



binningup beach local structure plan REV E

november 2013

RobertsDay
planning·design·place

MIRVAC
DESIGN
architects
planners
interior designers



Title: BINNINGUP BEACH LOCAL STRUCTURE PLAN
Project: BINNINGUP BEACH
Prepared for: MIRVAC P/L
Status: FINAL
Version: REVISION E
Date of Release: NOVEMBER 2013

PROJECT TEAM

The project team comprises highly qualified and experienced consultants from a range of disciplines. The team’s collective contributions inform a development concept which provides an outstanding response to the unique opportunities presented by the site. The team comprises:

Cossill and Webley	Civil Engineering + Servicing
Creating Communities	Community
EPCAD	Landscape
Geografia	Demographic + Community Infrastructure Needs Analysis
Michael Coate Golf Design	Golf Course Design
Mirvac	Project Management + Property Development
Mirvac Design	Masterplanning, Urban Design + Architecture
MP Rogers & Associates	Coastal Stability Analysis
Riley Consulting	Traffic + Transport Analysis
Roberts Day	Masterplanning, Urban Design + Statutory Planning
RPS Environmental	Environmental Analysis
Shrapnel Urban Planning	Retail Centres Analysis
Syme Marmion & Co	Economic Analysis
Thompson McRobert Edgeloe	Fire Management
Yates Heritage Consultants	Aboriginal Heritage

Mirvac would like to especially thank Binningup’s residents for their invaluable contributions to the preparation of this Structure Plan, particularly during the Design Enquiry Forum.

Peter Matthews and his team are also acknowledged for their ceaseless efforts in the care and maintenance of the golf course.

DISCLAIMER & COPYRIGHT

This document was commissioned by and prepared for the exclusive use of Mirvac.

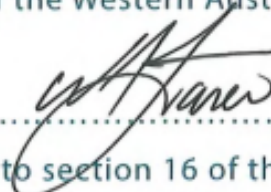
This document cannot be copied or reproduced in whole or part for any purpose without the prior written consent of Mirvac or Roberts Day.



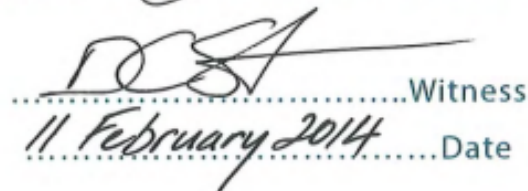
CERTIFIED THAT THE BINNINGUP BEACH LOCAL STRUCTURE PLAN
LOTS 304, 195 AND PT LOT 9003, BINNINGUP
LOCAL STRUCTURE PLAN

WAS ADOPTED BY RESOLUTION OF THE WESTERN AUSTRALIAN PLANNING COMMISSION
ON 18th December 2013.

Signed for and on behalf of the Western Australian Planning Commission



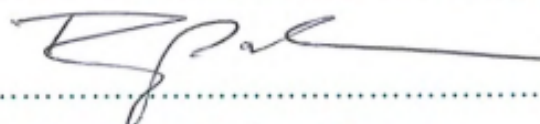
an officer of the Commission duly authorised by the Commission pursuant to section 16 of the Planning and Development Act 2005 for that purpose, in the presence of:

 Witness
11 February 2014 Date

AND BY

RESOLUTION OF THE COUNCIL OF THE SHIRE OF HARVEY ON
3RD DECEMBER 2013

And the seal of the municipality was pursuant to the Council's resolution hereunto affixed in the presence of:



Shire President, Shire of Harvey



Chief Executive Officer, Shire of Harvey

12. 12. 2013 Date

Date of Expiry: 19 October 2028

PART ONE: STATUTORY

- 1.0 STRUCTURE PLAN AREA
- 2.0 STRUCTURE PLAN CONTENT
- 3.0 INTERPRETATION
- 4.0 OPERATION DATE
- 5.0 RELATIONSHIP TO SCHEME
- 6.0 STRUCTURE PLAN MAPS
- 7.0 RESIDENTIAL
- 8.0 COMMERCIAL
- 9.0 PRIVATE RECREATION ZONE
- 10.0 STATUTORY PROVISIONS, REQUIREMENTS + STANDARDS
- 11.0 THOROUGHFARE + LANDSCAPE TYPOLOGIES

PART TWO: EXPLANATORY

01 FOUNDATIONS FOR PLACE-MAKING

- 1.1 Vision
- 1.2 Core Principles
- 1.3 Land Description
 - 1.3.1 Location
 - 1.3.2 Land Particulars
 - 1.3.3 History
 - 1.3.4 Land Use
- 1.4 Statutory Planning Framework
 - 1.4.1 Greater Bunbury Region Scheme
 - 1.4.2 Shire of Harvey (DPS) District Planning Scheme No 1
- 1.5 Context Analysis + Design Response
 - 1.5.1 Design Enquiry Forum
 - 1.5.2 Design Objectives
 - 1.5.3 Outcome of Environmental Assessment and Ministerial Decision
 - 1.5.4 Final Design Outcome

02 SITE CONDITIONS AND ENVIRONMENT

- 2.1 Site Conditions and Environment
- 2.2 Groundwater and Surface Water
- 2.3 Flora and Fauna
- 2.4 Bushfire
- 2.5 Heritage
- 2.6 Coastal Assessment
- 2.7 Urban Water Management

03 LOCAL STRUCTURE PLAN

- 3.1 Neighbourhood Structure
 - 3.1.1 Zoning + Residential Density
 - 3.1.2 Village centre
 - 3.1.3 Community development
- 3.2 Movement Network
 - 3.2.1 Pedestrian + Cycling Network
 - 3.2.2 Vehicle Network
 - 3.2.3 Emergency Access
 - 3.2.4 Second Access Road
- 3.3 Public Open Space
- 3.4 Infrastructure, Co-ordination, Servicing and Staging
 - 3.4.1 Earthworks
 - 3.4.2 Drainage
 - 3.4.3 Sewerage
 - 3.4.4 Water Supply
 - 3.4.5 Other Public Utility Services
 - 3.4.6 Staging

04 STATUTORY PLANNING IMPLEMENTATION

- 4.1 Statutory Process
- 4.2 Detailed Area Plans
- 4.3 Thoroughfare + Landscaping Typologies

05 CONCLUSION

PART ONE: STATUTORY



1.0 STRUCTURE PLAN AREA

This Local Structure Plan applies to the Binningup Beach locality consisting of Lots 304, 195 and a portion of Lot 9003, Binningup, being the land contained within the inner edge of the black line shown on Local Structure Plan (Plan No.1).

2.0 STRUCTURE PLAN CONTENT

This Local Structure Plan comprises:

- 2.1 Part One – Statutory
- 2.2 Part Two – Explanatory
- 2.3 Appendices – Technical Reports

3.0 INTERPRETATION

The words and expressions used in this Local Structure Plan shall have the respective meanings given to them in the Scheme.

4.0 OPERATION DATE

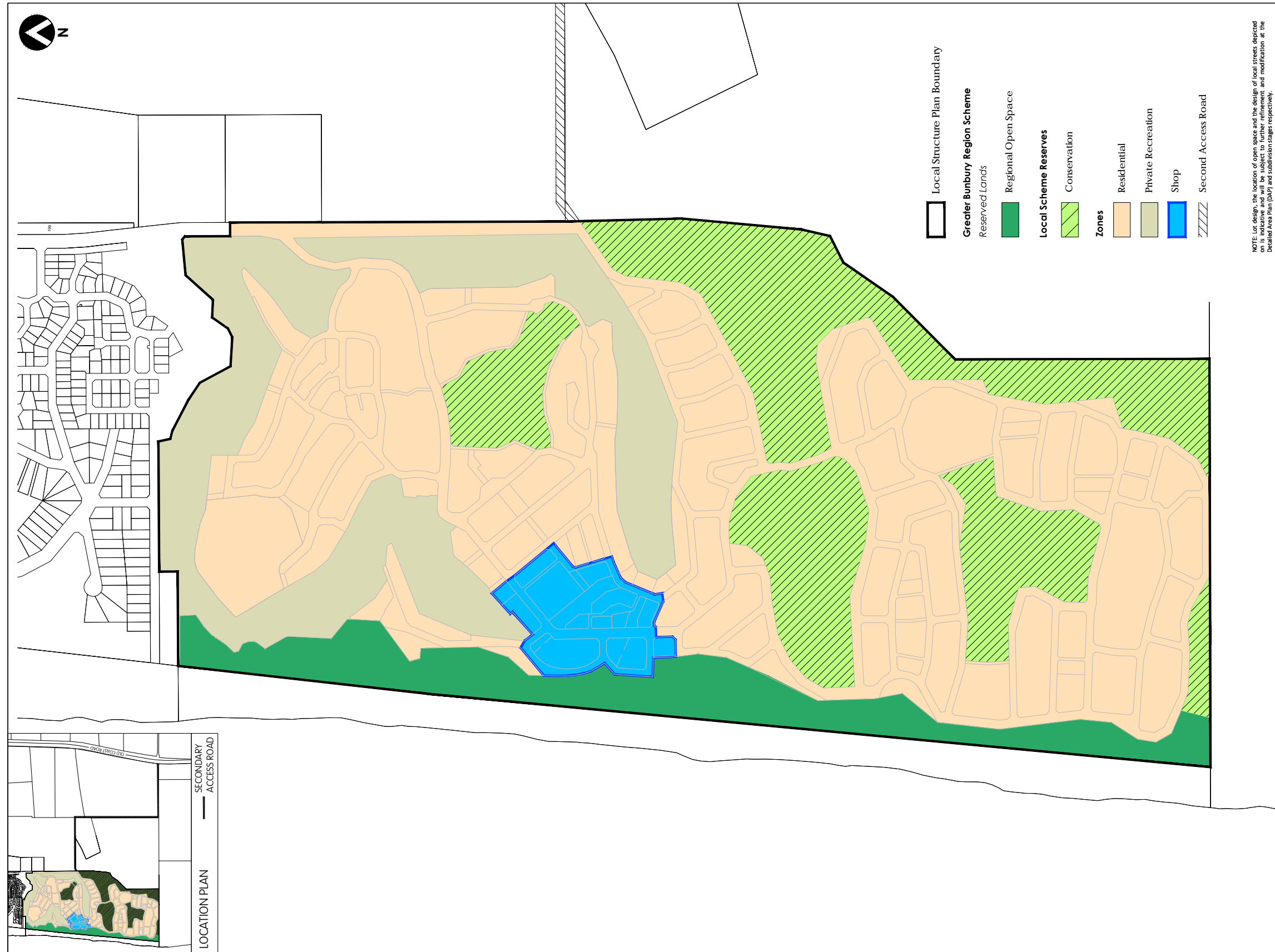
This Structure Plan commences operation on the date it is adopted by the Shire pursuant to clause 9.14.5.19.

5.0 RELATIONSHIP TO SCHEME

- 5.1 The provisions, standards and requirements specified under Part One of this Local Structure Plan will have the same force and effect as if it were a provision, standard or requirement of the Scheme. Part Two of this Local Structure Plan is for explanatory purposes only, in order to provide a descriptive analysis of the Local Structure Plan.
- 5.2 In the event of there being any inconsistencies or conflict between the provisions, standards or requirements of the Scheme and the provisions, standards or requirements of this Local Structure Plan, then the provisions, standards or requirements of the Scheme shall prevail.

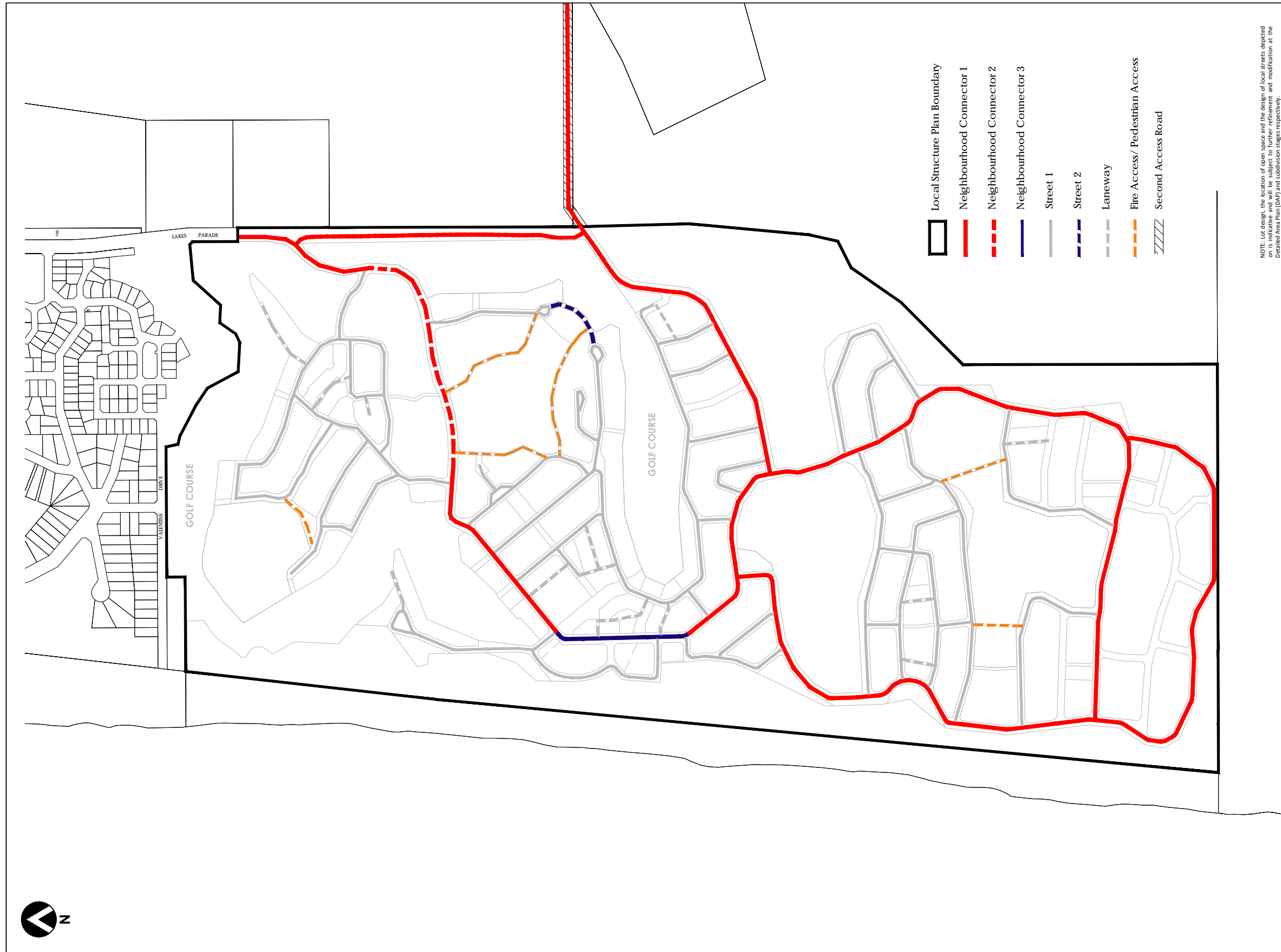
6.0 STRUCTURE PLAN MAPS, RESIDENTIAL DENSITY CODE PLAN & DETAILED AREA PLANS

- 6.1 The Local Structure Plan (Plan 1) delineates the zones and reserves applicable to the land according to the legend thereon. This plan will inform the Residential Density Code Plan, which is required pursuant to section 7.0.
- 6.2 The Residential Density Strategy (Plan 2) delineates the indicative application of residential density codes (as ranges) applicable to the land according to the legend thereon.
- 6.3 The Thoroughfare and Landscape Plans (Plans 3 and 4 respectively) delineate the indicative application of thoroughfare and landscape typologies applicable to the land according to the legend thereon.
- 6.4 Detailed lot design, the location of open space and the design of local streets depicted on Plans 1, 2, 3 and 4 are for indicative purposes only and may be subject to further refinement and modification through the Detailed Area Plan (DAP) requirements pursuant to Table 4 (point 6) and at the subdivision stage.
- 6.5 The zones, reserves and residential density codes designated under this Local Structure Plan and Residential Density Code Plan(s) apply to the land as if the zones, reserves and residential density code were incorporated in the Scheme. All provisions, standards and requirements applicable to the zones, reserves and residential density codes in the Scheme apply, unless specific provision is made to the contrary in this Local Structure Plan.



» Local Structure Plan (Plan 1) UD1105F





» Thoroughfares Plan (Plan 3) UD1107E





7.0 RESIDENTIAL

7.1 Dwelling Target

- a) To provide for approximately 1,040 dwellings within the Local Structure Plan area.

7.2 Density

- a) Plan 2 defines the broad residential density ranges that apply to specific areas within the Local Structure Plan. Lot specific residential densities, within the defined residential density ranges, are to be subsequently assigned in accordance with a Residential Density Code Plan approved by the WAPC in consultation with the Local Government.
- b) A Residential Density Code Plan is to be submitted at the time of subdivision to the WAPC and shall indicate the Residential Density Coding applicable to each lot within the subdivision and shall be generally consistent with the Local Structure Plan, and the Residential Density Ranges identified on Plan 2 and locational criteria contained in Clause 7.3.
- c) The Residential Density Code Plan is to include a summary of the proposed dwelling yield of the subdivision and demonstrate how the dwelling target, as specified in clause 7.1(a), is being achieved within the Local Structure Plan area.
- d) Consideration of the Residential Density Code Plan shall be undertaken at the time of determination of the subdivision application by the WAPC. The approved Residential Density Code Plan shall then form part of the Local Structure Plan and shall be used for the determination of future development applications.
- e) Amendments to the Residential Density Code Plan will require further approval of the WAPC in accordance with sub-clause 7.2(d) above.
- f) Residential Density Code Plans are not required if the WAPC considers that the subdivision is for one or more of the following:
 - i) the amalgamation of lots;
 - ii) consolidation of land for “superlot” purposes to facilitate land assembly for future subdivision;
 - iii) the purposes of facilitating the provision of access, services or infrastructure;
 - i) land which by virtue of its zoning or reservation under the Local Structure Plan cannot be developed for residential purposes; or
 - ii) where a Residential Density Code Plan already exists for the subdivision area and the subdivision accords with this approved Residential Density Code Plan.

7.3 Locational Criteria

The allocation of residential densities on the Residential Density Code Plan shall be generally consistent with the Local Structure Plan, and the Residential Density Ranges identified on Plan 2 and the following criteria:

- a) R2 – R5 Range
 - i) Low densities of between R2 – R5 shall be provided where required to facilitate the retention of topography and vegetation, typically for land identified on Plan 2 for ‘Residential – Bushland Conservation’ and located in the vegetated eastern portion of the site.
- b) R5 – R17.5 Range
 - i) Lower densities of between R5 – R17.5 shall be provided where required to facilitate the retention of topography and/or vegetation, typically for land identified on Plan 2 for ‘Residential – Bushland Conservation’ and located in the western portion of the site.
- c) R20 – R40 Range
 - i) A base density code of R20 shall be provided for residential lots unless otherwise specified at provision 7.3.
 - ii) Medium densities of between R25 – R40 may be provided in areas of higher amenity including:
 - Adjacent to local reserves for recreation/conservation;
 - Adjacent to Regional Open Space;
 - Adjacent the private recreation zone;
 - Within 400 metres of public transport or neighbourhood connector routes.
- d) R40 – R80 Range
 - i) Higher densities of between R40 to R80 shall be provided within the neighbourhood centre depicted as ‘Shop’ zone on Plan 1.

