

LEGEND

Local Scheme Reserves
 Parks and Recreation

Local Scheme Zones
 Residential R30
 Special Use-23

Others
 Structure Plan Boundary

It is certified that this Structure Plan was approved by resolution of the Western Australian Planning Commission on 23/01/24

This Structure Plan expires on 23/01/2034

Signed _____

Director, Planning and Development PP

File No. 110/236



STRUCTURE PLAN
 Lot 28 Barfield Road, Hammond Park



Source of Information
 Site boundaries: Landgate, MNG
 Projection: PCG94

NOTE
 All areas and dimensions are subject to survey, engineering and detailed design and may change without notice.

157 Barfield Road, Hammond Park Structure Plan

Prepared by



Title: 157 Barfield Road, Hammond Park – Structure Plan

Project: Lot 28 (#157) Barfield Road, Hammond Park

Prepared for: Condor Nominees Pty Ltd

Date of Release: January 2022 (Rev 0); April 2022 (Rev 1); June 2022 (Rev 2); December 2022 (Rev 3); October 2023 (Rev 4); December 2023 (Final)

Prepared by: Michael Glendinning Property

Contributors: Michael Glendinning Property, Coterra Environment, Development Engineering Services, Smith Bushfire Consultants, Transcore, Lloyd George Acoustics and Plan E Landscape Architects.

Approved by: Michael Glendinning

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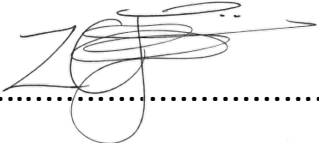
ENDORSEMENT PAGE

This Structure Plan is prepared under the provisions of the City of Cockburn Town Planning Scheme No.3


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

23 January 2024

Signed for and on behalf of the Western Australian Planning Commission:


.....

An officer of the Commission duly authorised by the Commission pursuant to section 24 of the Planning and Development Act 2005 for that purpose, in the presence of:

Witness: 

Date: 24 January 2024

Date of Expiry: 24 January 2034

TABLE OF AMENDMENTS

Amendment No.	Summary of Amendment	Amendment Type	Date approved by WAPC

Executive Summary

Structure Plan – 157 Barfield Road, Hammond Park

This Structure Plan (SP) for Lot 28 (#157) Barfield Road, Hammond Park is prepared to facilitate and guide the subdivision and development for residential purposes of the Structure Plan area comprising Lot 28 Barfield Road, Hammond Park.

Lot 28 comprises a total area of 4.8166 hectares of which the western 2.4943ha fronting Barfield Road is zoned 'Development' and the remaining 2.3223ha abutting the Kwinana Freeway to the east is zoned 'Special Use', being subject to a 127m wide Western Power transmission easement to accommodate high voltage power lines which traverse this portion of Lot 28 from north to south parallel to the abutting Kwinana Freeway.

The City of Cockburn's Local Planning Scheme and Southern Suburbs District Structure Plan require a Structure Plan for the portion of Lot 28 zoned 'Development' but not the remainder of Lot 28 which is zoned 'Special Use'.

A homestead and outbuildings adjacent Barfield Road were removed prior to the current landowner's acquisition of Lot 28 in 2005. As such the land has been partially cleared, with remnant vegetation ranging in condition from 'Completely Degraded' to 'Very Good'. A proposal to clear remnant vegetation from Lot 28 was referred to the Federal Government's Department of Agriculture, Water and the Environment (DAWE) in November 2021 and was approved as "not a controlled action" on 1 December 2021, paving the way for the lodgement of this Structure Plan.

The Structure Plan is based upon a lot layout which conforms with State Government and City of Cockburn residential density targets, the latter responding to the City's Southern Suburbs District Structure Plan (DSP) which prescribes a minimum density of between 15 and 25 dwellings per hectare. As indicated on the Indicative Subdivision Layout at Figure 9 of this report, the development should comprise up to 46 lots for single dwellings at a density of 18.4 dwellings per hectare based on the gross urban zoned area, exclusive of the Special Use zoned powerline easement land.

The key statistics and planning outcomes of the Structure Plan are outlined in the following summary table. The Structure Plan Summary Table overleaf details the nature and key outcomes of the Structure Plan.

Structure Plan Summary Table

ITEM	DATA	Structure Plan Ref (section no.)
Total area covered by the Structure Plan	2.4943ha*	Exec Summary and Part One: Section 1.0
Area of each land use proposed: - Residential - Parks and Recreation	2.2449ha (90.0%) 0.2494ha (10.0%)**	Part One: Section 1.0 and Section 4.0
Total estimated lot yield	46 lots	Part One: Section 4.2
Estimated number of dwellings	46 dwellings	Part One: Section 4.2
Estimated population	120 persons	Part One: Section 4.2
Estimated residential site density	Approx 27 dwellings per residential site hectare	Part Two: Section 1.3.4 and Section 3.1
Estimated area and percentage of Public Open Space given over to: - Regional open space - Local parks	Nil 0.2494 hectares (10%)	Part One: Section 4.4; Part Two: Section 1.3.2 and Sections 3.0 and 3.2
Estimated percentage of natural area	est. 0.1200ha*** (4.9%)	Part Two: Section 3.1

* Western Power has agreed to accommodate a 20 metre road reserve within its powerline easement, as it did for the development of Lot 29 to the immediate north and for the development of Lot 15 to the immediate south which, in accordance with the City's Southern Suburbs DSP.

** The City's management and the proponent have reached consensus on the location of the POS in an area of the development in which the proponent can deliver a POS which combines retained native vegetation with recreational space where vegetation has been cleared in the past.

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Technical Appendices

1. Environmental Assessment Report
2. Local Water Management Strategy
3. Bushfire Management Plan
4. Transport Impact Statement
5. Engineering Services Report
6. Transportation Noise Assessment
7. Public Open Space Landscape Concept
8. Western Power Easement Revegetation Plan and Methodology Statement

Part One - Implementation

1.0 Structure Plan Area

This Structure Plan shall apply to the western portion of Lot 28 Barfield Road, Hammond Park comprising 2.4943 hectares of land which is zoned 'Development'. Outside the Structure Plan the eastern portion of Lot 28 comprises 2.3223ha abutting the Kwinana Freeway which is zoned 'Special Use'. The Structure Plan is identified as the 157 Barfield Road Structure Plan.

2.0 Operation

This Structure Plan shall come into effect on the date it is approved by the WAPC.

3.0 Staging

The Structure Plan area is likely to be developed in a single stage given the development requires fill to raise the natural ground level to a level which integrates with the adjoining developments to the immediate north (Lot 29) and to the immediate south (Lot 15) and which facilitates gravity sewerage to connect to existing infrastructure in Barfield Road.

The proposed source of fill material is the eastern portion of the property zoned 'Special Use' and subject to an easement in favour of Western Power for the protection of its overhead transmission line assets. Western Power has consented to the landowner excavating sand from the easement to provide fill for the proposed lots within the 'Development' zone, while re-contouring and revegetating the easement area for passive use by the local community as part of an emerging ecological corridor between Russell and Rowley Roads.

4.0 Subdivision and Development Requirements

Subdivision and development of the Structure Plan area shall generally be in accordance with the Structure Plan Map.

