ATTACHMENTS

COUNCIL MEMBERS' AGENDA BRIEFING

to be held at
the Council Chamber (Level 1), Civic Centre,
23 Dundebar Road, Wanneroo
on 09 September, 2025 commencing at 6:00PM

4 APPROVAL SERVICES

4.4 Amendment No. 234 of the District Structure Plan No. 2 - Lot 507 (No. 50) Salerno Drive, Mindarie

City of Wanneroo

DISTRICT PLANNING SCHEME NO. 2

AMENDMENT NO. 234

August 2025

CLE Town Planning + Design

Title	City of Wanneroo District Planning Scheme No. 2 - Amendment No. 234
Prepared for	Tomahawk Property
Date	7 August 2025
Status	Final
Prepared by	CLE Town Planning + Design
CLE reference	3853Rep2A

CLE

PLANNING AND DEVELOPMENT ACT 2005

RESOLUTION TO ADOPT AMENDMENT TO LOCAL PLANNING SCHEME

CITY OF WANNEROO

DISTRICT PLANNING SCHEME NO.2 - AMENDMENT NO. 234

RESOLVED that the local government pursuant to section 75 of the Planning and Development Act 2005, amend the above local planning scheme by rezoning Part Lot 507 Salerno Drive, Mindarie from 'Private Community Purposes' to 'Residential' with a density code of R40, as shown on the Scheme (Amendment) Map.

The Amendment is **standard** under the provisions of the Planning and Development (Local Planning Schemes) Regulations 2015 for the following reason(s):

- The Amendment relates to a zone or reserve that is consistent with the objectives identified in the scheme for that zone or reserve;
- The Amendment would have minimal impact on land in the scheme area that is not the subject of the amendment; and
- The Amendment does not result in any significant environmental, social, economic or governance impacts on land in the scheme area.

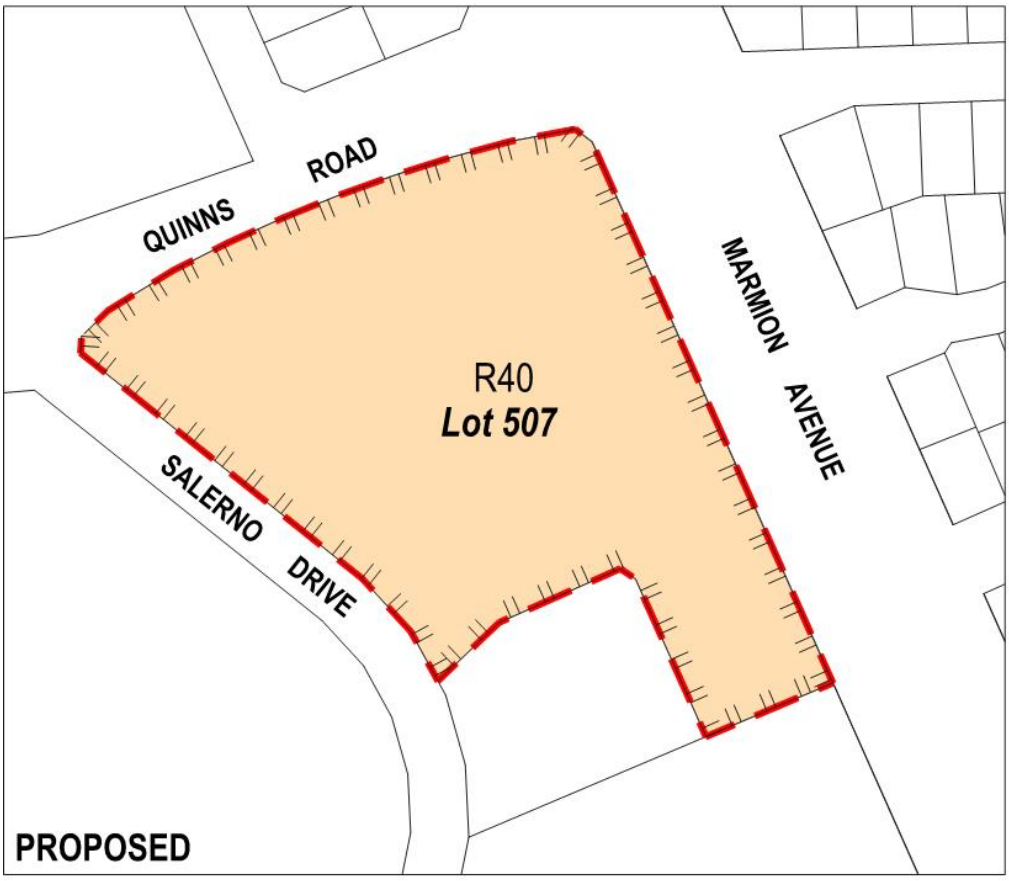
Date of Council Resolution…….

.....

(Chief Executive Officer)

Dated this ……. day of ……. 20……

CLE Town Planning + Design



LEGEND

- Amendment Area

REGION SCHEME RESERVES (MRS)

- Other regional roads

REGION SCHEME ZONES

- Residential
- Commercial
- Private Community Purposes

OTHER CATEGORIES

- R40 Codes

0 20 40 60 80 100m

3853-06-01 03.07.2025 1:2,500 @ A4 only

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PROPOSED DISTRICT PLANNING SCHEME NO.2

50 (Lot 507) Salerno Drive, Mindarie

The Amendment is **standard** under the provisions of the *Planning and Development (Local Planning Schemes) Regulations 2015* because it is:

- An amendment relating to a zone or reserve that is consistent with the objectives identified in the scheme for that zone or reserve;
- An amendment that would have minimal impact on land in the scheme area that is not the subject of the amendment; and
- An amendment that does not result in any significant environmental, social, economic or governance impacts on land in the scheme area.

Date of WAPC Resolution……

.....

(Secretary)

Dated this ……. day of …… 20……

SCHEME AMENDMENT REPORT

AMENDMENT NO. 234

To District Planning Scheme No. 2

August 2025

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FIGURES

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ATTACHMENTS

1.0 INTRODUCTION & BACKGROUND

1.1 Project Overview

This Amendment to the City of Wanneroo's ('the City') District Planning Scheme No. 2 ('DPS 2') has been prepared by CLE Town Planning + Design on behalf of Tomahawk Property, and is applicable to a portion of Lot 507 (50) Salerno Drive, Mindarie ('Lot 507'). The site is owned by the Anglican Schools Commission (Inc) trading as Aglischools.

The Amendment seeks to rezone 2.75ha of the site from 'Private Community Purposes' to 'Residential', with a density code of R40. The remaining 0.5ha of the site is proposed to remain 'Private Community Purposes' and does not form part of this Amendment.

The rezoning will facilitate appropriately located infill within the City and presents a logical and seamless extension of the established Mindarie community. With excellent access to a range of schools, parks, shopping centres and public transport the site is an ideal location to support the delivery of sensitivity located residential development. The Amendment will also facilitate a much-needed increase in housing supply and assist the City with achieving its urban infill targets established under the State planning framework.

Further detail on the Amendment is provided in the following report and accompanying appendices.

1.2 The Site

The Amendment area (or 'site') is comprised of 2.75ha of Lot 507, which is 3.25ha in total area. The site is located at the intersection of Marmion Avenue and Quinns Road, with frontage to a local road network on Salerno Drive.

The site features generally undulating topography, with natural ground levels ranging from approximately 46 metres Australian Height Datum ('AHD') in the southwest to 31 metres AHD in the north-eastern corner. The site is currently vacant and contains areas of remnant vegetation.

The site is subject to an easement in favour of the Water Corporation for the purposes of water, sewerage and drainage. The easement burden relates to a gravity sewer along the eastern boundary of the site and a separate water main running east-west within the Quinns Road reserve. These easement areas can be accommodated as part of future design.

A 0.1m Pedestrian Access Way ('spite strip') exists along the eastern boundary of the site adjacent to Marmion Avenue. The spite strip acts as an access restriction to prevent vehicle access directly onto Marmion Avenue.

The Certificate of Title details the site as Lot 507 on Deposited Plan PO23457, Volume 2162 and Folio 168.

Figure 1: Site Plan (Source: Nearmap)

1.3 Site Context & Location

The land subject to the Amendment is located in the City of Wanneroo local government area, approximately 1.5km north of the Clarkson Secondary Centre, 9.5km north-west of the Joondalup Strategic Metropolitan Centre and 34km north-west of the Perth CBD.

The subject area is bound by Quinns Road to the north, Marmion Avenue to the east, an educational establishment (Quinns Baptist College) to the south and Salerno Drive to the west. North of Salerno Drive is the Quinns Village Shopping Centre, which contains an IGA, pharmacy, post office, newsagency, liquor store, service station and several other specialty retail tenancies. Immediately north-west of the site is Gumblossom Recreation Park, which is approximately 13.4ha in area and provides excellent access to a variety of passive and active public open space for the Amendment area.

West of Salerno Drive is Peter Moyes Anglican Community School ('PMACS'), which is owned and operated by the Anglican Schools Commission (Inc) trading as Aglischools. The subject site was previously earmarked for an expansion of PMACS. However, the entirety of the site is no longer considered necessary for further expansion of the school, with the existing PMACS already accommodating sufficient Kindergarten to Year 12 facilities to meet anticipated demand.

More broadly, Mindarie College is located approximately 350m south-west of the site, which includes a publicly accessible oval providing further opportunities for active recreation in the immediate vicinity. The balance of land in proximity to the site is predominantly zoned 'Residential' with a density code of R20.

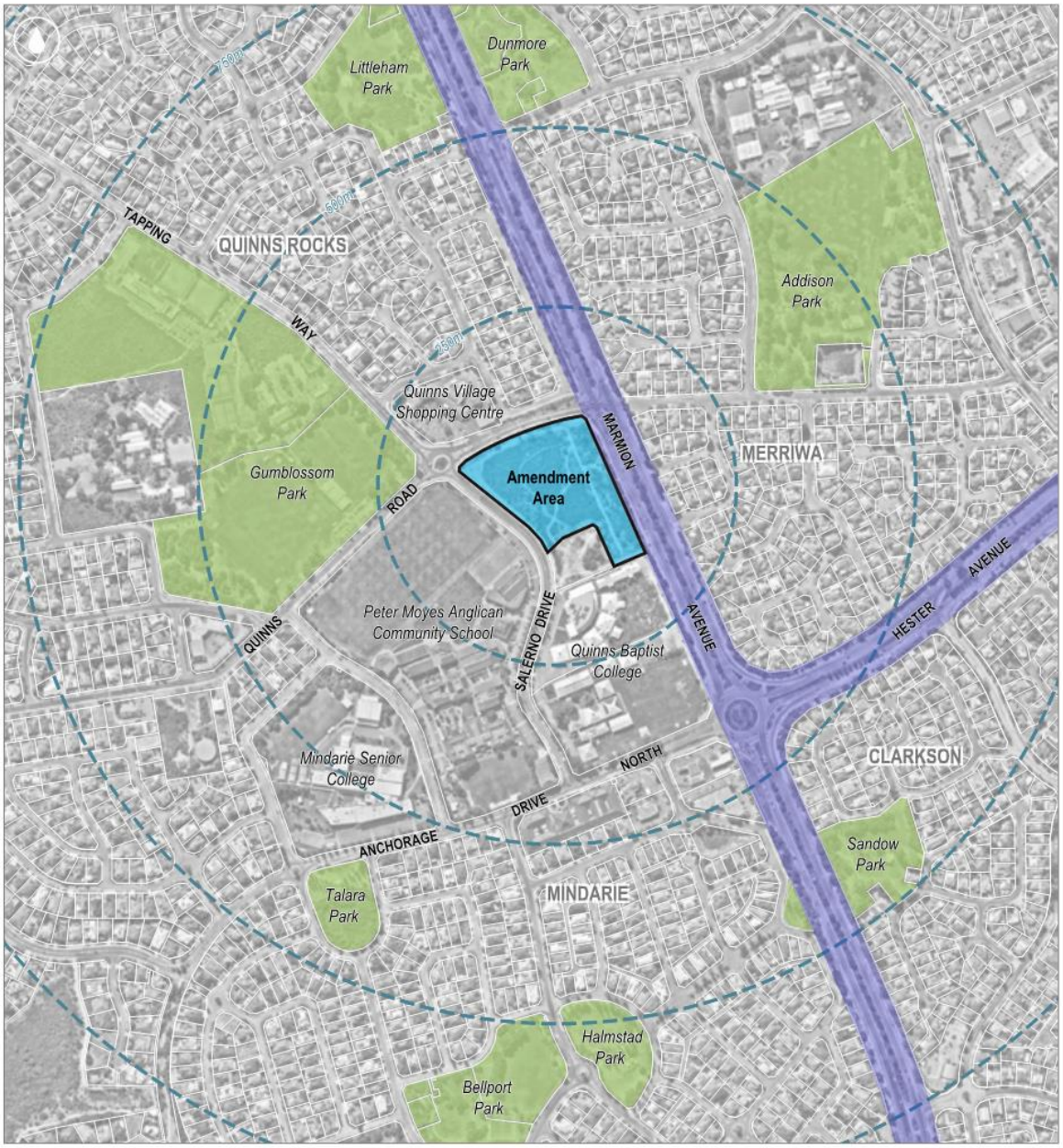


Figure 2: Context Plan (Source: Nearmap)

1.4 Pre-Lodgement Advice

As part of the pre-lodgement consultation process, two meetings were held with the City's officers to inform the preparation of the Amendment—initially on 11 September 2024, and more recently on 17 June 2025.

The City was generally supportive of the proposed rezoning of the site to 'Residential' with a density coding of R40, subject to the Amendment demonstrating consistency with Local Planning Policy 3.1: Housing Strategy and the preparation of technical reports to confirm the site's suitability for residential development. In particular, the City requested attention be paid to addressing traffic from the project to demonstrate it would not result in adverse impacts on the surrounding road network. These matters are addressed below and in the supporting technical appendices.

2.0 PROPOSED AMENDMENT

2.1 Amendment Overview

The Amendment seeks to rezone a 2.75ha portion of Lot 507 under the City's DPS 2 from 'Private Community Purposes' to 'Residential' with a density code of R40.

The purpose of the Amendment is to facilitate future subdivision and development of the land for residential purposes. The remaining 0.5ha in the southwestern corner of the site will be retained as 'Private Community Purposes' for future use associated with PMACS, and consistent with the City's DPS 2.

This Amendment request and the accompanying technical reports demonstrate that the site is well suited to support a rezoning to 'Residential R40', which will facilitate much needed housing supply within an otherwise established area.

The amendment proposes to modify the DPS 2 scheme map to reflect the new zone boundaries and density code. The existing and proposed DPS 2 zoning are illustrated in **Figure 3** and **Figure 4** below.

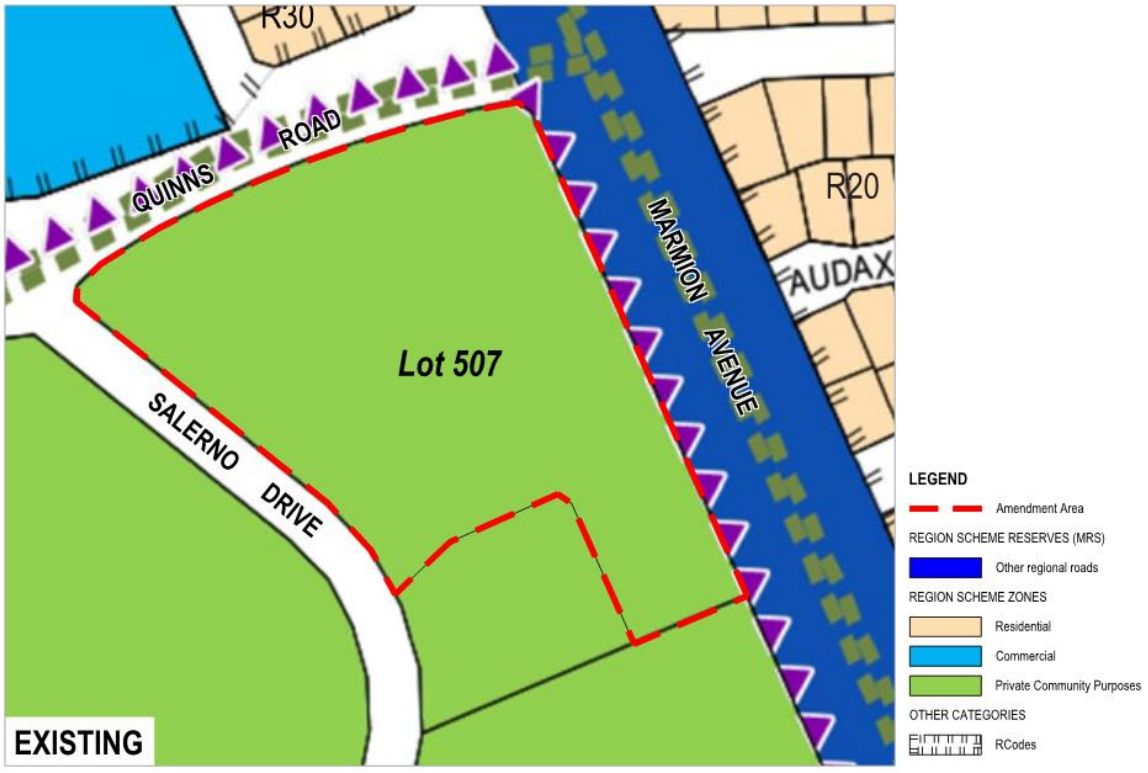


Figure 3: Existing DPS 2 Zoning (Source: DPLH)

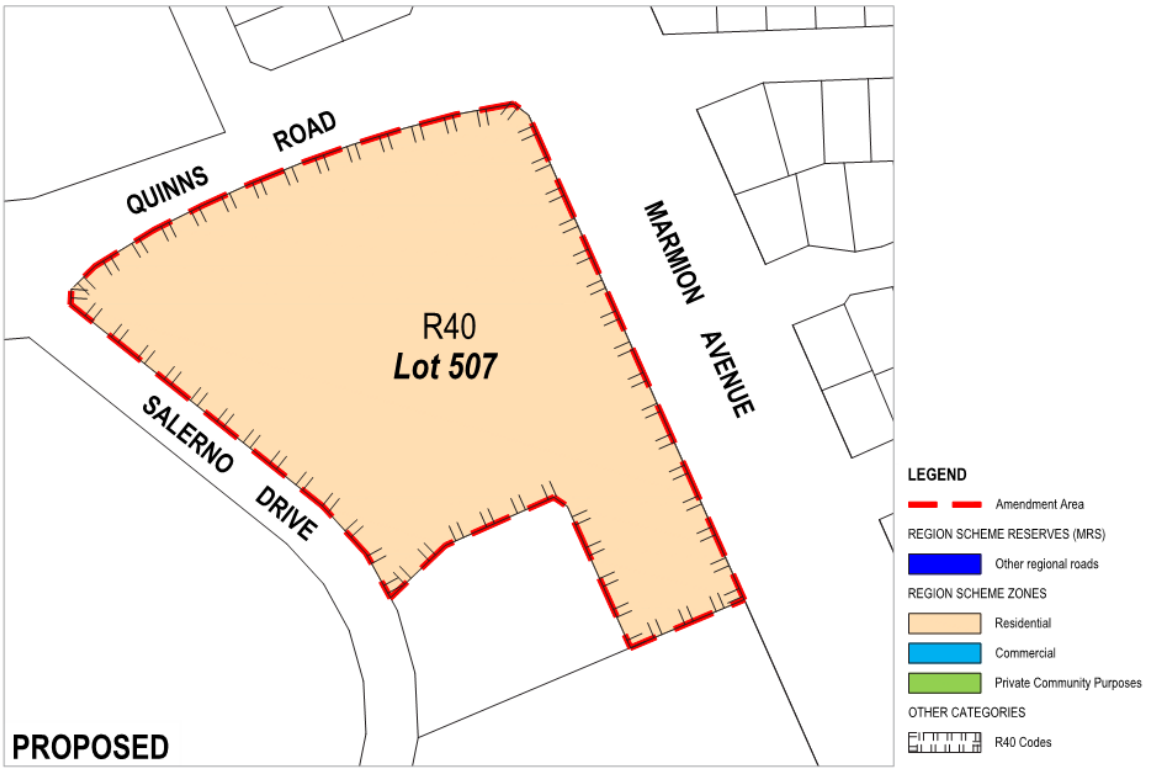


Figure 4: Proposed DPS 2 Zoning (Source: DPLH)

2.2 Type of Amendment (Standard)

Part 5, Clause 34(i) of the *Planning and Development (Local Planning Scheme) Regulations 2015* ('the Regulations') states that a local scheme amendment is defined as 'standard' if the amendment is Consistent with:

- Any local planning strategy for the locality.
- The region planning scheme.
- Poses minimal impact on land in the area which is not subject to the amendment.
- Does not result in any significant environmental, social, economic or governance impacts.

This Amendment responds to the requirements of the City's draft Local Planning Strategy. The Amendment aims to increase housing supply, encourage infill and promote the efficient use of otherwise underutilised land in a well serviced area to meet the needs of the growing population. The Amendment is also entirely consistent with the 'Urban' zoning of the land under the Metropolitan Region Scheme ('MRS').

As outlined in further detail below, the Amendment does not have any impact on the land and its surrounds nor does is result in any significant environmental, social, economic or governance impacts to the locality. Rather, the Amendment will facilitate future residential development to support the City in achieving its infill dwelling target set out in the North-West Sub-regional Planning Framework, whilst delivering a range of social and economic benefits through a sensitivity located expansion of the Mindarie community.

It is therefore requested that the City confirm that the Amendment will be defined as 'standard' and will be processed in accordance with the procedures set out in Part 5; Division 4 of the Regulations.

3.0 PLANNING CONTEXT

3.1 Strategic Planning Framework

North-West Sub-regional Planning Framework

The *Perth and Peel @ 3.5 million and Beyond* ('the Frameworks') suite of policies forms the spatial framework and strategic plan for the Perth and Peel regions. Its purpose is to establish a blueprint for supporting a population of 3.5 million people by 2050 through the implementation of four sub-regional planning frameworks.

Land within the City of Wanneroo and the adjoining City of Joondalup is subject to the North-West Sub-regional Planning Framework. The sub-region is forecast to increase in population to approximately 740,000 people by 2050. Most of this growth is anticipated to occur within the City of Wanneroo, given the availability of undeveloped 'Urban' zoned land and continued demand for coastal living.

Whilst the City is expected to see continued greenfield growth into the future to support the Frameworks and its Connected City model, urban infill dwelling targets are also established for all local government areas. The City has an infill dwelling target of 27,920 dwellings by 2050 to accommodate a further 61,430 residents. Urban infill is considered critical to the growth of the Perth and Peel regions in appropriately located areas to maximise the use of existing infrastructure and economies of scale for provision of transport and service infrastructure, in addition to supporting established local economies. The Frameworks identify the site as 'Urban undeveloped'.

The sites classification as 'Urban Undeveloped', in addition to its proximity to existing shops, public open space, community infrastructure and public transport makes it ideal for residential development and to support the City's infill targets.

Figure 5: The Frameworks Extract, Plan 2: Consolidated urban form (Source: DPLH)

Draft Local Planning Strategy

The City has prepared a draft Local Planning Strategy ('the Strategy') which was endorsed by Council on 27 May 2025, subject to modifications, and is currently under consideration by the Western Australian Planning Commission ('WAPC').

The Strategy map identifies the site as being within an 'Existing Urban' area and does not identify the site within any specific 'Planning Areas'. The Strategy responds to the State Planning Framework, including the Sub-Regional Framework, by supporting urban consolidation, increasing housing supply and promoting the efficient use of underutilised land through greenfield and infill development.

The proposed Amendment supports the broader objectives of the Strategy by delivering well-located residential development close to existing services, including educational and retail services, and public open space, which are all within a 400m walkable catchment of the site. The site is favourably located adjacent to the Quinns Village Neighbourhood Shopping Centre, which caters to the day-to-day shopping needs of the locality and supports a range of local businesses. PMACS, Quinns Baptist School, Mindarie Secondary College and Gumblossom Park are also all adjacent to the site, providing convenient access to a range of social and community infrastructure.

The Strategy outlines a place-based approach to development, where housing is delivered to meet the needs of a growing population and diverse community. The Strategy supports a focus on amending DPS 2 in the short term to increase the rate of infill in existing suburbs to maximise existing infrastructure and amenities. The proposed Amendment will contribute to a more consolidated and connected suburban neighbourhood and support the existing Mindarie community.

Ultimately, the Amendment will facilitate future development of the site to meet the objectives of the Strategy by supporting strategically located and coordinated infill that will enhance the local community.

3.2 Statutory Planning Framework

Metropolitan Region Scheme

The site is zoned 'Urban' under the MRS, reflecting its identification under the Frameworks as 'Urban Undeveloped'. The Urban zone seeks to provide for residential development and associated local employment, recreation and open space, shopping, schools and other community facilities. The Amendment is entirely consistent with the sites current zoning under the MRS.

Figure 6: Metropolitan Region Scheme Map Extract (Source: DPLH)

District Planning Scheme No. 2

The Amendment area is currently zoned 'Private Community Purposes' in the City's DPS 2, reflecting the historical intent for the site to be developed to support expansion of PMACS, or other uses typically compatible with the education industry. The objectives of the 'Private Community Purposes' zone are to:

- *To provide sites for privately owned and operated recreation, institutions and places of worship.*
- *To integrate private recreation areas with public recreation areas wherever possible.*
- *To separate potentially noisy engine sports from incompatible uses.*
- *To provide for a range of privately owned community facilities, and uses that are incidental and ancillary to the provision of those facilities, which are compatible with surrounding development.*
- *To ensure that the standard of development is in keeping with surrounding development and protects the amenity of the area.*

The zone is intended to accommodate a range of typically intensive and large-scale forms of development, including not only private schools but also private recreation facilities. DPS 2 includes the following land uses that can be considered within the zone subject to development approval: education establishment, exhibition centre, hospital, hotel, place of worship and reception centre. As set out throughout this report, the Amendment will facilitate a less intensive from of development that is both sympathetic to, and in keeping with its location.

Figure 7: District Planning Scheme No.2 Existing and Proposed Zoning (Source: DPLH)

The purpose of the Amendment seeks to rezone 2.75ha of the site to 'Residential' with a density code of R40. The objectives of the residential zone are to:

- *To provide for a range of housing and a choice of residential densities to meet the needs of the community.*
- *To facilitate and encourage high quality design, built form and streetscapes throughout residential areas.*
- *To provide for a range of non-residential uses, which are compatible with and complementary to residential development.*

A Concept Plan has been prepared, refer **Figure 8**, to demonstrate one way in which the site could be developed for residential purposes, noting this would be determined at subdivision stage consistent with the objectives of the zone. The Plan demonstrates how the site can be developed to support a small residential enclave that is integrated with the surrounding land uses. The Concept Plan suggests that residential development of the site could yield approximately 55 dwellings. Development of the site for Residential purposes is consistent with the objectives of the 'Residential' zone.

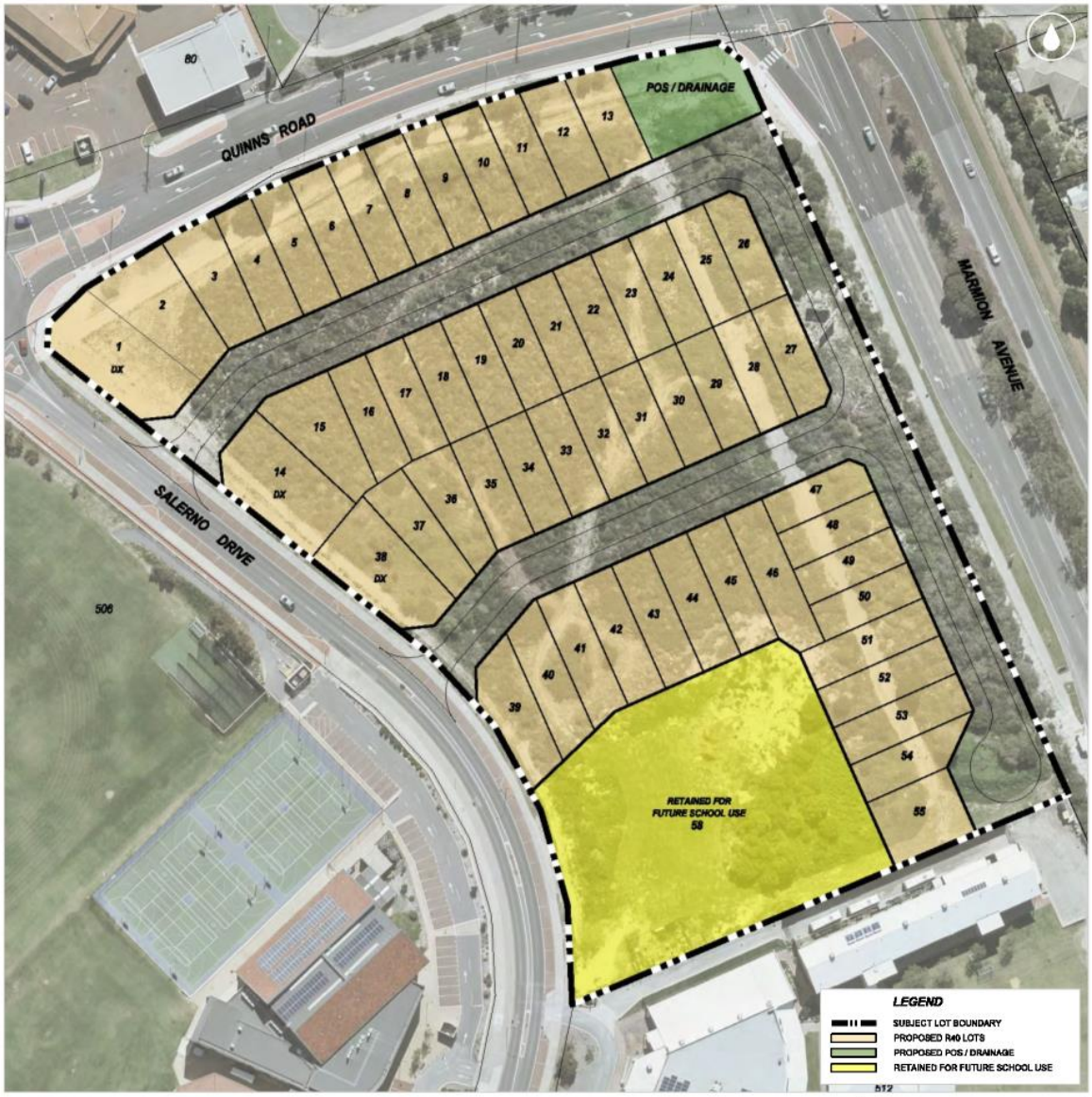


Figure 8: Concept Plan (Source: Tomahawk Property)

Local Planning Policy 3.1: Local Housing Strategy

The City's Local Planning Policy 3.1: Local Housing Strategy ('LPP 3.1') seeks to provide a framework to guide the planning and development of increased housing density in existing suburbs within the City. The objectives of the policy are:

1. *To address State government policy to increase housing density within the existing urban footprint of the metropolitan region and meet State Government infill housing targets;*
2. *To address housing affordability within the City by providing a variety of housing stock;*
3. *To better utilise existing infrastructure and amenities in existing suburbs by providing additional dwellings in close proximity; and*
4. *To promote higher density development in appropriate locations.*

LPP 3.1 is set out in two parts, being 'Part 1: Housing Precincts' and 'Part 2: Other Infill Development'. The Amendment area is not located within an identified 'Housing Precinct' and is therefore subject to the criteria within Part 2 of the policy.

