

APPENDIX I – PFMP REPORTS

YANCHEP LAGOON FORESHORE MANAGEMENT PLAN (DRAFT)

Date Issued: 12th December 2025

UDLA



APPENDIX I

Appendix I contains the following documents:

- Preferred Transport and Access Approach Technical Note (PJA, 2024).
- Engagement Report (UDLA, 2024).
- Economic Feasibility Assessment (Pracsys, 2024).
- Bushfire Risk Assessment and BAL Contour Planning (Bushfire Works, 2024).

Technical Note

Project: Yanchep Lagoon Preliminary Foreshore Management Plan

Subject: Preferred Transport and Access Approach

Client:	UDLA	**Version:**	005-A
Project No:	08024	**Author:**	Tim Judd
Date:	08/11/2024	**Approved:**	Tim Judd

The following information is provided as a collation of all previous technical work undertaken by PJA provided to the project team through a series of technical notes. These being:

- 08024_TN_001_A_Strategic Transport Approach – July 2024
- 08024_TN_002_A_Strategic Transport Approach Stage 1 Summary Only - August 2024
- 08024_TN_003_A_General Traffic and Parking Advice – October 2024
- 08024_TN_004_A_Strategic Transport Approach PFMP – November 2024

1 Yanchep Lagoon Masterplan – Transport and Access Strategy

A review of the *Draft Transport and Access Strategy (TAS) for the Yanchep Lagoon Masterplan* provides the following **opportunities** for development of the Yanchep Lagoon area.

a Utilising existing informal path networks.

b Short walking distances support active travel.

c Promoting public transport access via the Yanchep Train Station, and lobbying PTA for service improvements to existing bus services.

d Considering a transport hub in a more central location within 'The Settlement/SLSC'.

e Shuttle bus operation within the YLP.

f Implementing a Pedestrian Priority Zone as soon as practical to enforce the pedestrian importance along Brazier Road south of the Brazier Road / Capricorn Esplanade roundabout.

g Undertaking staged closures of Brazier Road along the Promenade to familiarise visitors to the YLP with the idea of a fully pedestrianised space in that location, with a view to lengthier periods of closure during peak times.

LOCATION Quay Perth
18 The Esplanade
Perth
WA 6000
Australia

TELEPHONE +61 370 330 210
EMAIL contact@pja.com.au

WEBSITE pja.com.au

h Encouraging existing parking facilities at the Homestead and Rancho Relaxo Park through the use of parking restrictions in more central locations.

i Providing opportunities to take advantage of advances in transport technology through the provision of charging infrastructure for electrified modes.

1.1 Refinement of Precinct Access Components

The TAS seeks to **prioritise pedestrian movements** and reduce car dominance within the YLP. Recommendations include:

a Develop key shared path connections for both north-south and east-west routes.

b Develop walking trails from informal walking trails along degraded sections within appropriate areas of vegetation.

c Implement a staged road closure on Brazier Road south of the SLSC to create an attractive pedestrian safe area.

d Supporting infrastructure such as bike racks and water fountains and wayfinding.

e Policy frameworks to support increases in uptake of personal electrified transport modes as appropriate.

f Public Transport within the YLP is minimal, the TAS proposes a staggered approach for the implementation of infrastructure and facilities which support increased use of this form of transport. Key implementation measures include shuttle bus service trial to the newly constructed Yanchep train station.

g Develop centralised transport hub that can accommodate the proposed shuttle bus and/or PTA bus services in addition to on-demand transport and drop off / pick up bays.

h Encourage and support the use of existing PTA services to the YLP through wayfinding from, and upgrades to bus stops.

The TAS seeks to provide sufficient **decentralised car parking** facilities and to reduce the perception of vehicle dominance in the YLP. Key implementation measures include:

- Gradual reduction in car parking bays within the central car park at 'The Settlement/SLSC' associated with higher uptake of peripheral car parks.
- Develop car parking management plan to increase usage to peripheral car parks through parking demand management tools and wayfinding.

The opportunities for transport improvements for the Yanchep Lagoon are depicted within Figure 1.

Figure 1: Proposed TAS refinement of the transport network for Yanchep Lagoon



2 Existing Car Parking for Yanchep Lagoon

The TAS provides data on both the existing and proposed parking requirements for the Yanchep Lagoon.

Yanchep Lagoon has **three main off-street** car parking areas; the main Yanchep Lagoon car park located adjacent to the Brazier Road / Capricorn Esplanade (Central Car Park) intersection **and two Secondary car parks** located to the north (The Homestead) and to the south (Rancho Relaxo Park / Dune park). The number of bays and related parking restrictions for each location are detailed within the TAS as below:

- Northern Homestead car park
  - facilitates 52 car parking spaces (2 disabled)
  - facilitates 6 motorcycle spaces
  - No time restrictions
- Central Surf Lifesaving Club car park
  - Facilitates 131 car parking spaces (2 disabled)
  - Facilitates 1 loading zone
  - No time restrictions
- Southern Rancho Relaxo Park / Dune park car park
  - Facilitates 46 car parking spaces (2 disabled)
  - No time restrictions

There is also street parking (42 bays) provided along Brazier Road south of the Brazier Road / Capricorn Esplanade roundabout along the foreshore. On busy days, informal parking can be observed along Capricorn Esplanade, and towards the Brazier Road/Two Rocks Road intersection. Due to some of the findings of the vegetation survey, these parking practices are to be discouraged, particularly in areas of vegetation significance. As above, the existing parking supply at the YLP currently is approximately 277 bays (including 6 motorcycle bays and 1 loading bay).

UDLA has provided an existing site parking review for Yanchep Lagoon, presented in Figure 2 this provides the same information as detailed within the TAS.

Figure 2: Existing Site Parking, Yanchep Lagoon, UDLA (July 2024)



3 Flora and Vegetation Survey

A Flora and Vegetation Survey undertaken by One Tree Botanical in January 2020 details the areas of Vegetation Condition. This is illustrated in Figure 3 (taken from the TAS).

The areas in purple are high quality vegetation that should be preserved. The blue areas are noted as 'very good' vegetation. This indicates areas of vegetation that need to be retained and not removed for road or car parking requirements.

Figure 3: Vegetation Condition Map



4 Preferred Transport and Access Approach

A Preliminary Foreshore Management Plan (PFMP) has been developed following review of all previous studies, including the Flora and Vegetation study, Economic Analysis, previous Masterplan and TAS.

The proposed concept design is provided in Figure 4 illustrating a lighter touch approach to transport and access when compared to the original masterplan proposal.

The approach for transport and access for the PFMP takes key elements from the TAS aiming for a very walkable and safer transport environment. The approach to transport is to:

- Prioritise pedestrian and active travel - reducing car dominance within the PFMP:
- Provide safe (wide and well lit), shaded with street trees and connected footpaths to/from all foreshore destinations and proposed off-street and on-street car parking areas.
- Creating a slower speed environment on all streets (30km/hr operating speed is the goal) for all traffic.
- Undertaking staged (one-way flow to full closure) of Brazier Road south of Capricorn Esplanade. The creation of a one-way road on Brazier Road south of Capricorn Esplanade will create an attractive pedestrian priority area, that could ultimately become a fully closed section of Brazier Road in the future if desired.
- Additional shared path to run along the length of Brazier Road from Yanhep Beach Road to Capricorn Esplanade.
- Supporting infrastructure such as bike racks and water fountains and wayfinding will also be provided.

4.1 Low Impact Car Parking Improvements

The key approach for car parking for the PFMP include:

- Central off-street car park at the surf-life saving club to remain at its current capacity.
- Increasing capacity at the northern off-street car park at Mary Lindsay Homestead.
- Providing additional, formalised on-street parking throughout the precinct along road edges.
- Providing opportunities to take advantage of transport technology through the provision of active parking signage and charging infrastructure for electrified modes. “Active Parking” Signage Strategy is recommended to be embedded as a requirement to future developers

(or other parking availability technology measures) to enable drivers to know where to go for parking (north or south) to prevent circulating around the lagoon.

- The existing parking within the foreshore area is approximately 277 car bays in both on-street and off-street locations. Within the current concept design (presented in Figure 4), PFMP proposes more on-street parking for the area with the number of parking bays (on and off street) proposed is approximately 382 (277 existing + 105 net new).

4.1.1 Suitability of Car Parking provision

Additional proposed development within the Yanchep PFMP has been reviewed to establish a preferred overall floor space yield. This is presented within Table 1.

Table 1: Preferred Floorspace Option Achieved in Plan

Floorspace category	Achieved in plan	+ Car Bays (COW Scheme 2)
Accommodation	0m2 NLA (0 keys)	0m2 (0 bays)
Food and Beverage	1520m2 NLA Notes: • GFA 2,175m2 at 70% conversion • Inclusive of Dome and existing Café, inclusive of internal area and Al Fresco	8512m2 (304 bays)
Shop/Retail	760m2 NLA Notes: • GFA 650m2 – This is the immediate kiosk areas plus the 550m2 gathering space minus 100m2. • Plus 210m2 (based on 300m2 GFA at 70% conversion). • Local deli / shop – complimentary w/ other retail / food uses	1,484m2 (53 bays) Notes: • Upper end of range based on total area allocation
Gallery	140m2 NLA Notes: • GFA 200m2 at 70% conversion	280m2 (10 bays)
TOTAL APPROX	**2,420m2 NLA**	**10,276m2 (367 bays)**

Along with preferred gross floor area, Table 1 also illustrates how much car parking would traditionally be provided for each land use category based on City of Wanneroo District Planning Scheme No.2 (DPS No.2).

However, the Department of Planning, Lands and Heritage (DPLH) have noted that Yanchep Lagoon Foreshore masterplan area can set the parking strategy such that it replaces any town planning requirements the City may have. This position is welcomed by the project team as it allows the Lagoon Foreshore to adopt the Visioning Principles of a 'light touch' development approach.

Notwithstanding the advice from DPLH, Table 1 proposes the number of parking bays that would be provided within the Yanchep Lagoon Foreshore masterplan area (under City of Wanneroo District Planning Scheme No.2) to be 367 car parking bays.

As noted previously, the current concept design for the PFMP proposes 382 car parking bays, this being the existing 277, plus an additional 105 new car parking spaces. This suggests that the proposed land use yields under the preferred concept still meets the City DPS No.2 minimum parking requirements for the masterplan area and, is in keeping with the overall aim to ensure balanced accessibility for people driving, people catching public transport, people riding and people walking to the foreshore.

4.2 Public Transport

Public Transport within the precinct is currently minimal. The City will work with State Government for the implementation of infrastructure and facilities which support increased use of bus transport between PFMP and the newly opened Yanchep Railway Station.

It is proposed to explore the potential for a centralised transport hub that can accommodate a proposed shuttle bus and/or PTA bus services in addition to on-demand transport and drop off / pick up bays.

Figure 4: Proposed Concept Design (UDLA, November 2024)



5 Additional Detailed Information

During the development of the PFMP concept design, advice has been sought from PJA on the preferred lane widths for Brazier Road and Capricorn Esplanade. This advice has been previously provided within PJA Technical note *08024_TN_003_A_General Traffic and Parking Advice* and is replicated below.

Lane widths for transport is primarily determined by the primary vehicle type likely to be using the section of road, along with the proposed traffic speed and topography (such as curves) within the road. While a lane width of 3.5m is standard practice within WA, narrower lanes can be considered within low-speed environments or where minimal large truck traffic is expected[1].

In addition, *Department of Transport, Planning and Designing for Active Transport in WA, Providing for Bike Riding in Local Area Traffic Management Schemes* notes that for individual LATM devices, and short sections of physically constrained lanes (i.e., kerbed medians), treatments should be designed that do not allow people driving to overtake people riding when travelling through the treatment. To reduce the risk of people driving attempting to overtake people riding, this guide suggests maximum 3 m (3.2 m on bus routes) lane widths within a LATM device.

As the proposed Yanchep Lagoon Foreshore design is for a slow speed, safer environment encouraging those that want to, to ride on-road mixing with slow moving vehicles, it is recommended that traffic lane widths are provided as follows:

- Capricorn Esplanade – 3.0m lanes in both directions, noting, a minimum 0.8m buffer zone between traffic lane and proposed on-street parking to prevent 'dooring' accidents. Traffic lanes may need to be widened slightly around curves as needed (it is noted the current road width is approximately 7.4m).
- Brazier Road (from Yanchep Beach Road to Capricorn Esplanade) – 3.5m lanes in both directions as this will likely be the primary bus access to the foreshore from the wider Yanchep area.
- Brazier Road (proposed one-way section south of the roundabout with Capricorn Esplanade) – 3.0m lane with additional buffer area (suggest 0.5m minimum) between edge of the traffic lane and proposed angled parking and 0.8m buffer zone between traffic lane and proposed on-street parallel parking to prevent 'dooring' accidents.

[1] Austroads Guide to Road Design Part 3: Geometric Design

- Brazier Road (between proposed one-way section and intersection with Wilkie Avenue) – 3.0m lanes with additional buffer area (suggest 0.5m minimum) between edge of the traffic lane and proposed on-street angled car parking and 0.8m buffer zone between traffic lane and proposed on-street parallel parking to prevent 'dooring' accidents.

City of Wanneroo



YANCHEP LAGOON
PRELIMINARY FORESHORE MANAGEMENT PLAN (PFMP)
ENGAGEMENT REPORT

UDLA

TABLE 1. EDITION DETAILS

PROJECT NAME	
Title	RFT #24044 YANCHEP LAGOON PRELIMINARY FORESHORE MANAGEMENT PLAN (PFMP)
Production Date	8/11/2024
Prepared By	UDLA
Author	Janine Ghiotto
Status	DRAFT
UDLA Project Code	WANYL

TABLE 2. DOCUMENT REGISTER

DOCUMENT REGISTER			
Version	**Date**	**Amendments**	**Prepared By**
DRAFT	8/11/2024	Issued for client review	JG
A	10/12/2024		

Prepared for: City of Wanneroo

Prepared by: UDLA

Contact: Scott Lang
Position: UDLA Director
Phone: (08) 9336 7577
Email: scott@udla.com.au

LEVEL 2, ATWELL ARCADE, 3 CANTONMENT ST,
FREMANTLE, 6160 WA
HELLO@UDLA.COM.AU | (08) 9336 7577



YANCHEP SITE PHOTO JUNE 2024

We acknowledge the Whadjuk and Yued People as the Traditional Owners of the land on which the Yanchep Lagooon stands today. We pay respect to the Whadjuk and Yued People, and Elders both past and present whose knowledge and wisdom has and will ensure the continuation of cultural and traditional practices.

CONTENTS



YANCHEP SITE PHOTO JUNE 2024

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1.0 ENGAGEMENT APPROACH



1.1 PARTICIPATORY DESIGN APPROACH

As outlined in the Engagement Plan (Rev A) issued in August 2024, involving key government stakeholders and community members with the design process for the Preliminary Foreshore Management Plan (PFMP) allows the City of Wanneroo (CoW) to manage expectations for the project over the next few years. It also ensures that the PFMP document considers governance and approvals frameworks and thus supports the delivery of the project.

The importance of community involvement in the urban design process has been widely documented, with recommendations for good participation practice outlined as follows:

- Identifying and involving the right people from the outset;
- Use of community development approaches which start with local people and address their concerns they identify about their area, involving them in solutions;
- The need to ensure both community and government stakeholders have genuine influence over decisions;
- The need to work with local activists, but not exclusively so, and to build democratic processes which involve them and other residents;
- The value of generating early, visible success to build confidence in the participation process; and
- The need to communicate regularly and clearly – there shouldn't be hiatuses in communication.

The previous engagement in 2019 for the Masterplan enjoyed significant interest from the community however, it became evident in the first community workshop held for the PFMP that community sentiment was rather negative. Attendees expressed frustration about the lack of progress and appeared genuinely concerned about the future of the project. Given this, strong emphisis was placed on egaining trust with the community through clear communication throughout the engagement process and transparency about next steps.

The delivery of the three workshop series also implemented the following steps as described in the Engagement Plan (Rev A) issued in August 2024:

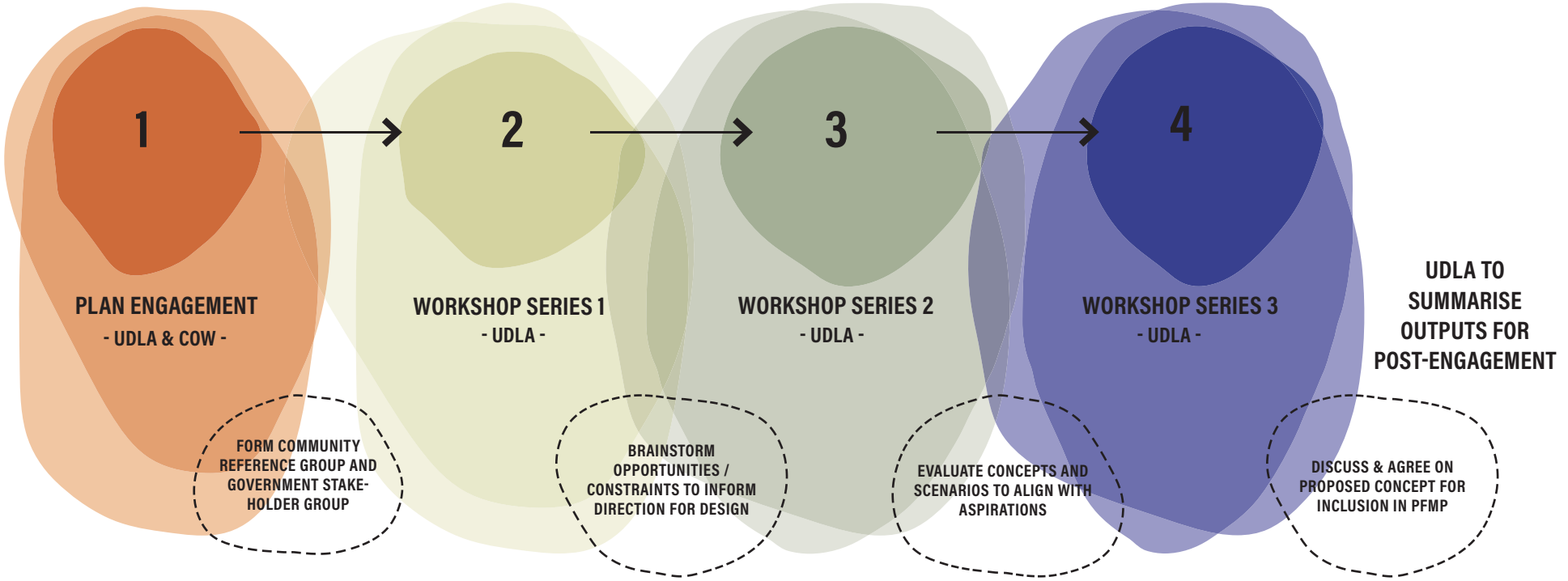
1. Acknowledge that the project is community-led and thus must involve and centre the right people from the outset: *This was achieved through the establishment of a Community Reference Group, following an EoI process.*
2. Reiterate the vision and place principles identified during the Masterplanning stage which ensure the PFMP balances strategic aspirations with community expectations and protects the unique qualities of the site: *This was achieved through in-depth evaluation of the 2019 Masterplan in Workshop Series 1*
3. Ensure participants have genuine influence over decisions: *This was achieved through designated "Recap" points at each workshop*
4. Acknowledge the value of generating early, visible success to build confidence in the participation process: *This was achieved through a review of the engagement at the final workshop*
5. Provide training for people where appropriate to assist their participation: *This was achieved through inclusive language, issue of agenda etc.*
6. Apply a range of meeting formats and tools that suit various groups: *This was achieved by offering face to face and dial-in options*
7. Use and strengthen of local resources: *This was partially achieved by holding one workshop at a venue close to Yanchep (limited availability was a constraint)*

Upon conclusion of the engagement, community members reflected positively on the design process and expressed interest in further involvement. Following the PFMP process, the focus should be the two additional setps to maintain positive community sentiment.

8. Commit to communicate regularly and clearly – there shouldn't be hiatuses in communication; and,
9. Coordinate project and CoW communications to make participation "stick".

Engagement with government stakeholders was generally positive and well received and resulted in general support for the current design to form the basis for the PFMP.

1.2 ENGAGEMENT STEPS



KEY STEPS

- Identify the right people from within the community and the government agencies / CoW.
- Agree on workshop format(s) and schedule workshops
- Prepare material for workshop series 1.

KEY STEPS

- Confirm design principles
- Conduct brainstorm activities to identify opportunities / constraints for the concept design
- Summarise output for design team and develop concept options for workshop series 2.

KEY STEPS

- Discuss design concepts and best practice examples
- Identify strengths & weaknesses for each scenario
- Summarise output for design team and refine & iterate concept options for workshop series 3

KEY STEPS

- Evaluate the proposed concept based on Workshop 2 findings.
- Consolidate feedback and agree on preferred direction
- Document consensus, including next steps to finalise design, and share with design team.

Note:
The co-design workshops have complemented fortnightly meetings with the CoW Project Team, chaired and minuted by UDLA who will have distributed relevant input from stakeholders to subconsultants.

1.3 PLANNING CONSIDERATIONS

LOCATION

Community Stakeholders (Group 1)
- Workshops 1 & 3: CoW Premises.
- Workshop 5: Phil Renkin Community Centre, Two Rocks.

Government Stakeholder (Group 2)
- Workshops 2, 4, & 6: Hames Sharley Studio, Perth CBD.

ATTENDEES

The following groups were invited to inform the PFMP process, with the engagegement delivered as a two-stream series consisting of 3 workshops each (total of 6 workshops).

Community Stakeholders Group (Group 1)
A Reference Group was established by CoW via a public Expression of Interest (EoI) process ahead of Workshop 1. The group consisted of 15 members of the Yanchep Community, most of whom attended all 3 workshops (1, 3, & 5).

Government Stakeholder Groupc (Group 2)
The following government agencies were invited to the workshops:
- Department of Planning, Lands and Heritage (DPLH).
- Environmental Protection Authority (EPA).
- Department of Transport (DoT).
- Perth Transport Authority (PTA).
- Department of Biodiversity, Conservation and Atttractions (DBCA).
- Main Roads WA (MRWA).
- Department of Water and Environmental Regulation (DWER).
- Tourism WA.

Representatives from DPLH (Land Use Planning, Coastal and Bush Forever divisions) and DoT were present at all 3 workshops.

Design Team
The team comprised 3 persons from UDLA (Lead Consultant) and 1 person from Hames Sharley (Architecture & Planning), who faciliated all 6 workshops and reported on the outcomes to CoW after each workshop. Hames Sharley were present at Workshops 2, 4, & 6.

CoW Project Team
The team comprised 2 persons from the City of Wanneroo who are involved with the delivery of the project and were nominated by the project manager Ian Ireland. Additional staff was brought in to support the workshop delivery for Workshops 5 & 6.

Attendee details for each workshop can be found in the Appendices.

TIMEFRAME

Each workshop series comprised a 2.5 hr session for each group, delivered on different days with Group 1 workshops being delivered first to relay community sentiment to government.

COMMUNICATIONS

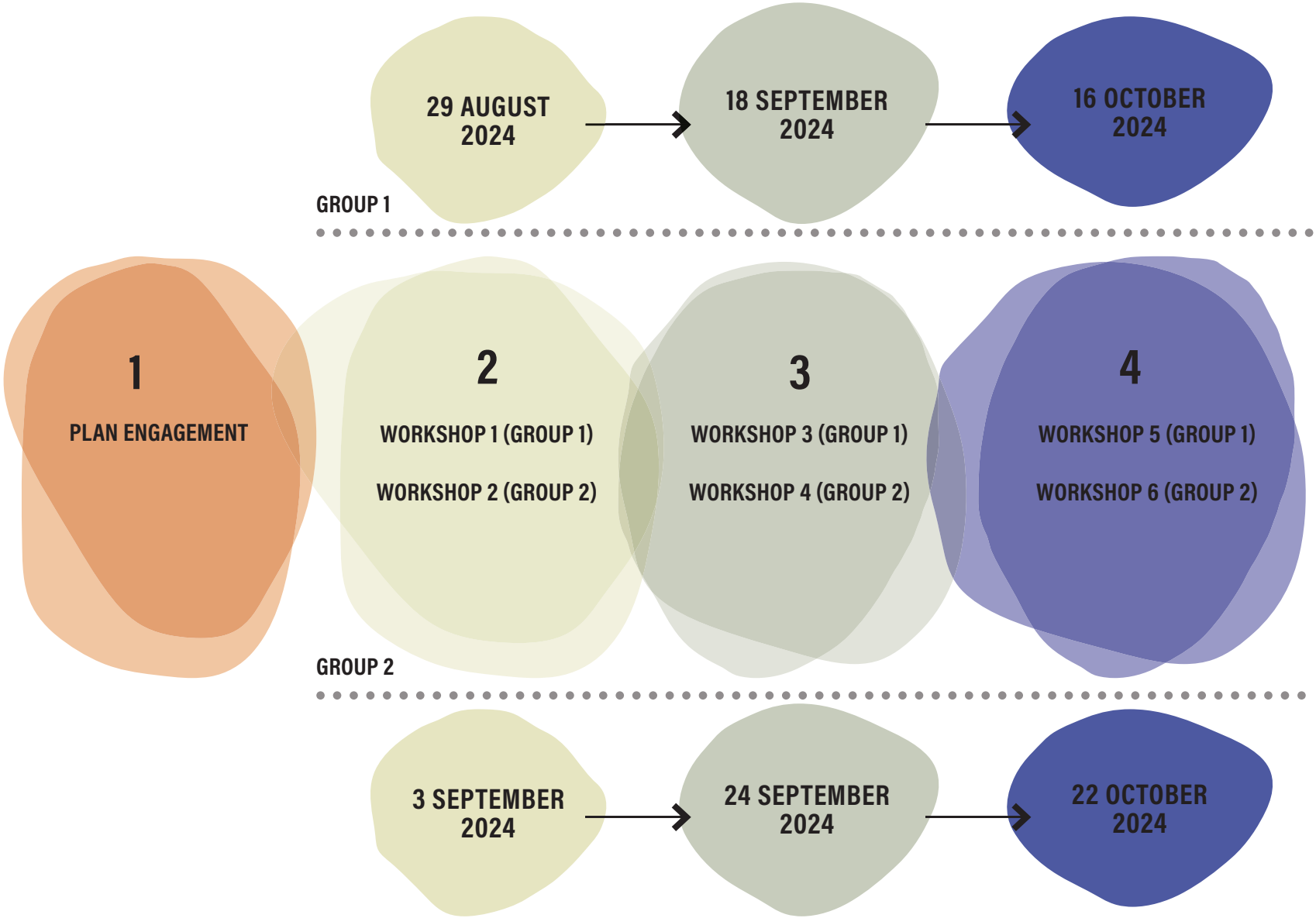
As outlined in the Engagement Plan, UDLA worked with the City to support digital engagement, advertising and general communications as follows:

Pre-Engagement
- Draft key messages and consultation objectives.
- Advise on Expression of Interest (EoI) for the Community Stakeholder Group.
- Prepare engagement material (1x set) incl. agenda.

Engagement
- Facilitate workshop(s) as per agenda.
- Capture highlights from the day (ie. photography).
- Refer to any ongoing CoW-led activities (ie. "Your-Say" page) to expand reach of engagement.

Post-Engagement
- Summary of engagement outputs (minutes).
- Facilitate consideration of output in studies, reports, and documentation.
- Final Engagement Report (this document), including any updates to this strategy.

1.4 ENGAGEMENT PROGRAM



2.0 WORKSHOP SERIES 1 - OPPORTUNITIES & DIRECTIONS



2.1 COMMUNITY STAKEHOLDERS (WORKSHOP 1)

AIM:

- To recap on outcomes of previous engagement.
- To confirm vision and design principles.
- To identify opportunities & constraints for concept design (community perspective), across all sub-precincts.
- To gain community insights to inform direction for the project.

AGENDA:

An agenda was provided to attendees ahead of the workshop and followed the structure proposed in the Engagement Plan (adjacent diagram). A copy is provided in the Appendices.

FORMAT:

The workshop consisted of two parts; one being a presentation by the Design Team with comments invited from the stakeholder group and the other being an interactive session.

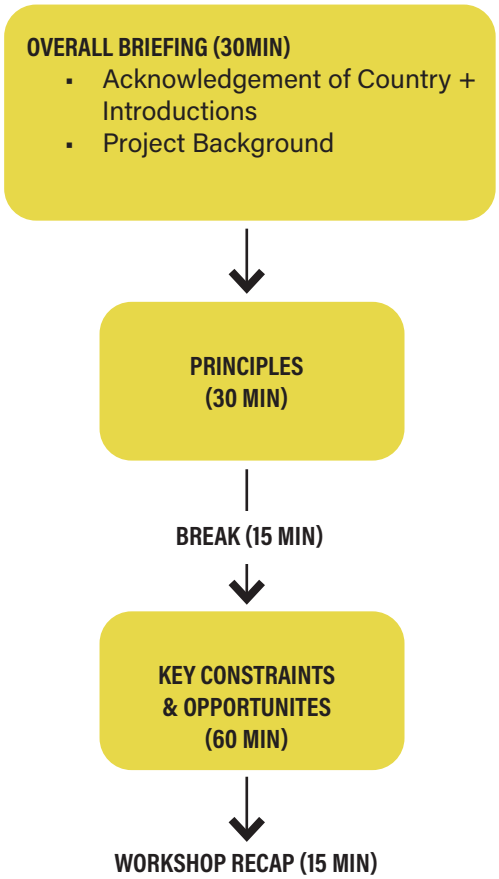
The role of the design team was to facilitate and listen carefully. The CoW Project Team arranged the venue and coordinated the invitations.

OUTCOMES:

The conversations on the day were captured in a summary document, a copy of which is provided in the Appendices. Key take-aways included:

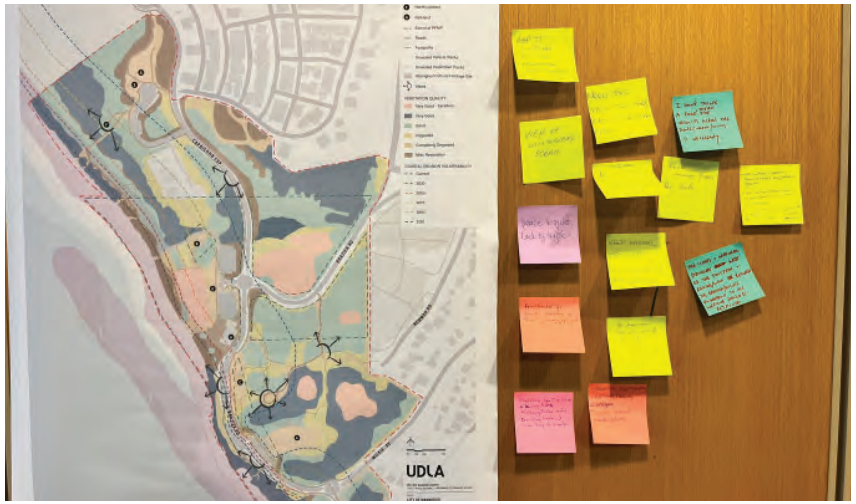
- Vision & Place Principles from 2019 Masterplan confirmed.
- Design Philosophy & Principles proposed for PFMP supported.
- Some intervention proposed in 2019 Masterplan (ie. road through Class A Reserve) not supported. Alternatives needed.
- Equitable access, protection of flora & fauna and place-sensitive design valued by community.

WORKSHOP 1 STRUCTURE



2.1 COMMUNITY STAKEHOLDERS (WORKSHOP 1)









COMMUNITY WORKSHOP AUGUST 2024

2.2 GOVERNMENT STAKEHOLDERS (WORKSHOP 2)

AIM:

- To recap on outcomes of previous engagement.
- To reiterate vision and design principles.
- To understand context of project.
- To identify opportunities & constraints for concept design (government perspective), across all sub-precincts.
- To set a strategic direction for the project.

AGENDA:

An agenda was provided to attendees ahead of the workshop and followed the structure proposed in the Engagement Plan (adjacent diagram). A copy is provided in the Appendices.

FORMAT:

The workshop consisted of two parts; one being a presentation by the Design Team with comments invited from the stakeholder group and the other being an interactive session.

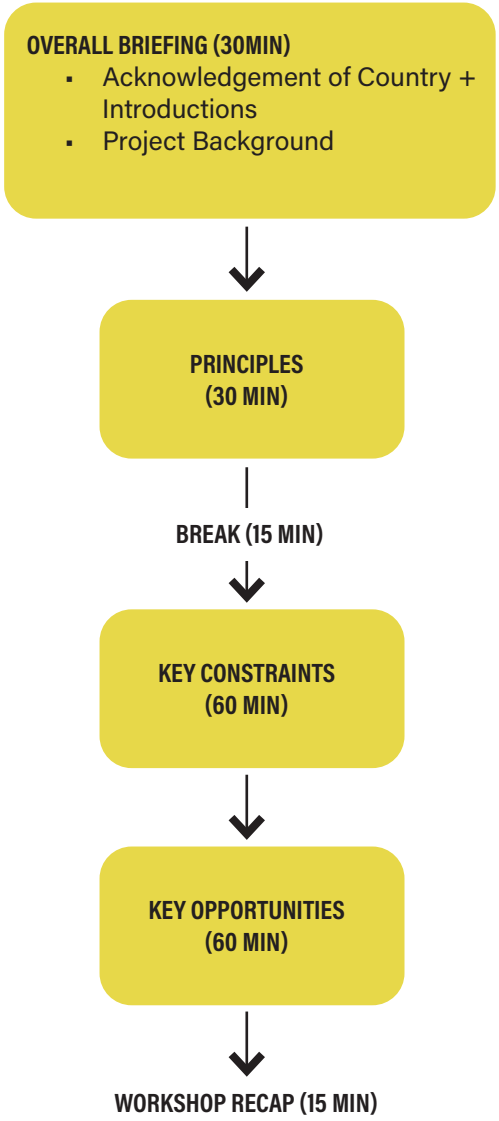
The role of the design team was to facilitate and listen carefully. The CoW Project Team coordinated the invitations with Hames Sharley providing the venue.

OUTCOMES:

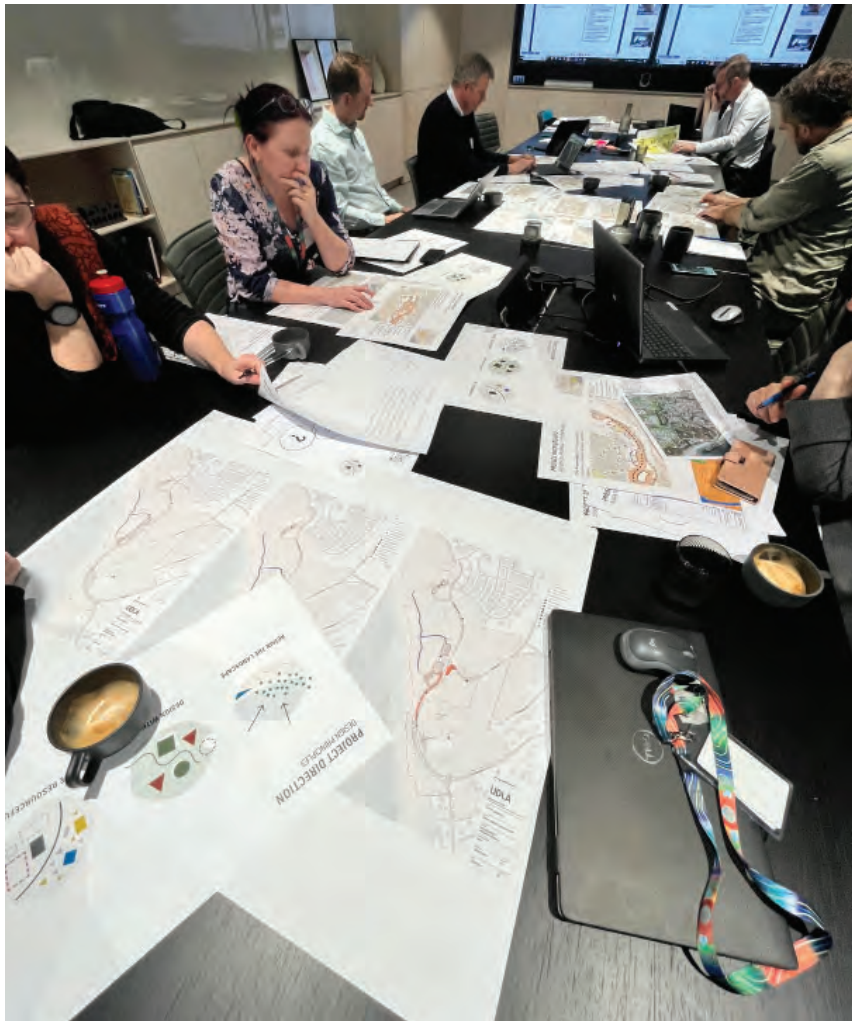
The conversations on the day were captured in a summary document, a copy of which is provided in the Appendices. Key take-aways included:

- Vision & Place Principles from 2019 Masterplan confirmed.
- Design Philosophy & Principles proposed for PFMP supported.
- Some intervention proposed in 2019 Masterplan (ie. road through Class A Reserve) not supported. Alternatives needed.
- Equitable access, protection of flora & fauna and place-sensitive design valued by community.

WORKSHOP 2 STRUCTURE



2.2 GOVERNMENT STAKEHOLDERS (WORKSHOP 2)







GOVERNMENT WORKSHOP SEPTEMBER 2024

3.0 WORKSHOP SERIES 2 - CONCEPT SCENARIOS



3.3 COMMUNITY STAKEHOLDERS (WORKSHOP 3)

AIM:

- To facilitate dialogue with critical government agencies.
- To review possible scenarios (3x per sub-precinct).
- To identify strengths & weaknesses of each scenario.
- To align scenarios with community aspirations.

AGENDA:

An agenda was provided to attendees ahead of the workshop and followed the structure proposed in the Engagement Plan (adjacent diagram). A copy is provided in the Appendices.

FORMAT:

The workshop consisted of two parts; one being a presentation by the Design Team with comments invited from the stakeholder group and the other being an interactive session where 3 scenarios were explored.

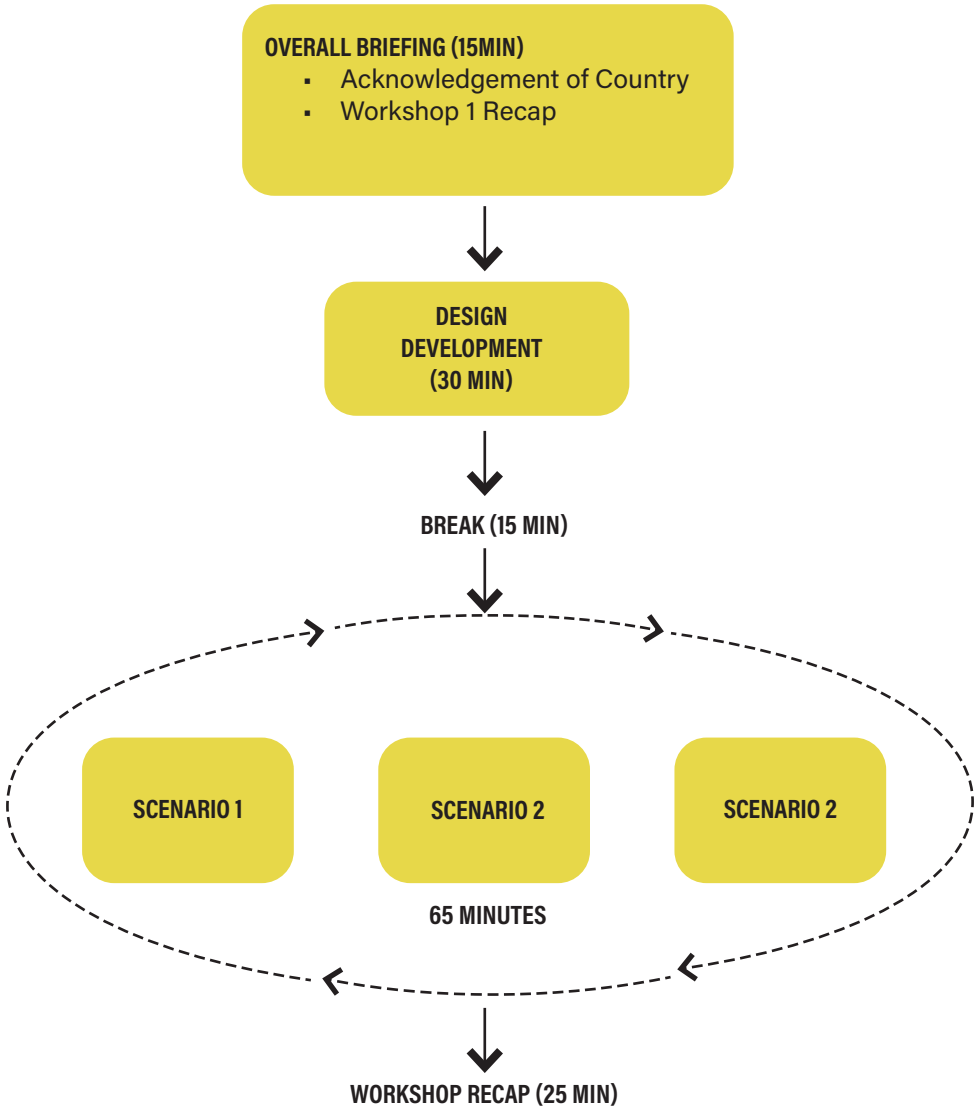
The role of the design team was to facilitate and listen carefully. The CoW Project Team coordinated the invitations with Hames Sharley providing the venue.

OUTCOMES:

The conversations on the day were captured in a summary document, a copy of which is provided in the Appendices. Key take-aways included:

- Of the 3 scenarios presented, Scenario 2 aligned best with the design principles. Scenario 1 (MP 2019) was not supported.
- Limited support for accommodation within the Foreshore.
- Appreciation for coastal processes and broad support for protection of dune.
- Group divided on modifications to Brazier; needs to be supported by data and design solutions need to manage traffic ("make it a proper boulevard").
- People should be prioritised over cars.
- Consensus that Fishermen's Hollow should be activated.

WORKSHOP 3 STRUCTURE



3.1 COMMUNITY STAKEHOLDERS (WORKSHOP 3)







COMMUNITY WORKSHOP SEPTEMBER 2024

3.1 GOVERNMENT STAKEHOLDERS (WORKSHOP 4)

AIM:

- To ensure continuity of engagement / support for project.
- To review possible scenarios (3x per sub-precinct).
- To identify strengths & weaknesses of each scenario.
- To align scenarios with government aspirations.
- To confirm government minimum requirements for the PFMP.

AGENDA:

An agenda was provided to attendees ahead of the workshop and followed the structure proposed in the Engagement Plan (adjacent diagram). A copy is provided in the Appendices.

FORMAT:

The workshop consisted of two parts; one being a presentation by the Design Team with comments invited from the stakeholder group and the other being an interactive session where 3 scenarios were explored. The interactive session was structured to focus on Environmental, Development and Transport & Access considerations and thus identify any areas of non-compliance / concern.

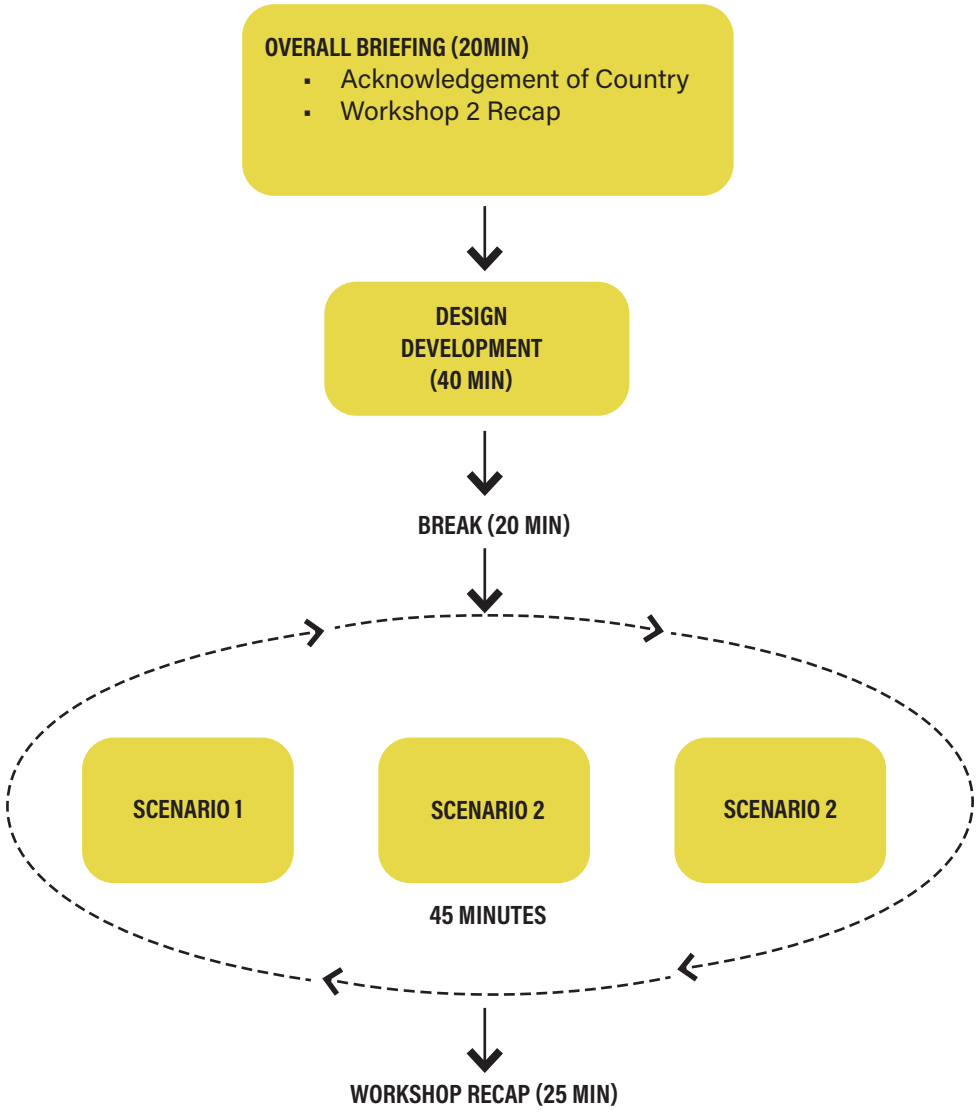
The role of the design team was to facilitate, support and listen carefully. The CoW Project Team coordinated the invitations with Hames Sharley providing the venue.

OUTCOMES:

The conversations on the day were captured in a summary document, a copy of which is provided in the Appendices. Key take-aways included:

- PFMP to define the preferred coastal management approach (CoW's current strategy for Foreshore is to "protect & defend" against coastal erosion).
- Short-term accommodation unlikely to be supported by DPLH.
- General support for dune conservation, trails within the Class A Reserve.
- Alternative Road adjacent to Class A Reserve a possibility for future.
- PSP required for both Brazier Road and Capricorn Esplanade (DoT).
- Support for transport approach (DoT).

WORKSHOP 4 STRUCTURE



3.1 GOVERNMENT STAKEHOLDERS (WORKSHOP 4)









GOVERNMENT WORKSHOP SEPTEMBER 2024

4.0 WORKSHOP SERIES 3 - AGREED DIRECTION



4.3 COMMUNITY STAKEHOLDER (WORKSHOP 5)

AIM:

- To evaluate the draft concept.
- To agree on a preferred direction.
- To document consensus on the direction.
- To update the community on the CoW Coastal Study.

AGENDA:

An agenda was provided to attendees ahead of the workshop and followed the structure proposed in the Engagement Plan with minor modifications to suit the direction for the project (adjacent diagram). A copy is provided in the Appendices.

FORMAT:

The workshop consisted of two parts; one being a presentation by the Design Team with comments invited from the stakeholder group and the other being an interactive session which afforded focussed conversations on select components of the proposed concept plan including key moves and the five sub-precincts.

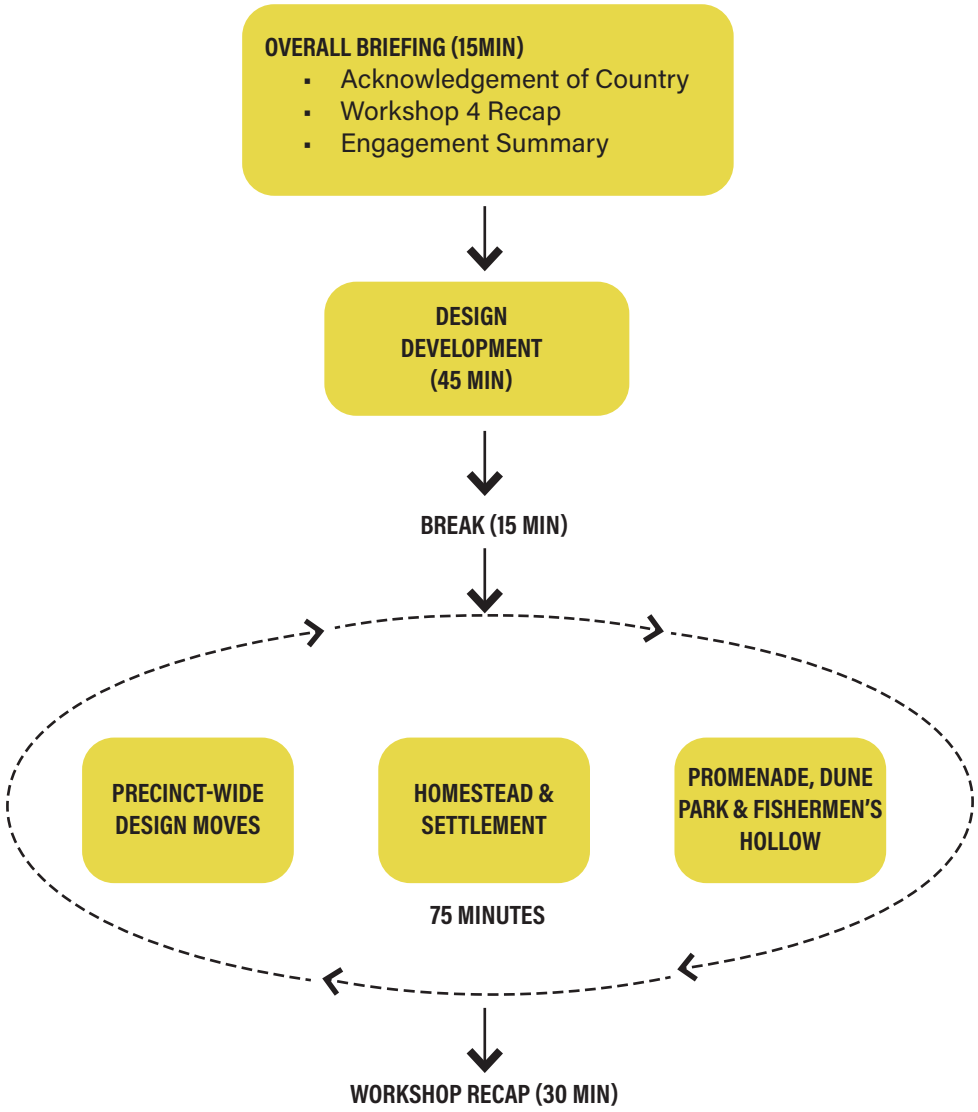
The role of the design team was to facilitate, support and listen carefully. The CoW Project Team organised the venue and coordinated the invitations. CoW also provided an update on the Coastal Study currently underway.

OUTCOMES:

The conversations on the day were captured in a summary document, a copy of which is provided in the Appendices. Key take-aways included:

- Consider a staged approach to development.
- Consensus that the PFMP concept plan better reflects community aspirations than the MP developed in 2019.
- Group divided on traffic flow for Brazier Rd (North - South vs South to North) as parking capacity remains a concern for some.
- Important to find the right balance between “light touch” approach and development potential.

WORKSHOP 5 STRUCTURE



2.1 COMMUNITY STAKEHOLDERS (WORKSHOP 5)







COMMUNITY WORKSHOP OCTOBER 2024

4.1 GOVERNMENT STAKEHOLDERS (WORKSHOP 6)

AIM:

- To evaluate the draft concept
- To agree on a preferred direction
- To document consensus on the direction

AGENDA:

An agenda was provided to attendees ahead of the workshop and followed the structure proposed in the Engagement Plan with minor modifications to suit the direction for the project (adjacent diagram). A copy is provided in the Appendices.

FORMAT:

The workshop consisted of two parts; one being a presentation by the Design Team with comments invited from the stakeholder group and the other being an interactive session which afforded focussed conversations on select components of the proposed concept plan including key moves and the five sub-precincts.