4.1 Applicable Standards

The land within the Structure Plan is zoned 'Development' under the City of Cockburn Town Planning Scheme No. 3 (TPS3) permitting residential subdivision and development with the expectation that, in accordance with WA Planning Commission policy, an area of Public Open Space of 10% of the developable area will be provided.

4.2 Residential Density

The proposed density for the Structure Plan area is R30 as per the Structure Plan Map, and, with a potential yield of up to 46 lots at 18.4 dwellings per hectare based on the gross urban zoned area, enables the proposed development to achieve the City's Southern Suburbs District Structure Plan's prescribed minimum density of between 15 and 25 dwellings per hectare.

4.3 Hazard Separation

The Structure Plan is subject to a Bushfire Management Plan attached as **Appendix 3**. Any land falling within a bushfire hazard identified in the Bushfire Management Plan is designated as a Bushfire Prone Area for the purpose of the Building Code of Australia.

4.4 Public Open Space

The Structure Plan proposes a Public Open Space which provides the development's future residents with 10% of the development area as required by the WA Planning Commission (refer to **Part Two: Section 3.2** for detail)

Having expressed a preference that the POS be located in a location within the development which would include remnant vegetation in good condition, the City's management joined the proponents in a site inspection which led to the location proposed on the Structure Plan map.

4.5 Landscaping and Revegetation

The City has agreed to the landscaping, revegetation and ceding of the Special Use 23 zoned Western Power easement land, which is to be imposed as a condition of any subdivision approval that seeks exemption to the requirement for native vegetation clearing permit under the State *Environmental Protection Act 1986*.

4.6 Notifications on Title

A requirement for Notifications to be imposed at the subdivision stage on all lots addressing the future disconnection of Barfield Road, mosquito-borne disease risk in the area, transport noise and bushfire prone areas as follows:

- a) For all lots: *"The road network connectivity in this area linking Barfield Road to Rowley Road will be permanently closed in the future."*
- b) For all lots: *"This lot is in close proximity to known mosquito breeding areas. The predominant mosquito species is known to carry viruses and other diseases."*
- c) For all lots identified as requiring Quiet House Designs in the Transportation Noise Assessment: *"This lot is situated in the vicinity of a transport corridor and is currently affected, or may in the future be affected by transport noise. Additional planning and building requirements may apply to development on this land to achieve an acceptable level of noise reduction."*
- d) For all lots with a Bushfire Attack Level (BAL) rating of 12.5 or above advising the existence of a hazard or other factor: *"This land is within a bushfire prone areas designated by an Order made by the Fire and Emergency Services Commissioner and is/may be subject to a Bushfire Management Plan. Additional planning and building requirements may apply to development on this land."*

5.0 Local Development Plans

5.1 Local Development Plans are required to be prepared for lots comprising one or more of the following site attributes:

- (i) Lots with direct boundary frontage to an area of Public Open Space.
- (ii) Lots affected by vehicle noise associated with the Kwinana Freeway.

5.2 (i) In respect to 5.1(i) the Local Development Plan shall specifically address the interface between the POS and its interface with the two residential lots abutting its southern boundary.

6.0 Other Requirements

6.1 R Density Codes

Development of the proposed single residential lots will be governed by the standards outlined under the City's Local Planning Policy 1.16.

7.0 Additional Information

7.1 Environmental Management Requirements

In accordance with the recommendations of the Environmental Assessment Report (**Appendix 1**) the following management plans are required to be prepared and approved prior to the commencement of subdivisional works on-site:

- Fauna Management and Relocation Plan;
- Revegetation Plan; and
- Bushland Protection Management Plan

It is noted that there is potential for the Revegetation Plan and Bushland Protection Plan to be merged into one management plan at the time of preparation.

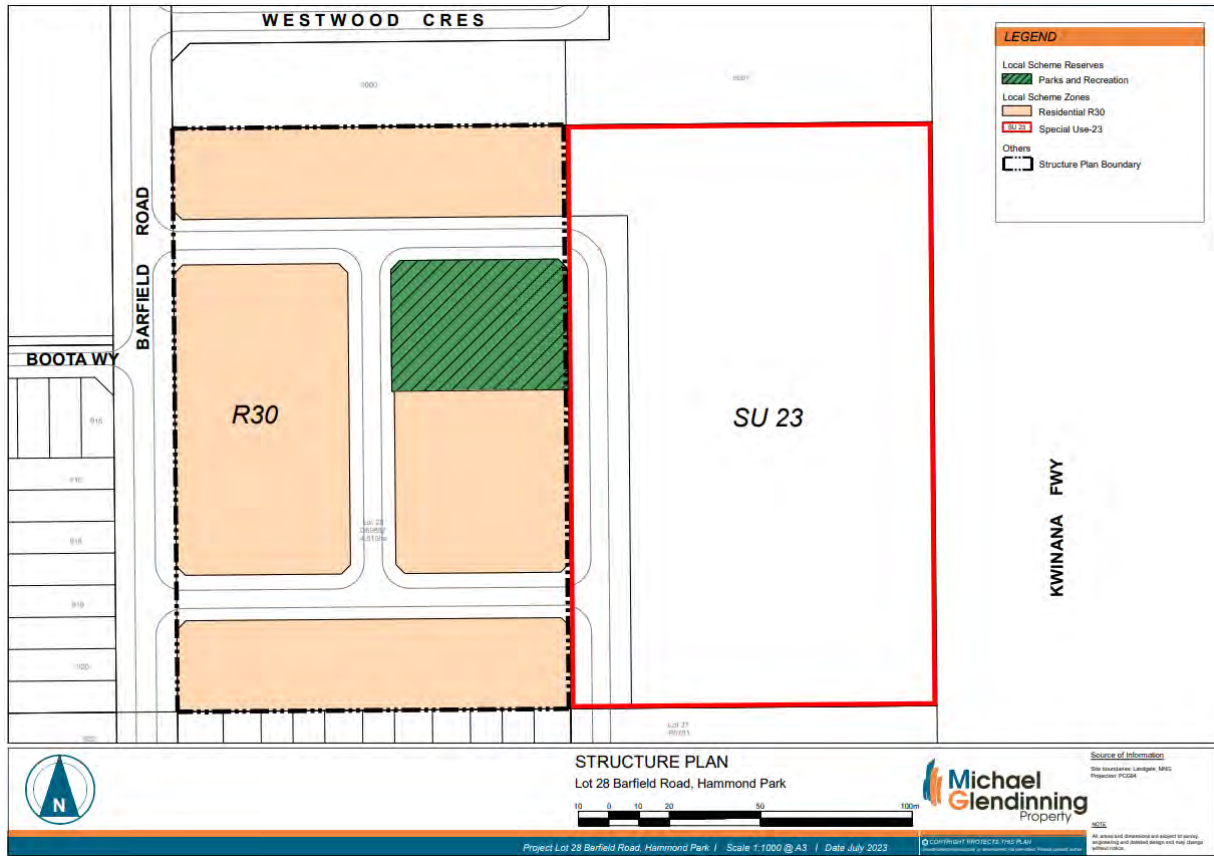
7.2 Land Contamination

The landowner Condor Nominees Pty Ltd acquired the site in 2005 and removed the abandoned improvements on site in 2018 with the intent of developing the land for housing lots. In March 2023 Condor engaged Environmental Risk Consultants (ERC) to conduct a site inspection. ERC summarised that "the potential for contamination to be present at the site is moderate and should be further assessed prior to site re-development" and recommended a Preliminary Site Investigation (PSI) "should be undertaken to further investigate the potential for contamination to be present".

