such that in the immediate future (within approximately 10 years) the community is unlikely to be capable of being substantially rehabilitated. B. Current distribution is limited, and one or more of the following apply (i, ii or iii): i. geographic range and/or number of discrete occurrences, and/or area occupied is highly restricted and the community is currently subject to known threatening processes which are likely to result in total destruction throughout its range in the immediate future (within approximately 10 years); ii. there are very few occurrences, each of which is small and/or isolated and extremely vulnerable to known threatening processes; iii. there may be many occurrences but total area is very small and each occurrence is small and/or isolated and extremely vulnerable to known threatening processes. C. The ecological community exists only as highly modified occurrences that may be capable of being rehabilitated if such work begins in the immediate future (within approximately 10 years).
Endangered (EN)	An ecological community that has been adequately surveyed and found to have been subject to a major contraction in area and/or was originally of limited distribution and is in danger of significant modification throughout its range or severe modification or destruction over most of its range in the near future. An ecological community will be listed as Endangered when it has been adequately surveyed and is not Critically Endangered but is facing a very high risk of total destruction in the near future. This will be determined on the basis of the best available information by it meeting any one or more of the following criteria (A, B, or C): A. The geographic range, and/or total area occupied, and/or number of discrete occurrences have been reduced by at least 70% since European settlement and either or both of the following apply (i or ii): i. the estimated geographic range, and/or total area occupied and/or number of discrete occurrences are continuing to decline such that total destruction of the community is likely in the short term future (within approximately 20 years); ii. modification throughout its range is continuing such that in the short term future (within approximately 20 years) the community is unlikely to be capable of being substantially restored or rehabilitated. B. Current distribution is limited, and one or more of the following apply (i, ii or iii): i. geographic range and/or number of discrete occurrences, and/or area occupied is highly restricted and the community is currently subject to known threatening processes which are likely to result in total destruction throughout its range in the short term future (within approximately 20 years); ii. there are few occurrences, each of which is small and/or isolated and all or most occurrences are very vulnerable to known threatening processes; iii. there may be many occurrences but total area is small and all or most occurrences are small and/or isolated and very vulnerable to known threatening processes. The ecological community exists only as very modified occurrences that may be capable of being substantially restored or rehabilitated if such work begins in the short-term future (within approximately 20 years).

Criteria	Definition
Vulnerable (VU)	An ecological community that has been adequately surveyed and is found to be declining and/or has declined in distribution and/or condition and whose ultimate security has not yet been assured and/or a community that is still widespread but is believed likely to move into a category of higher threat in the near future if threatening processes continue or begin operating throughout its range. An ecological community will be listed as Vulnerable when it has been adequately surveyed and is not Critically Endangered or Endangered but is facing a high risk of total destruction or significant modification in the medium to long-term future. This will be determined on the basis of the best available information by it meeting any one or more of the following criteria (A, B or C): A. The ecological community exists largely as modified occurrences that are likely to be capable of being substantially restored or rehabilitated. B. The ecological community may already be modified and would be vulnerable to threatening processes, is restricted in area and/or range and/or is only found at a few locations. C. The ecological community may be still widespread but is believed likely to move into a category of higher threat in the medium to long term future because of existing or impending threatening processes.
Priority ecological communities	
Priority One	*Poorly known ecological communities* Ecological communities with apparently few, small occurrences, all or most not actively managed for conservation (e.g. within agricultural or pastoral lands, urban areas, active mineral leases) and for which current threats exist. Communities may be included if they are comparatively well-known from one or more localities but do not meet adequacy of survey requirements, and/or are not well defined, and appear to be under immediate threat from known threatening processes across their range.
Priority Two	*Poorly known ecological communities* Communities that are known from few small occurrences, all or most of which are actively managed for conservation (e.g. within national parks, conservation parks, nature reserves, state forest, unallocated Crown land, water reserves, etc.) and not under imminent threat of destruction or degradation. Communities may be included if they are comparatively well known from one or more localities, but do not meet adequacy of survey requirements, and / or are not well defined, and appear to be under threat from known threatening processes.
Priority Three	*Poorly known ecological communities* i. Communities that are known from several to many occurrences, a significant number or area of which are not under threat of habitat destruction or degradation or; ii. Communities known from a few widespread occurrences, which are either large or within significant remaining areas of habitat in which other occurrences may occur, much of it not under imminent threat, or; iii. Communities made up of large, and/or widespread occurrences, that may or may not be represented in the reserve system, but are under threat of modification across much of their range from processes such as grazing by domestic and/or feral stock, and inappropriate fire regimes. Communities may be included if they are comparatively well known from several localities, but do not meet adequacy of survey requirements and / or are not well defined, and known threatening processes exist that could affect them.
Priority Four	Ecological communities that are adequately known, rare but not threatened or meet criteria for Near Threatened, or that have been recently removed from the threatened list. These communities require regular monitoring. i. Rare. Ecological communities known from few occurrences that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change These communities are usually represented on conservation lands. ii. Near Threatened. Ecological communities that are considered to have been adequately surveyed and that do not qualify for Conservation Dependent, but that are close to qualifying for Vulnerable. iii. Ecological communities that have been removed from the list of threatened communities during the past five years.
Priority Five	*Conservation Dependent Ecological Communities* Ecological Communities that are not threatened but are subject to a specific conservation program, the cessation of which would result in the community becoming threatened within five years.

FLORA CRITERIA

OTHER SIGNIFICANT FLORA

According to the Flora and Vegetation Technical Guidance (EPA 2016a) other than being listed as Threatened or Priority Flora, a species can be considered as significant if it is considered to be:

- locally endemic or association with a restricted habitat type (e.g. Groundwater Dependent Ecosystems, Sheet Flow Dependent Vegetation)
- a new species or has anomalous features that indicate a potential new species
- at the extremes of range, recently discovered range extensions (generally considered greater than 100 km or in a different bioregion), or isolated outliers of the main range
- unusual species, including restricted subspecies, varieties or naturally occurring hybrids
- relictual status, being representative of taxonomic groups that no longer occur widely in the broader landscape.

INTRODUCED FLORA

Introduced plant species, known as weeds, are plants that are not indigenous to an area and have been introduced either directly or indirectly (unintentionally) through human activity. Species are regarded as introduced if they are listed as 'alien' on *FloraBase* (Western Australian Herbarium [WAH] 1998-2023) and are designated with an asterisk (*) in this document.

Weeds of National Significance

At a national level there are 32 weed species listed as Weeds of National Significance (WoNS) (Weeds Australia & Centre for Invasive Species Solutions 2021). The Commonwealth *Australian Weeds Strategy 2017-2027* (Invasive Plants and Animals Committee 2016) describes broad goals and objectives to manage these species.

Declared Pest Plants

The Western Australian Organism List (WAOL) details organisms listed as Declared Pests under the *Biosecurity and Agriculture Management Act 2007* (BAM Act). Under the BAM Act, Declared Pests are listed as one of the three categories, or exempt:

- C1 (exclusion), that applies to pests not established in Western Australia; control measures are to be taken to prevent their entry and establishment
- C2 (eradication), that applies to pests that are present in Western Australia but in low numbers or in limited areas where eradication is still a possibility
- C3 (management), that applies to established pests where it is not feasible or desirable to manage them in order to limit their damage
- exempt (no category).

VEGETATION CRITERIA

OTHER SIGNIFICANT VEGETATION

According to the Flora and Vegetation Technical Guidance (EPA 2016a) other than being listed as a TEC or PEC, vegetation can be considered as significant if it is considered to have:

- restricted distribution
- a degree of historical impact from threatening processes
- a role as a refuge
- provides an important function required to maintain ecological integrity of a significant ecosystem.

Groundwater Dependent and Sheet Flow Dependent Mulga vegetation may be considered as significant and are described below.

Groundwater Dependent Vegetation

Groundwater Definition

Groundwater is water that is found in the saturated zone of the soil, where all soil pores are filled with water. The water table is the upper surface of the saturated zone in an unconfined aquifer. Groundwater may also occur as a perched aquifer located above unsaturated rock formations as a result of a discontinuous permeable layer or held under pressure in a confined aquifer (Goulburn-Murray Water 2010).

Groundwater Dependent Ecosystems Definition

Groundwater Dependent Ecosystems (GDEs) have been defined as ecosystems that are dependent on groundwater for their survival at some stage or stages of their lifecycle, however groundwater use cannot be equated with groundwater dependence (Eamus 2009). In some contexts (including that of a flora and vegetation assessment), GDEs are also known as Groundwater Dependent Vegetation (GDV).

Hatton and Evans (1998) identified four types of GDEs based on their geographic setting: terrestrial vegetation (vegetation communities and dependent fauna that have seasonal or episodic dependence on groundwater), river base flow systems (aquatic and riparian ecosystems that exist in or adjacent to streams that are fed by groundwater base flow), aquifer and cave ecosystems, and wetlands.

Eamus *et al.* (2006) identified three primary classes based on type of groundwater reliance:

1. Aquifer and cave ecosystems.
2. All ecosystems dependent on the surface expression of groundwater:
    a) river base flows
    b) wetlands, swamplands
    c) seagrass beds in estuaries
    d) floodplains
    e) mound springs
    f) riparian vegetation
    g) saline discharge to lakes
    h) low lying forests.
3. All ecosystems dependent on the subsurface presence of groundwater, often accessed via the capillary fringe (non-saturated zone above the water table) when roots penetrate this zone:
    a) River Red Gum (*Eucalyptus camaldulensis*) forests
    b) Banksia woodlands
    c) Riparian vegetation in the wet/dry tropics.

APPENDIX TWO FIELD SURVEY CRITERIA

Table 18: NVIS structural formation terminology, terrestrial vegetation (NVIS Technical Working Group & DotEE 2017)

	Cover characteristics							
	Foliage cover *	70-100	30-70	10-30	<10	» 0 (scattered)	0-5 (clumped)	unknown
	Cover code	d	c	i	r	bi	bc	unknown
Growth Form	**Height Ranges (m)**	**Structural Formation Classes**						
tree, palm	<10,10-30, >30	closed forest	open forest	woodland	open woodland	isolated trees	isolated clumps of trees	tree, palm
tree mallee	<3, <10, 10-30	closed mallee forest	open mallee forest	mallee woodland	open mallee woodland	isolated mallee trees	isolated clumps of mallee trees	tree mallee
shrub, cycad, grass-tree, tree-fern	<1,1-2,>2	closed shrubland	shrubland	open shrubland	sparse shrubland	isolated shrubs	isolated clumps of shrubs	shrub, cycad, grass-tree, tree-fern
mallee shrub	<3, <10, 10-30	closed mallee shrubland	mallee shrubland	open mallee shrubland	sparse mallee shrubland	isolated mallee shrubs	isolated clumps of mallee shrubs	mallee shrub
heath shrub	<1,1-2,>2	closed heathland	heathland	open heathland	sparse heathland	isolated heath shrubs	isolated clumps of heath shrubs	heath shrub
chenopod shrub	<1,1-2,>2	closed chenopod shrubland	chenopod shrubland	open chenopod shrubland	sparse chenopod shrubland	isolated chenopod shrubs	isolated clumps of chenopod shrubs	chenopod shrub
samphire shrub	<0.5,>0.5	closed samphire shrubland	samphire shrubland	open samphire shrubland	sparse samphire shrubland	isolated samphire shrubs	isolated clumps of samphire shrubs	samphire shrub
hummock grass	<2,>2	closed hummock grassland	hummock grassland	open hummock grassland	sparse hummock grassland	isolated hummock grasses	isolated clumps of hummock grasses	hummock grass
tussock grass	<0.5,>0.5	closed tussock grassland	tussock grassland	open tussock grassland	sparse tussock grassland	isolated tussock grasses	isolated clumps of tussock grasses	tussock grass
other grass	<0.5,>0.5	closed grassland	grassland	open grassland	sparse grassland	isolated grasses	isolated clumps of grasses	other grass
sedge	<0.5,>0.5	closed sedgeland	sedgeland	open sedgeland	sparse sedgeland	isolated sedges	isolated clumps of sedges	sedge
rush	<0.5,>0.5	closed rushland	rushland	open rushland	sparse rushland	isolated rushes	isolated clumps of rushes	rush
forb	<0.5,>0.5	closed forbland	forbland	open forbland	sparse forbland	isolated forbs	isolated clumps of forbs	forb
fern	<1,1-2,>2	closed fernland	fernland	open fernland	sparse fernland	isolated ferns	isolated clumps of ferns	fern
bryophyte	<0.5	closed bryophyte-land	bryophyte-land	open bryophyteland	sparse bryophyteland	isolated bryophytes	isolated clumps of bryophytes	bryophyte
lichen	<0.5	closed lichenland	lichenland	open lichenland	sparse lichenland	isolated lichens	isolated clumps of lichens	lichen
vine	<10,10-30, >30	closed vineland	vineland	open vineland	sparse vineland	isolated vines	isolated clumps of vines	vine

Table 19: NVIS height classes (NVIS Technical Working Group & DotEE 2017)

Height		Growth form				
Height Class	**Height Range (m)**	**Tree, vine (M & U), palm (single-stemmed)**	**Shrub, heath shrub, chenopod shrub, ferns, samphire shrub, cycad, tree-fern, grass-tree, palm (multi-stemmed)**	**Tree mallee, mallee shrub**	**Tussock grass, hummock grass, other grass, sedge, rush, forbs, vine (G)**	**Bryophyte, lichen, seagrass, aquatic**
8	>30	tall	NA	NA	NA	NA
7	10-30	mid	NA	tall	NA	NA
6	<10	low	NA	mid	NA	NA
5	<3	NA	NA	low	NA	NA
4	>2	NA	tall	NA	tall	NA
3	1-2	NA	mid	NA	tall	NA
2	0.5-1	NA	low	NA	mid	tall
1	<0.5	NA	low	NA	low	low
Source: (based on Walker & Hopkins 1990)						

Table 20: Vegetation condition scale for the Eremaean and Northern Botanical Provinces (EPA 2016a)

Condition rating	Description
Excellent	Pristine or nearly so, no obvious signs of disturbance or damage caused by human activities since European settlement.
Very Good	Some relatively slight signs of damage caused by human activities since European settlement. For example, some signs of damage to tree trunks caused by repeated fire, the presence of some relatively non-aggressive weeds, or occasional vehicle tracks.
Good	More obvious signs of damage caused by human activity since European settlement, including some obvious impact on the vegetation structure such as that caused by low levels of grazing or slightly aggressive weeds.
Poor	Still retains basic vegetation structure or ability to regenerate it after very obvious impacts of human activities since European settlement, such as grazing, partial clearing, frequent fires or aggressive weeds.
Degraded	Severely impacted by grazing, very frequent fires, clearing or a combination of these activities. Scope for some regeneration but not to a state approaching good condition without intensive management. Usually with a number of weed species present including very aggressive species.
Completely Degraded	Areas that are completely or almost completely without native species in the structure of their vegetation; i.e. areas that are cleared or 'parkland cleared' with their flora comprising weed or crop species with isolated native trees or shrubs.

APPENDIX THREE DESKTOP ASSESSMENT RESULTS AND LIKELIHOOD ASSESSMENTS

Table 21: Flora database search results, habitat and likelihood assessment

Blue shading indicates high likelihood; dark blue indicates species is known (recorded) from the survey area

DBCA*	PMST**	Species name	Habitat from: • ***FloraBase*** (WAH 1998-2021) • **(for *Acacia* species) *World Wide Wattle* (WAH *et al.* 2020)**	Flowering	Likelihood of occurrence	
					Desktop	Post-survey
		Threatened Flora* **				
WAH, TP	Likely	*Quoya zonalis* (EPBC – EN; BC – EN)	Narrow zones along steep, rocky sandstone conglomerates and granite slopes in skeletal, brown, sandy loam soils.	Jul – Sep	Very unlikely	Very unlikely
		DBCA Priority 1				
WAH		*Acacia leeuweniana*	Gritty, skeletal red-grey sandy loam, light orange-brown gravelly sand, granite. In rock fissures in outcrops, among boulders.	Apr/May or Oct	Very unlikely	Very unlikely
WAH, TP		*Atriplex eremitis*	Plain, edges of saline / clay pans. Brown sand.	-	Unlikely	Very unlikely
WAH		*Euploca parviantrum*	Not specified.	Feb – Mar	Unlikely	Very unlikely
WAH		*Tephrosia rosea* var. Port Hedland (A.S. George 1114)	Sand dunes (coastal). Red-brown / orange sand.	Jul – Sep	Unlikely	Very unlikely
WAH		*Triodia degreyensis*	Hills. Brown skeletal clay loam.	-	Very unlikely	Very unlikely
		DBCA Priority 2				
WAH		*Euphorbia inappendiculata* var. *inappendiculata*	Plains / claypans, red-brown sandy / loamy clay.	May	Very unlikely	Very unlikely
WAH		*Gomphrena pusilla*	Fine beach sand. Behind foredunes, on limestone.	Mar – Jun	Unlikely	Very unlikely
		DBCA Priority 3				
WAH, TP		*Abutilon* sp. Pritzelianum (S. van Leeuwen 5095)	Plains, floodplains, sand dunes. Red-brown or orange-brown sandy or loamy soils. Open *Acacia* shrubland over *Triodia* grassland.	Apr - Sep	Unlikely	Very unlikely
WAH		*Dolichocarpa* sp. Hamersley Station (A. A. Mitchell PRP 1479)	Crabhole plains, drainage lines, gentle slopes. Clay or loam soils.	Mar	Very unlikely	Very unlikely
WAH, TP		*Eragrostis crateriformis*	Clayey loam or clay. Creek banks, depressions.	Jan – May or Jul	Unlikely	Very unlikely
WAH, TP		*Euphorbia clementii*	Gravelly hillsides, stony grounds.	-	Very unlikely	Very unlikely
WAH		*Euploca mutica*	Sandplain, red-orange sand. Red-brown loamy sand.	May – Aug	May	Very unlikely
WAH, TP		*Gomphrena cucullata*	Red sandy loam, clayey sand. Open floodplains.	Feb or May	Unlikely	Very unlikely

DBCA*	PMST**	Species name	Habitat from: • ***FloraBase*** (WAH 1998-2021) • **(for *Acacia* species) *World Wide Wattle* (WAH *et al.* 2020)**	Flowering	Likelihood of occurrence	
					Desktop	Post-survey
WAH		*Gomphrena leptophylla*	Sand, sandy to clayey, granite, quarzite. Open flats, sandy creek beds, edges salt pans and marshes, stony hillside.	Mar – Sep	May	Unlikely
WAH		*Goodenia obscurata*	Hill slope or drainage lines. Red-brown sandy loam / clay loam.	May	Very unlikely	Very unlikely
WAH, TP		*Gymnanthera cunninghamii*	Sandy soils, mostly in association with drainage lines.	Jan – Dec	Unlikely	Very unlikely
WAH		*Nicotiana umbratica*	Shallow soils. Rocky outcrops.	Apr – Jun	Very unlikely	Very unlikely
WAH		*Phyllanthus hebecarpus*	Granite outcrop, gentle drainage slope/ Red sandy loam.	-	Very unlikely	Very unlikely
WAH		*Rothia indica* subsp. *australis*	Sandy soils. Sandhills and sandy flats.	Apr – Aug	May	Unlikely
WAH		*Stylidium weeliwolli*	Gritty sand soil, sandy clay. Edge of watercourses.	Aug – Sep	Very unlikely	Very unlikely
WAH		*Terminalia supranitifolia*	Sand. Among basalt rocks.	May or Jul or Dec	Very unlikely	Very unlikely
WAH		*Triodia basitricha*	Hill tops, rocky plains and gullies. Gravelly soils, red-brown pebbly loam.	May – Jul	Very unlikely	Very unlikely
WAH		*Triodia chichesterensis*	Rocky slope. Undulating plain. Red-brown clay loam, stony. Quartzite / ironstone.	May, Aug	Unlikely	Very unlikely
WAH		*Vigna triodiophila*	Basalt rockpiles.	Mar - May	Very unlikely	Very unlikely
		DBCA Priority 4				
WAH, TP		*Bulbostylis burbidgeae*	Granitic soils. Granite outcrops, cliff bases.	Mar or Jun - Aug	Unlikely	Very unlikely
WAH		*Ptilotus mollis*	Stony hills and screes.	May or Sep	Unlikely	Very unlikely

* WAH = herbarium record (vouchered specimen), TP = Threatened and Priority Flora Report Form record; may be unconfirmed i.e. without vouchered specimen

** PMST likelihood of occurrence or likelihood of habitat occurring

*** Commonwealth EPBC Act and Western Australian BC Act conservation status

Table 22: Fauna database results and likelihood assessments

Blue shading indicates high likelihood; darker blue indicates species is known (recorded) from the survey area. Species identified by database searches but not included in this assessment are listed in **Table 23**, along with the reason for their exclusion.

Species	Common name	Conservation status		Database		Likelihood of occurrence	
		EPBC Act	WA	PMST**	DBCA	Desktop	Post-survey
Mammals							
Dasycercus blythi	Brush-tailed Mulgara		P4		X	May	Unlikely
Dasycercus cristicauda	Crest-tailed Mulgara		P4		X	May	Unlikely
Dasyurus hallucatus	Northern Quoll	EN	EN	Known	X	Unlikely	Very unlikely
Lagostrophus fasciatus fasciatus	Banded Hare-Wallaby	VU	VU		X	Unlikely	Very unlikely
Macroderma gigas	Ghost Bat	VU	VU	Known	X	Unlikely	Unlikely
Macrotis lagotis	Bilby	VU	VU	Known	X	Unlikely	Very unlikely
Ozimops cobourgianus	Northern Coastal Free-tailed Bat		P1		X	Unlikely	Unlikely
Pseudomys chapmani	Western Pebble-Mound Mouse		P4		X	Very unlikely	Very unlikely
Rhinonicteris aurantia (Pilbara form)	Pilbara Leaf-Nosed Bat	VU	VU	Known	X	Very unlikely	Very unlikely
Birds							
Actitis hypoleucos	Common Sandpiper	MI	MI	Known	X	Unlikely	Unlikely
Anous stolidus	Common Noddy	MI	MI	May		Very unlikely	Very unlikely
Apus pacificus	Fork-tailed Swift	MI	MI	Likely		Very unlikely	Very unlikely
Ardenna pacifica	Wedge-tailed Shearwater	MI	MI			Very unlikely	Very unlikely
Arenaria interpres	Ruddy Turnstone	MI	MI	Known	X	Unlikely	Unlikely
Bubulcus ibis	Cattle Egret	MA		May		Very unlikely	Very unlikely
Calidris acuminata	Sharp-tailed Sandpiper	MI	MI	Known	X	Unlikely	Unlikely
Calidris alba	Sanderling	MI	MI	Known	X	Unlikely	Unlikely
Calidris canutus	Red Knot	MI & EN	EN	Known	X	Unlikely	Unlikely
Calidris ferruginea	Curlew Sandpiper	MI & CR	CR	Known	X	Unlikely	Unlikely
Calidris melanotos	Pectoral Sandpiper	MI	MI	Known	X	Unlikely	Unlikely
Calidris ruficollis	Red-necked Stint	MI	MI	Known	X	Unlikely	Unlikely
Calidris subminuta	Long-toed Stint	MI	MI	Known	X	Unlikely	Unlikely
Calidris tenuirostris	Great Knot	MI & CR	CR	Known	X	Unlikely	Unlikely
Calonectris leucomelas	Streaked Shearwater	MI	MI	Likely		Very unlikely	Very unlikely
Chalcites osculans	Black-eared Cuckoo	MA		Known		Very unlikely	Very unlikely
Charadrius leschenaultii	Greater / Large Sand Plover	MI & VU	VU	Known	X	Unlikely	Unlikely

Species	Common name	Conservation status		Database		Likelihood of occurrence	
		EPBC Act	WA	PMST**	DBCA	Desktop	Post-survey
Charadrius mongolus	Lesser Sand Plover	MI & EN	EN	Known	X	Unlikely	Unlikely
Charadrius ruficapillus	Red-capped Plover	MA		Known		Very unlikely	Very unlikely
Charadrius veredus	Oriental Plover	MI	MI	Known	X	Unlikely	Unlikely
Chlidonias leucopterus	White-winged Black Tern	MI	MI		X	Unlikely	Unlikely
Cuculus optatus	Oriental Cuckoo	MI	MI	May		Very unlikely	Very unlikely
Erythrotriorchis radiatus	Red Goshawk	VU	VU	May		Very unlikely	Very unlikely
Falco hypoleucos	Grey Falcon		VU	Known	X	May	Unlikely
Falco peregrinus	Peregrine Falcon		OS		X	May	Unlikely
Fregata ariel	Lesser Frigatebird	MI	MI	Known	X	Unlikely	Unlikely
Fregata minor	Great Frigatebird	MI	MI	May		Very unlikely	Very unlikely
Gallinago stenura	Pin-tailed Snipe	MI	MI		X	Unlikely	Unlikely
Gelochelidon nilotica	Gull-billed Tern	MI	MI		X	Unlikely	Unlikely
Glareola maldivarum	Oriental Pratincole	MI	MI	Known	X	Unlikely	Unlikely
Haliaeetus leucogaster	White-bellied Sea-Eagle	MA		Known		Very unlikely	Very unlikely
Himantopus himantopus	Pied/Black-winged Stilt	MA		Known		Very unlikely	Very unlikely
Hirundo rustica	Barn Swallow	MI	MI	Known	X	May	Unlikely
Hydroprogne caspia	Caspian Tern	MI	MI		X	Unlikely	Unlikely
Limicola falcinellus	Broad-Billed Sandpiper	MI	MI	Known	X	Unlikely	Unlikely
Limnodromus semipalmatus	Asian Dowitcher	MI	MI	Known	X	Unlikely	Unlikely
Limosa lapponica	Bar-tailed Godwit	MI	MI	Known	X	Unlikely	Unlikely
Limosa lapponica menzbieri	Bar-tailed Godwit (Northern Siberian)	CR	CR	Known	X	Unlikely	Unlikely
Limosa limosa	Black-tailed Godwit	MI	MI	Known	X	Unlikely	Unlikely
Macronectes giganteus	Southern-Giant Petrel	MI & EN	MI	May		Very unlikely	Very unlikely
Merops ornatus	Rainbow Bee-eater	MA		May		Very unlikely	Very unlikely
Motacilla cinerea	Grey Wagtail	MA & MI		May		Very unlikely	Very unlikely
Motacilla flava	Yellow Wagtail	MI	MI	Known	X	Unlikely	Very unlikely
Numenius madagascariensis	Eastern Curlew	MI & CR	CR	Known	X	Unlikely	Unlikely
Numenius minutus	Little Curlew	MI	MI	Known	X	Unlikely	Unlikely
Numenius phaeopus	Whimbrel	MI	MI	Known	X	Unlikely	Unlikely
Oceanites oceanicus	Wilson's Storm-Petrel	MI	MI		X	Very unlikely	Very unlikely
Onychoprion anaethetus	Bridled Tern	MI	MI		X	Unlikely	Unlikely

Species	Common name	Conservation status		Database		Likelihood of occurrence	
		EPBC Act	WA	PMST**	DBCA	Desktop	Post-survey
Pandion haliaetus	Osprey	MI	MI	Known	X	May	Unlikely
Pezoporus occidentalis	Night Parrot	EN	CR	May		Very unlikely	Very unlikely
Phaethon lepturus	White-tailed Tropicbird	MI	MI	Likely		Very unlikely	Very unlikely
Phaethon rubricauda westralis	Red-tailed Tropicbird (Indian Ocean)	MI	MI & P4	Likely		Very unlikely	Very unlikely
Phalaropus lobatus	Red-necked Phalarope	MI	MI	Known	X	Unlikely	Unlikely
Philomachus pugnax	Ruff	MI	MI		X	Unlikely	Unlikely
Plegadis falcinellus	Glossy Ibis	MI	MI		X	Unlikely	Unlikely
Pluvialis fulva	Pacific Golden Plover	MI	MI	Known	X	Unlikely	Unlikely
Pluvialis squatarola	Grey Plover	MI & VU	MI	Known	X	Unlikely	Unlikely
Recurvirostra novaehollandiae	Red-necked Avocet	MA		Known		Very unlikely	Very unlikely
Rostratula australis	Australian Painted Snipe	EN & MA	EN	May		Very unlikely	Very unlikely
Sterna hirundo	Common tern	MI	MI		X	Unlikely	Unlikely
Sternula albifrons	Little Tern	MI	MI	May	X	Unlikely	Unlikely
Sternula nereis nereis	Fairy Tern	VU	VU		X	Unlikely	Unlikely
Stiltia isabella	Australian Pratincole	MA				Very unlikely	Very unlikely
Thalasseus bergii	Crested Tern	MI	MI		X	Unlikely	Unlikely
Tringa brevipes	Grey-Tailed Tattler	MI	MI & P4	Known	X	Unlikely	Unlikely
Tringa glareola	Wood Sandpiper	MI	MI	Known	X	Unlikely	Unlikely
Tringa nebularia	Common Greenshank	MI	MI	Known	X	Unlikely	Unlikely
Tringa stagnatilis	Marsh Sandpiper	MI	MI	Known	X	Unlikely	Unlikely
Xenus cinereus	Terek Sandpiper	MI	MI	Known	X	Unlikely	Unlikely
Reptiles							
Ctenotus angusticeps	Airlie Island / Northwestern Coastal Ctenotus		P3		X	May	Unlikely
Liasis olivaceus barroni	Pilbara Olive Python	VU	VU	Likely	X	Very unlikely	Very unlikely

Table 23: Excluded species and reason for exclusion

Species	Common name	Conservation status		Reason excluded from assessment
		EPBC Act	WA	
Acentronura larsonae	Helen's Pygmy Pipehorse	MA		Marine, habitat does not occur within the survey area
Aipysurus apraefrontalis	Short-nosed Sea Snake	CR	CR	Marine, habitat does not occur within the survey area
Aipysurus duboisii	Dubois' / Reef Shallows Sea Snake	MA		Marine, habitat does not occur within the survey area
Aipysurus foliosquama	Leaf-scaled Sea Snake	CR	CR	Marine, habitat does not occur within the survey area
Aipysurus laevis	Olive Sea Snake	MA		Marine, habitat does not occur within the survey area
Aipysurus mosaicus	Mosaic Sea Snake	MA		Marine, habitat does not occur within the survey area
Aipysurus tenuis	Brown-lined Sea Snake	MA		Marine, habitat does not occur within the survey area
Anoxypristis cuspidata	Narrow Sawfish	MI	MI	Marine, habitat does not occur within the survey area
Balaenoptera acutorostrata	Mink Whale	Cetacean		Marine, habitat does not occur within the survey area
Balaenoptera edeni	Bryde's Whale	MI	MI	Marine, habitat does not occur within the survey area
Balaenoptera musculus	Blue Whale	EN & MI	EN	Marine, habitat does not occur within the survey area
Bulbonaricus brauni	Braun's Pughead Pipefish	MA		Marine, habitat does not occur within the survey area
Campichthys tricarinatus	Three-keel Pipefish	MA		Marine, habitat does not occur within the survey area
Carcharhinus longimanus	Oceanic Whitetip Shark	MI		Marine, habitat does not occur within the survey area
Carcharodon carcharias	Great White Shark	VU & MI	VU	Marine, habitat does not occur within the survey area
Caretta caretta	Loggerhead Turtle	EN & MI	EN	Marine, habitat does not occur within the survey area
Chelonia mydas	Green Turtle	MI & VU	VU	Marine, habitat does not occur within the survey area
Choeroichthys brachysoma	Pacific Short-bodied Pipefish	MA		Marine, habitat does not occur within the survey area
Choeroichthys latispinosus	Muiron Island Pipefish	MA		Marine, habitat does not occur within the survey area
Choeroichthys suillus	Pig-snouted Pipefish	MA		Marine, habitat does not occur within the survey area
Delphinus delphis	Common/Short-beaked Dolphin	Cetacean		Marine, habitat does not occur within the survey area
Dermochelys coriacea	Leatherback Turtle	EN & MI	VU	Marine, habitat does not occur within the survey area
Doryrhamphus dactyliophorus	Banded/ringed Pipefish	MA		Marine, habitat does not occur within the survey area
Doryrhamphus janssi	Cleaner/Janss' Pipefish	MA		Marine, habitat does not occur within the survey area
Doryrhamphus multiannulatus	Many-banded Pipefish	MA		Marine, habitat does not occur within the survey area
Doryrhamphus negrosensis	Flagtail Pipefish	MA		Marine, habitat does not occur within the survey area
Dugong dugon	Dugong	MI	MI	Marine, habitat does not occur within the survey area
Emydocephalus annulatus	Eastern Turtle-headed Sea Snake	MA		Marine, habitat does not occur within the survey area
Ephalophis greyae	Mangrove Sea Snake	MA		Marine, habitat does not occur within the survey area
Eretmochelys imbricata	Hawksbill Turtle	MI & VU	VU	Marine, habitat does not occur within the survey area

Species	Common name	Conservation status		Reason excluded from assessment
		EPBC Act	WA	
Festucalex scalaris	Ladder Pipefish	MA		Marine, habitat does not occur within the survey area
Filicampus tigris	Tiger Pipefish	MA		Marine, habitat does not occur within the survey area
Grampus griseus	Risso's Dolphin	Cetacean		Marine, habitat does not occur within the survey area
Halicampus brocki	Brock's Pipefish	MA		Marine, habitat does not occur within the survey area
Halicampus grayi	Mud/Gray's Pipefish	MA		Marine, habitat does not occur within the survey area
Halicampus nitidus	Glittering Pipefish	MA		Marine, habitat does not occur within the survey area
Halicampus spinirostris	Spiny-snout Pipefish	MA		Marine, habitat does not occur within the survey area
Haliichthys taeniophorus	Ribboned Pipehorse/Seadragon	MA		Marine, habitat does not occur within the survey area
Hippichthys penicillus	Beady/Steep-nosed Pipefish	MA		Marine, habitat does not occur within the survey area
Hippocampus angustus	Western Spiny/narrow-bellied Seahorse	MA		Marine, habitat does not occur within the survey area
Hippocampus histrix	Spiny/Thorny Seahorse	MA		Marine, habitat does not occur within the survey area
Hippocampus kuda	Spotted/Yellow Seahorse	MA		Marine, habitat does not occur within the survey area
Hippocampus planifrons	Flat-face Seahorse	MA		Marine, habitat does not occur within the survey area
Hippocampus trimaculatus	Three-spot/Low-crowned/Flat-face Seahorse	MA		Marine, habitat does not occur within the survey area
Hydrelaps darwiniensis	Port Darwin/Black-ringed Mangrove Sea Snake	MA		Marine, habitat does not occur within the survey area
Hydrophis czeblukovi	Fine-spined Sea Snake	MA		Marine, habitat does not occur within the survey area
Hydrophis elegans	Elegant/Bar-bellied Sea Snake	MA		Marine, habitat does not occur within the survey area
Hydrophis kingii	Spectacled Sea Snake	MA		Marine, habitat does not occur within the survey area
Hydrophis macdowelli	MacDowell's/Small-headed Sea Snake	MA		Marine, habitat does not occur within the survey area
Hydrophis major	Olive-headed Sea Snake	MA		Marine, habitat does not occur within the survey area
Hydrophis ornatus	Spotted/Ornate Reef Sea Snake	MA		Marine, habitat does not occur within the survey area
Hydrophis peronii	Horned Sea Snake	MA		Marine, habitat does not occur within the survey area
Hydrophis platurus	Yellow-bellied Sea Snake	MA		Marine, habitat does not occur within the survey area
Hydrophis stokesii	Stokes' Sea Snake	MA		Marine, habitat does not occur within the survey area
Isurus oxyrinchus	Shortfin Mako	MI	MI	Marine, habitat does not occur within the survey area
Isurus paucus	Longfin Mako	MI	MI	Marine, habitat does not occur within the survey area
Megaptera novaeangliae	Humpback Whale	M	MI & CD	Marine, habitat does not occur within the survey area
Micrognathus micronotopterus	Tidepool Pipefish	MA		Marine, habitat does not occur within the survey area
Mobula alfredi	Reef Manta Ray	MI	MI	Marine, habitat does not occur within the survey area

Species	Common name	Conservation status		Reason excluded from assessment
		EPBC Act	WA	
Mobula birostris	Giant Manta Ray	MI	MI	Marine, habitat does not occur within the survey area
Natator depressus	Flatback Turtle	MI & VU	VU	Marine, habitat does not occur within the survey area
Orcaella heinsohni	Australian Snubfin Dolphin	MI	MI & P4	Marine, habitat does not occur within the survey area
Orcinus orca	Killer Whale	MI	MI	Marine, habitat does not occur within the survey area
Phoxocampus belcheri	Black Rock Pipefish	MA		Marine, habitat does not occur within the survey area
Pristis clavata	Dwarf Sawfish	MI &VU	MI & P1	Marine, habitat does not occur within the survey area
Pristis pristis	Freshwater Sawfish	MI & VU	MI & P3	Marine, habitat does not occur within the survey area
Pristis zijsron	Green Sawfish	VU	VU	Marine, habitat does not occur within the survey area
Rhincodon typus	Whale Shark	MI & VU	MI	Marine, habitat does not occur within the survey area
Sousa sahulensis	Australian Humpback Dolphin	MI	MI & P4	Marine, habitat does not occur within the survey area
Solegnathus hardwickii	Pallid/Hardwick Pipehorse	MA		Marine, habitat does not occur within the survey area
Solenostomus cyanopterus	Robust/Blue-finned Ghostpipefish	MA		Marine, habitat does not occur within the survey area
Sphyrna lewini	Scalloped Hammerhead	Conservation-Dependent		Marine, habitat does not occur within the survey area
Stenella attenuata	Spotted Dolphin	MI	MI	Marine, habitat does not occur within the survey area
Syngnathoides biaculeatus	Double-end Pipehorse / Alligator Pipefish	MA		Marine, habitat does not occur within the survey area
Thunnus maccoyii	Southern Bluefin Tuna	Conservation-dependent		Marine, habitat does not occur within the survey area
Tursiops aduncus	Spotted Bottlenose Dolphin	MI	MI	Marine, habitat does not occur within the survey area
Tursiops truncatus	Bottlenose Dolphin	Cetacean		Marine, habitat does not occur within the survey area
Trachyrhamphus bicoarctatus	Bentstick/Short-tailed Pipefish	MA		Marine, habitat does not occur within the survey area
Trachyrhamphus longirostris	Straightstick/Long-nosed Pipefish	MA		Marine, habitat does not occur within the survey area

APPENDIX FOUR FIELD SURVEY RESULTS

Table 24: Flora inventory (site x species matrix)

Family	Species	Naturalised	SH1	Opportunistic
Amaranthaceae	*Aerva javanica*	*		X
	Ptilotus calostachyus			X
Asteraceae	*Pluchea tetranthera*			X
Bignoniaceae	*Dolichandrone occidentalis*			X
Convolvulaceae	*Bonamia erecta*		X	
	Bonamia linearis			X
	Evolvulus alsinoides var. *villosicalyx*			X
Fabaceae	*Acacia colei*			X
	Acacia coriacea			X
	Acacia sphaerostachya			X
	Acacia stellaticeps		X	
	Acacia trachycarpa			X
	Acacia tumida			X
	Albizia lebbeck	*		X
	Indigofera monophylla			X
	Senna notabilis			X
Lauraceae	*Cassytha capillaris*			X
Malvaceae	*Gossypium australe*			X
	Hibiscus brachychlaenus			X
	Melhania oblongifolia			X
	Sida rohlenae subsp. *rohleanae*			X
	Sida sp. Pilbara (A.A. Mitchell PRP 1543)			X
Myrtaceae	*Eucalyptus victrix*			X
Nyctaginaceae	*Boerhavia coccinea*			X
Proteaceae	*Hakea lorea* subsp. *lorea*			X
Poaceae	*Cenchrus ciliaris*	*		X
	Cenchrus setiger	*		X
	Digitaria brownii			X
	Poaceae sp.		X	
	Triodia epactia		X	
Solanaceae	*Solanum* sp.			X

APPENDIX FIVE FLORISTIC QUADRAT DATA

SH1

Staff LC **Date** 23/01/2024 **Season** A

Revisit

Type Q 50 m x 50 m

Location Lot 601

MGA Zone 50 665673 **mE** 7743135 **mN** **Lat.** -20.4029 **Long.** 118.5877

Habitat Flat

Aspect N/A **Slope** N/A

Soil Type Red orange sand

Rock Type NA

Loose Rock 0 % cover **Litter** 2 % cover ; <5 cm in depth

Bare ground 30 % cover **Weeds** 0 % cover

Vegetation G+ ^*Acacia stellaticeps*,^,*Triodia epactia*\^shrub,hummock grass\2\c

Veg. Condition Very Good

Disturbance Non obvious

Fire Age >5 years

Notes

Species	WA Cons.	Height (m)	Cover (%)	Count
Acacia stellaticeps		0.7	30	
Bonamia erecta		0.2	<1	
Poaceae sp.		0.3	<1	
Triodia epactia		0.4	15	

Assets | Engineering | Environment | Noise | Spatial | Waste

Talis Consultants
ABN 85 967 691 321

HEAD OFFICE
604 Newcastle Street,
Leederville
Western Australia 6007

PO Box 454,
Leederville
Western Australia 6903

NSW OFFICES
Nowra
76 Bridge Road, Nowra
New South Wales, 2541

PO Box 1189, Nowra
New South Wales, 2541

Newcastle
58 Cleary Street, Hamilton
New South Wales, 2303

P: 1300 251 070
E: enquiries@talisconsultants.com.au

Pacific Partnerships

Pacific Partnerships Village

Proposed Transient Worker Accommodation (TWA) at Lot 300, 601 and 604 Parola Court, South Hedland

Social Impact Assessment and Social Impact Management Plan

Updated 20 June 2024

Creating Communities

REPORT DETAILS

PREPARED FOR	Pacific Partnerships
CONTACT DETAILS	Alex Daly Project Director Pacific Partnerships Senior Associate
ADDRESS	Level 19 177 Pacific Highway, North Sydney NSW 2060
PHONE	0404 459 396
EMAIL	Alex.Daly@pacificp.com.au
PREPARED BY	Creating Communities Pty Ltd
PROJECT TEAM	Andrew Watt, Director Paul Garbett, Consultant Lia Ursich, Engagement Consultant
ADDRESS	100 Jersey Street, Jolimont WA 6014
PHONE	08 9284 0910
EMAIL	andrew@creatingcommunities.com.au
DATE	19 June 2024

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For information or permission to reprint, please contact Creating Communities at:

Email info@creatingcommunities.com.au Phone +61 8 9284 0910
Mail 100 Jersey Street, Jolimont, WA 6014 Web www.creatingcommunities.com.au

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GLOSSARY OF ACRONYMS

ACRONYM	DESCRIPTION
ABS	Australian Bureau of Statistics
PP	Pacific Partnerships
CCA	Creating Communities Australia
DA	Development Application
DIDO	Drive-In Drive-Out
FIFO	Fly-In Fly-Out
LGA	Local Government Area
SIA	Social Impact Assessment
SIMP	Social Impact Management Plan
ToPH	Town of Port Hedland
TWA	Transient Workforce Accommodation
TWTAV	Transient Workforce and Tourism Accommodation Village

1. INTRODUCTION

1.1 BACKGROUND

Pacific Partnerships is proposing to develop a **Transient Workforce and Tourist Accommodation Village (TWTAV)** named *Pacific Partnerships Village* at Lot 300, 601 and 604 Parola Court, South Hedland. This development is subject to planning approval from the Town of Port Hedland and the Joint Development Assessment Panel.

Pacific Partnerships engaged Creating Communities Australia Pty Ltd to undertake preliminary stakeholder engagement on the plans for the TWTA, prior to the lodgement for development approval. This was separate from, and in addition to, statutory advertising of the development application for public comment which the Town of Port Hedland (the Town) carries out as part of its development assessment process.

Pacific Partnerships also engaged Creating Communities Australia Pty Ltd (CCA) to complete a Social Impact Assessment (SIA) and a Social Impact Management Plan (SIMP) for the proposed TWTA. The development of an SIA and corresponding SIMP, is a requirement of the Town of Port Hedland for the approval of the Development Application (DA) for the TWTA facility and is the subject of this document. The SIA and SIMP focuses on the social impacts and associated management strategies for the local communities and townships of Port Hedland and South Hedland. The SIA and SIMP have been informed by a literature review and social baseline, as well as an engagement process that obtained community and stakeholder input in relation to the social impacts and potential management strategies for the future development and operation of the TWTA facility.

The engagement process included:

- Stakeholder interviews
- Community survey
- Community focus groups

The engagement with stakeholders and community members sought feedback on both the design of the proposed development (to help enhance the development design), as well as seeking input on the potential social impacts and associated management strategies needed to optimise the positive impacts and limit negative impacts of the new development.

1.2 PURPOSE OF THIS DOCUMENT

This document is an independent report completed by Creating Communities Australia Pty Ltd.

This SIA describes key community contextual elements, combined with community and stakeholder perceptions of social impacts related to the proposed new TWTA development. The SIA identifies, describes, and rates the projected impacts from the proposed development. The SIMP provides recommended mitigation strategies to enhance positive impacts and mitigate negative impacts from the proposed TWTA development.

The social impact management strategies contained in **Section 9 – Social Impact Management Plan** of this report are recommendations proposed by Creating Communities as a result of the impact assessment conducted.

Pacific Partnerships will review this report and make a final judgement as to whether they agree to the implementation of the management strategy/s. Pacific Partnerships will communicate their commitment to managing the impacts in their negotiations with the Town of Port Hedland.

1.3 BUSINESS CASE

This SIA and SIMP are based on the following business case:

1. Pacific Partnerships has an agreement with the Town to lease the land for the proposed TWTAV for a period of 20 years, with a further 20-year option.
2. The facility will accommodate up to 1309 rooms (including 4 universal access rooms) comprising of a multi-storey hotel style building with 437 rooms and a series of village style accommodation modules with 870 rooms.
3. The facility will primarily service transient resource sector tenants, housing a mix of operational, maintenance and construction workers.
4. There will be some provision for short stay accommodation for any rooms not leased to resource companies.
5. The proposed development includes an on-site retail precinct including a café space and 3 vacant tenancies, a tavern, a central kitchen and mess, business centre, indoor and outdoor physical recreation and wellness facilities.
6. It is proposed that this facility will integrate with the local sport and recreation precinct and with other neighbouring transient worker accommodation faclities.
7. There will be the provision of 448 parking bays for light vehicles (including universal access bays) plus bus parking bays, with most residents being transported by bus to and from the village to access work, while others will use company or private vehicles.

2. EXECUTIVE SUMMARY

2.1 SUMMARY OF SOCIAL IMPACT ASSESSMENT (SIA)

An impact analysis was conducted for the proposed Transient Worker Accommodation (TWTA) called *Pacific Partnerships Village* at Lot 300, 601 and 604 Parola Court, South Hedland. The social impact variables used as a basis study were identified by Creating Communities in reference to the Town of Port Hedland's Social Impact Local Planning Policy (LPP/06).

Overall, the study found that:

- The proposed development will enable, but not cause, an increased number of people in town, and increase the proportion of non-residents in town. The operations for which the workforce is required are the primary driver for this inflow, not the provision of accommodation.
- The availability of accommodation in the Hedland area has historically been one factor limiting the ability of companies (predominantly mining but also services) to bring personnel to town. By alleviating this barrier, more activities (economic activities as well as service provision) will be somewhat more enabled in the town.
- The proposed development proposes both transient and tourist accommodation and will provide community access to a range of amenities such as a café; dining area; tavern and retail spaces. This signifies a significant progression in the type of accommodation that can be developed to meet a range of residential and community needs.
- The Town of Port Hedland has a long history of accommodating FIFO workers, whose presence is woven into the community's social and economic fabric. As this development will build on the existing range of transient and tourist accommodation in the area, rather than commence a new type of activity, the impact on the community in terms of culture, way of life, services, health, and wellbeing will be incremental rather than dramatic.
- However, the proportionality between residents and non-residents (including temporary workers) in a town is a delicate balance and one which has long term implications for its housing, liveability, economy, and community identity. Each transient work and tourist development which proceeds within the Town of Port Hedland adjusts this balance. Without counter measures to maintain the balance of the permanent residential population and transient population, the Town of Port Hedland risks approaching a tipping point at which the town becomes perceived as a FIFO hub rather than an attractive place to live permanently. Such counter measures would include encouraging growth of the residential population, encouraging FIFO integration, and diversifying the economy. However, with a constrained housing market, where it is nearly impossible to feasibly build residential housing due to a lack of labour, high materials costs, the lack of available building companies and the challenges of getting finance (particularly in the Pilbara), the likelihood of a significant increase in the pool of permanent housing is low. Hence the need for transient worker accommodation to accommodate workforces.
- It is important to delineate between the direct impacts and responsibilities of the accommodation, and the workforce and mining industry itself. Transient worker accommodation villages are a visible symbol of the presence of temporary workforces in the town, with some of the facilities in Hedland being built and owned by mining companies, and operated by third parties - so these roles can become conflated. However, in this case, this transient worker and tourist accommodation will be owned by a third party and the responsibility to balance the influx of workers, and the behaviour patterns of the workers in Hedland cannot be assumed to rest solely with the accommodation provider.

Table 1 provides a brief summary of the impact variables assessed and how they relate to the proposed project, as well as an impact rating for before and after mitigation strategies are implemented. Impacts are rated on a scale of high positive to high negative.

This table provides a summary only, with more detail provided for each impact area in **Section 8. Social Impact Assessment** of this report. The alignment of the impact areas with the Town of Port Hedland's SIA Requirements is described in **Table 3, Section 5.2.2**.

TABLE 1 SUMMARY OF THE IMPACT VARIABLES AND LIKELY IMPACTS OF THE PROPOSED DEVELOPMENT

IMPACT VARIABLE	RELEVANCE	BEFORE MITIGATION	WITH MITIGATION
1. Way of life and community cohesion	The impact on the population demographics; cohesion, stability, character and how people live, work, play, and interact with one another on a day-to-day basis.	Low Negative	Minor Negative
2. Culture	People's shared beliefs, customs, values, and language or dialect (including Aboriginal culture and connection to country).	Minor Negative	Neutral
3. Services and facilities	Accessibility of community services, and facilities.	Low Negative	Minor Positive
4. Environment	The quality of the air and water people use, the availability and quality of the food they eat, the level of hazard or risk, dust and noise they are exposed to, the adequacy of sanitation, their physical safety, and their access to and control over resources.	Minor Positive	Minor Positive
5. Health and Wellbeing	People's physical, mental, social, and spiritual wellbeing.	Minor Negative	Neutral
6. Personal and property rights	Particularly whether people are economically affected, or experience personal disadvantage which may include a violation of their civil liberties.	Neutral	Neutral
7. Community Safety	The impact on community safety from crime and anti-social behaviour.	Low Negative	Neutral
8. Economic Development Employment, and Training	Economic development, employment and training for the community (including the local Aboriginal and Torres Strait Islander community) and the transient workforce, and changes in the overall local economy of Hedland	Low Positive	Medium Positive
9. Housing and Accommodation Change	Impact of the development on the accommodation and housing infrastructure in Port and South Hedland.	Minor Positive	Minor Positive
10. Built Form	The built form in the surrounding area and the way it provides a safe and sustainable lifestyle.	Neutral	Minor Positive
11. Cumulative Impacts	The combined, incremental effects of this development and other related developments.	Minor Negative	Neutral

2.2 SUMMARY OF PROPOSED SOCIAL IMPACT MANAGEMENT (SIMP) APPROACH

The following section provides a summary and explanation of the proposed management strategies that are recommended to reduce any negative impacts and optimise any positive impacts from the proposed development of the proposed Transient Worker and Tourist Accommodation (TWTA) called *Pacific Partnerships Village* at Lot 300, 601 and 604 Parola Court, South Hedland.

The operation of TWTAs is complex in terms of its social impacts and expectations on owners and operators. While provision of an accommodation services comes with some usual responsibilities of an accommodation provider the provision of accommodation for temporary workers comes with additional expectations related to the complexities of the social dynamics involved with supporting an increase in temporary workers into a town.

As there have been several transient worker accommodation developments within the Hedland area in the last 20 years, improved practices include several social impact management commitments such as facilitating the integration of the transient worker accommodation village residents into the local community and supporting the health and wellbeing of the village residents. Within the Town of Port Hedland, transient worker accommodation villages are expected to offer more than just temporary housing; they must also contribute to the community's socio-economic conditions, enhance the built environment, and respect the local culture and heritage.

Some transient worker accommodation facilities in the Hedland area are owned by mining companies (who are also the employers of the transient worker accommodation residents) and operated by a third party, whereby the responsibility of the accommodation provider and employer is conflated. However, management of social impacts of the Pacific Partnerships Village requires clear delineation of responsibilities between the accommodation provider, and the employers of the workforces it will accommodate.

Overall, the management of social impacts within the realm of responsibility of the accommodation provider are:

- Duty of care for transient worker accommodation residents while on the premises e.g. safety, crime prevention, comfort (including sleep quality), wellbeing.
- Duty of care for transient worker accommodation staff e.g. duties, work environment.
- Duty of care of guests from the community while on the premises.
- The physical facility and its impacts on the surrounding area e.g. design, wayfinding, landscaping, energy use
- Construction phase impacts e.g. noise, dust, construction workforce
- Ongoing transient worker accommodation employment and supply chain.
- Relationships with local stakeholders e.g. Traditional Owners.

Management of social impacts within the realm of responsibility of the workforce employer in relation to their accommodation are:

- Duty of care for workers as employees e.g. overall health and wellbeing when temporarily located in Hedland for their employment
- Direct impacts of bringing workforces to Hedland e.g. town induction, behaviour of employees, employee interactions with the Hedland community.

Due to the development of facilities and the time the workforce will spend at the TWA facility, there are many opportunities for the accommodation provider to support the workforce employers (who may be anchor tenants) and their staff to manage their social impacts.

As the accommodation facility is specifically for transient worker and tourism accommodation purposes, there would also be a commercial advantage to facilitating these as it provides a greater value proposition for potential lessees. The accommodation provider may wish to support the management of social impacts relating to the workforce through:

- Induction processes which encourage community integration and respectful behaviours
- Promotion of local clubs, community organisations and local businesses
- Wellness and Social/Community Liaison Coordinators
- Healthy food choices
- Alcohol, drug and mental health supports
- On site medical staff
- Management of alcohol consumption
- Provision of transport to access local business and community services (which can also be done in collaboration with other TWAs)

Management of social impacts on which the workforce employer, and the Town of Port Hedland must collaborate are:

- Indirect impacts of bringing workforces to Hedland on the broader community e.g. balance of residents and non-residents in the town, strain on essential services (health and medical services, sporting facilities), displaced local employment.

Management of social impacts on which the accommodation provider, and the Town of Port Hedland must collaborate are:

- Interactions of the physical facility with the surrounding area e.g. parking, storm water drainage
- Interactions of the service provision with the local community and local businesses e.g. fair competition, alcohol licencing.

The full Social Impact Management Strategy (SIMP) which outlines all the management strategies, rationale and proposed implementation timing is available in Section 9.

3. PROJECT BACKGROUND

3.1 SITE AND FACILITIES DETAILS

3.1.1 LAND LOCATION, TENURE AND ZONING

The land on which the proposed **Transient Worker and Tourist Accommodation (TWTA)** development is located is a 10-hectare parcel of undeveloped land situated west of Parola Court, near to South Hedland sporting complex.

The proposed site is located less than a kilometre from the South Hedland Town Centre, which is the retail and services hub of South Hedland and is within close proximity to the old TAFE site, which is the designated site for the future development of the Town's new Civic and Arts and Cultural precinct. The site directly abuts the Gateway Transient Worker Accommodation Village (TWA), which is owned and operated by Compass / ESS for residents employed predominantly by Roy Hill and BHP. It is also within close proximity of the Club Hamilton TWA, which is owned by FMG to house its port employees and contractors and is operated by Civeo.

At the time of writing this report, it is proposed that State Government will lease the land to the Town of Port Hedland who will sublease the land to Pacific Partnerships. Pacific Partnerships has an agreement with the Town to lease the land for a period of 20 years, with a further 20-year option.

The land is currently zoned Rural in the Town of Port Hedland Local Planning Scheme No. 7. 'Workforce accommodation' (as defined in the scheme) is an 'A' use in the Rural zone, meaning that the use is permitted where the relevant planning decision-making body (the local government or Development Assessment Panel) uses its discretionary powers to approve the development.

FIGURE 1 PROPOSED LOCATION OF PACIFIC PARTNERSHIPS VILLAGE (NEED CLARITY ON SITE MAP)

The new Pacific Partnerships Transient Worker and Tourism Accommodation Village is within proximity to the following community facilities:

- South Hedland Sporting Complex (0.41km)
- Kevin Hill Oval (0.7km)
- Wanangkura Stadium (Sport and Recreation) (0.79km)
- ESS Gateway FIFO Village (0.38km)
- Old TAFE (0.75km)
- Hedland Senior High School (1.02km)
- Club Hamilton TWA (FMG FIFO Village) (0.61km)
- South Hedland Fire and Rescue (0.61km)
- South Hedland Bowls and Tennis Club (0.81km)
- South Hedland Police Station (1.06km)
- The Hedland Health Campus (the local hospital service which is open 24 hours 7 days a week and provides emergency services) is 1.45 kilometres away (approx. 5 minutes by car).
- South Hedland Public Library (1.55km)
- South Hedland Aquatic Centre (1.86km)

NOTE: The Port Hedland Medical Centre (with doctors available Monday to Wednesday 7:30 am to 7:00PM and Thursday to Friday 7:30am to 5:30pm) is located in Port Hedland which is 17.4km away (16 minutes by car).

Access to medical facilities is an area of investigation in this Social Impact Assessment.

3.1.2 PROPOSED FACILITY FEATURES

It is proposed that the new Transient Worker and Tourism Accommodation Village will accommodate up to 1309 rooms (including 4 universal access rooms) comprising of a multi-storey hotel style building with 437 rooms and a series of village style accommodation modules with 870 rooms. It is proposed that the facility will primarily service resource sector tenants, housing a mix of operational, maintenance and construction workers.

The proposed development includes an on-site café space, a tavern, a central kitchen and dining, and indoor and outdoor physical recreation and wellness facilities. It also includes a retail precinct and business centre. It is proposed that this facility will integrate with the local sport and recreation precinct and with other neighbouring TWAs, with the facilities being open to the community.

The proposed development includes parking bays for 448 light vehicles (including universal access bays) plus bus parking bays. Most residents will be transported by bus to and from the village to access work, while others will use company or private vehicles.

The facility is designed in accordance with the Town of Port Hedland's Local Planning Policy LPP/05 – Workforce Accommodation, which requires workforce accommodation developments to provide a building, or buildings designed for cyclone sheltering purposes for all occupants the site is designed to accommodate.

The village will be fenced for safety and crime prevention purposes, as the rear of the site is open to undeveloped land. The front of the facility will however integrate with the street scape and be visually permeable.

Provisions for disabled person access will also be provided to all public facilities as per the Building Code of Australia (BCA). This includes installation of curb ramps, loading areas for disabled access parking areas, providing entrance ramps to all public buildings, among other features. The proposed development also includes four ground level accommodation units, purpose-designed for universal access, and dedicated universal access resident parking bays.

3.1.3 LOT & SITE PLANS

The site consists of three lots – 300, 601 and 604. (See Figure 2) At the time of conducting the engagement Lot 604 had not been confirmed – which is not has been.

Engagement with key stakeholders and community members was based on the site plan (Figure 3).

The render of the multi-storey hotel development was only available to attendees of the Focus Groups (See Figure 4). This render has since been updated following the engagement process (See Figure 10 on page 85 for the updated render)

FIGURE 2 LOT PLAN

FIGURE 3 PROPOSED SITE PLAN FOR THE NEW DEVELOPMENT

FIGURE 4 RENDER OF THE PROPOSED NEW DEVELOPMENT PRESENTED AT FOCUS GROUPS

3.2 PROPOSED OPERATION OF THE TRANSIENT WORKER AND TOURISM ACCOMMODATION VILLAGE

The village will be operated by a company with experience in operating transient worker and tourist accommodation. This entity is yet to be decided.

3.2.1 OPERATING TIMES

The village will operate for 24 hours a day, seven days per week in order to meet the needs of residents who work, day and night shifts.

3.2.2 COMMUNITY ACCESS TO THE VILLAGE

Pacific Partnerships advise that the village site was chosen due to its proximity to the South Hedland Town Centre, providing easy access by foot, cycle or by car. Village residents who have their own private vehicles at the village will be able to use these to access facilities and activities in South Hedland and Port Hedland.

The on-site retail/café space, tavern, and physical recreation and wellness facilities are proposed to be made available to the community. There is also a business facility that will be made available to the residents of the village and community.

3.2.3 SUPPORTING RESIDENT HEALTH AND WELLBEING

The proposed development includes an indoor gym/wellness centre, outdoor gym and multi-sports basketball courts, and swimming pool and cricket nets. There are also passive outdoor areas including a landscaped village green. Pacific Partnerships advise that residents will also be encouraged to engage in local sport and recreation pursuits. Lifestyle Coordinators will be employed to support resident engagement in healthy and active activities.

3.2.4 ALCOHOL MANAGEMENT

The proposed development includes an on-site tavern. Responsible service of alcohol is the norm for the majority of transient workforce accommodation in Australia and this Village will have licensed social areas operating at set times. The facility will be run like any other licensed premise, including the requirement for training of service staff in the Responsible Service of Alcohol (RSA).

Pacific Partnerships advise that each resident will be provided with an access card, which will control the number of drinks permitted on site on any day. Residents of the village would be required by their employers to register a zero drug and alcohol reading when they are scheduled to work and will be subject to drug and alcohol testing.

3.2.5 SUPPORTING LOCAL BUSINESSES

Pacific Partnerships advise that the village is purposely located close to the South Hedland town centre to enable village residents to have easy access to local shops and services. Residents will be encouraged to support local businesses. There will be a focus on accessing (where possible) a local workforce and engaging local businesses, including Aboriginal businesses and workers, in the development and operation of the village. All engagement and local business support will be undertaken with reference to the Reconciliation Action Plans (RAPs) of the respective businesses developing the facility.

3.3 DEVELOPMENT APPLICATION AND APPROVALS PROCESS

At the time of completing this report, it was noted that conceptual plans of the proposed development have already been considered by the Town of Port Hedland's Design Review Panel (DRP) ahead of the pending lodgement of the DA. The DRP is a body made up of independent members who have professional qualifications and expertise in architecture and urban design. The role of the DRP is to advise the Town and proponents of major development proposals on the design quality of developments, to achieve improved built form outcomes. Two sessions were held with the DRP and feedback considered and incorporated into the updated designs.

The development application for this proposed Accommodation Village will be considered again by the DRP, and the DRP's comments and advice will be taken into consideration by the Town and Regional Joint Development Assessment Panel in the assessment of the development application. In providing its advice, the DRP consider how the proposal addresses design principles set out in State Planning Policy 7.0 – Design of the Built Environment.

The final decision on whether to approve the development application will be made by the Regional Joint Development Assessment Panel (RJDAP). The RJDAP is a panel of five members appointed by the Minister for Planning. Three members including the Presiding Member, are specialist members with qualifications and experience in areas such as planning, architecture, and engineering. The other two members are elected councillors of the Town of Port Hedland. Officers of the Town of Port Hedland will assess the application and provide a report on it to the RJDAP including a recommendation on whether the application should be approved or refused.

3.4 PROJECT TEAM

The following companies comprise the project team that will plan, construct, and operate the new Transient Worker and Tourism Accommodation Village.

3.4.1 PACIFIC PARTNERSHIPS – LEAD PROPONENT

Pacific Partnerships are the lead proponents for this new facility and are an Australian infrastructure developer and are part of the CIMIC Group of companies. Pacific Partnerships leads infrastructure and energy asset development, investment, and construction and operation management.

3.4.2 VENTIA – CO PROPONENT AND OPERATOR

Ventia are collaborating with Pacific Partnerships in the design and development of the facility and are proposed to operate the facility. Ventia are a company who provide a range of services including asset management and facilities management. Ventia have extensive experience in planning, managing and operating workforce accommodation villages and would be the operator of this new facility.

3.4.3 CPC CONTRACTORS – FACILITY CONSTRUCTION

It is proposed that CPB Contractors will build the facility. CPB Contractors are a leading major contractor, part of the CIMIC Group, who build critical and complex infrastructure across Australia and New Zealand for a more connected, sustainable future. CPB Contractors has developed and delivered accommodation villages in the Pilbara and across Australia.

3.4.4 UGL – ENGINEERING

UGL is CIMIC Group's specialist end-to-end engineering and services provider with in-house engineering team ensures we can provide a true end-to-end outcome for our customers.

3.4.5 TETRA TECH PROTEUS – DESIGN

Pacific Partnerships has engaged expert design and engineering firm Tetra Tech Proteus to drive the design of the site. Tetra Tech Proteus has extensive experience in working in the Pilbara and have successfully designed approximately 20 workforce accommodation facilities within Australia and elsewhere.

3.5 EXISTING TRANSIENT WORKER ACCOMMODATION AND TOURISM FACILITIES IN THE TOWN OF PORT HEDLAND

3.5.1 EXISTING TEMPORARY WORKFORCE ACCOMMODATION (TWA) IN THE TOWN OF PORT HEDLAND

The continuing growth of the port has resulted in Port and South Hedland being home to a number of Temporary Workforce Accommodation (TWA) facilities that house employees of various resource companies operating in the area.[1] These consist primarily of:

- Located close to the proposed site:
    - Club Hamilton Motel – owned by FMG and operated by Civeo (1,000 beds).
    - Gateway village – owned and operated by Compass / ESS (1,200 beds).
- Located close to the airport:
    - Port Haven – owned by BHP and operated by Compass / ESS (1,202 beds and a proposal for an additional 450 beds).
    - Waypoint village – owned and operated by Compass / ESS (252 beds, with a proposal to expand to 553 beds).

There are also six villages which fall within the Town's boundaries but are not close to either Port or South Hedland urban centres.

The following semi-remote camps are located within a 30-minture drive of South Hedland:

- Qube Camp on Greater northern Highway (150 beds)
- Mooka rail camp, operated by BHP (several hundred beds)
- FMG rail camp, which is located south of South Hedland (unknown number of beds)

There are further three remote camps located within the Town's boundary:

- Wodgina Camp (750 beds)
- Mount Dove Camp (240 beds)
- Kangan Village (116 beds)

3.5.2 EXISTING SHORT STAY / TOURISM ACCOMMODATION IN THE TOWN OF PORT HEDLAND

[1] Data on the number of beds in TWA facilities and short stay accommodation is from the Town of Port Hedland as at 150223.

In addition to dedicated TWA facilities, there are other short-stay / tourism accommodation facilities within the Town. Most of these facilities primarily exist for tourism purposes and are not owned or operated by a specific resource company. However, these facilities can accommodate short-stay FIFO employees working in this area, to supplement local demand for accommodation.

These facilities consist of:

- Landing Resort (280 beds)
- Port Tourist Park (150 accommodations)
- The Lodge Motel (130 beds)
- The Pier Hotel (unknown number of beds or accommodations)
- Discovery Park (130 beds)
- The Hedland Hotel (65 beds)
- Hospitality Inn (41 beds)
- Walkabout Motel (80 beds)
- Blackrock Tourist Park (109 beds)
- The Esplanade Hotel (108 beds, accommodation currently closed)
- South Hedland Motel (104 beds).

4. SOCIAL IMPACT ASSESSMENT & SOCIAL IMPACT MANAGEMENT PLANNING METHODOLOGY

4.1 OVERVIEW

Pacific Partnerships engaged Creating Communities Australia Pty Ltd (CCA) to complete the Social Impact Assessment (SIA) and Social Impact Management Plan (SIMP) for the proposed Transient Worker and Tourism Accommodation Village (TWTAV). The SIA and SIMP was completed over three phases.

Additional feedback was sought on the proposed village design to help inform the final plans that will be submitted as part of the Development Application process (DA).

The following table (Table 2) outlines what was delivered during each phase.

TABLE 2 - METHODOLOGY OVERVIEW

PHASE 1: Inception and Preparation Phase	• A project inception meeting was conducted in late December 2023 to inform the process. • A high-level literature review and social baseline were completed. • A stakeholder engagement plan and stakeholder database were developed. • A predictive assessment of key impact areas was carried out which focused engagement tools to ensure relevant insights are gained. • Approval was sought and obtained from the Town of Port Hedland on the proposed impact areas to be investigated.
PHASE 2: Communication and Engagement	• Stakeholder communication and engagement tools were developed and distributed including: - A project information and FAQs booklet. - Stakeholder interview invitations (via email). - Stakeholder and community focus group and survey invitations (via email). - Newspaper advertisement promoting the survey and focus groups. • Project landing page hosting on CCA's HubSpot to provide key project information and access to view all engagement activities. • A Community Survey was developed and promoted. • A series of 11 interviews were conducted with key stakeholders to gain insights into their perceptions of the impact of the TWTAV. (Note: 20 invitations were made to key stakeholders) • Three (3) focus groups were facilitated with stakeholders and community members.

PHASE 3: Reporting	• All engagement data was collated, analysed, and reported. • Impacts were assessed and reported on. • Management strategies were developed. • A final SIA and SIMP report was delivered to Pacific Partnerships.

4.2 PHASE 1 DETAIL: PROJECT INCEPTION & PREPARATION

A project inception meeting was conducted online on 15 December 2023 to confirm the scope, methodology, timeline, and deliverables of the project.

Following this meeting, a high-level literature review and social baseline, including a demographic snapshot of Port Hedland, was conducted via online desktop research.

The desktop research included reviewing documents provided by Pacific Partnerships and publicly available online sources, including:

- Previous research and consultation studies
- Proposal to the Town of Port Hedland and previous submissions to the Town
- Land planning documentation
- Site plans and design
- Information about the proponents of the development
- Town of Port Hedland's requirements for delivery of SIA's and SIMP's
- Current TWA and Tourism Accommodation data in Hedland
- Australian Bureau of Statistics (ABS) Census data

4.3 PHASE 2 DETAIL: COMMUNICATION AND ENGAGEMENT

Creating Communities Australia Pty Ltd (CCA) designed and implemented an engagement process to ensure community stakeholders' feedback on the design of the facility were captured, as well as their feedback on the social impacts of the proposed development and suggestions to inform the Social Impact Management Strategy (SIMP).

The consultation process included three key activities:

- Community Survey
- Key Stakeholder Interviews
- Stakeholder and Community Focus Groups (3)

Despite promotion, regular follow up with stakeholders and ongoing encouragement for people to participate in engagement, the response rate and level of involvement was low.

This may be the result of a few factors:

- Consultation fatigue in the community from engagement being undertaken for so many projects in Hedland, and
- There is a broader acceptance of FIFO workforces and the need for more Transient Workers when there are housing pressures in Hedland.

4.3.1 PROMOTION OF ENGAGEMENT ACTIVITES

A stakeholder engagement strategy was developed early in the SIA/SIMP process and was used to consider the nature of the proposal and the needs of different stakeholder groups.

Community members and stakeholders in Port Hedland were offered to opportunity to engage in the process via completing a survey, attending a focus group or complete a survey.

Targeted interviews were conducted with landholders, government agencies, local government agencies/authorities, non-governmental organisations, industry groups and business.

Stakeholders were identified by CCA through a combination of our familiarity with Port Hedland context and access to community databases. Key community stakeholders were invited to participate in face-to-face interviews in Port Hedland. Other stakeholders and community members were invited to focus groups or to complete a survey.

Both the Focus Groups and the Community Survey were promoted via a quarter-page advertisement in the Northwest Telegraph (run the week beginning the 04 March 2024) A copy of this can be found in Appendix G – Newspaper Advertisement.

Correspondence was sent to all key stakeholders on the stakeholder list to promote the project and engagement and encourage them to attend a focus group or complete the survey. A copy of this can be found in Appendix E – Focus Group Invite.

4.3.2 COMMUNITY SURVEY

Local community members and stakeholders were invited and encouraged to provide their views on the potential impacts of the proposed TWTAV via a survey hosted on the platform, Qualtrics.

Despite public advertising and ongoing follow-up and encouragement to stakeholders and assistance from others in the community to share the link to complete a survey, there was low uptake with only eight (8) people accessing the platform, and seven (7) completing the Survey all together.

A copy of the Survey can be found in Appendix H – Community Survey.

A summary of the detailed survey responses can be found in Appendix D – Detailed Survey Feedback.

4.3.3 STAKEHOLDER INTERVIEWS

Key representatives from the Government, local industry, business, not-for-profit organisations, and community groups were invited to participate in an interview to gain feedback on the positive and negative impacts of the proposed TWTAV.

These representatives were identified by CCA through a combination of our familiarity with the Port Hedland context and existing databases of key community stakeholders.

Emailed invites and follow up phone calls were provided to 20 stakeholders inviting them to take part in the interviews, and the following 11 stakeholders accepted this opportunity to be interviewed:

- BHP, **Patrik Melberg**
- ESS / Compass/Gateway Village, **Byron Forbes**
- Member of WA Parliament, Pilbara MLA, **Kevin Michel**
- PHIC, **Chantel Cullen**
- Pilbara Development Commission, **Trish Barron**
- Port Hedland International Airport, **Tessa Hughes**
- South Hedland Volunteer Fire and Emergency Services, **Captain Vaughan Price**
- Town of Port Hedland Executive team, **Lee Furness** (Director of infrastructure Services), **Craig Watts** (Director Regulatory Services), **Shauna** (Director Public Affairs), **Casimir Penheiro** (Planning Manager)
- Town of Port Hedland, **Mayor Peter Carter**

- Town of Port Hedland, **Ryley Heap**, Senior Economic Development Officer | **Chaz Roberts**, Planning & Economic Development Manager.
- WA Police, Port Hedland, **Senior Sergeant Vance Ballerini**

These interviews typically took between one and two hours to complete and were delivered in a semi structured format, either face to face, online, or via telephone with participants asked about the potential impacts and opportunities that may emerge from the proposed TWTAV.

A list of all invitees can be found in Appendix K – List of interviewees

A summary of the detailed interview responses can be found in Appendix B – Detailed Interview feedback

4.3.4 STAKEHOLDER AND COMMUNITY FOCUS GROUPS

Key community stakeholders representing Government, local industry, business, not-for-profit organisations, and community groups were invited to participate in one of three focus groups to provide feedback on the proposed TWTAV.

Invites and follow up phone calls were provided to 68 community stakeholders, inviting them to take part in the focus groups, with a total of 17 people accepting the invite. However, only 12 attended.

A total of three focus groups were completed. The details of each focus group were as follows:

- Focus Group 1: 2 participants
- Focus Group 2: 8 participants
- Focus Group 3: 2 Participants

The focus groups included a short presentation and group activities. The group activities requested participants to work in small groups at their table and discuss the positive impacts/benefits, negative impacts/issues, and associated mitigations/opportunities of the defined impact areas.

Electronic invitations were sent to a database of community stakeholders and Elected Members to invite them to attend the focus groups. A newspaper advertisement also ran to invite local community to attend the focus groups.

A copy of the focus group presentation can be found in Appendix I.
A copy of the focus group invitation can be found in Appendix E.
A copy of the focus group worksheets can be found in Appendix N.

4.4 PHASE 3: REPORTING AND COMMUNICATION

Creating Communities Australia Pty Ltd (CCA) completed a report entailing the social impact assessment and social impact management planning for the key impact areas.