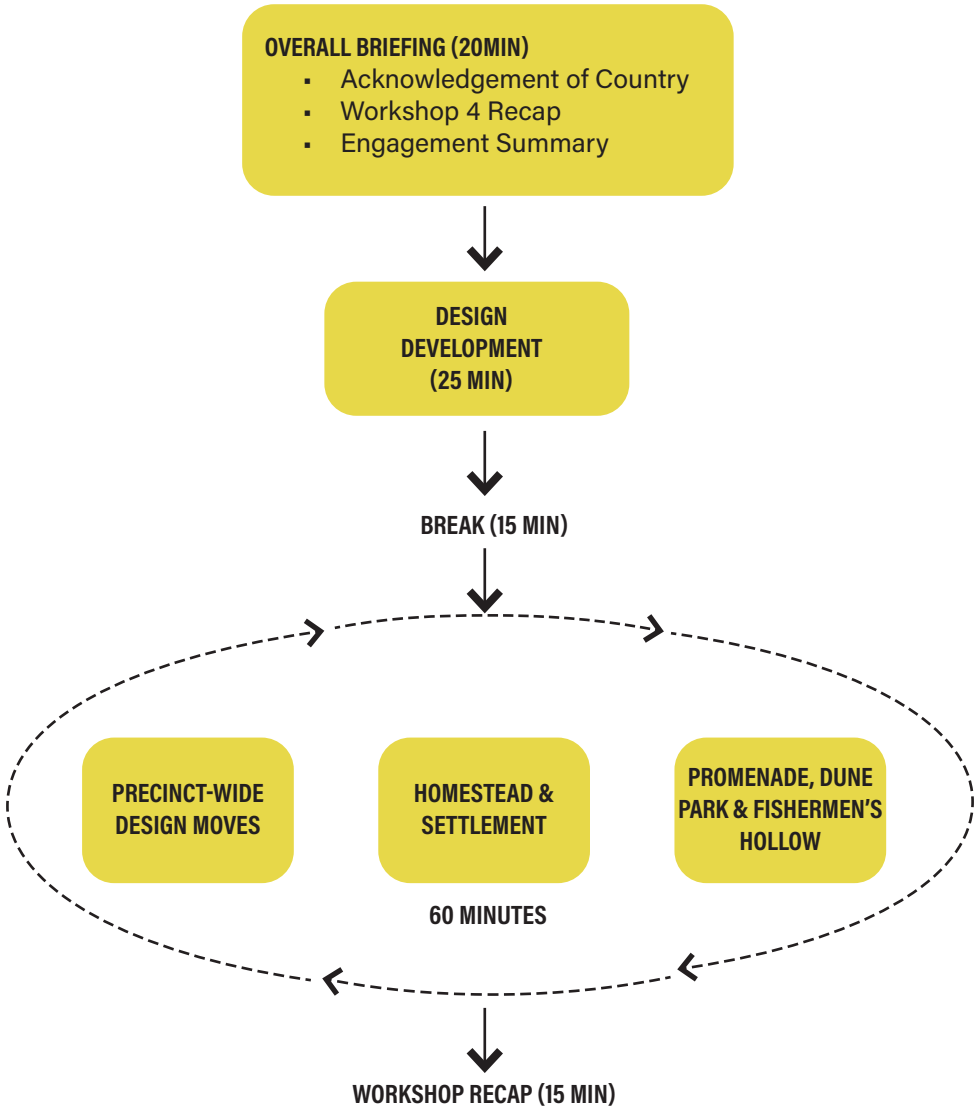
The role of the design team was to facilitate, support and listen carefully. The CoW Project Team coordinated the invitations with Hames Sharley providing the venue.

OUTCOMES:

The conversations on the day were captured in a summary document, a copy of which is provided in the Appendices. Key take-aways included:

- PFMP is opportunity to identify best practice approach (ie. car parking).
- Endorsed FMP is not beholden to existing town planning schemes.
- Design Control Framework could consist of design guidelines for the public realm and bespoke design briefs for the built form / private development in select sub-repcincts.
- Downgrading of Brazier Rd and active transport connections supported.
- Alternative road connecting Wilkie Ave, Brazier Rd and Newman RD need to offer clear benefits to be supported by DPLH.
- North Alkimos FMP an example of endorsed management plan.

WORKSHOP 6 STRUCTURE



2.2 GOVERNMENT STAKEHOLDERS (WORKSHOP 6)







GOVERNMENT WORKSHOP OCTOBER 2024

5.0 ONE ON ONE ENGAGEMENT



5.1 ENGAGEMENT OF SELECT STAKEHOLDERS

DEPARTMENT OF PLANNING, LANDS, & HERITAGE (DPLH)

Following Workshop Series 1 & 2, a meeting was held between DPLH, CoW, and Hames Sharley and UDLA to resume critical conversation from the 2nd Government workshop held on 24th September and to inform the concept being presented to community and government stakeholder in Workshop Series 3.

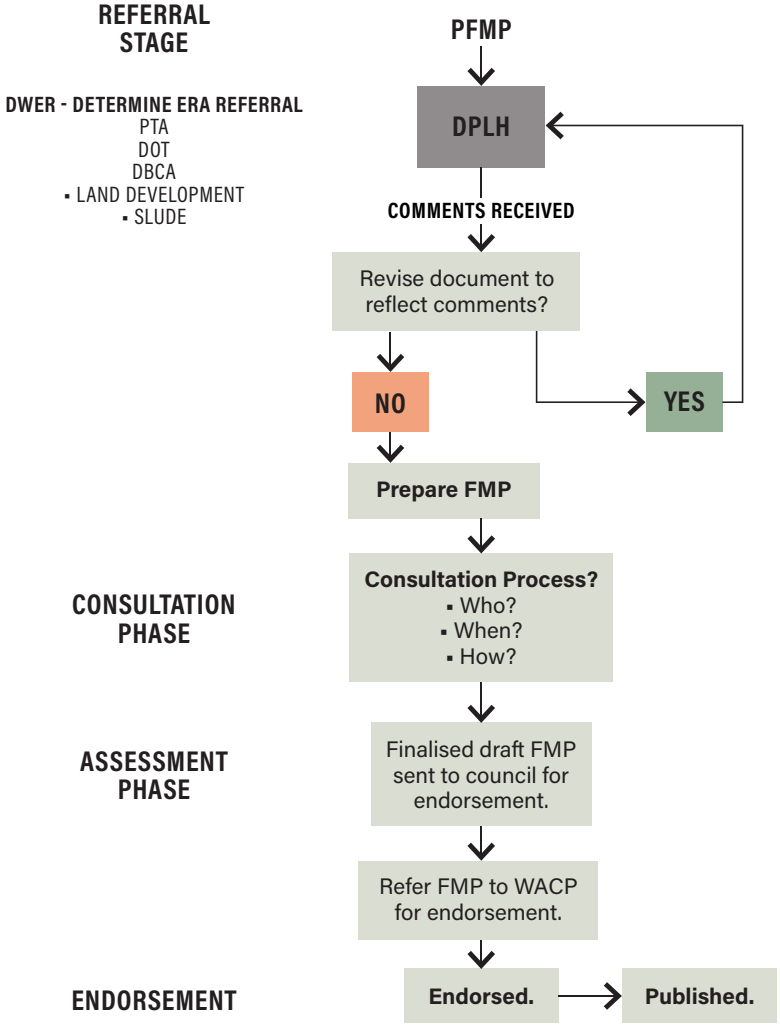
The meeting was held on Friday 11th October 2024 at DPLH Offices in Perth CBD.

OUTCOMES:

The conversations from the meeting were captured in a summary document, a copy of which is provided in the Appendices. Key take-aways included:

- PFMP Priorities most relevant to DPLH are:
  - Strategy for developing within the coastal margin
  - Impact on native vegetation
  - Alignment with planning policies and application of development provisions
- DPLH clarified process for Foreshore Management Plan (FMP) as follows:
  - CoW to submit PFMP to DPLH for comment
  - Subject to DPLH support & council apprival, CoW to prepare FMP
  - FMP released to community for Public Comment
  - FMP submitted to government agencies via DPLH
  - If endoresed by WAPC, CoW Council can adopt
- Design approach aligns with expectations
- PFMP to be clear on extent, type and location of development

In conversation with Hames Sharley, DPLH have recommended a meeting with the WAPC Chair ahead of the PFMP being formally considered by the WAPC. A positive relationship will ensure ongoing engagement for a smoother approval process for the FMP. The WAPC is the decision-making body.



FMP APPROVAL PROCESS

6.0 APPENDICES

The following documents are provided as Appendices:

- **APPENDIX A - COMMUNITY ENGAGEMENT: AGENDA & SUMMARIES**
- **APPENDIX B - GOVERNMENT ENGAGEMENT: AGENDA & SUMMARIES**
- **APPENDIX C - SELECTED WORKSHOP MATERIAL (EXAMPLES)**

pracsys.

CITY OF WANNEROO

Yanchep Lagoon Preliminary Foreshore Management Plan Update

Economic Feasibility Assessment

NOVEMBER 2024

Document Control				
Document Version	**Description**	**Prepared By**	**Approved By**	**Date Approved**
v 1.0	Economic Feasibility Assessment Memo	Callum Shenton	Dawson Demassiet-Huning	15/08/2024
v 2.0	Draft Economic Feasibility Assessment	Callum Shenton	Dawson Demassiet-Huning	01/11/2024
v 2.1	Final Economic Feasibility Assessment	Callum Shenton	Callum Shenton	26/11/2024

Disclaimer

This report has been prepared for the **City of Wanneroo.** The information contained in this document has been prepared with care by the authors and includes information from apparently reliable secondary data sources which the authors have relied on for completeness and accuracy. However, the authors do not guarantee the information, nor is it intended to form part of any contract. Accordingly, all interested parties should make their own inquiries to verify the information and it is the responsibility of interested parties to satisfy themselves in all respects.

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1 INTRODUCTION

This economic feasibility assessment update has been prepared for the City of Wanneroo (the City) to support the preparation of a Preliminary Foreshore Management Plan (PFMP). In 2020, an economic feasibility assessment was undertaken as the basis for Council support of the proposal to realise commercial initiatives as part of the Yanchep Lagoon Masterplan. The City is progressing with a PFMP and requires updating findings based on additional specialist inputs that form part of the PFMP. This involves revised modelling inputs based on current data and changes in potential commercial development based on constraints identified through the PFMP process. This preliminary report summarises the data update for the feasibility model.

The following elements have been updated:

- Population forecasts from forecast.id
- Household expenditure estimates from National Institute of Economic and Industry Research
- Floorspace-specific productivity benchmarks
- Tourism forecasts from Tourism Research Australia
- Average accommodation room rates from Tourism Western Australia

  Note: No accommodation floorspace is being proposed as part of the preferred option. Demand for accommodation services is included in this analysis to enable monitoring of the sector and inform future decisions regarding accommodation provision by the City.

This assessment tests the viability of the final preferred Precinct option's scale and mix of uses and accounts for:

- Broader influencing factors for the Precinct's development, principally local population growth and tourism market conditions
- Estimate of visitation and expenditure transformed into the quantum and composition of commercial floorspace which can be supported over time
- Assessment of the likely viability of the proposed floorspace uses

The findings from the PFMP process and feasibility modelling are intended to outline the pathway for the Precinct's ongoing development in a way that meets community needs and the City's strategic economic and environmental objectives.

1.1 Summary of Results

Under conservative modelling, this assessment estimates that the combined expenditure captured in the Precinct from Primary Catchment residents, Secondary Catchment visitors, and tourists will be sufficient to support 890m^2 of Food and Beverage floorspace and 730m^2 of Shop/Retail floorspace in 2024. This reflects an undersupply of 430m^2 of Shop/Retail and an oversupply of 590m^2 of Food and Beverage floorspace, relative to the floorspace supply indicated in the preferred option for the PFMP. With forecasted population and tourist visitor growth, Food and Beverage floorspace supply is estimated to be supportable by 2030.

Based on the results of the economic feasibility analysis, Pracsys has recommended that the City:

- Stage the delivery of commercial floorspace in line with demand
- Maintain flexibility between Food and Beverage and Shop/Retail floorspaces
- Align the composition of Shop/Retail floorspace with demand

2 CONTEXT

The Precinct is set to be an important natural asset for existing and future residents of Yanchep, the Northern Coastal Growth Corridor (NCGC), the City of Wanneroo, and Greater Perth, providing a pristine natural environment enhanced by recreational facilities and commercial offerings. With prudent management and development, the current level of amenity and attractiveness of the Precinct area can be enhanced to serve the region's growing population, acting as a driver for the local economy through attraction of tourists and residents. It will be important for the City to develop the Precinct in a manner that is economically feasible. Decisions around the quantum and composition of the Precinct's commercial floorspace will determine its propensity to be economically viable and affect whether the Precinct will operate as an economic asset or liability for the City. Figure 1 and Figure 2 below illustrates the proposed design of the Precinct.

Figure 1. Proposed Yanchep Lagoon Precinct Concept Design – The Promenade Concept



Source: UDLA 2024

Figure 2. Proposed Yanchep Lagoon Precinct Concept Design – Fisherman's Hollow Concept



Source: UDLA 2024

The Primary and Secondary Catchments of the Precinct are identified in Figure 3 below. Key points of interest within this spatial area, such as competing beachside and / or leisure-orientated recreation and entertainment precincts, are also identified. Explanation of the spatial delineation of these catchments, as the alternate market bounds of the Precinct, is provided in **Section 5: Resident Demand.**

Figure 3. Precinct Primary and Secondary Residential Catchments and Key Points of Interest



Source: Pracsys 2024

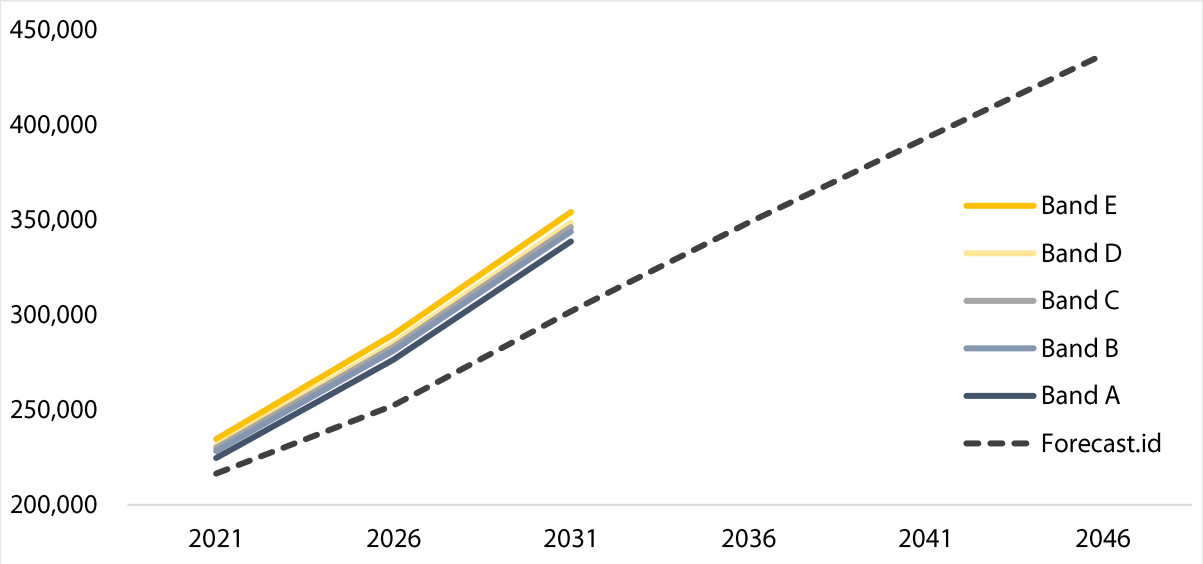
3 SOCIOECONOMIC ANALYSIS

The analysis on demographic (population) and economic (household expenditure) indicators for the City of Wanneroo region (the City) was updated to understand the characteristics of the Precinct's residential user group. A brief summary of changes to previous analysis and impact of the changes on demand modelling have been discussed.

3.1 Population

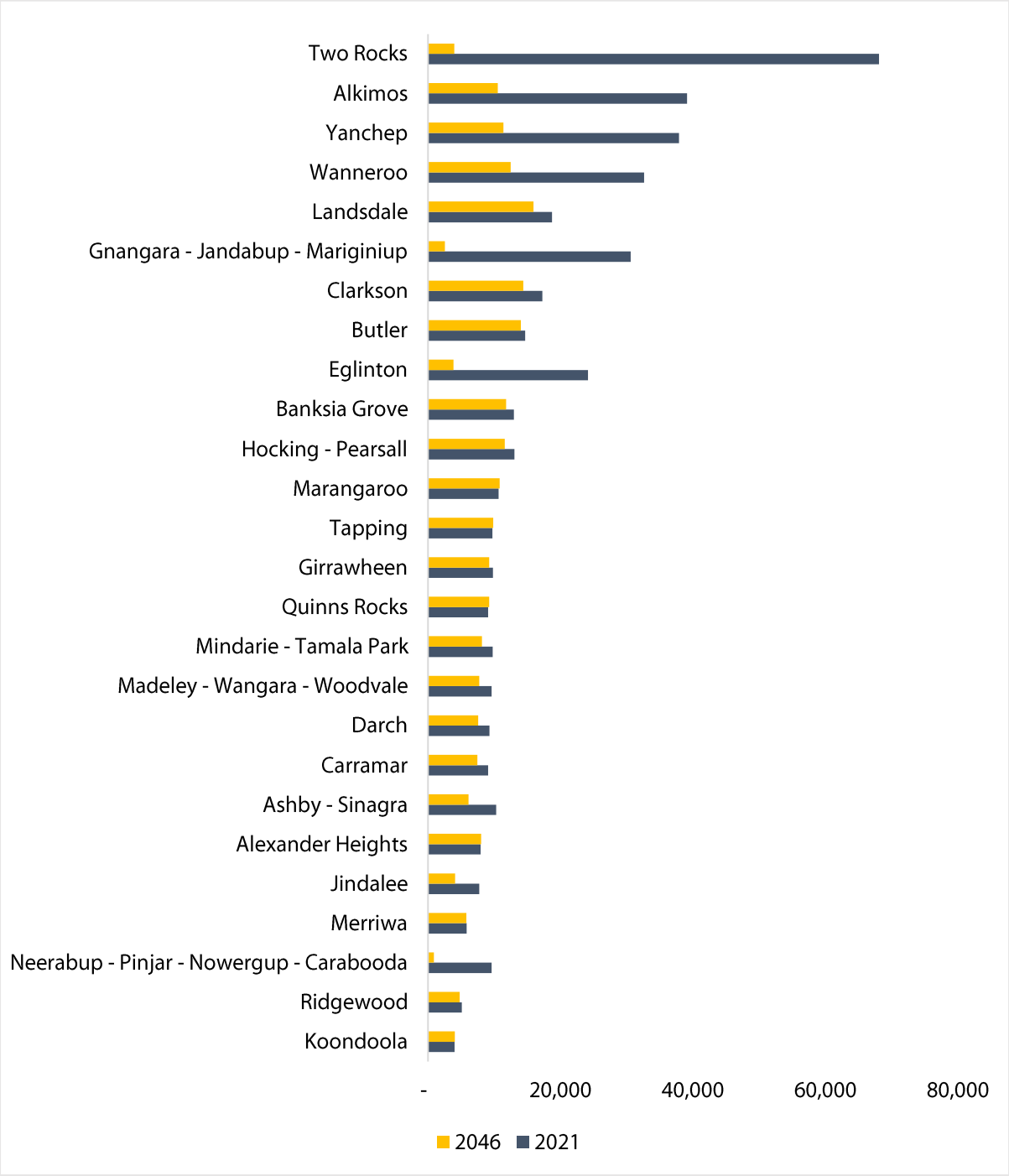
- The forecast.id population forecasts have lowered since forecasts in 2020 (Figure 4), reducing from 325,000 in 2031 to 302,000, due to the City's lower than expected population size in the ABS Census 2021.
- Forecasted growth rate from 2021 to 2046 of 102% is still high, being comparable to the previous rate from 2016 to 2041 of 112%.
- The majority of growth is still set to be accommodated within the NCGC, which extends north along the coast from Butler through to Two Rocks.
- This high-growth region is comprised of the localities of Alkimos, Eglington, Yanchep and Two Rocks. The population growth forecast to occur in these key coastal regions is illustrated in Figure 5 and Figure 6, with significant population set to be delivered in Two Rocks, Yanchep, and Alkimos by 2046.

Figure 4. City of Wanneroo Population Forecast by Locality, 2021 to 2046



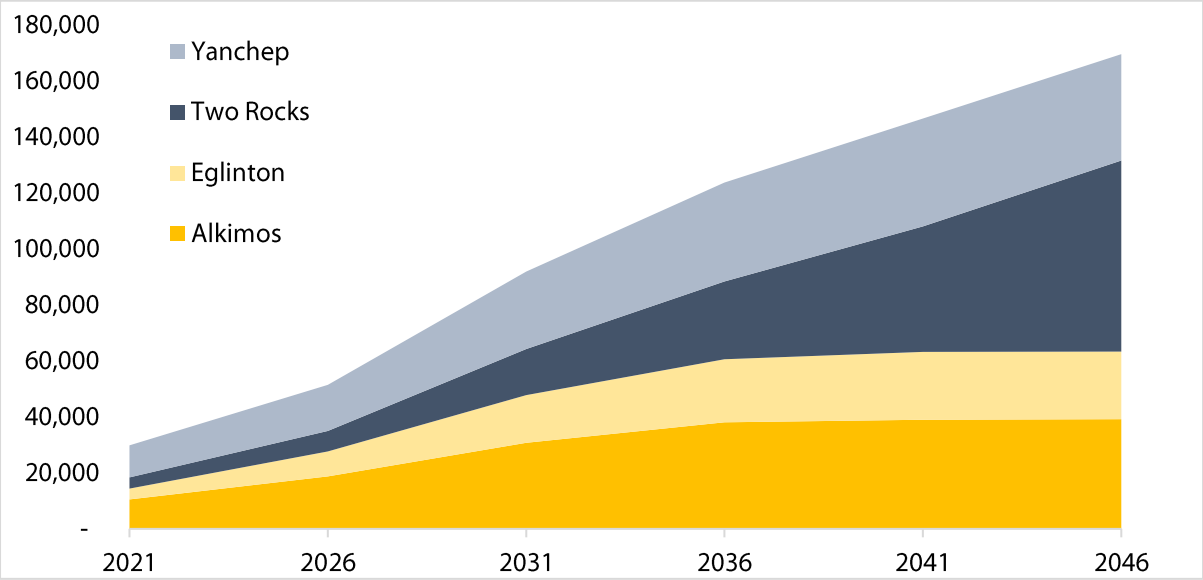
Source: WA Tomorrow 2018, forecast.id 2024

Figure 5. City of Wanneroo Population Forecast by Locality, 2021 to 2046



Source: forecast.id 2024

Figure 6. Population Forecast for Primary Catchment Regions, 2021 to 2046

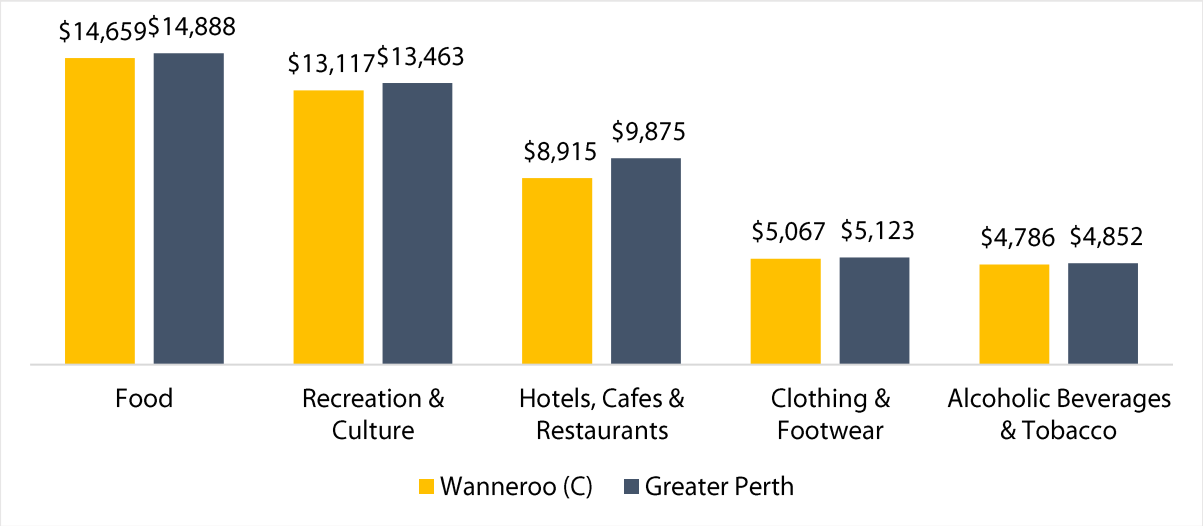


Source: forecast.id 2024

3.2 Expenditure

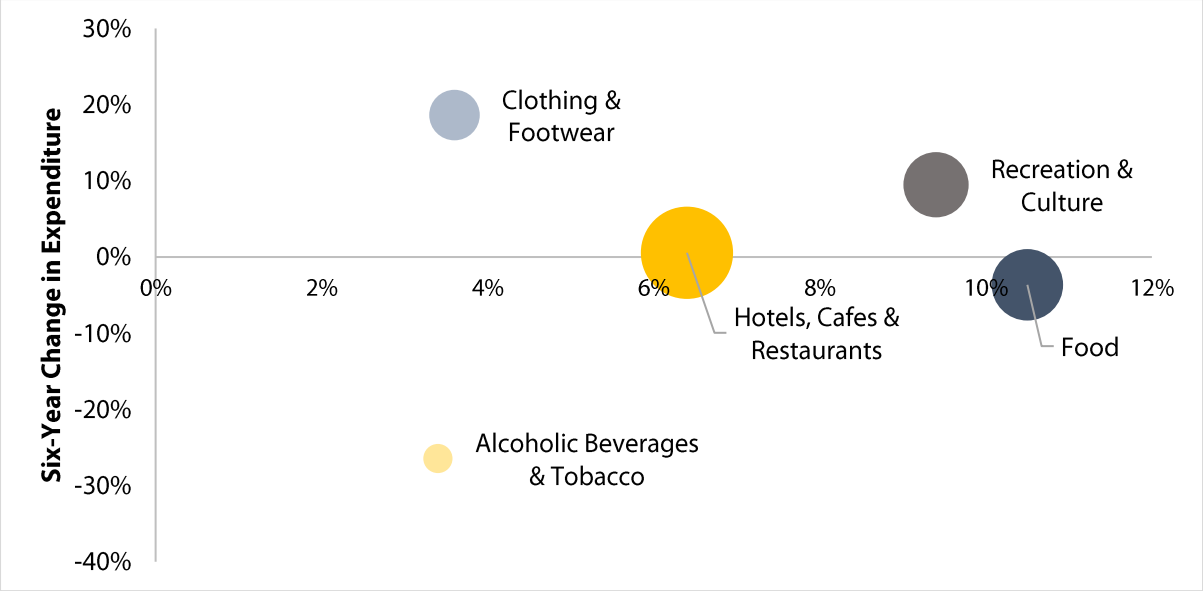
- The National Institute of Economic and Industry Research (NIEIR), in which modelling is based on, have revised their 2020 estimates (Figure 7).
- The updated estimates indicate a higher expenditure per household that is more aligned with Greater Perth averages.
- Modelling of residential catchment household expenditure captured by the Precinct accounts for region-specific expenditure patterns, offering a more accurate estimate of floorspace demand by item category.
- The change in expenditure on each item category between 2017 and 2023 has been mapped against the proportional contribution of each item to the total average expenditure of Wanneroo households (see Figure 8).
- Increased expenditure is most concentrated in Clothing & Footwear, Recreation & Culture, and Hotels, Cafes & Restaurants, showing a six-year change in expenditure of 19%, 9%, and 1% respectively
- Food, and Alcoholic Beverages & Tobacco decreased by -4% and -26% respectively.
- These expenditure breakdowns are accounted for in modelling and the viability of different floorspace elements.
- The changes in expenditure patterns of the Precinct's residential catchment will expand the capacity for the envisaged commercial floorspace to be supported and viable, even when accounting for slower population growth.

Figure 7. City of Wanneroo Household Expenditure Profile, Precinct-Relevant Items



Source: National Institute of Economic and Industry Research 2023

Figure 8. Change in City of Wanneroo Household Expenditure on Project-Relevant Items, 2017 to 2023



Note: Bubble size indicates degree of relevance to the commercial offerings to be delivered at the Yanchep Lagoon PFMP Precinct.

Source: National Institute of Economic and Industry Research 2023, Pracsys 2024

4 PRECINCT FLOORSPACE

4.1 Precinct PFMP Floorspace Yields

To inform the quantum of floorspace within the Yanchep Lagoon PFMP, options were prepared to explore varying levels of Accommodation, Food and Beverage, and Shop/Retail offerings. Figure 9 defines the floorspace profile yielded from the preferred option, describing the function of all envisaged commercial offerings and categorising their floorspace use as either Food and Beverage and Shop/Retail (Comparison Retail and Convenience Retail). The total floorspace yield across all floorspace types is approximately 1,785m^2. Accommodation was not included in the preferred option with a significant short stay accommodation planned at the Capricorn Beach development, approximately 2.2km north of the Precinct.

Figure 9. Commercial Floorspace Yield by PFMP District and Floorspace Type

Item description	Floorspace Category	NLA (m^2)
Current		
Orion Café	Food and Beverage	265
Approved		
Dome Café	Food and Beverage	550[1]
Proposed		
Beach Bar (The Settlement)	Food and Beverage	535
Café (Dune Park)	Food and Beverage	135
Bespoke Retail (The Promenade)	Shop/Retail	300
Total		
Total Food and Beverage		1,485
Total Shop/Retail		300
Total		1,785

Source: UDLA 2024

[1] Preliminary area as per Old Surf Life Saving Club 2024, *Yanchep Lagoon – Tenant's Preliminary Plans*

5 RESIDENT DEMAND

5.1 Primary and Secondary Catchment

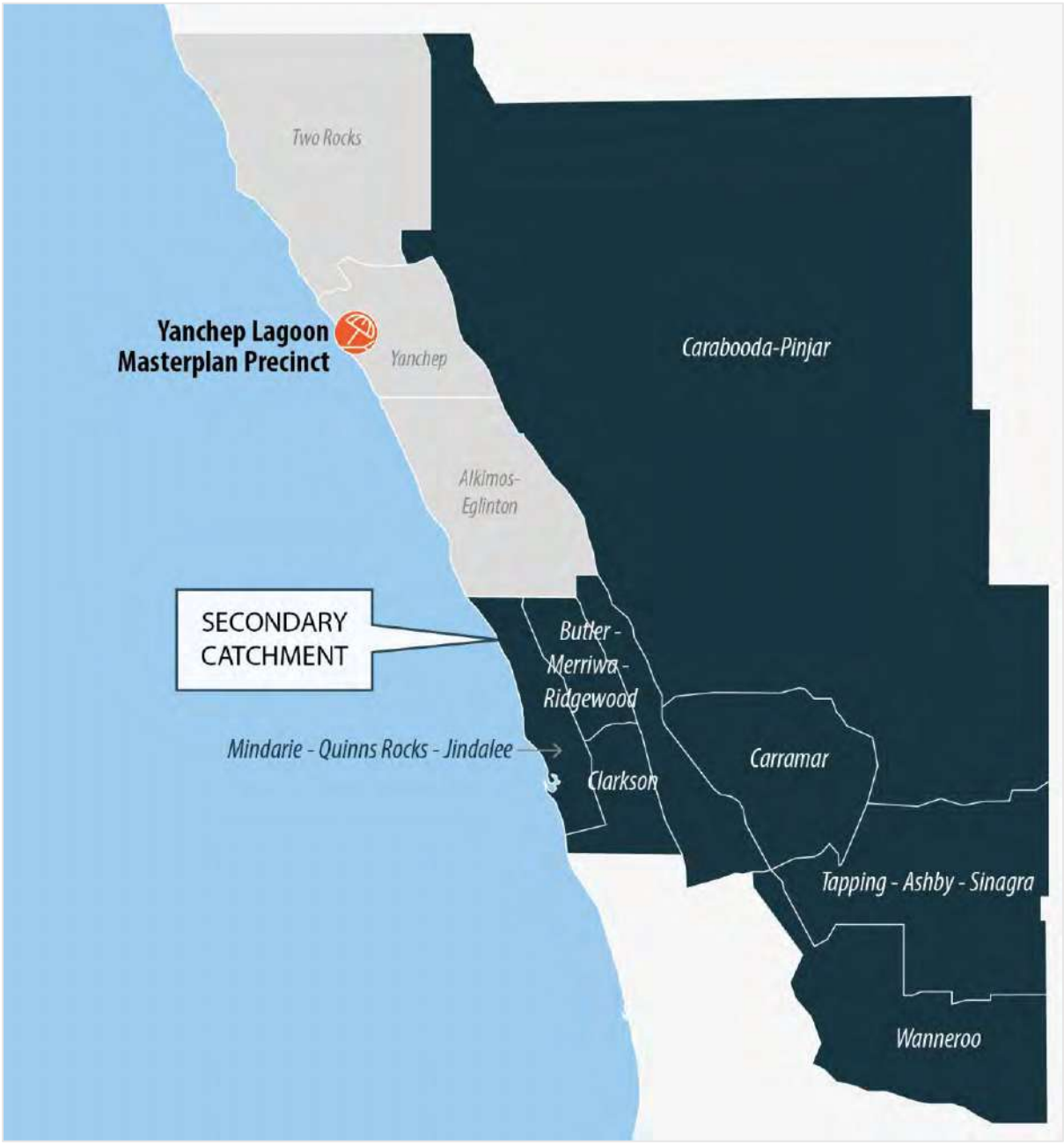
The Primary and Secondary Catchment considered for resident and visitor demand are shown in Figure 10 and Figure 11, respectively.

Figure 10. Yanchep Lagoon PFMP Precinct Primary Catchment



Source: Pracsys 2024

Figure 11. Yanchep Lagoon PFMP Precinct Secondary Catchment



Source: Pracsys 2024

Expenditure Assumptions

- The future annual expenditure of Primary Catchment households was estimated by applying ABS Household Expenditure Survey data to Catchment dwelling forecasts.
- Floorspace-specific market shares were applied to Primary Catchment expenditure.
- Secondary Catchment estimates have been modelled separately for Convenience Retail, Comparison Retail and Food and Beverage floorspace categories.

- Secondary Catchment expenditure estimates have been calculated through attributing a floorspace-specific footfall-to-patron conversion rate and average per-patron spend (developed through the previous modelling and still applicable). These expenditure-informing variables are defined below (Figure 12).

Figure 12. Floorspace Productivity Benchmarks

	Comparison Retail	Food and Beverage	Convenience Retail
Footfall-to-Patron Conversion Rate (%)[2]	2%	10%	5%
Average Spend Per Patron[3]	$15.6	$16.7	$35.4
Estimated Spend per Precinct Visitor[4]	$0.3	$1.7	$1.8

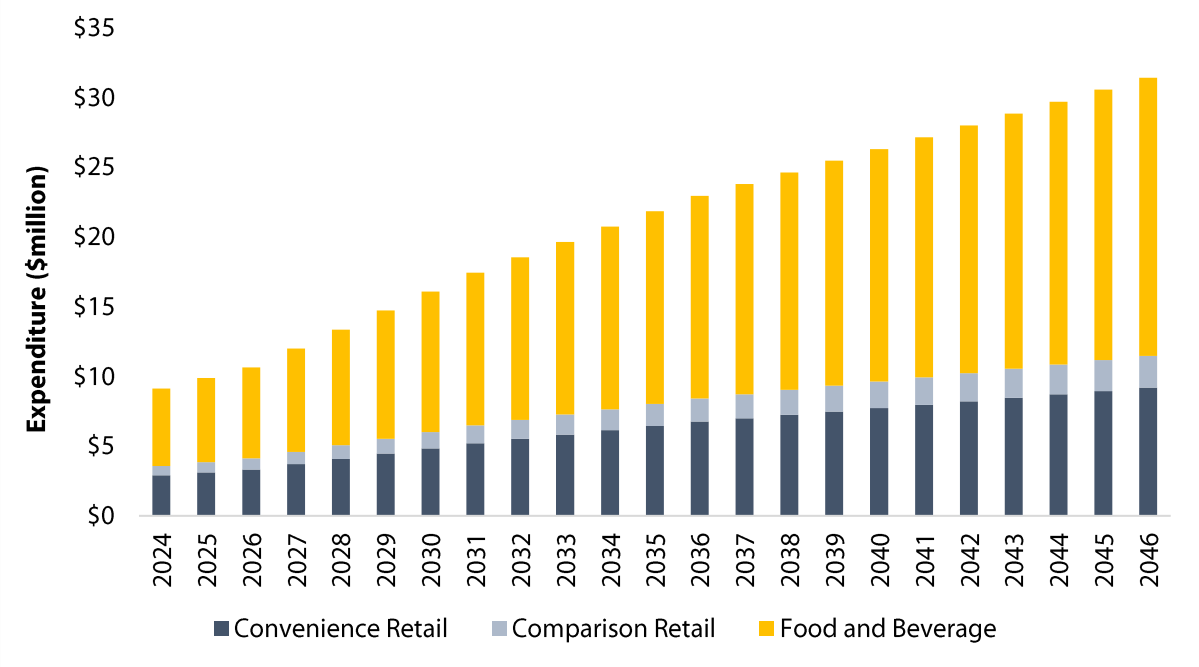
Source: Pracsys 2024

Expenditure Estimate

- The sum of expenditure by Primary Catchment residents and Secondary Catchment visitors at the Precinct for all floorspace categories over time is presented in Figure 13.
- Total expenditure is estimated to grow from $9.1 million in 2024 to $31.4 million by 2046, with Convenience Retail and Food and Beverage expenditure making up the majority of total expenditure.
- The 2024 total expenditure is approximately 12% higher than 2020 report estimates and 47% higher than 2040 total expenditure estimates.
- As Secondary Catchment expenditure amounts are similar to the 2020 report, higher estimates are driven by the Primary Catchment's higher household expenditure, modelled on the NIEIR's updated estimates.

[2] Based on conservative estimates informed by a range of secondary sources and industry standard benchmarks.
[3] Retail Property Insights 2013, *Consumer Profiles and Behaviour in Australian Shopping Centres*
[4] Calculated by multiplying the footfall-to-patron conversion rate by the average spend per patron.

Figure 13. Primary and Secondary Catchment Precinct Expenditure by Floorspace Category, 2024 to 2046



Source: Pracsys 2024

Floorspace Assumptions

- The floorspace supported by the total expenditure modelled above has been calculated based on floorspace-specific productivity benchmarks (see Figure 14).

Figure 14. Floorspace Productivity Benchmarks

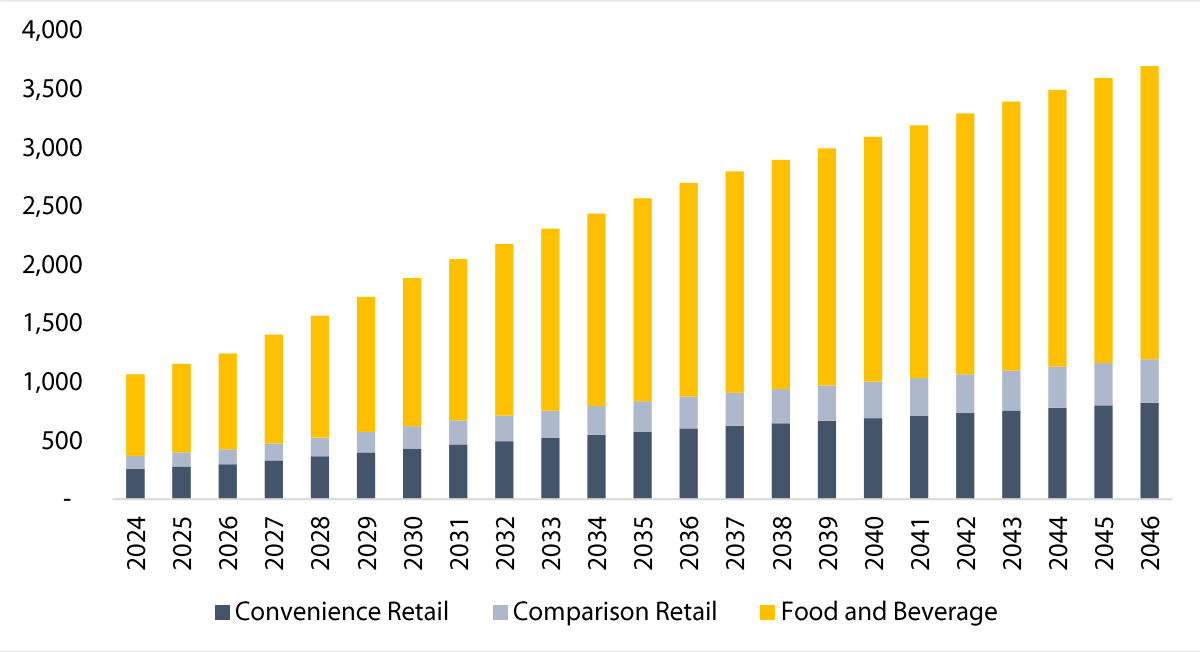
Floorspace Category	Floorspace Productivity ($/m^2)
Convenience Retail	$11,170
Comparison Retail	$6,137
Food and Beverage	$7,979

Source: Colliers 2017, Western Australia Shopping Centre Directory 2018, Pracsys 2024

Supported Floorspace

- Total supported floorspace is estimated to grow from approximately 1,066m^2 in 2024 to 3,692m^2 by 2046 (see Figure 15).
- It is expected that floorspace in the Precinct will be supported by a greater share of expenditure from surrounding residents than previously modelled.

Figure 15. Floorspace (m^2) Supported by Total Expenditure, 2024 to 2046



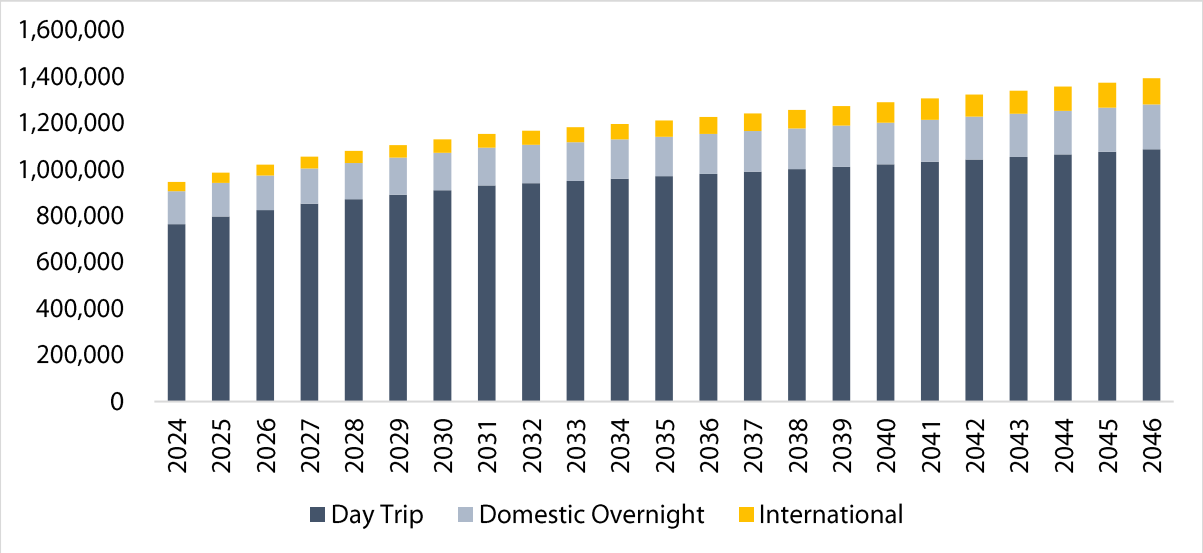
Source: Pracsys 2024

6 TOURIST DEMAND

6.1 Tourism Forecasts

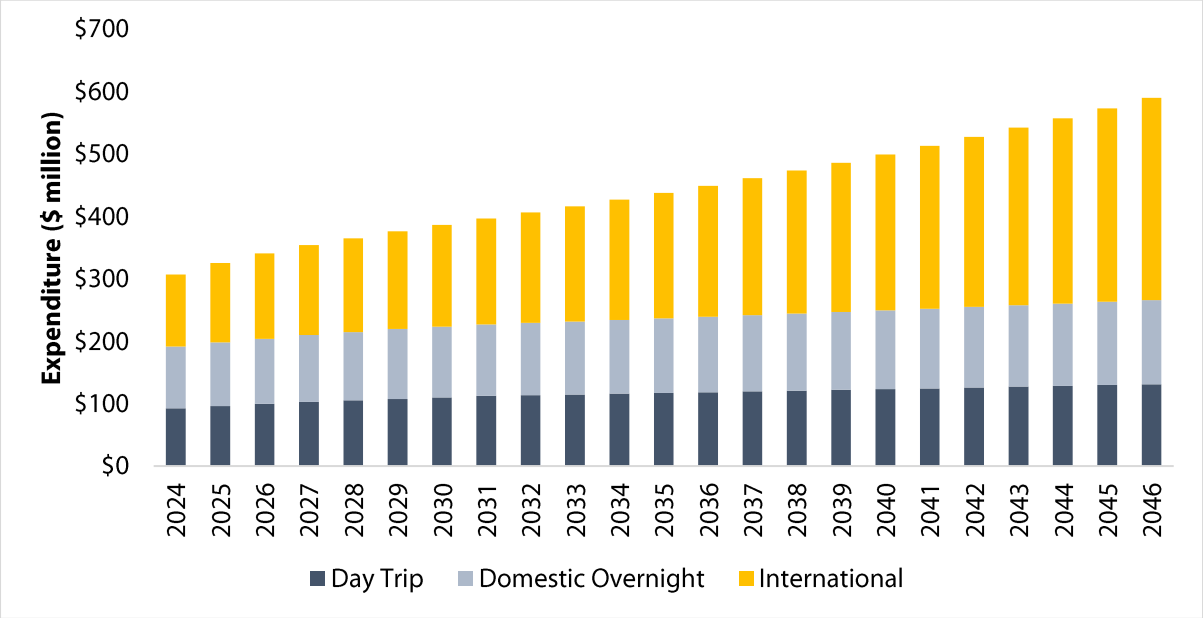
- Tourism Research Australia (TRA) visitation forecasts have been updated to estimate the future growth of visitors, visitor nights and expenditure by day trip, domestic overnight and international visitors to the City of Wanneroo between 2024 and 2046.
- More recent Australia-wide year-on-year forecasts produced by TRA have been applied to historical City of Wanneroo region data to forecast key visitation economy indicators. These forecasts reflect a conservative estimation of future visitation, as Australia-wide growth forecasts are less optimistic than trends at the Wanneroo and Destination Perth level.
- Based on Australia-wide forecasts, the number of visitors to the City of Wanneroo is projected to grow from 946,000 to 1.4 million between 2024 and 2046, reflecting a growth of 47 per cent (Figure 16).
- Forecasts in 2024 are 12% lower than the 2020 report, as updated TRA data has now accounted for the dip in visitation due to COVID-19.
- By 2040 the updated forecasts are only 2% lower than previous estimates, recovering to previous forecasted 2040 levels in 2042.
- Visitor numbers have a higher growth rate of 36% compared to 22%, compared to the previous report from 2024 to 2040, reflecting the recovery from COVID-19.
- Visitor expenditure captured in Wanneroo is projected to grow from $307 million to $590 million between 2024 and 2046, reflecting a growth of 92 per cent. The majority of this growth is underpinned by the expected 182% increase in international visitor expenditure in the Region (Figure 17).
- The 2024 visitor expenditure estimates are 5% higher than the 2020 report estimates, driven by the inflation adjustments. By 2040 the estimates are 12% higher than the 2020 report, also driven by inflation adjustments.
- These tourism forecasts present a range of opportunities for the Precinct to capture visitation through delivery of tourist-responsive commercial offerings and short-stay accommodation. The significant expected growth in international visitor nights and expenditure in the region, and the large base of existing domestic visitation, will assist the viability of the Precinct by supplementing residential activity and expenditure with export income.

Figure 16. Forecast City of Wanneroo Visitors by Group, 2024 to 2046



Source: Tourism Research Australia 2023

Figure 17. Forecast City of Wanneroo Visitor Expenditure by Group, 2024 to 2046



Source: Tourism Research Australia 2023

6.2 Precinct Tourist Demand

Methodology

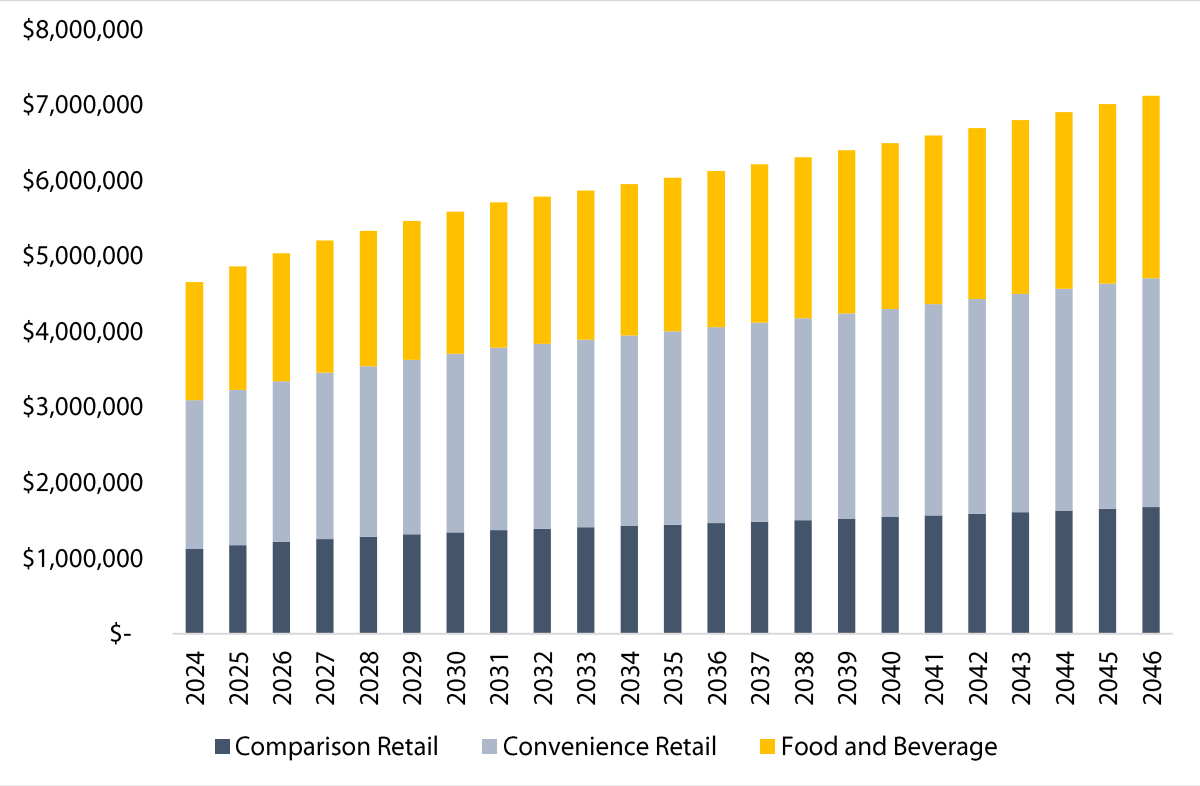
- Comprehensive modelling has been undertaken to estimate the visitation attraction potential of the Precinct. Estimates have been conducted for years 2024 to 2046.
- Tourism Research Australia (TRA) visitation forecasts have been used to estimate the future growth of visitors, visitor nights, and expenditure by day trip, domestic overnight and international visitors to Wanneroo between 2024 and 2046.
- Australia-wide year-on-year forecasts produced by TRA have been applied to Wanneroo data to forecast key visitation economy indicators. From this visitor base, a proportion of total visitation has been attributed to the Precinct based on TRA data reporting on the activities undertaken by visitors in the region.
- Activities which can be undertaken at the Precinct, such as beach-orientated leisure activities and Food and Beverage based entertainment, have been combined in a weighted manner to produce a composite Precinct visitation rate for each visitor segment. It is estimated that 14 per cent of day trip, 25 per cent of domestic overnight and 63 per cent of international visitors to Wanneroo will undertake a beach-orientated entertainment / recreation activity during their visit to the region.
- The number of these visitors which may be attracted to the Precinct has then been estimated, based on the Precinct's market share for each floorspace type, in the City of Wanneroo spatial area.
- Ocean Reef Marina and Capricorn Beach Foreshore development has been added to the floorspace market share to account for its development.
- This visitation modelling reflects a conservative estimation of future Precinct visitation, as it does not consider the Precinct to be any more attractive to visitors than other current beach-recreation facilities in the region. This is a conservative assumption as the Precinct will possess regionally-significant natural offerings with complementary commercial and entertainment offerings.
- These forecasts likely reflect a lower-bound estimation of potential Precinct visitation, as they only consider the existing forecasts for future visitation to the region and do not consider the possibility of attraction additionality, i.e., the prospect that the Precinct may drive additional visitation to the region beyond what is already forecast for the region in the absence of the Precinct.

Expenditure

- Using visitation attraction modelling, it has been estimated that the Precinct will initially attract approximately $4.7 million of expenditure per annum, growing to $7.1 million by 2046.
- These expenditure estimates are exclusive of accommodation expenditure, which has been modelled separately.
- Figure 18 illustrates the breakdown of expenditure by floorspace type over the same period.

- Expenditure at the Precinct in 2040 is 6% higher than the 2020 report estimates, driven by inflation adjustments.

Figure 18. Forecast Tourist Expenditure at the Precinct by Floorspace Category, 2024 to 2046

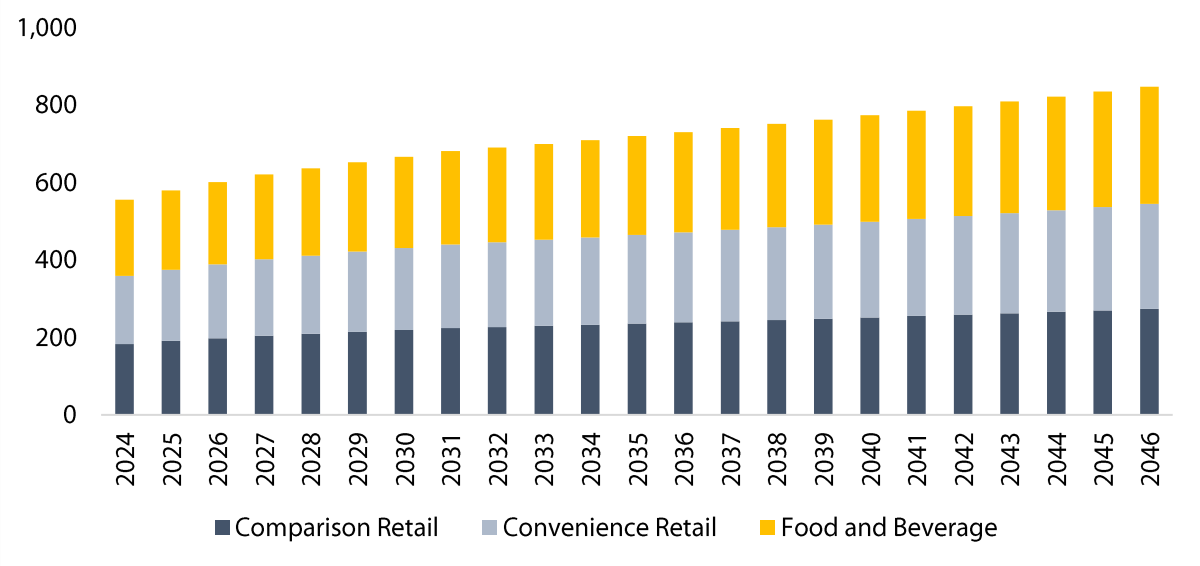


Source: Pracsys 2024

Supported Floorspace

- Estimated tourist expenditure at the Precinct has been converted into tourist-supported floorspace by applying floorspace-specific industry standard productivity benchmarks (see Figure 12).
- Approximately 556m^2 of additional floorspace will be supported through Precinct visitation expenditure in 2024, growing to 848m^2 by 2046 (see Figure 19).
- There is approximately 6% less tourist-supported floorspace in 2040 than estimated in the 2020 report, due to both the higher productivity benchmarks and lower lagoon market share, with the Ocean Reef Marina and Capricorn Beach Foreshore development set to be developed from 2025-2036.