8.0 COMMERCIAL

- 8.1 Retail floorspace (NLA) for the Local Structure Plan is to be in accordance with the following Table 1:

TABLE 1: RETAIL FLOORSPEACE PROVISION

CENTRE	MAXIMUM NET LETTABLE AREA
Binningup Beach Neighbourhood Centre	600 square metres

- 8.2 The maximum NLA included in Table 1 may be considered through a variation to the Local Structure Plan in accordance with the requirements of clause 9.14.7.
- 8.3 Land use permissibility and development within the Local Structure Plan area zoned ‘Shop’ shall be in accordance with the corresponding zone in the Scheme with the following exceptions detailed in Table 2:

TABLE 2: SHOP ZONE – ADDITIONAL ZONING AND DEVELOPMENT STANDARDS

ZONING AND DEVELOPMENT STANDARDS – SHOP											
POLICY STATEMENT: Primarily retail shopping, but including associated uses, tourism and mixed-use development..											
DEVELOPMENT STANDARDS Unless otherwise specified against a particular 'land use category' below, the following standards will apply to the Zone.											
			Minimum Lot Areas	Minimum Effective Frontage	Minimum Lot Area for Dwelling Unit	MINIMUM BOUNDARY SETBACKS			Minimum Car Parking Spaces ##	Minimum Landscaping	OTHER REQUIREMENTS
				6m	As per R-Code	Front	Side	Rear			
						Nil #	Nil #	Nil #	1 per 15m ² of Gross Floor Area	Nil	
LAND USE CATEGORIES											
14	DWELLING	AA	As per R-Code	As per R-Code	As per R-Code	As per R-Code	As per R-Code	As per R-Code	As per R-Code		Not permitted at street level, unless behind non-residential development
30	GROUPED DWELLINGS	AA	As per R-Code	As per R-Code	As per R-Code	As per R-Code	As per R-Code	As per R-Code	As per R-Code		Not permitted at street level, unless behind non-residential development
31	MULTIPLE DWELLINGS	AA	As per R-Code	As per R-Code	As per R-Code	As per R-Code	As per R-Code	As per R-Code	As per R-Code		Not permitted at street level, unless behind non-residential development
32	INFANT HEALTH CENTRE	AA									
33	FAMILY DAY CARE	AA	At Council's discretion		At Council's discretion	At Council's discretion	At Council's discretion	At Council's discretion	At Council's discretion	At Council's discretion	Council Policy 15.13 applies
34	PLACE OF PUBLIC WORSHIP	AA							1 per 5 seats		
35	AGED PERSONS DWELLING	AA	As per R-Code	As per R-Code	As per R-Code	As per R-Code	As per R-Code	As per R-Code	As per R-Code		Not permitted at street level, unless behind non-residential development
36	SHORT STAY ACCOMMODATION	AA	As per R-Code	As per R-Code	As per R-Code	As per R-Code	As per R-Code	As per R-Code	As per R-Code		
37	BED & BREAKFAST ACCOMMODATION	AA							As per R-Code and one for each bedroom used for guests		
38	LAUNDROMAT	P									
39	KINDERGARTEN	AA									
40	EDUCATION ESTABLISHMENT	AA									
41	SERVICE STATION	SA									
42	DISPLAY HOME CENTRE	AA	As per R-Code	As per R-Code	As per R-Code	As per R-Code	As per R-Code	As per R-Code	Off street parking of 4 bays per display home		
41	CARETAKERS DWELLING	IP									Not permitted at street level, unless behind non-residential development
42	PRIVATE HOTEL	AA							1.5 per bed		
43	MOTEL	SA							1.5 per unit		Motel By-Laws apply
44	CHALET	AA									
45	LICENSED RESTAURANT	P							1 per 4 seats		
46	CONVENIENCE STORE	P							1 per 12.5m ² G.F.A.		

At the discretion of the Local Government, or as prescribed in a Detailed Area Plan, greater setbacks may be required to preserve the residential amenity of the locality and ensure consistency of streetscape.

Reciprocal/shared parking arrangements may be considered where uses have different hours of operation which do not overlap. Council shall require separate provision for staff parking where appropriate

9.0 PRIVATE RECREATION ZONE

9.1 Land use permissibility and development within the Structure Plan area zoned 'Private Recreation' shall be in accordance with the following Table 3:

TABLE 3: PRIVATE RECREATION ZONE – ZONING AND DEVELOPMENT STANDARDS

			ZONING AND DEVELOPMENT STANDARDS – PRIVATE RECREATION								
			POLICY STATEMENT: The objective of the Private Recreation Zone is to accommodate uses such as private golf clubs, recreational and related tourist/leisure activities.								
			DEVELOPMENT STANDARDS								
			Minimum Lot Areas	Minimum Effective Frontage	Minimum Lot Area for Dwelling Unit	MINIMUM BOUNDARY SETBACKS Front Side Rear			Minimum Car Parking Spaces	Minimum Landscaping	OTHER REQUIREMENTS 1. Uses to be ancillary to and not affecting the operation of the golf course; 2. Located to the satisfaction of the Shire; and 3. Of a height, scale and form commensurate with surrounding residential development
						Nil #	Nil #	Nil #			
LAND USE CATEGORIES			NOTE: Unless otherwise specified against a particular use below, the following standards will apply to the Zone.								
1	GOLF COURSE	P									
2	EATING HOUSE	AA							1 per 4 seats		
3	CLUB PREMISES	AA							1 per 10m ² of patrons area		
4	SHORT STAY ACCOMMODATION	AA									
5	CARETAKERS DWELLING	IP									
6	PRIVATE HOTEL	AA							1.5 per bed		
7	LICENSED RESTAURANT	AA							1 per 4 seats		

At the discretion of the Local Government, or as prescribed in a Detailed Area Plan, greater setbacks may be required to preserve the residential amenity of the locality, ensure consistency of streetscape and to give due regard to landscape/environmental considerations.

10.0 STATUTORY PROVISIONS, REQUIREMENTS AND STANDARDS

TABLE 4 – GENERAL PROVISIONS

1. General Subdivision and Development Requirements	<p>1.1 The subdivision and development of land shall generally be in accordance with:</p> <ol style="list-style-type: none"> Plans 1, 2, 3 and 4 described in Section 6.0; Thoroughfare and landscape standards described in Section 11.0; Residential Density Code Plan; and Any approved DAP. <p>1.2 Prior to any subdivision or development being supported, the Shire will require the preparation and approval of the reports, surveys, strategies and plans listed in Table 5 at the stage specified in that table.</p>	6. Detailed Area Plans	<p>6.1 Pursuant to clause 9.14.8.1 of the scheme, the proponent may prepare a DAP for land contained within the Local Structure Plan area.</p> <p>6.2 Where a DAP relates to final internal road alignments and the configuration of lots and local scheme reserves, the DAP will require WAPC approval in addition to the approval of the Shire set out at clause 9.14.8 of the Scheme;</p> <p>6.3 WAPC approval required at Provision 6.2 shall be in accordance with the procedures set out at clause 9.14.5.13 – 9.14.5.19 of the Scheme.</p> <p>6.4 The Shire/WAPC will require a DAP prior to subdivision approval, and/or prior to any application for development approval for land zoned:</p> <ol style="list-style-type: none"> 'Shop'; or 'Residential' with either direct frontage to regional or local reserves or identified on Plan 2 as 'Residential – Bushland Conservation'; <p>6.5 A DAP will not be required where the Shire/WAPC is satisfied that:</p> <ol style="list-style-type: none"> The subdivision is for one or more of the following: <ol style="list-style-type: none"> The amalgamation of lots or part lots; The consolidation of land for superlot purposes to facilitate land assembly for future development; The purpose of allowing access; and Facilitation and provision of services or infrastructure; or The development is of a scale and permanence that would not prejudice the: <ol style="list-style-type: none"> Design of a future DAP for the area; Timely provision of infrastructure and services to the area; and Development of the surrounding area in line with the Local Structure Plan. <p>6.6 In addition to matters that may be included in DAPs under clause 9.14.8.2 of the Scheme, the following elements may be addressed in DAPs for land within the Local Structure Plan area:</p> <ol style="list-style-type: none"> Setbacks; Thoroughfare and landscape standards described at Section 11.0; Final internal road alignments, lot configuration and local scheme reserves for conservation and recreation; Methods for the retention of existing topography/landform and vegetation; Interface with regional and local reserves; Interface with the 'Private Recreation' zone; and Requirements of approved Fire Management Plans for the land.
2. Home Occupations	Notwithstanding clause 6.4(a) of the Scheme, home occupations are a permissible land use throughout the Local Structure Plan area.		
3. Public Open Space	The location of local scheme reserves for conservation and open space depicted on Plans 1, 2, 3 and 4 is indicative and is subject to further refinement and modification at the DAP and subdivision stages respectively.		
4. Second Access Road	<p>As conditions of the first stage of subdivision the Shire of Harvey will require the landowner/applicant to:</p> <ol style="list-style-type: none"> Secure the land required for the second access road, being an extension of the existing Springhill Road to the subject site, on an alignment generally in accordance with that depicted on the Local Structure Plan (Plan 1); Construct to a sealed, line marked and drained standard to the specification of the Executive Manager of Technical Services for the Shire of Harvey at the full cost of the landowner/applicant; and Set out the road reserve on a separate diagram or plan of survey (deposited plan) and transfer the road free of cost to the Local Government for road purposes and without any payment of compensation. 		
5. Residential – Bushland Conservation Areas	<p>5.1 Objective:</p> <ol style="list-style-type: none"> As per the Policy Statement at Table 2 of the Scheme; and In addition, the Residential – Bushland Conservation Area is intended to provide primarily single residential housing that has regard to the character of the area, in particular, providing the opportunity for the retention of landform and the bushland character of the site. <p>5.2 To achieve these objectives, the following elements shall be addressed in DAPs for land designated 'Residential – Bushland Conservation' on Plan 2:</p> <ol style="list-style-type: none"> Building envelopes to retain landform and/or significant trees (as contextually relevant); Setbacks to maintain bushland character; Finished site levels; Methods for the retention of existing topography/landform (where relevant); and Methods for the retention of significant trees (where relevant). <p>These requirements are in addition to other matters that may be included in DAPs under clause 9.14.8.2 of the Scheme and Table 4, Provision 6.5 of this Local Structure Plan.</p>		

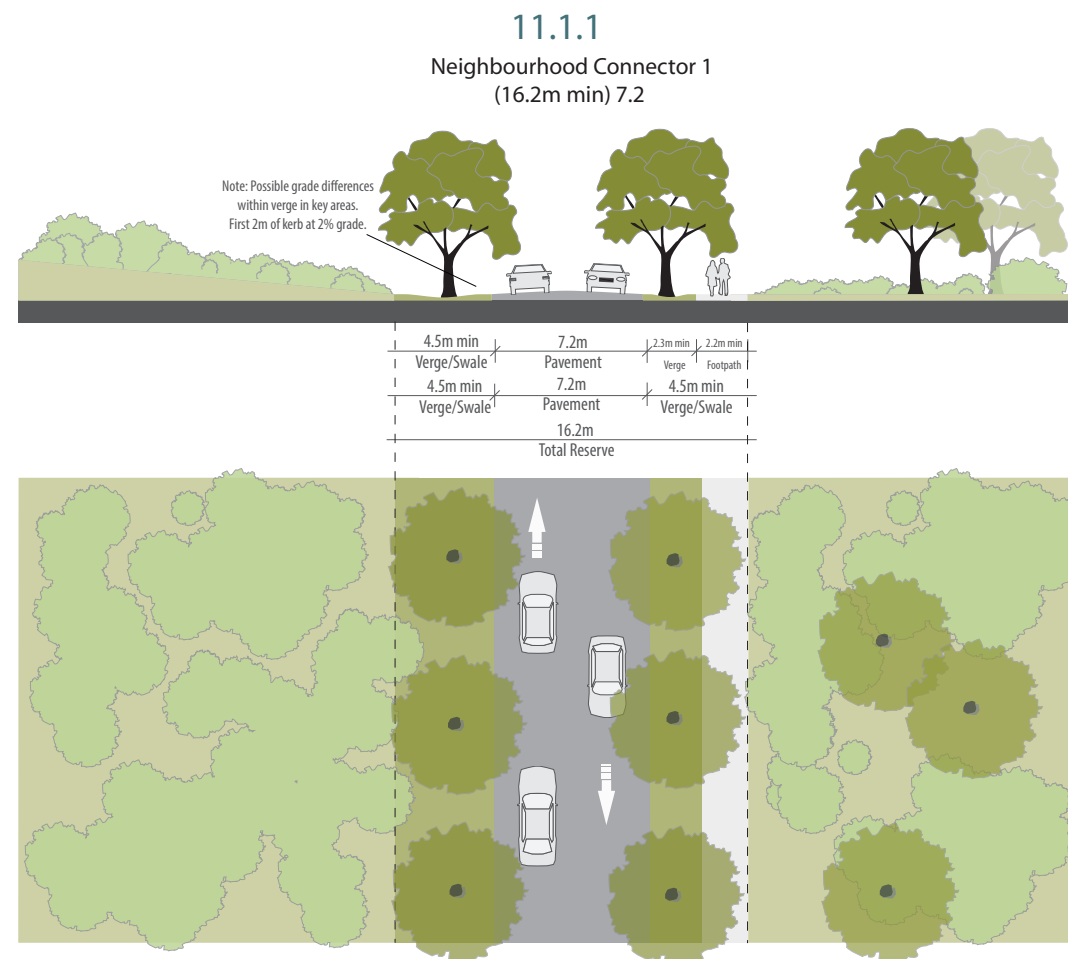
TABLE 5 – REPORTS, SURVEYS, STRATEGIES AND PLANS

7. Fire Management	7.1 At the time of subdivision, the subdivider shall implement, to the satisfaction of the Local Government, the requirements of the endorsed 'Binningup Beach Fire Management Plan'.
	7.2 Pursuant to the requirements of the endorsed 'Binningup Beach Fire Management Plan', subdivision applications shall be accompanied by: <ul style="list-style-type: none"> i) A completed compliance checklist for performance criteria and acceptable solutions contained in the Planning for Bushfire Protection Guidelines; ii) A plan showing the extent of earthworks (cut and fill with proposed finished surface levels) and vegetation clearing for that stage; iii) A plan nominating any PAW's which are to be used for emergency access; iv) A 'Bushfire Attack Level' (BAL) classification plan, to the satisfaction of the Local Government, for all bushfire prone land (i.e. land within 100m of hazard vegetation areas); and v) Recommendations for any revised fire management measures including temporary measures applicable to the subdivision stage or construction.
	7.3 For the purposes of the Building Code of Australia, portions of the Local Structure Plan are declared bushfire-prone pursuant to the endorsed 'Binningup Beach Fire Management Plan (September 2013)', as such, the provisions of AS3959 apply and shall be read in conjunction with the recommendations of the Fire Management Plan.

Documentation	Approval Stage	Approval Authority
1. Rehabilitation Plan for Conservation Reserves	Prior to first subdivision approval	Shire of Harvey with advice from the Department of Parks and Wildlife
2. Community Infrastructure Needs Plan	Prior to first subdivision approval	Shire of Harvey with advice from relevant agencies including Department of Education
3. Foreshore and Regional Open Space (ROS) Management Plan	Prior to first subdivision plan for areas adjacent to ROS	Shire of Harvey with advice from the Department of Parks and Wildlife
4. Urban Water Management Plan	Prior to subdivision approval	Department of Water with advice from the Shire of Harvey
5. Golf Course Management Plan	Prior to reconfiguration of golf course	Shire of Harvey with advice from the Department of Water
6. Acid Sulfate Soil Management Plan	Prior to ground disturbing activities where ASS or PASS identified	Shire of Harvey with advice from the Department of Parks and Wildlife

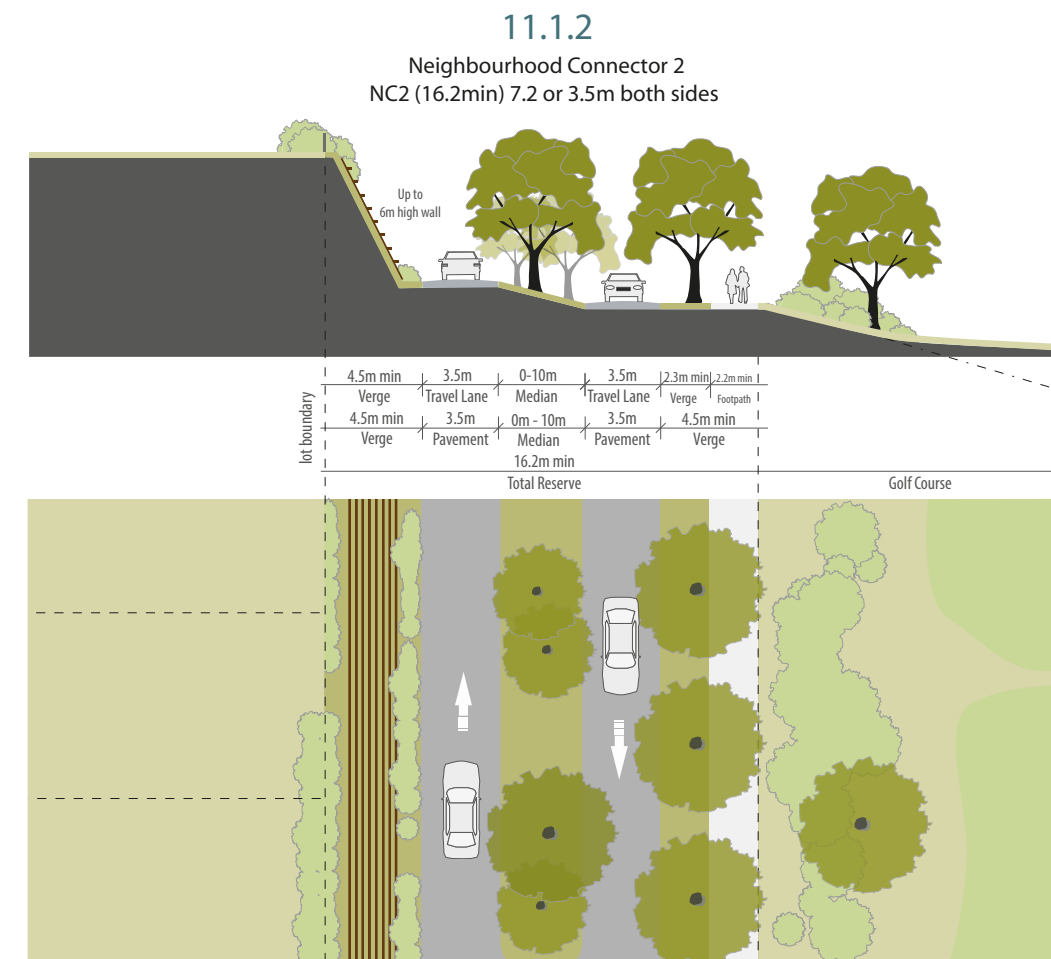
11.0 THOROUGHFARE AND LANDSCAPE TYPOLOGIES

The typologies detailed at Parts 11.1 and 11.2 (following) describe specific standards for the development of thoroughfares and landscaping within the Local Structure Plan area. All relevant forms of development on land within the Local Structure Plan area shall be in accordance with these standards.