Pursuant to approval of this Structure Plan, it is expected that a PSI will be a condition of Subdivision Approval.

7.3 Local Planning Policy 1.16

Dwellings built upon the residential lots within the Structure Plan area will be required to conform with the contents and requirements of Local Planning Policy 1.16 - Single House Standards for Medium Density Housing in the Development Zone.



Part Two - Explanatory Report

1.0 Planning background

1.1 Introduction and Purpose

This Structure Plan for 157 Barfield Road, Hammond Park has been prepared by planning consultant Michael Glendinning Property on behalf of the landowner, Condor Nominees Pty Ltd.

It is lodged in accordance with clause 6.2.4 in the City of Cockburn Town Planning Scheme No. 3 (TPS3) which requires a structure plan to be approved for land zoned 'Development' under TPS3 and provides the statutory planning framework to guide the future subdivision and development of the subject land contained within the Structure Plan boundaries.

The Structure Plan has been prepared in accordance with the City of Cockburn's procedure which specifies compliance with Schedule 2, Part 4 of the deemed provisions in the Planning and Development (Local Planning Schemes) Regulations 2015.

It comprises three parts as follows:

Part 1 – Implementation Section contains the Structure Plan Map and the statutory planning provisions and requirements applicable to future subdivision and development of the subject land pursuant to clause 6.2.4 of TPS3.

Part 2 – Explanatory Section (this Part) provides an assessment of all relevant matters including the applicable planning framework, the site context and characteristics.

Part 3 – Structure Plan provides an explanation of the Structure Plan.

Appended are eight (8) Technical Appendices being those technical reports and supporting documentation as required.

1.2 Land Description

1.2.1 Location

157 Barfield Road, Hammond Park is located between Barfield Road and the Kwinana Freeway, approximately 730m north of Rowley Road which facilitates access to the Freeway, and approximately 430m south of Gaebler Road, which crosses the Freeway. Further access to the Kwinana Freeway and the Aubin Grove railway station on the Perth-Mandurah railway is less than 2km north of 157 Barfield Road.

The suburb of Hammond Park is well served by educational facilities, which include Hammond Park Secondary College (approx. 200m west of Barfield Road), Hammond Park Catholic School (approx. 350m to the west, opposite the Secondary College, and Hammond Park Primary School (approx. 1.5km to the north-west).



Figure 1: Location Map

1.2.2 Area and Land Use

Lot 28 has a total area of 4.8166ha with a frontage of 192m to Barfield Road in the west and a 192m boundary to the Kwinana Freeway in the east. The rectangular Lot 28 has northern and southern boundaries of 250m. The Structure Plan occupies the western portion of Lot 28 and has an area of 2.4943ha. The subject land has been partially cleared and the site is undeveloped. The eastern half of the property is affected by an easement in favour of Western Power associated with 330Kv power line infrastructure which traverses this portion of the site and is outside the Structure Plan area.



Figure 2: Cadastral Plan

1.2.3 Legal Description and Ownership

The subject land comprises 157 Barfield Road, Hammond Park, being Lot 28 on Diagram 69857, Certificate of Title Volume 1754 Folio 135. As noted on the Title, portion of the site is subject to an easement to the State Electricity Commission of Western Australia for the purposes of clearing the land subject to the easement and to maintain in, upon, along and across the land in a proper manner, towers, poles, wires and other necessary apparatus in connection with its transmission, distribution and telephones lines for the purpose of transmitting and distributing power by electricity. The easement also provides Western Power the right to enter upon the land for the purpose of inspecting electrical equipment and making necessary repairs and alterations thereto. Under the conditions of the easement the landowner may not increase the height of the natural surface of the land but can lower the natural surface, construct structures, buildings and improvements within the easement area with the written approval of Western Power.

1.3 Planning Framework

1.3.1 Zoning and Reservations

Lot 28 Barfield Road is zoned 'Urban' under the Metropolitan Region Scheme (MRS). Figure 3 below indicates the Structure Plan boundary via a broken black line on an extract of the MRS Map.

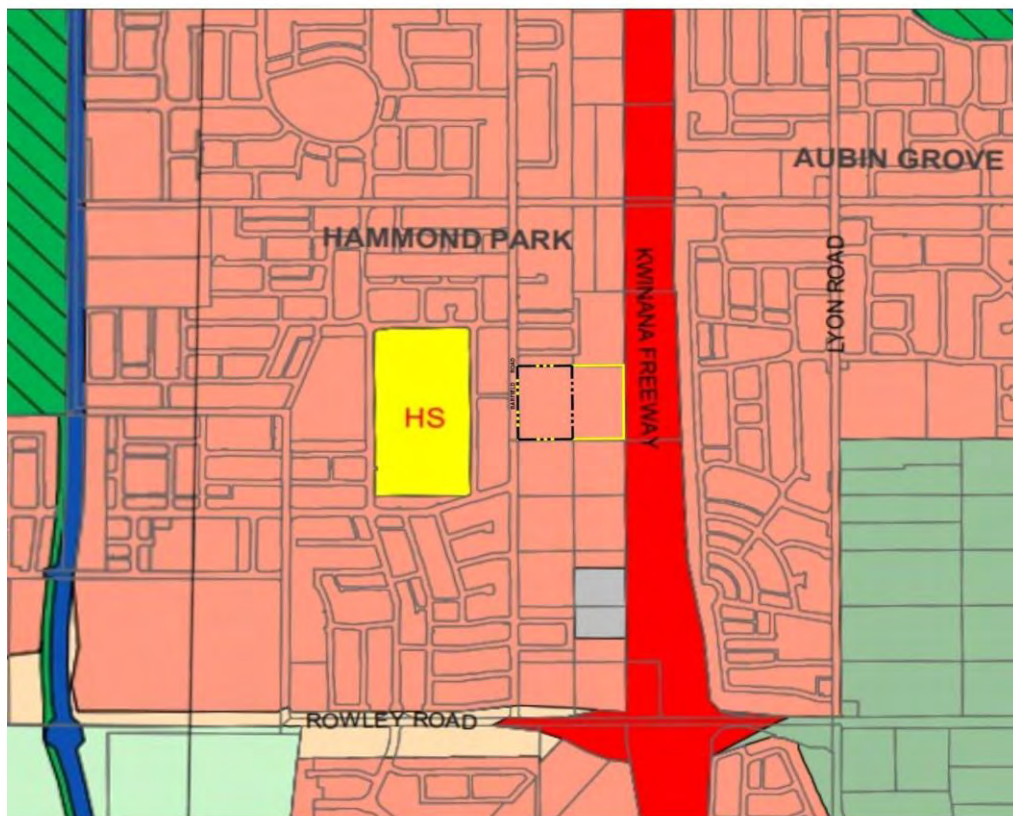


Figure 3: Metropolitan Region Scheme

Under the City of Cockburn Town Planning Scheme No. 3 (TPS3) the western half of the subject land is zoned 'Development' and is therefore included in Development Contribution Plan 13, which requires developers to contribute to City-wide community infrastructure, and Development Contribution Plan 9, which requires developers within Hammond Park to contribute to hard infrastructure (regional drainage and the widening and upgrade of Hammond Road, between Gaebler and Rowley Roads). The eastern half, being that portion of the property affected by the Western Power easement is zoned 'Special Use 23'. Clause 6.2 of TPS3 sets out the statutory requirements for the preparation and adoption of a Structure Plan within the 'Development' zone. This Structure Plan has been prepared in accordance with the requirements of clause 6.2.