Figure 19. Forecast Tourist-Supported Floorspace (m²) at the Precinct by Floorspace Category, 2024 to 2046



Source: Pracsys 2024

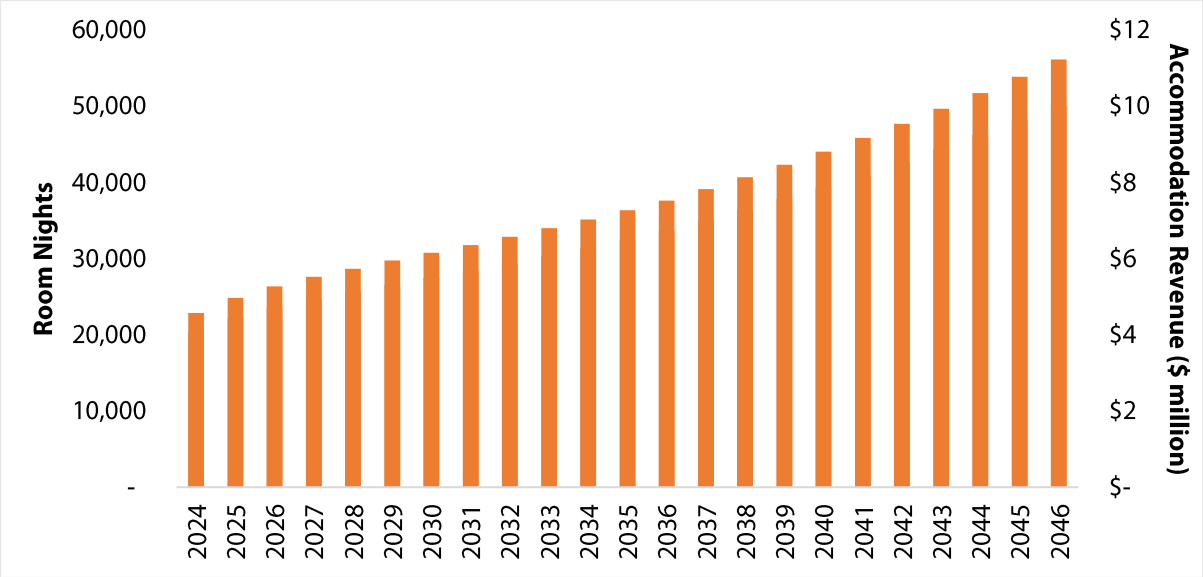
Accommodation Demand

- The City has expressed that future short-stay accommodation within the Primary Catchment intends to be focused within the Capricorn Beach Foreshore development.
- As such, the Yanchep Lagoon PFMP has not included short-stay accommodation and instead prioritised enhancing the pristine natural environment with Food and Beverage and Shop/Retail offerings.
- Should the Yanchep Lagoon PFMP expand to include short-stay accommodation in the future, the figures below could be used to monitor changes in the demanded room nights and supportable floorspace[5].
- Estimated demand for visitor nights at the Precinct has been transformed into demanded room nights through use of a visitors-per-room benchmark.
- This yields a total annual demand for approximately 20,000 room nights at the Precinct in 2024, growing to approximately 50,000 by 2046 (see Figure 20).
- By applying the average daily room rate for short-stay accommodation in the Greater Perth region to this estimated room night demand, it has been estimated that the Precinct will capture approximately $4.6 million in accommodation spend in 2024, growing to $11.2 million by 2046.
- Annual room night demand has been transformed into an estimate of the required number of short-stay accommodation units by applying the region-specific commercial accommodation occupancy rate.

[5] The Capricorn Beach Foreshore's proposed short-stay accommodation has been accounted for within analysis.

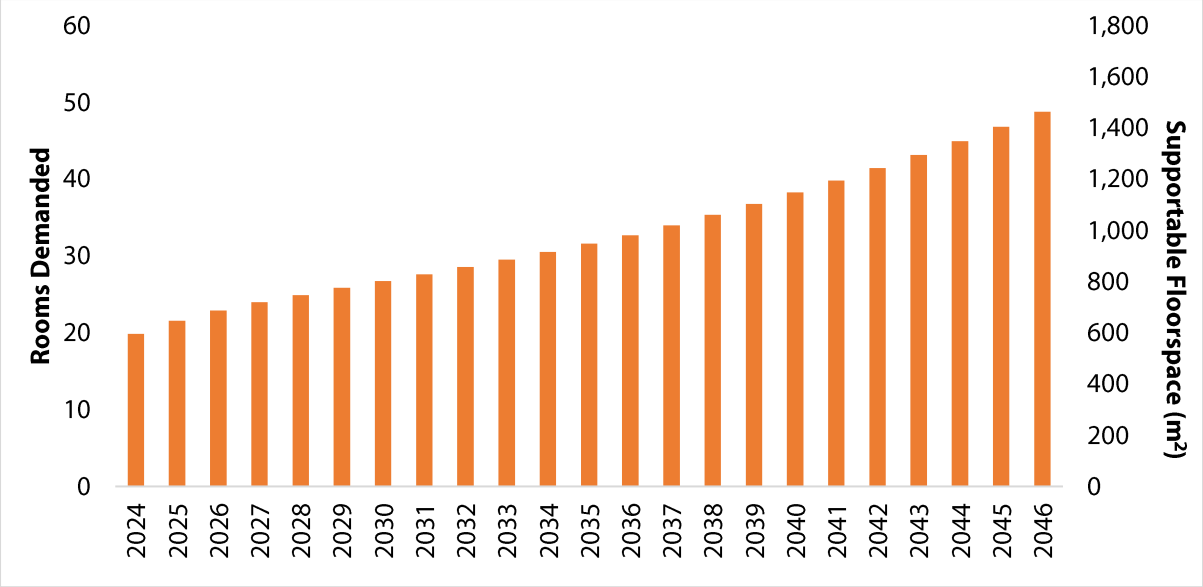
- The demanded number of rooms has then been translated into the supported accommodation floorspace quantum through application of a benchmark accommodation unit size.
- The analysis shows that the annual room night demand requires 20 rooms in 2024, expanding to 49 in 2046.
- This translates to expanding from 636m^2 to 1,560m^2 of supportable floorspace.
- The results of this analysis are presented in Figure 21 below, which illustrates the number of rooms at the Precinct demanded over time and the associated floorspace footprint.

Figure 20. Forecast Room Nights and Accommodation Expenditure at the Precinct, 2024 to 2046



Source: Pracsys 2024

Figure 21. Forecast Supported Floorspace and Rooms at the Precinct, 2024 to 2046



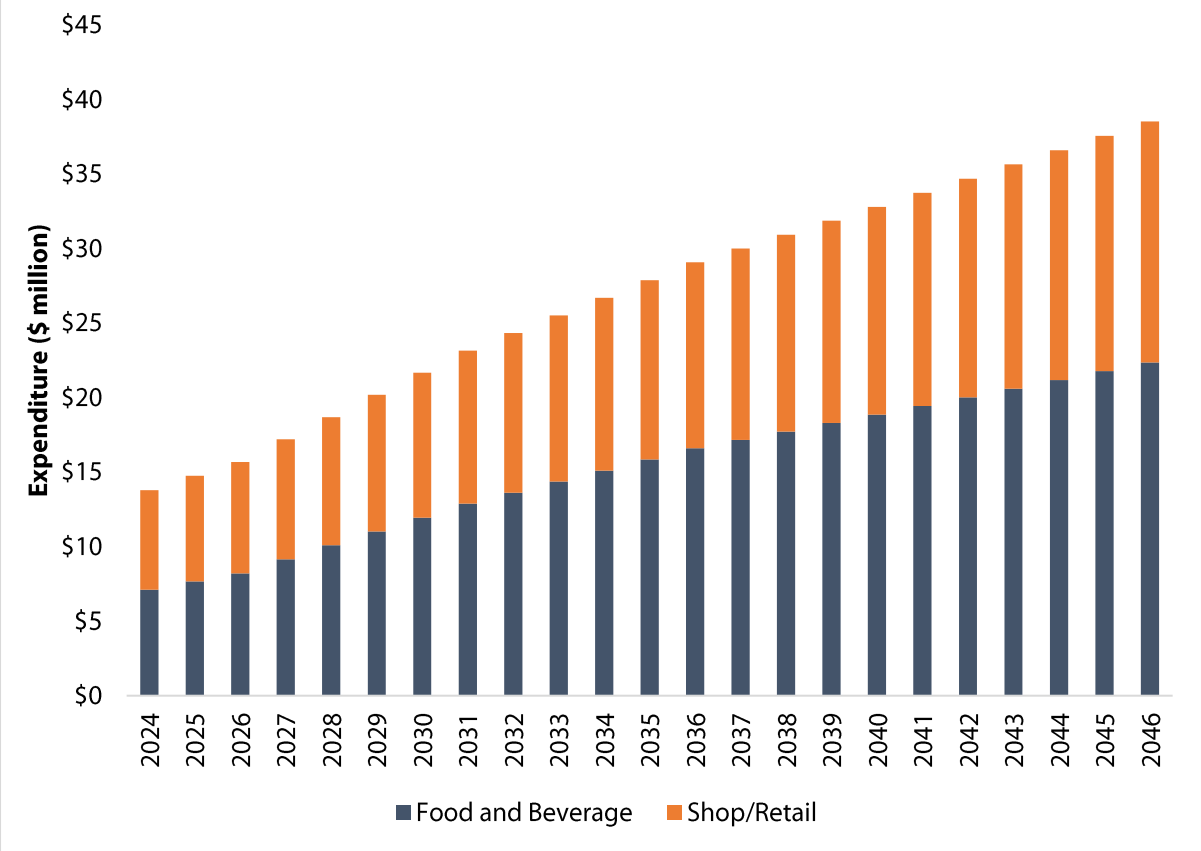
Source: Pracsys 2024

7 TOTAL DEMAND – CONSERVATIVE SCENARIO

Total Expenditure

- The expenditure associated with tourist visitation, Secondary Catchment visitation, and Primary Catchment household expenditure has been estimated.
- It is forecast that the Precinct, if delivered in the form identified by the preferred option, will attract approximately $13.8 million of expenditure in 2024.
- This expenditure quantum is estimated to increase to $38.5 million by 2046.
- Figure 22 below illustrates the total estimated expenditure at the Precinct by floorspace category over time.
- For the year 2024, the total expenditure is approximately 37% higher than the estimated in the 2020 reported. This is because of the aggregate effect of:
    - Price-levels rising from 2020
    - NIEIR's more optimistic estimates for the Primary Catchment's household expenditure

Figure 22. Total Forecast Expenditure at the Precinct by Floorspace Category, 2024 to 2046

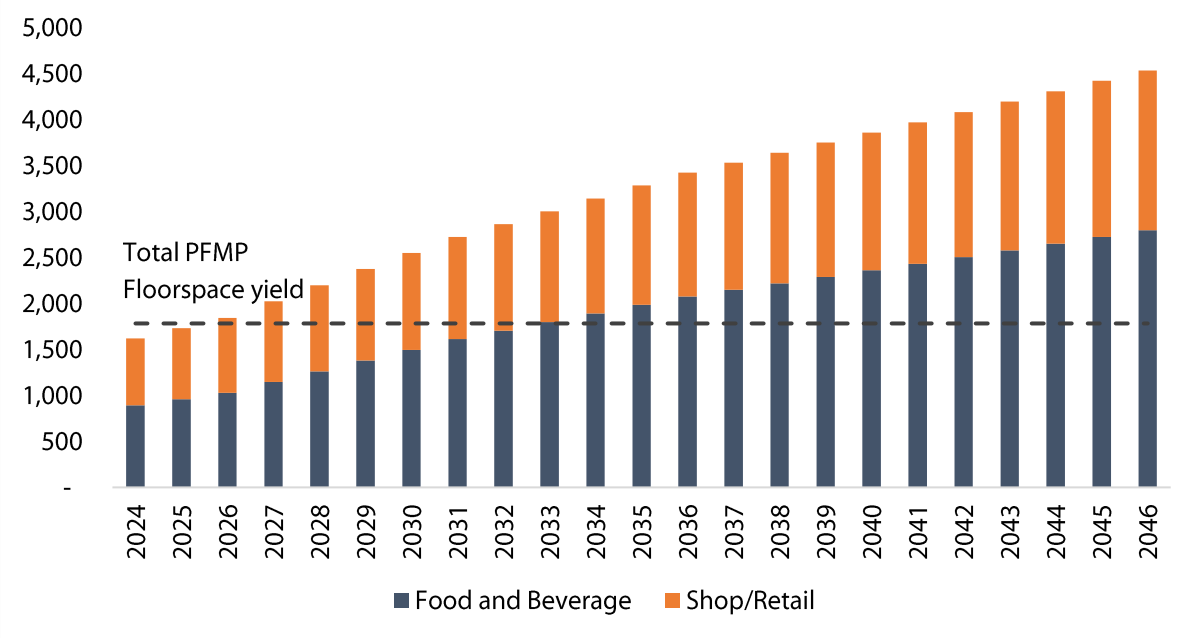


Source: Pracsys 2024

Total Supported Floorspace

- The total demand for commercial floorspace at the Precinct has been estimated by aggregating the commercial floorspace supported by Primary Catchment residents, Secondary Catchment residents, and tourists.
- The floorspace estimates have been compared to the benchmarked floorspace yield derived from the preferred option. The comparison shows that the quantum of commercial floorspace yielded from the preferred option will be supported by resident and visitor demand by the year 2026 (Figure 23).
- This is four years earlier than estimated in the 2020 report. This is mainly due to the quantum of supportable accommodation floorspace not being included and the stronger base of estimated Primary Catchment's household expenditure.
- The total forecasted demand is estimated to support the following quantum of floorspace in 2046:
    - 2,801 m^2 of Food and Beverage floorspace
    - 1,738 m^2 of Shop/Retail floorspace
    - 4,540 m^2 of total floorspace
- Total demand is based on the broader catchment and it is not expected that all of this floorspace would locate at the Precinct

Figure 23. Forecast Total Feasible Commercial Floorspace (m^2) by Floorspace Category, 2024 to 2046

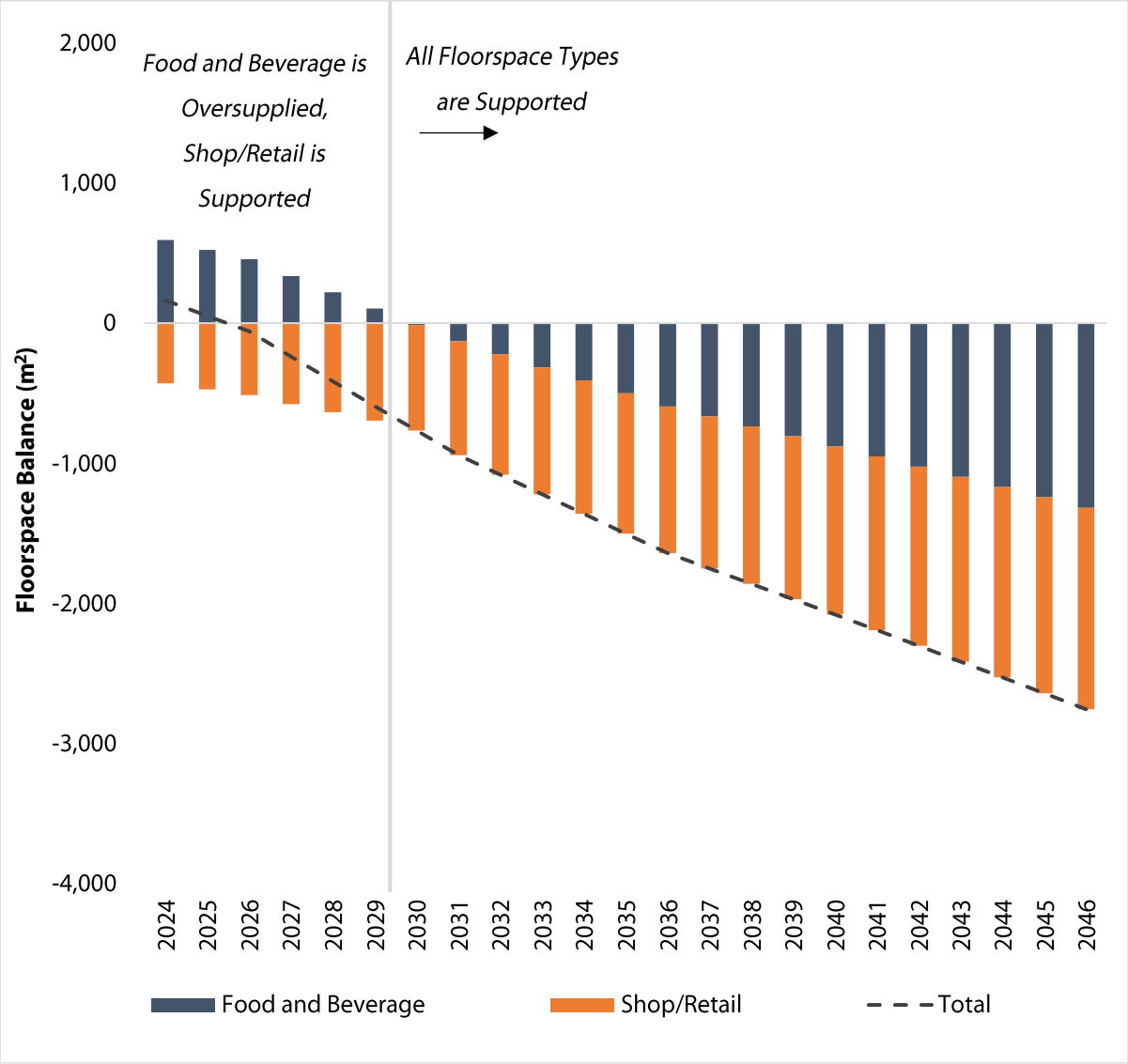


Source: Pracsys 2024

7.1 Supply and Demand Comparison

- Conservative demand modelling indicates that the Precinct, in the form which it is defined by the preferred option, is therefore likely to approach commercial feasibility by 2026.
- Figure 24 illustrates the Precinct floorspace balance timeline, indicating the overall balance between the supply of and demand for commercial floorspace at the Precinct over time.
- It also indicates the balance between supply and demand within each of the Shop/Retail and Food and Beverage commercial floorspace categories. This supply and demand comparison analysis identifies the following results:
    - **The quantum of commercial floorspace provided at the Precinct is likely to be supported by 2026**
    - The quantum of commercial floorspace provided at the Precinct initially exceeds estimated demand
    - Food and Beverage floorspaces is initially oversupplied at the Precinct
    - Shop/Retail floorspace at the Precinct is supported by demand throughout the development timeline
    - Food and Beverage floorspace at the Precinct is likely to be supported by 2030
- Figure 25 below indicates the proportion of total commercial floorspace proposed at the Precinct which is estimated to be feasible in years 2024 to 2046.
- The full breakdown of floorspace, which is estimated to be economically feasible throughout the project development timeline, by floorspace category and with comparison to the amount proposed by the preferred option, is outlined in Appendix A: Results.

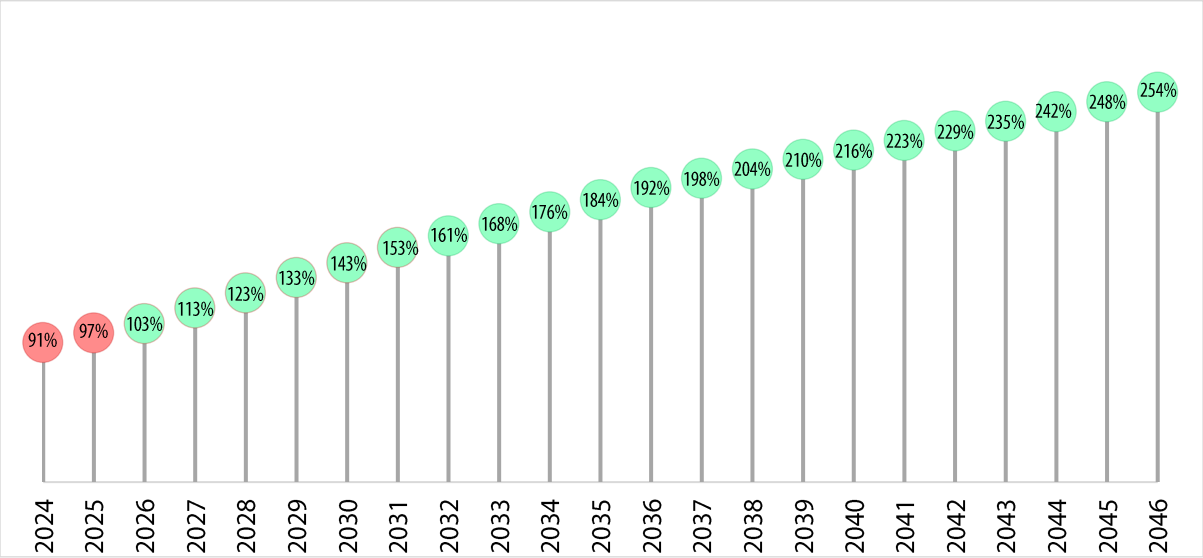
Figure 24. Commercial Floorspace Supply and Demand Balance by Floorspace Category, 2024 to 2046



Note: Positive values indicate a floorspace oversupply relative to the feasibility threshold, whereas negative values indicate a floorspace undersupply. The floorspace balance refers to the sum of floorspace oversupply and undersupply at any one point in time. When the net floorspace balance is positive, the commercial floorspace quantum is oversupplied. When the net floorspace balance is negative, the commercial floorspace quantum is estimated to be commercially feasible.

Source: Pracsys 2024

Figure 25. Proportion of Total Proposed Floorspace which is Economically Feasible, 2024 to 2046



Source: Pracsys 2024

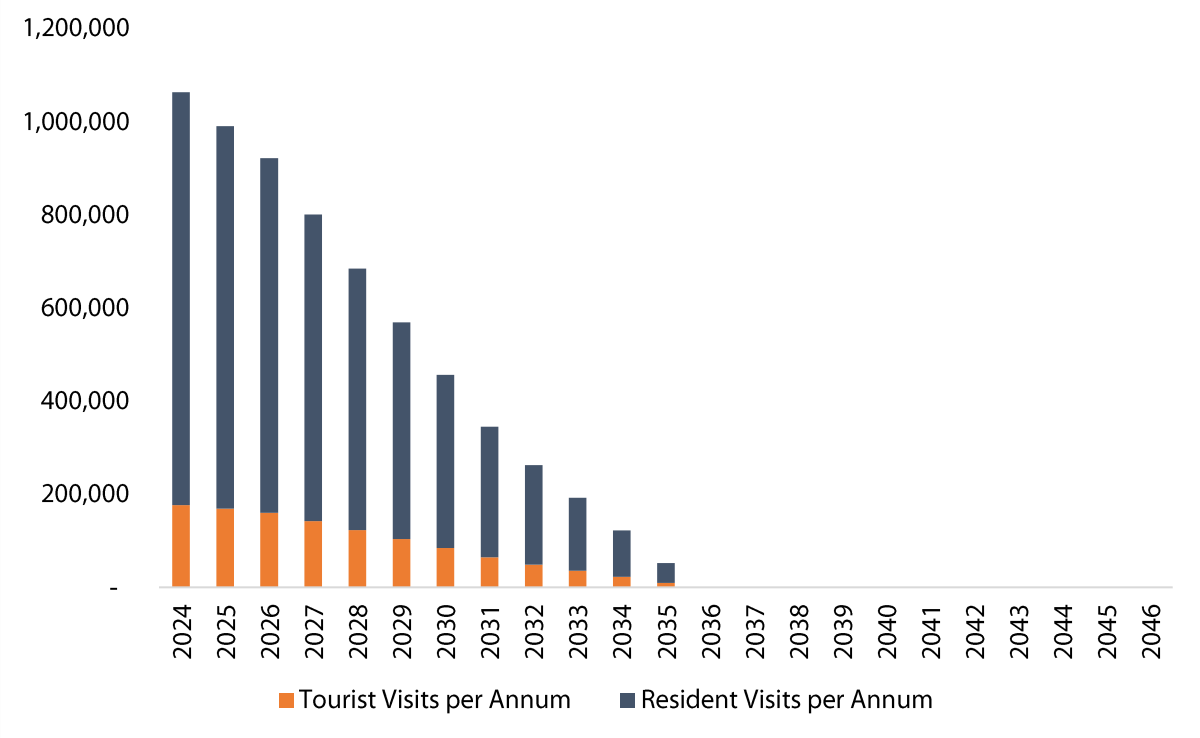
7.2 Minimum Required Demand

Required Visitation

- In 2024, the number of visits required to support the feasibility of all commercial floorspace at the Precinct is high, as expenditure from the Primary Catchment at the Precinct is lower.
- As the population of the Primary Catchment expands, the required visitation from other user groups falls, from 1.1 million visits in 2024 to 0 by 2036 (see Figure 26).
- The required visitation is lower compared to the 2020 report, due to the higher estimated expenditure of the Primary Catchment.
- The required annual Precinct visitation modelled above has been transformed into indicative daily[6] and hourly[7] visitation to provide the City with an enhanced sense of the requisite activation scale.
- Figure 27 below identifies the annual, daily and hourly visitation rates required to support the economic feasibility of the Precinct at key development timeframe intervals.

[6] Assumes the Precinct is operational 365 days per year.
[7] Assumes the Precinct is operational for 16 hours per day, from 6AM to 10PM.

Figure 26. Tourist and Resident Visitation Required to Support Precinct Floorspace, 2024 to 2046



Source: Pracsys 2024

Figure 27. Total Visitation Required to Support Precinct Floorspace, Selected Years and Time Periods

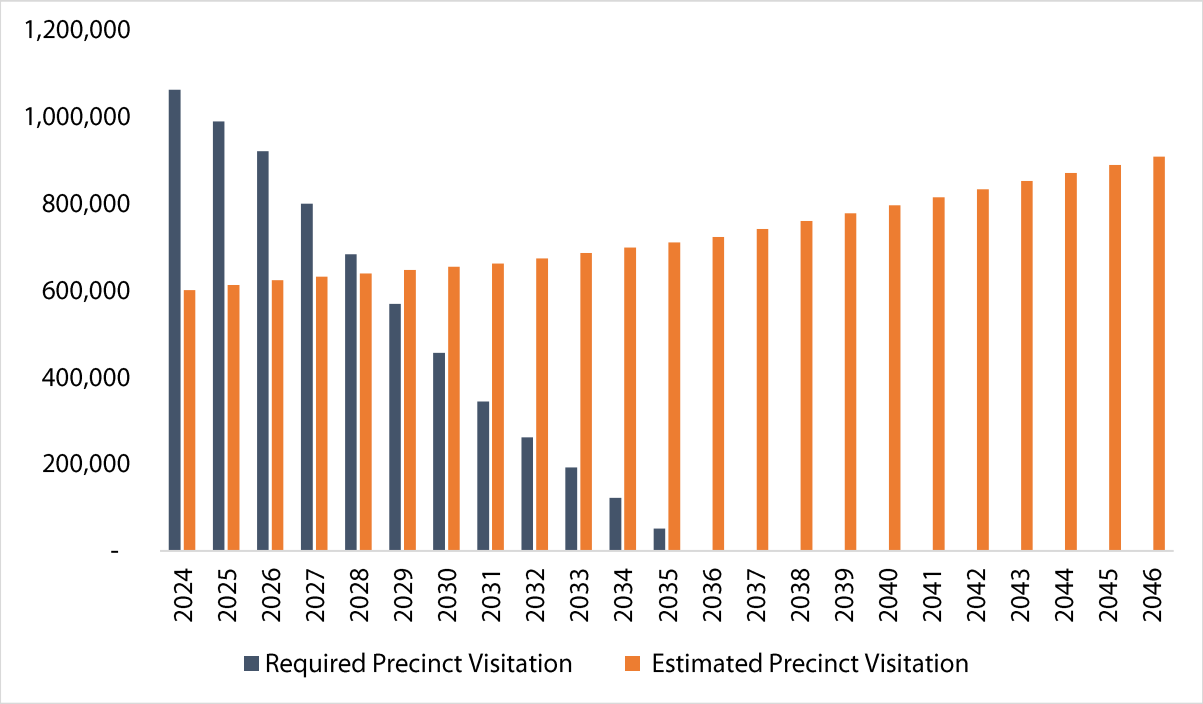
	2024	2032	2046
Per Annum	1,063,000	262,000	-
Per Day	2,900	700	-
Per Hour	180	40	-

Source: Pracsys 2024

Comparison of Required and Estimated Visitation

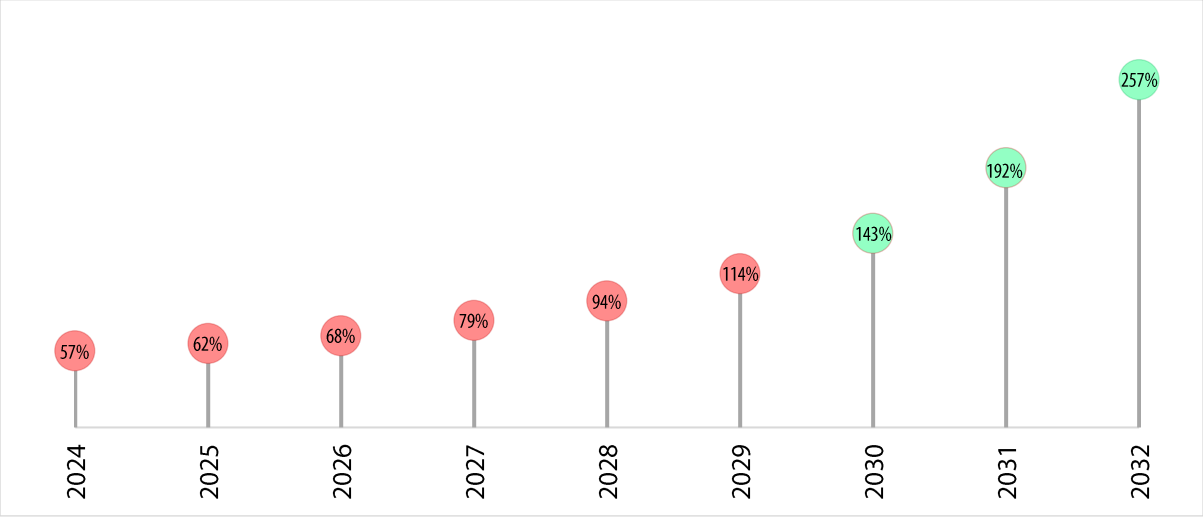
- The modelled demand for Precinct visits by Secondary Catchment residents and tourists has been compared to the visitation required to support the economic feasibility of the preferred option's benchmarked floorspace profile.
- The shortfall between estimated visits and required visits is initially significant, in the order of 462,000 visits per annum. Estimated and required visits reach approximate equilibrium by 2030 (see Figure 28).
- The degree to which estimated visitation meets required visitation is illustrated in Figure 29 below.
- This analysis highlights that estimated visitation will be sufficient to meet required visitation by 2030.
- This result aligns with preceding analysis, which indicates that, when Primary Catchment household expenditure is also included, the Precinct's commercial floorspace profile can be supported by demand even earlier.

Figure 28. Required versus Estimated Precinct Visitation, 2024 to 2046



Source: Pracsys 2024

Figure 29. Proportion of Estimated Visitation vs Required Precinct Visitation, 2024 to 2032



Source: Pracsys 2024

8 TOTAL DEMAND – OPTIMISTIC SCENARIO

Methodology

In addition to the conservative scenario modelled above, a more optimistic demand scenario has been modelled.

This optimistic scenario makes allowance in the demand modelling for existence of a 'Unique Selling Proposition', assuming a degree of over-performance in terms of the Precinct's demand attraction when compared to existing offerings. Under this scenario, the Precinct is assumed to out-perform the Conservative baseline on the following fronts (see Figure 30 for a full description of the variation in modelling variables):

- **Greater attraction** of resident visitors, based on assumption of higher-than-baseline attractiveness
- **Greater per-patron spend** on all floorspace types, based on assumption of higher-than-baseline levels of amenity
- **Greater market share** of beach-oriented leisure precincts

Figure 30. Variation in Modelling Variables Under Optimistic Scenario

Factor	Variable	Market	Increase	Justification and Outcome
Attractiveness	Household expenditure market share	Primary Catchment	20%	The Precinct's unique selling proposition induces a more-than-market-share attraction of Primary Catchment expenditure
Spend	Per-patron spend	Secondary Catchment	20%	The Precinct's higher-than-average standard of amenity induces a higher-than-average per-visitor spend
Market Share	Beach-orientated leisure precinct market share	Tourists	20%	Unique selling proposition induces a more-than-market-share attraction of City of Wanneroo tourists

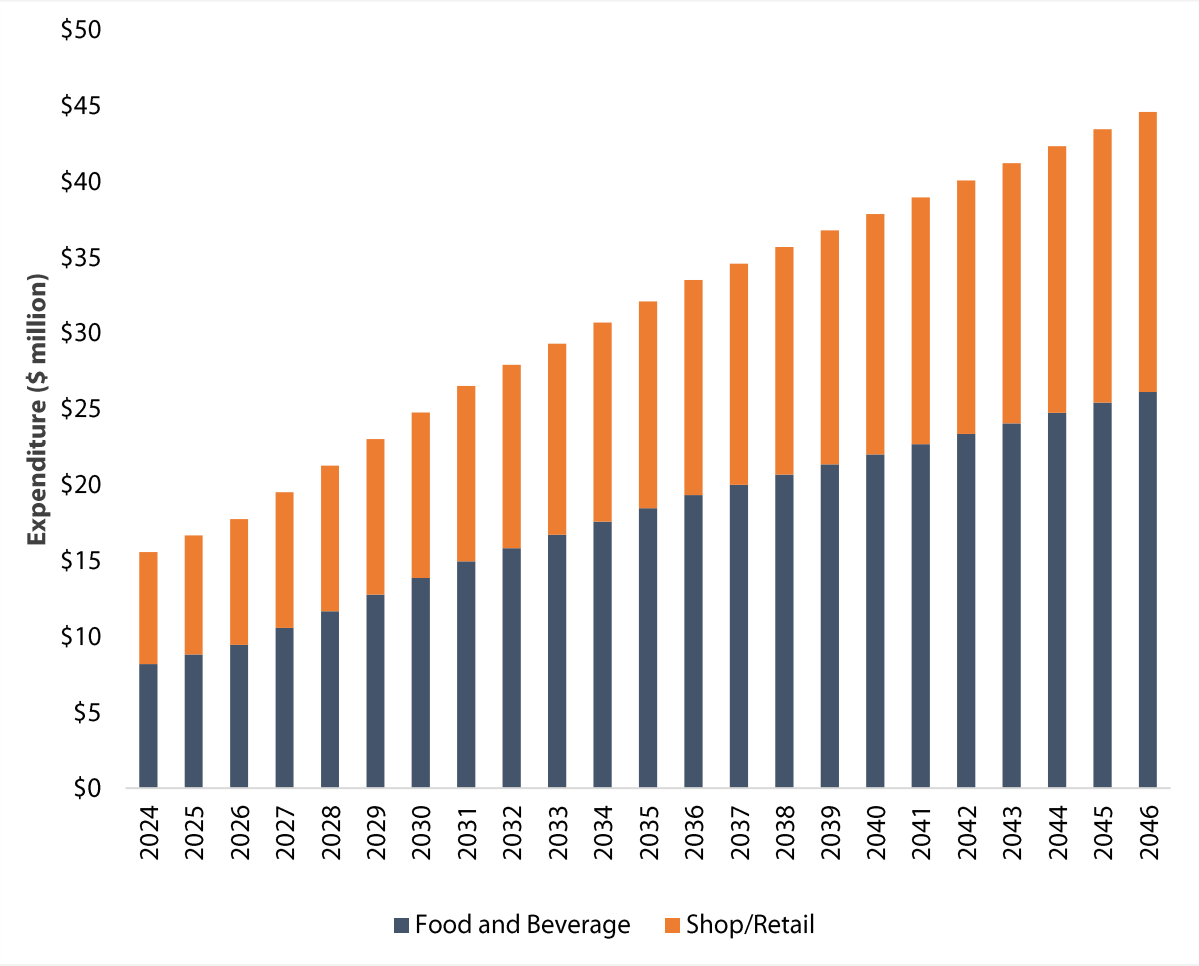
Source: Pracsys 2024

This optimistic scenario provides an indication of the likely upper-bound of Precinct feasibility. Together with the conservative scenario's provision of a lower-bound feasibility estimate, these scenario models provide a book-ended feasibility range. This presents a 'feasibility window' bounded by the likely earliest and latest date at which the prospective Precinct development will be economically feasible, allowing the City to make informed decisions about Precinct delivery over time dependent on the amount of commercial risk it is willing to accept.

Total Expenditure

- The expenditure associated with tourist visitation, Secondary Catchment visitation and Primary Catchment household expenditure under an optimistic future scenario has been estimated.
- It is forecast that the Precinct, if delivered in the form indicatively identified by the preferred option, will attract approximately $16 million of expenditure in 2024. This expenditure quantum is estimated to increase to $45 million by 2046 (Figure 31).

Figure 31. Total Forecast Expenditure at the Precinct by Floorspace Category, 2024 to 2046

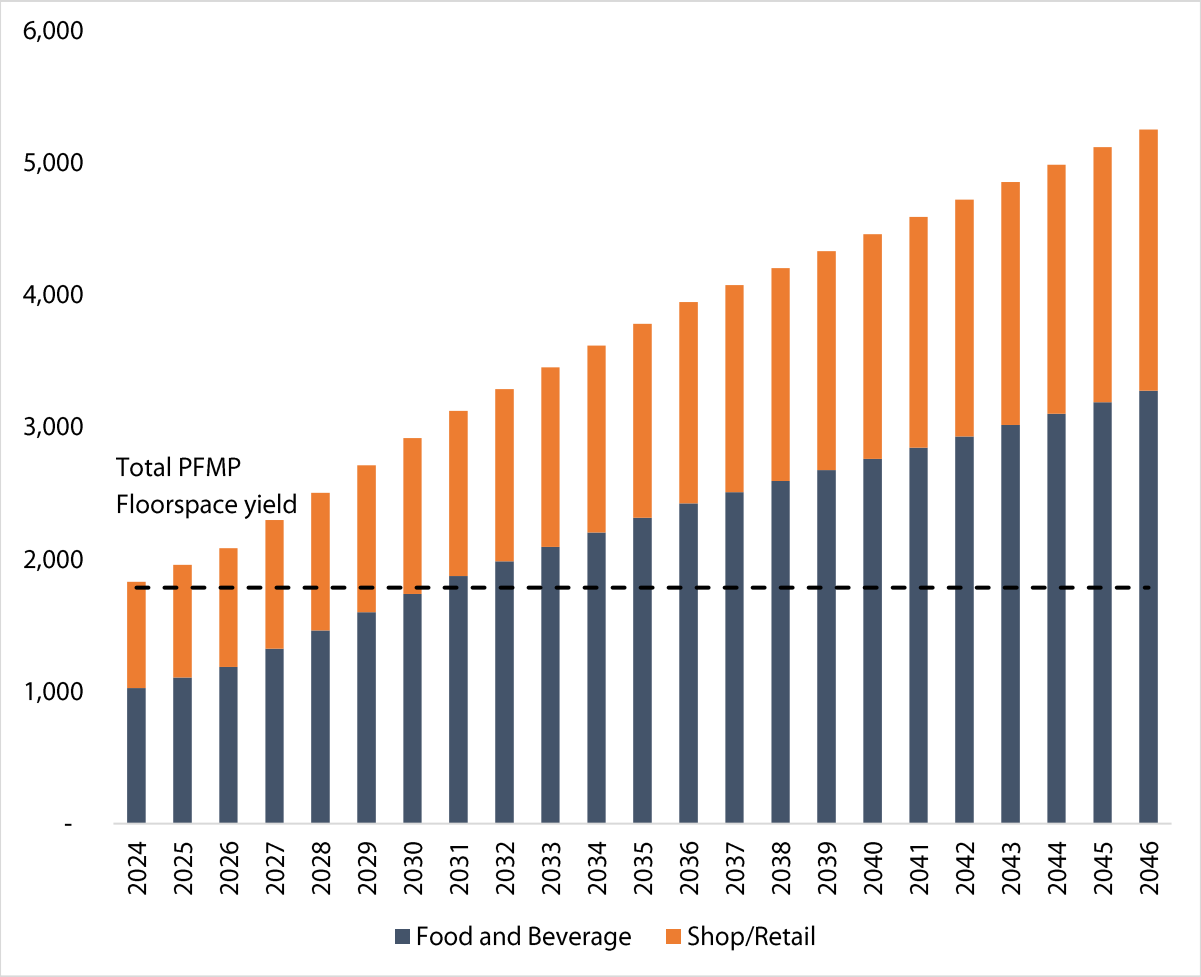


Source: Pracsys 2024

Total Supported Floorspace

- The total demand for commercial floorspace at the Precinct under an optimistic scenario has been estimated by aggregating the commercial floorspace supported by Primary Catchment residents, Secondary Catchment residents, and tourists.
- The floorspace estimates have been compared to the benchmarked floorspace yield derived from the preferred option, identifying that the quantum of commercial floorspace yielded from the preferred option will be supported by resident and visitor demand from approximately 2024 (Figure 32).
- This is one year earlier than estimated in the 2020 report. This is mainly due to the quantum of supportable accommodation floorspace not being included and the stronger base of estimated Primary Catchment's household expenditure.

Figure 32. Forecast Total Feasible Commercial Floorspace by Floorspace Category, 2024 to 2046



Source: Pracsys 2024

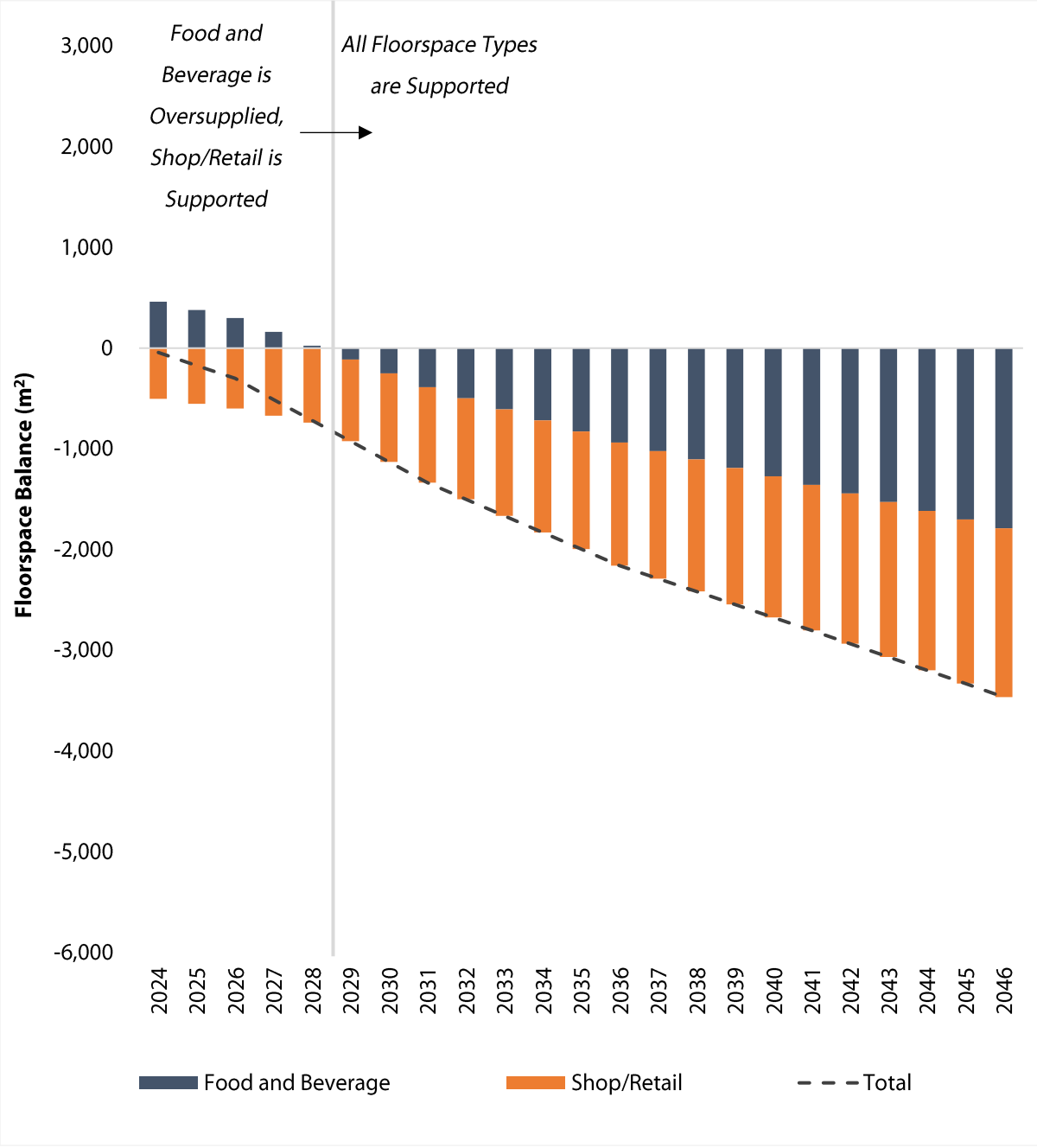
8.1 Supply and Demand Comparison

- Modelling indicates that the Precinct, in the form which it is defined by the preferred option, will approach commercial feasibility from 2024 under optimistic demand modelling.
- Figure 33 illustrates the Precinct floorspace balance timeline, indicating the overall balance between the supply of and demand for commercial floorspace at the Precinct over time. It also indicates the balance between supply and demand within the Shop/Retail and Food and Beverage commercial floorspace categories.

This supply and demand comparison analysis identifies the following results:

  - **The quantum of commercial floorspace provided at the Precinct is likely to be supported from 2024, two years earlier than under conservative modelling**
  - The quantum of commercial floorspace provided at the Precinct initially exceeds estimated demand, as under the conservative demand scenario
  - Food and Beverage floorspaces remain initially oversupplied at the Precinct
  - Shop/Retail floorspace at the Precinct remains sufficiently supported by demand throughout the development timeline
  - Food and Beverage floorspace at the Precinct is likely to be supported by 2029
- Figure 34 below indicates the proportion of total commercial floorspace proposed at the Precinct which is estimated to be feasible in years 2024 to 2046 under the optimistic modelling scenario.

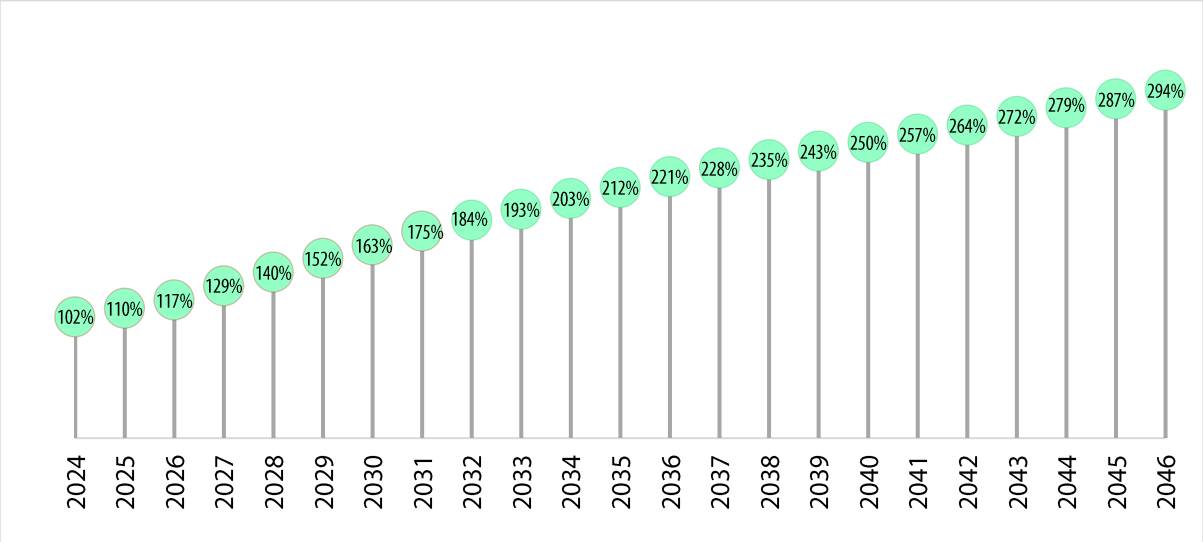
Figure 33. Commercial Floorspace Supply and Demand Balance by Floorspace Category, 2024 to 2046



Note: Positive values indicate a floorspace oversupply relative to the feasibility threshold, whereas negative values indicate a floorspace undersupply. The floorspace balance refers to the sum of floorspace oversupply and undersupply at any one point in time. When the net floorspace balance is positive, the commercial floorspace quantum is oversupplied. When the net floorspace balance is negative, the commercial floorspace quantum is estimated to be commercially feasible.

Source: Pracsys 2024

Figure 34. Proportion of Total Proposed Floorspace which is Economically Feasible, 2024 to 2046

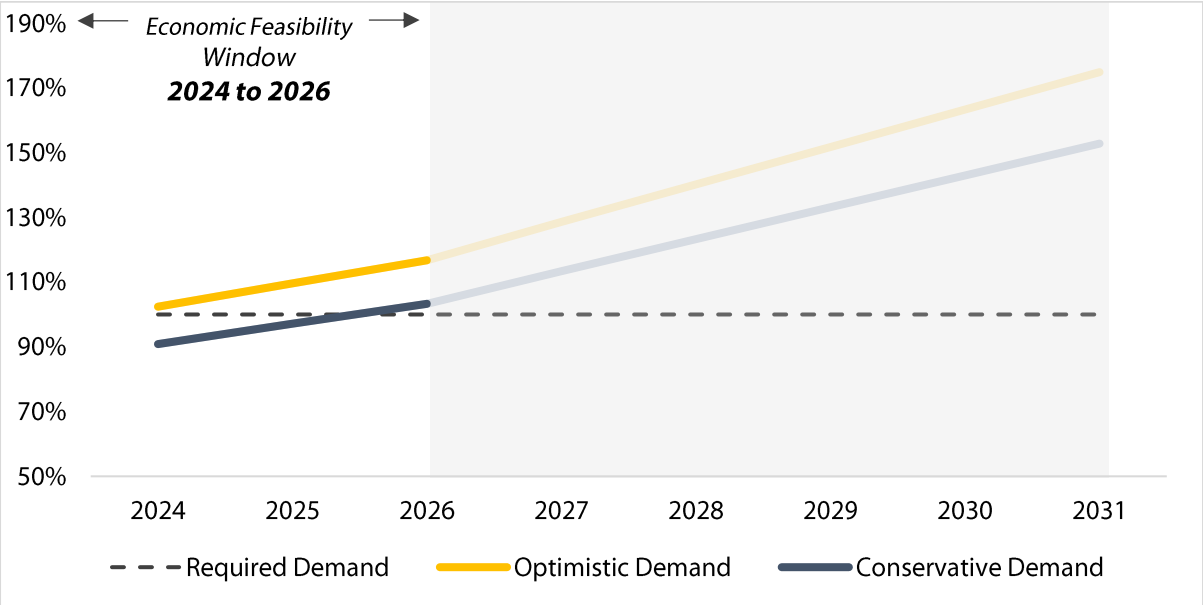


Source: Pracsys 2024

8.2 Feasibility Window

- The optimistic demand scenario, driven by provision of a unique selling proposition at the Precinct, provides an indication of the likely upper-bound of Precinct feasibility.
- Together with the conservative scenario's provision of a lower-bound feasibility estimate, a feasibility window has been identified. Based on modelling of Primary Catchment, Secondary Catchment, and tourist visitor demand, the Precinct as it is defined by the preferred option is estimated to be economically feasible between 2024 and 2026 (see Figure 35).

Figure 35. Yanchep Lagoon PFMP Precinct Feasibility Window



Source: Pracsys (2024)

9 RECOMMENDATIONS

A series of recommendations relating to the PFMP Precinct's indicative commercial floorspace profile are outlined below. These recommendations are designed to guide the City's future decision-making with regard to optimising the commercial feasibility of the Precinct as it develops over time. Recommendations are based on the conservative demand scenario; if the City wishes to accept a greater degree of commercial risk, it may choose to expediate the staging of elements in line with the optimistic demand scenario.

Recommendation 1. Stage the Delivery of Commercial Floorspace in line with Demand

Deliver commercial floorspace progressively over the development timeline in line with forecast visitation and expenditure demand. Thresholds should be established to guide the development of each floorspace type. The conservative demand analysis undertaken for the Precinct suggests that the following high-level commercial floorspace delivery triggers are appropriate to guide the Precinct's commercial development:

- Deliver two-to-three speciality comparison retailers (e.g. beach-related leisure items, casual fashion retailers etc.) of cumulative size of approximately 450m^2 at the commencement of the development
- Deliver a small supermarket of approximately 750m^2 at the commencement of the development
- Deliver the Precinct's landmark Food and Beverage outlet (e.g. micro-brewery / restaurant) of approximately 1,500m^2 by 2028

Recommendation 2. Maintain Flexibility between Food and Beverage and Shop/Retail Floorspaces

The analysis identified that Food and beverage floorspace is oversupplied in the short and medium term, whilst Shop/Retail floorspace is undersupplied. It may therefore be prudent to substitute a portion of the PFMP's indicative provision of Food and Beverage floorspace into Shop/Retail floorspace in line with the modelled floorspace demand profile.

Floorspace should also be defined as flexibly as possible to allow for both Food and Beverage and Shop/Retail operations, ensuring demand can be met dynamically as population grows and visitation expands and contracts seasonally. As the distinction between these floorspace categories is relatively minor, a degree of fluidity between Food and Beverage and retail uses at the Precinct should be readily facilitated, allowing substitution between the two in line with demand.