Findings from the literature review, social baseline and consultation were used to inform the analysis of impacts and development of key mitigation and opportunity strategies.

An initial summary of findings specifically related to the feedback on the design of the development was provided to Pacific Partnerships directly following the engagement phase to assist the project team in finalising the designs for submitting for approval.

A draft of the report was submitted for internal review prior to finalisation. The report format was designed to make the document accessible for a broad range of internal and external audiences.

4.5 PHASE 4: ONGOING

Ongoing communication with Pacific Partnerships was maintained throughout the SIA/SIMP process to ensure that the final products were aligned with the project planning.

This report represents the culmination of all works completed throughout the life cycle of the project.

4.6 LIMITATIONS OF THE METHODOLGY

Rating social impacts is a complex process that involves comparing social phenomena that are fundamentally different in nature. This limitation was addressed through the consistent application of the method across the key impact areas.

The most effective approach to social impact assessment is a 'live' process, which is ongoing and iterative in nature. Therefore, to maintain the accuracy of findings over time, it is recommended that regular and consistent monitoring occur, including updating indicators and revising this report (and the subsequent social impact management plan), where necessary.

A general rule in survey data collection is that more responses provide more reliable data, however the key purpose of these types of engagement techniques is to gain rich and layered qualitative data, which means that large sample sizes are not necessarily essential but assist in ensuring the data is representative of community sentiment. With the small response rate received to the various engagements, this does limit the applicability of the community feedback.

5. COMMUNITY CONTEXT / LITERATURE REVIEW

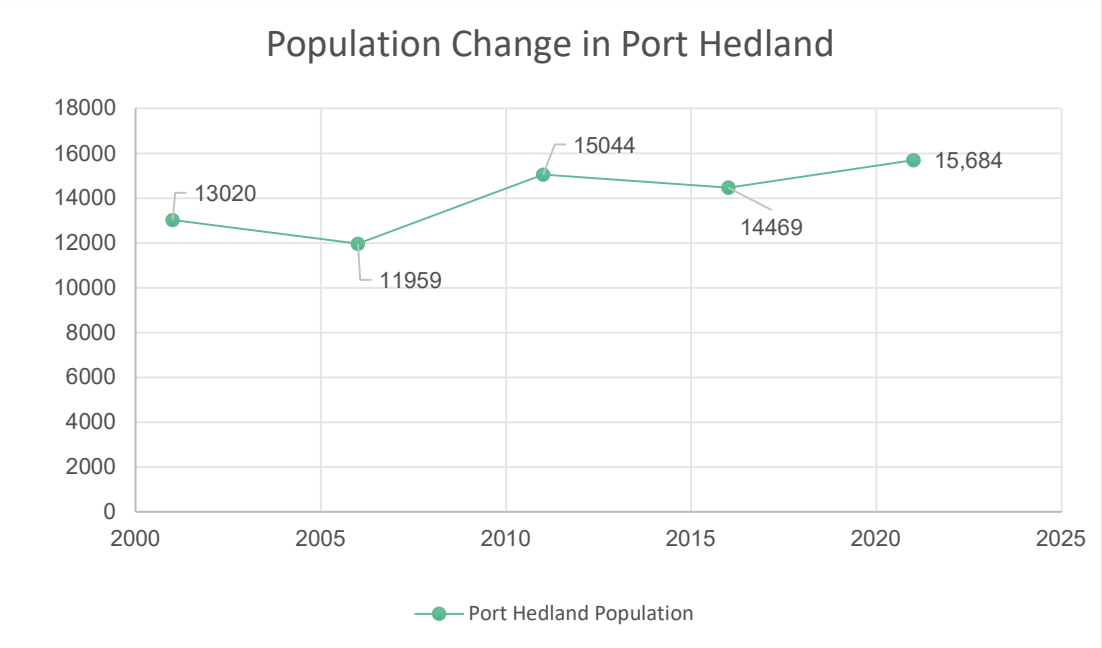
5.1 PORT HEDLAND – SOCIO-DEMOGRAPHIC OVERVIEW

Port Hedland is the largest bulk export port by tonnage in Australia. In 2023, over 3000 (3,289) vessels visited Port Hedland.[2] The main product exported from the port is iron ore, which consists of 93.4% of its exports. However, the port also caters to a range of other export operations including liquefied natural gas (4.1%) and salt (0.9%).

As of 2021, the Local Government Area (LGA) of Port Hedland had a permanent residential population of 15,684. This was an 8.4% increase from the population of 14,469 in 2016. The population is predicted to grow to 18,473 by 2026 and 19,624 by 2031[3].

Overall, the population of Port Hedland (LGA) has increased by 2,664 people since 2001 (see figure below). From 2000 to 2020, both Port Hedland and South Hedland recorded an average annual growth of population of 0.6%. This growth is lower than Western Australia (1.5%) and the Pilbara (0.7%).[4]

FIGURE 4 POPULATION FLUCTUATIONS WITHIN PORT HEDLAND ACCORDING TO ABS CENSUS DATA BETWEEN 2001 TO 2021



Port Hedland generates a significant annual economic output of $14.774 billion.[5] The mining sector is the largest contributor to the economic output, supporting an estimated annual output of $11.4billion (77.2% of economic output).

[2] Port of Port Hedland Fact Sheet, 2023. https://www.pilbaraports.com.au/about-pilbara-ports/publications/forms-and-publications/forms-and-publications/other/2023/november/port-of-port-hedland-fact-sheet [Accessed 5 March 2024]
[3] Port Hedland Forecast Profile | Summary | REMPLAN
[4] Port Hedland Land Supply Assessment. 2022. https://www.wa.gov.au/government/document-collections/regional-land-supply-assessments#2022-reports [Accessed 5 March 2024]
[5] Remplan. 2021. Port Hedland Economic Profile. https://app.remplan.com.au/porthedland/economy/summary [Accessed 5 March 2024]

The mining sector employs the greatest proportion of the Town's working population, accounting for 33.5% of all jobs,[6] with the iron ore mining sector being the largest employing industry (22.7% of the working population).

In 2021, the town of Port Hedland's economy supported 10,985 jobs.

5.2 TOWN OF PORT HEDLAND POLICY ON SOCIAL IMPACT

5.2.1 TOWN OF PORT HEDLAND POSITION STATEMENTS AND STRATEGIES REGARDING TRANSIENT WORKER ACCOMMODATION (TWA)-2014-2021

While the Town of Port Hedland acknowledges the need for TWAs, it also seeks to minimise any real or perceived negative impacts of TWA facilities on the social and economic conditions of the Town.

In view of this, the Town of Port Hedland introduced a Transient Worker Accommodation Strategy in 2014. The strategy outlined a series of principles for the provision of TWA within the Town. It also acknowledged that the need for non-residential workers was likely to continue in the future and advocated for a balanced and dispersed approach to the siting and location of TWA facilities, including an imposition of clear time limits on the operation of these sites.

According to the TWA Strategy document, TWA is defined as "Accommodation intended for the temporary use of transient workers and may be designed to allow transition to another use or may be designed as a permanent facility for transient workers and includes a contractors camp and dongas". Based on the strategy, TWA facilities are to be located:

- on land identified at the Port Hedland International Airport; or
- on land located on the periphery of South Hedland

Any TWA facilities located within the Town must demonstrate a clear community benefit or legacy. This may include the improvement of the Town's physical infrastructure, financial contribution towards community facilities and / or projects, and the retention of permanent community buildings and / or infrastructure at the completion of non-residential workforce accommodation operations.

The Town of Port Hedland released a new Local Planning Strategy in May 2021. The strategy is described as 'the guiding document to realise our vision of Hedland becoming Australia's leading Port town' and provides a roadmap for the next 15 years.

This strategy forecasts the population within the Town of Port Hedland to grow significantly by 2041. A conservative forecast estimates a population growth to 18,500, while an aspirational forecast places the population figure at this time, at 27,085 people.

The strategy outlines that a concerted effort across government and industry would be required for Port Hedland to realise population growth in accordance with the aspirational estimate. One of the many factors listed within the strategy document that could drive this growth, is corporate social responsibility efforts by industry and business to encourage and promote a local workforce over fly-in, fly-out workforces (i.e. residential as opposed to FIFO). Alongside this, it is argued that population growth can be facilitated through a commitment by the State Government towards Hedland becoming a prosperous regional economy through its decision making on regional services, mining infrastructure and workforce accommodation camps.

[6] Remplan. 2021. Port Hedland Economic Profile. https://app.remplan.com.au/porthedland/economy/summary [Accessed 5 March 2024]

In addition, the Planning Strategy highlights that *"More FIFO workers will be required over the next few years in Port Hedland, with the anticipated boom in construction, including the capital works program to expand the Port (2-year project), BHP South Flank mine in Pilbara, FMG Port Hedland expansion and Rio Tinto expansions and new mines".*

Due to the recognised continuing need for TWA facilities in Hedland, and the potential of these facilities to expand due to State Government investment and the projected growth of the Port, the Town of Port Hedland adopted a Position Statement (2020) pursuant to the approval of development applications for TWA facilities.

The Position Statement is founded on the following principles:

- **Corporate social responsibility –** organisations have a degree of responsibility not only for the economic consequences of their activities, but also for the social and environmental implications.

- **Collaboration –** development of meaningful partnerships between all levels of government, industry, and community in realising the strategic vision for Port Hedland.

- **Genuine community engagement –** a firm commitment to upfront and ongoing engagement relevant to the scale and complexity of the development and management of the workforce accommodation, its impacts, and benefits.

- **Transparency and honesty -** in the exchange of information between industry and the Town of Port Hedland on the demand for, and management and lifespan of, workforce accommodation.

- **Community Development -** recognition that economic development is multi-faceted, and that industry, government, local government, and community are vital to the achievement of economic outcomes.

- **Cultural respect and enhancement –** celebration of the rich culture and heritage of Traditional custodians of this land.

In applying the policy framework and statement, the Town of Port Hedland avows to balance 'industry competitiveness' and 'national and state economic outcomes' with 'regional development aspirations for its communities'.

The Town's policy position when considering proposals for workforce accommodation are as follows:

- **Demand-driven -** To ensure resource sector accommodation requirements are met while limiting the proliferation of workforce accommodation, high residential vacancy rates, and competition with town-based services and facilities, the Town supports workforce accommodation being demand-driven.

- **Proximity –** The Town encourages workforce accommodation for projects in proximity to the Town being located within the townsite boundary, where a safe driving distance to site and return can be achieved. This will ensure these developments realise the immediate and sustainable value for the community and maximise psychosocial outcomes for industry workforces.

- **Design standard –** While periods of operation of workforce accommodation do not automatically dictate lower design standards, the Town is cognisant that projects with a shorter lifespan may not warrant the same level of investment as those subject to long term

operations. At its discretion, the Town will require the application of a higher design standard to development that is located within higher activity centres, commensurate with the project lifespan, and resultant timeframe for development approval.

- **Location -** The Town supports long-term workforces being accommodated in permanent residential-style developments, with a preference that these be integrated within higher activity centres to enhance amenity, stimulate local business activity, support town-based services and infrastructure, and encourage community integration.

- **Social Impact -** The Town views analysing, monitoring, and managing the social consequences of workforce accommodation as a critical element of the decision-making process and a vital part of an upfront and ongoing partnership approach between industry, the community, and the Town. This includes consideration of workforce demands on infrastructure and services and potential augmentation and co-location opportunities for industry workforces that develop a sense of place.

5.2.2 ALIGNMENT WITH TOWN OF PORT HEDLAND PLANNING POLICY

The Town of Port Hedland has a Social Impact Local Planning Policy (LPP/06) which describes when a Social Impact Assessment (SIA) is required for a planning proposal, what it should address, and the ongoing management and implementation of a Social Impact Management Plan (SIMP). The Policy was developed to assist development applicants, the community and industry to identify and address the potential social impacts of specific developments and support the Town in making informed decisions on planning proposals.

The policy outlines six key principles to inform the development and submission of an SIA and SIMP:[7]

1. Lifespan – should consider the full lifecycle of the proposal.
2. Reasonable – should be commensurate with the nature and scale of the proposal and the likely significance of the resultant social impacts.
3. Participatory – engagement to be inclusive, respectful, meaningful, and tailored to the needs of potentially impacted individuals or groups.
4. Rigorous – should be based on objective, comprehensive social impact analysis and incorporate the most up to date information on communities affected.
5. Effective management – should include effective social management measures that enhance benefits and mitigate negative impacts.
6. Adaptive – management measures should be monitored, reviewed, and adjusted to ensure ongoing effectiveness.

This SIA has been prepared with reference to the Town of Port Hedland's Local Planning Policy – Social Impact Assessment (LPP/06).[8] The impact areas identified within the Town's Policy are based on an

[7] Town of Port Hedland. 2020. LPP/06 SOCIAL IMPACT ASSESSMENT.
[8] Town of Port Hedland. 2020. LPP/06 SOCIAL IMPACT ASSESSMENT. https://www.porthedland.wa.gov.au/Profiles/porthedland/Assets/ClientData/201216_LPP_06_-_Social_Impact_Assessment_DRAFT.pdf [Accessed 5 March 2024]

academic paper produced by Vanclay in 2003. Vanclay's work was informed primarily by an international context, rather than a specific Australian context, proposing international principles for Social Impact Assessment, for large scale resource sector projects that impact whole communities.[4]

The impact areas used by Creating Communities in this document align with the Town's policy and its proposed impact areas (See Table 3 below), however they have been adapted to respond to the Hedland context and the proposed TWTAV development and offer a deeper analysis into the impacts that a new TWTAV facility will have in Port Hedland.

In early February 2024, Creating Communities Australia Pty Ltd (CCA) contacted the Town of Port Hedland to advise of work to be undertaken in completing a SIA and SIMP for the proposed development at Lot 300, 601 and 604 Parola Court, South Hedland. CCA also proposed to slightly adjust the impact areas for this SIA to ensure it is thorough and representative of the social impacts while also covering the relevant impact areas identified in the Town's Social Impact Policy. The proposed approach was supported in a response from the Town on the 23 February 2024, and in turn became the final list of key impacts areas selected for inclusion in the scope of this study.

Table 3 below outlines the proposed impact areas for the SIA and SIMP. Some have been split to be considered in more detail, and some additional proposed impact areas have been included.

TABLE 3 - TOWN OF PORT HEDLAND SOCIAL IMPACT ASSESSMENT POLICY AND CREATING COMMUNITIES AUSTRALIA METHODOLOGY ALIGNMENT

TOPH Impact Areas	Description	Creating Communities Impact Areas	Impact Description
Way of life	How people live, work, play, and interact with one another on aday-to-day basis.	**Economic Development Employment, and Training**	Economic development, employment, and training for the community (including the local Aboriginal and Torres Strait Islander community) and the transient workforce, and changes in the overall local economy of Hedland
		Way of life and community cohesion	The impact on cohesion, stability, character and how people live, work, play, and interact with one another on a day-to-day basis.
		Housing and Accommodation Change	Impact of the development on the accommodation and housing infrastructure in Port and South Hedland.
Culture	People's shared beliefs, customs, values, and language or dialect (including Aboriginal culture and connection to country).	**Culture**	People's shared beliefs, customs, values, and language or dialect (including Aboriginal culture and connection to country).
		Cumulative Impacts	The combined, incremental effects of this development and other related developments.

TOPH Impact Areas	Description	Creating Communities Impact Areas	Impact Description
Community	Its cohesion, stability, character, services, and facilities.	**Services and facilities**	Accessibility of community services, and facilities.
Political systems	The extent to which people are able to participate in decisions that affect their lives, and the resources provided for this purpose.	Not assessed	Not assessed
Environment	The quality of the air and water people use, the availability and quality of the food they eat, the level of hazard or risk, dust and noise they are exposed to, the adequacy of sanitation, their physical safety, and their access to and control over resources.	**Environment**	The quality of the air and water people use, the availability and quality of the food they eat, the level of hazard or risk, dust and noise they are exposed to, the adequacy of sanitation, their physical safety, and their access to and control over resources.
Health and wellbeing	People's physical, mental, social, and spiritual wellbeing.	**Health and Wellbeing**	People's physical, mental, social, and spiritual wellbeing.
Personal and property rights	Particularly whether people are economically affected, or experience personal disadvantage which may include a violation of their civil liberties.	**Personal and property rights**	Particularly whether people are economically affected, or experience personal disadvantage which may include a violation of their civil liberties.
People's fears and aspirations	Their perceptions about their safety, their fears about the future of their community, and their aspirations for their future and the future of their children.	**Community Safety**	The impact on community safety and crime.
		Built Form	The built form in the surrounding area and the way it provides a safe and sustainable lifestyle.

5.2.3 OTHER RECENT TRANSIENT WORKER ACCOMMODATION (TWA) PROPOSALS TO THE TOWN OF PORT HEDLAND

The critical gap between the housing needs of the Port Hedland community and the housing availability is a severe issue that is evident in Hedland and across all areas of WA.

The housing crisis in Hedland has prompted consideration of the role of TWAs in accommodating new workforces entering the region, leading to a rise in submitted development applications for both the expansion of local TWA facilities and the organisation and proposal of new TWA facilities.

In 2019, BHP submitted a proposal for the renewal of its Port Haven lease for ten years to March 2029, with a further option to renew for an additional ten years. Waypoint Village was opened in Port

Hedland in 2022.[9] Following this, BHP's application to expand its Port Haven Village accommodation to house more than 450 workers was approved in May 2023.[10] (NOTE: If this Pacific Partnerships Village is approved it is likely that the expansion of Port Haven will be paused, with BHP taking up beds at the new village)

In October 2022, MGM Group submitted a development application to set up a 222-bed TWA facility, under a ten-year lease.[11]

In 2023, CLE Town Planning & Design submitted a development application for the proposed Mixed-Use Development 'Serenity South Hedland Workers Village', which planned to provide 75 grouped and multiple dwellings/units.[12]

In January 2024, Compass Group's proposal for the expansion of their Waypoint facility was approved. This proposal included expanding the total number of rooms available at Waypoint Village to 553, to house BHP staff working on the port's bottlenecking project.

5.2.4 HOUSING CRISIS AND THE NEED FOR TRANSIENT WORKER ACCOMMODATION (TWA) IN HEDLAND

The cost of housing in the Pilbara is currently the second highest in State.[13] The need for TWA facilities is a central part of catering for new workforces during a housing 'crisis' in Hedland. The rise in economic activity, high population growth of 8.4% (compared to Western Australia's growth of 7.5%), and the general undersupply of residential and non-residential properties in Port Hedland has driven up property and rental prices in the area. This aligns to a state and nation-wide trend of rising rental prices and low housing stock, which has been particularly prominent in locations tied to the boom-and-bust cycles of the mining sector.[13]

The State Government's Regional Price Index (RPI), which contrasts pricing levels of a range of goods and services in regional locations to pricing levels in the Perth Metropolitan area, shows that as of 2023, the cost of housing in the Pilbara is the highest in the State. The price of housing in Port Hedland was the second highest in the State, following Tom Price.[14]

Key factors impacting the provision of residential housing include:

The key factors impacting the development of residential housing include:

- High cost of construction due to significant labour and materials costs
- Inability to obtain bank finance - with cost of construction being valued by financial institutions as being higher than the value of the property, it is challenging to secure loans to complete developments. This is exacerbated by the significant number of loan defaults in the region previously due to fluctuation of housing values

[9] Compass Group. 2022. Way point Village opens in Port Hedland. https://www.compass-group.com.au/waypoint-village-opens-in-port-hedland/ [Accessed 5 March 2024]
[10] North West Telegraph. 2023. https://www.northwesttelegraph.com.au/news/north-west-telegraph/port-haven-set-for-huge-expansion-and-set-to-alleviate-stress-on-housing-market-c-10843728 [Accessed 6 March 2024]
[11] Grounded. 2022. Proposed workforce accommodation lot 436 Bayley retreat Port Hedland. https://www.porthedland.wa.gov.au/Profiles/porthedland/Assets/ClientData/Advertising_Documents.pdf [Accessed 6 March 2024]
[12] Town of Port Hedland. 2023. Serenity South Hedland Workers Village. https://www.porthedland.wa.gov.au/planning-building-and-environment/planning/public-consultation.aspx [Accessed 5 March 2024]
[13] ABC News Online. 2021. 'Housing Crisis Ousting Residents, Stunting Growth in Australian Mining Communities'. https://www.abc.net.au/news/2021-09-09/mining-communities-housing-crisis/100443936 [Accessed 5 March 2024]
[14] Department of Primary Industries and Regional Development. 2023. Regional Price Index 2023. https://catalogue.data.wa.gov.au/dataset/regional-price-index-western-australia/resource/4a49b9dc-1688-45a5-9d17-33c9e555e5c3/view/db5db1b8-9c3e-45e8-9963-3e900bd3cfa7 [Accessed 6 March 2024]

- Building companies being unwilling to give a fixed price for construction due to high fluctuations in labour and materials costs, which further impacts the willingness of financial institutions approving loans
- Lack of available building companies with capacity to undertake housing construction, with many companies previously becoming insolvent, resulting in a smaller pool of construction companies

Rental and Home Ownership Data

Over two thirds (66.7%) of occupied private dwellings are rented, which is significantly higher than the State average of 27.3%. Only 7.3% of houses are owned outright, which is much lower than the State average of 29.2%, and 17.3% of houses are owned with a mortgage, compared to the State average of 40.0%.

In the second half of 2023 (H2), the average rent in Port Hedland suburb was $988 per week, and the average rent in Port Hedland LGA was $863.[15] Bankwest Curtin Economics Centre (BCEC) stated that median rental prices had increased by 92.7% in Port Hedland over the last five years.[16] The region currently has a 1.7% vacancy rate.[17] For comparison, a balanced market's vacancy rate is between 2.5% to 5%.[18] The Perth region's vacancy rate is currently 2.2%.[19] These figures demonstrate an overall trend of price increases and decreases in sale and rental availability of housing stock in Port Hedland since 2016. There are some concerns in Hedland and other similar resource sector dominated towns (which generally have highly transient populations and issues retaining long-term residents), that high rental prices make the housing market inaccessible for locals.

Forecasts suggest that this may lead to an increase in the proportion of home ownership in a town where the market has always been dominated by rentals. However, home ownership in Port Hedland has also been similarly affected by the rise in median house sale price since 2020. In South Hedland, the median house sale price has nearly doubled during this period, increasing from $210,000 in 2020 to $403,000 in 2023.[20] Similarly, the median house sale price in Port Hedland has risen from $415,000 in 2020 to $744,000 in early 2023.[21] The rise in purchase prices is driven by a range of factors, including high rates of housing demand due to increased industry and business activity, inflation globally and increased demand by those who have relocated in the context of COVID-19. In addition, Australia, and Western Australia specifically, are facing challenges in accessing materials and labour needed to build the additional residential housing accommodation required. This has led to large cost increases and lengthy wait times for residential properties to be constructed across the nation. This issue is far more extreme in the Pilbara where costs are even higher due to its remote location from key urban centres, a lack of building companies and lack of access to key supply chains.

Reports from the Pilbara Development Commission confirm that the property market is still undergoing large amounts of stress in 2023.[22] Prices across the rental and sales market in the Pilbara increased 25% and 6% respectively from the six months in the second half of the year (H2) in 2022 to H2 2023.[23] However, the available rental stock also increased by 70% from H2 2022 to H2 2023. In

[15] Pilbara Development Commission. 2024. Housing & Land Summary December 2023. [Accessed 17/04/2024]
[16] Bankwest Curtin Economics Centre. 2023. Housing Affordability in Western Australia 2023. https://bcec.edu.au/assets/2023/05/BCEC-Housing-Affordability-in-Western-Australia-2023-WEB-version.pdf [Accessed 5 March 2024]
[17] Real Estate Investar: Port Hedland Region Snapshot. https://www.realestateinvestar.com.au/Property/western+australia/port+hedland [Accessed 6 March 2024]
[18] Reiwa Rental Vacancy Rates. https://reiwa.com.au/the-wa-market/rental-vacancy-rates/ [Accessed 5 March]
[19] Real Estate Investar: Perth Region Snapshot. https://www.realestateinvestar.com.au/Property/perth [Accessed 5 March]
[20] REIWA. 2023. South Hedland Suburb Profile. https://reiwa.com.au/suburb/south-hedland/ [Accessed 5 March]
[21] REIWA. 2023. Port Hedland Suburb Profile. . https://reiwa.com.au/suburb/port-hedland/ [Accessed 5 March 2024]
[22] Pilbara Development Commission. 2021. Pilbara Half-Yearly Housing and Land Summary..https://www.pdc.wa.gov.au/fast-find/knowledge-hub-2 [Accessed 5 March 2024]
[23] Pilbara Development Commission. 2024. Pilbara Half-Yearly Housing and Land Summary. https://www.pdc.wa.gov.au/Profiles/pdc/Assets/ClientData/HALS_Dec_2023.pdf [Accessed 5 March 2024]

comparison, prices in Port Hedland increased by 12% for both the rental and sale market between H2 2022 and H2 2023. In Port Hedland, there was also an increase of dwellings listed for lease from 20 in H2 2022 to 67 in H2 2023, an increase of 235.0%. However, the median weekly rent has also increased by 12.2% to $863 per week.[24]

As a response to the housing crisis, the Town of Port Hedland and the State Government have opened new land for residential development in East Port Hedland to ease demand for housing in the area. However, this will take some time to eventuate into additional housing stock due to long delays in construction of houses in W.A., resulting from a lack of labour and materials. Population forecasts envisions the Town growing to between 18,500 (conservative forecast) and 27,085 (aspirational forecast) people by 2041.[25] Subsequently, a total of 1,377 and 4,638 new dwellings respectively will be required.[26]

Short Stay Accommodation

Despite the development of additional short stay accommodation since 2018 (such as Landing Resort), there are very limited vacancies in short stay accommodation in the town. The owners of short stay accommodation tend to take advantage of the situation by charging significantly higher rates to access short stay accommodation in the town.

Providing additional transient worker accommodation is one strategy that will help to lower demand from workers for permanent housing in the town.

[24] Pilbara Development Commission. 2024. Pilbara Half-Yearly Housing and Land Summary. https://www.pdc.wa.gov.au/Profiles/pdc/Assets/ClientData/HALS_Dec_2023.pdf [Accessed 5 March 2024]
[25] Town of Port Hedland. 2021. Local Planning Strategy. https://www.porthedland.wa.gov.au/Profiles/porthedland/Assets/ClientData/LST-Town-of-Port-Hedland-Local-Planning-Strategy.pdf [Accessed 6 March 2024]
[26] Town of Port Hedland. 2021. Local Planning Strategy. https://www.porthedland.wa.gov.au/Profiles/porthedland/Assets/ClientData/LST-Town-of-Port-Hedland-Local-Planning-Strategy.pdf [Accessed 5 March 2024]

5.2.5 TRENDS ON THE IMPACT OF TRANSIENT WORKER ACCOMMODATION (TWA) FACILITIES ON LOCAL COMMUNITIES

Demand for TWAs in Port Hedland and the Pilbara region more broadly remains strong and is forecasted to increase significantly over the coming decade as new resource sector projects come onstream.

There are a range of recognised benefits to maintaining a transient workforce, such as the provision of work choice for employees and their families, higher salaries, and the provision of specialised skillsets in an increasingly tight labour market. Despite this, these benefits need to be carefully balanced against any adverse impacts on the worker, their families, and the community. Strategies and measures need to be adopted to manage any potential adverse consequences.

Early studies into the impact of transient work on remote and regional populations concentrated on severely negative impacts including an increase in drug and alcohol abuse[27], sexually transmitted infections[28] and mental illness.[29] Other impacts identified in early literature included adverse effects upon regional development[30] and dysfunctional relationships in FIFO families.[31]

As a response, over the ensuing decades there has been a significant effort by resource sector companies, regional governing bodies, TWA operators and other organisations aimed at mitigating the negative impacts of FIFO work identified in the literature. Specific strategies adopted have included more rigorous supervision, management and education of staff, limits on alcohol consumption, drug and alcohol testing and increased mental health support. These strategies have generally been successful in lowering concerns about the behaviour-related impacts of transient workers in host communities.[32]

More recent studies have put mental health and wellbeing of transient workers at the forefront of impacts.[33] A 2018 report produced for the Western Australian Mental Health Commission argued that:

> *Even when taking account of associated risk factors such as age and education, there is a greater risk of mental ill health amongst those workers operating under FIFO work arrangements. Indeed, one third of the 3000 FIFO workers surveyed experience high or very high levels of psychological distress, as measured on an extensively validated scale.* [34]

Reinforcing these findings, in a recent systematic review of the impact of transient work on mental health, Fruhen et al. (2022) concluded that 'the continuous blending and fracturing of work and

[27] Haslam McKenzie, F.. 2010. Fly-in fly-out: the challenges of transient populations in rural landscapes. Demographic change in Australia's rural landscapes: Implications for society and the environment, pp.353-374.
[28] Carrington, K., Hogg, R., McIntosh, A. and Scott, J. 2012. Crime talk, FIFO workers and cultural conflict on the mining boom frontier. Australian Humanities Review, 53, pp.1-16.
[29] Harris, J. and Safety, M.I., 2016. The management of risk factors associated with FIFO workers' mental ill-health.
[30] Storey, K., 2010. Fly-in/fly-out: implications for community sustainability. Sustainability, 2(5), pp.1161-1181.; Cheshire, L., 2010. A corporate responsibility? The constitution of fly-in, fly-out mining companies as governance partners in remote, mine-affected localities. Journal of rural studies, 26(1), pp.12-20.
[31] Meredith, V., Rush, P. and Robinson, E. 2014. Fly-in fly-out workforce practices in Australia: The effects on children and family relationships.
[32] Education and Health Standing Committee, Education and Health Standing Committee: The impact of FIFO Practices on Mental Final Report Legislative Assembly Parliament of Western Australia (2015).
[33] See, Fruhen, L.S., Gilbert, J., and Parker, S.K., 2022. Fly-in-fly-out work: A review of the impact of an extreme form of work-related travel on mental health. Organizational Psychology Review.
[34] Parker, Sharon, Laura Fruhen, Cindy Burton, Shauna McQuade, Julie Loveny, Mark Griffin, Andrew Page et al. 2018. impact of FIFO work arrangements on the mental health and wellbeing of FIFO workers.

personal life that FIFO workers experience negatively affects workers' mental health.[35] Fruhen et al. (2022) introduced a model to conceptualise how this occurs, identifying the key attributes of FIFO work that shape workers mental health as:

- The commute (i.e. duration, mode, distance) and rosters (i.e. length and ratio of time on and off).
- Accommodation (i.e. type and quality).
- Extent to which autonomy is limited (i.e. via choice in food, activities, scheduling).
- Social isolation.

As the research of these impacts is now well-established, this is an impact area identified and explored in any SIA / SIMP conducted into facilities associated with FIFO workforces.

[35] Fruhen, L.S., Gilbert, J., and Parker, S.K., 2022. Fly-in-fly-out work: A review of the impact of an extreme form of work-related travel on mental health. Organizational Psychology Revie, p. 14.

6. SOCIAL BASELINE

6.1 COMMUNITIES OF INTEREST

The proposed Pacific Partnerships Village will be located on a 10-hectare parcel of undeveloped land located west of Parola Court near to South Hedland sporting complex and the ESS Gateway Village workforce accommodation facility. The proposed location is relatively close to recreational, health and retail facilities in South Hedland town centre.

FIGURE 5 PROPOSED LOCATION OF PACIFIC PARTNERSHIPS VILLAGE

The Town of Port Hedland's Position Statement on Workforce Accommodation states a preference for facilities to be integrated within higher level activity centres to enhance amenity, stimulate local business activity, support town-based services and infrastructure, and encourage community integration. The proposed development in this location, close to South Hedland town centre, responds to the Town's preferences.[36]

As of 2021, Port Hedland (Local Government Area or LGA) has a population of 15,684. It is located approximately 1,800 km north of Perth. It is Australia's largest bulk export port, with iron ore as the Town's primary export.

The social baseline and demographic overview below focussed primarily on the Port Hedland Local Government Area (LGA). This includes the townsites of Port Hedland, South Hedland, and surrounding areas.

[36] Proposal for development of a Pacific Partnerships Living Transient Worker Accommodation Village at Lot 300, 601 and 604 Parola Court South Hedland. General Information and Frequently Asked Questions.

6.1.1 PRIMARY TRENDS

Statistics included in this section have been taken from the Australian Bureau of Statistics (ABS) Census data unless otherwise stated and will primarily focus on the Port Hedland Local Government Area (LGA).

6.1.2 POPULATION

As of the 2021 census, the total population of Port Hedland (LGA) was 15,684. This is an increase of 8.0% since 2016. The increase in population between 2016-2021 is tied to an uplift in resource sector activity during the last seven years.

52.5% of the population as of 2021 was male and 47.5% of the population was female.

The median age of 32, significantly lower than the state average of 38.

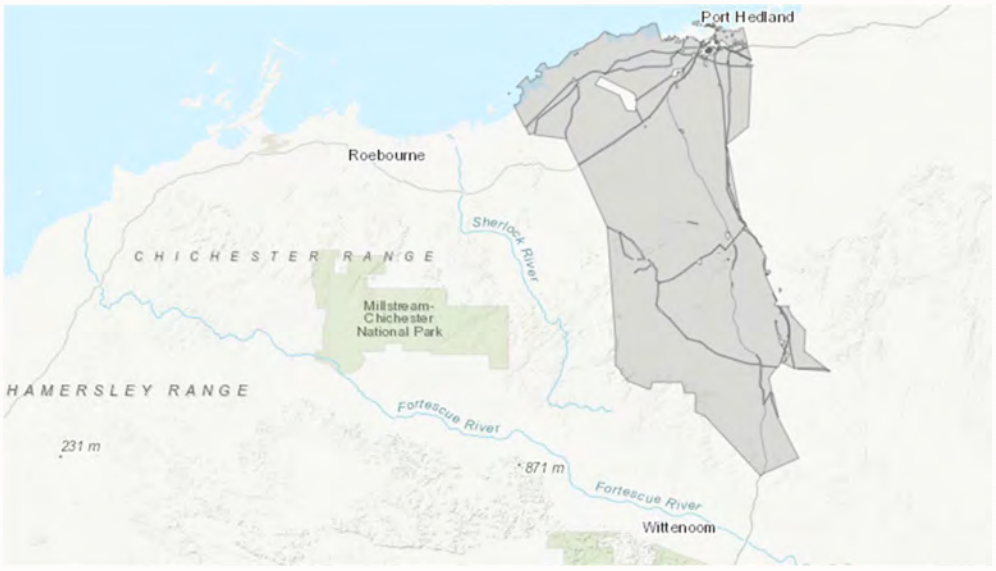
There is a significantly higher proportion of Aboriginal residents (18.6%) when compared with the state average (3.3%).

6.1.3 TRADITIONAL OWNERS

The Kariyarra people are the Traditional Owners of Port Hedland and lived from Port Hedland west to the Sherlock River and south to the Yule River.[37]

The Native Title is held by the Kariyarra Aboriginal Corporation.[38] The Indigenous Land Use Agreement with the State of Western Australia was signed in 2017.

FIGURE 6 KARIYARRA ABORIGINAL CORPORATION NATIVE TITLE[39]



[37] Wangka Mya Pilbara Aboriginal Language Centre. Kariyarra. https://www.wangkamaya.org.au/pilbara-languages/kariyarra [Accessed 6 March 2024]
[38] Yamatji Marlpa Aboriginal Corporation. Kariyarra People and State of Western Australia Indigenous Land Use Agreement. https://www.ymac.org.au/photos/kariyarra-people-and-state-of-western-australia-indigenous-land-use-agreement/ [Accessed 6 March 2024]
[39] Native Title. Kariyarra Aboriginal Corporation. https://nativetitle.org.au/find/pbc/8355 [Accessed 6 March 2024]

6.1.4 CULTURE AND ETHNICITY

Port Hedland has a slightly higher proportion of people born in Australia when compared to the state average (64.5% compared to 62.0%).

New Zealand, Philippines and England are the top three countries of birth other than Australia. This is similar to the broader Western Australian average.

6.1.5 FAMILIES AND HOUSEHOLDS

The family make up in Port Hedland is similar to that of the State, with a slightly higher proportion of couple families with children (49.7%, compared to 44.6%) and a slightly lower proportion of one parent families (14.3%, compared to 15.1%). There are fewer coupled families without children compared to Western Australia (34.0% compared to 38.8%).

6.1.6 INCOME AND EMPLOYMENT

There is higher participation in the labour force of people aged 15 years and above (68.4%) compared to the State average (63.9%).

The iron ore mining sector is the largest employing industry (22.7% of the working population).

The median weekly individual and household income are both much higher than the State average, at $1,532 and $2,865 respectively compared to $848 and $1,815.

There is a smaller proportion of households earning less than $600 gross weekly income (7.0%) than the State (16.3%) and the East Pilbara (23.1%). This suggests that economically, households in this area are comparatively better off than the state as whole.

The unemployment rate in Port Hedland in September 2023 (2.5%) is higher than the Pilbara region (1.9%) but lower than the State (3.5%).[40] This represents a community that is near full employment, with very little scope to employ local residents in new ventures, other than to take them from existing employment.

6.1.7 EDUCATION

There is a lower proportion of those who hold a bachelor's degree or above (12.8%), when compared with the State (23.8%). However, there is a higher proportion of people who have completed a Certificate III or IV (24.0%) compared with the State's (17.8%), suggesting that work-based qualifications are often more relevant than tertiary qualification in the Hedland community.

There is a higher proportion of children who are developmentally vulnerable in two or more domains (16.0%) compared with the State (10.2%).

[40] Remplan. Port Hedland Economic Profile. https://app.remplan.com.au/porthedland/economy/trends/unemployment?state=o6QKC7!VvqGI3dERfd8jZBCwvXyYH8iNhgQnTjhWhPhKfGSaTlbg [Accessed 17 April 2024]

6.1.8 COMMUNITY

Less residents felt safe or very safe when walking alone in the local area after dark (42.3 Age Standardised Ratio (ASR) per 100) when compared with the State average (49.4 ASR per 100).

Less people in Port Hedland completed volunteer work (9.3%), compared to the State (15.9%).

6.2 DEMOGRAPHIC OVERVIEW

Table 4 provides a demographic overview for Port Hedland (LGA).

The data presented is primarily retrieved from the ABS Census data Quick Stats 2021 and 2016. The neighbouring area of East Pilbara (SA2) and Western Australia (State / Territory) have been included to provide comparison points throughout. 2016 ABS Census data for Port Hedland (LGA) has also been included for comparison. Where the data does not correlate to these geographic areas, it has been noted in the table. Unless otherwise stated, all statistics are sourced from the Australian Bureau of Statistics Quick Stats [41] [42].

TABLE 4 - DEMOGRAPHIC SUMMARY OF COMMUNITIES OF INTEREST

	PORT HEDLAND (LGA) 2021	PORT HEDLAND (LGA) 2016	EAST PILBARA (SA2)	WA (STATE)
Population				
Current population	15,684	14,469	5, 910	2,660,026
Median age	32	32	36	38
% Male	52.3%	53.4%	72.3%	49.7%
% Aboriginal	18.6%	16.7%	22.7%	3.3%
% aged 0 - 14 years	24.7%	23.7%	8.5%	19.0%
% aged 55+ years	14.2%	12.0%	16.1%	27.9%
% of people born in Australia	64.5%	63.1%	50.1%	62.0%
Culture and Heritage				
Most common countries of birth (other than Australia)	New Zealand (5.2%)	New Zealand (5.6%)	New Zealand (5.0%)	New Zealand (2.8%)
	Philippines (2.9%)	Philippines (2.5%)	Philippines (1.8%)	Philippines (1.6%)
	England (2.0%)	England (2.2%)	England (4.8%)	England (12.8%)
	India (1.3%)	South Africa (1.3%)	India (0.5%)	India (2.3%)
	South Africa (1.3%)	India (1.0%)	South Africa (0.8%)	South Africa (2.0%)
Top languages (other than English) spoken at home	Malay (1.5%)	Malay (1.7%)	Malay (0.05)	Malay (0.18%)
	Tagalog (1.4%)	Tagalog (1.3%)	Tagalog (0.7%)	Tagalog (0.35%)
	Filipino (1.0%)	Filipino (0.9%)	Filipino (0.62%)	Filipino (0.25%)
	Afrikaans (0.6%)	Afrikaans (0.7%)	Afrikaans (0.2%)	Afrikaans (0.6%)
Education				
% of children developmentally vulnerable on two or more domains of the AEDC	16.0%	16.6%	23.1%	10.2%
% of people completed a Certificate III or IV	24.0%	23.8%	18.8%	17.8%
% of people completed Bachelor's Degree level and above	12.8%	12.0%	7.7%	23.8%
% of people attending tertiary or technical institution	10.4%	10.3%	4.8%	21.3%

[41] Australian Bureau of Statistics. 2021. Australian Bureau of Statistics QuickStats. https://www.abs.gov.au/census/find-census-data/quickstats/2021/LGA57280 [Accessed 5 March 2024]

[42] Australian Bureau of Statistics. 2016. Australian Bureau of Statistics QuickStats. https://www.abs.gov.au/websitedbs/D3310114.nsf/Home/2016 QuickStats [Accessed 5 March 2024]

	PORT HEDLAND (LGA) 2021	PORT HEDLAND (LGA) 2016	EAST PILBARA (SA2)	WA (STATE)
Income and Employment				
Largest employing industry (%)	Ire Ore Mining (22.7%)	Iron ore mining (33.9%)	Iron Ore Mining (36.9%)	Professionals (22.0%)
Top occupation of employment	Technicians and Trades Workers (24.9%)	Technicians and Trades Workers (25.3%)	Technicians and Trades Workers (28.7%)	Hospitals (4.2%)
Median weekly personal income	$1,532	$1,355	$1,801	$724
Median weekly family income	$3,264	$3,014	$752	$1,910
Median weekly household income	$2,865	$2,563	$1,159	$1,595
Households earning less than $600 gross weekly income	7.0%	7.5%	23.1%	16.3%
Households earning more than $3000 gross weekly income	48.0%	43.1%	14.1%	25.6%
Labour Force Participation Rate	68.4%	67.4%	52.1%	63.9%
% Unemployed	3.5%	5.2%	4.9%	5.1%
Housing				
% of occupied dwellings owned outright	7.3%	6.7%	11.2%	29.2%
% of occupied dwellings owned with a mortgage	17.4%	10.0%	8.9%	40.0%
% of dwellings rented	67.7%	78.4%	61.6%	27.3%
Average household size (people)	2.7	3.1	4.5	3.2
Median weekly rent	$225	$140	$63	$260
Median monthly mortgage repayments	$1,517	$2,715	$2,370	$1,733
Families and Households				
% couple family without children	34.0%	37.3%	30.2%	38.8%
% couple family with children	49.7%	49.2%	38.4%	44.6%
% one parent family	14.3%	11.9%	25.8%	15.1%
% Family households	70.7%	73.6%	67%	71.2%
% Single (or lone) person households	24.9%	22.7%	31.0%	25.4%
% Group households	3.4%	3.7%	2.0%	3.4%
Health				
% people who have a core need for assistance	2.0%	N/A	1.2%	4.5%
Estimated number of people aged 18 years and over who were obese (ASR[43] per 100)	30.6	33.6	N/A	28.7
Estimated number of people aged 18 years and over who were current smokers (ASR per 100)	22.8	22.4	N/A	14.4
Estimated number of people aged 15 years and over who consumed more than two alcoholic drinks per day on average (ASR per 100)	22.8	8.8	N/A	10

[43] Age Standardised Ratio (ASR) is a summary measure of the estimated rate of people who would be affected if the population had a standard age distribution structure. Standardisation is necessary for population comparison as age can have an impact on the prevalence of health indicators across population groups.

	PORT HEDLAND (LGA) 2021	PORT HEDLAND (LGA) 2016	EAST PILBARA (SA2)	WA (STATE)
Estimated number of people aged 18 years and over who undertook no or low exercise in the previous week (ASR per 100)	25	N/A	N/A	17.8
Crime and Safety				
Crime rate per 1,000 inhabitants (Port Hedland)	233.6 Port Hedland	No data is available. Port Hedland	N/A	86.6
Crime rate per 1,000 inhabitants (South Hedland)	271.8 South Hedland	340 South Hedland	N/A	86.6
Estimated number of people aged 18 years and over who felt very safe/safe walking alone in local area after dark (modelled estimates) (ASR per 100)	42.3	42.3	N/A	49.4
Community				
% of persons that completed voluntary work for organisation or group (in the last 12 months aged 15+)	9.3%	16.0%	6.7%	15.9%
Estimated number of people aged 18 years and over who, in the past 12 months, felt that they had experienced discrimination or have been treated unfairly by others (modelled estimates) (ASR per 100)	4.8	28.1	N/A	5
SEIFA Index of Relative Socio-economic Advantage and Disadvantage (2016)[44]	997	1,019	783	N/A

[44] Economic Indexes for Areas (SEIFA) is an ABS product that ranks areas in Australia according to relative socio-economic advantage and disadvantage. The indexes are based on information from the five-yearly Census of Population and Housing. All areas are ordered from lowest to highest score. The lowest 10% of areas are given a decile number of 1, the next lowest 10% of areas are given a decile number 2 and so on, up to the highest 10% of areas which are given a decile number of 10. This means that areas with a lower number are more disadvantaged; while higher numbers indicated a higher level of advantage.

7. SUMMARY OF ENGAGEMENT FINDINGS

This section provides a very high-level summary the feedback from the community and stakeholder engagement.

Detailed findings the community and stakeholder engagement can be found in Appendix B, C and D.

7.1 STAKEHOLDER INTERVIEWS

The stakeholder interviews revealed a diverse range of perspectives on the proposed Transient Worker and Tourism Accommodation Village (TWTAV) development.

7.1.1 POSITIVE FEEDBACK

The following provides a high-level summary of positive feedback about the proposed TWTAV development:

The Need for More Accommodation

While some stakeholders and community members preferred the provision of permanent residential accommodation the majority identified that with the critical lack of housing and the significant challenges in establishing more permanent residential accommodation, that transient worker accommodation is required to service local projects and provide more accommodation options in Hedland.

Design

The architectural design and layout were generally supported, including the variety of building styles, which were highlighted as positives. There was general support for the multi storey hotel concept in providing a different approach to transient worker accommodation and the potential provision of more short stay accommodation. A range of improvements were suggested including creating greater connection across the site, providing a more neighbour style layout and improvements to the parking provision. There was a high level of support for quality landscaping to be provided to improve the resident experience and integration with the precinct.

Location and Integration

Stakeholders appreciated the strategic location of the TWTAV, noting its potential to integrate well with existing infrastructure and the surrounding area. This includes proximity to the town centre and sporting precincts, enhancing the area's attractiveness and utility.

Amenity Provision and Community Access

There was positive feedback on the range of amenities provided, such as a business centre, dining facilities, and recreational spaces. These features were seen as likely to improve the quality of life for both transient workers and local residents. There was general support for facilities such as the café, dining, tavern, and business centre being open to the community – as it provides other lifestyle and social opportunities to residents when many other venues have closed recently. There was significant commentary around the need for the provision of alcohol to be well managed.

Economic and Community Benefits

Many responses focused on the economic benefits from increased industry development, tourism, and local business opportunities. The provision of the ground floor commercial and /or retail tenancies was generally supported, so long as the businesses chosen to operate from the venues were not in direct competition with the retail precinct. Stakeholders saw opportunities in relation to a number of business development opportunities via the use of the tenancy spaces – in particular medical and health related businesses which are lacking. The scale of the development was also seen as a way to signal the growth and cosmopolitan future of Hedland, potentially increasing population, and economic activity.

Environmental and Sustainable Practices

Stakeholders noted the importance of incorporating sustainable practices like solar power and water recycling as positive attributes that will align with broader environmental goals.

7.1.2 NEGATIVE FEEDBACK

The following provides a high-level summary of negative feedback about the proposed TWTAV development. **Note** - not all interviewees could identify negative impacts from the proposed development, with some stating that Hedland is used to transient worker accommodation developments and FIFO workers.

Impact on Medical Services

The majority of stakeholders identified that the facility would increase the population of FIFO workers residing in Hedland. If Pacific Partnerships are not providing medical services for these residents, there will be a significant impact on local medical services which are already under considerable strain.

Community Safety and Cohesion

Concerns were raised by some stakeholders about the potential for the development to disrupt community cohesion, with specific issues being raised about the management of areas prone to antisocial behaviours such as the tavern – if community access is to be provided and alcohol consumption is not well managed.

The location of the parking around the perimeter of the facility was a concern for a number of the stakeholders – where they indicated that despite fencing being installed - it is likely the cars will be subject to petty crime, as it backs onto unsupervised open space.

The layout of the development was also critiqued by some for not promoting a “neighbourhood feel” for residents due to rows of accommodation units that aren’t formed around neighbourhood hubs, and the lack of east – west connection across the site.

A few stakeholders also raised the potential for hotel residents to overlook others in recreational spaces, though this is common with sporting precincts around Australia.

Built Form and Design

A few stakeholders expressed reservations about the design quality and sustainability of the buildings, emphasizing the need for high-quality construction and use of materials to prevent issues like mould and structural inadequacies.

Economic Disparities

The potential negative economic impacts were pointed out, including fears that the proposed TWTAV tenancies might compete unfairly with local businesses and could lead to economic disparity within the community with workers taken from existing roles to fill new roles.

Barriers to Integration

The integration of FIFO workers into the community was a concern, with some stakeholders suggesting that the development layout and management strategies needed improvement to foster better community relationships and integration.

Replication of Facilities

Some stakeholders were unsure as to why recreational facilities such as a gym and pool were needed when there were existing community facilities close by, which are used by residents from Gateway village – who weren't allowed to have these facilities in their village so as not to duplicate.

NOTE: other feedback indicated that the existing community recreation and sporting facilities (e.g. the gym at Wanangkura Stadium) are at capacity and any additional patronage would be difficult to manage. However, the Town of Port Hedland has plans to expand these facilities in the future – but are unlikely to expand for some time.

7.1.3 OPPORTUNITIES FOR IMPROVEMENT

Overall, the stakeholder interviews highlighted the need for a balanced approach to the development that considers both the potential benefits and the challenges it poses to the community. Careful planning and engagement with local residents and businesses are crucial to maximising the positive impacts while mitigating the negative ones.

Stakeholders suggested several opportunities for enhancing the positive impact of the new TWTAV:

- Strengthening economic ties with local businesses through strategic partnerships, support for local procurement and encouraging residents to use local businesses
- Implementing comprehensive community safety plans, including effective alcohol management and surveillance systems
- Ensuring the accommodation is well designed, integrates with the precinct, is attractive and doesn't look like the usual FIFO village design
- Improve the design, through the creation of village neighbourhoods to create better connection around neighbourhood hubs, with north/south and east/west connection
- Prioritising the use of the ground floor tenancies for health and medical services, which are lacking in Hedland
- Undertaking various initiatives to better integrate residents with the local community - including sharing information on local activities/events (e.g. village newsletter encouraging residents to engage with the community); the provision of induction to the village and town; and the provision of support from a dedicated community liaison officer and lifestyle coordinator.
- Improving village resident safety by reconsidering the location of parking, the use CCTV and good garrison fencing
- Acknowledging Aboriginal culture and heritage both through engagement with Aboriginal stakeholders, through the facility design and in how the village operates

- Increasing sustainability measures to ensure long-term environmental benefits including opportunities for water capture onsite for reuse as well as solar energy capture
- Ensuring there is high-quality landscaping that provides a positive living environment and fosters social connectivity
- Supporting pathways to training and employment at the village (e.g. in hospitality) – through connecting with Hedland SHS and the TAFE
- Investigating establishing a large conference centre – which is lacking in Hedland

7.2 FOCUS GROUP FINDINGS

There was a low level of attendance at the focus groups, however the feedback provided did deliver some insightful perspectives on the new Transient Worker and Tourism Accommodation Village (TWTAV) development.

7.2.1 POSITIVE FEEDBACK

Design and Amenities

Most participants praised some of the design elements of the TWTAV, specifically the provision of shade over car parks and pathways, which add to the comfort and usability of outdoor spaces. The inclusion of artistic elements and public access to amenities were also seen as beneficial, enhancing the aesthetic appeal and community value of the development.

Community Integration

The focus groups appreciated the development's potential to add to the town's amenities, especially if managed well. The tavern was noted as a potential social hub, which could provide a new venue for community gatherings and social interactions.

Legacy Infrastructure

There was a positive outlook on the development's potential to create infrastructure that could have lasting benefits for the community, possibly serving various future uses that go beyond transient worker accommodation.

7.2.2 NEGATIVE FEEDBACK

Design Concerns

Concerns were raised about the uninspiring and possibly impractical design of the 6-storey building, which could block natural breezes and create a monolithic appearance. The orientation and modular construction were critiqued for potential issues with damp and mould, as well as for not encouraging town growth.

Community Parking and Access

The insufficient planning around community parking, especially near amenities like the tavern and restaurant, was highlighted. The existing and planned facilities were seen as possibly inadequate to meet the demands of both the TWTAV residents and the local community.

Competition with Local Businesses

There was some concern for the new development to exacerbate staff shortages by pulling employees from existing local businesses, potentially harming the local economy and competing against existing tourist accommodations.

Economic and Social Dislocation

The design was criticised by some attendees for potentially fostering a divide between the TWA and the broader Hedland community, with spending likely to stay within the development, thus not benefiting local businesses or the community at large.

7.2.3 OPPORTUNITIES FOR IMPROVEMENT

The focus groups strongly indicated the need for the TWTAV development to be thoughtfully integrated with Hedland's social and economic structures, ensuring it adds value and does not detract from the local community's existing assets. These insights will be crucial in refining the project to better meet the needs and expectations of the Hedland community.

From the feedback, some constructive suggestions emerged, aiming to optimise the design and integration of the TWTAV:

- **Design Adjustments**: Incorporating balconies in the 6-storey building for better views and more engaging social spaces, along with improvements to make the building more community-friendly and aesthetically pleasing.

- **Sustainability and Infrastructure:** Ensuring that the development includes environmentally sustainable provisions, such as solar panels, water re-use, and efficient waste management systems.

- **Enhanced Community Access**: Improving access to amenities for both TWTAV residents and local community members, potentially adjusting site plans to better accommodate public parking and ensure equitable use of facilities.

- **Support for Local Businesses:** Offering incentives for local businesses to become involved in the development, such as preferential lease rates for retail spaces, to help integrate the TWTAV into the local economic fabric more effectively.

7.3 COMMUNITY SURVEY

There was a very low response rate to the community survey, making it challenging to differentiate the level of positive and negative feedback – which varied. The following are mostly based on the impact rating questions. There was very little open comment provided.

Neutral Views on Environment
A slight majority of respondents felt that the proposed development would have a neutral impact on the environment, suggesting that many do not foresee significant ecological disruptions.

Some Support for Economic Development
A small segment of respondents saw potential positive impacts on economic development, employment, and training, likely due to the job creation and business opportunities associated with the development.

Community Cohesion and Way of Life
The majority of respondents anticipated a disruptive impact on the way of life and community cohesion, with concerns about how the TWTAV could alter the social fabric of Hedland.

Cultural Impact
Most respondents expected the development to negatively affect the local culture, reflecting fears that the influx of transient workers could dilute local traditions and community practices.

Strain on Services and Facilities
There was notable apprehension that the development would overburden local services and facilities, potentially leading to reduced access and quality for existing residents.

Health and Wellbeing Concerns
The respondents were split regarding the impact on health and wellbeing, with some predicting negative effects, possibly due to increased population density and associated stress on health services.

Personal and Property Rights

Concerns were raised about the impact on personal and property rights, indicating fears of increased crime, privacy issues, or property value changes due to the development.

Community Safety
While many saw the safety impact as neutral, there was still a significant portion that viewed it negatively, worried about potential increases in crime and safety issues.

Housing and Accommodation
Opinions were divided, but there was concern that the development might not address the need for more permanent residential housing, potentially exacerbating the housing crisis.

Built Form and Infrastructure
Responses indicated concern over the development's design and its integration with existing infrastructure, with fears that it might not blend well with the community's built environment.

Cumulative Impacts
The survey highlighted concerns by a small number of people about the cumulative impacts of the development, with a plurality predicting negative outcomes that could strain the community's resources and alter its character.

7.3.1 OPPORTUNITIES FOR IMPROVEMENT

There were very few open comments provided to suggest areas for improvement. Most were individual comments. The only key themes were:

Managing Impacts on Medical Services
Comments from some respondents raised suggestions relating to the TWTAV residents' use of medical facilities and services with suggestion that they do not use the local medical centre / hospital for medical issues and that the developer / operator should provide dedicated medical services and facilities at the village.

Investment in the Community
Request for investment in what the community needs.

Other Housing Options
Look at other housing options than TWAs.

8. SOCIAL IMPACT ASSESSMENT (SIA)

8.1 IMPACT ASSESSMENT OVERVIEW

The ratings given in this impact assessment are based on community consultation and desktop research in alignment with the Town of Port Hedland's matters.

The social impact areas that have been included in this study are listed below in Table 5.

TABLE 5 –SOCIAL IMPACT AREAS CONSIDERED FOR THE PROPOSED TRANSIENT WORKERS ACCOMMODATION

IMPACT VARIABLE	PROJECT RELEVANCE
Way of life and community cohesion	The impact on cohesion, stability, character and how people live, work, play, and interact with one another on a day-to-day basis.
Culture	People's shared beliefs, customs, values, and language or dialect (including Aboriginal culture and connection to country).
Services and facilities	Accessibility of community services, and facilities.
Environment	The quality of the air and water people use, the availability and quality of the food they eat, the level of hazard or risk, dust, and noise they are exposed to, the adequacy of sanitation, their physical safety, and their access to and control over resources.
Health and Wellbeing	People's physical, mental, social, and spiritual wellbeing.
Personal and property rights	Particularly whether people are economically affected, or experience personal disadvantage which may include a violation of their civil liberties.
Community Safety	The impact on community safety and crime.
Economic Development Employment, and Training	Economic development, employment, and training for the community (including the local Aboriginal and Torres Strait Islander community) and the transient workforce, and changes in the overall local economy of Hedland
Housing and Accommodation Change	Impact of the development on the accommodation and housing infrastructure in Port and South Hedland.
Built Form	The built form in the surrounding area and the way it provides a safe and sustainable lifestyle.
Cumulative Impacts	The combined, incremental effects of this development and other related developments.

Using the Impact Assessment Rating Matrix (see below), the rating of an impact has been evaluated. The rating of each impact was calculated by considering the degree of benefit or detriment and the likelihood of the impact, where each rating is assigned a value to then discern the overall rating.

If multiple elements are relevant to the impact rating score, each element is scored individually with an average score then calculated for the overall impact rating.

TABLE 6 –IMPACT RATING VALUES AND MULTIPLIERS

Likelihood of impact values	
Almost certain	5
Likely	4
Possible	3
Unlikely	2
Rare	1

Degree of benefit / detriment multipliers	
High benefit	1
Medium benefit	2
Low benefit	3
Neutral	0
Low detriment	-1
Medium Detriment	-2
High Detriment	-3

The key inputs used to establish the degree and likelihood of an impact includes:

- Qualitative data from the community and stakeholder engagement
- Quantitative data (i.e. community demographics and statistics data)
- Expert opinion

Regarding the discussion of current and future impact management approached, the following was considered:

- Impacts in the positive (green) areas should be realised or enhanced where possible.
- Impacts in the negative (red) areas should be mitigated or avoided where possible.
- Impacts in the neutral (beige) area of the assessment rating matrix are unlikely to be significant or can be more easily managed.
- The impact Assessment Rating Matrix and Rating Scale below describes how ratings are calculated.

TABLE 7 IMPACT ASSESSMENT RATING MATRIX USED FOR IMPACT RATINGS

Likelihood / Prevalence	Degree of Benefit or Detriment						
	HIGH BENEFIT	MEDIUM BENEFIT	LOW BENEFIT	NEUTRAL	LOW DETRIMENT	MEDIUM DETRIMENT	HIGH DETRIMENT
ALMOST CERTAIN / ALWAYS	HP (15)	HP (10)	LP (5)	N (0)	LN (-5)	HN (-10)	HN (-15)
LIKELY / MOSTLY	HP (12)	MP (8)	LP (4)	N (0)	LN (-4)	MN (-8)	HN (-12)
POSSIBLE / SOMETIME	MP (9)	LP (6)	Min. P (3)	N (0)	Min. N (-3)	LN (-6)	MN (-9)
UNLIKELY / SELDOM	LP (6)	LP (4)	Min. P (2)	N (0)	Min. N (-2)	LN (-4)	LN (-6)
RARELY / NEVER	Min. P (3)	Min. P (2)	N (1)	N (0)	N (-1)	Min. N (-2)	Min. N (-3)

TABLE 8 IMPACT RATING SCALE

SCORE	12 to 15	8 to 11	4 to 7	2 to 3	1 to -1	-2 to -3	-4 to -7	-8 to -11	-12 to -15
IMPACT RATING	HIGH POSITIVE	MEDIUM POSITIVE	LOW POSITIVE	MINOR POSITIVE	NEUTRAL	MINOR NEGATIVE	LOW NEGATIVE	MEDIUM NEGATIVE	HIGH NEGATIVE
KEY	HP	MP	LP	Min P.	N	Min. N	LN	MN	HN

8.2 IMPACT AREA 1: WAY OF LIFE AND COMMUNITY COHESION

8.2.1 DEFINITIONS

Variable Definition: The impact on the population demographics; cohesion, stability, character and how people live, work, play, and interact with one another on a day-to-day basis.

8.2.2 IMPACT RATING

	IMPACT RATING OF PROPOSED DEVELOPMENT	IMPACT RATING AFTER IMPLEMENTATION OF PROPOSED RECOMMENDATIONS
WAY OF LIFE AND COMMUNITY COHESION	**Low Negative**	**Minor Negative**

8.2.3 IMPACT ASSESSMENT FINDINGS

Population Change

As of 2021, the Local Government Area (LGA) of Port Hedland had a permanent residential population of 15,684. This was an 8.4% increase from the population of 14,469 in 2016. The population is predicted to grow to 18,473 by 2026 and 19,624 by 2031[45].

The proposal to provide a TWTAV facility that will predominantly cater for transient workers (and possibly some short stay visitors), will likely have the following impacts on the local demographics:

- An increase the number of people in town through the availability of more accommodation which has historically limited inflows of workers historically
- An increase in non-residents as opposed to residents as a proportion of the people in town,
- An increase in the proportion of adults in the community, as FIFO workers typically do not bring their families to their host community
- A further increase in the adult male population in town – as the typical average of FIFO workers is 80% males compared to 20% of other genders.

It is important to note that it is the demand for workers for operations surrounding the Port Hedland area, not the provision of accommodation which is the primary driver for the people coming to town. The provision of TWA facilities to accommodate the required workers contributes to the enablement of this inflow.

Feedback from community stakeholders indicated that FIFO workers had an impact on the size of the population in the Town of Port Hedland, but would further increase the proportion of FIFO residents, compared to permanent residents who are more involved in community activities.

Some stakeholders felt that it was important to maintain a balance between FIFO and residential workforce numbers and wanted to see the increase in TWAs matched by development of permanent

[45] Port Hedland Forecast Profile | Summary | REMPLAN

housing in the town, so that the population increase can cater for both permanent and transient workers.

Previous research undertaken by CCA indicated that only 10% of FIFO workers would choose to live residentially in Hedland if provided with the opportunity, due to various factors such as not have to move their family; climate; contract length and existing social networks in their home community.

Integration of FIFO into the community

The Town of Port Hedland has a long history of accommodating FIFO workers, whose presence is woven into the community's social and economic fabric. Existing TWAs have established various integration practices, such as community participation events, use of local services, and inclusion in local sports and cultural activities. These practices have been designed to mitigate the social isolation often experienced by FIFO workers and to foster positive interactions with permanent residents.[46]

If there is attention paid to integrating transient workers into the community and in providing community access to facilities provided at the village, there can be benefits to both the workers and the community including:

- improved social integration, reducing feelings of isolation, and increasing job satisfaction and overall well-being, for FIFO workers
- the enrichment of community life through access to amenities provided for both FIFO workers and community members at the proposed TWTAV
- economic contributions through local spending

Despite ongoing efforts, barriers to effective integration of transient workers persist. The primary challenge is the intensive work schedules that limit workers' availability for community engagement (12-hour days), often exacerbated by the short-term nature of FIFO contracts and physical and social separation between FIFO accommodations and the community. Additionally, there can be a cultural divide between the FIFO workforce and permanent residents, sometimes fuelled by differing lifestyles and salary disparities.

Social cohesion

Port Hedland is a community accustomed to the dynamics of a FIFO workforce. The community's resilience and adaptive strategies have historically managed the social complexities associated with high transient populations, balancing the benefits and challenges these workforces bring. This has also been supported by practice efforts by the Town of Port Hedland, mining companies, and village operators who seek to, manage risks posed to the community, and encourage positive interactions between the residents and the community through participation and purchases of village residents.

However, as the proportion of transient workers increase, this provides further challenges in supporting a cohesive community, when the proportion of transient residents increased in relation to number of permanent residents.

During the stakeholder interviews for this study, the potential of a new transient worker accommodation elicited mixed feedback. The majority of stakeholders interviewed were either accepting of the development (with some describing it as a “necessary evil”) and didn’t identify significant impacts on social cohesion. However, the focus group and survey data, which included more feedback from community members indicated a greater concern about the impact on social

[46] Centre for Transformative Work Design. 2018. Impact of FIFO work arrangements on the mental health and wellbeing of FIFO workers.

cohesion, mostly due to the increased proportion of FIFO residents that will be living in the community and not contributing to the same degree that a permanent resident might through a more entrenched connection to community.

The proposal to open-up facilities at the village to community members such as the tavern, dining area, café, and business centre, was viewed very positively by many stakeholders. It was perceived as providing the opportunity for greater integration by providing the community with access to greater social opportunities, and better connecting transient and permanent residents.

Some concerns also were raised about potential increase in economic inequity within the Hedland community, between those working in the resource sector and those not working in the resource sector. While FIFO arrangements can bring economic benefits, they may also lead to economic and associated disparities.

When asked to describe the impact stakeholders thought the new transient worker accommodation would have on them and the community, there was variation between views from those who were interviewed (stakeholder representatives) and those who completed the survey (general community).

A few example comments from interviews stakeholders included:

> *"Don't see any real issues of impact on way of life"*
>
> *"The town needs the accommodation to support key projects and permanent housing won't be built in time to cater for this and is too expensive."*
>
> *"Generally positive about opening up the facilities to the community. Provides other options for people to socialise and get a coffee/food. Other venues have closed down such as the bowling club; Finnucane Island Club and Yacht Club".*

A few example comments from survey participants included:

> *"I think the whole FIFO worker accommodation is over-riding the potential to maximise the towns growth and community benefits."*
>
> *"We can barely house the permanent residents here. Why are we providing more support to transient workers who add no value to our community?"*
>
> *"That it's not designed to help our town but to assist big business".*

To address the issues of social cohesion, and better connect transient workers to the Hedland community, stakeholders identified the opportunity to provide resident inductions to the village and town. Additionally, it was recognised that stakeholders including the Town of Port Hedland could be proactive in providing information directly to the village community regarding local community activities to encourage their involvement.

Service of alcohol and behaviour expectations

Some stakeholders who attended the focus groups noted concerns on community cohesion and antisocial behaviour from the FIFO industry. Concerns were also raised about management of the on-site tavern, including concern over public safety and governance issues, particularly the potential issues of managing both FIFO and hotel together. Some stakeholders also perceived that with the increase in FIFO workers in the town from the new TWTAV, that there was potential for an increase in antisocial behaviour, intoxication, and more sexual activities. However, this is unlikely to present a significant risk to the community as alcohol consumption is often limited (e.g. four drink limit) and highly controlled in TWAs. Feedback from Pacific Partnerships indicated that alcohol consumption is proposed to be well managed in this village, with strict behavioural standards to be implemented. However, this TWTAV will be different to some others within the Town of Port Hedland, as the realm of responsibility for the wellbeing and behaviour of the residents is likely to be more similar to a typical

hotel, rather than a facility which is owned by the employer of the residents. However, many of the companies of workers who will likely reside at the village, have regular drug and alcohol testing and zero tolerance for anti-social behaviour which has resulted in customers monitoring their own consumption and behaviour in order to keep their jobs.

However, it was noted that a neighbouring local sporting club has a bar, and there are other bars in South Hedland where alcohol can be easily accessed, without the limits that exist in the village. Therefore, strict alcohol and behavioural expectations and protocols will be required with consequences for breaches, and this will have to be managed with the TWTAV clients.

FIFO Integration through the use of community services and facilities

The interaction between FIFO workers and local services and facilities is an important part of their integration and the overall impact on the community of Port Hedland. The features of the new TWTAV facility will likely influence how FIFO workers engage with local services, which in turn affects community dynamics and resource allocation.

FIFO workers traditionally have variable levels of engagement with community services and facilities such as sporting facilities, shops, and health services. Their usage patterns are influenced by several factors, including the location of their accommodation relative to service centres, the schedules and duration of their stays, and the availability of similar facilities within their accommodation.

As Hedland has a strong FIFO presence, many of the local services and facilities have become inclusive for FIFO residents. For example, the local library, gym, and pools have FIFO memberships options and are in relatively close proximity (within 2km) to the proposed TWTAV. The proposed TWTAV is also situated in close proximity to the South Hedland Town Centre (0.83km) [47] . This TWTAV proposes to provide an onsite gym, pool, tavern and dining, and this self-sufficiency has potential to lessen the level of resident integration outside of the village.

Whilst the proposed TWTAV is situated significantly close to the South Hedland Town Centre (0.83km), the climate in the Pilbara Region is also particularly harsh, with very hot summers (up to 49 °C). The distance and climate, make walking or riding a bike to town from the proposed TWTAV uninviting. Typically, in TWA facilities, many residents do not have access to their own vehicle unless they are a contractor. Many TWAs provide a courtesy bus for residents for this reason. The need for transportation options such as a bus or carpool, should be considered.

Barriers to FIFO Community integration

Previous studies and Creating Communities' extensive experience in working with FIFO communities, has found that FIFO workers in Western Australia have on average 1 – 2 hours of leisure time per day. Furthermore, FIFO residents are often on regular rosters / swings, and in recent years there has been a trend towards shorter swings / rosters, which remove rostered days off to spend time in their host community.

One missed opportunity for FIFO-community integration described by stakeholders, was to better involve the community in on-site events to celebrate special days such as NAIDOC week, and R U OK? Day). Currently these events are often kept separate from the community at other villages (e.g. held on site) and there could be an opportunity to open these up to both the village residents and the wider community.

47 Section Error! Reference source not found. Error! Reference source not found.

Conclusion

The results from the stakeholder interviews and focus groups indicate that the development of the new Transient Worker and Tourism Accommodation Village (TWTAV) is likely to have negative impacts on the way of life and community cohesion due to the increase amount of transient residents being accommodated in Hedland. However, the overall increase in the FIFO population that would eventuate from the proposed development as a proportion of Hedland's total population, is large but not a significant proportion and the community's familiarity with FIFO is expected to minimise significant disruptions.

However, for the Town of Port Hedland it will be an important to consider with multiple proposals for TWAs that the proportionality between residents and non-residents (including temporary workers) in a town is a delicate balance and one which has long term implications for its housing, liveability, economy, and community identity. Each new TWA development which proceeds within the Town of Port Hedland adjusts this balance. Without counter measures to maintain the balance in the population, the Town of Port Hedland risks approaching a tipping point at which the town becomes perceived as a FIFO hub rather than an attractive place to live permanently.

8.3 IMPACT AREA 2: CULTURE

8.3.1 DEFINITIONS

Variable Definition: People's shared beliefs, customs, values, and language or dialect (including Aboriginal culture and connection to country).

8.3.2 IMPACT RATING

	IMPACT RATING OF PROPOSED DEVELOPMENT	IMPACT RATING AFTER IMPLEMENTATION OF PROPOSED RECOMMENDATIONS
CULTURE	**Minor Negative**	**Neutral**

8.3.3 IMPACT ASSESSMENT FINDINGS

This impact area relates to the development of a new Transient Worker and Tourism Accommodation Village (TWTAV) and any impacts it will have on the local heritage and culture, including Aboriginal culture and connection to country.

Aboriginal Culture Context

The current proportion of people living in the Town of Port Hedland who identify as Aboriginal and/or Torres Strait Islander is 18.6%, which is significantly higher than Western Australia overall (3.3%).

The proportion of Aboriginal population that will be residents at the new TWTAV is unknown, though large resource companies who may become anchor tenants at the facility do typically have Aboriginal employment targets.

Stakeholder feedback suggests that the TWTAV's design needs to better reflect or honour local Aboriginal heritage. This should include engagement with traditional owners to help inform the design. Proposed suggestions for cultural integration include naming areas, showcasing Aboriginal artwork, and designing communal spaces that promote traditional interactions like 'yarning circles'. (NOTE: the original design did have a yarning circle – but some stakeholders saw this as potentially tokenistic by itself and needed support from traditional owners before implementing).

There is strong stakeholder support for the provision of cultural awareness training for new residents to Hedland who will reside in the village. This should not be left to individual tenant companies but also be provided as part of the induction to the village.

Additionally, engagement of local Aboriginal businesses as supplier to the TWTAV has been suggested to provide opportunities local Aboriginal stakeholders.

NOTE: The issue of the Kariyarra people's potential pursuit of an Indigenous Land Use Agreement (ILUA) and how it could affect the project site was also raised by stakeholders. At the time of writing this was unresolved.

Other Cultures

Port Hedland has low to moderate levels of cultural and ethnic diversity. Port Hedland has a slightly higher proportion of people born in Australia when compared to the state average (64.5% compared to 62.0%). The Hedland area has significant percentages of New Zealand (5.2%) and Filipino (2.9%) born residents compared to state averages. Although no specific cultural issues have been highlighted besides those pertaining to Aboriginal contexts, the resident cohort of the TWTAV has potential to be more diverse culturally and ethnically than the Hedland community and there may be a demand for multilingual communication and signage to accommodate this.

Community stakeholders are keen to see FIFO workers understand and respect the local community culture when they reside in Hedland. Provision of inductions into the community, the provision of information about Hedland, community events and activities were seen as being important.

In previous studies conducted by Creating Communities, it was apparent that without direct support, many FIFO workers didn't have time to learn about their host community in order to respect its heritage and what it had to offer. Therefore, effective resident inductions or onboarding into the village and the community will be important and can be done in collaboration with other stakeholders such as the Town of Port Hedland and the TWTAV anchor tenant/s.

Conclusion

Without conscious efforts to inform the TWTAV residents of ways to show respect to local Aboriginal and other cultures within the Hedland area, there is some potential for the incoming residents to be less respectful in their interactions with local people. The provision of cultural awareness information and training will be essential to supporting the village residents understanding and respect of local cultures.

8.4 IMPACT AREA 3: SERVICES AND FACILITIES

8.4.1 *DEFINITIONS*

Variable Definition: Accessibility of community services, and facilities.