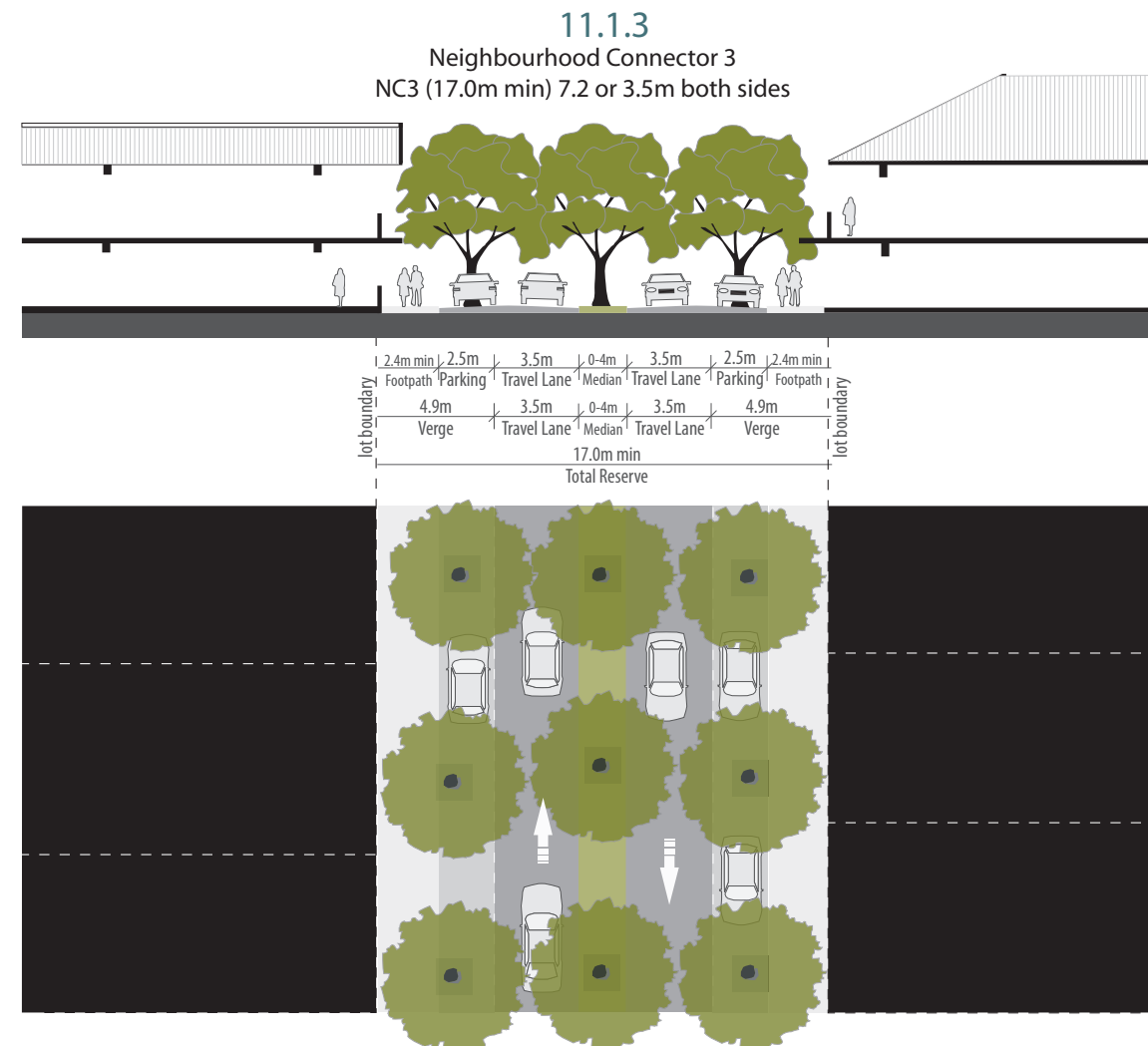
PUBLIC REALM STANDARDS

Thoroughfare Type	Neighbourhood Connector
Movement	Free Movement
Design Speed	50kmph
Road Reserve	16.2m min
Pavement Width	7.2m if no median or 3.5m both sides
Traffic Flow	Two Way
Parking Width/ Type	NA
Kerb Type/ Radius	Flush 12.0m/ No kerb as appropriate
Median	Median typically nil. May be provided to retain trees or accommodate drainage and/or topography
Planter width/ Type	NA
Planting Pattern	Regular/ Irregular groups
Tree Type	Peppermints and other (TBA)
Street Light Type/ Spacing	TBA
Cyclist Provision	Path
Footpath Type/Width	One Side/ 2.2m min Dual Use



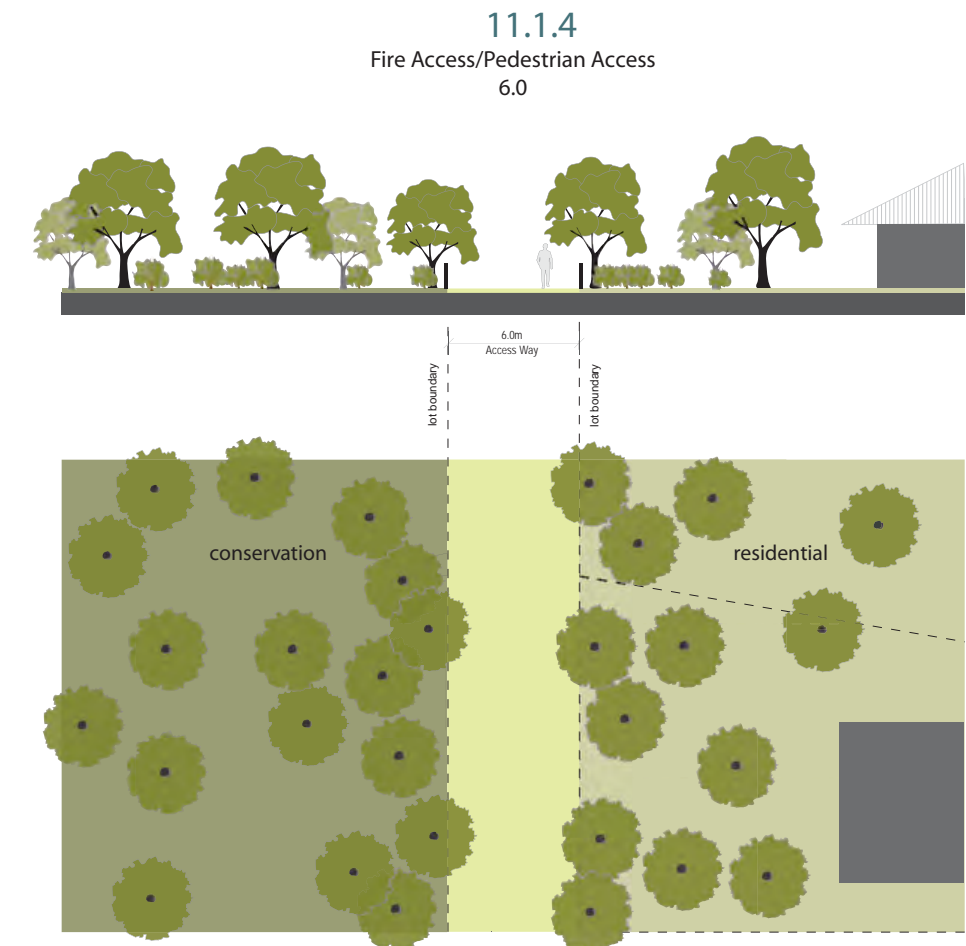
PUBLIC REALM STANDARDS

Thoroughfare Type	Neighbourhood Connector
Movement	Free Movement
Design Speed	50kmph
Road Reserve	16.2m min
Pavement Width	7.2m if no median or 3.5m both sides
Traffic Flow	Two Way
Parking Width/ Type	NA
Kerb Type/ Radius	Flushed 12.0m / No kerb as appropriate
Median	May be provided to retain trees or accommodate drainage and/or topography
Planter width/ Type	NA
Planting Pattern	Irregular groups
Tree Type	Peppermint and Other (TBA)
Street Light Type/ Spacing	TBA
Cyclist Provision	Path
Footpath Type/ Width	One Side/ 2.2m min Dual Use



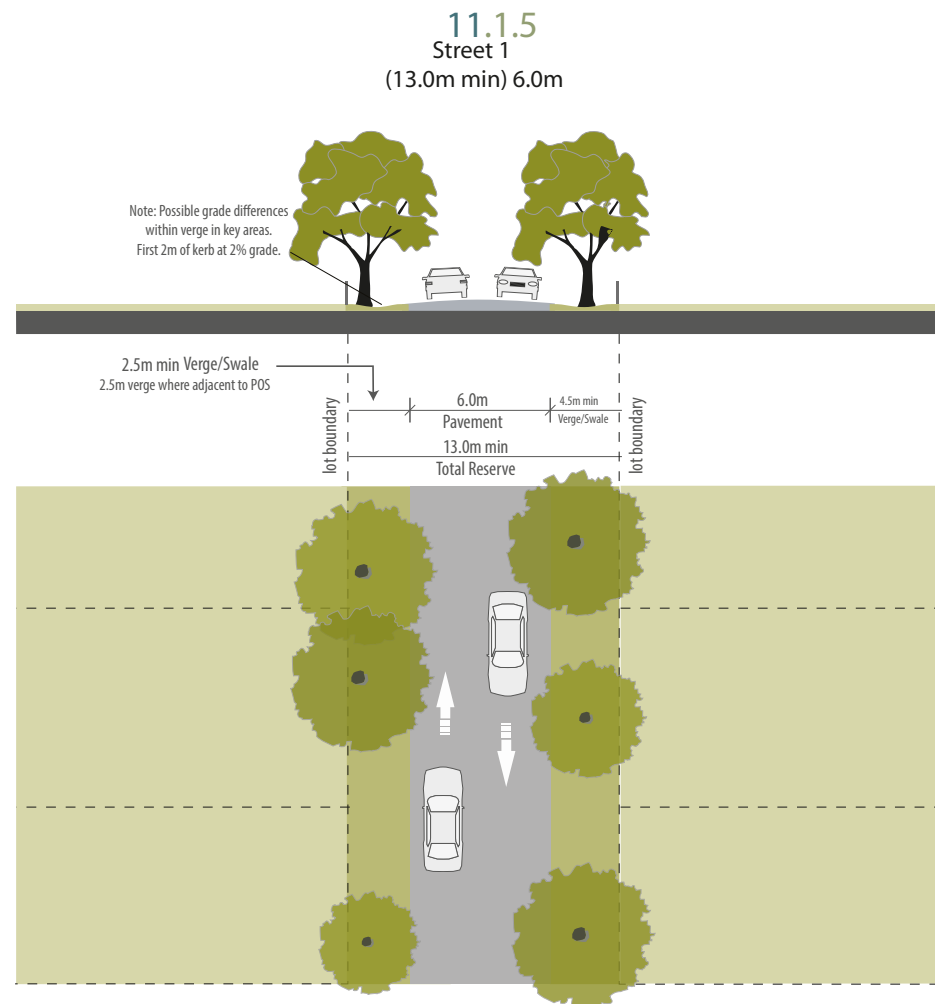
PUBLIC REALM STANDARDS

Thoroughfare Type	Neighbourhood Connector
Movement	Free Movement
Design Speed	40kmph
Road Reserve	17.0m min
Pavement Width	7.2m if no median or 3.5m both sides
Traffic Flow	Two Way
Parking Width/ Type	Parallel within Verge
Kerb Type/ Radius	Raised 8.0m
Median	0 - 4.0m optional
Planter width/ Type	TBA/ Tree Well Both Sides
Planting Pattern	Regular
Tree Type	Peppermint and other (TBA)
Street Light Type/ Spacing	TBA
Cyclist Provision	Path
Footpath Type/ Width	Both Sides 2.4m min



PUBLIC REALM STANDARDS

Thoroughfare Type	Fire Access /Pedestrian Access
Movement	Emergency Fire Access
Design Speed	NA
Road Reserve	6.0m
Pavement Width	6.0m (crushed limestone or similar)
Traffic Flow	Two Way
Parking Width/ Type	NA
Kerb Type/ Radius	NA
Planter width/ Type	NA
Planting Pattern	NA
Tree Type	NA
Street Light Type/ Spacing	NA
Cyclist Provision	NA
Footpath Type/ Width	NA



PUBLIC REALM STANDARDS

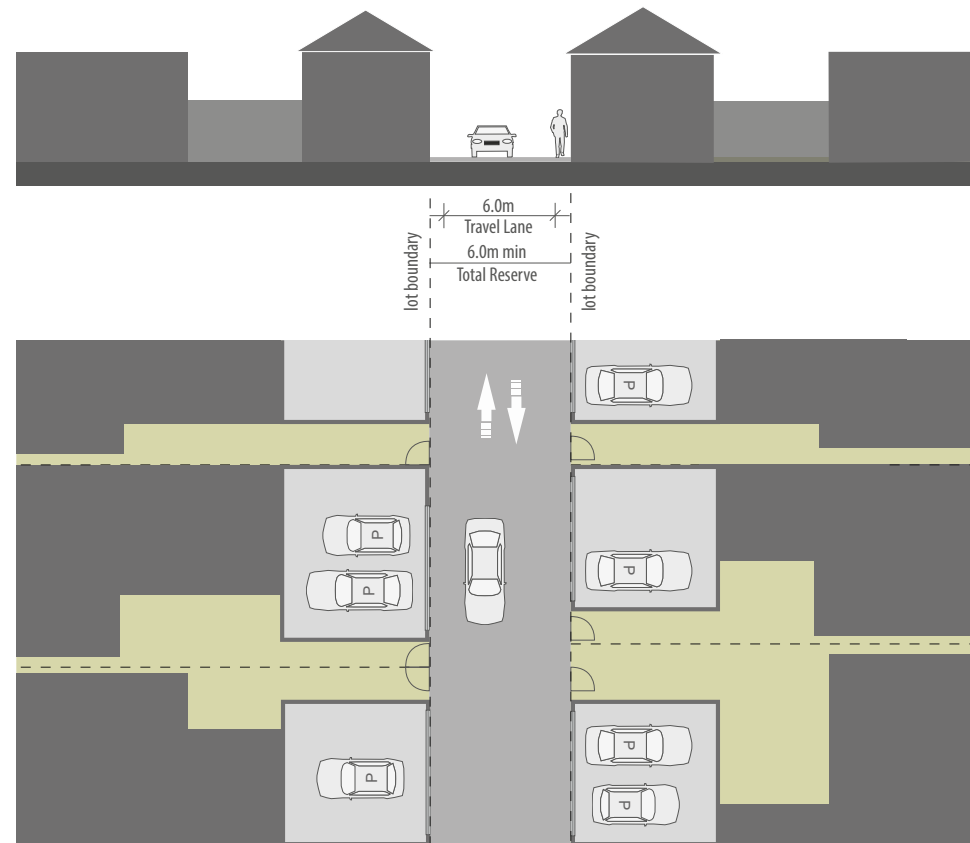
Thoroughfare Type	Road
Movement	Yield
Design Speed	40kmph
Road Reserve	13.0m min (may be reduced where adjacent to POS or in specific locations)
Pavement Width	6.0m
Traffic Flow	Two Way Yield
Parking Width/ Type	One Side Parallel within pavement where applicable
Kerb Type/ Radius	Flush/ 12.0m
Median	Median typically nil. May be provided to retain trees or accommodate drainage and/or topography
Planter width/ Type	TBA/ Continuous Both Sides
Planting Pattern	Various - Informal
Tree Type	Peppermint and Other (TBA)
Street Light Type/ Spacing	TBA
Cyclist Provision	On Street
Footpath Type/ Width	NA



PUBLIC REALM STANDARDS

Thoroughfare Type	Street
Movement	Narrow Yield
Design Speed	30kmph
Road Reserve	9.5m min
Pavement Width	3.0m + occasional 2.5m passing lane
Traffic Flow	Two Ways (2.5m Passing Lane)
Parking Width/ Type	NA
Kerb Type/ Radius	Flush 6.0m
Planter width/ Type	NA
Planting Pattern	Irregular groups
Tree Type	Peppermint and Other (TBA)
Street Light Type/ Spacing	TBA
Cyclist Provision	On Street
Footpath Type/ Width	NA

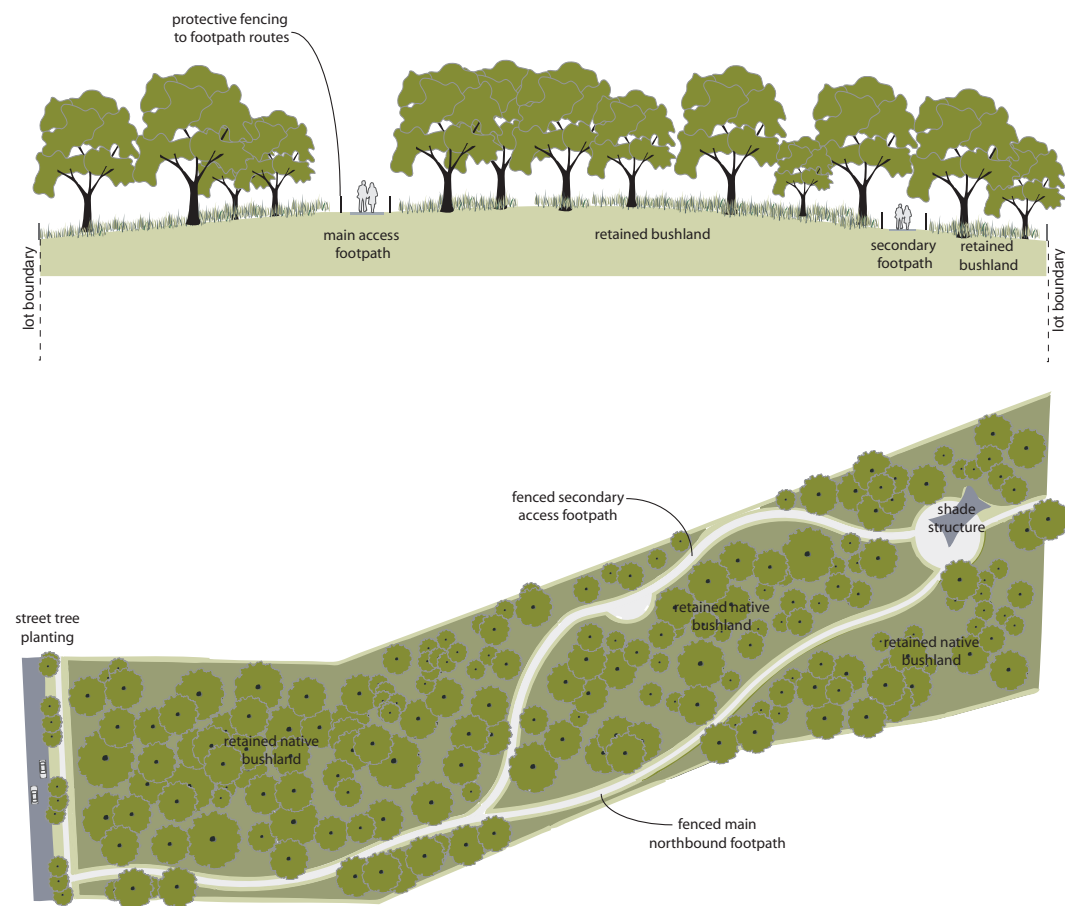
11.1.7 Laneway (6.0m min)



PUBLIC REALM STANDARDS

Thoroughfare Type	Laneway
Movement	Yield
Design Speed	20kmph
Road Reserve	6.0m min
Pavement Width	6.0m
Traffic Flow	Two Way Yield
Parking Width/ Type	NA
Kerb Type/ Radius	Flush 3.0m
Planter width/ Type	Tree wells both sides (optional)
Planting Pattern	Random
Tree Type	NA
Street Light Type/ Spacing	NA
Cyclist Provision	NA
Footpath Type/ Width	NA

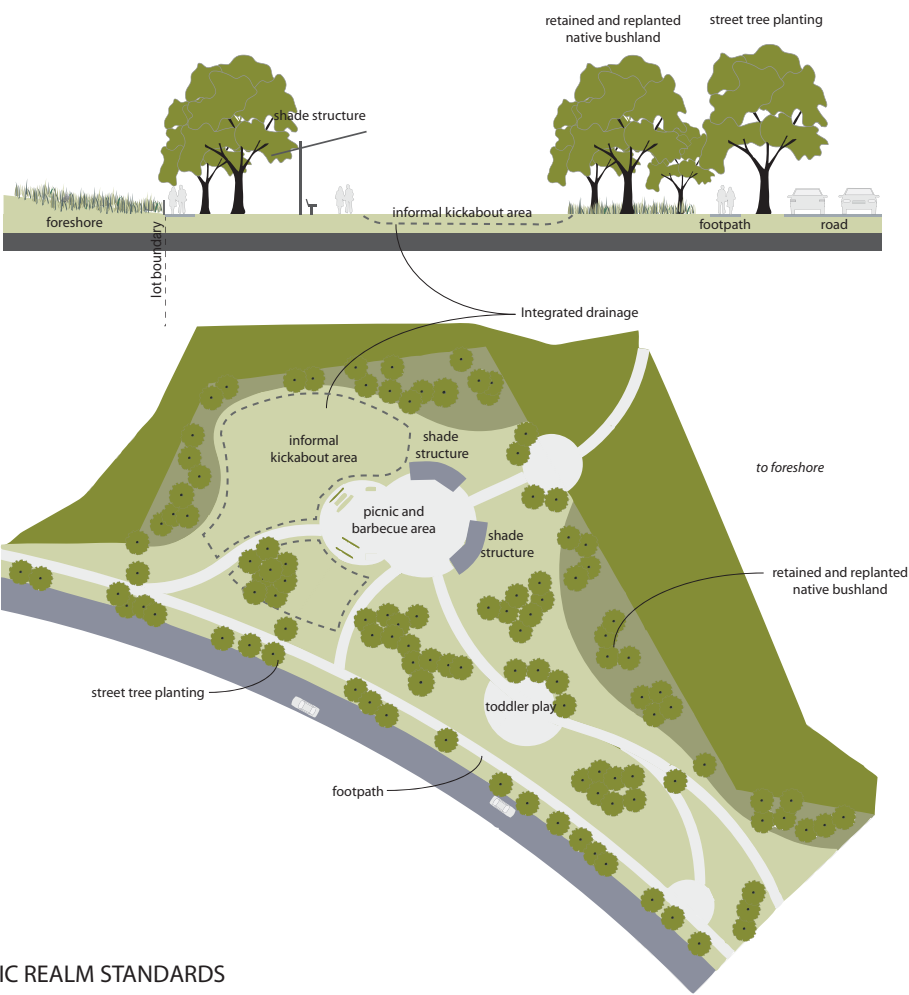
11.2.1
CONSERVATION



PUBLIC REALM STANDARDS

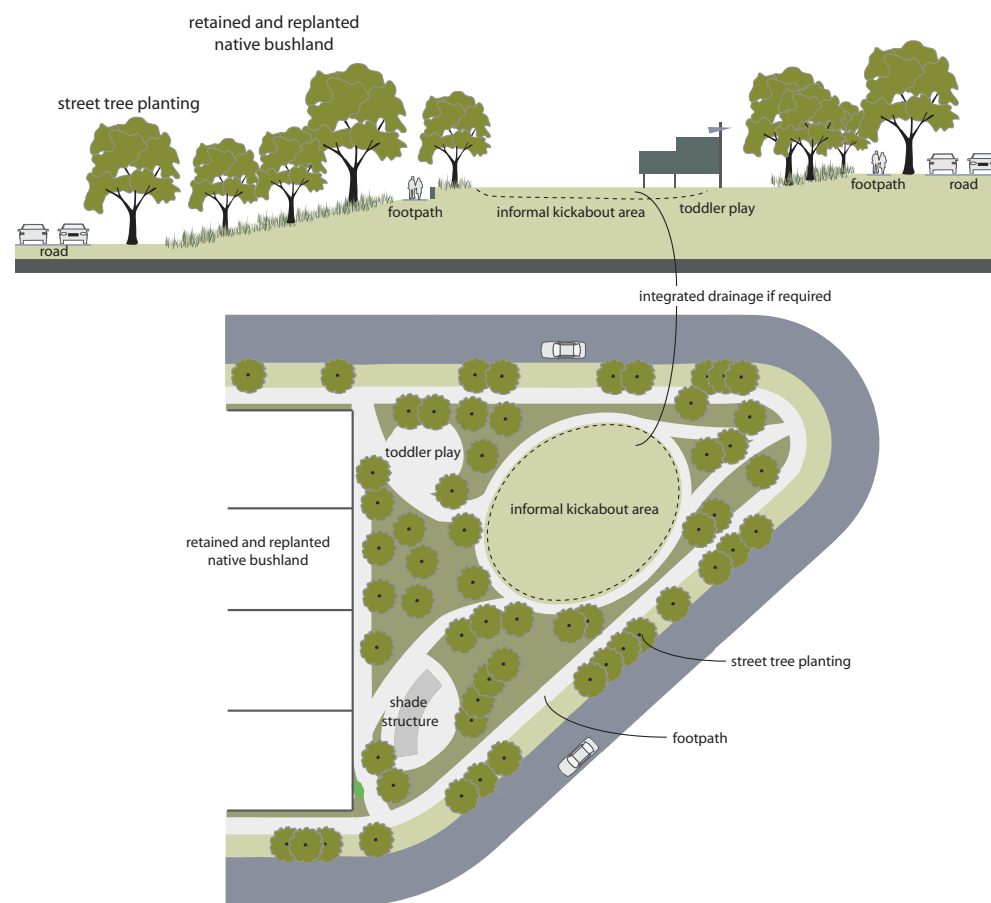
Public Domain Type	Conservation
Function	Retain, rehabilitate and protect existing indigenous vegetation and topographical features. Lookouts at prominent viewpoints will feature seating and shade structures
Accessibility	Controlled access via fenced footpaths, limited universal access due to retention of existing topography
Edge Conditions	Low, permeable fencing to Residential Lot Boundaries
Design Character	Remnant bushland with controlled public access network
Tree Forms	Retained vegetation includes stands of very tall trees (Eucalypt gomphocephala), as well as medium to low height trees (Agonis flexuosa)
Understory Landscaping	Retained vegetation includes a diverse spectrum of local species
Water Features	Not applicable
Drainage	Not applicable
Paving	Lookout areas will feature a small paved area
Paths	DUP will form main north-south route. Secondary paths will provide linkage and access
Furniture	Seats located at lookouts and along walking route for rest stops
Architectual Features / Materials	Lookout shelters to provide shade and architectual features
Public Art	Elements at lookout points as landmark artwork and/or interpretation
Maintenance Regime	Adequate to maintain bushland status
Services	Not applicable

