



Amended Local Structure Plan

Browne Farm- Lots 9502 & 9505 George Grey Drive, Kalbarri-
Shire of Northampton

Client: REJ & VA Clark, Ilam Pty Ltd

Date: 12 June 2019

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Version	3.2
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Revision History

Table 1 Revision History

Version	Date	Author	Reviewed	Change Description
0.0	20/5/2014	S. Fernandez		
1.0	5/11/2014	S. Fernandez		Addition of engineering and environmental detail
2.0	16/12/2014	S. Fernandez		Modifications to reference of density ranges
2.1	8/5/2015	S. Fernandez		Amendments to 1.4 Land Use and Subdivision and 1.5.1 Special Use (Development) Caravan Park
3.0	09/5/2016	S. Fernandez		Misc. modifications as per WAPC requirements
1.0	10/12/2018	S. Fernandez		Amended LSP document
2.0	15/1/2019	S. Fernandez	V. Butterly	Revised LSP amended as per Shire instructions
3.0	25/1/2019	S. Fernandez	V. Butterly	Minor revision as per Shire instructions
3.1	9/5/2019	S. Fernandez	V. Butterly	Revision to plan and advice regarding R10-R20 lots regarding design and bushfire hazard
3.2	12/6/2019	S. Fernandez	V. Butterly	Revised LSP. Revised report to discuss fencing at Kalbarri National Park boundary and Plan of Protection for the Red Bluff Public Open Space

ENDORSEMENT

This structure plan is prepared under the provisions of the Shire of Northampton
Town Planning Scheme No. 11

IT IS CERTIFIED THAT THIS STRUCTURE PLAN WAS APPROVED BY RESOLUTION OF THE
WESTERN AUSTRALIAN PLANNING COMMISSION ON:

18 MAY 2016

In accordance with Schedule 2, Part 4, Clause 28 (2) and refer to Part 1, 2. (b) of the *Planning
and Development (Local Planning Schemes) Regulations 2015*.

Date of Expiry:

18 MAY 2031

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1 Executive Summary

1.1 Purpose

This Amended Local Structure Plan (LSP) has been prepared for Lots 9502 and 9505 George Grey Drive Kalbarri. The land the subject of this LSP comprises (2) lots located approximately 4 kilometres south of the Kalbarri town centre and is adjacent to the Kalbarri National Park. The LSP area is within the Kalbarri Townsite Local Planning Strategy.

The Amendment has been created to include minor modifications to the redefine the southern boundary of the 'Special Use' area located to the north of the LSP and to realign lot boundaries to accommodate the location of the existing bore and water pipeline, for potable water, running centrally through the subject site.

In all other aspects the LSP remains unchanged in providing the planning framework to guide and facilitate the development of 257.33 hectares of land for residential purposes and has been prepared in accordance with the provisions of the Shire of Northampton Local Planning Scheme No.11

The LSP forms part of the future residential growth area of Kalbarri and covers 'Residential' and 'Rural' zoned land on the eastern side of George Grey Drive. The LSP design provides for integration with the adjoining urban developed areas.

Table 2 Table of Amendments to the existing Local Structure Plan

Amendment no.	Description of amendment	Amendment type	Date approved by WAPC
Amendment 1	<ul style="list-style-type: none">» Realign southern boundary of Special Use area» Reconfigure Lots to accommodate existing water pipeline	Minor	3 July 2019

Table 3 Structure Plan Summary Table

Item	Data	Section number referenced within the structure plan report
Total area covered by structure plan	257.33hectares	3.1.2
Area of each land use proposed:		2.4.1
-Residential	35.66 hectares	
-Rural Residential	21.64 hectares	
-Rural	138.86 hectares	
Estimated lot yield	241 lots	2.4.1
Estimated number of dwellings	241dwellings	2.4.1
Estimated residential site density	N/A	
Estimated population	554 people	2.4.1
Number of high schools	N/A	
Number of primary schools	N/A	
Estimated commercial floor space (for activity centres if appropriate)	N/A	
Employment self-sufficiency targets	N/A	
Estimated number and % of public open space:		2.4.2
Regional open space	Nil hectares ----- %	
District open space	34.52 hectares13.4 %	
Estimated area and number:		2.4.2
Neighbourhood parks	0 hectares 0 Parks	
Local parks	1.78 hectares 1 parks	
Estimated number and area of natural area and biodiversity assets	34.52 hectares 1 sites + 19 areas of Priority Flora Locations	2.4.2, Plan 1, Previous Bushfire Management Plan pages 13-14 and 44.

2 Browne Farm Structure Plan – Part One (Implementation)

2.1 Local structure plan area

This structure plan amendment shall apply to Lots 9502 and 9505 being the land contained within the inner edge of the line denoting the structure plan boundary on the amended structure plan map (plan 1).

2.2 Interpretation

Unless otherwise specified in this part, the words and expressions used in this Structure Plan Amendment shall have the respective meanings given to them in the Shire of Northampton Local Planning Scheme No.11 (Scheme) including any amendments gazetted thereto.

The amended structure plan map (Plan 1) outlines land use, zones and reserves applicable within the structure plan area.

2.3 Operation

The date the amended structure plan comes into effect is the date the amended structure plan is approved by the WAPC.