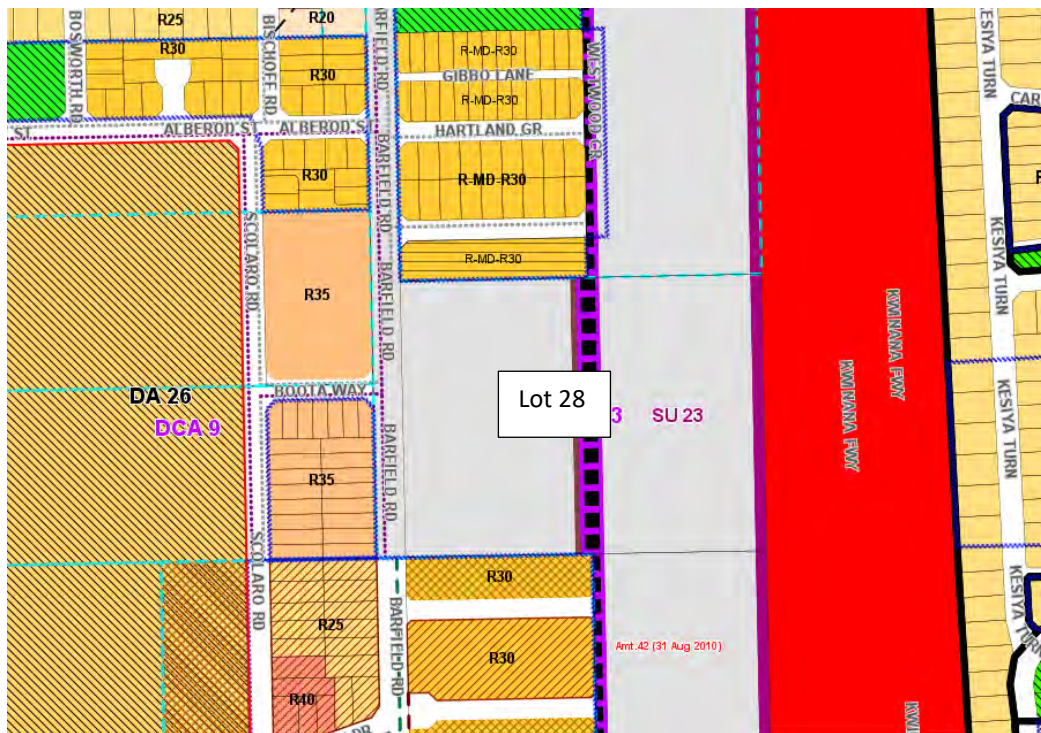


Figure 4: City of Cockburn TPS No.3

1.3.2 Regional and Sub-Regional Structure Plans

Reflecting its 'Urban' zoning under the MRS, the subject land is identified for urban purposes in relevant regional strategic documentation, being designated as 'Urban' within the South Metropolitan Peel Sub-Regional Planning Framework. The subject land is located within the City of Cockburn Southern Suburbs District Structure Plan - Hammond Park where it is identified as medium density residential.

Figure 5 overleaf confirms the location of Lot 28 in relation to the District Structure Plan

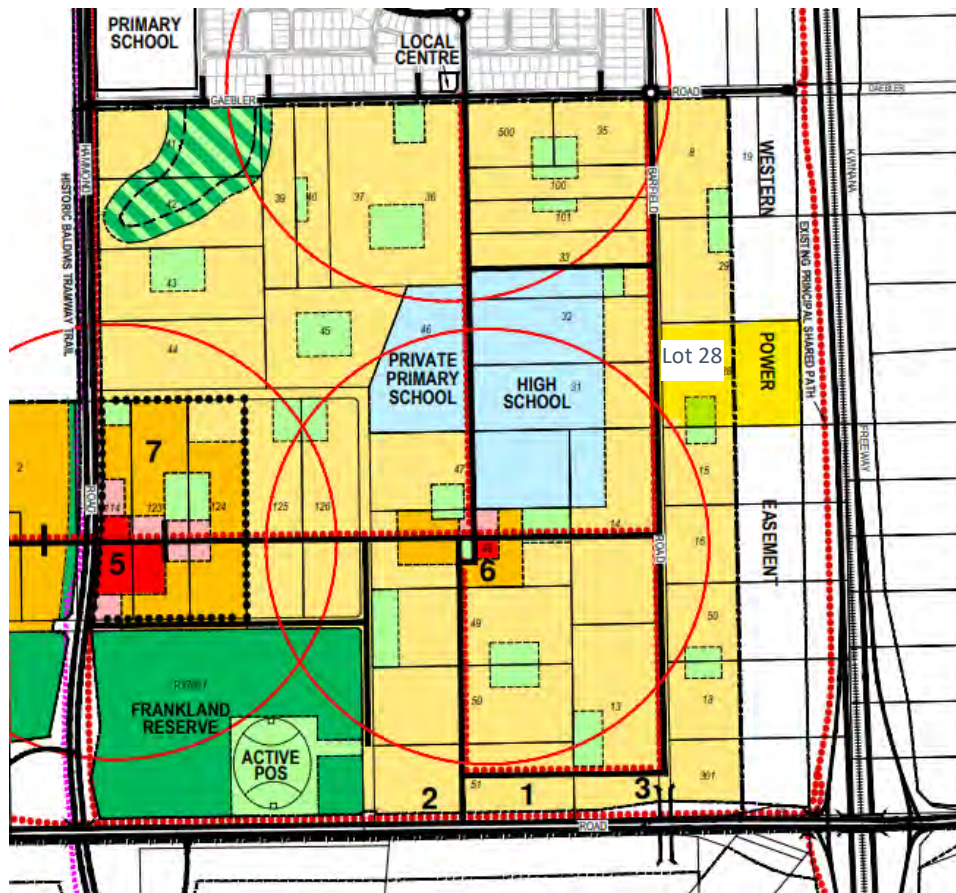


Figure 5: Southern Suburbs District Structure Plan - Hammond Park

The DSP plan locates an indicative public open space straddling Lot 28's common boundary with Lot 15 to the immediate south, however the owner/developer of Lot 15 has consolidated its POS obligations into larger scale POS elsewhere in its Vivente Estate. The relocation of Lot 15's POS provision compromises the options for an appropriate location within the Structure Plan. The location of the POS on the Structure Plan responds to the topography, which falls from south to north, and the opportunity to include native vegetation in good condition within the POS.

1.3.3 Planning Strategies

The relevant operational Planning Strategies are, as referred to in Section 1.3.2,

- Regional: South Metropolitan Peel Sub-Regional Planning Framework (WAPC, 2018)
- District: Southern Suburbs District Structure Plan - Hammond Park (City of Cockburn)

Furthermore, it is understood that the City is in the process of reviewing its Local Planning Strategy, however this is not expected to impact on the Structure Plan nor any subsequent subdivision application.