11.2.2
FORESHORE PARK



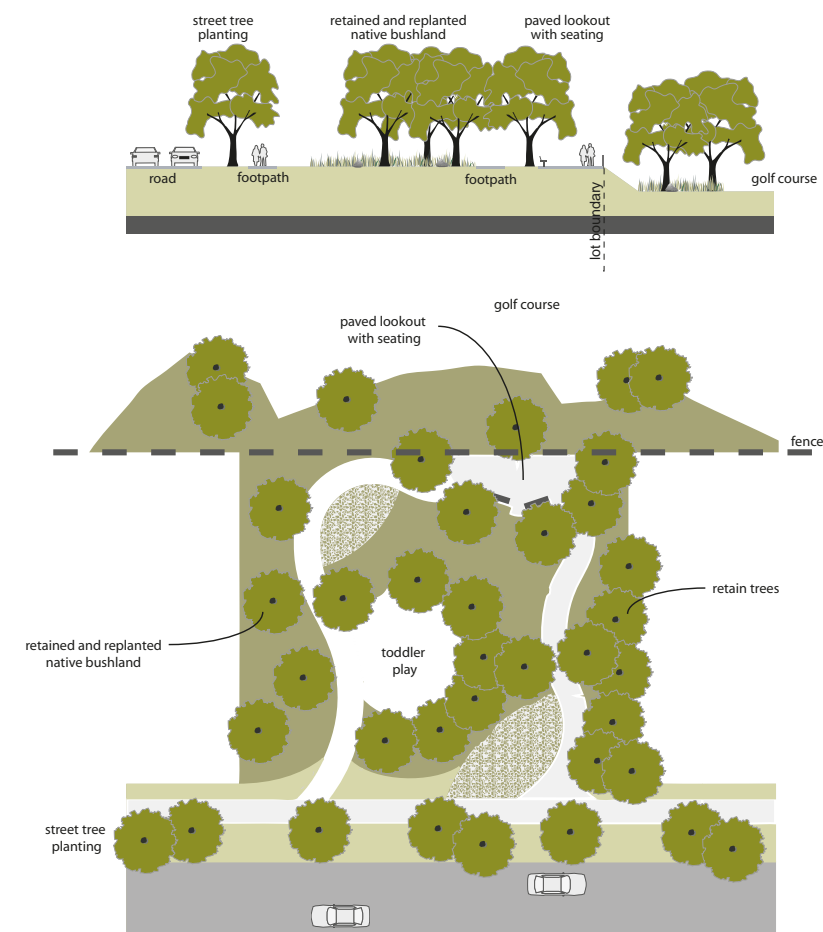
PUBLIC REALM STANDARDS

Public Domain Type	Foreshore Park
Function	Located at key points along foreshore reserve - development interface to provide amenity to the community and facilitate controlled access to the forshore reserve
Accessibility	Footpaths from local streets to provide pedestrian access to these parks, limited carparks for visitors
Edge Conditions	Post and wire fencing to interface with foreshore reserve to prevent unauthorised access
Design Character	Areas of parkland lawn and revegetated dunes including wash-down facilities and picnic facilities
Tree Forms	Retained trees and planted trees to provide shade to usable spaces, windbreaks for picnic areas, and habitat for fauna
Understory Landscaping	Retained indigenous vegetation to be maintained at levels suitable for public safety, proposed planting to feature low to medium native shrubs. Areas of lawn for informal play
Water Features	Wash-down facilities for beach users
Drainage	Integrated Drainage
Paving	Picnic spaces and feature footpath treatments where applicable
Paths	Footpaths to link POS and neighbourhoods, 2m-2.5m wide
Furniture	Seats and picnic benches located in sheltered positions throughout Foreshore Parks, and public barbecue units
Architectual Features / Materials	Various Shelters to provide architectual features and provide amenity to local community
Public Art	Where applicable and appropriate
Maintenance Regime	Mowing of lawn fortnightly during summers months, monthly during winter months. General maintenance works fortnightly to maintain safety and cleanliness of landscape
Services	Not applicable

11.2.3
NEIGHBOURHOOD PARK

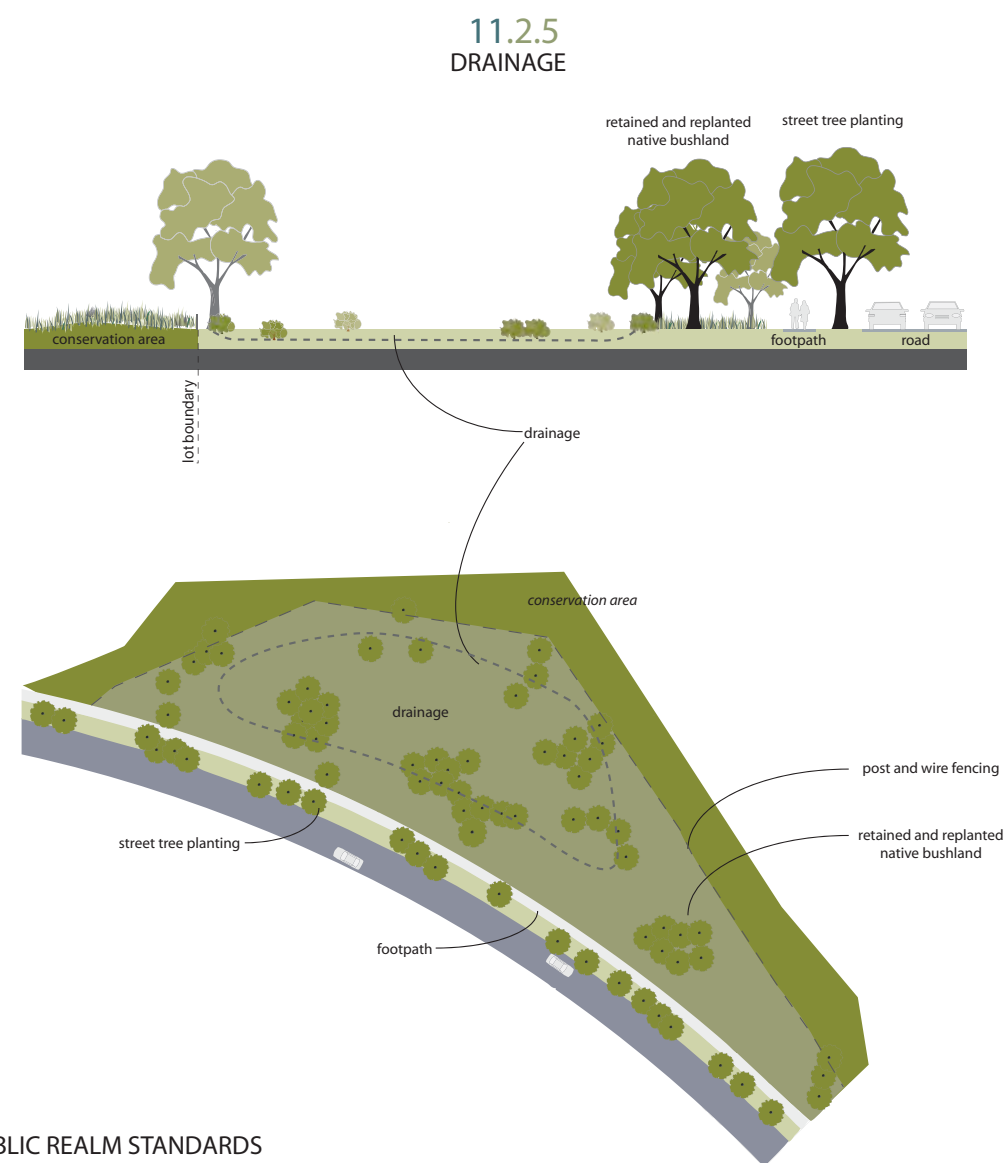
PUBLIC REALM STANDARDS

Public Domain Type	Neighbourhood Park
Function	Localised amenity for residents to include kickabout, play spaces and link into greater path network
Accessibility	Footpaths from local streets to join informal footpath network inside POS
Edge Conditions	Low (1.5-1.8m) fencing to Residential Lot Boundaries
Design Character	Portions of retained bushland with small lawn areas for informal play, picnics, play equipment etc
Tree Forms	Retained trees and planted trees to provide shade to useable spaces, and habitat for fauna
Understory Landscaping	Retained indigenous vegetation to be maintained at levels suitable for public safety, proposed ornamental planting to feature low to medium native shrubs. Area of lawn for kickabout area
Water Features	Not applicable
Drainage	Not applicable
Paving	Integrated within kickabout area if required
Paths	Footpaths to interlink POS and neighbourhoods, 2m-2.5m wide
Furniture	Seats and picnic benches located in shaded positions throughout POS
Architectural Features / Materials	Various shelters to provide visual feature and amenity to local community
Public Art	Potential for public or community artworks
Maintenance Regime	Mowing of lawn fortnightly during summer months, monthly during winter months. General maintenance works monthly to maintain safety and cleanliness of landscape
Services	Not applicable

11.2.4
LOCAL PARK

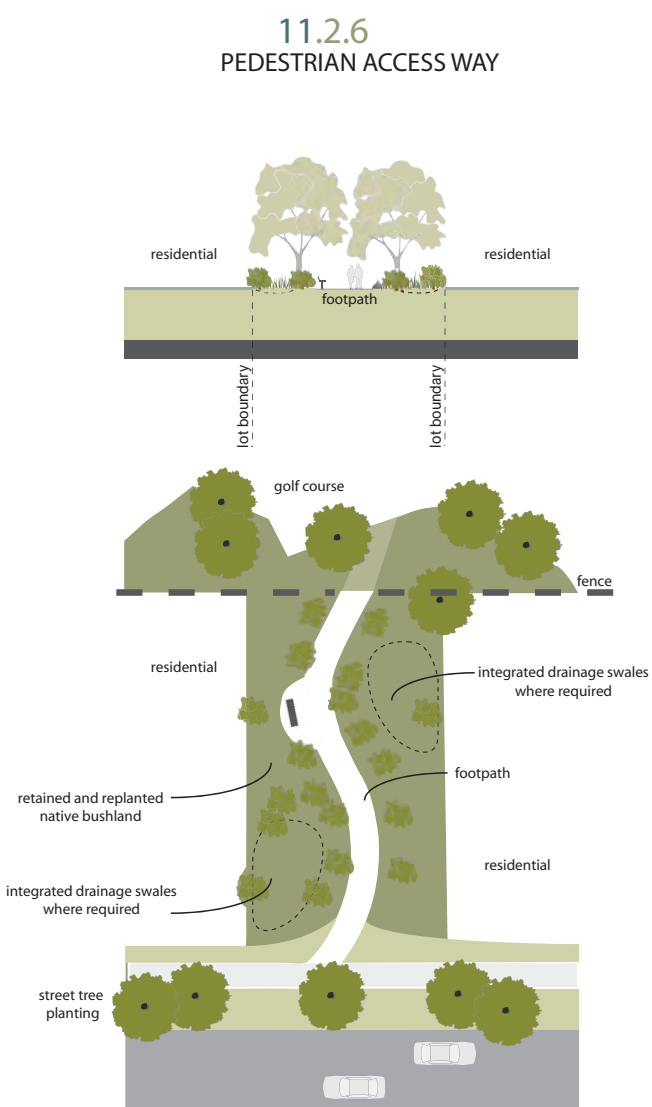
PUBLIC REALM STANDARDS

Public Domain Type	Local Park
Function	Small local park areas as destinations within greater dual-use access network
Accessibility	Footpaths from local streets to link into informal footpath structure POS
Edge Conditions	Low (1.5-1.8m) fencing to Residential Lot Boundaries. Permeable fencing, or balustrades atop retaining walls, at interface with Golf Course
Design Character	Small informal parklands for small groups of people or individuals to interact with local environment
Tree Forms	Retained trees and planted trees to provide shade to useable spaces, and habitat for fauna
Understory Landscaping	Retained indigenous vegetation to be maintained at levels suitable for public safety, small proposed planting to feature low to medium native shrubs. No lawn.
Water Features	Not applicable
Drainage	Not applicable
Paving	Small areas of gravel or permeable surface treatments to seating and play areas
Paths	Footpaths to interlink POS and neighbourhoods, 1.8m-2.5m wide
Furniture	Seating and either Toddler Plan or Exercise Equipment
Architectural Features / Materials	Plan Equipment
Public Art	Not applicable
Maintenance Regime	General maintenance works monthly to maintain safety and cleanliness of landscape
Services	Not applicable



PUBLIC REALM STANDARDS

Public Domain Type	Drainage
Function	Localised drainage areas
Accessibility	Not applicable
Edge Conditions	Post and wire fencing to interface with Conservation Areas
Design Character	Not applicable
Tree Forms	Retained and replanted trees
Understory Landscaping	Retained and replanted native bushland
Water Features	Not applicable
Drainage	Integrated drainage swales
Paving	Not applicable
Paths	Not applicable
Furniture	Not applicable
Architectual Features / Materials	Not applicable
Public Art	Not applicable
Maintenance Regime	General maintenance works fortnightly to maintain safety and cleanliness of landscape
Services	Not applicable



PUBLIC REALM STANDARDS

Public Domain Type	Pedestrian Access Way
Function	Landscaped passageway connecting destinations
Accessibility	Footpaths from local streets to link into informal footpath structure
Edge Conditions	Low (1.5-1.8m) fencing to Residential Lot Boundaries. Permeable fencing, or balustrades atop retaining walls, at interface with Golf Course
Design Character	Landscaped integrated drainage swales and formal footpath
Tree Forms	Proposed ornamental planting to feature low to medium native shrubs
Understory Landscaping	Vegetated swales
Water Features	Not applicable
Drainage	Integrated drainage swales
Paving	Small areas of gravel or permeable surface treatments for seating
Paths	Footpaths to interlink POS, golf and neighbourhoods, 1.8m-2.5m wide
Furniture	Seating
Architectual Features / Materials	Not applicable
Public Art	Not applicable
Maintenance Regime	General maintenance works monthly to maintain safety and cleanliness of landscape
Services	Not applicable

PART TWO: EXPLANATORY



The development of Binningup Beach provides a unique opportunity to create a settlement of lasting value to the existing community and future generations of Western Australians.

Mirvac acknowledges its responsibility as the builder of future communities and the custodian of the environment. Our vision is to create a master-planned coastal community that sets a new benchmark for sustainable living. Our decision-making will be informed by a suite of Core Principles that will lay the foundation for creating this community and be used as the touch-stones to continuously monitor the development's success.

1.1 Vision

Binningup is a coastal settlement created by the collective passion, leadership and entrepreneurialism of the town's founders. It is a place of great natural beauty and amenity that has been conserved and handed down from one generation to the next. The pioneering spirit of its founders continues to inform the present, embracing innovation and the improvement of this unique place.

The close and respectful relationship between the human settlement and the landscape captures the essence of the Western Australian coastal lifestyle. It is a distinctive and responsive alternative to conventional suburban development. Binningup's natural amenity and proximity to major centres and employment provide the foundations for a high quality lifestyle that satisfies an important regional need. The existing community at Binningup will prosper from the benefits that development can bring to the town's long-term sustainability. Mirvac will work to ensure that the existing community welcomes new residents to this special place.

The value for Binningup is not in becoming bigger and better, nor is it to seek differentiation of the old from the new. Rather, Binningup's new residents will connect with the spirit and civic pride of the existing community to create a thriving and modern settlement grounded in its rich history.

1.2 Core Principles

The Core Principles informing the development have been derived from a thorough understanding of the physical environment, consultation with the community and State Government agencies and an analysis of the strategic context for growth within the wider Bunbury Region. The Core Principles describe the fundamental elements of liveability and sustainability to be delivered through the planning, development and ongoing management of Binningup Beach.

The Core Principles have driven the design response for the Local Structure Plan, as well as providing the basis for the development of a set of strategies for delivering place-making, employment and community building initiatives.

Both the design and place-making initiatives will be delivered through a variety of statutory and regulatory means, including the design of the Local Structure Plan, the Scheme provisions for the site (which include the development of a Community Infrastructure Needs Plan and the preparation and implementation of various management plans), as well as future planning requirements such as Detailed Area Plans and Design Guidelines.

Regulatory authorities are encouraged to reference the Core Principles when considering planning, development and management proposals, in particular where variation to statutory provisions or the detail of this Local Structure Plan are sought.

Following careful analysis and community consultation, Mirvac has identified nine Core Principles to articulate its vision for Binningup Beach:

1. Maximise past and future investment in infrastructure through the efficient use of land, the development of a compact settlement and responsible environmental management.
2. Preserve and enhance Binningup's distinctive sense of place by designing an environmentally responsive urban development that retains key areas of native vegetation and topography.
3. Offer a variety of living options by providing a range of lot sizes and dwelling types that cater for a diverse range of community needs and lifestyle aspirations.
4. Provide equitable access for residents and visitors to safe, high quality civic places in the new coastal village, public open space network, walking trails, the beach, foreshore reserve and the golf experience.
5. Create a distinctive and high quality design vernacular that embodies the unique character of coastal living and Binningup's distinctive sense of place.
6. Improve the settlement's self-sufficiency and self-containment by facilitating the delivery of key community facilities and services, including a primary school, commercial and medical services and recreation and leisure facilities.
7. Create local job opportunities and a varied local economy based on Binningup's unique natural assets and including home-based businesses and lifestyle/service enterprises.
8. Build on Binningup's history of community involvement and self-reliance in the delivery of community assets and the promotion of local environmental stewardship.
9. Respond to the sustainability challenge by conserving biodiversity and reducing water and energy use through the application of neighbourhood design and residential density, the design and orientation of buildings, servicing, the investigation and use of appropriate innovative technology and a comprehensive management framework.

1.3 Land Description

1.3.1 Location

Binningup is a coastal settlement in the Shire of Harvey, located 21km north of Bunbury and 131km south of Perth. Within the local context, Binningup is situated 4.6km south of Myalup, 14km north of Australind and 20km from the Harvey town site.