Recommendation 3. Align the Composition of Shop/Retail Floorspace with Demand

Deliver a Shop/Retail floorspace composition in line with the estimated breakdown in demand for Comparison Retail and Convenience Retail floorspaces. Combined demand for Shop/Retail floorspace from Primary Catchment residents, Secondary Catchment residents, and tourist visitors produces a requirement for approximately 63 per cent of Shop/Retail floorspace to be convenience-based (supermarket, pharmacy, delicatessen etc.) and 37 per cent to be comparison-based (clothing / footwear, leisure items, homewares etc.).[8] The supply of Shop/Retail floorspace at the Precinct should mirror this profile by delivering a higher proportion of comparison retailing than typical centres, better-reflecting the leisure-orientated and tourist-receptive character of the Precinct.

[8] This Shop/Retail floorspace profile is consistent with comparable commercially-activated beach-orientated leisure precincts such as the Hillarys Boat Harbour, which exhibits a Comparison Retail concentration of approximately 32 per cent.

10 CONCLUSION

This economic feasibility assessment update has been prepared for the City of Wanneroo to investigate the extent to which future demand for commercial floorspaces at the Yanchep Lagoon PFMP Precinct will support their indicative supply as benchmarked from the preferred option. This assessment has provided an understanding of current and future household expenditure demand in the Primary Catchment, estimating the extent to which this expenditure can be captured by the Precinct's commercial offerings. The visitation of Secondary Catchment residents to the Precinct has been estimated through a beach-orientated entertainment Precinct visitation model, with this visitation transformed into expenditure and resultant supportable floorspace. Tourist visitation to the City has been forecast to estimate the potential visitor capture of the Precinct, with visitation again translated into floorspace category-specific expenditure and associated supported floorspace.

In 2024, the combined expenditure estimated to be captured by the Precinct under the conservative modelling scenario is sufficient to support 890m^2 of Food and Beverage floorspace and 730m^2 of Shop/Retail floorspace. This reflects a total floorspace oversupply between the two floorspace categories in the order of 160m^2. By 2046, the floorspace profile estimated to be demanded in the catchments will expand to 2,800m^2 of Food and Beverage floorspace and 1,740m^2 of Shop/Retail floorspace. By this time, all commercial floorspaces benchmarked from the preferred option are estimated to be economically feasible. It should be noted that in the long term it is not expected that all of the identified demand would be relevant to the Precinct. *Appendix A: Results* outlines a year by year breakdown of floorspace feasibility by floorspace category under the conservative modelling scenario. *Appendix B: Sensitivity Analyses* provides an indication of the sensitivity of supportable floorspace results to adjustments in key modelling variables.

Based on the results of the economic feasibility analysis, Pracsys has recommended that the City:

- Stage the delivery of commercial floorspace in line with demand
- Maintain flexibility between Food and Beverage and Shop/Retail floorspaces
- Align the composition of Shop/Retail floorspace with demand

11 APPENDIX A: RESULTS

Figure 36. Estimated and Required Visits Balance under Conservative Modelling Scenario, 2024 to 2046

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046
	Per Annum																						
Tourist visits	47,804	50,113	52,069	53,904	55,294	56,723	58,051	59,416	60,371	61,350	62,384	63,446	64,537	65,659	66,812	67,997	69,217	70,471	71,762	73,091	74,460	75,869	77,321
Resident visits	553,159	562,583	572,007	578,127	584,247	590,367	596,487	602,607	613,865	625,123	636,380	647,638	658,896	675,972	693,049	710,125	727,202	744,278	761,591	778,904	796,217	813,530	830,843
Total visits	**600,963**	**612,697**	**624,076**	**632,031**	**639,541**	**647,090**	**654,538**	**662,023**	**674,236**	**686,473**	**698,765**	**711,084**	**723,433**	**741,631**	**759,860**	**778,122**	**796,418**	**814,749**	**833,353**	**851,995**	**870,677**	**889,399**	**908,164**
Balance	**461,568**	**376,883**	**296,849**	**167,699**	**44,053**	**-78,235**	**-198,360**	**-317,426**	**-412,210**	**-494,186**	**-576,580**	**-659,295**	**-723,433**	**-741,631**	**-759,860**	**-778,122**	**-796,418**	**-814,749**	**-833,353**	**-851,995**	**-870,677**	**-889,399**	**-908,164**
	Per Day																						
Tourist visits	131	137	143	148	151	155	159	163	165	168	171	174	177	180	183	186	190	193	197	200	204	208	212
Resident visits	1516	1541	1567	1584	1601	1617	1634	1651	1682	1713	1744	1774	1805	1852	1899	1946	1992	2039	2087	2134	2181	2229	2276
Total visits	**1,646**	**1,679**	**1,710**	**1,732**	**1,752**	**1,773**	**1,793**	**1,814**	**1,847**	**1,881**	**1,914**	**1,948**	**1,982**	**2,032**	**2,082**	**2,132**	**2,182**	**2,232**	**2,283**	**2,334**	**2,385**	**2,437**	**2,488**
Balance	**1,265**	**1,033**	**813**	**459**	**121**	**-214**	**-543**	**-870**	**-1,129**	**-1,354**	**-1,580**	**-1,806**	**-1,982**	**-2,032**	**-2,082**	**-2,132**	**-2,182**	**-2,232**	**-2,283**	**-2,334**	**-2,385**	**-2,437**	**-2,488**
	Per Hour																						
Tourist visits	8	9	9	9	9	10	10	10	10	11	11	11	11	11	11	12	12	12	12	13	13	13	13
Resident visits	95	96	98	99	100	101	102	103	105	107	109	111	113	116	119	122	125	127	130	133	136	139	142
Total visits	**103**	**105**	**107**	**108**	**110**	**111**	**112**	**113**	**115**	**118**	**120**	**122**	**124**	**127**	**130**	**133**	**136**	**140**	**143**	**146**	**149**	**152**	**156**
Balance	**79**	**65**	**51**	**29**	**8**	**-13**	**-34**	**-54**	**-71**	**-85**	**-99**	**-113**	**-124**	**-127**	**-130**	**-133**	**-136**	**-140**	**-143**	**-146**	**-149**	**-152**	**-156**

Note: Positive balance indicates that the number of visits required for economic feasibility exceeds the estimated number of visits (denoted in red). Negative balance reflects that the estimated number of visits exceeds the number of visits required for economic feasibility (denoted in green). Per day estimates assume that the Precinct is operational 365 days per year. Per hour estimates assume that the Precinct is operational for 16 hours per day, i.e. from 6AM to 10PM.

Source: Pracsys 2024

Figure 37. Timeline of Precinct Expenditure by Floorspace Category under Conservative Modelling Scenario, 2024 to 2046 ($ million)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046
Food and Beverage	$7.12	$7.67	$8.21	$9.16	$10.09	$11.02	$11.95	$12.88	$13.62	$14.36	$15.10	$15.85	$16.59	$17.16	$17.72	$18.29	$18.86	$19.43	$20.01	$20.60	$21.18	$21.77	$22.35
Shop/Retail	$6.67	$7.08	$7.46	$8.04	$8.60	$9.16	$9.71	$10.27	$10.71	$11.15	$11.59	$12.04	$12.48	$12.84	$13.20	$13.56	$13.93	$14.29	$14.67	$15.04	$15.42	$15.80	$16.18
Total	**$13.79**	**$14.75**	**$15.67**	**$17.20**	**$18.69**	**$20.18**	**$21.66**	**$23.15**	**$24.33**	**$25.51**	**$26.69**	**$27.88**	**$29.07**	**$30.00**	**$30.93**	**$31.86**	**$32.79**	**$33.73**	**$34.68**	**$35.64**	**$36.60**	**$37.56**	**$38.53**

Source: Pracsys 2024

Figure 38. Supplied Floorspace, Demanded Floorspace and Resultant Floorspace Balance under Conservative Modelling Scenario, 2024 to 2046

		2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046
Masterplan Precinct Floorspace	Food and Beverage	1,485	1,485	1,485	1,485	1,485	1,485	1,485	1,485	1,485	1,485	1,485	1,485	1,485	1,485	1,485	1,485	1,485	1,485	1,485	1,485	1,485	1,485	1,485
	Shop/Retail	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300
Modelled Supportable Floorspace	Food and Beverage	892	962	1,030	1,148	1,265	1,381	1,498	1,614	1,707	1,800	1,893	1,986	2,079	2,150	2,222	2,293	2,364	2,436	2,508	2,582	2,655	2,728	2,801
	Shop/Retail	730	773	814	877	936	995	1,054	1,113	1,160	1,206	1,253	1,300	1,347	1,385	1,423	1,462	1,500	1,539	1,578	1,618	1,658	1,698	1,738
Floorspace Balance	Food and Beverage	593	523	455	337	220	104	-13	-129	-222	-315	-408	-501	-594	-665	-737	-808	-879	-951	-1,023	-1,097	-1,170	-1,243	-1,316
	Shop/Retail	-430	-473	-514	-577	-636	-695	-754	-813	-860	-906	-953	-1,000	-1,047	-1,085	-1,123	-1,162	-1,200	-1,239	-1,278	-1,318	-1,358	-1,398	-1,438
	Total	**163**	**51**	**-59**	**-240**	**-416**	**-592**	**-767**	**-942**	**-1,082**	**-1,221**	**-1,361**	**-1,501**	**-1,641**	**-1,750**	**-1,860**	**-1,969**	**-2,079**	**-2,189**	**-2,302**	**-2,415**	**-2,528**	**-2,641**	**-2,755**

Note: Positive floorspace balance values indicate a floorspace oversupply (denoted in red). Negative floorspace balance values reflect a floorspace undersupply (denoted in green).

Source: Pracsys 2024

12 APPENDIX B: SENSITIVITY ANALYSES

12.1 Sensitivity to Population Growth

The effect of 'Higher' (plus 25 per cent) and 'Lower' (minus 25 per cent) rates of residential population growth on the feasible floorspace quantum has been tested. This analysis assumes all other factors – such as Precinct visitation, per-patron Precinct expenditure, household expenditure and floorspace productivities – are held equal.

Figure 39. Sensitivity of Total Supported Floorspace to Rate of Residential Population Growth under Conservative Modelling Scenario, 2024 to 2046

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046
	Convenience Retail																						
Higher	502	533	563	612	659	706	753	799	837	875	913	951	989	1,019	1,050	1,080	1,111	1,142	1,173	1,205	1,237	1,268	1,300
Forecasted	437	463	489	529	568	606	644	683	713	744	775	806	837	862	888	913	938	964	990	1,016	1,042	1,068	1,095
Lower	371	393	414	446	476	506	536	566	590	614	638	662	686	706	726	745	765	785	806	826	847	868	889
	Comparison Retail																						
Higher	320	339	357	384	408	433	457	482	501	520	539	558	577	593	608	624	639	655	671	687	703	720	736
Forecasted	293	310	325	348	368	389	410	430	446	462	478	494	510	523	536	549	562	575	589	602	616	630	644
Lower	265	280	293	312	329	345	362	379	391	404	416	429	442	452	463	474	484	495	506	517	528	540	551
	Food and Beverage																						
Higher	1,066	1,151	1,234	1,380	1,525	1,669	1,813	1,957	2,073	2,188	2,303	2,419	2,535	2,622	2,710	2,798	2,886	2,974	3,065	3,155	3,245	3,336	3,426
Forecasted	892	962	1,030	1,148	1,265	1,381	1,498	1,614	1,707	1,800	1,893	1,986	2,079	2,150	2,222	2,293	2,364	2,436	2,508	2,582	2,655	2,728	2,801
Lower	718	772	825	916	1,005	1,094	1,182	1,271	1,341	1,412	1,483	1,553	1,624	1,679	1,733	1,787	1,842	1,897	1,952	2,008	2,064	2,121	2,177
	Total																						
Higher	1,888	2,023	2,154	2,376	2,592	2,808	3,023	3,239	3,411	3,583	3,755	3,928	4,100	4,234	4,368	4,502	4,637	4,772	4,909	5,047	5,185	5,324	5,463
Forecasted	1,622	1,734	1,844	2,025	2,201	2,377	2,552	2,727	2,867	3,006	3,146	3,286	3,426	3,535	3,645	3,754	3,864	3,974	4,087	4,200	4,313	4,426	4,540
Lower	1,355	1,446	1,533	1,674	1,810	1,946	2,081	2,216	2,323	2,430	2,537	2,644	2,752	2,837	2,921	3,006	3,092	3,177	3,264	3,352	3,440	3,528	3,617
Reduction	16%	17%	17%	17%	18%	18%	18%	19%	19%	19%	19%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%

Note: Reduction values reflect the proportional reduction in supportable floorspace experienced under 'Lower' residential population growth, compared to what would be supported under the forecasted rate.

Source: Pracsys 2024

12.2 Sensitivity to Tourist Attraction

The effect of 'Higher' (plus 25 per cent) and 'Lower' (minus 25 per cent) rates of tourist attraction on the feasible floorspace quantum has been tested. This analysis assumes all other factors – such as population growth, per-patron Precinct expenditure, household expenditure and floorspace productivities – are held equal.

Figure 40. Sensitivity of Total Supported Floorspace to Rate of Tourist Visitor Attraction under Conservative Modelling Scenario, 2024 to 2046

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046
Convenience Retail																							
Higher	481	509	537	578	618	658	697	737	768	800	832	863	895	921	947	974	1,000	1,026	1,053	1,080	1,108	1,135	1,162
Forecasted	437	463	489	529	568	606	644	683	713	744	775	806	837	862	888	913	938	964	990	1,016	1,042	1,068	1,095
Lower	392	417	441	480	517	554	592	629	659	689	719	749	779	803	828	852	877	901	926	951	976	1,001	1,027
Comparison Retail																							
Higher	339	357	375	399	421	443	465	486	503	519	536	553	569	583	597	611	625	639	653	668	682	697	712
Forecasted	293	310	325	348	368	389	410	430	446	462	478	494	510	523	536	549	562	575	589	602	616	630	644
Lower	247	262	276	297	316	336	355	374	389	404	420	435	450	462	474	487	499	511	524	537	549	562	575
Food and Beverage																							
Higher	941	1,013	1,083	1,203	1,321	1,439	1,557	1,674	1,768	1,862	1,956	2,050	2,144	2,216	2,288	2,361	2,433	2,505	2,579	2,654	2,728	2,803	2,877
Forecasted	892	962	1,030	1,148	1,265	1,381	1,498	1,614	1,707	1,800	1,893	1,986	2,079	2,150	2,222	2,293	2,364	2,436	2,508	2,582	2,655	2,728	2,801
Lower	843	910	976	1,093	1,208	1,324	1,439	1,554	1,646	1,738	1,830	1,922	2,015	2,085	2,155	2,225	2,295	2,366	2,437	2,509	2,581	2,654	2,726
Total																							
Higher	1,761	1,879	1,994	2,180	2,360	2,540	2,719	2,898	3,039	3,181	3,323	3,466	3,609	3,721	3,833	3,945	4,058	4,171	4,286	4,402	4,518	4,635	4,752
Forecasted	1,622	1,734	1,844	2,025	2,201	2,377	2,552	2,727	2,867	3,006	3,146	3,286	3,426	3,535	3,645	3,754	3,864	3,974	4,087	4,200	4,313	4,426	4,540
Lower	1,483	1,589	1,694	1,869	2,041	2,214	2,385	2,557	2,694	2,831	2,969	3,106	3,244	3,350	3,457	3,564	3,671	3,778	3,887	3,997	4,107	4,217	4,328
Reduction	9%	8%	8%	8%	7%	7%	7%	6%	6%	6%	6%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%

Note: Reduction values reflect the proportional reduction in supportable floorspace experienced under 'Lower' tourist visitor attraction, compared to what would be supported under the forecasted rate.

Source: Pracsys 2024

12.3 Sensitivity to Floorspace Productivity / Operational Expenditure

Higher operational costs reflect lower floorspace productivity and lower operational costs reflect higher floorspace productivity. As such, the sensitivity of supportable floorspace to the rate of floorspace productivity has been tested by varying commercial floorspace operational costs. The effect of 'Lower' (minus 10 per cent) and 'Higher' (plus 10 per cent) operational costs on the feasible floorspace quantum has been tested and compared to the modelled Breakeven scenario. This analysis assumes all other factors – such as population growth, Precinct visitation, per-patron Precinct expenditure and household expenditure – are held equal.

Figure 41. Sensitivity of Total Supported Floorspace to Operational Costs under Conservative Modelling Scenario, 2024 to 2046

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046
	Convenience Retail																						
Higher	485	515	543	588	631	674	716	759	793	827	861	896	930	958	986	1,014	1,042	1,071	1,100	1,129	1,158	1,187	1,216
Breakeven	437	463	489	529	568	606	644	683	713	744	775	806	837	862	888	913	938	964	990	1,016	1,042	1,068	1,095
Lower	397	421	444	481	516	551	586	621	649	677	705	733	761	784	807	830	853	876	900	923	947	971	995
	Comparison Retail																						
Higher	325	344	361	386	409	432	455	478	496	513	531	548	566	581	595	610	624	639	654	669	684	700	715
Breakeven	293	310	325	348	368	389	410	430	446	462	478	494	510	523	536	549	562	575	589	602	616	630	644
Lower	266	281	296	316	335	354	372	391	406	420	434	449	463	475	487	499	511	523	535	548	560	572	585
	Food and Beverage																						
Higher	991	1,068	1,144	1,276	1,405	1,535	1,664	1,794	1,897	2,000	2,103	2,207	2,310	2,389	2,468	2,548	2,627	2,706	2,787	2,868	2,950	3,031	3,113
Breakeven	892	962	1,030	1,148	1,265	1,381	1,498	1,614	1,707	1,800	1,893	1,986	2,079	2,150	2,222	2,293	2,364	2,436	2,508	2,582	2,655	2,728	2,801
Lower	811	874	936	1,044	1,150	1,256	1,362	1,467	1,552	1,636	1,721	1,806	1,890	1,955	2,020	2,084	2,149	2,214	2,280	2,347	2,413	2,480	2,547
	Total																						
Higher	1,802	1,927	2,049	2,250	2,445	2,641	2,835	3,030	3,185	3,340	3,495	3,651	3,807	3,928	4,050	4,172	4,294	4,416	4,541	4,666	4,792	4,918	5,044
Breakeven	1,622	1,734	1,844	2,025	2,201	2,377	2,552	2,727	2,867	3,006	3,146	3,286	3,426	3,535	3,645	3,754	3,864	3,974	4,087	4,200	4,313	4,426	4,540
Lower	1,474	1,577	1,676	1,841	2,001	2,161	2,320	2,479	2,606	2,733	2,860	2,987	3,115	3,214	3,313	3,413	3,513	3,613	3,715	3,818	3,921	4,024	4,127
Reduction	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%

Note: Reduction values reflect the proportional reduction in supportable floorspace experienced under a 'Higher operational cost, compared to what would be supported under the Breakeven cost.

Source: Pracsys 2024

Bushfire Works
A.B.N. 945 23123 843
PO Box 1249, Bibra Lake DC WA 6965
E: david.deeley@bushfireworks.com.au
www.bushfireworks.com.au

Bushfire Risk Assessment and BAL Contour Planning – Yanchep Lagoon Preliminary Foreshore Management Plan

Summary

The area was classified into 4 precincts aligning broadly with the team precincts other than Dune Park and Fisherman's Hollow were amalgamated into a single precinct for bushfire risk assessment.

Post-development vegetation distribution has been completed (Maps 1-5 attached). **Note:** Non-shaded areas around structures in Figures 1-5, represent areas where additional vegetation management or clearing is required for existing or proposed structures so as to achieve ratings of ≤BAL-29 as per requirements of SPP3.7.

BAL contours incorporating localised slope and vegetation type, confirm that with the nominated APZs, ratings of ≤BAL-29 are possible for all proposed structures (Figures 6-11 attached).

At this stage, no determination has been made as to whether structures are 'habitable' and subject to SPP3.7 requirements or whether because of tourist visitations, they constitute vulnerable landuses which under SPP requirements, trigger a requirement to prepare Emergency Evacuation Plans. It is understood this preliminary assessment is to focus on risk assessment and possible management through 'Acceptable solutions'.

Future, more-detailed analyses will be required to determine the exact nature of the existing and proposed structures and whether they require additional bushfire planning and design.



Figure 1 Classified vegetation (AS3959) after development

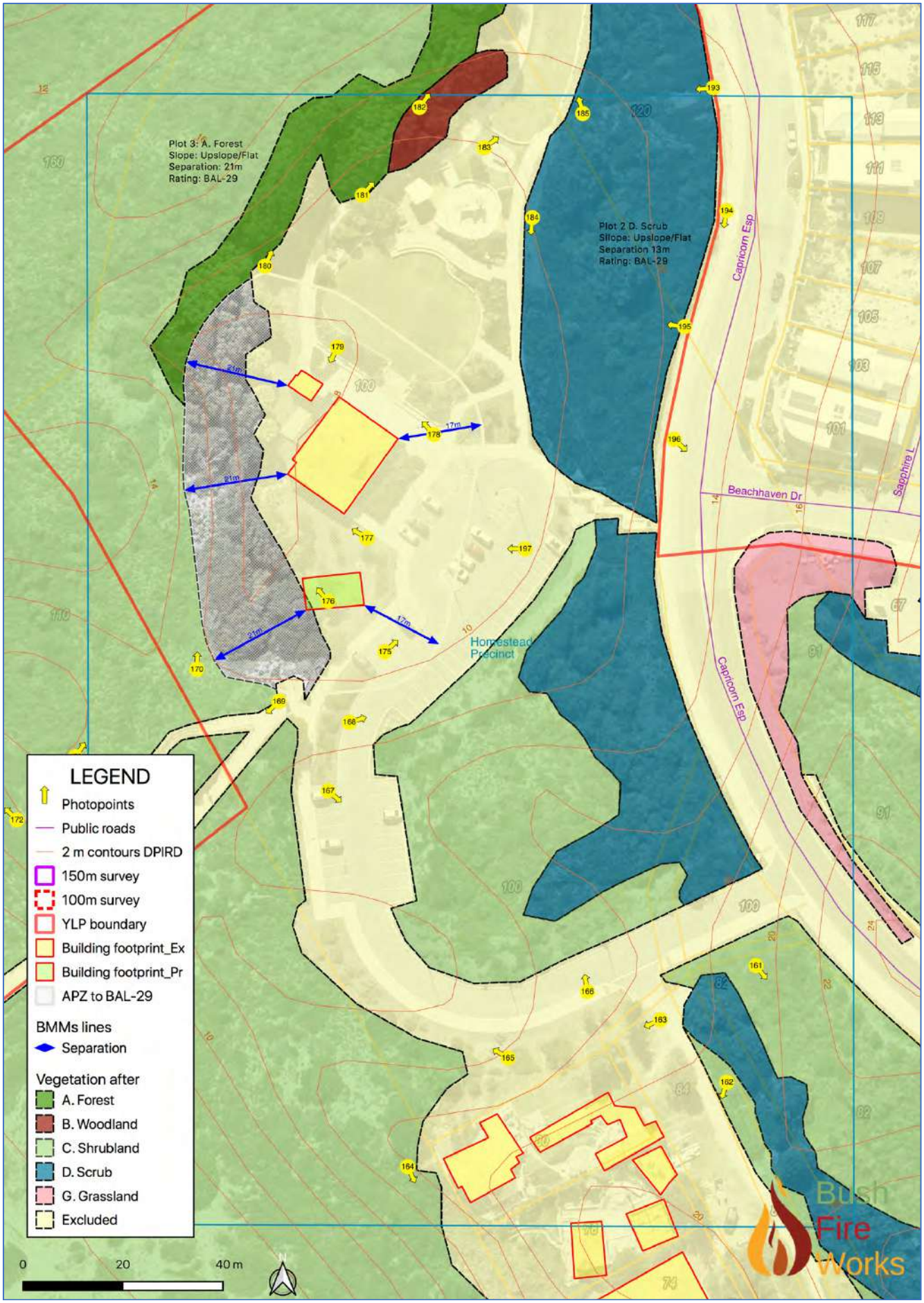


Figure 2 Classified vegetation (AS3959) after development - Homestead precinct

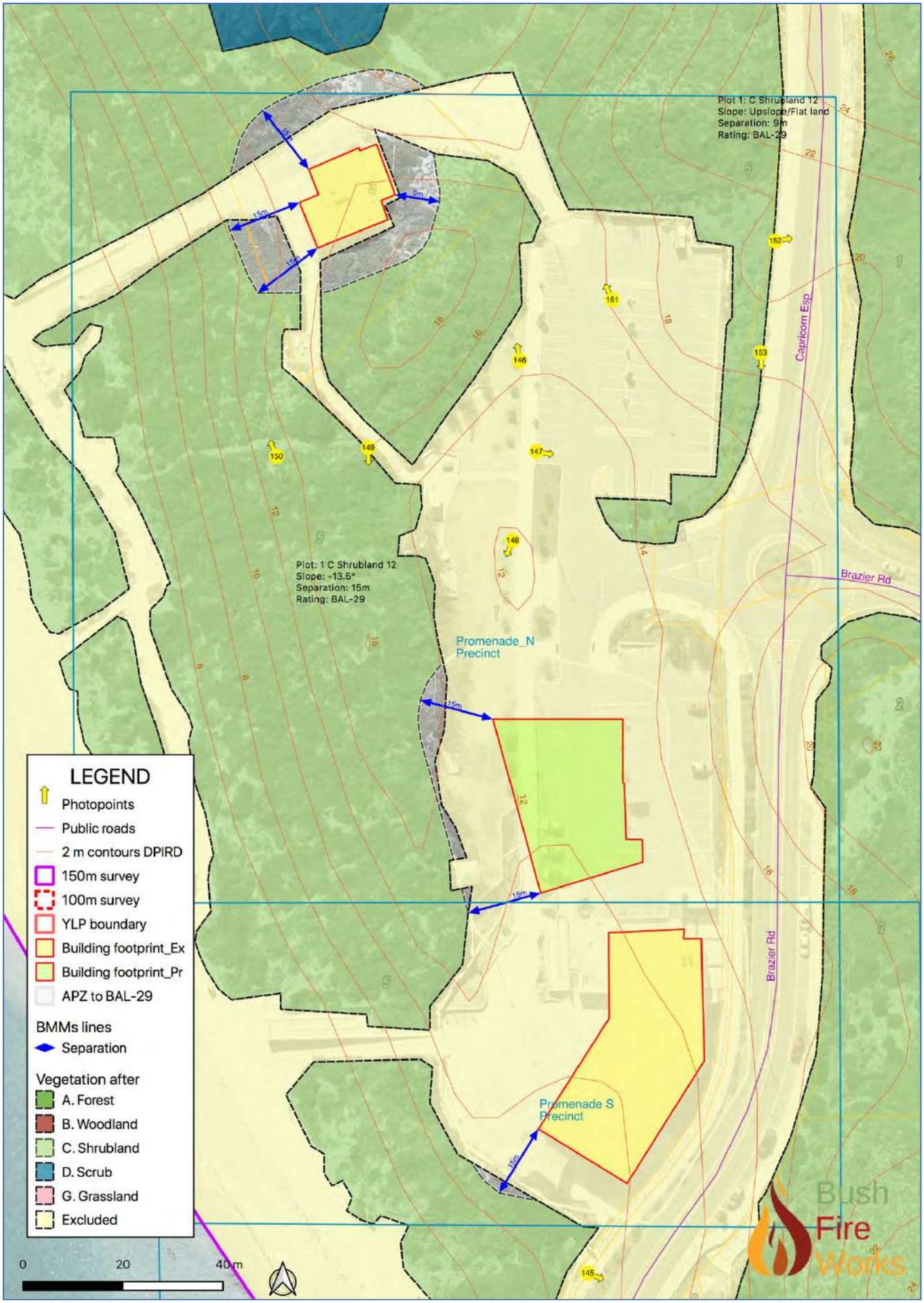


Figure 3 Classified vegetation (AS3959) after development – Promenade precinct N

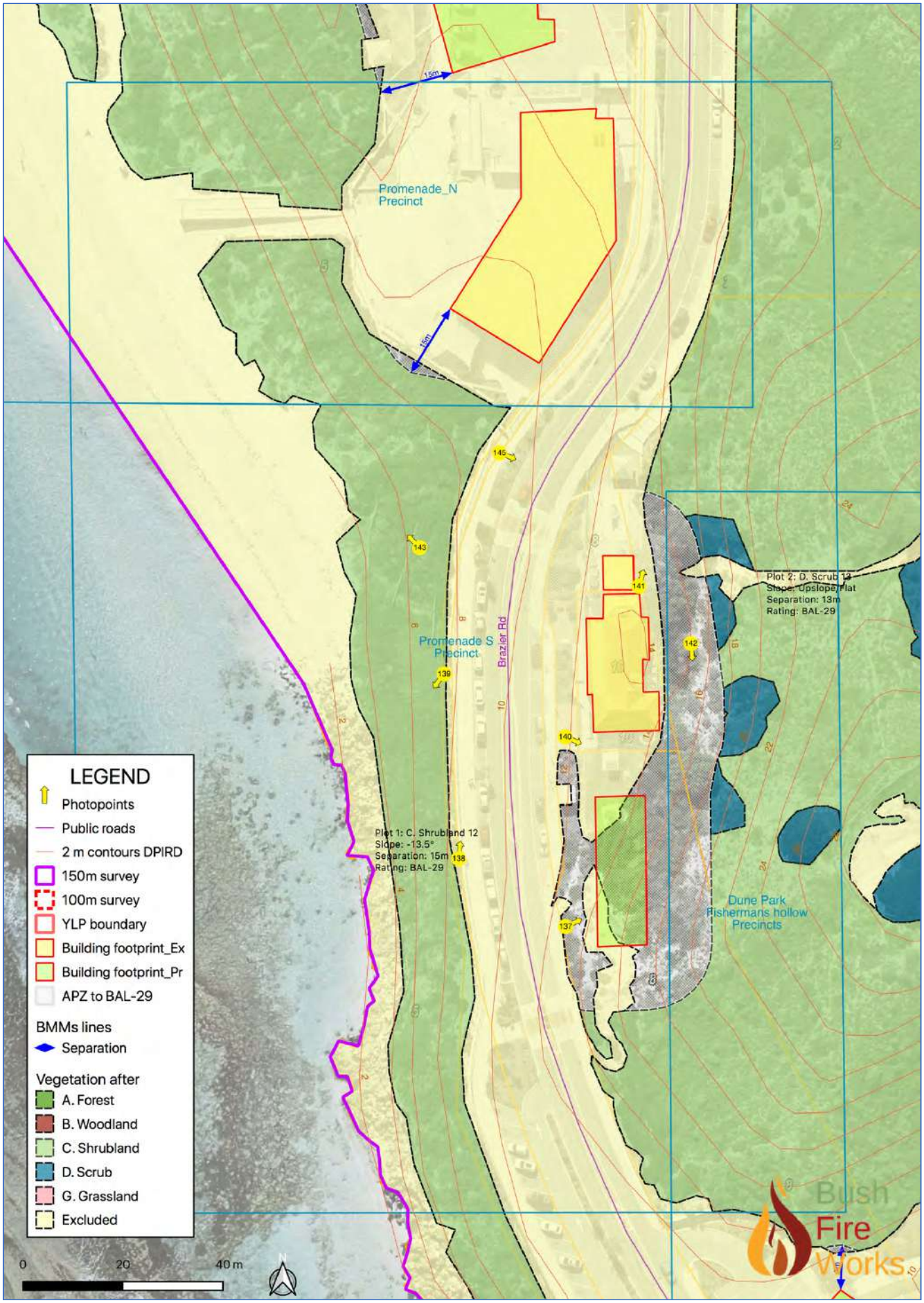


Figure 4 Classified vegetation (AS3959) after development – Promenade precinct S

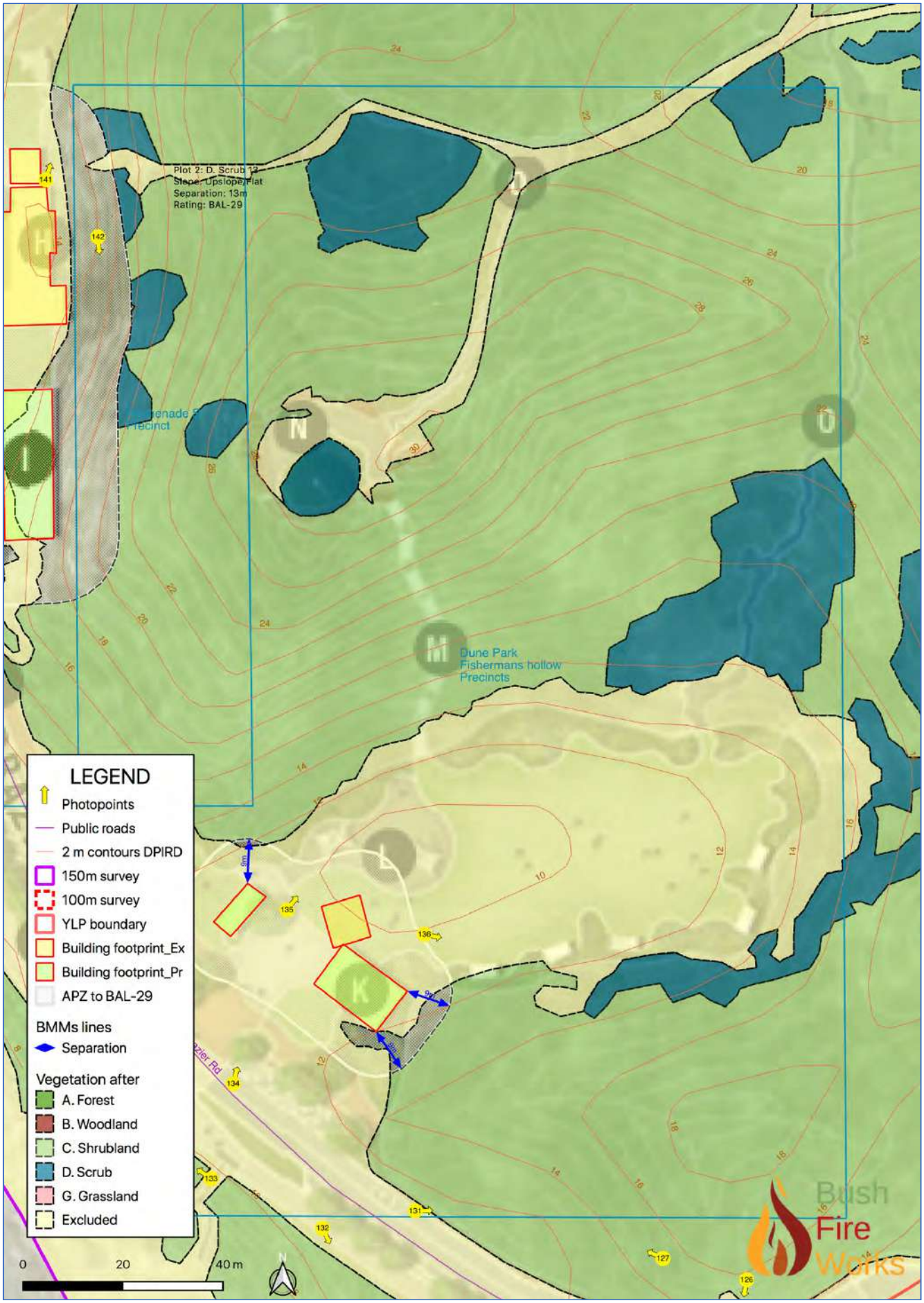


Figure 5 Classified vegetation (AS3959) after development – Dune Park, Fisherman's Hollow

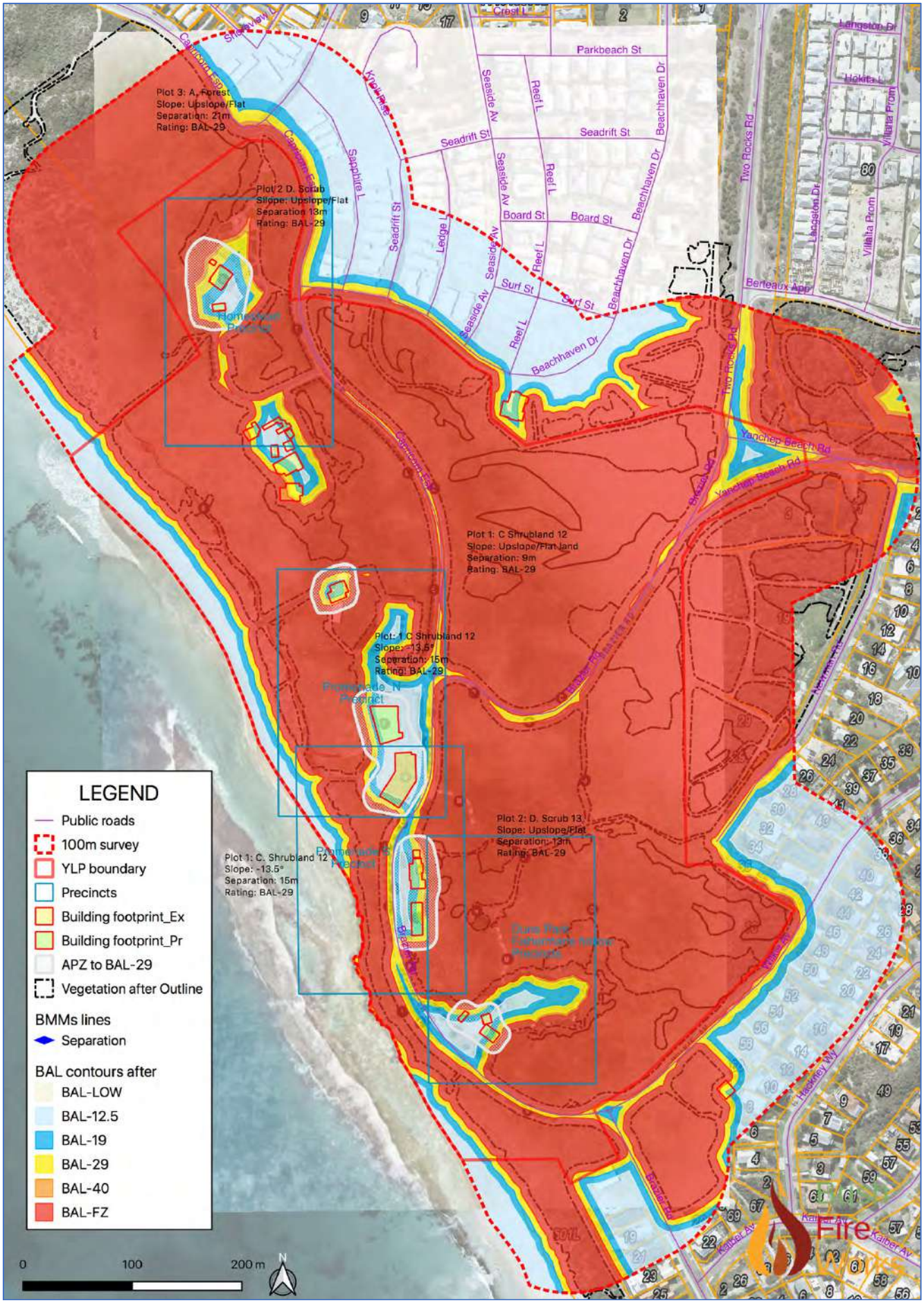


Figure 6 BAL contours after development with APZs to ≤BAL-29

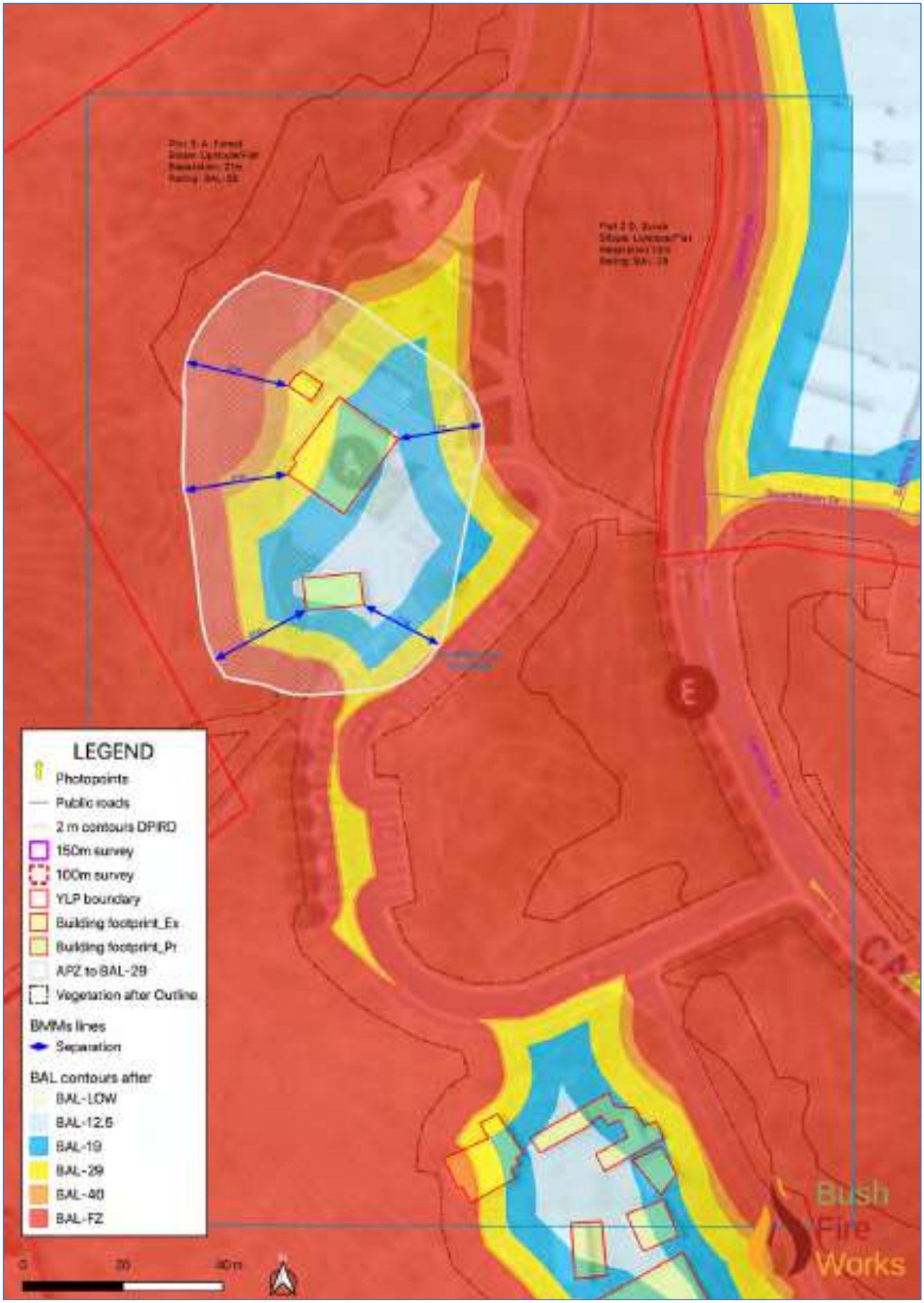


Figure 7 BAL contours after development with APZs to ≤BAL-29 – Homestead precinct

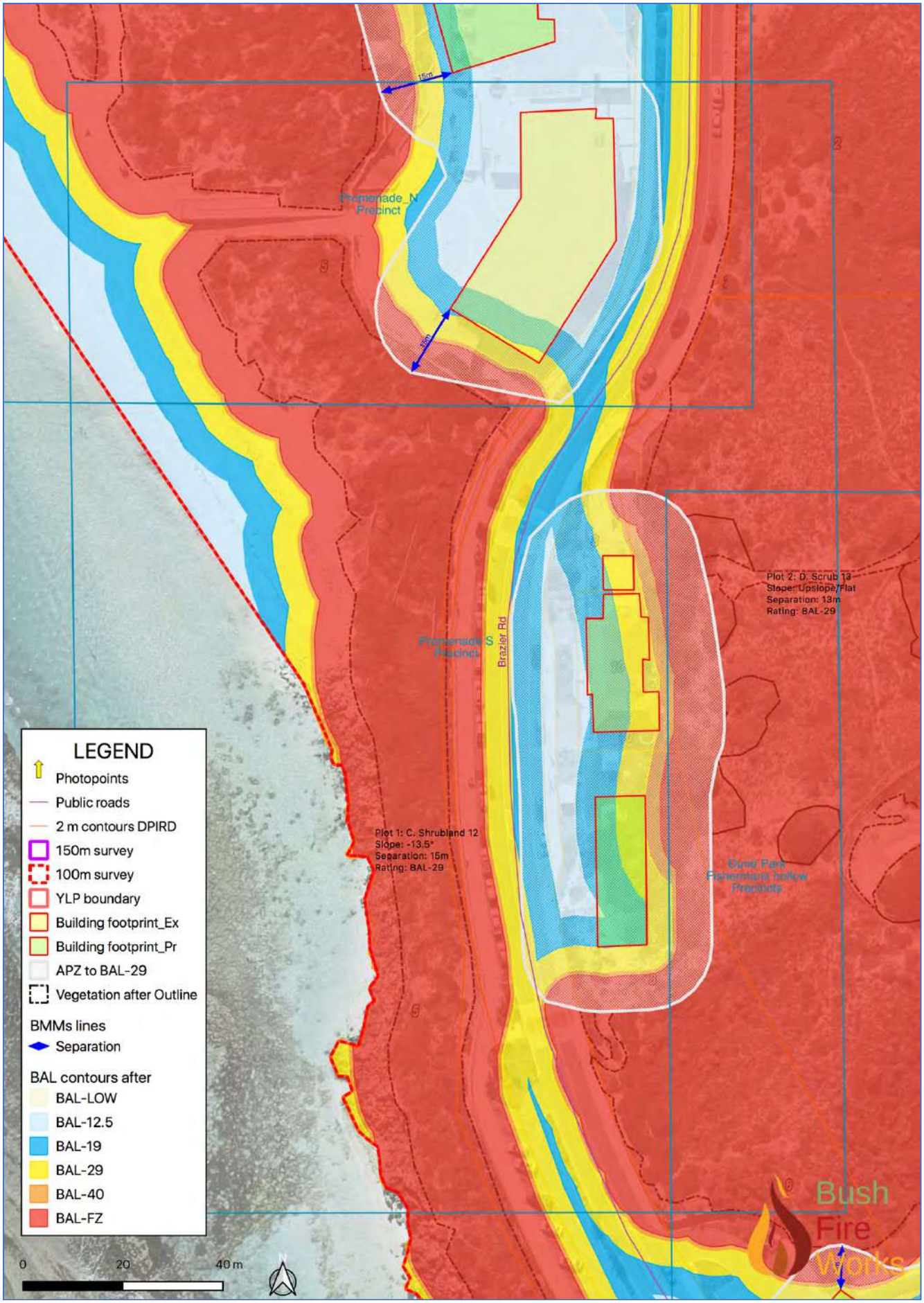


Figure 8 BAL contours after development with APZs to ≤BAL-29 – Promenade precinct N

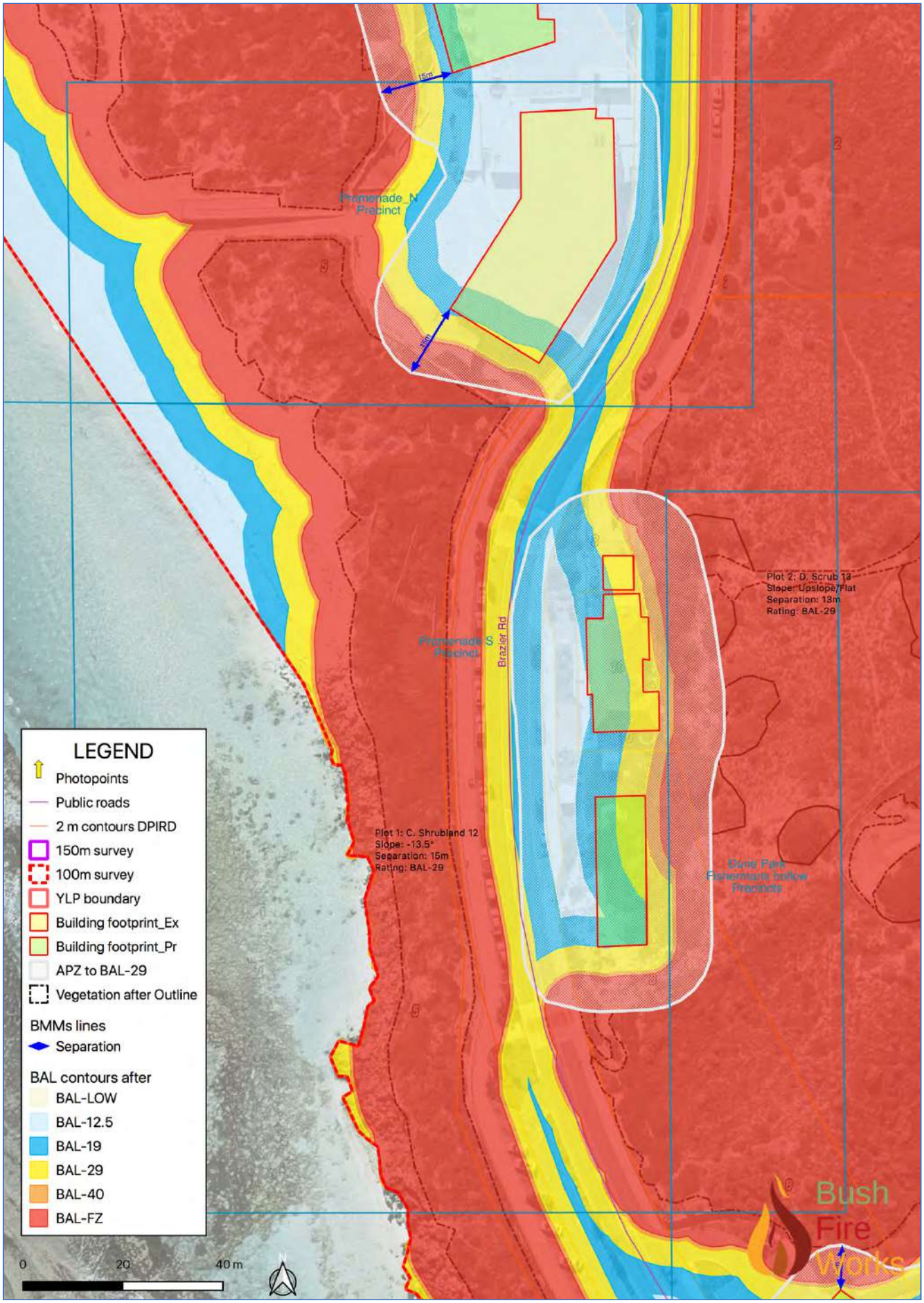


Figure 9 BAL contours after development with APZs to ≤BAL-29 – Promenade precinct S

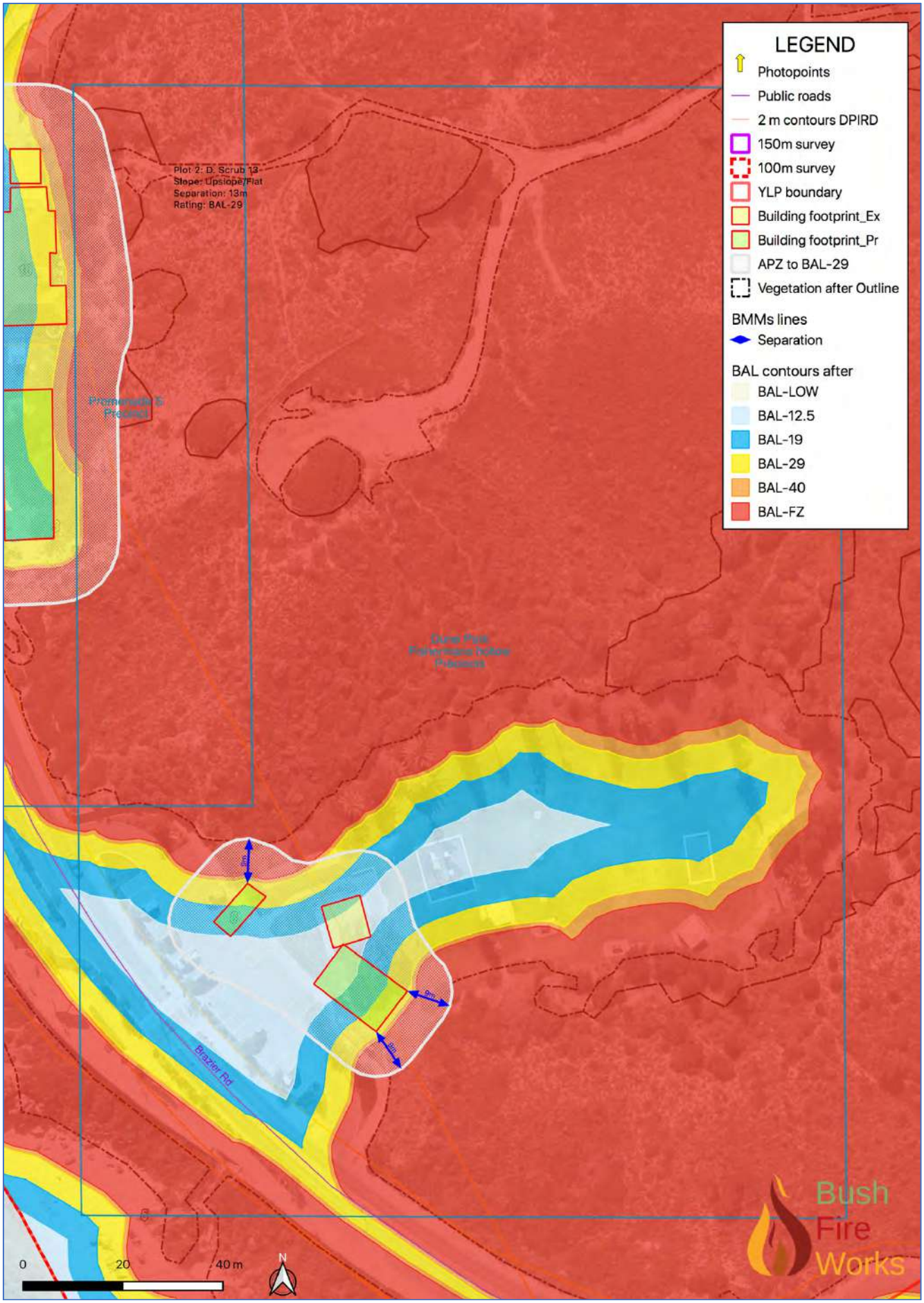


Figure 10 BAL contours after development with APZs to ≤BAL-29 – Dune Park, Fisherman's Hollow

Technical Note

Project: Yanchep Lagoon Preliminary Foreshore Management Plan

Subject: Preferred Transport and Access Approach

Client:	UDLA	**Version:**	005-A
Project No:	08024	**Author:**	Tim Judd
Date:	08/11/2024	**Approved:**	Tim Judd

The following information is provided as a collation of all previous technical work undertaken by PJA provided to the project team through a series of technical notes. These being:

- 08024_TN_001_A_Strategic Transport Approach – July 2024
- 08024_TN_002_A_Strategic Transport Approach Stage 1 Summary Only - August 2024
- 08024_TN_003_A_General Traffic and Parking Advice – October 2024
- 08024_TN_004_A_Strategic Transport Approach PFMP – November 2024

1 Yanchep Lagoon Masterplan – Transport and Access Strategy

A review of the *Draft Transport and Access Strategy (TAS) for the Yanchep Lagoon Masterplan* provides the following **opportunities** for development of the Yanchep Lagoon area.

a Utilising existing informal path networks.

b Short walking distances support active travel.

c Promoting public transport access via the Yanchep Train Station, and lobbying PTA for service improvements to existing bus services.

d Considering a transport hub in a more central location within 'The Settlement/SLSC'.

e Shuttle bus operation within the YLP.

f Implementing a Pedestrian Priority Zone as soon as practical to enforce the pedestrian importance along Brazier Road south of the Brazier Road / Capricorn Esplanade roundabout.

g Undertaking staged closures of Brazier Road along the Promenade to familiarise visitors to the YLP with the idea of a fully pedestrianised space in that location, with a view to lengthier periods of closure during peak times.