8.4.2 *IMPACT RATING*

	IMPACT RATING OF PROPOSED DEVELOPMENT	IMPACT RATING AFTER IMPLEMENTATION OF PROPOSED RECOMMENDATIONS
SERVICES AND FACILITIES	**Low Negative**	**Neutral**

8.4.3 *IMPACT ASSESSMENT FINDINGS*

During consultation, stakeholders provided either neutral or positive feedback on the proposed Transient Worker and Tourism Accommodation Village (TWTAV) in relation to its likely impacts on community services and facilities (e.g. access to social and recreational facilities) in the Hedland community. There was a positive response to the hospitality, retail and fitness facilities provided at the TWTAV being open to the community, in providing other lifestyle opportunities for the broader population.

Focus group participants highlighted the potential positive community impact of the TWTAV on availability of amenities in Hedland. They described that the increase in people in the town from the TWTAV would potentially increase demand and therefore supply of amenities within the town. This impact was seen to be likely to be positive, particularly if the amenities were to match those available in major cities like Perth, as it could make the town a more appealing place and could alleviate strain on current overstretched local services.

However, there was significant concern expressed across all modes of the engagement regarding the potential strain on the local health care services due to lack of medical professionals to support the increase in transient residents, at a time when the local health care services in the Hedland area are under extreme pressure.

The very few stakeholders who completed the SIA survey felt that the proposed development would negatively impact the services and facilities in the Hedland community, with 43% of those rating the impact to be very negative, and a further 29% rating the impact to be negative. However, slightly less than a third (29%) of respondents indicated that the proposed development would have a positive impact.

Access to and use of community, recreation and leisure facilities and services at the proposed TWTAV **(inward integration)**

The development of the new TWTAV is seen to provide positive opportunities for inward integration due to its offering of on-site facilities, including a central kitchen, cafe, retail space, tavern, and both indoor and outdoor physical recreation and wellness facilities.

There was positive feedback towards providing access to village amenities for both residents and the community, whereby providing benefits for the TWTAV residents, while also providing opportunities

for the local community that may encourage greater interaction between transient workers and permanent residents.

However, there is notable concern that inclusion of indoor and outdoor physical recreation facilities on-site at the TWTAV may reduce the likelihood that the residents leave the facility to interact with the local precinct and broader community. The proximity of the South Hedland Sporting Complex and Hedland Recreation Centre (Wanangkura Stadium) to this TWTAV make it particularly likely that the facilities in the Hedland community are a feasible alternative.

One interviewee felt that if the new village is allowed to develop onsite recreational facilities, it will be inconsistent with the approach the Town of Port Hedland have taken previously with other TWAs.

> *"The development proposes a Pool and Gym/Fitness area is a concern – as Gateway wasn't allowed to develop, as they had to use the local government facilities. Need consistent approach by the Local Government. This will give an unfair competitive advantage to the new development over other FIFO facilities that weren't allowed to have these facilities like Gateway."*

Government stakeholders were supportive of the notion of the community accessing the onsite facilities, notably that it will take the stress off the Town's facilities, provide another experience, and provide another dining option, due to the closure of several dining facilities in the town in recent times.

One stakeholder mentioned, *"the more eateries we have, the better to socialise, and give people options".*

As with the positive response to the proposed provision of community access to the TWTAV dining facilities, the inclusion of a tavern within the development was generally well-received by stakeholders, as it also introduces an additional socialising experience. Stakeholders have recommended that this tavern should aim for a more upmarket ambiance to better serve and attract a broad clientele. It is also strongly advised by stakeholders that the tavern operates under a restricted licence to continue to mitigate any negative behaviours that might arise, particularly from the FIFO workforce. However, CCA research shows that there are very few behavioural incidents among the existing FIFO workforce due to stringent drug and alcohol testing and limits on the access of alcohol in other TWA villages (i.e. generally a limit of 4 mid strength equivalent drinks per day per person is now common).

Stakeholders have expressed positive views regarding the availability of a business centre and wellness centre within the new TWTAV. This integration could assist in enhancing health amenities available to the community.

Some stakeholders mentioned that encouragement of new businesses to occupy the retail spaces on offer, would be a positive impact (particularly if focussed on health and medical services).

The prioritisation of local businesses in the retail spaces would create additional positive impact by helping to retain the economic benefits within the community as they are more likely to reinvest their earnings locally along with boosting local employment. This approach would also increase the appeal of the TWTAV by offering products and services tailored to local preferences, drawing in more visitors.

The use of the vacant tenancies for medical and health related businesses which are lacking in Hedland was of particular interest to stakeholders. Pacific Partnerships were encouraged by stakeholders to work hard to target and fill the tenancies with appropriate businesses and services (such as medical) to address gaps in service provision available to the community.

Access to, and use of, community, recreation and leisure facilities and services (outward integration)

The proposed TWTAV development is located 0.41km from the South Hedland Sporting Complex, 0.79km from the Hedland Recreation Centre (Wanangkura Stadium), 1.86km from the South Hedland Aquatic Centre, 1.55km from the South Hedland Public Library, 0.81km from the South Hedland Bowls and Tennis Club.

Stakeholders generally agreed that the TWTAV residents residing in close proximity to existing sport and recreational facilities and clubs increased the likely positive impact of the TWA by increasing the likelihood that the TWTAV residents would use these facilities and engage with the clubs.

Results from previous studies conducted by CCA indicated that whilst many local government and community services and facilities have become inclusive to FIFO residents (i.e. local library, gym and pools having FIFO memberships), FIFO workers still have low participation in the local community in any way, mostly due to the lack of available free time, resulting from long workdays, roster requirements and the lack of transportation options.

There was some limited stakeholder concern with regard to the potential duplication of services such as a gym and pool that are already provided by the local government within proximity in the precinct. Additionally, the Town of Port Hedland is planning to expand the gym, sport, recreation, and cultural facilities in the coming decade in the precinct as part of the delivery of the Hedland Sports and Arts Precinct development (which is the same precinct as the location of this new TWTAV).

This proposed Hedland Sports and Arts Precinct development includes:

- Aquatic centre with multiple swimming and recreational facilities
- Expanded sporting stadium
- New outdoor courts and floodlit multi-purpose oval
- Three diamond sports fields, premier dedicated oval and second multi-purpose oval/field
- Two multi-user sports and community pavilions
- Playgrounds and fitness equipment
- New Library
- New Town of Port Civic Centre and Administration building
- Community meeting rooms
- Performing Arts Centre
- Commercial space
- Café/restaurant
- Childcare facility
- Landscaped paths and surrounding spaces, including cycleways and CCTV

This suggest that the necessity and impact of the TWTAV's own physical recreation facilities will vary over time. On one hand, the current sporting and recreation facilities are at capacity and will not be able to accommodate the expected 1300+ residents in the new village and hence in the short term these facilities of the gym, wellness centre and pool will be needed. The development of the Town's new facilities will take many years to come to fruition and will likely only be operational a long time after the opening of the new TWTAV. Hence this indicates these facilities will be needed in the TWTAV in the short term.

However, on the other hand, once the Town of Port Hedland completes its facilities in the precinct, it is likely that the fitness and recreation facilities within the TWTAV will be required to a lesser extent. Hence the TWTAV facilities would be needed in the short term, but in the longer-term it may duplicate facilities, waste resources, and prevent better integration of residents with the local precinct and community.

Concerns were also raised about the construction timeline of these facilities at the TWTAV, noting that any delays in building the hotel and gym/recreation facilities (if done as a second stage) would be problematic as there is not enough capacity at existing facilities to cater for the village residents, and any lack of early provision could adversely affect the usage of the current facilities by the community.

Additionally, if that stage of the development is delayed, it has potential to conflict with the timing of the Town's development of its new facilities as part of the delivery of the Hedland Sports and Arts Precinct development.

Access to, and pressure on, essential services (i.e. medical, emergency etc)

There are significant concerns among some stakeholders regarding the pressure on local services due additional FIFO workers being accommodated in the community.

Whilst stakeholders noted that the TWTAV will support upcoming town development, there is a wider concern about the increased demand on local services such as public facilities, local medical and health services, and community infrastructure. While the development may bring some infrastructural improvements, it could also lead to impacts on the current service provisions, potentially reducing accessibility for existing residents.

The biggest concern was in relation to impacts on health and medical services. There is an evident strain on exiting health services in Hedland, with issues such as an insufficient supply of medical practitioners, overstretched mental health services, and a general need for more dedicated health and counselling services within the town. The presence of more FIFO workers could exacerbate these issues, leading to decreased service availability for both town residents and FIFO workers. Stakeholders commented:

> *"(There is) one medical centre, one hospital, already overcrowded. FIFO industry need to support the medical industry and or have their own especially for work related areas such as medicals taking over local medical appointments."*

> *"Improve the local health system to meet the needs of the community".*

Stakeholders have also specifically mentioned the need for more mental health services within the community and suggested that the TWTAV should use their consulting rooms to offer such support to residents and the community.

When cross-referencing these concerns with previous studies completed by CCA, it was notable that a majority of FIFO village residents rarely used local health services, preferring to use their "home" medical professionals, indicating that the impact on the town's health services is likely to be lower than perceived (which would also align with numerous previous findings of SIA's carried out in Hedland). Although local community members have genuine and legitimate concerns about the availability of health services in town, and any increase in the transient population is likely to be problematic without additional staffing and service provision - the belief that members of the FIFO workforce will cause significant additional strain on the services is potentially perceived disproportionately.

Concerns were also raised about the capacity of the Police in the Hedland area to handle a larger population. Feedback provided from stakeholders suggests that the existing services are under-resourced, and the influx of new residents could complicate response times and effectiveness in emergencies. Previous engagement with the local police prior to this project indicates that a large proportion of their work is in relation to dealing with existing town residents, rather than FIFO workers, though there are incidents at the airport where have to allocate resources. Also, there is generally a very low tolerance by mining companies for their staff engaging in criminal or antisocial

behaviour, with consequences for engaging in such behaviour. The challenge will be that the Ventia as the village operator will not be responsible for the behaviour of residents who are employed by other companies – but need to ensure there is a common understanding and approach to how behaviour is managed – in agreement with the lessee companies.

It should be noted that historically there has been more concerning issues with the most transient of workers (e.g. construction and maintenance workers) who only stay for short periods of time in the town, rather than operational workers who have regular shifts and make greater connections with the town over a long period of time. Therefore, the composition of the residents of the village (which is as-of-yet unknown) will greatly influence the level of impact on the community.

Access to transport

Whilst the proposed TWTAV is situated significantly close to the South Hedland Town Centre (0.83km), the climate in the Pilbara Region is also particularly harsh, with very hot summers (up to 49°C). The distance and climate make walking or riding a bike to town from the proposed TWTAV uninviting.

Results from previous SIA's completed by CCA, specifically in Hedland, indicated that very few residents have access to a vehicle and are often transported by busses, unless they are contractors, who are more likely to have their own vehicles than a typical rostered FIFO resident.

It was suggested by those who attended a focus group that it could be beneficial to offer e-scooters, bikes, shared vehicles, or a bus service for residents to easily access the town centre and community services, shops and facilities.

Conclusion

There is positive support for the proposed community use of the village facilities, which was supported by the majority of stakeholders as it provides access to hospitality related services that are limited within the Hedland area.

Additionally, it was viewed by many that co-locating the village with the sport and recreational precinct was sensible in providing close access for the TWTAV residents to these facilities and services. However, the most concerning impact is in regard to the potential additional demand for medical services from an increased transient worker population, when these services are currently at capacity. Management strategies to try mitigating this will be important to ensure there is sufficient access to medical services to cater for increased demand.

8.5 IMPACT AREA 4: ENVIRONMENT

8.5.1 *DEFINITIONS*

Variable Definition: The quality of the air and water people use, the availability and quality of the food they eat, the level of hazard or risk, dust, and noise they are exposed to, the adequacy of sanitation, their physical safety, and their access to and control over resources.

8.5.2 *IMPACT RATING*

	IMPACT RATING OF PROPOSED DEVELOPMENT	IMPACT RATING AFTER IMPLEMENTATION OF PROPOSED RECOMMENDATIONS
ENVIRONMENT	**Minor Positive**	**Minor Positive**

8.5.3 *IMPACT ASSESSMENT FINDINGS*

This impact is required by the Town of Port Hedland as part of the Social Impact Assessment process.

The development proposes sustainable features such as energy efficient design to support sustainability, this includes the use of solar panels in the facility, which will reduce the consumption of gas and have a positive impact on the environment, particularly combined with the availability of EV charging on site.

The provision of a higher density hotel model as part of the development also adds to the sustainability credentials of the proposed development. Sustainable design is a key factor in the assessment process of the Design Review Panel, with advice given by panel members on how to increase the sustainability of the development.

There was very little concern raised by stakeholders in relation to this impact area, with no issues raised on the impact on the air and water people use. A majority of the small sample of survey respondents felt that the proposed development would have a neutral impact on the environment, suggesting that many do not foresee significant ecological issues emanating from the development.

Stakeholders who were interviewed perceived the incorporation of sustainable practices like solar power, water capture and reuse to support landscaping as positive attributes that support broader environmental goals.

A small portion of the interviewees raised concerns about the construction phase of the new TWTAV. Their concerns were regarding the uncertainty of the environmental impacts, the duration and noise impact of construction and the management and mitigation of impacts during this phase. Another concern raised was the need for an effective storm water management plan, noting that there are existing issues at the neighbouring Gateway village – so the integrated planning of storm water management will be essential.

Across all engagements, stakeholders agreed that there needs to be an increase in sustainability measures than what is proposed currently in the design, to ensure long-term environmental benefits, particularly opportunities for water capture onsite for reuse, solar energy capture and ensuring that

there is high-quality landscaping that provides a positive living environment and fosters social connectivity.

Other opportunities suggested by stakeholders included implementation of recycling initiatives (including those that that can support local community groups such as 'Containers for Change').

Stakeholders also emphasised the importance of ensuring there is provision of appropriate noise, dust, and light management to maintain a comfortable and healthy living environment for residents in the surrounding area (including ESS Gateway Village and FMG's Club Hamilton Village).

Conclusion

While this impact area elicited little response from stakeholders there is the opportunity for the development to embrace environmentally sustainability in both the design and operation of the facility.

8.6 IMPACT AREA 5: HEALTH AND WELLBEING

8.6.1 *DEFINITIONS*

Variable Definition: People's physical, mental, social, and spiritual wellbeing.

8.6.2 *IMPACT RATING*

	IMPACT RATING OF PROPOSED DEVELOPMENT	IMPACT RATING AFTER IMPLEMENTATION OF PROPOSED RECOMMENDATIONS
HEALTH AND WELLBEING	**Minor Negative**	**Neutral**

8.6.3 *IMPACT ASSESSMENT FINDINGS*

Previous research and SIAs' conducted by Creating Communities (CCA) emphasise the importance of a well-designed facility that can significantly influence the overall health outcomes of the workforce. Best practice transient worker accommodation and tourism operation provides adequate personal health services, access to sport and recreational activities and socialisation opportunities, ensuring residents can maintain balanced lifestyle while residing in transient living accommodation.

Stakeholders interviewed appreciated the inclusion of a wellness centre within the TWTAV, which could offer mental health services and general health care. Additionally, the location of the facility being a short distance from many local recreational facilities was positively supported – enabling those residing within the accommodation to engage with healthy pursuits and participate in community clubs should they desire.

Focus group participants responded positively to the development's potential to offer recreational facilities and community spaces for both TWTAV residents and community members. These aspects were highlighted as beneficial for enhancing social interactions among transient workers, the local community and promote an overall sense of community, which is vital for mental and social wellbeing.

The small number of survey respondents believed that the proposed development would have a mixed impact on the health and wellbeing of people in the Hedland community with a small majority viewing the impact as neutral.

Respondents also advised that there was a high level of importance in ensuring accessible healthcare and mental health support on site which would contribute positively to the wellbeing of the workforce residing in the accommodation and ease pressures on accessing healthcare services in town.

Resident access to healthcare

The key concern again was the impact on the local medical and healthcare system of 1300+ residents being added to the current volume of people requiring services. There was a universal view throughout the entire stakeholder consultation process that the medical and healthcare system is strained. It was suggested that the increase in a transient workforce would likely put additional pressure in an already overloaded system.

When cross-referencing these concerns with previous studies completed by CCA, it was notable that many other FIFO village residents rarely used local health services, preferring to use their "home" medical professionals, indicating that the impact on the town's health services is likely to be lower than perceived (which would also align with numerous previous findings of SIA's carried out in Hedland). Although local community members have genuine and legitimate concerns about the availability of health services in town, and any increase is likely to be problematic without additional staffing and service provision - the belief that members of the FIFO workforce will cause significant additional strain on the services is potentially perceived disproportionately.

Another issue described by stakeholders is that funding for essential services such as hospitals, is perceived to be based on the permanent residential population of a district and as transient residents are not included in population counts. Therefor the proportion of those included in demand estimates for public services and infrastructure becomes increasingly inaccurate compared with the number of actual users. There is a perception that this in turn may exacerbate the unmet need for public services which may be funded based on counts of permanent residents. The access to healthcare in Hedland was highlighted by stakeholders as the dominant example of this risk, as the services are currently under severe strain. However, the Independent Health and Aged Care Pricing Authority describes Activity Based Funding as the basis for hospital funding, whereby hospitals get paid for the number and mix of patients they treat[48], not the population. Therefore, it is likely that there are other factors rather than inaccurate counts of the service population contributing to health care issues in Hedland.

Provision for Mental Health Support Services

The mental health and wellbeing of transient workers has been at the forefront of recent studies on the impacts of the mining industry in Western Australia. Recent results have noted that that 'the continuous blending and fracturing of work and personal life that FIFO workers experience negatively affects workers' mental health.[49] While the new TWTAV will not drive the demand for temporary workers, nor the decisions of individuals to undertake this type of work, it does present an opportunity for provide wrap around services, such as mental health support, for FIFO workers while they are accommodated there.

Interviewees and focus group participants agreed that mental health services were also overstrained in Hedland and there was a need for more mental health services within the community, suggesting that the TWTAV's consulting rooms could be utilised to offer such support to house mental health professionals, psychologist, chaplain etc. Some of the comments from stakeholders included:

> *"The consulting rooms in the wellness centre. These should be used for mental health services as there is a real need in the community and in FIFO in particular for mental health services."*
>
> *"Use these to provide access for health providers/ doctors and mental health services. Health services are crucial and could support these".*
>
> *"Provide in-house facility/service for counselling/mental health wellbeing e.g. site 'chaplain'."*

[48] Independent Health and Aged Care Pricing Authority. 2022. Accessed 17 May 2024 from https://www.ihacpa.gov.au/health-care/pricing/national-efficient-price-determination/activity-based-funding

[49] Fruhen, L.S., Gilbert, J., and Parker, S.K., 2022. Fly-in-fly-out work: A review of the impact of an extreme form of work-related travel on mental health. Organizational Psychology Revie, p. 14.

It is likely that the described lack of mental health services is driven by several factors rather than solely a lack of office space, and that the provision of office space alone is not likely to alleviate the under supply, however as mental ill health is well known in relation to FIFO work practices, supporting the availability of these services would assist in fostering positive social impacts of the TWTAV.

Liveability of the village facilities

The proposed development encompasses an indoor gym/wellness centre, outdoor gym and multi-sports basketball courts, and swimming pool and cricket nets. There are also passive outdoor areas including a landscaped village green. Pacific Partnerships advises that residents will also be encouraged to participate in local sport and recreation activities, with Lifestyle Coordinators being employed to support resident engagement in healthy and active activities, notably also a suggestion made by stakeholders.

However, the time frame for the delivery of these amenities is not clear, with it being indicated that these facilities will be delivered in the second stage of the project as part of the hotel development. There is a concern that if these amenities were not developed until later (i.e. in later years) that this will impact residents and the community as the demand for the facilities such as the gym at Wanangkura stadium are already at capacity and will limit access to the health, fitness and recreational facilities which will be needed by residents from the commencement of the village's operations.

Through previous studies conducted by CCA, as well as our company's experience in working with FIFO communities we have found that many village residents have mixed experiences with on-site facilities. This often relate to the quality of food (i.e. being poor, only good occasionally) as well as facilities, such as the laundry, not being adequately maintained. Another frequent TWA resident complaint is a lack of sufficient recreational and fitness facilities, for example, gyms being too small to cater for the number of residents.

These factors will be essential to address in the design and from commencement of the operation of the TWTAV.

Responsibility for resident wellbeing

Ventia, who are collaborating with Pacific Partnerships are proposed to operate the facility. Ventia provide a range of services including asset management and facilities management and have extensive experience in planning, managing and operating workforce accommodation villages. This means that the proposed TWTAV is not owned by the employer of the residents. Therefore, there may be slight differences in the rules, processes and procedures associated with the health and wellbeing of the residents in comparison to other villages and TWTAV's that are managed by the employer. Additionally, there will likely be differing levels of access to mental health services among the village residents such as Employee Assistance Programs (EAP) that provide counselling and psychological support services to employees.

Therefore, there will need to be concerted effort from Ventia to ensure there is a common high standard of resident wellbeing support, in collaboration with the main anchor tenants.

It is proposed that the village will employ a lifestyle / wellbeing coordinator to provide access to physical and social activities. The number of residents at the village is quite large for only one person proposed to support. It would be recommended that two roles are provided – one focussed on physical activity and the other on social engagement, as there are very different skills and experience required to deliver these different services.

There was little feedback from the stakeholder engagement in relation to the responsibility for residents' wellbeing, other than ensuring that there is ongoing communication such as a village app or newsletter to share information on activities within the village and throughout the town to encourage residents to participate in social and recreational activities and not isolate.

Restriction of alcohol consumption

The proposed TWTAV development includes an on-site tavern and licensed social areas operating at set times. The facility will be run like any other licensed premise, including the requirement for training of service staff in the Responsible Service of Alcohol (RSA) and the restriction of alcohol consumption in line with the equivalent of four (4) mid strength drinks per person, per day.

Earlier studies into the impact of transient work on remote and regional populations concentrated on negative impacts including the increase in drug and alcohol abuse. As a response to this and other various impacts, a significant effort by resource sector companies, regional governing bodies, TWA operators and other organisations have aimed to mitigate this negative impact of FIFO work identified in the literature, including limits on alcohol consumption and drug and alcohol testing. These strategies have generally been successful in lowering concerns about the behavioural and health related impacts of transient workers in host communities. Generally, experienced FIFO employees and contractors are aware of the need to limit the consumption of alcohol and drugs to maintain their employment, however there is still anecdotal feedback hat some workers do not manage their alcohol and drug intake effectively (as per the rest of the population).

Alcohol and behaviour management was a predominate topic in the feedback from interview stakeholders, perceiving that with the increase in FIFO workers in the town from the new TWTAV, that there will be a potential increase in alcohol related antisocial behaviour, intoxication, and more illicit sexual activity. Stakeholders would like to be assured that there will be an implementation of comprehensive community safety plans including an effective alcohol management plan/system in place for both FIFO and public patrons using the tavern - including maintaining drink limits and having access to a banned drinker's registry (for both village residents and community).

This perceived concern, if well managed, is unlikely to present a significant risk to the community as alcohol consumption is now limited and highly regulated in TWAs and is proposed to be well managed in this village, with strict behavioural standards to be implemented. Additionally, Pacific Partnerships advises that each resident will be provided with an access card, which will control the number of drinks permitted on site on any day. All residents of the village would be required by their employers to register a zero drug and alcohol reading when they are scheduled to work and will be subject to drug and alcohol testing.

It is recommended that this also applies to community members using the tavern, even though this is not the case at the neighbouring TWA – Gateway Village.

It was also noted by a stakeholder that a neighbouring local sporting club has a bar, and there are other bars next door at Gateway Village and in South Hedland where alcohol can be easily accessed, without the limits that exist in the village.

Therefore, while strict alcohol and behavioural expectations and protocols will be required with consequences for breaches at village there will need to be consideration of how to manage residents who go to other facilities to consume alcohol.

To address these issues and better connect transient workers to the Hedland community, stakeholders identified the opportunity to provide resident inductions to the village and town. Additionally, it was recognised that stakeholders like the Town of Port Hedland could be proactive in providing

information directly to the village community regarding local community activities to encourage them to understand community values and increase their positive involvement in the community.

Conclusion

There was strong recognition amongst stakeholders of the challenges of FIFO life and the potential impacts on their health. Management strategies to support transient worker's physical and mental health, while also effectively managing alcohol consumption were key areas identified to address. Additionally – as per impacts highlighted in Services and Facilities impact area - there is concern that any further reduction in access to stretched medical services due an increased transient worker population will impact the health and well-being of the community unless additional services are provided.

8.7 IMPACT AREA 6: PERSONAL AND PROPERTY RIGHTS

8.7.1 *DEFINITIONS*

Variable Definition: Particularly whether people are economically affected, or experience personal disadvantage which may include a violation of their civil liberties.

8.7.2 *IMPACT RATING*

	IMPACT RATING OF PROPOSED DEVELOPMENT	IMPACT RATING AFTER IMPLEMENTATION OF PROPOSED RECOMMENDATIONS
PERSONAL AND PROPERTY RIGHTS	**Neutral**	**Neutral**

8.7.3 *IMPACT ASSESSMENT FINDINGS*

This impact area was a requirement from the Town of Port Hedland Policy on Social Impact Assessments.

From the interviews and focus groups conducted, it was clear that they felt there were no significant concerns relating to personal and property rights, with many not providing any feedback in relation to this impact area.

However, the majority of the small sample of survey respondents felt that the proposed development will negatively impact the personal and property rights of people in the Hedland community, with over half of the respondents rating this impact as negative or very negative. Indicating fears of increased crime, privacy issues and property values changes due to the transient work development.

Personal Property Rights

Stakeholders believe the proposed TWTAV will not impact the rental or housing prices. They felt that the proposed TWTAV will support upcoming Town developments ensuring those projects can proceed, providing much needed future accommodation.

A long-term local resident who was interviewed, noted that this proposed TWTAV may help avoid further increases in rental prices, as workers are accommodated in purpose-built accommodation rather than competing in an overheated property market. However, this will mostly impact investors, not residents of the community, though will help reduce increases in housing costs.

However, a stakeholder with experience in local TWAs raised that there is no proven demand to facilitate the need for more transient worker accommodation, with other neighbouring facilities such as Gateway, Waypoint and other facilities experiencing vacancies. Hence the provision of the new TWTAV could place pressure on those facilities to be able if an extra 1300+ beds were added to the market.

Civil Liberties

There is potential that any influx of transient workers enabled by the proposed new TWTAV could strain local infrastructure and services in the Hedland area. This may lead to a perceived or real decrease in the quality of life for permanent residents, and therefore creating a degree of personal disadvantage.

Some interviewees expressed concerns about the transient nature of the workforce leading to instability and a lack of community cohesion, which in turn could affect civil liberties. There were fears about increased crime rates and a decrease in safety and security, however there is no evidence that this has occurred as a result of an increase of FIFO resident numbers.

Focus group feedback was minimal, with no real concern or positive feedback presented for this impact area. There was, however, a suggestion noting that the hotel section could have balconies which would provide passive surveillance to mitigate increased crime, however others raised that this could cause privacy issues overlooking Gateway Village and the sporting facilities close by.

Indigenous Land Use Agreement (ILUA)

The Town of Port Hedland advised that the Kariyarra people (Traditional Owners of the area) may try to seek an Indigenous Land Use Agreement (ILUA) over the site. If this is granted, any development would need to be negotiated with the terms of the Indigenous Land Use Agreement.

Conclusion

This impact area received little feedback from stakeholders and did not elicit any significant concerns that require specific management strategies, that wouldn't already be covered through strategies and actions identified already to address other impact areas.

8.8 IMPACT AREA 7: COMMUNITY SAFETY

8.8.1 *DEFINITIONS*

Variable Definition: The impact on community safety from crime and anti-social behaviour.

8.8.2 *IMPACT RATING*

	IMPACT RATING OF PROPOSED DEVELOPMENT	IMPACT RATING AFTER IMPLEMENTATION OF PROPOSED RECOMMENDATIONS
COMMUNITY SAFETY	**Low Negative**	**Neutral**

8.8.3 *IMPACT ASSESSMENT FINDINGS*

Transient worker populations can exacerbate perceptions of certain social challenges, including increased rates of crime, antisocial behaviour, and safety concerns. These findings are consistent with perceived concerns historically associated with TWA developments in resource-heavy regions, where the influx of temporary workers, particularly from construction projects, may instil concern of a disruption to local social dynamics.

However, previous impact assessments conducted by CCA show that there are relatively low levels of crime and disruption to local social dynamics associated with TWA facilities and their workforces in Hedland and other Pilbara towns when compared to the residential population – mainly due to stringent behavioural expectations and improvements in drug and alcohol testing and management.

However, the level of anti-social behavioural can differ depending on the type of workforces. Generally operational workers who are regular residents in the town tend to have less impact than workers on short term contracts such as construction and maintenance workers, who reside in the town for short terms and may feel there are less consequences to inappropriate behaviour as they move across sites. Therefore, the composition of the residents at the village will likely impact the level of safety residents feel.

Additionally, a previous Government report from 2019 on alcohol consumption in South Hedland identified that this was problematic and created social problems and any additional access and consumption could be problematic. [50]

Crime and Community Safety

Crime rates in South Hedland decreased from 340 per 1000 inhabitants in 2016 to 271.8 per 1000 inhabitants in 2021. This indicates that the level of crime over that time improved slightly, which may have been as a result of improved law enforcement and policing, and / or the implementation of community and social programs. However, the crime rates in the area fluctuate, and since then the number of crimes increased in 2022 and 2023.[51]

[50] https://www.dlgsc.wa.gov.au/docs/default-source/racing-gaming-and-liquor/liquor/directors-decisions/s-64-pilbara-inquiry_290626_1aaaffda6e2326d0fa9d2ff0000b27513.pdf?sfvrsn=eb16b2ac

[51] [51] WA Police. 2024. Crime Statistics for South Hedland. Sourced 16 May 2024 from https://www.police.wa.gov.au/Crime/CrimeStatistics#/

Stakeholders have historically indicated that there were very low incidents of crime related to TWA facilities or FIFO residents in Hedland. However, the increase in the number of FIFO workforce may increase the level of incidents of crime due to the population increase, however this was not of significant concern to most stakeholders.

Some stakeholders however did raise concerns related to FIFO worker behaviour at the airport, where excessive consumption of alcohol has impacted the behaviour of workers on fly out days, especially if workers arrive early for a flight or a flight is delayed – leaving more time to consume alcohol.

Stakeholders via interviews noted that the behaviour of FIFO workers is not as big of an issue as it used it be some years ago. This may be due to the actions taken by resource sector companies to aid in better behaviour from their workforce and also the increase in the proportion of operational FIFO workers and less workers involved in construction and maintenance work.

Although the majority of the small sample of the survey respondents observed the community safety impact as neutral, there was still a small portion that viewed it negatively, indicating that they are worried about potential increases in crime and safety issues.

The management of areas prone to antisocial behaviours, such as the tavern, was a concern raised by some interviewees, particularly if community access is provided. Stakeholders suggested the need for an effective alcohol management plan that encompassed strategies that protected the facilities, and its patrons (both residents and local community).

The location of the parking around the perimeter of the facility was also concern for some of the stakeholders interviewed – where they indicated that despite fencing being installed - it is likely the cars will be subject to petty crime, as it backs onto unsupervised open space along with safety concerns for women and other vulnerable people walking to their cars.

The layout of the development was also critiqued for not promoting a "neighbourhood feel" that supports social connection due to rows of accommodation units that aren't formed around neighbourhood hubs as well as there being a lack of both east- west and north – south connection across the site.

Privacy concerns were also raised with the potential for the hotel residents to overlook others in local recreational spaces and the neighbouring Gateway Village. However, others saw the lack of balconies at the hotel as being a design flaw as it provided no outdoor space for residents.

Traffic management was also a concern for some stakeholders, particularly regarding the impact of traffic from buses and locations near the High School, when combined with traffic from other TWAs and users of the sport precinct at peak times.

Opportunities for preventative measures

Stakeholders advised that they hoped to see a development of a comprehensive community engagement strategy that encompasses local residents and informs them about the village's operations. In addition to this, stakeholders suggested the establishment of a community liaison role that would be responsible for the development and/or facilitation of community integration initiatives involving village residents in local activities and volunteering opportunities. This would build mutual respect and understanding between transient workers and permanent residents as well as facilitating communication between the village management, the workers, and the local community including addressing safety concerns proactively.

An induction process for new residents of the TWTAV was highlighted as essential, highlighting the need to clearly communicate local values, behavioural expectations, and consequences, including a comprehensive orientation about the local community's culture and resources, detailed safety protocols, and guidelines for respectful interaction within the community.

Furthermore, the design and layout of the buildings including the provision of clear wayfinding and signage around the site to provide guidance and help in navigating the area efficiently ensuring that visitors, residents, was seen as essential. This will help residents and staff to easily locate their destinations without confusion, in turn enhancing community safety and promoting a more secure environment.

To mitigate traffic management concerns, stakeholders suggested collaborating with the Town of Port Hedland (ToPH) and other FIFO villages to construct a new road at the rear of the facilities providing a direct route to Boodarie and the Port for heavy vehicles. Additionally, support for converting Hamilton Road into a dual lane at the turn-off point was proposed.

Conclusion

The majority of stakeholders were not significantly concerned about a heightened risk to community safety from more FIFO workers being accommodated in Hedland, with many indicating they didn't see much impact currently from this work practice. However, it was clear that effective management of alcohol, a zero tolerance to anti-social or criminal behaviour and a proactive approach to inductions into the community will be needed to ensure that transient workers show respect to others and behave appropriately when residing in Hedland.

8.9 IMPACT AREA 8: ECONOMIC DEVELOPMENT EMPLOYMENT AND TRAINING

8.9.1 *DEFINITIONS*

Variable Definition: Economic development, employment, and training for the community (including the local Aboriginal and Torres Strait Islander community) and the transient workforce, and changes in the overall local economy of Hedland.

8.9.2 *IMPACT RATING*

	IMPACT RATING OF PROPOSED DEVELOPMENT	IMPACT RATING AFTER IMPLEMENTATION OF PROPOSED RECOMMENDATIONS
ECONOMIC DEVELOPMENT EMPLOYMENT AND TRAINING	**Low Positive**	**Medium Positive**

8.9.3 *IMPACT ASSESSMENT FINDINGS*

Port Hedland is predominantly driven by the mining and port industries which significantly contribute to the local economy by generating a substantial proportion of the area's economic output and employment.

The Town of Port Hedland's Transient Worker Accommodation strategy emphasises the role of TWAs in balancing the demand for non-residential workers, with minimizing potential negative impact on the communities social and economic conditions. These frameworks aim to ensure that any development, including this proposed TWTAV, aligns with community development goals and supports the local economy while respecting cultural heritage and promotion sustainable community integration.

Data collected from other SIAs that CCA has produced, suggest that immediate economic impacts of TWA facilities are often positive on a broader economic level, especially given the essentiality of workforce accommodation in the facilitation of resource sector and local Government projects that drive broader economic benefits.

Enablement of mining activities

The predominant economic benefit which is likely to be derived from this TWTAV development is the increase in the town's ability to accommodate temporary workers and the increase in productivity and economic outputs to which they contribute. This includes operations at Hedland's ports, and future infrastructure development.

This broader economic benefit will have an indirect impact, as the accommodation itself does not create or drive the demand for these workers. The provision of accommodation is one enabler of the supply of workforces for mining industry activities. It is important to delineate between the direct

impacts and responsibilities of the accommodation, and the workforce and mining and port industries. TWAs are a visible symbol of the presence of temporary workforces in the town, and some of the TWA facilities in Hedland are built and owned by mining companies, so the roles of village owner and employer become conflated. However, in this case, this TWTAV will be owned by a third party and the responsibility to balance the influx of workers in Hedland area cannot rest alone with the accommodation provider.

Economic benefits to local businesses

For smaller local businesses, stakeholders expect the project to enhance local business activity through increased patronage and the use of local services and goods by village residents, thereby supporting local employment and economic growth. This will particularly be the case if Pacific Partnerships (through the development of the village) and Ventia (as the operator) prioritise local procurement, which would provide additional positive flow-on effects from the new TWTAV village.

Interviewees expressed positive views about the potential for the TWTAV to integrate well with the existing infrastructure, including the integration of local business, with many seeing the TWTAV as a potential boost for local businesses. Stakeholders anticipated that those involved with the TWTAV (construction phase personnel and future residents) will utilise local businesses, services, and shops nearby. Furthermore, those interviewed noted that accommodation like the proposed TWTAV, is needed to expand and deliver major upcoming projects in the Town.

Both interviewees and focus group participants provided insights into the communities' collective expectations with some enthusiasm about the potential for the TWTAV to offer amenities that could be accessed by the broader community, such as the recreational facilities, cafes and the business centre which could serve as a hub for local businesses to utilise, small events and activities.

Economic Concerns

Some interviewees and focus group stakeholders were worried about the displacement effect, whereby the economic benefits could be taken away from existing local businesses and services with the residents preferring the use the amenities and services provided by the TWTAV. This could in turn, reduce the spending at local businesses, leading to decreased revenues for existing shops, restaurants and service providers previously relying on the broader community and transient workforce spending. This of course would depend on the businesses chosen to fill the tenancies and if they are complimentary or competitive to other business offerings in the town.

Furthermore, there was concern expressed about the long-term economic impact, specifically relating to the potential of a temporary boost in economic activity during the construction phase and the potential for a decline once the TWTAV is operational. However, this does not take into account the ongoing operations to cater for 1300 people.

The small number of survey participants were generally more cautious or negative about the impact of the development on the communities cultural and infrastructural landscape. This correlated with their comments concerning that FIFO worker accommodation over-rides the potential to maximise the Town of Port Hedland's growth and community benefits.

Employment & Training

There is a significant role that the resources sector plays in the local economy of Port Hedland, as the largest employing sector, contributing to a major portion of the economic output. The historical context provided shows a trend of dependency on this sector for economic stability and job creation.

Research shows that there is a high labour force participation rate and a relatively low unemployment rate (2.5%) compared to the state employment rates, indicating a strong economic activity and low level of demand for the type of roles needed to operate the village. The data suggests that there is limited scope to employ local residents in new ventures such as this new TWTAV unless there is investment in local training and development. Without this investment, it is likely that a FIFO workforce will be needed to staff the venue, as there will be much higher remunerated roles on offer in town than the housekeeping, administration and catering roles that will be on offer in the village.

Stakeholder interviews highlighted that the TWTAV could create direct job opportunities both at the construction and operational phases. In addition, interviewees expressed optimism about training initiatives associated with the proposed TWTAV, particularly programs aimed at upskilling local residents and targeted initiatives for youth and the ATSI community.

Some interviewees also noted concern about inequality, specifically in terms of job opportunities that may not be equally accessible to the local population, including Aboriginal and Torres Strait Islander communities.

It was suggested by some stakeholders that Ventia could become a provide training opportunities in hospitality and administration type roles within its facilities, which could be undertaken in collaboration with organisations like the Ashburton Aboriginal Corporation to provide training for locals in partnership with Pundulmurra TAFE. This approach would provide pathways to employment using the TAFE's new hospitality training block that features a commercial cookery training kitchen, which is expected to be completed mid-year, with students set to commence training in Semester Two 2024.

School leavers are known to be a particularly difficult cohort to retain in a regional / remote environment, with the assumption amongst many being that they will need to relocate to urban areas to ensure they can access a full range of higher education and training opportunities. As such, the provision of post-secondary training and career pathways is crucial. Organising these apprenticeship programs would also be beneficial for local employment, which will contribute to the economic benefit that the TWTAV will have in the local community.

Economic Development Opportunities

Local procurement was a highly regarded opportunity across all of the engagement, with stakeholders wanting to see the TWTAV sourcing goods and services from local businesses were possible, and the development of a local procurement strategy/policy ensuring that the economic benefits are shared locally. Moreover, stakeholders would like to see the inclusion of the promotion of shopping local campaign to encourage the workforce residing at the TWTAV to spend at local businesses.

Other opportunities suggested by stakeholders included the prospect for a laundry business in town to service the village rather than to transport linen to cities, as well as the provision of a co-working space for home businesses and the development of a much-needed large conference area.

Some stakeholders wanted to see a similar approach to that taken by Gateway village in providing access to facilities for community functions and events, including the opportunity to bring on a local business to run wellness sessions, as well as the offer a percentage of rooms at a reduced rate for bookings by local organisations and small businesses.

Additionally, the development of a village app and /or newsletter to share information on activities and events happening in the town was suggested.

Conclusion

While accommodating a transient workforces may not generate the same level of economic benefit to a town that a permanent residential workforce would, there was strong stakeholder support for Pacific Partnerships and Ventia to pursue initiatives that would generate economic benefits from investment in local training and employment, local procurement and support for the village residents to shop locally.

8.10 IMPACT AREA 9: HOUSING AND ACCOMMODATION CHANGE

8.10.1 *DEFINITIONS*

Variable Definition: Impact of the development on the accommodation and housing infrastructure in Port and South Hedland.

8.10.2 *IMPACT RATING*

	IMPACT RATING OF PROPOSED DEVELOPMENT	IMPACT RATING AFTER IMPLEMENTATION OF PROPOSED RECOMMENDATIONS
HOUSING AND ACCOMMODATION	**Minor Positive**	**Minor Positive**

8.10.3 *IMPACT ASSESSMENT FINDINGS*

The Town of Port Hedland (ToPH) has experienced significant demographic and economic shifts predominantly driven by the mining and resource sector. This growth has contributed to an 8.4% population increase from 2016 to 2021. Despite this rise, housing and accommodation pressures have remained a prominent challenge, with the cost of housing in the Pilbara currently the second highest in the State and the general undersupply of residential and non-residential properties in Port Hedland driving up property and rental prices in the area.

Over half of Port Hedland occupants live in rental accommodation, with the average rent in Hedland's suburbs in 2023 being $988 per week, and the average rent being $663. As of 2023 median rental prices increased by 92.7% over the previous five years, with the region having a 1.7% vacancy rate.

From 2020 to 2023, median house sale prices in South Hedland and Port Hedland significantly increased, nearly doubling in South Hedland, and rising from $415,000 to $744,000 in Port Hedland. Factors contributing to this increase include heightened housing demand driven by rising industry and business activity, global inflation, and relocation trends influenced by COVID-19. Additionally, challenges in sourcing materials and labour in Australia, particularly Western Australia, have led to increased costs and delays in residential construction nationwide, this is then exacerbated in the Pilbara with costs being even higher due to its remote location and lack of access to building companies and key supply chains.

Short stay accommodation venues in town, have very limited vacancies, with the owners of short stay accommodation taking advantage of the situation by charging significantly higher rates than in previous years to access this accommodation type. The provision of additional TWAs is one strategy that will provide support to lower demand from workers to permanent housing in town as well as bringing the costs of short stay accommodation down to make it more accessible for tourists and other visitors to the town.

Role the new TWTAV could play in helping to alleviate the current housing crisis

Whilst many stakeholders preferred the provision of permanent residential accommodation, the majority of those interviewed highlighted that the new TWTAV could play a role in helping to address the current housing crisis, with stakeholders pointing out that the proposed TWTAV is required to service local projects and provide more accommodation options in Hedland, ensuring that workforces don't enter and further heat up the existing housing market – displacing others from their housing.

Participants in the focus groups provided no feedback on the impacts of housing and accommodation, other than the provision of providing back packer accommodation within the TWTAV to support staff shortages as an opportunity.

The majority of the small number of survey respondents viewed the impact of the proposed development on housing and accommodation in the Hedland community, as neutral, with the remaining viewing it as a negative impact. Very little commentary was provided, other than one respondent who suggested improving the current housing shortage and another suggesting the idea be shelved unless it is going to free up housing for locals.

Concerns about the temporary nature of Transient Worker Accommodation (TWA)

Some interviewees expressed concerns about the temporary nature of TWAs and their potential to delay more sustainable, long-term housing solutions. Their fear was that focusing on temporary accommodations like the proposed TWTAV might detract from investments in permanent residential developments, which are necessary for community stability and growth.

Concerns were also raised about the proposed TWTAV not integrating effectively with the community, potentially leading to segmented populations that do not interact with or contribute to the local community and economy. Furthermore, a small proportion of stakeholders raised concerns regarding the lack of community benefit with the view that a high proportion of FIFO is not good for the community and their contribution both socially and economically is limited compared to those who reside permanently in the community.

One stakeholder also advised that there are existing villages that still have vacancies, and this may have an adverse impact on these facilities and their operations by adding more rooms into a market that doesn't yet need them.

Some stakeholders identified opportunities to leverage the TWTAV development to support housing and accommodation impacts by using the TWTAV development as a catalyst for ensuring that future developments are planned with a balanced approach that considers both immediate and long-term needs along with the provision of other workforce accommodation beyond just FIFO workers.

Conclusion

While there is a general stakeholder preference for more permanent residential accommodation in Hedland, rather than just the provision of more transient worker accommodation, many recognised that due to market issues such as the high cost of materials, lack of labour and the unavailability of residential housing builders, that it is not currently possible nor feasible to build permanent housing to accommodate large workforces that are required for expanding resource sector projects.

Additionally, it is recognised that the Town of Port Hedland has a long history of accommodating FIFO workers, whose presence is woven into the community's social and economic fabric. As this development will build on the existing range of transient worker accommodation in the area, it is seen

by many as “a necessary evil” and is preferable to a scenario where these workers and /or their companies try to access accommodation via the local housing market where there are few properties for sale and rent and where prices are already skyrocketing.

8.11 IMPACT AREA 10: BUILT FORM

8.11.1 *DEFINITIONS*

Variable Definition: The built form in the surrounding area and the way it provides a safe and sustainable lifestyle.

8.11.2 *IMPACT RATING*

	IMPACT RATING OF PROPOSED DEVELOPMENT	IMPACT RATING AFTER IMPLEMENTATION OF PROPOSED RECOMMENDATIONS
BUILT FORM	**Neutral**	**Minor Positive**

8.11.3 *IMPACT ASSESSMENT FINDINGS*

The built form environment refers to the man-made surroundings where people live, work, and recreate. It includes buildings and open spaces as well as supporting infrastructure such as transport, water, and energy networks. This impact area considers the proposed TWTAV's built form environment and the impact it has on the surrounding area and the way it supports a safe and sustainable lifestyle.

The Town of Port Hedland (ToPH) recognises the growth driven by the resources sector and the subsequent demand for TWAs, in which the ToPH has developed strategies and policies to integrate these accommodation facilities harmoniously into the community. These documents emphasise the need for TWAs to offer more than just temporary housing; they must also contribute to the community's socio-economic conditions, enhance the built environment, and respect the local culture and heritage.

Context of the surrounding built form and land use

The land on which the proposed transient workers accommodation is located, is a 10-hectare parcel of undeveloped land located west of Parola Court and is currently zoned Rural in the ToPH local Planning Scheme No 7. The ToPH is in the process of acquiring this land from the WA State Government and Pacific Partnerships has an agreement with the Town to lease the land for a period of 20 years, with a further 20-year option available.

The developer, Pacific Partnerships noted that the village site was chosen due to its close proximity to the South Hedland Town Centre, providing easy access by foot, cycle or by car.

The facility is designed in accordance with the ToPH's Local Planning Policy LPP/05 – Workforce Accommodation, in which requires workforce accommodation developments to provide a building, or buildings designed for cyclone sheltering purposes for all occupants the site is designed to accommodate.

The proposed TWTAV location is relatively close to recreational, health and retail facilities in the South Hedland town centre. (0.83km), in additional to this, it is also located within proximity of the ToPH's

proposed future Civic Centre and Arts and Cultural Centre development (located at the current TAFE site).

The site also neighbours the existing Gateway Village, owned and operated by Compass / ESS and within proximity of the Club Hamilton TWA which is owned by FMG and operated by Civeo.

It is proposed that the accommodation will accommodate up to 1309 rooms including four universal access rooms as well as comprising of a multi-story hotel style building for 437 rooms and a series of village style accommodation modules with 870 rooms.

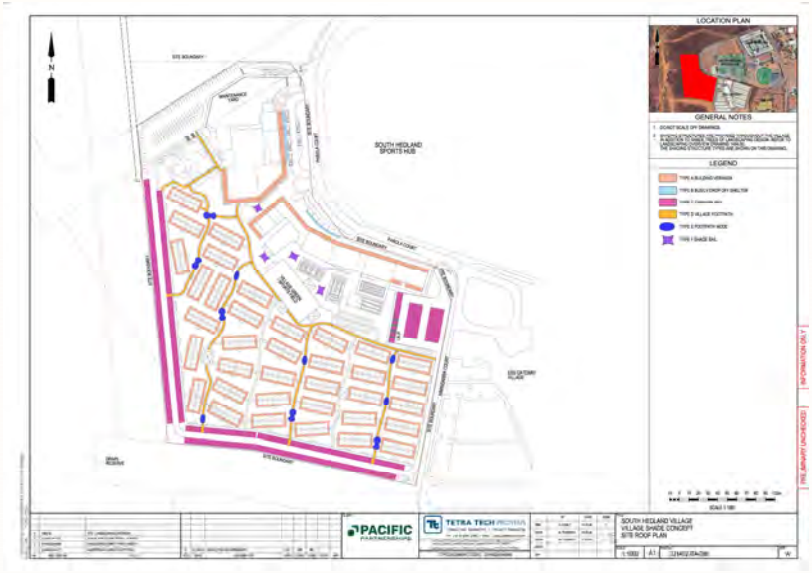
FIGURE 7 PROPOSED OVERALL SITE MAP NEED TO UPDATE MAP

Furthermore, the proposed development includes on-site retail/café space, a tavern, a central kitchen and mess, and indoor and outdoor physical recreation and wellness facilities and a business centre.

FIGURE 8 PROPOSED GROUND FLOOR AND CENTRAL FACILITIES PLAN SHOWING PROPOSED FACILITIES

The proposed development includes 448 parking bays for light vehicles, including universal access bays as well as the inclusion of bus parking bays, with most residents being transported by bus to and from worksites, with others will use company or private vehicles.

FIGURE 9 PROPOSED PARKING



The village will be fenced for safety and crime prevention purposes, particularly as the rear of the site is open to undeveloped land. The front of the facility is proposed to integrate with the street scape and be visually permeable.

FIGURE 10 UPDATED RENDER OF THE PROPOSED NEW DEVELOPMENT

Positive feedback on the built form

Interviewees provided detailed perspectives on the proposed TWTAV's built form, with most stakeholders generally appreciating the architectural design, highlighting that the village integrates well with the existing infrastructure and complements the surrounding area's aesthetic. Positive remarks were made about the "hotel concept" in providing an iconic building as part of a mix of different styles of buildings, suggesting it provides a modern and high-quality development that could elevate the local architectural standards.

There were also comments on the need for sustainability in the building design, such as energy efficiency and use of sustainable materials.

Positive responses from Stakeholders who participated in interviews highlighted the built form's potential to enhance the area's liveability by providing modern amenities and providing green spaces (e.g. village green and landscaped areas). Interviewees also liked the comprehensive approach to the shared facilities, which included amenities like the business centre.

The feedback received from stakeholders at focus groups echoed some of the positive sentiments found in the interviews specifically around the amenities that the local community will have access to, the attractiveness of the design and the potential to build legacy infrastructure for other uses in the future. The provision of shade was also a highlight for focus group stakeholders, with comments made when asking what they liked about the design for the new TWTAV saying:

> *"Shaded 'nodes'/break out spaces on paths between two storey blocks"*
>
> *"Shade provision over car park bays"*

Negative feedback on the built form

Some negative feedback from interviewees focused on the layout, which some found could hinder community cohesion. The participants suggested there needed to be more neighbourhood-like clusters of the two-story accommodation that promotes social interactions and communal activities.

Other concerns raised were in relation to the conflict with other nearby developments in particular recreational facilities with the upcoming ToPH Stadium extension, the close proximity to Gateway Village and the already large sports field over the road.

Another concern raised by some stakeholders was the height of the hotel building and the potential of lack of privacy it could give being 6-storeys high with one stakeholder raising the concern that any accommodation having a view of the pool could create an uncomfortable environment for females.

However, it important to note that many stakeholders were supportive of the 6-storey building commenting that it would be a contemporary approach to the accommodation and provide an iconic place mark for the precinct.

The building height concern was echoed by some focus group stakeholders also, with specific concerns pertaining to the design of 6-storey building being uninspiring and that it lacked a clear rationale/meaning and looked monolithic and may block prevailing breezes from cooling town recreational and local playing areas. They also noted that the block had an incohesive/divisive feel, compared to the 2-storey blocks.

Some of the comments made were:

> *"Architectural treatment of six storey is uninspiring – need to improve the aesthetics."*
>
> *"Six storey block is not appropriate next to the SHISH (South Hedland Integrated Sports Hub)- will block prevailing breezes from cooling the SHISH playing areas"*

A further concern specially toward the hotel building raised in the focus group was that if the building was to be built as a modular building, they should consider previous facilities built this way (i.e. existing building near Police Station) that now has issues with dampness and mould.

The majority of the small proportion of survey respondents perceived the level of impact on the built form in the Hedland community to be neutral. A few respondents perceived it as negative, however

there was no commentary from those who completed the survey to explain their reasoning behind their rating, giving the notion that they may be moderately happy with the design and built form.

Opportunities for a high-quality sustainable design

Stakeholder feedback suggested that the developer needs to adhere to the high-quality design and construction standards that respect the local Hedland environment, culture, and heritage. The design must be of a being better quality than other older villages, particularly as the hotel element will be so visually prominent and that it should deliver “resort “style accommodation with amenities including a good TV, good fridge, and nice bed etc, with light and sound proofing - and needs to be genuinely attractive.

One stakeholder with experience in the building of facilities in Hedland stated that he would like to be see that the builder uses blue brute pipes and have good moisture barriers between modules to avoid mould and dampness and to ensure rooms are noise and light proofed.

It was also suggested that there is a need to prioritise environmental sustainability in the TWTAV's construction and operations, including the use of renewable energy sources, use of recyclable water and grey water for landscaping and raised garden/vegetable beds.

Additionally, some stakeholders saw an opportunity for both the developer and operator to engage with Aboriginal community, children and artists to create artwork to reflect the local culture in the design and throughout the development.

Conclusion

There was extensive feedback provided on the built form from stakeholders as part of the engagement process. In general, there was support for the built form that is proposed, including the provision of hotel style accommodation which provided a different form of accommodation to the usual transient worker village design. There were a range of suggested improvements to the built form design that mostly focussed on providing the level of amenity provided, and the need for a more neighbourhood residential feel in the single storey units area of the village, as well as the need to create greater connections through the village. High quality landscaping that provides good amenity for residents as well as better integrating with the precinct was seen as being essential too.

8.12 IMPACT AREA 11: CUMULATIVE IMPACTS

8.12.1 *DEFINITIONS*

Variable Definition: The combined, incremental effects of this development and other related developments.

8.12.2 *IMPACT RATING*

	IMPACT RATING OF PROPOSED DEVELOPMENT	IMPACT RATING AFTER IMPLEMENTATION OF PROPOSED RECOMMENDATIONS
CUMULATIVE IMPACTS	**Minor Negative**	**Neutral**

8.12.3 *IMPACT ASSESSMENT FINDINGS*

Cumulative impacts are the successive, incremental, and combined impacts of one or more activities on a society, economy, or the environment. While there may be positive and negative impacts stemming from the operations of each individual TWA facility in Hedland, further cumulative impacts can be determined when examined from an aggregated perspective.

Stakeholder interview feedback revealed appreciation for the development's potential to integrate into the local fabric with the town being used to FIFO and it not being a "big issue". Furthermore, the proposed development will provide much needed amenities and foster economic growth especially with upcoming town developments.

Focus groups participants expressed positive views on the community integration and design of the proposed TWTAV. They felt this development could help to enhance local business activities and social cohesion with the likes of the facilities like the business centre and tavern open to the public (if managed thoughtfully).

Although very minimal, most of the survey participants rated the cumulative impact on the Hedland community to be of a negative impact. Very few rated it as positive or neutral. This was reflective in feedback noting that the proposed TWTAV will present additional hardships to the town, with:

- concerns that FIFO worker accommodation is over-riding the potential to maximise the ToPH's growth and community benefits;
- concern around the provision of more support to transient workers adding no value to the community;
- concern of lack of medical staff with the influx of presentations to GP and hospital; and
- presenting more issues with flights both in and out of Town with FIFO workforce that may can precedence over available flights.

Cumulative impacts of the FIFO model

Research suggests that there are some positive impacts of FIFO on host communities, including economic impacts such as direct cash inputs in the form of local spend and the facilitation of projects and broader industries that would not be possible without the presence of the FIFO workforce.

The potentially negative impacts of FIFO on the health and wellbeing of individuals and communities have also led to the implementation of management strategies such as more and better communication about mental health support services and alcohol management processes which have gone some way towards improving these negative outcomes. As a result of these and other factors, community members in host communities are generally less critical of the presence of FIFO workers in town than they previously were. However, mixed views are generally represented across the community and stakeholders.

The introduction of this TWTAV is expected to support an increase in the transient worker population in South Hedland. While this contributes to fulfilling the labour demands of local industries, it also leads to heightened workforce turnover rates, as not all workers typically stay for the duration of their contract. This continuous influx and outflux of workers can disrupt the stability and cohesion of the workforce, potentially affecting productivity and operational consistency.

The presence of a high concentration of FIFO workers can cause fluctuations in the local labour market. These workers often receive higher wages compared to local non-resource jobs, which can distort wage structures and exacerbate income disparities within the community. Such economic imbalances can lead to tensions between different workers and could impact the overall employment conditions in the region.

Furthermore, the proportionality between residents and non-residents (including temporary workers) in a town is a delicate balance and one which has long term implications for its housing, liveability, economy, and community identity. Each TWA development which proceeds within the Town of Port Hedland adjusts this balance. Without counter measures to maintain the balance in the population, the Town of Port Hedland risks approaching a tipping point at which the town becomes perceived as a FIFO hub rather than an attractive place to live.

Cumulative impact of resource sector activities in Hedland

At the time of writing, there was ample evidence that the WA and to a lesser extent the Hedland economy was benefiting from the distribution of economic benefits of mining activities in numerous ways, particularly through employment, infrastructure, and community contributions from resource companies. It would be reasonably expected that these positive impacts would increase proportionately with any future increase in mining and port related activity through the town.

These activities have had a significant presence in Hedland and the town's growth and expansion has largely been as a result of these resource sector investments. Therefore, while it's important that the wellbeing of the Hedland community be prioritised in all activities, and effective mitigation measures continue to be implemented in response to negative social impacts, it would not be reasonable for the resource sector activities to cease in Hedland as a result of these concerns. The coexistence of resource sector activities, that require workforce accommodation, and community wellbeing is a balance which the Town of Port Hedland continue to manage.

Cumulative impacts of Hedland's TWA facilities

The primary positive impact that TWA facilities have on the Hedland community is the enablement of resource sector activities by accommodating the required workforce. Stakeholders pointed out that without the availability of accommodation for the FIFO workforce, there would be a lack of accommodation for upcoming key town projects.

Strain on the Health Care Services

While this development is designed to be largely self-contained, offering various amenities and services to its residents, the influx of workers is likely to impact public resources significantly. Historical data and community feedback suggest that similar developments have led to longer wait times for health services. The community's experience indicates that existing services might not suffice if demand from the village's population is not accurately anticipated and catered for.

Cumulative Economic Impacts

The proposed TWTAV stimulates local economic growth through increased employment opportunities and business activities. However, there exists a risk of creating economic disparities within the community, where the influx of a high-paid transient workforce inflates local living costs, adversely affecting long-term residents.

The introduction of the TWTAV is expected to support significant local economic activities, primarily by accommodating the FIFO workforce essential for ongoing resource sector project operations. This development facilitates continued economic development by ensuring that critical industries, such as mining and port operations, have the necessary labour force to maintain operations.

The TWA contributes to the dynamic housing market in South Hedland, which is already experiencing high costs due to its critical role in the state's mining and resource economy. The high demand for accommodation driven by the economic activities in the area further strains the housing market, escalating prices and reducing affordability for locals.

Cumulative Social Impacts - Community Dynamics and Cohesion

The establishment of the TWTAV is likely to influence community dynamics. As highlighted in the literature and engagement, the influx of transient workers can create a divide between the long-term residents and the temporary workforce. This division may result in social division and reduced participation in community activities, potentially causing a reduction in the traditional community fabric.

It was also noted that Posco and MGM developments will also contribute to more FIFOs in the area with their upcoming projects contributing to the above concerns.

The management of alcohol restrictions between different companies on the one site raised concerns for some stakeholders and the call for a cohesive approach to alcohol management across all TWA villages.

Opportunities to mitigate cumulative impacts

Stakeholders emphasised that there should be consideration for future transition of the site, to short-stay, residential and/or retirement accommodation once the facility no longer used for FIFO. Further to this, the development of subdivision residential behind the hotel with streets could ease pressures.

Getting the balance right between FIFO and residential accommodation development was also another opportunity that was highlighted through the engagement. Reference to Karratha was made noting that they have a better balance of this.

Conclusion

The cumulative impacts from this proposed new TWTAV relate to the large number of existing and proposed transient worker accommodation villages in Hedland, that alter the balance between permanent residents and transient residents.

The proposed development of the Pacific Partnerships Village will support, but not cause, an increased number of people in town, and increase the proportion of transient residents in Hedland.

The key focus needs to be on creating a common approach across Hedland to integrating FIFO workers with the community and in sharing resources (e.g. shared transport across villages) to create a greater positive cumulative impact. Currently most villages operate in isolation in relation to their engagement and connection with community.

There is a considerable opportunity for the Town of Port Hedland to take a key role in creating a more cohesive approach to managing FIFO across the community by creating a forum of village operators and their tenant companies to look at collaborative opportunities to address key issues and optimise opportunities to generate greater mutual benefit.

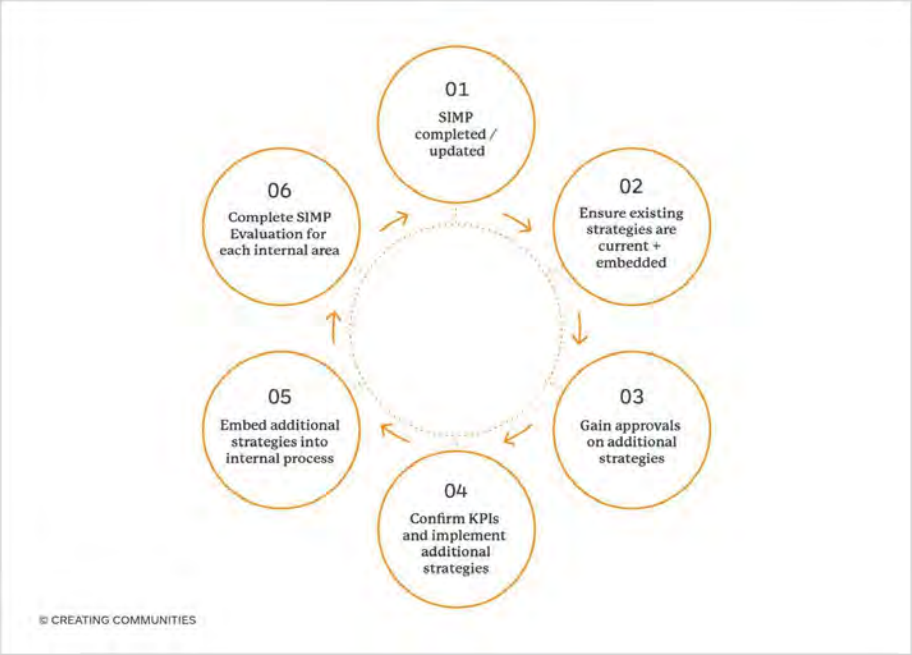
9. SOCIAL IMPACT MANAGEMENT PLAN (SIMP)

9.1 SIMP IMPLEMENTATION AND EVALUATION

The proposed Transient Worker and Tourism Accommodation Village (TWTAV) Social Impact Management Plan (SIMP) is intended to be a living document which is practical, fully implemented and embedded in Pacific Partnerships processes. Ongoing monitoring and evaluation is essential to the successful implementation of the SIMP.

To ensure its success, the SIMP requires ownership, implementation, and regular review from the relevant stakeholders. This can be achieved through the establishment of a proposed TWTAV SIMP Internal Working Group. This Internal Working Group would oversee the key phases of the SIMP implementation and evaluation cycle, see figure 11 below.

FIGURE 11 - SIMP IMPLEMENTATION AND EVALUATION PROCESS



It is intended that Pacific Partnerships and Ventia will utilise the SIMP as a platform to develop internal action plans to implement the suggested mitigation and opportunity strategies. To ensure buy-in by relevant sections and teams, action plans should be developed collaboratively through internal workshopping led by members of the Internal Working Group.

The key elements that this workshopping process and subsequent action plan should cover include:

- **Review the SIMP** – review and adopt mitigation strategies outlined in SIMP document.
- **Actions or planned responses** – key actions, programs or responses needed to mitigate, manage, restore, compensate for or enhance each impact and opportunity.
- **Targets and success indicators** – develop SIMP KPIs.
- **Monitoring, evaluation, and assurance mechanisms** – to monitor and measure progress and verify proper implementation of actions.

- **Reporting mechanisms** – to report on progress and completion of the SIMP.
- **Timeline** – key dates or milestones; the period in which actions will be completed, to ensure the timely delivery of agreed measures.
- **Resources and budget** – physical or human resources and budget required to implement actions.
- **Responsible persons**– people and organisations with responsibility for actions, -whether Pacific Partnership-managed, Pacific Partnership-monitored or Pacific Partnership-shared.

Methods for how to monitor and measure progress annually may include the following for example:

- Monitoring of key investment data (e.g. social investment; local procurement; local employment data)
- Survey of the proposed TWTAV residents
- Engagement with community stakeholders.
- Review of key resident data (e.g. resident demographics; involvement data in community activities).
- Recording of key events, initiatives and activities.

It is critical that during the reporting phase any updates required to management strategies are clearly outlined so that future internal workshopping and action planning remain responsive to any changes to the socio-economic context.

9.2 SIMP APPROACH

This SIMP outlines a range of potential management strategies associated with the impact analysis of the proposed TWTAV. The purpose of these management strategies is to ensure that positive impacts are enhanced, and any potential negative impacts are managed as best as is practicable. These strategies are recommendations provided by Creating Communities. Pacific Partnerships will review this report and make a final judgement as to whether implementation of any particular management strategy/s is appropriate in the current circumstances.