Binningup is situated at the western end of Binningup Road, which provides a direct link with Old Coast Road. This link provides convenient access to the town site from the greater Bunbury area and other nearby localities including Collie and Harvey. The most southern edge of the Perth metropolitan region at Mandurah is approximately 50 minutes drive to the north.

The subject site is located immediately south of the existing Binningup town site.

1.3.2 Land Particulars

The site comprises Lots 304, 195 and a portion of Lot 9003, with a total area of 220 hectares.

1.3.3 History

As stated by Crook in "Binningup: The History" (2005), the area that would ultimately become the Binningup town site was used as a coastal Homeguard post by the local Voluntary Defence Corps during World War II. The men who served there were quick to recognise the site's beauty and recreational possibilities. After the war they formed the Binningup Beach Syndicate to promote the development of the area as a place where their families could holiday. After more than a decade of voluntary effort by members of the Syndicate, not the least of which was the construction of the entry road into town, the town site was formally gazetted in 1963. Since this time Binningup has grown into a vibrant coastal town and a popular holiday spot.

1.3.4 Land Use

Binningup is currently a modest coastal settlement of approximately 550 lots and a permanent population of about 950 people.

Binningup has a general store, various infrastructure utilities and a number of community facilities, including a country club, bowling green, tennis courts, surf life-saving club, youth club and community centre/hall and toy library. The Town Planning Scheme identifies two sites for future schools.

At present there are no complementary service industries such as medical consulting rooms or offices. Land adjacent to the town site is generally used for pastoral purposes, with a Conservation Category Wetland (CCW) forming a constraint to the eastern expansion of both the town site and the subject site.

The northern half of the subject site is currently developed with a nine hole golf course. Clearing and earthworks have been commenced in the southern half of the site for the construction of a second nine.

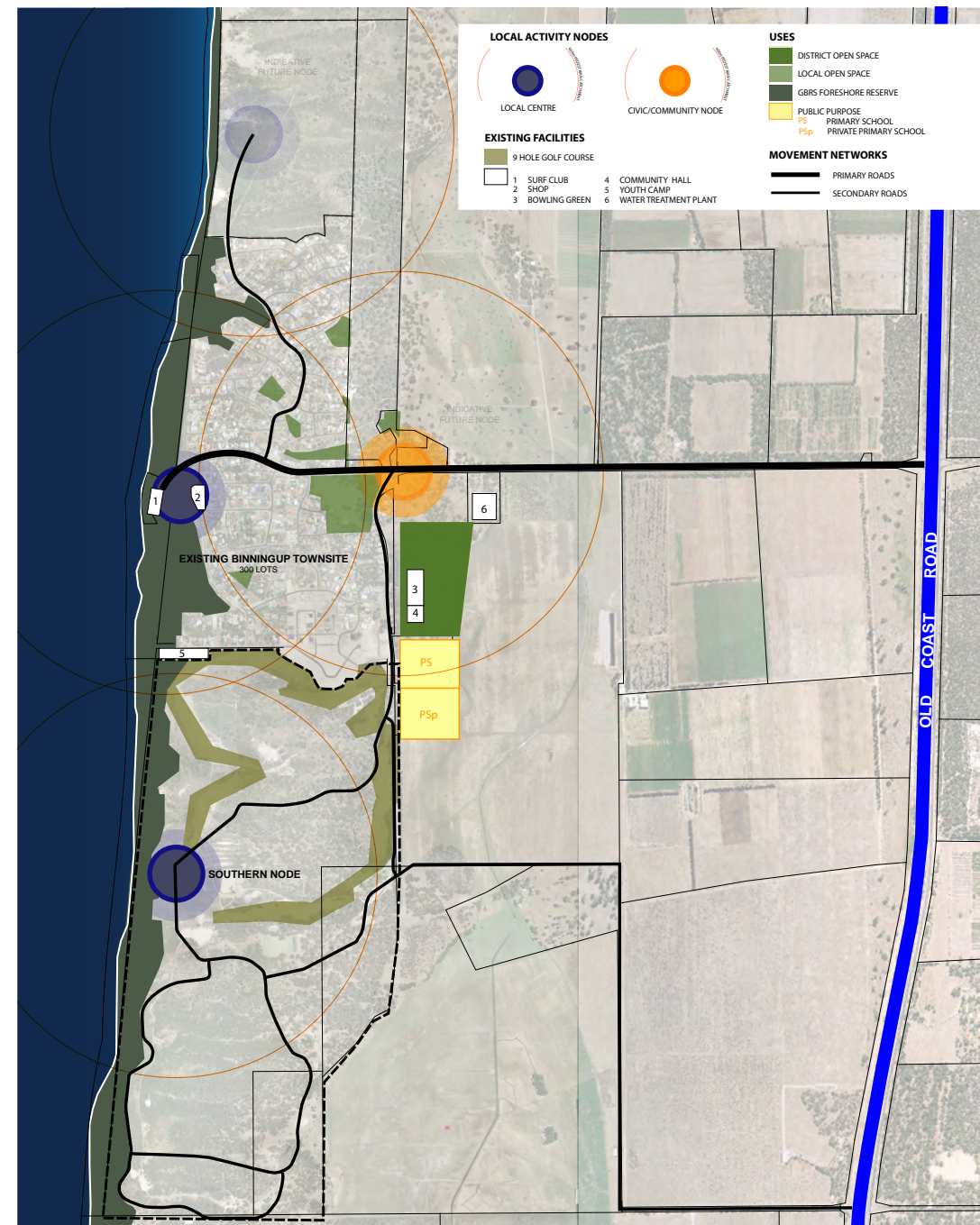
- » Top-right - Making of Binningup Road (1952)
- » Middle-right - Historical Photo of Site
- » Bottom-right - Official Opening of Binningup Beach (1955)

Black and white photos courtesy of "Binningup: The History" by Alice Crook
Colour photos courtesy of Emily Hill





» Regional Context Plan



» Local Context Plan (UD3014C)

1.4 Statutory Planning Framework

A full analysis of the statutory and strategic planning framework applicable to the site is provided as a technical appendix "Binningup Planning Report (June 2011)".

1.4.1 Greater Bunbury Region Scheme (WAPC, 2007)

The Greater Bunbury Region Scheme (GBRS) was gazetted on 29 November 2007. The GBRS zones the subject site and the existing Binningup town site 'Urban'. The adjacent foreshore is reserved for 'Regional Open Space' and the balance of the surrounding land is predominantly zoned 'Rural'.

1.4.2 Shire of Harvey (DPS) District Planning Scheme No 1 (Shire of Harvey, 1996)

The Shire of Harvey District Planning Scheme No 1 (DPS 1) was gazetted on the 12 November 1996. The Scheme zones the land 'Residential Development' with a strip of land on the western side reserved for 'Regional Open Space'.

Surrounding land to the south and east is zoned 'General Farming'. The adjacent foreshore area is reserved for 'Regional Open Space'.

The land was rezoned to 'Residential Development' via Town Planning Scheme Amendment No.63 to DPS 1 that made the zoning and reservation of the land consistent with the GBRS.

DPS 1 states that it is the 'Residential Development' zone will be progressively developed for residential purposes and for commercial and other uses normally associated with residential development. DPS 1 requires the preparation of a Local Structure Plan for the 'Residential Development' zone prior to the approval of any development or subdivision.

Amendment No. 63 creates a new Area 6 in Schedule 19 of DPS1. This details a range of provisions and management plans to guide the preparation of the Local Structure Plan and to ensure that future development and subdivision is consistent with the environmental and landscape values of the site. These provisions include:

1. Requiring the design to balance the retention of the site's key topographical features with the principles of Liveable Neighbourhoods;
2. Requiring the design to provide a variety of local reserves and 'Residential – Bushland Conservation' areas for in accordance with a Figure 1 agreed via the Environmental Assessment process (see Section 1.5.3);
3. Designating a minimum of 20% of the total site area for inclusion in Regional Open Space (ROS) and Public Open Space (POS) ;
4. Specifying areas where detailed area plans are required to facilitate the development of environmentally sustainable built form that has regard to the character of the area, incorporates solar passive design principles and that promotes the retention of key topographical features;
5. Preparation of a Strategy in regard to the construction standard and timing of the proposed second access road to Old Coast Road; and
6. Preparation of a variety of management plans and reports including:
 - » Rehabilitation and Environmental Management Plans;
 - » Community Infrastructure Needs Plan that addresses both hard infrastructure (such as built facilities and pro rata contributions) and soft infrastructure (the social fabric of the community);
 - » Foreshore and ROS Management Plan;
 - » Sustainability Report;
 - » Foreshore Management Plan;
 - » Local Water Management Strategy and Urban Water Management Plans;
 - » Fire Management Plan;
 - » Golf Course Management Plan; and
 - » Acid Sulfate Soil Management Plan.

The submitted Local Structure Plan meets the stated requirements for the land detailed in DPS1.



1.5 Context Analysis + Design Response

The heart of the design for Binningup Beach is to integrate human activity and habitation with the existing, attractive natural environment in a respectful and responsive way.

The early subdivision design of Binningup Beach took as its starting point the undulating topography of the coastal dunes set against the backdrop of Tuart and Peppermint trees. This organic design response was completed by the use of the low key, coastal built form character and streetscapes characteristic of traditional WA seaside towns.

This historical reference point has informed development of the Local Structure Plan which also takes a landscape response as the starting point for development of the urban form. The new development aspires to support the existing ecology and further enhance Binningup's distinctive 'sense of place'.

1.5.1 Design Enquiry Forum

Mirvac recognised early on that the successful expansion of the Binningup town site required the active participation and support of the local community and key agency stakeholders.

To ensure a collaborative vision for the future development of Binningup was developed, Mirvac invited representatives from the local community and key agencies to participate in a Design Enquiry Forum run over three days in April 2008 at the Lighthouse Beach Resort in Bunbury. Representatives included, amongst others:

- » Local community members;
- » Binningup Community Association;
- » Shire of Harvey;
- » Department for Planning and Infrastructure;
- » Department of Environment and Conservation; and
- » Department of Education and Training.

The Forum provided a vehicle for participants to share their thoughts and ideas about Binningup's future, to reflect on its history and to analyse the constraints and opportunities that development presents.

The Forum involved numerous interactive sessions during which participants discussed issues relevant to the future development of the site. The key outcomes and aspirations are captured in the Design Objectives prepared for the site (see below). A summary of the outcomes of the interactive sessions is also included in the closing presentation of the Forum provided as a technical supplement to this report.

1.5.2 Design Objectives

The key design objectives developed for the Local Structure Plan are, summarised as follows:

1. Retain key natural landforms and vegetation to maintain the coastal feel and provide ecological corridors for wildlife habitat across the site;
2. Preserve the integrity of significant views to and from the site, in particular of the ocean and the rural hinterland, and from key ridges and high points such as Valentines Hill;
3. Create discrete neighbourhood precincts derived from the site's topography that form part of a walkable and interconnected movement network;
4. Develop a vibrant and highly accessible Village Centre that celebrates the development's relationship to the beach;
5. Provide a variety of living options through a range of lot sizes and housing types that cater for the diverse range of community needs and lifestyles; and
6. Develop built form and landscape that complements the sites topography and ecology and that achieves high levels of climate responsive design.

1.5.3 Outcome of Environmental Assessment and Ministerial Decision

As a result of the Environmental Protection Authority's (EPA) consideration of Amendment 63 to DPS 1, and subsequent appeal by the proponent, the Minister for Environment issued a decision on 1 July 2010 which required a range of amendments to the Local Structure Plan. The Minister's decision references the adjacent plan, as well as requiring the following:

- » Creating a new category of reserve for "conservation" in the Scheme and this being applied to the relevant areas on the adjacent plan;
- » The southern conservation reserve being increased in area by 5ha and being made into a more compact shape;
- » A minimum of 24.3ha of land being designated as "Residential Bushland Conservation".

This determination results in approximately 30% of the site being reserved in secure tenure as reserves for conservation and foreshore.

The final Local Structure Plan incorporates the Ministerial requirements.

1.5.4 Final Design Outcomes

The final Local Structure Plan is the result of the iterative design process described above. The major structuring elements of the Plan remain the response to the coastal landform and the recognition of the natural habitat, preserved through the extensive conservation network. Overlaid with the interconnected movement network, public open space areas and golf course, these elements define the locations where residential development is proposed.

The design response represents an opportunity to build a complementary settlement that acknowledges the urban design heritage of the existing town-site. Binningup's town founders recognised the environmental qualities and sensitivities of the area. As a consequence, the town's original design is responsive to the natural landscape and environmental assets, expressed through road alignments, the retention of topography, foreshore protection and the revegetation of former grazing pastures.

The new Plan provides the opportunity for a greater relationship between housing forms and topography, both in its historical expression in Binningup, and more recent appreciation for these traditional responses.

The final Local Structure Plan incorporates a range of design features and development strategies aimed at retaining the site's distinctive coastal landforms. These include:

- » Locating key landform features such as Valentines Hill within the open space network to protect them from earthworks disturbance;
- » Retention of the coastal primary dunes in Regional Open Space and use of existing access points to link with the beach;
- » Locating roads along existing contours where possible to minimise the need for construction earthworks and using localised retaining walls rather than batters to treat topographic level differences;
- » Providing specific standards for roads and landscaped areas that contribute to the aspiration for the retention of topography, vegetation and character;
- » Facilitate the development of more innovative forms of housing, allowing for the retention of slope on housing sites and avoid traditional flat home sites and the requirement for comprehensive earthworks;
- » Provide a range of lot sizes to allow greater opportunity for retaining distinctive topography and minimising earthworks and the loss of vegetation;
- » Retention of the site's key landforms also enables significant views to and from the site to be preserved; and
- » Maintaining the local ecology by setting aside approximately 82 ha of native vegetation in Conservation and Foreshore reserves, comprising more than 32% of the site. The provision of these core conservation areas and ecological corridors through the site was central to the design of the Local Structure Plan and exceeds the Scheme's minimum requirement of 20%.



» Area 6: Binningup Beach South - Figure 1 - Conservation Reserves

2.0 Site Conditions and Environment

The full Environmental Assessment Report (EAR), and technical appendices, is provided as an appendix to this report. The report includes detailed consideration of the site conditions and explanation of the suite of management plans and strategies to be deployed on the site, satisfying the requirements of the Environmental Protection Authority assessment and approval dated 1 July 2010.

Summaries of the key findings are provided below.

2.1 Topography, Soils and Geology

The soils which make up the dune landforms are Safety Bay sands, described as medium grained grey white calcareous sand of eolian origin. The eastern boundary of the site generally corresponds to the western margins of a low-lying basin landform, associated with the former northern extent of Leschenault Inlet.

The preliminary geotechnical investigation undertaken by Coffey Geotechnics (2007) encountered sand at most sites which was described as fine to medium grained, grey to yellow, medium dense sand. The report also noted that a number of test pits penetrated thin limestone or cemented sand horizons within a generally sandy profile. Karst formations were not encountered during the site assessment.

The WAPC Bulletin 64 Acid Sulfate Soils identifies soils across the majority of the site have a low to no risk of acid sulfate soils occurring within 3 m of the natural soil surface (or below). A small area along the eastern boundary is mapped as having a high to moderate risk of acid sulfate soils occurring within 3 m of the natural soil surface.

2.2 Groundwater and surface water

The site is located in the Myalup sub-area of the South West Coastal Groundwater Area and is underlain by three aquifers: the Superficial, Leederville and Cockleshell Gully. Details of the depth to groundwater, recharge characteristics and hydrological function are contained in the EAR. Maintenance of the pre-development

hydrologic regime is proposed to be facilitated through at-source stormwater infiltration within local swales and private residences. There may be some reduction in infiltration through collection of roof run-off in rainwater tanks but this may be compensated for by the reuse of grey water or ex-house use of scheme water.

The site contains a portion (1.8 ha) of a DEC classified Multiple Use. This is proposed to be retained and rehabilitated within a Reserve for Conservation.

There are no natural surface water expressions within the site. However, there are a number of artificial lakes within the golf course that have been created by excavation below the water-table.

2.3 Flora and Fauna

Six native vegetation units are located within the study area, as well as six artificial wetland units. Vegetation condition across the site ranges from Excellent – Very Good to Completely Degraded. No Declared Rare Flora, Priority Flora or Commonwealth listed species were found within the site.

Bamford Consulting Ecologists (2008) identified three conservation significant fauna species that have a moderate risk of being impacted upon from the development of the site. The three conservation significant species identified by Bamford Consulting Ecologists are the *Lerista lineata* (skink), *Calyptorhynchus latirostris* (Carnaby's Black Cockatoo) and *Pseudocheirus occidentalis* (Western Ringtail Possum).

The Graceful Sun Moth (GSM) was also recorded within the site during a targeted Graceful Sun Moth survey in 2010 in accordance with the DEC's Survey Guidelines for the Graceful Sun Moth (*Synemon gratiosa*) and site habitat assessments (DEC, 2010). The areas of highest density *Lomandra* on Valentines Hill will be retained in Conservation Reserve and managed to promote the survival of the Graceful Sun Moth. The Graceful Sun Moth population in the centre of the site is retained within a Reserve for Conservation zone (a new zone to be created under the Shire of Harvey District Planning Scheme No. 1). A full Graceful Sun Moth Report is found in Appendix 5 of the EAR.

Responding to State and Federal environmental requirements for GSM at the time of its preparation, the previous revision of the Local Structure Plan depicted the Valentines Hill area being set aside as an additional 'Local Reserve for Conservation' (over and above the areas depicted at Figure 1 of Amendment No.63) to enable preservation of a surveyed GSM population. With the delisting of the GSM on 18th May 2013, this area is no longer required for conservation purposes and the final Local Structure Plan now depicts the Valentines Hill area as a 'Local Reserve for Recreation'.

The relative risk of impact to all other fauna species of conservation significance is considered to be negligible, low or low-moderate because there is either a low likelihood of the species being present within the survey area, or there is a low likelihood of these species being strongly affected by the development of the site for residential purposes.

As a requirement of Amendment No.63, an Environmental Management Plan is required which will include a variety of measures to protect and enhance the existing flora and fauna on site as well as detail revegetation efforts for degraded areas with habitat potential.

2.4 Bushfire

A comprehensive Fire Management Plan (FMP) (September 2013) has been prepared by TME and is provided as a separate appendix to this Structure Plan report. The requirement for the preparation of a Fire Management Plan is also a requirement of Amendment No.63.

The purpose of the Fire Management Plan is to minimise the threat and impact of a bush fire to people and assets within the proposed subdivision while integrating fire management as a key element of the subdivision design in balance with environmental, landscape, community and residential objectives.

While a significant portion of the existing vegetation will be cleared from the development areas on-site, the development is introducing substantial values (property and people) which must be protected from the risk posed by the remaining vegetation. The most significant management issue is the separation of dwellings from areas of remnant vegetation and the associated fire risk.

The FMP includes suite of management measures and objectives to manage this risk, including but not limited to:

- » Providing separation distances between dwellings and bushland areas, including through the use of roads;
- » Ensuring areas directly adjacent to dwellings are maintained as low fuel zones to ensure that understorey fuel loads do not reach potentially dangerous levels;
- » Prescribing construction standards for dwellings;
- » Provision of emergency access/egress;
- » Fuel reduction programs and regular property and firebreak maintenance; and
- » Resident education programs.

2.5 Heritage

A desktop review of the potential Aboriginal heritage significance of the site was undertaken by Yates Heritage Consultants in 2008 and is provided as an appendix to the EAR. The key outcomes of the review included:

- » There are no registered Aboriginal sites within the Binningup landholdings;
- » The closest sites are artefact sites located further east associated with the Old Coast Road Aboriginal track and Myalup Swamp; and
- » It is postulated from research in the wider area that the traditional use of the Binningup Coast would have been intermittent owing to the harsh saline environment. However, there is potential for Aboriginal springs and burials to be present.

2.6 Coastal Assessment

A Coastal Processes Assessment was undertaken by MP Rogers and Associates and is provided as an appendix to the EAR. This finds that the coastal setback (comprising the width of the conserved foreshore zone of 80 to 180 metres) exceeds the required physical process setback requirement of 68 metres. This setback will facilitate landform retention and minimise disturbance which could lead to degradation of to the primary dune system in accordance with the requirements of the relevant statutory requirements.

2.7 Urban Water Management

Amendment No.63 requires a Local Water Management Strategy (LWMS) to be completed prior to final approval of the Structure Plan. The LWMS is to be compliant with the Better Urban Water Management guidelines (WAPC 2008) and completed to the satisfaction of the Shire of Harvey with advice from the Department of Water.

A LWMS has been completed to support the LSP which includes, but is not limited to providing details on the existing environmental characteristics, identifies the water conservation strategies to be implemented on site and includes a conceptual drainage strategy that incorporates water sensitive urban design and drainage best practice where possible.