2.4 Land Use and Subdivision

2.4.1 Residential

Dwelling Target

a. Objective

To provide for a minimum of 241 dwellings from 242 lots within the structure plan area. Based on the 2011 Australian Bureau of Statistics data, 2.3 persons live per household in the Shire of Northampton, this equates to an estimated population for the structure plan of 554 people.

b. Subdivisions are to achieve the following:

- i. Land coloured orange will achieve 2.5 to 5 dwellings per ha
- ii. Land coloured blue will achieve 5 to 10 dwellings per ha
- iii. Land coloured pink will achieve 10 to 20 dwellings per ha
- iv. Land designated as Special Rural - 1ha will achieve 1 dwelling per 1ha

- v. Land designated as Special Rural - 10-20ha will achieve 1 dwelling per 15ha

Density

- c. The LSP defines the broad residential density ranges that apply areas within the Structure Plan. Specific residential densities may be subject to variation within the ranges specified on Plan 1.
- d. Amendment(s) to the Scheme before or at the time of subdivision to the WAPC and shall indicate the zoning and R-Code(s) applicable.
- e. The allocation of residential densities shall be in accordance with the following criteria:
 - i) Within the Residential zones, densities of between R2.5 and R20 shall be provided; and
 - ii) Within the land identified as 'Special Rural – 10-20ha' densities of 8 lots per 138ha shall be provided.

2.4.2 Public Open Space

The provision of a minimum of 10 per cent public open space (POS) being provided in accordance with the WAPC's Liveable Neighbourhoods. Public open space is to be provided generally in accordance with Plan 1 and Table 4, with an updated public open space schedule to be provided at the time of subdivision for determination by the WAPC, upon the advice of the Shire of Northampton.

Consideration has been given to the location and scale of the Public Open Space, with particular attention given to the Red Bluff POS at the north of the original LSP. The northern boundary of this POS has seen a minor adjustment in this LSPA, however the specific purpose of this POS is to protect the priority flora in this vicinity, this has not been compromised with this amendment. Protection measures for the priority flora in the Red Bluff POS include retention of the natural bushland and appropriate setbacks from all future subdivision. Further to this, a Plan of Protection should be prepared in consultation with the Department of Biodiversity, Conservation and Attractions as a condition of future subdivision. The Plan should consider the existence of priority flora in the vicinity including habitat for the Declared Rare Flora species *Leschenaultia chlorantha* and take into consideration issues such as access controls, passive recreation and overall protection of the native vegetation in the POS.

There is no intention to pursue further development in this area other than the extent of residential (R10) already show on the LSPA. Notwithstanding, it should be noted that the residential (R10) design requires further assessment, is considered to be a long-term option and may see a scaling back of the design if bushfire, environmental and engineering constraints warrant this.

Table 4 Public Open Space Schedule

POS SITE	SIZE (HA)
Red Bluff P.O.S.	34.52ha
Linear P.O.S. (Jaques Boulevard)	1.78ha
Browne Boulevard P.O.S. and drainage reserve	2771m ²
George Grey Drive P.O.S. and drainage reserve	4050m ²

2.4.3 Supporting Information

The following documents, which have remained unchanged since the initial approved LSP should be read alongside the amended structure plan:

- » Bushfire Management Plan

- » Infrastructure Servicing Report
- » Local Water Management Strategy

As part of the documentation supporting the amendment to the approved LSP the following additional information has been attached

- » Targeted Threatened Flora Survey

In addition, the following should be prepared, as applicable to the satisfaction of the relevant authority and provided with the application for subdivision:

- » Traffic Impact Assessment
- » Plan for Protection: Red Bluff POS
- » Implementation Plan

2.5 Other Requirements

2.5.1 Special Use (Development) Caravan Park

The northern portion of the LSP proposes a special use site that has been set aside to facilitate a local caravan park, short stay holiday accommodation or long term residential development. Within the Special Use area Caravan Park, Short Stay Accommodation and Single House are considered permitted uses, with all other uses over the site to be approved at the discretion of Council. The shape of this lot has been configured to allow for maximum benefit of coastal views while still being cognisant of the protection of local flora in the adjacent public open space.

It was noted within the documentation of the approved LSP that further detailed design will be required. As part of this design work a Targeted Threatened Flora Survey has since been carried out to adjust the southern eastern boundary to permit maximum access through the 'pinch point' created by the location of the water pump station. As per the Ecologists report there is scope to modify this boundary and this adjustment has been incorporated into Plan 1 as part of the amended structure plan.

2.5.2 Water Agreement

A Water License Agreement was set up between the Landowner and the Shire of Northampton in mid-2018. This agreement permits the Shire to enter onto the land with or without vehicles, plant and equipment and use the bores and pipelines for the permitted purpose and perform works as necessary. This includes rights to draw water and perform proper maintenance to the infrastructure.

2.5.3 Amended Boundary

As the above mentioned bore and pipeline infrastructure is on the LSPA area it has been necessary to adjust some boundaries to accommodate the pipeline location while still maintaining functional space on the residential and rural lots. This has required that the lot configuration on the western boundary of the LSPA area be adjusted to locate the pipeline along a proposed future lot boundary. As such the strip of residual land that is located along the western boundary of the LSPA area will be zoned 'Tourism' to be consistent with the zone that is abutting in that area. It is envisaged that in due course a subdivision application would amalgamate these two sites creating a larger site that is consistent in the 'Tourism' zone.

2.5.4 Bushfire Hazard

The existing subdivision design, in the LSP, was approved having a moderate Bushfire Hazard as defined by the hazard assessment procedure defined in *Planning for Bushfire Protection Edition 2* (2010) and *the Draft Planning for Bushfire Risk Management Guidelines* (2014). The LSP was approved prior to the enforcement of the latest State Planning Policy 3.7, *Planning in Bushfire Prone Areas* (2015) (SPP3.7).

While the existing subdivision design goes some way in protecting against bushfire hazard set by previous standards, locations within the current LSP have been identified as not complying with bushfire hazard planning requirements set out in the up to date SPP3.7. Under current road and lot layout, if an application for subdivision was lodged with the WAPC, these subdivisions would not be supported. This issue is most apparent for the residential (R10) lots surrounded by the Red Bluff POS. It will be necessary for any future subdivision application in this area to be assessed against the latest State Planning Policy. Aspects of the subdivision design that will require review include emergency access/egress arrangements and hazard setbacks.