1.3.4 Planning Policies

The Structure Plan has been prepared within the context of the wider State and Local Planning Policy Framework including where relevant applicable State Planning Policy and Development Control Policies. A number of items are particularly noted including

SPP 7.3 Residential Design Codes, Liveable Neighbourhoods and Planning Bulletin 112/2016 R-MD Codes:

- **State Planning Policy 7.3 – Residential Design Codes Volume 1 (WAPC 2021)**

SPP 7.3 controls residential development throughout Western Australia. The R-Codes are the agreed mechanism to control density within residential zones, through the application of R-Code densities in local planning schemes.

The R-Code density primarily controls the allowable average and minimum lot size, with built form performance standards and 'deemed-to-comply' examples, specific to the nominated density, described within Parts 5 & 6 of the R-Codes. The Structure Plan Map designates a proposed R-Code density of R30. Further discussion in regard to R-Codes density is provided in **Part Two: Section 3.1** of this report.

- **Liveable Neighbourhoods (WAPC 2009)**

Liveable Neighbourhoods is the WAPC's operational policy guiding the design of structure plans. The objective of Liveable Neighbourhoods is the delivery of a high quality residential environment. The Structure Plan responds to the requirements of Liveable Neighbourhoods by promoting an interconnected, safe and walkable neighbourhood, providing a variety of lot sizes and housing types, responding to the diverse housing needs of the community, maximising land efficiency and securing a residential density of 18.4 dwellings per gross hectare and 26.9 dwellings per residential site hectare, exceeding the upper threshold of the Liveable Neighbourhoods target. Further discussion regarding density targets is provided in **Part Two: Section 3.0** of this report.

- **State Planning Policy 3.7 Planning in Bushfire Prone Areas**

SPP 3.7 addresses the requirements to be met where development is proposed in a bushfire prone area. This requires a detailed bushfire risk assessment to be undertaken and preparation of a Bushfire Management Plan (BMP) outlining how the identified bushfire risk can be managed. A BMP for the Structure Plan is appended as **Appendix 3** and bushfire implications for the Structure Plan area discussed in section 2.8 of this report.

- **State Planning policy 5.4 Road and Rail Transport Noise and Freight**

SPP 5.4 addresses transport noise from within major transport corridors, such as the Kwinana Freeway, and outlines criteria to be used to assess noise impacts. It also outlines possible noise management and mitigation measures available to meet the noise level criteria identified in the policy. A specific acoustic report has been prepared addressing the requirements of SPP 5.4 and is appended as **Appendix 6**. The implications of SPP 5.4 for the Structure Plan is discussed in Part Two: Section 3.5 of this report.

- **Planning Bulletin 112/2016 – Medium Density Single House Development Standards – Structure Plan Areas (R-MD Codes)**

PB 112/2016 outlines the WAPC position in relation to a consistent set of R-Code variations within new Structure Plan areas. The basis for implementation of the R-MD provisions within the City of Cockburn is the City’s Local Planning Policy 1.16 ‘Single House Standards for Medium Density Housing in the Development Zone’.

- **Local Planning Policies**

At a Local Authority level, in addition to relevant planning procedure outlined by the City of Cockburn to guide preparation and assessment of local structure plans, applicable local policies include:

- LPP 1.12: Noise Attenuation Policy and Guidelines
- LPP 1.13: Bushfire Prone Areas
- LPP 1.16: Single House Standards for Medium Density Housing
- LPP 5.1: Public Open Space
- LPP 5.4: Location of High Voltage Overhead Power Lines
- LPP 5.5: Local Development Plans
- LPP 5.11 Filling of Land
- LPP 5.12: Retaining Walls
- LPP 5.15: Access Street- Road Reserve and Pavement Standards
- LPP 5.18: Subdivision and Development – Street Trees
- LPP 5.19: Structure Plans & Telecommunications

The Structure Plan has been prepared with relevant requirements of these policies taken into consideration as/where appropriate.

1.3.5 Other approvals and decisions

In November 2021, a proposed action to clear vegetation to construct a residential development on the site was referred to the Department of Agriculture, Water and the Environment (DAWE) in accordance with the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act).

In December 2021, DAWE issued its decision that the proposed action is “not a controlled action”, thereby allowing the clearing and development to proceed.

1.3.6 Pre lodgement consultation

Pre lodgement consultation has been undertaken with a range of relevant stakeholders including officers from the City of Cockburn, Western Power, Federal and State Environmental Agencies, servicing agencies and adjoining landowners.

2.0 Site Conditions and Constraints

This section summarises content from the technical reports appended to this report which address pre-development conditions and constraints affecting the subject land as follows.

2.1 Biodiversity and natural area assets

Biodiversity and natural area assets are detailed in Coterra Environment's Environmental Assessment Report (EAR) appended as **Appendix 1**. The City's Natural Area Management Strategy 2021-2022 recognises the importance of the Western Power easement as an important local ecological corridor. Given that Lots 29 and 15 to the immediate north and south have earthworked the easement in a similar manner as is proposed for Lot 28, post-earthworks revegetation will maintain the integrity of the corridor. Figure 6 below is an aerial view of the subject property which evidences the site's natural assets and the findings of the EAR are summarised overleaf.



Figure 6: Aerial view of the subject property

2.1.1 Vegetation and Flora

A detailed vegetation and flora survey was undertaken on the site (Coterra 2017) in accordance with relevant EPA guidance (2016). Vegetation conditions ranged from very good to completely degraded. While 2.3ha considered in good or better condition was identified within the subject land, approximately half of the 'Development' zoned area is degraded, having been cleared where a house and outbuildings were previously located along with firebreaks.

Furthermore, proximity to Barfield Road and access to Western Power infrastructure within their easement has resulted in extensive weed infestation.

Vegetation condition ranged from 'Completely Degraded' to 'Very Good' according to the Keighery (1994) scale. Vegetation in the eastern portion of the site (within the Western Power transmission line easement) was predominantly in 'Degraded' to

‘Completely Degraded’ condition, and patches of ‘Good’ to ‘Very Good’ condition vegetation were identified in the western portion of the site.

A targeted search for threatened and priority flora identified under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) and the Western Australian Biodiversity Conservation Act 2016, was undertaken and no flora species of conservation significance were recorded on site.

2.1.2 Fauna

A fauna habitat survey was undertaken on site in accordance with relevant government guidance (EPA, 2002, 2016b; EPA & DEC, 2010). Banksia Woodland was identified across the majority of the site as representing fauna habitat, noting variable condition of vegetation.

Dominant trees and shrub species identified on site that present potential foraging habitat for black cockatoos (Carnaby's Black Cockatoo, Baudin's Black Cockatoo, Forest Red-tailed Black Cockatoo) and an assessment of foraging value was undertaken on site, based on habitat density and canopy cover (averaging 10-30% canopy cover).

Habitat at the site represents low to moderate foraging value for black cockatoos. No black cockatoo breeding or roosting habitat trees were identified on site.

Whilst database searches identified numerous fauna species as potentially occurring on the site, within the broader context of the Swan Coastal Plain bioregion, only four birds and one mammal, of which none are conservation-significant, were recorded on site.

Of the EPBC conservation-significant species identified as potentially occurring on site, three black cockatoo species and Rainbow Bee-eater, none of these species were recorded on site.

2.1.3 Environmental Management

In accordance with Clause 7.1 of Part One of this report, a Fauna Management and Relocation Plan, a Revegetation Plan and a Bushland Protection Management Plan will be prepared and approved prior to the commencement of subdivisional works on-site.