The primary aim of the LWMS is to demonstrate that the existing hydrological regime at the site will be maintained post development in order to prevent unacceptable impact to the environment. To manage the increased runoff expected from urban development, the site has been divided into a number of smaller sub-catchments to allow for a series of stormwater management measures to be implemented throughout the site to manage stormwater close to source and to facilitate the infiltration of stormwater where possible.

Reserves for conservation will not be used for drainage. Drainage collection and infiltration will rely on the use of drainage basins located in reserves for recreation/drainage. Stormwater will however be able to passively enter the conservation POS areas

at pre-development rates through the use of flush kerbing and grassed road side swales. The stormwater management system incorporates the following measures:

- » All residential lots will confine run-off from roofs and paving within the property boundary through the use of soakwells and infiltration through the sandy soil profile;
- » Rainfall from a 1:1 year ARI event will be retained and infiltrated on-site through the use of soakwells, bottomless side entry pits, flush kerbing and grassed road side swales;
- » A series of landscaped drainage basins and swales will be located within POS areas to effectively treat and manage stormwater during the larger events; and
- » Large rainfall events (1:5 year ARI to 1:100 year ARI) will be conveyed and detained through a network of roads and open space within each catchment.

A number of measures to improve water conservation at the development have been incorporated into the Structure Plan including the retention of existing vegetation where possible, allocation of significant reserves for conservation that require no ongoing irrigation, the use of native vegetation in landscaped areas and reduced use of turf to minimise irrigation, the use of water efficient fittings within the home and the provision of water for irrigation from Harvey Water.



3.1 Neighbourhood Structure

The urban structure responds to the opportunities presented by the coastal and bush landscape, and the alignment of the existing golf course, with the majority of development located within the valleys and flatter areas of the site and special responses provided for development located on hillsides and vegetated areas where a greater degree of sensitivity in terms of design and built form is required.

This design approach is consistent with the statutory requirements applicable to the site detailed in Amendment No.63, which requires the Local Structure Plan to provide for a form of subdivision and development that balances the retention of the site's key topographical features with the principles of Liveable Neighbourhoods.

Development is located in distinctive, cohesive neighbourhoods designed to work with the landscape. The design employs a number of mechanisms to promote the retention of landform and maximise amenity, as follows:

- » Aligning roads (where possible) to follow the natural contours to minimise the need for earth working and retaining;
- » Maximising the number of lots with visual or physical access to areas of high amenity, including the golf course, open space areas of retained vegetation and views;
- » Designating a 'Residential – Bushland Conservation' area where alternative design responses can be used to retain vegetation and topography;
- » Integrating neighbourhood parks and POS into a broader conservation and pedestrian movement network; and
- » Providing a legible and permeable movement network for vehicles and pedestrians, with a spectacular entry experience to the development and Village Centre from the north.

Using this methodology the neighbourhood structure creates walkable precincts of diverse character with convenient access to areas of high amenity. The site has a diverse variety of amenity offerings, both natural and constructed. These include the natural tuart woodland and coastal heath environments (retained within the network of ecological linkages), a variety of small local parks

serving different recreational needs, the 'Residential - Bushland Conservation' areas, the beach, the golf course, the Village Centre and expansive views to the coast and the rural hinterland to the east. Connecting these areas of amenity to an integrated pedestrian network of footpaths will also make them more readily available for use by residents of the existing town site.

3.1.1 Zoning + Residential Density

The Local Structure Plan comprises predominantly residential zoning (including the 'Residential – Bushland Conservation' areas), various reserves (for conservation, foreshore, recreation and drainage), Private Recreation (Golf Course) and Shop (neighbourhood centre) zones.

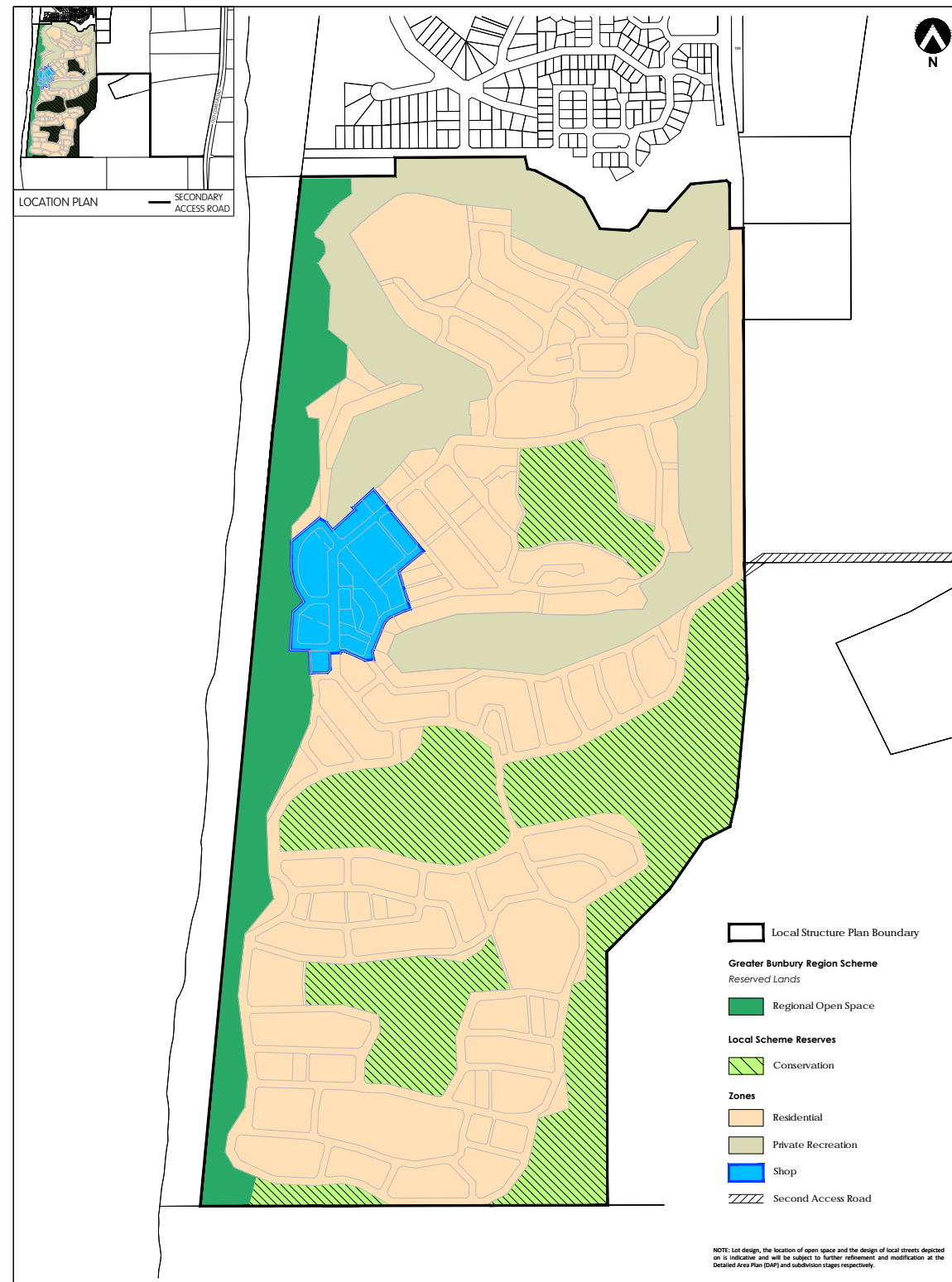
The Local Structure Plan focuses on providing a variety of living options catering for a diverse range of lifestyle needs. Residential density ranges from R2 - R40 throughout the balance of the estate, with densities of R40-R80 in the Village Centre. The Residential Density Strategy (Plan 2) demonstrates the preliminary application of residential density ranges throughout the site. Final residential density will be determined by WAPC approval of a Residential Density Code Plan lodged with applications for subdivision as required at Part One, section 7.0 of this report.

As detailed in the accompanying Economic Report (Syme Marmion, Aug 08) Binningup Beach is not likely to cater predominantly to first home buyers, but will continue to reflect a more mature age profile, consistent with its high value coastal location and the existing profile of the community. This is important for attracting and maintaining higher-income earners and middle managers/professionals within the region as part of the broader strategy for addressing the regional skills shortage. The first home buyer demographic is already well catered for by other development in the region, in particular in Australind, where there is a range of affordable product either in development or already on the market.

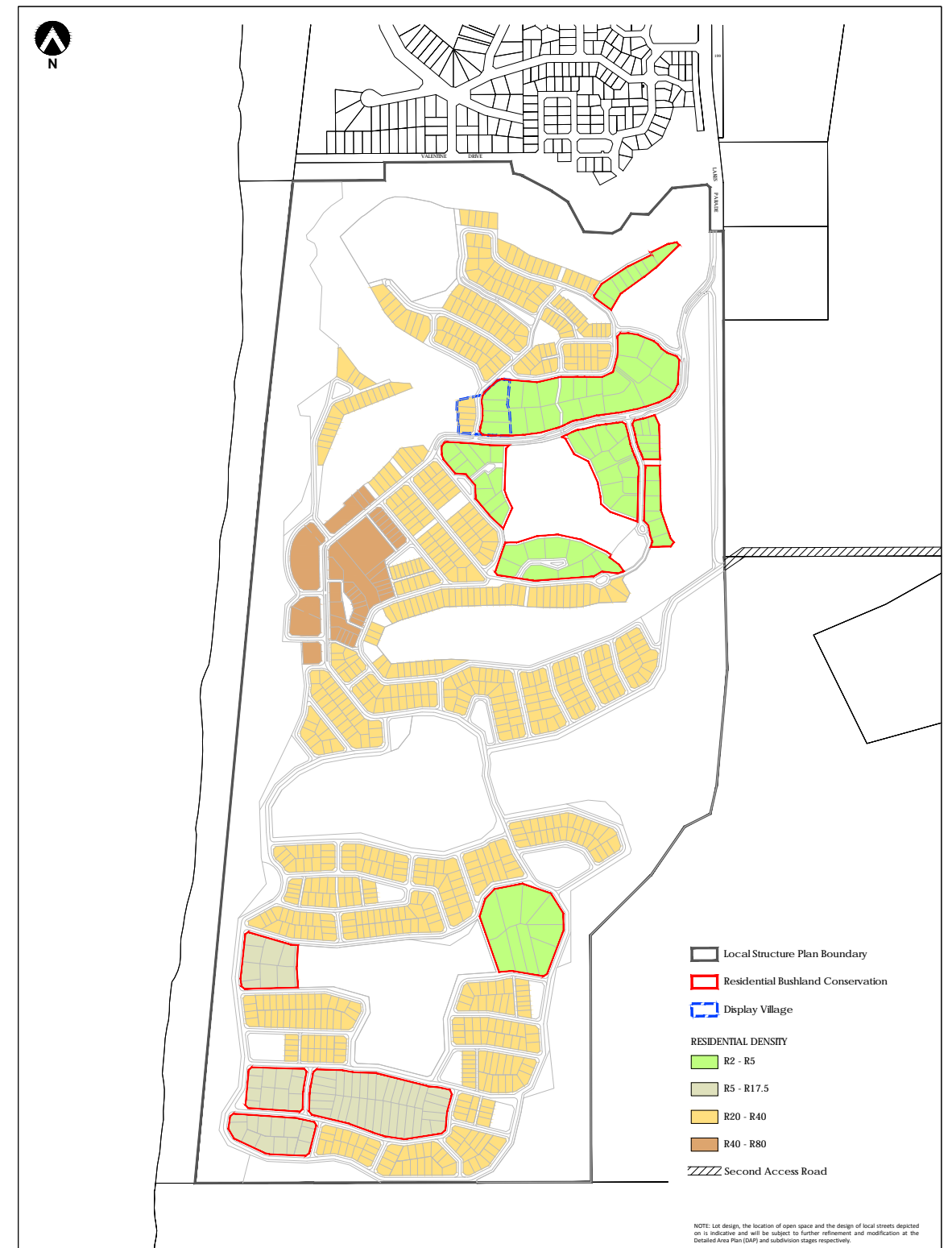
The Local Structure Plan proposes a range of smaller lots and homes located close to the facilities and services of the Village Centre and other areas of high amenity. This has the added

advantage of providing for older people and retirees who may not have access to transport and/or do not require the same amount of living space, but prefer to age in place rather than move to larger regional townships. The Village Centre itself includes provision for smaller lots and other living options such as terrace homes or village apartments which provide affordable living options for new and existing residents. This response also addresses the lack of affordable living options for young couples and the elderly that was raised by existing residents at the Design Enquiry Forum.

03 LOCAL STRUCTURE PLAN CONTINUED



» Local Structure Plan (Plan 1) (UD1105F)



» Residential Density Strategy (Plan 2) UD1408J

3.1.2 Village Centre

The Village Centre is intended to be an intimate mixed use and civic space – the vibrant heart of a 21st century coastal village. Its location promotes a closer relationship of civic and commercial activity to the beach; as distinct to the current situation in the Binningup town site.

Centres Potential Assessment

To correctly calibrate the amount of retail floor space appropriate to this node within the broader context of Binningup, a 'Centres Potential Assessment' was conducted to identify the potential role and size of commercial centres throughout the town site. A summary of the conclusions is included below. The full report - 'Binningup Beach Local Structure Plan Centres Potential Assessment' (Shrapnel, May 2011) - is provided as a technical supplement to this report. Binningup currently has limited retail facilities with a convenience store of about 300 m2 providing an important community resource.

The CPA identifies two future development scenarios:

- » Scenario 1 – Development of a new village centre at Binningup Beach (up to 550 m2) and enhancement of the existing convenience store to a small neighbourhood centre - total of 1,650 m2 of retail floorspace; or
- » Scenario 2 – Scenario One plus development of a small local centre (up to 300 m2) as part of a possible future northern extension of the Binningup town site and an additional 270 m2 at the new village centre - total of 2,270 m2 of retail floorspace¹³

The expected role of the new Village Centre in these scenarios is to provide a community heart and social space for residents, with the potential to move beyond this to cater for recreational visitors from beyond Binningup. Approximately 600 m2 of retail floor space is considered to be viable in the proposed village centre under Scenario 1, with an additional 300 m2 being viable in the longer term if the northern node is developed (as envisaged under Scenario 2). Development of the village centre will need to be

staged, given that total development of the southern area is likely to take many years. A suitable first stage from a retail perspective is considered to be a convenience store / mini-mart of 250 – 300 m2

The retail / commercial potential of the village centre is flexible, being a function of the scope and attractiveness of the recreational uses and accommodation provided as part of the golf course and beach experience. The additional retail potential of the village centre (over and above its local service function) will form part of the future detailed planning for the village centre, and its immediate surrounds.

The potential for additional retail floor space to be provided in the village centre is also dependent on whether Scenario 2 comes about. Even though Scenario 2 includes development of the northern node, it will, for a variety of reasons, still increase the retail floor space potential of the southern village centre.

The Village Centre will be the major community 'living room' at Binningup Beach. Its character will be that of a lively coastal Main Street, created through the use of seaside architecture and activities relevant to Binningup Beach.

Village Centre Overview

Located centrally to the site and next to the primary pedestrian access point to the beach, the Village Centre is a highly legible location for residents and visitors, both physically and visually. The centre is accessible by all transport modes, being located at the confluence of access roads from the northern and southern portions of the site. The close proximity of the centre to adjoining neighbourhoods encourages walking and contributes to a reduction in vehicle trips for local residents accessing the area.

A major driver for the location and orientation of the Village Centre's Main Street is a key view corridor and controlled access point to the ocean through a gap in the dunes. The existing track to the beach through this gap will be maintained and enhanced for pedestrian use. A foreshore park is proposed on flatter land within and adjacent to the dunes. The park is sheltered from prevailing

winds by the dunes and may include public facilities such as barbeques, play equipment and a building housing changing rooms and toilets.

The Main Street is intended for everyday community use by both residents and visitors. Intended facilities include a convenience store, bakery, café / restaurant, tourism, the possibility for medical consulting rooms and a facility associated with the golf course.. Some of the retail facilities are likely to operate as one entity during the centre's early development.

The Village Centre precinct can accommodate a diverse range of possible dwelling types and higher residential densities, including town houses, detached dwellings and strata development. The location of the Precinct behind the fore dunes makes this the ideal location for sensitively located and appropriately designed buildings up to five storeys in height. The relative ground levels ensure that buildings of this scale do not crown the fore dunes and are not visible from the sea, thereby complying with SPP 2.6 – Coastal Setbacks. The combination of lot sizes and dwelling types available in the Village Centre will improve opportunities for low maintenance, affordable housing options within the estate.

3.1.3 Community Development

A Unique Community in a Unique Place

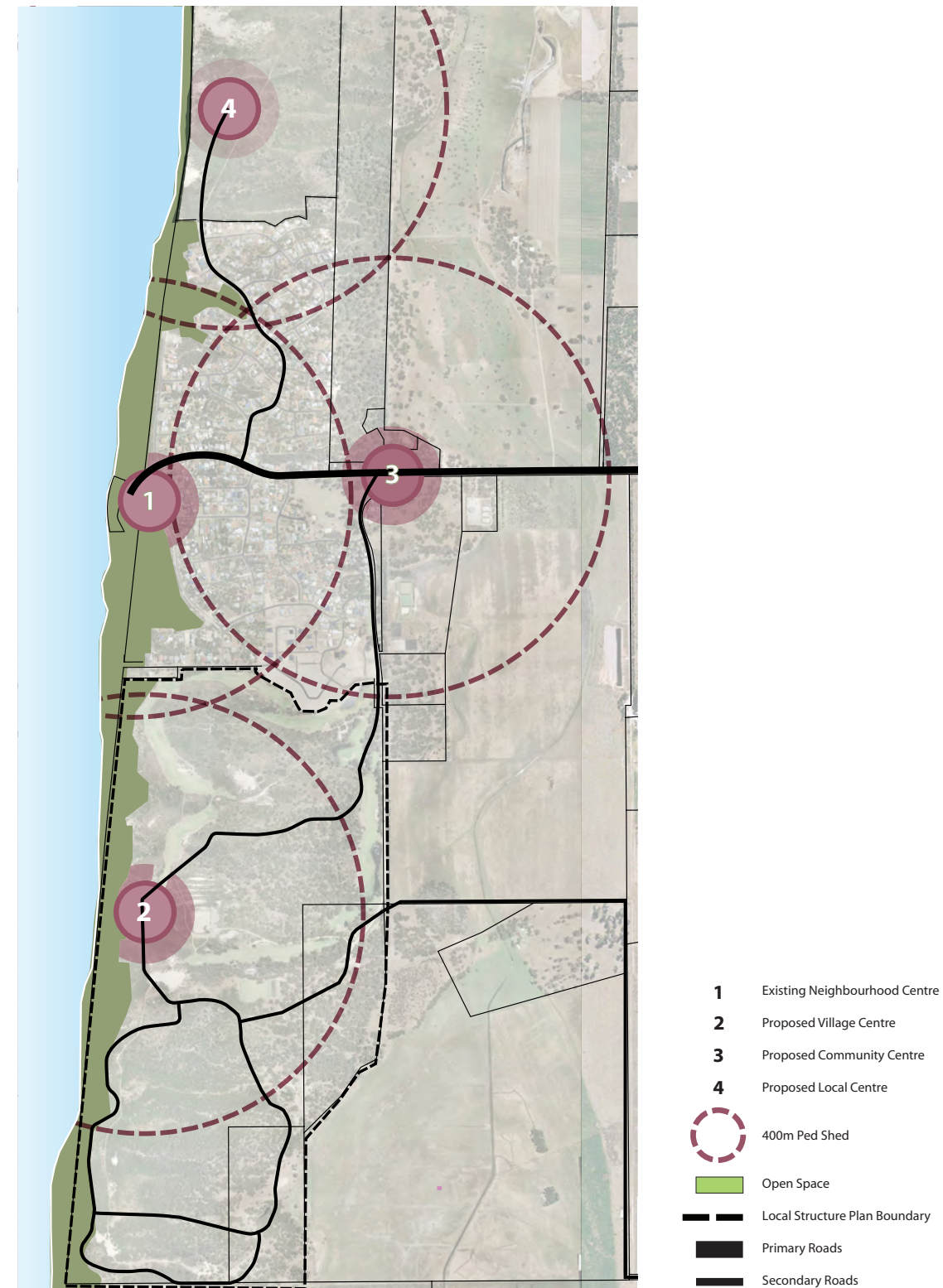
The development of Binningup Beach is based upon firm foundations linked to the existing social fabric of the community, the natural and constructed assets of the area and its location. The planning for the expansion of Binningup Beach is aimed at reinforcing the notion of a unique community living in a unique place.

As with many peri-urban communities, Binningup experiences the ebb and flow of growth and decline. The general reasons for growth is the lifestyle that people seek, while the general reasons for decline relate to families with teenagers moving closer to educational and other amenities for their children and older people moving closer to medical facilities as they age.