Given the new requirements of SPP3.7 supersede the standards within the LSP, it is acknowledged future subdivision applications over the whole ALSF will need to address bushfire management and controls with modifications to be implemented where necessary.

2.5.5 Boundary Fencing

The LSP area shares its southern boundary with the Kalbarri National Park. As part of any future rural subdivision along this boundary appropriate fencing abutting the National Park will be required as a condition of subdivision. This has been requested to prevent the straying of domestic animals into the National Park as well as to delineate the boundary for bushwalkers in the area.

3 Part Two (Explanatory Section)

3.1 Planning background

3.1.1 Introduction and purpose

The purpose of this document is to include minor amendments to the existing Browne Farm Local Structure Plan. This Local Structure Plan Amendment is in accordance with the provisions made under the Shire of Northampton Local Planning Scheme No.11.

This Local Structure Plan Amendment (LSPA) shall apply to Lots 9502 and 9505 George Grey Drive, Kalbarri. This is a residential and urban development known as Browne Farm (herein known as the subject site.)

Elton Consulting have been commissioned by the land owner who wishes to progress the minor amendments to structure plan. The owner's details can be found in section 3.1.2 Legal Description and Ownership. The subject site currently is zoned 'Urban Development' under the Shire of Northampton Local Planning Scheme No. 11 (LPS11).

The current Local Structure Plan was endorsed by the Shire and the WAPC on the 19th May 2016. This LSPA looks to update this plan with minor amendments making the 'Special Use' area more viable for development and rationalising lot boundaries against the location of the existing water pipe and bore system. These amendments will provide more certainty at a future subdivision stage.

3.1.2 Land description

Location (Location Plan)

The subject site is located approximately 4km south of the Kalbarri town centre on the east side of George Grey Drive Kalbarri within the Shire of Northampton. Please refer to Figure 1 Location Plan, at the end of this report.

Area and Land Use

The total area of the subject site is 257.33ha and is comprised of two super lots both zoned 'Urban Development'. Lot 9502 is 93.7429ha is located to the south west of the subject site and bound by George Grey Drive to the west, rural residential development to the south and residential development to the north it abuts Lot 9502 to the east. Lot 9502 is 163.5872ha and is irregular in shape with Lot 9502, both residential and rural residential land and George Grey Drive abutting to the west. To the south the lot abuts the Kalbarri state forest reserve and to the east abuts super lot 10792.

The land has been cleared in areas in line with works completed from previous development. The land forms part of the undulating coast line for the area with high points to the south with views facing both inland northeast and northwest to Red Bluff.

Legal Description and Ownership

Following is the list of the original lots and the associated land owners. These details are listed on Plan1, refer to the reference number to locate each lot on the Plan.

Table 5 Land Ownership Details

Lot No.	Deposited Plan	Certificate of Title	Owner
9502	57812	2699/529	Virginia Ann Clarke, Ronald Edward John Clarke (Joint tenants in 1/2 share) Ilam Pty Ltd (Tenants in Common 1/2 share)
9505	58862	2693/771	Virginia Ann Clarke, Ronald Edward John Clarke (Joint tenants in 1/2 share) Ilam Pty Ltd (Tenants in Common 1/2 share)

3.1.3 Planning framework

Zonings and Reservations

Under the scheme the zone for the subject site is 'Urban Development'.

Planning Strategies

The subject site is referred to in the Shire of Northampton's Kalbarri Townsite Local Planning Strategy. The planning area of 'BF1' refers to the western and central areas of Lot 9502 and the northern portion of Lot 9505. These areas are designated as 'Low Density Residential Estate'. This planning area allows for a range of lots sizes from R.2.5 to R30.

The eastern side of Lot 9502 and the southern portion of Lot 9505 are referred to as 'BF2' and are designated for 'Medium Term Residential'. This area can be developed pending adequate creation of housing choices provided within the main townsite. Both 'BF1' and 'BF2' areas are subject to Use and Development provisions.

'BF3' is at the northern most area of the structure plan and refers to the land with potential for tourism of short stay residential uses. Development of this site may include a caravan park and on-site facilities and is subject to detailed flora and vegetation studies.

Policies

State Government Policies that relate to the LSP include:

- » State Planning Policy No.2.5 – Rural Planning (WAPC 2016)
- » State Planning Policy No.3 - Urban Growth and Settlement (WAPC 2006)
- » Development Control Policy 3.4 – Subdivision of Rural Land (WAPC 2012)
- » State Planning Policy 3.7 – Planning in Bushfire Prone Areas (WAPC 2015)
- » Draft Liveable Neighbourhoods 2015
- » Draft Government Sewerage Policy (As Amended 2016)

3.2 Site conditions And Constraints

3.2.1 Biodiversity and natural area assets

Advice has been received from the Department of Park and Wildlife (DPaW) in regards to the existing situation within the Structure Plan area in terms of Threatened Species, Bushfire Mitigation, Weed Control, Water Management and Boundary Interface. A 'Plan for Protection' of the Red Bluff Public Open Space is to be provided at the time of its dedication. Correspondence from February 2014 makes the following recommendations that have been addressed.

- » Threatened species and communities of flora were identified within the northern area of the LSP especially south of the land designated for the Special Use site. DPaW recommended that this land be designated as POS to protect these species and the design of the LSP has incorporated this recommendation.

As per the Targeted Threatened Flora Survey prepared on the 1st of October 2018 this area has been further refined to ensure the threatened species are protected while maximising access within the 'Special Use' site.