It is noted that there is potential for the Revegetation Plan and Bushland Protection Plan to be merged into one management plan at the time of preparation.

2.2 Landform and soils

Topography of the site is gently sloping, with the lowest point occurring on the north western boundary at approximately 24 metres Australian Height Datum (mAHD), reaching a high point of 34 mAHD in the south eastern corner of the site. The aspect of the site is generally west.

The site is located within the Bassendean Dune system of the Swan Coastal Plain. The primary soil type across the subject area is S8, which is described as: SAND – very light grey at surface, yellow at depth, fine to medium-grained, sub-rounded quartz, moderately well sorted, of Aeolian origin (Gozzard, 1983).

The subject area is mapped as having a Moderate to Low Risk of Acid Sulfate Soils (ASS) occurring within 3 m of the soil surface (DWER, 2017). None of these soil systems present any impediment to development of the subject land.

2.3 Groundwater and surface water

Estimated maximum groundwater levels across the site range from approximately 21 to 22 mAHD, flowing in a general westerly direction. Groundwater is likely to occur between 5 to 7 metres below ground level (mbgl) (DWER, 2017b).

Groundwater monitoring was undertaken across three bores within the site between September 2017 and November 2018 to capture two winter peak periods (Emerge Associates, 2018). Groundwater levels in these locations fluctuated between 21.813 mAHD (E-MB03) to 23.099 mAHD (E-MB02) (refer Figure 5 of **Appendix 1**). This equates to groundwater levels across the site occurring between 3.050 to 4.829 m below ground level (mbgl), with approximately 1 m difference across the three bores at any one time.

There are no wetlands or watercourses recorded within the site (DBCA, 2020). No signs of water pooling or flowing across the site were noted during the ecological surveys (Coterra, 2017). The water characteristics of the subject land, both surface and groundwater, are addressed in **Appendix 1** and detailed in the Local Water Management Strategy (LWMS) prepared by Development Engineering Consultants (DEC) and attached as **Appendix 2**.

2.4 Bushfire hazard

Due to the bushfire threat to the Structure Plan area emanating from the existing vegetation and proposed revegetation within the Western Power easement, a detailed Bushfire Management Plan for the whole of Lot 28 has been prepared by Smith Bushfire Consultants and is appended as **Appendix 3**.

The most significant bushfire hazard pre-development is the extensive native vegetation associated with the Banksia scrub across the site. Following the subdivision the vegetation within the Kwinana Freeway road reserve abutting the eastern boundary of the subject property will become the primary bushfire hazard. The revegetation of the vegetation below the powerline within the easement will modify the vegetation to AS 3959: 2018 vegetation classification of shrubland. Western Power have increased their standard easement condition which previously restricted vegetation height to 2 metres above natural ground level but has been increased to 3 metres in height, which facilitates a broader species of shrubs within the easement.

The proposed clearing and filling of the development site will reduce an existing bushfire hazard as the existing vegetation is upslope of the proposed lots and the south-west wind is the most common wind in the afternoon in summer.

The native vegetation within the Western Power easement will be sufficiently separated from any future dwelling pursuant to the proposed excavation of sand and selective revegetation, including grasslands within the easement the potential bushfire, with further protection of future dwellings, if required, enhanced by house construction to the appropriate standard.

The planned public open space (POS) vegetation has been designed to not impact on the bushfire attack level of the neighbouring dwellings while maintaining biological, aesthetic and

recreational opportunities. By maximising the bushfire protection of the future residents and dwellings, and simultaneously achieving multiple of community values and assets ensures the optimum outcome for the POS.

Figure 7 below confirms that the great majority of the “Development” zoned land will have a Bushfire Attack Level of either ‘BAL Low’ or BAL 12.5, with higher BALs only where future dwellings are located close to the areas of remnant vegetation in the easement area.

Consultation with environmental and planning officers from the City of Cockburn in November 2023 resulted in a mutually agreeable outcome whereby the portion of the Western Power easement which, having obtained Western Power’s consent, will be excavated for fill for the development of the Structure Plan. The City has agreed that the revegetation will be classified as “Scrub”.

Further detail is provided in Technical Appendix 3 “Bushfire Management Plan” and Technical Appendix 8 “Western Power Easement Revegetation Plan and Methodology Statement”.

Figure 7 overleaf is an extract from the appended Bushfire Management Plan’s Bushfire Attack Level (BAL) Contour Map, which confirms that only two houses in this 46 lot Structure Plan will be rated higher than BAL 12.5, with up to 16 of the 46 lots rated BAL Low.

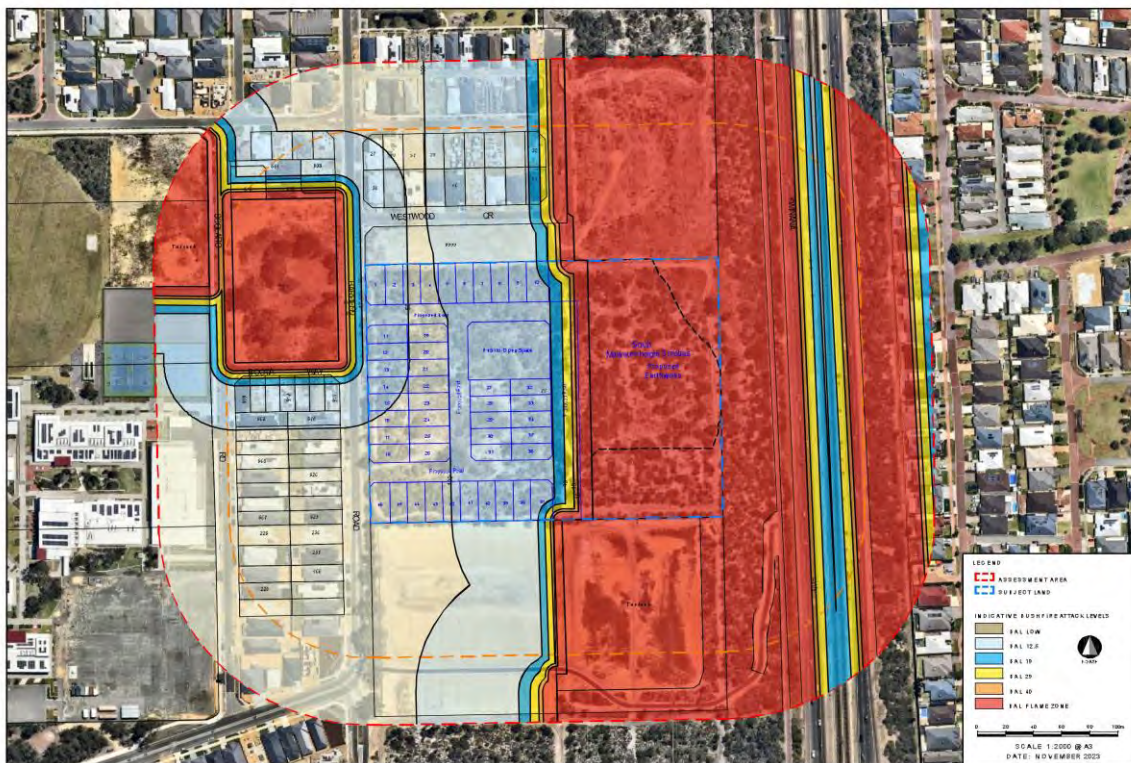


Figure 7: BAL Contour Map

2.5 Heritage

While a homestead and outbuildings existed on the site prior to Condor Nominees’ acquisition of the property in 2005, there are no known sites or items of European heritage located in the structure plan area. In addition, the structure plan area contains no known Aboriginal heritage site(s). This notwithstanding, it is noted that Aboriginal heritage sites are protected under

legislation whether known and recorded, or not, and it is the landowner's responsibility to comply with legislative requirements.