Part 2: Other Infill Development requires a proposal to demonstrate the following:

1. How the proposal meets the planning requirements detailed in Table 1 (refer below); and
2. How the proposal supports the objectives and recommendations of LPP 3.1.

An assessment against the relevant criteria is set out below.

Table 1: Criteria for other Infill Development & Increased Density

No.	Criterion Detail	Policy Application	Applicant Comment
1.	Easy Access / Close proximity to Activity Centres	This criterion has been applied based on walkable distances as follows: a. R60 within 400m from an edge of an Activity Centre excluding Local Centres. b. R40 between 401m and 800m from an edge of Activity Centre excluding Local Centres.	The subject site is approximately 30m-260m from the Quinns Village Neighbourhood Centre and is therefore suitable for development at an R40 density Code with easy access provided to an Activity Centre. Noting the surrounding area comprises a predominantly lower density suburban character and there is access to a range of schools and open space more suitable to family household typologies, development at a compact R60 density is not considered suitable in the context of this site.
2.	Easy Access / Close proximity to public transport with priority towards rail nodes and bus interchanges.	This criterion has been applied based on walkable distances as follows: a. R80 within 250m from the entry of a rail station and R60 between 401m and 800m from the entry of a rail station. b. R60 within 250m of a high frequency bus route designated stops ('High Frequency Bus Routes') are defined as having a minimum of 4 services per hour during peak periods.	The Amendment is not seeking to rezone the land to R60 or higher and therefore this clause is not applicable.

The Amendment satisfies the criteria for a Residential zoning with a supporting R40 density code with regard for the site's location and access to Activity Centre's and other supporting amenities.

LPP 3.1 also requires confirmation regarding the sites access to service infrastructure, consideration of potential traffic impacts and a Concept Plan to demonstrate how the site may potentially be developed. These matters are addressed elsewhere within this report and demonstrate the site is suitable for being rezoned for residential purposes.

In summary, the Amendment is consistent with the objectives of LPP 3.1, as it provides for additional housing density within the City's exiting urban footprint and provides for an increase in housing supply to support housing affordability. The R40 density is appropriate and will allow for a range of medium density dwelling typologies to be delivered with block sizes ranging from 180m² (minimum lot size) to 439m² (non-subvisible R40 coded lot) to support the prevailing market conditions.

4.0 TECHNICAL INFORMATION

4.1 Traffic

A Traffic Impact Assessment ('TIA') was prepared by PJA Transport Consultants to support the proposed Amendment, which is included as **Attachment 1**. The assessment was undertaken in accordance with the WAPC's *Transport Impact Assessment Guidelines – Volume 2: Planning Schemes, Structure Plans and Activity Centre Plans*.

The TIA confirms that the site is well-suited for infill residential development, benefiting from high-quality access to existing pedestrian and cycling networks, as well as established bus services that connect to key local amenities, including Clarkson and Butler train stations and surrounding activity centres.

Importantly, the TIA concludes that redeveloping the site for residential purposes would result in lower overall traffic volumes in the area. This is compared to development of the site for educational purposes, as historically intended and envisaged under the sites current DPS 2 zoning. In particular, residential development generates significantly lower peak hour traffic, with vehicle trips distributed more evenly throughout the day.

Based on the proposed concept plan, a 55-dwelling residential development would generate approximately 440 vehicle trips per day, with around 45 vehicle trips during the AM peak period and 55 vehicle trips during the PM peak period. This equates to an estimated traffic increase of approximately 3.6% on Quinns Road and Marmion Avenue, and 6.0% on Salerno Drive. In accordance with the WAPC's TIA guidelines, traffic increases of less than 10% are not expected to have a material impact on the surrounding road network.

Overall, rezoning the site to 'Residential' represents a more sympathetic use of the site from a traffic generation perspective than what is currently envisaged by DPS 2, and will result in no adverse impacts on the surrounding road network.

4.2 Environmental

An assessment of the existing vegetation type and condition was undertaken by PGV Environmental to confirm the suitability of rezoning the site to 'Residential', noting it's already zoned for a range of intensive forms of development in accordance with the 'Private Community Purposes' zone. The report is included as **Attachment 2**.

The investigations concluded the following:

- The main vegetation type on the site is a native Parrot Bush, which is common in proximity to the City's coastline. Parrot Bush is not part of any state or Commonwealth listed Threatened Ecological Community.
- The condition of the Parrot Bush ranges from 'good' to 'very good'.
- There is very little possibility that any threatened plant species would occur on the site as few threatened species grow in Parrot Bush vegetation.
- The Parrot Bush on the site does have foraging value for Carnaby's Black Cockatoo. There are no roosting or breeding habitat trees on the site.
- If more than 1ha of the Parrot Bush is required to be cleared a referral to the Commonwealth Department of Climate Change, Energy, the Environment and Water may be required. This is a separate referral process to the DPS 2 Amendment.

The assessment concluded that the presence of remnant native vegetation on the site does not present a constraint to development at the State level. It is also noted that the current DPS 2 zoning already allows for more intensive development irrespective of this rezoning proposal.

Should future, more detailed on-site assessments indicate that a Commonwealth referral is required, this is a separate approval process that can be progressed independently of the DPS 2 Amendment. Preliminary advice indicates that, if a referral was required, it is likely that a full environmental assessment would not be necessary.

4.3 Engineering

An Engineering and Servicing report has been prepared by Porter Consulting Engineers to demonstrate the site can support a rezoning to 'Residential' with a supporting density code of R40, to satisfy the requirements of the City's LPP 3.1. The report is included as **Attachment 3** and can be summarised as follows:

Siteworks

Clearing works will be required across the lot and organic materials removed from the site. Topsoil is expected to be around 150mm deep across the areas with existing vegetation, which shall be removed and disposed of off-site.

Due to existing presence of medium strength limestone across the site at approximately 1.2m below natural ground level, the volume of cut across the site will be limited. It is anticipated that the site will follow the natural fall across the site from south to north, with clean fill used to support the required grades, where required.

Sewer

Water Corporation records show an existing gravity sewer network within the proposed Amendment area. The gravity sewer extension will be constructed to Water Corporation standard and handed over to Water Corporation on completion of the works. Water Corporation advice confirms that an extension of the network can facilitate the proposed development.

Water Supply

The Amendment area can be provided with reticulated water with an existing potable water supply in the western verge of Salerno Drive. Advice received from Water Corporation confirms that an extension of the existing network is available.

Power Supply

A power supply can be provided via connection to the existing underground high voltage infrastructure in the southern verge of Quinns Road, which is the expected point of supply. The proposed development of the site for residential purposes is expected to require a power demand of approximately 200kVA, which is anticipated can be provided from the existing Western Power system.

Gas

Existing ATCO Gas infrastructure is present within the western verge of Salerno Drive. It is anticipated that an extension of the existing gas service will be extended throughout the site.

4.4 Bushfire

The site is currently mapped as bushfire prone due to its undeveloped state. However, the site is already zoned 'Private Community Purposes', which allows for a range of intensive land uses. As such, the Amendment is not considered to result in an intensification of development or land use greater than what is already permitted under the existing DPS 2 zoning. Therefore, application of *State Planning Policy 3.7: Planning in Bushfire Prone Areas* is not applicable.

Nonetheless, to ensure a comprehensive assessment, a Bushfire Report has been prepared by Bushfire Prone Planning in support of the Amendment, which is included as **Attachment 4**. The report confirms that the site can be developed in a manner that complies with bushfire planning requirements, and that all proposed lots will achieve a post-development Bushfire Attack Level ('BAL') rating of BAL-29 or lower.

5.0 CONCLUSION

This Amendment to the City of Wanneroo's District Planning Scheme No. 2 seeks to rezone 2.75ha of Lot 507 (50) Salerno Drive, Mindarie from 'Private Community Purposes' to 'Residential 40'.

The Amendment follows a decision of the Anglican Schools Commission (Inc) trading as Anglischools that the land is not required for expansion of Peter Moyes Anglican Community School, with the existing school facilities sufficient to accommodate current and future demand.

The Amendment will support sensitivity located infill development that is in-keeping with the character and context of Mindarie, and is considered appropriate given the established urban context of the surrounding area and access to existing services and amenities. The Amendment aligns with the objectives of the state and local planning framework, including the North-West Sub-regional Planning Framework, the City's draft Local Planning Strategy and Local Planning Policy 3.1: Local Housing Strategy.

A range of technical reports have been prepared in support of the Amendment along with an indicative Concept Plan, further demonstrating that the site is suitable for residential development that will seamlessly integrate with the surrounding area.

We therefore respectively request that the proposed Amendment be supported, for the reasons outlined in this report.

PLANNING AND DEVELOPMENT ACT 2005

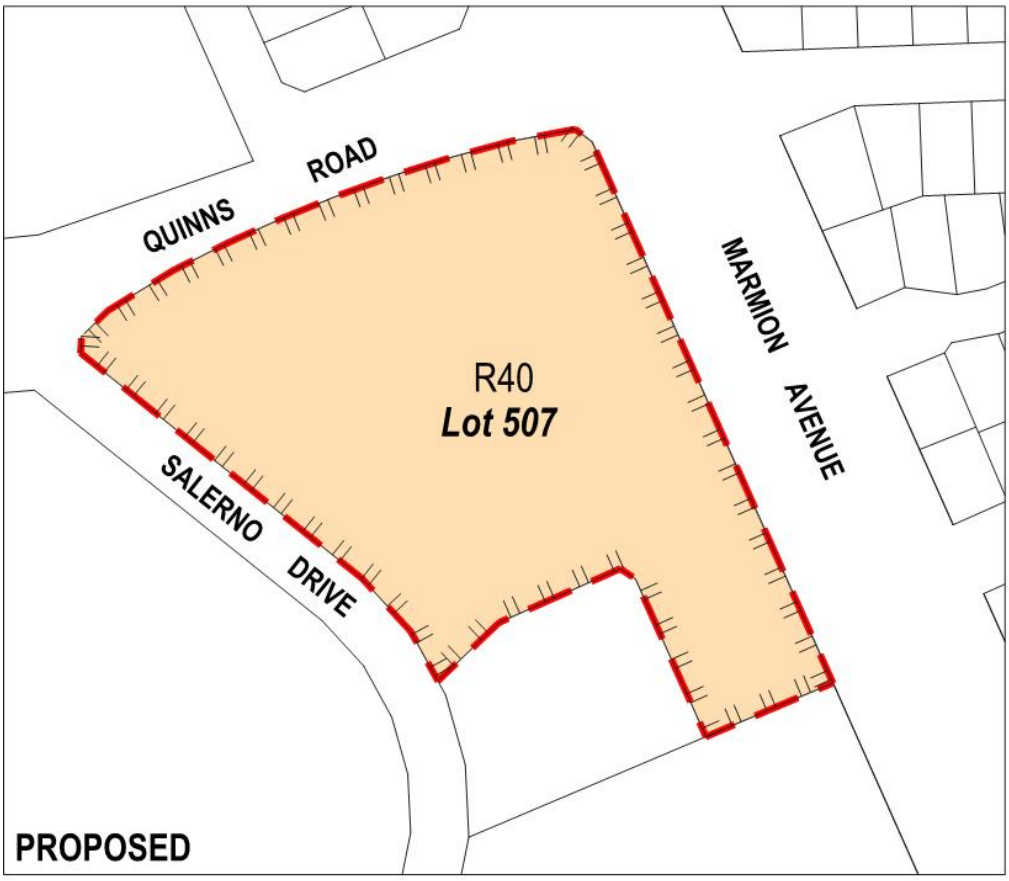
CITY OF WANNEROO

DISTRICT PLANNING SCHEME NO. 2 - AMENDMENT NO. 234

The City of Wanneroo under and by virtue of the powers conferred upon it in that behalf by the Planning and Development Act 2005 hereby amends the above local planning scheme by:

Amending Part Lot 507 (50) Salerno Drive, Mindarie from 'Private Community Purposes' to 'Residential' with a density code of R40, as shown on the Scheme (Amendment) Map.

CLE Town Planning + Design



LEGEND

- Amendment Area

REGION SCHEME RESERVES (MRS)

- Other regional roads

REGION SCHEME ZONES

- Residential
- Commercial
- Private Community Purposes

OTHER CATEGORIES

- R40 Codes

0 20 40 60 80 100m

3853-06-01 03.07.2025 1:2,500 @ A4 only

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PROPOSED DISTRICT PLANNING SCHEME NO.2

50 (Lot 507) Salerno Drive, Mindarie

COUNCIL ADOPTION

This Standard Amendment was adopted by resolution of the Council of the City of Wanneroo at the Ordinary Meeting of the Council held on the [number] day of [month], 20[year]

.....

MAYOR

.....

CHIEF EXECUTIVE OFFICER

COUNCIL RESOLUTION TO ADVERTISE

By resolution of the Council of the City of Wanneroo at the Ordinary Meeting of the Council held on the [number] day of [month], 20[year], proceed to advertise this amendment.

.....

MAYOR

.....

CHIEF EXECUTIVE OFFICER

COUNCIL RECOMMENDATION

This Amendment is recommended for [support with/without modification or not support] by resolution of the City of Wanneroo at the Ordinary Meeting of the Council held on the [number] day of [month], 20[year], and the Common Seal of the City of Wanneroo was hereunto affixed by the authority of a resolution of the Council in the presence of:

.....

MAYOR

.....

CHIEF EXECUTIVE OFFICER

WAPC RECOMMENDATION FOR APPROVAL

.....

DELEGATED UNDER S.16 OF

PD ACT 2005

DATE .....

Approval Granted .....

MINISTER FOR PLANNING

DATE .....

ATTACHMENT 1

Traffic Impact Assessment (PJA)

The Anglican School Commission Incorporated

Lot 507 (#50) Salerno Drive, Mindarie

District Planning Scheme No.2 Amendment

July 2025

Project Code: 09265

Version	Date	Main Contributor	Issued by	Approved by
A - Draft	27 June 2025	Gary Soo	Tanya Moran	Tanya Moran
B- Final	01 July 2025	Tanya Moran	Tanya Moran	Tanya Moran

Prepared for

Tom Carmody
Director
The Anglican School Commission Incorporated
c/o Tomahawk Property
8/355 Stirling Highway
Claremont WA
6010

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Appendices

1 Introduction

1.1 Background

Tomahawk Property, on behalf of The Anglican School Commission Incorporated, has commissioned PJA Australia Pty Ltd to prepare this Transport Impact Assessment (TIA) in relation to the proposed development site located on Lot 507 (#50) Salerno Drive in Mindarie, Western Australia. The site sits under the jurisdiction of City of Wanneroo.

Specifically, this TIA has been prepared to accompany a proposed amendment to the current City of Wanneroo's District Planning Scheme No.2 (DPS2). The DPS2 amendment proposes a portion of the land be rezoned from its current designation as 'Private Community Purposes' which could be yet another school in the area, to instead be rezoned 'Residential'.

This assessment has been prepared in accordance with the Western Australian Planning Commission (WAPC) *Transport Impact Assessment Guidelines Volume 2 – Planning Schemes, Structure Plans & Activity Centre Plans (2016)*, which is the most appropriate level of TIA for a proposed DPS2 Amendment.

Under the WAPC Guidelines for TIAs, a DPS2 Amendment requires a 'broad brush' assessment of the impacts of the development. Accordingly, this scheme amendment report sets out recommendations suitable for the current rezoning planning process and subject to the DPS2 amendment being ultimately supported by WAPC.

The scope of this 'broad-brush' TIA has been developed in consultation with City of Wanneroo and the agreements on content and scope of assessments have been fully adhered to within this report.

The potential yield of the development site (the Site) in terms of developable land use, is expected to be:

- Residential Lots = 55 residential lots
- Community School = 5,001m^2 (area not included in this application, see below).

The location of the Site in relation to the immediate surrounding road network is shown on **Figure 1-1**. It should be noted that this proposed DPS2 Amendment is looking to rezone the land area designated for residential lots only while the land area that is already designated for Community School will remain unchanged as 'Private Community Purposes' and therefore as agreed with the City of Wanneroo, does not need to form a part of this TIA.

It is also noted that typically any residential development less than 100 dwellings would only require a Traffic Impact Statement (TIS) due to its anticipated 'moderate impact' as defined within the

WAPC Guidelines. This scheme amendment proposal is well below 100 dwellings (~55 dwellings) and therefore would traditionally require a TIS as it will not have a 'high' impact, but for the purposes of this document, we have called the report a TIA as is noted for district level scheme amendments.

Figure 1-1: Site Location

Base map source: Nearmap

1.2 Summary of TIA

In accordance with the WAPC Guidelines, this report sets out the details of the proposed DPS2 scheme amendment, the key transport issues and impacts related to the development of the Site from a residential traffic generation perspective including the current level of accessibility by road, public transport, cycle and on foot.

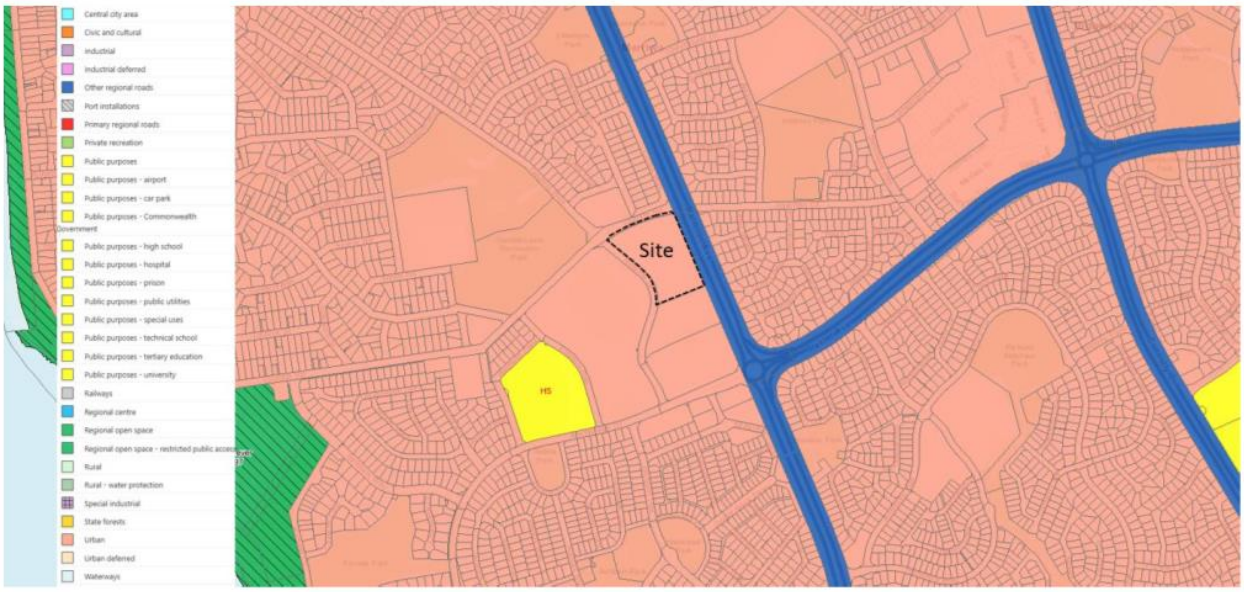
This TIA identifies where the level of accessibility and infrastructure is acceptable and where it is found to be deficient, sets recommendations to improve these areas to a suitable level where required and appropriate for this future development.

1.3 Regional and Local Policy Context

Metropolitan Region Scheme (MRS)

The Site area is currently zoned 'Urban' under the MRS and is located immediately west of Marmion Avenue, a 'Other regional roads', surrounded by land currently zoned as 'Urban'. The *Mindarie Senior College* to the west of the Site is zoned as 'Public purposes – high school'.

Figure 1-2: MRS Zone



Source: Department of Planning, Lands and Heritage PlanWA Map Viewer

City of Wanneroo District Planning Scheme No.2

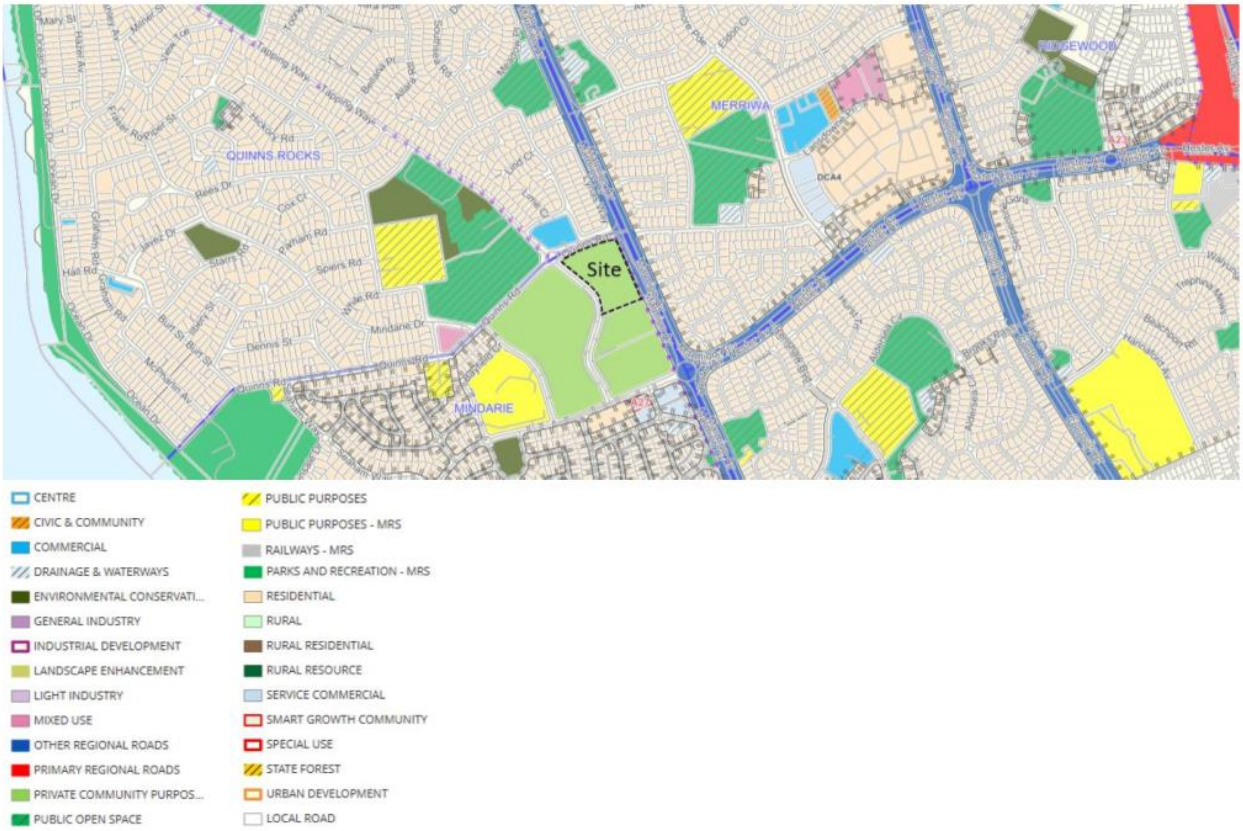
Under the provisions of the DPS2 the site area is currently zoned as 'Private Community Purposes'. To the south of Site, there is the existing *Quinns Baptist College* and *Peter Moyes Anglican Community School*, both which are zoned as 'Private Community Purposes'. The parcel of land adjacent to the *Peter Moyes Anglican Community School* is zoned as 'Public Purposes (High School)' and is in use as *Mindarie Senior College*.

The parcel of land to the north of *Mindarie Senior College* is zoned as 'Mixed Use' and is used for *Quinns Medical Health Hub*.

The parcel of land to the north of the Site is zoned as 'Commercial' and is used for *Quinns Village Shopping Centre*.

The majority of the land surrounding the Site is predominantly zoned as 'Residential'. **Figure 1-3** illustrates the DPS2 area zoning.

Figure 1-3: City of Wanneroo District Planning Scheme No.2



Source: City of Wanneroo

2 Existing Situation

2.1 Existing Site Context and Land Uses

The Site is located at the southwest corner of the intersection of Marmion Avenue / Quinns Road within City of Wanneroo jurisdiction. The Site is currently vacant and approximately 3.25ha in area. It is adjacent to *Quinns Baptist College, Peter Moyes Anglican Community School* and *Quinns Village Shopping Centre*. Other than that, the Site is predominantly surrounded by residential area.

While the Site could be developed as a school, the rezoning proposal to residential would in fact decrease the peak hour and daily number of vehicular trips that would be generated on the road network. As such the rezoning to residential, a less intense traffic generating land use, is seen as a positive outcome for the area.

2.2 Existing Road Network

A TIA for Scheme Amendment or Structure Plan usually require assessing the existing road network within a minimum of 2.0 kilometres from the site boundaries. However, given the small scale of the Site and the very low yield, the impact of the proposed DPS2 amendment is minimal in the context of other uses in the surrounds. As such, the extent of the assessment for the road network adjacent to the Site are:

- Marmion Avenue
- Quinns Road
- Salerno Drive.

The characteristics of the adjacent road network fronting the Site is summarised in **Table 2-1**. The road hierarchy, speed classification and Restricted Access Vehicles (RAV) Network mappings for the adjacent road network are shown in **Figure 2-1**, **Figure 2-2** and **Figure 2-3**.

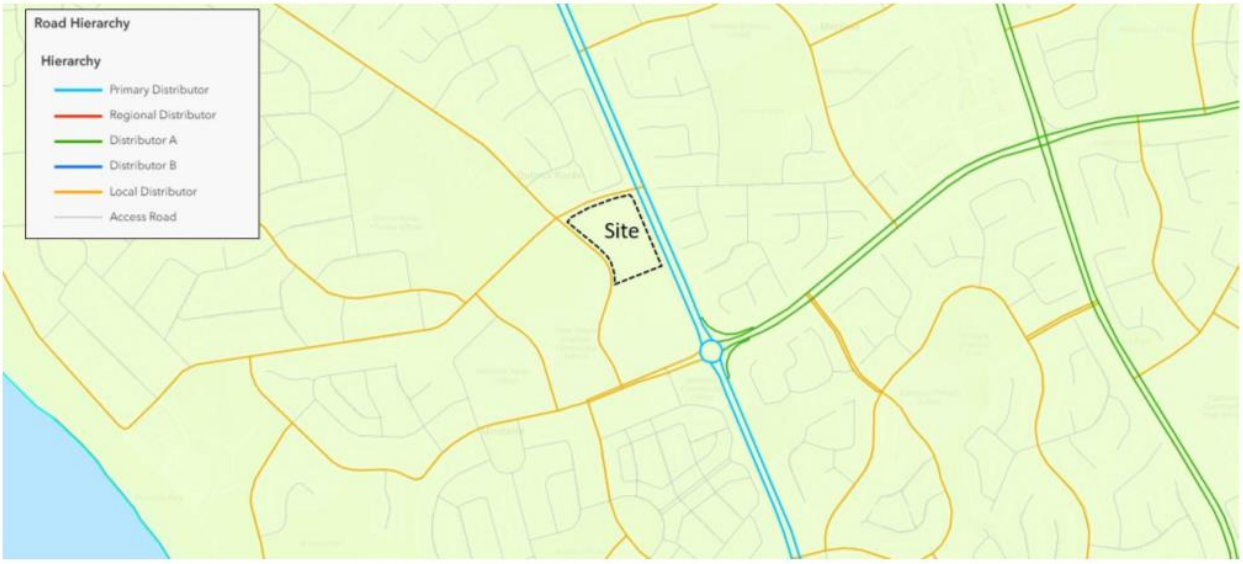
Table 2-1: Existing Road Network Characteristics

Road	Marmion Avenue	Quinns Road	Salerno Drive
Jurisdiction	Main Roads WA	City of Wanneroo	City of Wanneroo
Road Hierarchy	Primary Distributor	Local Distributor	Local Distributor
Carriageway	Four-lane Two-Way median divided dual carriageway	Median divided carriageway	Undivided single carriageway, median divided around the bend
Pavement Width	7m wide on each direction	**Eastbound** 6.6m wide two-lane carriageway **Westbound** 4.3m wide single lane carriageway	7.4m wide carriageway
Pathway	**West** 2.5m concrete shared path **East** 2m red asphalt cycle lane	**North** 2.5m concrete shared path **South** 1.5m pedestrian path	2m concrete shared path on both sides
Cycle Facilities	1.5m wide on-street bike lanes on both directions	2.5m concrete shared path	2m concrete shared path on both sides
Parking Facilities	None	None	Embayed parking on both sides
Posted Speed Limit	70 km/h	Default 50 km/h for built up areas, subject to 40 km/h school zone	Default 50 km/h for built up areas, subject to 40 km/h school zone
RAV Network	NA	NA	NA
Existing Traffic Volumes	41,350 vehicles per day[1]	12,000 vehicles per day[1]	3,578 vehicles per day[2]

[1] Estimated based on intersection of Marmion Avenue / Quinns Road SCATS data (19/06/23 – 23/06/23)

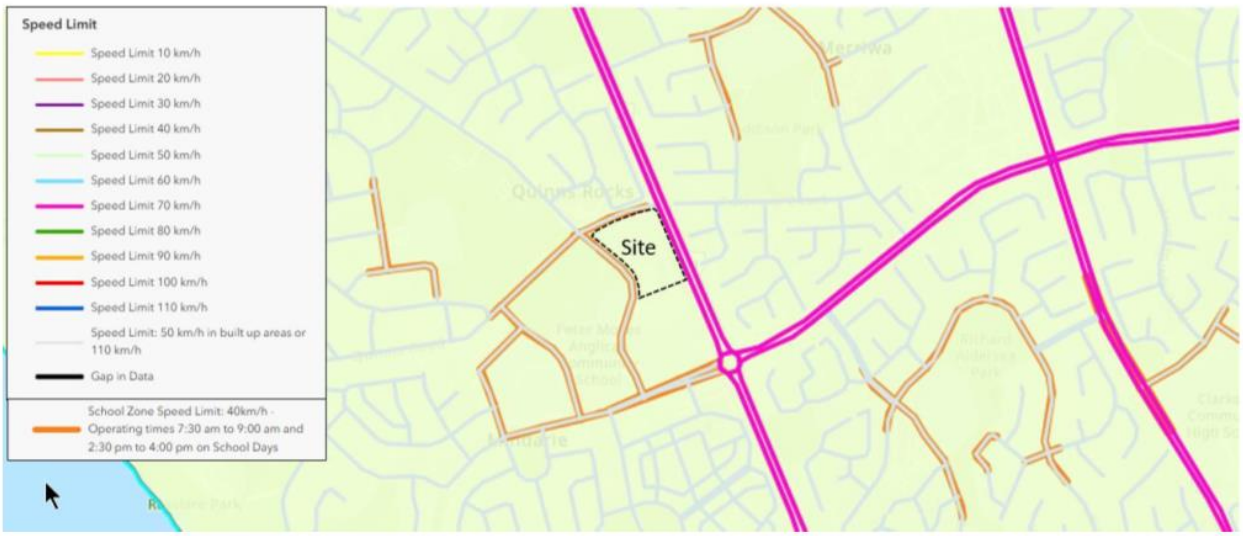
[2] Based on traffic count provided by City of Wanneroo (19/05/23 – 29/05/23)

Figure 2-1: Main Roads WA Road Hierarchy



Source: Main Roads WA Road Information Mapping System

Figure 2-2: Main Roads WA Speed Classifications



Source: Main Roads WA Road Information Mapping System

Figure 2-3: Existing RAV Network

Source: Main Roads WA RAV Network Mapping System

2.3 Existing Key Intersections

The following key intersections, providing access to the wider road network, adjacent to the Site are as follows:

- Marmion Avenue / Quinns Road
- Quinns Road / Salerno Drive / Tapping Way.