- » An acknowledgement was made that the LSP is within close proximity to the Kalbarri National Park and as such bushfire mitigation measures would need to be installed to protect the LSP should a major bushfire incident occur. A Bushfire Management Plan was prepared for the approved LSP area that does not place imposition on Kalbarri National Park itself.
- » As anticipated within the DPaW correspondence a Local Water Management Strategy was prepared for the LSP addressing the issues of surface water runoff.

3.2.2 Flora

Bio Diverse Solutions was commissioned by Ilam Pty Ltd and Silkcharm Pty Ltd to conduct a flora and vegetation assessment of the Special Use site on the northern tip of the proposed Browne Farm Development area. This work was conducted as part of the approval of the initial approved Browne Farm Structure Plan.

During the field survey 59 species, consisting of 26 families and 54 genera were found. The most common families were Myrtaceae, Poaceae and Asteraceae. This list includes 43 native species and 16 introduced species. Three species of priority flora were found within the survey area including: *Baekkea subcuneata*, *Chamelaucium marchantii* and *Verticordia polytricha*.

The northern section of the survey area is considered to be in degraded to completely degraded condition as a result of fruit cultivation and farming activities, which have completely cleared and modified the area. Some regeneration has occurred to the south of the main mango farm area, but the vegetation structure is completely altered and the overstorey now dominated by *Acacia rostellifera*, with minimal species diversity and a high level of weed invasion throughout this area.

The vegetation associated with the transition zone between the rocky breakaway and the deep red sand ecotypes is considered to be in very good - excellent condition. This area contains significant bare areas that have been invaded by weeds such as **Cuscuta epithyllum*, **Lysimachia arvensis* and **Mesembryanthemum crystallinum*. The ground cover composition and structure has been somewhat altered by the weed invasion, particularly in areas where **Mesembryanthemum crystallinum* is present.

The Targeted Threatened Flora Survey prepared on the 1st of October 2018, further refined the southern boundary of the Special Use area, noting that there was no detection of changes to the existing vegetation mapping. It was also noted in the survey that identified threatened species were located on the breakaway area that is to remain in the protected area of the public open space. The survey advised that infrastructure could be accommodated in this area between the edges of the public open space and pump station site without detrimental effects on the species.

3.2.3 Landform and soils

Existing landform

The site's natural topography generally falls from south to north at an average grade of approximately 4%, with levels falling from 114mAHD at the site's highest point on the southern boundary to 4mAHD at the lowest point of the Special Use site in the northern corner. An area in the site's south-western corner, between Stiles Road and the previously-developed Capital Hill Estate, falls to the west towards George Grey Drive and the coast, with the remainder of the site falling towards the north and north-east.

Geotechnical conditions

A geotechnical investigation was carried out in 2007 over the southern part of the site, which established that geotechnical conditions in this area consisted of sand of varying depths, overlying rock or well-cemented sand. The depth of the rock/cemented material varied from 0.5m below natural surface in several locations near George Grey Drive, to >8m below natural surface in the area surrounding a ridge at the southern end of the site.

Additional geotechnical investigations will be required prior to subdivision for the central and northern parts of the LSP area, to verify the geotechnical conditions of the remainder of the site. There is exposed at-surface rock at the northern end of the site, where the natural topography drops away towards Wittecarra Gully.

3.2.4 Groundwater

An assessment of the hydrogeological conditions at the site was carried out by Coffey Geotechnics in 2005. This assessment found that an overall gradient of groundwater flow exists from east of the LSP area, discharging along the coast line to the west of the development area. A local groundwater mound exists between Wittecarra Creek and the coast, with some north-easterly "back" flow towards the creek.

Groundwater levels

Groundwater levels at the site were measured during construction of the previous stage of the development as a condition of the groundwater licence. Five production/irrigation bores and three monitoring bores were monitored between December 2006 and January 2008.

Groundwater levels in December 2006 were between -2mAHD and 19mAHD (5m-72m below natural surface). The lowest level was at bore 'Charlie 2', which is located in the Wittecarra Gully immediately to the north of the LSP area. The highest groundwater level was measured at bore MB2, located approximately 1.5km to the east of the LSP area.

Groundwater levels have also been measured by the Water Corporation at their production and monitoring bores on Stiles Road, approximately 1km east of the LSP area. Groundwater levels were last measured at the Water Corporation bores in 2005, which showed groundwater to be between 39 and 41mAHD at this location (9m-11m below natural surface).

The sandstone breakaway areas and fringing vegetation are significant for conservation of the priority listed taxa located during the survey and should be excluded from development if possible (Figure 4). These ecotypes are not readily developed due to their rocky and uneven terrain and would not be expected to add significant value to the proposed development on this site. Inclusion of this area in the public open space to the south would achieve protection for known populations of *Verticordia polytricha* and *Baeckea subcuneata* and for >70% of the population of *Chamelaucium marchantii* within the survey area.

3.2.5 Surface water

Existing infrastructure

The drainage infrastructure for the existing developments generally follows the site's natural topography. The existing stormwater drainage network is a piped network which discharges towards the west, into a series of detention basins, before discharging into an existing open drain on the eastern verge of George Grey Drive, which follows the natural fall of the land towards Wittecarra Gully to the north.

Surface water management

Stormwater runoff from the LSP area will be similarly managed via a pit and pipe network which will follow the natural topography where possible. Stormwater detention areas will be located in strategic locations in low points in the natural topography.

To ensure that downstream areas are not impacted by development within areas further upstream in the catchment, the stormwater detention basins will be sized to ensure that post-development flow rates remain within pre-development levels. This will ensure that the flow rates generated by runoff from the currently undeveloped land are not increased as a result of the development and there is no impact on the downstream environment.

Major flood management

To ensure that developed areas are not subjected to flooding, detention areas will be provided with an overland flow path to the downstream environment that will allow stormwater to exit the site in major flood events.