These suggested actions relate only to the proposed TWTAV, and not all potential impacts of the Village's operations

Actions correspond with the series of eleven Impact Areas which formed the basis for the Social Impact Assessment:

1. Way of Life and community cohesion
2. Culture
3. Services and Facilities
4. Environment
5. Health and Wellbeing
6. Personal and Property Rights
7. Community Safety
8. Economic Development, Employment and Training
9. Housing and Accommodation
10. Built Form
11. Cumulative Impacts

9.3 SIMP RECOMMENDATIONS

TABLE 9 - NEW TRANSIENT WORKER ACCOMMODATION SOCIAL IMPACT MANAGEMENT RECOMMENDATIONS

REF.	MANAGEMENT STRATEGY	RATIONALE	KEY ACTIONS	OTHER IMPACT AREAS SUPPORTED	DELIVERY PARTNERS	TIMEFRAME
1. Way of life and community cohesion Focused Management Strategies						
1.1	Develop a Stakeholder and Community Communications Engagement Plan to ensure key stakeholders are routinely consulted and collaborated with regarding supporting community integration of village residents and staff.	Communication and engagement with key community stakeholders, including the ToPH, is integral to ensuring the integration of the transient workforce into the Hedland community is supported and optimised.	This communication and engagement strategy should provide direction and clarity on the desired goals and actions to be taken to foster positive relationships and community connections. The strategy should include specific elements for communication and engagement with the Town of Port Hedland (ToPH)	Health and Wellbeing	TWTAV management/operator Town of Port Hedland Other TWA owners and operators Local agencies, community groups, clubs, and organisations.	Immediate - Develop prior to the village opening
1.2	Appoint a Social / Community Liaison Coordinator to lead resident and community engagement that promotes and fosters positive resident involvement in the village and community life.	Engagement in social activities and connecting with both the village community and residential community, supports positive mental health and wellbeing. It also ensures that the village life experience is positive which supports the attraction and retention of transient workers – which is of benefit to the companies who lease rooms. Integrating FIFO workers into the local community also reduces the "us versus them" mentality that can develop in communities with significant transient populations. By fostering community	The coordinator is to lead the planning and delivery of social and community engagement initiatives to support village residents involvement in both the village community and the local community. The coordinator is to establish a community development plan and calendar of social and recreational activities in consultation with the ToPH and local organisations to positively engage residents in village and community life.	Health and Wellbeing	TWTAV management/operator Town of Port Hedland (Community Development) Local agencies, community groups, clubs, and organisations	Short term - commence within three months of the village opening

REF.	MANAGEMENT STRATEGY	RATIONALE	KEY ACTIONS	OTHER IMPACT AREAS SUPPORTED	DELIVERY PARTNERS	TIMEFRAME
		integration through shared activities and facilities, it will achieve a more cohesive social environment, which is beneficial for both the mental health of FIFO workers and the overall harmony of the community. By connecting with the Town of Port Hedland (ToPH) and local community organisations, connections and engagement between the TWTAV residents and the local community can be fostered.				
1.3	Establish a local Social Investment Strategy (SIS) to support initiatives that foster connections between TWTAV residents and help to address community needs.	A social investment approach is undertaken by other village operators in Hedland and includes, for example, the provision of grants for community initiatives, support for training in relevant fields and the provision of food to community members in need. Financial and in-kind support is needed by local charities and not-for-profit organisations involved in the provision of housing to those in vulnerable circumstances (i.e. at risk of homelessness, escaping from family or domestic violence situations). This SIS can be informed through further engagement with stakeholders.	Establish a plan of investment in both in-kind and financial sponsorships to Not for Profit Organisations, local community groups, and clubs to support positive community initiatives, with a focus on supporting activities that foster connections between TWTAV residents and the broader community.	Economic Development, Employment and Training Services and Facilities Health and Wellbeing Housing and Accommodation Change Community safety	TWTAV management/operator Local agencies, community groups, clubs, and organisations	Medium Term - within 2-3 years of the village opening Then reviewed every 2-3 years
1.4	Connect with local clubs and organisations operating within the sport and recreation precinct where the new village will be located.	As the village is closely located to the local sport and recreation precinct there is an opportunity to support village residents to engage in local sport and recreation activities and clubs.	Work with ToPH to develop a stakeholder list of clubs and community groups to engage with. The village Social / Community Liaison Coordinator can connect with local clubs	Health and Wellbeing Services and Facilities	TWTAV management/operator Town of Port Hedland Local community groups, clubs, and organisations	Short term and ongoing - commence within a year of the village opening

REF.	MANAGEMENT STRATEGY	RATIONALE	KEY ACTIONS	OTHER IMPACT AREAS SUPPORTED	DELIVERY PARTNERS	TIMEFRAME
		The ToPH has specialised staff who can help build connections between the clubs and the village residents to facilitate engagement in club activities in Hedland without having to take out full membership or commit to a full season, which they cannot do due to their schedule.	and organisations to promote involvement in local activities – particularly those in the local precinct where the village will be located. The village Social / Community Liaison Coordinator can promote the community clubs and organisations and what they have in Hedland to village residents.			
1.5	Promote local community initiatives, village activities and local businesses.	Access to information is essential for TWTAV residents who are often new to Hedland, to know what community and business services are on offer in the community. The provision of a village app, which is common to TWTAV villages across Australia, will provide a key tool to promote what is on offer in the community, as well as other promotions including the provision of a dedicated TV channel and promotional materials in the village (e.g. posters and table talkers)	Promote Village services and activities, and local community services, activities, clubs, and shops, via the following means: • A village app. • A dedicated TV Channel at the village information provided on screens at the reception/foyer, dining room, café, and tavern facilities. • Posters and information on dining tables using table talker stands.	Health and Wellbeing Economic Development Employment, and Training	TWTAV management/operator Town of Port Hedland Port Hedland Chamber of Commerce and Industry Local community groups, clubs, and organisations	Short term - commence within a year of the village opening Then ongoing
1.6	Provide regular inductions for village residents in both village life and community life, in association with anchor tenant companies.	A proper induction into both the village and community life is important for transient workers to manage the change to FIFO life and to embrace their village and community. It also reduces employee turn-over, improves mental health, and enhances the level of engagement and	Develop an agreed induction process for longer term / regular residents (i.e. operational workers) in partnership with anchor tenant companies. The village Social / Community Liaison Coordinator to coordinate the village induction sessions (with new longer-term residents) – to show them the facilities, advise of the services and provide	Health and Wellbeing Economic Development Employment, and Training Services and Facilities	TWTAV management/operator Town of Port Hedland PHCCI Local agencies, community groups, clubs and organisations	Short term - commence within a year of the village opening Then ongoing

REF.	MANAGEMENT STRATEGY	RATIONALE	KEY ACTIONS	OTHER IMPACT AREAS SUPPORTED	DELIVERY PARTNERS	TIMEFRAME
		integration with the broader community. There is the opportunity to work with anchor tenant companies to collaboratively plan inductions for those who will be longer term / regular residents (i.e. operational workers)	information on the activities on offer in the village. This community life induction could include for example, town tours as part of the induction and attendance at the annual 'Welcome to Hedland' event. The induction may include the provision of relevant community information, including information on the local culture and history, as well providing community welcome events at the village that include introductions to stakeholders, clubs, and organisations.			
1.7	Hold a 'Community Open Day' to welcome community to the new TWTAV village	Holding a village open day will facilitate interaction with the broader community through allowing community members to tour the Village's facilities and amenities. This will also provide an opportunity for community members to learn about the features of the village and how they can access the shared facilities. This will help to promote the village and also create connections with stakeholders and the local community.	The community open day could be held to launch the village and promote the facilities and services on offer. The open day would invite stakeholders, local clubs, organisations and the local community to view the facility, engage in some activities (which could be done in conjunction with local organisations)	Health and Wellbeing	TWTAV Management / Operator Town of Port Hedland. Port Hedland Chamber of Commerce and Industry. Local community groups and organisations.	Short term - commence within three months the village opening Then ongoing

2. Culture Focused Management Strategies

2.1	In consultation with the Kariyarra people, provide signage, cultural spaces, art and the naming of the village facilities that foster knowledge and understanding of local Aboriginal culture within the village community and provide a unique identity to the village.	By engaging and respecting local traditional owner culture - it will allow for greater awareness and knowledge of the country and culture of the place in which the village and its residents reside. It also serves as an opportunity to work together with local Traditional Owners to support greater collaboration on future initiatives. As suggested by stakeholders, the TWTAV operator could make a tangible contribution to local Aboriginal artists by not only displaying but also selling local artwork. This would provide income for local artists, further develop relationships between the Village and local Aboriginal organisations and provide Village residents with the opportunity to own a local cultural piece from the area in which their workplace and residence is situated upon.	Establish a consultation process with the Kariyarra to investigate the opportunity to provide: • An Aboriginal name for the village • An Aboriginal name for key facilities • Cultural information and signage • Aboriginal art (for both display and sale) • Site amenities	Way of Life and Community Cohesion Facilities and Services Economic Development Employment, and Training	TWTAV Management / Operator Kariyarra people and local Aboriginal and Torres Strait Islander prescribed body corporates Spinifex Hill Studio Courthouse Gallery + Studio	Immediately during design and construction phase

2.2	Provide localised cultural awareness training for staff and residents to understand and embrace the local Aboriginal Culture – to be established in partnership with anchor tenant companies.	Cultural awareness training is common practice across a range of sectors and was strongly suggested by stakeholders. Approaching cultural awareness training thoughtfully and holistically, in a way that engages local organisations would not only benefit the village residents and promote cohesion amongst the various workforces, but it could also provide an avenue to support local Traditional Owners and the Aboriginal tourism industry in Hedland. As the TWTAV introduces a significant number of transient workers, cultural integration programs are key to fostering mutual respect and understanding between these workers and the existing community. By understanding and embracing the traditional lands and culture of the Kariyarra people, the village residents will develop a greater understanding and respect for traditional owner country and culture that will help to maintain social harmony and community cohesion.	Engage with the Kariyarra people to identify appropriate people to be able to provide both cultural information and induction for staff. Engage with anchor tenant companies to provide opportunities for their staff (village residents) to engage in cultural awareness training. Provide local cultural heritage information in induction sessions and information materials.	Way of life and Social Cohesion	TWTAV Management / Operator Traditional Owners - Kariyarra Other local Aboriginal and Torres Strait Islander prescribed body corporates	Short term - commence within a year of the village opening Then ongoing
2.3	Deliver annual NAIDOC Week and / or Reconciliation Week activities and events at the TWTAV.	The TWTAV should align with other nearby TWA facilities that actively encourage reflection on and celebration of Aboriginal heritage through annual events for days such as NAIDOC and Reconciliation Week.	Engage with Kariyarra people and local Aboriginal organisations to plan and deliver annual NAIDOC Week and / or Reconciliation Week activities. Open these activities up to the broader community too.	Way of Life and Community Cohesion	TWTAV Management / Operator Local Aboriginal and Torres Strait Islander community groups.	Short term - commence within a year of the village opening Then ongoing

3. Services and Facilities Focused Management Strategies

3.1	Maintain the existing commitment to provide community access to shared facilities at the village to support inward integration between the community and the village residents.	Community access to the village facilities was viewed very positively by the large majority of stakeholders who participated in the engagement process. It was viewed as helpful way to break down the barriers between FIFO and permanent community residents and to support improved social cohesion. Through the community use of facilities like the café, wellness centre, dining area and tavern, it provides a range of opportunities for local residents to connect with village residents.	Provide access to the café, wellness centre, dining area and tavern to all community members. Provide free or subsidised use of the business centre and wellness facilities to clubs, Not for Profit organisations and community groups.	Way of Life and Community Cohesion Health and Wellbeing	TWTAV Management/ Operator Local agencies, community groups, clubs, and organisations	Short term - commence within three months of the village opening
3.2	Provide onsite para-medical staff (i.e. nurse or paramedic) to attend to non-critical medical needs of village residents.	Many stakeholders were concerned about the impact that a large transient workforce could have upon the capacity of local emergency, medical, health and wellbeing services and facilities. Current health services are at/or over capacity, and any additional demand that additional FIFO population will provide, will further impact the community. This will also impact residents of the village who may be unable to access medical services due to long wait lists.	In order to prevent residents using local medical services for non-critical medical issues, provide onsite para-medical staff (i.e. nurse or paramedic) that will enable a professional to attend to non-critical medical needs of village residents. Ensure that there are sufficient medical facilities on site to enable minor medical issues to be dealt with on site.	Health and Wellbeing Way of Life and Community Cohesion	WA Country Health Service / Hedland Hospital	Short term - commence within three months of the village opening Then ongoing

		Previous research has shown most workers access services in their home community for ongoing medical issues, while accidents and injuries associated with work are addressed by emergency service workers at the mine sites. However, it is important to continue to ascertain that the TWTAV is not stretching health and mental health resources in town, especially considering the ongoing threat posed by the COVID-19 pandemic.				
3.3	Purposely target medical / health care providers and businesses to fill the retail and commercial tenancies proposed at the new TWTAV.	With the recent closure of private health and medical clinics - which has placed a significant strain on medical services in the town and preventing proper access to health care – Pacific Partnerships and Ventia can take a proactive approach to targeting medical and health care providers to fill the retail and commercial tenancies proposed at the village. While this issue is likely to be mostly as a result of costs of providing doctors and medical staff, rthan access to consulting rooms, it is worth targeting medical providers as lessees to demonstrate a focus on seeking to help address a community need. If successful it will provide direct benefits to both the village residents and the Hedland community.	Engage a leasing expert to attract medical and health care providers/ businesses to fill the retail and commercial tenancies proposed at the new TWTAV. Consider attractive lease agreements to attract the most beneficial lessees.	Health and Wellbeing Way of Life and Community Cohesion Economic Development Employment, and Training	Leasing agents	Short term - commence within six months of the commencement of operation of the tenancies
3.4	Assist in stakeholder advocacy for an expansion of existing medical and healthcare services in Hedland to effectively manage increased demand from both long-term	The expansion of healthcare services, particularly in general practice, is necessary to cater to the rising population from the new village and ongoing population increases in the broader community in Hedland.	Work with the ToPH and the WA Country Health Services, Port Hedland Chamber of Commerce and Industry and Port Hedland Industry Council /local resource companies, to advocate to government to support increased medical and health care services	Health and Wellbeing	Health Department Town of Port Hedland Local Resource Companies /Port Hedland Industry Council	Medium Term within 2-5 years of the commencement of operation

	residents and the transient workforce with medical needs.	The key issue is the inability to attract doctors and specialists to work in Hedland, when it is possible to find more attractive roles and payment elsewhere. Advocacy by stakeholders is needed to spur government investment in the provision of medical services, ensuring that both new and long-standing residents have equitable access to essential services. It is needed to prevent the overburdening of existing facilities and ensure that the healthcare system can adapt to population growth.	in Hedland to cater for a rising population of permanent and temporary residents.		Port Hedland Chamber of Commerce and Industry WA Country Health Service	
4. Environment Focused Management Strategies						
4.1	Include design features as well as practices during operation of the TWTAV that support sustainability.	Stakeholders were keen to see environmentally sustainable practices evident in the operation of the facility and it was a factor for consideration from feedback from the Design Review Panel. As the newest and likely the most high-profile village in Hedland, it will be important to demonstrate a commitment to sustainability.	Develop an overarching environmental strategy to mitigate negative environmental impacts resulting from the operation of the village – which first includes sustainable design features such as water and solar capture and use. Other key areas of consideration include: • Traffic Management and emissions from vehicles used on site • Single-use plastic (e.g. personal crib containers rather than disposal plastic containers) • Reduction of waste products • Recycling schemes	Cumulative Impacts Environment	TWTAV Management / Operator Town of Port Hedland	Immediate, prior to construction (design) and ongoing (operations)

4.2	Ensure the provision of high-quality landscaping that reduces the impacts of climatic heat and provides an attractive and environmentally sustainable village environment.	The provision of high-quality landscaping is essential to creating a liveable village environment, in a region that has a hot climate. High-quality landscaping also positively contributes to resident and staff wellbeing, reduces any heat island effect and creates a more attractive and welcoming place for everyone.	Ensure that there is a landscape master plan that provides high quality landscaping that features the use of local endemic species, provides shade and attractive visual amenity both on the perimeter of the village and internally. Consider seeking advice from local Traditional Owners on the flora species to use at the facility.	Health and Wellbeing Built Form	TWTAV Management / Operator Kariyarra people and local Aboriginal and Torres Strait Islander prescribed body corporates Pilbara based landscaping Companies	Immediate - prior to (design) and during construction
5. Health and Wellbeing Focused Management Strategies						
5.1	Provide access to alcohol, drug, and mental health supports.	The transient worker lifestyle can negatively impact on health of some transient workers who will need support in managing their wellbeing. This was one of the major impacts identified by stakeholders in the engagement and in other SIAs for villages specifically in Hedland. It is also possible that these negative impacts may have a flow-on effect to host communities in resident behaviour and impacts on access to health care	Where possible, Pacific Partnerships and Ventia should work with village resident employers (lessees of rooms) to ensure that their staff have access to mental health support (e.g. EAPs and counselling services) and drug and alcohol advisory services if they require help. There is an opportunity to link in local drug and alcohol services, as long as this is not having an impact on the availability of these services for community residents. Additionally, Pacific Partnerships and Ventia should work with local health and medical providers to promote drug, alcohol and mental health services that may be available to the TWA village staff and residents. Some key initiatives to explore include: The development of a mentor/buddy-system to support individuals to adjust to the FIFO lifestyle. Information provided in inductions and welcome packs on support and services	Health and Wellbeing Way of Life and Community Cohesion	T TWTAV Management / Operator Resource and Mining Companies	Short term - commence within three months of the village opening Then ongoing

			available for mental health, drug, and alcohol support services. The use of the proposed consulting rooms for mental health support sessions.			
5.2	Appoint a Physical Wellness Coordinator to plan and deliver a range of physical health and wellbeing activities and provide access to good facilities that support physical wellbeing.	Maintaining physical health is important to overall wellbeing. FIFO workers typically work a 12-hour day (plus travel) so time to exercise is limited, and activities must be adapted to suit this restriction. The provision of short, targeted, and accessible physical activities will help resident wellbeing and the attraction and retention of workers for both the village operator, but also their lessee companies.	Physical Wellness Coordinator to plan and deliver a range of physical health activities that support physical wellbeing including: • Gym assessments • Gym classes • Walking /Fitness groups Sport sessions (can seek permission from TOPH use the neighbouring oval)	Health and Wellbeing Way of Life and Community Cohesion	TWTAV Management/Operator Town of Port Hedland Local clubs and organisations	Short term - commence within three months of the village opening Then ongoing
5.3	Ensure the Social / Community Liaison Coordinator plans and delivers positive social and recreational activities for resident involvement in both village and community life	Maintaining social and emotional health is important to overall wellbeing. The provision of short, targeted and accessible social recreational activities will help resident wellbeing and the attraction and retention of workers for both the village operator, but also their lessee companies By fostering community integration through shared activities and facilities, it can achieve a cohesive social environment, which is beneficial for both the mental health of FIFO workers and the overall harmony of the community. By connecting with the ToPH and local community organisations connections and engagement between the TWA	The coordinator can lead the delivery of social engagement that supports FIFO workers' connection to their village and local community through involvement in community events, local sports teams, and use of shared facilities. (including the development of a schedule /calendar of activities in liaison with the ToPH). See https://www.porthedland.wa.gov.au/events Ensure the social calendar is promoted via the village app and via other village promotional avenues. Approaches can include for example - access to additional activities in local community including fishing and other coastal recreation, special nights at local venues, live music and comedy performances; engagement in walking groups; casual recreational activities etc.	Health and Wellbeing Way of Life and Community Cohesion	TWTAV Management/Operator Town of Port Hedland Local agencies, community groups, clubs, and organisations	Short term - commence within three months of the village opening Then ongoing

		residents and the local community can be fostered.				
5.4	Ensure that the accommodation room design provides adequate sound attenuation and screening from light to ensure residents can rest comfortably.	Workers need adequate rest, particularly when working 12-hour shifts. It is essential that they can sleep well, otherwise it increases the risk of fatigue, which provides a greater safety risk at work of if they are driving a vehicle. Additionally, poor sleep and the lack of risk can negatively affect mental health and wellbeing. Therefore, the design of the accommodation units and their ability to prevent impact from noise and light impact is very important.	The design of the accommodation units should include: • Sub floor and flooring materials in the units and walkways that don't transfer noise between units • Solid wall frames so vibrations don't transfer between units (e.g. when doors slam) • Block out blinds and curtains in each room	Built Form	TWTAV Management/Operator Town of Port Hedland Project architects and builders	Immediate - prior to (design) and during construction
6. Personal and Property Rights Focused Management Strategies						
	NO STRATEGIES REQUIRED					
7. Community Safety Focused Management Strategies						
7.1	Ensure that there are clear and stringent village and community behaviour protocols for all staff and residents.	By having a common expectation of each person's behavioural responsibility to support a safe and respectful village environment and also engaging positively with the broader community, it will help to reduce any	Work the companies that lease accommodation services for the staff to ensure they support a zero-tolerance policy to anti-social behaviour and removal of accommodation rights (and employment) to those individuals that don't abide by the agreed behaviour protocols.	Health and Wellbeing Way of Life and Community Cohesion	TWTAV Management/Operator Town of Port Hedland WA Police	Short Term – upon opening of the village Then ongoing

		behavioural impacts on village residents and the local community.	Provide inductions for FIFO to include information on the behavioural expectations in the village and community. All residents must agree and sign off on the rules and behaviour protocols of the village, which are focussed on maintaining a well-managed, safe, quiet, and respectful village environment. Engage with local police to establish agreed processes for managing and reporting incidents of inappropriate behaviour and criminality.			
7.2	Implement principles of Crime Prevention Through Environmental Design (CPTED) in the village design.	Ensuring safety in the village should be a priority to ensuring a positive village life experience. While incidents of crime are currently relatively low in the FIFO villages in Hedland, there are incidents of petty theft from outer areas of the village – particularly if cars are parked around the perimeter. Additionally, the have been reports across the industry of sexual abuse and assaults in TWAs, which has led to various measures including alcohol restrictions. Application of CPTED principles work to minimise incidents of assault between FIFO residents within the Village, as well as incidents of theft and other criminal acts from perpetrators from the community.	Apply CPTED principles to design across the village design including the following examples: • Good passive surveillance and sight lines across the village – including to the car parking areas, where much of the petty theft in Hedland occurs. • Permeable fencing around the perimeter of the village • Adequate lighting throughout the village that it facilitates safe movement between rooms and common areas for all residents. • Activation of shared spaces • Glass doors / walls to laundries and other shared spaces • Enhance the legibility across the village to provide east – west and north south connections • Create neighbourhood clusters	Built Form Health and Wellbeing Community Safety	TWTAV Management / Operator	Immediate - prior to (design) and during construction

7.3	Ensure alcohol consumption is well managed with restrictions implemented in line with the industry standards and with respect to the Pilbara /Hedland Liquor Accord and Restrictions	In 2023, standard TWA alcohol limits decreased from 6 mid strength beers (or equivalent, i.e. wine) daily drink limit to 4. It is now common practice for village owners and operators to put in place a range of strategies to reduce the social and health risks associated with alcohol consumption. One strategy that has been put in place by other TWA operators has been to institute daily drink limits. Imposing a cap on daily alcohol consumption has the potential to create a safer environment and a reduction in alcohol fuelled incidents. Instituting a 4 mid-strength beer (or equivalent, i.e. wine) daily drink limit will bring the TWTAV in line with other similar villages and will also have a range of positive benefits on village residents by increasing village safety and reducing noise pollution.	Enforce alcohol restrictions in line with the industry standard 4 mid-strength beer (or equivalent, i.e. wine) daily drink limit. Ensure that these restrictions apply to both residents and visitors to the village. Provide a digital card to each resident and visitor to be able to purchase alcohol. Implement strict consequences for anyone who flouts the restrictions. Do not allow stock piling of alcohol in rooms. Ensure the approved manager will attend cultural awareness training to be presented by a local Indigenous training provider as per the requirement of the Pilbara /Hedland Liquor Accord and Restrictions. Ensure the village staff keep abreast of any changes to the Pilbara /Hedland Liquor Accord and Restrictions.	Health and Wellbeing Way of life and Social Cohesion	TWTAV Management / Operator WA Police	Immediate – once the village opens Then ongoing
8. Economic Development Employment, and Training Focused Management Strategies						
8.1	Establish local procurement policies and practices that set targets for engagement of local businesses	Local procurement policies and practices ensure that the economic benefits of the TWTAV construction and operations extend to the local businesses, promoting sustainable economic growth within the community. These policies help circulate money within the local economy, supporting small businesses and creating jobs,	Implement a ‘buy local’ approach where local goods and services are prioritised when reasonably cost competitive. Set targets for local procurement.	Way of Life and Community Cohesion Services and Facilities	TWTAV Management/Operator Town of Port Hedland Port Hedland Chamber of Commerce and Industry Port Hedland Industry Council	Short term - commence within a year of the village opening Then reviewed every 2-3 years

		which contributes to overall economic resilience.				
8.2	Support and encourage capacity building initiatives for local contractors and businesses to understand tendering opportunities and requirements	The procurement of local services and goods creates a more active local economy. However, it is often the case that local businesses are not aware of what they need to do to meet the requirements of tenders and contracts and to be competitive in the market. This often results in supply chains being established outside of Hedland, resulting in economic benefits flowing out of the town.	Develop a "local business" forum / network to outline the opportunities for local businesses to provide the goods and services needed to construct and operate the village. Provide clear guidelines and support in completing competitive tenders.	Way of Life and Community Cohesion Services and Facilities	TWTAV Management/Operator Town of Port Hedland Port Hedland Chamber of Commerce and Industry Port Hedland Industry Council	Short term - commence within a year of the village opening Then annually
8.3	Ensure all employment positions at the village are advertised locally first before advertising for FIFO staff.	Whilst it is important to consider the current local skills shortages in Hedland and that some specialised roles may require skills not available locally, local employees who do have the required skills and knowledge at the village should be prioritised for employment.	All positions to be advertised locally and offered first to locals first if they have the required skills, knowledge, and capability to perform the role.	Way of life and Social Cohesion	TWTAV Management / Operator	Short term - commence within a year of the village opening Then ongoing
8.4	Implement strategies targeted at offering pathways from training to employment of local youth and Aboriginal and Torres Strait Islander community members.	There is the opportunity for the employee demographics of the TWA to reflect the diversity of the local Hedland population, particularly in relation to the proportion of the Hedland population who identify as Aboriginal and/or Torres Strait Islander. Providing dedicated roles for local youth and Aboriginal students will have a range of benefits, including strengthening relationships with local Aboriginal organisations and training providers, an increase in the local	A range of targeted strategies could include: • Working collaboratively with Hedland Senior High School and North Regional TAFE (Pundulmurra Campus) to identify collaborative opportunities to provide traineeships and apprenticeships relevant to employment at the village. • Developing relationships with ATSI specific training and employment providers • Providing more localised cultural awareness training, potentially	Way of life and Social Cohesion	TWTAV Management / Operator North Regional TAFE (Pundulmurra Campus) Hedland Senior High School Local work ready providers Local Aboriginal organisations	Medium Term – within 2-3 years of the village opening Then ongoing

		Aboriginal employment figures and the lessened need to employ FIFO workers. TAFE's hospitality training pathway has direct relevance to the workers required to serve the village. There is the opportunity to partner with North Regional TAFE (Pundulmurra Campus) and Hedland Senior High School. There is also an opportunity to deliver similar programs in other operational areas such as groundskeeping, business administration.	delivered through local Traditional Owners to increase understanding and improve relationships between Aboriginal and non-Aboriginal residents.			
8.5	Promote local business services to village residents and encourage them to buy locally.	Encouraging and supporting village residents to spend locally can deliver a local economic benefit. Previous research undertaken by Creating Communities indicates that FIFO workers on average can spend on average $50-$100 per week when residing in an in-town village on various items such as personal items, food, and services. For a village that will accommodate up to 1300 residents at a time, this results in $65,000- $130,000 per week / $3.38m - 6,76m per annum.	Provide specific information to village residents on the availability of local retail services as part of a more comprehensive induction process and in the information packs available in FIFO accommodation rooms. This can include promoting the Port Hedland Chamber of Commerce and Industry business directory https://www.phcci.com.au/members-directory and providing a copy of the Port Hedland Community Directory in every room https://www.porthedland.wa.gov.au/our-community/community/port-hedland-community-directory.aspx Local businesses and local events can also be promoted using a dedicated TV Channel and through information provided at the reception/foyer, dining room and tavern facilities.	Way of life and Social Cohesion Facilities and Services	TWTAV Management / Operator Town of Port Hedland Port Hedland Chamber of Commerce and Industry	Short term - commence within a year of the village opening Then ongoing

8.6	Consider the provision of a conference facility as part of the hotel development.	A number of stakeholders advised that Hedland lacks a proper conference facility, resulting in regional conferences always being held in Karratha or Broome. The co-location of the hotel and conference facility was seen as providing a great opportunity to become a more desirable location for conferences and events.	Investigate the feasibility of providing a conference facility in conjunction with the hotel development.	Built Form Facilities and Services	TWTAV Management / Operator Town of Port Hedland Port Hedland Chamber of Commerce and Industry Port Hedland Industries Council	No timeframe suggested

9. Housing and Accommodation Change Focused Management Strategies

9.1	Consider an allocation of accommodation to key service workers	There is limited housing for key service workers in Hedland with Osprey Village, which was built for this purpose being predominantly used for Government Regional Officer Housing (e.g. teachers), resulting in a lack of accommodation for non-resource sector workers who are important to social services, hospitality and other sectors who provide vital services to the community. An allocation of key service worker housing in designated areas could assist in meeting this demand – but may require some revision of the planning of the rooms to make them more appropriate for service workers.	Investigate the viability of allocating a section of the village (e.g. a designated neighbourhood area) that provides accommodation suitable for those living permanently in town as service workers. (see Osprey village).	Built Form Facilities and Services	Operator Town of Port Hedland Port Hedland Chamber of Commerce and Industry WA Government – Government Officers Regional Housing Organisation	No timeframe suggested

9.2	Consider providing access to a select number of accommodation units (e.g. 10 - 15) for short stay purposes at a community rate for community groups, not for profit organisations and clubs (e.g. for competitions)	There is very limited accommodation at reduced / subsidised rates for community groups, not for profit organisations and clubs which precludes them from providing short stay accommodation for their events and activities. By providing access to a small percentage of accommodation units at a discounted community price it will help organisations to provide much needed activities and services to the community.	Develop a community pricing model that will be available for eligible community groups, not for profit organisations and clubs to access at agreed times. Promote this availability to the local community.	Way of life and Social Cohesion Services and Facilities	TWTAV Management / Operator	Medium Term - commence within 2-3 years of the village opening Then ongoing
9.3	Accommodate construction workforces to assist in the delivery of major infrastructure projects to benefit Hedland.	Hedland is a major industrial hub, with a range of ongoing projects. Accommodating temporary construction workers is one method Pacific Partnerships can assist in the delivery of major infrastructure projects which will benefit the economy and broader community.	Determine the set number of accommodation units available to operational, construction and other workforce tenancies.	Way of life and Social Cohesion	TWTAV Management / Operator	Commence once the village opens Then ongoing
	10. Built Form Focused Management Strategies					
10.1	Review the design of the double storey accommodation units to establish neighbourhood hubs as well as enhancing the connection and wayfinding through the village.	It is important to provide a village design that creates a less institutionalised and repetitive built environment by creating smaller neighbourhoods within the village. Some stakeholders identified the opportunity to also create better connections across the village by providing east – west and north- south connections, that will assist with pedestrian access and wayfinding.	Review the layout of the double storey accommodation to provide a cluster of units around cue space amenity, possibly including shelters and a barbecue, to provide a more residential and neighbourhood feel to the village. Consider naming each neighbourhood and provide visual identifiers to each neighbourhood through the use of colour and distinct features such as large rocks, different landscaping features, sculptures or other visual clues to support wayfinding.	Way of life and Social Cohesion Health and Wellbeing Safety	Pacific Partnerships and project team - Architect	Immediate - prior to (design) and during construction

			Review the pedestrian access and design of paths to provide both east – west and north- south connections across the village to also assist access and egress and support wayfinding.			
10.2	Ensure that the street-facing external edge of the village is visually appealing, through the use of landscaping and well-designed built form.	Some stakeholders noted that the proposed design of the street facing building (hotel) could be more visually appealing from the street scape. This is important part of integrating the village into the Hedland landscape and the local sporting and recreation precinct. The provision of high-quality landscaping will be essential to create a positive interface with the surrounding precinct.	Review the design of the hotel building to deliver a more visually appealing design, including the potential use of balconies (with angled screening to prevent overlooking). Develop a high-quality landscaping masterplan to create a positive interface with the surrounding precinct.	Environment	Pacific Partnerships and project team – Landscape architects	Immediate - prior to (design) and during construction
10.3	Ensure rooms are fully fitted-out to a high standard to ensure a comfortable experience	Stakeholders were keen to ensure that the built form of living spaces is superior to the standard TWTAV facility. As rooms may be used for both FIFO workers and short stay residents the amenities in the room need to support a higher standard of living and self-sufficiency. FIFO research highlights the importance of rooms and ensuites being highly functional, comfortable, and supportive of liveability.	Ensure all rooms have a spacious ensuite with a good shower and vanity, comfortable bed and pillows, storage, desk, chair, a full height wardrobe, full length mirror, large digital TV, bar fridge, kettle, ironing board, microwave; adjustable lighting.	Built Form Health and Wellbeing	Pacific Partnerships and project team	Immediate - prior to (design) and during construction

10.4	Review the plans for the parking provision to create greater accessibility for patrons of the shared facilities and to provide safer parking for residents	The location of parking was identified by stakeholders as requiring some reconsideration – in particular all resident parking being around the perimeter of the facility without good passive surveillance and the lack of available parking for community patrons of the ground floor tenancies, café, tavern, and dining facilities.	Review the placement of car parking at the village to consider providing more accessible parking for visitors to the café, dining and tavern and to provide less exposed parking around the majority of the facility's perimeter, which is likely to be subject to petty theft.	Safety	Pacific Partnerships and project team - Transport consultants	Immediate - prior to (design) and during construction
10.5	Ensure that storm water drainage is well planned to guarantee that the water isn't directed of discharged to the neighbouring properties.	Clear consideration needs to be given to how storm water is dealt with in the planning of the facility. Hedland is subject to heavy rains as part of the Pilbara climate resulting in the need to effectively direct and discharge of storm water so as to not affect the village and its neighbours.	The hydrologic and hydraulic design requirements for drainage systems consider the significant rain events that regularly occur in Hedland to ensure water doesn't stagnate onsite and isn't discharged onto neighbouring properties.	Health and Wellbeing Safety	Pacific Partnerships and project team - Hydrologic and hydraulic consultants	Immediate - prior to (design) and during construction
10.6	Consider the future use of the facility post its life as a TWA.	There is the potential to repurpose service infrastructure at a later stage (20+ years) and utilise it for other projects/developments including short stay accommodation or key worker housing.	At the end of life of the accommodation, complete an assessment of the facility to determine if it is appropriate to reuse the infrastructure and facilities of the FIFO workforce accommodation in the local community. If it is, develop a strategy for the effective re-use of infrastructure.	Housing and Accommodation Change	Pacific Partnerships and project team - Town of Port Hedland	Very Long Term 20+ years

11. Cumulative Impact Focused Management Strategies

11.1	Collaborate with other TWAs to provide a collective approach to transport access for village residents to access local community services,	Many residents of TWAs don't have access to their own transport as they are bused to and from the airport, their village, and their work site. This limits their ability to lead a more normalised	Work with the ToPH, other TWA operators and TransHedland to provide access to a regular community bus route to access the town centre and local services.	Health and Wellbeing Services and Facilities	TWTAV management/operator Town of Port Hedland	Short term - commence within a year of the village opening

	clubs, and businesses for those who do not have their own vehicle (in partnership with other local TWAs)	life by limiting their access to local services and activities. Providing access to transport through a shared bus service and/or e-bikes will support better mental health and life experience of the village residents – while also benefitting local clubs, organisations, and businesses.	Investigate shared bus arrangements with other TWA villages to provide a "pick-up and drop off service" to Port Hedland and South Hedland and/or an extended TransHedland bus route. Develop a bus timetable that links with local trading hours and community events/activities (that can be available on the village app). Investigate the provision of e-bikes that are available for shared village use. Include the provision of locks and make them identifiable as belonging to the Pacific Partnerships village.	Economic Development Employment, and Training	Other TWA owners and operators Port Hedland Chamber of Commerce and Industry TransHedland Bus Lines	Then ongoing
11.2	Work with the Town of Port Hedland as the lead to collaborate with other local transient worker accommodation owners and operators to take a collective approach to integrating transient workers in town – including providing a 'Welcome to Hedland' information pack.	Increased engagement of FIFO residents in the Hedland community is likely to have benefits for their wellbeing and for the Hedland community. In addition to this new village, there are existing TWAs at Gateway, Club Hamilton, Waypoint, and Port Haven as well as other short stay and smaller villages that could be partners in the approach. With coordination from the ToPH – align Pacific Partnership's and Ventia's approach with other TWA stakeholders in the Hedland community to give the best possible opportunity to manage negative impacts and optimise positive opportunities to create greater community benefit.	Work with the ToPH as the leads to take a common approach to supporting community integration - as the Town had plans to provide a 'Welcome to Hedland' FIFO information package in previous years to FIFO residents to help them understand the Hedland town, and participate in use of the town's facilities, shops, and community events. Work with the ToPH recreation staff and relevant agencies will help provide information and support to village residents to engage local community activities and events.	Way of life and Social Cohesion Health and Wellbeing Culture Economic Development, Employment and Training Services and Facilities Safety	TWTAV management/operator Town of Port Hedland Hedland TWA owners and operators Port Hedland Chamber of Commerce and Industry Local agencies, community groups, clubs, and organisations	Short term - commence within a year of the village opening Then ongoing

11.3	Work with Town of Port Hedland and their transport planners to ensure there is safe access and egress from across multiple TWAs for large vehicles (buses and large service vehicles).	Stakeholders identified that there will now be three large TWAs within the precinct – all requiring the use of multiple buses at similar times to transport residents to and from the village to the Port, which could create conflict with normal car traffic unless an alternative route from the precinct was identified.	Work with ToPH and other local landowners /TWAs to consider further planning of key access roads around the precinct to enable buses and large service vehicles to exit the precinct and travel to the Port without having to engage with normal car-based traffic.	Safety	Pacific Partnerships and project team Town of Port Hedland	Medium Term – with 2-5 years of the village opening
11.4	Town of Port Hedland to lead the development of a TWA Reference Group of resource sector companies and village operators to provide advice and cohesive support to better integrating transient workers into the community	Villages currently operate in isolation and do not take a collaborative or cohesive approach to supporting the integration transient workers into the community, not in seeking to optimise benefits for the community. There continues to be the distinct opportunity to get companies who employ transient workers and village operators to work collaboratively under the leadership of the Town of Port Hedland as the independent facilitator to address key issues and opportunities that relate to accommodating transient workers in Hedland.	ToPH to develop a terms of reference for the establishment of a TWA Reference Group of resource sector companies and village operators to provide advice and cohesive support to better integrating transient workers into the community. The ToPH as an independent party, who is responsible for the approval of TWAs, is best placed to form and facilitate this group. The group should meet quarterly. Discussion should occur on creating co-contributions (based on village bed numbers) to a fund to be able to deliver beneficial initiatives.	ALL impact areas	Town of Port Hedland Pacific Partnerships and project team' Other TWA operators Companies who employ transient workers	Medium Term – with 2-5 years of the village opening

10. APPENDICES

Appendix A: Reference List

Appendix B: Detailed Interview Feedback

Appendix C: Detailed Focus Group Feedback

Appendix D: Detailed Survey Feedback

Appendix E: Focus Group Invite

Appendix F: Stakeholder Interview Invite

Appendix G: Newspaper Advertisement

Appendix H: Community Survey

Appendix I: Focus Group Presentation

Appendix J: Interview Presentation

Appendix K: List of interviewees

Appendix L: Interview note template

Appendix M: Humantix Focus Group Event Page

Appendix N: Focus Group Worksheets

Appendix A - Reference List

ABC News Online. 2021. 'Housing Crisis Ousting Residents, Stunting Growth in Australian Mining Communities'. https://www.abc.net.au/news/2021-09-09/mining-communities-housing-crisis/100443936 [Accessed 5 March 2024]

Australian Bureau of Statistics. 2016. Australian Bureau of Statistics QuickStats. https://www.abs.gov.au/websitedbs/D3310114.nsf/Home/2016 QuickStats [Accessed 5 March 2024]

Australian Bureau of Statistics. 2021. Australian Bureau of Statistics QuickStats. https://www.abs.gov.au/census/find-census-data/quickstats/2021/LGA57280 [Accessed 5 March 2024]

Bankwest Curtin Economics Centre. 2023. Housing Affordability in Western Australia 2023. https://bcec.edu.au/assets/2023/05/BCEC-Housing-Affordability-in-Western-Australia-2023-WEB-version.pdf [Accessed 5 March 2024]

Carrington, K., Hogg, R., McIntosh, A. and Scott, J. 2012. Crime talk, FIFO workers and cultural conflict on the mining boom frontier. Australian Humanities Review, 53, pp.1-16.

Compass Group. 2022. Way point Village opens in Port Hedland. https://www.compass-group.com.au/waypoint-village-opens-in-port-hedland/ [Accessed 5 March 2024]

Department of Primary Industries and Regional Development. 2023. Regional Price Index 2023. https://catalogue.data.wa.gov.au/dataset/regional-price-index-western-australia/resource/4a49b9dc-1688-45a5-9d17-33c9e555e5c3/view/db5db1b8-9c3e-45e8-9963-3e900bd3cfa7 [Accessed 6 March 2024]

Education and Health Standing Committee, Education and Health Standing Committee: The impact of FIFO Practices on Mental Final Report Legislative Assembly Parliament of Western Australia (2015).

Fruhen, L.S., Gilbert, J., and Parker, S.K., 2022. Fly-in-fly-out work: A review of the impact of an extreme form of work-related travel on mental health. Organizational Psychology Revie, p. 14.

Grounded. 2022. Proposed workforce accommodation lot 436 Bayley retreat Port Hedland. https://www.porthedland.wa.gov.au/Profiles/porthedland/Assets/ClientData/Advertising_Documents.pdf [Accessed 6 March 2024]

Harris, J. and Safety, M.I., 2016. The management of risk factors associated with FIFO workers' mental ill-health.

Haslam McKenzie, F.. 2010. Fly-in fly-out: the challenges of transient populations in rural landscapes. Demographic change in Australia's rural landscapes: Implications for society and the environment, pp.353-374.

Meredith, V., Rush, P. and Robinson, E. 2014. Fly-in fly-out workforce practices in Australia: The effects on children and family relationships.

Native Title. Kariyarra Aboriginal Corporation. https://nativetitle.org.au/find/pbc/8355 [Accessed 6 March 2024]

Northwest Telegraph. 2023. https://www.northwesttelegraph.com.au/news/north-west-telegraph/port-haven-set-for-huge-expansion-and-set-to-alleviate-stress-on-housing-market-c-10843728 [Accessed 6 March 2024]

Parker, Sharon, Laura Fruhen, Cindy Burton, Shauna McQuade, Julie Loveny, Mark Griffin, Andrew Page et al. 2018. impact of FIFO work arrangements on the mental health and wellbeing of FIFO workers.

Pilbara Development Commission. 2021. Pilbara Half-Yearly Housing and Land Summary..https://www.pdc.wa.gov.au/fast-find/knowledge-hub-2 [Accessed 5 March 2024]

Port Hedland Land Supply Assessment. 2022. https://www.wa.gov.au/government/document-collections/regional-land-supply-assessments#2022-reports [Accessed 5 March 2024]

Port of Port Hedland Fact Sheet. 2023. https://www.pilbaraports.com.au/about-pilbara-ports/publications/forms-and-publications/forms-and-publications/other/2023/november/port-of-port-hedland-fact-sheet [Accessed 5 March 2024]

Proposal for development of a Pacific Partnerships Living Transient Worker Accommodation Village at Lot 601 Parola Court South Hedland. General Information and Frequently Asked Questions.

Real Estate Investar: Perth Region Snapshot. https://www.realestateinvestar.com.au/Property/perth [Accessed 5 March]

Real Estate Investar: Port Hedland Region Snapshot. https://www.realestateinvestar.com.au/Property/western+australia/port+hedland [Accessed 6 March 2024]

RealEstate.com.au: Port Hedland Guide. 2024. https://www.realestate.com.au/wa/port-hedland-6721/ [Accessed 05/03/2024]

Reiwa Rental Vacancy Rates. https://reiwa.com.au/the-wa-market/rental-vacancy-rates/ [Accessed 5 March]

REIWA. 2022. Port Hedland Suburb Profile. https://reiwa.com.au/suburb/port-hedland/ [accessed 5 March 2024].

REIWA. 2023. South Hedland Suburb Profile. https://reiwa.com.au/suburb/south-hedland/ [Accessed 5 March]

Remplan. 2021. Port Hedland Economic Profile. https://app.remplan.com.au/porthedland/economy/summary [Accessed 5 March 2024]

See, Fruhen, L.S., Gilbert, J., and Parker, S.K., 2022. Fly-in-fly-out work: A review of the impact of an extreme form of work-related travel on mental health. Organizational Psychology Review.

Storey, K., 2010. Fly-in/fly-out: implications for community sustainability. Sustainability, 2(5), pp.1161-1181.; Cheshire, L., 2010. A corporate responsibility? The constitution of fly-in, fly-out mining companies as governance partners in remote, mine-affected localities. Journal of rural studies, 26(1), pp.12-20.

Town of Port Hedland. 2014. Transient Workforce Accommodation Strategy. https://www.porthedland.wa.gov.au/documents/798/twa-strategy-2014 [Accessed 6 March 2024]

Town of Port Hedland. 2020. LPP/06 SOCIAL IMPACT ASSESSMENT. https://www.porthedland.wa.gov.au/Profiles/porthedland/Assets/ClientData/201216_LPP_06_-_Social_Impact_Assessment_DRAFT.pdf [Accessed 5 March 2024]

Town of Port Hedland. 2021. Position Statement Workforce Accommodation. https://www.porthedland.wa.gov.au/Profiles/porthedland/Assets/ClientData/200702_Position_Statement_-_Workforce_Accommodation_Post_June_OCM.pdf [Accessed 5 March 2024]

Town of Port Hedland. 2021. Local Planning Strategy. https://www.porthedland.wa.gov.au/Profiles/porthedland/Assets/ClientData/LST-Town-of-Port-Hedland-Local-Planning-Strategy.pdf [Accessed 6 March 2024]

Town of Port Hedland. 2023. Serenity South Hedland Workers Village. https://www.porthedland.wa.gov.au/planning-building-and-environment/planning/public-consultation.aspx [Accessed 5 March 2024]

Vanclay, F. 2003. 'International Principles For Social Impact Assessment', Impact Assessment and Project Appraisal, volume 21.1, pp. 5-12.

Wangka Mya Pilbara Aboriginal Language Centre. Kariyarra. https://www.wangkamaya.org.au/pilbara-languages/kariyarra [Accessed 6 March 2024]

Yamatji Marlpa Aboriginal Corporation. Kariyarra People and State of Western Australia Indigenous Land Use Agreement. https://www.ymac.org.au/photos/kariyarra-people-and-state-of-western-australia-indigenous-land-use-agreement/ [Accessed 6 March 2024]

Pilbara Development Commission. 2024. Housing & Land Summary December 2023. [Accessed 17/04/2024]

Appendix B – Detailed Interview Feedback

This section provides the detailed findings of the questions asked in the stakeholder interviews.

10.1 PRELIMINARY QUESTIONS

Question 1: What do you like about what is proposed for this new development?

The top three (3) common responses overall related to:

- The location of the TWTAV and how it integrates with the surrounding area/precinct (18)
- The built form and design of the TWTAV (13)
- Services and facilities on offer such as the business centre (12)

Note: responses are presented in the below table according to theme. The number in brackets represents the frequency of the response.

PRIMARY THEME	ALL RESPONSES
The location of the TWTAV (18)	• Integrates well with current infrastructure (5) • Integrates well with the surrounding area (5) • Close proximity to town (2) • Potential to integrate with South Hedland Sporting Precinct (by ToPH) in line with Masterplan (2) • Close proximity to the recreation precinct • Provides a presence to the precinct • The location is good • Overlooking the sports precinct is a good feature
Built Form (13)	• I like the hotel concept (5) • Good layout (2) • Supports building height (2) • Positive about it • Better quality development than existing TWA villages • It is really good • Mix of different styles of buildings
Services and Facilities on Offer (12)	• Conference / business centre (3) • Public access to the facilities (2) • Good accommodation solution • Needed FIFO accommodation • Services and facilities • Wants passive recreation in village green • Will require transport to access shopping centre • Real need for more mental health services in the community • Consulting rooms should be used for mental health services
Good Amenity (11)	• Gazebos are good • Good range of amenities for occupants • Parking • Pool • Transit lounge, provides a space for people to meet and stay rather than going to the airport and getting intoxicated • Village green • Wants passive recreation in village green • Well landscaped • Positive about on-site amenities • Support community use of tavern and dining • Like the consulting rooms in Wellness Centre
Economic Benefits (10)	• Provision of good food/drinks options (3) • Provision of opportunities for tourism and events (3) • Creates a signal that Hedland is growing into a city and becoming more cosmopolitan • Economic benefit • Opening up to the public • Positive impact on tourism
Cumulative Impacts (9)	• Adds to the experience of living in Hedland

	• Good accommodation solution • It is really good • Needed FIFO accommodation • Positive community cohesion • This accommodation is needed • Would like to see more residential accommodation in town • Tavern and Dining access provides more options for people in the community • Support the 20+20 lease option

Question 2: What concerns do you have about what is proposed for this new development?

The top three (3) common responses overall related to:

- The built form, design, and quality of the TWTAV (7)
- Concerns on community safety such as car park surveillance and alcohol management (5)
- Barriers to community cohesion (4)

Note: responses are presented in the below table according to theme. The number in brackets represents the frequency of the response.

PRIMARY THEME	ALL RESPONSES
Built Form (7)	• Break up large tavern into smaller spaces • building height (6 Storeys) • Concern over development design quality • Concern over separated spaces and spread-out hub • lack of clarity of how sustainable the development is • Lack of clarity on star rating • Needs east-west connection across site
Community Safety Concerns (5)	• Car parks need safety measures • Need a good alcohol management • Need well-lit pathways to and from exterior car park • Parked cars are subject to petty thefts • Parking area lacks surveillance
Barriers to community cohesion (4)	• Layout is not conducive of creating a neighbourhood; need small clusters of social spaces • Concern over integrating FIFO workers into the community • Should have a more neighbourhood feel • Should have rooms clustered around social spaces/amenities
Privacy and proximity concerns (2)	• Impact on neighbouring community's ability to sleep • Viewing over pool creates uncomfortableness for females
Location is far from Town Centre (1)	• Isolated from town centre - difficult for shared facilities
Concern on doubling up government supplied facilities (i.e. gym, pool) (1)	• Concerned with replicating local government supplied facilities i.e. gym
Consistency of Rules and Regulations (1)	• Concern over consistency of what is and is not allowed

Question 3: What else could be done to increase the beneficial impacts of the proposed transient worker accommodation development on the community?

The top three (3) common responses overall related to:

- Sustainability opportunities such as solar power and water recycling (7)
- Economic development, particularly, supporting local businesses and procurement (7)
- Connecting with the community (7)

Note: responses are presented in the below table according to theme. The number in brackets represents the frequency of the response.

PRIMARY THEME	ALL RESPONSES
Sustainability opportunities (7)	• Clean up the area behind sports hub • Focus on environmentally sustainable approaches • Need for environmental protection affecting living areas • Partake in Container for Change • Provide clarity on waste management during construction • Solar Power • Water recycling
Opportunities for Economic Development (7)	• Support local businesses / local procurement (4) • Collaborate/partner with local community and businesses • Engage with local Indigenous Service Providers • Support local Aboriginal businesses
Being present and connecting with the Community (7)	• Assign a community liaison officer • Early engagement to mitigate negative feedback • Engage with local Indigenous Service Providers • Have a presence in the town • Join PHIC and the Chamber of Commerce • Need to engage with the RSL • Support staff to volunteer in the community
Employment and Training Opportunities (6)	• Employ local people • Provide employment opportunities for Aboriginal people • Provide upskilling and pathways to future employment • ToPH Economic Development team can connect PP with local TAFE/RTO's regarding employment pathways • Consider local training programs • Consider social investment programs
Design Modifications (2)	• Need bicycle paths and access • Need good landscaping • Provide rooms available for booking for ToPH/NFPs/Groups to accommodate staff
Available rooms for commercial/business use (i.e. ToPH officials, NFPs, sporting teams) (2)	• Provide rooms available for booking for ToPH/NFPs/Groups to accommodate staff • Provide rooms for sporting personnel (competitors, officials etc.)
Conference Room Provision (2)	• Need of large conference room (>200 people) (2)

Question 4: Can you suggest any improvements to the proposed transient worker accommodation development?

The top three (3) common responses overall related to:

- Use of the shop spaces such as for Allied Health, personal care or a small library (16)
- Design suggestions including provision of public art and noise/light proofing (4)
- Community cohesion and safety suggestions such as, alcohol management and CCTV provision (4)

Note: responses are presented in the below table according to theme. The number in brackets represents the frequency of the response.

PRIMARY THEME	ALL RESPONSES
Use of Shop Spaces (16)	• Provision of small shops / 7/11 store (3) • Provide Allied Health tenancies to support medically related services (3) • Provide personal care services (i.e. hairdresser, salon etc) (2) • Support a medical/GP service (2) • Include a convenience retailer • Incorporate small community library • Place services for young mothers in the playground • Provide cafe/food service • Provide equitable access to shared facilities • Provide pop up shop
Design Suggestions (4)	• Allocate more passive recreation near the village and encourage sports activities in town • Courts and stadium already exist • Ensure rooms are noise and light proofed • Incorporate public art into development
Community Cohesion and Safety Suggestions (4)	• Provide effective alcohol management plan • Build social spaces to create a community • Provide security details involving lighting and CCTV • Offer communal e-scooters/bikes
Sustainable rent and business (2)	• Provide lower rent • Need sustainable businesses due to low foot traffic
Hotel suggestions (2)	• Operate as a 'Resort' style facility rather than typical TWA • Turn sixth floor into serviced apartments available for occupancy by key service workers - will support housing shortage
Engagement with RSL (1)	• Collaborate with Returned Services League (RSL) on the proposed installation of the ANZAC war memorial

10.2 EFFECTS ON IMPACT AREAS

Impact Area: Way of Life and Community Cohesion

The impact on cohesion, stability, character and how people live, work, play, and interact with one another on a day-to-day basis.

GENERAL COMMENTARY Context, current state, aspects that won't change, aspects that will change but will have a neutral impact.	

POSITIVE SOCIAL IMPACTS
What benefits do think there might be with the proposed TWA?
	• Community access to more facilities/amenities (6)
	  ○ Dining and tavern access will be good
	  ○ Provides other options for people to socialise and get a coffee/food
	  ○ Opening facilities to the community provides more options
	  ○ Opening facilities to the community is attractive
	  ○ Need for more coffee venues
	  ○ Good amenities to occupants and good facilities to the community
	• Good location (5)
	  ○ Well located (2)
	  ○ Near similar other accommodation
	  ○ Good integration with community and supports town businesses
	  ○ Good integration with sporting precinct but is secluded
	• It will support upcoming Town development (5)
	  ○ Need to accommodate a surge of development (3)
	  ○ Permanent housing too expensive and not timely available
	  ○ Need TWA to support way of life
	• Community Safety (2)
	  ○ Rarely see anti-social occurrences from other villages
	  ○ Limit e-scooter speed
	• No issues (2)
	  ○ No issues
	  ○ Will not affect people's way of life much

NEGATIVE SOCIAL IMPACTS
What issues do think there might be with the proposed TWA?
	• Concerns on Community Cohesion and Anti-social Behaviour (9)
	  ○ Concern over FIFO conduct and antisocial activity
	  ○ Concern that more FIFO leads to more illicit sexual activities
	  ○ FIFO breaks, not build community
	  ○ FIFO getting drunk at the airport
	  ○ FIFO has no contribution to the community
	  ○ FIFO is not desired but necessary to support key projects and local industry
	  ○ Issue if no support to integrate
	  ○ Need a clear management plan
	  ○ Concern about FIFO staff
	• Economic Inequity (6)
	  ○ Concern over removal of local workforce
	  ○ Concern over retail competing with local business
	  ○ Economic inequity
	  ○ Need equitable access to all businesses
	  ○ They contribute little to Hedland
	  ○ They only focus is on making money to send home

	• Tavern Management Concerns (5)
	  ○ Concern over public safety with tavern on site (2)
	  ○ Community access should only to tavern and café
	  ○ Concern over FIFO taverns/wet messes service hours
	  ○ General tavern management concern
	
	• Governance Issues (4)
	  ○ Potential issues of managing FIFO and hotel together (2)
	  ○ Concern over the efficiency of managing regular FIFO residents and short stay hotel residents
	  ○ Inconsistent governance over facilities allowance
	
	• Location Concerns (3)
	  ○ Concern over impact of close proximity to Gateway Village (2)
	  ○ Concern over proximity of activity types

OPPORTUNITIES
What opportunities do think there might be with the proposed TWA? E.g. actions Pacific Partnerships and others can take to mitigate negative impacts and amplify positive impacts.
	• Community Cohesion and Cultivation (17)
	  ○ Share information on local activities/events e.g. village newsletter (5)
	  ○ Integrate with the local community (2)
	  ○ Make village design conducive to building a community (2)
	  ○ Collaborate with local organisations and businesses (2)
	  ○ Create a positive village culture which integrates with the community
	  ○ Encourage residents to engage with the community
	  ○ Encourage staff to be involved in community clubs/volunteer
	  ○ Manage FIFO integration with the community well
	  ○ Manage interface with neighbouring village residents
	  ○ Provide community liaison officer and lifestyle coordinator
	
	• Alcohol and Behaviour Management (15)
	  ○ Maintain drink limits (3)
	  ○ Need behaviour protocols (3)
	  ○ Provide rules and policies on behaviour and consequences (2)
	  ○ Access to banned drinkers registry
	  ○ Don't drop people off too early at the airport to avoid drunkenness
	  ○ Manage men and women behaviour off shift
	  ○ Manage residents well
	  ○ Need alcohol management
	  ○ Need consistent alcohol management for both FIFO and public patrons
	  ○ No smoking or alcohol in certain areas
	
	• TWA Induction (7)
	  ○ Provide inductions to new residents (5)
	  ○ Provide a welcome pack (2)
	
	• Building Height – Privacy (2)
	  ○ Manage Gateway privacy issue from tall building
	  ○ Provide guidelines on balcony use
	
	• Permanent Residency (2)
	  ○ Employ people to live on site
	  ○ Organisation with 250 Vietnamese ready to work has sought support from council - The overseas workers seek permanent residency and award wage
	
	• Provide security services
	
	• Support local services e.g. Well Women's Centre
	
	• Provide various transportation options i.e. bikes, buses into town

Impact Area: Culture

People's shared beliefs, customs, values, and language or dialect (including Aboriginal culture and connection to country).

GENERAL COMMENTARY Context, current state, aspects that won't change, aspects that will change but will have a neutral impact.	
POSITIVE SOCIAL IMPACTS What benefits do think there might be with the proposed TWA?	• Good to have recognition of Indigenous Heritage and art and other Traditional owners • No great effect

NEGATIVE SOCIAL IMPACTS
What issues do think there might be with the proposed TWA?
	• Engagement with TO's and Elders (2)
	  ○ Represent different cultures and communicate with them
	  ○ Early engagement with local TOs and Elders to build relations and display Indigenous art throughout the site
	• Potential issue of Kariyarra people claiming the site
	• FIFO undermines local culture and sense of community

OPPORTUNITIES
What opportunities do think there might be with the proposed TWA? E.g. actions Pacific Partnerships and others can take to mitigate negative impacts and amplify positive impacts.
	• Acknowledgement of Aboriginal Culture (9)
	  ○ Naming of buildings/village to reflect local culture (2)
	  ○ A yarning circle feels tokenistic and location is terrible
	  ○ Acknowledge culture through public art
	  ○ Be sensitive to Aboriginal culture
	  ○ Could have seating arrangement to encourage interaction over "yarning circle"
	  ○ Provide Aboriginal artwork
	  ○ Provide art offerings by Spinifex Hill artists in the village
	  ○ Reflect local cultural heritage through art and design of facilities
	• Engagement with Kariyarra People (5)
	  ○ Kariyarra people to be recognised and consulted with (3)
	  ○ Develop Aboriginal Engagement Strategy and make them feel at home in the village
	  ○ Involve traditional owners in village design
	• Cultural Awareness Training and include Kariyarra people (3)
	• Make use of Town of Port Hedland Art Policy (2)
	• Set clear expectations and provide a Village Induction (2)
	• Provide communication and signage in different languages
	• Conduct a village naming competition

Impact Area: Services and Facilities

Accessibility of community services, and facilities.

GENERAL COMMENTARY Context, current state, aspects that won't change, aspects that will change but will have a neutral impact.	

POSITIVE SOCIAL IMPACTS
What benefits do think there might be with the proposed TWA?
	• Cumulative Community Impact (6)
	  ○ Population increase will add extra services and infrastructure
	  ○ People will live here if facilities match those in Perth
	  ○ Population increase could ensure direct flights to Bali
	  ○ Hedland is thriving
	  ○ Community use of village facilities adds to experiences and liveability
	  ○ Removes service stress from town's facilities but could also reduce income of local businesses
	• Provision of the Gym (6)
	  ○ Agree with gym being open to community
	  ○ Gym already exists and is thriving at the stadium
	  ○ No issues with gym at new village
	  ○ Village gym alleviates capacity issue at local gym
	  ○ Stadium gym is already well patronised
	• More Dining Options for the Community (3)
	• Agree with conference area provision
	• Reasonable location of proposed on-site facilities
	• Little impact on education services

NEGATIVE SOCIAL IMPACTS
What issues do think there might be with the proposed TWA?
	• Impact on health/medical services (17)
	  ○ Lack of sufficient health services and doctors (7)
	  ○ Potential impact on understaffed and overstrained policing service (3)
	  ○ Increased population can stretch policing and health care (2)
	  ○ Health services are overstrained (2)
	  ○ Lack of sufficient health services
	  ○ Lack of sufficient mental health services
	  ○ Need mental health services to support workers and ensure good integration into the community
	• Impact on town facilities (4)
	  ○ The timing of hotel and gym construction could impact the level of use of the current facilities (2)
	  ○ Concerned about having facilities already provided by state government (i.e. gym and pool) (2)
	• Unclear/lack of economic benefit (3)
	  ○ Better contributions from permanent residents
	  ○ FIFO doesn't bring family, so is not helpful to an effort of obtaining a new private high school
	  ○ Unclear of the impact on local businesses
	• Impact on Volunteerism with Long shifts discourage volunteer participation in the community

OPPORTUNITIES
What opportunities do think there might be with the proposed TWA? E.g. actions Pacific Partnerships and others can take to mitigate negative impacts and amplify positive impacts.
	• Medical/essential Services (11)
	  ○ Offer retail spaces for medical providers (3)
	  ○ Provide/fund medical support on site (2)
	  ○ Bring GPs and medical services to town
	  ○ Create a medical precinct
	  ○ Invest and support essential services
	  ○ Provide in-person mental health services
	  ○ Provide or fund medical services to mitigate under resourced situation
	  ○ Provide paramedic on site
	
	• Community Cohesion and Cultivation (6)
	  ○ Have seafood nights
	  ○ Open dining to public
	  ○ Consider joint use of facilities
	  ○ Encourage residents involvement in local sporting clubs
	  ○ Have monthly special theme nights for community
	  ○ Provide community access to cricket facilities
	
	• Recreational Facilities (3)
	  ○ Gateway should also be allowed to have a gym and wellness centre – it is inconsistent
	  ○ Encourage use of town facilities once built in future e.g. gym
	  ○ Time the gym construction to avoid burdening existing facilities
	
	• Conference Centre provision (2)
	  ○ Convert the gym and wellness areas to a conference facility
	  ○ Develop a large conference facility
	
	• Offer E-Scooters/Bikes
	
	• Collaborate with school to provide access to training opportunities

Impact Area: Environment

The quality of the air and water people use, the availability and quality of the food they eat, the level of hazard or risk, dust and noise they are exposed to, the adequacy of sanitation, their physical safety, and their access to and control over resources.

GENERAL COMMENTARY Context, current state, aspects that won't change, aspects that will change but will have a neutral impact.	

POSITIVE SOCIAL IMPACTS
What benefits do think there might be with the proposed TWA?
	• Good Landscaping (3)
	  ○ Good to see landscaping in TWA
	  ○ Landscaping can reduce heat island effect
	  ○ Landscaping must be done well
	• Sustainability Initiatives (i.e. solar panels on car shelters are good)

NEGATIVE SOCIAL IMPACTS
What issues do think there might be with the proposed TWA?
	• Environmental sustainability management (3)
	  ○ Concern over mitigation of construction impacts on the environment
	  ○ Ensure development is environmentally friendly, such as using solar panels and water recycling
	  ○ Need effective storm water management planning since there are already existing issues
	• Concern on duration and noise of construction (2)
	  ○ Noise
	  ○ Question on length of construction
	• Concern over impact on local infrastructure such as sewerage and water
	• Unclear Environmental Impacts

OPPORTUNITIES
What opportunities do think there might be with the proposed TWA? E.g. actions Pacific Partnerships and others can take to mitigate negative impacts and amplify positive impacts.
	• Water management (9)
	  ○ Consider water recapture and wastewater use (3)
	  ○ Provide effective storm water management (2)
	  ○ Consider grey water use
	  ○ Consider water recapture and reuse
	  ○ Consider water recycling
	  ○ Provide clear waste and wastewater management plan
	• Provision of green space and landscaping (8)
	  ○ Provide good landscaping (3)
	  ○ Provide mature trees (2)
	  ○ Collaborate with Outback Trees on tree planting
	  ○ Provide grass area throughout
	  ○ Provide landscaping
	• Provision of solar energy (4)
	• Recycling initiatives (3)
	  ○ Support recycling and give funds to community groups (2)
	  ○ Support cans and bottles recycling and provide funds to designated community groups
	• EV cars for residents to access town and charging (2)
	• Noise, dust, and light management (2)

Impact Area: Health and Wellbeing

People's physical, mental, social, and spiritual wellbeing.

GENERAL COMMENTARY Context, current state, aspects that won't change, aspects that will change but will have a neutral impact.	

POSITIVE SOCIAL IMPACTS
What benefits do think there might be with the proposed TWA?
	• Community Recreation (2)
	  ○ Good to have access to the ovals and facilities
	  ○ Lots of local recreation available
	• Doctor's surgery and potential 24-hour pharmacy will be available in the precinct in the future
	• Good to integrate FIFO and residents

NEGATIVE SOCIAL IMPACTS
What issues do think there might be with the proposed TWA?
	• Insufficient health services (12)
	  ○ Health services are overstrained (6)
	  ○ Need dedicated health services in the village (3)
	  ○ Insufficient health services with no paediatric dentistry
	  ○ Mental health services are overstrained
	  ○ Need dedicated mental health/ counselling services in the village
	• Demand on other services (2)
	  ○ Policing is understaffed
	  ○ Extra demand poses a negative impact on local services

OPPORTUNITIES
What opportunities do think there might be with the proposed TWA? E.g. actions Pacific Partnerships and others can take to mitigate negative impacts and amplify positive impacts.
	• Consulting rooms should be used for mental health services
	• Support integration into the community (8)
	  ○ Support residents to integrate well with the community (2)
	  ○ Provide inductions
	  ○ Provide liaison between residents and local community
	  ○ Provide information on town activities/events
	  ○ Provide access to transportation options for people to get out of the village into the community
	  ○ Provide lifestyle coordinator to engage residents in social and recreational activities
	  ○ Invite Hedland Men's Shed to conduct activities with village residents
	• Provision of health/essential Services (i.e. in house psychologist/ chaplain/ mental health, medical services on site/in retail space, essential health services (6)
	• Green space & village green (5)
	  ○ Provide landscaped area to promote good mental health
	  ○ Provide good landscaping
	  ○ Activate village green and sports courts
	  ○ Trees are helpful
	  ○ Promote connection by designing modules around green space and outdoor exercise equipment
	• Provide alternative spaces, such as spaces that are activated and quite spaces (2)
	• Provide good wi-fi for residents to connect with family and friends at home
	• Collaborate with Gateway on managing pollution

Impact Area: Personal and Property Rights

Particularly whether people are economically affected, or experience personal disadvantage which may include a violation of their civil liberties

GENERAL COMMENTARY Context, current state, aspects that won't change, aspects that will change but will have a neutral impact.	

POSITIVE SOCIAL IMPACTS
What benefits do think there might be with the proposed TWA?
	• No Issues (6)
	  ○ No issue (4)
	  ○ No difference
	  ○ Will not affect rental or housing market
	• TWA will support upcoming Town development (2)
	  ○ No nearby residential area
	  ○ Will ensure projects will proceed and it will provide much needed accommodation

NEGATIVE SOCIAL IMPACTS What issues do think there might be with the proposed TWA?	• Inconsistent approach by local government on permitted use which gives FIFO facilities unfair competitive advantage • With other neighbourhoods experiencing vacancies, there is no proven demand • Kariyarra people might take claim over the site • Potential pulling away from other facilities which impacts their viability • Reduced rental prices will impact rental owners
OPPORTUNITIES What opportunities do think there might be with the proposed TWA? E.g. actions Pacific Partnerships and others can take to mitigate negative impacts and amplify positive impacts.	• Naming, art, and design of facilities should reflect local cultural heritage

Impact Area: Community Safety

The impact on community safety and crime.

GENERAL COMMENTARY Context, current state, aspects that won't change, aspects that will change but will have a neutral impact.	

POSITIVE SOCIAL IMPACTS
What benefits do think there might be with the proposed TWA?
	• FIFO Behaviour Management (4)
	  ○ FIFO is not an issue (3)
	  ○ Antisocial behaviour will result in eviction
	• The 6-storey building can serve as a wayfinding landmark

NEGATIVE SOCIAL IMPACTS
What issues do think there might be with the proposed TWA?
	• Parking is a risk due to its location (i.e. theft, women safety walking to car) (9)
	• TWA Management (8)
	  ○ Need alcohol management plan (5)
	  ○ Management of a village with various companies being accommodated can be difficult (2)
	  ○ Other TWA sites do not pose too many problems if well managed
	• Other Community Safety Concerns (4)
	  ○ Attracts locals / homeless to the district
	  ○ Potential influx of sex workers
	  ○ Undesirable proximity of the village to the family areas at the sporting precinct
	  ○ Workers don't bring family
	• Building Height (2)
	  ○ Height - over 3 storeys is an issue
	  ○ Difficult access can impact the ability to deal with emergencies – don't have the ability to fight fires in multi storey buildings (no trucks with ladders). Have to fight from the ground
	• Safety Measures such as external CCTV and good lighting are needed (2)
	• Shared facilities are not located centrally, posing a risk to vulnerable people walking long distances
	• Assess impact of traffic from more buses and location near to high school
	• FIFO behaviour is a concern at the airport

OPPORTUNITIES
What opportunities do think there might be with the proposed TWA? E.g. actions Pacific Partnerships and others can take to mitigate negative impacts and amplify positive impacts.
	• Safety Measures (21)
	  ○ Provision of CCTV (5)
	  ○ Provision of fencing / garrison fencing (5)
	  ○ Provision of good lighting (3)
	  ○ Provide swipe card access to room, gate and parking (2)
	  ○ Cark parking issue around the site
	  ○ Collaborate with local Aboriginal Community organisation support engagement and crime prevention
	  ○ Gate security
	  ○ Install lighting for car parking for safety
	  ○ Plan proper fire escapes
	  ○ Provide security services on the space between the villages
	• Alcohol Management (5)
	  ○ Provide consistent and effective alcohol management (2)
	  ○ Apply limits on drinks to all residents

	○ Transit lounge, provides a space for people to meet and stay rather than going to the airport and getting intoxicated ○ Consider alcohol testing (particularly on nights that Baseball bar or Last Chance tavern are open) • Design / layout to prevent crime, unsafe situations and provide ease of access for emergency services (5) ○ Create smaller neighbourhoods for a greater sense of community and increased security ○ Difficult access can impact the ability to deal with emergencies ○ Have good wayfinding (i.e. key points, good signage) ○ Provide easy access of fire trucks through the village ○ Public car park at the front • Safety for women and vulnerable people (4) ○ Place women/vulnerable people close to the centre of the village (2) ○ Provide escort to females and vulnerable people ○ Provide strategies to support vulnerable people • Provide good induction on behavioural expectations and consequences (4) • Traffic management (3) ○ Assess impact of traffic from more buses and location near to high school ○ Collaborate with ToPH and other FIFO villages to support new road at rear of facilities directly to Boodarie and the Port for heavy vehicles ○ Support dual lane at Hamilton Road to make turn off safer • Hold operator accountable on management responsibilities

Impact Area: Economic Development, Employment and Training

Economic development, employment, and training for the community (including the local Aboriginal and Torres Strait Islander community) and the transient workforce, and changes in the overall local economy of Hedland.

GENERAL COMMENTARY Context, current state, aspects that won't change, aspects that will change but will have a neutral impact.	

POSITIVE SOCIAL IMPACTS
What benefits do think there might be with the proposed TWA?
	• Supporting local businesses/economy (10)
	  ○ Influx of people coming to town can support local economy (2)
	  ○ Encourage use of local businesses and local procurement
	  ○ Allows support trades accommodation to get work done
	  ○ Encouraging to shop local
	  ○ Must have price parity with town centre businesses
	  ○ Use local supply if possible
	  ○ Promote other businesses using mates' rates initiative
	  ○ Invite engagement from business owners
	  ○ Hotel accommodation to tourists supports local economy
	• Facilities and Services on Offer (6)
	  ○ Like the facilities on offer (i.e. café, tavern, gym) (3)
	  ○ Like the business/conference rooms (2)
	  ○ Offer different businesses than the CBD
	• Employment and Training opportunities (6)
	  ○ Pathway to local employment (2)
	  ○ Pathway for youth education and employment
	  ○ Support training in hospitality with the school and VET programs
	  ○ Provides more job opportunities
	  ○ More opportunity to train local people in hospitality roles
	• TWA will support upcoming Town development (5)
	  ○ This accommodation is needed with upcoming projects for the town (2)
	  ○ There is a lack of permanent housing (2)
	  ○ Accommodation needs to expand and deliver to major projects and support industry
	• Transportation Options for Residents (2)
	  ○ Bikes are great transportation but are susceptible to thefts
	  ○ Provide a bus to connect TWA to town or link up with the Club Hamilton Bus

NEGATIVE SOCIAL IMPACTS
What issues do think there might be with the proposed TWA?
	• Viability of retail/business precinct (5)
	  ○ Concern about staff sourcing and whether it would impact airport management
	  ○ No retail analysis was done
	  ○ Concern about facilitating for local hire with the current employment market already stretched
	  ○ Difficulty of businesses to procure employees due to stretched market
	  ○ Businesses in the planned area may struggle due to low foot traffic
	• Long term considerations (4)
	  ○ House them long term on the site
	  ○ Indicate location of permanent accommodation especially to attract international staff retention
	  ○ Hiring FIFO workforce instead of hiring long term residents could undermine impacts

	○ FIFO doesn't contribute as much to the economy than permanent residents • Lack of transportation – will be needed to get to town/shopping centre (2)
OPPORTUNITIES What opportunities do think there might be with the proposed TWA? E.g. actions Pacific Partnerships and others can take to mitigate negative impacts and amplify positive impacts.	• Support local procurement (13) ○ Support local procurement (3) ○ Promote local spending by providing vouchers (2) ○ Use local suppliers to support development (2) ○ Support local shopping ○ Promote a shop local campaign ○ Promote distribution of cards to spend in town ○ While utilizing many Australian companies may be cost prohibitive, consider scaling resources to 50/50 ○ Have preference for Australian builders over builders from China ○ Develop local procurement strategy • Provide transportation for access to businesses and shops (i.e. bus, bikes) (10) • Business/facility opportunities (7) ○ Opportunity for laundry business in town ○ Provide co-working space for home businesses ○ Use retail spaces for junior miners store front ○ Develop a needed large conference area ○ Simulate Gateway in providing access to facility for community functions • Support local employment (7) ○ Support local employment and training (4) ○ Collaborate with Ashburton Aboriginal Corporations to provide hospitality training for locals ○ Partner with Pundulmurra TAFE to provide pathways to training and employment ○ Provide training opportunities to local students and community • Communication (3) ○ Develop a village newsletter to share information on activities/events in the village and the town ○ Provide proper induction on the happenings in the town and village ○ Collaborate with the town and community in event promotions to engage residents • Provide accommodation to trades workers (2) • Abide by agreements approvals and penalties • Establish a lasting commitment to the community • Need local social investment strategy to promote engagement and support to the community

Impact Area: Housing and Accommodation

Impact of the development on the accommodation and housing infrastructure in Port and South Hedland.

GENERAL COMMENTARY Context, current state, aspects that won't change, aspects that will change but will have a neutral impact.	

POSITIVE SOCIAL IMPACTS
What benefits do think there might be with the proposed TWA?
	• TWA will Alleviate Pressure off Hedland's Housing Crisis (20)
	  ○ Lack of housing availability (5)
	  ○ Affording housing is challenging, which is alleviated by this development
	  ○ Removes pressure from the local market
	  ○ This is a solution to housing needs
	  ○ Its absence creates extra pressure on housing market
	  ○ More accommodations remediate the current crisis
	  ○ Need housing
	  ○ Hedland needs TWA due to higher costs to build housing
	  ○ It does not affect the local market negatively
	  ○ Need housing since it is cost prohibitive to build houses while government is not building houses
	  ○ There is lack of housing with rising rents.
	  ○ Building a house requires a large deposit
	  ○ Issues of GROH government officer taking up rentals and rising rents
	  ○ It would have been devastating to allocate private housing to these 1300 people
	  ○ Large scale housing is more viable than building single houses
	  ○ Housing is too costly to build
	• TWA will support upcoming Town development (4)
	  ○ More housing is desperately needed to support new projects
	  ○ It is needed to the number of projects in Hedland
	  ○ Hotel/motel living due to lack of housing availability to support key projects creates a negative impact on tourism
	  ○ Lack of housing availability to support key projects
	• It is necessary although would have preferred permanent residential dwellings
	• Provides another accommodation option for short term stays

NEGATIVE SOCIAL IMPACTS
What issues do think there might be with the proposed TWA?
	• Preference for Permanent Residential Housing (5)
	  ○ Although permanent housing is preferable, they aren't viable to build
	  ○ Permanent housing is much preferred, and this project is an excuse to not invest in housing
	  ○ We make FIFO a necessary evil instead of investing in housing
	  ○ Lack of commitment for eventual permanent residential accommodation
	  ○ Concern about the balance of FIFO to residential population
	• Lack of community benefit (3)
	  ○ High proportions of FIFO is not good for the community
	  ○ FIFO workers contribute little to the community
	  ○ Not a lot of benefit to the community
	• Existing villages still have vacancies
	• FIFO is still a polarising issue
	• Key Start is not enough of an incentive for people to build/invest in housing in Hedland

	• Will impact other facilities negatively
OPPORTUNITIES What opportunities do think there might be with the proposed TWA? E.g. actions Pacific Partnerships and others can take to mitigate negative impacts and amplify positive impacts.	• These types of development are inevitable, so focus making on improvements (2) • Provide Service Worker accommodation (3) • Need workforce accommodation for others beyond just FIFO workers • Redesign to include hubs of open spaces to create a more community/neighbourhood feel • The Local Government should start building their own property (i.e. have a building works department)

Impact Area: Built Form

The built form in the surrounding area and the way it provides a safe and sustainable lifestyle.

GENERAL COMMENTARY Context, current state, aspects that won't change, aspects that will change but will have a neutral impact.	

POSITIVE SOCIAL IMPACTS
What benefits do think there might be with the proposed TWA?
	• Hotel Concept (6)
	  ○ Hotel looks good (4)
	  ○ Like the hotel facing the local sporting area
	  ○ Like the hotel looking over area
	• Integrates well within the Community (6)
	  ○ Hotel provides a presence (2)
	  ○ Aligns with SHISH Masterplan
	  ○ Fits with precinct
	  ○ Will blend well with surrounding area
	  ○ Will link well with civic centre hub (incl. arts centre, council chambers, offices)
	• Landscaping/Village Green (5)
	  ○ Like the landscaping (2)
	  ○ Solar panels on car shelters are good
	  ○ Like the village green
	  ○ Village green should be for passive recreation only
	• Facilities/Amenity on Offer (4)
	  ○ Like the business centre/conference centre
	  ○ Like the variety of community access for facilities
	  ○ Gazebos are good
	  ○ Like the pool
	• General design feedback (4)
	  ○ Like the mixed styles of the buildings (3)
	  ○ Higher quality village compared to current villages
	• Good Layout (2)
	• Support for the building height

NEGATIVE SOCIAL IMPACTS
What issues do think there might be with the proposed TWA?
	• Other concerns on design and quality (6)
	  ○ Development must be attractive (2)
	  ○ As hotel is so prominent, it must be attractive
	  ○ Must be better quality than other villages
	  ○ Risk of cheap build and infrastructure
	  ○ No evident storage in proposal (for workers on regular swings)
	• Conflicts with other Developments (3)
	  ○ Recreational facilities will conflict with upcoming ToPH stadium extension
	  ○ Concerned with close proximity to Gateway
	  ○ Already a large sports field over the road
	• Building Height (2)
	  ○ Privacy concerns from 6 storey building
	  ○ Viewing over pool creates uncomfortableness for females/ Privacy concerns from 6 storey building

	• Facilities are not located centrally / lack of connection (2) • Lack of neighbourhood hubs • Concern about access for Emergency Vehicles

OPPORTUNITIES
What opportunities do think there might be with the proposed TWA? E.g. actions Pacific Partnerships and others can take to mitigate negative impacts and amplify positive impacts.
	• Design (13)
	  ○ Must be high quality (4)
	  ○ Create hubs of units around central social spaces, rather than in rows (3)
	  ○ Design street presence to integrate with local area (e.g. no hard wire fences)
	  ○ Good pathways (lit and safe)
	  ○ Must be better quality than other villages
	  ○ Must deliver on "resort" style accommodation. with luxuries including good TV, good fridge, nice bed etc.
	  ○ Needs to be attractive
	  ○ Redesign dining place to include a variety of seating arrangements (incl. booths, low tables, benches, plants)
	• Provision of a well landscaped / village green (6)
	  ○ Incorporate playground to encourage families to come
	• Construction / Material considerations (5)
	  ○ Don't use Poly pipes - will deteriorate after 6 years in Hedland
	  ○ Have good moisture barriers between modules to avoid mould/damp issues
	  ○ Get plumbing right
	  ○ Use Blue Brute pipes
	  ○ Reference Lawson Street Apartments - see other modular styles
	• Establish East/West connection across site (2)
	• Engage with RSL to coordinate planning of ANZAC Memorial
	• Engage Aboriginal children to create artwork to reflect local culture
	• Explore how the facility can transition to community use after 20-year lease
	• Provision of high quality WIFI
	• Ensure rooms are noise and light proofed
	• Provision of access for emergency vehicles
	• Reuse grey water for landscaping

Impact Area: Cumulative Impacts

The combined, incremental effects of this development and other related developments.