Figure 2-4: Existing Key Intersections into Site

Base map source: Nearmap

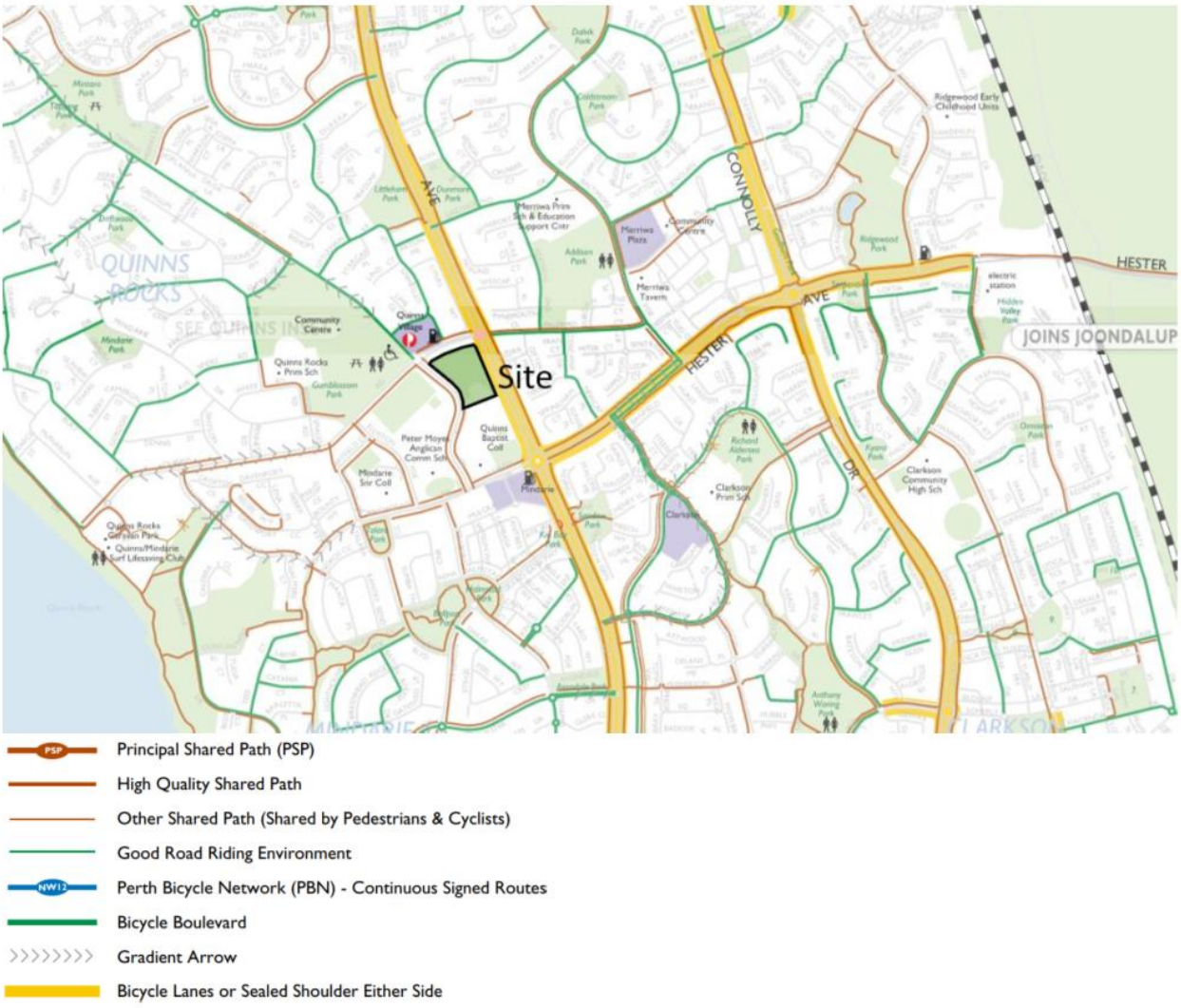
2.4 Existing Pedestrian / Cycle Networks

Existing pedestrian / cycle networks are illustrated in **Figure 2-5.** In the vicinity of the Site, there is at least one shared path on one side of the key surrounding roads of Marmion Avenue, Quinns Road and Salerno Drive. There are also on-street bike lanes along Marmion Avenue in both directions of travel which take cyclists through the Quinns Road signalised intersection.

The Palermo Court cul-de-sac to the east of the intersection of Marmion Avenue / Quinns Road also has a 2m wide concrete shared path on one side of the road that forms part of the Perth (Joondalup and Stirling) Bike Map. This connects with the concrete shared path along Baltimore Parade then further onto Hester Avenue which then finally connects to the Kwinana Freeway Principal Shared Path (PSP).

The Kwinana Freeway PSP runs north-south on the western side of the Freeway and is accessible via Hester Avenue. The PSP provides convenient and easy cycling access to Clarkson Train Station to the south, Romeo Road to the north, and destinations further afield.

Figure 2-5: Existing pedestrian / cycle networks



Source: Department of Transport

2.5 Existing Public Transport

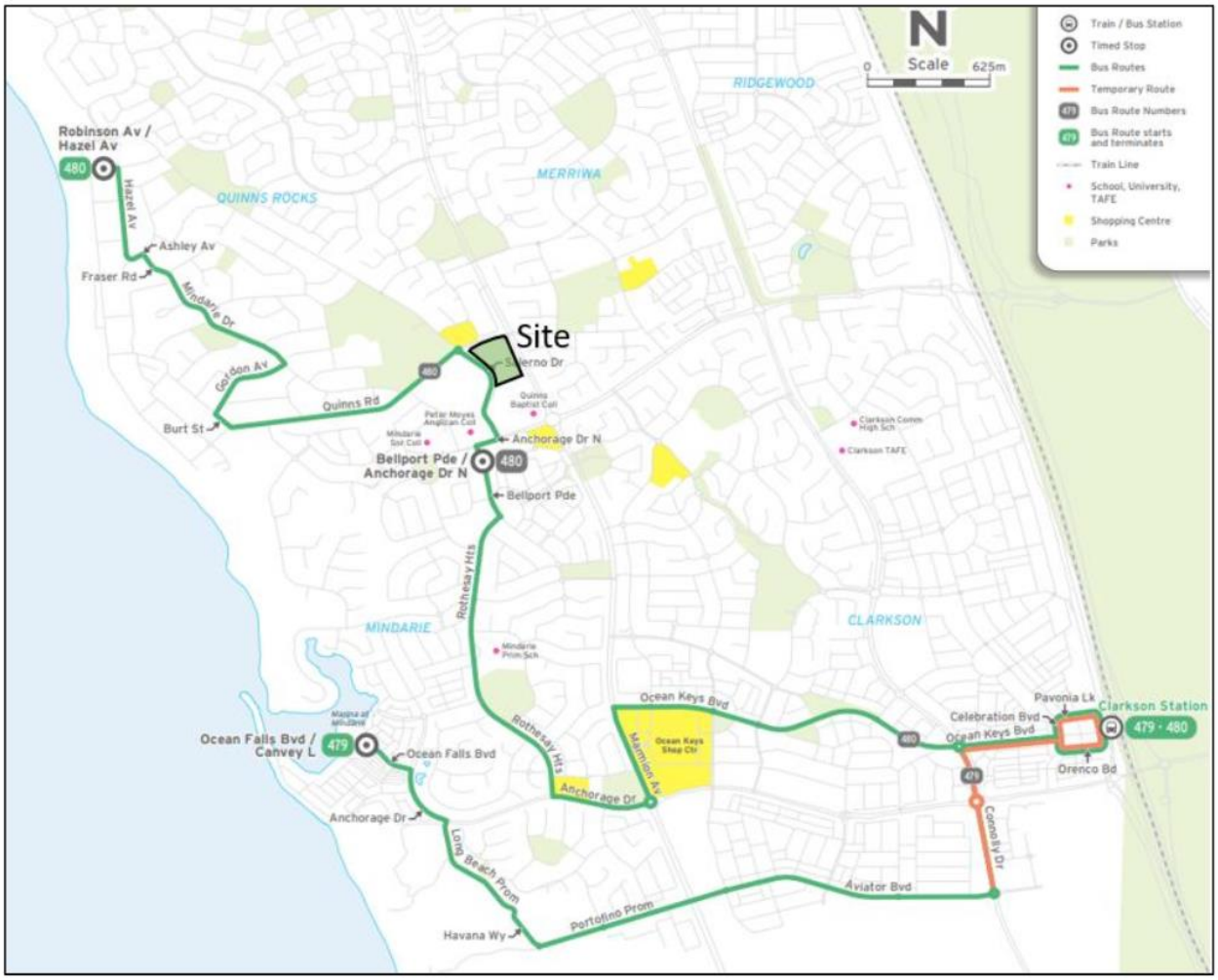
Bus Service 480

The existing bus route within close vicinity of the Site includes the 480, which operates on Quinns Road and Salerno Drive and provides a link between Quinns Rocks and Clarkson Station, including *Quinns Village Shopping Centre* and *Ocean Keys Shopping Centre* in the south. Bus stops in each direction on Salerno Drive are located approximately 240m walking distance south of the proposed

southern intersection into the Site. This is highly conducive to walking and an approximate five-minute walk from every lot within the Site.

The frequency of service 480 is 20-30 minute intervals during peak periods and then hourly during off peak periods. The existing bus route map is shown in **Figure 2-7**.

Figure 2-6: Bus Service 480 Route Map



Source: Public Transport Authority

Bus Service 481 & 482

The existing bus routes 481 and 482 operates on Marmion Avenue and provides a link between Butler Station and Clarkson Station, including *Quinns Beach Primary School*, *Butler District Centre* and *Butler Shopping Centre* in the north, and *Ocean Keys Shopping Centre* in the south. Bus stops in each direction on Marmion Avenue are located to the south of Quinns Road, adjacent to the Site. The bus stops are approximately 600m walking distance from the centre of the Sited via Salerno

Drive and Quinns Road, a distance which is an approximate nine minute walk by 75% of the site, with the majority of the site located within a 10 minute walk of this service.

The frequency of service 481 and 482 during the week (Mon to Fri) is at an excellent 10-15 minute interval in the peak periods and then hourly during off-peak periods. The existing bus route map is shown in **Figure 2-7**.

Figure 2-7: Bus Service 481& 482 Route Map

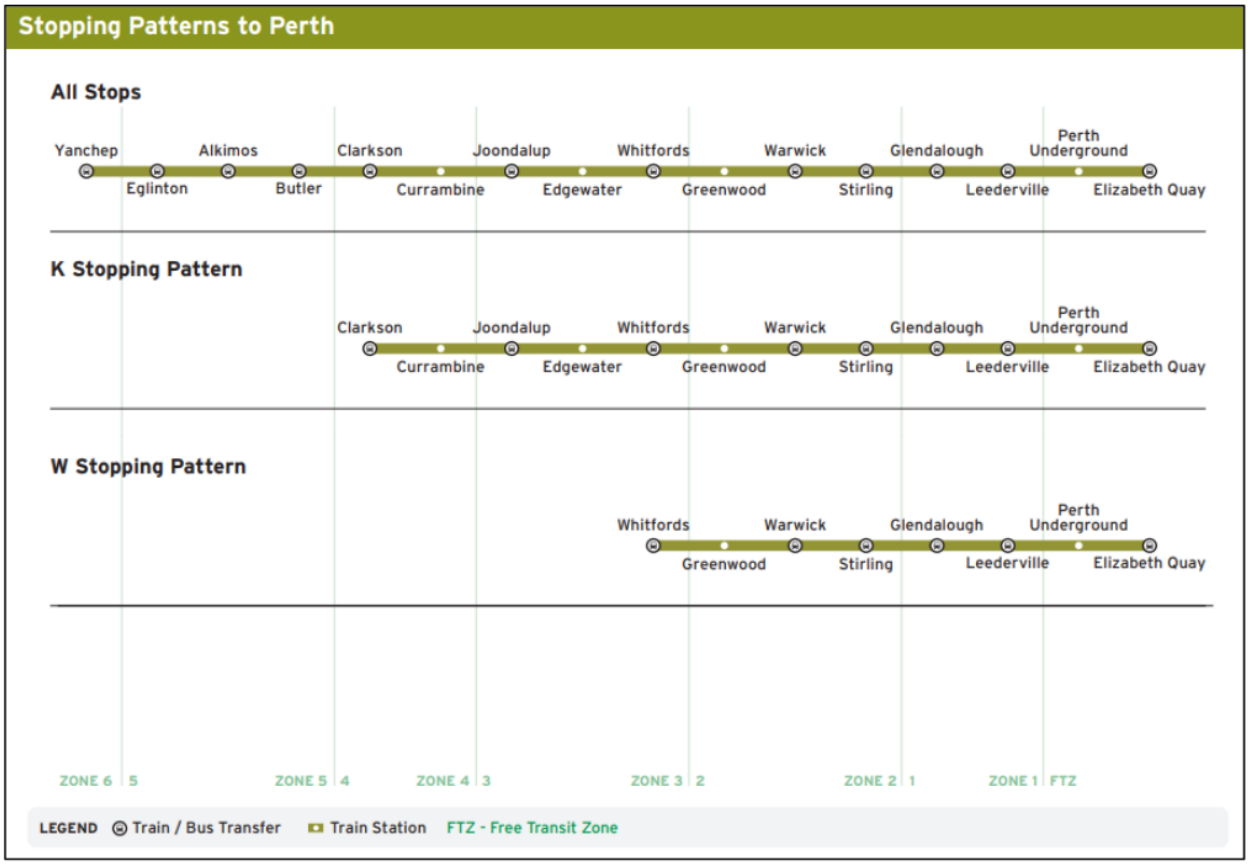
Source: Public Transport Authority

Rail Services

Clarkson Station and Butler Station are accessible via bus services 481 and 482 and provides access to the Yanchep Line and additional bus services 471, 474, 479, 480, 483, 484, 485, 486, 487 and 488.

During the week, the Yanchep line carries passenger rail services between Perth city and stations in between, stopping at Clarkson and Butler Station at intervals of approximately 10 minutes during the peak periods and every 15 to 30 minutes during the remainder of the day.

Figure 2-8: Stopping Pattern on the Yanchep to Perth



Source: Public Transport Authority

2.6 Crash Assessment

A search of the Main Roads WA Reporting Centre for crash data surrounding the site was undertaken. This search covered all recorded traffic accidents for the most recently available five-year reporting period between 1 January 2020 and 31 December 2024.

Marmion Avenue / Quinns Road

A total of 25 reported crashes have occurred at the intersection of Marmion Avenue / Quinns Road in the past five-year period as shown in **Figure 2-9**. Of the 25 crashes, 3 involved a 'right-turn factor' ('right-turn angle' and 'right-turn thru'), 21 involved 'Rear End' type crash and 1 involved a hitting object. 10 crashes resulted in medical treatment being required, including 5 which required hospital treatment.

Most of these 'Rear End' crashes were due to vehicles not stopping on time at the traffic signals while the crashes involved 'right-turn factor' are due to vehicles violating red light.

Figure 2-9: Crash Statistics – Marmion Avenue / Quinns Road – Traffic Signal Controlled Intersection

Severity	No.	%
Fatal	0	0
Hospital	0	0
Medical	12	48.00
PDO Major	5	20.00
PDO Minor	8	32.00
Year	**No.**	**%**
2020	11	44.00
2021	5	20.00
2022	3	12.00
2023	4	16.00
2024	2	8.00
Nature	**No.**	**%**
Head On	0	0
Hit Animal	0	0
Hit Object	1	4.00
Hit Pedestrian	0	0
Non Collision	0	0
Not Known	0	0
Rear End	21	84.00
Right Angle	2	8.00
Right Turn Thru	1	4.00
Sideswipe Opposite Dirn	0	0
Sideswipe Same Dirn	0	0

Source: Main Roads Crash Map

Quinns Road / Salerno Drive / Tapping Way

A total of 7 recorded crashes have occurred at the intersection of Quinns Road / Salerno Drive / Tapping Way in the past five-year period as shown in **Figure 2-10**. Of the 7 crashes, 4 involved a 'right-turn factor' and 3 involved 'Rear End' type crash. 3 crashes resulted in medical treatment being required, including 1 which required hospital treatment.

Figure 2-10: Crash Statistics – Quinns Road / Salerno Drive / Tapping Way – Roundabout

Severity	No.	%
Fatal	0	0
Hospital	1	14.29
Medical	2	28.57
PDO Major	2	28.57
PDO Minor	2	28.57
Year	**No.**	**%**
2020	2	28.57
2021	2	28.57
2023	2	28.57
2024	1	14.29
Nature	**No.**	**%**
Head On	0	0
Hit Animal	0	0
Hit Object	0	0
Hit Pedestrian	0	0
Non Collision	0	0
Not Known	0	0
Rear End	3	42.86
Right Angle	4	57.14
Right Turn Thru	0	0
Sideswipe Opposite Dirn	0	0
Sideswipe Same Dirn	0	0

Source: Main Roads Crash Map

Quinns Road

A total of 4 recorded crashes have occurred along Quinns Road, between Marmion Avenue and Salerno Drive in the past five-year period as shown in **Figure 2-11**. All of these crashes involved 'right-turn factor' while 2 crashes resulted in medical treatment being required.

All of these crashes occurred at Quinns Village Shopping Centre driveway due to vehicles failing to give way to through traffic on Quinns Road.

Figure 2-11: Crash Statistics - Quinns Road, between Marmion Avenue and Salerno Drive

Source: Main Roads Crash Map

Salerno Drive

Interestingly, only a total of 2 recorded crashes have occurred along Salerno Drive, between Quinns Road and Anchorage Drive North in the past five-year period as shown in **Figure 2-12**. All of these crashes involved side-swipe from the same direction that resulted in properties damage only.

These crashes occurred along the section of Salerno Drive with embayed parking as vehicles exited parking and were overtaken.

Figure 2-12: Crash Statistics – Salerno Drive, between Quinns Road and Anchorage Drive North

Source: Main Roads Crash Map

On the basis of the above property damage only crash records on Salerno Drive, the scheme amendment proposal would actually remove some of the on-street car parking.

3 Proposed Amendment

3.1 Private Community Purposes to Residential Rezoning

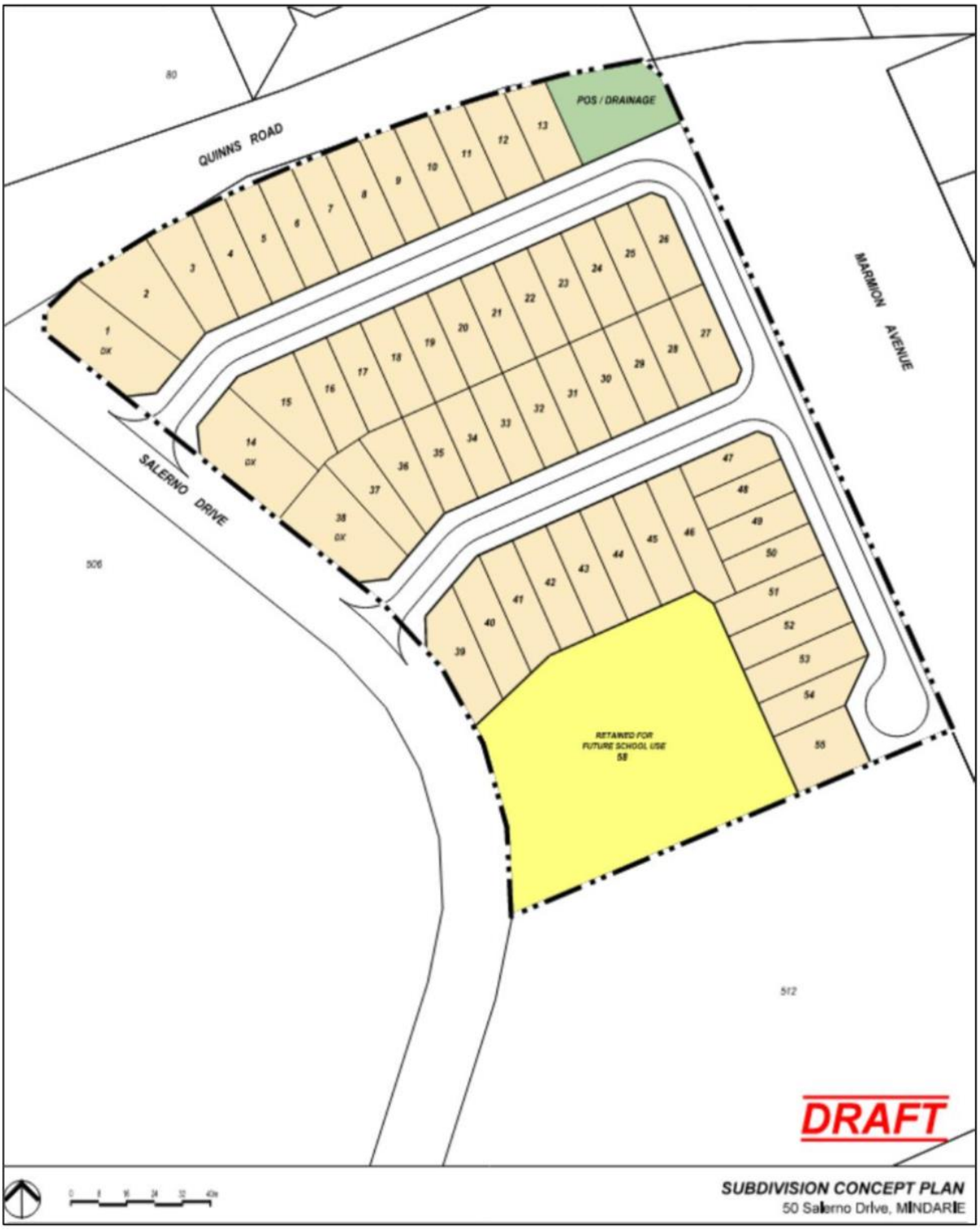
The Site area is currently zoned 'Urban' under the MRS. Under the provisions of the City of Wanneroo DPS2, the site area is currently zoned as 'Private Community Purposes'.

The DPS2 amendment proposes most of the Site to be rezoned from its current designation as 'Private Community Purposes' to 'Residential' for green titled residential subdivision, in line with a R40 residential density.

The subdivision concept plan as shown in Figure 3-1 (full plan attached in Appendix A) currently proposes 55 residential lots and the remaining ~5,000m^2 of the land to remain as 'Private Community Purposes'.

Proposed Amendment

Figure 3-1: Proposed DPS2 Amendment and Residential Subdivision



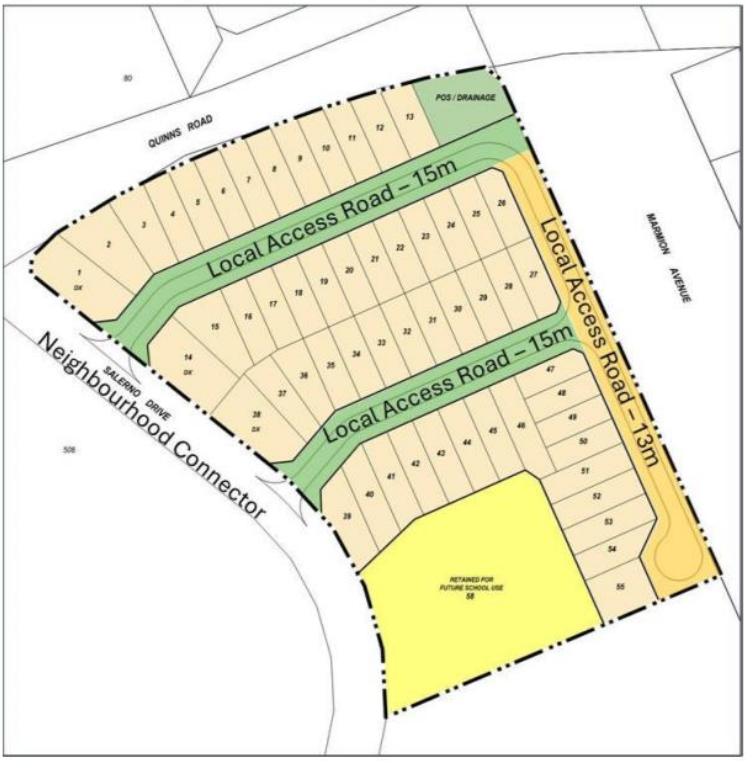
Source: Tomahawk Property, July 2025

3.2 Internal Road Network

The proposed DPS2 amendment (for residential subdivision) will continue to be developed in line with guidance in *Liveable Neighbourhoods Guidelines 2009 (LN09)* with reviews of sustainable transport modes (public transport, walking and cycling) and high-quality cycling facilities, footpaths, street trees etc to facilitate and encourage non-car modes as practically possible.

The proposed internal road network for the Site will form two intersections along Salerno Drive to the south of the intersection of Quinns Road / Salerno Drive / Tapping Way roundabout. The proposed internal road network is proposed to be all Access Street D type streets, with road reserve widths of 15m and 13m respectively, as shown in **Figure 3-2**.

Figure 3-2: Concept Road Hierarchy and Road Reserve



Source: Tomahawk Property, July 2025

3.3 Road Cross Sections

As shown in **Figure 3-2,** there will only be Local Access Streets across the Site, originating from the proposed access intersections along Salerno Drive. These will feature road reserves of between 13m to 15m wide where volumes are up to 1,000 vehicles per day with at least one 1.5m footpath on one side of the roads as per *City of Wanneroo's Pathways Policy 2024* and *LN09*.

A summary of the proposed streets is set out in **Table 3-1**Table 3-1**.**

Table 3-1: Proposed Streets

Road	Road Reserve	Location Description	Liveable Streets Road Type
Local Access Streets	13m Road Reserve	Most streets providing access to properties	Based on Access Street D (likely 5.5m - 6m wide pavement, 4.5m wide verges on both sides, 1.8m minimum footpath on at least one side)
	15m Road Reserve	Most streets providing access to properties with no through road	

The street types have been reviewed based on the LN09. This specifies the following for Access Streets and Laneways:

Table 3-2: Liveable Neighbourhoods, Element 2 - Road Specifications

Street Type	Max Design Speed / Target Operating Speed (km/hr)	Indicative Volume (vehicles per day)	Indicative Street Reserve Width (m)	Indicative Road Pavement Width (m)
Small Town Centre Street or Access Street D – Narrow, Yield or Give Way Street	50 / 30	<1000	10 to 14.2	5.5 to 6

The Access Street D roads (Narrow Yield or Give Way Streets) will have a 5.5m to 6.0m wide carriageway, as well as at least one footpath of at least 1.8m width.

3.4 Intersection Controls

Due to the low volume and low speed residential nature of the internal roads within the Site, the internal roads are proposed to be two-lane two-way single carriageway. The internal roads are expected to only have to accommodate vehicle volumes of up to 500 vehicles per day.

All intersections within the Site are intended to be constructed as priority-controlled T-intersections, where three street approaches meet. All intersections will require signage (Give Way or Stop) on the approaches to the intersection.

3.5 Pedestrian and Cyclist Access

Pedestrian and cyclist access has not yet been fully defined on the internal concept plan, however it should be provided generally in accordance with the requirements of the guidance for LN09 as discussed in **Section 3.3**. The internal road network should have at least one 1.8m wide footpath

on one side of the street that connects to already excellent existing pedestrian and cyclist network along Salerno Drive and the wider network.

3.6 Pedestrian Crossing Thresholds

As the internal road network within the Site are to have relatively low volumes of traffic, with a maximum of up to 50 two-way vehicle trips within the AM or PM peak hour, it is considered that none of the proposed roads within the site would be particularly difficult for pedestrians and cyclists to cross.

This is in line with Table 3 of the *WA Transport Impact Assessment Guidelines Volume 2,* which has been reproduced below. This states that for a two-lane undivided road, which is what is proposed for the internal road network, the ability of most pedestrians to cross would only be affected if there are more than 1,100 vehicles per **hour**. As such, the proposed internal road network will provide an acceptable environment for pedestrians to cross an undivided road.

Table 3-3: Traffic Volumes Affecting Pedestrian Crossing Amenity

Road cross-section	Traffic volume affecting ability of pedestrians to cross (vehicles per hour – two-way)
2 lane undivided	1,100 vph
2 lane divided (or with pedestrian refuse islands)	2,800 vph
4 lane undivided (without pedestrian refuge islands)	700 vph
4 lane divided (or with pedestrian refuge islands)	1,600 vph

3.7 Safe Walk/Cycle to School Assessment

As discussed previously, the Site is bounded to the south by *Peter Moyes Anglican Community School* and *Quinns Baptist College*. The *Quinns Rocks Primary School* is approximately 820m walk distance to the east of the Site.

The entrances to the *Peter Moyes Anglican Community School* and *Quinns Baptist College* are accessible off Salerno Drive. The internal road network proposes at least one 1.8m wide footpath on one side of the roads and these footpaths will connect to the existing concrete shared paths along both sides of Salerno Drive which provide convenient walk / cycle path to these schools.

As shown in **Figure 2-5,** there are shared paths along Mindarie Drive, Ainger Road, White Road and Rees Drive that provide walk / cycle paths to *Quinns Rocks Primary School*.

4 Changes to External Transport Network

Given the excellent pedestrian / cycle network which already exists and the number/frequency of bus routes around the Site, the proposed DPS2 amendment does not need to propose any changes to the road / pedestrian / cycle networks and public transport services. The key road infrastructure to be constructed to support the DPS2 amendment would be the two intersections along Salerno Drive to access the Site.

4.1 Salerno Drive Intersection Control

The proposed internal road network will form two intersections along Salerno Drive. The northern intersection is proposed to be a full movement intersection while the southern intersection is proposed to be a Left-In/Left Out intersection due to the existing raised median at the proposed location of the intersection.