The roads within the subdivision will be designed to eliminate trapped low points wherever possible, and to ensure that finished lot levels are above the 100-year flood level to protect houses from flooding in major storm events.

3.2.6 Bushfire hazard

A Bushfire Management Plan was prepared by Bio Diverse Solutions to assess and make recommendations in relation to a fire hazard assessment. A full copy of this report has been supplied with the approved LSP.

The basic requirements of the Bushfire Management Plan (BMP) is to identify potential issues or problems relating to environmental fire threats and recommend specific actions by certain persons, agencies, authorities and developers to ensure, as much as practical, that the lives and assets of the location are not put at undue threat from any unplanned fire event.

The subdivision has been rated as having a **Moderate** Bushfire Hazard as defined by the hazard assessment procedure defined in Planning for Bushfire Protection Edition 2, 2010 and the Draft Planning for Bushfire Risk Management Guidelines (WAPC, 2014) due to internal and adjacent Woodland, Shrubland and Scrub bushfire risks. There are low to moderate slopes across the site. This requires "Performance Principle" and "Acceptable Solutions" to be met.

The Elements which are met either through the objectives of the "Performance Principle" or "Acceptable Solutions" for the Subject site include:

- » **Element 1 – Location:** The subdivisions are located in an appropriate landscape with a Moderate Bushfire Hazard Rating. No building greater than BAL 29, HSZ and building to BAL and AS3959-2009 as outlined in Table 4 of the BMP report.
- » **Element 2 - Siting and design of development:** The design of the subdivision allows for bushfire hazard mitigation measures to be incorporated reducing threat to people, property and infrastructure.

- » **Element 3 - Vehicular access:** The presence of linking road networks which has a minimum of 20m road reserves and meets technical standards as outlines in Table 5 of the BMP report; and
- » **Element 4 – Water:** Reticulated water to subdivision and water hydrants to Water Corporation WA standards.

A full list of Developers and Owners responsibilities and works program, in relation to the BMP are set out in the BMP report. The implementation of the Bushfire Management Plan for stage 1 is provided in the BMP report. With subsequent stages of development, the BMP report and assessments are to be updated to comply with the requirements of State Planning Policy 3.7 – Planning for Bushfire Prone Areas. This is particularly relevant for the residential (R10) lots surrounded by the natural bushland at the north of the LSPA. This area is an indicative design only and is not anticipated to be developed in a short to medium timeframe (10 years). As such, when a future review of this structure plan is underway, it is likely that a complete revision of the design and BMP for the residential (R10) area will be required.

3.2.7 Heritage

Cultural Heritage

As part of previous structure planning, a detailed archaeological and heritage assessment was undertaken and no specific heritage sites were found relating to the current LSP area. In relation to the Kalbarri Vision site, the Heritage Council has advised (in previous correspondence relating to the Port Kalbarri Project Structure Plan) of sites potentially significant in terms of cultural heritage, including the Wittecarra Gully, Wittecarra Spring and Sir George Grey's cave (1839). These, however, are outside of the LSP area and are contained in the area previously known as Superlot 1. Further consideration of these heritage sites will be taken into consideration in future planning of the Superlot 1 area.

Indigenous Heritage

Previous consultation with the Department of Indigenous Affairs for comment, advised that there are three registered Aboriginal Heritage sites located in the area previously known as Superlot 1, which is to the north of this revised LSP area. The Shire of Northampton required that the landowner consider this matter in the future planning for Superlot 1 area. It is noted that these do not have any impact for the current LSP.

3.2.8 Coast and foreshores

The High-Water Mark of the coast is in excess of 300m from the nearest point of the LSP area crossing George Grey Drive. The site at its lowest point is set approximately 4m above the High-Water Mark, however the bulk of the residential area ranges between 72m AHD and 92m AHD. As such the LSP will not have any impact on the existing land abutting the coast and foreshore.

3.3 Land use and subdivision requirements

3.3.1 Land use

The approved LSP was the guide by which further subdivision of the subject site could take reference. The approved LSP set out road networks, residential densities, open space and infrastructure pertinent to future development. These details have not been altered significantly with this LSPA. Following is a brief outline of the

points that justified the proposed land uses, in the approved LSP, and their integration in the surrounding land use.

The majority of the site is cleared for pastoral uses; however, the quality of the soil and the rocky nature of the subject site leave the area generally unproductive for farming purposes. The subject site is far better utilised as an area of residential development.

The western side of the approved LSP will be low density residential located in areas along George Grey Drive and completing areas of existing residential development. This style of lots is in keeping with the rural residential character of the surrounding area and acts as a transitional interface to larger lots to the east. The rural lots to the east provide greater flexibility for future growth, allowing a location for rural living with the option for further subdivision dependant on future demand.

To the north of the subject land an area is designated for a Special Use (Development) Site. Further investigation will be required as to the adequacy of this area, however it is envisaged, given the proximity to the beach at Red Bluff and the Wittecarra Creek Conservation Reserve, this will be a location for tourist accommodation and a caravan park site. A foreshore assessment will be undertaken and foreshore area established to protect the values of Wittecarra Creek. This LSPA has further enhanced the viability of the Special Use site to fulfil the intended use as a location for a form of tourist accommodation.

South of the Special Use Site is an area of rocky terrain that will be set aside as a location of public open space (POS) maintaining the natural bush land. This location will preserve several locations of priority flora as well as provide a location for capture of rainfall runoff and drainage. Secluded in this location is a development area that will incorporate larger residential lots (R10), that will form a premium lot location having both a natural bush land buffer and ocean views in a hamlet setting. It is acknowledged that this subdivision design no longer complies with the standards set by State Planning Policy 3.7 *Planning in Bushfire Prone Areas*, (2015). This design is indicative only and will need to be reviewed in the future to comply with current bushfire management requirements.