While the current Binningup community understands its strengths, it recognises that it lacks some of the essential amenities and services required to sustain a larger town. The lack of population means that residents need to travel by car to access educational institutions, health providers, employment, retail outlets, recreational pursuits and commercial opportunities. The community is keen to acquire such amenity while protecting its unique lifestyle.

Mirvac has a significant, but not sole, responsibility for the future of Binningup. Mirvac will enter into agreements with key government, commercial and non-government stakeholders to ensure that relevant parties contribute to the planning and provision of Binningup's future. As part of the next phase of planning Mirvac is committed to the preparation of a comprehensive Community Infrastructure Needs Plan. That will address both hard and soft infrastructure. Development of this Plan is a requirement of the Scheme provisions applicable to the land. To implement this commitment, Mirvac will first undertake a Community Infrastructure Needs Assessment in close cooperation with the Shire of Harvey and other key stakeholders in the region.

Two existing school sites are already allocated south of the community club. These are reserved for "Public Purposes – Schools" under DPS 1 and are owned by the Department of Education and the Roman Catholic Bishop of Bunbury respectively. Mirvac has already commenced discussions with the DET to determine the extent of pro-rata contributions required to facilitate development of the allocated site.



» Local Centres Plan

Employment

The proximity of significant employment nodes close to Binningup, including the regional centre of Bunbury, suggests that the economic role of Binningup will be as a boutique lifestyle service centre for the Region, as well as a residential location. The majority of local employment is therefore likely to be service oriented and located in the two community hubs described above..

The planning for the Village Centre will include developing a range of adaptable housing types appropriate to home-based businesses and services. These businesses and services will maximise the function of the Village Centre and its offer to local residents, as well as providing an important source of local employment. Mirvac has previously developed these kinds of live-work housing options at its developments at Burswood (The Peninsula), Leighton Beach (Beachside Leighton) and Mount Pleasant (Azzure). This approach will also be implemented elsewhere in the development, to facilitate low-impact home-based services.

Mirvac will also consider working with the Shire of Harvey and other authorities to provide appropriate enterprise facilitation and business advice for purchasers of live-work housing within the development. This could include educational material and business advice for residents and the provision of an enterprise facilitator to work with existing and new residents to develop their businesses.

Binningup is already a very active community. The key opportunities for community activation lie in embedding this same spirit of volunteerism and engagement in the new community.

An example of this would be Mirvac's intention to use the natural assets of the site to encourage community participation. This would be achieved by founding a coastcare / landcare group to assist with the rehabilitation and development of the foreshore and with the management of the site's conservation areas.

Similarly Mirvac intends on establishing a sponsorship program for existing and new groups, to host new resident programs with the Binningup Community Association and to work with regional service providers to ensure that their services are available to the Binningup community.



3.2 Movement Network

A detailed 'Local Structure Plan Traffic Report' (Riley Consulting, May 2011) has been prepared for the development which assesses:

- » The site in the context of the surrounding road network;
- » Existing and proposed traffic generation and distribution;
- » Traffic impacts of the proposed development;
- » Access to the site, including proposals for a potential second access road should it be required in the longer-term;
- » Characteristics and specifications of the proposed local road network;
- » Traffic management; and
- » Pedestrians, cyclists and public transport.

A summary of the key recommendations is provided below. The full study is included as a technical supplement to this report.

3.2.1 Pedestrian + Cycling Network

Walkability and permeability are two of the key design drivers for the Local Structure Plan. Walking the site provides the opportunity to experience the diverse character of both its natural and future urban settings. The design promotes walking and activity through a comprehensive path network throughout the linear POS system, complemented by footpaths within the street network. This links destinations within the site, such as the residential neighbourhoods, the beach, the Village Centre and hilltop parks, as well as providing access to external destinations, such as the future primary school and the existing town site. The path network will maintain a relaxed, coastal feel, whilst ensuring managed and defined access to areas of increased sensitivity such as the foredunes, beach and conservation areas.

3.2.2 Vehicle Network

The Village Centre forms the heart of the development upon which the road network converges. A single neighbourhood connector road provides access to the site from Lakes Parade and links the residential neighbourhoods. The forecast traffic flows indicate that this road should have a seven metre wide carriageway (consistent with the essentially rural development environment) within a road reserve ranging from 16-20 metres. This width will enable the opportunity for future bus access to be provided.

Access streets are the main residential streets within the development and provide direct lot access. As daily traffic flows are forecast at less than 5,000 vehicles, direct lot access is possible to all streets. All streets are of relatively short lengths and high traffic speeds are not expected.

Internal streets will be designed to achieve more innovative and varied approaches to residential street development. This includes reduced road pavement and reserve widths to enable a more sensitive response to the topography, road narrowing and traffic calming. Flush kerbs will be used to direct stormwater run-off directly into reserve areas for infiltration of stormwater at source.

Streetscapes will be planted to reinforce the coastal character. Trees will be planted in a naturalistic fashion, with clumps of native trees (particularly *Agonis flexuosa*) to evoke the coastal feel of the development. Verges will predominantly be informal and kerbless, providing a non-suburban character.

Detailed alignment and design will be addressed at sub-division to ensure that existing trees and bushland can be maintained wherever possible.

3.2.3 Emergency Access

For the purposes of fire risk management, a second (emergency) access to the site will be available at the western end of Valentine Road between the third and fourth fairways. The entire fairway system operates as a second (emergency) access to much of the site. The site is surrounded by paddocks and farmland with tracks that provide secondary access to the town site overall and which are generally accessible year round, except for short periods of inundation during winter (low fire risk) months. There is also an informal track leading north from the western end of Buffalo Road to the southern end of the site.

3.2.4 Road Typologies

To achieve the desired innovation and site responsiveness of the road designs for the site, a suite of bespoke thoroughfare standards are proposed. These detail a range of standards including road reserve and pavement widths, kerbing, planting and requirements for other standards such as parking and footpaths. While generally consistent with the requirements of Liveable Neighbourhoods, the standards aim to provide a unique response to local conditions, capturing the local sense of place and providing an additional means of retaining topography and vegetation.

The thoroughfare standards are given effect by inclusion in Part One of this report and applied by reference to the Thoroughfare Plan (Plan 3).

3.2.5 Proposals for Second Access Road

An outcome of the Design Enquiry Forum was support for the provision of a second access road to the Binningup town site. This has the capacity to reduce traffic on the existing Binningup Road and provide a permanent secondary emergency access and quicker and more direct access to the proposed Village Centre from the south. The 'Local Structure Plan Traffic Report' (Riley Consulting, May 2011) provided as a technical supplement to this report identifies that from a traffic perspective a second access road would not be required until more than 1,500 new dwellings are constructed and occupied within the development.

Two proposals were considered. Both options take access off existing gazetted roads with logical access points into the subject site. Both options will require further discussions with the Shire of Harvey and relevant landholders, as well various environmental and statutory approvals prior to development.

Buffalo Road

This option would take access from the current termination point of Buffalo Road, along an existing track on private land to the southern boundary of the site. The existing track would be sealed and upgraded to an appropriate standard consistent with its role in the broader road hierarchy.

This option is contained on private land and would therefore require the consent of the relevant landowner and the Shire of Harvey to facilitate gazettal and construction. Locating the road on the alignment of the existing track would minimise any disturbance to vegetation, although it could be deviated to avoid sensitive environmental areas or to minimise earthworks if required.

Springhill Road

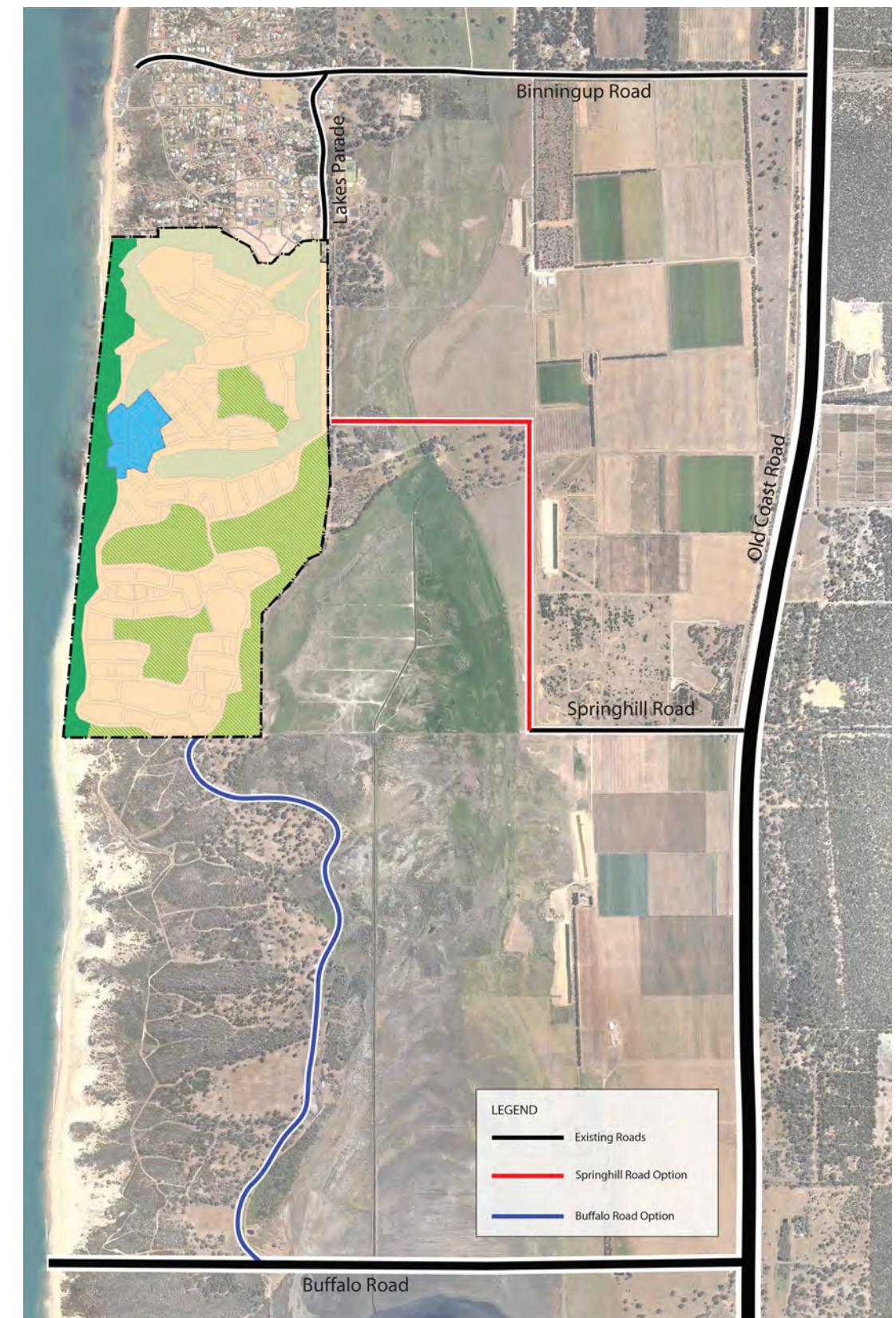
The access point onto Springhill Road from Old Coast Highway is perpendicular to the southern boundary of the site. Springhill Road is currently a gazetted road providing access to a number of rural properties. The road would need to be gazetted, sealed and extended west from its current extent and along the alignment of existing property boundaries, across the Leschenault peripheral estuary wetland and entering the middle of the subject site. The wetland is classified as a Multiple Use Wetland (MUW), being highly degraded and used for the grazing of livestock.

There are a number of matters to be considered if this option is pursued. These include:

- Securing the agreement of the relevant landowners for the extension of Springhill Road across their landholdings;
- The possibility of EPA consideration/consent due to the crossing of the MUW;
- Engineering works should ensure that current hydrology patterns are maintained and that adequate clearance is provided to accommodate 1 in 10 year flood levels; and
- Development of a management plan to guide site works, in particular to ensure that deep excavation or dewatering does not disturb Acid Sulfate Soils (ASS).

Conclusion

After consideration by the Shire and the proponent of the two options the extension of Springhill Road was selected as the preferred option. It has been agreed with the Shire that the land required for the road will be acquired by Binningup Nominees and the road will be constructed to a sealed and line marked standard to the specification of the Executive Manager of Technical Services for the Shire of Harvey, and reserved as part of the works for stage one of the development. This commitment is secured by the inclusion of relevant provisions at Part One, Table 4 – Provision 4 of the Local Structure Plan.



» Proposals for Second Access Road (UD3015C)

3.3 Public Open Space

The objective for the new landscape is to create a liveable place that can be sustainably managed. This will create an integrated landscape that preserves areas of natural topography and vegetation, complemented by more formal areas for organised recreation and leisure. Open space areas will accommodate key views and provide a variety of recreational opportunities. POS will allow for easy and equitable access with a variety of walking circuits provided throughout the site. Particular care will be given to the interfaces between new development and existing development, the golf course and areas of open space (particularly those used for conservation purposes). Detailed treatment of the landscape and POS response is provided in the Landscape and Open Space Report (Epcad, June 2011) provided as a technical supplement to this report.

The Local Structure Plan retains key topographic features and associated vegetation in a network of Public and Private Open Space, consisting of:

- » Regional Open Space – foreshore reserve
- » Local Reserves for Conservation
- » Local Reserves for recreation and drainage – open space for residents and visitors
- » Private Open Space managed by the golf course – zoned ‘Private Recreation’
- » Road reserves and pedestrian accessways also provide an opportunity for further greening and amenity.

Detailed design and allocation of Public Open Space will occur at the DAP and subdivision stage respectively in accordance with the POS Schedule provided on page 37.

The proposed open space typologies are given effect by inclusion in Part One of this report and applied by reference to the Landscape Plan (Plan 4).

Management

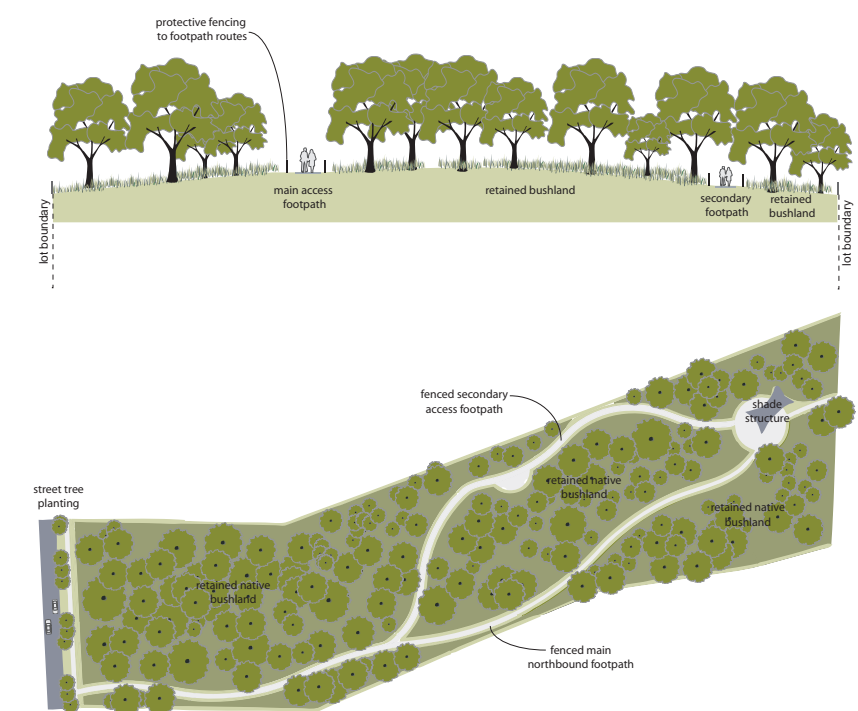
The strategy for maintenance and management is to focus resources on specific activity areas and corridors, whilst minimising maintenance to broader areas of indigenous landscape. Management regimes for the distinct open space typologies are detailed in the 2011 Epcad report and summarised below:

- » Local Conservation Areas - as an ecological system, these areas require a low-key maintenance regime. Predominant ongoing maintenance will be focused toward fire management, reduction of fuel loading (annual slashing in accordance with the Fire Management Plan), invasive weed management and the retention of ecological values. More intensive maintenance will be required for footpaths/walking trails and nodal points. Typical maintenance tasks will include timber treatments, inspections of fixings to viewing platforms and rest areas, ongoing footpath inspections, facilities maintenance, vermin control, pruning of plants or trees, fencing and furniture checks.
- » Local Public Open Space - local parks with minimal irrigated grassed areas will require more traditional park maintenance of plant material including fortnightly mowing of lawn areas in summer-time, reduced to monthly mowing and feeding in winter months. Monthly checks and biannual maintenance will be required for built form (structures, play equipment and furniture), access points, paved surfaces, vegetation management (planting, feeding, clearing, mulching, mowing) and weekly waste removal.
- » Regional Foreshore Reserve – the dune system and points of dedicated beach access will require low-key maintenance focused on footpaths and fence-lines, with ongoing management of the dunes including rehabilitative planting and erosion control.
- » Golf Course- to be privately managed under separate regime.

Native vegetation will form the dominant species in all public realm landscaping. Areas of good quality existing vegetation will be retained within the open space network and conservation areas, augmented with supplementary plantings of locally native species to enhance local biodiversity.

Water management techniques will facilitate the irrigation of public open space and verges. The management of drainage and infiltration measures will be designed to allow for the passive irrigation of public grassed areas and structural landscape planting.

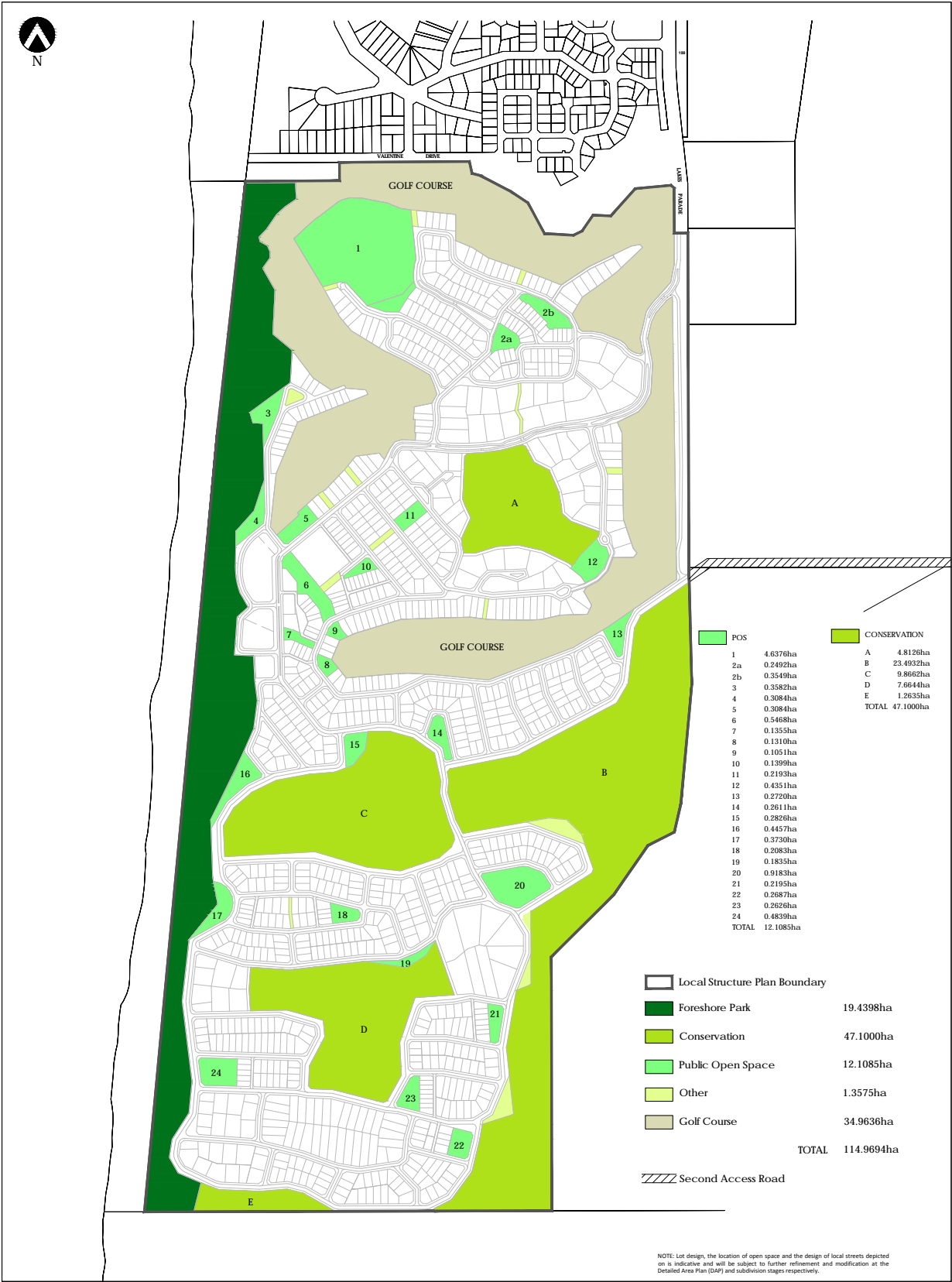
Taken together this strategy will deliver a maintainable, manageable, quality landscape that focuses maintenance, including fire management and water requirements, to key areas, creating an environmentally responsible landscape.