GENERAL COMMENTARY Context, current state, aspects that won't change, aspects that will change but will have a neutral impact.	• Hedland Airport is already 5th busiest in Australia

POSITIVE SOCIAL IMPACTS
What benefits do think there might be with the proposed TWA?
	• No issue (6)
	  ○ Hedland is used to FIFO (2)
	  ○ Not a big issue
	  ○ Pros outweigh cons
	  ○ People staying in TWA accommodation don't cause the Police many problems
	  ○ FIFO is contained to key precincts, away from residential
	• TWA will support upcoming Town development (2)
	  ○ Accommodation will support the numerous upcoming projects
	  ○ MGM and Posco both proposing new villages, potentially accelerating FIFO growth in the area

NEGATIVE SOCIAL IMPACTS
What issues do think there might be with the proposed TWA?
	• Too much FIFO in area (4)
	  ○ Proportion of FIFO to residential will be high (2)
	  ○ Posco and MGM developments will contribute to more FIFOs in the area
	  ○ Karratha has a better balance of FIFO to residential accommodation
	• Concern around managing alcohol restrictions between different companies on the one site

OPPORTUNITIES What opportunities do think there might be with the proposed TWA? E.g. actions Pacific Partnerships and others can take to mitigate negative impacts and amplify positive impacts.	• Consider future transition of site to short-stay, residential or retirement once no longer FIFO (3) • Balance of FIFO & Residential (2) • Provision of high quality design (2) • Create residential subdivision behind hotel with streets to ease transition

10.3 QUESTIONS MADE BY INTERVIEWEES

TOPIC	ALL RESPONSES
Facilities	• Where are the laundries? Are they in the rooms? • Where are the ice rooms? • Why is there a sports field? There is a massive one over the road • Where is storage for people on regular swings? Need to show this • What is 26 community space what is it used for?
Sustainability and waste management	• Need details on how they are managing waste and what they are doing in relation to sustainability. • What will the impact be on the tip? This needs to be made clear. • Solar on the roof space and water recapture?
Demand	• Where is the demand coming from? Are these people new people to town or just other people in existing FIFO accommodation transferring to a better facility? • Has there been any modelling on the sustainable longterm demand for FIFO? We are in another boom cycle, part of the regular boom and bust
Community Access	• Point needing clarification - To what extent will community be able to come into development and use facilities (hospitality, amenities like gym, shops) and to what extent will guests staying at PP TWA go out into the community and engage with community/use facilities in town? Need to get the balance right. • In particular, query to what extent PP 'residents' will be able to use ToPH pool and gym facilities. Currently FIFO villages can't have passes because they have to be assigned to a named individual – can't be shared. ToPH in two minds about whether to encourage more TWA residents use of ToPH facilities – see some benefits for community integration but new pool facility in Sporting Precinct has been sized to suit permanent Hedland population – concern lots of use by FIFO workers at specific times might squeeze out locals. No objection to pool in PP development if it is sized to accommodate guests staying in the development only. • Parking for local community members visiting facilities such as tavern & restaurant – seems to be an assumption they could use parking to be developed as part of Sporting Precinct on opposite side of Parola Court, but this will not be developed for 5+ years – where will they park before then?
ANZAC Memorial	• What is the point of the ANZAC memorial – is this to replace the town centre memorial?

Appendix C – Detailed Focus Group Feedback

This section provides the detailed findings of the three focus groups.

10.4 DETAILED FOCUS GROUP FEEDBACK

10.4.1 QUESTION 1: WHAT DO YOU LIKE ABOUT THE DESIGN FOR THE NEW TWA?

The most common response overall related to:

- Shade provision, including over car park bays and pathways (3)

Note: responses are presented in the below table according to theme. The number in brackets represents the frequency of the response.

PRIMARY THEME	ALL RESPONSES
Shade provision (3)	• Shade provision • Shaded 'nodes'/break out spaces on paths • Shade provision over car park bays
Design (1)	• Artistic elements to building elevations
Community access to amenities (1)	• Public access to amenities building

10.4.2 QUESTION 2: WHAT CONCERNS DO YOU HAVE IN RELATION TO THE DESIGN OF THE NEW TWA?

The top two (2) responses overall related to:

- Design concerns relating to aesthetics and modular build (8)
- Car parking, in particular concerns around where the community will park (5)

Note: responses are presented in the below table according to theme. The number in brackets represents the frequency of the response.

PRIMARY THEME	ALL RESPONSES
Design (8)	• Design of 6-storey building is uninspiring • Improve the aesthetics of 6-storey building • Ensure design of 6-storey building has a clear rationale/meaning • Design is standard - should show more imagination and better facilities • 6 storey building looks monolithic • Design doesn't encourage growth of town (too remote from town centre) • Orientation of 2-storey blocks needs clearer East/West alignment to capture prevailing breezes • 6-storey building will block prevailing breezes from cooling the SHISH playing areas • Concern if 6 storey building is modular / Existing 6 storey building near Police station was modular, now has issues with damp + mould
Car Parking (5)	• Provide community parking for restaurant/tavern visitors (near these facilities) • Can't rely on assuming car parking will be part as part of SHISH across the road • Insufficient car parking spaces • Parking standards should comply with those of other tourism developments • Where will the public park?

Other (3)	• Competition against existing tourist accommodation providers with 6 storey hotel • Should provide dedicated on-site staff accommodation • Will swimming pool conflict with new pool proposed as part of SHISH?
Safety	• More personal safety design considerations required

10.4.3 QUESTION 3: WHAT SUGGESTIONS FOR IMPROVEMENT DO YOU HAVE IN RELATION TO THE DESIGN OF THE NEW TWA?

The top two (2) response overall related to:

- The design, such as suggestions for balconies on the 6-storey building and transforming one floor into long-term residential occupancy (5)
- Sustainability, including confirming and clarifying ESD provisions, consider raising garden/vegetable beds and environmentally sustainable development provision (3)

Note: responses are presented in the below table according to theme. The number in brackets represents the frequency of the response.

PRIMARY THEME	ALL RESPONSES
Design (5)	• Incorporate a public outdoor auditorium/gathering space (e.g. Port Haven TWA Amphitheatre) • More available facilities/accommodation for couples/families • Provide balconies on 6-storey building, for outlook over oval. • Provide in-ground infrastructure services that are future proofed in case development is demolished • Transform one floor of 6-storey building into long-term apartment occupancy
Sustainability (3)	• Confirm and clarify ESD Provisions • Consider raised garden/vegetable beds in landscaped areas (irrigate with captured water from aircon units) • Environmentally sustainable development provision i.e. water re-use, solar panels, EV charge points
Car Parking (2)	• Provide parking for community members e.g. when visiting restaurant and tavern • Relocate service yard to provide public car park space

10.4.4 QUESTION 4: WHAT ARE THE POSITIVE IMPACTS?

The most common responses overall related to:

- The design, ensuring it is a good/attractive design and potential to build legacy infrastructure for other uses in the future (2)
- Community amenity, including the development adding to the Town's amenities given community access and the tavern may provide a good social meeting place (2)

Note: responses are presented in the below table according to theme. The number in brackets represents the frequency of the response.

PRIMARY THEME	ALL RESPONSES
Design (2)	• Good/attractive design • Potential to build legacy infrastructure for other uses in the future
Community amenity (2)	• Development adds to town's amenities given community access • Tavern may provide a good social meeting place (given it's well managed)

10.4.5 QUESTION 5: WHAT ARE THE NEGATIVE IMPACTS?

The most common response overall related to:

- The worsening of current staff shortages in Hedland (3)

Note: responses are presented in the below table according to theme. The number in brackets represents the frequency of the response.

PRIMARY THEME	ALL RESPONSES
Staff shortages (3)	• Potential adverse impact on existing local businesses • Local businesses already have staff shortages • New businesses could pull staff away from existing local businesses
Design (2)	• 6-storey hotel block has a incohesive/divisive feel compared to 2 storey blocks • Design doesn't foster good mental wellbeing
Lack of Economic Benefit	• Spending will stay within development - no community benefit

10.4.6 QUESTION 6: WHAT SUGGESTIONS DO YOU HAVE TO MANAGE OR CREATE COMMUNITY BENEFIT?

The most common response overall related to:

- Providing the community access to village facilities (7)

Note: responses are presented in the below table according to theme. The number in brackets represents the frequency of the response.

PRIMARY THEME	ALL RESPONSES
Community Amenity and Facilities (7)	• Must provide local community access to amenities • Encourage local residents to join events hosted at the site • Existing TWA sites don't make community feel welcome onto site • Make pool available for hire/use by locals to run hydro physiotherapy/rehab sessions (no facilities for this at existing town pool) • Offer preferential lease rates on retail units for desirable local services e.g. medical/health practitioners • Provide daycare facility in place of retail space • Provide in-house mental health facilities/services e.g. site 'Chaplain' (1)
Backpacker accommodation (3)	• Provide back packer accommodation to support staff shortages (3)
Safety (3)	• Clear wayfinding and signage around the site • Good lighting on site • Use of CCTV around the site
Supporting local business (3)	• Bring in local businesses to run Wellness sessions e.g. yoga • Offer a percentage of rooms at a fixed rate for booking by local NFP orgs, community groups etc. for training/conference accommodation • Allocate a percentage of rooms for booking by local small businesses e.g. new employees
Training/job opportunities for locals (3)	• Developer should commit to employing local people on site • Provide training for local people (connect with SHHS and TAFE) • Ventia could become the RTO for hospitality, admin type roles
Design (2)	• Add balconies to 6-storey building hotel rooms to overlook sporting precinct • Move bus drop off lane further away from restaurant/tavern area
Sustainability (2)	• Provide raised plant/vegetable beds in landscaped areas • Built in Environmentally Sustainable Development provision
Transportation	• Provide E-Scooters or Bikes for accommodation guests

Other	• Will the market be able to sustain the new TWA developments?

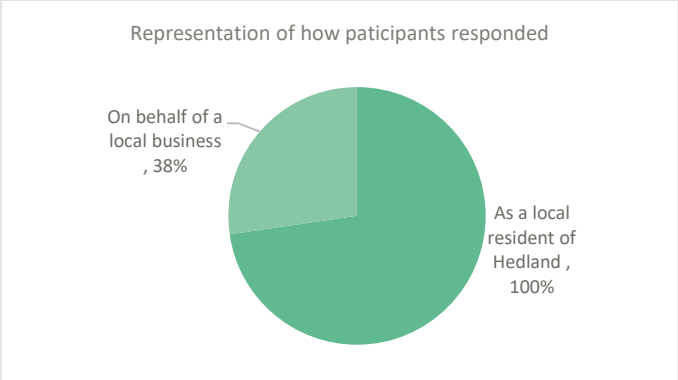
Appendix D – Detailed Survey Feedback

This section provides the detailed findings of the survey feedback.

10.5 DEMOGRAPHICS

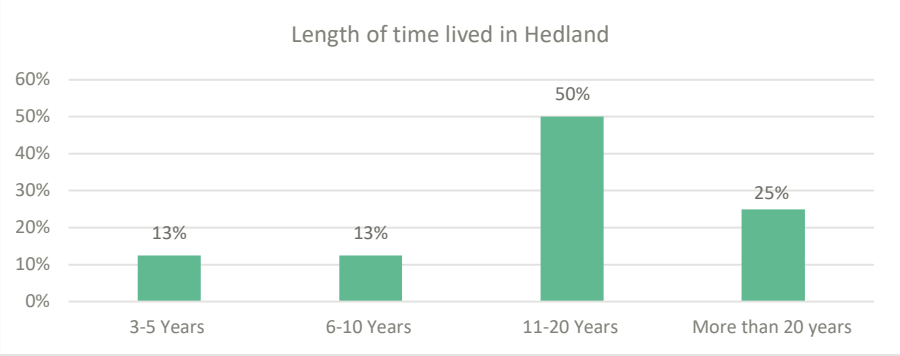
10.5.1 QUESTION 1: WHICH OF THE FOLLOWING BEST REPRESENTS HOW YOU ARE RESPONDING (CHOOSE ALL THAT APPLY)

All individuals who answered this question did so as local residents of Hedland in response to the survey. Additionally, 38% of respondents also represented a local business while responding to the survey.



10.5.2 QUESTION 2: HOW LONG HAVE YOU LIVED IN HEDLAND?

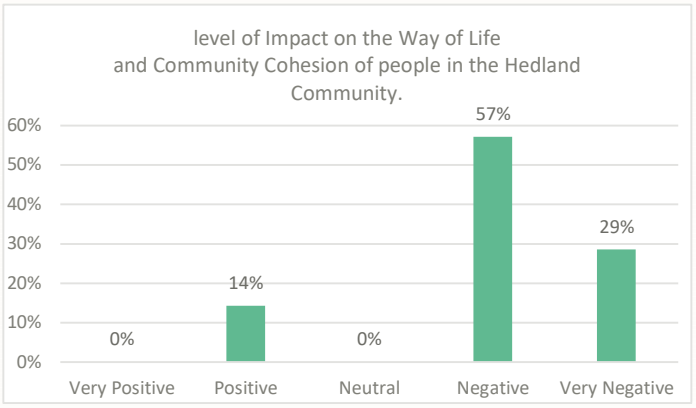
Majority of the survey respondents have lived in Hedland for 11+ years (75%). Slightly more than a quarter of the respondents have lived in Hedland less than 10 years (26%)



10.6 IMPACT RATINGS

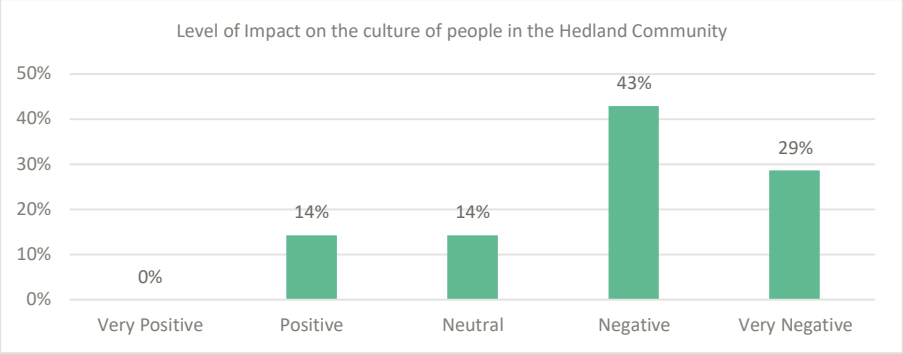
10.6.1 WHAT EFFECT DO YOU THINK THIS PROPOSED DEVELOPMENT WOULD HAVE ON THE WAY OF LIFE AND COMMUNITY COHESION OF PEOPLE IN THE HEDLAND COMMUNITY?

Respondents anticipate that the proposed development will significantly disrupt the way of life and community cohesion in the Hedland Community, with 57% predicting a negative impact and 29% a very negative impact. Additionally, less than a quarter of the respondents believe the development will have a positive impact (14%).



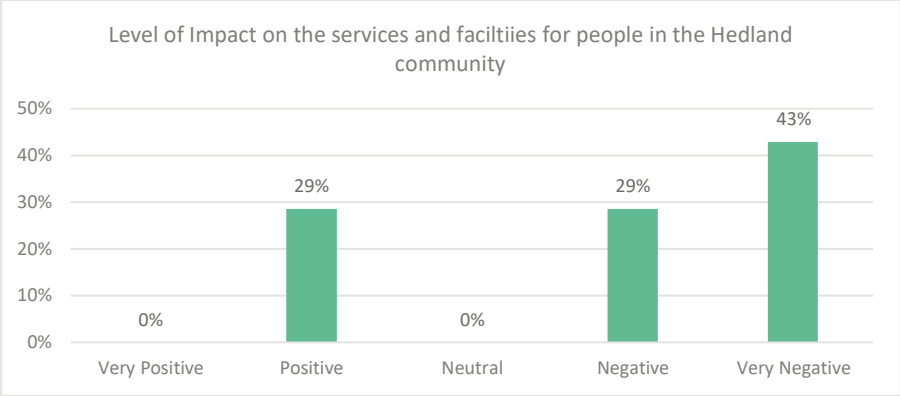
10.6.2 WHAT EFFECT DO YOU THINK THIS PROPOSED DEVELOPMENT WOULD HAVE ON THE CULTURE OF PEOPLE IN THE HEDLAND COMMUNITY?

Respondents anticipate that the proposed development will have a predominantly negative effect on the culture of the Hedland Community, with 43% expecting a negative impact and 29% a very negative impact. Less than three-quarters of the respondents believe the development will either have a positive (14%) or neutral (14%) impact.



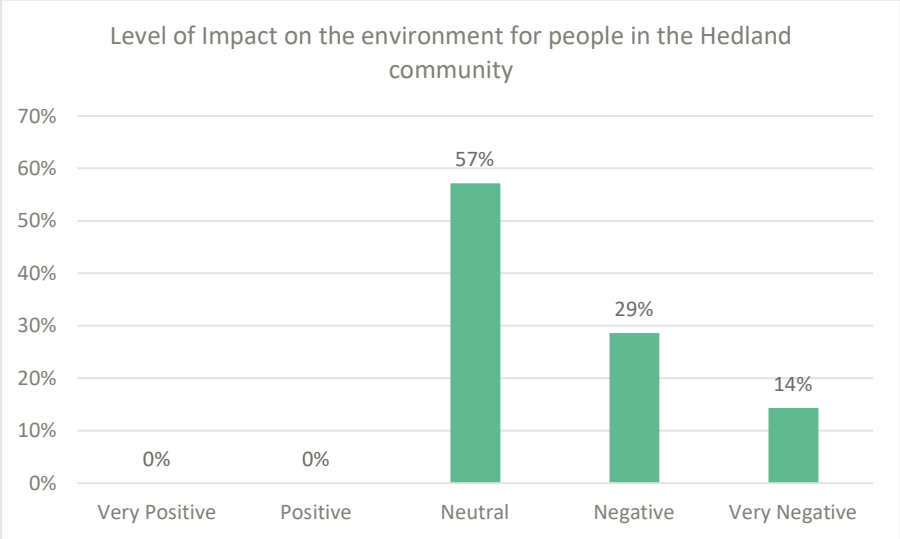
10.6.3 WHAT EFFECT DO YOU THINK THIS PROPOSED DEVELOPMENT WOULD HAVE ON THE SERVICES AND FACILITIES FOR PEOPLE IN THE HEDLAND COMMUNITY?

Respondents feel that the proposed development will negatively affect the services and facilities in the Hedland Community, with 29% anticipating a negative impact and 43% a very negative impact. Meanwhile, just under a third of the respondents, 29%, believe the development will have a positive impact.



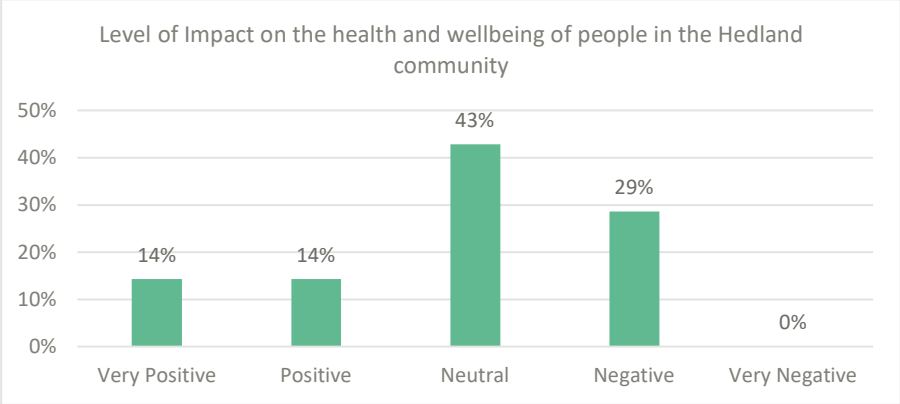
10.6.4 WHAT EFFECT DO YOU THINK THIS PROPOSED DEVELOPMENT WOULD HAVE ON THE ENVIRONMENT FOR PEOPLE IN THE HEDLAND COMMUNITY?

A slight majority of respondents, 57%, believe that the proposed development will have a neutral impact on the environment in the Hedland Community. Conversely, 29% of respondents think the development will have a negative impact, while an additional 14% view it as very negative.



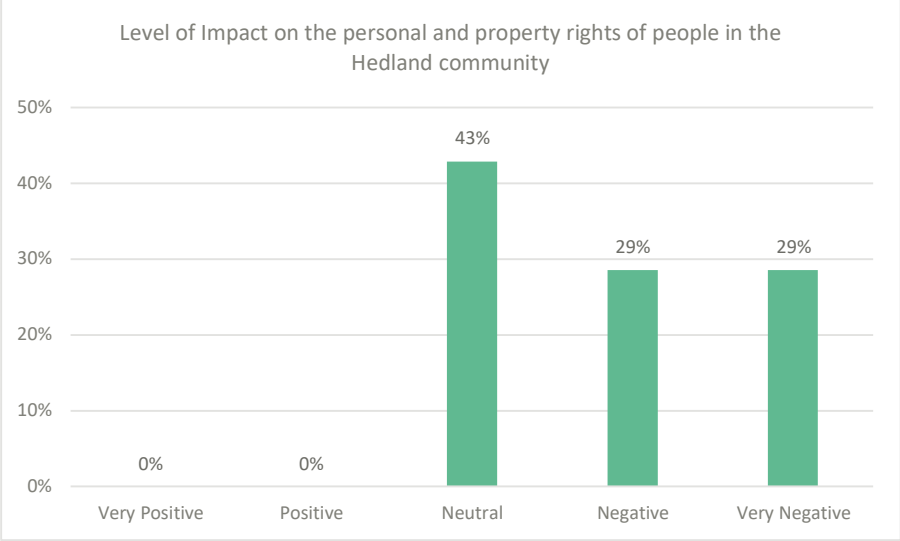
10.6.5 WHAT EFFECT DO YOU THINK THIS PROPOSED DEVELOPMENT WOULD HAVE ON THE HEALTH AND WELLBEING OF PEOPLE IN THE HEDLAND COMMUNITY?

Respondents believe that the proposed development will have a mixed impact on the health and wellbeing of people in the Hedland Community, with 43% viewing it as neutral. Meanwhile, 29% anticipate a negative impact, and 28% feel it will be positive (14%) or very positive (14%)



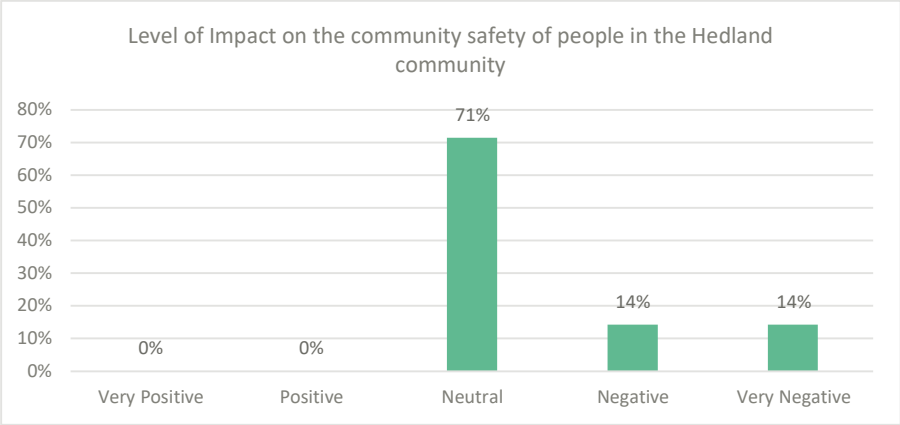
10.6.6 WHAT EFFECT DO YOU THINK THIS PROPOSED DEVELOPMENT WOULD HAVE ON THE PERSONAL AND PROPERTY RIGHTS OF PEOPLE IN THE HEDLAND COMMUNITY?

Respondents feel that the proposed development will impact the personal and property rights of people in the Hedland Community, with 43% perceiving the impact as neutral. However, 29% view it as negative, and an additional 29% believe it will be very negative.



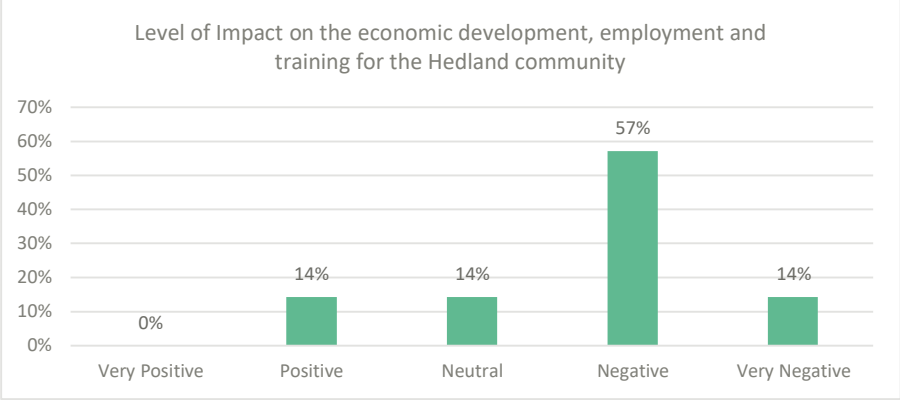
10.6.7 WHAT EFFECT DO YOU THINK THIS PROPOSED DEVELOPMENT WOULD HAVE ON THE COMMUNITY SAFETY OF PEOPLE IN THE HEDLAND COMMUNITY?

Respondents believe that the proposed development will have a primarily neutral effect on the community safety of people in the Hedland Community, with 71% viewing the impact as neutral. Additionally, 14% perceive it as negative and another 14% as very negative.



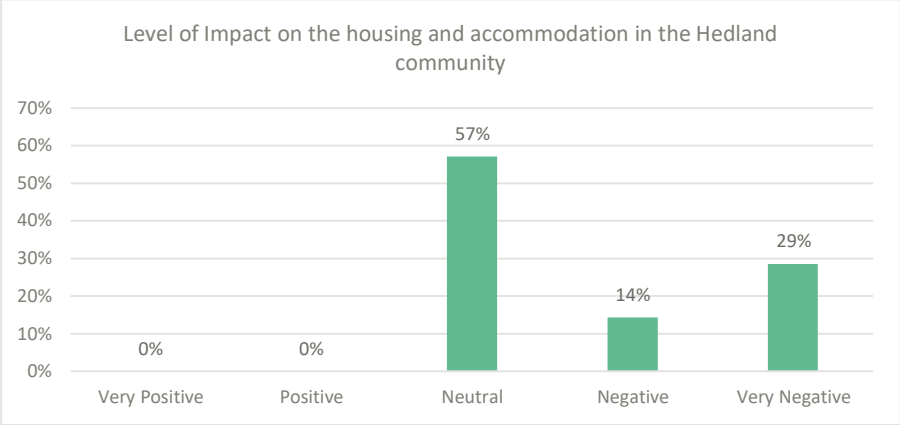
10.6.8 WHAT EFFECT DO YOU THINK THIS PROPOSED DEVELOPMENT WOULD HAVE ON THE ECONOMIC DEVELOPMENT, EMPLOYMENT AND TRAINING OF PEOPLE IN THE HEDLAND COMMUNITY?

Respondents believe that the proposed development will predominantly negatively affect economic development, employment, and training in the Hedland Community, with 57% viewing the impact as negative and an additional 14% as very negative. Meanwhile, 14% of respondents see the impact as positive and another 14% as neutral.



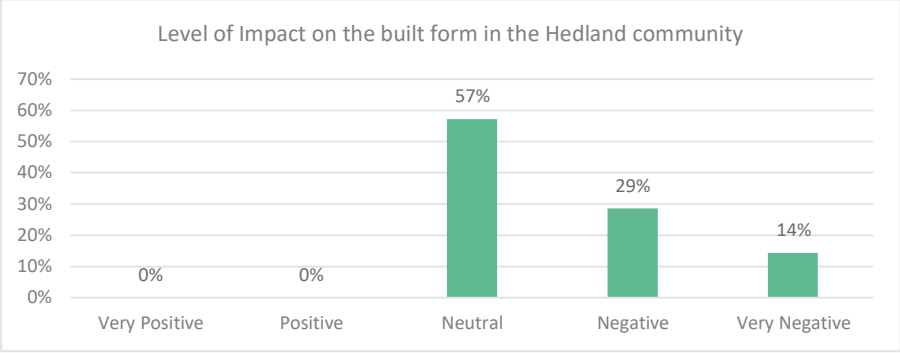
10.6.9 WHAT EFFECT DO YOU THINK THIS PROPOSED DEVELOPMENT WOULD HAVE ON THE HOUSING AND ACCOMMODATION IN THE HEDLAND COMMUNITY?

Respondents largely view the impact of the proposed development on housing and accommodation in the Hedland Community as concerning, with 14% considering it negative and 29% viewing it as very negative. However, 57% of respondents believe the impact will be neutral.



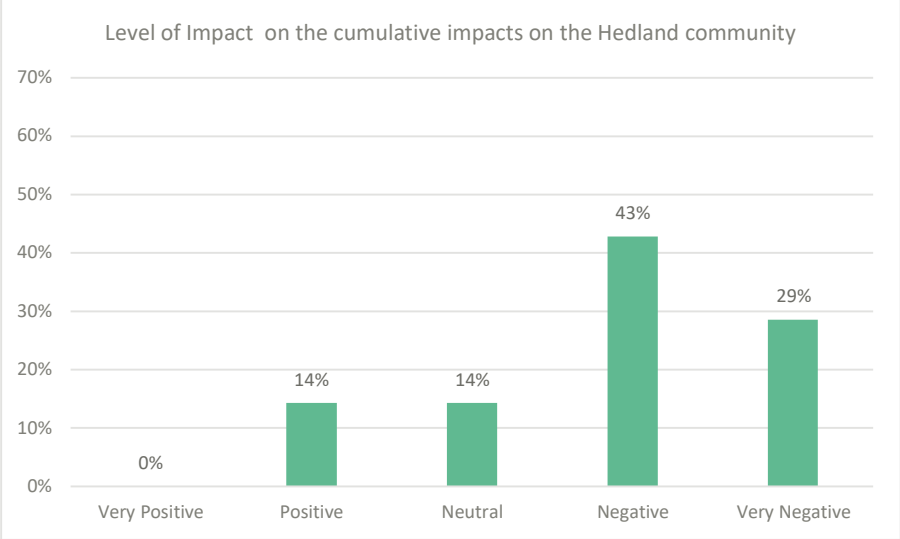
10.6.10 WHAT EFFECT DO YOU THINK THIS PROPOSED DEVELOPMENT WOULD HAVE ON THE BUILT FORM IN THE HEDLAND COMMUNITY?

Respondents believe the impact of the proposed development on the built form in the Hedland Community will be significant, with 29% viewing it as negative and 14% as very negative. However, a majority, 57%, perceive the impact as neutral.



10.6.11 WHAT EFFECT DO YOU THINK THIS PROPOSED DEVELOPMENT WOULD HAVE ON THE CUMULATIVE IMPACTS ON THE HEDLAND COMMUNITY?

Respondents are concerned about the cumulative impacts of the proposed development on the Hedland Community, with 43% viewing these impacts as negative and an additional 29% as very negative. Meanwhile, 14% believe the impacts will be positive, and another 14% see them as neutral.



10.6.12 PLEASE DESCRIBE THE EFFECTS YOU THINK THIS NEW TRANSIENT WORKER ACCOMMODATION WOULD HAVE ON YOU AND YOUR COMMUNITY.

The most common response overall related to the presentation of additional hardships to the town, especially a concern that FIFO workers accommodation is over-riding the potential to maximise the Town of Port Hedland's growth and community benefits (5)

Note: responses are presented in the below table according to theme. The number in brackets represents the frequency of the response.

Theme	Comments
Presents additional hardships to the Town (5)	• Concern that FIFO worker accommodation is over-riding the potential to maximise the Town of Port Hedland's growth and community benefits (2) • Concern around the provision of more support to transient workers adding no value to the community • Concern of lack of medical staff with the influx of presentations to GP or Hospital • Presents more issues with the health system
Other concerns	• The only possible option currently available • Presents more issues with flights
Recommendation	• Government to encourage mining companies and contractors to have over 50% residential workforce

10.6.13 WHAT DO YOU LIKE MOST ABOUT THE PROPOSED TRANSIENT WORKER ACCOMMODATION DEVELOPMENT?

The most common response overall related to there being nothing they liked about the proposed transient worker accommodation development (3).

Few noted there was a benefit to the community through local businesses who will benefit from the construction and the push for direct flights to Bali. (2)

Note: responses are presented in the below table according to theme. The number in brackets represents the frequency of the response.

Theme	Comments
Nothing / negative (3)	• Nothing (2) • That it is not built yet
Benefit to the community (2)	• Local businesses benefit from the construction • Push towards direct Bali flights
Location is out of the way	• it's location is out of the way

10.6.14 WHAT CONCERNS DO YOU HAVE ABOUT THE PROPOSED TRANSIENT WORKER ACCOMMODATION DEVELOPMENT?

The most common response overall related to the TWA development being transient and not helping the town/community (4).

This was followed by the negative impacts on the medical system, with there already being an overwhelmed system in place (3)

Note: responses are presented in the below table according to theme. The number in brackets represents the frequency of the response.

Theme	Comments
It is transient and does not help the town/community (4)	• It is transient (2) • Not designed to help the town/community • Earnings are transient
Negative impacts on the medical system (3)	• Impact on an already overwhelmed medical system (2) • Have their own medical system, rather than using the Towns resources

10.6.15 WHAT ELSE COULD BE DONE TO BENEFIT THE COMMUNITY?

The most common response overall related to the provision of medical support (3) followed by a need for investment into the Town through developing things they need and ensuring the big companies spend more money in town (2)

Note: responses are presented in the below table according to theme. The number in brackets represents the frequency of the response.

Theme	Comments

Medical Support (3)	• Don't use local medical centre / hospital for medical concerns or drug testing • Funding for more medical centres • Have their own medical centre
Investment into the Town (2)	• Develop things we need • Make the big companies spend more money in Town
Other	• Don't build it • Offer residential positions

10.6.16 CAN YOU SUGGEST ANY IMPROVEMENTS TO THE PROPOSED TRANSIENT WORKER ACCOMMODATION DEVELOPMENT?

The most common response overall related to the improvement of the current housing shortage (2)

Note: responses are presented in the below table according to theme. The number in brackets represents the frequency of the response.

Theme	Comments
Improve current housing shortage (2)	• Improve current housing shortage • Shelve the idea unless it is going to free up housing for locals
Other	• Provide dining access to the public • Support direct flights to Bali • Don't build it

Appendix E – Focus Group Invite

Pacific Partnerships Living Transient Worker Accommodation - South Hedland

[Contact Name]
[Contact Position (if applicable)]
[Company Name (if applicable)]
[Street Address]
[Suburb] [State] [Postcode]
Via email: [Email]

Dear [First name]

RE: Invitation to Meet Regarding the Proposed New Pacific Partnerships Living Transient Worker Accommodation Development - South Hedland

Pacific Partnerships Pty Ltd, in association with Verrilo Pty Ltd is proposing to develop new transient worker accommodation at Lot 501 Panila Court, South Hedland.

It is proposed that the facility will accommodate up to 1309 rooms (including 4 universal access rooms) comprising of a multi-storey hotel style building with 437 rooms and a series of village style accommodation modules with 870 rooms. A separate building containing retail, food and drink and services facilities and a village garden will be located at the front of the complex to make these facilities accessible for community use as well as use by village residents. The development may be constructed in two phases over a period of up to two years.

This development is subject to planning approval from the Town of Port Hedland and the Regional Joint Development Assessment Panel. A development application for this proposal is expected to be lodged with the Town by the end of February 2024.

Pacific Partnerships has engaged our company Creating Communities Australia Pty Ltd to undertake stakeholder and community engagement regarding this proposed development and to complete a Social Impact Assessment (SIA) and Social Impact Management Plan (SIMP). The SIA and SIMP will assess and manage how the proposed development may impact the community and will identify strategies that can be implemented to manage any negative impacts and optimise positive impacts for the community.

Engagement Invitation

As part of this process, Creating Communities is seeking feedback from local residents, the wider Hedland community, and key local stakeholders to help inform the development application process and the SIA and SIMP.

As an important stakeholder, we are inviting you to take part in a focus group to discuss the proposed development. Your feedback will be used to inform the SIA and SIMP, and the development approval application process.

There are three focus groups to choose from and we encourage you to register for the one that best suits you. Details of the focus groups are listed below:

Session 1 - Tuesday 19 March (8:30am – 10:00am)

Business, Industry, Government and Agencies

Session 2 - Tuesday 19 March (10:30am – 1:00pm)

Local Community, Clubs, Community Organisations, and Local Residents

Session 3 Tuesday 19 March (6:30pm – 8:00pm)

Combined Session - Business, Industry, Government and Agencies, Local Community, Clubs, Community Organisations, and Local Residents

To register to be involved, please click here. Alternatively please contact Liz Linsell at engagement@creatingcommunities.com.au or by phone on (08) 9284 0910.

Survey Details

Whether you participate in an interview or not, we also invite you to complete a survey relating to the proposed development. This survey is open to everyone in the local community as an opportunity to provide feedback. The survey can be accessed at the link below.

Survey Link

Further Information

If you have any queries about the development application and/or SIA and SIMP process please contact Paul Herbert or via email at engagement@creatingcommunities.com.au or by phone on (08) 9284 0910.

Thank you for your participation, we greatly value your contribution.

Yours sincerely,

Andrew Wan
Director
Creating Communities Australia Pty Ltd

Appendix F. Stakeholder Interview Invite

Pacific Partnerships Living Transient Worker Accommodation - South Hedland

[Contact Name]
[Contact Position (if applicable)]
[Company Name (if applicable)]
[Street Address]
[Suburb] [State] [Postcode]
Via email: [Email]

Dear [First name]

RE: Invitation to Meet Regarding the Proposed New Pacific Partnerships Living Transient Worker Accommodation Development - South Hedland

Pacific Partnerships has engaged our company Creating Communities Australia Pty Ltd to undertake stakeholder and community engagement regarding this proposed development and to complete a Social Impact Assessment (SIA) and Social Impact Management Plan (SIMP). The SIA and SIMP will assess and manage how the proposed development may impact the community and will identify strategies that can be implemented to manage any negative impacts and optimise positive impacts for the community.

Engagement Invitation

As an important stakeholder we are inviting you and/or members of your team to take part in an interview to discuss the proposal. Your feedback will be used to inform the SIA and SIMP, as well as the development process. Members of the Creating Communities team will be available for interviews from Wednesday 6 March to Friday 8 March.

The Creating Communities team will endeavour to conduct the interviews with you and/or members of your team at a time, date and location that best suits you including the option of an online interview if you would prefer this to meeting in-person.

To register an interview please click here to book a date/time that is suitable or please contact Liz Linsell at engagement@creatingcommunities.com.au or by phone on (08) 9284 0910.

Other Engagement

As part of this process, Creating Communities will also be seeking feedback from other key stakeholders. Engagement will take place on a face-to-face basis with local residents and the wider Hedland community via focus groups and a community survey.

Further Information

While we have yet to provide further information on a current proposed project, please contact Paul Herbert on (08) 9284 0910 if you have any questions about the proposed development.

If you have any queries about the development application and/or SIA and SIMP process please contact Paul Herbert on (08) 9284 0910.

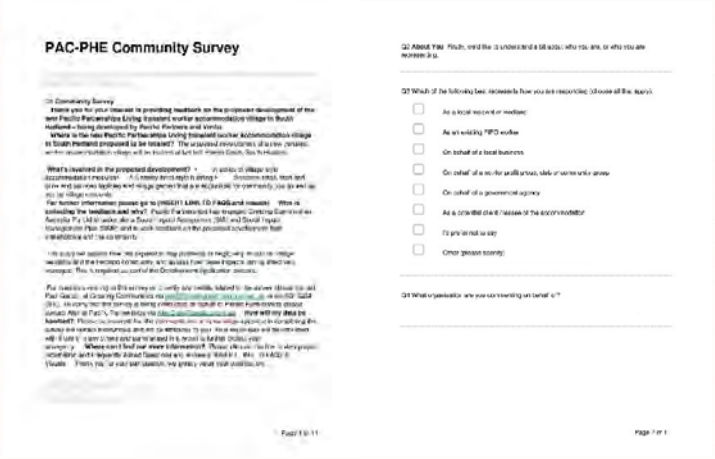
Thank you for your participation, we greatly value your contribution.

Yours sincerely,

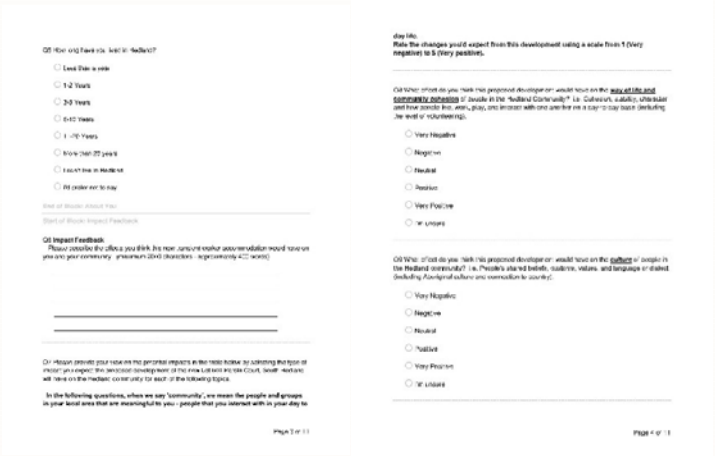
Andrew Wan
Director
Creating Communities Australia Pty Ltd

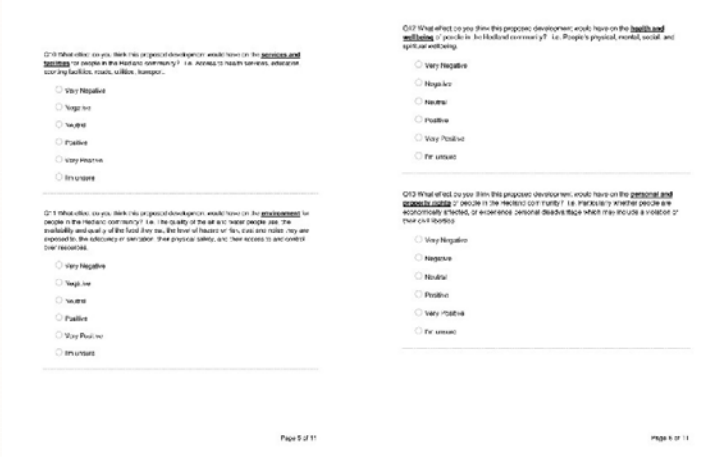
Appendix G – Newspaper Advertisement

Appendix H - Community Survey



PAC-PHE Community Survey





developments and other related developments around transient worker accommodation in Holland over time.

- Very Negative
- Negative
- Neutral
- Positive
- Very Positive
- I'm unsure

End of Block: Impact Feedback

Start of Block: Open Questions

Q19 Your Feedback and Ideas This final section aims for you to describe your opinion in response to four questions.
Please write your response using a maximum of 700 characters (approximately 400 words).
If you have no response for any of the questions, you can leave them blank.

Q20 What do you like most about the proposed transient worker accommodation development?

Page 6 of 11

Q14 What effect do you think this proposed development would have on the **community safety** of people in the Holland community? i.e. Community safety and crime in Holland.

- Very Negative
- Negative
- Neutral
- Positive
- Very Positive
- I'm unsure

Q15 What effect do you think this proposed development would have on the **economic development, employment and training** for the Holland community? i.e. Economic development (including revenue for local businesses), economic contribution of the mining industry, employment and training for the community (including the local Aboriginal and Torres Strait Islander community), and the transport economics, and changes in the overall local economy in Holland.

- Very Negative
- Negative
- Neutral
- Positive
- Very Positive
- I'm unsure

Page 7 of 11

Q16 What effect do you think this proposed development would have on the **housing and accommodation** in the Holland community? i.e. The development of the associated social and housing infrastructure in Port and South Hedland.

- Very Negative
- Negative
- Neutral
- Positive
- Very Positive
- I'm unsure

Q17 What effect do you think this proposed development would have on the **built form** of the Holland community? i.e. The function, shape and configuration of buildings in the surrounding area and the way they provide a safe and sustainable lifestyle.

- Very Negative
- Negative
- Neutral
- Positive
- Very Positive
- I'm unsure

Q18 What effect do you think this proposed development would have on the **cumulative impacts** on the Holland community? i.e. The combined, incremental effects of this

Page 8 of 11

Q21 What concerns do you have about the proposed transient worker accommodation development?

Q22 What else could be done to increase the benefits or parts of the proposed transient worker accommodation development on the community?

Q23 Can you suggest any improvements to the proposed transient worker accommodation development?

End of Block: Open Questions

Page 10 of 11

Start of Block: Closing message

Q24 Thank you for completing this survey. Your personal details including contact details will not be passed on to any third parties. Comments may be assessed by various demographic details such as your town, age range, gender, and ethnicity scales. If you change your mind, you can contact Creating Communities and we will remove your comments from the survey findings (though it may be read or used before that point). If you would like to enter the prize draw for this $1 000 prize, please click on the link to a separate survey (see below).

If you would like to enter the prize draw for this $1 000 prize, please click on the link to a separate survey (see below).

End of Block: Closing message

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Appendix I – Focus Group Presentation

Site Plans – Recreational Facilities

Site Plans – Maintenance Building

Site Plans – Administration /Reception

Site Plans – Transit lounge

Site Plans – Parking

Site Plans – External Street View

Questions

Activity 1 – Design Concept Feedback

Activity 1 – Design Concept Feedback

In groups, please answer:

- What do you like about the design of the new TWA?
- What concerns do you have in relation to the design of the new TWA?
- What suggestions for improvement do you have in relation to the design of the new TWA?

Activity 2 – Response to the Impact Areas

Impacts Areas

Activity 2 – Response to the Impacts

In groups, please refer to the impact areas and answer:

- What are the positive impacts?
- What are the negative impacts?
- What suggestions do you have to manage or create community benefit?

Conclusion

Where to from here:

- Data collated from interviews, focus groups and survey
- Social Impact and mitigation plan written
- Submit to Pacific Partnerships to include in their DA
- Submit to Town of Port Hedland for consideration

Thank you.

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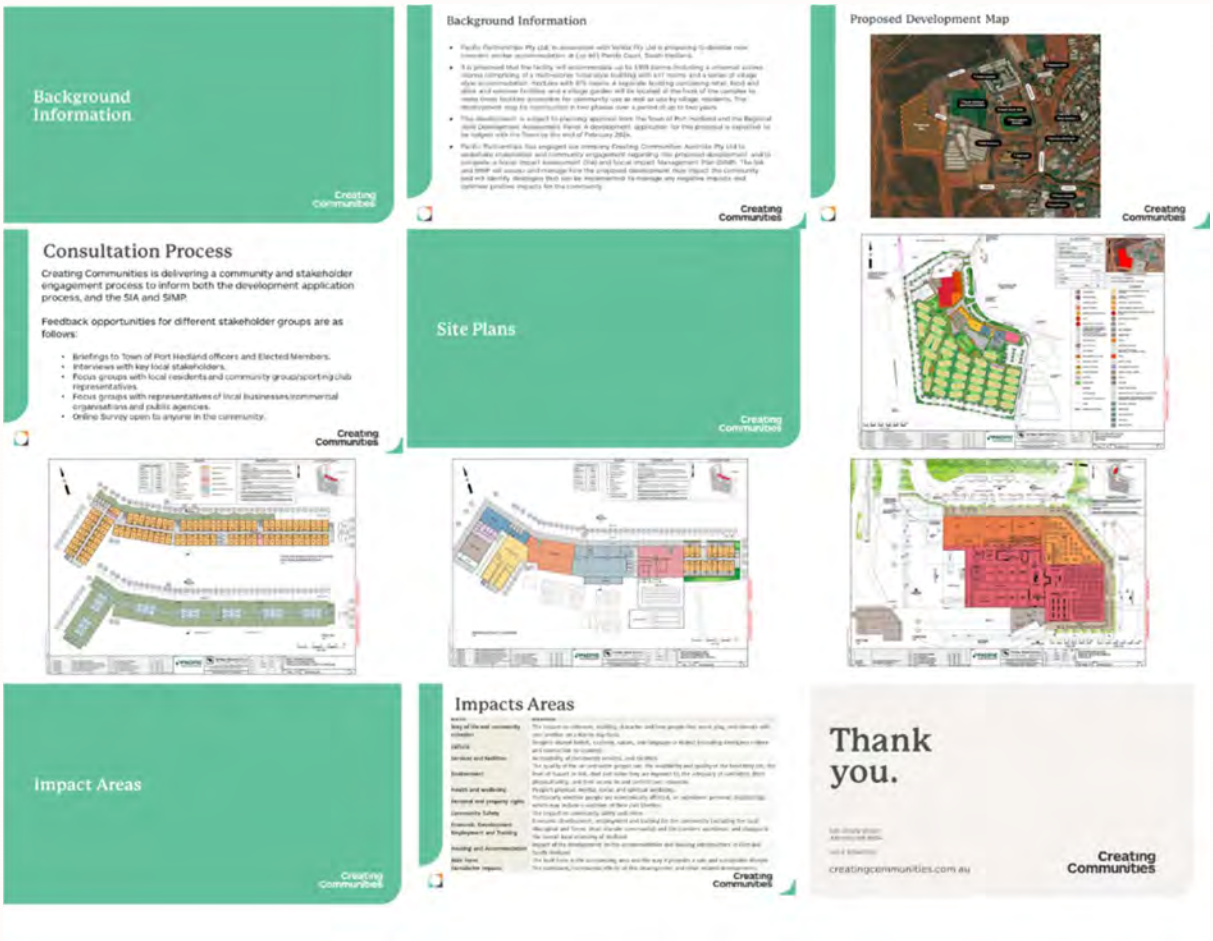
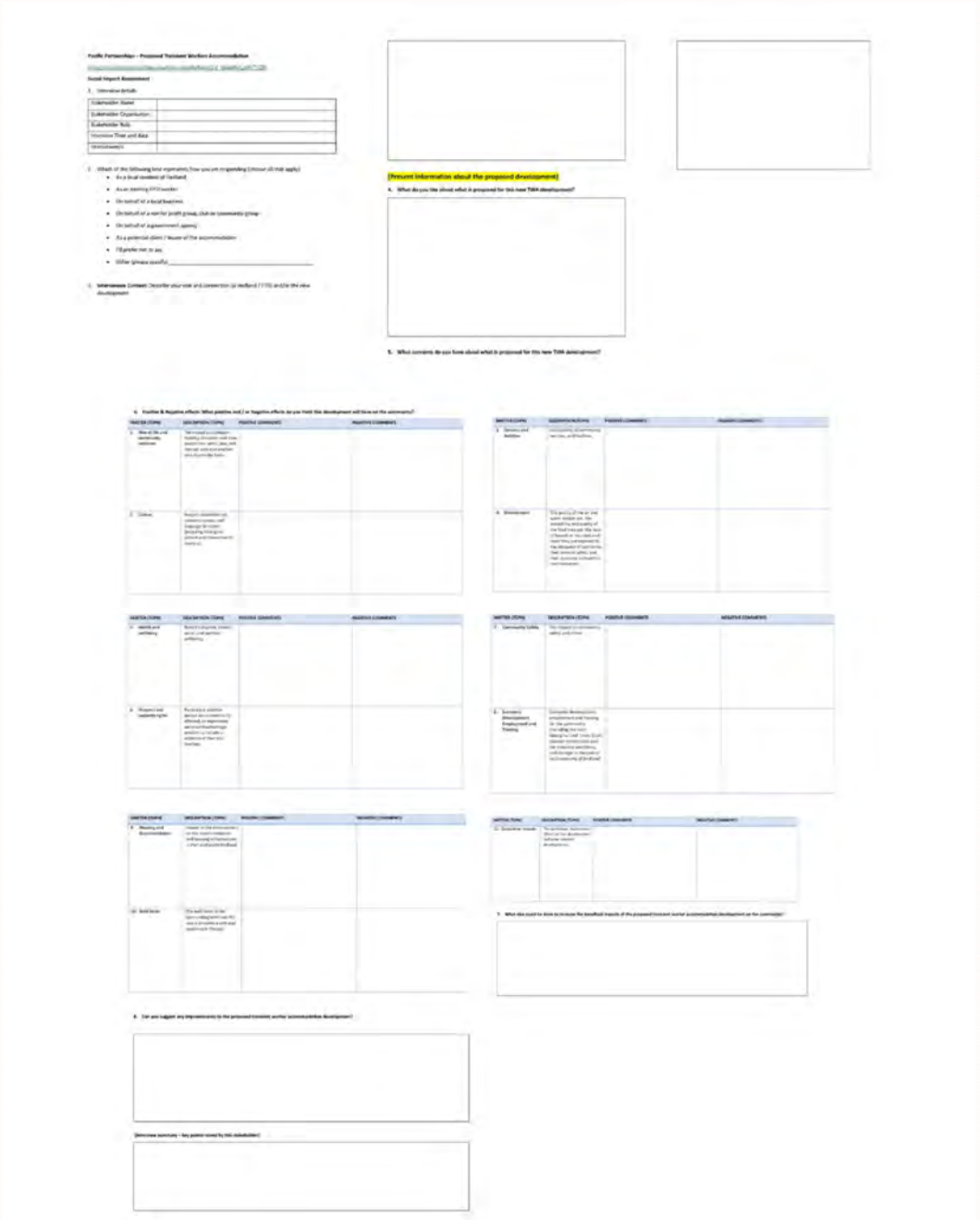
Appendix J – Interview Presentation



Appendix K – List of Interviewees

- BHP, **Patrik Melberg**
- ESS / Compass/Gateway Village, **Byron Forbes**
- Member of WA Parliament, Pilbara MLA, **Kevin Michel**
- PHIC, **Chantel Cullen**
- Pilbara Development Commission, **Trish Barron**
- Port Hedland International Airport, **Tessa Hughes**
- South Hedland Volunteer Fire and Emergency Services, **Captain Vaughan Price**
- Town of Port Hedland Executive team, **Lee Furness** (Director of infrastructure Services), **Craig Watts** (Director Regulatory Services), **Shauna** (Director Public Affairs), **Casimir Penheiro** (Planning Manager)
- Town of Port Hedland, **Mayor Peter Carter**
- Town of Port Hedland, **Ryley Heap**, Senior Economic Development Officer | **Chaz Roberts**, Planning & Economic Development Manager.
- WA Police, Port Hedland, **Senior Sergeant Vance Ballerini**

Appendix L – Interview Note Template



Appendix M – Humanitix Focus Group Event Page

Pacific Partnerships Living Transient Worker Accommodation - South Hedland

Focus Groups Invitation

PACIFIC PARTNERSHIPS CreatingCommunities

19th March

Pacific Partnerships new Transient Workers Accommodation - Session 1 - Business; Industry; Government and Agencies

This event has passed

Date and time
Tue 19th Mar 2024, 8:15 am - 10:00 am AWST

Location
South Hedland Lotteries House
4 Rason Link, South Hedland WA 6722, Australia

Event description

Pacific Partnerships Pty Ltd, in association with Ventia Pty Ltd is proposing to develop new transient worker accommodation at Lot 601 Parola Court, South Hedland.

It is proposed that the facility will accommodate up to 1309 rooms (including 2 universal access rooms) including a multi-storey hotel style building with 437 rooms and a series of village style accommodation modules with 870 rooms. A separate building containing retail, food and drink and services facilities and a village garden would be located at the front of the complex to make these facilities accessible for community use as well as use by village residents. The development would likely be constructed in three phases.

This development is subject to planning approval from the Town of Port Hedland and the Regional Joint Development Assessment Panel. A development application for this proposal is expected to be lodged with the Town by early March 2024.

Appendix N – Focus Group Worksheets

PACIFIC PARTNERSHIPS Creating Communities

PACIFIC PARTNERSHIP
TRANSIENT WORKER ACCOMMODATION – SOUTH HEDLAND
DESIGN CONCEPT FEEDBACK

What do you like about the design of the new TWA?	What concerns do you have in relation to the design of the new TWA?	What suggestions for improvement do you have in relation to the design of the new TWA?

PACIFIC PARTNERSHIPS Creating Communities

PACIFIC PARTNERSHIP
TRANSIENT WORKER ACCOMMODATION – SOUTH HEDLAND
IMPACT AREA FEEDBACK

Impact Areas	What are the positive impacts?
Way of life and community cohesion The impact on cohesion, stability, character and how people live, work, play, and interact with one another on a day-to-day basis. **Culture** People's shared beliefs, customs, values, and language or dialect (including Aboriginal culture and connection to country). **Services and facilities** Accessibility of community services, and facilities. **Environment** The quality of the air and water people use, the availability and quality of the food they eat, the level of hazard or risk, dust and noise they are exposed to, the adequacy of sanitation, their physical safety, and their access to and control over resources. **Health and wellbeing** People's physical, mental, social, and spiritual wellbeing. **Personal and property rights** Particularly whether people are economically affected, or experience personal disadvantage which may include a violation of their civil liberties. **Community Safety** The impact on community safety and crime. **Economic Development Employment and Training** Economic development, employment and training for the community (including the local Aboriginal and Torres Strait Islander community) and the transient workforce, and changes in the overall local economy of Hedland **Housing and Accommodation** Impact of the development on the accommodation and housing infrastructure in Port and South Hedland. **Built Form** The built form in the surrounding area and the way it provides a safe and sustainable lifestyle **Cumulative impacts** The combined, incremental effects of this development and other related developments.	

PACIFIC PARTNERSHIPS Creating Communities

PACIFIC PARTNERSHIP
TRANSIENT WORKER ACCOMMODATION – SOUTH HEDLAND
IMPACT AREA FEEDBACK

Impact Areas	What are the Negative Impacts?
Way of life and community cohesion The impact on cohesion, stability, character and how people live, work, play, and interact with one another on a day-to-day basis.	
Culture People's shared beliefs, customs, values, and language or dialect (including Aboriginal culture and connection to country).	
Services and facilities Accessibility of community services, and facilities.	
Environment The quality of the air and water people use, the availability and quality of the food they eat, the level of hazard or risk, dust and noise they are exposed to, the adequacy of sanitation, their physical safety, and their access to and control over resources.	
Health and wellbeing People's physical, mental, social, and spiritual wellbeing.	
Personal and property rights Particularly whether people are economically affected, or experience personal disadvantage which may include a violation of their civil liberties	
Community Safety The impact on community safety and crime.	
Economic Development Employment and Training Economic development, employment and training for the community (including the local Aboriginal and Torres Strait Islander community) and the transient workforce, and changes in the overall local economy of Hedland	
Housing and Accommodation Impact of the development on the accommodation and housing infrastructure in Port and South Hedland.	
Built Form The built form in the surrounding area and the way it provides a safe and sustainable lifestyle	
Cumulative impacts The combined, incremental effects of this development and other related developments.	

PACIFIC PARTNERSHIPS Creating Communities

PACIFIC PARTNERSHIP
TRANSIENT WORKER ACCOMMODATION – SOUTH HEDLAND
IMPACT AREA FEEDBACK

Impact Areas	What suggestions do you have to manage or create community benefit?
Way of life and community cohesion The impact on cohesion, stability, character and how people live, work, play, and interact with one another on a day-to-day basis.	
Culture People's shared beliefs, customs, values, and language or dialect (including Aboriginal culture and connection to country).	
Services and facilities Accessibility of community services, and facilities.	
Environment The quality of the air and water people use, the availability and quality of the food they eat, the level of hazard or risk, dust and noise they are exposed to, the adequacy of sanitation, their physical safety, and their access to and control over resources.	
Health and wellbeing People's physical, mental, social, and spiritual wellbeing.	
Personal and property rights Particularly whether people are economically affected, or experience personal disadvantage which may include a violation of their civil liberties.	
Community Safety The impact on community safety and crime.	
Economic Development Employment and Training Economic development, employment and training for the community (including the local Aboriginal and Torres Strait Islander community) and the transient workforce, and changes in the overall local economy of Hedland	
Housing and Accommodation Impact of the development on the accommodation and housing infrastructure in Port and South Hedland.	
Built Form The built form in the surrounding area and the way it provides a safe and sustainable lifestyle	
Cumulative impacts The combined, incremental effects of this development and other related developments.	

OUR PURPOSE

To transform communities by uniting the interests of people, industry and government, driving shared value.

Creating Communities

urbii

Sustainable Transport. Safe Solutions

South Hedland Village Master Plan

Proposed Development

TRANSPORT IMPACT ASSESSMENT

Prepared for:

Tetra Tech

March 2024

South Hedland Village Master Plan

Prepared for: Tetra Tech
Prepared by: Paul Ghantous
Date: 8 March 2024
Project number: U23.183

Version control

Version No.	Date	Prepared by	Revision description	Issued to
U23.183.r01	02/03/24	Paul Ghantous	DRAFT	Resolve Group Pty Ltd
U23.183.r01a	08/03/24	Paul Ghantous	FINAL	Resolve Group Pty Ltd

Scan me

Urbii Consulting Pty Ltd
ABN 34 630 529 476
PO BOX 4315
BALDIVIS WA 6171
T: + 61 433 858 164
E: customer@urbii.com.au
W: www.urbii.com.au

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1 Introduction

This Transport Impact Assessment has been prepared by Urbii on behalf of Tetra Tech with regards to the proposed South Hedland Village Master Plan, in Port Hedland.

The subject site is situated on the south-west side of Parola Court, as shown in Figure 1. The site is presently vacant. An existing workforce accommodation village is located to the east of the site and Marie Marland Reserve is located to the north.

It is proposed to construct an accommodation village at the site, which will deliver a total of 1,311 rooms in different configurations. Additional supporting amenities such as café, business centre, restaurant, tavern, retail, gazebo, laundry rooms and recreation/exercise facilities will also be provided.

The aim of this Transport Impact Assessment (TIA) is to assess the impact of the proposal on the existing transport network. The TIA was prepared in accordance with the WAPC *Transport Assessment Guidelines* 2016.

Figure 1: Subject site

2 Existing situation

2.1 Existing site use, access and parking

The subject site is presently vacant. The site is surrounded by an existing accommodation village to the east and public park and recreation facilities to the north, refer to Figure 2 for a context plan showing surrounding land use.

Figure 2: Location context plan

2.2 Surrounding road network and traffic management on roads

Information from online mapping services, Main Roads WA, Local Government, and site visits was collected to assess the existing traffic management on frontage roads.

2.2.1 Parola Court

Parola Court near the subject site is an approximately 7.5m wide, two-lane undivided road. The road features unsealed gravel shoulders and has street lighting provided. There are no paths for walking or cycling.

Parola Court is classified as an *Access* road in the Main Roads WA road hierarchy (Figure 4) and currently operates under the default speed limit of 50km/h (Figure 5). *Access* roads are normally the responsibility of Local Government. They are predominantly for the provision of vehicle access to abutting properties. (Figure 6).

Parola Court ends at the entry to ESS Gateway Village to the south. To the north, Parola Court bends to the right and joins Hudson Way. As detailed in Figure 3, there is a full-movement T-intersection provided at the northern end of Parola Court/Hudson Way. A driveway to an informal car park is located opposite the intersection.

Figure 3: Key local intersections

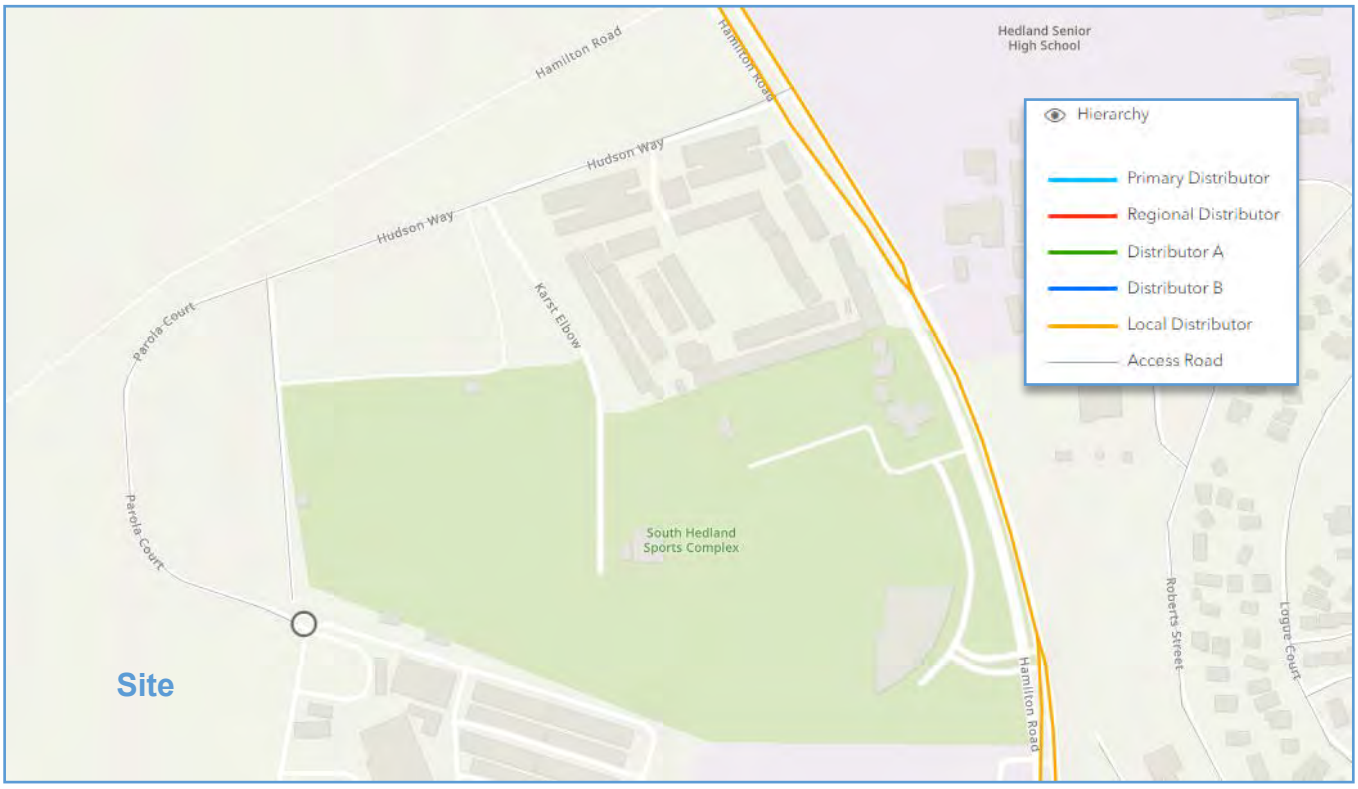


Figure 4: Main Roads WA road hierarchy plan

Source: Main Roads WA Road Information Mapping System (RIM)

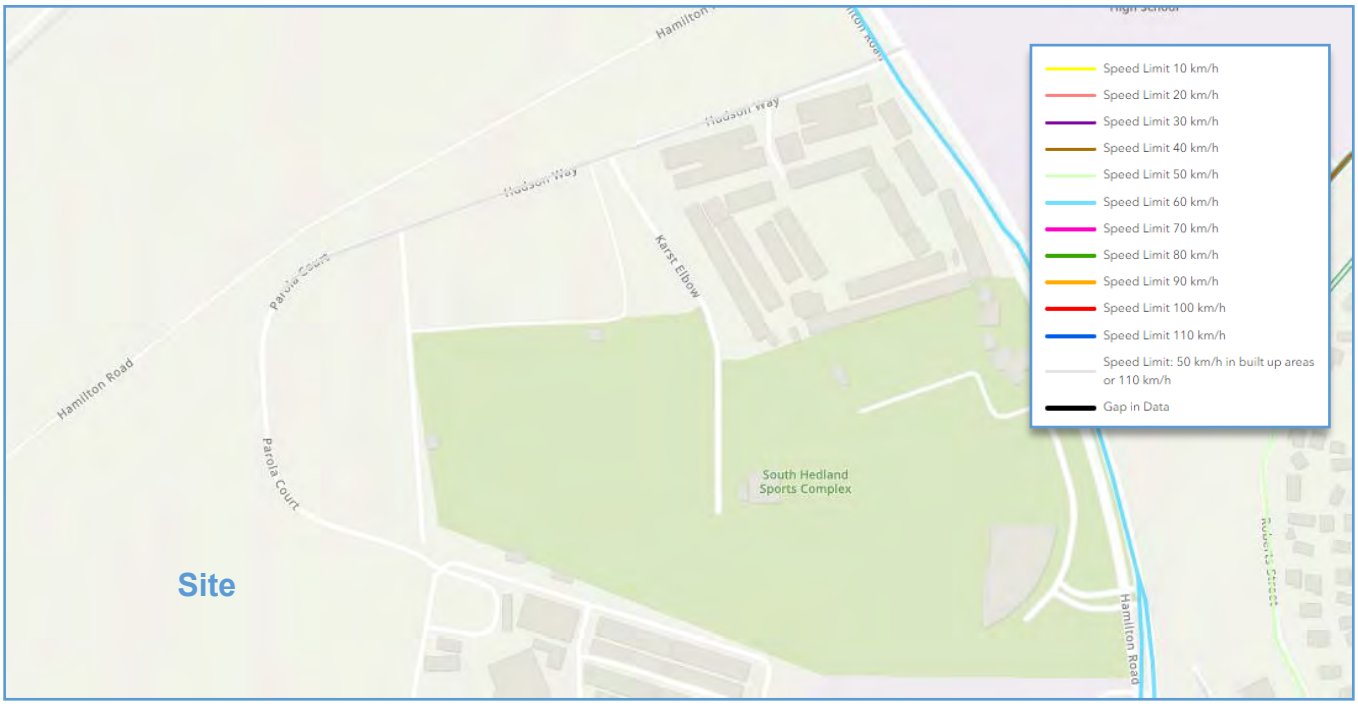


Figure 5: Main Roads WA road speed zoning plan

Source: Main Roads WA Road Information Mapping System (RIM)

ROAD HIERARCHY FOR WESTERN AUSTRALIA
ROAD TYPES AND CRITERIA (see Note 1)

CRITERIA	PRIMARY DISTRIBUTOR (PD) (see Note 2)	DISTRICT DISTRIBUTOR A (DA)	DISTRICT DISTRIBUTOR B (DB)	REGIONAL DISTRIBUTOR (RD)	LOCAL DISTRIBUTOR (LD)	ACCESS ROAD (A)
Primary Criteria						
1. Location (see Note 3)	All of WA incl. BUA	Only Built Up Area.	Only Built Up Area.	Only Non Built Up Area. (see Note 4)	All of WA incl. BUA	All of WA incl. BUA
2. Responsibility	Main Roads Western Australia.	Local Government.	Local Government.	Local Government.	Local Government.	Local Government.
3. Degree of Connectivity	High. Connects to other Primary and Distributor roads.	High. Connects to Primary and/or other Distributor roads.	High. Connects to Primary and/or other Distributor roads.	High. Connects to Primary and/or other Distributor roads.	Medium. Minor Network Role Connects to Distributors and Access Roads.	Low. Provides mainly for property access.
4. Predominant Purpose	Movement of inter regional and/or cross town/city traffic, e.g. freeways, highways and main roads.	High capacity traffic movements between industrial, commercial and residential areas.	Reduced capacity but high traffic volumes travelling between industrial, commercial and residential areas.	Roads linking significant destinations and designed for efficient movement of people and goods between and within regions.	Movement of traffic within local areas and connect access roads to higher order Distributors.	Provision of vehicle access to abutting properties
Secondary Criteria						
5. Indicative Traffic Volume (AADT)	In accordance with Classification Assessment Guidelines.	Above 8 000 vpd	Above 6 000 vpd.	Greater than 100 vpd	Built Up Area - Maximum desirable volume 6 000 vpd. Non Built Up Area – up to 100 vpd.	Built Up Area - Maximum desirable volume 3 000 vpd. Non Built Up Area – up to 75 vpd.
6. Recommended Operating Speed	60 – 110 km/h (depending on design characteristics).	60 – 80 km/h.	60 – 70 km/h.	50 – 110 km/h (depending on design characteristics).	Built Up Area 50 - 60 km/h (desired speed) Non Built Up Area 60 – 110 km/h (depending on design characteristics).	Built Up Area 50 km/h (desired speed). Non Built Up Area 50 – 110 km/h (depending on design characteristics).
7. Heavy Vehicles permitted	Yes.	Yes.	Yes.	Yes.	Yes, but preferably only to service properties.	Only to service properties.
8. Intersection treatments	Controlled with appropriate measures e.g. high speed traffic management, signing, line marking, grade separation.	Controlled with appropriate measures e.g. traffic signals.	Controlled with appropriate Local Area Traffic Management.	Controlled with measures such as signing and line marking of intersections.	Controlled with minor Local Area Traffic Management or measures such as signing.	Self controlling with minor measures.
9. Frontage Access	None on Controlled Access Roads. On other routes, preferably none, but limited access is acceptable to service individual properties.	Prefer not to have residential access. Limited commercial access, generally via service roads.	Residential and commercial access due to its historic status Prefer to limit when and where possible.	Prefer not to have property access. Limited commercial access, generally via lesser roads.	Yes, for property and commercial access due to its historic status. Prefer to limit whenever possible. Side entry is preferred.	Yes.
10. Pedestrians	Preferably none. Crossing should be controlled where possible.	With positive measures for control and safety e.g. pedestrian signals.	With appropriate measures for control and safety e.g. median/islands refuges.	Measures for control and safety such as careful siteing of school bus stops and rest areas.	Yes, with minor safety measures where necessary.	Yes.
11. Buses	Yes.	Yes.	Yes.	Yes.	Yes.	If necessary (see Note 5)
12. On-Road Parking	No (emergency parking on shoulders only).	Generally no. Clearways where necessary.	Not preferred. Clearways where necessary.	No – emergency parking on shoulders – encourage parking in off road rest areas where possible.	Built Up Area – yes, where sufficient width and sight distance allow safe passing. Non Built Up Area – no. Emergency parking on shoulders.	Yes, where sufficient width and sight distance allow safe passing.
13. Signs & Linemarking	Centrelines, speed signs, guide and service signs to highway standard.	Centrelines, speed signs, guide and service signs.	Centrelines, speed signs, guide and service signs.	Centrelines, speed signs and guide signs.	Speed and guide signs.	Urban areas – generally not applicable. Rural areas - Guide signs.
14. Rest Areas/Parking Bays	In accordance with Main Roads' *Roadside Stopping Places Policy*.	Not Applicable.	Not Applicable.	Parking Bays/Rest Areas. Desired at 60km spacing.	Not Applicable.	Not Applicable.

Figure 6: Road types and criteria for Western Australia

Source: Main Roads Western Australia D10#10992

2.3 Existing traffic volumes on roads and major intersections

A 24-hour video survey was undertaken of Parola Court to the west of the existing ESS Gateway Village, on Tuesday 13 February 2024.

The existing peak hours on Parola Court adjacent to the site are 5:15am to 6:15am and 5:30pm to 6:30pm (Figure 7). The proposed accommodation village is expected to exhibit a similar traffic flow profile.