As part of this LSPA minor modifications have occurred in this area to adequately manage the requirements of several factors. Firstly, a minor design amendment has occurred to better align the proposed lots in this area around the existing water pipe infrastructure. This redesign is very minor in nature and has not seen any variation to the number of lots.

Due to the location of the potable water pipeline, there is a need to change the proposed zone of a strip of land that in the future will be amalgamated to the adjoining lot outside the LSPA area. This land will be zoned 'Tourism' to provide consistency with the abutting lot.

Finally, a minor realignment of the northern most boundary of the POS has been made to allow better access the east and west sides of the Special Use site. This boundary adjustment has taken into account the terrain and is in accordance with Targeted Threatened Flora Survey prepared on the 1st of October 2018.

A Linear POS link will be extended from the existing George Grey Drive connection east towards the rural lots. This avenue of POS will provide walkable access to the coast and the beach at Red Bluff. Flows of natural drainage and rainfall runoff can also be directed to this is area.

3.3.2 Public Open space

Four areas of POS are located within the LSP. The first is the extension of the POS link that connects George Grey Drive with proposed rural land area. This POS will provide a walkable link as well as a location for a drainage basin to capture rainfall runoff.

The second POS location is that of the reserve for bushland at the north of the subject land. This location provides several benefits. It will preserve several locations of priority flora, it will provide an area for rainfall runoff retention and will provide a backdrop for both the Special Use (development) site and the premium R10 hamlet. This area also abuts the Wittecarra Creek Conservation Reserve.

The remaining smaller POS sites on Browne Boulevard and George Grey Drive have been established as part of the LWMS while also facilitating development as valuable recreational and access linkages.

A schedule of POS for the Browne Farm Structure Plan area is shown in Table 4. This reflects the minimum level of public open space to be provided, with additional POS provided as necessary for conservation, water sensitive urban design and landowner aspirations at the time of subdivision.

3.3.3 Residential

All residential development in this LSPA shall conform to standards set out in the Residential Design Codes (RCodes) and the Shire of Northampton LPS11. This remains unchanged from the approved LSP

Design aspects of the Approved LSP that are key features are as follow:

- » Topography and Location – The design has taken into consideration the sloping nature of the subject site, the existing vegetation and the proximity to the George Grey Drive and the Coast. Extension of the POS link and retention of an area of natural bushland, orientation and position of higher density lots to the west of the estate, transitioning into larger rural lots heading east will maintain the character of the area with a rural community 'feel'. Special Rural development should include the revegetation of landscaping and streetscapes with local species.
- » Road Network – The arterial bypass connection to the Kalbarri Townsite exists through George Grey Drive. This is enhanced by directing all vehicular access to the estate through several strategic boulevard locations. No eastern access into the estate will be established.

The internal road network is generally grid in nature and well interconnected to allow good vehicle permeability while encouraging walking and cycling along the road network that borders the POS.

- » Lot Layout – Where possible passive solar design has been considered, wherever possible future lot design has been considered to keep dwelling orientation north-south or east-west facing. The higher density lots have been strategically placed to maximise the views and access to the ocean.

It is important to note that the original subdivision design on the original LSP was prepared and approved prior to the updated version of the State Planning Policy 3.7 *Planning in Bushfire Prone Areas*, (2015). It is acknowledged that the design of the Residential (R10) lots located within the natural bushland area are based on the out of date standards and as such would not comply with the standards set by SPP3.7. Further to this, a subdivision lodged in line with the current configuration would not be supported by the WAPC, without significant modifications relating to aspects such as updated emergency evacuation points as per policy measure 6.6.1.

At the time of lodgement of the initial LSP, demand for lots in the vicinity was extremely low, hence, the LSP was a reversal of the proposed density under the previous Eco-Flora Estate Structure Plan. This demand for lots in the area has remained unchanged and it is unlikely that in the medium to long term (10 years) that a subdivision of the Residential (R10) site will occur. Notwithstanding, should a subdivision application over this area be proposed, a redesign of the land would be required that would address bushfire hazard through an updated and approved bushfire management plan.

3.3.4 Movement networks

The LSPA does not propose any additional access points onto George Grey Drive to service the proposed residential lots, and access will be via the four existing boulevards – Flora Blvd, Jacques Blvd, Browne Blvd and Coral Blvd. In the approved LSP the estimated lot yield of the development was reduced when compared with the

previous structure plan, and there has been a corresponding reduction in traffic demand on the existing subdivision roads and George Grey Drive.

A new access point onto George Grey Drive will be required for the Special Use (development) Site in the northern corner of the approved LSP area. A traffic review by Riley Consulting has confirmed that safe access to this site (which may potentially be developed as a caravan park) can be achieved from George Grey Drive with consideration to intersection sight distances, space for right-turn lanes, and forecast traffic demands. The future access points onto George Grey Drive for the Special Use site, are not a consideration of this LSPA and therefore will be a requirement of a subdivision conditional approval at a future stage.

The approved LSP shows an alternative access road to Kalbarri, which runs along the southern and eastern boundaries of the LSP area. We understand that the Shire of Northampton's planning scheme has relocated this access road to the north of Wittecarra Gully, and it has been removed from the approved LSP accordingly.

3.3.5 Water management

The Department of Water has set overarching design objectives for new developments that should be used as a basis for water sensitive urban design. These design objectives cover the following categories:

- » water conservation
- » water quantity management (i.e. water levels and flows)
- » water quality management
- » mosquito management

The initiatives that are being investigated to achieve the specific design objectives and criteria in the LSP area are outlined in the Local Water Management Strategy that has been prepared by Wave International to support this LSP. A summary of the design criteria and the associated design initiatives is included in the sections below.