» Conservation Typology (UD3304B)

Public Open Space Schedule

	Area	Sub-Total	Total
Site Area			
Lot 9003 (includes Lakewood Shores Stages 1 + 2)	217.2150 ha		
Lot 195	16.1874 ha		
Lot 304	20.1066 ha		
			253.5090 ha
Deductions			
GBRS Foreshore Reserve (Primary Ecological Linkage)	19.4398 ha		
Reserve for Conservation	47.1000 ha		
Village Centre (50% credit of 7.0770ha)	3.5385 ha		
Private Recreation – Golf Course	34.9636 ha		
Lot 199 Lake Rd (to be vested as road reserve)	0.7453 ha	105.7872 ha	
Gross Subdivisible Area			147.7218 ha
POS @ 10%			14.7722 ha
POS Unrestricted 80% minimum	11.8177 ha		
POS Restricted 20% maximum	2.9545 ha		
POS Contribution			
POS Committed or Existing (Lakewood Shores)			
Reserve 39587	4.4633 ha	5.6656 ha	
Lot 194 Tuscany Green	0.0597 ha		
Lot 195 Sienna Grove	0.6381 ha		
Lot 8001 Lakes Parade	0.2299 ha		
Lot 200 Tuscany Green	0.0398 ha		
Lot 8002	0.2348 ha		
POS identified in LSP (unrestricted)	7.6934 ha	12.1085 ha	
POS identified in LSP (restricted)	1.3575 ha	1.3575 ha	
POS Provision			19.1316 ha



» Indicative Public Open Space Plan (UD1104D)

3.4 Infrastructure, Co-ordination, Servicing and Staging

A full analysis of the servicing and infrastructure requirements for the site is contained in the 'Report on Engineering Aspects' (Cossill + Webley) provided as a technical supplement to this report. A summary of the key findings relevant to implementation of the project is provided below.

3.4.1 Earthworks

The site is classified generally as Class A and therefore suitable for residential development.

Localised areas of the natural topography, including high points such as Valentine Hill, have been integrated into the Local Structure Plan design. Road contours have been designed to match the existing levels adjacent to these conserved areas as much as possible. Any resultant difference in height will be addressed using a combination of rock pitching, natural batters and some small retaining structures to minimise the batter into existing vegetation.

Land form within lots is to be taken up in the built form where possible. Lots will be designed with some grade across them to minimise the requirement for retaining walls. This grade across the lot will be taken up in the built form.

The alignment of the road reserves within the site have been located to follow the natural contours of the site as much as possible to minimise the earthworks required. The detail of the road reserves will be confirmed at the subdivision stage to further minimise the impact to the natural environment. This will include reducing the width of the road reserve where possible, and allowing for some grade within the road reserve. Some earthworks will be required to ensure adequate grades for roads, drainage and sewerage. Some areas will need to be filled to maintain cover over existing ground water.

3.4.2 Drainage

Consistent with the requirements of the Department of Water and the Scheme provisions applicable to the land, an Urban Water Management Plan (UWMP) will be prepared for Binningup.

A water sensitive design approach is proposed for the drainage design so that incidental rainfall is collected and disposed of into the highly permeable natural sands on the site in order to mimic the natural recharge of aquifers prior to the development. Wherever possible retention basins will be designed as landscaped depressions either within existing low lying areas or wetlands or within POS areas. Several of the retention basins will be adjacent to areas of retained vegetation.

It is proposed that rainfall from storms with a frequency of 1 in 2 years will be contained within these dedicated basins and the basin will have an overflow capability into the retained vegetation for longer return-period storms.

The size of the drainage catchments will be minimised so that the stormwater is infiltrated as close to the source as possible. The smaller catchments will also result in a reduced size requirement for the retention basins. Direct surface run-off will be encouraged adjacent to the retained vegetation within the golf course buffers.

Stormwater storage will be a requirement for all buildings within the Binningup Development. This storage will be via Rainwater Tanks at the small lot residential level, and may also incorporate larger 'bladder' storage where the built form permits. In the village centre large storage facilities will be incorporated into the dense built form to enable re-use of the storm water within the development.

3.4.3 Sewerage

The development is located within the Binningup sewer strategy area. The sewer strategy for Binningup is to feed into the existing WWTP, which has sufficient capacity to cater for the development and can be upgraded. A required sewer pump station within the development will be constructed by the Water Corporation through a Developer Constructed Works Agreement between Mirvac and the Water Corporation. According to the Water Corporation the existing Binningup WWTP

is ultimately to be decommissioned. At this stage the Binningup sewer will be pumped back to the Kemerton WWTP. An alternative option which is currently being investigated by Mirvac involves a water transfer between the Binningup development and the Water Corporation owned Binningup WWTP. Under the proposal the Binningup development would be given approval to withdraw groundwater from the WWTP land which could be used to irrigate the Golf Course. The volume of groundwater abstraction would be balanced by the additional waste water collection from the Binningup development, which is infiltrated into the ground via the waste water treatment ponds. This proposal may extend the capacity of the Binningup WWTP, removing the requirement to close it down and reducing the ongoing Water Corporation cost to pump the waste water to Kemerton.

3.4.4 Water Supply

As with sewerage, the Water Corporation has made provision for water supply to the development in its planning for Binningup. The initial water service for Binningup will be via the existing water mains within Lakewood Shores.

To support the scheme water system, a variety of strategies are proposed for the development to ensure the sustainability of the long term water supply for Binningup. These strategies are classified into three areas:

1. *Reduce Use of Scheme Water*
 - » Maximise retention of existing vegetation through the entire development, and hence minimise water required for re-establishment; Maximise use of natural vegetation in public open space; and
 - » Maximise use of natural vegetation in private landscaping.
2. *Capture and store Stormwater*
 - » Installation of rainwater storage tanks in residential developments. This water is to be plumbed into private toilet facilities and landscape irrigation; and
 - » Installation of rainwater 'bladders' where possible to maximise stormwater collection. These large collection units should be able to provide a constant water source throughout the year.

3. Recycle Water

- » Direct outflow from the shower and washing machine is to be directed into the private storage tanks. This water is to be used for subterranean irrigation of landscaping;
- » Proposal to extract subsoil water from WWTP for use in the irrigation system. This will reduce reliance on the existing groundwater resources; and
- » Potential to accept treated waste water from the Kemerton for irrigation of golf course.

The items mentioned are strategies that Mirvac are focused on implementing at Binningup and are currently reviewing the logistics of the various proposals with the Government Authorities.

3.4.5 Other Public Utility Services

Underground reticulated electricity supply for Binningup Beach will be sourced from the existing high voltage feeds from the Marriott Road Substation. The existing services would provide sufficient power for the short to medium term of the project, with minor reinforcement requirements.

The Binningup development will incentivise the installation of Photo Voltaic Cells to all built form within the development. This would enable a reduction in the reliance of the power fed into the development, and hopefully may be able to be fed back into the system in the future.

Sites for switching and transformer padmounts will be defined during the subdivisional planning phase.

There is currently no gas reticulation system to Binningup. The supply of reticulated gas would require a Gas Plant on site. This option may be reviewed by Mirvac through the development process.

Telephone supply can be provided by the extension the reticulation system from the existing townsite to the north. Geomedia Broadband has currently installed fibre to the home in the residents to the north and we would be looking to extend this standard of supply to the new home sites in Binningup. This would ensure that the Binningup Development would have communication infrastructure to enable high speed internet and e-mail access.

An increase in the number of residence linked to the Broadband system may increase the possibility of additional services being offered. For example local networks, street safety surveillance and/or video on demand may become viable options.

3.4.6 Staging

The development is proposed to occur over a 15 year period with development, commencing from the extension of Lakewood Shores Drive through to the Village Centre.

The development of residential precincts will be undertaken in response to market demand and this may result in modification to the proposed staging timetable.



4.1 Statutory Process

Once approved, the Local Structure Plan will provide the statutory framework to guide subdivision and development of the land in accordance with Clause 9.14.3 of the Shire of Harvey DPS 1. Whilst being a statutory instrument, the document is not intended to be rigid or prescriptive. It is intended to be an adaptable framework that can be amended in response to changing conditions and the needs and priorities of the community. The process for undertaking variations to the Local Structure Plan, and for the provision of further detail via Detailed Area Plans, is detailed at Clauses 9.14.7 and 9.14.8 of DPS 1 respectively. Variations should be considered in accordance with the design objectives described at Part Two, Section 1.5.2 of this Local Structure Plan report.

The Local Structure Plan report and accompanying technical supplements address the suite of information required for the preparation of Local Structure Plans as detailed at Clause 9.14.4.3 of DPS 1. The detailed design of individual lot configurations, local road networks and local open space will be developed on a precinct by precinct basis as subdivision is progressed.

4.2 Detailed Area Plans

Scheme-based controls will apply to the site to create a statutory basis for implementing Mirvac's built form objectives. These include:

- » Providing for a form of subdivision and development that balances the retention of the site's key topographical features with the principles of Liveable Neighbourhoods; and
- » Use of DAP's to facilitate the development of environmentally sustainable built form that has regard to the character of the area, incorporates solar passive design principles and that promotes the retention of key topographical features.

The use of DAP's will enable the development of more site specific housing concepts, in particular where the provisions of DPS 1 or the Residential Design Codes would otherwise preclude such development.

The DAP enables a range of additional design mechanisms and management alternatives to be employed as compared to 'standard' residential development controls. These include:

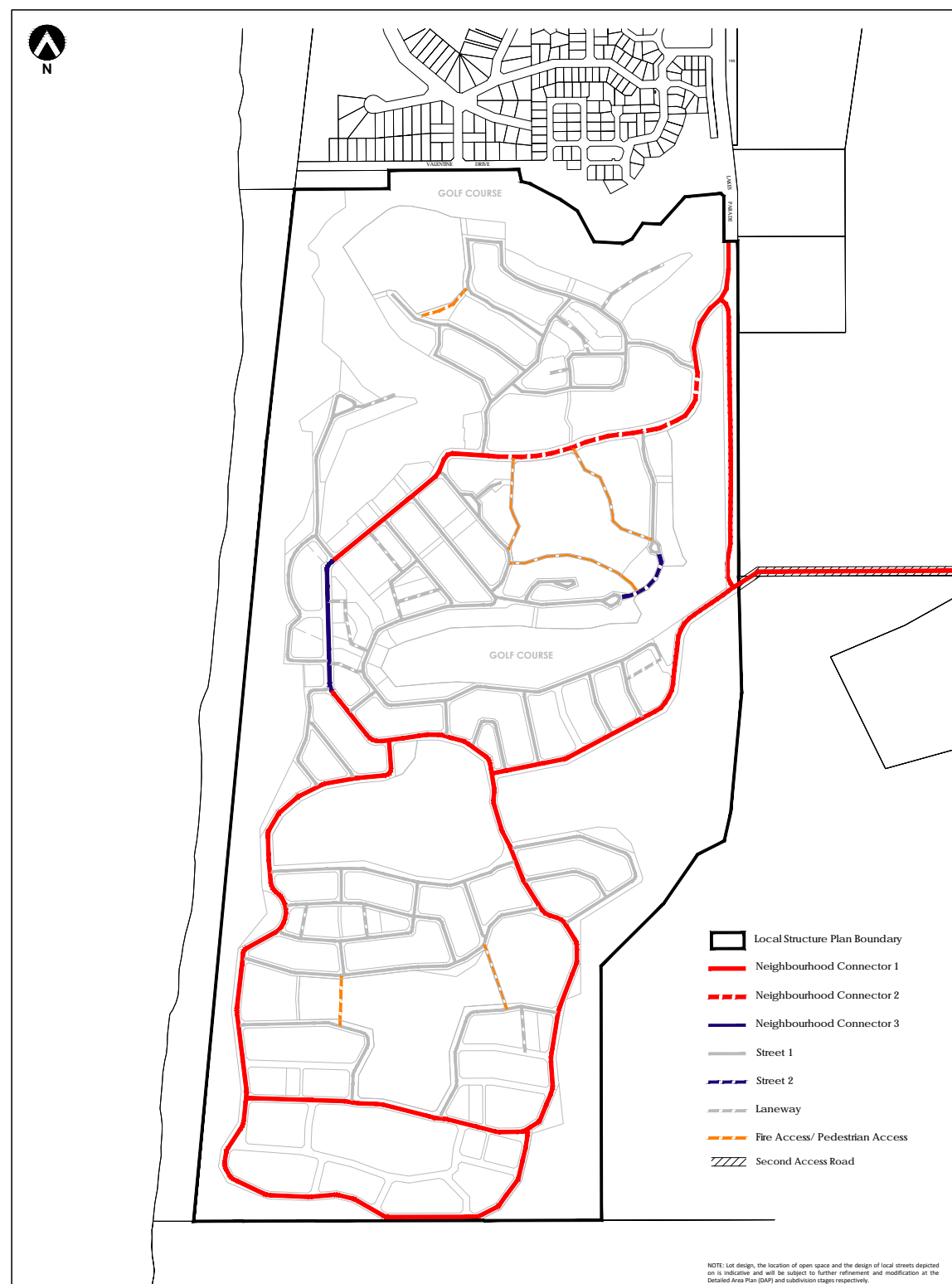
- » The designation and use of building envelopes;
- » The distribution of land uses and private open space within a lot;
- » Vehicle access, parking and servicing;
- » The location, orientation and design of buildings and the space between buildings;
- » Advertising signs, lighting and fencing;
- » Landscaping, finished site levels and drainage;
- » The protection of areas of cultural heritage, conservation or environmental significance; and
- » The use of special development controls and guidelines.

4.3 Thoroughfare + Landscape Typologies

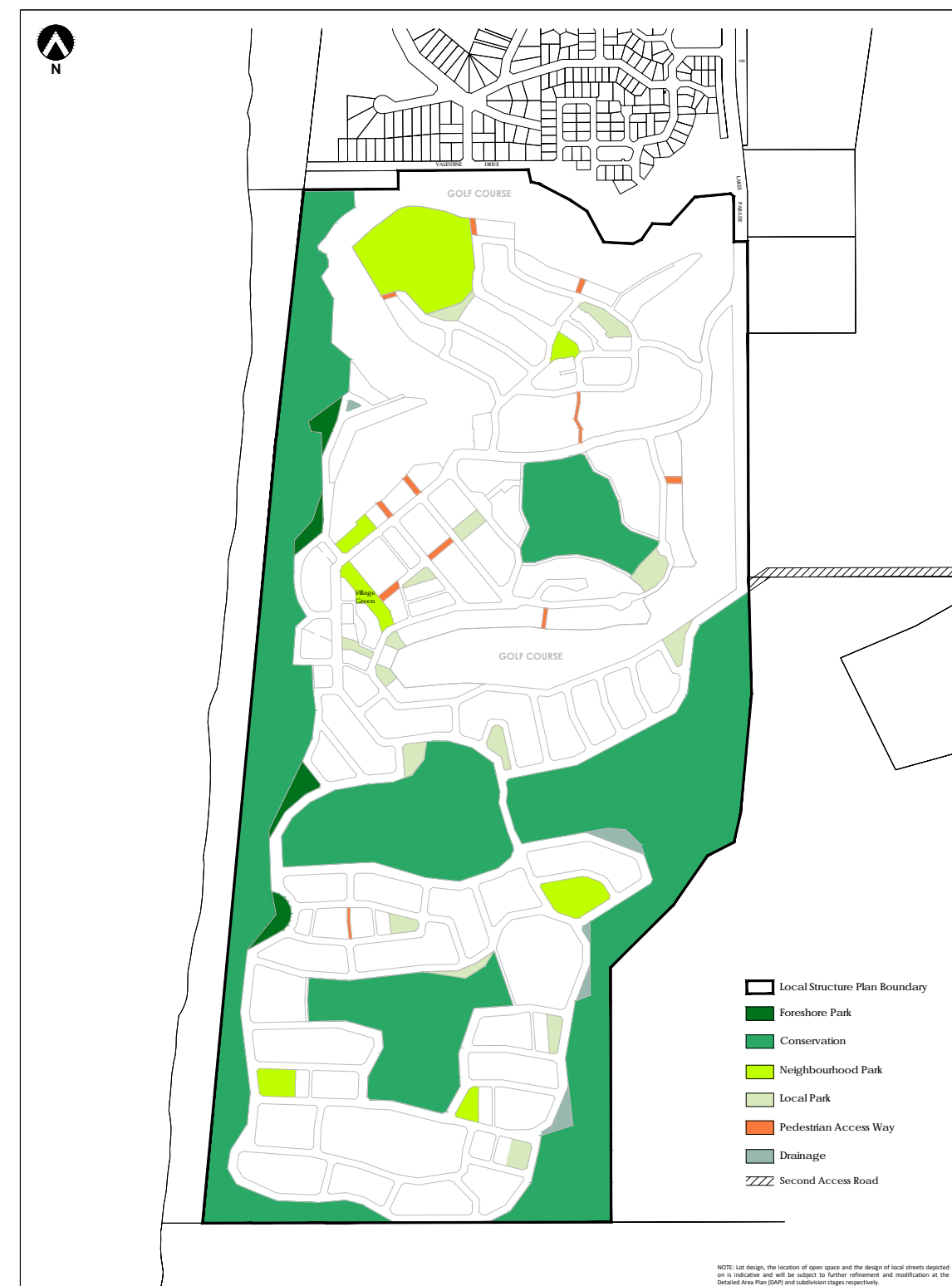
To achieve the desired site responsiveness for road and landscape design, a suite of site specific thoroughfare and landscaping standards are proposed.

These standards are given effect by their inclusion as Development Requirements in Part One of this report and are applied by reference to the Thoroughfare Plan (Plan 3) and Landscape Plan (Plan 4).

The standards will be applied as part of the detailed design accompanying the preparation of DAP's and subdivision proposals respectively as development is progressed across the site.



» Thoroughfare Plan (Plan 3) (UD1107E)



» Landscape Plan (Plan 4) (UD1108E)

The southward expansion of Binningup is critical for the settlement's capacity to develop in the longer term as a self-contained and self-sufficient community. The development will contribute to an ultimate population of between 3,500-4,500 people, which is a sufficient threshold to attract a greater range of services, including commercial, educational and medical facilities. The proposal also provides a unique opportunity to maximise returns on past infrastructure investment in water, sewer, electricity, telecommunications, coastal access and roads. Existing infrastructure has sufficient capacity to support the proposed development.

Binningup, and more specifically the subject site, is an important area for urban development within the region. Its growth potential is well established by the relevant planning instruments, in particular:

- » "Urban" zoning under the GBRS;
- » TPS 12 Guided Development Scheme;
- » Gazettal of Amendment No.63 to DPS 1 to rezone the land to "Residential Development"; and
- » Coastal and Lakelands Planning Strategy recommendation for "Urban" zoning.

The proposed development at Binningup will provide an alternative destination to more costly coastal locations south of Bunbury, as well as providing an attractive and relatively affordable alternative to the more typically suburban offer of Australind and Bunbury's outer suburbs.

Binningup has excellent access to regional employment in both the Bunbury and Mandurah regional centres, as well as nearby industrial and resource projects. The development of Binningup as a key recreational and leisure destination will also generate inward visitor activity and additional local employment above and beyond normal population-serving jobs.

The environmental outcomes of the proposal are significantly in excess of other regional developments and previous proposals for the land. Key outcomes include:

- » Maintaining local ecology by setting aside more than 32% of the site (approximately 82 ha) for the retention of native vegetation in Conservation and Foreshore reserves;
- » Locating key landform features within open space to protect them from earthworks disturbance;
- » Commitment to additional rehabilitation and planting of native species within the Conservation Reserves, golf course, road reserves and elsewhere throughout the development;
- » Providing mechanisms to promote the design of innovative forms of housing and lot types that enable the retention of vegetation and topography;
- » Development of a set of planning controls that ensure that roads and landscapes maintain the coastal feel of Binningup and are not a suburban response; and
- » Actively involving the community in the ongoing care, management and rehabilitation of the site through the establishment of landcare/coastcare groups and educational programs.

Mirvac aspires to set a new benchmark for coastal development in WA. Accordingly it has a long term commitment to ensuring that development at Binningup proceeds in a sustainable way that recognises Binningup's natural assets and unique social attributes. The southward expansion of Binningup responds to the need for regional housing diversity, will maximise community and government investment in infrastructure and will provide an exemplar of coastal planning in the South West region. The proposal provides a unique opportunity to coordinate planning under single landownership and provides the framework for Binningup to grow into a more self-sufficient, self-contained and ecologically sustainable community.





RobertsDay
planning·design·place

MIRVAC
DESIGN
architects
planners
interior designers