Northern Intersection

Preliminary desktop review of the northern intersection in 2D is shown in **Figure 4-1**. This has indicated that for an exiting vehicle from the minor street, there is likely to be approximately 120m Stopping Intersection Sight Distance (SISD) looking to the left (south) and 48m SISD looking to the right (north).

The northern intersection is located at section of Salerno Drive that has an uphill grade of approximately 8% from the roundabout at Quinns Road to the south. While Salerno Drive has a default speed limit of 50 km/h for built up area, the vehicle operating speed for the west approach from the roundabout at Quinns Road is expected to be much lower than 50 km/h due to the roundabout. As shown in **Figure 4-1,** the roundabout has a 12m curve radius. Referring to *Austroads Guide to Road Design Part 3: Geometric Design 2016*, this road design is conducive to a vehicle speed travelling at approximately 22 km/h.

Based on the above and with reference to *Austroads Guide to Road Design Part 4A: Unsignalised and Signalised Intersection 2023*, the required and available SISD for the proposed northern intersection complies and is summarised in **Table 4-1**.

Figure 4-1: Northern Intersection Available SISD

Base map source: Nearmap

Table 4-1: Required SISD for proposed Northern Intersection

Direction	Operating Speed	Grade	SISD Required	SISD Available	Compliance
Looking right (to roundabout)	22 km/h	+ 8%	35m	48m	**Complies**
Looking left (to schools)	50 km/h	- 8%	105m	120m	**Complies**

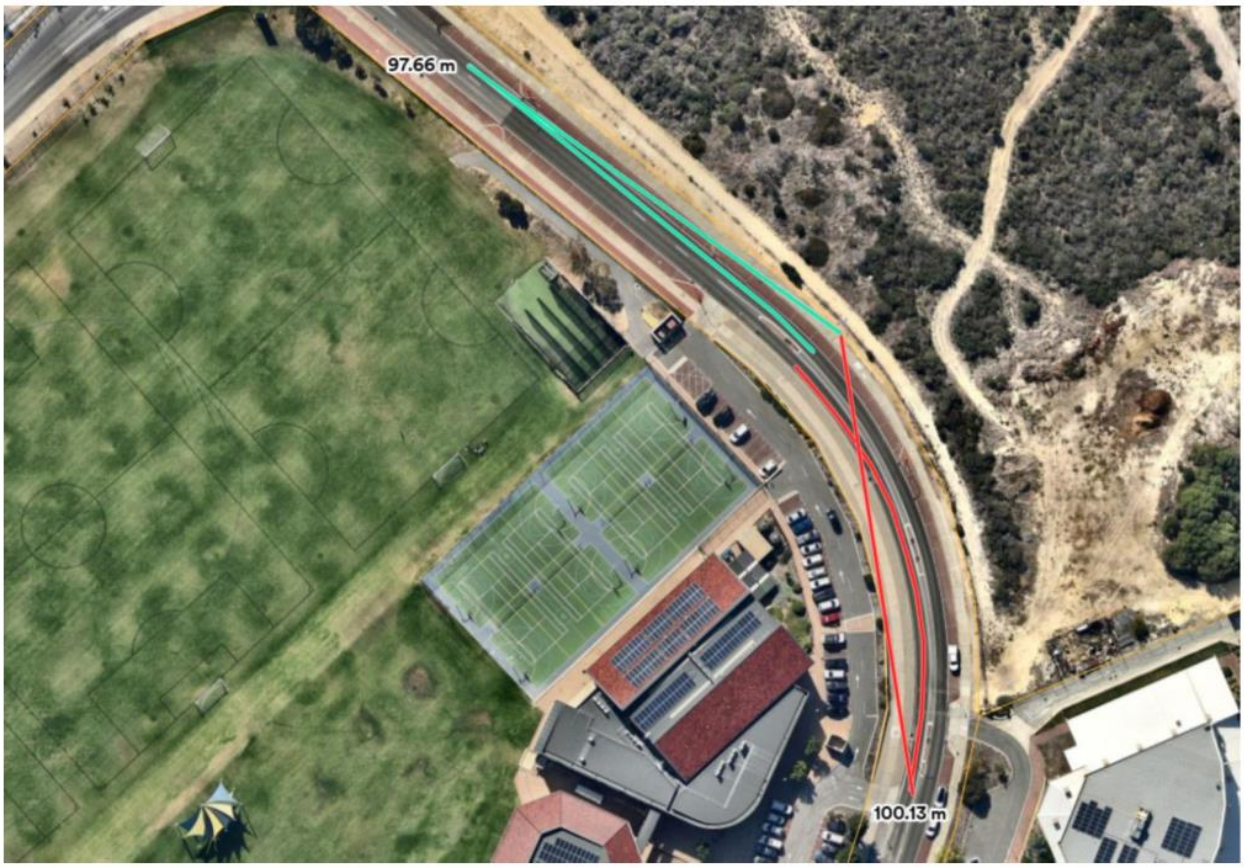
The table above shows that the northern intersection complies with the required SISD.

Southern Intersection

Preliminary desktop review of the southern intersection in 2D is shown in **Figure 4-2**. This has indicated that for an exiting vehicle from the minor street, there is likely to be approximately 100m SISD looking to the left (south) and 98m SISD looking to the right (north).

The southern intersection is proposed to be located at section of Salerno Drive with a raised median. It has an uphill grade of approximately 4% from the north and it is generally flat from the south. The required and available SISD for the northern intersection is summarised in **Table 4-2**.

Figure 4-2: Southern Intersection Available SISD



Base map source: Nearmap

Table 4-2: Required SISD for proposed Southern Intersection

Direction	Operating Speed	Grade	SISD Required	SISD Available	Compliance
Looking right (to roundabout)	50 km/h	+ 4%	94m	98m	**Complies**
Looking left (to schools)	50 km/h	- 1%	99m	100m	**Complies**

The table above shows that the southern intersection complies with the required SISD.

4.2 Salerno Drive Embayed Parking Bays

There are currently embayed parking bays on both sides of Salerno Drive fronting the Site. Consultation with the City for the purposes of this scheme amendment report, has noted that the

bays were likely installed by the City a long time ago (based on aerial imagery) and the City would consider removal of these bays as is required to service the intended development of the land.

As the parking bays are currently available for use with no land use development to its east, the City has noted it is currently being used by parents/carers for school pick up / set down. Based on a preliminary assessment (see **Figure 4-3**), 11 of these on-street bays on the east side of Salerno Drive, adjacent to Site will need removal to construct the two intersections that are necessary to support development of the Site. A further assessment of seven of the bays between the two new proposed intersections would require a further assessment at subdivision stages to maintain unobstructed required SISD discussed above.

It is noted that given the only two property damage only type crashes recorded on Salerno Drive in the last 5 years were associated with overtaking manoeuvres of on-street parking vehicles, a removal of some spaces currently on both sides of Salerno Drive may assist an improved crash outcome. This is to be further reviewed at subdivision stages, following the sites rezoning to Residential.

Figure 4-3: Embayed Parking Bays to be assessed for removal

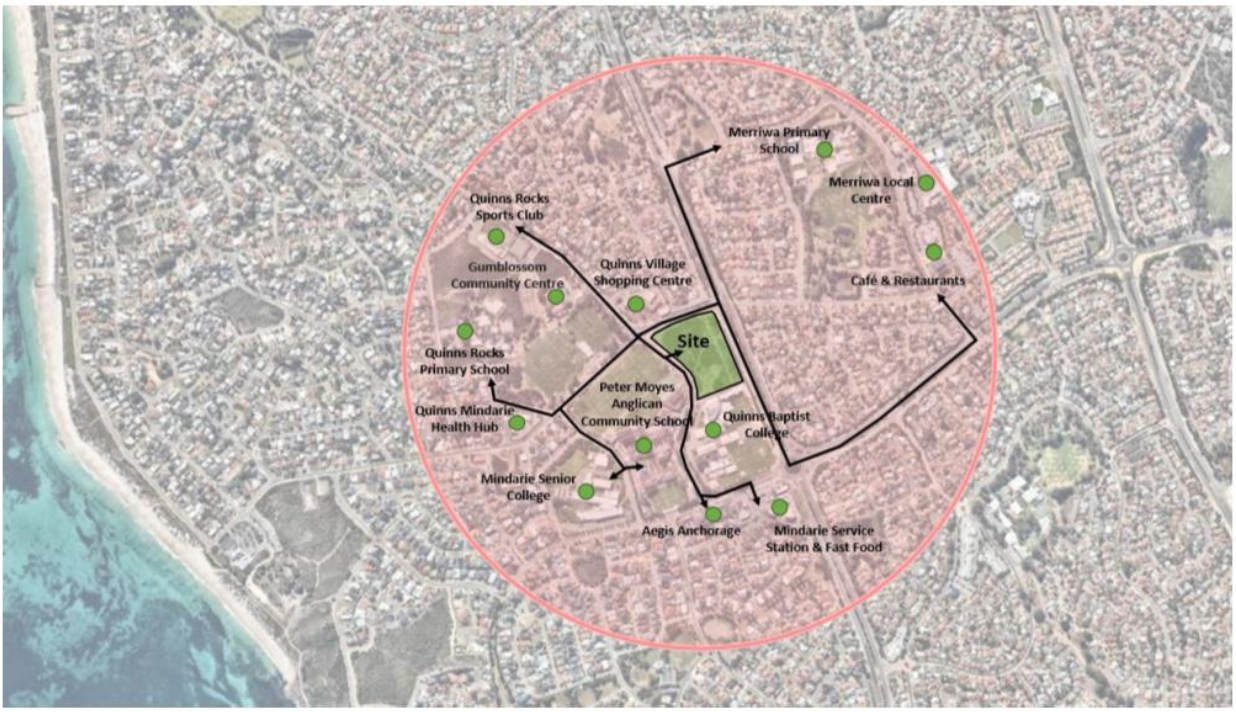
Source: Tomahawk Property, June 2025

5 Integration with Surrounding Areas

5.1 Trip Attractors/Generators Within 800 Metres

The major trip attractors and generators within 800m of the Site are shown in **Figure 5-1**. These trip attractors and generators can be readily accessed via the extensive road and pedestrian / cycle networks around the Site.

Figure 5-1: Surrounding Trip Generators / Attractors



Base map source: Nearmap

5.2 Proposed Changes to Land Uses Within 800 Metres

The Site is the only large vacant lot in the surrounding area where the other lots are mostly developed. With reference to DPS2, there is currently no known proposed changes to land uses within 800m of the Site.

5.3 Adequacy / Deficiencies in External Transport Networks

The Site is well located in relation to the existing local and primary state road network which connects to the wider road network, such as Marmion Avenue and Mitchell Freeway further to the east. The road network also comprises of shared path or footpath that provide linkages to the adjacent trip generators and attractors, bus stops, and the PSP along Mitchell Freeway.

The Site also has excellent public transport within proximity. There are three bus routes, 480, 481 and 482 that service Marmion Avenue and Salerno Drive within 600m walking distance from the Site. Thus, the external road network around the Site is adequate.

6 Analysis of Internal / External Networks

6.1 Proposed Traffic Generation

The traffic generation rates in **Table 6-1,** sourced from the WAPC Guidelines, have been used to calculate an estimate of the traffic generated in the AM and PM peak periods by the proposed residential land use.

Table 6-1: WAPC Trip Generation Rates – Residential

Land Use	Units	Daily	AM In	AM Out	PM In	PM Out
Residential	Per Dwelling	8	0.2	0.6	0.5	0.3

Table 6-2 summarises the trip volumes derived from the adopted generation rates.

Table 6-2: Proposed Development Traffic Generation

Land Use	Units	Daily	AM In	AM Out	PM In	PM Out
Residential	~55 Dwelling	440 veh/day	12 veh/h	33 veh/h	38 veh/h	17 veh/h

6.2 Proposed DPS2 Amendment Traffic Impact

As shown in **Table 6-2**, the proposed DPS2 amendment is expected to generate some 440 vehicles per day (two-way) and 44 vehicles per hour (two-way) in a typical peak. **Table 6-3** shows the increase in external road network traffic due to proposed DPS2 amendment development traffic based on the traffic counts reported in **Section 2.2**. As discussed in WAPC TIA Guidelines, a development that generates less than 100 vehicles per hour is considered moderate impact. Besides that, an increase in traffic of less than 10% on existing road is not likely to have material impact.

As demonstrated in **Table 6-2**, the increase in traffic on Quinns Road and Marmion Avenue is lower than 10%, namely some 3.6% of the existing traffic. Regarding traffic to/from Salerno Drive, the northern intersection can operate as a full-movement and the southern intersection is likely a be Left-In/Left-Out (due to a solid median), meaning a portion of the Site generated trips will travel north towards Quinns Road and a portion will travel south toward Anchorage Drive North. As such, this will result to increase in traffic along Salerno Drive to be 6.0% to 6.3%. This suggests that based on WAPC Guidelines no specific intersection modelling assessment is required around the Site.

Besides that and as noted earlier, the proposed DPS2 amendment to residential will generate significantly lower trips than the approved zoning of 'Private Community Purposes' as that allows for another school use to be developed at the Site instead.

Table 6-3: Increase in Traffic Due to Proposed DPS2 Amendment

Road	Recorded Daily Traffic	Proposed DPS2 Amendment Traffic	Increase in Traffic %
Salerno Drive north	3,578 vehicles per day	225 vehicles per day	6.3%
Salerno Drive south	3,578 vehicles per day	215 vehicles per day	6.0%
Quinns Road	12,000 vehicles per day	440 vehicles per day	3.6%
Marmion Avenue	41,350 vehicles per day	440 vehicles per day	1.0%
Anchorage Drive North	5,445 vehicles per day	215 vehicles per day	3.9%

6.3 Existing External Traffic Issues

While the proposed DPS2 amendment is not expected to have material impact on the existing road network, it has been noted from the City that the existing wider road network does experience significant queuing during peak periods on Anchorage Drive North at the approach to Marmion Avenue. Due to the concentrated number of schools in the area, Salerno Drive fronting the existing schools, will experience some typical school related congestions for an acute short period (~15mins typically before and after school ending time) which is typical of most school streets. City of Wanneroo are aware of this and have installed a bollard median along Salerno Drive fronting the schools (much further south of the Site) to prevent any u-turning behaviour, especially during a school pick-up period. Outside of the school peak periods and on non-school days, Salerno Drive performs satisfactorily given it is carrying low volumes of daily traffic.

The City of Wanneroo advised that they had previously engaged WSP to investigate feasible road improvement options in the wider area to help improve the traffic capacity/flow of the surrounding road network, although this study was not able to be provided for this development TIA. The City advised that they had improved the intersection capacity of Anchorage Drive North / Salerno Drive by constructing a left-turn and right-turn pockets to help improve traffic flow.

7 Conclusion

Based on the findings and discussions presented within this report, the following traffic and transport conclusions are made:

1. The Site is currently zoned as 'Urban' under Metropolitan Regional Scheme and as 'Private Community Purposes' under City of Wanneroo's District Planning Scheme No.2.
2. The proposed District Planning Scheme No.2 Amendment intends to rezone a large portion of the Site from 'Private Community Purposes' to 'Residential'.
3. While the Site could be developed as yet another school in the area, the rezoning proposal to residential in fact decreases the peak hour and daily number of vehicular trips that would be generated on the road network. As such the rezoning to residential, a less intense traffic generating land use, is seen as a positive outcome for the area.
4. The subject site is well serviced by existing bus routes on all frontage roads, which are no more than 600m from the site.
5. The subject site is adjacent to an extensive shared path network that provide linkages to bus stops, train stations and the Mitchell Freeway PSP. Protected crossings are available at Quinns Street intersection to assist cross Marmion Avenue. A continuous path is also available from Quinns Street to the north and Anchorage Drive North to the south, to access the Marmion Avenue bus stops.
6. The proposed internal road network should be designed in accordance with *Liveable Neighbourhood Guidelines 2009* and *City of Wanneroo's Pathway Policy 2024*.
7. The two proposed intersections off Salerno Drive into the Site have sufficient Safe Intersection Sight Distance along both directions of travel. The northern intersection is proposed to be a full movement priority-controlled intersection and is expected to operate satisfactorily under the traffic volumes recorded, while the southern intersection is proposed to be a Left-In/Left-Out due to the existing raised median at the location of the intersection. Both intersections will operate well under assessed volumes.
8. There is likely to be a loss of 11 on-street parking bays on the eastern side of Salerno Drive, adjacent to Site to construct the two new proposed intersections. A further assessment of seven of the bays between the two new proposed intersections would require a further assessment at subdivision stages to maintain unobstructed required SISD discussed in this report.
9. The site traffic generated by the proposed District Planning Scheme No.2 Amendment is in the order of 440 vehicles per day or 44 vehicles per hour in the AM and PM peaks. The increase in traffic on surrounding immediate road network is expected to be as low as 3.6%.

10. Therefore, the impact of the lower number of trips to be generated by the Proposed District Planning Scheme No.2 Amendment is expected be indeed 'moderate' and will not have material impact to the road network.

Appendix A Subdivision Concept Plan

0 8 16 24 32 40m

SUBDIVISION CONCEPT PLAN
50 Salerno Drive, MINDARIE

NOTE:
Base Data supplied by BE SURVEYS
Aerial Photography supplied by LANDGATE (capture date - Sept/2023)
Areas and dimensions shown are subject to final survey calculations and servicing requirements.

Revision	Date	Item
A	12/06/25	Initial Issue

LEGEND
- SUBJECT LOT BOUNDARY
- PROPOSED R40 LOTS
- PROPOSED POS / DRAINAGE
- RETAINED FOR FUTURE SCHOOL USE

Tomahawk Property Pty Ltd	:	CLIENT
A3@1:000	:	SCALE
23 JUNE 2025	:	DATE
5OS-DC-002	:	PLAN No
D	:	REVISION
B.C.	:	PLANNER

TOMAHAWK PROPERTY
M: 0413 010 830
E: bcarmody@tomahawkproperty.com.au

Appendix B TIA Checklist

Item	Provided	Comments/Proposals
Introduction / Background	Y	
Structure Plan Proposal		
Regional context	Y	
Proposed land uses	Y	
Table of land uses and quantities	Y	
Major attractors / generators	Y	
Specific issues	Y	
Existing Situation		
Existing land uses within structure plan	Y	
Existing land uses within 800m of structure plan area	Y	
Existing road network within structure plan area	Y	
Existing pedestrian / cycle network within structure plan area	Y	
Existing public transport services within structure plan area	Y	
Existing road network within 2 (or 5) km of structure plan area	Y	
Traffic flows on roads within structure plan area (PM and/or AM peak hours)	Y	
Existing pedestrian / cycle networks within 800m of structure plan area.	Y	
Existing public transport services within 800m of structure plan area.	Y	
Proposed Internal Transport Networks		
Changes / additions to existing road network or proposed new road network	Y	
Road reservation widths	Y	
Road cross-sections & speed limits	Y	
Intersection controls	Y	
Pedestrian / cycle networks and crossing facilities	Y	
Changes to External Transport Networks		
Road network	Y	
Intersection controls	Y	
Pedestrian/cycle networks and crossing facilities	Y	
Public transport services	Y	

Integration with surrounding area		
Trip attractors / generators within 800 metres	Y	
proposed changes to land uses within 800 metres	Y	
travel desire lines from development to these attractors/ generators	Y	
adequacy of external transport networks	Y	
deficiencies in external transport networks	Y	
remedial measures to address deficiencies	Y	
Analysis of internal transport networks		
assessment years	Y	
time periods	Y	
Structure plan generated traffic	Y	
Extraneous (through) traffic	Y	
Design traffic flows (that is, total traffic)	Y	
Road cross-sections	Y	
Intersection controls	Y	
Access strategy	Y	
Pedestrian / cycle networks	Y	
Safe routes to schools	Y	
Pedestrian permeability & efficiency	Y	
Access to public transport	Y	
Analysis of external transport networks		
Extent of analysis	Y	
Base flows for assessment year(s)	Y	
Total traffic flows	Y	
Road cross-sections	Y	
Intersection layouts and controls	Y	
Pedestrian / cycle networks	Y	
Conclusions	Y	

The Anglican School Commission Incorporated c/o Tomahawk Property	35	Lot 507 (#50) Salerno Drive, Mindarie District Planning Scheme No.2 Amendment

ATTACHMENT 2

Vegetation Assessment (PGV Environmental)

pgv ENVIRONMENTAL

Phone + 61 8 9202 6819
Mob +61 0 427 005 226
Email paul@pgv.net.au

Suite 3, 67 Howe Street
Osborne Park WA 6017

ABN 44 981 725 498
Knightside Nominees Pty Ltd

13 September 2024

Sam Butler

Tomahawk Property
PO Box 36
Cottesloe WA 6911

Dear Sam,

RE: Lot 507 Salerno Drive, Mindarie – Vegetation Assessment

Following is our vegetation assessment of Lot 507 Salerno Drive, Mindarie, with regards to the site's future development potential.

1 Site Description

Lot 507 Salerno Drive, Mindarie (the site) is 3.2490ha in size and is located at the south-west corner of Marmion Avenue and Quinn's Road. The site contains native vegetation, some cleared areas and several tracks and firebreaks (Plate 1). The site is bounded by Quinns Baptist College to the south, Peter Moyes Anglican Community School and playing fields to the west, Marmion Ave and residential to the east, residential and commercial shops to the north.

Plate 1: Aerial Photograph 2024 (Landgate Map Viewer Plus)

The native vegetation on the site does not appear to have been cleared since at least 1965, the oldest available aerial photograph on-line. The various tracks around the perimeter and internal on the site have been created over a number of years.

The southern portion of the site was initially partially cleared in 2011 and appears to have had some material dumped on it. Further clearing occurred in 2018 and may have been to remove the dumped material (Plate 3). Soil investigations of this area may be worthwhile.

Plate 2: Aerial Photograph August 2011 (Landgate Map Viewer Plus)

Plate 3: Aerial Photograph January 2018 (Landgate Map Viewer Plus)

2 Vegetation Type and Condition

PGV Environmental undertook a site inspection on 9 September 2024 to assess the vegetation type and condition and the likelihood of conservation significant flora and fauna occurring on site.

The main vegetation type on the site is a native *Banksia sessilis* (Parrot Bush) Open Heath (Plate 4). This vegetation type occurs in the northern two-thirds of the site. Parrot Bush is common close to the coast in the City of Wanneroo on shallows soils with some outcropping limestone.

The condition of the Parrot Bush vegetation ranges from Good to Very Good.

Plate 4: *Banksia sessilis* (Parrot Bush) Open Heath

The vegetation east of the north-south firebreak is a native *Spyridium globulosum* Shrubland and is in Degraded condition with abundant weed presence (Plate 5).

Plate 5: *Spyridium globulosum* Shrubland

Some native wattles (*Acacia cyclops*) have regenerated in a part of the cleared southern portion.

A few shrubs of *Melaleuca huegelii* (Chenille Honeymyrtle) were recorded close to the southern cleared area (Plate 6).

Plate 6: *Melaleuca huegelii* (Chenille Honeymyrtle) Plants

3 Conservation Significant Flora and Vegetation

3.1 Flora

PGV Environmental considers that there is very little possibility that any Threatened plant species would occur on the site as there are very few Threatened plant species that grow in Parrot Bush vegetation in the City of Wanneroo, and the site is very small.

3.2 Vegetation

The Parrot Bush and *Spyridium globulosum* vegetation types are not part of any Threatened Ecological Community (TEC) at State or Commonwealth level.

The site does not have any Banksia or Tuart trees. Therefore, the Commonwealth listed Banksia Woodlands of the Swan Coastal Plain TEC and Tuart Woodlands and Forests of the Swan Coastal Plain TEC do not occur on the site.

The presence of *Melaleuca huegelii* (Chenille Honeymyrtle) has the potential for the recently EPBC Act listed Honeymyrtle Shrubland on Limestone Ridges of the Swan Coastal Plain Bioregion TEC occurring on site. The minimum patch size for the Honeymyrtle Shrubland TEC is only 100m^2. The size of the *Melaleuca huegelii* shrubs on the site is around 100m^2. However, PGV Environmental does not consider the *Melaleuca huegelii* shrubs on the site are indicative of the TEC as they are not located on typical landform where the Honeymyrtle Shrubland TEC occurs which is on the top of tall limestone ridges. There is also a lack of understorey ground cover of herbs, which is a key diagnostic criteria of the TEC.

4 Fauna

The *Banksia sessilis* (Parrot Bush) on the site have foraging value for Carnaby's Black Cockatoos. The amount of foraging habitat is estimated to be around 1ha.

5 Environmental Approvals

5.1 State Level

The site is zoned Urban in the Metropolitan Region Scheme and Private Community Purposes under the City of Wanneroo Local Planning Scheme No. 2. The Amendment to rezone the site in the Local Planning Scheme will be required to be referred to the EPA under Section 48A of the *Environmental Protection Act 1986* (EP Act).

Clearing native vegetation requires a clearing permit unless an exemption applies. A subdivision approval to develop the site would provide a Schedule 6 exemption if there was a condition of subdivision that required the clearing of vegetation to fulfil the condition. The standard engineering condition that requires cut and fill would be such a condition.

5.2 Commonwealth Level

Any clearing of vegetation that has the potential to have a significant impact on a Matter of National Environmental Significance (MNES) listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) must be referred to the Commonwealth Minister for a determination whether an assessment is required.

The MNES relevant to development of the site is Carnaby's Black Cockatoos.

According to the Black Cockatoo Referral Guidelines a significant impact could be any of the following:

- Clearing of more than 1ha of quality foraging habitat;
- Clearing of one or more actual or potential breeding habitat trees; and
- Clearing or disturbance to a known roost site.

The amount of foraging habitat on the site is estimated to be around 1.0ha. There are no potential roosting or breeding habitat trees. If the amount of foraging habitat to be cleared for development is 1ha or more, then the clearing would be considered to have a significant impact and a referral would be recommended.

6 Summary

The remnant native vegetation on the site should not pose a constraint at State level for future development. A clearing permit should not be required if the site is to be subdivided for development.

The Parrot Bush vegetation on the site provides Carnaby's Black Cockatoo foraging habitat and may pose a constraint to development if the extent on site is 1ha or more, and all of the vegetation needs to be cleared for development. In that case, a referral under the Commonwealth EPBC Act may need to be made.

PGV Environmental considers that if a referral to clear the vegetation on the site were to be made, a full assessment by the Commonwealth environment agency is highly unlikely to be required. However, each case is treated on its own merits by the Commonwealth.

If a full assessment were required, an approval is highly likely to be granted.

Please contact me if you would like to discuss any aspects of this advice.

Yours sincerely

Paul van der Moezel
Managing Director

-- Map Viewer Plus --

0.34 0.01 0.01 = 1.01 ha.

Author:

Created: 21 August 2024 from Map Viewer Plus: https://map-viewer-plus.app.landgate.wa.gov.au

1:2,257

0 0.03 0.07 0.1 0.14 km

ATTACHMENT 3

Engineering and Servicing Report (Porter Consulting Engineers)

Porter
Consulting Engineers

ENGINEERING SERVICING REPORT

LOT 507 (#50) SALERNO DRIVE, MINDARIE

Porter

REPORT PREPARED FOR

TOMAHAWK PROPERTY

Prepared by	**Porter Consulting Engineers**
Postal address	PO Box 1036 Canning Bridge WA 6153
Phone	(08) 9315 9955
Email	office@portereng.com.au

Date	1 July 2025
Our reference	R43.25
Job Number	25-06-069
Checked	BH

HISTORY AND STATUS OF THE DOCUMENT

Revision	Date issued	Author	Issued to	Revision type
Rev A	1/07/2025	R Thomson	Tomahawk Properties	Initial Issue
Rev B	1/07/2025	B Harris	Tomahawk Properties	2nd Issue – updated WCWA advice

CONTENTS

1.0 INTRODUCTION

Porter Consulting Engineers has been engaged to provide engineering servicing advice for the proposed subdivision at Lot 507 (#50) Salerno Drive, Mindarie. The site is situated within the locality of the City of Wanneroo. Refer to the site location plan shown in *Figure 1* below.

Figure 1 – Lot Location Plan, Lot 507 Salerno Drive bound in Red

The site is bound by road reserve to the east, north and west. An existing school is situated to the south.

1.1 Planning & Easements

The site is currently zoned for Private Community Purposes. A rezoning application is expected to be submitted for the proposed residential subdivision.

The proposed development involves the construction of 55 residential green title lots, with the balance of the lot being retained for future school use. Refer to the proposed subdivision layout presented in **Attachment A**.

There are two existing service easements present within the lot boundary that have been documented on the topographical survey provided by BE Surveys. These are shown in *Figure 2* below.

The existing Water Corporation sewer easement is 5m wide. It runs centrally over the existing DN300 sewer present within the site, approximately 9m off the eastern boundary, as shown in red in *Figure 2* below. Based on the current proposed layout, this easement is expected to be extinguished when located within the proposed road reserve but is generally still maintain within the public open space. The road reserve boundary may require further review to ensure the sewer remains on a minimum 3.1m alignment for part of the development.

The second easement is located along the northern boundary, as shown in blue in *Figure 2* below, in favour of Water Corporation for the existing 375mm water trunk main situated within Quinns Road. It appears the water main is set back 7m from the lot boundary in some locations, which would not typically require an easement of 2m into the lot boundary. The Water Corporation has since confirmed that the easement is no longer required and can be removed through Structure plan or subdivision process.