Water conservation

The State Water Plan (WA Government, 2007) sets a target for total water use of no more than 100 kL/person/year. This water consumption target is reflected in the Department of Water's interim guidelines for developing an LWMS, which also sets an aspirational target of no more than 40-60 kL/person/year of potable (scheme) water use. These targets will be met by the use of waterwise fittings and appliances inside new houses, water-efficient landscape design, and encouraging the use of groundwater or rainwater for irrigation and non-potable water uses.

Water quantity management

Peak post-development surface water flow rates from the development are required to be within pre-development levels. This will be achieved through the use of stormwater detention basins, which will be sized to attenuate surface runoff across the site and ensure that post-development flow rates are within pre-development levels.

Water quality management

Post-development surface water and groundwater quality is to be maintained at pre-development levels. Bioretention areas are to be provided in each stormwater basin to retain and treat runoff from frequent, 'first-flush' storm events to ensure that surface water quality in downstream environments is not degraded as a result of the development.

Groundwater quality will be managed through the appropriate use of fertilisers in landscaped areas (and the use of low-fertiliser-use plants), to minimise the amount of nutrients that can infiltrate into the groundwater.

Mosquito management

The DoW requires that stormwater basins be designed to ensure that between the months of November and May, detained immobile stormwater is fully infiltrated within 96 hours (5 days), to reduce the health risk from mosquitoes. Detailed design of the stormwater basins at subdivision stage will ensure that this design objective can be met.

3.3.6 Education facilities

The WAPC has its general requirements for school sites set out under Development Control Policy 2.4. Within this policy section 3.1 refers to *The Demand for School Site*. The following sub section outlines the policy that is applicable:

3.1.2 The Department for Education and the main non-government education providers require the following provision for school sites.

Primary Schools – 1 site for between 1500 and 1800 housing units for government schools.

The LSP is estimated to provide for 241 dwellings; this is below the 1500 housing requirement and therefore a primary school facility within this LSP is not required.

3.3.7 Activity centres and employment

There is no activity centre as part of this LSP. It is the intention of the Shire of Northampton to have the majority of commercial activity directed to the existing facilities within the town of Kalbarri. The key commercial facilities in the vicinity of the LSP include land previously set aside in the Port Kalbarri Structure Plan along George Grey Drive allowing for a medical centre and local service station.

In addition the Special Use site is intended for future development as a local caravan park, short stay holiday accommodation or long term residential development. This will be the only business operation located within the LSP area.

3.3.8 Infrastructure coordination, servicing and staging

Sewer reticulation

Only lots that are smaller than 2,000m² are required to be serviced by the Water Corporation sewer network. This includes the R10 lots surrounding the existing Capital Hill estate, and the R10 lots in the north-eastern corner of the LSP area. The lots surrounding the existing Capital Hill estate can easily be serviced by extending the existing sewer infrastructure to these new lots.

The R10 lots in the north-eastern corner will require a new reticulated sewer network, which will discharge to an existing sewer manhole on George Grey Drive just south of the existing Kalbarri Sewer Pump Station K4.

The Special Use development site in the northern corner of the LSP area can only be partially serviced by the existing Pump Station K4. This site will either need to be filled so that it can discharge via gravity sewer to the existing pump station, or to install a private sewer pump station that will then pump into the Water Corporation's pump station.

Water reticulation

All lots that are smaller than 2ha are required to be serviced with potable water.

The existing Water Corporation water supply infrastructure at the site includes an elevated tank on Stiles Road, and a balance tank near Browne Blvd to the east of the Capital Hill estate. The two tanks are connected via a DN110 water main. This existing infrastructure is intended to be a temporary/interim measure, and significant upgrades are required to service the ultimate development.

Some of the proposed lots may be able to be serviced from the Water Corporation's existing infrastructure. Previously the Water Corporation was in the process of determining the highest elevation that could be serviced from their existing tanks.

The Water Corporation's planning for the area includes the decommissioning of the existing ground level tank and the existing DN110 water main near Browne Blvd, and the construction of new permanent ground-level tanks on Stiles Road (at the existing elevated tank site) and DN300 water main to service the future development.

The Water Corporation is in the process of determining the trigger points in the staging of the development that will trigger the requirement to carry out these permanent works. The Water Corporation's capital investment program currently shows these upgrade works being funded in 2025. It has been determined in lieu of 2025, or a trigger, the catalyst for services upgrades, the existing LSP needs to ensure that the proposed lot development is not adversely impacted by the pipe locations. As such the LSPA has made minor modifications to the design layout of the R10-R20 lots and the western boundary of the northern most Special Rural 10-20ha lot, to ensure proposed lots in these areas are not encumbered by the existing pipe and bore infrastructure.

In the interim the Shire of Northampton and the Landowners have entered into a licence agreement relating to the bores and pipelines whereby the Shire is permitted to enter upon the subject site to use and access the infrastructure and to perform works as required. A copy of the licence agreement and plan showing the location of the bores and pipelines is attached in the appendix section.

Power

Existing overhead Western Power HV distribution lines run along Stiles Road and the eastern boundary of the LSP area, from which the existing subdivision areas are serviced.

The estimated yield of the structure plan area is for approximately 250 additional residential lots and a "special use" site which could potentially be developed as a caravan park. The residential lots will require an estimated total load of 1.2 MVA based upon a load allowance of 4.7kVA/lot (excluding the "special use" site). Project feasibility studies should be conducted by Western Power to determine optimum infrastructure requirements and to provide an estimate of any developer contributions that may be required.