2.6 Context and other land use constraints and opportunities

As evidenced by Figure 8 overleaf, the subject land is located immediately west of the Kwinana Freeway and forms part of the Hammond Park development area which has been progressively developed by various landowners over recent years.

The abutting property to the north (formerly Lot 29 Barfield Road) is substantially developed and the property to the south (Lot 15 Barfield Road) is partially constructed as a latter stage of the Vivente residential estate. The majority of properties on the western side of Barfield Road are fully developed.



Figure 8: Local Context

Lot 28 Barfield Road is located within comfortable walking distance of the recently opened Hammond Park Secondary College at the western side of Figure 8 and within 300m of a Transperth bus route on Irvine Drive on the western side of the College. Lot 28 is also within 400m of a proposed Local Centre immediately south of the College and the Hammond Park Catholic Primary School immediately west of the College. The Hammond Park Primary School is located approximately 1km to the north-west.

Lot 28 is somewhat exposed to traffic noise from the Kwinana Freeway to the immediate east, but the noise is mitigated to a degree by the height of eastern edge of the property and the lower level of the Freeway.

Lot 28 comprises two components, being the 'Development' zoned Structure Plan area which contains a mix of cleared land and remnant vegetation, on relatively flat terrain with a slight fall to the northern boundary, and the 'Special Use' zoned eastern portion consists of degraded vegetation on terrain which falls from east to west, accommodating Western Power transmission infrastructure running parallel to the Kwinana Freeway. The difference in terrain between the two components provide an opportunity to minimise the importation of fill by excavating surplus soil in the eastern portion to meet fill requirements for the development planned within the Structure Plan area.

Western Power's easement over the eastern portion of Lot 28 and its neighbours prohibits residential development but can, with Western Power's consent, be occupied by a subdivisional road servicing the proposed residential development, which assists the Structure Plan to address the traffic noise from the Freeway and potential bushfire threat from the vegetation (and proposed revegetation) within the easement.

3.0 Structure Plan

The Structure Plan area will predominantly facilitate residential development of the western portion of the subject area which is zoned 'Development' under the City's TPS No.3. The regular shape of the available residential development area enables a simple and legible subdivision layout, based upon two east-west access roads which intersect with Barfield Road, a central north-south access road and an eastern access road proposed within the western margin of the Western Power easement which will connect with a road on the same alignment within the development to the immediate south which forms part of Noble & Co's 'Vivente' estate. The development on the property to the immediate north also has an access road on the same alignment but does not provide for a connection with Lot 28.

The indicative Subdivision Plan which informs the Structure Plan's road layout is capable of delivering up to 46 front loaded residential lots, of which 28 have 12.5m street frontages, 10 have 12m street frontages and the remaining corner lots with lot widths of between 13.6m to 15.7m. North and south facing lots will have 30m lot depth to maximise solar access, whereas due to the Structure Plan area having an east-west dimension of 129.8m, the east and west facing lots will have a 28.6 to 28.7m lot depth.

Lot areas are expected to range from 344m² to 472m² and average around 370m² due to the predominance of the smaller lots. While this average exceeds the R-Code average of 300m², the range of lot sizes reflects the prevailing market demand for lot widths of 12m and 12.5m and ideally lot depth of 30m, the average is inflated by the eight corner lots which have additional width to facilitate side setbacks for the secondary street or, in the case of the two lots affected by BALs emanating from the easement vegetation, further width to mitigate the BAL impact.

Relevant components of the Structure Plan are discussed under Section 3.1 onwards and the "Indicative Subdivision Plan" which informs the Structure Plan is shown below as **Figure 9**.

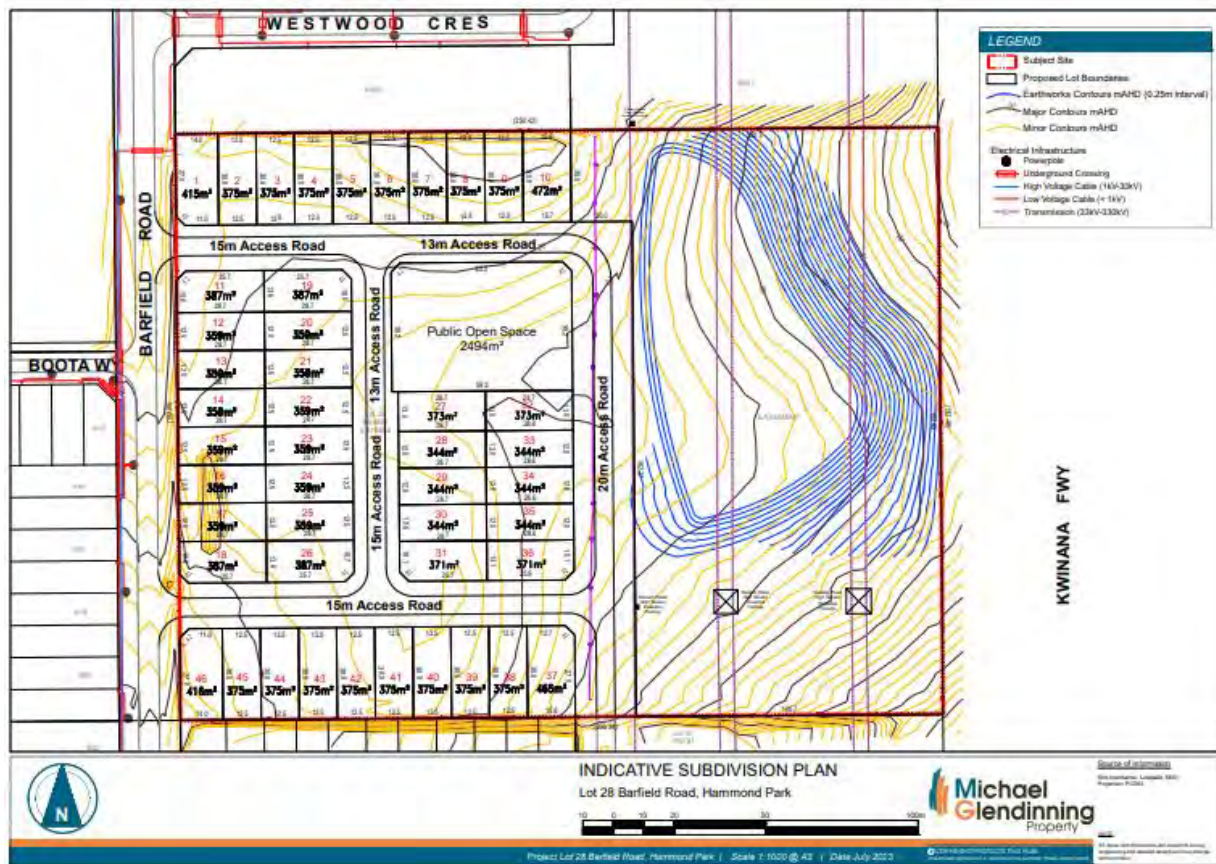


Figure 9: Indicative Subdivision Plan

3.1 Residential

The Structure Plan area will predominantly be developed for Residential purposes. The Structure Plan proposes a residential density code of R30 over the site.