LOCATION Quay Perth
18 The Esplanade
Perth
WA 6000
Australia

TELEPHONE +61 370 330 210
EMAIL contact@pja.com.au

WEBSITE pja.com.au

h Encouraging existing parking facilities at the Homestead and Rancho Relaxo Park through the use of parking restrictions in more central locations.

i Providing opportunities to take advantage of advances in transport technology through the provision of charging infrastructure for electrified modes.

1.1 Refinement of Precinct Access Components

The TAS seeks to **prioritise pedestrian movements** and reduce car dominance within the YLP. Recommendations include:

a Develop key shared path connections for both north-south and east-west routes.

b Develop walking trails from informal walking trails along degraded sections within appropriate areas of vegetation.

c Implement a staged road closure on Brazier Road south of the SLSC to create an attractive pedestrian safe area.

d Supporting infrastructure such as bike racks and water fountains and wayfinding.

e Policy frameworks to support increases in uptake of personal electrified transport modes as appropriate.

f Public Transport within the YLP is minimal, the TAS proposes a staggered approach for the implementation of infrastructure and facilities which support increased use of this form of transport. Key implementation measures include shuttle bus service trial to the newly constructed Yanchep train station.

g Develop centralised transport hub that can accommodate the proposed shuttle bus and/or PTA bus services in addition to on-demand transport and drop off / pick up bays.

h Encourage and support the use of existing PTA services to the YLP through wayfinding from, and upgrades to bus stops.

The TAS seeks to provide sufficient **decentralised car parking** facilities and to reduce the perception of vehicle dominance in the YLP. Key implementation measures include:

- Gradual reduction in car parking bays within the central car park at 'The Settlement/SLSC' associated with higher uptake of peripheral car parks.
- Develop car parking management plan to increase usage to peripheral car parks through parking demand management tools and wayfinding.

The opportunities for transport improvements for the Yanchep Lagoon are depicted within Figure 1.

Figure 1: Proposed TAS refinement of the transport network for Yanchep Lagoon



2 Existing Car Parking for Yanchep Lagoon

The TAS provides data on both the existing and proposed parking requirements for the Yanchep Lagoon.

Yanchep Lagoon has **three main off-street** car parking areas; the main Yanchep Lagoon car park located adjacent to the Brazier Road / Capricorn Esplanade (Central Car Park) intersection **and two Secondary car parks** located to the north (The Homestead) and to the south (Rancho Relaxo Park / Dune park). The number of bays and related parking restrictions for each location are detailed within the TAS as below:

- Northern Homestead car park
  - facilitates 52 car parking spaces (2 disabled)
  - facilitates 6 motorcycle spaces
  - No time restrictions
- Central Surf Lifesaving Club car park
  - Facilitates 131 car parking spaces (2 disabled)
  - Facilitates 1 loading zone
  - No time restrictions
- Southern Rancho Relaxo Park / Dune park car park
  - Facilitates 46 car parking spaces (2 disabled)
  - No time restrictions

There is also street parking (42 bays) provided along Brazier Road south of the Brazier Road / Capricorn Esplanade roundabout along the foreshore. On busy days, informal parking can be observed along Capricorn Esplanade, and towards the Brazier Road/Two Rocks Road intersection. Due to some of the findings of the vegetation survey, these parking practices are to be discouraged, particularly in areas of vegetation significance. As above, the existing parking supply at the YLP currently is approximately 277 bays (including 6 motorcycle bays and 1 loading bay).

UDLA has provided an existing site parking review for Yanchep Lagoon, presented in Figure 2 this provides the same information as detailed within the TAS.

Figure 2: Existing Site Parking, Yanchep Lagoon, UDLA (July 2024)



3 Flora and Vegetation Survey

A Flora and Vegetation Survey undertaken by One Tree Botanical in January 2020 details the areas of Vegetation Condition. This is illustrated in Figure 3 (taken from the TAS).

The areas in purple are high quality vegetation that should be preserved. The blue areas are noted as 'very good' vegetation. This indicates areas of vegetation that need to be retained and not removed for road or car parking requirements.

Figure 3: Vegetation Condition Map



4 Preferred Transport and Access Approach

A Preliminary Foreshore Management Plan (PFMP) has been developed following review of all previous studies, including the Flora and Vegetation study, Economic Analysis, previous Masterplan and TAS.

The proposed concept design is provided in Figure 4 illustrating a lighter touch approach to transport and access when compared to the original masterplan proposal.

The approach for transport and access for the PFMP takes key elements from the TAS aiming for a very walkable and safer transport environment. The approach to transport is to:

- Prioritise pedestrian and active travel - reducing car dominance within the PFMP:
- Provide safe (wide and well lit), shaded with street trees and connected footpaths to/from all foreshore destinations and proposed off-street and on-street car parking areas.
- Creating a slower speed environment on all streets (30km/hr operating speed is the goal) for all traffic.
- Undertaking staged (one-way flow to full closure) of Brazier Road south of Capricorn Esplanade. The creation of a one-way road on Brazier Road south of Capricorn Esplanade will create an attractive pedestrian priority area, that could ultimately become a fully closed section of Brazier Road in the future if desired.
- Additional shared path to run along the length of Brazier Road from Yanhep Beach Road to Capricorn Esplanade.
- Supporting infrastructure such as bike racks and water fountains and wayfinding will also be provided.

4.1 Low Impact Car Parking Improvements

The key approach for car parking for the PFMP include:

- Central off-street car park at the surf-life saving club to remain at its current capacity.
- Increasing capacity at the northern off-street car park at Mary Lindsay Homestead.
- Providing additional, formalised on-street parking throughout the precinct along road edges.
- Providing opportunities to take advantage of transport technology through the provision of active parking signage and charging infrastructure for electrified modes. “Active Parking” Signage Strategy is recommended to be embedded as a requirement to future developers

(or other parking availability technology measures) to enable drivers to know where to go for parking (north or south) to prevent circulating around the lagoon.

- The existing parking within the foreshore area is approximately 277 car bays in both on-street and off-street locations. Within the current concept design (presented in Figure 4), PFMP proposes more on-street parking for the area with the number of parking bays (on and off street) proposed is approximately 382 (277 existing + 105 net new).

4.1.1 Suitability of Car Parking provision

Additional proposed development within the Yanchep PFMP has been reviewed to establish a preferred overall floor space yield. This is presented within Table 1.

Table 1: Preferred Floorspace Option Achieved in Plan

Floorspace category	Achieved in plan	+ Car Bays (COW Scheme 2)
Accommodation	0m2 NLA (0 keys)	0m2 (0 bays)
Food and Beverage	1520m2 NLA Notes: • GFA 2,175m2 at 70% conversion • Inclusive of Dome and existing Café, inclusive of internal area and Al Fresco	8512m2 (304 bays)
Shop/Retail	760m2 NLA Notes: • GFA 650m2 – This is the immediate kiosk areas plus the 550m2 gathering space minus 100m2. • Plus 210m2 (based on 300m2 GFA at 70% conversion). • Local deli / shop – complimentary w/ other retail / food uses	1,484m2 (53 bays) Notes: • Upper end of range based on total area allocation
Gallery	140m2 NLA Notes: • GFA 200m2 at 70% conversion	280m2 (10 bays)
TOTAL APPROX	**2,420m2 NLA**	**10,276m2 (367 bays)**

Along with preferred gross floor area, Table 1 also illustrates how much car parking would traditionally be provided for each land use category based on City of Wanneroo District Planning Scheme No.2 (DPS No.2).

However, the Department of Planning, Lands and Heritage (DPLH) have noted that Yanchep Lagoon Foreshore masterplan area can set the parking strategy such that it replaces any town planning requirements the City may have. This position is welcomed by the project team as it allows the Lagoon Foreshore to adopt the Visioning Principles of a 'light touch' development approach.

Notwithstanding the advice from DPLH, Table 1 proposes the number of parking bays that would be provided within the Yanchep Lagoon Foreshore masterplan area (under City of Wanneroo District Planning Scheme No.2) to be 367 car parking bays.

As noted previously, the current concept design for the PFMP proposes 382 car parking bays, this being the existing 277, plus an additional 105 new car parking spaces. This suggests that the proposed land use yields under the preferred concept still meets the City DPS No.2 minimum parking requirements for the masterplan area and, is in keeping with the overall aim to ensure balanced accessibility for people driving, people catching public transport, people riding and people walking to the foreshore.

4.2 Public Transport

Public Transport within the precinct is currently minimal. The City will work with State Government for the implementation of infrastructure and facilities which support increased use of bus transport between PFMP and the newly opened Yanchep Railway Station.

It is proposed to explore the potential for a centralised transport hub that can accommodate a proposed shuttle bus and/or PTA bus services in addition to on-demand transport and drop off / pick up bays.

Figure 4: Proposed Concept Design (UDLA, November 2024)



5 Additional Detailed Information

During the development of the PFMP concept design, advice has been sought from PJA on the preferred lane widths for Brazier Road and Capricorn Esplanade. This advice has been previously provided within PJA Technical note *08024_TN_003_A_General Traffic and Parking Advice* and is replicated below.

Lane widths for transport is primarily determined by the primary vehicle type likely to be using the section of road, along with the proposed traffic speed and topography (such as curves) within the road. While a lane width of 3.5m is standard practice within WA, narrower lanes can be considered within low-speed environments or where minimal large truck traffic is expected[1].

In addition, *Department of Transport, Planning and Designing for Active Transport in WA, Providing for Bike Riding in Local Area Traffic Management Schemes* notes that for individual LATM devices, and short sections of physically constrained lanes (i.e., kerbed medians), treatments should be designed that do not allow people driving to overtake people riding when travelling through the treatment. To reduce the risk of people driving attempting to overtake people riding, this guide suggests maximum 3 m (3.2 m on bus routes) lane widths within a LATM device.

As the proposed Yanchep Lagoon Foreshore design is for a slow speed, safer environment encouraging those that want to, to ride on-road mixing with slow moving vehicles, it is recommended that traffic lane widths are provided as follows:

- Capricorn Esplanade – 3.0m lanes in both directions, noting, a minimum 0.8m buffer zone between traffic lane and proposed on-street parking to prevent 'dooring' accidents. Traffic lanes may need to be widened slightly around curves as needed (it is noted the current road width is approximately 7.4m).
- Brazier Road (from Yanchep Beach Road to Capricorn Esplanade) – 3.5m lanes in both directions as this will likely be the primary bus access to the foreshore from the wider Yanchep area.
- Brazier Road (proposed one-way section south of the roundabout with Capricorn Esplanade) – 3.0m lane with additional buffer area (suggest 0.5m minimum) between edge of the traffic lane and proposed angled parking and 0.8m buffer zone between traffic lane and proposed on-street parallel parking to prevent 'dooring' accidents.

[1] Austroads Guide to Road Design Part 3: Geometric Design

- Brazier Road (between proposed one-way section and intersection with Wilkie Avenue) – 3.0m lanes with additional buffer area (suggest 0.5m minimum) between edge of the traffic lane and proposed on-street angled car parking and 0.8m buffer zone between traffic lane and proposed on-street parallel parking to prevent 'dooring' accidents.

City of Wanneroo



YANCHEP LAGOON
PRELIMINARY FORESHORE MANAGEMENT PLAN (PFMP)
ENGAGEMENT REPORT

UDLA

TABLE 1. EDITION DETAILS

PROJECT NAME	
Title	RFT #24044 YANCHEP LAGOON PRELIMINARY FORESHORE MANAGEMENT PLAN (PFMP)
Production Date	8/11/2024
Prepared By	UDLA
Author	Janine Ghiotto
Status	DRAFT
UDLA Project Code	WANYL

TABLE 2. DOCUMENT REGISTER

DOCUMENT REGISTER			
Version	**Date**	**Amendments**	**Prepared By**
DRAFT	8/11/2024	Issued for client review	JG
A	10/12/2024		

Prepared for: City of Wanneroo

Prepared by: UDLA

Contact: Scott Lang
Position: UDLA Director
Phone: (08) 9336 7577
Email: scott@udla.com.au

LEVEL 2, ATWELL ARCADE, 3 CANTONMENT ST,
FREMANTLE, 6160 WA
HELLO@UDLA.COM.AU | (08) 9336 7577



YANCHEP SITE PHOTO JUNE 2024

We acknowledge the Whadjuk and Yued People as the Traditional Owners of the land on which the Yanchep Lagooon stands today. We pay respect to the Whadjuk and Yued People, and Elders both past and present whose knowledge and wisdom has and will ensure the continuation of cultural and traditional practices.

CONTENTS



YANCHEP SITE PHOTO JUNE 2024

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1.0 ENGAGEMENT APPROACH



1.1 PARTICIPATORY DESIGN APPROACH

As outlined in the Engagement Plan (Rev A) issued in August 2024, involving key government stakeholders and community members with the design process for the Preliminary Foreshore Management Plan (PFMP) allows the City of Wanneroo (CoW) to manage expectations for the project over the next few years. It also ensures that the PFMP document considers governance and approvals frameworks and thus supports the delivery of the project.

The importance of community involvement in the urban design process has been widely documented, with recommendations for good participation practice outlined as follows:

- Identifying and involving the right people from the outset;
- Use of community development approaches which start with local people and address their concerns they identify about their area, involving them in solutions;
- The need to ensure both community and government stakeholders have genuine influence over decisions;
- The need to work with local activists, but not exclusively so, and to build democratic processes which involve them and other residents;
- The value of generating early, visible success to build confidence in the participation process; and
- The need to communicate regularly and clearly – there shouldn't be hiatuses in communication.

The previous engagement in 2019 for the Masterplan enjoyed significant interest from the community however, it became evident in the first community workshop held for the PFMP that community sentiment was rather negative. Attendees expressed frustration about the lack of progress and appeared genuinely concerned about the future of the project. Given this, strong emphisis was placed on egaining trust with the community through clear communication throughout the engagement process and transparency about next steps.

The delivery of the three workshop series also implemented the following steps as described in the Engagement Plan (Rev A) issued in August 2024:

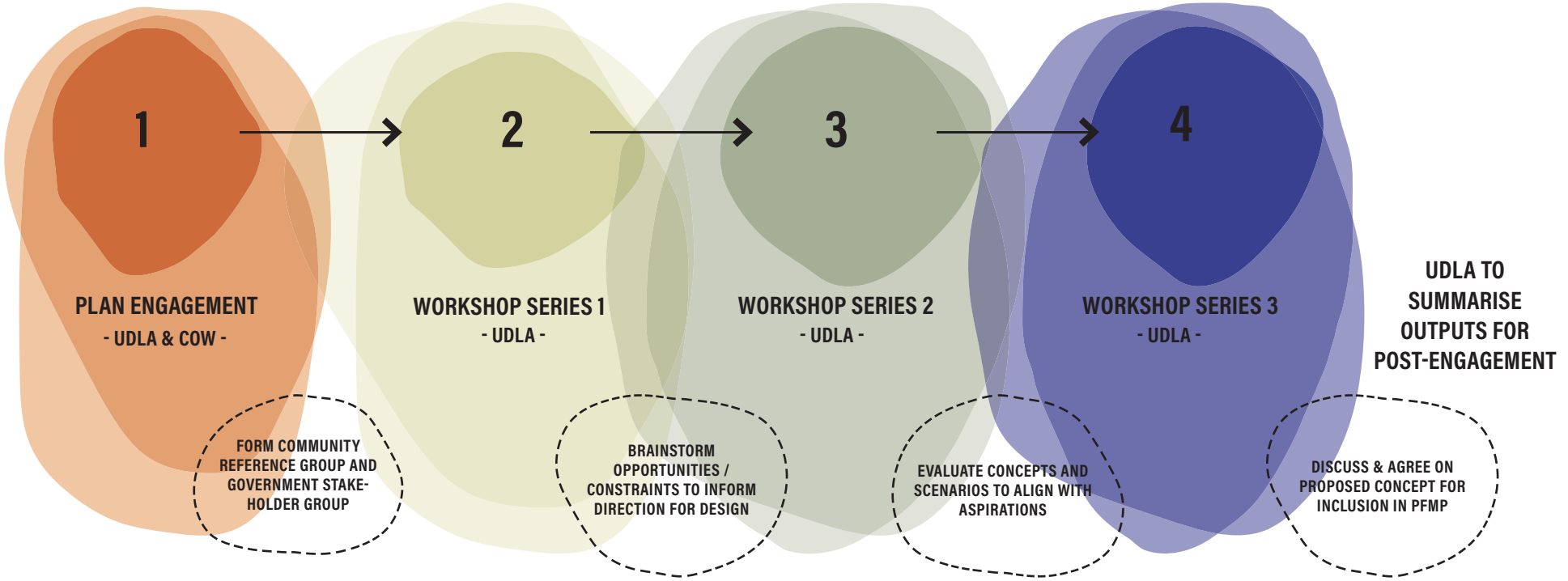
1. Acknowledge that the project is community-led and thus must involve and centre the right people from the outset: *This was achieved through the establishment of a Community Reference Group, following an EoI process.*
2. Reiterate the vision and place principles identified during the Masterplanning stage which ensure the PFMP balances strategic aspirations with community expectations and protects the unique qualities of the site: *This was achieved through in-depth evaluation of the 2019 Masterplan in Workshop Series 1*
3. Ensure participants have genuine influence over decisions: *This was achieved through designated "Recap" points at each workshop*
4. Acknowledge the value of generating early, visible success to build confidence in the participation process: *This was achieved through a review of the engagement at the final workshop*
5. Provide training for people where appropriate to assist their participation: *This was achieved through inclusive language, issue of agenda etc.*
6. Apply a range of meeting formats and tools that suit various groups: *This was achieved by offering face to face and dial-in options*
7. Use and strengthen of local resources: *This was partially achieved by holding one workshop at a venue close to Yanchep (limited availability was a constraint)*

Upon conclusion of the engagement, community members reflected positively on the design process and expressed interest in further involvement. Following the PFMP process, the focus should be the two additional setps to maintain positive community sentiment.

8. Commit to communicate regularly and clearly – there shouldn't be hiatuses in communication; and,
9. Coordinate project and CoW communications to make participation "stick".

Engagement with government stakeholders was generally positive and well received and resulted in general support for the current design to form the basis for the PFMP.

1.2 ENGAGEMENT STEPS



KEY STEPS

- Identify the right people from within the community and the government agencies / CoW.
- Agree on workshop format(s) and schedule workshops
- Prepare material for workshop series 1.

KEY STEPS

- Confirm design principles
- Conduct brainstorm activities to identify opportunities / constraints for the concept design
- Summarise output for design team and develop concept options for workshop series 2.

KEY STEPS

- Discuss design concepts and best practice examples
- Identify strengths & weaknesses for each scenario
- Summarise output for design team and refine & iterate concept options for workshop series 3

KEY STEPS

- Evaluate the proposed concept based on Workshop 2 findings.
- Consolidate feedback and agree on preferred direction
- Document consensus, including next steps to finalise design, and share with design team.

Note:
The co-design workshops have complemented fortnightly meetings with the CoW Project Team, chaired and minuted by UDLA who will have distributed relevant input from stakeholders to subconsultants.

1.3 PLANNING CONSIDERATIONS

LOCATION

Community Stakeholders (Group 1)
- Workshops 1 & 3: CoW Premises.
- Workshop 5: Phil Renkin Community Centre, Two Rocks.

Government Stakeholder (Group 2)
- Workshops 2, 4, & 6: Hames Sharley Studio, Perth CBD.

ATTENDEES

The following groups were invited to inform the PFMP process, with the engagegement delivered as a two-stream series consisting of 3 workshops each (total of 6 workshops).

Community Stakeholders Group (Group 1)
A Reference Group was established by CoW via a public Expression of Interest (EoI) process ahead of Workshop 1. The group consisted of 15 members of the Yanchep Community, most of whom attended all 3 workshops (1, 3, & 5).

Government Stakeholder Groupc (Group 2)
The following government agencies were invited to the workshops:
- Department of Planning, Lands and Heritage (DPLH).
- Environmental Protection Authority (EPA).
- Department of Transport (DoT).
- Perth Transport Authority (PTA).
- Department of Biodiversity, Conservation and Atttractions (DBCA).
- Main Roads WA (MRWA).
- Department of Water and Environmental Regulation (DWER).
- Tourism WA.

Representatives from DPLH (Land Use Planning, Coastal and Bush Forever divisions) and DoT were present at all 3 workshops.

Design Team
The team comprised 3 persons from UDLA (Lead Consultant) and 1 person from Hames Sharley (Architecture & Planning), who faciliated all 6 workshops and reported on the outcomes to CoW after each workshop. Hames Sharley were present at Workshops 2, 4, & 6.

CoW Project Team
The team comprised 2 persons from the City of Wanneroo who are involved with the delivery of the project and were nominated by the project manager Ian Ireland. Additional staff was brought in to support the workshop delivery for Workshops 5 & 6.

Attendee details for each workshop can be found in the Appendices.

TIMEFRAME

Each workshop series comprised a 2.5 hr session for each group, delivered on different days with Group 1 workshops being delivered first to relay community sentiment to government.

COMMUNICATIONS

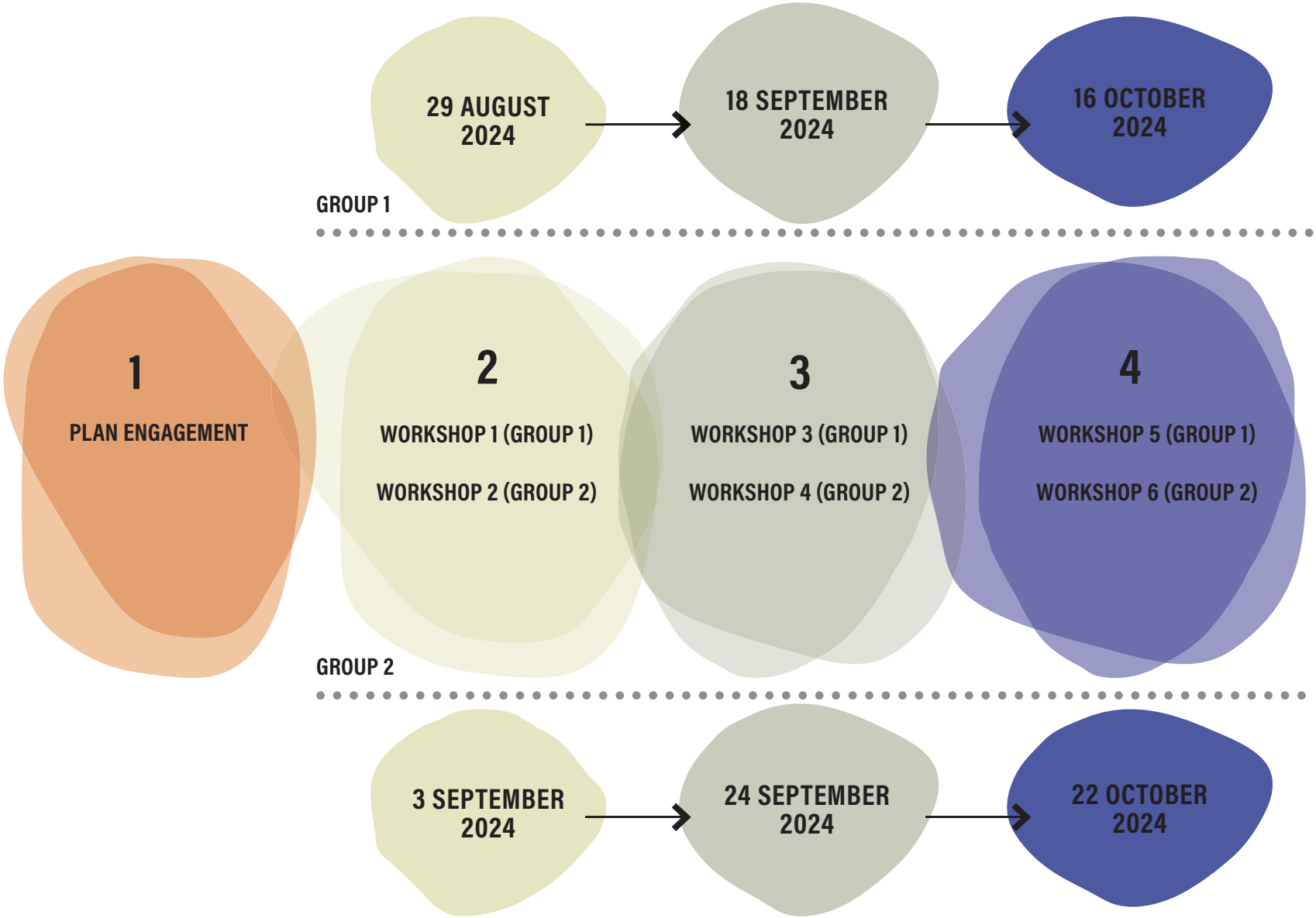
As outlined in the Engagement Plan, UDLA worked with the City to support digital engagement, advertising and general communications as follows:

Pre-Engagement
- Draft key messages and consultation objectives.
- Advise on Expression of Interest (EoI) for the Community Stakeholder Group.
- Prepare engagement material (1x set) incl. agenda.

Engagement
- Facilitate workshop(s) as per agenda.
- Capture highlights from the day (ie. photography).
- Refer to any ongoing CoW-led activities (ie. "Your-Say" page) to expand reach of engagement.

Post-Engagement
- Summary of engagement outputs (minutes).
- Facilitate consideration of output in studies, reports, and documentation.
- Final Engagement Report (this document), including any updates to this strategy.

1.4 ENGAGEMENT PROGRAM



2.0 WORKSHOP SERIES 1 - OPPORTUNITIES & DIRECTIONS



2.1 COMMUNITY STAKEHOLDERS (WORKSHOP 1)

AIM:

- To recap on outcomes of previous engagement.
- To confirm vision and design principles.
- To identify opportunities & constraints for concept design (community perspective), across all sub-precincts.
- To gain community insights to inform direction for the project.

AGENDA:

An agenda was provided to attendees ahead of the workshop and followed the structure proposed in the Engagement Plan (adjacent diagram). A copy is provided in the Appendices.

FORMAT:

The workshop consisted of two parts; one being a presentation by the Design Team with comments invited from the stakeholder group and the other being an interactive session.

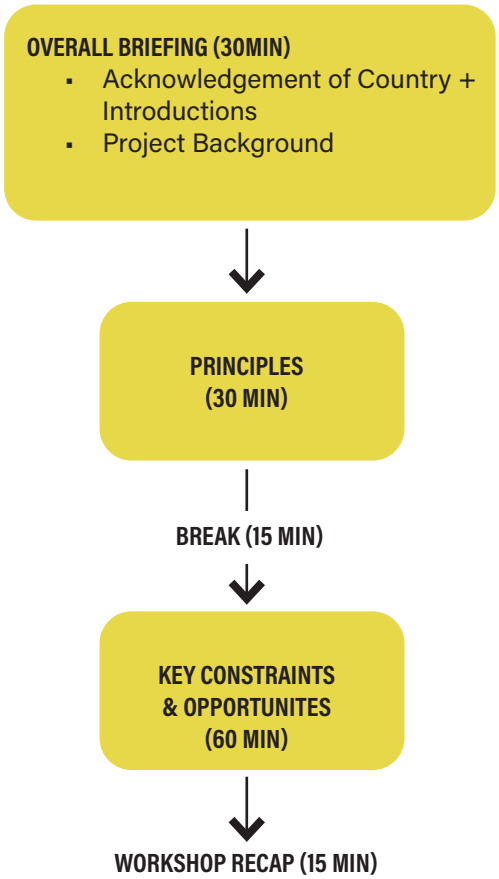
The role of the design team was to facilitate and listen carefully. The CoW Project Team arranged the venue and coordinated the invitations.

OUTCOMES:

The conversations on the day were captured in a summary document, a copy of which is provided in the Appendices. Key take-aways included:

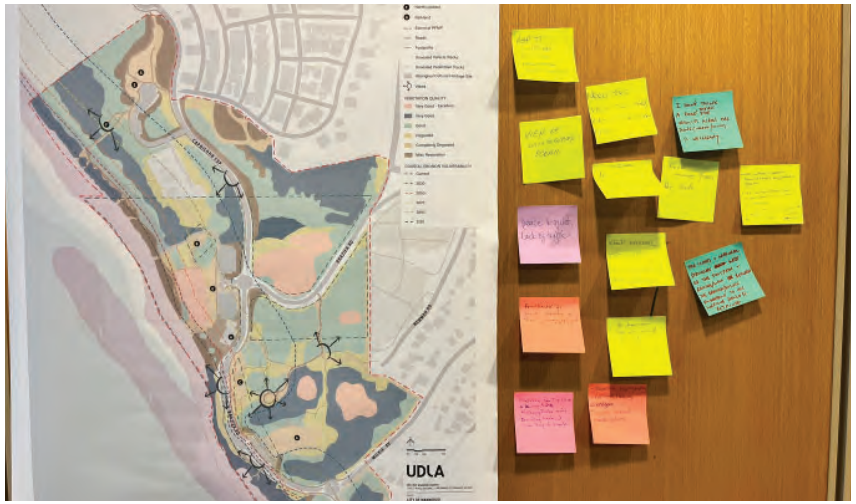
- Vision & Place Principles from 2019 Masterplan confirmed.
- Design Philosophy & Principles proposed for PFMP supported.
- Some intervention proposed in 2019 Masterplan (ie. road through Class A Reserve) not supported. Alternatives needed.
- Equitable access, protection of flora & fauna and place-sensitive design valued by community.

WORKSHOP 1 STRUCTURE



2.1 COMMUNITY STAKEHOLDERS (WORKSHOP 1)









COMMUNITY WORKSHOP AUGUST 2024

2.2 GOVERNMENT STAKEHOLDERS (WORKSHOP 2)

AIM:

- To recap on outcomes of previous engagement.
- To reiterate vision and design principles.
- To understand context of project.
- To identify opportunities & constraints for concept design (government perspective), across all sub-precincts.
- To set a strategic direction for the project.

AGENDA:

An agenda was provided to attendees ahead of the workshop and followed the structure proposed in the Engagement Plan (adjacent diagram). A copy is provided in the Appendices.

FORMAT:

The workshop consisted of two parts; one being a presentation by the Design Team with comments invited from the stakeholder group and the other being an interactive session.

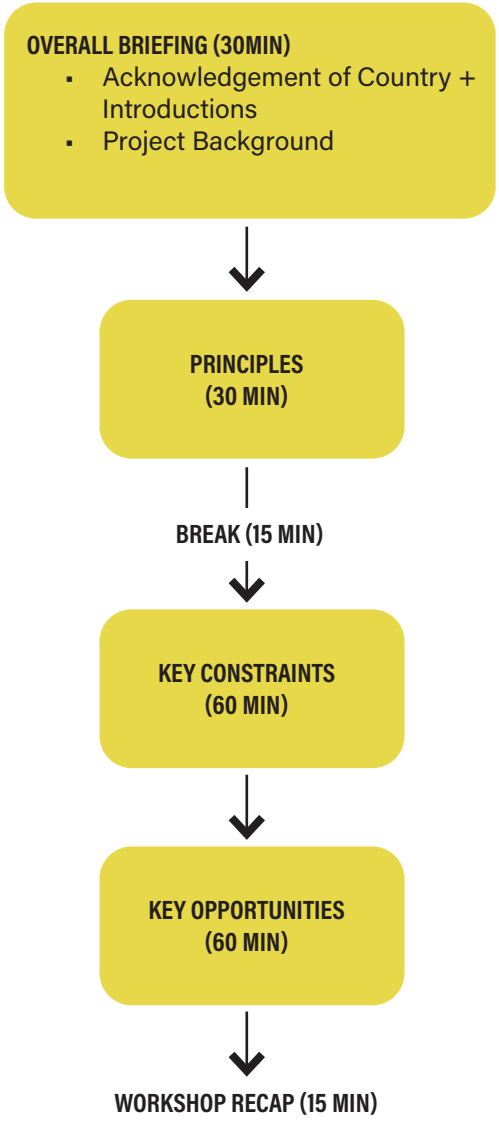
The role of the design team was to facilitate and listen carefully. The CoW Project Team coordinated the invitations with Hames Sharley providing the venue.

OUTCOMES:

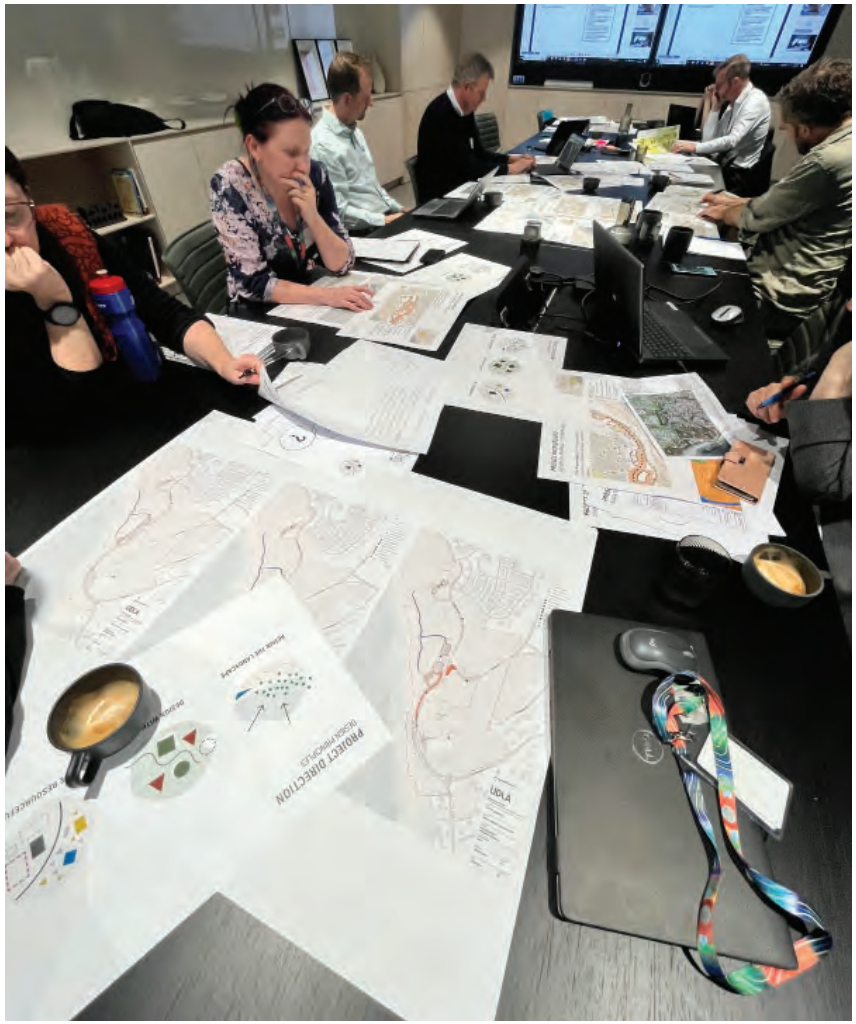
The conversations on the day were captured in a summary document, a copy of which is provided in the Appendices. Key take-aways included:

- Vision & Place Principles from 2019 Masterplan confirmed.
- Design Philosophy & Principles proposed for PFMP supported.
- Some intervention proposed in 2019 Masterplan (ie. road through Class A Reserve) not supported. Alternatives needed.
- Equitable access, protection of flora & fauna and place-sensitive design valued by community.

WORKSHOP 2 STRUCTURE



2.2 GOVERNMENT STAKEHOLDERS (WORKSHOP 2)







GOVERNMENT WORKSHOP SEPTEMBER 2024

3.0 WORKSHOP SERIES 2 - CONCEPT SCENARIOS



3.3 COMMUNITY STAKEHOLDERS (WORKSHOP 3)

AIM:

- To facilitate dialogue with critical government agencies.
- To review possible scenarios (3x per sub-precinct).
- To identify strengths & weaknesses of each scenario.
- To align scenarios with community aspirations.

AGENDA:

An agenda was provided to attendees ahead of the workshop and followed the structure proposed in the Engagement Plan (adjacent diagram). A copy is provided in the Appendices.

FORMAT:

The workshop consisted of two parts; one being a presentation by the Design Team with comments invited from the stakeholder group and the other being an interactive session where 3 scenarios were explored.

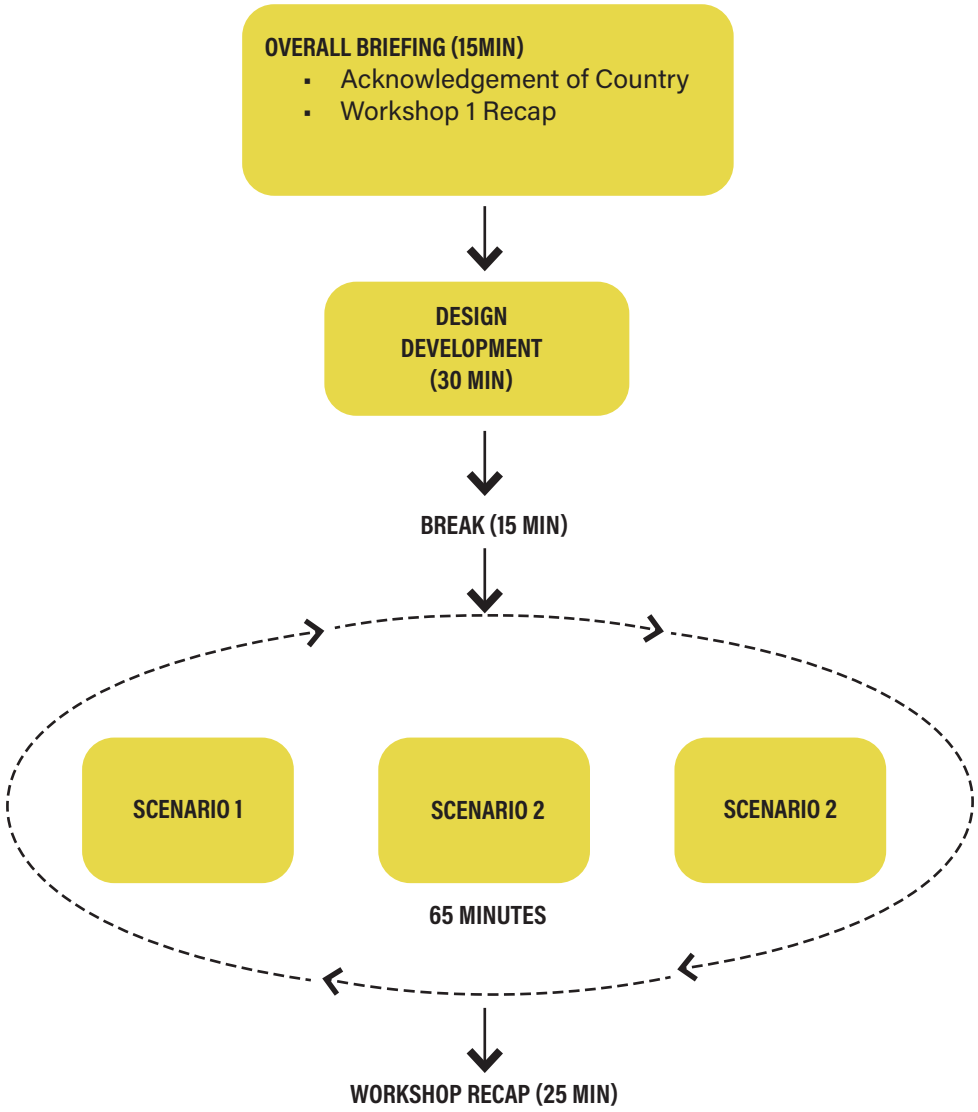
The role of the design team was to facilitate and listen carefully. The CoW Project Team coordinated the invitations with Hames Sharley providing the venue.

OUTCOMES:

The conversations on the day were captured in a summary document, a copy of which is provided in the Appendices. Key take-aways included:

- Of the 3 scenarios presented, Scenario 2 aligned best with the design principles. Scenario 1 (MP 2019) was not supported.
- Limited support for accommodation within the Foreshore.
- Appreciation for coastal processes and broad support for protection of dune.
- Group divided on modifications to Brazier; needs to be supported by data and design solutions need to manage traffic ("make it a proper boulevard").
- People should be prioritised over cars.
- Consensus that Fishermen's Hollow should be activated.

WORKSHOP 3 STRUCTURE



3.1 COMMUNITY STAKEHOLDERS (WORKSHOP 3)







COMMUNITY WORKSHOP SEPTEMBER 2024

3.1 GOVERNMENT STAKEHOLDERS (WORKSHOP 4)

AIM:

- To ensure continuity of engagement / support for project.
- To review possible scenarios (3x per sub-precinct).
- To identify strengths & weaknesses of each scenario.
- To align scenarios with government aspirations.
- To confirm government minimum requirements for the PFMP.

AGENDA:

An agenda was provided to attendees ahead of the workshop and followed the structure proposed in the Engagement Plan (adjacent diagram). A copy is provided in the Appendices.

FORMAT:

The workshop consisted of two parts; one being a presentation by the Design Team with comments invited from the stakeholder group and the other being an interactive session where 3 scenarios were explored. The interactive session was structured to focus on Environmental, Development and Transport & Access considerations and thus identify any areas of non-compliance / concern.

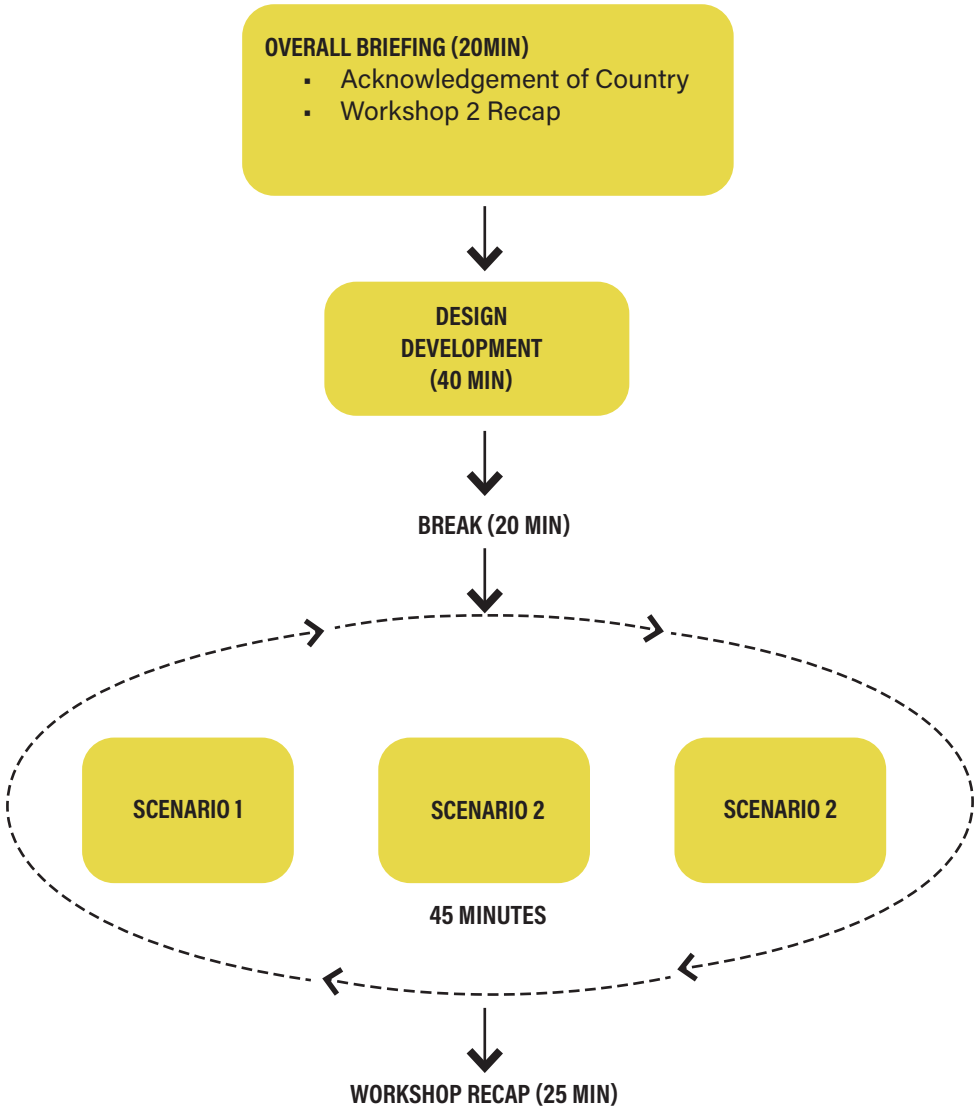
The role of the design team was to facilitate, support and listen carefully. The CoW Project Team coordinated the invitations with Hames Sharley providing the venue.

OUTCOMES:

The conversations on the day were captured in a summary document, a copy of which is provided in the Appendices. Key take-aways included:

- PFMP to define the preferred coastal management approach (CoW's current strategy for Foreshore is to "protect & defend" against coastal erosion).
- Short-term accommodation unlikely to be supported by DPLH.
- General support for dune conservation, trails within the Class A Reserve.
- Alternative Road adjacent to Class A Reserve a possibility for future.
- PSP required for both Brazier Road and Capricorn Esplanade (DoT).
- Support for transport approach (DoT).

WORKSHOP 4 STRUCTURE



3.1 GOVERNMENT STAKEHOLDERS (WORKSHOP 4)









GOVERNMENT WORKSHOP SEPTEMBER 2024

4.0 WORKSHOP SERIES 3 - AGREED DIRECTION



4.3 COMMUNITY STAKEHOLDER (WORKSHOP 5)

AIM:

- To evaluate the draft concept.
- To agree on a preferred direction.
- To document consensus on the direction.
- To update the community on the CoW Coastal Study.

AGENDA:

An agenda was provided to attendees ahead of the workshop and followed the structure proposed in the Engagement Plan with minor modifications to suit the direction for the project (adjacent diagram). A copy is provided in the Appendices.

FORMAT:

The workshop consisted of two parts; one being a presentation by the Design Team with comments invited from the stakeholder group and the other being an interactive session which afforded focussed conversations on select components of the proposed concept plan including key moves and the five sub-precincts.

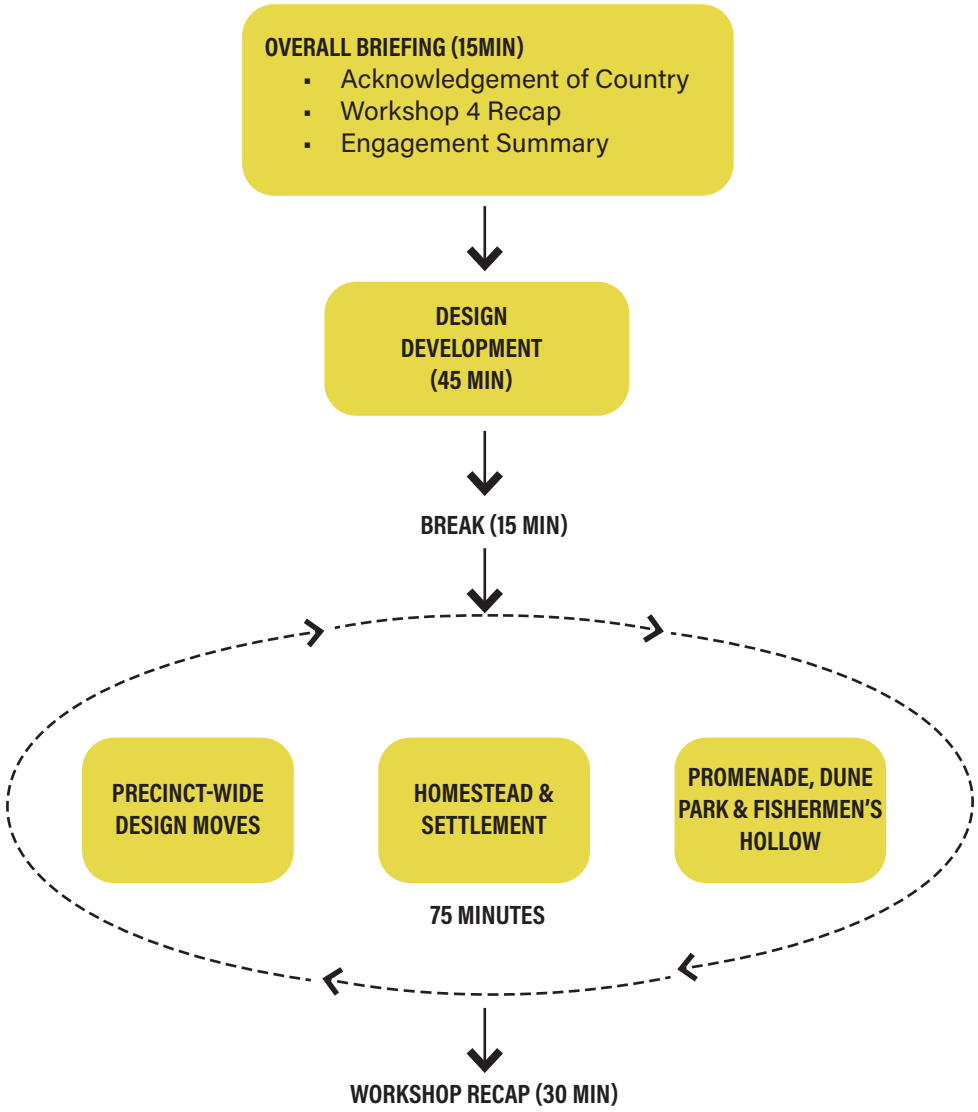
The role of the design team was to facilitate, support and listen carefully. The CoW Project Team organised the venue and coordinated the invitations. CoW also provided an update on the Coastal Study currently underway.

OUTCOMES:

The conversations on the day were captured in a summary document, a copy of which is provided in the Appendices. Key take-aways included:

- Consider a staged approach to development.
- Consensus that the PFMP concept plan better reflects community aspirations than the MP developed in 2019.
- Group divided on traffic flow for Brazier Rd (North - South vs South to North) as parking capacity remains a concern for some.
- Important to find the right balance between “light touch” approach and development potential.

WORKSHOP 5 STRUCTURE



2.1 COMMUNITY STAKEHOLDERS (WORKSHOP 5)







COMMUNITY WORKSHOP OCTOBER 2024

4.1 GOVERNMENT STAKEHOLDERS (WORKSHOP 6)

AIM:

- To evaluate the draft concept
- To agree on a preferred direction
- To document consensus on the direction

AGENDA:

An agenda was provided to attendees ahead of the workshop and followed the structure proposed in the Engagement Plan with minor modifications to suit the direction for the project (adjacent diagram). A copy is provided in the Appendices.

FORMAT:

The workshop consisted of two parts; one being a presentation by the Design Team with comments invited from the stakeholder group and the other being an interactive session which afforded focussed conversations on select components of the proposed concept plan including key moves and the five sub-precincts.

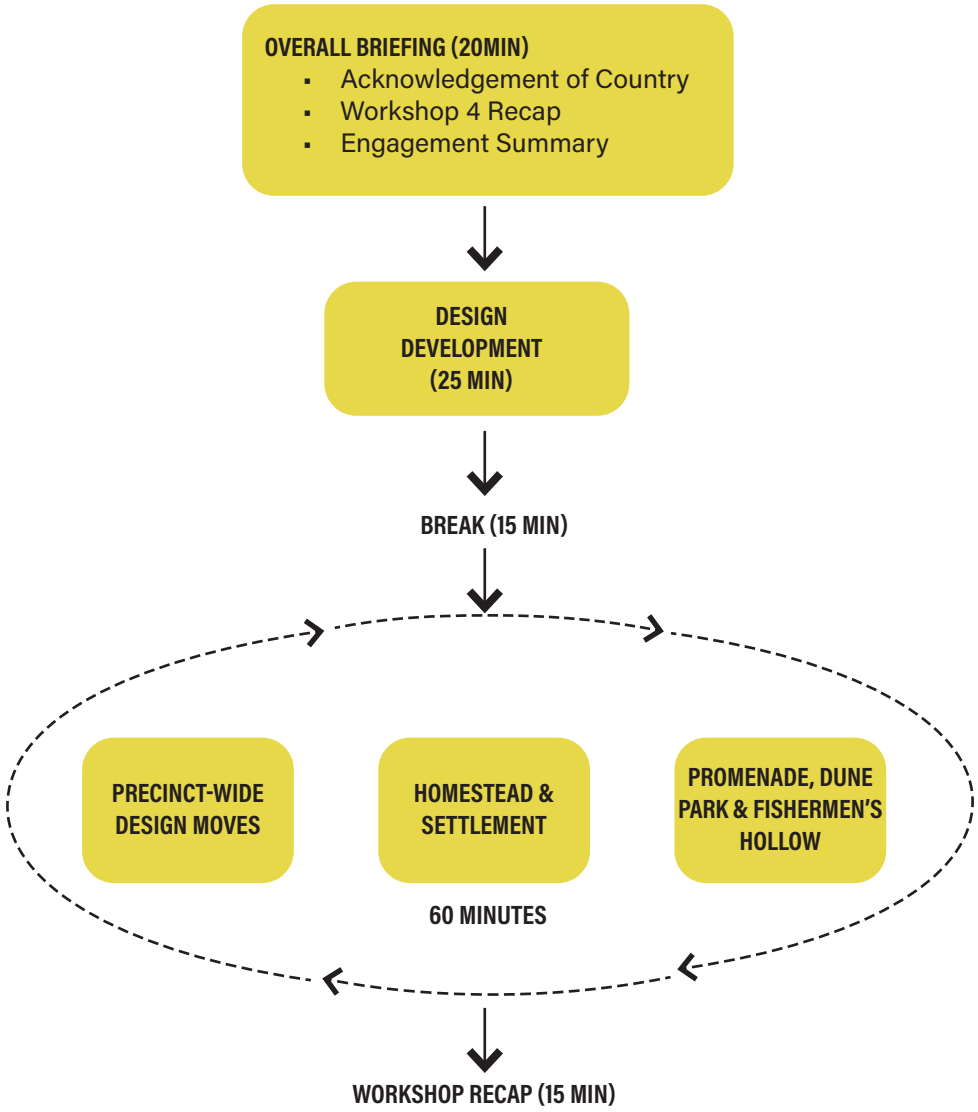
The role of the design team was to facilitate, support and listen carefully. The CoW Project Team coordinated the invitations with Hames Sharley providing the venue.