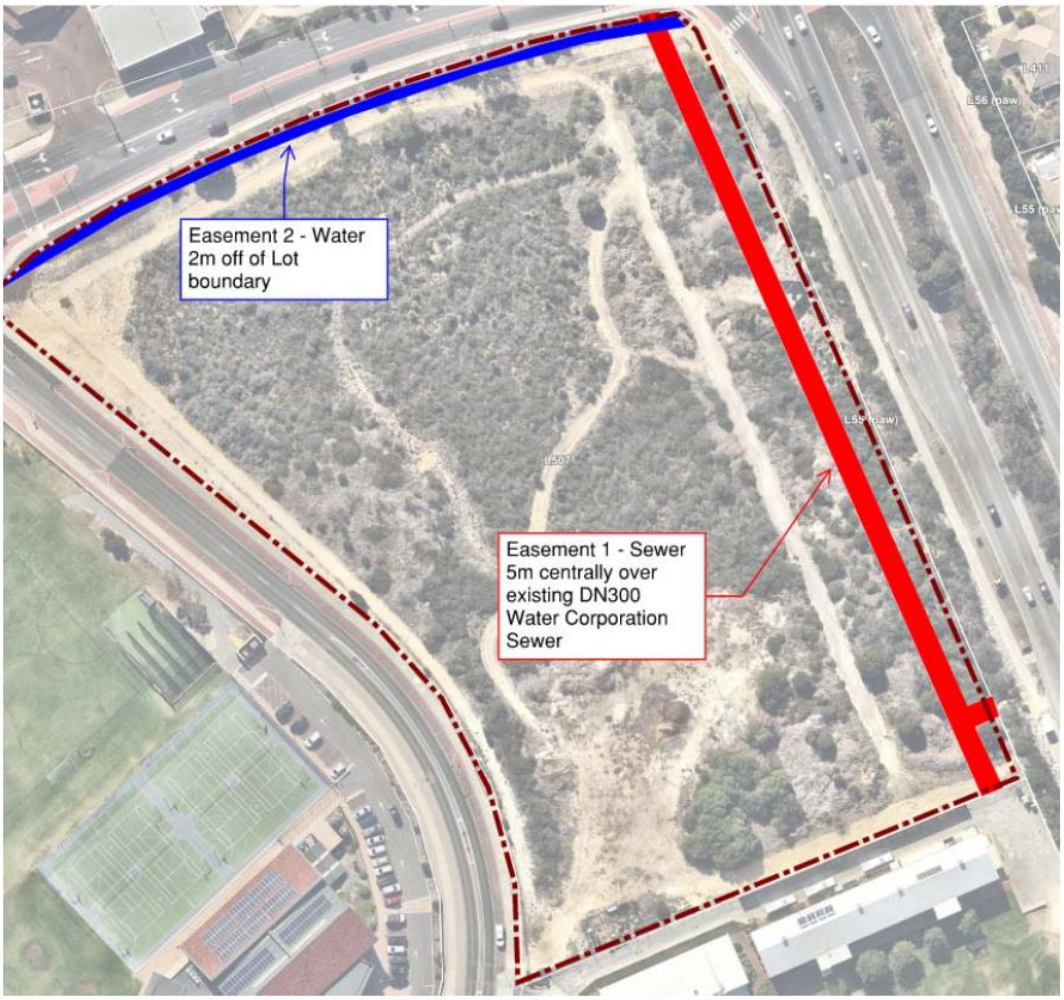


Figure 2 – Existing Easements within the Lot

2.0 LANDFORM

The latest aerial imaging[1] and street view mapping shows the site is covered in medium to dense vegetation with some cleared tracks through the vegetated area.

An existing survey of the site[2] across the site shows the site high in the south of RL45m, falling to a low of around RL30m in the north. The average grade across the site is around 6.3% or 1 in 15.

Preliminary geotechnical investigations carried out by Douglas Partners show soils on site to be sands over limestone. Limestone was typically present at depths ranging from 0.5m to over 3m across the site. Where limestone was encountered, the average depth to rock was 1.2m. The rock strength on site is characterised as medium, meaning excavations will require plant similar to a 30-tonne excavator with rock breaker or rock wheels.

Infiltration testing found high rates of permeability on site, at over 20m per day at the proposed basin location.

Existing records show the groundwater table at 1m AHD or 29m below existing ground levels. Groundwater is not expected to be present on site.

3.0 SERVICING INVESTIGATION

The servicing investigation is based on a desktop investigation and preliminary geotechnical advice. The information should be updated as site-specific information is available. Refer to the plan presented in **Attachment B** showing existing services known in the vicinity of the site.

3.1 Siteworks

Clearing works will be required across the lot, and organic materials will be removed from the site. Topsoil is expected to be around 150mm deep across the areas with vegetation across the site. This shall be removed and disposed of off-site.

Construction works for the subdivision should consider scheduling deliveries to the site outside of peak traffic times for the adjoining school.

3.2 Earthworks and Retaining Walls

Due to the presence of medium-strength limestone on site at around 1.2m below existing ground levels, the volume of cut across the site will be limited. It is expected that the design will follow the existing fall from the south to the north and allow for imported clean fill in the southern boundary to achieve the required grades across the site to suit the development layout.

It is expected that limestone block retaining walls will be constructed between lot boundaries as required.

[1] Nearmaps Imaging dated 10 May 2025

[2] BE Surveys, 13524B Rev B, 04 September 2024

Where excavations are required within the limestone ground material, allowances should be made for a 30-tonne excavator with a rock breaker.

The existing limestone rock material excavated from the site may be reused as clean fill within the lot boundary or road subgrade locations, provided it is crushed following the relevant earthworks specification.

3.3 Wastewater

Water Corporation records show that an existing gravity sewer network is present within the proposed subdivision Lot. Initial Water Corporation advice received confirms that an extension of this network can facilitate the proposed development. Refer to the email advice received, presented in **Attachment C.**

The gravity sewer extension will be constructed under Water Corporation standards and handed over to Water Corporation as their asset on completion of the works. The extension proposed will likely be a DN150 sewer and constructed at a minimum grade to reduce the extent of rock-breaking works required. The connections to the existing DN300 sewer will be fitted with boundary traps.

The existing sewer located within the proposed subdivision will be protected during and on completion of works. The sewer pit levels will be adjusted to suit the new pavement levels, and no retaining walls shall be constructed within the sewer easement. Any proposed retaining walls located along the sewer easement boundary shall be designed to ensure that there is no loading on the existing pipe and that Water Corporation can access the pipe in future for maintenance works.

Further discussions are required with the school to determine if an additional sewer connection point is required for the expansion area. The connection point for this may impact the proposed lot configuration as consideration will need to be given as to how sewer is extended to this lot, either through proposed Lot 55 or the existing school site. Easements would be required to protect this sewer extension if required.

3.4 Water Supply

Water Corporation records show an existing potable water supply in the western verge of Salerno Drive. Initial advice received from Water Corporation shows that an extension of the existing network is available. Refer to the advice received in **Attachment C**. It is likely that the water mains extension would simply be a 100mm water main extension looped through the site.

A small section of water main is shown crossing into the proposed POS site in the north east corner of the site. It is likely the WCWA will want this section of water main protected in an easement or reserve or may consider relocation. As it impacts the POS area, it is not expected to have any impact on the development of the site.

3.5 Stormwater

A proposed pit and pipe network will be constructed to service the proposed subdivision under local authority requirements. The pit and pipe network will discharge stormwater to the proposed drainage basin area situated in the northern boundary of the lot, adjacent to Lot 13. The stormwater

system will be designed to ensure that no stormwater discharges to the MRWA road reserve for the 1 in 100-year critical event.

3.6 Power

The Western Power Network Capacity Mapping Tool shows that the overall capacity in the Mindarie suburb is low, with less than 5MVA capacity remaining in the network for the foreseeable future, as shown in *Figure 3* below. It is recommended that the Development Information Planning (DIP) request be submitted as early as possible to determine if there are any wider network upgrades required to facilitate the proposed subdivision.

Figure 3 – Western Power Network Capacity Mapping Tool, Site bound in white

Western Power network mapping shows the existing underground high voltage (HV) infrastructure in the southern verge of Quinns Road. It is expected that this will be the point of supply for the proposed subdivision.

The proposed residential development is expected to require a power demand of approximately 200kVA which is expected to be able to be provided from the existing system. An extension of the HV network will supply a proposed transformer, placed in a suitable location on site. This transformer will then permit the underground low voltage (LV) network to distribute to the residential lots and street lighting network.

The power plan shows a HV cable very close to the northern boundary and in some areas crossing the boundary. Whilst this is diagrammatic, the location of this HV cable would need to be confirmed and considered if this is alternatively the purpose of the 2m easement along Quinns Drive. This Cable location is shown in **Attachment D.**

3.7 Communications

Before You Dig mapping shows existing NBN communication infrastructure present in the northern verge of Quinns Road and eastern verge of Marmion Ave and the southwest boundary of the site at Salerno Drive. It is expected that an extension of this existing network will be required throughout the proposed subdivision to service the residential lots.

3.8 Mobile Communications

There are two existing mobile communication antennae located within 0.5km of the site, as shown in *Figure 4* below. It is expected that these will provide the required servicing for the future upgrades proposed.

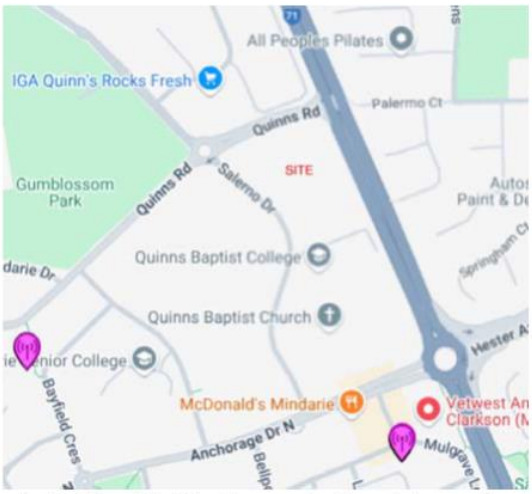


Figure 4 – Existing Mobile Communication Antenna (magenta)

Figures 5a and 5b below show Telstra's 4G AND 5G network coverage.

Figure 5a – 4G coverage (Green)

Figure 5b – 5G coverage (purple)

The Site is covered by 4G and 5G services.

3.9 Gas

Existing ATCO Gas infrastructure is present on the western verge of Salerno Drive and

It is expected that an extension of this medium-pressure natural gas service will be extended throughout the site at ATCO Gas' expense to service the proposed residential subdivision, provided common trenching is provided.

ATCO Gas records show an existing high pressure gas main situated in the western verge of Marmion Ave. Any excavation works within 15m of this service will require approval from ATCO gas. This is not expected to be an issue given the height difference between the Marmion Street verge and the site.

3.10 Road, Access and Parking

Marimion Avenue is a Main Roads Western Australia (MRWA) controlled road. Therefore, direct access from this road would require their approval. However, given the elevation difference, no direct access is required. A residential road running parallel to Marmion Street is proposed and this may require some form of crash barrier to be installed due to level difference between the two road reserves.

It is expected that the subdivision will require a noise impact assessment to determine if any noise remediation in the form of noise walls or quiet house design is required to comply with current planning requirements.

The proposed road access and intersections on Salerno Drive will require relocation of an existing street light and removal of 12 on-street parking bays. Approval from Western Power and the local authority will be required for these works.

The footpath grades within the site are expected to exceed the requirements for disability compliant access due to the cut and fill requirements across the site. This is not uncommon in areas of steep topography. Further discussions are required with the local authority to confirm that this is agreeable.

It is understood a separate traffic impact review is being undertaken for the site that will address road access and traffic impacts.

4.0 CONCLUSIONS

No servicing issues were found that would prevent this lot from being re-zoned to suit a residential subdivision.

There are several design issues associated with the development that will require further investigation and resolution as the design progresses. The risks identified are summarised below:

1. Earthworks and retaining wall design to be progressed, ensuring no retaining walls are constructed within the existing sewer easements and no loading of retaining walls impacts existing services.
2. The Design Information Package (DIP) to be submitted early to Western Power to determine the extent of any off-site infrastructure upgrades required to facilitate the development.
3. Further discussions are required with the local authority to confirm suitable footpath grades for the development as part of design process
4. Review the existing Water Corporation sewer and easement alignment in comparison with the proposed subdivision layout. A slight adjustment of the proposed boundaries to lots 26 and 27 may be required.
5. Discussions to be held with WCWA to either relocate or protect the existing small section of 200mm water in the north east corner of the site, if it is found to be within the proposed POS lot.
6. Location of HV cabling along Quinns Road and review as to whether the 2m easement is not water related but intended to protect the HV cabling
7. Further discussions are required with the local authority regarding the removal of on-street parking on Salerno Drive to facilitate the proposed road access.
8. Discussions required with the school site to determine if an additional sewer service connection will be required for the future school lot.

The identified issues need to be resolved as the project evolves, but are not considered restrictive to the proposed residential development of this site.

APPENDIX A - PROPOSED SUBDIVISION LAYOUT

0 8 16 24 32 40m

SUBDIVISION CONCEPT PLAN
50 Salerno Drive, MINDARIE

NOTE:
Base Data supplied by BE SURVEYS
Aerial Photography supplied by LANDGATE (capture date - Sept/2023)
Areas and dimensions shown are subject to final survey calculations and servicing requirements.

Revision	Date	Item
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LEGEND
- SUBJECT LOT BOUNDARY
- PROPOSED R40 LOTS
- PROPOSED POS / DRAINAGE
- RETAINED FOR FUTURE SCHOOL USE

Tomahawk Property Pty Ltd	:	CLIENT
A3@1:000	:	SCALE
23 JUNE 2025	:	DATE
5OS-DC-002	:	PLAN No
D	:	REVISION
B.C.	:	PLANNER

TOMAHAWK PROPERTY
M: 0413 010 830
E: bcarmody@tomahawkproperty.com.au

APPENDIX B - EXISTING SERVICES PLAN

PROJECT: LOT 507 (50) SALERNO DRIVE MINDARIE

COPYRIGHT

Porter Consulting Engineers

CLIENT: THE ANGLICAN SCHOOL COMMISSION INCORPORATED

DRAWING: EXISTING SERVICES PLAN

STATUS: FOR INFORMATION

SCALE: 1:500 | DATE: Jun-25 | DESIGN: BH | DRAWN: MEG

DRAWING No.: 25-5-69/800 | REV No.: A | ORIGINAL DRAWING SIZE: A1

APPENDIX C - WATER CORPORATION ADVICE

Brad Harris

From: Matt Calabro <Matt.Calabro@watercorporation.com.au>
Sent: Tuesday, 1 July 2025 3:10 PM
To: Brad Harris
Subject: RE: SF0010631 - 507, Salermo Drive, Mindarie

Hi Brad,

I believe the Easement was for the Water Main but at some point it's either been relocated or the road has been widened.

When you submit the Structure plan or subdivision to us for referral, we can go through the process of lifting it or transferring it over as it is no longer required.

Regards,

Matt Calabro
Senior Advisor – Land Use Planning
Development Services

I'm shaping WA's *water future*

WATER CORPORATION

In the spirit of reconciliation, Water Corporation acknowledges the Traditional Custodians of Country throughout WA and their enduring connections to land, sea and community. We pay our respects to Elders past and present, and extend that respect to all Aboriginal and Torres Strait Islander peoples today.

From: Brad Harris <brad@portereng.com.au>
Sent: Tuesday, 1 July 2025 2:34 PM
To: Matt Calabro <Matt.Calabro@watercorporation.com.au>
Cc: Rachel Thomson <rachel@portereng.com.au>; Jarryd Treacy <jarryd@portereng.com.au>
Subject: RE: SF0010631 - 507, Salermo Drive, Mindarie

Hi Matt – on the northern boundary to Quinns RD – there is a 2m easement which we understand is for WCWA for a water easement.

The 375mm water main is located well away into the road reserve and wondering what this easement is for as it will impact the development – and currently I cant see what the purpose is for. Do you have any more details?

Regards

Brad Harris | Managing Director

Porter Consulting Engineers
58 Kishorn Road | Mt Pleasant | WA 6153
PO Box 1036 | Canning Bridge | WA 6153
T: (08) 9315 9955 | **M:** 0413 614 111

Porter Consulting Engineers

1

website | vCard | map | email

From: Matt Calabro <Matt.Calabro@watercorporation.com.au>
Sent: Tuesday, 1 July 2025 9:18 AM
To: Brad Harris <brad@portereng.com.au>
Subject: SF0010631 - 507, Salermo Drive, Mindarie

Hi Brad,

I've been looking into your service feasibility request for the development at Lot 507 Salerno Drive, Mindarie.

Yes, Water and Sewer are available by extension to the proposed development.

If you have any other questions, please let me know.

Regards,

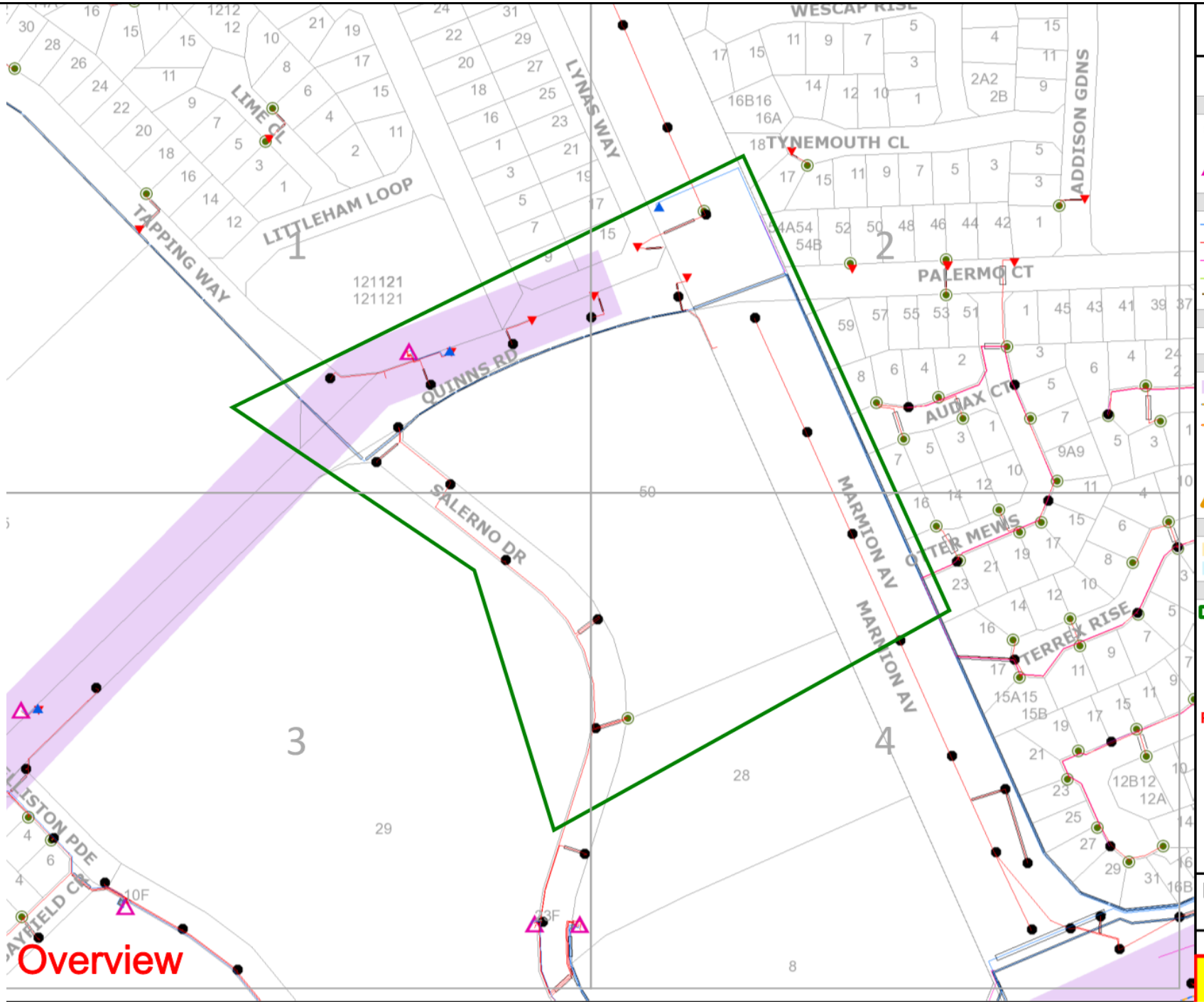
Matt Calabro
Senior Advisor – Land Use Planning
Development Services

I'm shaping WA's *water future*

WATER CORPORATION

In the spirit of reconciliation, Water Corporation acknowledges the Traditional Custodians of Country throughout WA and their enduring connections to land, sea and community. We pay our respects to Elders past and present, and extend that respect to all Aboriginal and Torres Strait Islander peoples today.

APPENDIX D - WESTERN POWER HV CABLE



westernpower

UNDERGROUND LEGEND

Structures

- Pillar
- Metal Pole
- Transformer Site
- UG Crossing
- Ring Main Ur
- LV Distributio Frame

Distribution Cables

- High Voltage Cable (1kV - 33kV)
- Low Voltage Cable (< 1kV)
- Street Light Circuit (< 1kV)
- Street Light Pilot (< 1kV)
- Earth Wire

Cable Pole Terminations

- HV Termination
- LV Terminatio

Proposed Construction Assets

- Design Area *
- High Voltage Underground Cable
- Low Voltage Underground Cable
- Metal Pole
- HV Terminatic
- Pillar
- LV Terminatio
- Transformer site

State Underground Power Projec

- CURRENT Work Area *
- COMPLETED Area *

Feature

- Area of Interest

*** Please refer to covershee**

Privately owned cables NOT SHOV (including house services)

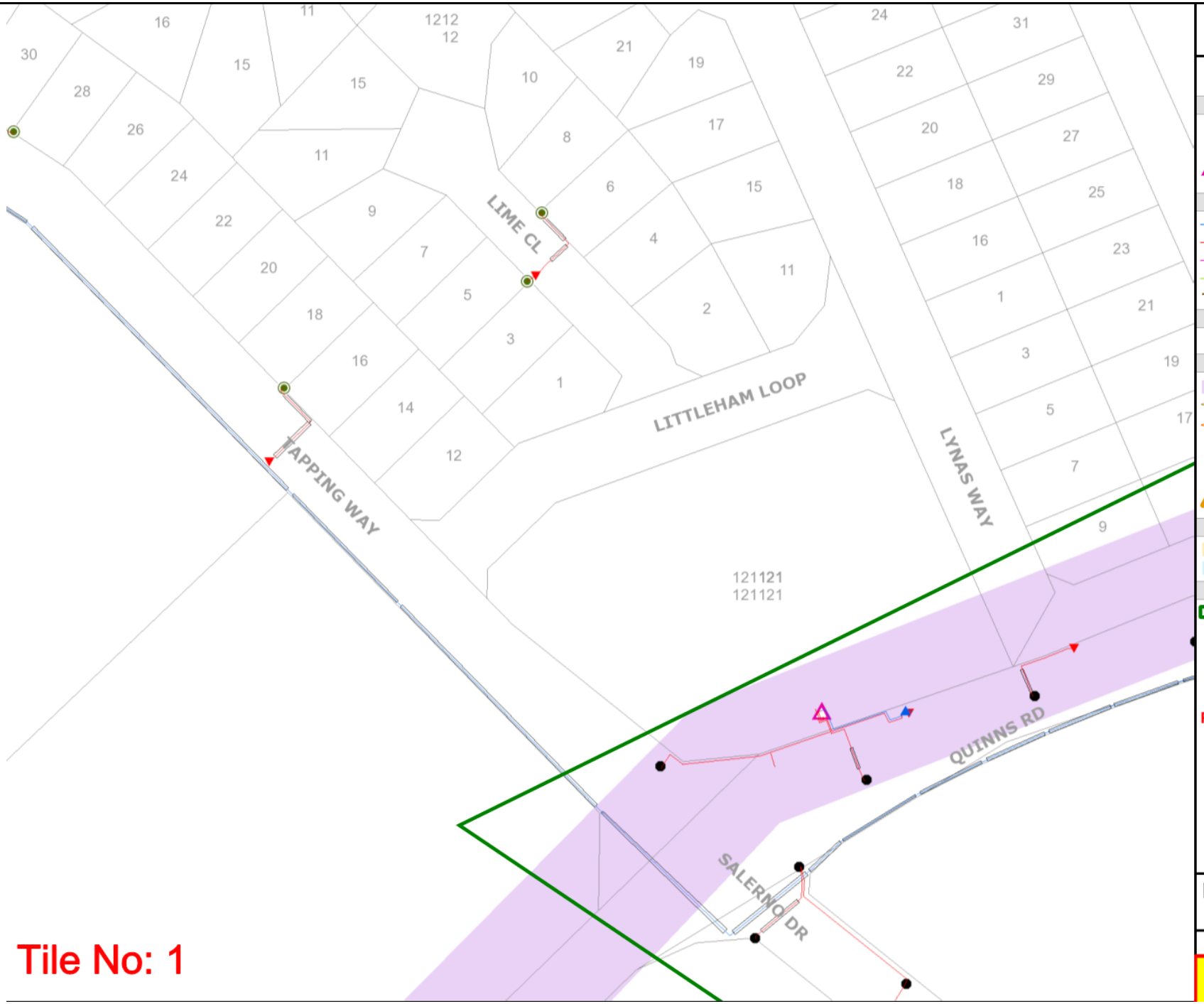
This map is INDICATIVE ONLY. Hand exposure via pothole method is MANDATORY.

Telephone Support: 1300 769 345 Mon to Fri - 08:00 to 16:30

Information valid for 30 day from date of issue

A4 | Scale : 1:3075

WARNING! Look out for overhead power lines



Tile No: 1

westernpower

UNDERGROUND LEGEND

Structures

- Pillar
- Metal Pole
- Transformer Site
- UG Crossing
- Ring Main Ur
- LV Distributio Frame

Distribution Cables

- High Voltage Cable (1kV - 33kV)
- Low Voltage Cable (< 1kV)
- Street Light Circuit (< 1kV)
- Street Light Pilot (< 1kV)
- Earth Wire

Cable Pole Terminations

- HV Termination
- LV Terminatio

Proposed Construction Assets

- Design Area *
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- LV Terminatio

State Underground Power Projec

- CURRENT Work Area *
- COMPLETED Area *

Feature

- Area of Interest

*** Please refer to covershee**

Privately owned cables NOT SHOV (including house services)

This map is INDICATIVE ONLY. Hand exposure via pothole method is MANDATORY.

Telephone Support: 1300 769 345 Mon to Fri - 08:00 to 16:30

Information valid for 30 day from date of issue

A4	Scale : 1:1500

WARNING! Look out for overhead power lines

ATTACHMENT 4

Bushfire Report (Bushfire Prone Planning)

Bushfire management plan/statement addressing the Bushfire Protection Criteria coversheet

Site address: Lot 507 (#50) Salerno Drive Mindarie

Site visit: Yes ☑ No ☐

Date of site visit (if applicable): Day 30 Month June Year 2025

Report author or reviewer: Kathy Nastov

WA BPAD accreditation level (please circle):

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

If accredited please provide the following.

BPAD accreditation number: 27794 Accreditation expiry: Month August Year 2025

Bushfire management plan version number: #250617 v1.0

Bushfire management plan date: Day 2 Month July Year 2025

Client/business name: Proponent: Tom Carmody (Tomahawk Property)

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

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

None of the above ☐

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

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

Proposed subdivision of Lot 507 Salerno Drive.

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

Signature of report author or reviewer 

Date 15/07/2025

BUSHFIRE PRONE PLANNING

50 Salerno Drive Mindarie

Bushfire Management Plan

(PREPARED FOR PLANNING APPLICATION ASSESSMENT PURPOSES)

Compiled in accordance with State Planning Policy 3.7 Bushfire and the Planning for Bushfire Guidel

Lot 507 (#50) Salerno Drive Mindarie

City of Wanneroo

Subdivision Application

2 July 2025

Job Reference No: 250617

BPP GROUP PTY LTD T/A BUSHFIRE PRONE PLANNING

ACN: 166 551 784 | ABN: 139 166 551 784

SUITE 11, 36 JOHNSON STREET
GUILDFORD WA 6055

PO BOX 388
GUILDFORD WA 6935

08 6477 1144 | admin@bushfireprone.com.au

DOCUMENT CONTROL

PREPARATION		
Reviewed:	Kathy Nastov (BPAD Level 3 No. 27794)	
Author:	Elissa Edward (BPAD Level 1 No. 61931)	

VERSION HISTORY		
Version	Status/Details	Date
1.0	Original	2 July 2025
-	-	

DISTRIBUTION					
Destination		Version	No. Copies	Hard Copy	Electronic Copy
Person	Email				
Tom Carmody	tcarmody@tomahawkproperty.com.au	1.0		☐	☒
Kristy McKay	kmckay@tomahawkproperty.com.au	1.0		☐	☒

Limitations: *The protection measures that will be implemented based on information presented in this Bushfire Management Plan are minimum requirements and they do not guarantee that buildings or infrastructure will not be damaged in a bushfire, persons injured, or fatalities occur either on the subject site or off the site while evacuating.*

This is substantially due to the unpredictable nature and behaviour of fire and fire weather conditions. Additionally, the correct implementation of the required protection measures (including bushfire resistant construction) and any other required or recommended measures, will depend upon, among other things, the ongoing actions of the landowners and/or operators over which Bushfire Prone Planning has no control.

All surveys, forecasts, projections and recommendations made in this report associated with the proposed development are made in good faith based on information available to Bushfire Prone Planning at the time. All maps included herein are indicative in nature and are not to be used for accurate calculations.

Notwithstanding anything contained therein, Bushfire Prone Planning will not, except as the law may require, be liable for any loss or other consequences whether or not due to the negligence of their consultants, their servants or agents, arising out of the services provided by their consultants.

TABLE OF CONTENTS

LIST OF FIGURES

STATEMENT OF PURPOSE – THE 'PLANNING' BUSHFIRE MANAGEMENT PLAN

EXPLANATORY INFORMATION

SITE/USE PLANNING

This BMP is produced to present the information necessary for a planning proposal's assessment against the State's bushfire planning requirements. The developed information is to inform and assist decision-making authorities, planners, landowners/proponents and referral agencies in their implementation WA's State Planning Policy 3.7 Bushfire – and where relevant, any supplementary provisions of a local planning scheme or policy.

Policy Document Versions Applied in This BMP	State Planning Policy 3.7 Bushfire (SPP 3.7)	November 2024	Planning for Bushfire Guidelines (supporting SPP 3.7	November 2024

The Stated Intent of SPP 3.7 is to *implement effective, risk based land use planning and development which in the first instance avoids bushfire risk, but where unavoidable, manages and/or mitigates the risk to people, property and infrastructure to an acceptable level. The preservation of life and the management of bushfire impact are paramount.*

SITE OPERATIONS

This BMP is not an 'operational' BMP for property and operations management. Such a BMP would apply additional and more specific bushfire protection measures to more comprehensively reduce the level of risks associated with a bushfire event. These being the potential loss of life, injury, or destroyed or damaged assets which results in personal loss and economic loss.

However, this 'planning' BMP does establish certain responsibilities for the implementation and maintenance of the bushfire protection measures that are considered the minimum for bushfire planning decision making.

BUSHFIRE RESISTENT CONSTRUCTION

This 'planning' BMP is not required to consider the requirement to construct certain buildings, in designated bushfire prone areas, to the standard corresponding to the Bushfire Attack Level (BAL) they are subject to. This requirement is dealt with under the State Building Act 2011/Building Regulations 2012 and the referenced Building Code of Australia.

DETERMINED BUSHFIRE ATTACK LEVEL (BAL) RATINGS AND CONSTRUCTION – CAUTION!

For construction purposes a determined (not indicative) BAL rating is required to be known and a BAL Certificate produced for submission with a building application. This establishes the construction design and materials that are to be complied with in accordance with AS 3959 Construction in bushfire prone areas (as amended) and/or NS 300 NASH Standard Steel Framed Construction in Bushfire Areas (as amended).

This 'planning' BMP cannot necessarily determine a BAL rating that will apply to a future building. All variables required for that calculation may not be known at the assessed stage of planning. For example, actual location of a building footprint on a lot and/or any classified vegetation that will remain, at the time of construction, within the lot or on neighbouring lots.

This 'planning' BMP is only required to identify if a viable sized building can be located on a lot and be subject to a BAL rating not exceeding BAL-29, based on certain allowable assumptions. This is a planning requirement not a building requirement and a BAL contour map can be used to illustrate this information as an 'indicative' BAL rating.