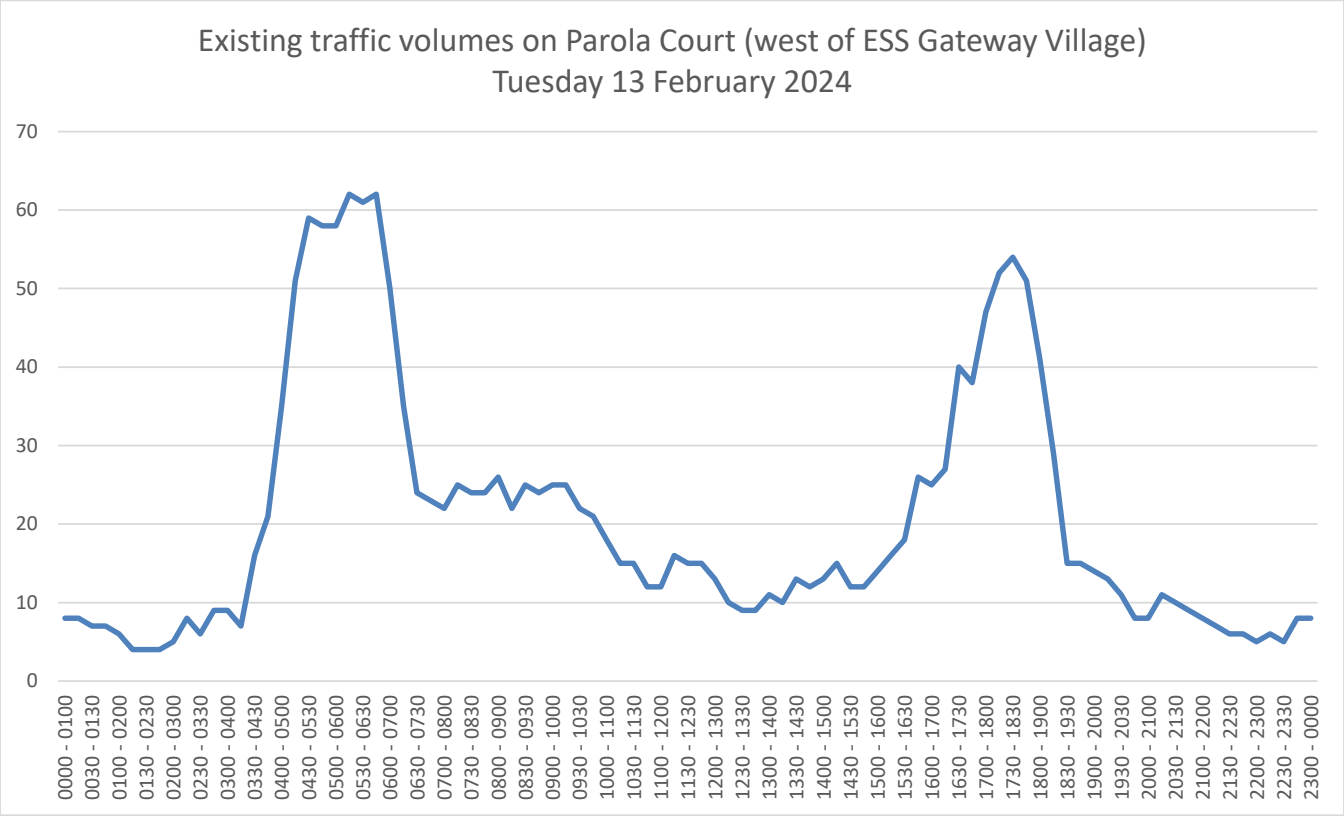


Figure 7: Surveyed traffic profile on Parola Court (13 February 2024)

2.4 Existing operation of surrounding intersections

The operation of existing intersections is documented in Section 7.6 of this report.

2.5 Heavy vehicles

Parola Court near the subject site forms part of RAV Network 1 which permits 19m semi-trailers to travel on these roads under general access, or “as of right” status. General access vehicles may operate state-wide provided they are:

- not a road train or b-double;
- within regulation axle mass limits;
- 19 metres or less in combination length (or a maximum 12.5 metres for rigid vehicles);
- total combination mass less than 42.5 tonnes;
- width less than 2.5 metres (excluding mirrors and lights); and
- height less than 4.3 metres.

2.6 Public transport access

Due to the nature of the land uses and the location, public transport is not a critical consideration for this development. The site uses private buses to transport guests. A bus port is proposed to be provided, which accommodates up to six buses to be stopped on site at a time (Figure 8).

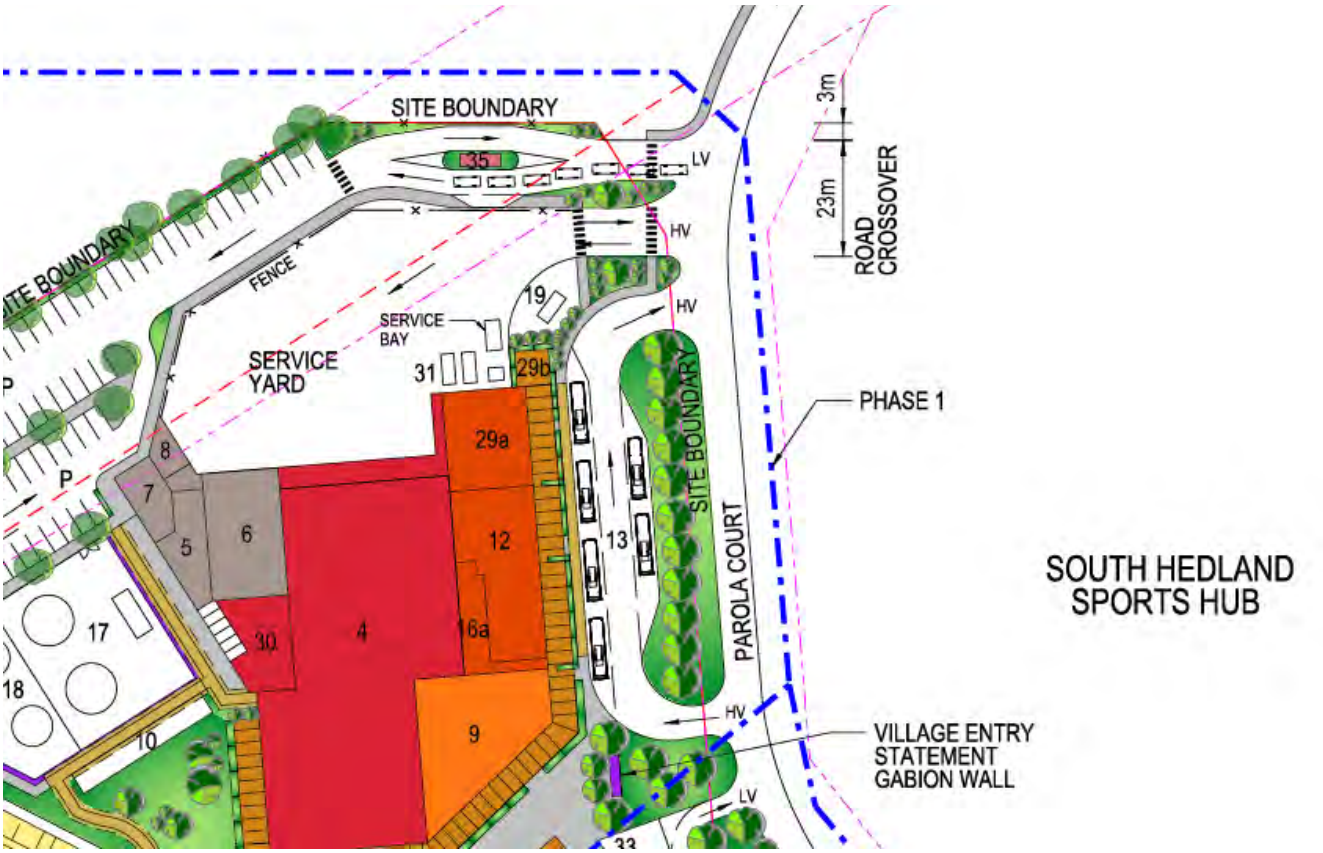


Figure 8: Proposed bus port

2.7 Pedestrian access

Information from online mapping services, Main Roads WA, Local Government, and site visits was collected to assess the pedestrian access for the proposed development.

No paths for walking or cycling are currently provided near the subject site. The 15-minute walking catchment to the site is presented in Figure 9. There are limited attractions within the walking catchment.

Due to the nature of the land uses and the location, external walking trips are expected to be minimal.

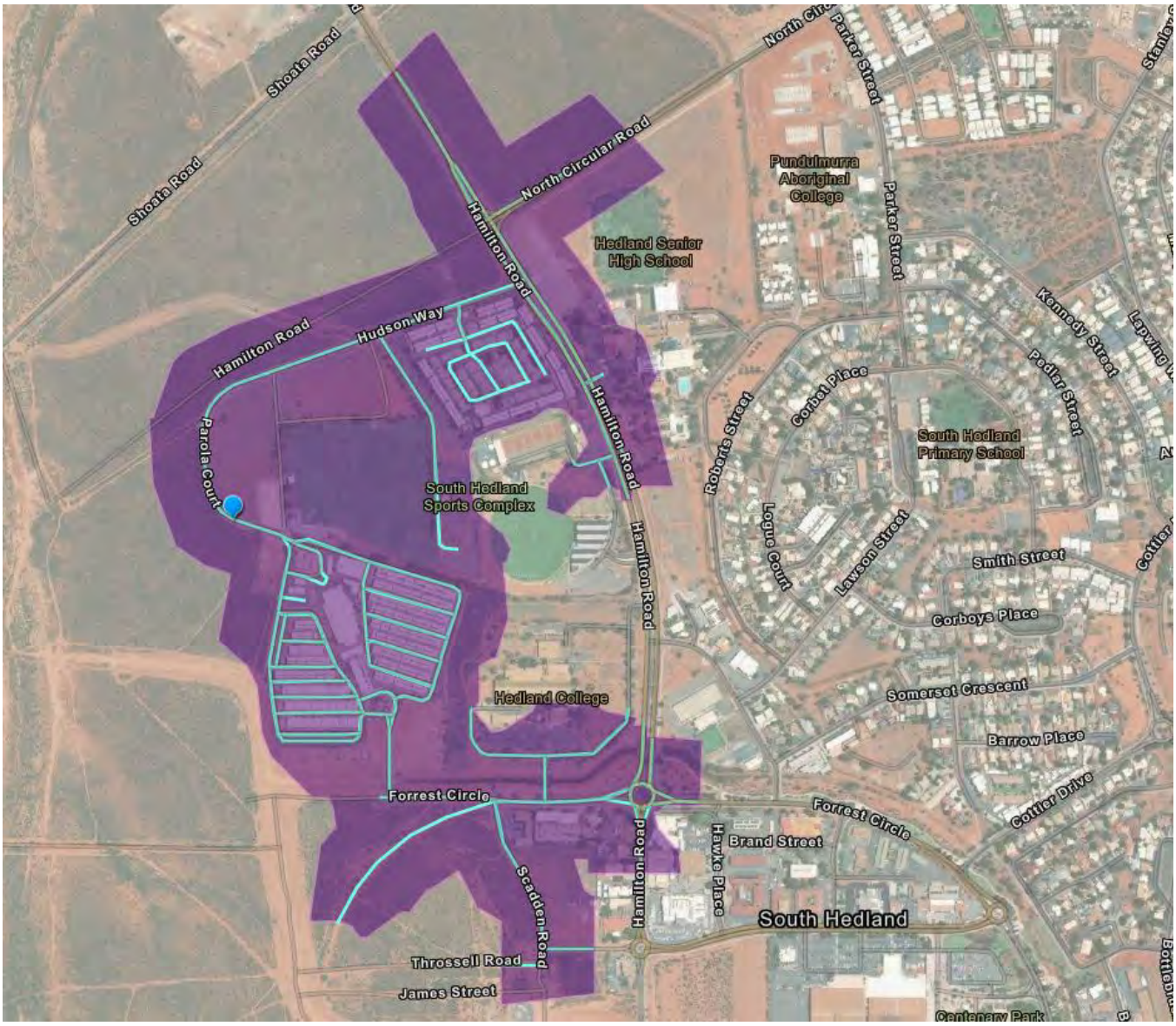


Figure 9: 15-minute walking catchment

2.8 Bicycle access

Information from online mapping services, Department of Transport, Local Government, and/or site visits was collected to assess bicycle access for the proposed development.

The proposed 2050 cycling network for South Hedland is presented in Figure 10. Parola Court near the subject site does not form part of the long term planned network.

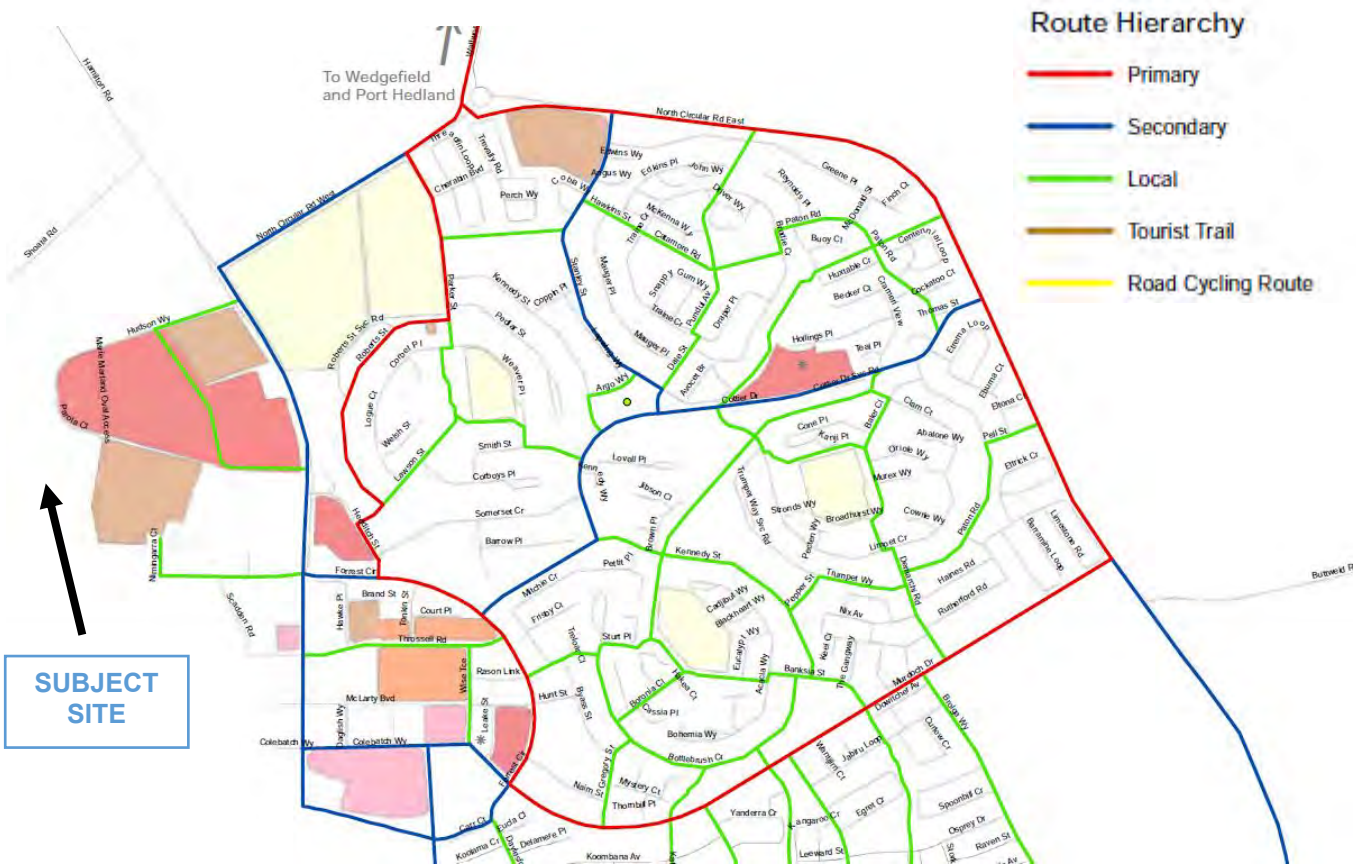


Figure 10: 2050 Cycling network plan for South Hedland

2.9 Crash data and safety

The five-year crash history in the vicinity of the site was obtained from Main Roads WA. As detailed in Figure 11, two crashes were recorded in the locality in the last five years.

The detailed crash history is presented in Table 1.

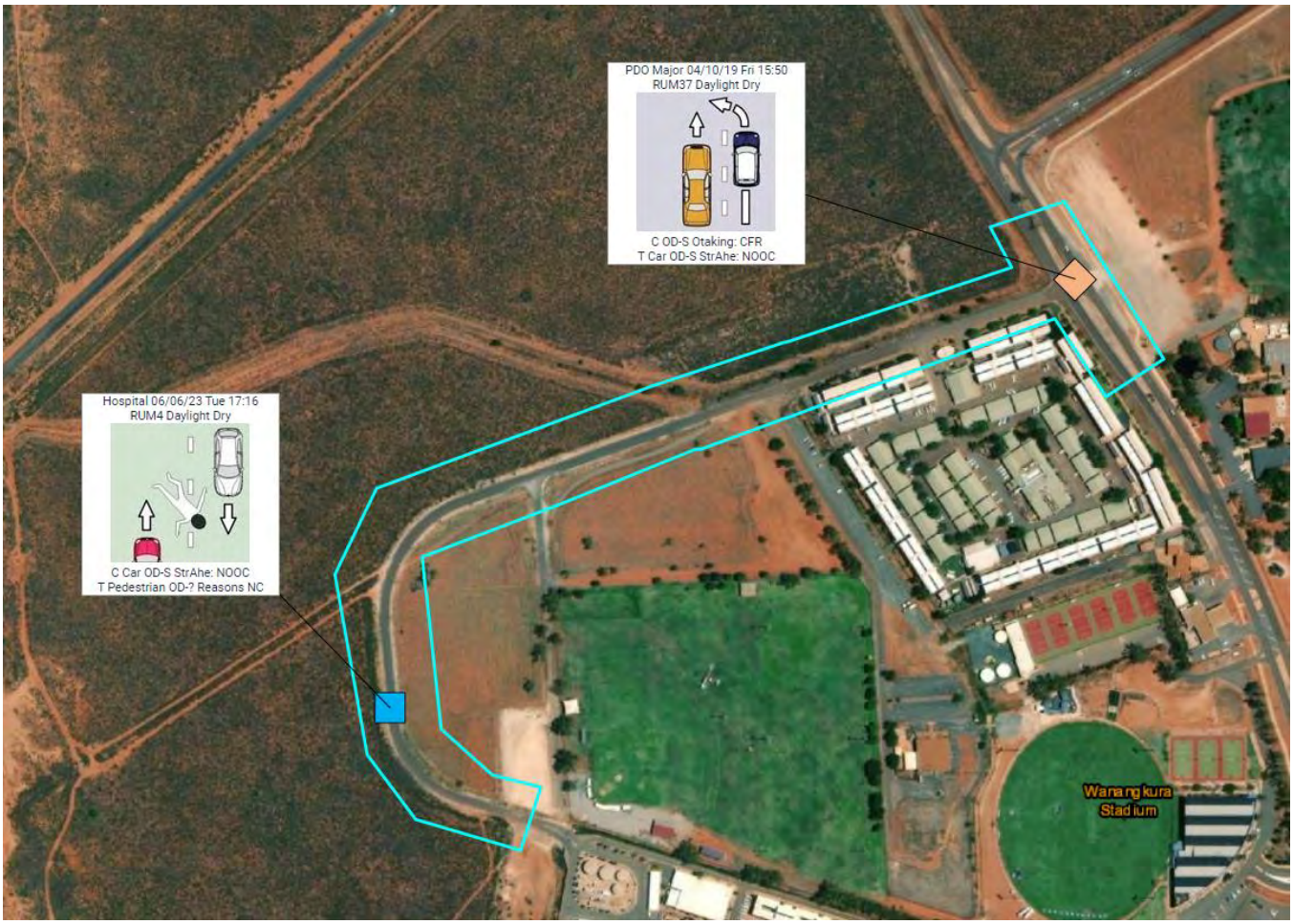


Figure 11: 5-year crash map in the locality (2018-2022)

Source: MRWA crash mapping tool

Table 1: 5-year crash history in the locality (2018-2022)

Severity	No.	%
Fatal	0	0
Hospital	1	100.00
Medical	0	0
PDO Major	0	0
PDO Minor	0	0

Year	No.	%
2020	1	100.00

Nature	No.	%
Head On	0	0
Hit Animal	0	0
Hit Object	0	0
Hit Pedestrian	1	100.00
Non Collision	0	0
Not Known	0	0
Rear End	0	0
Right Angle	0	0
Right Turn Thru	0	0
Sideswipe Opposite Dirn	0	0
Sideswipe Same Dirn	0	0

Light	No.	%
Dark - Street Lights Not Provided	0	0
Dark - Street Lights Off	0	0
Dark - Street Lights On	1	100.00
Dawn Or Dusk	0	0
Daylight	0	0
Not Known	0	0

Conditions	No.	%
Dry	1	100.00
Not Known	0	0
Wet	0	0

Alignment	No.	%
Curve	0	0
Not Known	0	0
Straight	1	100.00

Total	1

3 Development proposal

The proposal for the subject site is for the development of an accommodation village comprising:

- Total of 1,311 accommodation rooms including:
  - 437 tourist style rooms.
  - 870 modular rooms.
  - 4 Universal Access (UA) rooms.
- Supporting/ancillary amenities for guests including:
  - Guest restaurant.
  - Business centre.
  - First aid office.
  - Outdoor/leisure facilities such as gym, pool, BBQ, gazebo, sport courts etc.
- Commercial amenities which are open for the shared use of guests and the public, including:
  - Tavern – 564m^2.
  - Beer garden – 164m^2.
  - Retail tenancies – 917m^2.
- Maintenance, laundry and other ancillary services;
- 440 light vehicle parking bays;
- 4 UA parking bays;
- 6 bus parking bays;
- A pick-up/drop-off space for 5 vehicles;
- Ambulance bay; and,
- A service yard with separate truck access and parking.

Vehicle access to the site is via multiple crossovers all accessing Parola Court.

Waste collection, delivery and other service vehicle activity for the site will be accommodated within the site service yard.

The proposed development plans are included for reference in Appendix A.

4 Vehicle access

The proposed vehicle access and parking circulation system is presented in Figure 12. The northern crossover provides entry to the light vehicle car park and circulation ring road. A portion of the car park allows for two-way movements, with vehicle exits for the northern car park via the same crossover. Most people exiting from the northern crossover will be visitors for the public facilities.

There is a ring road running along the western, southern and eastern boundaries of the site. An exit only crossover is provided for the light vehicle car park at the southern end of the site.

A separate crossover is provided for delivery, waste and service vehicle access into the service yard. Service vehicle movements are separated from light vehicle movements.

Entry and exit crossovers are also provided with one-way access through the bus parking area. Another set of entry and exit crossovers are provided for the light vehicle pick-up/drop off lane.

Guidance signage and line marking will be developed at subsequent design stages, to inform road users about the correct use of crossovers and internal vehicle circulation.

All angle parking on site will be reverse entry only. The proposed access system separates different streams of traffic in a logical manner.

Figure 12: Proposed vehicle access and parking circulation

5 Changes to surrounding transport networks

Information from relevant planning documents, Main Roads WA, Department of Transport and / or information provided by the Local Government Authority, has been reviewed for planned changes to the surrounding transport network.

The existing MRS zoning is shown in Figure 13. The proposed scheme amendment is shown in Figure 14. Hudson Way is proposed to be extended further west and Parola Court is planned to connect to Hudson Way as a T-intersection, with priority assigned to Hudson Way.

The future road network changes do not appear to be in the current Main Roads WA or Local Government scheduled works programs. For this TIA, it is assumed that the proposed upgrades will take place at some time beyond 2036. Responsible authorities will undertake their own traffic modelling and investigations as part of the detailed planning for the road upgrades.

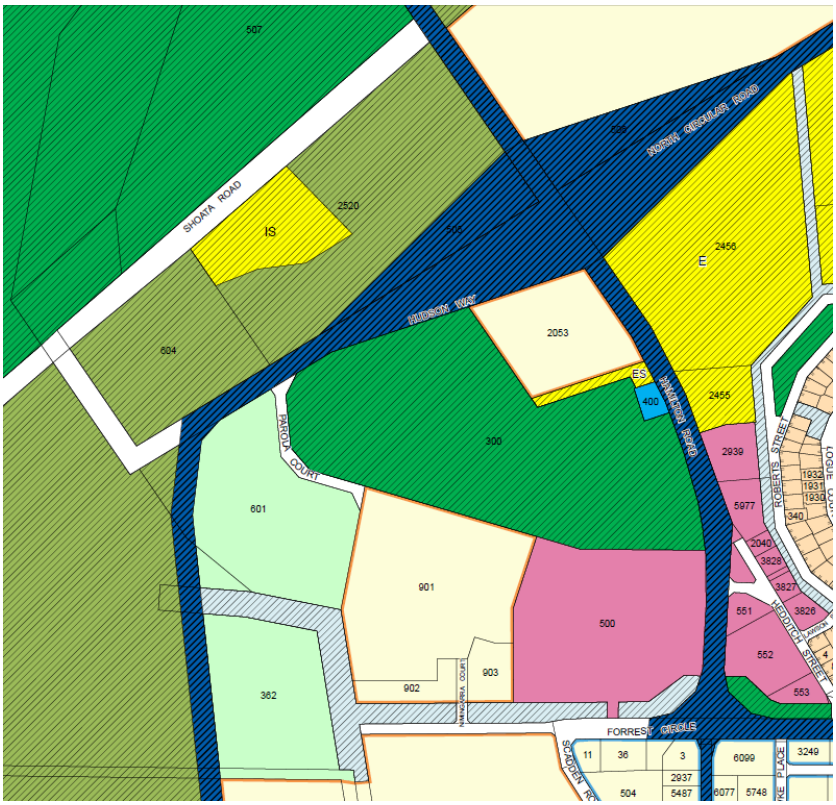


Figure 13: Existing MRS zoning and planning

The South Hedland Integrated Sports Complex Master Plan shows a potential internal road connection from the end of Parola Court to Hamilton Road. This internal connection should be primarily to facilitate access to and from the sports complex, and not to cater for through traffic. Most of the car parking is located close to Hamilton Road, with less impact on Parola Court expected.

Figure 14: Proposed scheme amendment map

Figure 15: South Hedland Integrated Sports Complex Master Plan

6 Integration with surrounding area

The proposed land uses and access arrangements are consistent with planning for the area and integrate well with the existing and planned transport network.

7 Traffic assessment

7.1 Assessment period

A 24-hour video survey was undertaken of Parola Court to the west of the existing ESS Gateway Village, on Tuesday 13 February 2024.

The existing peak hours on Parola Court adjacent to the site are 5:15am to 6:15am and 5:30pm to 6:30pm. The proposed accommodation village is expected to exhibit a similar traffic flow profile.

The analysis was undertaken for the following scenarios:

- 2036 without development traffic.
- 2036 with development traffic.

7.2 Existing traffic flows

A 24-hour video survey was undertaken of Parola Court to the west of the existing ESS Gateway Village, on Tuesday 13 February 2024. A video survey was also undertaken at the intersection of Hudson Way and Hamilton Road during the same time period.

The base peak hour traffic flows derived for analysis are detailed in Appendix B.

7.3 Traffic generation

Urbii has previously surveyed 24-hour traffic flows at three accommodation villages in Port Hedland. The average daily and peak hour trip rates are detailed Table 2. It is noted that Port Haven Village is the largest surveyed accommodation site and is the most comparable with the proposed development. This site recorded the lowest trip generation rate per room, as there is less LV parking provided on site and more bus services and facilities.

However, for conservative analysis the average trip rate across all three survey sites was used to estimate the traffic of the proposed development. Although the tourist style rooms may be utilised by the general public, it is expected that most guests staying at the site will be travelling for work-related purposes. Therefore, it is appropriate to apply the same trip generation rate for all accommodation rooms.

Table 2: Surveyed trip rates at existing accommodation villages in Port Hedland

Site	Rooms	Daily traffic	AM peak	PM peak	AM-in	AM-out	PM-in	PM-out
Kambalda Accommodation Village	574	1.23	0.25	0.26	42%	58%	63%	37%
Goldfields Kambalda	232	1.41	0.19	0.19	52%	48%	57%	43%
Port Haven Village	1202	0.89	0.18	0.13	17%	83%	79%	21%
Average	**669**	**1.18**	**0.21**	**0.19**	**37%**	**63%**	**66%**	**34%**

Note: Trip rates are based on two-way trips per accommodation room

Although open to the public, many of the patrons of the tavern, beer garden and retail tenancies will be guests staying at the proposed development. There is a sizable number of staff and guests on site. Therefore, the typical trip generation rate for the uses open to the public was discounted by 50%, as it was assumed that 50% of patronage will be internal cross trade (walking trips).

Additionally, the AM peak hour for the site is expected to occur from 5:15am to 6:15am. During this time, the facilities open to the public are assumed to generate negligible external traffic. The trip rates adopted for analysis are summarised in Table 3.

Table 3: Adopted trip rates

Land use	Trip rate source	Units	Daily rate	AM rate	PM rate	AM-in	AM-out	PM-in	PM-out
Accommodation rooms	Port Hedland surveys	per room	1.18	0.21	0.19	37%	63%	66%	34%
Tavern and beer garden	RTA NSW - Restaurant	per m2	0.6	0	0.05	50%	50%	50%	50%
Retail / F&B	TDT 2013/04a - Shopping centre	per m2	1.21	0	0.125	50%	50%	50%	50%

Note: A further 50% cross trade discount is applied to Table 3 for the tavern and retail land uses

A detailed in Table 4, the proposed development is estimated to generate a total of 2,358 vehicles per day (vpd), with 277 and 331 vehicles per hour (vph) during the AM and PM peak hours, respectively.

These trips include both inbound and outbound vehicle movements. It is anticipated that most of the vehicle types would be light vehicles, SUVs and buses.

Table 4: Proposed development traffic generation

Land use	Quantity	Units	Daily Trips	AM Trips	PM Trips	AM Peak Trips		PM Peak Trips	
						IN	OUT	IN	OUT
Accommodation rooms	1320	rooms	1558	277	251	102	175	166	85
Tavern and beer garden	750	m2	225	0	20	0	0	10	10
Retail / F&B	950	m2	575	0	60	0	0	30	30
Total			**2358**	**277**	**331**	**102**	**175**	**206**	**125**

7.4 Trip distribution and assignment

The trip distribution is assumed to be 100% to and from the west on Parola Court. Trips were assigned on the road network as detailed in Appendix B.

7.5 10-year post development forecasting

Forecasting background traffic volumes for the 10 year post development scenario is a complex exercise. Transport demand forecasting is shifting from fixed forecasts to 'scenario modelling.' Scenario modelling recognises that there are multiple known and unknown disrupters to transport behaviour in the coming years, for example:

- Increased work from home activity;
- Increased popularity of micromobility devices such as e-scooters;
- Increased provision of public transport such as light rail and trackless trams;
- Electric Vehicles;
- Autonomous Vehicles; and,
- Government Net Zero emission targets.

For simplicity, this transport assessment assumes that traffic on surrounding roads will increase at the same rate as population forecasts for the overall Town of Port Hedland. As shown in Figure 16, Port Hedland forecasts an average annual growth rate in the range of -0.3% to 1.10%. A traffic growth rate of 1.10% per annum has been assumed.

Western Australia Tomorrow

Population Report No. 11

Medium Term Population Forecasts for Western Australia 2016 to 2031 and Sub-regions 2016 to 2031

Table 1 - Local Government Area Total Population

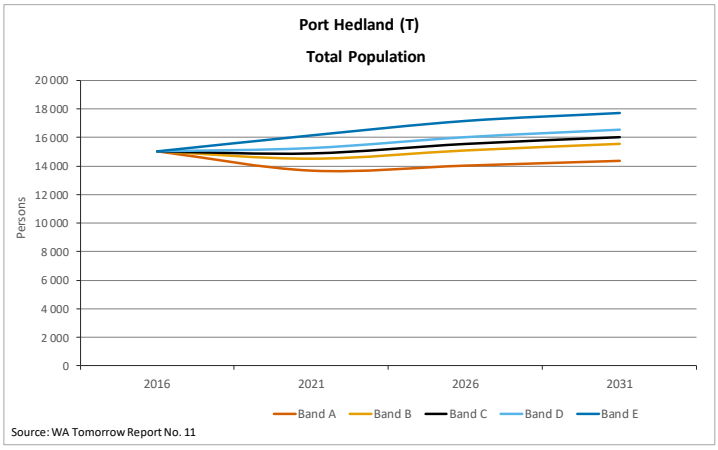
Select the Region in the drop down filter to update the tables and charts

Region	Port Hedland (T)

Sum of Persons	Column Labels				
Year	Band A	Band B	Band C	Band D	Band E
2016	15 035	15 035	15 035	15 035	15 035
2021	13 705	14 535	14 900	15 265	16 150
2026	14 050	15 100	15 555	16 020	17 160
2031	14 380	15 550	16 020	16 540	17 715

Average Annual Growth Rate from 2016

Year	Band A	Band B	Band C	Band D	Band E
2021	-1.84%	-0.67%	-0.18%	0.30%	1.44%
2026	-0.68%	0.04%	0.34%	0.64%	1.33%
2031	-0.30%	0.22%	0.42%	0.64%	1.10%



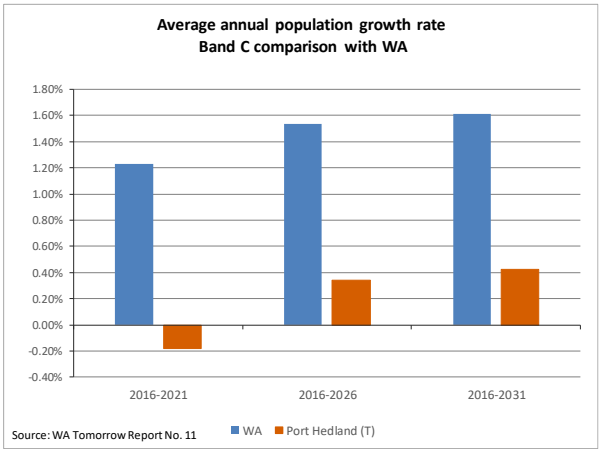


Figure 16: Population forecasts for Port Hedland

7.6 Analysis of intersections and development access

Reference was made to Austroads guidelines to help identify which modelled intersections should be further assessed in SIDRA. The traffic volume thresholds adopted for further analysis are set out in Figure 17. The development crossovers on Parola Court are expected to function at a satisfactory level of service A. No SIDRA analysis is required for the crossovers, as peak hour traffic volumes fall below the thresholds in Figure 17.

Major road type[1]	Major road flow (vph)[2]	Minor road flow (vph)[3]
Two-lane	400	250
	500	200
	650	100
Four-lane	1000	100
	1500	50
	2000	25

Notes:

1. Major road is through road (i.e. has priority).
2. Major road flow includes all major road traffic with priority over minor road traffic.
3. Minor road design volumes include through and turning volumes.

Figure 17: Austroads guidance on the assessment of intersections

Capacity analysis of the intersection of Hudson Way / Hamilton Road, Hedland Oval was undertaken using the SIDRA 9 computer software package. SIDRA 9 is an intersection modelling tool commonly used by traffic engineers for all types of intersections.

A network model was developed with multiple connected intersections, to simulate two-stage movements through the intersection. The network sites are listed in Table 5. An image of the model network is shown in Figure 18.

Table 5: SIDRA network sites

SITES IN NETWORK		
Site ID	CCG ID	Site Name
S1-1	NA	Hamilton Rd / Hudson Wy / Oval CP - 2036 Post Dev AM - Stage 1
S1-2	NA	Hamilton Rd / Hudson Wy / Oval CP - 2036 Post Dev AM - Stage 2

The same network model was used for all scenarios with only traffic volumes being changed, for fair and consistent comparison of outputs. A summary of the analysis results is presented in Table 6.

Overall, the SIDRA results indicate that the proposed development will have minimal impact on the road network.

Detailed SIDRA outputs for each intersection are provided in Appendix C.

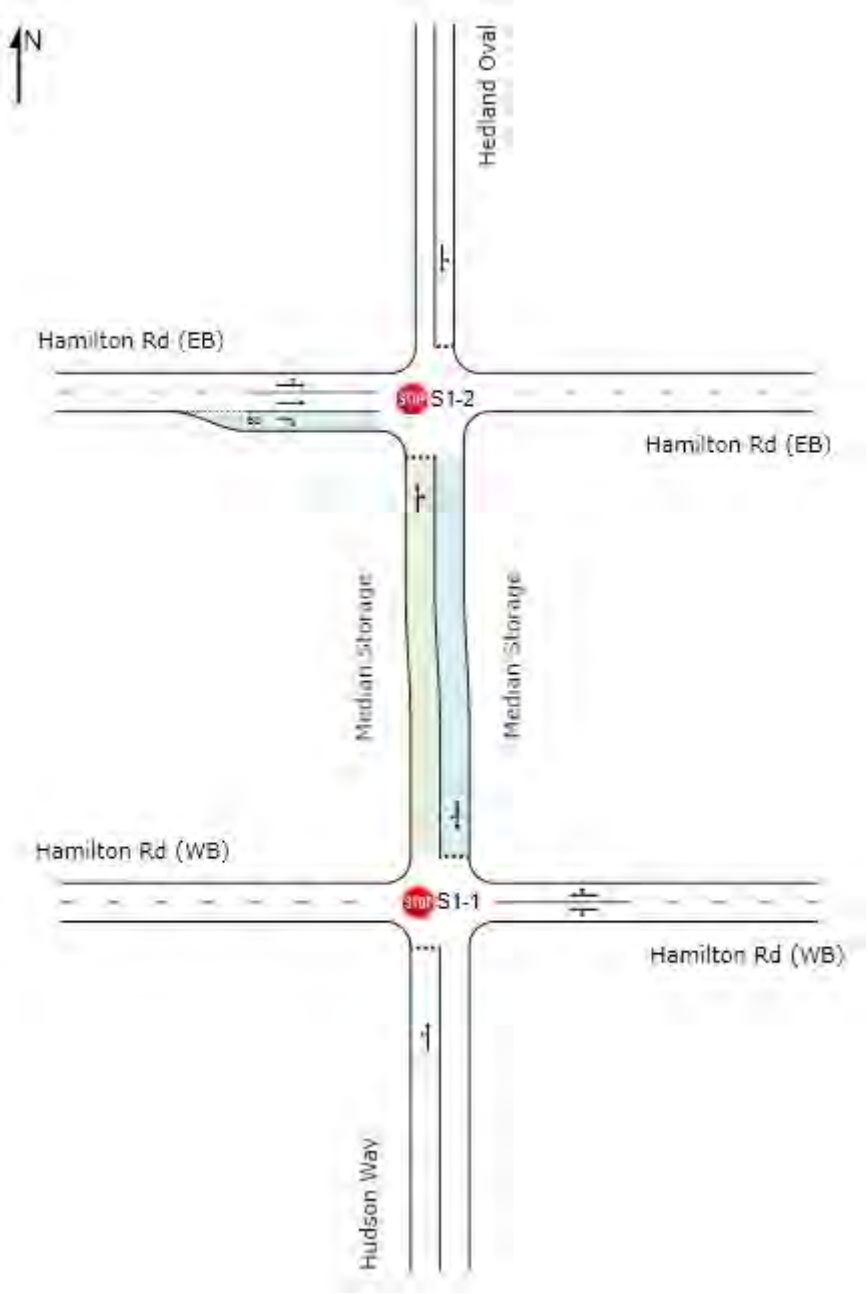


Figure 18: SIDRA network model

Table 6: Summary of SIDRA analysis results

Site 1-1 - Hamilton Rd / Hudson Wy / Oval CP - Stage 1				
Scenario	v/c	Ave Delay (sec)	LoS	95% Queue (m)
2036 Base AM	0.072	1.2	A	1.5
2036 With Development AM	0.195	2.3	A	6.5
2036 Base PM	0.115	1.7	A	2.8
2036 With Development PM	0.26	2.4	A	7.5

Site 1-2 - Hamilton Rd / Hudson Wy / Oval CP - Stage 2				
Scenario	v/c	Ave Delay (sec)	LoS	95% Queue (m)
2036 Base AM	0.062	1.6	A	0.5
2036 With Development AM	0.087	2.4	A	1.4
2036 Base PM	0.141	1.6	A	1.7
2036 With Development PM	0.185	2.4	A	2.6

7.7 Impact on neighbouring areas

The traffic generated by the proposed development is not expected to significantly affect surrounding areas and the proposed land uses are in line with planning for the local area. Therefore, there is not expected to be any impact on neighbouring areas that would require any further consideration.

7.8 Traffic noise and vibration

It requires a doubling of traffic volumes on a road to produce a perceptible 3dB (A) increase in road noise. The proposed development will not increase traffic volumes or noise on surrounding roads anywhere near this level to result in any perceptible increase in noise.

8 Parking demand and supply

The schedule of proposed parking is presented in Table 7. Around 440 spaces for light vehicle parking are provided. Additional parking spaces are provided for pick-up/drop-off, buses, UA bays and ambulance. A total of 456 parking spaces are provided.

Table 7: Existing and proposed parking schedule

Parking type	Supply
Light vehicles	440
UA bays	4
LV pick-up/drop-off	5
Buses	6
Ambulance	1
Total	**456**

The proposed development will provide light vehicle parking at a ratio of 0.34 bays per room (Table 8). Urbii has prepared traffic studies for several comparable existing facilities in Port Hedland. Similar facilities provided a parking ratio of 0.27 to 0.41 bays per room.

The proposed car parking ratio is within the range which is typically observed for accommodation villages in Port Hedland. There is a preference for workforce accommodation clients to transport workers between accommodation and the worksite by bus, which requires less space to be allocated for car parking at the destination worksite.

Table 8: Car parking (LV) supply analysis

Scenario	Rooms	Parking Spaces	Parking Rate (bays/room)
Proposed development	1311	444	**0.34**
Comparable facility 1	1654	449	0.27
Comparable facility 2	832	337	0.41

9 Provision for service vehicles

For this nature of land uses, service vehicles which regularly access the site include:

- Waste collection trucks;
- Delivery trucks; and,
- Other service vehicles (such as laundry).

A service yard is proposed at the northern end of the site. The yard is accessed via a crossover on Parola Court which is for the exclusive use of service vehicles. Swept path analysis was undertaken for a 19m Articulated Vehicle (AV) in accordance with AS2890.2.

A selection of swept path diagrams is included in Appendix D and confirms that the largest anticipated truck can enter and exit the site in forward gear.

10 Public transport assessment

Public transport is outside the desirable walking distance and is unlikely to be a preferred mode choice for visitors. The site uses private buses to transport workers. A bus port is proposed to be provided, which accommodates up to six buses to be stopped on site at a time.

11 Walking assessment

An extensive path network is proposed across the site for walking. The path network connects different buildings and parking areas and features a covered walkway, to shelter people from the sun and rain.

12 Conclusion

This Transport Impact Assessment has been prepared by Urbii on behalf of Tetra Tech with regards to the proposed South Hedland Village Master Plan, in Port Hedland.

The subject site is situated on the south-west side of Parola Court and is presently vacant. An existing accommodation village is located to the east of the site and Marie Marland Reserve is located to the north.

It is proposed to construct an accommodation village at the site, which will deliver a total of 1,311 rooms in different configurations. Additional supporting amenities such as café, business centre, restaurant, tavern, retail, gazebo, laundry rooms and recreation/exercise facilities will also be provided.

The site promotes good connectivity with the existing road, cycling and walking network.

The traffic analysis undertaken in this report shows that the traffic generation of the proposed development can be accommodated by the surrounding roads and intersections.

The car parking supply is satisfactory and can accommodate the car parking demand of the proposed development.

It is concluded that the findings of this Transport Impact Assessment are supportive of the proposed development.

Appendices

Appendix A: Proposed development plans

NEW ROAD AND ROAD WIDENING (40m)
DELIVERY TRUCK ACCESS FROM HAMILTON ROAD ONLY
SITE BOUNDARY
LOT 624
SERVICE YARD
PHASE 1
PARGLA COURT
SOUTH HEDLAND SPORTS HUB
VILLAGE ENTRY STATEMENT GABION WALL
PHASE 3
PHASE 2
ESS GATEWAY VILLAGE
TEMPORARY EMERGENCY ACCESS WAY (TAW) TO SHOATA ROAD
DRAIN RESERVE
SCALE 1:1000
VILLAGE CAPACITY
ACCOMMODATION | # OF ROOMS
HOTEL - STYLE ROOMS | 437
MODULAR ROOMS (36 @ 24 ROOMS EACH & 1 @ 6 ROOMS) | 870
MODULAR UA ROOMS (2 @ 2 ROOMS EACH) | 4
TOTAL | 1311
PARKING BAYS
BAY TYPE | # OF BAYS
LV BAYS | 446
BUS PARKING | 8
UA BAYS | 4
TOTAL | 458
LOCATION PLAN
GENERAL NOTES
1. DO NOT SCALE OFF DRAWINGS.
2. PLOT RATIO REQUIREMENT NOT APPLICABLE.
LEGEND
CHANGEROOM
ANZAC MEMORIAL
COMMUNITY SPACE
YARNING CIRCLE
BUSINESS CENTRE / OFFICES
CAFE
CAFE OUTDOOR AREA
RESTAURANT PLANT ROOM
2.0 MVA SUBSTATION KIOSK & 2.0 MVA BACK UP GENERATOR WITH RMU ENCLOSURE
SEWER TANKS 140KL (2 x TANKS 12m LONG x 3m DIA) & WETWELL
AMBULANCE BAY
VENTIA OFFICES
SECURITY OFFICE
CAR PARKING
BBQ GAZEBO 6m x 12m (ch)
SHADE SAIL / SEATS
VERANDA / DECKING
COVERED WALKWAY
FOOTPATH
LANDSCAPING
EASEMENT
SITE BOUNDARY
ADJACENT SITE BOUNDARIES
PHASING
FENCE
GABION / ACOUSTIC WALL
RESORT STYLE ACCOMMODATION BLOCK (2 STOREY)
HOTEL - STYLE ACCOMMODATION (6 STOREY)
RECEPTION / ADMINISTRATION
HOTEL LOBBY (LIFTS)
RESTAURANT CENTRAL KITCHEN / DINING/ FOOD STORES
MAINTENANCE WORKSHOP
LAUNDRY
RECYCLING SHED
RUBBISH SHED
TAVERN
MANAGERS RESIDENCE
MULTI - SPORT COURTS BASKETBALL / VOLLEYBALL/ TENNIS
RETAIL
BUS SET - DOWN
UA ROOM (SINGLE STOREY)
TRANSIT LOUNGE / SHOWER
TOILETS
ICE ROOM
POTABLE WATER PLANT
FIRE WATER PLANT (2 x TANKS 6m DIA x 5.2m HIGH)
SITE MAIN RMU, 2.0 MVA SUBSTATION KIOSK & 4 (1MW) BATTERY ENERGY STORAGE SYSTEM
OUTDOOR GYMNASIUM
CRICKET NET
WELLNESS CENTRE
GYMNASIUM
BAGGAGE STORE
PACIFIC PARTNERSHIPS
TETRA TECH PROTEUS
SOUTH HEDLAND VILLAGE
MASTERPLAN CONCEPT
OPTION 9
1:1000
A1
331492-DA-017
E

Appendix B: Traffic volume diagrams

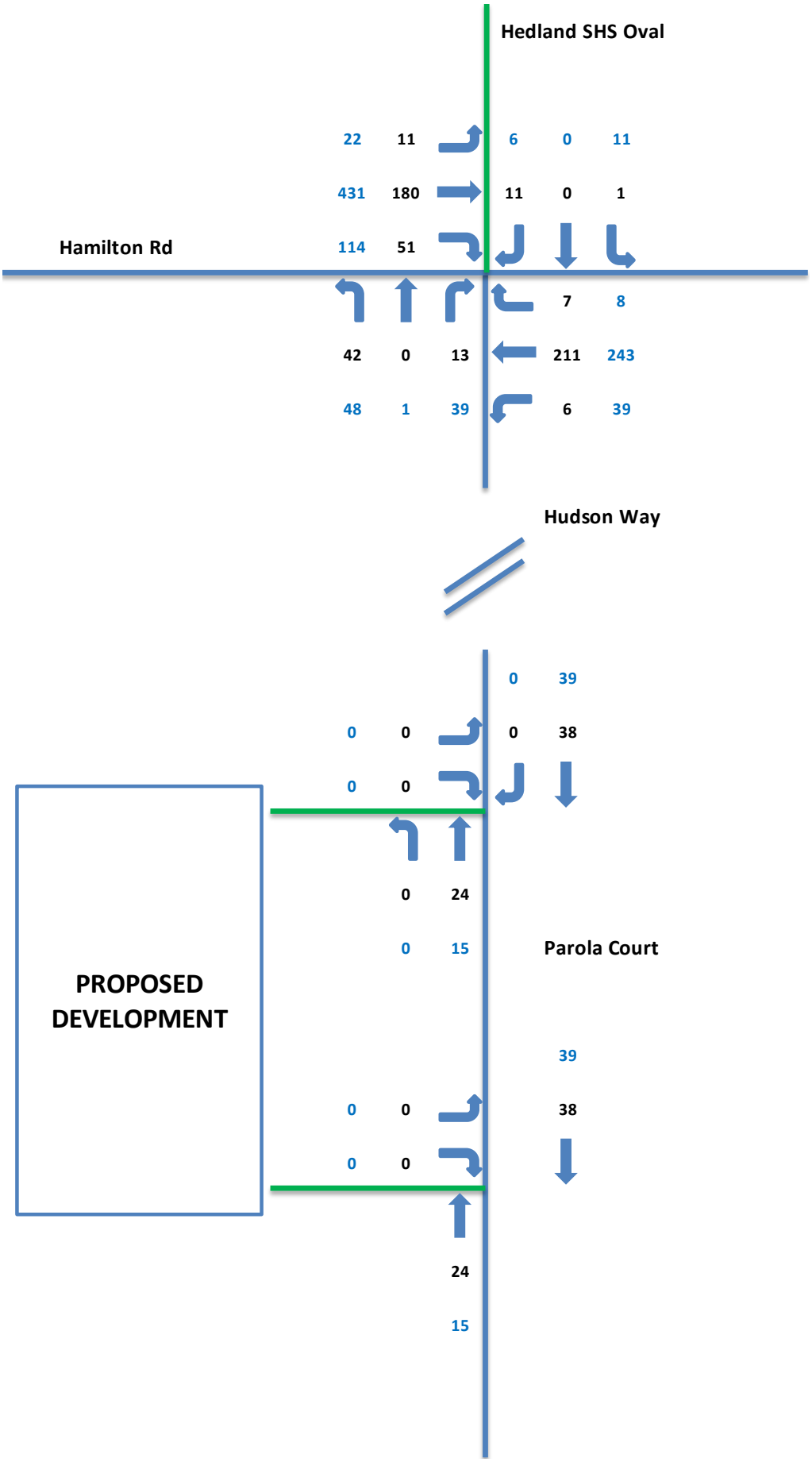
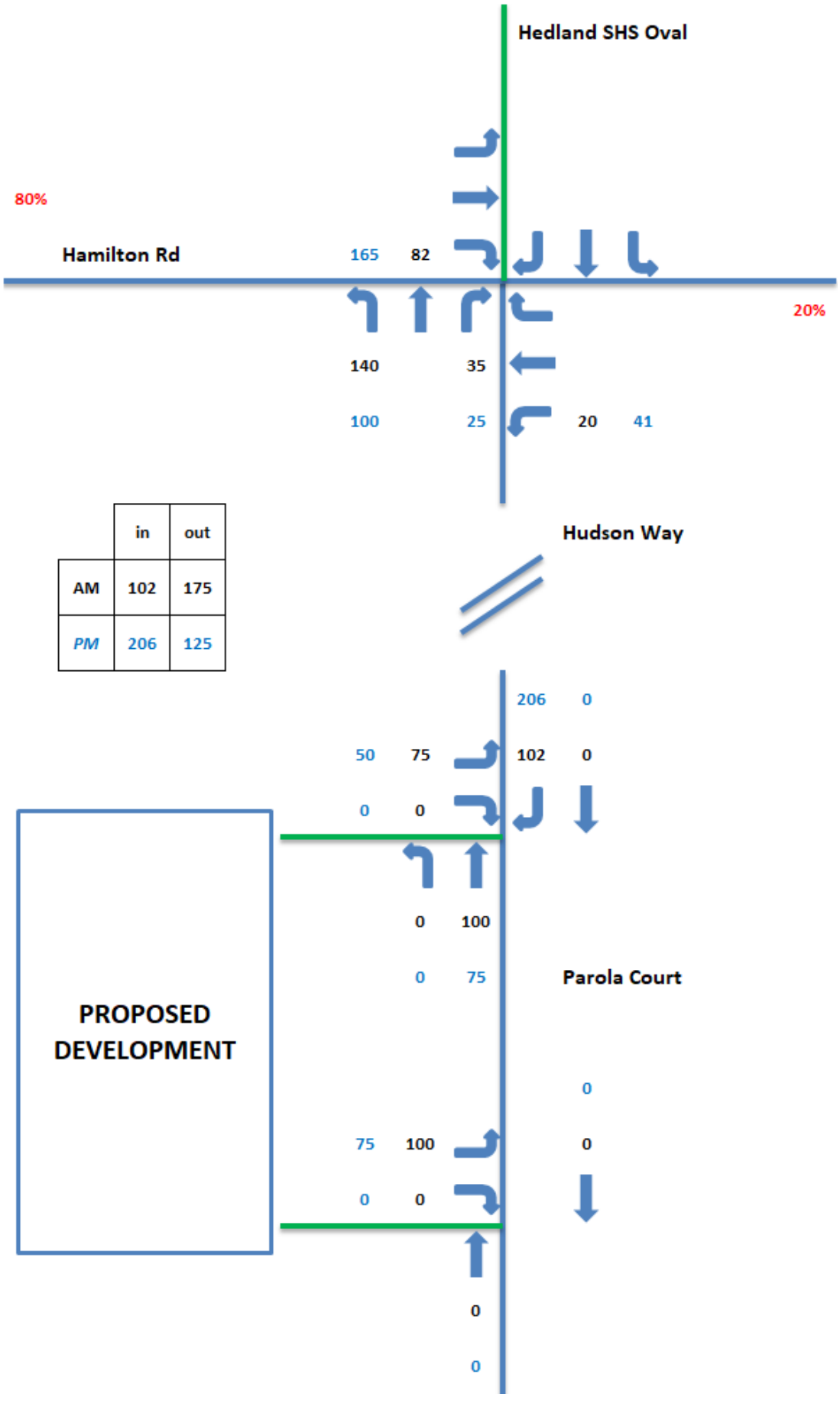


Figure 19: Surveyed existing traffic flows – weekday AM and PM peak hour



	in	out
AM	102	175
PM	206	125

Figure 20: Proposed development traffic flows – weekday AM and PM peak hour

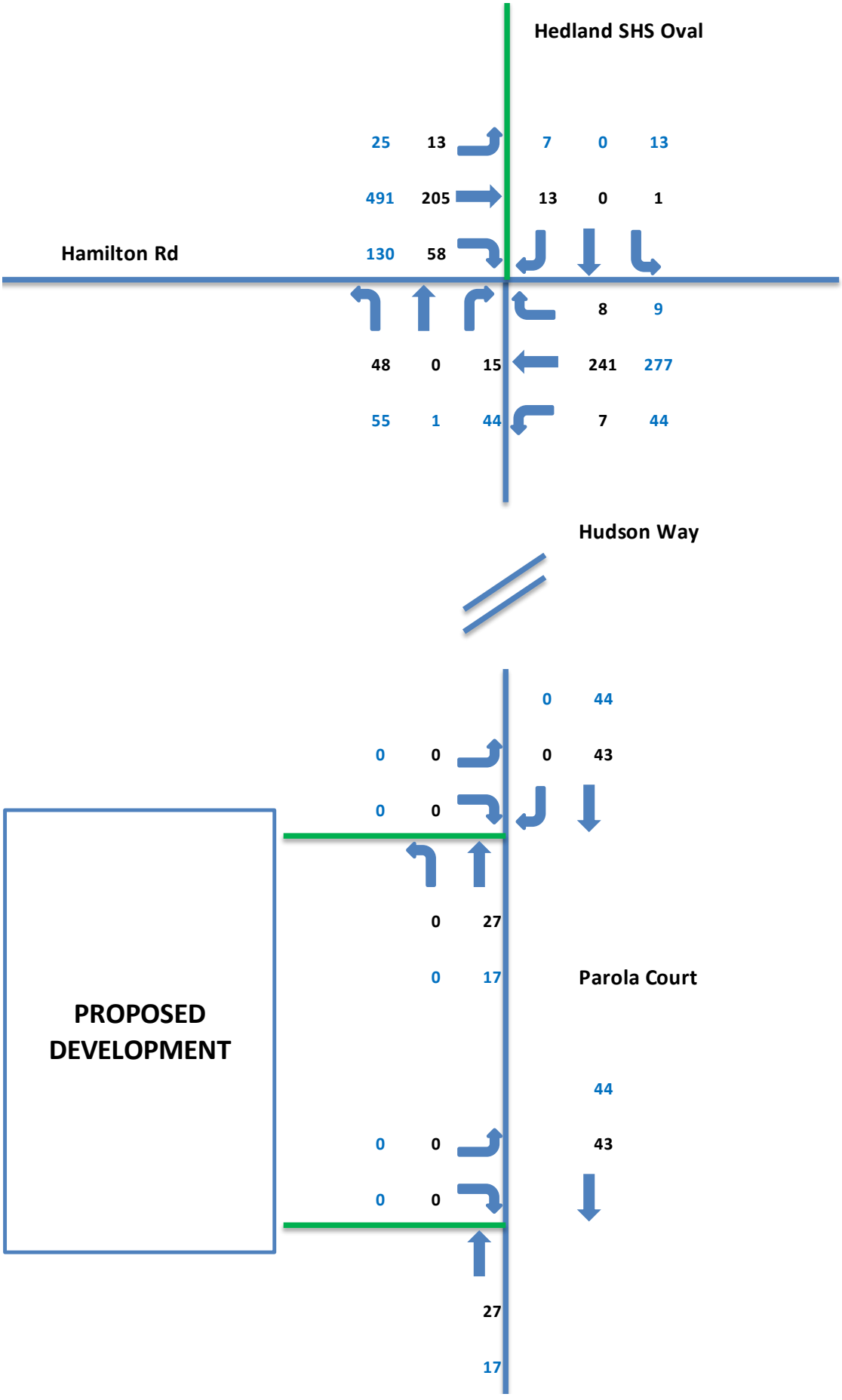


Figure 21: 2036 Base traffic flows – weekday AM and PM peak hour

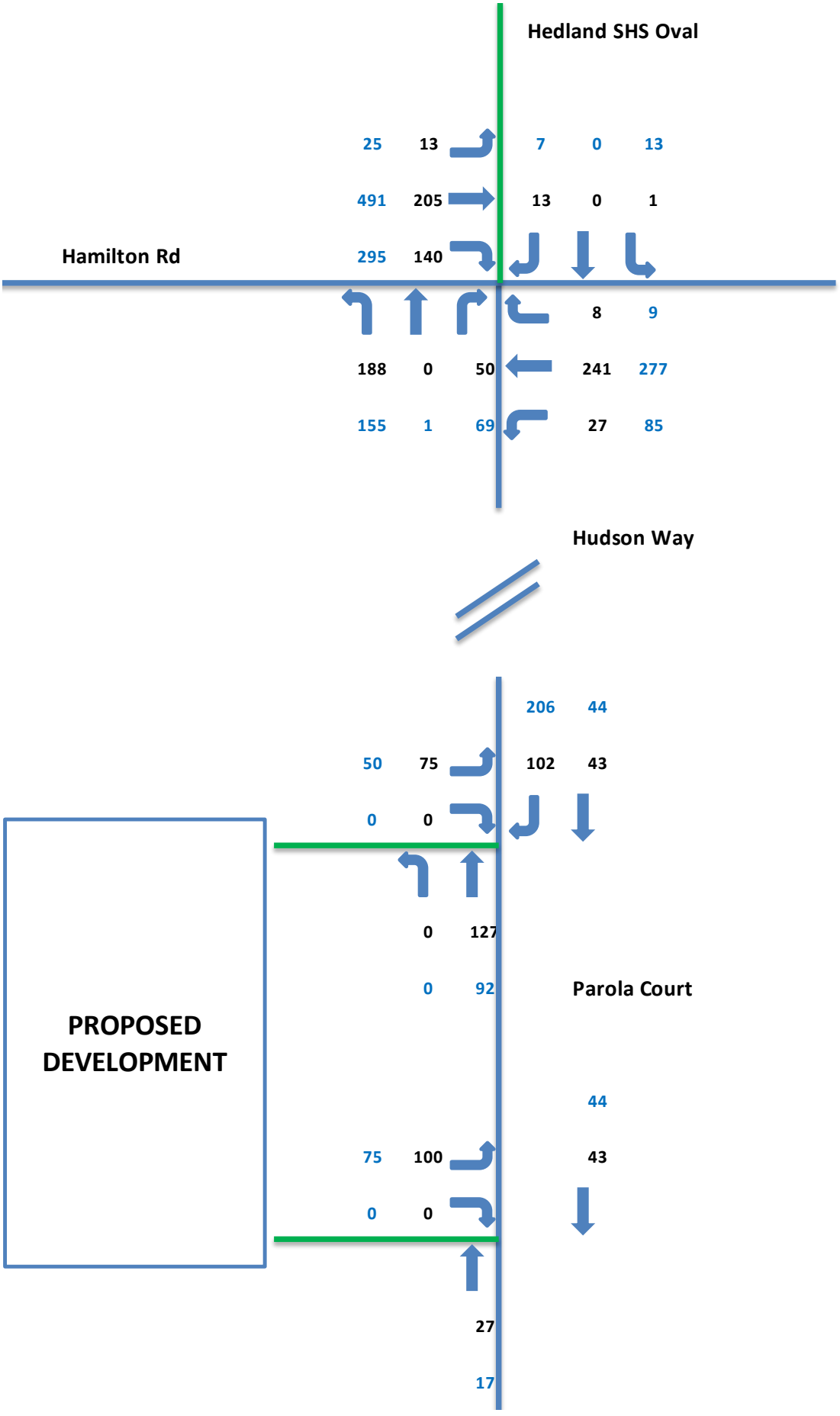


Figure 22: 2036 traffic flows with development – weekday AM and PM peak hour

Appendix C: SIDRA analysis outputs

SIDRA outputs are presented in the form of Degree of Saturation, Level of Service, Average Delay and 95% Queue. These characteristics are defined as follows:

- **Degree of Saturation (DoS):** is the ratio of the arrival traffic flow to the capacity of the approach during the same period. The Degree of Saturation ranges from close to zero for varied traffic flow up to one for saturated flow or capacity.
- **Level of Service (LoS):** is the qualitative measure describing operational conditions within a traffic stream and the perception by motorists and/or passengers. In general, there are 6 levels of service, designated from A to F, with Level of Service A representing the best operating condition (i.e. free flow) and Level of Service F the worst (i.e. forced or breakdown flow).
- **Average Delay:** is the average of all travel time delays for vehicles through the intersection.
- **95% Queue:** is the queue length below which 95% of all observed queue lengths fall.

2036 Base – AM peak hour

MOVEMENT SUMMARY

Site: S1-1 [Hamilton Rd / Hudson Wy / Oval CP - 2036 Base AM - Stage 1 (Site Folder: General)]

Network: SCFWI [2036 Base AM (Network Folder: General)]

Staged Crossing at Four-Way Intersection
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h]	HV] %	ARRIVAL FLOWS [Total veh/h]	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh]	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Hudson Way														
1	L2	51	13.0	51	13.0	0.051	5.1	LOS A	0.2	1.5	0.24	0.52	0.24	48.8
2	T1	16	0.0	16	0.0	0.051	5.1	LOS A	0.2	1.5	0.24	0.52	0.24	43.7
Approach		66	9.9	66	9.9	0.051	5.1	LOS A	0.2	1.5	0.24	0.52	0.24	48.0
East: Hamilton Rd (WB)														
3	L2	7	0.0	7	0.0	0.072	5.6	LOS A	0.0	0.0	0.00	0.03	0.00	58.0
4	T1	254	6.0	254	6.0	0.072	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	59.6
5	R2	8	0.0	8	0.0	0.072	5.5	LOS A	0.0	0.0	0.00	0.04	0.00	59.3
Approach		269	5.6	269	5.6	0.072	0.3	NA	0.0	0.0	0.00	0.04	0.00	59.6
North: Median Storage														
6	T1	61	14.0	61	14.0	0.059	0.5	LOS A	0.2	1.2	0.24	0.16	0.24	45.0
7	R2	14	0.0	14	0.0	0.059	1.0	LOS A	0.2	1.2	0.24	0.16	0.24	45.2
Approach		75	11.4	75	11.4	0.059	0.6	LOS A	0.2	1.2	0.24	0.16	0.24	45.0
All Vehicles		411	7.4	411	7.4	0.072	1.2	NA	0.2	1.5	0.08	0.14	0.08	55.5

MOVEMENT SUMMARY

Site: S1-2 [Hamilton Rd / Hudson Wy / Oval CP - 2036 Base AM - Stage 2 (Site Folder: General)]

Network: SCFWI [2036 Base AM (Network Folder: General)]

Staged Crossing at Four-Way Intersection
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h]	HV] %	ARRIVAL FLOWS [Total veh/h]	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh]	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Median Storage														
1	T1	8	0.0	8	0.0	0.022	0.7	LOS A	0.1	0.5	0.28	0.21	0.28	45.1
2	R2	16	0.0	16	0.0	0.022	1.2	LOS A	0.1	0.5	0.28	0.21	0.28	50.9
Approach		24	0.0	24	0.0	0.022	1.0	LOS A	0.1	0.5	0.28	0.21	0.28	48.7
North: Hedland Oval														
3	L2	1	0.0	1	0.0	0.015	4.8	LOS A	0.1	0.4	0.38	0.54	0.38	48.9
4	T1	14	0.0	14	0.0	0.015	5.9	LOS A	0.1	0.4	0.38	0.54	0.38	43.1
Approach		15	0.0	15	0.0	0.015	5.8	LOS A	0.1	0.4	0.38	0.54	0.38	43.8
West: Hamilton Rd (EB)														
5	L2	14	9.0	14	9.0	0.062	5.7	LOS A	0.0	0.0	0.00	0.07	0.00	57.3
6	T1	216	7.0	216	7.0	0.062	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	59.7
7	R2	61	14.0	61	14.0	0.036	5.6	LOS A	0.0	0.0	0.00	0.60	0.00	50.9
Approach		291	8.6	291	8.6	0.062	1.5	NA	0.0	0.0	0.00	0.15	0.00	58.4
All Vehicles		329	7.6	329	7.6	0.062	1.6	NA	0.1	0.5	0.04	0.17	0.04	57.3

2036 Base – PM peak hour

MOVEMENT SUMMARY

Site: S1-1 [Hamilton Rd / Hudson Wy / Oval CP - 2036 Base PM - Stage 1 (Site Folder: General)]

Network: SCFWI [2036 Base PM (Network Folder: General)]

Staged Crossing at Four-Way Intersection
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h]	HV] %	ARRIVAL FLOWS [Total veh/h]	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh]	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Hudson Way														
1	L2	58	27.0	58	27.0	0.092	5.3	LOS A	0.4	2.8	0.27	0.55	0.27	48.3
2	T1	46	0.0	46	0.0	0.092	5.7	LOS A	0.4	2.8	0.27	0.55	0.27	43.7
Approach		104	15.0	104	15.0	0.092	5.5	LOS A	0.4	2.8	0.27	0.55	0.27	46.9
East: Hamilton Rd (WB)														
3	L2	46	0.0	46	0.0	0.090	5.6	LOS A	0.0	0.0	0.00	0.16	0.00	57.0
4	T1	292	1.0	292	1.0	0.090	0.0	LOS A	0.0	0.0	0.00	0.09	0.00	59.2
5	R2	9	0.0	9	0.0	0.090	5.5	LOS A	0.0	0.0	0.00	0.03	0.00	59.4
Approach		347	0.8	347	0.8	0.090	0.9	NA	0.0	0.0	0.00	0.10	0.00	58.9
North: Median Storage														
6	T1	137	11.0	137	11.0	0.115	0.7	LOS A	0.3	2.5	0.28	0.21	0.28	45.0
7	R2	7	0.0	7	0.0	0.115	1.1	LOS A	0.3	2.5	0.28	0.21	0.28	45.2
Approach		144	10.4	144	10.4	0.115	0.7	LOS A	0.3	2.5	0.28	0.21	0.28	45.0
All Vehicles		598	5.6	596	5.6	0.115	1.7	NA	0.4	2.8	0.12	0.20	0.12	54.1

MOVEMENT SUMMARY

Site: S1-2 [Hamilton Rd / Hudson Wy / Oval CP - 2036 Base PM - Stage 2 (Site Folder: General)]

Network: SCFWI [2036 Base PM (Network Folder: General)]

Staged Crossing at Four-Way Intersection
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h]	HV] %	ARRIVAL FLOWS [Total veh/h]	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh]	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Median Storage														
1	T1	11	0.0	11	0.0	0.074	2.1	LOS A	0.2	1.7	0.46	0.44	0.46	43.4
2	R2	46	0.0	46	0.0	0.074	2.9	LOS A	0.2	1.7	0.46	0.44	0.46	48.7
Approach		57	0.0	57	0.0	0.074	2.7	LOS A	0.2	1.7	0.46	0.44	0.46	47.6
North: Hedland Oval														
3	L2	14	0.0	14	0.0	0.023	5.3	LOS A	0.1	0.6	0.40	0.57	0.40	48.4
4	T1	7	0.0	7	0.0	0.023	9.2	LOS A	0.1	0.6	0.40	0.57	0.40	42.4
Approach		21	0.0	21	0.0	0.023	6.7	LOS A	0.1	0.6	0.40	0.57	0.40	47.0
West: Hamilton Rd (EB)														
5	L2	26	5.0	26	5.0	0.141	5.6	LOS A	0.0	0.0	0.00	0.06	0.00	57.6
6	T1	517	1.0	517	1.0	0.141	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	59.7
7	R2	137	11.0	137	11.0	0.079	5.6	LOS A	0.0	0.0	0.00	0.60	0.00	50.9
Approach		680	3.2	680	3.2	0.141	1.4	NA	0.0	0.0	0.00	0.14	0.00	58.5
All Vehicles		758	2.8	758	2.8	0.141	1.6	NA	0.2	1.7	0.05	0.18	0.05	57.5

2036 With Development – AM peak hour

MOVEMENT SUMMARY

Site: S1-1 [Hamilton Rd / Hudson Wy / Oval CP - 2036 Post Dev AM - Stage 1 (Site Folder: General)]

Network: SCFWI [2036 Post Dev AM (Network Folder: General)]

Staged Crossing at Four-Way Intersection
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h]	HV] %	ARRIVAL FLOWS [Total veh/h]	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh]	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Hudson Way														
1	L2	198	13.0	198	13.0	0.195	5.2	LOS A	0.9	6.5	0.25	0.54	0.25	48.8
2	T1	53	0.0	53	0.0	0.195	5.8	LOS A	0.9	6.5	0.25	0.54	0.25	43.6
Approach		251	10.3	251	10.3	0.195	5.3	LOS A	0.9	6.5	0.25	0.54	0.25	48.1
East: Hamilton Rd (WB)														
3	L2	28	0.0	28	0.0	0.078	5.6	LOS A	0.0	0.0	0.00	0.12	0.00	57.3
4	T1	254	6.0	254	6.0	0.078	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	59.3
5	R2	8	0.0	8	0.0	0.078	5.5	LOS A	0.0	0.0	0.00	0.04	0.00	59.3
Approach		291	5.2	291	5.2	0.078	0.7	NA	0.0	0.0	0.00	0.08	0.00	59.1
North: Median Storage														
6	T1	147	14.0	147	14.0	0.127	0.6	LOS A	0.4	2.9	0.26	0.19	0.26	45.0
7	R2	14	0.0	14	0.0	0.127	1.0	LOS A	0.4	2.9	0.26	0.19	0.26	45.2
Approach		161	12.8	161	12.8	0.127	0.7	LOS A	0.4	2.9	0.26	0.19	0.26	45.0
All Vehicles		702	8.8	702	8.8	0.195	2.3	NA	0.9	6.5	0.15	0.27	0.15	52.3

MOVEMENT SUMMARY

Site: S1-2 [Hamilton Rd / Hudson Wy / Oval CP - 2036 Post Dev AM - Stage 2 (Site Folder: General)]

Network: SCFWI [2036 Post Dev AM (Network Folder: General)]

Staged Crossing at Four-Way Intersection
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h]	HV] %	ARRIVAL FLOWS [Total veh/h]	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh]	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Median Storage														
1	T1	8	0.0	8	0.0	0.059	0.7	LOS A	0.2	1.4	0.29	0.24	0.29	45.0
2	R2	53	0.0	53	0.0	0.059	1.2	LOS A	0.2	1.4	0.29	0.24	0.29	50.8
Approach		61	0.0	61	0.0	0.059	1.2	LOS A	0.2	1.4	0.29	0.24	0.29	49.9
North: Hedland Oval														
3	L2	1	0.0	1	0.0	0.017	4.8	LOS A	0.1	0.5	0.43	0.58	0.43	48.5
4	T1	14	0.0	14	0.0	0.017	6.7	LOS A	0.1	0.5	0.43	0.58	0.43	42.5
Approach		15	0.0	15	0.0	0.017	6.6	LOS A	0.1	0.5	0.43	0.58	0.43	43.2
West: Hamilton Rd (EB)														
5	L2	14	9.0	14	9.0	0.062	5.7	LOS A	0.0	0.0	0.00	0.07	0.00	57.3
6	T1	216	7.0	216	7.0	0.062	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	59.7
7	R2	147	14.0	147	14.0	0.087	5.7	LOS A	0.0	0.0	0.00	0.60	0.00	50.9
Approach		377	9.8	377	9.8	0.087	2.4	NA	0.0	0.0	0.00	0.25	0.00	57.2
All Vehicles		453	8.2	453	8.2	0.087	2.4	NA	0.2	1.4	0.05	0.26	0.05	56.0

2036 With Development – PM peak hour

MOVEMENT SUMMARY

Site: S1-1 [Hamilton Rd / Hudson Wy / Oval CP - 2036 Post Dev PM - Stage 1 (Site Folder: General)]

Network: SCFWI [2036 Post Dev PM (Network Folder: General)]

Staged Crossing at Four-Way Intersection
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h]	HV] %	ARRIVAL FLOWS [Total veh/h]	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh]	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Hudson Way														
1	L2	163	27.0	163	27.0	0.215	5.3	LOS A	0.9	7.5	0.24	0.56	0.24	48.1
2	T1	73	0.0	73	0.0	0.215	7.2	LOS A	0.9	7.5	0.24	0.56	0.24	43.4
Approach		236	18.7	236	18.7	0.215	5.9	LOS A	0.9	7.5	0.24	0.56	0.24	47.2
East: Hamilton Rd (WB)														
3	L2	89	0.0	89	0.0	0.102	5.6	LOS A	0.0	0.0	0.00	0.27	0.00	56.0
4	T1	292	1.0	292	1.0	0.102	0.0	LOS A	0.0	0.0	0.00	0.12	0.00	58.9
5	R2	9	0.0	9	0.0	0.102	5.5	LOS A	0.0	0.0	0.00	0.03	0.00	59.4
Approach		391	0.7	391	0.7	0.102	1.4	NA	0.0	0.0	0.00	0.15	0.00	58.2
North: Median Storage														
6	T1	311	11.0	311	11.0	0.260	1.0	LOS A	0.8	6.5	0.34	0.28	0.34	44.8
7	R2	7	0.0	7	0.0	0.260	1.2	LOS A	0.8	6.5	0.34	0.28	0.34	45.0
Approach		318	10.7	318	10.7	0.260	1.0	LOS A	0.8	6.5	0.34	0.28	0.34	44.8
All Vehicles		944	8.6	944	8.6	0.260	2.4	NA	0.9	7.5	0.17	0.29	0.17	51.6

MOVEMENT SUMMARY

Site: S1-2 [Hamilton Rd / Hudson Wy / Oval CP - 2036 Post Dev PM - Stage 2 (Site Folder: General)]

Network: SCFWI [2036 Post Dev PM (Network Folder: General)]

Staged Crossing at Four-Way Intersection
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h]	HV] %	ARRIVAL FLOWS [Total veh/h]	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh]	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Median Storage														
1	T1	11	0.0	11	0.0	0.109	2.1	LOS A	0.4	2.6	0.47	0.47	0.47	43.3
2	R2	73	0.0	73	0.0	0.109	3.0	LOS A	0.4	2.6	0.47	0.47	0.47	48.6
Approach		83	0.0	83	0.0	0.109	2.9	LOS A	0.4	2.6	0.47	0.47	0.47	47.8
North: Hedland Oval														
3	L2	14	0.0	14	0.0	0.028	5.3	LOS A	0.1	0.7	0.43	0.59	0.43	47.9
4	T1	7	0.0	7	0.0	0.028	11.7	LOS B	0.1	0.7	0.43	0.59	0.43	41.5
Approach		21	0.0	21	0.0	0.028	7.5	LOS A	0.1	0.7	0.43	0.59	0.43	46.4
West: Hamilton Rd (EB)														
5	L2	26	5.0	26	5.0	0.141	5.6	LOS A	0.0	0.0	0.00	0.06	0.00	57.6
6	T1	517	1.0	517	1.0	0.141	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	59.7
7	R2	311	11.0	311	11.0	0.185	5.6	LOS A	0.0	0.0	0.00	0.60	0.00	50.9
Approach		854	4.8	854	4.8	0.185	2.2	NA	0.0	0.0	0.00	0.24	0.00	57.4
All Vehicles		958	4.2	958	4.2	0.185	2.4	NA	0.4	2.6	0.05	0.26	0.05	56.4

Appendix D: Swept path diagrams

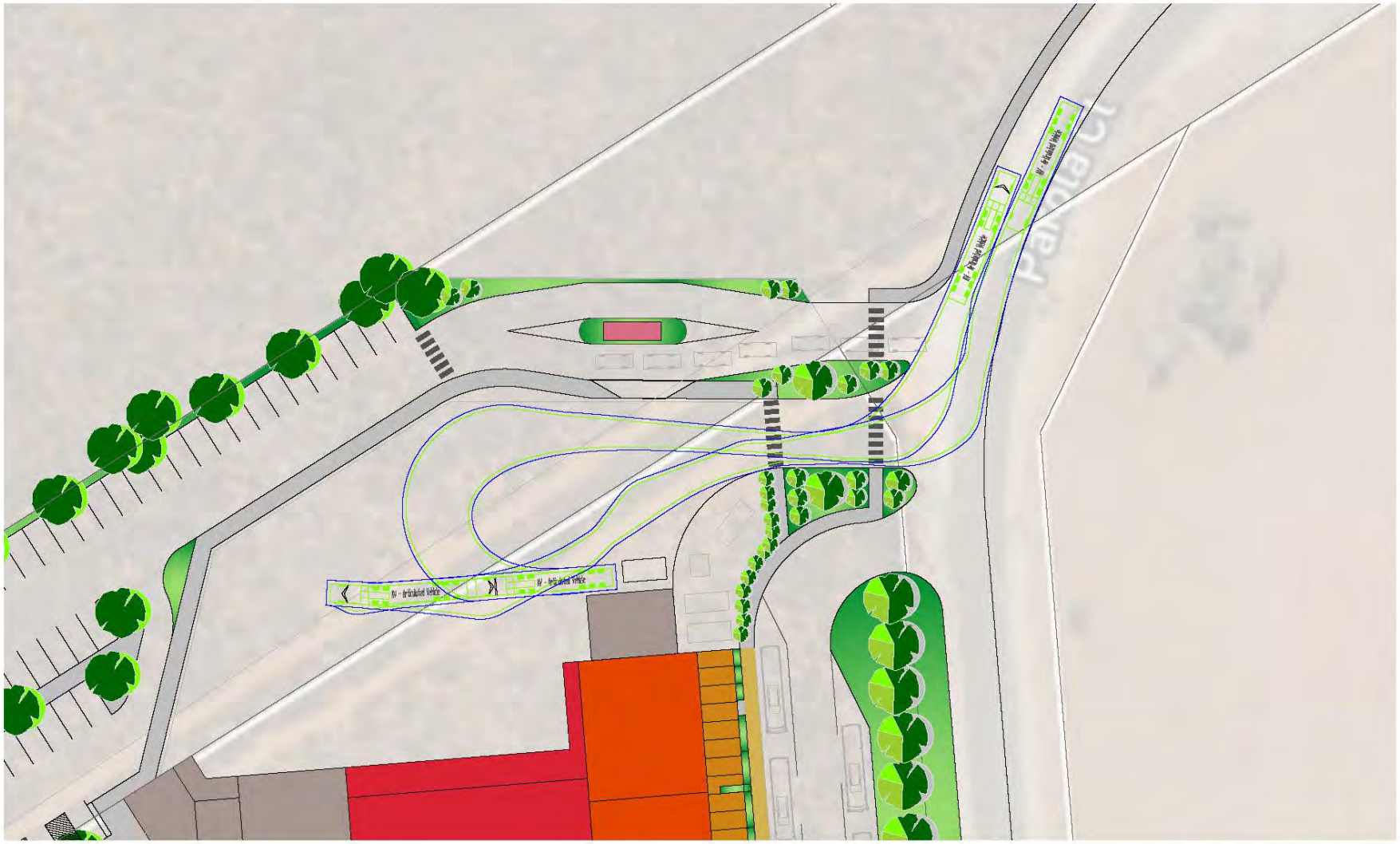
Swept path diagrams are included in this section of the report. Different coloured lines are employed to represent the various envelopes of the vehicle swept path, as described below:

Cyan represents the wheel path of the vehicle

Green represents the vehicle body envelope

Blue represents a 300mm/500mm buffer line, offset from the vehicle swept path

The swept path diagrams are also provided separately in high-quality, A3 PDF format.