OUTCOMES:

The conversations on the day were captured in a summary document, a copy of which is provided in the Appendices. Key take-aways included:

- PFMP is opportunity to identify best practice approach (ie. car parking).
- Endorsed FMP is not beholden to existing town planning schemes.
- Design Control Framework could consist of design guidelines for the public realm and bespoke design briefs for the built form / private development in select sub-repcincts.
- Downgrading of Brazier Rd and active transport connections supported.
- Alternative road connecting Wilkie Ave, Brazier Rd and Newman RD need to offer clear benefits to be supported by DPLH.
- North Alkimos FMP an example of endorsed management plan.

WORKSHOP 6 STRUCTURE



2.2 GOVERNMENT STAKEHOLDERS (WORKSHOP 6)







GOVERNMENT WORKSHOP OCTOBER 2024

5.0 ONE ON ONE ENGAGEMENT



5.1 ENGAGEMENT OF SELECT STAKEHOLDERS

DEPARTMENT OF PLANNING, LANDS, & HERITAGE (DPLH)

Following Workshop Series 1 & 2, a meeting was held between DPLH, CoW, and Hames Sharley and UDLA to resume critical conversation from the 2nd Government workshop held on 24th September and to inform the concept being presented to community and government stakeholder in Workshop Series 3.

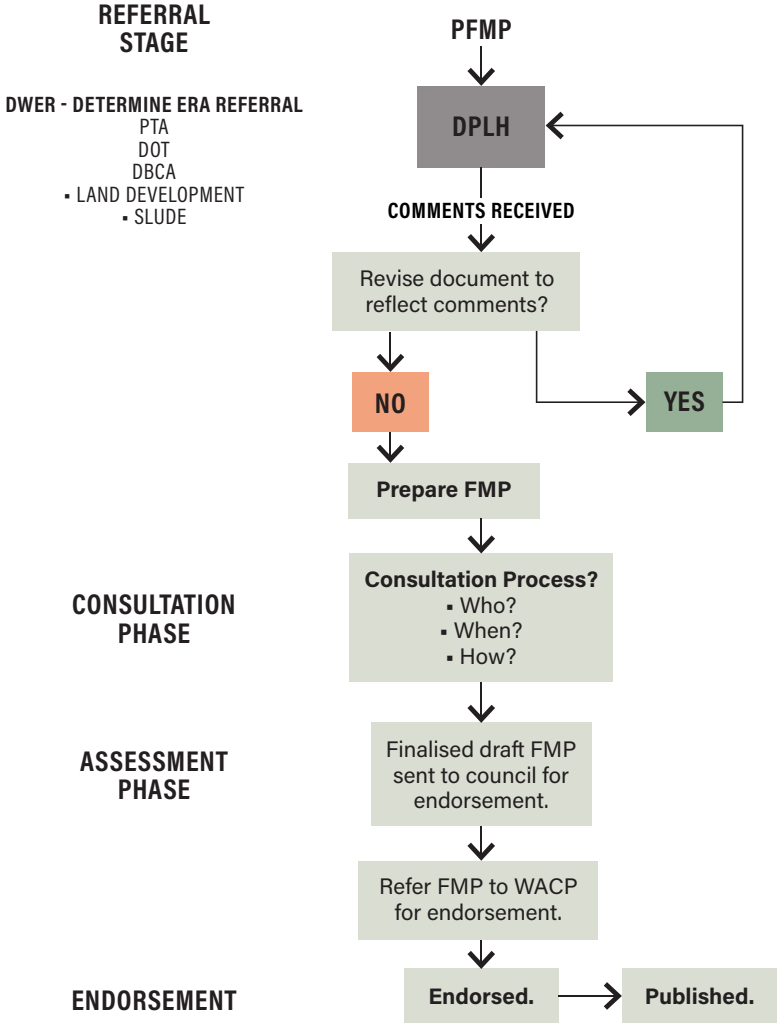
The meeting was held on Friday 11th October 2024 at DPLH Offices in Perth CBD.

OUTCOMES:

The conversations from the meeting were captured in a summary document, a copy of which is provided in the Appendices. Key take-aways included:

- PFMP Priorities most relevant to DPLH are:
  - Strategy for developing within the coastal margin
  - Impact on native vegetation
  - Alignment with planning policies and application of development provisions
- DPLH clarified process for Foreshore Management Plan (FMP) as follows:
  - CoW to submit PFMP to DPLH for comment
  - Subject to DPLH support & council apprival, CoW to prepare FMP
  - FMP released to community for Public Comment
  - FMP submitted to government agencies via DPLH
  - If endoresed by WAPC, CoW Council can adopt
- Design approach aligns with expectations
- PFMP to be clear on extent, type and location of development

In conversation with Hames Sharley, DPLH have recommended a meeting with the WAPC Chair ahead of the PFMP being formally considered by the WAPC. A positive relationship will ensure ongoing engagement for a smoother approval process for the FMP. The WAPC is the decision-making body.



FMP APPROVAL PROCESS

6.0 APPENDICES

The following documents are provided as Appendices:

- **APPENDIX A - COMMUNITY ENGAGEMENT: AGENDA & SUMMARIES**
- **APPENDIX B - GOVERNMENT ENGAGEMENT: AGENDA & SUMMARIES**
- **APPENDIX C - SELECTED WORKSHOP MATERIAL (EXAMPLES)**

pracsys.

CITY OF WANNEROO

Yanchep Lagoon Preliminary Foreshore Management Plan Update

Economic Feasibility Assessment

NOVEMBER 2024

Document Control				
Document Version	**Description**	**Prepared By**	**Approved By**	**Date Approved**
v 1.0	Economic Feasibility Assessment Memo	Callum Shenton	Dawson Demassiet-Huning	15/08/2024
v 2.0	Draft Economic Feasibility Assessment	Callum Shenton	Dawson Demassiet-Huning	01/11/2024
v 2.1	Final Economic Feasibility Assessment	Callum Shenton	Callum Shenton	26/11/2024

Disclaimer

This report has been prepared for the **City of Wanneroo.** The information contained in this document has been prepared with care by the authors and includes information from apparently reliable secondary data sources which the authors have relied on for completeness and accuracy. However, the authors do not guarantee the information, nor is it intended to form part of any contract. Accordingly, all interested parties should make their own inquiries to verify the information and it is the responsibility of interested parties to satisfy themselves in all respects.

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1 INTRODUCTION

This economic feasibility assessment update has been prepared for the City of Wanneroo (the City) to support the preparation of a Preliminary Foreshore Management Plan (PFMP). In 2020, an economic feasibility assessment was undertaken as the basis for Council support of the proposal to realise commercial initiatives as part of the Yanchep Lagoon Masterplan. The City is progressing with a PFMP and requires updating findings based on additional specialist inputs that form part of the PFMP. This involves revised modelling inputs based on current data and changes in potential commercial development based on constraints identified through the PFMP process. This preliminary report summarises the data update for the feasibility model.

The following elements have been updated:

- Population forecasts from forecast.id
- Household expenditure estimates from National Institute of Economic and Industry Research
- Floorspace-specific productivity benchmarks
- Tourism forecasts from Tourism Research Australia
- Average accommodation room rates from Tourism Western Australia

  Note: No accommodation floorspace is being proposed as part of the preferred option. Demand for accommodation services is included in this analysis to enable monitoring of the sector and inform future decisions regarding accommodation provision by the City.

This assessment tests the viability of the final preferred Precinct option's scale and mix of uses and accounts for:

- Broader influencing factors for the Precinct's development, principally local population growth and tourism market conditions
- Estimate of visitation and expenditure transformed into the quantum and composition of commercial floorspace which can be supported over time
- Assessment of the likely viability of the proposed floorspace uses

The findings from the PFMP process and feasibility modelling are intended to outline the pathway for the Precinct's ongoing development in a way that meets community needs and the City's strategic economic and environmental objectives.

1.1 Summary of Results

Under conservative modelling, this assessment estimates that the combined expenditure captured in the Precinct from Primary Catchment residents, Secondary Catchment visitors, and tourists will be sufficient to support 890m^2 of Food and Beverage floorspace and 730m^2 of Shop/Retail floorspace in 2024. This reflects an undersupply of 430m^2 of Shop/Retail and an oversupply of 590m^2 of Food and Beverage floorspace, relative to the floorspace supply indicated in the preferred option for the PFMP. With forecasted population and tourist visitor growth, Food and Beverage floorspace supply is estimated to be supportable by 2030.

Based on the results of the economic feasibility analysis, Pracsys has recommended that the City:

- Stage the delivery of commercial floorspace in line with demand
- Maintain flexibility between Food and Beverage and Shop/Retail floorspaces
- Align the composition of Shop/Retail floorspace with demand

2 CONTEXT

The Precinct is set to be an important natural asset for existing and future residents of Yanchep, the Northern Coastal Growth Corridor (NCGC), the City of Wanneroo, and Greater Perth, providing a pristine natural environment enhanced by recreational facilities and commercial offerings. With prudent management and development, the current level of amenity and attractiveness of the Precinct area can be enhanced to serve the region's growing population, acting as a driver for the local economy through attraction of tourists and residents. It will be important for the City to develop the Precinct in a manner that is economically feasible. Decisions around the quantum and composition of the Precinct's commercial floorspace will determine its propensity to be economically viable and affect whether the Precinct will operate as an economic asset or liability for the City. Figure 1 and Figure 2 below illustrates the proposed design of the Precinct.

Figure 1. Proposed Yanchep Lagoon Precinct Concept Design – The Promenade Concept



Source: UDLA 2024

Figure 2. Proposed Yanchep Lagoon Precinct Concept Design – Fisherman's Hollow Concept



Source: UDLA 2024

The Primary and Secondary Catchments of the Precinct are identified in Figure 3 below. Key points of interest within this spatial area, such as competing beachside and / or leisure-orientated recreation and entertainment precincts, are also identified. Explanation of the spatial delineation of these catchments, as the alternate market bounds of the Precinct, is provided in **Section 5: Resident Demand.**

Figure 3. Precinct Primary and Secondary Residential Catchments and Key Points of Interest



Source: Pracsys 2024

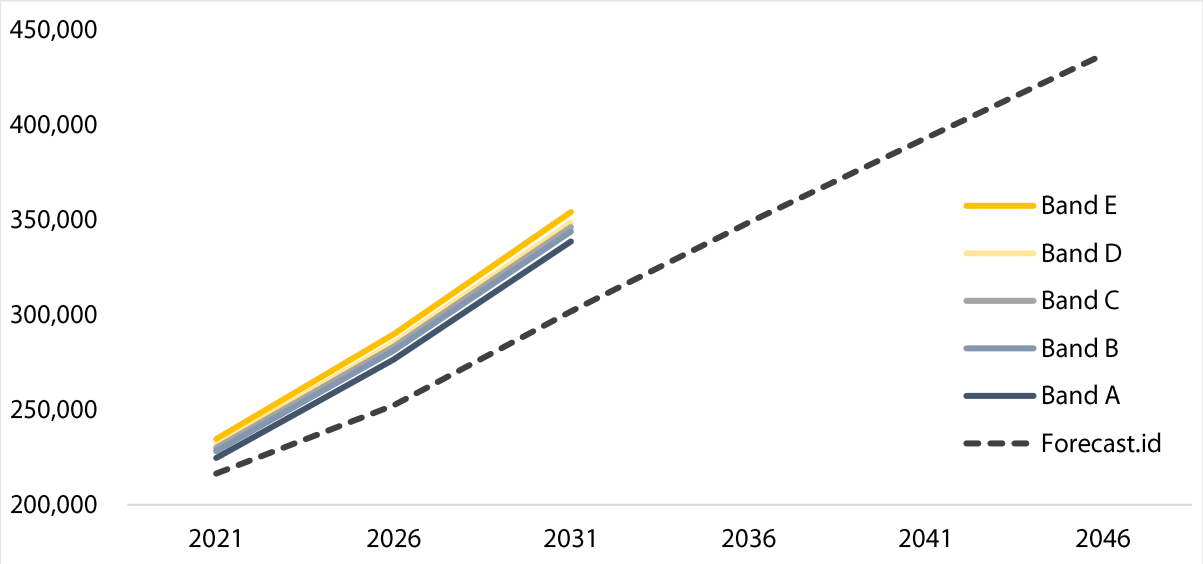
3 SOCIOECONOMIC ANALYSIS

The analysis on demographic (population) and economic (household expenditure) indicators for the City of Wanneroo region (the City) was updated to understand the characteristics of the Precinct's residential user group. A brief summary of changes to previous analysis and impact of the changes on demand modelling have been discussed.

3.1 Population

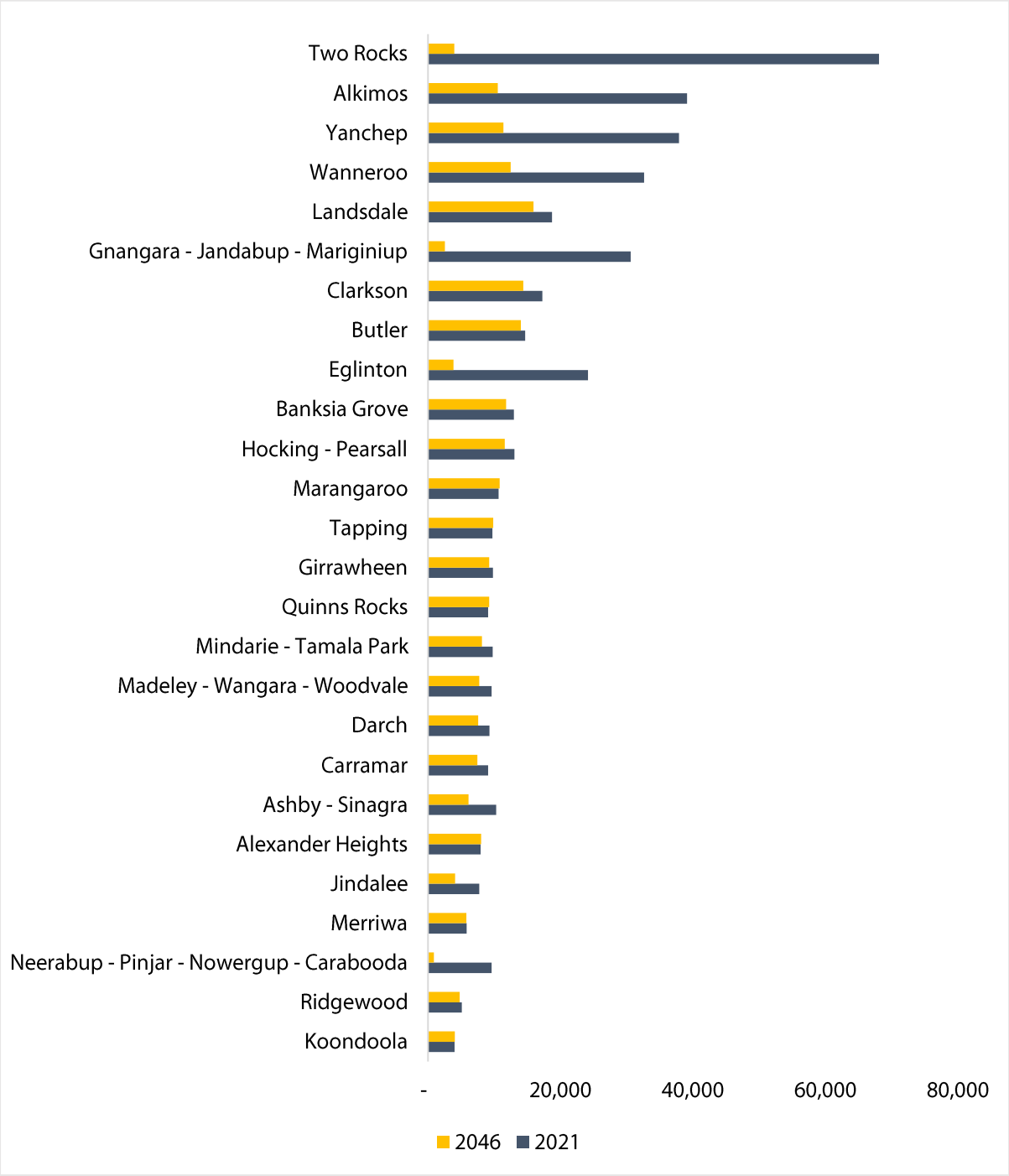
- The forecast.id population forecasts have lowered since forecasts in 2020 (Figure 4), reducing from 325,000 in 2031 to 302,000, due to the City's lower than expected population size in the ABS Census 2021.
- Forecasted growth rate from 2021 to 2046 of 102% is still high, being comparable to the previous rate from 2016 to 2041 of 112%.
- The majority of growth is still set to be accommodated within the NCGC, which extends north along the coast from Butler through to Two Rocks.
- This high-growth region is comprised of the localities of Alkimos, Eglington, Yanchep and Two Rocks. The population growth forecast to occur in these key coastal regions is illustrated in Figure 5 and Figure 6, with significant population set to be delivered in Two Rocks, Yanchep, and Alkimos by 2046.

Figure 4. City of Wanneroo Population Forecast by Locality, 2021 to 2046



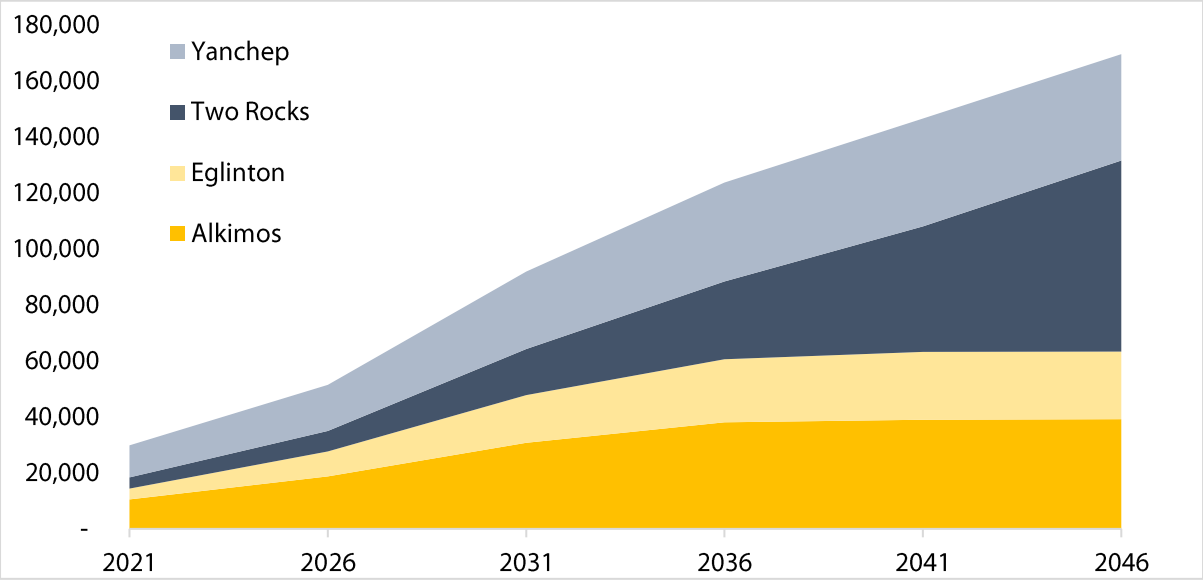
Source: WA Tomorrow 2018, forecast.id 2024

Figure 5. City of Wanneroo Population Forecast by Locality, 2021 to 2046



Source: forecast.id 2024

Figure 6. Population Forecast for Primary Catchment Regions, 2021 to 2046

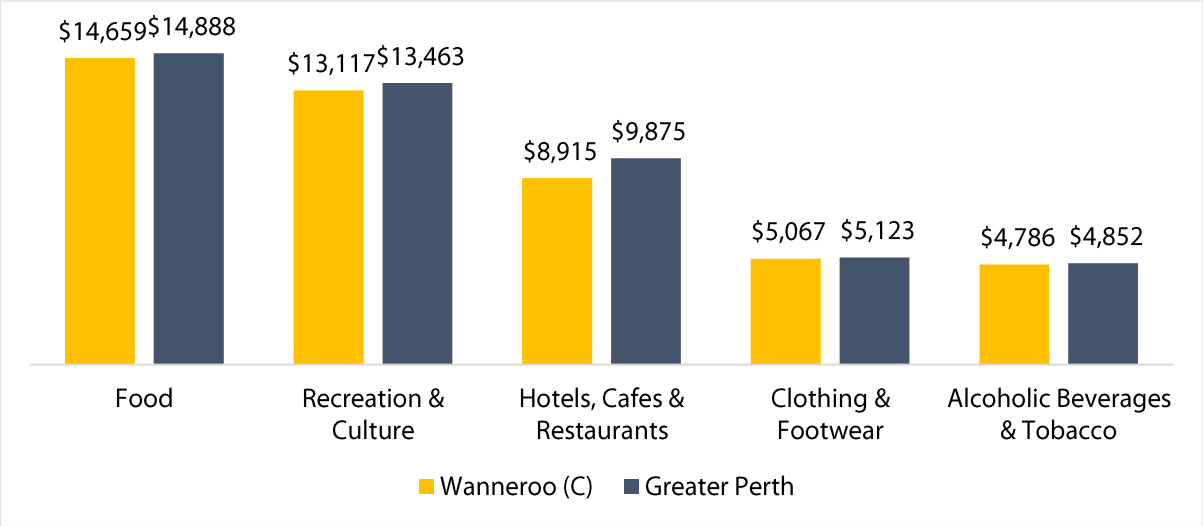


Source: forecast.id 2024

3.2 Expenditure

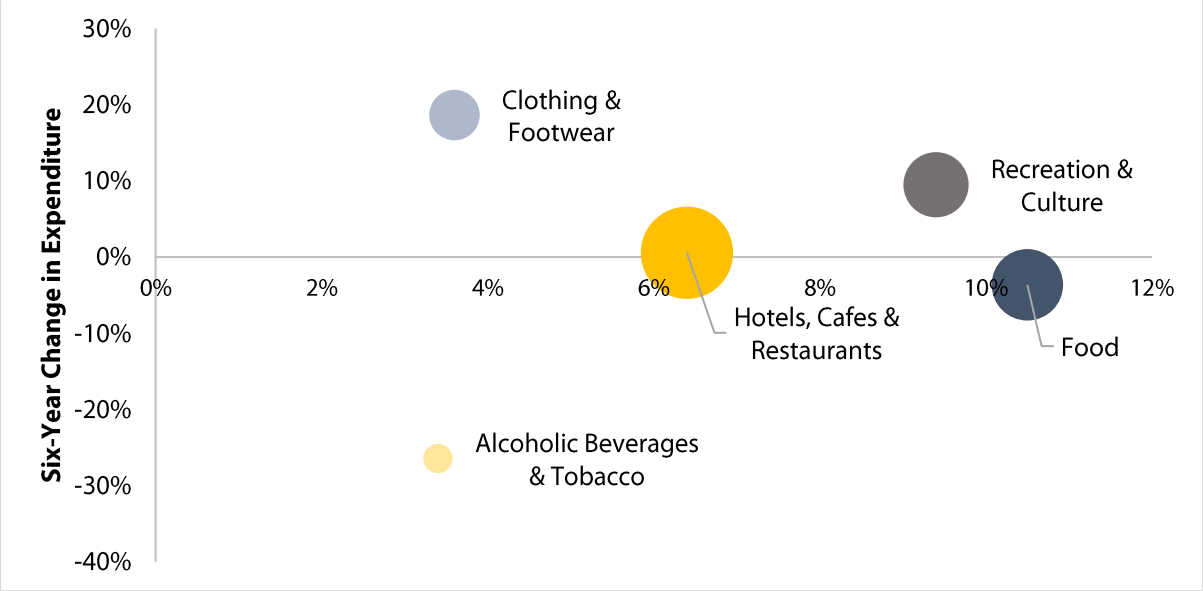
- The National Institute of Economic and Industry Research (NIEIR), in which modelling is based on, have revised their 2020 estimates (Figure 7).
- The updated estimates indicate a higher expenditure per household that is more aligned with Greater Perth averages.
- Modelling of residential catchment household expenditure captured by the Precinct accounts for region-specific expenditure patterns, offering a more accurate estimate of floorspace demand by item category.
- The change in expenditure on each item category between 2017 and 2023 has been mapped against the proportional contribution of each item to the total average expenditure of Wanneroo households (see Figure 8).
- Increased expenditure is most concentrated in Clothing & Footwear, Recreation & Culture, and Hotels, Cafes & Restaurants, showing a six-year change in expenditure of 19%, 9%, and 1% respectively
- Food, and Alcoholic Beverages & Tobacco decreased by -4% and -26% respectively.
- These expenditure breakdowns are accounted for in modelling and the viability of different floorspace elements.
- The changes in expenditure patterns of the Precinct's residential catchment will expand the capacity for the envisaged commercial floorspace to be supported and viable, even when accounting for slower population growth.

Figure 7. City of Wanneroo Household Expenditure Profile, Precinct-Relevant Items



Source: National Institute of Economic and Industry Research 2023

Figure 8. Change in City of Wanneroo Household Expenditure on Project-Relevant Items, 2017 to 2023



Note: Bubble size indicates degree of relevance to the commercial offerings to be delivered at the Yanchep Lagoon PFMP Precinct.

Source: National Institute of Economic and Industry Research 2023, Pracsys 2024

4 PRECINCT FLOORSPACE

4.1 Precinct PFMP Floorspace Yields

To inform the quantum of floorspace within the Yanchep Lagoon PFMP, options were prepared to explore varying levels of Accommodation, Food and Beverage, and Shop/Retail offerings. Figure 9 defines the floorspace profile yielded from the preferred option, describing the function of all envisaged commercial offerings and categorising their floorspace use as either Food and Beverage and Shop/Retail (Comparison Retail and Convenience Retail). The total floorspace yield across all floorspace types is approximately 1,785m^2. Accommodation was not included in the preferred option with a significant short stay accommodation planned at the Capricorn Beach development, approximately 2.2km north of the Precinct.

Figure 9. Commercial Floorspace Yield by PFMP District and Floorspace Type

Item description	Floorspace Category	NLA (m^2)
Current		
Orion Café	Food and Beverage	265
Approved		
Dome Café	Food and Beverage	550[1]
Proposed		
Beach Bar (The Settlement)	Food and Beverage	535
Café (Dune Park)	Food and Beverage	135
Bespoke Retail (The Promenade)	Shop/Retail	300
Total		
Total Food and Beverage		1,485
Total Shop/Retail		300
Total		1,785

Source: UDLA 2024

[1] Preliminary area as per Old Surf Life Saving Club 2024, *Yanchep Lagoon – Tenant's Preliminary Plans*

5 RESIDENT DEMAND

5.1 Primary and Secondary Catchment

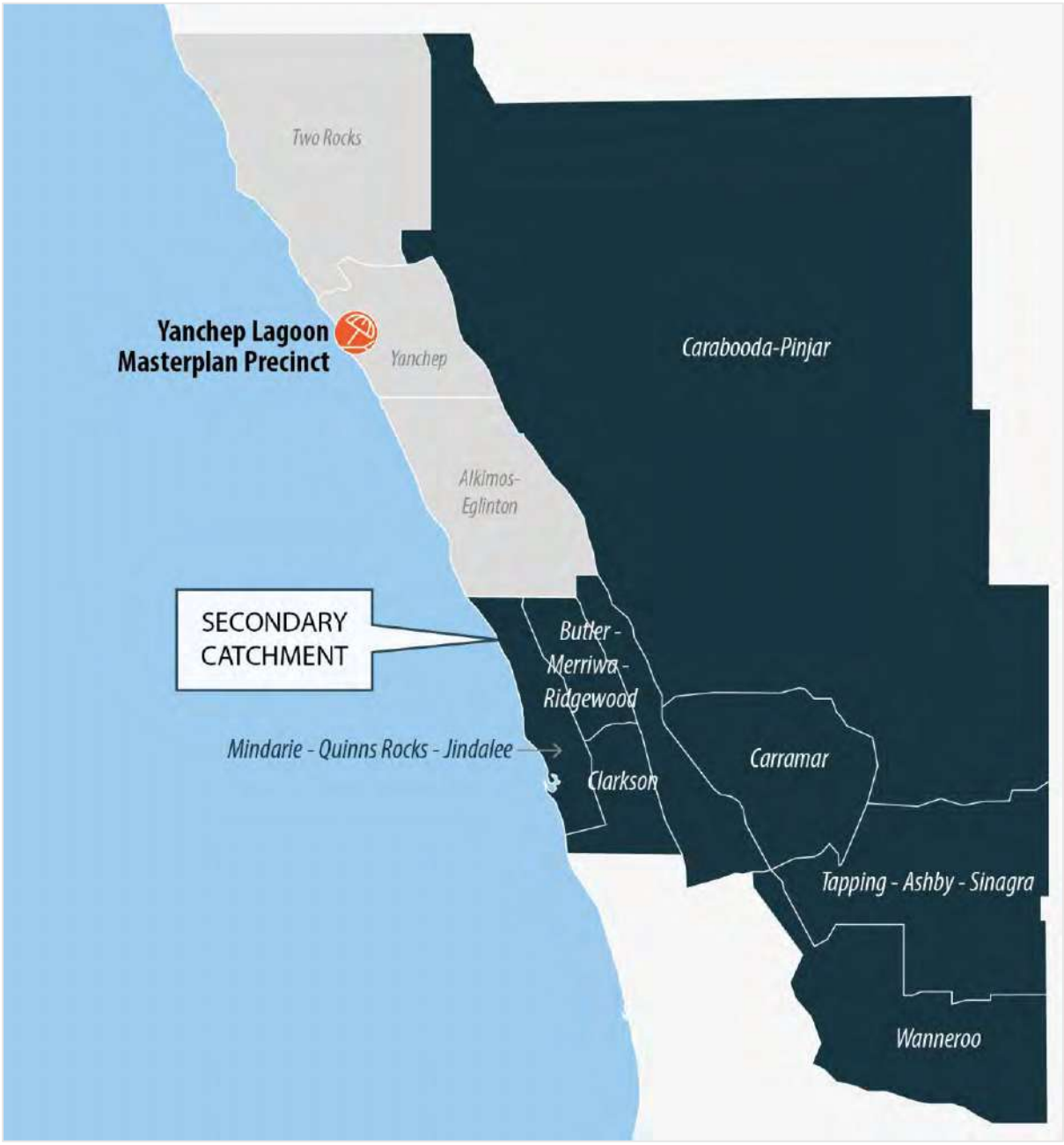
The Primary and Secondary Catchment considered for resident and visitor demand are shown in Figure 10 and Figure 11, respectively.

Figure 10. Yanchep Lagoon PFMP Precinct Primary Catchment



Source: Pracsys 2024

Figure 11. Yanchep Lagoon PFMP Precinct Secondary Catchment



Source: Pracsys 2024

Expenditure Assumptions

- The future annual expenditure of Primary Catchment households was estimated by applying ABS Household Expenditure Survey data to Catchment dwelling forecasts.
- Floorspace-specific market shares were applied to Primary Catchment expenditure.
- Secondary Catchment estimates have been modelled separately for Convenience Retail, Comparison Retail and Food and Beverage floorspace categories.

- Secondary Catchment expenditure estimates have been calculated through attributing a floorspace-specific footfall-to-patron conversion rate and average per-patron spend (developed through the previous modelling and still applicable). These expenditure-informing variables are defined below (Figure 12).

Figure 12. Floorspace Productivity Benchmarks

	Comparison Retail	Food and Beverage	Convenience Retail
Footfall-to-Patron Conversion Rate (%)[2]	2%	10%	5%
Average Spend Per Patron[3]	$15.6	$16.7	$35.4
Estimated Spend per Precinct Visitor[4]	$0.3	$1.7	$1.8

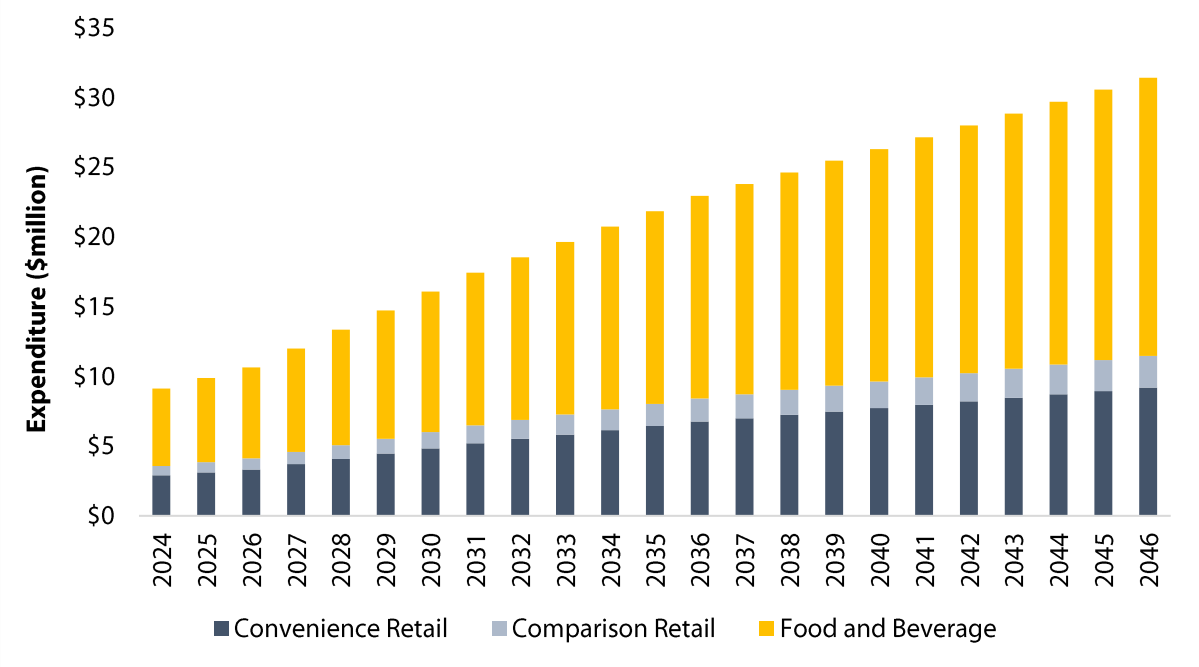
Source: Pracsys 2024

Expenditure Estimate

- The sum of expenditure by Primary Catchment residents and Secondary Catchment visitors at the Precinct for all floorspace categories over time is presented in Figure 13.
- Total expenditure is estimated to grow from $9.1 million in 2024 to $31.4 million by 2046, with Convenience Retail and Food and Beverage expenditure making up the majority of total expenditure.
- The 2024 total expenditure is approximately 12% higher than 2020 report estimates and 47% higher than 2040 total expenditure estimates.
- As Secondary Catchment expenditure amounts are similar to the 2020 report, higher estimates are driven by the Primary Catchment's higher household expenditure, modelled on the NIEIR's updated estimates.

[2] Based on conservative estimates informed by a range of secondary sources and industry standard benchmarks.
[3] Retail Property Insights 2013, *Consumer Profiles and Behaviour in Australian Shopping Centres*
[4] Calculated by multiplying the footfall-to-patron conversion rate by the average spend per patron.

Figure 13. Primary and Secondary Catchment Precinct Expenditure by Floorspace Category, 2024 to 2046



Source: Pracsys 2024

Floorspace Assumptions

- The floorspace supported by the total expenditure modelled above has been calculated based on floorspace-specific productivity benchmarks (see Figure 14).

Figure 14. Floorspace Productivity Benchmarks

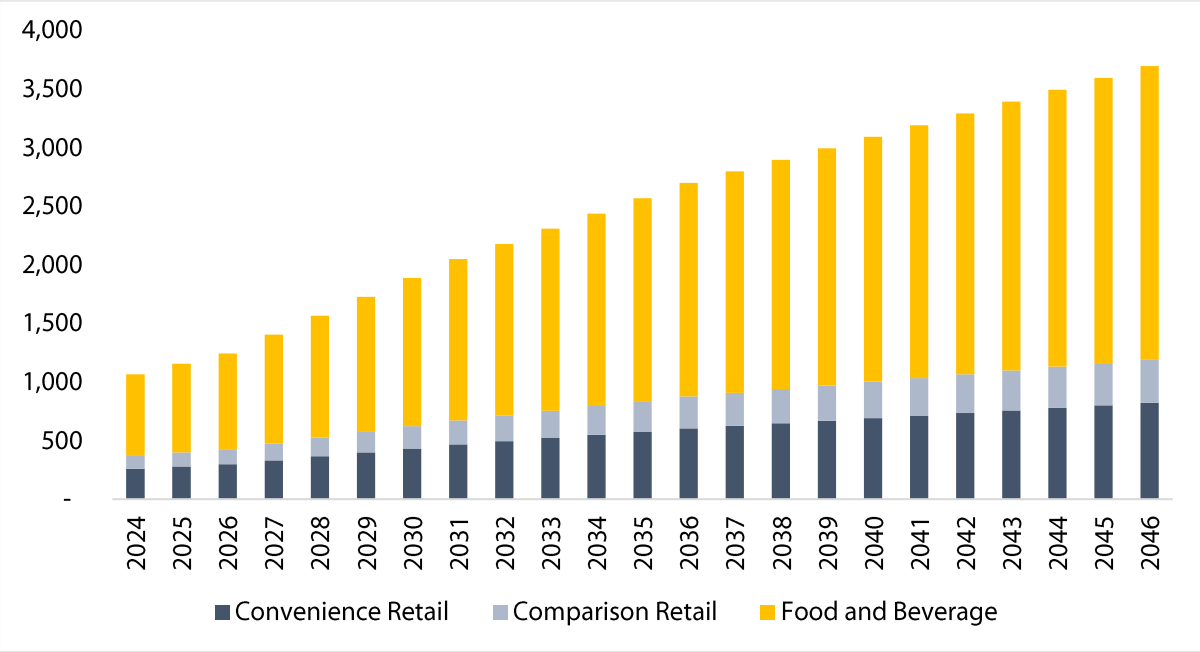
Floorspace Category	Floorspace Productivity ($/m^2)
Convenience Retail	$11,170
Comparison Retail	$6,137
Food and Beverage	$7,979

Source: Colliers 2017, Western Australia Shopping Centre Directory 2018, Pracsys 2024

Supported Floorspace

- Total supported floorspace is estimated to grow from approximately 1,066m^2 in 2024 to 3,692m^2 by 2046 (see Figure 15).
- It is expected that floorspace in the Precinct will be supported by a greater share of expenditure from surrounding residents than previously modelled.

Figure 15. Floorspace (m^2) Supported by Total Expenditure, 2024 to 2046



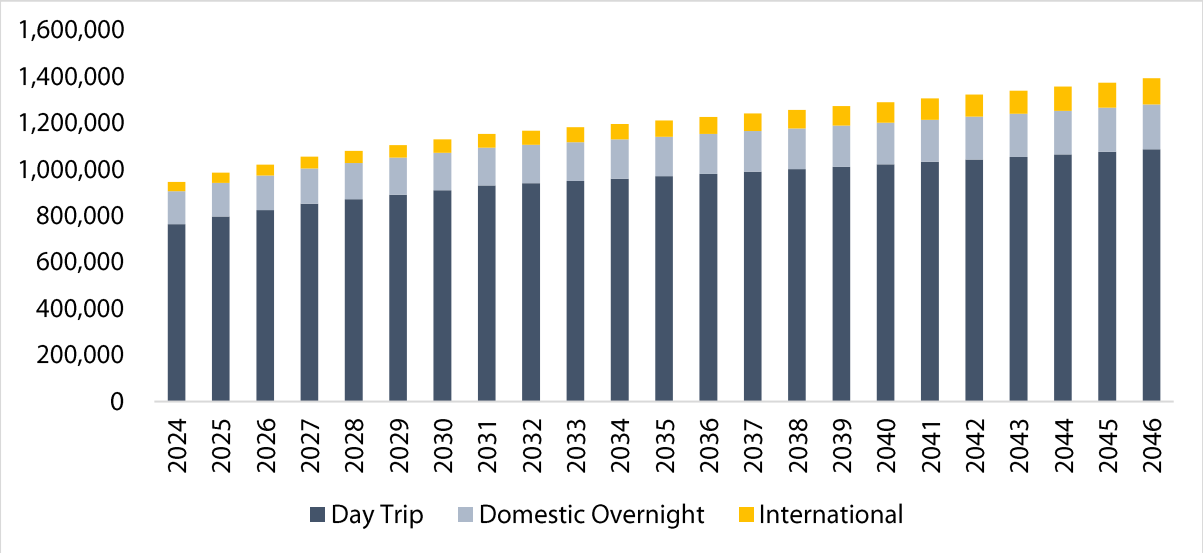
Source: Pracsys 2024

6 TOURIST DEMAND

6.1 Tourism Forecasts

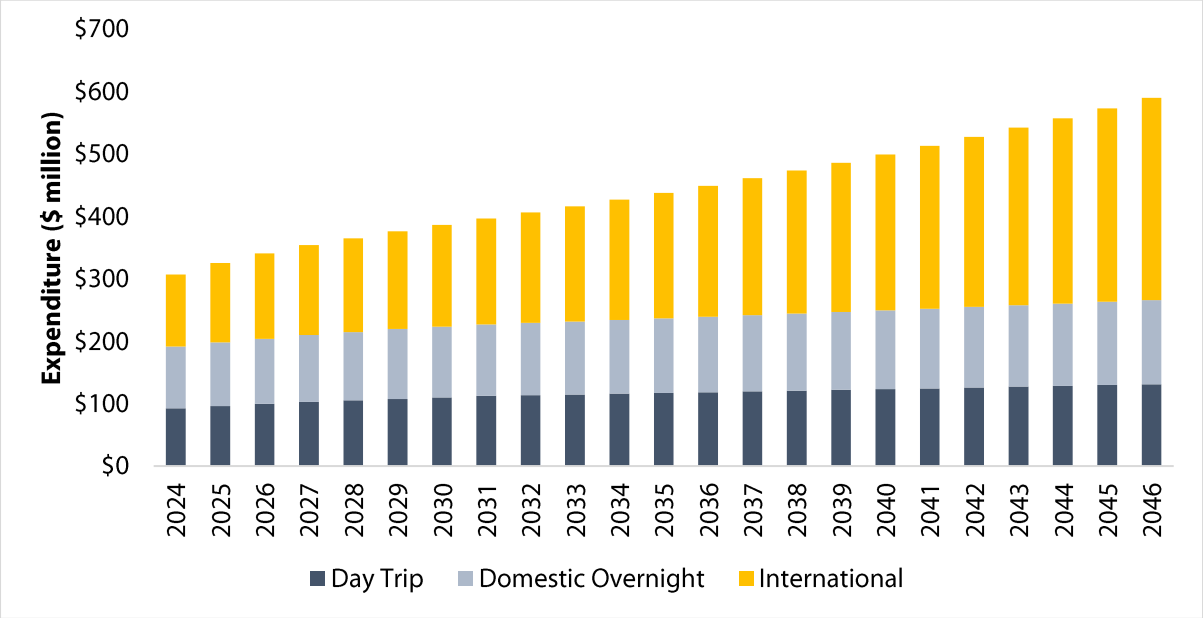
- Tourism Research Australia (TRA) visitation forecasts have been updated to estimate the future growth of visitors, visitor nights and expenditure by day trip, domestic overnight and international visitors to the City of Wanneroo between 2024 and 2046.
- More recent Australia-wide year-on-year forecasts produced by TRA have been applied to historical City of Wanneroo region data to forecast key visitation economy indicators. These forecasts reflect a conservative estimation of future visitation, as Australia-wide growth forecasts are less optimistic than trends at the Wanneroo and Destination Perth level.
- Based on Australia-wide forecasts, the number of visitors to the City of Wanneroo is projected to grow from 946,000 to 1.4 million between 2024 and 2046, reflecting a growth of 47 per cent (Figure 16).
- Forecasts in 2024 are 12% lower than the 2020 report, as updated TRA data has now accounted for the dip in visitation due to COVID-19.
- By 2040 the updated forecasts are only 2% lower than previous estimates, recovering to previous forecasted 2040 levels in 2042.
- Visitor numbers have a higher growth rate of 36% compared to 22%, compared to the previous report from 2024 to 2040, reflecting the recovery from COVID-19.
- Visitor expenditure captured in Wanneroo is projected to grow from $307 million to $590 million between 2024 and 2046, reflecting a growth of 92 per cent. The majority of this growth is underpinned by the expected 182% increase in international visitor expenditure in the Region (Figure 17).
- The 2024 visitor expenditure estimates are 5% higher than the 2020 report estimates, driven by the inflation adjustments. By 2040 the estimates are 12% higher than the 2020 report, also driven by inflation adjustments.
- These tourism forecasts present a range of opportunities for the Precinct to capture visitation through delivery of tourist-responsive commercial offerings and short-stay accommodation. The significant expected growth in international visitor nights and expenditure in the region, and the large base of existing domestic visitation, will assist the viability of the Precinct by supplementing residential activity and expenditure with export income.

Figure 16. Forecast City of Wanneroo Visitors by Group, 2024 to 2046



Source: Tourism Research Australia 2023

Figure 17. Forecast City of Wanneroo Visitor Expenditure by Group, 2024 to 2046



Source: Tourism Research Australia 2023

6.2 Precinct Tourist Demand

Methodology

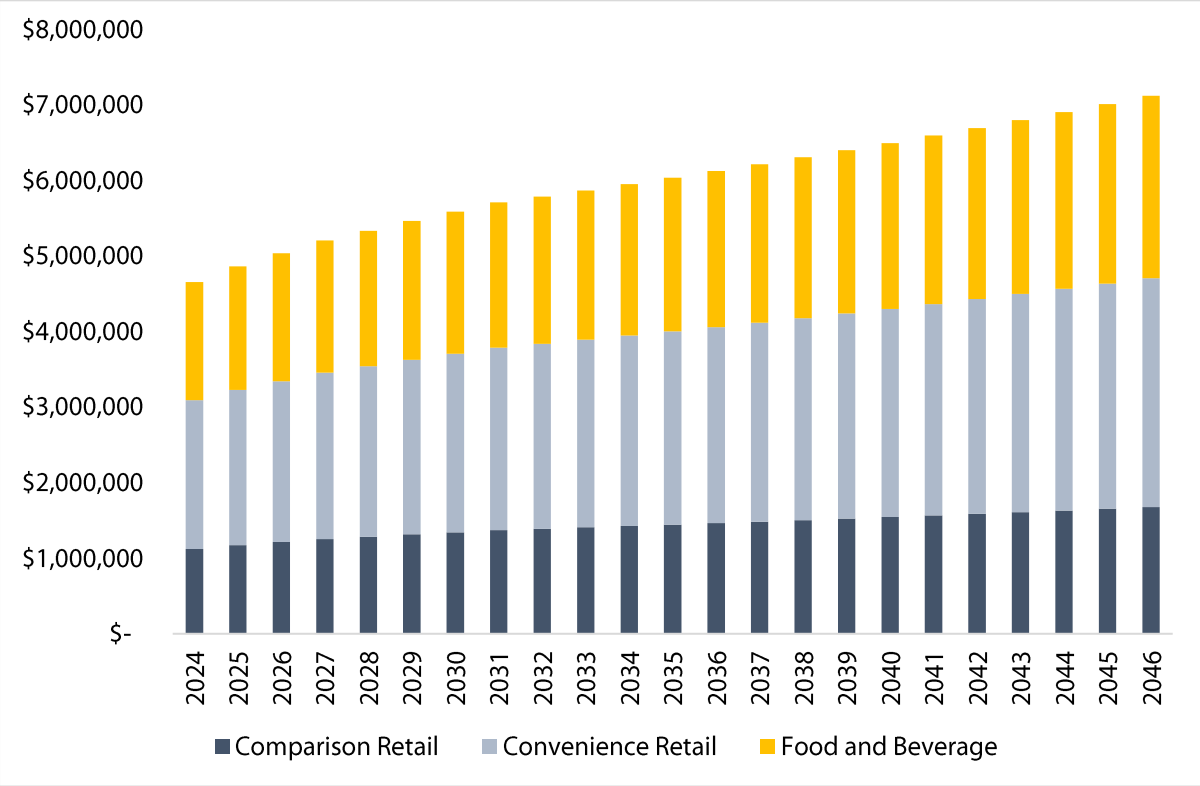
- Comprehensive modelling has been undertaken to estimate the visitation attraction potential of the Precinct. Estimates have been conducted for years 2024 to 2046.
- Tourism Research Australia (TRA) visitation forecasts have been used to estimate the future growth of visitors, visitor nights, and expenditure by day trip, domestic overnight and international visitors to Wanneroo between 2024 and 2046.
- Australia-wide year-on-year forecasts produced by TRA have been applied to Wanneroo data to forecast key visitation economy indicators. From this visitor base, a proportion of total visitation has been attributed to the Precinct based on TRA data reporting on the activities undertaken by visitors in the region.
- Activities which can be undertaken at the Precinct, such as beach-orientated leisure activities and Food and Beverage based entertainment, have been combined in a weighted manner to produce a composite Precinct visitation rate for each visitor segment. It is estimated that 14 per cent of day trip, 25 per cent of domestic overnight and 63 per cent of international visitors to Wanneroo will undertake a beach-orientated entertainment / recreation activity during their visit to the region.
- The number of these visitors which may be attracted to the Precinct has then been estimated, based on the Precinct's market share for each floorspace type, in the City of Wanneroo spatial area.
- Ocean Reef Marina and Capricorn Beach Foreshore development has been added to the floorspace market share to account for its development.
- This visitation modelling reflects a conservative estimation of future Precinct visitation, as it does not consider the Precinct to be any more attractive to visitors than other current beach-recreation facilities in the region. This is a conservative assumption as the Precinct will possess regionally-significant natural offerings with complementary commercial and entertainment offerings.
- These forecasts likely reflect a lower-bound estimation of potential Precinct visitation, as they only consider the existing forecasts for future visitation to the region and do not consider the possibility of attraction additionality, i.e., the prospect that the Precinct may drive additional visitation to the region beyond what is already forecast for the region in the absence of the Precinct.

Expenditure

- Using visitation attraction modelling, it has been estimated that the Precinct will initially attract approximately $4.7 million of expenditure per annum, growing to $7.1 million by 2046.
- These expenditure estimates are exclusive of accommodation expenditure, which has been modelled separately.
- Figure 18 illustrates the breakdown of expenditure by floorspace type over the same period.

- Expenditure at the Precinct in 2040 is 6% higher than the 2020 report estimates, driven by inflation adjustments.

Figure 18. Forecast Tourist Expenditure at the Precinct by Floorspace Category, 2024 to 2046

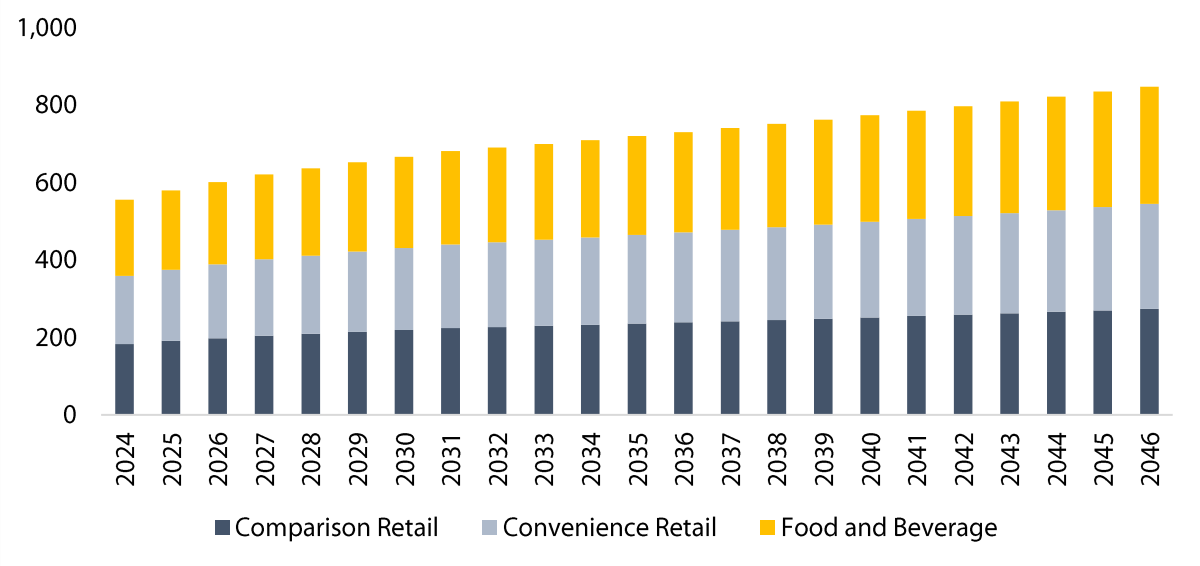


Source: Pracsys 2024

Supported Floorspace

- Estimated tourist expenditure at the Precinct has been converted into tourist-supported floorspace by applying floorspace-specific industry standard productivity benchmarks (see Figure 12).
- Approximately 556m^2 of additional floorspace will be supported through Precinct visitation expenditure in 2024, growing to 848m^2 by 2046 (see Figure 19).
- There is approximately 6% less tourist-supported floorspace in 2040 than estimated in the 2020 report, due to both the higher productivity benchmarks and lower lagoon market share, with the Ocean Reef Marina and Capricorn Beach Foreshore development set to be developed from 2025-2036.