Be aware that typically you cannot derive the determined BAL rating for a future building(s) on a specific lot from a BAL contour map (when presented in a BMP prepared for planning approval purposes). This is only possible in limited circumstances.

Planning assessment requirements are different to building assessment requirements. Refer to explanatory information above and Appendix B1 for additional information.

1 THE PLANNING PROPOSAL

1.1 Details, Plans and Maps

SUBJECT LAND AND PROPONENT (LANDOWNER)		
Address Details	Lot 507 (#50) Salerno Drive Mindarie	
Applicable Local Government	City of Wanneroo	
Proponent	Tom Carmody of Tomahawk Property	
Entity Commissioning Production of the BMP	Tomahawk Property	
THE PLANNING PROPOSAL STAGE AND TYPE		
Subdivision Applications and Structure Plans where the lot layout is known	☑	Proposed lot division that is subject to bushfire planning requirements.
DESCRIPTION		
Number of Additional Lots Created	Existing lot(s) = 1 / Proposed lot(s) = 57	

This Bushfire Management Plan has been prepared to facilitate the development of the subject land into a combination of land uses including:

- 55 Residential lots
- 1 POS/Drainage lot
- 1 lot "Retained for future school use"

0 8 16 24 32 40m

SUBDIVISION CONCEPT PLAN
50 Salerno Drive, MINDARIE

NOTE:
Base Data supplied by BE SURVEYS
Aerial Photography supplied by LANDGATE (capture date - Sept/2023)
Areas and dimensions shown are subject to final survey calculations and servicing requirements.

Revision	Date	Item
A	12/06/25	Initial Issue

LEGEND
- SUBJECT LOT BOUNDARY
- PROPOSED R40 LOTS
- PROPOSED POS / DRAINAGE
- RETAINED FOR FUTURE SCHOOL USE

Tomahawk Property Pty Ltd	:	CLIENT
A3@1:000	:	SCALE
23 JUNE 2025	:	DATE
5OS-DC-002	:	PLAN No
D	:	REVISION
B.C.	:	PLANNER

TOMAHAWK PROPERTY
M: 0413 010 830
E: bcarmody@tomahawkproperty.com.au

Figure 1.2

Proposed Subdivision

Lot 507 on Plan P023457; Area: 3.2490 ha
50 Salerno Drive
MINDARIE, 6030
CITY OF WANNEROO

------ LEGEND ------

- Subject Site
- Cadastral
- Hydrants
- Proposed Lots
- Drainage
- Retained for Future School Use
- Proposed Roads

0 15 30 45 60 75

Metres

------ LOCALITY ------

AERIAL IMAGERY: Landgate/SLIP

Coordinate System: GDA 1994 MGA Zone 50
Projection: Universal Transverse Mercator Units: Metre
Map by: 01-07-2025
SCALE (A3): 1 : 1200

BUSHFIRE PRONE PLANNING

Figure 1.3

Location Map

Lot 507 on Plan P023457; Area: 3.2490 ha
50 Salerno Drive
MINDARIE, 6030
CITY OF WANNEROO

------ LEGEND ------

- Subject Site
- Bush Forever Sites

DBCA Legislated Lands and Waters

- National Park
- Nature Reserve
- State Forest

DBCA Lands of Interest

- Crown Freehold - Dept Interest

DFES Stations

- Bush Fire Brigade
- Career Fire Rescue Service

0 1 2 km

Kilometres

------ LOCALITY ------

AERIAL IMAGERY: Landgate/SLIP

Coordinate System: GDA 1994 MGA Zone 50
Projection: Universal Transverse Mercator Units: Metre
Map by: 01-07-2025
SCALE (A3): 1 : 30000

BUSHFIRE PRONE PLANNING

1.2 The Planning Proposal and its Requirement to Address Bushfire Risk

EXPLANATORY INFORMATION

For the subject planning proposal, the intent of this section is to:

- Identify the relevant statutory bushfire planning provisions that have established its requirement to address bushfire risk;
- Identify the relevant policy/guideline 'triggers' to apply SPP 3.7 Bushfire;
- Identify when a local government, as the decision maker, has established additional 'triggers' to apply defined bushfire planning assessments; and
- Identify the consideration of any relevant exemptions from application of SPP 3.7 Bushfire.

Relevant Terms

Development means the development or use of any land, including (a) any demolition, erection, construction, alteration of or addition to any building or structure on the land (b) the carrying out on the land of any excavation or other works (Planning and Development Act 2005, Part1, s.4; and

Habitable building means a permanent or temporary structure on land that:

(a) is fully or partially enclosed; and

(b) has at least one wall of solid material and a roof of solid material; and

(c) is used for a purpose that involves the use of the interior of the structure by people for living, working, studying or being entertained;

Specified building means a structure of a kind specified in this Scheme as a kind of structure to which this Part applies in addition to its application to habitable buildings.

Development site means that part of a lot on which a building that is the subject of development stands or is to be constructed - Planning and Development (LPS) Regulations 2015, s.78A.

Construction of a building includes the erection, assembly or placement of a building but does not include the renovation, alteration, extension, improvement or repair of a building;

1.2.1 Applied Statutory Bushfire Provisions Requiring a Planning Application

A PLANNING APPLICATION IS TO BE SUBMITTED TO WAPC FOR DETERMINATION

For the proposed subdivision, WAPC is the decision maker.

Determination will be made under the Planning and Development Act 2005, its relevant subsidiary legislation and associated State Planning Policies.

As the subject site is wholly or partly within a designated bushfire prone area (Map of Bushfire Prone Areas), due regard must be given to State Planning Policy 3.7 Bushfire.

1.2.2 Applied Triggers to Apply State Planning Policy 3.7 Bushfire

EXPLANATORY INFORMATION

State Planning Policy 3.7 Bushfire (SPP 3.7) provides broad objectives and high-level guidance for how planning proposals and development applications within bushfire prone areas should be considered. Implementation is supported by more detailed instructions within the *Planning for Bushfire Guidelines*.

The following table identifies the guidance that has resulted in the planning proposal being required to apply SPP 3.7.

Inconsistent Information (as of December 2024):

- There are inconsistences between the provisions of the applicable legislation (Planning and Development (LPS) Regulations 2015), the clauses of the associated policy (SPP 3.7 Bushfire) and its associated guidance (Planning for Bushfire Guidelines Nov. 2024).
- This has resulted in inconsistencies in the establishment of the 'triggers' to lodge proposals, plans and applications for planning approval sourced from these documents.

Until legislation/policy/guideline amendments are completed, the advice from WAPC/DPLH is that the decision maker should apply SPP 3.7 and the Guidelines as they deem necessary. *(Source: Explanatory Note SPP 3.7, DPLH, 25/11/24)*

Bushfire Prone Planning's Current Approach:

- To apply the 'triggers' for application of SPP 3.7/Guidelines in accordance with the current version of the Guidelines (Planning for Bushfire Guidelines, November 2024), in Sections 6, 7 and 8 - as this is best aligned with the current version (3 Nov 2024) of the LPS Regulations 2015; unless
- The relevant decision maker has determined, and confirmed in writing to the proponent, that SPP 3.7/Guidelines is to be applied.

SPP 3.7 AND THE GUIDELINES - ESTABLISHING THE NEED TO GIVE DUE REGARD TO SPP 3.7		APPLICABLE
1	THE LAND SUBJECT TO THE PLANNING PROPOSAL IS:	
	Designated bushfire prone and 'Area 1 (Urban)' on the Map of Bushfire Prone Areas (refer to Figure 1.4); or	Yes
	Designated bushfire prone and 'Area 2' on the Map of Bushfire Prone Areas (refer to Figure 1.4).	No
AND		
2	THE PLANNING PROPOSAL WILL:	
	Result in the intensification of development (or land use); or	Yes
	Result in an increase of visitors, residents or employees; or	Yes
	Adversely impact or increase the bushfire risk to the subject or surrounding site(s).	No
AND		
3	THE PLANNING PROPOSAL IS A:	
	(Source: SPP 3.7, Part 4) A subdivision application that has or will have the subject site exposed to a Bushfire Attack Level (BAL) rating above BAL-LOW.	

1.2.3 Applied Triggers Established by the Local Government as the Decision Maker

EXPLANATORY INFORMATION

The applicable local government is required to give due regard to the following:

The Deemed Provisions in Schedule 2 of the Planning and Development (Local Planning Schemes) Regulations 2015, where:

- Part 2 cl. 3 provides for the local government to prepare a local planning policy; and
- Part 9 cl. 67(q & r) establishes the local government must give due regard to:
  - The suitability of the land for the development taking into account the possible risk of flooding, tidal inundation, subsidence, landslip, bush fire, soil erosion, land degradation or any other risk.
  - The suitability of the land for the development taking into account the possible risk to human health or safety.

Under these general provisions, in addition to the specific statutory bushfire provisions identified in Section 1.2.1, the local government may have bushfire planning policy/information (under the local planning scheme) which is to be addressed in this BMP. This is identified below as relevant.

ESTABLISHING THE NEED TO APPLY LOCAL GOVERNMENT DEFINED BUSHFIRE PLANNING REQUIREMENTS	
Identification of the Relevant Instrument	No indication of applicability from the local government authority.

1.2.4 Identified Exemptions

EXPLANATORY INFORMATION	
The following situations provide for an exemption from the application of SPP 3.7/Guidelines. They are established by the stated sources and are presented below as: • Evidence they have been considered when relevant; and • Justification for the application of SPP 3.7/Guidelines despite a relevant exemption applying to part or all of the planning proposal.	
EXEMPTION SCENARIOS	APPLICABLE
(Source: LPS Regulations 2015 Part 10A - Bushfire risk management) Does not apply to land where there is no existing local planning scheme or where a local planning scheme has ceased to have legal effect.	No
(Source: Guidelines s1.2.1) For a structure plan or subdivision application, for proposed lot(s) that: • Are not designated as bushfire prone; • Or where there is no increase in the development potential and therefore no intensification of land use or bushfire risk, such as a boundary realignment, that does not restrict the ability to establish or maintain an APZ; and • does not restrict vehicular access/egress to any existing or future habitable building.	No
(Source: Guidelines s1.2.1) - For incidental non- habitable buildings or structures located not less than six metres from the habitable building, including but not limited to private garages, carports, patios, storage sheds, outbuildings, swimming pools, spa pools and fences.	No
(Source: Guidelines s1.2.1) - For a change of use, minor renovations, extensions, alterations, improvements or repair of an existing habitable building where: • The application does not result in an increase of occupants onsite; and/or • There is no increase in the bushfire risk, such as an extension being further away from the bushfire hazard, or the extension does not restrict vehicular access or the provision of water for the development.	No
Assessment Supporting Details: Nil exemptions identified. However, the primary bushfire prone vegetation (on the subject site) which results in classification as Bushfire Prone Area 1, is proposed to be entirely removed for the subdivision. Refer to Figure 1.4.	

Figure 1.4

Bushfire Prone Area

Lot 507 on Plan P023457; Area: 3.2490 ha
50 Salerno Drive
MINDARIE, 6030
CITY OF WANNEROO

------ LEGEND ------

- Subject Site

Bushfire Prone Area 2024 OBRM_023

- Bushfire Prone Area 1
- Bushfire Prone Area 2

DFES Stations

- Bush Fire Brigade
- Career Fire Rescue Service

0 0.5 1 km

Kilometres

------ LOCALITY ------

AERIAL IMAGERY: Landgate/SLIP

Coordinate System: GDA 1994 MGA Zone 50
Projection: Universal Transverse Mercator Units: Metre
Map by: 01-07-2025
SCALE (A3): 1 : 22000

BUSHFIRE PRONE PLANNING

1.3 Required 'Bushfire Planning' Assessments and Documents

INFORMATION PRESENTED IN THIS 'PLANNING' BMP (OR THE BEP) - PROVIDED TO ACCOMPANY THE PROPONENT'S PLANNING SUBMISSION						
The requirements are established by SPP 3.7 Part 4, Guidelines Section 1.2, 4.4, 5.5, 6.4, 7.2, 8.3 and A1.2. The green highlighted column identifies the required information for the subject planning proposal.		Strategic Planning Document		Structure Plan / Subdivision Application		Development Application
Required Information	Details	Map of Bushfire Prone Areas Designation				
		Area 1 (Urban)	Area 2	Area 1 (Urban)	Area 2	Areas 1 & 2
Environment - Identification of environmental, biodiversity or conservation values on subject site(s)	Presented in the BMP. Identifies how proposal siting and design avoids and/or minimises clearing of native vegetation in applying required bushfire protection measures.	BUSHFIRE PLANNING ASSESSMENTS ARE NOT REQUIRED	✓	✓	✓	✓
BLA - Broader Landscape Assessment (see note below)	Presented in the BMP. Considers subject site suitability based on exposure to bushfire hazards, potential for landscape scale bushfire, road network and suitable evacuation destinations.		✓	-	✓	-
BHL - Bushfire Hazard Level Assessment (pre-development)	Presented in the BMP. Can include detail of treatments required to achieve BHL of moderate and/or low.		✓	-	-	-
BAL - Bushfire Attack Level Assessment	Presented in the BMP in BAL contour map format as a requirement and in table format as an additional option.		-	✓	✓	-
	Presented in the BMP in table format and/or BAL contour map format – dependant on which is more efficient and effective at presenting the results (e.g. BAL contour map for multiple buildings).		-	-	-	✓
BPC - Assessment against the relevant Elements (E1 – E4) of the Bushfire Protection Criteria	Presented in the BMP. Strategic planning will necessarily focus on Element 1: Location. Can demonstrate compliance using acceptable solutions and/or an outcomes-based approach.		✓	✓ **Excluding E1**	✓	✓ **Excluding E1**
BEP - Bushfire Emergency Plan	For vulnerable land uses only. Provided as a separate document or an addition / modification to an existing BEP or site Emergency Management Plan.		-	-	-	-
LMP – Landscape Management Plan	For vulnerable land uses only. Provided as a separate document or an addendum to the BMP.					
Note: Where a relevant planning proposal (e.g. subdivision) was previously assessed and approved under the SPP 3.7/Guidelines 2015, it is likely that a BLA will not be required. Also, if an application (e.g. subdivision) is compliant with a structure plan and/or a local planning scheme amendment, which were assessed and approved under the 2015 SPP/Guidelines, it is likely that a BLA will not be required. Confirmation from a relevant DPLH officer may be required (DPLH advice to BPP 20/2/2025).						

1.4 Other Documents Relevant to Preparing the BMP

EXPLANATORY INFORMATION

This section identifies any known assessments, reports or plans that have been conducted and prepared previously, or are being prepared concurrently, and are relevant to the subject planning proposal.

They may have implications for the assessment of bushfire hazard threats and the identification and implementation of the bushfire protection measures that are established by this BMP.

RELEVANT DOCUMENTS

Document	Relevant	Exists	To Be Concurrently Developed	Copy Provided by Proponent / Developer	Title
Structure Plan	No	N/A	N/A	N/A	-
Bushfire Management Plan	No	N/A	N/A	N/A	-
Implications for the BMP: No known or identified prior bushfire management plans exist for the site (this document only).					
Preliminary bushfire advice (may include a BAL contour map)	No	No	No	N/A	-
Bushfire Emergency Plan	No	No	No	N/A	-
Bushfire Risk Report	No	No	No	N/A	-
Environmental Asset or Vegetation Survey	Yes	Yes	No	Yes	*Lot 507 Salerno Drive, Mindarie – Vegetation Assessment. By PGV Environmental, dated 13 September 2024.*
Refer to Section 2.1 for details.					
Landscape Management Plan	No	No	No	N/A	-
Refer to Section 2.3 for details.					
Revegetation Plan	Yes	No	Yes	No	-
Refer to Section 2.3 for details.					

2 ENVIRONMENTAL CONSIDERATIONS – NATIVE VEGETATION

EXPLANATORY INFORMATION

Some bushfire prone areas also have high biodiversity values. SPP3.7 objective 5.4 prioritises the retention of native vegetation for biodiversity conservation, environmental protection and landscape amenity.

Clearing or modification of native vegetation for the purpose of land use or development is assessed under **State Planning Policy 2: Environment (SPP 2), State Planning Policy 2.8: Bushland policy for the Perth Metropolitan Region (SPP 2.8)** and relevant environmental legislation. A key objective of these polices is to avoid development that may result in unacceptable environmental damage.

Any 'modification' or 'clearing' of vegetation to reduce bushfire risk is considered 'clearing' under the ***Environmental Protection Act 1986*** (EP Act) and requires a clearing permit under the ***Environmental Protection (Clearing of Native Vegetation) Regulations 2004*** (Clearing Regulations) – unless for an exempt purpose.

Clearing native vegetation is an offence, unless done under a clearing permit or the clearing is for an exempt purpose. Exemptions are contained in the EP Act or are prescribed in the Clearing Regulations (note: these exemptions do not apply in environmentally sensitive areas).

The ***Department of Water and Environmental Regulation*** (DWER) is responsible for issuing 'clearing' permits and the framework for the regulation of clearing. Approvals under other legislation, from other agencies, may also be required, dependent on the type of flora or fauna present.

Local Planning Policy or Local Biodiversity Strategy: Natural areas that are not protected by the above Act and Regulation (or any other National or State Acts) may be protected by a local planning policy or local biodiversity strategy. Permission from the local government will be required for any modification or removal of native vegetation in these Local Natural Areas (LNA's). Refer to the relevant local government for detail.

For further Information refer to Native vegetation clearing permits | Western Australian Government, the Planning for Bushfire Guidelines (as amended) and the Bushfire and Vegetation Factsheet - WAPC, Dec 2021.

2.1 Biodiversity or Conservation Values Identified

EXPLANATORY INFORMATION

The required information, relevant to bushfire planning and informing the production of this BMP, is sourced and presented as indicated below.

Note that where a 'desktop' assessment has been conducted, this should not be considered a replacement for a full Environmental Impact Assessment. It is a summary of potential biodiversity or conservation values at the subject site, inferred from information contained in public available datasets and/or reports, which are only current to the date of last modification.

The information provided in the BMP should be considered indicative where the subject site has not previously been subject to a site-specific environmental assessment by an appropriate professional.

The required information is sourced from the environmental/planning consultant report developed for the subject site and provided to the bushfire consultant (details below when applicable). The information it contains is not repeated in this BMP as it will accompany the planning submission. The implications for the subject planning proposal and this BMP are stated below when relevant.	Yes - Partly
Lot 507 Salerno Drive, Mindarie – Vegetation Assessment. By PGV Environmental, dated 13 September 2024. Conclusions made in the PGV report regarding the implications for vegetation clearing should be considered separately from the implications determined in this Bushfire Management Plan.	
The required information is sourced by the bushfire consultant as a 'desktop' assessment from publicly available data bases and/or a local government's local biodiversity strategy or local planning strategy. When applicable, this information is presented on the following pages of this BMP.	Yes - Fully

IDENTIFICATION OF RELEVANT BIODIVERSITY OR CONSERVATION VALUES							
Dataset	Relevant to Subject Planning Proposal	Influence on Bushfire Threat Levels and / or Application of Bushfire Protection Measures	Information Source(s) Applied				Further Action Required by Proponent
			WA Govt. Agency Dataset (ID)		Landowner or Developer Statements	Environmental Asset or Vegetation Survey Report	
Department of Biodiversity, Conservation and Attractions (DBCA) Datasets							
Conservation Category Wetlands and Buffer (geomorphic wetlands – relevant area)	Unlikely	No	☐	DBCA-	☐	☐	None
RAMSAR Sites (wetlands of international importance)	Unlikely	No	☒	DBCA-010	☐	☐	None
Threatened and Priority Flora	Unknown	Unknown	Restricted Scale of Data Available (security)	DBCA-036	☐	☐	Data not available - confirm with relevant agency
Threatened Ecological Communities	Unknown	Unknown		DBCA-038	☐	☐	Data not available - confirm with relevant agency
Legislated Lands and Waters (national/conservation parks, nature/crown reserves, state forest)	Unlikely	No	☒	DBCA-011	☐	☐	None
Department of Planning, Lands and Heritage (DPLH) Datasets							
Bush Forever Areas 2000	Unlikely	No	☒	DPLH-019, 022 and MRS Bush Forever	☐	☐	None
Department of Water and Environmental Resources (DWER) Datasets							
Clearing Regulations – Environmentally Sensitive Areas	Unlikely	No	☒	DWER-046	☐	☐	None
Swan Bioplan Regionally Significant Natural Areas 2010	Unlikely	No	☒	DWER-070	☐	☐	None

2.2 Response of the Planning Proposal to Protection of Native Vegetation

The protection of native vegetation is to be prioritised by avoiding areas that would require clearing or modification of native vegetation, specifically for the purpose of bushfire mitigation (BMP Manual, November 2024 DPLH).

SOLUTIONS APPLIED TO MINIMISE NATIVE VEGETATION REMOVAL / MODIFICATION	
Clearing and/or modification of native vegetation is proposed and necessary.	Yes
Proposed Clearing: The entire subject site (entirety of Lot 507) is proposed by the proponent to be cleared of all native vegetation. Refer to Figure 3.1.1 *Classified Vegetation & Topography Map (Post Development)*. The proposed clearing for the development will involve the removal of vegetation in areas designated for urban infrastructure, including residential lots, roads, public open space areas and any utility easements. The clearing will occur in already partially disturbed or modified by prior land use. All onsite vegetation (the main bushfire hazard resulting in the area being classified as Bushfire Prone) is proposed by the proponent to be removed entirely for development. Proposed Modification: Refer to Figure 3.1.1. *Classified Vegetation & Topography Map (Post Development)* and Section 2.3.1 and Appendix A1.2 for justification details supporting the change. This Bushfire Management Plan gives consideration for the following key elements: (1) Landscaping initiatives - this will involve planting low-fuel species that align with bushfire risk management objectives where applicable. (2) The potential introduction of bushfire hazards as a result of potential re-vegetation located within POS/Drainage depicted in Figures 1.2 and 3.1.1 (depicted as "Area 11 Excluded"). It is assumed for the purposes of assessment that these areas will be planted to comprise low-fuel species (or non-vegetated) and receive maintenance to achieve s2.2.3.2 requirements of AS3959-2018. Refer to Section 2.3.1 and Appendix A1.2 of this report for justification. Demonstration of why the planning proposal cannot be re-designed or re-located to avoid clearing and/or modifying native vegetation: Not applicable.	
Conservation Response	
The proposal reserves native vegetation for conservation, recreation or environmental protection purpose. These can include ecological linkage, local natural area, waterway, or foreshore area or wetland buffer.	No
Siting / Design / Construction Responses	
Reduction in the proposed intensification of land use or development potential.	N/A
Containing or clustering areas of intensification of land use to reduce clearing requirements.	N/A
Consideration of locating proposed development to have greater initial vegetation separation distances from bushfire hazards by utilising non-vegetated interfaces.	N/A
Modification or redesign of the proposed areas of intensification of land use to avoid areas with high environmental, biodiversity or conservation values.	N/A
The proposal has applied a reduction in the intensification of land use or development potential (e.g. reduced lot yield or smaller building footprints), to ensure the retention of greater areas of native vegetation while achieving the required vegetation separation distances to limit exposure to unacceptable levels of potential bushfire impact.	N/A

The proposal situates required non-vegetated elements (e.g. footpaths, paved areas, roads, parking, open drainage channels, and major services delivery installed in common corridors), between bushfire hazards and elements at risk – to effectively achieve required vegetation separation distances with less vegetation clearing and/or modification.	N/A
The proposal applies building envelopes, and these have located to minimise the requirement to clear and/or modify native vegetation.	N/A
The proposal utilises the clustering habitable buildings to reduce requirements for native vegetation clearing and/or modification.	N/A
The proposal aligns roads and pathways to work around trees and other vegetation, preserving their ecological values.	N/A
The proposal establishes requirements for the construction of building(s) to satisfy the requirements corresponding to higher BAL ratings to ensure a reduced vegetation separation distance requirement.	N/A

2.3 Vegetation Management Plans with Implications for the BMP

EXPLANATORY INFORMATION

This section identifies the area(s) of land (supporting vegetation), within or near the subject site (i.e. onsite or offsite) to which one or more of the following scenarios and their corresponding management actions applies.

If none of these scenarios is relevant to the subject planning proposal, this is stated.

1. Area(s) subject to a **LANDSCAPE PLAN THAT RESULTS IN RELEVANT ELEMENTS AT RISK BEING EXPOSED TO A LOW BUSHFIRE THREAT LEVEL** from existing or planned area(s) of vegetation and establishes the following management actions:

    (a) To apply landscaping design (including the modification and/or establishment of plants/shrubs/trees), that will enable the area(s) to be excluded from classification under AS 3959 BAL determination methodology;

    (b) To actively manage the area(s) to maintain the low bushfire threat level in perpetuity. Thereby ensuring the applicable bushfire protection measures, applied in accordance with the BMP, remain effective;

    (c) To achieve and maintain the low threat state through using a combination of mechanisms including:

        (i) Minimising vegetation fuel loads through design and ongoing management;

        (ii) Using low flammability and/or higher moisture content species;

        (iii) Incorporating non-vegetated elements; and

    (d) To identify the entity responsible for ensuring the landscape plan is complied with in perpetuity and when required, will contain written confirmation of their acceptance of the responsibility.

2. Area(s) subject to a **LANDSCAPE PLAN THAT RESULTS IN RELEVANT ELEMENTS AT RISK BEING EXPOSED TO A REDUCED BUSHFIRE THREAT LEVEL** from existing or planned area(s) of vegetation and establishes the following management actions:

    (a) To apply landscaping design involving the removal and/or modification of existing vegetation that will enable the area(s) to be classified as a lower threat class under AS 3959:2018 BAL determination methodology;

    (b) To actively manage the area(s) to maintain the reduced bushfire threat level in perpetuity. Thereby ensuring the applicable bushfire protection measures, applied in accordance with the BMP, remain effective;

    (c) To identify the entity responsible for ensuring the landscape plan is complied with in perpetuity and when required, will contain written confirmation of their acceptance of the responsibility.

3. Area(s) subject to a **REVEGETATION PLAN THAT MAY RESULT IN RELEVANT ELEMENTS AT RISK BEING EXPOSED TO AN ADDITIONAL BUSHFIRE HAZARD AND/OR AN INCREASED BUSHFIRE THREAT LEVEL** from an existing area(s) of vegetation and establishes the following information:

    (a) The location of the areas to be revegetated (as distinct from natural regeneration which is accounted for in the vegetation classification under AS 3959 BAL determination methodology); and

    (b) A description of the planned design regarding density and species of plants/shrubs/trees to inform the bushfire consultant's classification of the vegetation under AS 3959:2018 BAL determination methodology.

Relevance of the Stated Scenarios to the Subject Planning Proposal	Only Scenario 1 is relevant.

2.3.1 Landscape Management Plan – Low Bushfire Threat Level

PLANNED LANDSCAPING – LOW BUSHFIRE THREAT LEVEL				
Assessment Details				Relevant
The area of land that is to be subject to a Landscape Management Plan is within the subject site (onsite). This can include the balance lot of a staged subdivision.				Yes
The landscape plan is recommended as a bushfire protection measure by the bushfire consultant for the reasons identified in the 'Additional Bushfire Protection Measures of this BMP.				Yes
Responsibility for Ongoing Management of the Landscaped Area				Yes
Landscaped Area	Persons / Agency		A Requirement Exists for Written Authority and/or Agreement to Remove/Modify/Manage Vegetation	
Onsite	Local Government	Yes	Yes - Manage	
Offsite	Main Roads WA	Yes	Yes - Removal	
An approved landscape management plan and/or written confirmation exists and is provided to demonstrate that agencies responsible for the ongoing management understand and support the vegetation classification assigned to the subject area and its resulting ongoing management implications on the agency.				No
A written authority and management agreement exists and is provided to demonstrate an arrangement between adjoining landowners as to the responsibility for establishment and ongoing management of the defined area of land subject to a Landscape Management Plan.				No
There are no existing landscape management plans or agreements known at the time of this report.				
Identification of the Area(s) of Land Subject to a Landscape Management Plan & Implications for the BMP				
The entire subject site (Existing Lot 507) is proposed by the proponent to be cleared of all vegetation during development. It is understood that this will *not* be in a staged approach. **Future POS/Drainage (refer to Figure 1.1)** It is acknowledged that the Future POS/Drainage lot may become vegetated in future. However, it is reasonably expected that the lot will be planted with low threat vegetation, and that it can and will be maintained at all times, and in perpetuity, in a low threat state as per Clause 2.2.3.2 of AS 3959. This will be the responsibility of the relevant landholder (i.e. local government). Upon approval of this Bushfire Management Plan, a Landscape Management Plan will be required, giving consideration to bushfire issues, specifically addressing future establishment and maintenance of the POS/Drainage lot to comprise low-fuel species that align with bushfire risk management objectives. **Future Lot 58 "Retained for Future School Use" (refer to Figure 1.1)** All vegetation on this lot is proposed to be removed during development. It is reasonably assumed that this area will not be re-vegetated. Until such time as the "Lot Retained for Future School Use" is developed, it must be maintained in a low threat state, which shall include slashing of grasses to a height under 10cm at all times. Any future vegetation regrowth, or any planted vegetation, must be managed in accordance with Clause 2.2.3.2 of AS 3959. **"Vegetation Area 5" adjacent to eastern boundary of Existing Lot 507 (refer to Figure 3.1 and Figure 3.1.1)** For the purpose of this assessment, it is assumed that earthworks will be required to establish the proposed road adjacent to Area 5 vegetation. For this reason, it has been assumed as per Figure 3.1.1 (*Post Development Classified Vegetation*) that the narrow strip of Area 5 vegetation immediately adjoining the subject site will be removed during development. It is reasonably assumed that the area will either remain non-vegetated, or that any re-planted vegetation or verge treatments will be maintained in a low threat state in perpetuity by the relevant landholder, in accordance with AS 3959 Clause 2.2.3.2. Offsite vegetation cannot be altered or removed by the subject site landowner without prior written authority from the relevant agency (i.e. Main Roads or relevant landholder of the abovementioned property). **All above assumptions are depicted on Figure 3.1.1 *Classified Vegetation & Topography (Post Development)*.** Any variations or changes to the above assumptions may change the Indicative BAL ratings and outcomes presented in this BMP report. A revision of the BMP will be required in that case.				

3 THE BUSHFIRE HAZARD – POTENTIAL IMPACT - LANDSCAPE AND VEGETATION DATA

3.1 Bushfire Attack Level (BAL) Assessment Summary (Contour Map Format)

EXPLANATORY INFORMATION

Caution! Future building works require a 'determined' BAL rating for building permit applications. When a BAL contour map is being used for planning assessment purposes, (as opposed to a building assessment purpose), the required 'determined' BAL rating typically is not able to be derived from the map (there are only limited scenarios where this is possible).

The BAL ratings identified from the map will more likely be only 'indicative' of what can be achieved – with planning compliance for this factor being achieved when BAL-29 is indicated.