Revision notes:

Rev:	Date:	Notes:
1	02/03/2024	Dark blue swept path line represents a 500mm buffer

Drawn by: Paul Ghantous

Client: Tetra Tech

Project: U23.183 - Port Hedland Workforce Accommodation
South Hedland Village Master Plan

Drawing Title: Swept path analysis
AS2890.2 - 19mm Articulated Vehicle (AV)

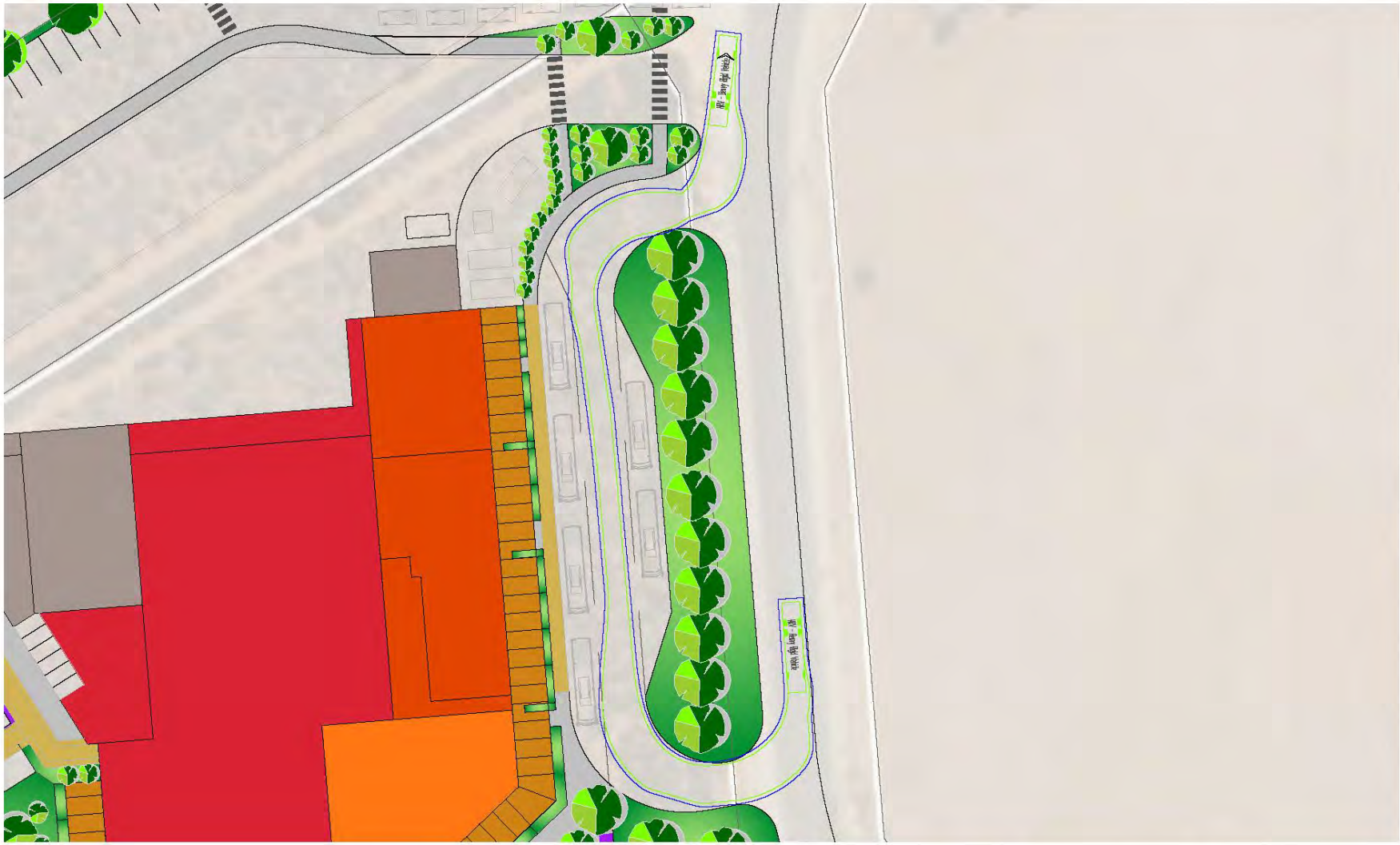
Date: 02/03/2024

Scale @A3: 1:500

Revision: sk01

urbii
Sustainable Transport. Safe Solutions

PO Box 4216, Bedrite WA 6171
0426 581 161



Revision notes:		
Rev:	Date:	Notes:
1	02/03/2024	Dark blue swept path line represents a 500mm buffer

Drawn by: Paul Ghantous	Project: U23.183 - Port Hedland Workforce Accommodation South Hedland Village Master Plan	Date: 02/03/2024	urbii Sustainable Transport. Safe Solutions	
Client: Tetra Tech	Drawing Title: Swept path analysis AS2890.2 - 12.5m Heavy Rigid Vehicle (HRV)	Scale @A3: 1:500		
		Revision: sk02		

Revision notes:

Rev:	Date:	Notes:
1	02/03/2024	Dark blue swept path line represents a 500mm buffer

Drawn by: Paul Ghantous

Client: Tetra Tech

Project: U23.183 - Port Hedland Workforce Accommodation South Hedland Village Master Plan

Drawing Title: Swept path analysis AS2890.1 - B99 Vehicle

Date: 02/03/2024

Scale @A3: 1:500

Revision: sk03

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Waste Management Plan

South Hedland Mining Camp

Prepared for Resolve Group Pty Ltd

23 February 2024

Project Number: WMP23099

DOCUMENT CONTROL					
Version	**Description**	**Date**	**Author**	**Reviewer**	**Approver**
1.0	First Approved Release	23/02/2024	AB	DP	AB

Approval for Release

Name	**Position**	**File Reference**
Ann Brouwer	Project Manager – Waste Management Consultant	WMP23099-01_Waste Management Plan_1.0
Signature		

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Executive Summary

Resolve Group Pty Ltd is seeking development approval for the proposed mining camp development located at South Hedland Village (the Site).

To satisfy the conditions of the development application the Town of Port Hedland (the Town) requires the submission of a Waste Management Plan (WMP) that will identify how waste is to be stored and collected from the Site. Talis Consultants has been engaged to prepare this WMP to satisfy the Town's requirements.

A summary of the bin size, numbers, collection frequency and collection method is provided in the below table.

Proposed Waste Collection Summary

Waste Type	Generation (L/week)	Bin Size (m^3)	Number of Bins	Collection Frequency	Collection
Refuse	140,948	4.5	Five	Seven times each week	Private Contractor
Recycling	59,821	4.5	Two	Seven times each week	Private Contractor

A private contractor will service the Site onsite, directly from the Bin Storage Location. The private contractor's waste collection vehicle will enter and exit the Site in forward gear via Parola Court.

A site manager will oversee the relevant aspects of waste management at the Site.

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Figure 1: Locality Plan

1 Introduction

Resolve Group Pty Ltd is seeking development approval for the proposed mining camp development located at South Hedland Village (the Site).

To satisfy the conditions of the development application the Town of Port Hedland (the Town) requires the submission of a Waste Management Plan (WMP) that will identify how waste is to be stored and collected from the Site. Talis Consultants has been engaged to prepare this WMP to satisfy the Town's requirements.

The Site is bordered by Parola Court to the north, a mining camp to the east, and vacant land to the south and west, as shown in Figure 1.

1.1 Objectives and Scope

The objective of this WMP is to outline the equipment and procedures that will be adopted to manage waste (refuse and recyclables) at the Site. Specifically, the WMP demonstrates that the Site is designed to:

- Adequately cater for the anticipated volume of waste to be generated;
- Provide adequately sized Bin Storage Area, including appropriate bins; and
- Allow for efficient collection of bins by appropriate waste collection vehicles.

To achieve the objective, the scope of the WMP comprises:

- Section 2: Waste Generation;
- Section 3: Waste Storage;
- Section 4: Waste Collection;
- Section 5: Waste Management; and
- Section 6: Conclusion.

2 Waste Generation

The following section shows the waste generation rates used and the estimated waste volumes to be generated at the Site.

2.1 Proposed Tenancies

The anticipated volume of refuse and recyclables is based on the number of workers beds and the floor area (m^2) of the tenancies at the Site. The Site consists of the following:

- Workers Beds – 1,311;
- Reception – 186m^2;
- Administration/Offices – 119m^2;
- Transit Lounge – 296m^2;
- Restaurant/Dining – 1,174m^2;
- Tavern – 653m^2;
- Retail – 405m^2;
- Wellness Centre/Recreation – 408m^2;
- Gym – 675m^2;
- Outdoor Gym – 119m^2;
- Business Centre/Offices – 604m^2; and
- Café/Retail – 317m^2.

2.2 Waste Generation Rates

In order to achieve an accurate projection of waste volumes for the Site, consideration was given to the City of Melbourne's *Guidelines for Waste Management Plans* (2021) and the City of Perth's *Waste Guidelines for New Developments* (Revision 5, effective from June 2019).

Table 2-1 shows the waste generation rates which have been applied to the Site.

Table 2-1: Waste Generation Rates

Tenancy Use Type	Guideline Reference	Refuse Generation Rate	Recycling Generation Rate
Workers Beds	Melbourne - Hotel/Motel	5L/bed/day	5L/bed/day
Reception	Perth – Offices	10L/100m^2/day	10L/100m^2/day
Administration/Offices	Perth – Offices	10L/100m^2/day	10L/100m^2/day
Transit Lounge	Perth – Offices	10L/100m^2/day	10L/100m^2/day
Restaurant/Dining	Perth – Hotel/Motel - Dining Area	667L/100m^2/day	50L/100m^2/day
Tavern	Perth – Licensed Club, Tavern, Small Bar (with dining)	667L/100m^2/day	50L/100m^2/day
Retail	Melbourne – Shops (non-food)	50L/100m^2/day	50L/100m^2/day
Wellness Centre/Recreation	Perth – Offices	10L/100m^2/day	10L/100m^2/day
Gym	Perth – Offices	10L/100m^2/day	10L/100m^2/day

Tenancy Use Type	Guideline Reference	Refuse Generation Rate	Recycling Generation Rate
Outdoor Gym	Perth – Offices	10L/100m^2/day	10L/100m^2/day
Business Centre/Offices	Perth – Offices	10L/100m^2/day	10L/100m^2/day
Café/Retail	Perth – Café (Dine In)	300L/100m^2/day	200L/100m^2/day

2.3 Waste Generation Volumes

Waste generation is estimated by volume in litres (L) as this is generally the influencing factor when considering bin size, numbers and storage space required.

Waste generation volumes in litres per week (L/week) adopted for this waste assessment are shown in Table 2-2. It is estimated that the Site will generate 140,948L of refuse and 59,821L of recyclables each week.

Table 2-2: Estimated Waste Generation

Tenancy Use Type	Number of Beds/ Area (m^2)	Waste Generation Rate	Waste Generation (L/week)
Refuse			
Workers Beds	1311 Beds	5L/bed/day	45,885
Reception	186m^2	10L/100m^2/day	130
Administration/Offices	119m^2	10L/100m^2/day	83
Transit Lounge	296m^2	10L/100m^2/day	207
Restaurant/Dining	1,174m^2	667L/100m^2/day	54,814
Tavern	653m^2	667L/100m^2/day	30,489
Retail	405m^2	50L/100m^2/day	1,418
Wellness Centre/Recreation	408m^2	10L/100m^2/day	286
Gym	675m^2	10L/100m^2/day	473
Outdoor Gym	119m^2	10L/100m^2/day	83
Business Centre/Offices	604m^2	10L/100m^2/day	423
Café/Retail	317m^2	300L/100m^2/day	6,657
		Total	**140,948**
Recyclables			
Workers Beds	1311 Beds	5L/bed/day	45,885
Reception	186m^2	10L/100m^2/day	130
Administration/Offices	119m^2	10L/100m^2/day	83
Transit Lounge	296m^2	10L/100m^2/day	207
Restaurant/Dining	1,174m^2	50L/100m^2/day	4,109
Tavern	653m^2	50L/100m^2/day	2,286
Retail	405m^2	50L/100m^2/day	1,418
Wellness Centre/Recreation	408m^2	10L/100m^2/day	286
Gym	675m^2	10L/100m^2/day	473
Outdoor Gym	119m^2	10L/100m^2/day	83
Business Centre/Offices	604m^2	10L/100m^2/day	423
Café/Retail	317m^2	200L/100m^2/day	4,438
		Total	**59,821**

3 Waste Storage

Waste materials generated within the Site will be collected in the bins located in the Bin Storage Area, as shown in Diagram 1, and discussed in the following sub-sections.

Note: the waste generation volumes are best practice estimates and the number of bins to be utilised represents the maximum requirements once the Site is fully operational. Bin requirements may be impacted as the development becomes operational and the nature of the tenants and waste management requirements are known.

3.1 Internal Transfer of Waste

To promote positive recycling behaviour and maximise diversion from landfill, internal bins will continue to be available throughout the Site for the source separation of the waste streams.

These internal bins will be collected by the staff/cleaners and transferred to the Bin Storage Location for consolidation into the appropriate bins, as required. This internal servicing method may be conducted outside of main operational hours to mitigate disturbances to workers.

Bins may be colour coded and labelled in accordance with Australian Standards (AS 4123.7) to assist occupants, staff and cleaners to dispose of their separate waste materials in the correct bins.

3.2 Bin Sizes

Table 3-1 gives the typical dimensions of standard bins sizes that may be utilised at the Site. It should be noted that these bin dimensions are approximate and can vary slightly between suppliers.

Table 3-1: Typical Bin Dimensions

Dimensions (m)	Bins Sizes		
	240L	3.0m^3	4.5m^3
Depth	0.730	1.505	1.600
Width	0.585	1.805	2.050
Height	1.060	1.225	1.520

Reference: SULO and Veolia Bin Specification Data Sheets

3.3 Bin Storage Area Size

To ensure sufficient area is available for storage of the bins, the amount of bins required for the Bin Storage Area was modelled utilising the estimated waste generation in Table 2-2, bin sizes in Table 3-1 and based on collection of refuse and recyclables seven times each week.

Based on the results shown in Table 3-2 the Bin Storage Area has been sized to accommodate:

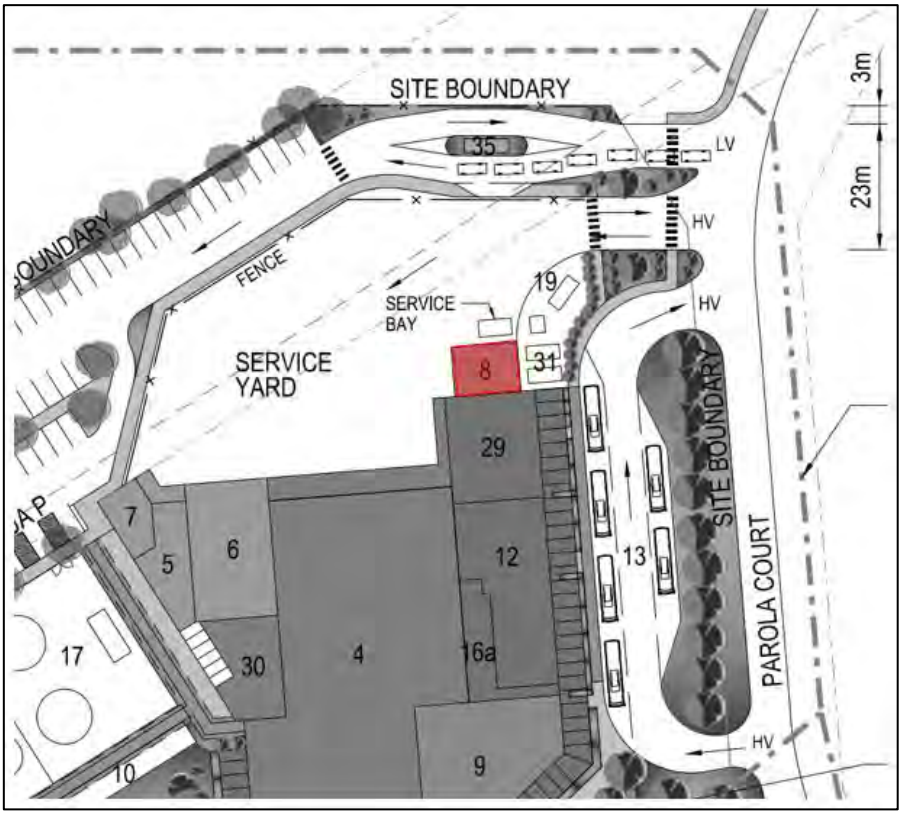
- Five 4.5m^3 refuse bins; and
- Two 4.5m^3 recycling bins.

Table 3-2: Bin Requirements for Bin Storage Area

Waste Stream	Waste Generation (L/week)	Number of Bins Required		
		240L	3m^3	4.5m^3
Refuse	140,948	84	7	5
Recycling	59,821	36	3	2

The Bin Storage Location is shown in Diagram 1.

Diagram 1: Bin Storage Location



3.4 Bin Storage Location Design

The design of the Bin Storage Location will take into consideration:

- Smooth impervious floor sloped to a drain connected to the sewer system;
- Taps for washing of bins and Bin Storage Location;
- Ventilated to a suitable standard;
- Appropriate signage;
- Undercover where possible and be designed to not permit stormwater to enter the drain;
- Located behind the building setback line;
- Bins not to be visible from the property boundary or areas trafficable by the public; and
- Bins are reasonably secured from theft and vandalism.

Bin numbers and storage space within the Bin Storage Location will be monitored by the site manager during the operation of the Site to ensure that the number of bins and collection frequency is sufficient.

4 Waste Collection

A private waste collection contractor will service the Site and provide five 4.5m^3 bins for refuse and two 4.5m^3 bins for recyclables.

The private contractor will collect refuse and recyclables seven times each week utilising a front loader waste collection vehicle.

The private contractor's front loader waste collection vehicle will service the bins onsite, directly from the Bin Storage Location. The private contractor's front loader waste collection vehicle will travel with left hand lane traffic flow on Parola Court, turn into the Site in forward gear and pull up directly opposite the Bin Storage Location for servicing.

The private contractor will be provided with key/PIN code access to the Bin Storage Areas and security access gates to facilitate servicing, if required.

Once servicing is complete the private contractor's front loader waste collection vehicle will exit in a forward motion, turning onto Parola Court moving with traffic flow.

The above servicing method will preserve the amenity of the area by removing the requirement for bins to be presented to the street on collection days. In addition, servicing of bins onsite will reduce the noise generated in the area during collection. Noise from waste vehicles must comply with the Environmental Protection (Noise) Regulations and such vehicles should not service the site before 7.00am or after 7.00pm Monday to Saturday, or before 9.00am or after 7.00pm on Sundays and Public Holidays.

The ability for the private contractor's front loader waste collection vehicle to access the Site in a safe manner has been assessed by Urbii and will be included within their traffic impact statement.

4.1 Bulk and Speciality Waste

Bulk and speciality waste materials will be removed from the Site as they are generated on an 'as required' basis. A temporary skip bin could be utilised for collections, if required. Bulk and specialty waste collection will be monitored by the site manager who will organise their transport to the appropriate waste facility, as required.

These may include items such as:

- Refurbishment wastes from fit outs;
- Mattresses;
- Batteries and E-wastes;
- White goods/appliances;
- Used Cooking Oil;
- Cleaning chemicals; and
- Commercial Light globes.

5 Waste Management

A site manager will be engaged to complete the following tasks:

- Monitoring and maintenance of bins and the Bin Storage Location;
- Cleaning of bins and the Bin Storage Location, when required;
- Ensure all staff/workers at the Site are made aware of this WMP and their responsibilities thereunder;
- Monitor staff/worker behaviour and identify requirements for further education and/or signage;
- Monitor bulk and speciality waste accumulation and assist with its removal, as required;
- Regularly engage with staff/workers to develop opportunities to reduce waste volumes and increase resource recovery; and
- Regularly engage with the private contractor to ensure efficient and effective waste service is maintained.

6 Conclusion

As demonstrated within this WMP, the Site provides a sufficiently sized Bin Storage Location for storage of refuse and recyclables based on the estimated waste generation volumes and suitable configuration of bins. This indicates that an adequately designed Bin Storage Location has been provided, and collection of refuse and recyclables can be completed from the Site.

The above is achieved using:

- Five 4.5m^3 refuse bins, collected seven times each week; and
- Two 4.5m^3 recycling bin, collected seven times each week.

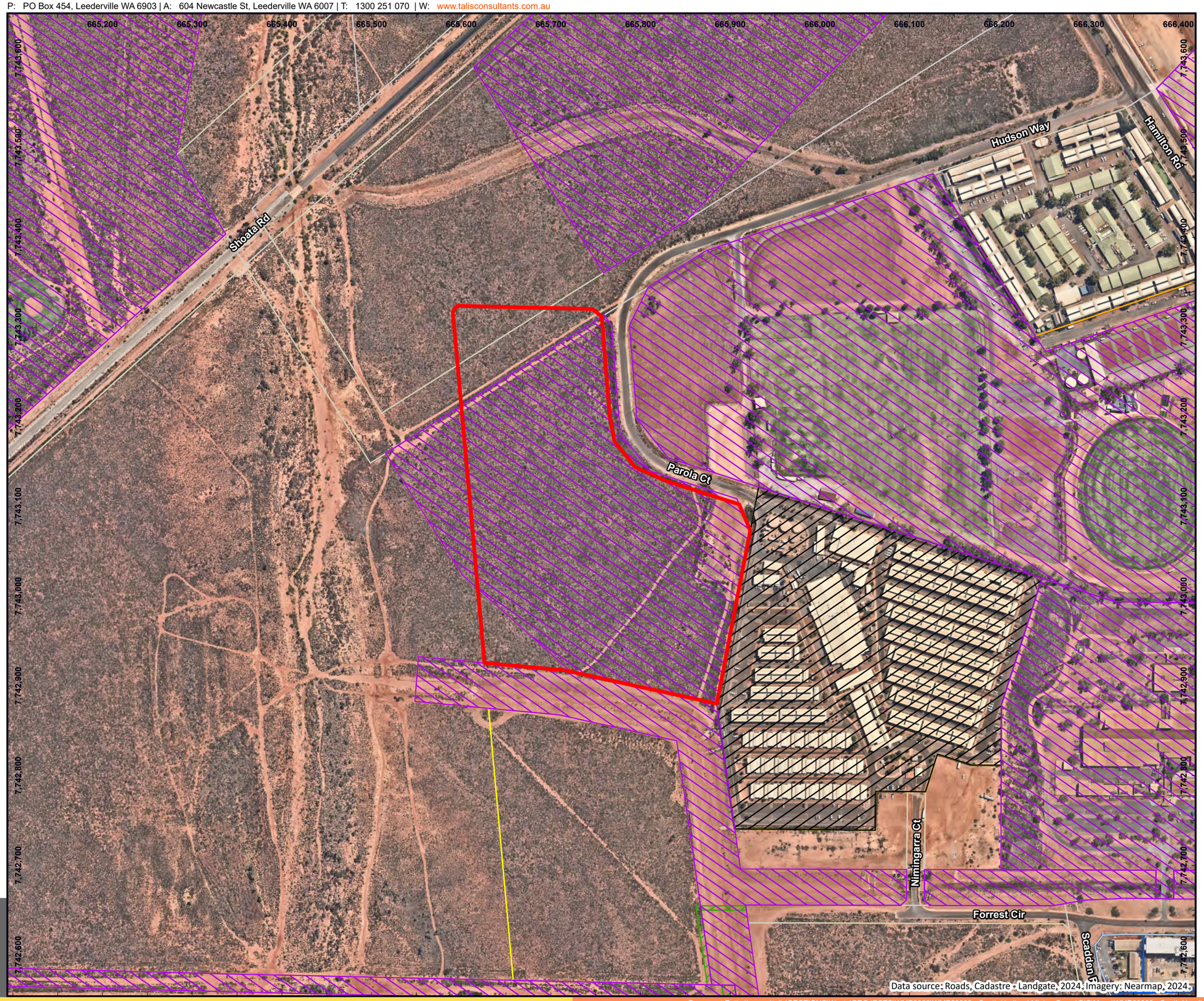
A private contractor will service the Site onsite, directly from the Bin Storage Location. The private contractor's waste collection vehicle will enter and exit the Site in forward gear via Parola Court.

A site manager will oversee the relevant aspects of waste management at the Site.

Figures

Figure 1: Locality Plan

P: PO Box 454, Leederville WA 6903 | A: 604 Newcastle St, Leederville WA 6007 | T: 1300 251 070 | W: www.talisconsultants.com.au



LEGEND

- Site Boundary

Cadastre

- Crown Allotment
- Freehold
- Road
- Strata Plan or Lot
- Easement
- Lease
- Reserve

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LOCALITY

0 5 10 15 20 km

LOCALITY

Lot 601
South Hedland Village
South Hedland WA 6722

Resolve Group Pty Ltd

N 0 50 100 150 m

Coordinate System: GDA2020 MGA Zone 50
Scale @ A3: 1:4,000

Prepared:	E Jackson	Date:	1/02/2024
Reviewed:	A Brouwer	Revision:	A
Project:	WMP23099		

talis consultants

Figure 01

Assets | Engineering | Environment | Noise | Spatial | Waste

Talis Consultants
ABN 85 967 691 321

HEAD OFFICE
604 Newcastle Street,
Leederville
Western Australia 6007

PO Box 454,
Leederville
Western Australia 6903

NSW OFFICES
Nowra
76 Bridge Road, Nowra
New South Wales, 2541

PO Box 1189, Nowra
New South Wales, 2541

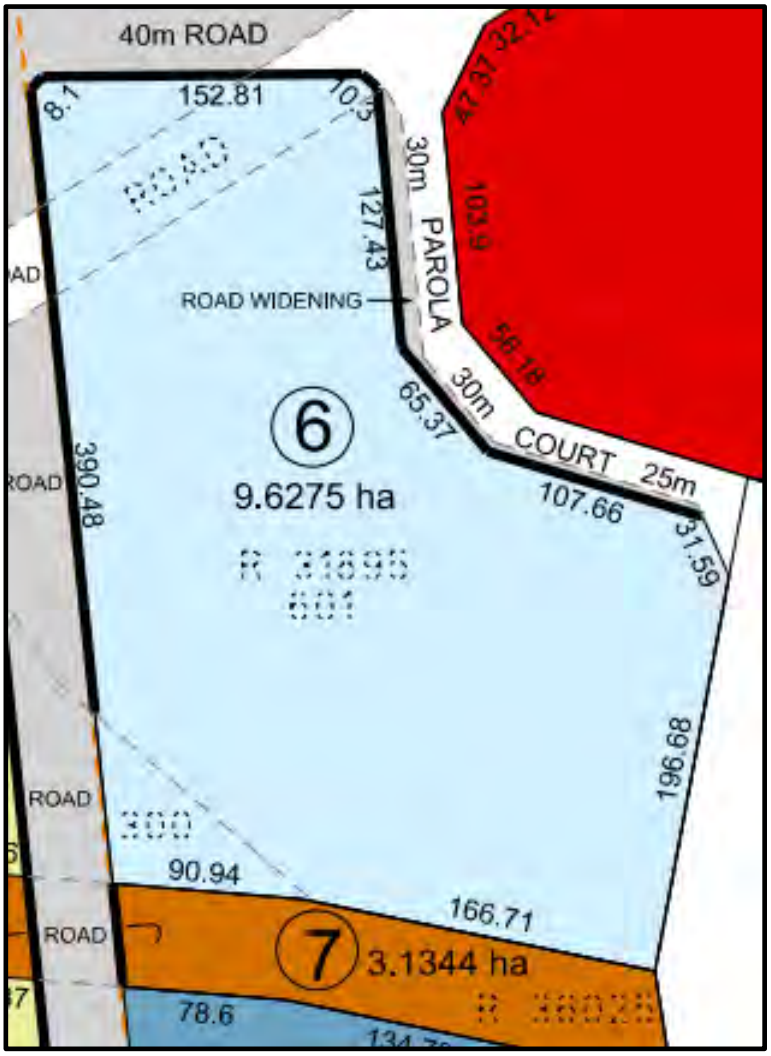
Newcastle
58 Cleary Street, Hamilton
New South Wales, 2303

P: 1300 251 070
E: enquiries@talisconsultants.com.au

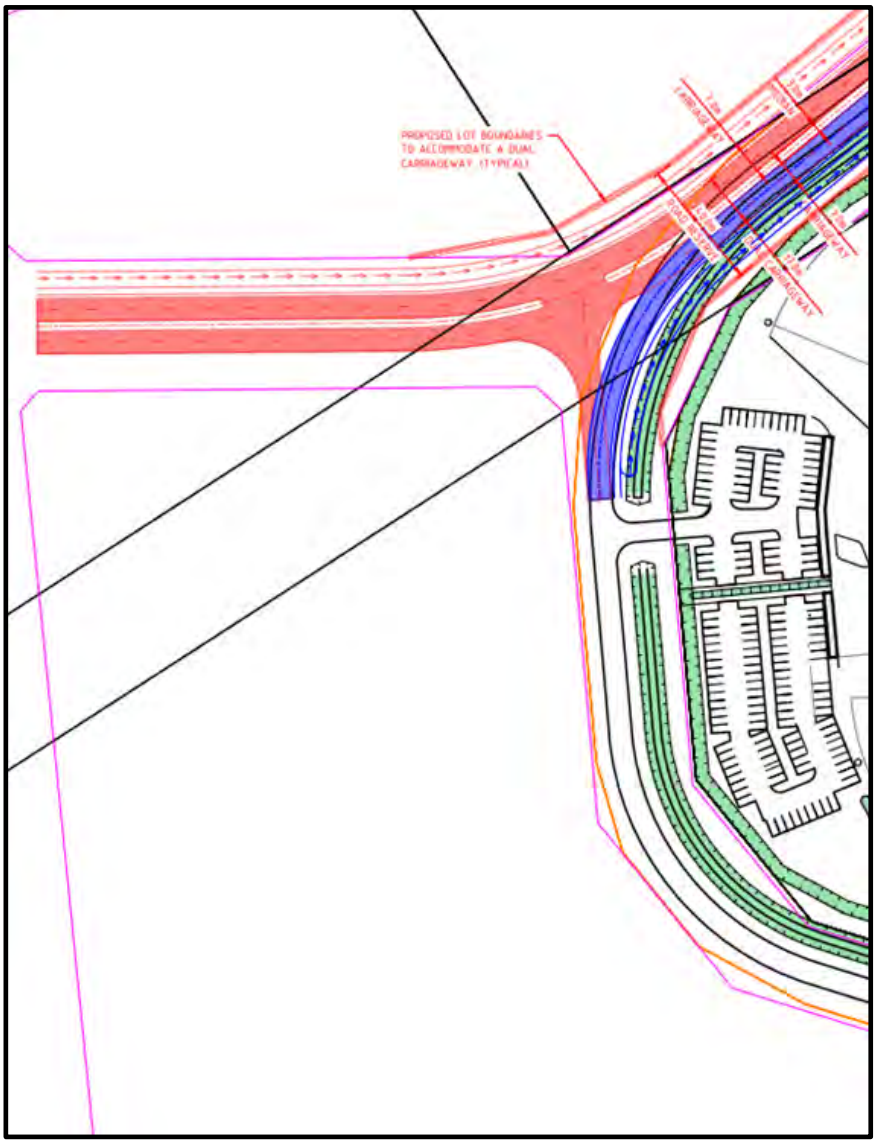
DRP – Report and Recommendations

Town of Port Hedland

DR3 – Design review report and recommendations (Part 1/4)		
This report is prepared by the panel coordinator and checked by the design review Chair. To maintain the integrity and independence of the design review process this report should be attached, unedited to Council reports and (if applicable) the Development Assessment Panel Responsible Authority Report.		
Item no.	N/A	
Date	Wednesday, 7 February 2024	
Time	2:30PM – 4:30PM	
Location	Microsoft Teams Meeting (online)	
Panel members	Malcom Mackay (Chairperson) Scott Lang Phil Gresley	Mackay Urban Design UDLA – Landscape Architects Gresley Abas - Architects
Local government officers	Chaz Roberts (presiding member) Casimir Penheiro Ryley Heap Srinivas Nanjangud Balachandra Karli Beresford	Manager Planning and Economic Development Senior Urban Planner Senior Economic Development Officer Planner Project Officer – Strategic Planning
Proponent/s	Alex Daly Jordan Busher Brett Gray Cecilia Healy Afshin, Firouzi	Pacific Partnerships Resolve Group Tetra Tech Proteus Tetra Tech Proteus Pacific Partnerships
Observer/s	Nil	Nil
Briefings		
Development assessment overview	Chaz Roberts	Manager Planning and Economic Development
Technical issues	Technical assessments to be undertaken as part of formal application process.	
Design review		
Proposed development	Workforce Accommodation and Tourist Development	
Property address	Lot 601 Parola Court, South Hedland and associated land parcels (Portions of Vacant Crown Land Lot 604 and Lot 300 and Road Reserve)	

Background	**Site context** The subject land is currently vacant, free of development, with frontage to Parola Court. The land is approximately 1km north west of South Hedland town centre, 10km south of Port Hedland, opposite South Hedland Integrated Sports Hub, 700m north-west from the future Town's performing arts centre, and civic and community hub. **Land Assembly / Crown Subdivision** The Town at the Ordinary Council Meeting on 29 November 2023, resolved to approve a series of modifications to lot boundaries and road connections to promote development options for South Hedland, including realignment boundaries for Lot 601 (refer the new boundary below).  As part of the Town's development program for the South Hedland Integrated

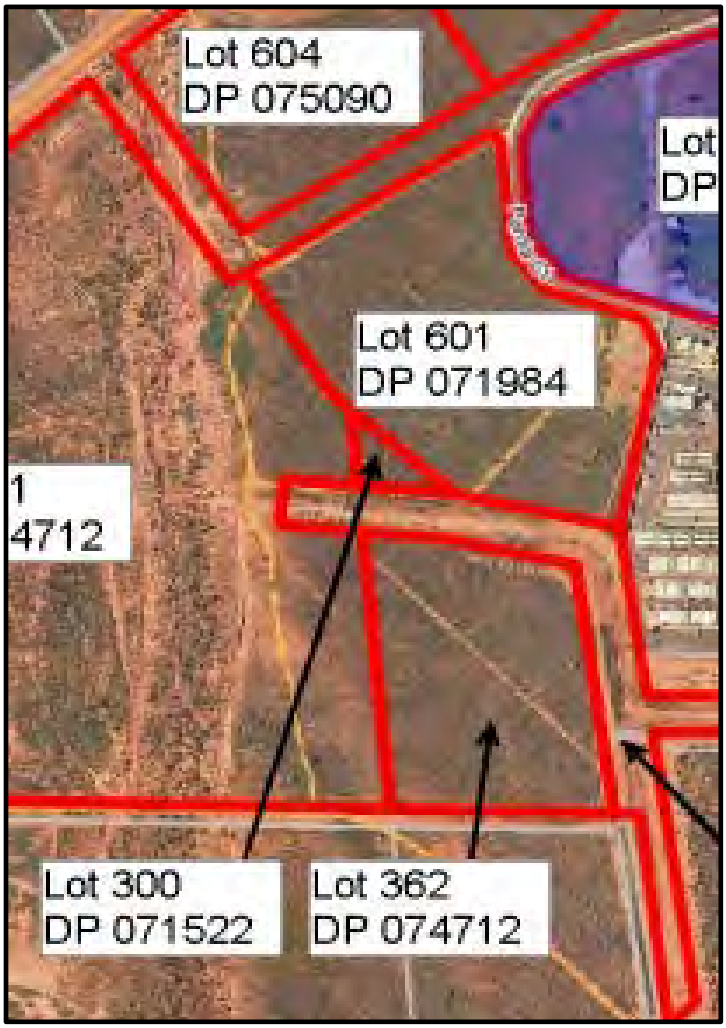
Sports Hub a future road layout has been identified adjacent to the proposed development site (Refer Image below. Future road in red).



Subject Site (Land Assembly)

The subject site consists of:

- Lot 601 on Deposited Plan 71984 (refer map below).
- Portion of Lot 300 on Deposited Plan 71522.
- Portion of Lot 604 on Deposited Plan 75090.



Zoning / Reserves

The subject area has the following zones and reserves under the Local Planning Scheme 7:

- Rural - (Lot 601).
- Rural – (Lot 300).
- Environmental Conservation Reserve (Lot 604).
- District Distributor Road.

LEGEND

LOCAL SCHEME RESERVES

- Civic and Community
- Drainage/Waterway
- Environmental Conservation Reserve
- District Distributor Road
- Local Road
- Primary Distributor Road
- Public Open Space
- CE Cemetery
- E Education
- ES Emergency Services
- IS Infrastructure Services
- Special Purpose Reserve
- Railways
- Strategic Infrastructure

LOCAL SCHEME ZONES

- Centre
- Commercial
- General Industry
- Industrial Development
- Light Industry
- Mixed Use
- Private Clubs, Institutions and Place of Worship
- Residential
- Rural
- Rural Residential
- Service Commercial
- Settlement
- Special Use
- Strategic Industry
- Tourism
- Urban Development

Bushfire Prone Area

The whole of the subject area is subject to bushfire assessment considerations (source: refer DPLH bushfire mapping) as per below:

Proposal	The proposal is for a workforce accommodation facility to accommodate up to 1,350 rooms. The Applicant's proposal indicates the following (initial information): *"The room size is ranging from 22sqm to 28 sqm for single occupancy.* *The proposal includes:* • *Hotel-Style Permanent Accommodation (6 levels) on the street frontage on Parola Court.* • *510 hotel-style rooms.* • *840 rooms (35 @ 24 rooms each).* • *Universal Access Rooms (1 @ 2 rooms each).* • *On-site solar energy generation with battery storage.* • *Electrical vehicles charging stations.* • *Water saving and smart waste management initiatives.* • *Reception area.* • *Kitchen.* • *Maintenance workshop.* • *Waste handling and linen.* • *Baggage store and lockers.* • *Dining rooms.* • *Tavern and beer garden.* • *Recreation rooms.* • *Sports Courts.* • *Retail and services.* • *Bus set-down.* • *A total of 388 parking bays;* o *Bus bays: 4* o *Universal access bays: 2* *The initial lease tenure is for 15 years. The following options are proposed:* • *As a worker accommodation facility for an additional 15 years;* • *As a mixed-used facility combining a mining workers facility and essential workers accommodation for an additional 15 years; or* • *Re-purpose the hotel style facility into apartments for the benefit of permanent South Hedland local community as a build to rent for an additional 20+ years and transform the back of Lot 601 (land assembly area) into a green recreational space area".* (sic)
General comments	Nil

Design review report and recommendations **Item 1: Mixed-use development, Parola Court, South Hedland**		
Design quality evaluation		
Principle 1 **Context and character**		*Good design responds to and enhances the distinctive characteristics of a local area, contributing to a sense of place.*
		Strengths a) The adjacency to the recreational hub facilities is a positive and synergistic relationship. b) The site is within walking/ cycling/ micro-mobility distance to the town centre (weather permitting) c) The presentation provided some useful explanation of the context. **Areas for improvement** d) Whilst some context and character analysis was provided in the first meeting, it needed, and still needs, elaboration. e) There remains a need to understand the edge conditions of the site, particularly to the north and west, and whether these will be future streetscapes and, if so, how they will be configured and how the site interfaces with them. f) Demonstrate an understanding of local character and explain how the design responds to that character through architecture, landscape, public art, recognition of indigenous culture, etc. ***Recommendations*** ***1. Continue to develop the context and character analysis, including the future street network in the area and analysis of local character.***
Principle 2 **Landscape quality**		*Good design recognises that together landscape and buildings operate as an integrated and sustainable system, within a broader ecological context.*
		Areas for improvement a) A well-resolved and well-integrated landscape design is essential for a successful and appealing design. b) The masterplan lacks a cohesive vision for spaces and their landscape treatment. In many places, the opportunity for landscape is left blank on the landscape plan. c) Landscape is about far more than just specifying plants – it should extend to the use and definition of external spaces, the relationship between buildings and adjacent spaces, the integration of stormwater and shade, the design of paving, seating, and other outdoor infrastructure. d) The central area and village green remains a promising idea but needs more design consideration, definition and detail to explain how it could become the focal point of the

		development. e) There is a lot of hardscape area, which will be hot and unpleasant if not properly shaded – undertake a paving audit to work out what is really needed. f) Identify the water supply for landscape - whether it is potable or recycled. g) Consider reorientating the cricket nets. h) The moat of car-parking is a concern and how landscape screens it and provides shade is critical – the thin landscape strip along the boundary looks ineffective. i) A drainage strategy was not provided to the DRP – flow paths (where water comes from and goes to) should be included as an overlay on the landscape plan. This can provide cues for contextual landscape design strategies. j) There is little evidence of considering the functionality of landscape spaces. For example, opportunities for seating and gathering. k) The landscaping to Parola Court is not yet an appropriate urban 'street' response – it needs more shade through well defined avenues of trees and less shrubbery. l) Fundamentally, the landscape response needs to be about shade, shade and shade. m) There is an over-emphasis on shrubs – trees are more cost effective and sustainable. n) Consider extensive tree canopy in the central spaces, o) Stone mulch will be a major heat sink until shade trees have established. ***Recommendations*** ***1. Develop a well-resolved and holistic landscape master plan that includes planting, pedestrian routes, hierarchies and use of external spaces, hardscape, shade, stormwater management, etc.*** ***2. Review the central space/village green with a view to better integration into the development, and a more compelling central hub with extensive shade and visual appeal.*** ***3. Minimise paved area to what is essential.*** ***4. Clarify the drainage strategy and develop an appropriate landscape design response.*** ***5. Consider the functionality of external spaces – i.e. how they are used and by whom.*** ***6. Consider water sources for landscape.*** ***7. Review the edge condition of the site where it will be a future street interface and ensure enough landscape to provide an attractive edge and reduce the visual impact of the parking.*** ***8. Review the landscape to Parola Court to establish an appropriately urban streetscape.***

		9. Provide more emphasis on trees rather than shrubbery. ***10. Review mulching treatment and its thermal and visual impact before the landscape is established.***
Principle 3 **Built form and scale**		*Good design ensures that the massing and height of development is appropriate to its setting and successfully negotiates between existing built form and the intended future character of the local area.*
		Strengths a) The master plan concept is generally logical although it has lost some of the sophistication in translation from the original hand-drawn plan to the engineered CAD plan. b) The development interface to Parola Court is becoming a more appropriate urban response, although the landscape component still needs to deliver a complementary urban response. c) The extent of active uses on the ground plane is good. d) The use of building height to increase land efficiency and release site area for landscape is strongly supported. e) The orientation of buildings is mostly logical. f) The different typologies (hotel, 2 storey blocks, etc) is positive. g) The external verandas are good multi-use spaces. h) The dispersal of cars in multiple car parking areas around the site is good. However, if the current back of the site become a future street frontage, car parking on 3-4 sides of the site will diminish the adjacent public realm. **Areas for improvement** i) Consider including on-street parking for reciprocal short-term use and to support the retail. j) Consider how to provide continuity of cover (from bus to bed) during adverse weather. k) The hotel form is long and monolithic – there are opportunities to break it up at changes of orientation and the stairs/lifts cores. l) Whilst there are some good ideas in isolation, the architectural treatment needs more development to become an architectural composition rather than an architectural wallpaper – it is large urban object that needs some sculptural qualities. m) Consider how the modular construction could be expressed with more sophistication. n) The resulting long internal corridor us unrelenting and could be challenging from a functional perspective. o) The street interface needs to be taken to the next level of design detail as it is the main and most public 'touch point' of the development.

		p) The extensive wall of glazing at ground floor is unrelenting and characterless - consider introducing stall risers, neutral piers, and some diversity in the materials and detailing. q) The architecture of the two-story units still feels 'Donger' like. Whilst the verandas, screens, hips etc assist, the line CAD drawings fail to capture any design intent beyond the functionality. r) The food and beverage areas have a very 'mess-hall' canteen quality and could be broken down into a range of smaller and engaging spaces with more amenity. ***Recommendations*** ***1. Consider introducing on-street parking.*** ***2. Consider how to provide continuity of shade and shelter to the pedestrian routes within the site.*** ***3. Review the hotel design to visually break-up the long monolithic form.*** ***4. Refine the architectural treatment of the hotel, including better expression of the modular form of construction.*** ***5. Continue to refine the plans with a view to enhancing the use and appeal of the central space/ village green.*** ***6. Review the car parking to avoid diminishing future streetscapes.*** ***7. Refine the treatment of the ground level as it presents to Parola Court.*** ***8. Use better graphic means to illustrate the architectural intent.*** ***9. Review the large food and beverage areas with a view to managing them as a series of smaller and more intimate spaces.***
Principle 4 **Functionality and build quality**		*Good design meets the needs of users efficiently and effectively, balancing functional requirements to perform well and deliver optimum benefit over the full life cycle.*
		Strengths a) A generally logical master plan from a purely functional perspective. b) The individual buildings are generally functional. **Areas for improvement** c) Further explanation is required on the rationale for the multiple entries to the hotel. d) The accommodation rooms are tight, especially the bathrooms. e) The use of angled parking needs more clarification. For example: is it one-way or two? Is it head-in or tail-in? How is parking on the opposite side of the travel lane accessed?

		Recommendations ***1. Explain the functionality of the hotel, especially in respect to the entrances.*** ***2. Review the accommodation units to provide more generosity of space in the wet areas.*** ***3. Clarify how the angled parking works.***
Principle 5 **Sustainability**		*Good design optimises the sustainability of the built environment, delivering positive environmental, social and economic outcomes.*
		Strengths a) The provision of workers accommodation within the town centre rather than in a remote location is commendable. **Areas for improvement** b) There is little evidence of commitment to sustainability, which is not just an important 10% of the design 'scorecard' but an increasingly important ESG component of corporate responsibility. c) Engage an ESD consultant to assist with the development of a sustainability strategy with a broad suite of indicatives and commitments. ***Recommendations*** ***1. Engage an ESD consultant and develop a sustainability strategy with clearly identified commitments.***
Principle 6 **Amenity**		*Good design optimises internal and external amenity for occupants, visitors and neighbours, providing environments that are comfortable, productive and healthy.*
		Strengths a) There is a generosity of communal amenities – food and beverage, recreation, etc. b) Verandas have been extensively provided for shade and shelter to walkways and openings. **Areas for improvement** c) Consider noise and privacy issues arising from the central void, particularly if the windows are openable. d) Review the provision of shade to outdoor spaces, particularly the main central spaces. e) Review the location of the northeastern cluster of accommodation units and their proximity to the mess hall plant room. There may be reduced amenity to these residents. f) Review the amenity of the external recreation spaces and

		the village green being on the west side of the long and large hotel structure with high exposure to afternoon sun but not the cooling easterlies. More investigation of shadow and airflow is required to support these faculties in the this location. ***Recommendations*** ***1. Confirm whether the rear windows to the accommodating units are openable and/or designed for noise attenuation.*** ***2. Provide more detail on the common amenity areas including outdoor spaces.*** ***3. Undertake climatic analysis of the external spaces regarding shade, sun exposure and access to cooling breezes.***
Principle 7 **Legibility**		*Good design results in buildings and places that are legible, with clear connections and easily identifiable elements to help people find their way around.*
		Strengths a) The master plan provides an identifiable centre to the development through the large piazza space and village green, although they both need further design resolution to perform that role. **Areas for improvement** b) Provide more trees or shade structures along the main pathways serving the accommodation blocks. ***Recommendations*** ***1. Enhance the pedestrian paths with generous shade and shelter.***
Principle 8 **Safety**		*Good design optimises safety and security, minimising the risk of personal harm and supporting safe behaviour and use.*
		Strengths a) There is good separation of pedestrians and vehicles. **Areas for improvement** b) Consider the provision of safe access for bikes/micro-mobility – especially to enable access to the nearby town centre, noting that this development is intended to be a very different urban-style proposition to the run-of-the-mill workers camp in a dusty paddock. c) Consider a lighting strategy, particularly for the internal path network, without relying on industrial scale floodlighting.

		Recommendations ***1. Provide for safe use of bikes and other forms of micro-mobility.*** ***2. Establish a lighting strategy.***
Principle 9 **Community**		*Good design responds to local community needs as well as the wider social context, providing environments that support a diverse range of people and facilitate social interaction.*
		Strengths a) There is a promising range of facilities and outdoor spaces to support social engagement. b) The adjacency to the recreation precinct is positive from a community perspective. c) The undertaking of engagement with the local indigenous community is supported. Hopefully, it will be more than a token gesture and lead to design outcomes that provide a meaningful connection to country. **Areas for improvement** d) The yarning circle is tucked out the back and could be relocated into a more prominent place. e) Refer to the Australian Indigenous Design Charter (AIDC) for guidance for integrating a meaningful connection to country through the design. ***Recommendations*** ***1. Review the location of the yarning circle.*** ***2. Be guided by the AIDC in establishing a more meaningful connection to country.***
Principle 10 **Aesthetics**		*Good design is the product of a skilled, judicious design process that results in attractive and inviting buildings and places that engage the senses.*
		Strengths a) Some effort has been made to 'dress' buildings with verandas and other shade structures and provide contrasts between light and shadow. b) Some effort has been made to introduce colour and visual interest into the design, although there remains scope for this to be refined. **Areas for improvement** c) The nature of the place suggests an opportunity to develop an architecture that expresses a stronger response to the provision of shade. d) Fencing needs to be an integral design element given it is the closest design element to everything outside of the site. e) Landscape is an integral aesthetic element.

		Recommendations ***1. Develop an architectural language that is derived from a stringer response to climate.*** ***2. Consider fencing as an integral design element.*** ***3. Consider landscape as an integral design element.***

Concluding comments

The Panel thanks the Applicant for the presentation and notes that some of the advice provided in the first DRP was taken on board, resulting in some improvement to the design.

However, the additional level of detail provided this time around was largely of a technical nature rather than information that helped to refine and better explain the design intent. Design is a process that involves developing and communicating a narrative that explains the 'why' as much as the 'what', as opposed to simply documenting a functional piece of infrastructure.

It was evident to the Panel that the current proposal is suffering from a lack of meaningful input from both architectural and landscape professionals. What is being proposed is a piece of a town centre rather than a piece of infrastructure, the delivery of which requires a different skill set from that of a large engineering consultancy. In this respect, the Panel notes that Andrew Campion has recently been brought onto the project and can provide the meaningful design input to raise the quality of the proposal to a level that the Panel can support. The Applicant is strongly encouraged to augment his architectural input with meaningful landscape and ESD input.

The Panel also stresses the importance of visual communication. Often, a good idea can be overlooked if it is not well presented. In this respect, the design needs to be supported with a comprehensive landscape plan that includes hardscapes, outdoor furniture, shadows, etc, elevations that have representative colour palettes and shadow projections, and 3D renders that clearly demonstrate the spatial intent of the main elements of the overall design. Above all, the design needs to be presented with a compelling vision and a strong narrative of how it responds to the 10 principles of SPP7. This level of communication will assist in securing the support of the DRP, the Town, the community and, ultimately, decision makers.

The Panel is supportive of the general intent and scale of the project and acknowledges that there are some good ideas in the proposed design – this was particularly evident in the initial hand-drawn sketches that were provided prior to the first DRP meeting, the qualities of which have since been lost in translation. However, the proposal is of a significant scale and will be a prominent feature of the South Hedland town centre for many decades to come. As such, it deserves to be a well-resolved design outcome. The Applicant is strongly encouraged to invest in the application of architectural, urban design and landscape skills to ensure that the proposed development becomes a meaningful and loved part of the town centre rather than just development for the sake of development.

Malcolm Mackay - Chair signature	
Chaz Roberts - Presiding Member signature	

Noted NO.	SUBMITTER	SUBMISSIONS – SUPPORTING	OFFICER COMMENT
1	WA Department of Health	SUPPORT: • all drinking water provided onsite must meet the health-related requirements of the Australian Drinking Water Guidelines 2011. • Proposed Development must be connected to a deep sewer service. • Wastewater intended to be reused or recycled landscape and garden bed irrigation, toilet flushing or other purposes, will require prior approval from DoH. • The subject land occasionally experiences problems with nuisance and disease carrying mosquitoes. Mosquito collections on surrounding land that vector mosquito's species *Cx. annulirostris and Ae. vigilax breed* nearby. • the Town of Port Hedland determine the risk from mosquitoes and mosquito-borne disease and consider funding of effective mosquito management for the area. • onsite infrastructure and constructed water bodies be designed and maintained to ensure they do not breed mosquitoes.	Noted: • An advice note has been added to the recommendation.
2	Dr John van Bockxmeer	SUPPORT: • The addition of the accommodation close to South Hedland town centre will improve the housing situation in Hedland. • Would like the Town of Port Hedland planning team to focus on pedestrian links on Parola Court, Hudson Way, Forest Circle and Hamilton Road including: - Tree canopy. - Wayfinding. - Public benches. - Signage. - Water fountains. - Bike-share/scoot share facilities. - Safe street lighting.	Noted: • Links have been considered with South Hedland Sports Hub opposite and surrounding road network.

		• This will encourage persons staying in the accommodation to make use of the future aquatic centre, stadium, and retail precinct and help improve community safety.	• Minimal recreation and health facilities have been provided on site. It's expected that access to communities' facilities nearby will assist the well being of the onsite workforce community.
3	Development WA	SUPPORT: • No comments	Noted:
4	Care for Hedland Environmental Association Inc.	SUPPORT: • The association would love to see this development be a good environmental and sustainability design example, highlighting its eco-sustainability elements, its connection to local environment, with deliberate measures in place to minimise greenhouse emissions and other negative climate contributions. • It's important that the development demonstrates how it can adapt to potential extreme and increased frequency severe climate impacts. • The Association would love to see an emphasis on water efficiency and showcases using local native Hedland plant species, vegetative mulching, and fruit trees. • The Association would like to see the Developments client responsive design elements and future proofing efforts embedded into sustainable practises on-site e.g. Community Garden elements, small scale vegetable and herb growing, on-site kitchens and restaurants for local grown produce use. • The Association would like to see: - the capturing of water from air-conditioner units for plantings and landscaping treatments. - to use good solar passive design - Ensuring building are orientated /acknowledge harsh South Hedland solar pathway, - designs has ample breezeways, as the location does not get cool sea breezes. - Each room, office and building have comprehensive insulation in all walls, floors, and the ceilings to prevent excessive heat ingress. Would also help with noise/sound management.	Noted: • Appropriate condition(s) will be added to Recommended Authority Report to Regional Development Assessment Panel addressing. • Development design shows adequate veranda features round all buildings. Shade through trees and structures have been recommended and suitable conditions will be recommended. • Use of the Town's tree planting guide is recommended as a condition of preparing the landscaping plans. • Opportunity for discussion around onsite community garden as part of Social Impact Management Plan. • The development will have to meet building standards under the National Construction Codes and energy efficiency standards. • Applicant is required to updated a Waste Management Plan already submitted.

		- The windows are double glazed, and all doors are sealed properly to prevent heat ingress and cool air escaping. - All ceilings and outdoor spaces are fitted with fans. - Wall in direct sun are shaded together with appliances like air-conditioners to assist with energy use. - Solar PVs on all buildings, permanent built cark parking infrastructure and solar power battery storage on-site. - car parking should include bike racks, inbuilt charging capabilities for EV vehicles E-Scooters and E-bikes. - focus on energy efficient lighting. All appliances in the offices, wellness areas, retail, restaurants, hotel rooms, laundry, Tavern etc being 4 star and above for energy and water use rated. - Good recycling and waste practises should be considered. Placement of yellow lid bins and Containers for Change collection receptables should be put around the vicinity of the accommodation.	

No.	Submitter	Submissions – Supporting	Officer Comment
1	Deborah Daccache	NOT SUPPORT: • Lack of confidence new Tourist Accommodation and Workforce Accommodation will be used for the correct purposes. • The intention to open for tourists, will soon be revoked and used as a FIFO camp - same as South Hedland Club Hamilton & BHP FIFO Port Haven. • Secluding the workers who will be residing at the accommodation from the Town and could potentially add to rising mental health numbers. • Concerns the disability and all-inclusive access requirements will not adhere to. • Local small businesses currently suffering and queries why they can't be offered permanent build space in the new precinct.	Noted • Noted. • Development conditions will be recommended to the decision authority, Regional Development Assessment Panels. • The applicant is required to provide a safe accommodation environment. The location is has opportunity for aces and intergradation with the town community for wellbeing of workforce residents. • Disability and access rooms have been indicated as part of the design. There is a legislation requirement for the provision of these facilities as part of a building permit process. • The development has provided space for some retail facilities. There is opportunity for discussion by submitter about leasing to support small businesses development. This has not been discussed with the applicant.
2	Julie Arif	NOT SUPPORT: • Location is undesirable for Tourists - underwhelming view and concerns the accommodation will not show the towns personality. • Accommodation should cater to all age groups - not ideal for families with young children to be surrounded by FIFO/High V's workers.	Noted: • The scale of development associated commercial facilities is expected to be of higher quality than existing workforce accommodation and should provide a positive improvement to area. • Limitation on age groups is not a planning consideration.
3	RFF Australia Pty Ltd (Late submission)	COMMENT ONLY: RFF note several matters which may require additional information or public advertising prior to determination being made, including:	• The application is subject to The Planning and Development (Local Planning Schemes) Regulations 2015 (Regs - Deemed Provisions) .

		Insufficient Information • Information required to be submitted with a planning application pursuant to Clause 63 of the Regulations are omitted from the application document package, including (for example, a Social Impact Assessment and Management Plan) • RFF noted the application submitted is inadequate with respect to the requirements for lodgement set out in Clause 63 of the Planning and Development (Local Planning Schemes) Regulations 2015 or relevant local planning policies adopted by the Town of Port Hedland. RFF note the following omissions relevant to the assessment of Workforce Accommodation proposal of this scale: 1. A servicing or engineering report demonstrated the proposed development is capable of being serviced 2. Social Impact assessment or Management plan required for any "Workforce Accommodation Proposal" pursuant to section 4.2 of LPP/06 – Social Impact Assessment 3. An assessment of the demand for the proposed project pursuant to the requirements of section 4 of the LPP/05 Workforce Accommodation Policy 4. A detailed description or management plan demonstrating the nature of operations of the facility operations – such as anticipated end-users, potential community benefits, accessibility and integration with existing local framework 5. A detailed report having regarded to the planning framework including: - The permissibility of the proposed use - The appropriateness of classifying the use as proposed - Assessment of the proposed use against the relevant State Planning Policies, Local Scheme Provisions and Local Planning Policies - Information on any variations proposed to the adopted planning framework - An evaluation of the relevant matters that need to be considered to Clause 67 (2) of the regulations	Advertising of the application is subject to requirements under Clause 64. This application is subject to the Planning and Development (Development Assessment Panels) Regulations 2011. • A Social Impact Assessment was provided by the Applicant and has been referenced in a condition of the Report Recommendation. There is no requirement for the public to critique these documents and the documents to be advertised. • Clause 65A of the Regs - Deemed Provisions, state local government may request additional information or material. Clause 65B states that an applicant can refuse to provide information on this. The applicant has provided relevant documents through the assessment period, not all on lodgement. • It is common practice by the Town to apply conditions to development approvals and the Regs clause 74 permits consideration and approval by Local Government subject to later approval of details. It is stressed that this application is not subject to determination under the Town Local Planning Scheme. • The applicant has referred to the Application report submitted by Resolve Group. In reference to Point 1 and 2 these matters have been assessed by the Staff and conditions have been referenced in the Report Recommendation. • In reference to Point 3 an assessment in the report has been provided.

		Proposed Land Use • There is inadequate justification incorporated in the report to determine the proposal is a "Workforce Accommodation" use. The proposed report described the develop will support, *the tourism workforce industries in South Hedland will provide up to 1,311 rooms.* RFF need clearer interpretation to what this means. RFF note that it could mean that the entire proposal is intended to only accommodate persons employed in the tourism industry. This being the case, the application of Workforce Accommodation would be suitable, however demand for such large tourism workforce requires further justification given it forms such small part of the local economy's Gross Domestic Product.	• The proposed uses are identified under the Scheme zoning table and can be considered by the Town. The Application form clearly states the proposed uses as Workforce and Tourist Development.
		• The advertised plans (and associated technical reports) which accompany the planning report include multiple land uses such as: 1. Tavern 2. Retail 3. Wellness Centre (interpreted as a consulting room) 4. Gym 5. Business Centre 6. Hotel	• The applicant's report generalises that the development will support tourism and workforce accommodation.
		The nature of the description of the uses in the report is included on page 6 of the report which says: *A separate building containing retail, food & drink and services facilities is located to the front/entrance of the complex to make these facilities accessible for community use as well as used by village residents*. RFF believe it could be interpreted that these uses are distinct from the accommodation component of the proposed accommodation in the development which is not how the proposed was advertised to the public. In this respect, we would not e that the following use are 'x' and therefore not permitted (and non-discretionary) within the LPS7: 1. Hotel 2. Consulting Room 3. Shop Other uses such a 'Tavern' and 'D' uses and must be advertised for comment prior to deciding.	• The developer has agreed to provide limited public access to the development (albeit controlled), similar to the adjoining workforce camp (Gateway) that allows public access to the cafeteria to purchase meals.
		• RFF note the planning report included the following statement: *A separate building containing retail, food & drink and services facilities is located to*	• The separate building design has been a requirement of the Town for the development to be integrated into the

		the front/entrance of the complex to make these facilities accessible for community use as well as used by village residents. The nature of operations was it to be considered holistically as a single Workforce Accommodation use is inconsistent with this definition. The definition of Workforce Accommodation in LPS7 is: *means premises, which may include modular or relocatable buildings, used –* A) *Primarily for the accommodation of workers engaged in construction, resource, agricultural or other industries on a temporary basis; and* B) *For any associated catering, sporting and recreation facilities for the occupants and authorised visitors.* RFF believe the applicant has not met the threshold to fall within this definition. Specifically, RFF note: - There is inadequate justification to clearly show, via way of ongoing management, stipulation of a project or company intending to use the facility that is will be 'primarily' accommodation of workers engaged in construction, resource, agricultural or other industries on a temporary basis. - The general indication of the proposal is that any associated catering, sporting and recreational facilities for the occupants will be available for and any (as opposed to authorised) visitors RFF believe the wording of the definition in LPS7 is clear. A Workforce Accommodation use is not open to the public and express permission by the operator must be granted to enter the premises. Most Workforce Accommodation facilities have controlled access (including boom gates and security access), where guests on site and access to amenities are not permitted without explicit authorisation. • To summarise, no limitations or controls are proposed by the proponents both with respect to access to accommodation to workers only, or access to the amenities being controlled and only for authorised use. Without further, comprehensive information it is not possible to have determined the nature of the use aligns with the proposal advertised. The proposed application also does not appear to include a time-limit and plans for its demobilisation and demolition, another clear features or Workforce Accommodation incorporated into the Local Planning Framework as a mandatory expectation. Based on the Information presented, it would appear to be planned to operate more as a 'Hotel' which is an 'X' use in the rural zone.	urban landscape, accepting better to access for community member. • A management plan is required as a condition of the Report Recommendation which will stipulate use of the facility. The development is proposed to be subject to a developer, State and local government lease agreement, which outline conditions of use and other requirements. • Belief that the wording is unclear is not a consideration. The developer has agreed to provide limited public access to the development (albeit controlled), similar to the adjoining workforce camps that allow public access to the cafeteria to purchase meals. • Limitations and controls will be applied as part of the planning conditions should the DAP approve the development. As stated above, the development is proposed to be subject to a developer, State and local government lease agreement outlining conditions of use. • A time limit for the development is 40 years as per the report recommendation. • The applicant has not applied for a 'Hotel' use, as stated above, the application form states the proposed uses as Workforce and Tourist Development.

		Permissibility of Workforce Accommodation • The subject site is currently designated as 'Rural' under Local Planning Scheme No7 Clause 32 of Local Planning Scheme No7 typically prohibits Workforce Accommodation within the Rural zone if it is within a 30-minute drive of the townsite boundary. • There are several aspects to exercising discretion outlined in Clause 32, Table 7 - such as: 1) The local government may exercise its discretion by granting development approval for Workforce Accommodation after giving notice in accordance with Clause 64 of the deemed provisions where it is proposed with the Rural zone and is located outside a 30-minute drive of Port Hedland / South Hedland townsite Boundary. Where Workforce Accommodation is proposed within the Rural zone and is located within a 30-minute drive of the Port Hedland / South Hedland townsite boundary, the use is not permitted. 2) In exercising discretion in relation to a development application for Workforce Accommodation, the local government shall have regard to the following: a) The applicable Local Planning Policies and, b) Appropriateness of the scale design and standard of the accommodation in the context of the location and its integration with the surrounding development. • It is RFF view, that the intent of the provisions should be taken 'as read'. That is: - It is expressly the intent of the LPS7 to limit to the most practical extent possible Workforce Accommodation within the Rural zone where it is within 30-minutes of the townsite boundary - The stringent application of the Town's Workforce accommodation should be used in determining whether to approve an application, and - The scale and design should always align and integrate with the surrounding development. • RFF note, - The applicant proposed justification does not specially address alignment with the Rural zone objectives and makes statement which are not substantiated by the evidence presented with the application. It is difficult to draw alignment with a 6-storey, 1300 room project and the following objectives of the rural zone:	• The Town has obtained a legal opinion on the application of the Scheme and stated clauses 32 and 34. The submitter's claims are unfounded, the advice by the Town's lawyers state the uses can be considered and approved under the Scheme provisions. • The officer report addresses the required matter to be considered. • There are multiple workforce accommodation facilities within a 30min drive of the Town site. Many of those development have been scrutinised through the State DAP assessment process and if not permitted the DAP would not have considered or approved such developments. The zone is not the sole determinant for consideration. The whole Scheme and other instruments must be considered in application of discretion. • All land peripheral to the South Hedland townscape is rural. The majority of the subject Lot 601 Parola is zoned 'Rural'

		A) The provide for the maintenance or enhancement of specific local rural character B) To protect broad acre agricultural activities such as cropping and grazing and intensive uses such a horticulture as primary uses, with other rural pursuits and rural industries as secondary uses in circumstances where they demonstrate compatibility with the primary use. C) To maintain and enhance the environmental qualities of the landscape, vegetation, soils and water bodies, to protect sensitive areas especially the natural valley and watercourse systems for damage D) To provide for the operation and development of existing, future and potential rural land uses by limited the introduction of sensitive land uses in the Rural zone E) To provide for a range of non-rural land uses where they have demonstrated benefit and are compatible with surrounding rural uses - Similarly, the proposal appears inconsistent with the key objectives of Statement of Planning Policy 2.5 – Rural Planning - The proposal as presented do not comply with the key aspects of the Workforce Accommodation which: a) Re-iterated the '30-minute rule' b) Requires a clear articulation of demand for the facility which has been omitted including, . The specific worksite or worksites that employees will be working at . The location or locations of those worksites . The estimated length of time that the worksites or worksites have funding for, or will be operational for, The number of workers that will be needed for the worksite or worksites A breakdown of the different roles that the employees will engage in (I.e, Construction, Maintenance, operational). . A breakdown of short-term, intermittent and long-term employees, needing to be accommodated at each worksite, and whether the proposal seeks to accommodate workers from other worksites and /or companies. *c)* The policy strengthens the LPS provisions regarding Workforce Accommodation, outlining that the approval presents as a planned 'long-term Workforce accommodation' facility given the lease terms outlined in the proposal and that *'The Town will only support the location of long-term Workforce accommodation in the following zones:* *Residential, Urban Development, Centre and Mixed Use'*.	under the Scheme and is subject of a management order to the Town. The State is undertaking a crown subdivision to provide a suitable building area for the development and the City is aligning the zoning to address necessary matters to permit the development. • State policy is a practical consideration in the framework. The land is on the periphery of the Town and not productive rural land. The submitter has not explained how the Policy is inconsistent. • The Town is satisfied there is sufficient demand for the workforce accommodation, given the strategic and significant developments proposed in the region which will further impact the housing demands within Port and South Hedland. The applicant has not clearly indicated cliental for confidentially reasons but is satisfied that the there is sufficient demand for a $500 Million dollar investment in South Hedland. Further adjustments to zoning if considered necessary by DAP can be implemented, however have not been considered necessary at this stage.