Figure 19. Forecast Tourist-Supported Floorspace (m²) at the Precinct by Floorspace Category, 2024 to 2046



Source: Pracsys 2024

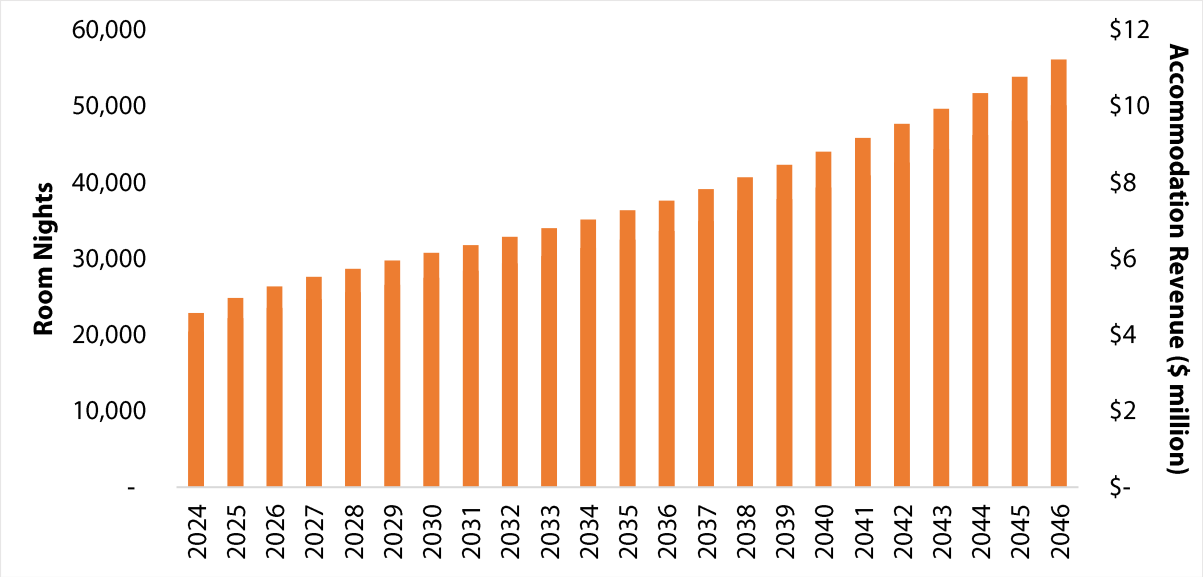
Accommodation Demand

- The City has expressed that future short-stay accommodation within the Primary Catchment intends to be focused within the Capricorn Beach Foreshore development.
- As such, the Yanchep Lagoon PFMP has not included short-stay accommodation and instead prioritised enhancing the pristine natural environment with Food and Beverage and Shop/Retail offerings.
- Should the Yanchep Lagoon PFMP expand to include short-stay accommodation in the future, the figures below could be used to monitor changes in the demanded room nights and supportable floorspace[5].
- Estimated demand for visitor nights at the Precinct has been transformed into demanded room nights through use of a visitors-per-room benchmark.
- This yields a total annual demand for approximately 20,000 room nights at the Precinct in 2024, growing to approximately 50,000 by 2046 (see Figure 20).
- By applying the average daily room rate for short-stay accommodation in the Greater Perth region to this estimated room night demand, it has been estimated that the Precinct will capture approximately $4.6 million in accommodation spend in 2024, growing to $11.2 million by 2046.
- Annual room night demand has been transformed into an estimate of the required number of short-stay accommodation units by applying the region-specific commercial accommodation occupancy rate.

[5] The Capricorn Beach Foreshore's proposed short-stay accommodation has been accounted for within analysis.

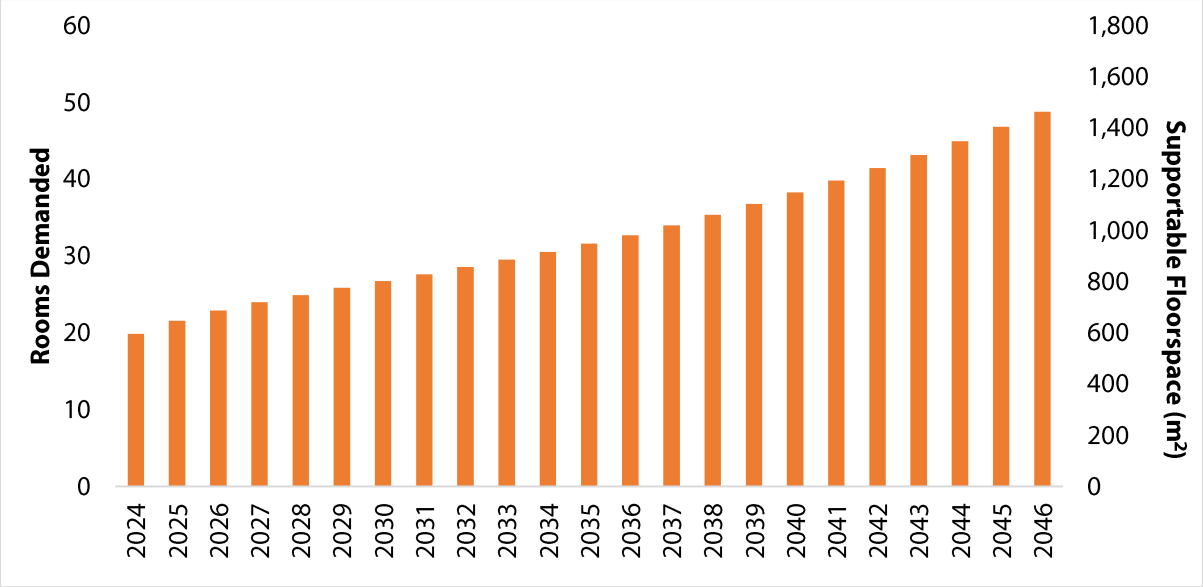
- The demanded number of rooms has then been translated into the supported accommodation floorspace quantum through application of a benchmark accommodation unit size.
- The analysis shows that the annual room night demand requires 20 rooms in 2024, expanding to 49 in 2046.
- This translates to expanding from 636m^2 to 1,560m^2 of supportable floorspace.
- The results of this analysis are presented in Figure 21 below, which illustrates the number of rooms at the Precinct demanded over time and the associated floorspace footprint.

Figure 20. Forecast Room Nights and Accommodation Expenditure at the Precinct, 2024 to 2046



Source: Pracsys 2024

Figure 21. Forecast Supported Floorspace and Rooms at the Precinct, 2024 to 2046



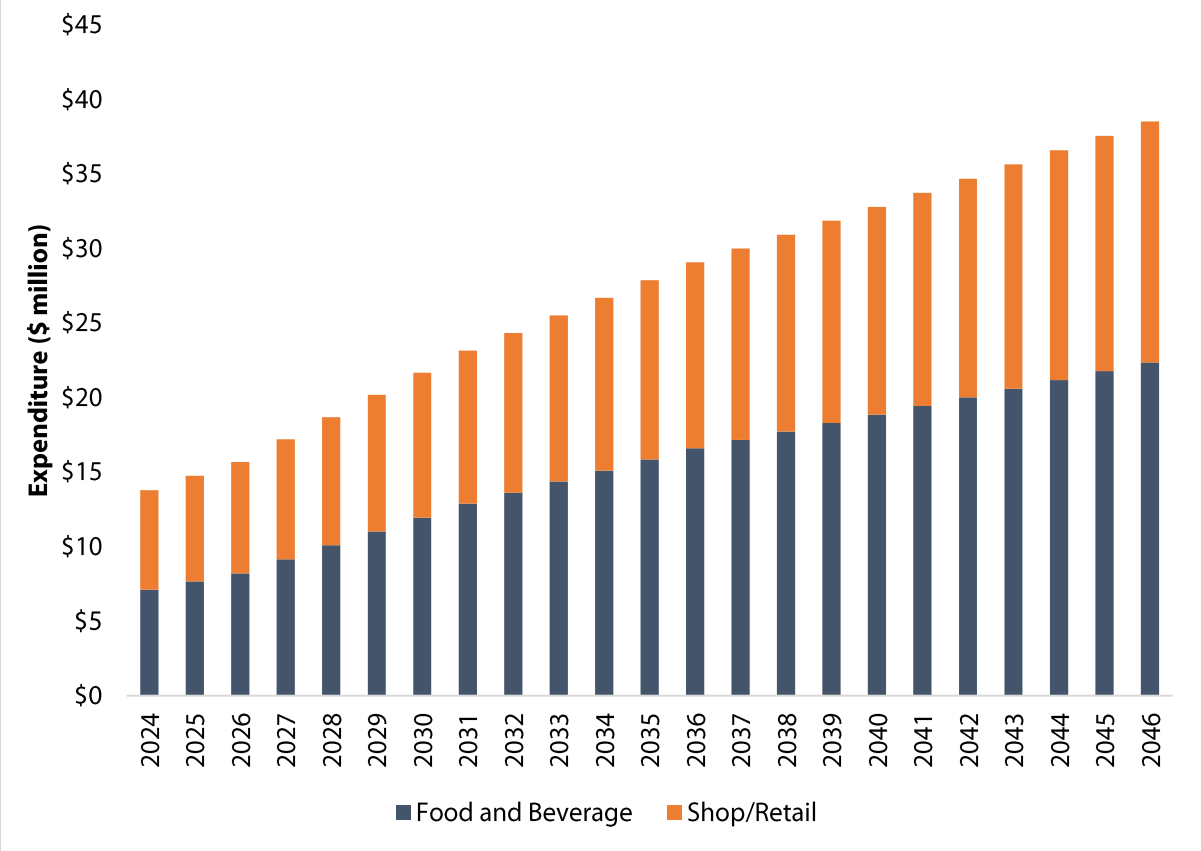
Source: Pracsys 2024

7 TOTAL DEMAND – CONSERVATIVE SCENARIO

Total Expenditure

- The expenditure associated with tourist visitation, Secondary Catchment visitation, and Primary Catchment household expenditure has been estimated.
- It is forecast that the Precinct, if delivered in the form identified by the preferred option, will attract approximately $13.8 million of expenditure in 2024.
- This expenditure quantum is estimated to increase to $38.5 million by 2046.
- Figure 22 below illustrates the total estimated expenditure at the Precinct by floorspace category over time.
- For the year 2024, the total expenditure is approximately 37% higher than the estimated in the 2020 reported. This is because of the aggregate effect of:
    - Price-levels rising from 2020
    - NIEIR's more optimistic estimates for the Primary Catchment's household expenditure

Figure 22. Total Forecast Expenditure at the Precinct by Floorspace Category, 2024 to 2046

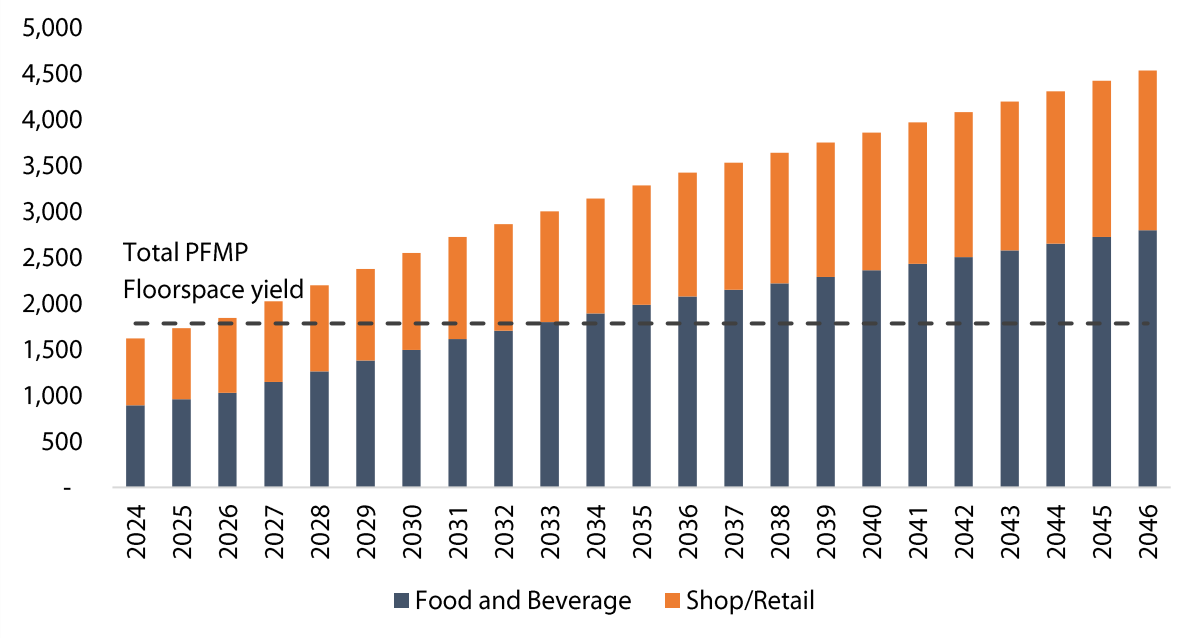


Source: Pracsys 2024

Total Supported Floorspace

- The total demand for commercial floorspace at the Precinct has been estimated by aggregating the commercial floorspace supported by Primary Catchment residents, Secondary Catchment residents, and tourists.
- The floorspace estimates have been compared to the benchmarked floorspace yield derived from the preferred option. The comparison shows that the quantum of commercial floorspace yielded from the preferred option will be supported by resident and visitor demand by the year 2026 (Figure 23).
- This is four years earlier than estimated in the 2020 report. This is mainly due to the quantum of supportable accommodation floorspace not being included and the stronger base of estimated Primary Catchment's household expenditure.
- The total forecasted demand is estimated to support the following quantum of floorspace in 2046:
    - 2,801 m^2 of Food and Beverage floorspace
    - 1,738 m^2 of Shop/Retail floorspace
    - 4,540 m^2 of total floorspace
- Total demand is based on the broader catchment and it is not expected that all of this floorspace would locate at the Precinct

Figure 23. Forecast Total Feasible Commercial Floorspace (m^2) by Floorspace Category, 2024 to 2046

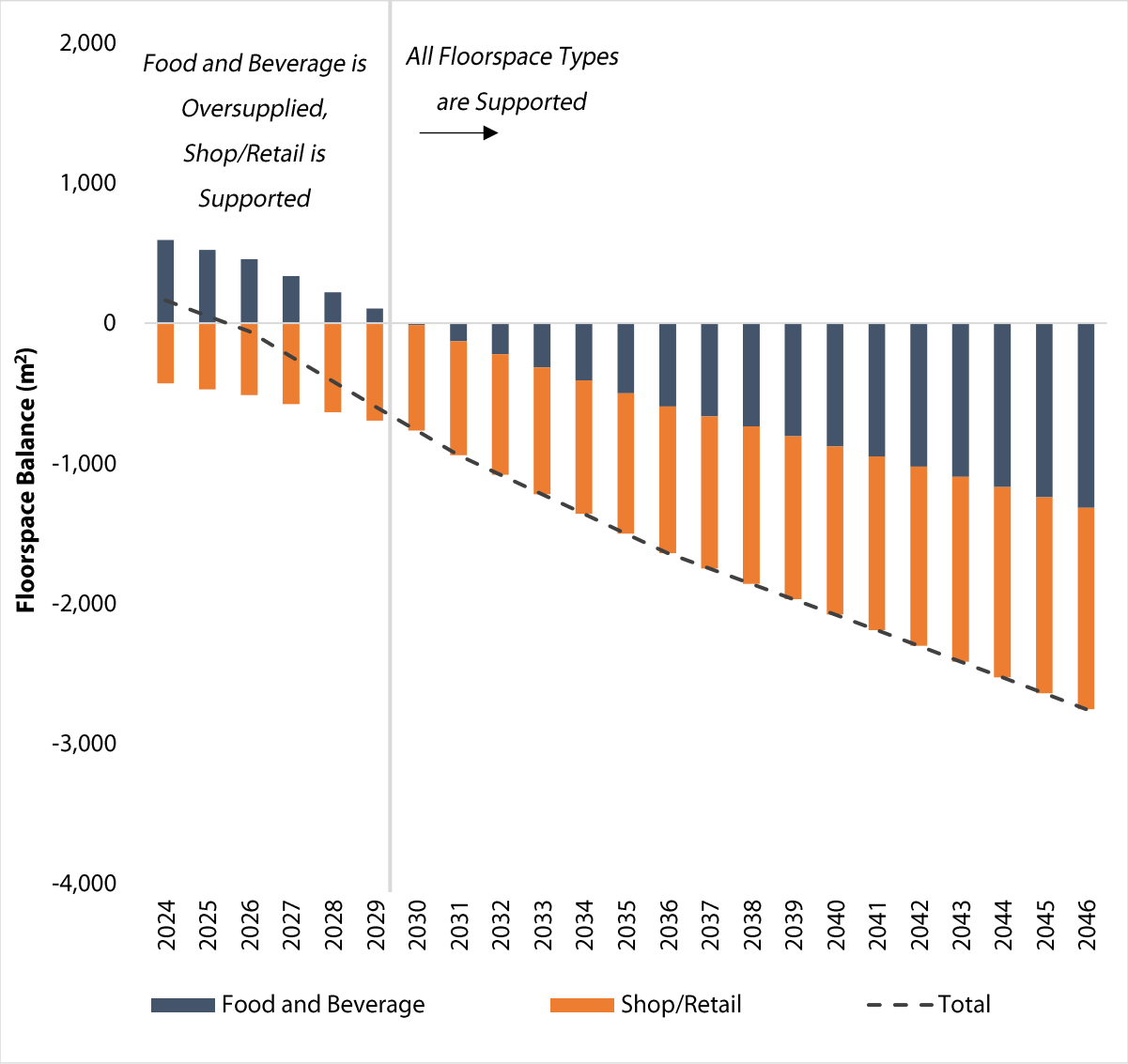


Source: Pracsys 2024

7.1 Supply and Demand Comparison

- Conservative demand modelling indicates that the Precinct, in the form which it is defined by the preferred option, is therefore likely to approach commercial feasibility by 2026.
- Figure 24 illustrates the Precinct floorspace balance timeline, indicating the overall balance between the supply of and demand for commercial floorspace at the Precinct over time.
- It also indicates the balance between supply and demand within each of the Shop/Retail and Food and Beverage commercial floorspace categories. This supply and demand comparison analysis identifies the following results:
    - **The quantum of commercial floorspace provided at the Precinct is likely to be supported by 2026**
    - The quantum of commercial floorspace provided at the Precinct initially exceeds estimated demand
    - Food and Beverage floorspaces is initially oversupplied at the Precinct
    - Shop/Retail floorspace at the Precinct is supported by demand throughout the development timeline
    - Food and Beverage floorspace at the Precinct is likely to be supported by 2030
- Figure 25 below indicates the proportion of total commercial floorspace proposed at the Precinct which is estimated to be feasible in years 2024 to 2046.
- The full breakdown of floorspace, which is estimated to be economically feasible throughout the project development timeline, by floorspace category and with comparison to the amount proposed by the preferred option, is outlined in Appendix A: Results.

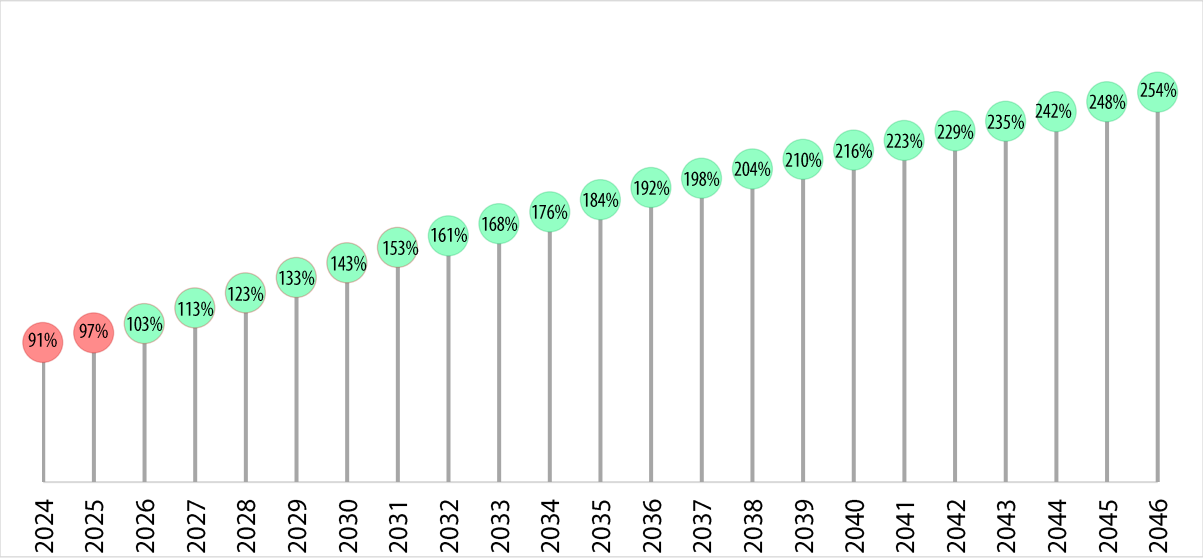
Figure 24. Commercial Floorspace Supply and Demand Balance by Floorspace Category, 2024 to 2046



Note: Positive values indicate a floorspace oversupply relative to the feasibility threshold, whereas negative values indicate a floorspace undersupply. The floorspace balance refers to the sum of floorspace oversupply and undersupply at any one point in time. When the net floorspace balance is positive, the commercial floorspace quantum is oversupplied. When the net floorspace balance is negative, the commercial floorspace quantum is estimated to be commercially feasible.

Source: Pracsys 2024

Figure 25. Proportion of Total Proposed Floorspace which is Economically Feasible, 2024 to 2046



Source: Pracsys 2024

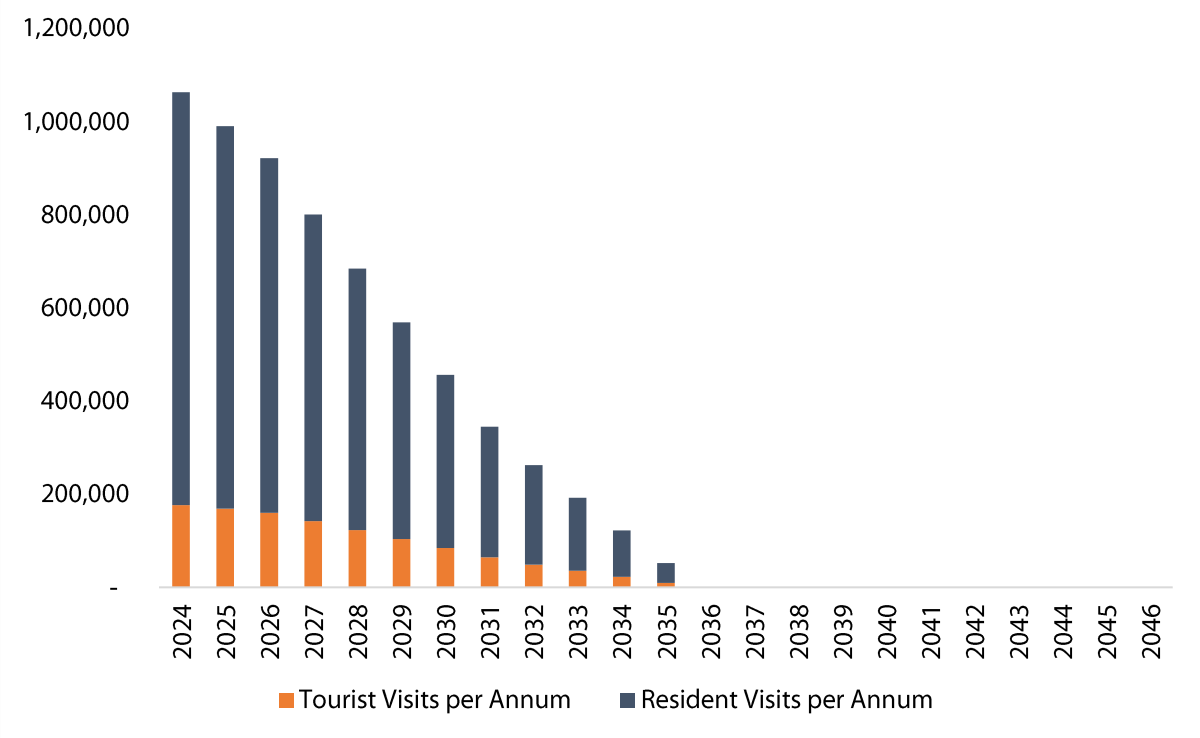
7.2 Minimum Required Demand

Required Visitation

- In 2024, the number of visits required to support the feasibility of all commercial floorspace at the Precinct is high, as expenditure from the Primary Catchment at the Precinct is lower.
- As the population of the Primary Catchment expands, the required visitation from other user groups falls, from 1.1 million visits in 2024 to 0 by 2036 (see Figure 26).
- The required visitation is lower compared to the 2020 report, due to the higher estimated expenditure of the Primary Catchment.
- The required annual Precinct visitation modelled above has been transformed into indicative daily[6] and hourly[7] visitation to provide the City with an enhanced sense of the requisite activation scale.
- Figure 27 below identifies the annual, daily and hourly visitation rates required to support the economic feasibility of the Precinct at key development timeframe intervals.

[6] Assumes the Precinct is operational 365 days per year.
[7] Assumes the Precinct is operational for 16 hours per day, from 6AM to 10PM.

Figure 26. Tourist and Resident Visitation Required to Support Precinct Floorspace, 2024 to 2046



Source: Pracsys 2024

Figure 27. Total Visitation Required to Support Precinct Floorspace, Selected Years and Time Periods

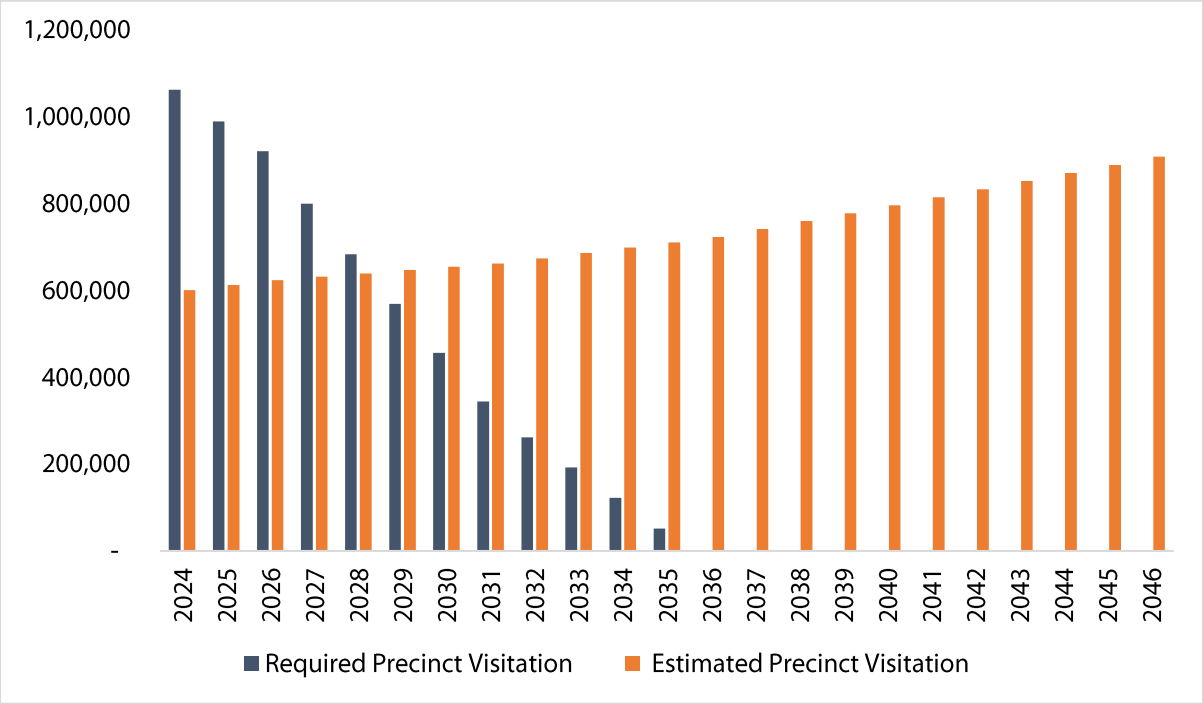
	2024	2032	2046
Per Annum	1,063,000	262,000	-
Per Day	2,900	700	-
Per Hour	180	40	-

Source: Pracsys 2024

Comparison of Required and Estimated Visitation

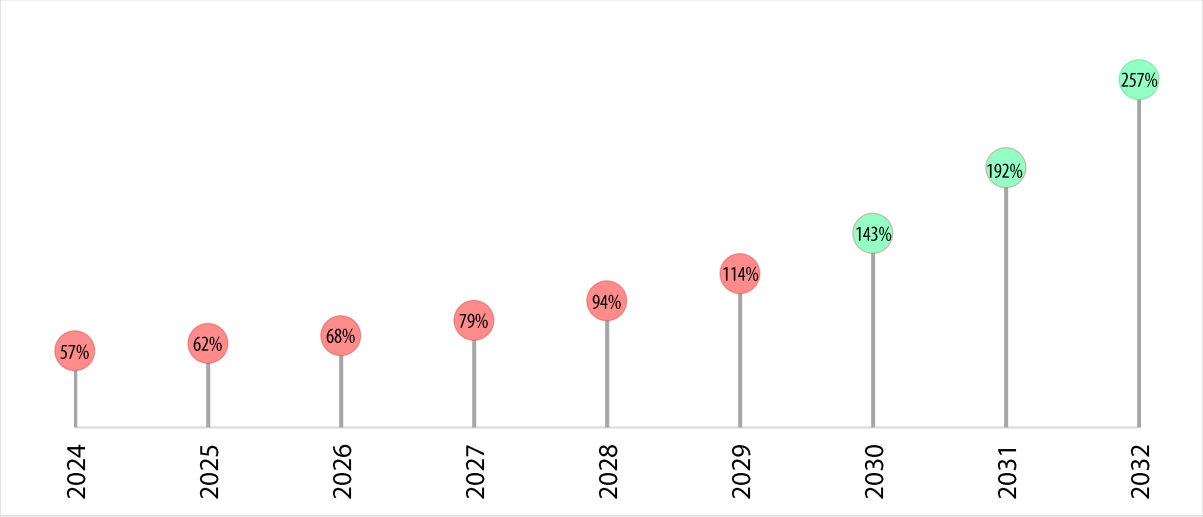
- The modelled demand for Precinct visits by Secondary Catchment residents and tourists has been compared to the visitation required to support the economic feasibility of the preferred option's benchmarked floorspace profile.
- The shortfall between estimated visits and required visits is initially significant, in the order of 462,000 visits per annum. Estimated and required visits reach approximate equilibrium by 2030 (see Figure 28).
- The degree to which estimated visitation meets required visitation is illustrated in Figure 29 below.
- This analysis highlights that estimated visitation will be sufficient to meet required visitation by 2030.
- This result aligns with preceding analysis, which indicates that, when Primary Catchment household expenditure is also included, the Precinct's commercial floorspace profile can be supported by demand even earlier.

Figure 28. Required versus Estimated Precinct Visitation, 2024 to 2046



Source: Pracsys 2024

Figure 29. Proportion of Estimated Visitation vs Required Precinct Visitation, 2024 to 2032



Source: Pracsys 2024

8 TOTAL DEMAND – OPTIMISTIC SCENARIO

Methodology

In addition to the conservative scenario modelled above, a more optimistic demand scenario has been modelled.

This optimistic scenario makes allowance in the demand modelling for existence of a 'Unique Selling Proposition', assuming a degree of over-performance in terms of the Precinct's demand attraction when compared to existing offerings. Under this scenario, the Precinct is assumed to out-perform the Conservative baseline on the following fronts (see Figure 30 for a full description of the variation in modelling variables):

- **Greater attraction** of resident visitors, based on assumption of higher-than-baseline attractiveness
- **Greater per-patron spend** on all floorspace types, based on assumption of higher-than-baseline levels of amenity
- **Greater market share** of beach-oriented leisure precincts

Figure 30. Variation in Modelling Variables Under Optimistic Scenario

Factor	Variable	Market	Increase	Justification and Outcome
Attractiveness	Household expenditure market share	Primary Catchment	20%	The Precinct's unique selling proposition induces a more-than-market-share attraction of Primary Catchment expenditure
Spend	Per-patron spend	Secondary Catchment	20%	The Precinct's higher-than-average standard of amenity induces a higher-than-average per-visitor spend
Market Share	Beach-orientated leisure precinct market share	Tourists	20%	Unique selling proposition induces a more-than-market-share attraction of City of Wanneroo tourists

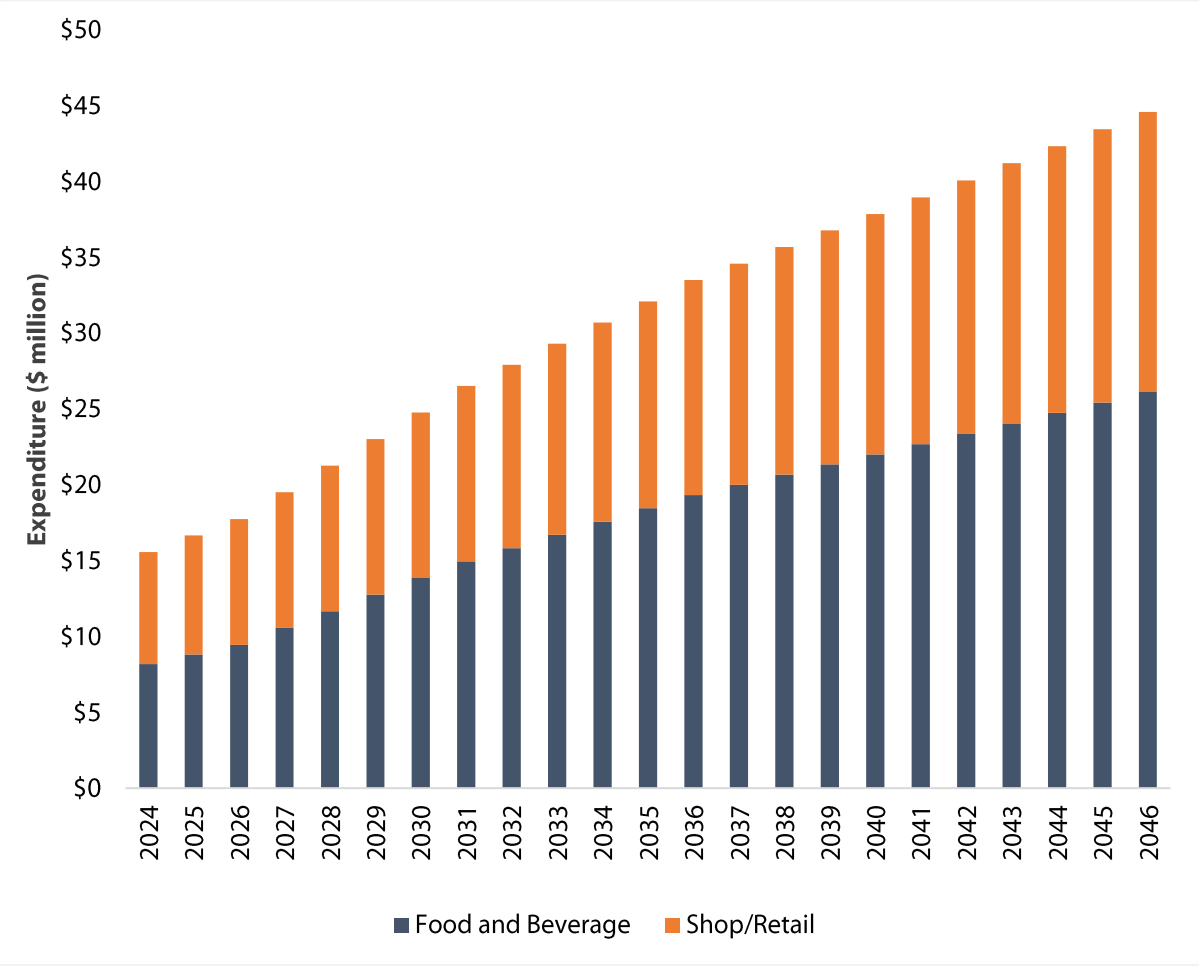
Source: Pracsys 2024

This optimistic scenario provides an indication of the likely upper-bound of Precinct feasibility. Together with the conservative scenario's provision of a lower-bound feasibility estimate, these scenario models provide a book-ended feasibility range. This presents a 'feasibility window' bounded by the likely earliest and latest date at which the prospective Precinct development will be economically feasible, allowing the City to make informed decisions about Precinct delivery over time dependent on the amount of commercial risk it is willing to accept.

Total Expenditure

- The expenditure associated with tourist visitation, Secondary Catchment visitation and Primary Catchment household expenditure under an optimistic future scenario has been estimated.
- It is forecast that the Precinct, if delivered in the form indicatively identified by the preferred option, will attract approximately $16 million of expenditure in 2024. This expenditure quantum is estimated to increase to $45 million by 2046 (Figure 31).

Figure 31. Total Forecast Expenditure at the Precinct by Floorspace Category, 2024 to 2046

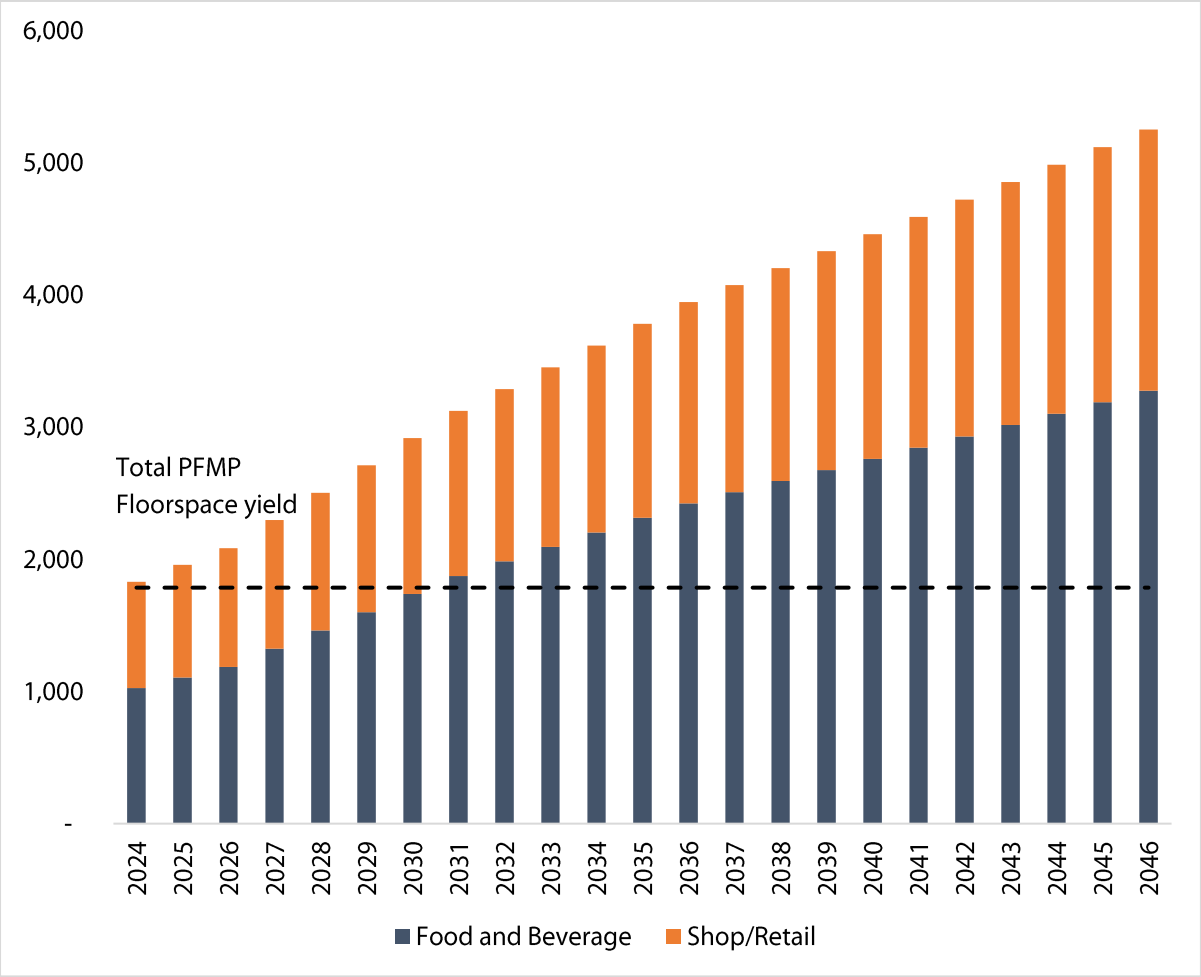


Source: Pracsys 2024

Total Supported Floorspace

- The total demand for commercial floorspace at the Precinct under an optimistic scenario has been estimated by aggregating the commercial floorspace supported by Primary Catchment residents, Secondary Catchment residents, and tourists.
- The floorspace estimates have been compared to the benchmarked floorspace yield derived from the preferred option, identifying that the quantum of commercial floorspace yielded from the preferred option will be supported by resident and visitor demand from approximately 2024 (Figure 32).
- This is one year earlier than estimated in the 2020 report. This is mainly due to the quantum of supportable accommodation floorspace not being included and the stronger base of estimated Primary Catchment's household expenditure.

Figure 32. Forecast Total Feasible Commercial Floorspace by Floorspace Category, 2024 to 2046



Source: Pracsys 2024

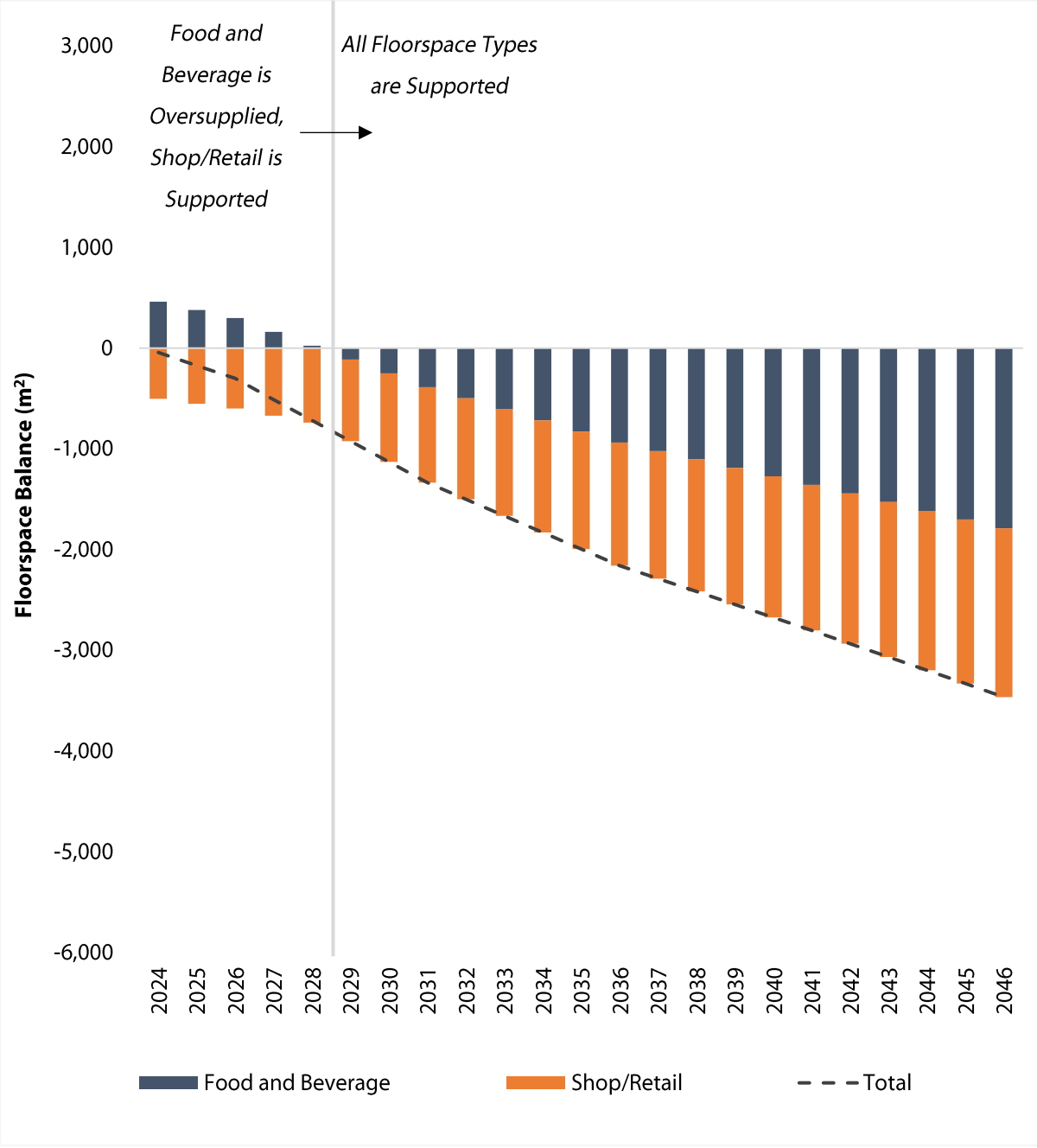
8.1 Supply and Demand Comparison

- Modelling indicates that the Precinct, in the form which it is defined by the preferred option, will approach commercial feasibility from 2024 under optimistic demand modelling.
- Figure 33 illustrates the Precinct floorspace balance timeline, indicating the overall balance between the supply of and demand for commercial floorspace at the Precinct over time. It also indicates the balance between supply and demand within the Shop/Retail and Food and Beverage commercial floorspace categories.

This supply and demand comparison analysis identifies the following results:

  - **The quantum of commercial floorspace provided at the Precinct is likely to be supported from 2024, two years earlier than under conservative modelling**
  - The quantum of commercial floorspace provided at the Precinct initially exceeds estimated demand, as under the conservative demand scenario
  - Food and Beverage floorspaces remain initially oversupplied at the Precinct
  - Shop/Retail floorspace at the Precinct remains sufficiently supported by demand throughout the development timeline
  - Food and Beverage floorspace at the Precinct is likely to be supported by 2029
- Figure 34 below indicates the proportion of total commercial floorspace proposed at the Precinct which is estimated to be feasible in years 2024 to 2046 under the optimistic modelling scenario.

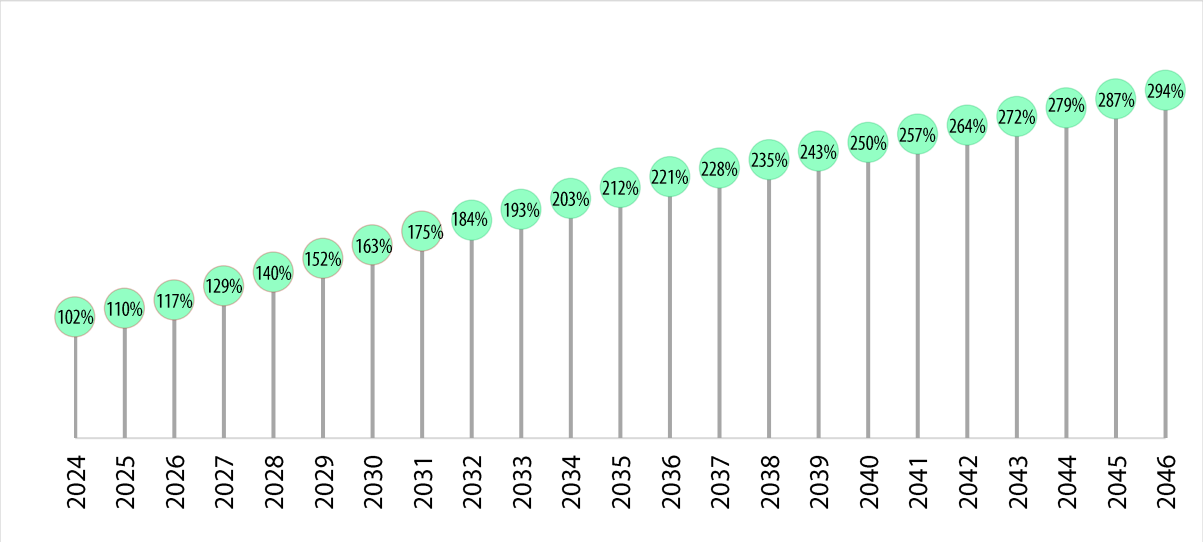
Figure 33. Commercial Floorspace Supply and Demand Balance by Floorspace Category, 2024 to 2046



Note: Positive values indicate a floorspace oversupply relative to the feasibility threshold, whereas negative values indicate a floorspace undersupply. The floorspace balance refers to the sum of floorspace oversupply and undersupply at any one point in time. When the net floorspace balance is positive, the commercial floorspace quantum is oversupplied. When the net floorspace balance is negative, the commercial floorspace quantum is estimated to be commercially feasible.

Source: Pracsys 2024

Figure 34. Proportion of Total Proposed Floorspace which is Economically Feasible, 2024 to 2046

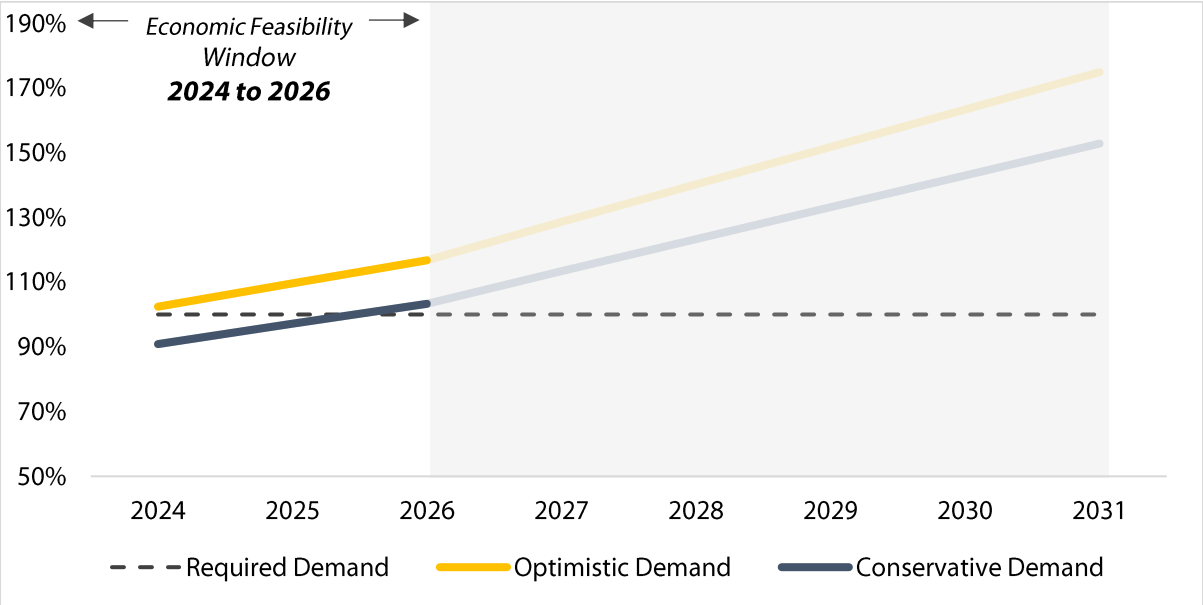


Source: Pracsys 2024

8.2 Feasibility Window

- The optimistic demand scenario, driven by provision of a unique selling proposition at the Precinct, provides an indication of the likely upper-bound of Precinct feasibility.
- Together with the conservative scenario's provision of a lower-bound feasibility estimate, a feasibility window has been identified. Based on modelling of Primary Catchment, Secondary Catchment, and tourist visitor demand, the Precinct as it is defined by the preferred option is estimated to be economically feasible between 2024 and 2026 (see Figure 35).

Figure 35. Yanchep Lagoon PFMP Precinct Feasibility Window



Source: Pracsys (2024)

9 RECOMMENDATIONS

A series of recommendations relating to the PFMP Precinct's indicative commercial floorspace profile are outlined below. These recommendations are designed to guide the City's future decision-making with regard to optimising the commercial feasibility of the Precinct as it develops over time. Recommendations are based on the conservative demand scenario; if the City wishes to accept a greater degree of commercial risk, it may choose to expediate the staging of elements in line with the optimistic demand scenario.

Recommendation 1. Stage the Delivery of Commercial Floorspace in line with Demand

Deliver commercial floorspace progressively over the development timeline in line with forecast visitation and expenditure demand. Thresholds should be established to guide the development of each floorspace type. The conservative demand analysis undertaken for the Precinct suggests that the following high-level commercial floorspace delivery triggers are appropriate to guide the Precinct's commercial development:

- Deliver two-to-three speciality comparison retailers (e.g. beach-related leisure items, casual fashion retailers etc.) of cumulative size of approximately 450m^2 at the commencement of the development
- Deliver a small supermarket of approximately 750m^2 at the commencement of the development
- Deliver the Precinct's landmark Food and Beverage outlet (e.g. micro-brewery / restaurant) of approximately 1,500m^2 by 2028

Recommendation 2. Maintain Flexibility between Food and Beverage and Shop/Retail Floorspaces

The analysis identified that Food and beverage floorspace is oversupplied in the short and medium term, whilst Shop/Retail floorspace is undersupplied. It may therefore be prudent to substitute a portion of the PFMP's indicative provision of Food and Beverage floorspace into Shop/Retail floorspace in line with the modelled floorspace demand profile.

Floorspace should also be defined as flexibly as possible to allow for both Food and Beverage and Shop/Retail operations, ensuring demand can be met dynamically as population grows and visitation expands and contracts seasonally. As the distinction between these floorspace categories is relatively minor, a degree of fluidity between Food and Beverage and retail uses at the Precinct should be readily facilitated, allowing substitution between the two in line with demand.