The requirement to achieve a minimum density of 15 dwellings per gross hectare of residential land as outlined in Directions 2031 and Beyond is acknowledged. The target of 26 dwellings per residential site hectare as per the 'Perth and Peel @3.5 Million' strategy released by the WAPC in 2015 is also noted.

The Structure Plan has a gross area of 2.4943ha. Based on a minimum dwelling target of 15 dwellings per gross urban zoned hectare as set out in Directions 2031 and Beyond, the Structure Plan could yield 37 dwellings.

The Structure Plan has a residential area of 1.7064ha. Based on a maximum density target of 26 dwellings per residential site hectare (excluding access roads and POS) as set out in Perth and Peel @ 3.5 Million, the Structure Plan could yield 44 dwellings.

The indicative Subdivision Plan which underpins the Structure Plan achieves a yield of 46 lots/dwellings (refer Figure 9) and therefore satisfies the minimum density targets in Directions 2031 and Beyond, and Perth and Peel @3.5 Million. Based on Greater Perth's average household size of 2.6 persons per dwelling (2016 Census) the estimated population of the Structure Plan area is 120 persons.

3.2 Public Open Space

The proponents of the Structure Plan engaged with the City of Cockburn to explore several options for the location of the POS within the Structure Plan. The City expressed a desire that the POS would contain an area of good quality native vegetation near the north-eastern corner of the Structure Plan area. The proponents and the City met on site and agreed the POS location now evidenced on the Structure Plan and the underlying indicative Subdivision Plan. This location provides a balance of retained vegetation and passive open space for the future residents.

Having reached this bilateral decision, the proponents commissioned a POS concept from Plan E Landscape Architects in October 2023, included as Technical Appendix 7 “Public Open Space Landscape Concept”. Element 4 (Public Parkland) of Liveable Neighbourhoods requires a POS Schedule, provided below:

PUBLIC OPEN SPACE SCHEDULE	
ITEM	DATA
Structure Plan Area	2.4943ha
Area of each land use proposed: <ul style="list-style-type: none"> • Residential • Public Open Space 	2.2449ha (90.0%) 0.2494ha (10.0%)
Public Open Space components <ul style="list-style-type: none"> • Passive/Active Open Space • Retained Vegetation 	0.1482ha (59% of 10%) 0.1012ha (41% of 10%)

3.3 Movement Network

The Structure Plan has direct road frontage on Barfield Road with two proposed full movement priority-controlled access intersections on Barfield Road and a connection to Lot 15 to the immediate south. The traffic analysis undertaken by Transcore and appended as **Appendix 4** shows that the traffic generation of the Structure Plan is relatively low and would not have any significant impact on the surrounding road network. The traffic modelling and analysis undertaken indicates that the projected traffic volumes on all SP internal roads would be less than 1,000 vehicles per day (vpd) and therefore the internal roads would be classified as Access Street D in line with the Liveable Neighbourhoods guidelines.

The basic standard for Access Street D roads is a 6m wide carriageway in a 15m road reserve in accordance with Liveable Neighbourhoods’ requirement for an Access Street D serving less than 1000 vpd.

Currently there is a shared path and a footpath to the west and east side of Barfield Road respectively immediately north of the subject site which has been constructed as part of the development of Lot 29 (the northern Lot). It is expected that similar paths would be provided along Barfield Road fronting the subject site. In accordance with the requirements of Liveable Neighbourhoods, footpaths will be provided on at least one side of every street within the development.

South of the Structure Plan area is the Vivente Dual Use Path through Lot 15 which connects to the commuter PSP on the western side of the Kwinana Freeway. The proponent anticipates providing footpaths on either side of our internal roads, including the 20m road planned within the WP easement which will connect the two developments to provide access to cyclists and pedestrians with access to the Dual Use Path connecting Lot 15 to the Kwinana Freeway PSP.

3.4 Infrastructure and Servicing

The report on Engineering Services provided by DEC (appended as **Appendix 5**) addresses the following:

- Site conditions
- Earthworks and Retaining Walls
- Roads
- Drainage
- Groundwater
- Power
- Water Supply
- Sewer
- Telecommunications Infrastructure; and
- Gas

In summary, DEC's report confirms that all the above services are available to Lot 28 subject to improvements to the property, in particular the filling of the Structure Plan area to facilitate gravity sewer reticulation to connect to existing infrastructure to the west. This and the need to integrate lot levels with Lot 29 to the immediate north and Lot 15 to the immediate south (both of which have excavated sand from the Western Power easement area to fill their lots) is the rationale for the earthworks within the easement indicated on our indicative Subdivision Plan (**Figure 9**) which have been approved by Western Power subject to our compliance with their standard easement conditions.

All roads within the development will be designed and constructed to the City's specifications and it is noted that Barfield Road, which abuts the site on its western boundary, is currently unkerbed on its eastern side and on both sides north of Boota Way and has been kerbed on its western side as part of the adjoining "Vivente" development. Although it is in good condition it will required to be upgraded, kerbed on its eastern side and "urbanized" as part of the development works.

No drainage function is proposed, as the Lot 29 development to the immediate north has a large drainage basin and significant unused area occupied by the power lines which, according to the City's subdivision engineer, has spare capacity to accommodate stormwater drainage from Lot 28.

Groundwater level at the site generally has a peak level at RL23.3m AHD at Barfield Road rising to around RL23.7m AHD at the western side of the power easement. The site levels rise from RL25.5m AHD in the north-west corner of the site to around RL34m AHD in the south-eastern corner of the site abutting the Kwinana Freeway providing a minimum clearance to peak groundwater of some 2.1m.

The land can be connected to all services, either by extension and upgrading from existing infrastructure in Barfield Road. Power, telephone, gas, sewer, water and telecommunications infrastructure already pass along the site frontage, therefore consultation with infrastructure providers has not been necessary.

Telstra, however, has advised that its network has the capacity to absorb the likely incremental customers from this proposal, there are no current known quality issues at the site with the Telstra network, and that there are no identified Telstra Wireless infrastructure upgrade needs in the immediate area.

All residential development along Barfield Road to date has included lots with direct frontage to Barfield Road and, therefore, the opportunity for lots to have direct frontage and access to Barfield Road has also been taken for the Lot 28 Structure Plan.

3.5 Noise Mitigation

The Transportation Noise Assessment provided by Lloyd George Acoustics and appended as **Appendix 6** assesses the noise emanating from the Kwinana Freeway, plots the expected noise levels as they relate to the potential need for affected lots (primarily the easternmost lots facing east toward the Freeway) and considers noise mitigation requirements and response options, which include:

- Package A or B requirements for houses on lots where noise levels exceed 51dB;
- A noise wall at the eastern end of the property, being its boundary with the Kwinana Freeway road reserve; or
- House specific assessment based on the specific design of the house.

These options are addressed in detail in **Appendix 6** and a decision on one or more of the options will be made through the ensuing Subdivision Application process and it is acknowledged that a Local Development Plan or Plans may be required to ensure adequate mitigation measures.