Otherwise, an additional assessment of the site data for building application purposes is required, and potentially approval will need to be obtained for native vegetation modification and/or removal from the relevant authority.

Refer to Appendix B for additional information including interpretation of the BAL Contour Map.

3.1.1 BAL Determination Methodology and Location of Data and Results

LOCATION OF DATA & RESULTS					
BAL Determination Methodology		Location of the Site Assessment Data			Location of the Results
AS 3959:2018	Applied to Assessment	Classified Vegetation and Topography Map(s)	Calculation Input Variables		Assessed Bushfire Attack Levels and/or Radiant Heat Levels
			Summary Data	Detailed Data with Explanatory and Supporting Information	
Method 1 (Simplified)	Yes	Figure 3.1 and Figure 3.1.1	Table 3.2	Appendix A1	Table 3.1 Table 3.3 / BAL Contour Map

3.1.2 BAL Ratings Derived from the Contour Map

Table 3.1: Indicative and determined BAL(s) for future buildings/structures on the proposed lots.

BUSHFIRE ATTACK LEVEL FOR FUTURE BUILDINGS / STRUCTURES ON STATED LOT [1]			
Lot No.	Future Buildings / Structure		
	Existing BAL [2]	Indicative BAL [2]	Determined BAL [2]
Lot 1 to 42	BAL-FZ	BAL-LOW	Not Determined
Lot 43 to 55	BAL-FZ	BAL-12.5	Not Determined
Lot 58 "Retained for Future School Use"	BAL-FZ	BAL-12.5	Not Determined
Public Open Space/Drainage	BAL-FZ	BAL-LOW	Not Determined

[1] The assessment data used to derive the BAL ratings is sourced from Table 3.1 and Figure 3.2 'BAL Contour Map'.

[2] Refer to the start of Section 3 for an explanation of indicative versus determined BAL ratings.

3.1.3 Site Assessment Data Applied to Construction of the BAL Contour Map(s)

RELEVANT CLASSIFIED VEGETATION	
Identification of Classified Vegetation that is Relevant to the Production of the BAL Contour Map(s)	Relevant Vegetation Map
The relevant vegetation for the pre-development BAL contour map will be all areas of classified vegetation that exist at the time of the site assessment – both within the subject site (onsite) and external to the subject site (offsite).	Figure 3.1
The relevant vegetation for the post-development BAL contour map will be any area of classified vegetation - both within the subject site (onsite) and external to the subject site (offsite) - that will remain at the intended end state of the subject development once earthworks, any clearing and/or landscaping and re-vegetation have been completed.	Figure 3.1.1
Supporting Assessment Details: None required.	

Table 3.2: Calculation inputs applied to deriving the vegetation separation distances corresponding to different levels of potential radiant heat transfer.

DATA APPLIED TO CALCULATE THE SITE SPECIFIC VEGETATION SEPARATION DISTANCES CORRESPONDING TO POTENTIAL RADIANT HEAT TRANSFER LEVELS [1]												
Applied BAL Determination Method	METHOD 1 - SIMPLIFIED PROCEDURE (AS 3959:2018 CLAUSE 2.2)											
The Calculation Input Variables - Corresponding to the Applied BAL Determination Method [2]												
Methods 1 and 2		Method 1			Method 2							
Vegetation Classification		FDI	Effective Slope		Site Slope	FFDI or GFDI	Flame Temp.	Elevation of Receiver	Flame Width	Fireline Intensity	Flame Length	Modified View Factor
			Applied Range	Measured								
Area	Class		degree range	degrees	degrees		K	metres	metres	kW/m	metres	% Reduction
1	Excluded cl 2.2.3.2(f)	N/A	N/A	-	N/A							
2	Excluded cl 2.2.3.2(f)	N/A	N/A	-								
3	Excluded cl 2.2.3.2(e)	N/A	N/A	-								
4	Excluded cl 2.2.3.2(e)	N/A	N/A	-								
5	(C) Shrubland	80	Upslope or flat 0	flat 0								
6	(C) Shrubland	80	Upslope or flat 0	flat 0								
7	(C) Shrubland	80	Downslope >5-10	d/slope 8.5								
8	(D) Scrub	80	Upslope or flat 0	flat 0								
9	(G) Grassland	110	Upslope or flat 0	flat 0								
10	Excluded cl 2.2.3.2(e & f)	N/A	N/A	-								
11	Excluded cl 2.2.3.2(f)	N/A	N/A	-								

Note 1: The values used to indicate levels of potential radiant heat transfer (from fire in bushfire prone vegetation to exposed elements at risk), will be stated in subsequent tables as either as a bushfire attack level (BAL) and/or as kilowatts per square metre (kW/m2), as relevant to the application of the value and the type and use of the element at risk.

Note 2: All data and information supporting the determination of the classifications and values stated in this table is presented in Appendix A. Where the values are stated as 'default' these are either the values stated in AS 3959:2018, Table B1 or the values calculated as intermediate or final outputs through application of the equations of the AS 3959:2018 BAL determination methodology. They are not values derived by the assessor.

Table 3.3: Vegetation separation distances corresponding to the stated levels of potential radiant heat transfer.

THE CALCULATED (SITE SPECIFIC) VEGETATION SEPARATION DISTANCES CORRESPONDING TO THE STATED LEVEL OF POTENTIAL RADIANT HEAT TRANSFER (METRES) [1]									
Vegetation Classification		Maximum Radiant Heat Transfer (Flux)							
		>40 kW/m²	40 kW/m²	29 kW/m²	19 kW/m²	12.5 kW/m²	N/A [2]	10 kW/m²	2 kW/m²
		Bushfire Attack Levels							
Area	Class	BAL-FZ	BAL-40	BAL-29	BAL-19	BAL12.5	BAL-LOW		
1	Excluded cl 2.2.3.2(f)	-	-	-	-	-	-	-	-
2	Excluded cl 2.2.3.2(f)	-	-	-	-	-	-	-	-
3	Excluded cl 2.2.3.2(e)	-	-	-	-	-	-	-	-
4	Excluded cl 2.2.3.2(e)	-	-	-	-	-	-	-	-
5	(C) Shrubland	<7	7-<9	9-<13	13-<19	19-<100	>100	-	-
6	(C) Shrubland	<7	7-<9	9-<13	13-<19	19-<100	>100	-	-
7	(C) Shrubland	<8	8-<11	11-<17	17-<25	25-<100	>100	-	-
8	(D) Scrub	<10	10-<13	13-<19	19-<27	27-<100	>100	-	-
9	(G) Grassland	<6	6-<8	8-<12	12-<17	17-<50	>50	-	-
10	Excluded cl 2.2.3.2(e & f)	-	-	-	-	-	-	-	-
11	Excluded cl 2.2.3.2(f)	-	-	-	-	-	-	-	-

Note 1: The calculated results are illustrated in Figure 3.2 as a BAL Contour Map. All applied calculation input variables are presented in Table 3.2.

Note 2: The BAL-LOW rating does not represent a maximum level of radiant heat transfer. The rating is applied when the separation distance is at least 100m from all classified vegetation except Grassland, for which 50m applies.

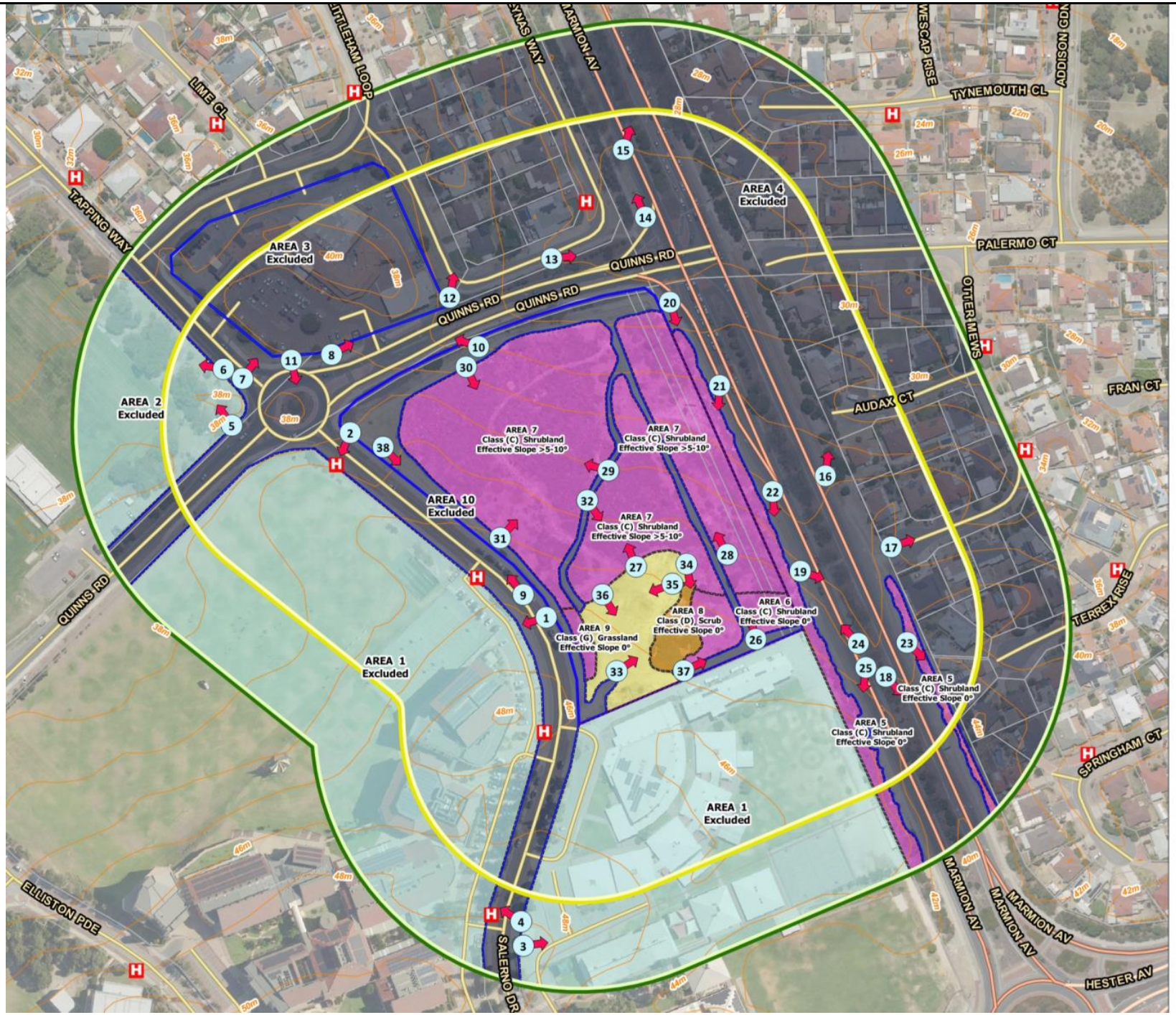


Figure 3.1

Classified Vegetation & Topography (Existing)

Lot 507 on Plan P023457; Area: 3.2490 ha
50 Salerno Drive
MINDARIE, 6030
CITY OF WANNEROO

------ LEGEND ------

- Subject Site
- Cadastral
- Photos and Direction
- Hydrants
- 150m Assessment Area
- 100m Assessment Area

Classified Vegetation

- Shrubland
- Scrub
- Grassland
- Excluded 2,2,3,2 (e)
- Excluded 2,2,3,2 (f)

0 15 30 45 60 75

Metres

------ LOCALITY ------

AERIAL IMAGERY: Landgate/SLIP

Coordinate System: GDA 1994 MGA Zone 50
Projection: Universal Transverse Mercator Units: Metre
Map by: 02-07-2025
SCALE (A3): 1 : 2000

BUSHFIRE PRONE PLANNING

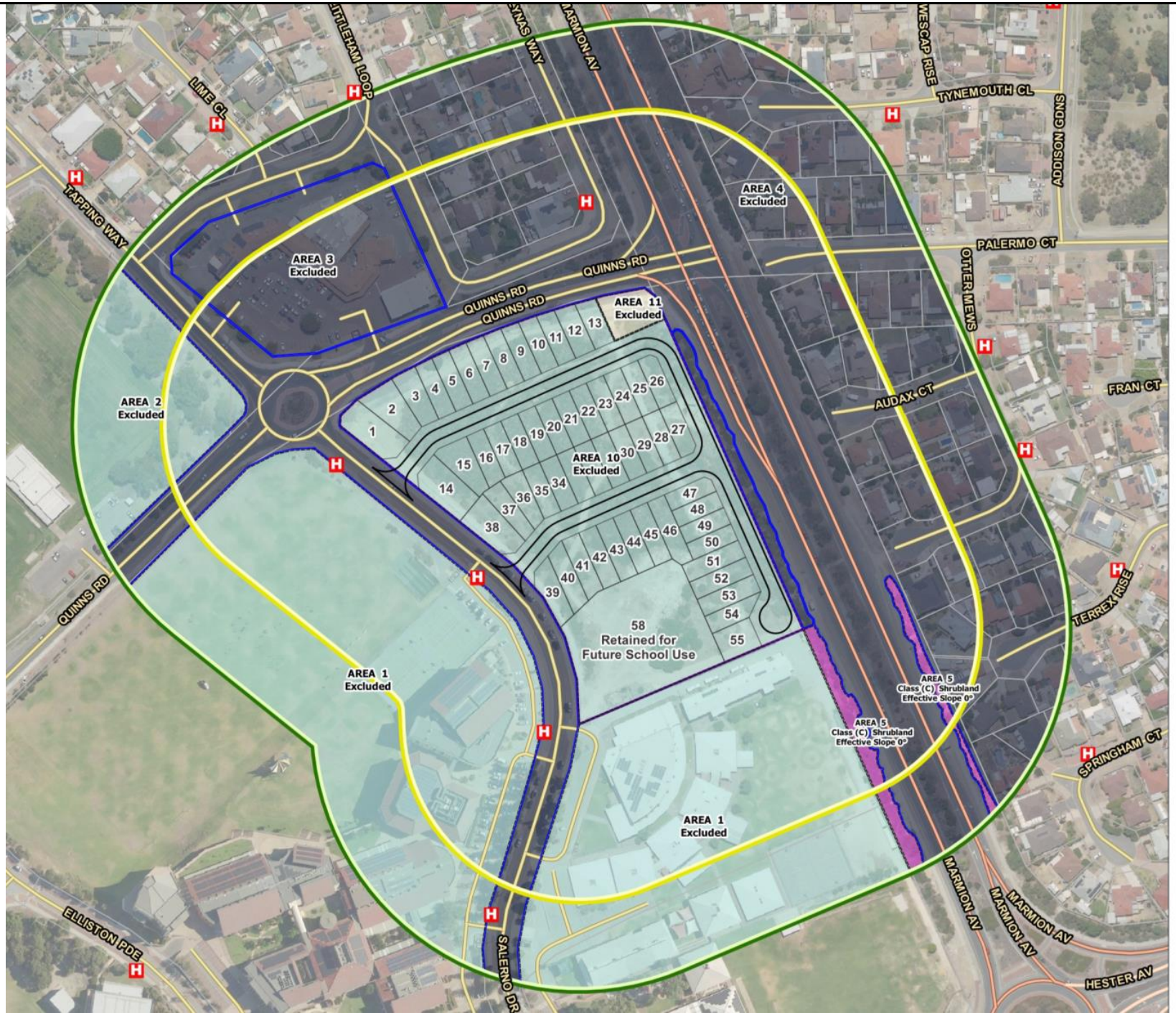


Figure 3.1.1

Classified Vegetation & Topography (Post Dev)

Lot 507 on Plan P023457; Area: 3.2490 ha
50 Salerno Drive
MINDARIE, 6030
CITY OF WANNEROO

------ LEGEND ------

- Subject Site
- Cadastral
- Hydrants
- 150m Assessment Area
- 100m Assessment Area
- Proposed Subdivision
- Proposed Roads

Classified Vegetation

- Shrubland
- Excluded 2,2,3,2 (a),(b),(c) and (d)
- Excluded 2,2,3,2 (e)
- Excluded 2,2,3,2 (f)

0 15 30 45 60 75

Metres

------ LOCALITY ------

AERIAL IMAGERY: Landgate/SLIP

Coordinate System: GDA 1994 MGA Zone 50
Projection: Universal Transverse Mercator Units: Metre
Map by: 01-07-2025
SCALE (A3): 1 : 2000

BUSHFIRE PRONE PLANNING

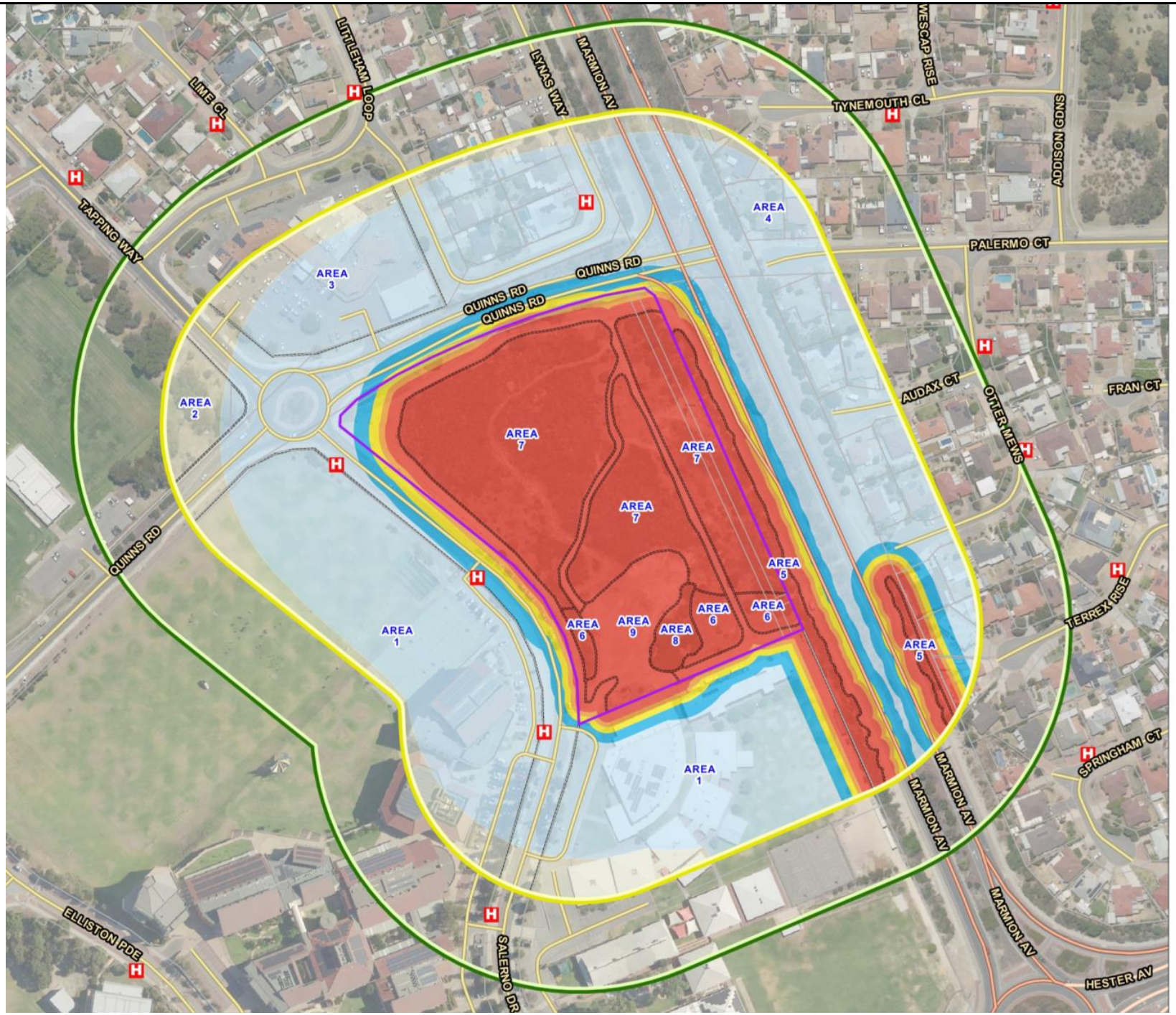


Figure 3.2

BAL Contour Map (Existing)

Lot 507 on Plan P023457; Area: 3.2490 ha
50 Salerno Drive
MINDARIE, 6030
CITY OF WANNEROO

------ LEGEND ------

- Subject Site
- Cadastral
- Hydrants
- 150m Assessment Area
- 100m Assessment Area

Bushfire Attack Levels

- BAL-FZ
- BAL-40
- BAL-29
- BAL-19
- BAL-12.5
- BAL-LOW

0 15 30 45 60 75

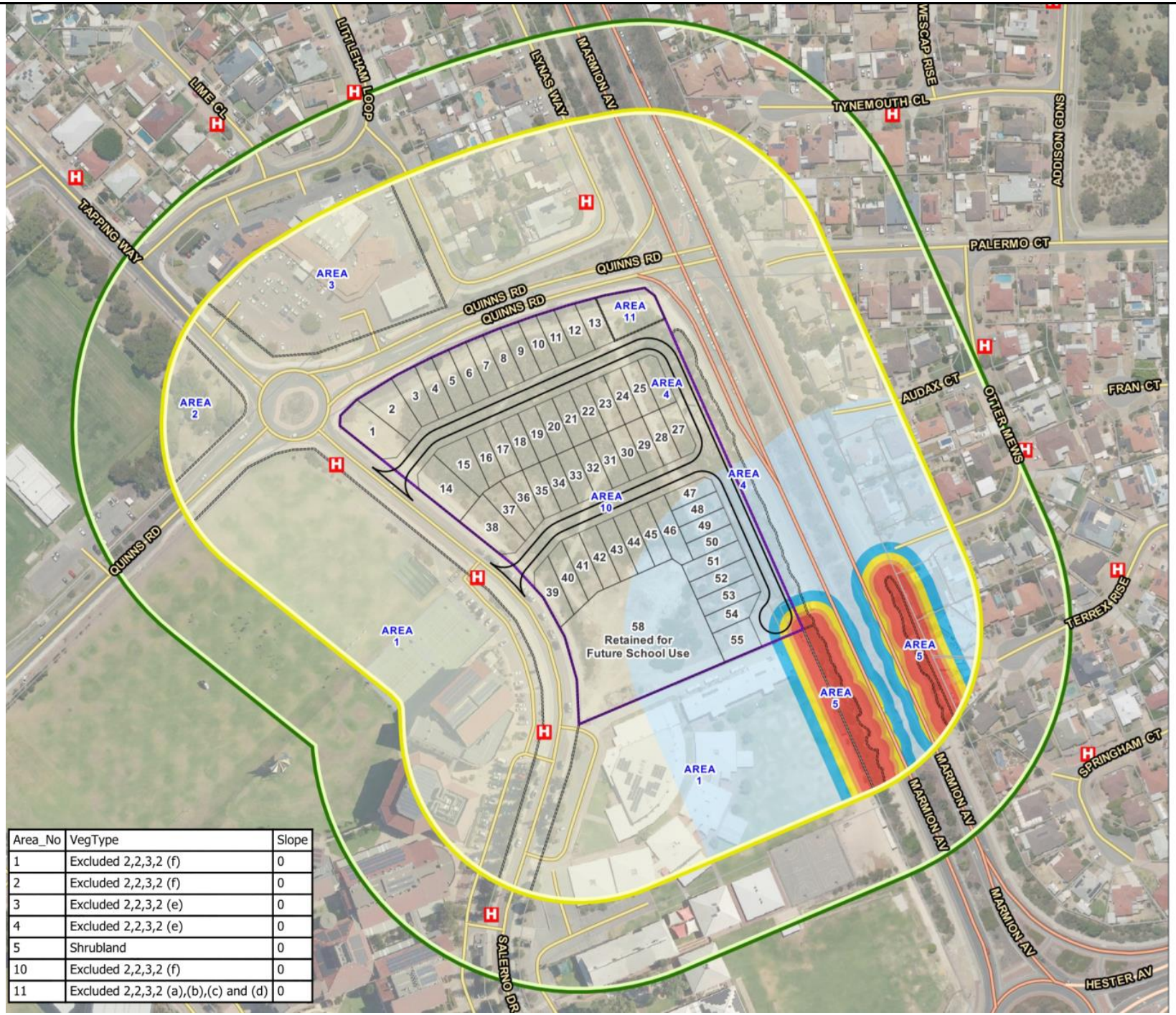
Metres

------ LOCALITY ------

AERIAL IMAGERY: Landgate/SLIP

Coordinate System: GDA 1994 MGA Zone 50
Projection: Universal Transverse Mercator Units: Metre
Map by: 02-07-2025
SCALE (A3): 1 : 2000

BUSHFIRE PRONE PLANNING



Area_No	VegType	Slope
1	Excluded 2,2,3,2 (f)	0
2	Excluded 2,2,3,2 (f)	0
3	Excluded 2,2,3,2 (e)	0
4	Excluded 2,2,3,2 (e)	0
5	Shrubland	0
10	Excluded 2,2,3,2 (f)	0
11	Excluded 2,2,3,2 (a),(b),(c) and (d)	0

Figure 3.2.1

BAL Contour Map (Post Development)

Lot 507 on Plan P023457; Area: 3.2490 ha
50 Salerno Drive
MINDARIE, 6030
CITY OF WANNEROO

------ LEGEND ------

- Subject Site
- Cadastral
- Hydrants
- 150m Assessment Area
- 100m Assessment Area
- Proposed Subdivision
- Proposed Roads

Bushfire Attack Levels

- BAL-FZ
- BAL-40
- BAL-29
- BAL-19
- BAL-12.5
- BAL-LOW

0 15 30 45 60 75

Metres

------ LOCALITY ------

AERIAL IMAGERY: Landgate/SLIP

Coordinate System: GDA 1994 MGA Zone 50
Projection: Universal Transverse Mercator Units: Metre
Map by: 01-07-2025
SCALE (A3): 1 : 2000

BUSHFIRE PRONE PLANNING

4 IDENTIFICATION OF BUSHFIRE HAZARD ISSUES

EXPLANATORY INFORMATION

Section Intent

1. To function as a concise initial reference point informing decision makers of key bushfire hazard issues specific to the planning proposal. This is achieved by providing context regarding:
   (a) How the identified bushfire prone vegetation contributes to the level of risks to persons/property and infrastructure. With injury/death, damage/loss, and service disruption being the relevant risks associated with a bushfire event (i.e. 'bushfire risk'); and
   (b) How likely the application of the relevant deemed to comply bushfire protection measures (i.e. the acceptable solutions of the BPC), will contribute to mitigating this bushfire risk to an acceptable or tolerable level.
2. To inform decision makers of any bushfire hazard issues that, in the opinion of the bushfire consultant, are likely to require specific consideration and are additional to a 'standard' review of the submitted BMP.
3. When necessary, to provide the bushfire consultant a location in the BMP where matters can be noted that would either not be considered or only be partially considered, under the assessments conducted in accordance with SPP 3.7/Guidelines. These include matters that would potentially reflect poorly on their professional integrity if ignored.

Achieving the Intent

1. Identify when environmental constraints are likely to limit a proposal's ability to apply effective bushfire protection measures that reduce bushfire hazard threat levels and/or persons/property exposure to those threats.
2. Identify if bushfire hazard threats and the level of those threats is significantly greater or lower than implied by the bushfire assessment methodologies applied in accordance with the Guidelines.
3. Stating when an outcomes-based approach has been applied as a justifiable alternative to compliance with the applicable acceptable solutions, and if the approach:
   (a) Delivers an equivalent or lower level of residual bushfire risk than that intended to be derived from the application of those acceptable solutions; or
   (b) Delivers higher level of residual risk and justifies why this can and should be tolerated.
4. Identifying when compliance with the BPC requires the establishment of vegetation management responsibilities - including formal management agreements when necessary – for vegetation on land adjoining a lot that is part of a planning proposal, but that land does or could have different legal ownership.
5. Identify other relevant issues as necessary. This may include the possible development, by the bushfire consultant, of required and/or recommended additional bushfire protection measures for consideration by the decision maker.

4.1 Environmental Considerations

BUSHFIRE PRONE VEGETATION WITHIN THE SUBJECT SITE (refer to detail in Section 2)		
Identified As	Relevance to the Planning Proposal	Implications for the Planning Proposal's Ability To Comply With The Bushfire Protection Criteria
Protected Vegetation	None	No Change
Required Removal of Native Vegetation	Significant	Significant Positive
Planned Retention of Unprotected Native Vegetation	None	No Change
Planned Revegetation with Native Vegetation	None	No Change
Assessment Supporting Details: Protected vegetation has not been identified on the subject site, via desktop study only. This should be confirmed by the relevant agency. All vegetation on the subject site is proposed to be completely removed during development. At the time of writing, BPP is not currently aware of any proposed or planned revegetation on the subject site. A small POS/Drainage basin is proposed at the north-east corner of the subject site, however BPP reasonably assumes that this area (approx. 700m^2) can and will be maintained by the relevant landholder in a low threat state in perpetuity as per AS3959 cl.2.2.3.2 (f) and the Guidelines.		

4.2 Bushfire Assessment – Bushfire Attack Level (BAL)

BUSHFIRE ATTACK LEVEL ASSESSMENT – IDENTIFIED ISSUES	
The following issues regarding the ability of current or future development sites to be located within a lot and subject to a radiant heat impact not exceeding 29 kW/m^2 (BAL-29) may have been addressed in the BMP. When applicable to the subject planning proposal this is identified and discussed.	
For a lot(s) of land that are part of this planning proposal, compliance with the BPC requires the establishment of ongoing vegetation management responsibilities on adjoining land that has, or could in the future, different legal ownership. This has created the requirement to develop a formal agreement(s) with a third party(s) to manage vegetation in a modified and/or low threat state in perpetuity. Evidence of the agreement is provided in this BMP.	X
Assessment Supporting Details: For the purpose of this BMP, it has been assumed that the narrow strip of Class (C) Shrubland Vegetation (Area 5 on Figure 3.1) will be removed during development/earthworks on the subject site. It is unlikely that this vegetation will be retained due to the possible extent of earthworks that will be required to establish the road on the eastern side of the subject site. All future road verge treatments or any re-vegetation in its place can and must be maintained in a low threat state in perpetuity by the relevant landholder. Changes to this assumption will alter the BAL ratings for the development. Any changes or retention or introduction of bushfire prone vegetation that do not align with Figure 3.1.1 will require revision of the BMP and will likely result in an increase in the BAL ratings for all lots.	
The planning proposal is for a staged subdivision. Classified vegetation within a subsequent stage of a subdivision requires removal or modification to ensure that proposed lots within the current stage of the subdivision achieve a development site with a radiant heat impact not exceeding 29 kW/m^2 (BAL-29). This has created the requirement to establish a responsibility for the developer of the subsequent stage	X
Assessment Supporting Details: It is BPP's understanding that all vegetation across the entirety of the subject site will be removed prior to development (not a staged approach). Changes to this (i.e. retaining vegetation in stages) will result in changes to the Indicative BAL ratings, and the BMP will need to be reviewed prior to development or commencement of works.	
Area(s) of land within a lot(s) are subject to BAL-40/FZ but sufficient area remains for a development site(s). At the discretion of the decision maker, this may require considering the application of building envelopes or restrictive covenants, to ensure the location of future buildings within a lot cannot be subject to BAL-40/FZ.	X
Assessment Supporting Details: All subject lots will be subject to BAL-12.5 or below once all vegetation has been removed, as per Figure 3.1.1 and the assumptions presented above.	