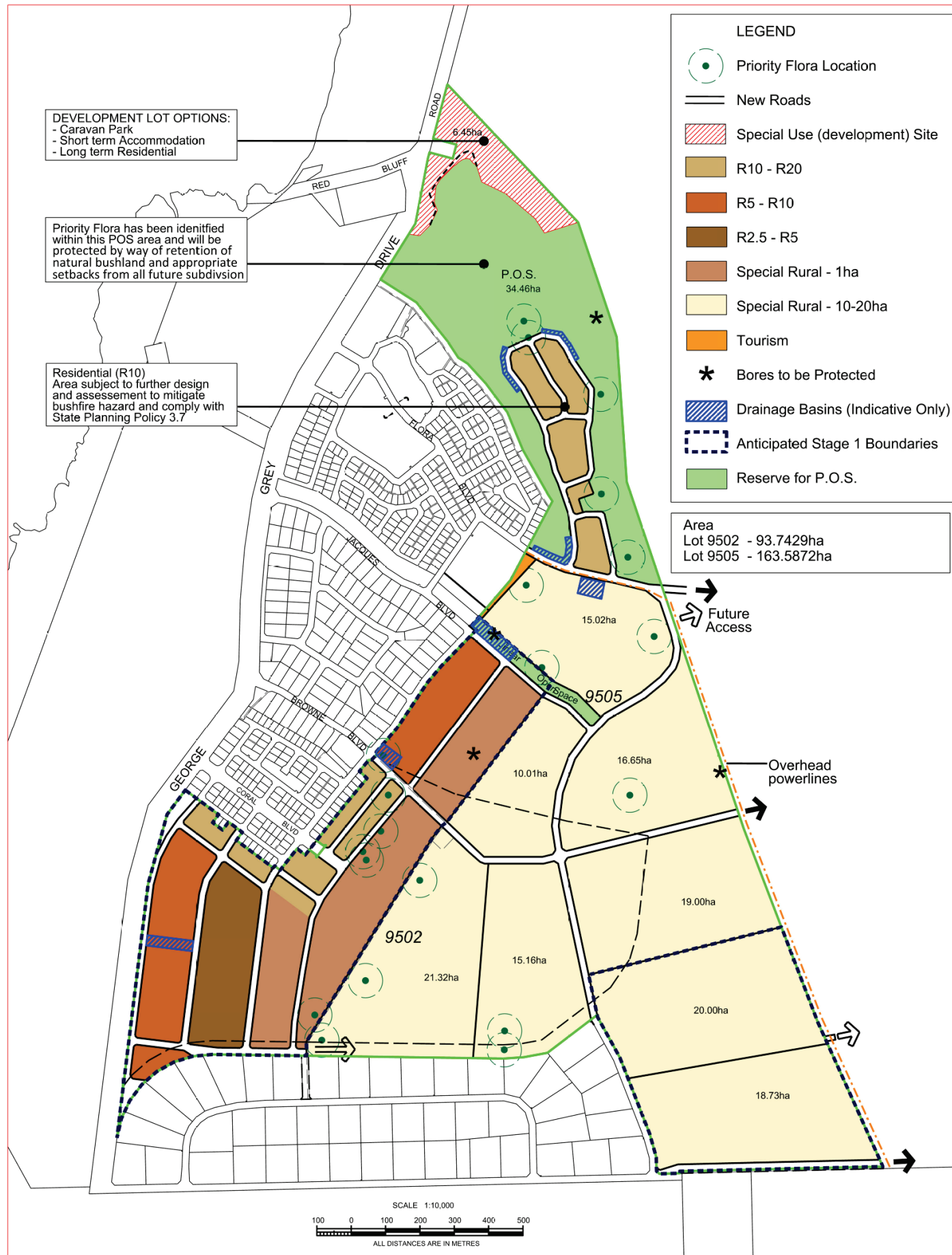
Communications

It is envisaged that telecommunications and broadband infrastructure in this development would be supplied via the National Broadband Network (NBN) which requires developers to install an approved pit and pipe system as part of the development. The NBN rollout has not yet commenced in this area and initially the service will have to be supplied via existing Telstra fixed line or wireless service.

Subsequent to the installation of the NBN pit and pipe system by the developer, the network infrastructure will be installed by NBN appointed contractors.

3.3.9 Developer contribution arrangements

The Shire of Northampton does not have a Developer Contributions Scheme (DCS) for the area contained in the LPS. As there is no DCS, the construction of the infrastructure, such as services, drainage, roads, and open space will be guided by the Implementation Plan, approved as a part of this structure plan.



DEVELOPMENT LOT OPTIONS:
 - Caravan Park
 - Short term Accommodation
 - Long term Residential

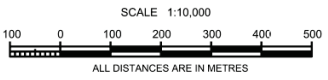
Priority Flora has been identified within this POS area and will be protected by way of retention of natural bushland and appropriate setbacks from all future subdivision

Residential (R10) Area subject to further design and assessment to mitigate bushfire hazard and comply with State Planning Policy 3.7

LEGEND

- Priority Flora Location
- New Roads
- Special Use (development) Site
- R10 - R20
- R5 - R10
- R2.5 - R5
- Special Rural - 1ha
- Special Rural - 10-20ha
- Tourism
- Bores to be Protected
- Drainage Basins (Indicative Only)
- Anticipated Stage 1 Boundaries
- Reserve for P.O.S.

Area
 Lot 9502 - 93.7429ha
 Lot 9505 - 163.5872ha



Plan No. : 15982-009
 Revision : REV.10
 Scale : 1:10,000@A3



**PLAN 1: LOCAL STRUCTURE PLAN
 LOTS 9502 AND 9505
 BROWNE FARM
 GEORGE GREY DRIVE KALBARRI**



Figure 1 Location Plan – Extracted from original LSP report



Plan No. : 15982-7
Revision : REV.0
Scale : 1:50 000@A4

0 500 1000 1500

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CHECKED BY: SF

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V DATUM: AHD
H DATUM: MGA84 (50)

LOCATION PLAN
BROWNE FARM - GEORGE GREY DRIVE KALBARRI

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