		- The proposal does not integrate or make use of the surrounding local character of the area noting, a) The scale and intensity of built form, bulk and scale exceeds any other development within the South Hedland locality, Town of Port Hedland and the broader Pilbara Region b) It in effect creates an entirely new retail and hospitality precinct outside of the South Hedland city centre undermining the Town's aspirations to build a vibrant city centre c) Incorporates an expansive recreational offering to the public duplicating planned investment by the Town in the public recreational spaces rather that integrating. It and using this adjoining space to facilitate integration with the community.	• Point a), has not been demonstrated or explained by submitter, how the development is not to scale with surrounding South Hedland development. The Town's sports stadium building is equivalent to a 4-5 storey building. There is already an existing 6 storey residential complex south of the subject land on Forrest Circle. • Point b) There is not sufficient retail floor space within the development to be consider a new hospitality precinct to complete with the town centre. • The on-site recreation facilities are not sufficient to compete with the vast community facilities offered by the Town's sporting facility opposite and will not restrict integration of the development community.
		• RFF note application of Clause 34 should only be considered when, - It would be appropriate having regard to the matters that the local government is to have regard to in considering an application for development approval as set out in Clause 67 of the deemed provisions; and - The non-compliance with the additional site and development requirement will not have a significant adverse effect on the occupiers or users of the development, the inhabitants of the locality or the likely future development of the locality. There is lack of adequate justification or information provided with the application either for the community to assess the impacts or for the Town to make such determinations.	• Noted. The Town has obtained a legal opinion on the application of the Scheme and stated clauses. The submitter's claims are unfounded, the advice by the Town's lawyers state the uses can be considered and approved under the Scheme provisions.
		Public Advertising Process • RFF note that in considering whether to exercise discretion in applying Clause 34, LPS7 requires that the Local Government must consult the affected owners or occupiers by following one or more of the provisions for advertising applications for development approval under Clause 64 of the deemed provisions.	• The application has been advertised in accordance with the Regs requirements. The public has been fully informed of the development. The nature of the development is not

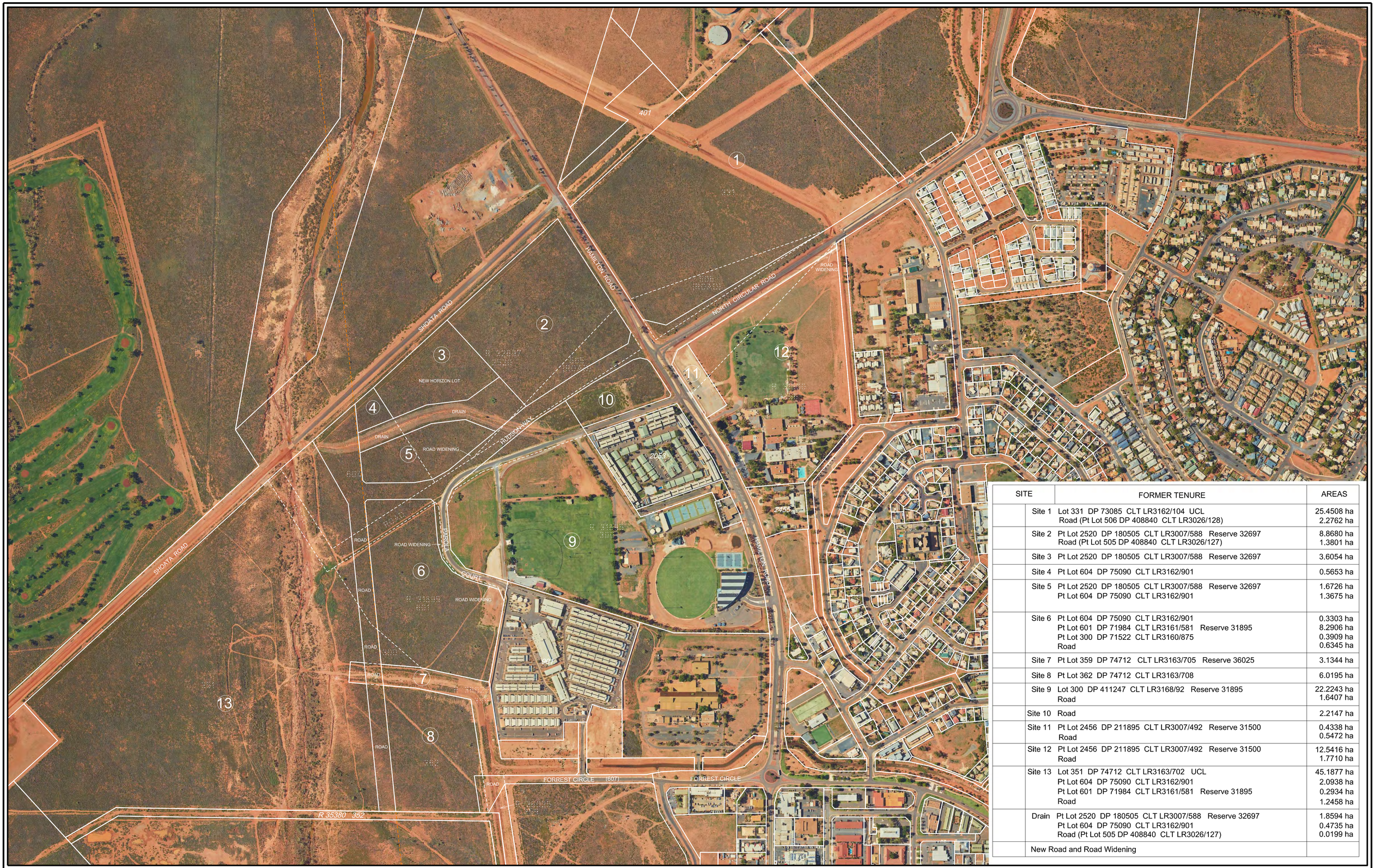
		• In RFF view, the provision requires the Local Government to specifically advertise the proposed variations to Clause 32 being proposed, prior to determining the application. This did not appear evident in the advertising of the application. Accordingly, RFF consider the application must be re-advertised explaining the variations to Clause 32 being considered prior to deciding. • Given the lack of information in the application, particularly with respect to the nature of use, demand and social impact management measures, the application also required re-advertising if this information is supplied later by the application. So, - The public can be fully informed of the proposal, intended use and operations and the social impacts and mitigations contemplated, and - The Council can better understand whether discretion should be applied (if the use is determined to be Workforce Accommodation) having regard to the communities' views on the potential impacts of the specific variations sought. To conclude: The proposed Development Application and supporting information supports insufficient information to enable a proper assessment of the merits, either by the Town or the community. It is RFF's view that additional information is required from the applicant and further advertising of the nature of proposed variations to the Scheme are required prior to determining this application. Without substantial further information, based on the information presented by the applicant, it is difficult to justify the proposal would be aligned with the statutory planning framework applicable which sets clear, unambiguous parameters for Workforce Accommodation In the Town of Port Hedland, or justify substantial variations from these provisions which are designed to meet the communities expectations for Workforce accommodation development.	changed from Tourist Development and Workforce Accommodation. • Clause 74 of the Regs (Deemed Provisions) states, approval subject to later approval of details: (1) The local government may grant development approval subject to a condition that further details of any works or use specified in the condition must be submitted to, and approved by, the local government before the developer commences the development. (2) The local government may only impose a condition referred to in subclause (1) if the local government is satisfied that the further matters that are to be approved would not substantially change the development approved. • It is noted that the application is subject to determination by the Development Assessment Panel. • Noted.
4	Department of Fire Emergency Services.	COMMENT ONLY: It is the responsibility of the proponent to ensure the proposal complies with relevant planning and building requirements. This advice does not exempt the	Noted: • DFES advices noted will be included in the assessment to DAP.

		applicant/proponent from obtaining approvals that apply to the proposal including planning, building, health or any other approvals required by a relevant authority under written laws. **Policy Measure 6.5 a) (i) Preparation of a BAL assessment.** **Vegetation Classification** DFES notes the following issues present in the submitted vegetation assessment: • Plot 4 is not labelled on Figure 4, and • Photographic Point 16 is within Plot 5 area on Figure 4 but assessed as part of Plot 4 in Attachment C – Vegetation Assessment. **ACTION: Modification to the BMP is required.** **Policy Measure 6.5 c) Compliance with the Bushfire Protection Criteria** **Vulnerable Tourism** Bushfire Protection Criteria - not addressed. • SPP 3.7 requires that, for areas above BAL-LOW, the relevant bushfire protection criteria should be demonstrated. • DFES notes that the submitted BMP addresses Elements 1 – 4 of the Guidelines only. • As the proposal comprises a significant portion of 'tourist accommodation' use, Element 5 should also be addressed for vulnerable tourism land uses. **ACTION: Compliance with Bushfire Protection Criteria is to be demonstrated.** **Vehicular Access** A3.2a – not demonstrated. • The development is compliant with vehicular access through the provision of a compliant emergency access way (EAW) from Parola Court to Shoata Road. • Given the volume of traffic that will attempt to access/egress in the event of an emergency, consideration should be given to upgrading the EAW to a public road standard, given the road reserve exists. **ACTION: Modification to the BMP is required** **Water** A4.2 – not demonstrated.	• The DFES advice states in the event of an emergency, *consideration should be given to upgrading the EAW to a public road standard, given the road reserve exists.* A condition has been recommended for the Applicant to construct the road. • Other matters noted by DFES will be a consideration as part of amendments to the Bush Fire Management Plan and enforced at the building application stage and when the detailed construction plans are required to be considered and approved by DFES.

		• The BMP proposes that the development will be serviced by a reticulated water supply with the existing mains servicing the adjacent ESS Gateway Village extended to the subject site. • The proposed methodology is a performance solution by DFES's Built Environment Branch and requires modification. **ACTION: Modification to the BMP is required** **Policy Measure 6.6.1 Vulnerable and High-Risk land uses.** **Bushfire Emergency Evacuation Plan (BEEP)** • The referral has included a 'Bushfire Emergency Evacuation Plan' for the purposes of addressing the policy requirements. Consideration should be given to the Guidelines Section 5.5.4 'Developing a Bushfire Emergency Evacuation Plan'. This contains detail regarding what should be included in a BEEP and will ensure the appropriate content is detailed when finalising the BEEP to the satisfaction of the Town. **COMMENT ONLY** **Refuge Open Space Area** The BMP proposes that while the primary evacuation to follow in the event of a bushfire is to evacuate the area to a safer location, an on-site open-air refuge (the 'village green') can be used to shelter-in-place in the event evacuation is not possible. A Method 2 calculation is included in the BMP to demonstrate compliance with the on-site shelter requirements of the Guidelines. While it appears that compliance can be achieved, modification to the Method 2 calculation is required as per the following comments: • DFES notes that there is some lack of clarity around definitions for inputs to Method 2 calculations of relevance to this application are those regarding effective slope. In the absence of clear instruction to the contrary, DFES considers that the Method 2 normative procedure should apply the 5-degree increments for effective slope, as per Method 1, rather than discrete figures. Deviation from this would require a comprehensive Performance Solution that complies with the relevant Bushfire Resistance Performance Requirements of the National Construction Code (NCC). • The BMP applies a 2-degree downslope, which should instead use a 5-degree downslope to comply with the Method 2 normative procedure. • In addition, the area calculated as 2kw/m2 radiant heat flux should be shown on the BAL contour map to support the inputs. **ACTION: Modification to the BMP Is required. DFES advises that the Method 2 outputs cannot be validated.**	

		Built Environment Branch • As this project proposes several Class 2-9 structures which appear to be more than 500m2 total floor area, at the building permit application stage plans will need to be provided to DFES Built Environment Branch for assessment as required by Regulation 18B of the Building Regulations 2012. Furthermore, any proposed buildings that exceed 500m2 in total floor area will require coverage by a fire hydrant system which will need to be designed in accordance with the FES Commissioner's Operational Requirements and as per BCA E1.3 and AS2419. • It is noted that there appears to be the intent for the proposed fire services to be provided with infill connection to the water mains via an adjacent allotment. Built Environment Branch advises that this methodology does not align with Deemed-to-Satisfy provisions and as such would need to be considered as a Performance Solution. Furthermore, any fire services or water supplies as required under the structural requirements will need to be considered in addition to any water supplies that may be required for use in the event of a bushfire. **Recommendation – compliance with acceptable solutions not demonstrated – modifications required.** It is critical the bushfire management measures within the BMP are refined to ensure they are accurate and can be implemented to reduce the vulnerability of the development to bushfire. The proposed development has not demonstrated compliance to the following: 1. Element 4: Water, and 2. Element 5: Tourism.	
5	Department of Water and Environmental Regulations	COMMENT ONLY: • According to section 51C of the Environmental Protection acts 1986 (EP act), clearing of native vegetation is an offence unless: - it is undertaken under the authority of a clearing permit - it is done after the person has received notice under Section 51DA(5) that a clearing permit is not required. - the clearing is subject to an exemption. • The proposed clearing is not exempt, and a clearing permit is required. • Flooding in the proposed area is primarily related to the localised rainfall and the capacity of the stormwater drainage network. The location would appear	Noted: • An advice noted will be provided in the recommendation.

		to be at lower risk from storm surge with the primary risks being from local creeks and overland flows. There is no information provided on the potential flood level in the open drain to the south. Furthermore, would recommend that climate change impacts on water levels are considered by the proponent. • The proposal involves the use of on-site swales and storage tanks to manage stormwater and then the discharge of this water to the existing local drainage system, an open drainage channel and a local creek. • Water Corporation will need to approve the discharge to their system to ensure there is sufficient capacity in the network. • The proponent has not presented information demonstrating proposed swales and storage are sufficient for the predicted volumes of water. Nor is there information regarding the available capacity in the local drainage channels, and that the level and design of the discharge point is appropriate to prevent the drainage system backing up during high flows in the drainage channel. The TOPH to request the proponent submit Stormwater Management Plan, addressing the above points and meets requirements of the Port Hedland LPP/11 Stormwater Management. • Proposal occurs within the proclaimed Pilbara surface water and groundwater area and is subject to licensing requirements under the *Rights in Water and Irrigation Act 1914*. The proposal is to be connected to reticulated water supply and so no abstraction of groundwater or surface water is necessary. • If the proponent amends the proposal to use groundwater for any purpose, they will need to apply for a 5C licence to take water, and a 26D licence if new water supply bores are needed.	



SITE	FORMER TENURE	AREAS
Site 1	Lot 331 DP 73085 CLT LR3162/104 UCL Road (Pt Lot 506 DP 408840 CLT LR3026/128)	25.4508 ha 2.2762 ha
Site 2	Pt Lot 2520 DP 180505 CLT LR3007/588 Reserve 32697 Road (Pt Lot 505 DP 408840 CLT LR3026/127)	8.8680 ha 1.3801 ha
Site 3	Pt Lot 2520 DP 180505 CLT LR3007/588 Reserve 32697	3.6054 ha
Site 4	Pt Lot 604 DP 75090 CLT LR3162/901	0.5653 ha
Site 5	Pt Lot 2520 DP 180505 CLT LR3007/588 Reserve 32697 Pt Lot 604 DP 75090 CLT LR3162/901	1.6726 ha 1.3675 ha
Site 6	Pt Lot 604 DP 75090 CLT LR3162/901 Pt Lot 601 DP 71984 CLT LR3161/581 Reserve 31895 Pt Lot 300 DP 71522 CLT LR3160/875 Road	0.3303 ha 8.2906 ha 0.3909 ha 0.6345 ha
Site 7	Pt Lot 359 DP 74712 CLT LR3163/705 Reserve 36025	3.1344 ha
Site 8	Pt Lot 362 DP 74712 CLT LR3163/708	6.0195 ha
Site 9	Lot 300 DP 411247 CLT LR3168/92 Reserve 31895 Road	22.2243 ha 1.6407 ha
Site 10	Road	2.2147 ha
Site 11	Pt Lot 2456 DP 211895 CLT LR3007/492 Reserve 31500 Road	0.4338 ha 0.5472 ha
Site 12	Pt Lot 2456 DP 211895 CLT LR3007/492 Reserve 31500 Road	12.5416 ha 1.7710 ha
Site 13	Lot 351 DP 74712 CLT LR3163/702 UCL Pt Lot 604 DP 75090 CLT LR3162/901 Pt Lot 601 DP 71984 CLT LR3161/581 Reserve 31895 Road	45.1877 ha 2.0938 ha 0.2934 ha 1.2458 ha
Drain	Pt Lot 2520 DP 180505 CLT LR3007/588 Reserve 32697 Pt Lot 604 DP 75090 CLT LR3162/901 Road (Pt Lot 505 DP 408840 CLT LR3026/127)	1.8594 ha 0.4735 ha 0.0199 ha
	New Road and Road Widening	

Ver.	Description	Drawn	Date	Checked
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C	Add dimensions and areas	RJR	9/11/2023	RJR
B	Additions to lot 351, remove new road adjacent lot 362, minor shading changes	RJR	7/11/2023	RJR
A	Initial Issue	RJR	30/10/2023	RJR

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N

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SUPERSEDED BOUNDARIES
ROAD RESERVES TO BE CLOSED
SIA BUFFER BOUNDARY

NEW ROAD RESERVES TO BE DEDICATED

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Project Mngr.	Robert RHODES	Datum	PHG94

106001 - 001 - D
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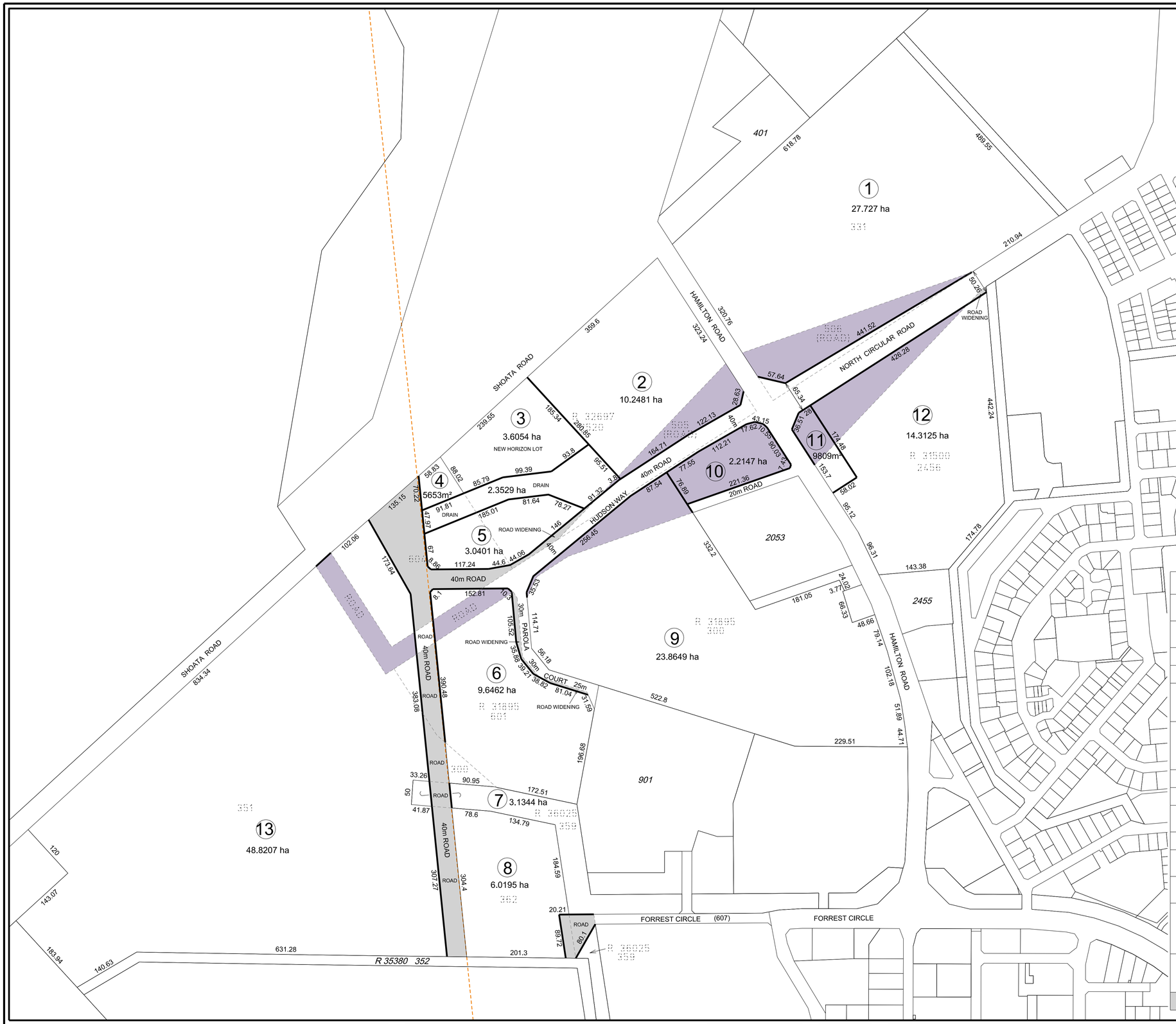

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106001 - 001 - D
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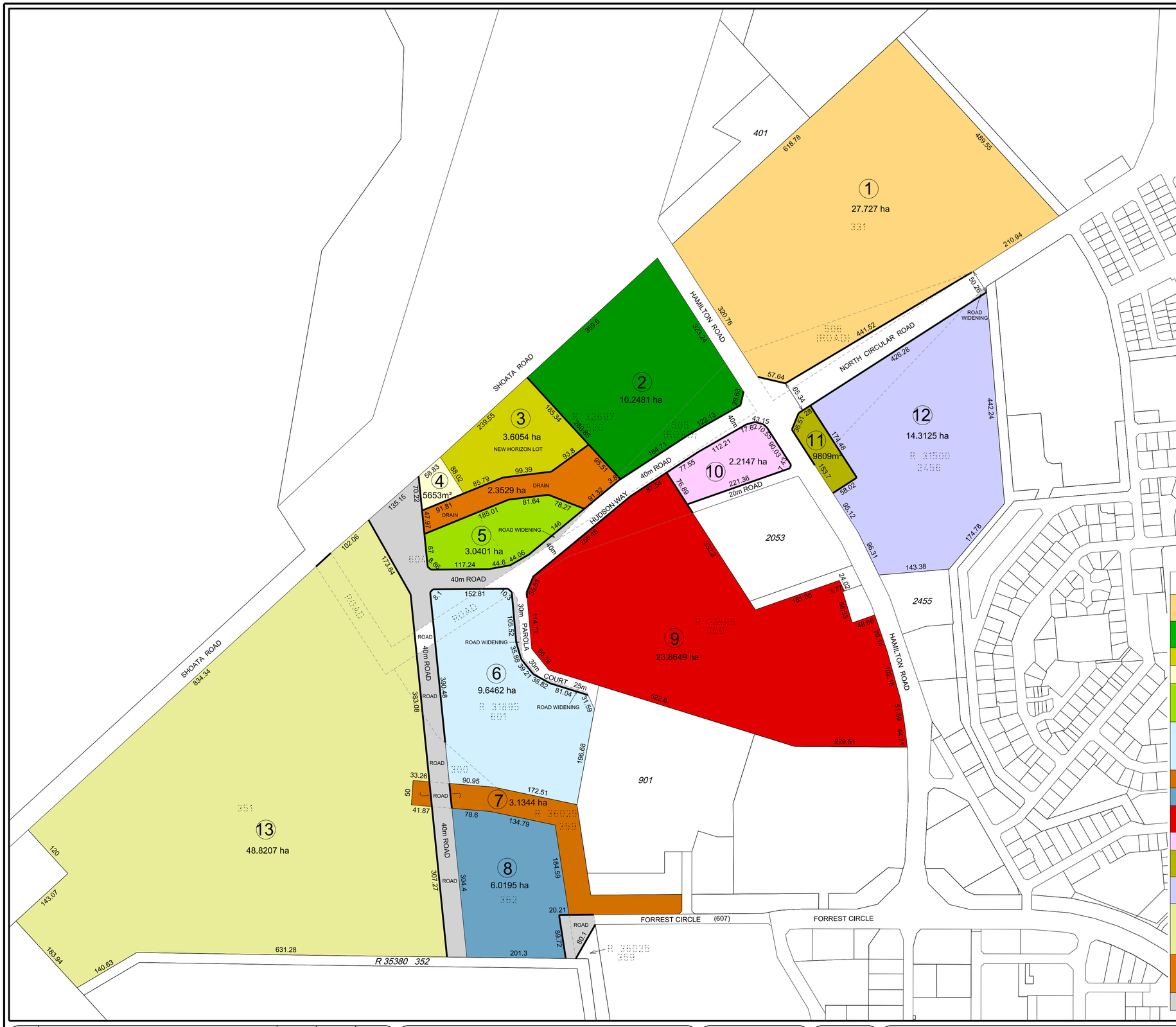

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CLIENT:
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Project Mngr.	Robert RHODES	Datum	PHG94

106001 - 001 - D
Job Number | Plan Number | Version

12.3.3	Lot 601 Parola Court, South Hedland - RDAP Application DAP/24/02737 - Proposed Tourist Development and Workforce Accommodation

Author:	Senior Urban Planner
Authorising Officer:	Manager Town Planning & Development Director Regulatory Services
Disclosure of Interest:	The Author and Authorising Officer declare that they do not have any conflicts of interest in relation to this item.

OFFICER'S RECOMMENDATION
That Council:

1. Recommends to the Regional Development Assessment Panel, the development application and accompanying plans (Reference No. DAP/24/02737) for Lot 601, Portion of Lot 604, Lot 300 and Portion of Road Reserve Parola Court, South Hedland be APPROVED subject to the following:

Conditions

a) All development and use of the development site must be carried out in accordance with the approved plans and all information submitted as part of this application. These details shall not be altered without the prior written consent of the Town of Port Hedland and/or the Regional Development Assessment Panel (as applicable). This approval does not relate to any other development on these lot/s.

b) This decision constitutes development approval only and is valid for a period of four years from the date of approval. If the subject development is not substantially commenced within the four-year period, the approval shall lapse and be of no further effect.

c) **This approval is for 'Tourist Development'** and **'Workforce Accommodation'** as defined by the Town of Port Hedland Local Planning Scheme No. 7. Use of the site for a different land use may require further development approval in accordance with the **Town's Local Planning Scheme No. 7 and the Planning and** Development (Local Planning Schemes) Regulations 2015.

d) **The development uses stated under Condition 'C' are limited to** forty (40) years from the date the uses commence on site, or as otherwise outlined under the applicable land tenure agreement with Town of Port Hedland.

e) Within 3 months from date of approval, Pacific Partnerships Pty Ltd shall enter into an agreement with Town of Port Hedland, prepared **by the Town's solicitors at the developer's cost**, addressing the following social/infrastructure requirements:

   i. Within three (3) years of commencement of construction, shall design and construct (including landscaping) a connector road between Parola Court and Shoata Road, to the specifications and satisfaction of the Town of Port Hedland.

   ii. Within three (3) years of commencement of construction, shall design and construct (including landscaping) the extension of North Circular Road, along the northern boundary of the subject land, westward of the Parola Court intersection, to the specifications and satisfaction of the Town of Port Hedland.

   iii. Prior to commencement of works, shall provide a 50% cost contribution to the Parola Court and North Circular Road intersection, to the satisfaction of the Town of Port Hedland.

   iv. Prior to the commencement of works, shall provide a social contribution to the value of $2.5 Million per ten (10) year period, indexed from the date of approval to CPI at the date due, for the duration of the development/use. The contribution shall be in the form of a financial contribution paid at the commencement of each ten (10) year term, or part-thereof, and shall be used for the establishment of social infrastructure in the locality.

   v. A commitment for public access to rooms and services within the commercial/retail, and **'T**ourist Development**'** components of the development, protected by conditions relating to numbers or percentage of rooms within the facility.

f) Within 3 months from the date of approval, the Applicant shall submit an updated Traffic Impact Assessment in accordance with Annexure – A, attached to this approval, to the satisfaction of Town of Port Hedland.

g) Extensions/upgrades of all utility services including electrical power, water, wastewater, gas and internet telecommunications (nbn) connections shall be provided at the cost of the developer.

h) The Applicant to provide detailed plans of facade treatments of **the 'Tourist Development' facility** including but not limited to,

materials, colour finishes, and treatment of blank walls, to the satisfaction of Town of Port Hedland.

i) The Applicant shall submit an updated Social Impact Statement and Management Plan, **in accordance with the Town's** Local Planning Policy 06 - Social Impact Assessment, detailing but not limited to the following:
   i. How the local public gain access to rooms and services within the development.
   ii. A plan indicating layout to tourist development rooms and detail of how many tourist development rooms remain available to public.
   iii. Implementation of the sustainability report, including use of electric vehicle charging and solar panels.

j) The Applicant shall provide public art within the development to a minimum value of 1% (capped at $150,000) of the estimated total development construction cost, in accordance with the Town of Port Hedland Local Planning Policy - **04 'Percent for Public Art'.** Alternatively, a cash-in-lieu payment of this amount shall be made to the Town of Port Hedland, prior to the occupation or use of the development.

k) To comply with the **Town's** public art policy, the developer or applicant on behalf of the developer shall, submit a statutory declaration within 60 days of the date of this approval stipulating the choice of:

   a) Option 1: Applicant chooses to co-ordinate the Public Art project themselves or by engaging an art consultant; or
   b) Option 2: Applicant chooses to pay cash-in-lieu to the Town of Port Hedland.

l) Prior to lodging an application for a building permit, the developer to submit a detailed Stormwater Management Plan, in accordance **with the Town's Local Planning Policy 11 Stormwater** Management for approval by the Town of Port Hedland and include but not limited to the following:

   i. Contour and Feature survey showing existing levels (CAD data) and proposed FGL and FFL.
   ii. Details of all hardstands (car parking areas, internal footpaths) required.
   iii. Demonstrating detention and retention method including the **details and capacity of proposed system 'Atlanchamber',** calculating in rational method.

iv. Cross-sectional details of excess water discharge towards the Town main drainage system. Note that direct discharge to the creek is not allowed, the plan needs to be revised accordingly.
v. Details and location of barriers/kerbs.
vi. Proposed surface treatment required including car park, service yard, perimeter road to be indicted on the plan.
vii. Location of overflow spillways.
viii. Preparation of a drainage plan, to control drainage from the site **that considers Town's local and district network, connection** and discharge points within the existing road reserves, adjacent to the development site.
ix. Engineering drawings and specifications to be submitted in accordance with an approved Urban Water Management Plan (UWMP) for the site, or where no UWMP exists, to the satisfaction of the Town.
x. Typical cross-section details for any subsurface retention storage infrastructure and calculations /reporting on stormwater capacity.
xi. 150mm boundary kerbing to be provided (to be shown on plans).

m) The approved stormwater management plan shall be implemented in full by the Applicant prior to the occupation or use of the site and be maintained thereafter to the satisfaction of the Town.

n) Prior to lodging an application for a building permit, the Applicant shall lodge a detailed landscaping plan for the subject site for approval by the Town of Port Hedland, and must indicate but not limited to the following:

i. Planting, pathways, car parking bays within the Parola Court road reserve, for the length/frontage of the subject land.
ii. Planting within the subject land adjacent to the parking areas, for the entire lengths of the northern, southern and western boundaries.
iii. **All planting to be in accordance with the Town's 'Preferred Planting Guide' and a planting schedule / list of plant type and** species to be identified.
iv. Colour and material finish of all ground surfaces e.g. pavement types (e.g. sand, timber, concrete, bitumen), soft/hard mulch areas (e.g. wood mulch, gravel types and sizes), within all landscape areas.
v. Planting areas /zones to be reticulated.
vi. The location, number and type of proposed trees, shrubs, ground cover including planter and/or tree pit sizes and planting density.

vii. Internal and external path network location, width sizes, purpose and pavement surface treatments.
viii. Show connections between internal and external/surrounding path network to the satisfaction of the Town of Port Hedland.
ix. A planting scheme for the proposed 3m low fuel zone around the **modular 'workforce accommodation' building**.

o) Fencing to existing and future streets shall be fully visually permeable to maximum of 2.1m height, to maintain passive surveillance over the public streets and internal carparking. All fencing to be of a high quality, consistent with the landscape design themes and consider Crime Prevention Through Environmental Design (CPTED) principles, to the satisfaction of the Town. Fencing not to include barbwire or electrification devices.

p) Lighting shall be constructed as per the approved lighting management plan and all windows facing the public open space reserve shall remain visually accessible during day and night to maintain passive surveillance of the adjacent reserve.

q) The Applicant **shall prepare a 'Construction and Environmental Management Plan' (CEMP)** for submission and approval by the Town of Port Hedland and thereafter be implemented throughout the construction phase of the development. The CEMP shall include, but not be limited to, the following information:

i. Contact details of essential site personnel, construction period and operating hours.
ii. Community information, consultation and complaints management plan.
iii. Public safety, security and amenity management.
iv. Traffic, access, and construction staff parking management.
v. Noise and dust management plan.
vi. Earthworks, excavation, land retention/piling methods and associated matters, to be contained with the approved development site.
vii. Stormwater and sediment control; site laydown office and temporary accommodation for construction crew.

r) The Applicant must not use gravel fines (cracker dust) for covering/sealing the property, within landscaping areas or the street verges, and areas of vehicular and pedestrian movement.

s) All car parking areas shall be constructed to the satisfaction of the Town prior to the occupation or use of the development and be:

i. **designed to a 'User class 3A' with the B99 vehicle in accordance** with the Australian Standards 2890.1:2004 (as amended) and the Building Codes.
ii. sealed (concrete, bitumen or asphalt), kerbed, drained and line marked.
iii. not be obstructed in any way or used for any other purpose other than parking.
iv. provided with wheel stops, where bays are adjacent to any infrastructure, including landscaping, footpaths, fences etc.
v. include provision of a car bays in accordance with AS 2890.6 – 'Off-street Parking for People with Disabilities'.
vi. provided with shade trees at a ratio of one (1) tree to four (4) car bays, to the satisfaction of the Town.

t) The approved Waste Management Plan, prepared by Talis Consultants dated 23 February 2024 must be updated to include amendments to the floor plan changes and implemented, and maintained thereafter, to the satisfaction of the Town of Port Hedland.

u) The approved Acoustic Assessment, prepared by NDY - Tetra Tech dated 7 March 2024 must be fully implemented where applicable, and maintained thereafter, to the satisfaction of the Town of Port Hedland.

v) All waste bin storage areas must be screened from view from the streetscape by landscaping and or suitable designed fencing incorporating crime prevention through environmental design principles, to the satisfaction of the Town of Port Hedland

w) Prior to occupation or use of the site, the Applicant shall construct vehicle crossovers to the specification and satisfaction of the **Town's Infrastructure Services. The crossovers, to be maintained** for the duration of the development to the satisfaction of the Town of Port Hedland.

x) The Applicant must submit an Operational Management Plan (OPM) within six (6) months from the date of this approval and/or prior to lodgement of a building application, for approval by the Town of Port Hedland. The OPM to incorporate but not limited to the following:

i. Complaints Management Procedure.
ii. Fire and Cyclone Emergency Management Plan.
iii. Noise Management Plan.
iv. Public Access Management Plan, to include but not be limited to the following:

- How public access is achieved to the Tourist Development facility.
- Rooms are made available for public accommodation at the Tourist Development component of the facility.
- **Reporting on access as part of Town's requirements under** Local Planning Policy 06 - Social Impact Assessment

v. Vehicle and Bicycle Parking Management Plan.
vi. Traffic Management Plan, to include but not be limited to workforce bus trips times and frequency, personal trips.
vii. Lighting Management Plan.
viii. Health and Safety Management Plan for occupants and visitors, with reference but not limited to the following:
- location and provision of private, communal, and general open space areas on and off the property.
- how privacy / minimum areas can be achieved with screening and/or fencing.
- opportunities for recreation facilities on and off site.
- location of CCTV or other security systems to be used.
- opportunity for and location of end-of-trip facilities for service staff.

y) A Site Rehabilitation Plan to be submitted within six (6) months from the date of this approval to the Town of Port Hedland, to be implemented at the end of the approval period and cessation of the uses on the land.

z) The development is to be carried out in accordance with the approved Operational Management Plan, for the duration of the development approval, to the satisfaction of the Town of Port Hedland.

aa) The Applicant shall ensure all stages of the development and associated surface treatments tie in with surrounding developments.

2. Authorises the CEO and/or delegates to modify development conditions following legal review prior to submission to the Regional Development Assessment Panel.

3. Authorise the CEO and or delegates to action amendments to the development if required, subject to the amendments not constituting a material changechange to the detailed design plans and or the development outcomes, as agreed with the Council through the major land transaction/lease process.

Advice Notes

1. This is a development approval issued under the Town of Port Hedland Local Planning Scheme No. 7 only. It is not a building permit or an approval to commence or carry out development under any other law. It is the responsibility of the applicant/owner to obtain any other necessary approvals and to commence and carry out development in accordance with all other laws.

2. The development requires a Building Permit Application for any structural works including, including but not limited to fencing, retaining walls, signage, bin stores light posts, temporary gym and other temporary structures. Any amendment to the internal layout, specifically changes to the unit layouts and sizes, will affect the building permit. It is recommended that any changes to the design are made prior to an application for building permit being submitted.

3. **With reference to Condition 'C', the following definitions under the** Local Planning Scheme No. 7 state:

'Tourist Development':

"means** a building, or a group of buildings forming a complex, other than a bed and breakfast, a caravan park or holiday accommodation, used to provide **–

b) short-term accommodation for guests; and
c) onsite facilities for the use of guests; and
*d) facilities for the **management of the development."***

'Workforce Accommodation':

"means premises, which may include modular or relocatable buildings,** used **–

i. Primarily for the accommodation of workers engaged in construction, resource, agricultural or other industries on a temporary basis; and
*ii. For any other associated catering, sporting and recreation facilities for the occupants and authorised **visitors."***

4. **In reference to Condition 'U', the Waste Management Plan must** comply with the Town of Port Hedland Waste Local Law 2020 for the duration of the development.

5. **In reference to Condition 'S',** gravel fines (cracker dust) is not permitted due to its ability to erode during storm events, compromising on-site drainage systems and or the public drainage network.

6. The Crown lots subject of this approval are required to be amalgamated prior to issue of a building permit.

7. The development must comply with Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974 at all times for the duration of the development.

8. This approval does not authorise or approve any signage. All signage is to be in strict accordance with the Town of Port Hedland **Local Planning Policy 02 'Advertising Signs', unless further** development approval is obtained. The applicant/developer should l**iaise with the Town's Planning and Development Services in this** regard.

9. The approved development must comply with the Health (Public Building) Regulations 1992 at all times for the duration of the development.

10. The approved accommodation buildings must comply with the relevant provisions of the Health Act 1911 and the Town of Port Hedland Health Local Law 2016 at all times for the duration of the development.

11. All lodging houses are required to be registered under the Health (Miscellaneous Provisions) Act 1911 and operate in accordance with that Act and the Town of Port Hedland Health Local Law 2016.

12. The approved development must comply with the Environmental Protection (Noise) Regulations 1997 at all times for the duration of the development.

13. It is a requirement under the Food Act 2008 that all food premises be registered prior to the commencement of operations. The following is relevant:
    a. The construction and use of the proposed premises is required to comply with the Food Regulations 2009, the Food Safety Standards and the Town of Port Hedland Health Local Law 2016;
    b. A fit-out plan of all internal fixtures, finishes and fittings must be provided and approved to the specifications of the Town of Port Hedland;
    c. The food premises may be required to be connected to a grease trap prior to effluent entering the disposal system.

14. The Department of Water and Environmental Regulations has advised, clearing of this site is not exempt, and a clearing permit is required prior to any works commencing.

15. The WA Department of Health has advised the following is applicable to the development and subject land:
    a) all drinking water provided onsite must meet the health-related requirements of the Australian Drinking Water Guidelines 2011.
    b) Proposed Development must be connected to deep sewage services provided by a licensed service provider. Sewage intended to be reused or recycled for beneficial purposes such as landscape and garden bed irrigation, toilet flushing or other purposes, will require prior approval from the DoH.
    c) The subject land is in an area that occasionally experiences problems with nuisance and disease carrying mosquitoes – mosquito collections on surrounding land that vector **mosquito's species Cx. annulirostris and Ae. vigilax breed** nearby.
    d) Onsite infrastructure and constructed water bodies be designed and maintained to ensure they do not breed mosquitoes.

16. If an Applicant is aggrieved by this decision there is a right of review by the State Administrative Tribunal in accordance with the Planning and Development Act 2005, Part 14.

ANNEXURE A – Subject to Condition – F

i. The information in the Traffic Impact Assessment to be provided, according to Western Australian Planning Commission (WAPC) Traffic Impact Assessment (TIA) guidelines (Vol 4 Part C).
    - checklist to confirm all sections of TIA includes information according to WAPC guidelines.

ii. Section 2.6
    - show footpath connectivity to buildings from bus bays.

iii. Section 2.7
    - Pedestrian access to South Hedland Integrated Sport Hub to be mentioned.
    - Discuss its internal connectivity and how it will improve connectivity towards South Hedland.

iv. Section 4
    - Visitor carpark to be clearly labelled on the drawings.

- Crossover details required and to be constructed in accordance with ToPH specifications.
- Subsequent design stages to be confirmed and the traffic impact to discuss the impacts that will be proposed at each design stage.
- Angled parking on the plans to be identified.

v. Section 5
- details required on surrounding road upgrades. Assumption that upgrades will take place after 2036 are not accurate.
- It is proposed that the existing Hudson way will be closed and North Circular will be extended from Hamilton Rd.

vi. Section 6
- More details required.

vii. Section 7.1
- Following scenarios to be considered: 5 year post completion, 10 year post completion.

viii. Section 7.3
- Traffic generation has been completed on basis of previous accommodation camps, and an overall trip generation, which **doesn't allow for maximum/peak trip generation in a period.**
- Although the proposed traffic generation is based on average trip generation from other accommodation camps in South Hedland, a detailed assessment based on the facilities generating traffic should be done and reflected in the report.
- The source of the trip rates should be explained in detailed along with the AM and PM peak rates.
- This sections notes that the AM and PM peak traffic is more than the 100 vehicle trips in the peak hour, this means that the assessment should be considered as High Impact for the proposed development. Please see attached except from TIA guidelines.

ix. Section 7.5
- The traffic growth rate has been applied on the existing scenario and what the trip generation will look like post 10 year development.
- The known and unknown disruptors are not applicable to this development as this is an accommodation camp.

x. Section 7.6
- Specify Austroads guidelines.
- include correct intersection types and the re-alignment of the road.
- A SIDRA modelling should be undertaken based on future road alignment and alignment and intersections.

- There are no 4-way intersections as specified in Figure 18 around Hamilton Rd. Similarly, table 6 to be revised according to revised SIDRA calculations.

xi. Section 7.7 & 7.8
- More information required as the Town believes there would be considerable traffic from this development with potential to impact the surrounding road network.

xii. Section 8
- Comparable facilities to be mentioned in the section.
- Discussion required if parking requirement is met if maximum occupancy is achieved.
- Parking demand to be based on individual facilities within the lot and the expected occupants for each facility.
- Parking bays should be calculated based on Local Planning Scheme No.7 Car Parking Standard.

xiii. Section 9
- Swept path analysis to show lane correct movements of service vehicles.
- Native files of Swept path analysis to be provided.

xiv. Section 11
- Walking path network details to be provided and access to SHISH site.

SIMPLE MAJORITY VOTE REQUIRED

PURPOSE

The purpose of this report is for Council to consider an application for 'Tourist Development' and "Workforce Accommodation" land uses and provide a recommendation to the Regional Development Assessment Panel for determination (Reference DAP/24/02737).

The report is presented to the Council due to current delegation requirements. The application has been lodged through the State Government's, Regional Development Assessment Panel (RDAP) pathway and can only be determined by the RDAP.

DETAIL

Site Context and Subject Land

The lots or portions thereof are subject of a crown subdivision/amalgamation proposal, to accommodate the development. These lots include (Refer Attachment 1):
- (94700.35m^2) All of Lot 601 on Plan 071984, part of Crown Reserve 31895 (Management order to the Town for 'Recreation').

- (3307.74m^2) Part of Lot 604 on Plan 075090, which forms part of Crown Reserve 31895 (vacant Crown land).
- (3919.87m^2) Land described as the whole of Lot 300 on Plan 071522 (vacant Crown land).
- (6320.43m^2) portion of the Road Reserve.

The subject development site referred to as Site '6' (Refer Figure 1 - Location Plan and Aerial Photo), with a total area of 9.6462ha. The site is located south-west of the Fortescue Metals Group mining workforce and service worker accommodation facility, 'Club Hamilton', corner of Hudson Way and Hamilton Road. The site is also immediately west of another workforce accommodation facility, 'Gateway Village' at the end of Parola Court. The site is considered suitably located next to similar uses but will form a very different development form.

This subject development site is in a key location on the western urban fringe of South Hedland, north-west of the main commercial area bounded by Forrest Circle, McLarty Boulevard, and Hamilton Road. It is located outside of the standard pedestrian walking distances to the nearest shopping centre and food establishments are between 1,200m to 1,600m away on Throssell Street, but is considered close enough to take advantage of the services offered by the growing centre.

Figure 1 – Location Plan and Aerial Photo

Wanangkura Stadium (sports centre) is located approximately 600 metres east of the site on Hamilton Road and major outdoor sports fields between Parola Court and Hamilton Road, are located within 400 metres.

Access to the site from Parola Court is presently through Hudson Way, connecting to Hamilton Road. Shoata Road (north-west) forms the northern edge of the urban area. Presently, there is no connector road between Shoata Road and Parola Court but improved connectivity in the road network is envisaged to facilitate development in this location.

Proposal

The amended plans lodged 8 October 2024, depicts a 'Tourist Development' and 'Workforce Accommodation' with up to 1,653 rooms and the following changes:

- 514 rooms (Tourist Style - 6 levels) on the Parola Ct street frontage (Tourist Development).
  942 rooms (26 @ 36 rooms and 3 levels each).
- 6 rooms Resort Cluster rooms (1 @ 6 rooms).
- 192 rooms (12 @16 rooms each) for construction workers.
- Universal Access Rooms (1 @ 6 rooms).
- Water saving and smart waste management initiatives.
- Reception area.
- Kitchen.
- Maintenance workshop and waste handling and linen.
- Baggage store and lockers.
- Dining rooms.
- Tavern and beer garden.
- Recreation rooms.
- Sports Courts.
- Retail and services.
- Bus set-down area on the Parola frontage.
- A total of 444 parking bays, includes 6 bus bays, 6 universal access bays and 17 heavy vehicle bays.

The amended plans are the subject of this report and RDAP determination.

Land Tenure

There is a separate land tenure process being undertaken to accommodate the development, involving a Crown Lease from the State of WA to the Town, and a Sub-Lease to the developer. The developer sought a Sub-Lease term of 23+20 years, aligning with the Crown Lease. The 3 additional years relates to the construction period and operation of the facility. The officer's recommendation for term of approval is aligned with the Town's land transaction agreement and the Council decisions to support development/use for a total development period of 43 years, on the basis that the design of the development meets the standards for 'long term accommodation' as outlined in the Workforce Accommodation policy and described in this report.

Background

Since early 2023, Pacific Partnerships Pty Ltd (Developer) and Resolve Group (Applicant) have been communicating with the Town, about the development and land transaction to access Lot 601 Parola Court, South Hedland (Crown land).

Discussions around access to the land led to the Resolve Group on 11 March 2024 lodging a development application for approval under the State Government's, Regional Development Assessment Panel (RDAP) pathway.

The Department of Planning, Lands and Heritage signed the application form on 24 June 2024 (as landowner) and Resolve Group submitted the application to the Town, on 19 July 2024.

The RDAP application was finally registered with the Department of Planning, Lands and Heritage accepted by the State on 30 July 2024 (Reference No. DAP/24/02737).

PLANNING FRAMEWORK

Town of Port Hedland Local Planning Strategy (2021)

The Town of Port Hedland Local Planning Strategy (Strategy) was endorsed by the Western Australian Planning Commission on 13 May 2021. The Strategy sets out planning directions for the Town over 15 years and provides direction for growth and development and establish strategies and actions to identified opportunities and constraints for land release to support urban growth.

Relevantly, the Strategy recognises the Town's Position Statement on Workforce Accommodation and identified *"importance of workforce accommodation as a housing resource for industry and well-planned accommodation that effectively addresses both individual and cumulative impacts of developments to realise significant benefits for the community, industry and industry workforces."*

The objectives for urban growth relevant to workforce accommodation is stated as:

- *Plan for development areas that can effectively respond to fluctuations in the economy and population change while being resilient to climate change and natural systems.*
- *Facilitate consolidated urban form that maximises the efficient use of existing and planned infrastructure.*
- *Plan for a diverse range of housing typologies.*

The development within this location of South Hedland is considered suitable, which has similar workforce accommodation uses/developments on Hamilton Road and Parola Court. Further land parcels have been identified as suitable for large format developments / housing and workforce accommodation to the north and west of North Circular Road (Refer Figure 2 below) and will be incorporated under a future update.

Figure 2. Extract from Local Planning Strategy (2021) with potential development opportunities for new large format developments (Workforce Accommodation and or Tourist Development) use areas as overlayed.

Local Planning Scheme No. 7

Under LPS7, Clause 32 'Additional site and development requirements', Table 7 sets out requirements relating to development that are additional to those set out in the R-Codes, activity centre plans, local development plans or State or local planning policies.

Table 7, states for 'Workforce Accommodation' uses in all zones:

"(1) The local government may exercise its discretion by granting development approval for workforce accommodation after giving notice in accordance with clause 64 of the deemed provisions where it is proposed within the Rural zone and is located outside a 30-minute drive of the Port Hedland / South Hedland townsite boundary. Where workforce accommodation is proposed within the Rural zone and is located within a 30-minute drive of the Port Hedland / South Hedland townsite boundary, the use is not permitted.

(2) In exercising discretion in relation to a development application for workforce accommodation, the local government shall have regard to the following:
(a) the applicable Local Planning Policies; and
(b) appropriateness of the scale design and standard of the accommodation in the context of the location and its integration with the surrounding development.

(3) Development applications for all time-limited workforce accommodation shall, to the local government's satisfaction, be accompanied by information and plans indicating how and when the development will be removed and the site rehabilitated or developed for a subsequent use which is consistent with the intent of the zone.

(4) The local government may require, by signed agreement, a commitment to the date and details of rehabilitation and development of a subsequent use the subject of subclause (3)."

The development application has been assessed considering Cl 32 of LPS7 and in context of similar developments permitted within a 30-minute drive of the Port Hedland / South Hedland townsite boundary. Discretion is permitted under the clause, for a development to be considered within the context of Local Planning Policy 05 - Workforce Accommodation in relation to suitable location of workforce accommodation.

Local Planning Policy 06 – Social Impact Assessment (LPP/06)

The proposal is subject to assessment under LPP/06, as the proposal is for a Workforce Accommodation (expansion). As per Clause 4.2 of this policy a Social Impact

Assessment (SIA) and a Social Impact Management Plan (SIMP) are to be submitted with the application. The intent of the SIA and SIMP is to provide a structured approach to planning for and offsetting demand on the limited infrastructure and services on-site by considering the integration of the development residents with community social infrastructure.

Pacific Partnerships Pty Ltd on 20 June 2024 submitted a Social Impact Assessment prepared by Creating Communities dated 20 June 2024, for the workforce accommodation facility.

A suitable condition has been included in the Officer Recommendation to ensure the document is amended for clarity as per the following:

i. the integration measures are clearly stated in the SIA and management measures are implemented.
ii. which 'recommendations' will be actioned. Wording refers to 'consider'.
iii. The plans indicated potential onsite para-medical staff i.e. nurse or paramedic. Discuss is there are still opportunities to target medical /health care providers and businesses to fill any spaces within complex, and potential attraction packages?
iv. Is there still opportunity for the tourist development as a conference venue?
v. Is there opportunity for allocation of accommodation to key service workers.
vi. Providing detail on potential access to transport through a shared bus service and/or e-bikes for whole site.
vii. Define table of actions.

Land Assembly / Rezoning

The Town initiated action to rationalise land boundaries and zoning in consultation with the Department of Planning, Lands and Heritage in 2023, for the area around Parola Court, Hudson Way and Hamilton Road.

The land assembly component involves realignment of Crown land boundaries and drain reserves, dedication of road reserves, closure of portions of existing road reserves. Included in the changes were adjustments to Lot 601 and the Parola Road reserve boundaries to facilitate development on the subject land (Refer Figure 3 – Land Assembly Plan below). The land assembly will be by Crown subdivision undertaken by DPLH. DPLH advised the Town in September 2024 that their agency consultation process is near completion before initiating the amalgamations/subdivisions, boundary adjustments, closures etc.

A further part of the land assembly is minor Local Planning Scheme Amendment No.5. The Town resolved to finalise the Amendment on 25 June 2024 (Council Resolution CM202324/289) and refer it to the Minister for Planning for final adoption and gazettal.

The land assembly process is not anticipated to affect the determination of this application, as no buildings are proposed over lot boundaries and the rezoning proposal is very close to finalisation.

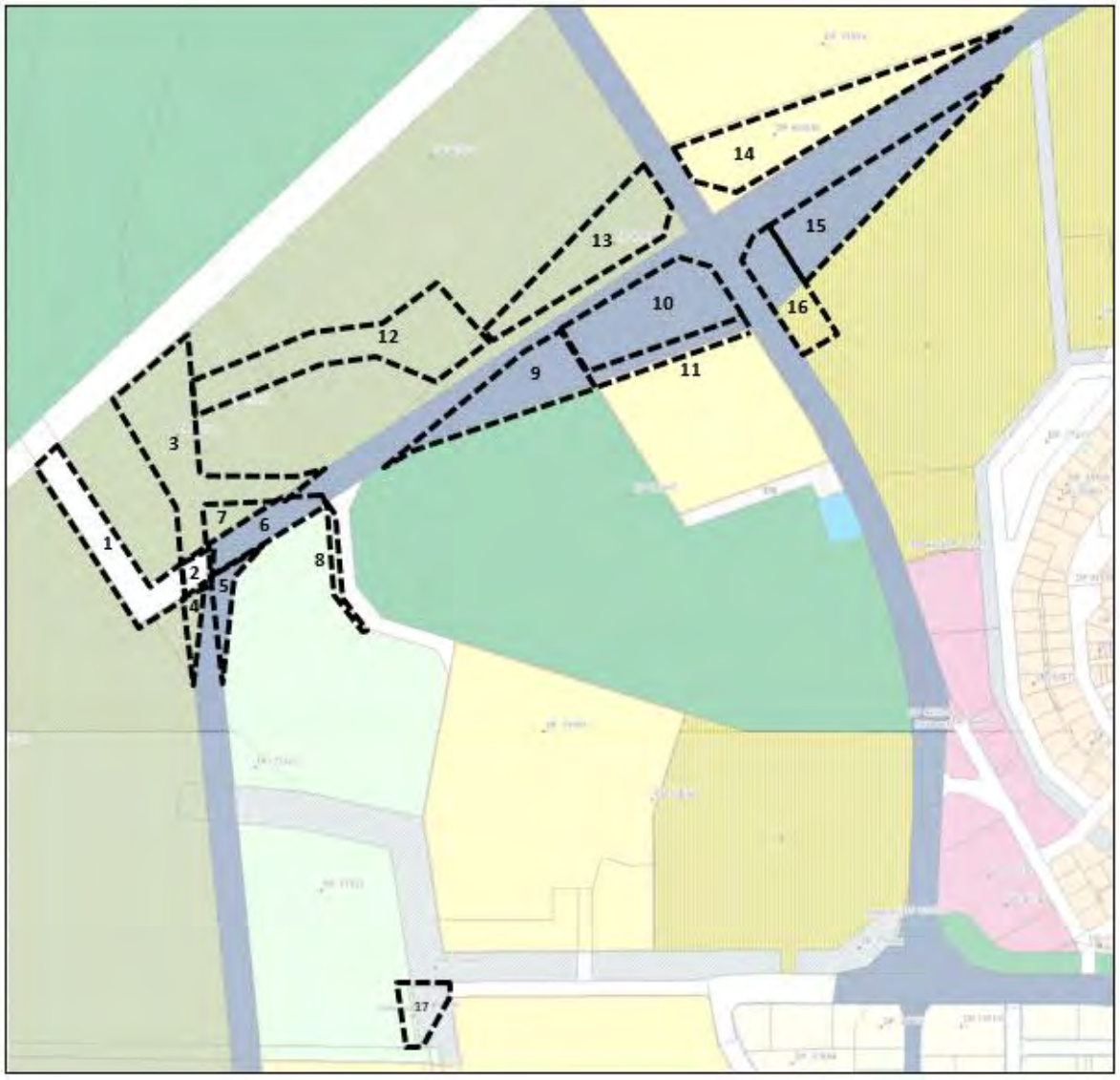

Figure 3 – Land Assembly and Current Zoning

Local Planning Policy 04 – Percent for Public Art (LPP/04)

The proposal is subject to assessment under LPP/04. In this instance, the Town considers that a cash-in-lieu contribution may be a suitable for the following reasons:

- The developer has the ability to work with a variety of local artists, including promoting local and/or Indigenous art.
- The artwork could be located within a public place in which a wider population can access and enjoy, such as the Town's sports precinct opposite.
- Funds can contribute to art that celebrates the environment, industry or lifestyles, and promote awareness to the value of public art in the community.

A condition has been included in the Officer Recommendation section for the applicant to either provide the art onsite themselves or $150,000 for a public art contribution, in accordance with Clause 4.4 of LPP/04. This contribution will assist with providing a

piece of public art within the locality, or the art to be installed in a "publicly visible" location on the development site.

The original plans incorporated significant architectural / art like features into the east elevation of the Tourist Development component but was later removed due to a variety of reasons, involving development costs. The issue of whether a significant art feature is applied is uncertain but will be subject to further negotiation with the Developer and is covered under the applicable recommended public art condition.

Local Planning Policy 05 – Workforce Accommodation (LPP/05)

The proposal is subject to assessment under LPP/05, as the proposal includes a large portion of the site for workforce accommodation. In accordance with Clause 5.1 Demand Driven (Refer to Attachment 16), Pacific Partnerships Pty Ltd have been clear about the proposal being demand driven by the existing and expected future mining business community. The Applicant has demonstrated that the proposal meets the objectives of the Policy:

"*1. To integrate workforce accommodation into the surrounding local environment through physical design and management measures which promote social cohesion .*

2. To ensure the application of design standards to workforce accommodation are commensurate with the development lifespan and location.

3. To encourage workforce accommodation to be located close to urban settings and commercial centres that ensures reciprocal benefits for the local community and local business from an integrated workforce accommodation facility .

4. To support high-quality, adaptive and sustainable design of workforce accommodation that responds to regional climatic conditions, provides a high level of amenity for occupants and promotes articulated frontages that avoid sterile streetscapes .

5. To facilitate workforce accommodation that is demonstrated to meet the temporary needs of a specific industry or project and allow decision makers to apply discretion regarding the duration (term) of approval, acknowledging it as a temporary and transitional use."

The $500 million investment and development proposed by Pacific Partnerships Pty Ltd will be the most significant for the Town to date providing a higher living standard for workforce based developments.

The Town's assessment below against Table 1 of LPP5:

Design Element			Acceptable Development Provisions	Town's assessment
1	Siting the Development	(a)	Street setbacks should be consistent with the surrounding	The development proposes buildings with open and active areas to the street

Design Element			Acceptable Development Provisions	Town's assessment
			streetscape or applicable Design Guidelines.	frontage. This aspect of the design provides strong urban form providing a positive outlook and overlooking of the public facilities opposite of the South Hedland Integrated Sports Hub.
2	Designing the Building	(a)	Where development includes 'transportable buildings' as defined by *Local Planning Policy 03* - S*hipping, Sea Containers and Transportable Buildings* (LPP/03), they shall incorporate all building design elements as per LPP/03.	General building designs are not standard transportable building design and therefore not applicable. The design will be 2 to 3 storey modules with verandas and other design features with improved amenity.
3	Fencing	(a)	No barbed wire or razor fencing is permitted.	Details of fencing design is to be provided at the building application stage. A condition has been includedto exclude use of barb wire or electrification devices.
		(b)	Front fencing includes visually permeable materials above 1.2m, and the height of solid walls or fences to the street does not exceed 1.2m.	A condition has been included requiring fencing to the northern, southern and western boundaries be visually permeable.
4	Landscaping	(a)	Landscaping zones shall be established and maintained along street frontages to screen the development.	Landscape plan/ design must be updated to integrate a site-wide master plan as advised by the Design Review Panel along with the other recommendations.
5	Movement network	(a)	Proposals shall be accompanied by a Traffic Impact Statement (TIS) or	A Traffic Impact Statement will require considerable modifications as explained in this report. A condition has

Design Element		Acceptable Development Provisions		Town's assessment
			Traffic Impact Assessment (TIA) in accordance with the *Transport Impact Assessment Guidelines* by the Department of Planning, Lands and Heritage.	been applied in the Officer Recommendation section. Further discussion and detail of improvements to the road network is discussed in the Report. A condition has been applied requiring construction and or contributions towards key connections to the road network.
		(b)	Shall connect to a footpath network if there is one in the area.	A condition has been included in the Officer Recommendation section.
		(c)	All road infrastructure shall be informed by the recommendations of the TIS or TIA, to the satisfaction of the Town.	As above Part 5 (a).
6	Storage, waste and collection	(a)	Shall be fully screened from view from all public areas and set back to mitigate any observation or odours.	A condition has been applied requiring screening of the waste bin storage/collection areas.
7	Signage	(a)	As per Local Planning Policy 02 - Advertising signs (LPP/2).	Not provided. To comply with LPP2 if any signages are proposed. May require a separate application.
8	Drainage	(a)	Proposals shall be accompanied by a detailed stormwater management plan in accordance with the Town's *Stormwater Drainage Design Guidelines*, and should ensure: • A minimum of a 1:5 ARI event is contained on-site.	Stormwater Management Plan requires amending in accordance with Town's Local Planning Policy 11 – Stormwater Management (LPP/11). The SMP to include reference to design site layout changes and district drainage network within adjoining streets. A condition has been included in the Officer Recommendation.

Design Element			Acceptable Development Provisions	Town's assessment
			• No standing water in excess of 72 hours to prevent mosquito breeding. • Sediment traps are included to prevent sediment entering the Town's reserves and drainage infrastructure; and • Erosion control measures are incorporated to prevent the erosion of embankments, swales and other areas that are unsealed.	
		(b)	All habitable floor areas to have a minimum vertical freeboard of 300mm above the 1% AEP.	Details to be provided at the building application stage.
9	Cyclone safety	(a)	Provide a building or buildings that are designed for emergency cyclone sheltering purposes for all occupants the site is designed to accommodate. Such buildings shall be designed and constructed to a Building Code of Australia importance level four (4), unless otherwise agreed by the Town's emergency services.	To be considered during the building application stage.

Local Planning Policy 11 – Stormwater Management (LPP/11)

The development application is subject to assessment under LPP/11, to assist in integrating suitable design measures into required stormwater systems. The correct

design and construction of appropriate systems will assist with reducing damaging effects of heavy rainfall events on private and public property and the public drainage network. As part of this development application, the applicant submitted a Stormwater Management Plan (SMP) but lacked detail and consideration of the adjoining existing and future district drainage network required to service the development. A condition has been applied in the Officer Recommendation section requesting an amended SMP requiring various details for compliance with the Town's Policy. The Town is satisfied that the stormwater design works can be accommodated within the amended design, subject to incorporating required changes into the management plan.

Local Planning Policy 14 – Design Review Panel (LPP/14)

The Town adopted Local Planning Policy 14 Design Review Panel (LPP/14) in 2021 to appoint independent experts to provide advice to applicants, town officers and the Council in relation to development application design matters. The proposal was presented to the DRP on two occasions 14 December 2023 and 7 February 2024

The Panel's second review concluded the design was an improvement to the initial design considered in December 2023 and noted the following:

- The recent submission focused more on technical details rather than refining the design intent.
- The design should communicate both the rationale and functionality, not just document infrastructure.
- A need for substantial architectural and landscape input, with expertise beyond engineering. Mr Campion's (Architect) recent involvement was a positive step, but additional architectural and landscape features were required as crucial to enhance the project's quality.
- Visual presentation is crucial. The design should include a detailed landscape plan, representative colour palettes, and 3D renders.
- A compelling vision that aligns with the 10 principles of State Planning Policy No. 7 will strengthen support by the community and decision-makers.
- The Panel encourages investment in design expertise to ensure the project becomes a significant and well-regarded feature of South Hedland's town centre.
- A condition has been applied for the Applicant to provide further detail of on materials, colour finishes, and treatment of blank walls, to the satisfaction of Town. Further conditions have been applied in respect to landscaping within and external to the site and incorporate open an fencing design to improve streetscapes and visual presentation of the development.

Local Road Network

The local road network requires connection improvements in the immediate area of subject development site. These connections are required between Hamilton Road /Hudson Way, Parola Court and Shoata Road.

The Crown subdivision / land assembly will assist by providing a modified road reserve for extension of North Circular Road westward, past the northern most boundary of the development site. At present all traffic from the development site can only access/egress to Hamilton Road from Hudson Way. The Developer's Bush Fire Management Plan recommends a connection to Shoata Road as a second exit point for fire emergencies. This accessway/road will require a formal and sizable culvert construction over a major creek line for the district drainage. As this accessway / connector to Shoata Road is required it is recommended that a formal roadway (sealed, drained and lit) be constructed as part of this development.

A condition has been recommended to be applied requiring construction and or contributions toward key connections to the road network and intersection improvement at the corner of Parola Court and extension to North Circular Road/Hudson Way due to the need and nexus link to the project.

Aboriginal Heritage

There are no registered heritage sites on the lot. Pacific Partnerships have advised the Town that they are close to completing arrangements with the Kariyarra local aboriginal knowledge holders in terms of their review, heritage survey and discovery.

The DRP concluded that the Applicant is strongly encouraged to invest in the application of architectural, urban design and landscape skills to ensure that the proposed development becomes a meaningful and loved part of the town centre rather than just development for the sake of development.

Clearing Permit

During advertising of the proposal, the Department of Water and Environmental Regulation lodged a detailed submission indicating requirements under the environmental legislation and have indicated a clearing permit is required before development occurs.

LEVEL OF SIGNIFICANCE

In accordance with Policy 4/009 'Significant Decision Making', this matter is considered to be of high significance, because:

Significant - The extent to which the decision flows logically and consequently from a significant decision already made or from a decision in the strategic or annual corporate plans.

Significant - The matter will have implications for the present and future social, economic, environmental, and cultural well-being of Port Hedland.

The decision can have implications reflecting the economic and cultural wellbeing of the residents of the development and surrounding properties.

CONSULTATION

The proposal was advertised between 2 August 2024 to 16 August 2024, in accordance with the Scheme and Planning Regulations.

Stakeholder consultation included:

Internal

- Community Services.
- Building Services.
- Environmental Health.
- Engineering Services.

External Agencies

- Department of Biodiversity, Conservation and Attractions
- Department of Fire and Emergency Services
- Department of Health
- Department of Jobs, Tourism, Science and Innovation
- Department of Water and Environmental Regulation
- Department of Communities *Community*

External Stakeholders

- Horizon Power
- Main Roads WA
- Pilbara Development Commission
- Port Hedland Chamber of Commerce
- Telstra
- Water Corporation
- APA
- ESS Support Services Worldwide (Compass Group)
- FMG
- Development WA
- Landowners and occupiers within a 200m radius of the application site.

There was a total of 10 submissions received (4 supporting, 1 has no comment, 2 did not support and 3 with comments only). All submissions are summarised and officer comments are outlined under Attachment 18.

LEGISLATION AND POLICY CONSIDERATIONS

The following legislation and policies are applicable to the development:

Community Services / Governance
- Town of Port Hedland - Corporate Business Plan 2023-2027.
- Town of Port Hedland - Community Development Plan 2022-2027.
- Town of Port Hedland - Access and Inclusion Plan 2023-2026.

Building/ Environmental Health
- Building Act 2011.
- Health (Miscellaneous Provisions) Act 1911
- Environmental Protection Act 1986.
- Environmental Protection Regulations 1987.
- Health (Public Buildings) Regulations 1992.
- Environmental Protection (Noise) Regulations 1997.

Planning and Economic Development

- Planning and Development Act 2005.
- Planning and Development (Development Assessment Panels) Regulations 2011
- Planning and Development (Local Planning Schemes) Regulations 2015.
- State Planning Policy 3.6 - Infrastructure Contributions;
- State Planning Policy 3.7 - Planning in Bushfire Prone Areas;
- State Planning Policy 5.4 - Road and Rail Noise;
- State Planning Policy 7.0 - Design of the Built Environment.
- State Planning Policy 7.0 - Design of the Built Environment.
- Liveable Neighbourhoods 2009.
- Liveable Neighbourhoods 2015 (Draft).
- Town of Port Hedland - Local Planning Strategy.
- Town of Port Hedland - Local Planning Scheme No.7.
- Position Statement - Workforce Accommodation
- Local Planning Policy 02 - Advertising Signs;
- Local Planning Policy 04 - Percent for Public Art;
- Local Planning Policy 05 - Workforce Accommodation;
- Local Planning Policy 06 - Social Impact Assessment;
- Local Planning Policy 11 - Stormwater Management.

Engineering
- Town of Port Hedland Policy - 9/005 - Vehicle Crossover.

FINANCIAL AND RESOURCE IMPLICATIONS

The Town of Port Hedland received an application fee for the project, and will also receive sub-lease and rates revenue if the project comes to fruition. Infrastructure and social contributions will further alleviate cost burden on the local government.

STRATEGIC SUSTAINABILITY IMPLICATIONS

Strategic Community Plan

The following sections of the Town's *Strategic Community Plan 2022-2032* are applicable in the consideration of this item:

Our Community:

1.4.2 Facilities and community infrastructure are revitalised across the town.

Our Economy:

2.5.2 Ensure future supply of housing and serviced land for development.
2.5.3 Invest and develop key community and recreation infrastructure.
2.5.5 Support tourism infrastructure development.

Our Built and Natural Environment:

3.3.1 Urban and spatial planning is implemented to enhance human interaction with nature and industry.

3.3.5 The greening and vegetation of streetscape verges are systematically implemented.

Environmental

The development has as some environmental impact through the requirement to clear the development site and discharge of stormwater into the adjacent district drainage system. These impacts have been mitigated by the imposition of a condition of development requiring a compliant Stormwater Management Plan.

Economic

The project is expected to benefit the community and economy of the Town by:

- the development will provide opportunities to service key industries of the region.
- benefit the Town's economy, over a 40-year period.
- additional accommodation in the Town with potential to reduce service worker labour costs and provide support for local business development.
- potential to provide local businesses with more confidence to invest and expand with a greater availability of labour.

• provides additional commercial floor space for the locality and opportunity for diversified and variety of commercial business.

• The project has the potential to boost business confidence in the region.

Social

The location of the proposed development can assist with 'eyes on the street' and security for the Town sporting facilities presently in Parola Court.

The six (6) storey tourist development building and facades to Parola Court will improve the quality of the development form in the locality.

Access and Inclusion

The following outcomes of the Town's *Access and Inclusion Plan 2023-2026* apply in relation to this item:

• Outcome 2 – Buildings and Facilities.
• Outcome 7 – Employment Opportunities

Corporate Business Plan

The following services of the Town's *Corporate Business Plan 2023-2027* apply in relation to this item:

Our Corporate Services:

Financial Management and Rates - Financial management services compliant with legislation to enable the Town to sustainably provide services to the community.

Our Infrastructure Services:

Roads and Footpaths - Provide an effective road network through the construction, maintenance and renewal of sealed and unsealed local roads and associated infrastructure.

Our Regulatory Services:

Housing - Provide for housing availability to meet the needs of the community and industry.

Planning and Development - Strategic land use planning and regulation to ensure the best development and land use outcomes.

RISK MANAGEMENT CONSIDERATIONS

Risk Type	Strategic
Risk Category	Financial
Cause	Compliance, Reputational
Effect (Consequence)	Recommendation not to support the development.

Risk Treatment	The Council resolves to recommend support for the development.

There is a strategic risk associated with this item caused by resolutions of the Council in supporting the major land transaction proposal over the last 18 months and agreement to lease to facilitate the development, leading to reputational risk if the development is not supported. The risk rating is considered to be Medium (9) which is determined by a likelihood of Possible (3) and a consequence of Moderate (3), as the Town is not the determining authority for the application.

There is a financial risk associated with this item due to the land tenure agreement and rates applicable to a facility of this size being developed in the Town of Port Hedland. The risk rating is considered to be High (12) which is determined by a likelihood of Possible (3) and a consequence of Major (4).

There is a compliance risk associated with this item due to the significant scale of development, and incomplete nature of associated technical documents and details regarding built form, access and landscape outcomes. The risk rating is considered to be High (12) which is determined by a likelihood of Possible (3) and a consequence of Major (4).

These risks will be mitigated by applying suitably worded development conditions, and supporting the proposal. A conditional support resolution to the Regional Development Assessment Panel as outlined in the Officer Recommendation is therefore recommended.

OPTIONS

Option 1 – Adopt officer's recommendation
Option 2 – Amend officer's recommendation
Option 3 – Do not adopt officer's recommendation

CONCLUSION

The development has been considered by the Council on several occasions, through briefings from the developer (Pacific Partnerships Pty Ltd) and reports presented to the Ordinary Council Meetings for consideration of the major land transaction concerning Lot 601. The development is suitably located next to other workforce accommodation facilities, 'Club Hamilton' (Fortescue Mining Group), corner of Hudson Way and Hamilton Road, 'Gateway Village' (Compass Group) at the end of Parola Court and the Town's South Hedland Integrated Sports Hub.

It is considered that development meets the development standards under the planning framework and can be approved. It will present a high-quality building form with a six (6) level tourist development building and 3 storey workforce accommodation modules. The development is recommended for support to the

Regional Development Assessment Panel, subject to conditions as outlined in the officer recommendation.

ATTACHMENTS

1. 1. Site Plan [12.3.3.1 - 1 page]
2. 2 Floor Plan 1- Tourist Accomm [12.3.3.2 - 1 page]
3. 3 Floor Plan 2- Tourist Accomm [12.3.3.3 - 1 page]
4. 4 Cross Section- Tourist Accomm [12.3.3.4 - 1 page]
5. 5 Elevation 1- Tourist Accomm [12.3.3.5 - 1 page]
6. 6 Elevation 2- Tourist Accomm [12.3.3.6 - 1 page]
7. 7 Elevation 3- Tourist Accomm [12.3.3.7 - 1 page]
8. 8 Perspective- Village Green [12.3.3.8 - 1 page]
9. 9 Perspective- Tourist [12.3.3.9 - 1 page]
10. 10 Floor Plan- Central Facilities [12.3.3.10 - 1 page]
11. 11 Elevation- Central Facilities [12.3.3.11 - 1 page]
12. 12 Floor Plan- Gym & Wellness [12.3.3.12 - 1 page]
13. 13 Elevation- Gym & Wellness [12.3.3.13 - 1 page]
14. 14 Floor Plan 1- Workforce Accomm [12.3.3.14 - 1 page]
15. 15 Floor Plan 2- Workforce Accomm [12.3.3.15 - 1 page]
16. 16 Elevation- Workforce Accomm [12.3.3.16 - 1 page]
17. 17 Floor Plan- Construction Rooms [12.3.3.17 - 1 page]
18. 18 Elevation- Construction Rooms [12.3.3.18 - 1 page]
19. 19 Floor Plan - Universal Access Rooms [12.3.3.19 - 1 page]
20. 20 Elevation - Universal Access Rooms [12.3.3.20 - 1 page]
21. 21 Shade Structures - Footpaths & Breakout Areas [12.3.3.21 - 1 page]
22. 22 Shade Structures - Verandas [12.3.3.22 - 1 page]
23. 23 Floor & Elevation Plan - BBQ & Gazebo [12.3.3.23 - 1 page]
24. 24 Landscaping - Plant Species List [12.3.3.24 - 1 page]
25. 25 Landscaping - Parola Street View [12.3.3.25 - 1 page]
26. 26 Elevation - Street Fencing [12.3.3.26 - 1 page]
27. 27 Stormwater Management Concept [12.3.3.27 - 1 page]
28. 28 Floor & Elevation Plan - Security Booth [12.3.3.28 - 1 page]

PART D – OTHER BUSINESS

1. State Administrative Tribunal Applications and Supreme Court Appeals

2. Meeting Closure