Recommendation 3. Align the Composition of Shop/Retail Floorspace with Demand

Deliver a Shop/Retail floorspace composition in line with the estimated breakdown in demand for Comparison Retail and Convenience Retail floorspaces. Combined demand for Shop/Retail floorspace from Primary Catchment residents, Secondary Catchment residents, and tourist visitors produces a requirement for approximately 63 per cent of Shop/Retail floorspace to be convenience-based (supermarket, pharmacy, delicatessen etc.) and 37 per cent to be comparison-based (clothing / footwear, leisure items, homewares etc.).[8] The supply of Shop/Retail floorspace at the Precinct should mirror this profile by delivering a higher proportion of comparison retailing than typical centres, better-reflecting the leisure-orientated and tourist-receptive character of the Precinct.

[8] This Shop/Retail floorspace profile is consistent with comparable commercially-activated beach-orientated leisure precincts such as the Hillarys Boat Harbour, which exhibits a Comparison Retail concentration of approximately 32 per cent.

10 CONCLUSION

This economic feasibility assessment update has been prepared for the City of Wanneroo to investigate the extent to which future demand for commercial floorspaces at the Yanchep Lagoon PFMP Precinct will support their indicative supply as benchmarked from the preferred option. This assessment has provided an understanding of current and future household expenditure demand in the Primary Catchment, estimating the extent to which this expenditure can be captured by the Precinct's commercial offerings. The visitation of Secondary Catchment residents to the Precinct has been estimated through a beach-orientated entertainment Precinct visitation model, with this visitation transformed into expenditure and resultant supportable floorspace. Tourist visitation to the City has been forecast to estimate the potential visitor capture of the Precinct, with visitation again translated into floorspace category-specific expenditure and associated supported floorspace.

In 2024, the combined expenditure estimated to be captured by the Precinct under the conservative modelling scenario is sufficient to support 890m^2 of Food and Beverage floorspace and 730m^2 of Shop/Retail floorspace. This reflects a total floorspace oversupply between the two floorspace categories in the order of 160m^2. By 2046, the floorspace profile estimated to be demanded in the catchments will expand to 2,800m^2 of Food and Beverage floorspace and 1,740m^2 of Shop/Retail floorspace. By this time, all commercial floorspaces benchmarked from the preferred option are estimated to be economically feasible. It should be noted that in the long term it is not expected that all of the identified demand would be relevant to the Precinct. *Appendix A: Results* outlines a year by year breakdown of floorspace feasibility by floorspace category under the conservative modelling scenario. *Appendix B: Sensitivity Analyses* provides an indication of the sensitivity of supportable floorspace results to adjustments in key modelling variables.

Based on the results of the economic feasibility analysis, Pracsys has recommended that the City:

- Stage the delivery of commercial floorspace in line with demand
- Maintain flexibility between Food and Beverage and Shop/Retail floorspaces
- Align the composition of Shop/Retail floorspace with demand

11 APPENDIX A: RESULTS

Figure 36. Estimated and Required Visits Balance under Conservative Modelling Scenario, 2024 to 2046

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046
	Per Annum																						
Tourist visits	47,804	50,113	52,069	53,904	55,294	56,723	58,051	59,416	60,371	61,350	62,384	63,446	64,537	65,659	66,812	67,997	69,217	70,471	71,762	73,091	74,460	75,869	77,321
Resident visits	553,159	562,583	572,007	578,127	584,247	590,367	596,487	602,607	613,865	625,123	636,380	647,638	658,896	675,972	693,049	710,125	727,202	744,278	761,591	778,904	796,217	813,530	830,843
Total visits	**600,963**	**612,697**	**624,076**	**632,031**	**639,541**	**647,090**	**654,538**	**662,023**	**674,236**	**686,473**	**698,765**	**711,084**	**723,433**	**741,631**	**759,860**	**778,122**	**796,418**	**814,749**	**833,353**	**851,995**	**870,677**	**889,399**	**908,164**
Balance	**461,568**	**376,883**	**296,849**	**167,699**	**44,053**	**-78,235**	**-198,360**	**-317,426**	**-412,210**	**-494,186**	**-576,580**	**-659,295**	**-723,433**	**-741,631**	**-759,860**	**-778,122**	**-796,418**	**-814,749**	**-833,353**	**-851,995**	**-870,677**	**-889,399**	**-908,164**
	Per Day																						
Tourist visits	131	137	143	148	151	155	159	163	165	168	171	174	177	180	183	186	190	193	197	200	204	208	212
Resident visits	1516	1541	1567	1584	1601	1617	1634	1651	1682	1713	1744	1774	1805	1852	1899	1946	1992	2039	2087	2134	2181	2229	2276
Total visits	**1,646**	**1,679**	**1,710**	**1,732**	**1,752**	**1,773**	**1,793**	**1,814**	**1,847**	**1,881**	**1,914**	**1,948**	**1,982**	**2,032**	**2,082**	**2,132**	**2,182**	**2,232**	**2,283**	**2,334**	**2,385**	**2,437**	**2,488**
Balance	**1,265**	**1,033**	**813**	**459**	**121**	**-214**	**-543**	**-870**	**-1,129**	**-1,354**	**-1,580**	**-1,806**	**-1,982**	**-2,032**	**-2,082**	**-2,132**	**-2,182**	**-2,232**	**-2,283**	**-2,334**	**-2,385**	**-2,437**	**-2,488**
	Per Hour																						
Tourist visits	8	9	9	9	9	10	10	10	10	11	11	11	11	11	11	12	12	12	12	13	13	13	13
Resident visits	95	96	98	99	100	101	102	103	105	107	109	111	113	116	119	122	125	127	130	133	136	139	142
Total visits	**103**	**105**	**107**	**108**	**110**	**111**	**112**	**113**	**115**	**118**	**120**	**122**	**124**	**127**	**130**	**133**	**136**	**140**	**143**	**146**	**149**	**152**	**156**
Balance	**79**	**65**	**51**	**29**	**8**	**-13**	**-34**	**-54**	**-71**	**-85**	**-99**	**-113**	**-124**	**-127**	**-130**	**-133**	**-136**	**-140**	**-143**	**-146**	**-149**	**-152**	**-156**

Note: Positive balance indicates that the number of visits required for economic feasibility exceeds the estimated number of visits (denoted in red). Negative balance reflects that the estimated number of visits exceeds the number of visits required for economic feasibility (denoted in green). Per day estimates assume that the Precinct is operational 365 days per year. Per hour estimates assume that the Precinct is operational for 16 hours per day, i.e. from 6AM to 10PM.

Source: Pracsys 2024

Figure 37. Timeline of Precinct Expenditure by Floorspace Category under Conservative Modelling Scenario, 2024 to 2046 ($ million)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046
Food and Beverage	$7.12	$7.67	$8.21	$9.16	$10.09	$11.02	$11.95	$12.88	$13.62	$14.36	$15.10	$15.85	$16.59	$17.16	$17.72	$18.29	$18.86	$19.43	$20.01	$20.60	$21.18	$21.77	$22.35
Shop/Retail	$6.67	$7.08	$7.46	$8.04	$8.60	$9.16	$9.71	$10.27	$10.71	$11.15	$11.59	$12.04	$12.48	$12.84	$13.20	$13.56	$13.93	$14.29	$14.67	$15.04	$15.42	$15.80	$16.18
Total	**$13.79**	**$14.75**	**$15.67**	**$17.20**	**$18.69**	**$20.18**	**$21.66**	**$23.15**	**$24.33**	**$25.51**	**$26.69**	**$27.88**	**$29.07**	**$30.00**	**$30.93**	**$31.86**	**$32.79**	**$33.73**	**$34.68**	**$35.64**	**$36.60**	**$37.56**	**$38.53**

Source: Pracsys 2024

Figure 38. Supplied Floorspace, Demanded Floorspace and Resultant Floorspace Balance under Conservative Modelling Scenario, 2024 to 2046

		2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046
Masterplan Precinct Floorspace	Food and Beverage	1,485	1,485	1,485	1,485	1,485	1,485	1,485	1,485	1,485	1,485	1,485	1,485	1,485	1,485	1,485	1,485	1,485	1,485	1,485	1,485	1,485	1,485	1,485
	Shop/Retail	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300
Modelled Supportable Floorspace	Food and Beverage	892	962	1,030	1,148	1,265	1,381	1,498	1,614	1,707	1,800	1,893	1,986	2,079	2,150	2,222	2,293	2,364	2,436	2,508	2,582	2,655	2,728	2,801
	Shop/Retail	730	773	814	877	936	995	1,054	1,113	1,160	1,206	1,253	1,300	1,347	1,385	1,423	1,462	1,500	1,539	1,578	1,618	1,658	1,698	1,738
Floorspace Balance	Food and Beverage	593	523	455	337	220	104	-13	-129	-222	-315	-408	-501	-594	-665	-737	-808	-879	-951	-1,023	-1,097	-1,170	-1,243	-1,316
	Shop/Retail	-430	-473	-514	-577	-636	-695	-754	-813	-860	-906	-953	-1,000	-1,047	-1,085	-1,123	-1,162	-1,200	-1,239	-1,278	-1,318	-1,358	-1,398	-1,438
	Total	**163**	**51**	**-59**	**-240**	**-416**	**-592**	**-767**	**-942**	**-1,082**	**-1,221**	**-1,361**	**-1,501**	**-1,641**	**-1,750**	**-1,860**	**-1,969**	**-2,079**	**-2,189**	**-2,302**	**-2,415**	**-2,528**	**-2,641**	**-2,755**

Note: Positive floorspace balance values indicate a floorspace oversupply (denoted in red). Negative floorspace balance values reflect a floorspace undersupply (denoted in green).

Source: Pracsys 2024

12 APPENDIX B: SENSITIVITY ANALYSES

12.1 Sensitivity to Population Growth

The effect of 'Higher' (plus 25 per cent) and 'Lower' (minus 25 per cent) rates of residential population growth on the feasible floorspace quantum has been tested. This analysis assumes all other factors – such as Precinct visitation, per-patron Precinct expenditure, household expenditure and floorspace productivities – are held equal.

Figure 39. Sensitivity of Total Supported Floorspace to Rate of Residential Population Growth under Conservative Modelling Scenario, 2024 to 2046

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046
	Convenience Retail																						
Higher	502	533	563	612	659	706	753	799	837	875	913	951	989	1,019	1,050	1,080	1,111	1,142	1,173	1,205	1,237	1,268	1,300
Forecasted	437	463	489	529	568	606	644	683	713	744	775	806	837	862	888	913	938	964	990	1,016	1,042	1,068	1,095
Lower	371	393	414	446	476	506	536	566	590	614	638	662	686	706	726	745	765	785	806	826	847	868	889
	Comparison Retail																						
Higher	320	339	357	384	408	433	457	482	501	520	539	558	577	593	608	624	639	655	671	687	703	720	736
Forecasted	293	310	325	348	368	389	410	430	446	462	478	494	510	523	536	549	562	575	589	602	616	630	644
Lower	265	280	293	312	329	345	362	379	391	404	416	429	442	452	463	474	484	495	506	517	528	540	551
	Food and Beverage																						
Higher	1,066	1,151	1,234	1,380	1,525	1,669	1,813	1,957	2,073	2,188	2,303	2,419	2,535	2,622	2,710	2,798	2,886	2,974	3,065	3,155	3,245	3,336	3,426
Forecasted	892	962	1,030	1,148	1,265	1,381	1,498	1,614	1,707	1,800	1,893	1,986	2,079	2,150	2,222	2,293	2,364	2,436	2,508	2,582	2,655	2,728	2,801
Lower	718	772	825	916	1,005	1,094	1,182	1,271	1,341	1,412	1,483	1,553	1,624	1,679	1,733	1,787	1,842	1,897	1,952	2,008	2,064	2,121	2,177
	Total																						
Higher	1,888	2,023	2,154	2,376	2,592	2,808	3,023	3,239	3,411	3,583	3,755	3,928	4,100	4,234	4,368	4,502	4,637	4,772	4,909	5,047	5,185	5,324	5,463
Forecasted	1,622	1,734	1,844	2,025	2,201	2,377	2,552	2,727	2,867	3,006	3,146	3,286	3,426	3,535	3,645	3,754	3,864	3,974	4,087	4,200	4,313	4,426	4,540
Lower	1,355	1,446	1,533	1,674	1,810	1,946	2,081	2,216	2,323	2,430	2,537	2,644	2,752	2,837	2,921	3,006	3,092	3,177	3,264	3,352	3,440	3,528	3,617
Reduction	16%	17%	17%	17%	18%	18%	18%	19%	19%	19%	19%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%

Note: Reduction values reflect the proportional reduction in supportable floorspace experienced under 'Lower' residential population growth, compared to what would be supported under the forecasted rate.

Source: Pracsys 2024

12.2 Sensitivity to Tourist Attraction

The effect of 'Higher' (plus 25 per cent) and 'Lower' (minus 25 per cent) rates of tourist attraction on the feasible floorspace quantum has been tested. This analysis assumes all other factors – such as population growth, per-patron Precinct expenditure, household expenditure and floorspace productivities – are held equal.

Figure 40. Sensitivity of Total Supported Floorspace to Rate of Tourist Visitor Attraction under Conservative Modelling Scenario, 2024 to 2046

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046
Convenience Retail																							
Higher	481	509	537	578	618	658	697	737	768	800	832	863	895	921	947	974	1,000	1,026	1,053	1,080	1,108	1,135	1,162
Forecasted	437	463	489	529	568	606	644	683	713	744	775	806	837	862	888	913	938	964	990	1,016	1,042	1,068	1,095
Lower	392	417	441	480	517	554	592	629	659	689	719	749	779	803	828	852	877	901	926	951	976	1,001	1,027
Comparison Retail																							
Higher	339	357	375	399	421	443	465	486	503	519	536	553	569	583	597	611	625	639	653	668	682	697	712
Forecasted	293	310	325	348	368	389	410	430	446	462	478	494	510	523	536	549	562	575	589	602	616	630	644
Lower	247	262	276	297	316	336	355	374	389	404	420	435	450	462	474	487	499	511	524	537	549	562	575
Food and Beverage																							
Higher	941	1,013	1,083	1,203	1,321	1,439	1,557	1,674	1,768	1,862	1,956	2,050	2,144	2,216	2,288	2,361	2,433	2,505	2,579	2,654	2,728	2,803	2,877
Forecasted	892	962	1,030	1,148	1,265	1,381	1,498	1,614	1,707	1,800	1,893	1,986	2,079	2,150	2,222	2,293	2,364	2,436	2,508	2,582	2,655	2,728	2,801
Lower	843	910	976	1,093	1,208	1,324	1,439	1,554	1,646	1,738	1,830	1,922	2,015	2,085	2,155	2,225	2,295	2,366	2,437	2,509	2,581	2,654	2,726
Total																							
Higher	1,761	1,879	1,994	2,180	2,360	2,540	2,719	2,898	3,039	3,181	3,323	3,466	3,609	3,721	3,833	3,945	4,058	4,171	4,286	4,402	4,518	4,635	4,752
Forecasted	1,622	1,734	1,844	2,025	2,201	2,377	2,552	2,727	2,867	3,006	3,146	3,286	3,426	3,535	3,645	3,754	3,864	3,974	4,087	4,200	4,313	4,426	4,540
Lower	1,483	1,589	1,694	1,869	2,041	2,214	2,385	2,557	2,694	2,831	2,969	3,106	3,244	3,350	3,457	3,564	3,671	3,778	3,887	3,997	4,107	4,217	4,328
Reduction	9%	8%	8%	8%	7%	7%	7%	6%	6%	6%	6%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%

Note: Reduction values reflect the proportional reduction in supportable floorspace experienced under 'Lower' tourist visitor attraction, compared to what would be supported under the forecasted rate.

Source: Pracsys 2024

12.3 Sensitivity to Floorspace Productivity / Operational Expenditure

Higher operational costs reflect lower floorspace productivity and lower operational costs reflect higher floorspace productivity. As such, the sensitivity of supportable floorspace to the rate of floorspace productivity has been tested by varying commercial floorspace operational costs. The effect of 'Lower' (minus 10 per cent) and 'Higher' (plus 10 per cent) operational costs on the feasible floorspace quantum has been tested and compared to the modelled Breakeven scenario. This analysis assumes all other factors – such as population growth, Precinct visitation, per-patron Precinct expenditure and household expenditure – are held equal.

Figure 41. Sensitivity of Total Supported Floorspace to Operational Costs under Conservative Modelling Scenario, 2024 to 2046

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046
	Convenience Retail																						
Higher	485	515	543	588	631	674	716	759	793	827	861	896	930	958	986	1,014	1,042	1,071	1,100	1,129	1,158	1,187	1,216
Breakeven	437	463	489	529	568	606	644	683	713	744	775	806	837	862	888	913	938	964	990	1,016	1,042	1,068	1,095
Lower	397	421	444	481	516	551	586	621	649	677	705	733	761	784	807	830	853	876	900	923	947	971	995
	Comparison Retail																						
Higher	325	344	361	386	409	432	455	478	496	513	531	548	566	581	595	610	624	639	654	669	684	700	715
Breakeven	293	310	325	348	368	389	410	430	446	462	478	494	510	523	536	549	562	575	589	602	616	630	644
Lower	266	281	296	316	335	354	372	391	406	420	434	449	463	475	487	499	511	523	535	548	560	572	585
	Food and Beverage																						
Higher	991	1,068	1,144	1,276	1,405	1,535	1,664	1,794	1,897	2,000	2,103	2,207	2,310	2,389	2,468	2,548	2,627	2,706	2,787	2,868	2,950	3,031	3,113
Breakeven	892	962	1,030	1,148	1,265	1,381	1,498	1,614	1,707	1,800	1,893	1,986	2,079	2,150	2,222	2,293	2,364	2,436	2,508	2,582	2,655	2,728	2,801
Lower	811	874	936	1,044	1,150	1,256	1,362	1,467	1,552	1,636	1,721	1,806	1,890	1,955	2,020	2,084	2,149	2,214	2,280	2,347	2,413	2,480	2,547
	Total																						
Higher	1,802	1,927	2,049	2,250	2,445	2,641	2,835	3,030	3,185	3,340	3,495	3,651	3,807	3,928	4,050	4,172	4,294	4,416	4,541	4,666	4,792	4,918	5,044
Breakeven	1,622	1,734	1,844	2,025	2,201	2,377	2,552	2,727	2,867	3,006	3,146	3,286	3,426	3,535	3,645	3,754	3,864	3,974	4,087	4,200	4,313	4,426	4,540
Lower	1,474	1,577	1,676	1,841	2,001	2,161	2,320	2,479	2,606	2,733	2,860	2,987	3,115	3,214	3,313	3,413	3,513	3,613	3,715	3,818	3,921	4,024	4,127
Reduction	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%

Note: Reduction values reflect the proportional reduction in supportable floorspace experienced under a 'Higher operational cost, compared to what would be supported under the Breakeven cost.

Source: Pracsys 2024

Bushfire Works
A.B.N. 945 23123 843
PO Box 1249, Bibra Lake DC WA 6965
E: david.deeley@bushfireworks.com.au
www.bushfireworks.com.au

Bushfire Risk Assessment and BAL Contour Planning – Yanchep Lagoon Preliminary Foreshore Management Plan

Summary

The area was classified into 4 precincts aligning broadly with the team precincts other than Dune Park and Fisherman's Hollow were amalgamated into a single precinct for bushfire risk assessment.

Post-development vegetation distribution has been completed (Maps 1-5 attached). **Note:** Non-shaded areas around structures in Figures 1-5, represent areas where additional vegetation management or clearing is required for existing or proposed structures so as to achieve ratings of ≤BAL-29 as per requirements of SPP3.7.

BAL contours incorporating localised slope and vegetation type, confirm that with the nominated APZs, ratings of ≤BAL-29 are possible for all proposed structures (Figures 6-11 attached).

At this stage, no determination has been made as to whether structures are 'habitable' and subject to SPP3.7 requirements or whether because of tourist visitations, they constitute vulnerable landuses which under SPP requirements, trigger a requirement to prepare Emergency Evacuation Plans. It is understood this preliminary assessment is to focus on risk assessment and possible management through 'Acceptable solutions'.

Future, more-detailed analyses will be required to determine the exact nature of the existing and proposed structures and whether they require additional bushfire planning and design.



Figure 1 Classified vegetation (AS3959) after development

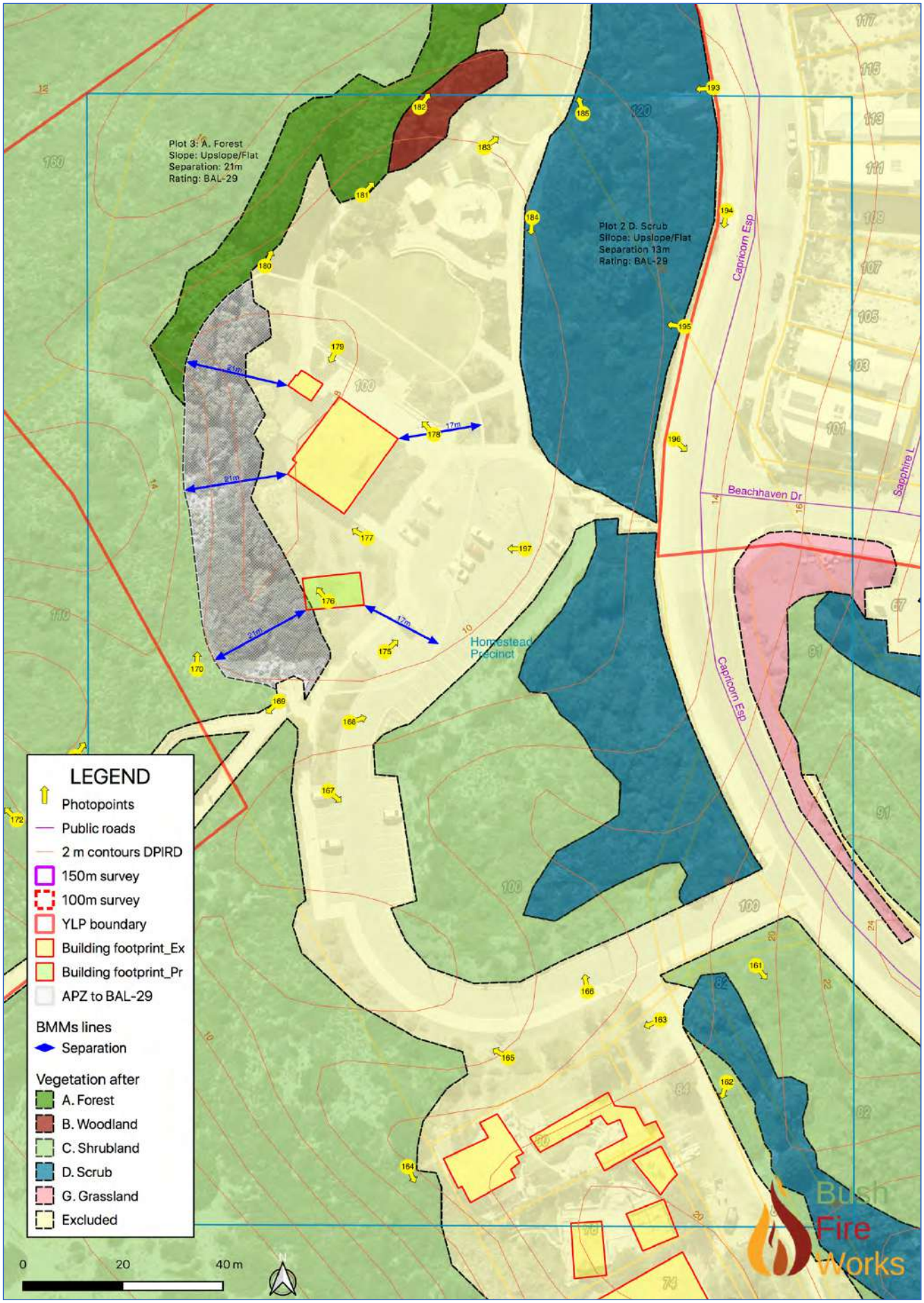


Figure 2 Classified vegetation (AS3959) after development - Homestead precinct

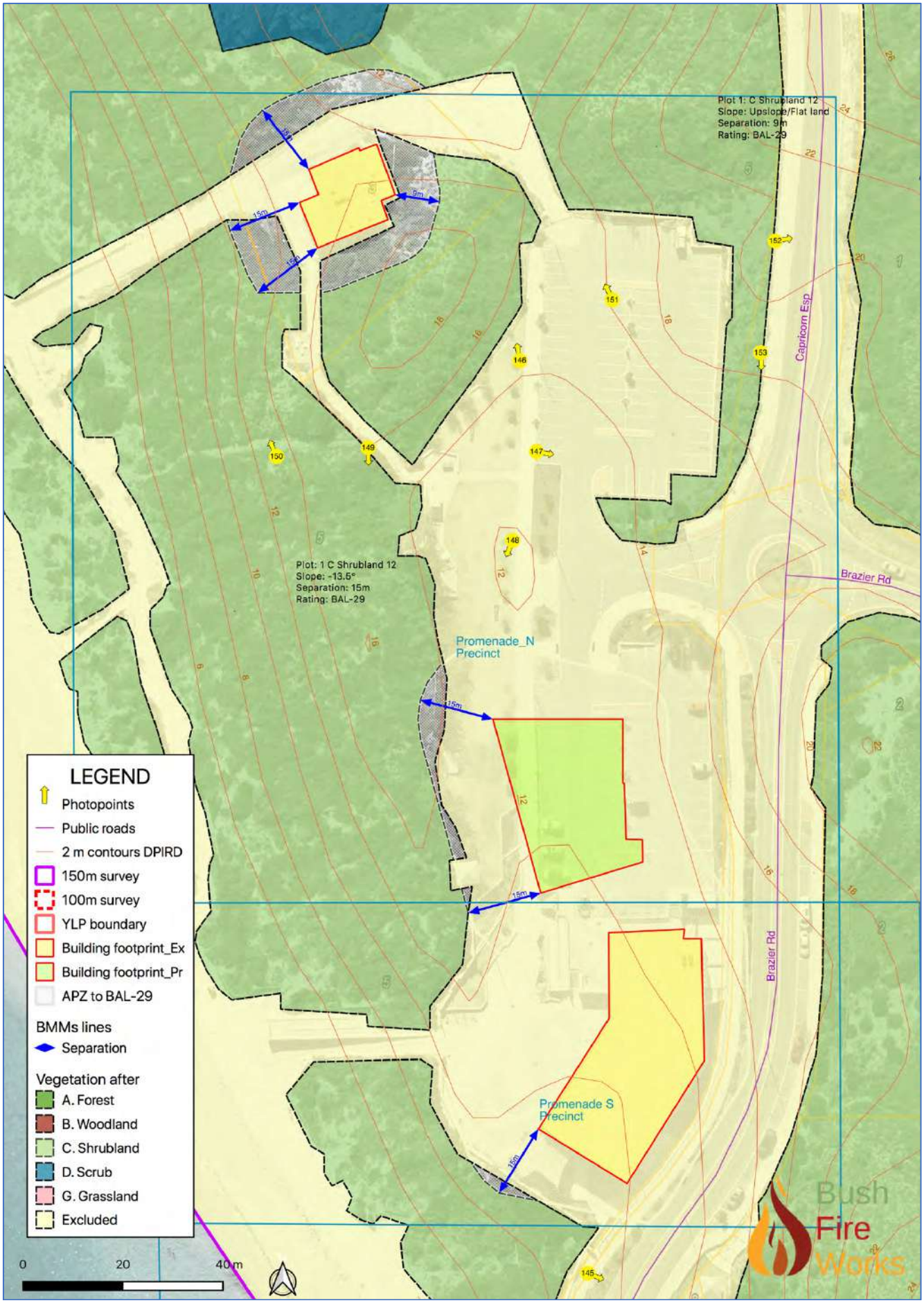


Figure 3 Classified vegetation (AS3959) after development – Promenade precinct N

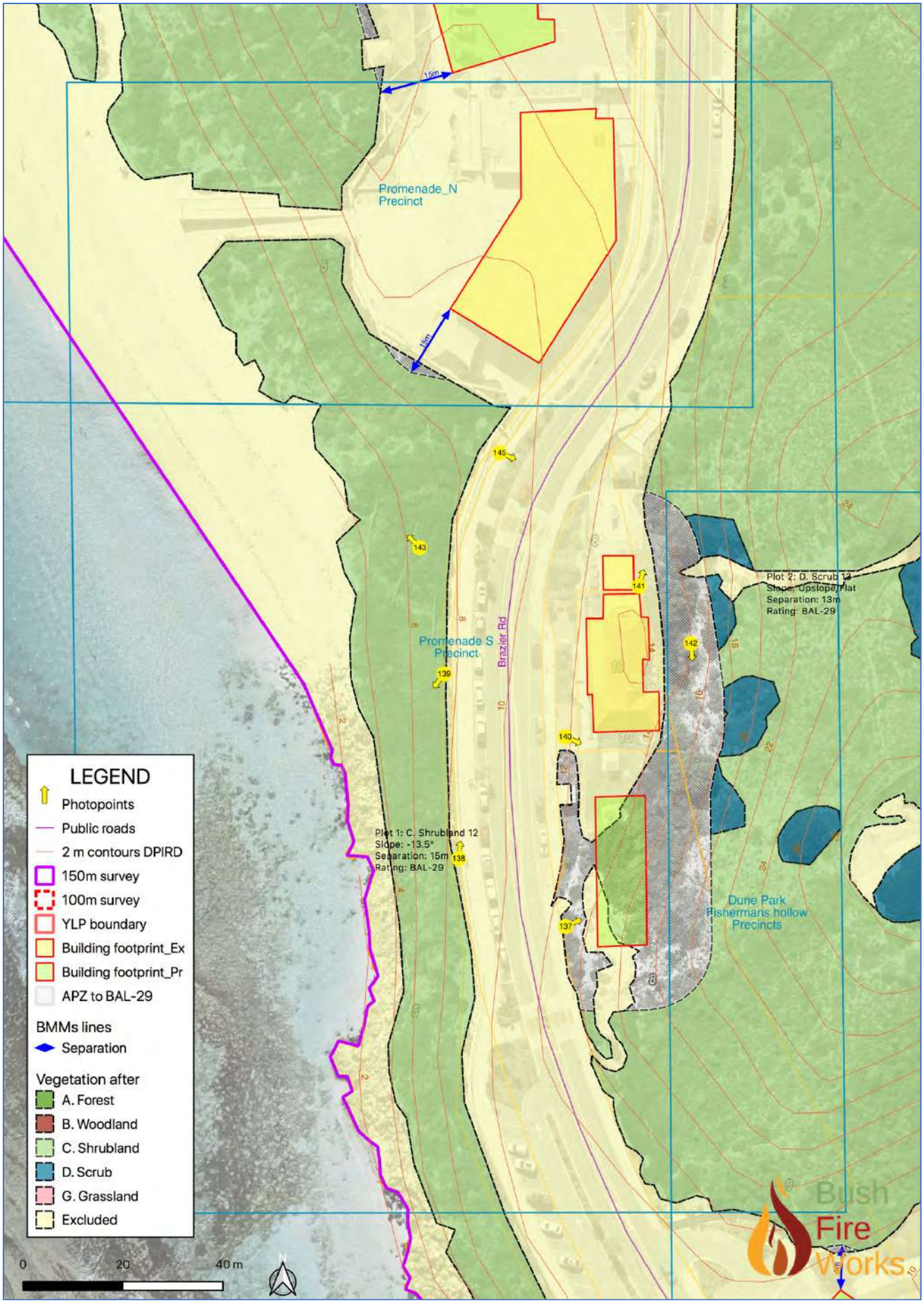


Figure 4 Classified vegetation (AS3959) after development – Promenade precinct S

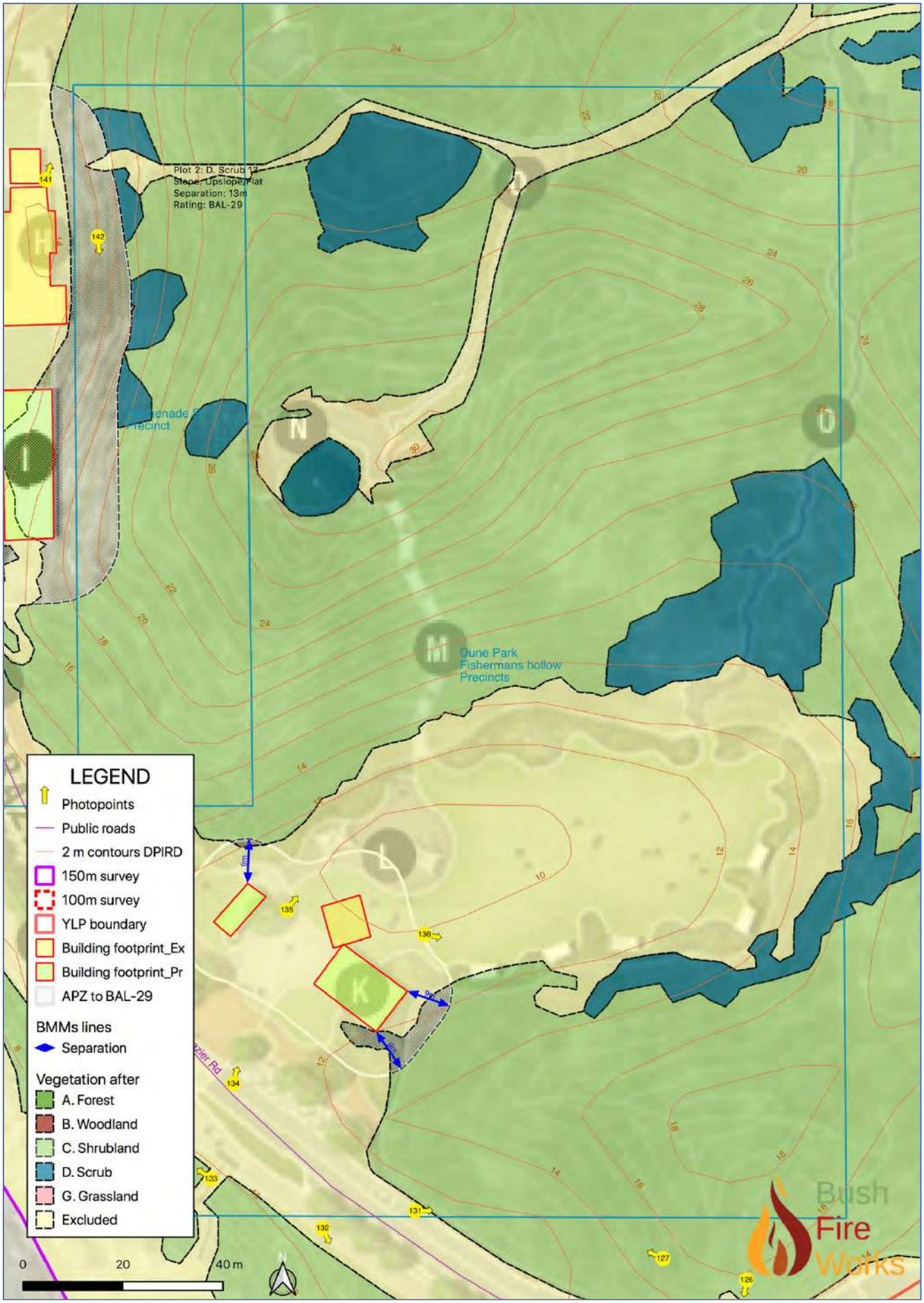


Figure 5 Classified vegetation (AS3959) after development – Dune Park, Fisherman's Hollow

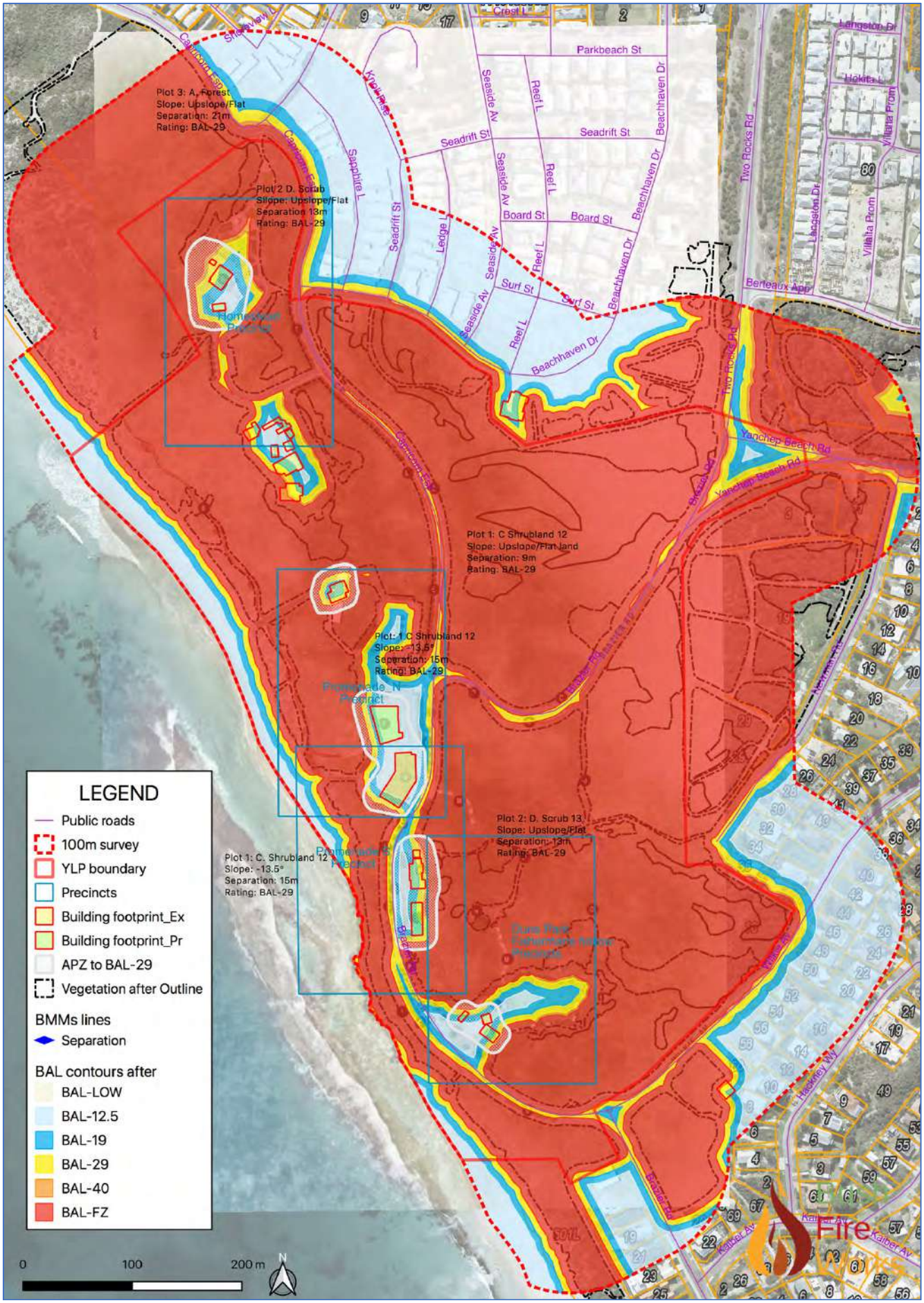


Figure 6 BAL contours after development with APZs to ≤BAL-29

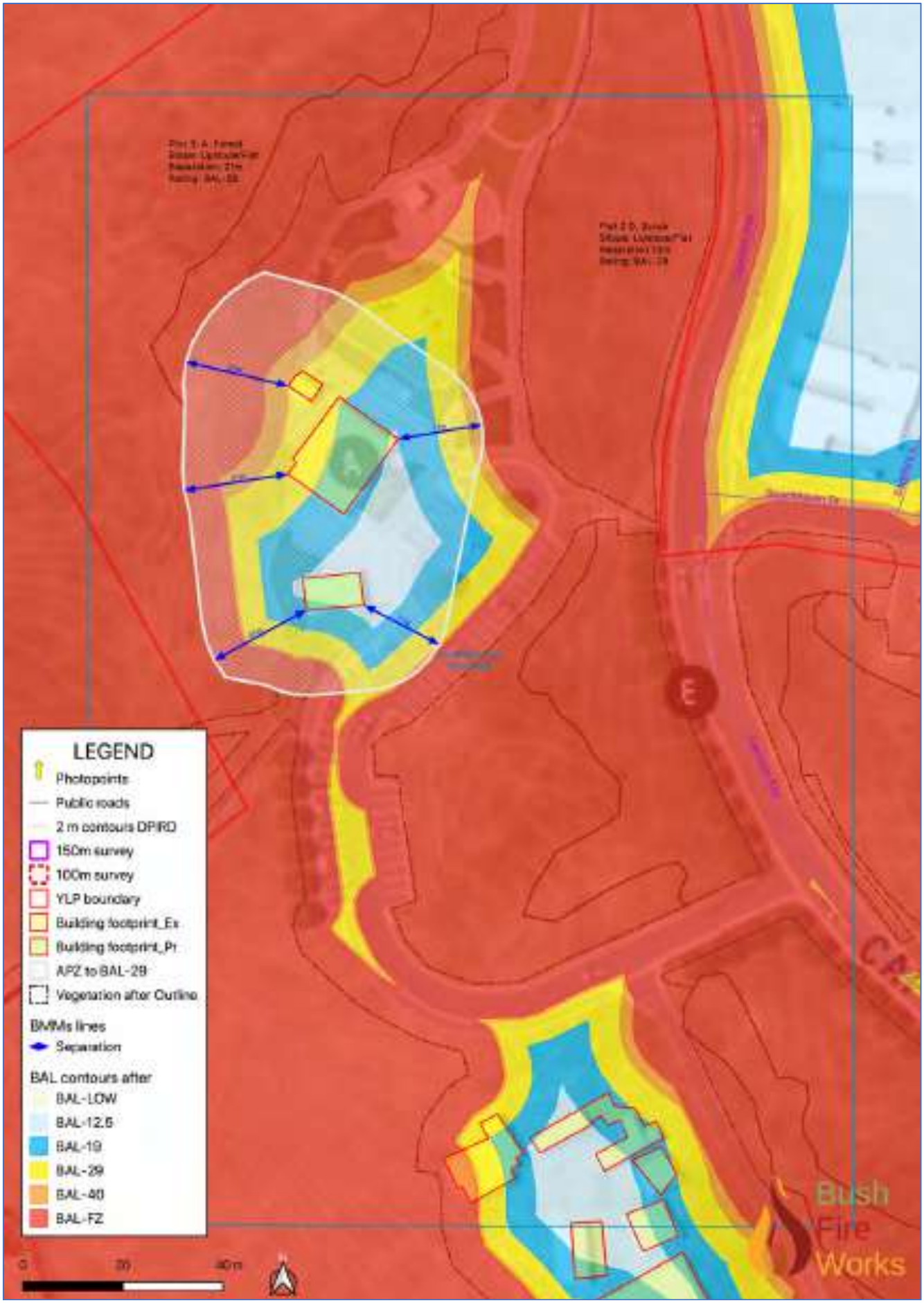


Figure 7 BAL contours after development with APZs to ≤BAL-29 – Homestead precinct

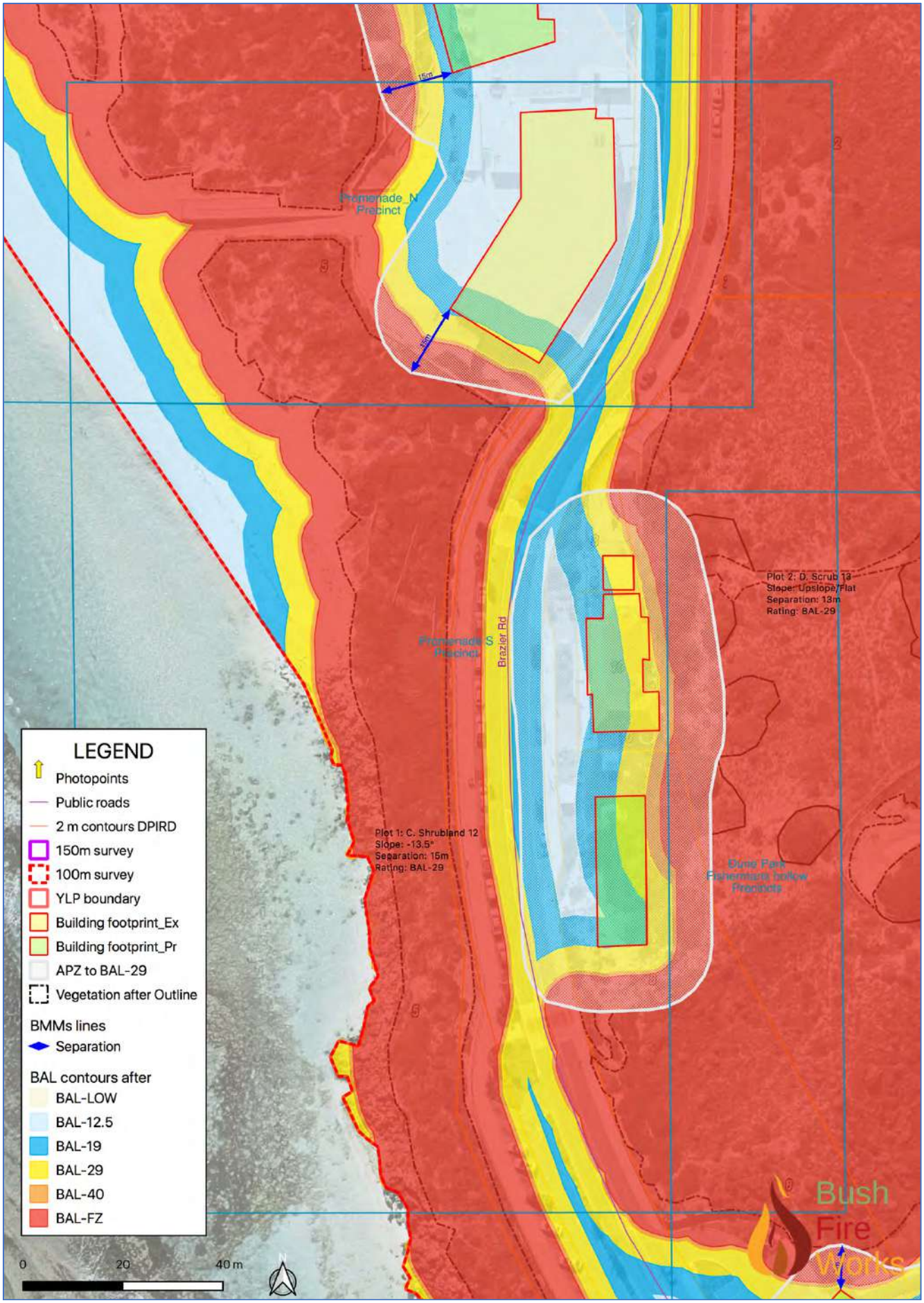


Figure 8 BAL contours after development with APZs to ≤BAL-29 – Promenade precinct N

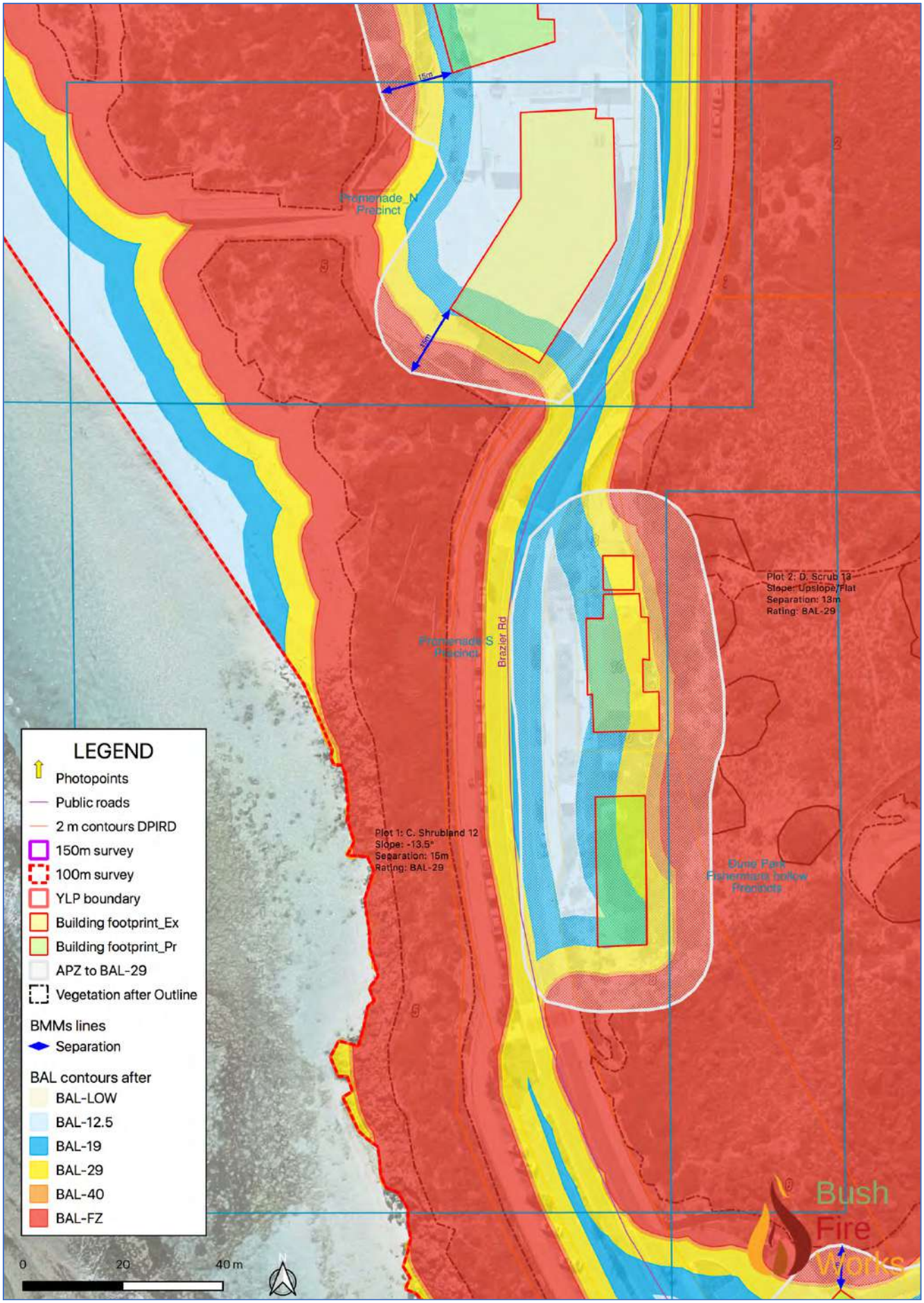


Figure 9 BAL contours after development with APZs to ≤BAL-29 – Promenade precinct S

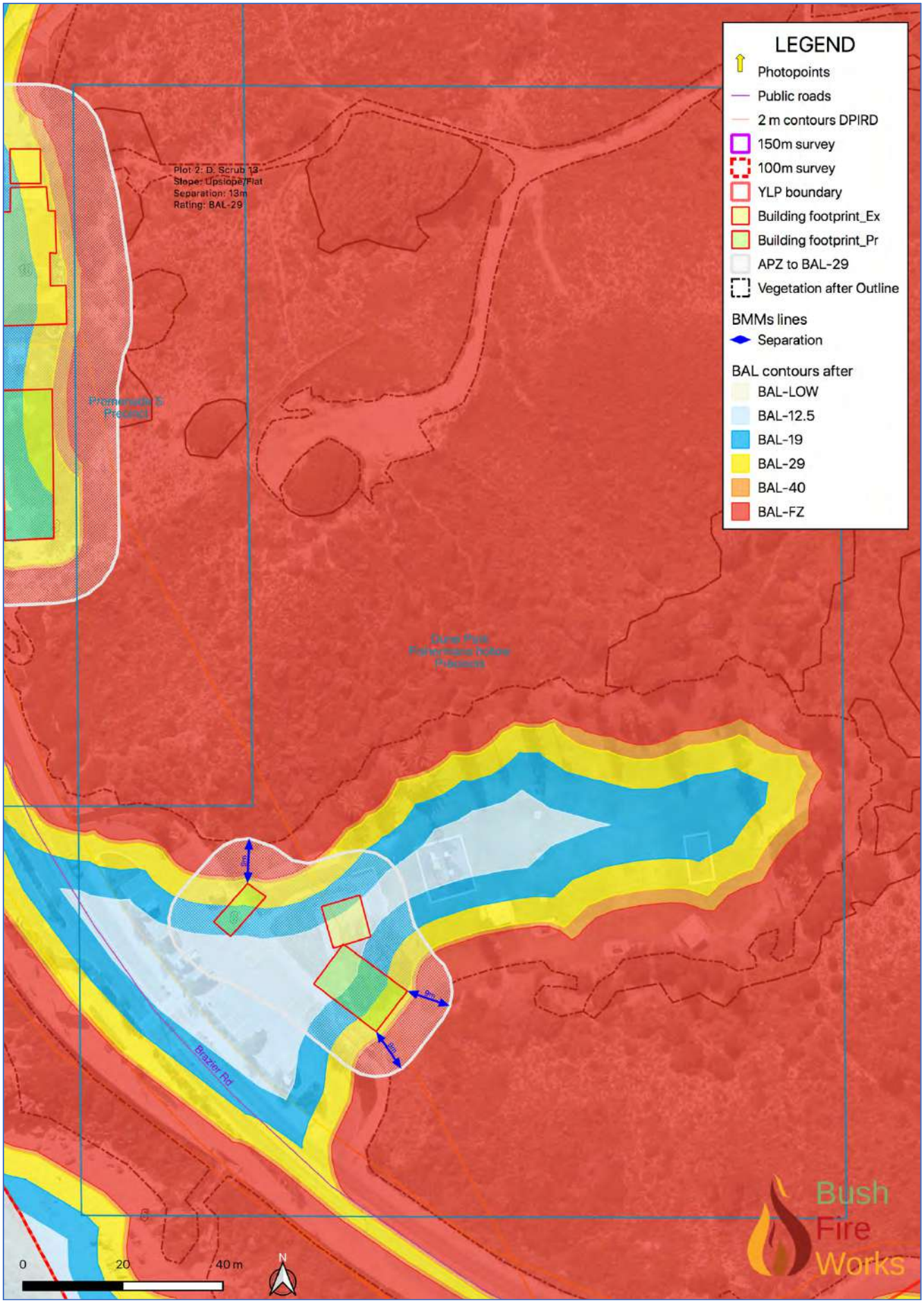


Figure 10 BAL contours after development with APZs to ≤BAL-29 – Dune Park, Fisherman's Hollow