4.3 Additional Required and/or Recommended Bushfire Protection Measures

ADDITIONAL BUSHFIRE PROTECTION MEASURES	
REQUIRED additional bushfire protection measures have been established via: • Development of an outcomes-based approach; and/or • A Bushfire Risk Report; and/or • A Bushfire Emergency Plan. These measures have been included in the Section 6 responsibility checklists.	None Required.
RECOMMENDED additional bushfire protection measures have been provided. These measures have not been included in the Section 6 responsibility checklists.	None Required.

4.4 Ability to Comply with the Bushfire Protection Criteria (Relevant Elements Only)

IMPLICATIONS OF THE ENVIRONMENTAL CONSIDERATIONS AND BUSHFIRE ASSESSMENTS FOR THE PLANNING PROPOSAL'S ABILITY TO COMPLY WITH THE BUSHFIRE PROTECTION CRITERIA (BPC) VIA ACCEPTABLE SOLUTIONS AND/OR OUTCOMES (refer to detail in Section 5)					
Relevant Element of the BPC	Relevant Acceptable Solution	Implication Level	Ability to Comply	Outcomes-Based Approach Applied	Description/Comments (as required)
BPC- E2: Siting and Design	A2.1 Siting and Design	No Change	Can comply at current planning stage	No	All onsite vegetation will be cleared for development, therefore all lots will be subject to BAL-12.5 or below. Refer to Figure 3.1.1 and Figure 3.2.1 and details in this BMP.
	A2.3 Clearing of Native Vegetation	Significant Positive	Can comply at current planning stage	No	Removal of all onsite vegetation will result in removal of the predominant bushfire hazard, thereby reducing all Indicative BAL ratings for future lots to BAL-12.5 or BAL-LOW.
BPC- E3: Vehicular Access	A3.2 Access routes	No Change	Can comply at current planning stage	No	Public road access is currently available to at least one suitable destination, and will continue to be available.
	A3.3a No-through roads	No Change	Can comply at current planning stage	No	No limit on no-through road lengths in Area 1 (Urban).
BPC-E4: Water Supply	A4.2 Water supply for subdivision applications	No Change	Can comply at current planning stage	No	The proposed lots can and will be serviced by a reticulated water supply.

5 ASSESSMENT AGAINST THE BUSHFIRE PROTECTION CRITERIA (BPC)

EXPLANATORY INFORMATION

State Planning Policy 3.7 Bushfire (SPP 3.7) establishes policy outcomes (cl. 6) that "specify the role of planning and development in contributing to the overall objectives" of the policy. These policy outcomes are also incorporated within the four Elements of the bushfire protection criteria.

A planning proposal in a designated bushfire prone area is required to demonstrate that compliance with the bushfire protection criteria can be achieved.

The Planning for Bushfire Guidelines (Guidelines) establishes two pathways to demonstrate compliance with the bushfire protection criteria:

1. The deemed to comply pathway in which compliance with all relevant acceptable solutions associated with each Element, for a specific planning stage or use, is able to be demonstrated; or

2. When all relevant acceptable solutions cannot be fully achieved, the alternative pathway which utilises either the outcomes-based approach (established in SPP 3.7 cl. 6) alone, or a combination of the outcomes-based approach and the acceptable solutions (as established in the Guidelines s. 2.2.1).

Assessment of the planning proposal utilising the deemed to comply pathway is presented in this section of the BMP.

Notes:

1. *The additional primary bushfire protection measure of bushfire construction requirements that are to apply to certain classes of habitable buildings in WA (corresponding to their assessed Bushfire Attack Level) - is implemented through the process of applying the Building Code of Australia (Volumes 1 and 2 of the National Construction Code) in accordance with WA building legislation – not through any planning legislation].*

2. *The requirement to prepare a Bushfire Emergency Plan (BEP) for vulnerable land uses is an additional bushfire protection measure established by SPP 3.7. This is to be produced as a separate standalone operational document. However, some requirements identified in the BEP may necessarily incorporated into this BMP and the responsibilities it creates.*

5.1 Local Government Variations to Apply

EXPLANATORY INFORMATION	
1. Local governments may add to or modify the acceptable solutions contained within the Guidelines, through regional or local variations that form part of a local planning strategy and/or local planning scheme to recognise special local or regional circumstances that reinforce the SPP 3.7 objectives and outcomes (via a scheme amendment or special control area). This could include acceptable solutions that address topography, vegetation or climate to the satisfaction of the Western Australian Planning Commission (WAPC) that the modifications comply with the corresponding SPP 3.7 objectives and outcomes. (Planning for Bushfire Guidelines, s. 3.4, 2024). 2. Under the relevant state legislation (LPS Regulations 2015), SPP 3.7 does not apply to hosted or unhosted short-term rental accommodation. However, the local government under its Local Planning framework (i.e. Strategy / Scheme and Policy as applicable), may require that certain bushfire protection measures or variations to the measures (the bushfire protection criteria), established by SPP 3.7 and the Guidelines, are to be applied.	
Endorsed regional or local variations to the acceptable solutions apply to the assessments against the Bushfire Protection Criteria for the planning proposal?	None known or identified
The proposed land use for hosted or unhosted short-term rental accommodation, and the local government requires certain bushfire protection measures, contained within the BPC, to be applied, that under the LPS Regulations 2015, would otherwise not be required?	N/A

5.2 Assessment Summary

HOW THE REQUIRED BUSHFIRE PLANNING OUTCOMES OF SPP 3.7 ARE ACHIEVED FOR THE PLANNING PROPOSAL		
STRUCTURE PLAN / SUBDIVISION APPLICATION		
The Bushfire Protection Criteria (BPC) Elements and Acceptable Solutions	Compliance Pathway Applied and Assessment Outcome	
	Deemed to Comply	Outcomes-Based Approach
	Requires Compliance with All Applicable Acceptable Solutions	Expert Opinion Identifies Achieving the Required SPP 3.7 Outcomes can be Demonstrated [1]
E1: LOCATION	Fully Compliant	Not Required
A1.1a Broader Landscape Type A	Not Applicable	
A1.1b Broader Landscape Type B	Not Applicable	
E2: SITING AND DESIGN	Fully Compliant	Not Required
A2.1 Siting and design	Fully Compliant	
A2.2 Asset Protection Zone (APZ)	Fully Compliant	
A2.3 Clearing of native vegetation	Fully Compliant	
E3: VEHICULAR ACCESS	Fully Compliant	Not Required
A3.1 Public roads	Fully Compliant	
A3.2 Access routes	Fully Compliant	
A3.3a No-through roads	Fully Compliant	
A3.3b No-through roads technical requirements	Not Applicable	
A3.4 Emergency access way	Not Applicable	
A3.5a Perimeter roads	Not Applicable	
A3.6 Battle-axe legs	Not Applicable	
E4: WATER SUPPLY	Fully Compliant	Not Required
A4.1 Water supply for structure plans	Fully Compliant	
A4.2 Water supply for subdivision applications	Not Applicable	
A4.3 Water supply for existing habitable building(s)	Not Applicable	
Note 1: Assessment details addressing the criteria established by SPP 3.7 cl. 7.5, are provided in the following section when this compliance pathway is applied.		

5.3 BPC 5: Subdivision Application - Acceptable Solutions Assessment

5.3.1 Element 1: Location

ELEMENT 1: LOCATION (STRUCTURE PLAN / SUBDIVISION APPLICATION)					
All details of acceptable solution requirements are established in the Planning for Bushfire Guidelines (Guidelines) – WA Department of Planning, Lands and Heritage (DPLH, as amended). When relevant, the 'Bushfire Management Plan Guidance for the Dampier Peninsula' (DPLH, 2021 Rev B), is also referenced.					
O1	State Planning Policy 3.7 Bushfire - Outcomes to be Achieved				
	SPP 3.7, 6.1: Avoid broader landscapes that present an unacceptable bushfire risk to people, property and infrastructure.				
E1	Statement for Compliance with Element E1 – The Deemed to Comply Pathway				
	The planning proposal is fully compliant with all applicable acceptable solutions and therefore achieves the required outcomes of this element.				
	Alternative Pathway Applied to Achieve SPP 3.7 Outcomes				
	N/A				
ACCEPTABLE SOLUTIONS - ASSESSMENT STATEMENTS					
Check Box Legend:	☑ Relevant & met		☒ Relevant & not met		⊘ Not relevant
A1.1a Broader Landscape Type A		Applicable:	No	Compliant:	-
☐ ☐ ⊘	The subject site is located in an area that is a Broader Landscape Type A.				
Assessment Supporting Details: The subject site is located in Area 1 (Urban) Bushfire Prone Area, therefore Element 1 and the determination of Broader Landscape Type is not applicable to the assessment.					
A1.1a Broader Landscape Type B		Applicable:	No	Compliant:	-
☐ ☐ ⊘	The subject site is located in an area that is a Broader Landscape Type B. which presents an unacceptable bushfire risk of a landscape scale bushfire resulting in impacts to people, property and infrastructure. This location does not satisfy the acceptable solution for Element 1: Location. An outcomes-based approach has been prepared to demonstrate (to the decision maker) how Policy Outcome O1 will, or potentially can, be satisfied through appropriate management and/or mitigation of the relevant risks.				
Assessment Supporting Details: See above.					

5.3.2 Element 2: Siting and Design

ELEMENT 2: SITING AND DESIGN (STRUCTURE PLAN / SUBDIVISION APPLICATION)

All details of acceptable solution requirements are established in the Planning for Bushfire Guidelines (Guidelines) – WA Department of Planning, Lands and Heritage (DPLH, as amended). When relevant, the 'Bushfire Management Plan Guidance for the Dampier Peninsula' (DPLH, 2021 Rev B), is also referenced.

EXPLANATORY INFORMATION

(Additional Information in Appendix B3 of BMP)

The APZ and the Planning Assessment

The assessment is a 'planning assessment' being conducted for planning approval purposes. This is not an assessment conducted for building approval purposes.

The acceptable solutions and required assessment are aligned with the following bushfire planning policy and guidance which must be given due regard:

> *SPP 3.7 Bushfire, Policy Objectives, cl. 5.5 states – "Prioritise the retention of native vegetation for biodiversity conservation, environmental protection and landscape amenity.*
>
> *SPP 3.7 Bushfire, Policy Outcomes, cl. 6.2 - establishes that clearing of native vegetation is to be avoided or minimised in managing or mitigating bushfire risk.*
>
> *The Guidelines, Appendix B2, B.2.1 states - "clearing or modification of native vegetation to reduce the radiant heat impact below 29 kW/m² is generally not supported."*

To comply with the relevant acceptable solutions, the subject planning proposal must demonstrate that the required minimum sized asset protection zone (APZ) can be installed, to the required technical requirements, surrounding a habitable or specified building and applying the APZ location constraints and allowances established by the Guidelines.

The required minimum dimensioned APZ is that which ensures that the relevant existing and/or proposed buildings works will be subject to the BAL-29 level of radiant heat exposure. The only exceptions to this will be when a lower level of radiant heat exposure is a requirement of an acceptable solution, or a protection measure established by the application of the outcomes-based approach (e.g. 10 kW/m²) in which case this is stated in the assessment and the responsibilities checklist.

> *Note that the derivation of 'determined' BAL ratings for future building works, to be used in building permit applications, is not an intended outcome of this planning assessment. However, in limited situations, these may be able to be determined.*

Important APZ Installation Information

An approved BMP, unless stated otherwise, is only approving the installation of an APZ comprised of the minimum dimensions that ensures the radiant heat impact of a bushfire (on building works) does not exceed 29 kW/m² (BAL-29).

The 'minimum' dimensions of the approved APZ are also the 'maximum' approved dimensions when installation of the APZ will require the modification/removal of native vegetation. Installing a larger dimensioned APZ - to lower the determined BAL rating of specific building works - will need additional approval from the relevant authority (refer to the relevant local government) when modification/removal of native vegetation is required.

	State Planning Policy 3.7 Bushfire - Outcomes to be Achieved
O2	**SPP 3.7, 6.2: Ensure siting and design solutions:** • **Manage or mitigate the bushfire risk to people, property and infrastructure; and** • **Avoid, or where unavoidable, minimises the clearing of native vegetation.**
E2	Statement for Compliance with Element E1 – The Deemed to Comply Pathway
	The planning proposal is fully compliant with all applicable acceptable solutions and therefore achieves the required outcomes of this element.
	Alternative Pathway Applied to Achieve SPP 3.7 Outcomes
	N/A

ACCEPTABLE SOLUTIONS - ASSESSMENT STATEMENTS

Check Box Legend: ☑ Relevant & met ☒ Relevant & not met ⃠ Not relevant

A2.1 Siting and design Applicable: Yes Compliant: Yes

☑ ☐ ☐ Ensure that each proposed and existing lot(s) contains a sufficient development site(s) that can achieve a radiant heat impact not exceeding 29 kW/m² (BAL-29).

*Note: In accordance with Planning and Development (LPS) Regulations 2015, s.78A, **'development site'** means that part of a lot on which a building that is the subject of development stands or is to be constructed.*

Assessment Supporting Details: The proposed Post-Development vegetation is shown on Figure 3.1.1, resulting from the removal of all vegetation on the subject site. This will remove the dominant bushfire hazard, resulting in Indicative BAL ratings of BAL-12.5 or BAL-LOW for each proposed lot. Assumptions have been made regarding road verges and public open space within and immediately adjacent to the subject site, these are discussed elsewhere in this BMP. Changes to these assumptions will affect the Indicative BAL ratings for proposed lots. Retention or re-introduction of bushfire prone vegetation which does not align with the Post-Development vegetation shown on Figure 3.1.1, will require a re-assessment of the Indicative BAL ratings, and would likely increase the BAL ratings for all lots across the site.

A2.2 Asset Protection Zone (APZ) Applicable: Yes Compliant: Yes

Where a development site (refer to definition above in A2.1) cannot be wholly located within an area with a radiant heat impact not exceeding 29 kW/m² (BAL-29) in its pre-development state, an indicative APZ is to be provided and meet the following requirements for width, location and management:

☐ ☐ ⃠ **APZ Width:** The APZ, when measured from the development site, is of sufficient size to ensure the radiant heat impact of a bushfire does not exceed 29 kW/m² (BAL-29) in all circumstances.

☐ ☐ ⃠ **APZ Location – Option 1:** The indicative 'Planning BAL-29' APZ can be contained solely within the boundaries of each lot.

☐ ☐ ⃠ **APZ Location – Option 2:** The indicative 'Planning BAL-29' APZ cannot be contained solely within the boundaries of the lot. However, the relevant vegetation on the adjoining land / lot(s) is, and will continue to be, on an ongoing basis in perpetuity, low threat as per:

- Clause 2.2.3.2 of AS 3959 (including non-vegetated land such as a sealed or unsealed road, or a water body); or

- The requirements of the Guidelines Appendix B.2, Table 9 – APZ technical requirements; or
- The alternative standard in the local planning scheme (when it exists); and
- Any required ongoing vegetation management is agreed upon via a substantiated management agreement between the applicable landowners and the local government.

☑ ☐ ☐ **APZ Management:** The APZ can and will be managed in accordance with the requirements established in the Guidelines, Appendix B.2 or the alternative standard in the gazetted local planning scheme (when it exists).

Assessment Supporting Details: The entirety of the subject site is subject to BAL-FZ in its pre-development state, due to existing onsite vegetation. The proponent has determined that all vegetation will be removed for development, therefore Asset Protection Zone(s) will not be required. The removal of all onsite vegetation is anticipated to occur prior to commencement of any development (i.e. not staged).

Once all vegetation has been removed from the subject site, it is the responsibility of the relevant landholder to ensure that weed grasses or any other vegetation regrowth, including future vegetation that may be planted anywhere on the subject site (including public open space/drainage, road verges, and all other lots), be maintained in a low threat state at all times, and in perpetuity, in accordance with the requirements of the Guidelines Appendix B.2 and Clause 2.2.3.2 of AS 3959.

A2.3 Clearing of native vegetation Applicable: Yes Compliant: Yes

☑ ☐ ☐ The development avoids, or where unavoidable, minimises the clearing of native vegetation.

Assessment Supporting Details: Clearing of native vegetation for the proposed subdivision is unavoidable. The proponent proposes complete clearing of all vegetation within the subject site. The subject site is in an existing residential built-out area and is itself the main bushfire hazard in the area. Removal of the bushfire prone vegetation (all onsite vegetation) will result in the area no longer being classified as "Bushfire Prone".

5.3.3 Element 3: Vehicular Access

ELEMENT 3: VEHICULAR ACCESS (STRUCTURE PLAN / SUBDIVISION APPLICATION)	
All details of acceptable solution requirements are established in the Planning for Bushfire Guidelines (Guidelines) – WA Department of Planning, Lands and Heritage (DPLH, as amended). When relevant, the 'Bushfire Management Plan Guidance for the Dampier Peninsula' (DPLH, 2021 Rev B), is also referenced. The technical construction requirements for access types and components are established in the Guidelines Appendix B.3, Table 10 (certain information is copied and presented in Appendix C of this BMP). The local government will advise the proponent where different requirements are to apply and when any additional specifications such as those for signage and gates are to apply. These are included as an appendix if requested by the local government. ***Note:*** *The following understanding of what constitutes a 'road', and the stated definitions can be important considerations for assessments against an acceptable solution for Element 3.* • *Guidelines Appendix B3: Vehicular Access, identifies a 'road' as being either a public road (that includes a no-through road) or a perimeter road. All other access types (i.e. emergency access ways, fire service access routes, battle-axes and private driveways) are considered a different class of access i.e. they are not 'roads'.* • *SPP 3.7 defines 'no-through road' as "a cul-de-sac or dead end road".* • *SPP 3.7 defines 'two-way access' as "vehicular access from a site in two different directions to at least two different suitable destinations". This allows for required access to potentially be provided by an emergency access way and not just public roads.*	
O3	State Planning Policy 3.7 Bushfire - Outcomes to be Achieved
	SPP 3.7, 6.3: Ensure the design and capacity of vehicular access and egress provide: • **For efficient and effective evacuation to a suitable destination(s); and/or** • **As a contingency measure for vulnerable land uses, an on-site shelter, where demonstrated appropriate, as a last resort option.**
E3	Statement for Compliance with Element E1 – The Deemed to Comply Pathway
	The planning proposal is fully compliant with all applicable acceptable solutions and therefore achieves the required outcomes of this element.
	Alternative Pathway Applied to Achieve SPP 3.7 Outcomes
	N/A

ACCEPTABLE SOLUTIONS - ASSESSMENT STATEMENTS					
Check Box Legend:	☑ Relevant & met	☒ Relevant & not met	⃠ Not relevant		
A3.1 Public roads			Applicable:	Yes	Compliant: Yes
☑ ☐ ☐	Public roads meet the technical requirements for minimum vertical clearance (4.5 metres) and minimum weight capacity (15 tonnes - includes bridges, culverts).				
☑ ☐ ☐	Public roads meet the technical requirement recommended in the Guidelines in Appendix B3, B3.1 for a minimum horizontal clearance of 6 metres.				

☑ ☐ ☐	Public road technical requirements for minimum horizontal clearance, gradients and curves should be in accordance with the class of road as specified in the Public Works Engineering Australasia (IPWEA) subdivision guidelines, Liveable Neighbourhoods, Austroads Standards, any applicable or relevant Main Roads standards, supplements, policies and any applicable or relevant local government standards or policies. The assessment conducted for the bushfire management plan indicates that it is likely that the proposed development can and will comply with the requirements. However, the applicable class of road, the associated technical requirements and subsequent proposal compliance, will need to be confirmed with the relevant local government and/or Main Roads WA.

Assessment Supporting Details: All proposed roads in the development can and will comply with public road technical requirements as stated above.

A3.2 Access routes	Applicable:	Yes	Compliant:	Yes

☑ ☐ ☐	Subject site is in Area 1 (Urban) (Map of BPA). Public road access, with all-weather surfaces, is provided to at least one suitable destination.
☐ ☐ ⊘	Subject site is in Area 2 (Map of BPA). Public road access, with all-weather surfaces, is provided in two different directions, to two different suitable destinations.

Assessment Supporting Details: The two proposed roads within the subdivision will link with existing Salerno Drive, which provides two-way access to the broader public road network, and to multiple suitable destinations (immediately surrounding suburbs).

A3.3a No-through roads	Applicable:	Yes	Compliant:	Yes

☑ ☐ ☐	A3.3a is not applicable to the subject planning proposal because the planning proposal is sited in Area 1 (Urban) (Map of BPA), and there is no limitation on no-through road lengths.
☐ ☐ ⊘	A3.3a is not applicable to the subject planning proposal because access to the subject site is via a private driveway from a public road providing two-way access. Consequently, vehicular access to the subject site does not have a no-through road component.
☐ ☐ ⊘	The subject site is in Area 2 (Map of BPA): Access to the subject site is via a no-through public road that does not exceed the established maximum of 200 metres in length from the subject site boundary to an intersection where two-way access is provided.
☐ ☐ ⊘	The subject site is in Area 2 (Map of BPA): Access to the subject site / lot(s) is via a no-through public road that exceeds the established maximum of 200 metres in length from the proposed lot(s) boundary to an intersection where two-way access is provided. It is demonstrated that there are site constraints and/or that there are no alternative design options to achieve the 200 metre maximum length. Compliant two-way access within 200 metres from the proposed lot(s) boundary will be established through the provision (or existence) of a compliant emergency access way through the application of acceptable solution A3.4: Emergency Access Way.
☐ ☐ ⊘	The subject site is in Area 2 (Map of BPA): Access to the subject site / lot(s) is via a no-through public road that exceeds the established maximum of 200 metres in length from the proposed lot(s) boundary to an intersection where two-way access is provided. However, the additional road length can be considered to satisfy the acceptable solution as the following established additional requirements can be met:

☐ ☐ ⊘	It is demonstrated that that an alternative access, including an emergency access way, cannot be provided due to site constraints; and
☐ ☐ ⊘	The no-through road travels towards a suitable destination; and
☐ ☐ ⊘	The balance of the no-through road that is greater than 200 metres from the subject site is: • Wholly within a residential built-out area; or • Wholly within an area designated Area 1 (Urban) on Map of BPA; or • Potentially subject to radiant heat levels from adjacent bushfire prone vegetation not exceeding 12.5 kW/m² / BAL-LOW (Guidelines Figure 29).

Assessment Supporting Details: The subject site is within Area 1 Urban, therefore there are no limitations on no-through road lengths.

A3.3b No-through roads technical requirements	Applicable:	No	Compliant:	-

☑ ☐ ☐	A3.3b is not applicable to the subject planning proposal because the assessment against A3.3a has established that vehicular access to the site does not have a no-through road component.
☐ ☐ ⊘	The no-through road meet (or can and will meet) the public road technical requirements for minimum vertical clearance (4.5 metres) and minimum weight capacity (15 tonnes - includes bridges, culverts).
☐ ☐ ⊘	The no-through road meet (or can and will meet) the public road technical requirement recommended in the Guidelines in Appendix B3, B3.1 for a minimum horizontal clearance of 6 metres.
☐ ☐ ⊘	The no-through road (i.e. public road) technical requirements for minimum horizontal clearance (excluding perimeter road), gradients and curves should be in accordance with the class of road as specified in the Public Works Engineering Australasia (IPWEA) subdivision guidelines, Liveable Neighbourhoods, Austroads Standards, any applicable or relevant Main Roads standards, supplements, policies and any applicable or relevant local government standards or policies.
☐ ☐ ⊘	The turnaround area/head meets (or can and will meet) the design requirements established by the Guidelines, Figure 30.

Assessment Supporting Details: None required.

A3.4 Emergency access way	Applicable:	No	Compliant:	-

☑ ☐ ☐	A3.4 is not applicable to the subject planning proposal because it has been assessed as compliant with A3.2 (and A3.3a and A3.3b when applicable), and an emergency access way is not required.
☐ ☐ ⊘	A3.4 is applicable to the subject planning proposal because an emergency access way currently exists and has been part of the subject planning proposal's ability to comply with A3.2. Consequently, it will apply with regard to meeting (or being able to meet), the specified technical requirements and ongoing management requirements, rather than its installation.
☐ ☐ ⊘	The requirements established for acceptable no-through road access to the subject site / lot(s) in A3.2 and/or A3.3a and/or A3.3b cannot be achieved. An emergency access way (EAW) is provided as the alternative access and can be considered as an acceptable solution, when the following established requirements are met:

☐ ☐ ⊘	It is demonstrated that an alternative design option does not exist and that site constraints prevent the requirements of A3.2 and A3.3 being met; and
☐ ☐ ⊘	The access way is no more than 500 metres in length, provides a through connection to a public road connecting to a public road network. The connection onto the State Road Network has access approval from Main Roads WA and
☐ ☐ ⊘	The access way meets (or can and will meet) the technical requirements (Guidelines Appendix B3, Table 10) for minimum horizontal clearance (Map of BPA Area 1 (Urban) = 6 metres and Area 2 = 10 metres), minimum vertical clearance (4.5 metres), minimum weight capacity (15 tonnes - includes bridges, culverts) and minimum inner radius of road curves (8.5 metres); and
☐ ☐ ⊘	The access way meets (or can and will meet) the technical requirements (Guidelines Appendix B3, Table 10) for crossfalls and gradients for different surfaces and dips; and
☐ ☐ ⊘	The access way will be signposted and, if gated, gates will open for the whole carriageway width and remain unlocked; and
☐ ☐ ⊘	The proponent has obtained consent from the local government, that it will accept care, control and management responsibilities for the emergency access way.
☐ ☐ ⊘	The subdivision proposes development in stages and each stage is to comply with the relevant bushfire protection criteria. Consequently, a temporary access way is planned to facilitate the staging arrangements of a subdivision as an interim second access route until the required second access route is constructed as a public road in a subsequent stage. The planned approach for achieving the required outcome is described in the supporting assessment details below.
Assessment Supporting Details: None required.	

A3.5a Perimeter roads	Applicable:	No	Compliant:	-

☐ ☐ ⊘	A3.5a is not applicable to the subject planning proposal because the proposal is for less than 10 lots adjacent to each other (including the cumulative number of lots created as part of a staged subdivision).
☑ ☐ ☐	A3.5a is not applicable to the subject planning proposal. The assessment justifies the non-applicability due to one or more of the following exclusion factors being relevant (see Supporting Details): • The adjoining classified vegetation is Class G Grassland (AS 3959); • Lots are zoned for rural living or equivalent; • It is demonstrated that it cannot be provided due to site constraints; or • All lots have frontage to an existing public road.
☐ ☐ ⊘	The proposed greenfield development or large scale urban infill adjoins classified vegetation (excluding Class G, AS 3959) and consists of 10 or more lots adjacent to each other (including the cumulative number of lots created as part of a staged subdivision). A perimeter road will be provided to separate the areas of permanent classified vegetation (under AS 3959) from the proposed lot(s) and remove the need for battle-axe lots that back onto areas of classified vegetation.

☐ ☐ ⊘ The perimeter road meets (or can and will meet) the technical requirements (Guidelines Appendix B3, Table 10) for minimum horizontal clearance (Map of BPA Area 1 (Urban) = 8 metres and Area 2 = 12 metres), minimum vertical clearance (4.5 metres) and minimum weight capacity (15 tonnes - includes bridges, culverts).

☐ ☐ ⊘ The perimeter road technical requirements for gradients and inner radius curves should be in accordance with the class of road as specified in the Public Works Engineering Australasia (IPWEA) subdivision guidelines, Liveable Neighbourhoods, Austroads Standards, any applicable or relevant Main Roads standards, supplements, policies and any applicable or relevant local government standards or policies.

Assessment Supporting Details: All onsite vegetation (the main bushfire hazard resulting in the area being classified as Bushfire Prone) is proposed by the proponent to be removed entirely for development. Upon completion of development, it is anticipated that there will be no surrounding bushfire prone vegetation that needs to be separated from the proposed lots (as per Figure 3.1.1.), therefore Perimeter Roads are not required.

A3.5b Fire service access route	Applicable:	No	Compliant:	-

☐ ☐ ⊘ A3.5b is not applicable to the subject planning proposal because a perimeter road is assessed as being required in accordance with A3.5a, therefore a fire service access route is not required.

☐ ☐ ⊘ A3.5b is not applicable to the subject planning proposal because:

Appropriate firefighter access is currently available to all relevant areas classified vegetation (under AS 3959) that is not Class G Grassland.

Consequently, a fire service access route is not required to provide firefighter access to this vegetation, despite otherwise being required when a perimeter road is assessed as not being required (in accordance with A3.5a).

☐ ☐ ⊘ The proposed lots adjoin classified vegetation (classified under AS 3959) that is not Class G Grassland, and a perimeter road is not required in accordance with A3.5a. A fire service access route can and will be provided for firefighter access to the relevant classified vegetation where firefighter access is not currently available. It can and will meet the following established requirements:

☐ ☐ ⊘ The fire service access route is a through-route with no dead-ends, no further than 500 metres from a public road and will be signposted; and

☐ ☐ ⊘ The fire service access route meets (or can and will meet) the technical requirements (Guidelines Appendix B3, Table 10) for minimum horizontal clearance (Map of BPA Area 1 (Urban) = 6 metres and Area 2 = 10 metres), minimum vertical clearance (4.5 metres), minimum weight capacity (15 tonnes - includes bridges, culverts) and minimum inner radius of road curves (8.5 metres); and

☐ ☐ ⊘ The fire service access route meets (or can and will meet) the technical requirements (Guidelines Appendix B3, Table 10) for crossfalls and gradients for different surfaces and dips; and

☐ ☐ ⊘ When gated, gates will open the whole carriageway width and can be locked by the local government and/or the emergency services, when keys are provided for each gate; and

☐ ☐ ⊘ The proponent has obtained consent from the local government, that it will accept care, control and management responsibilities for the fire service access route (unless it is a Crown reserve managed by another entity).

Assessment Supporting Details: A fire service access route is not required for the subject site as per the justification provided above in *A3.5a perimeter roads.*

A3.6 Battle-axe legs	Applicable:	No	Compliant:	-

☑ ☐ ☐	A3.6 is not applicable to the subject planning proposal because the subject planning proposal does not contain battle-axe legs.
☐ ☐ ⊘	The subject site is in a reticulated water area and the point where the battle-axe access leg(s) joins the effective area of the battle-axe lot, is less than 50 metres from a public road. No battle-axe leg technical requirements apply.
☐ ☐ ⊘	It is demonstrated that a battle-axe access leg(s) cannot be avoided due to site or design constraints, but they can and will satisfy the following established technical requirements (allowing the battle-axe leg(s) to be considered as an acceptable solution):
☐ ☐ ⊘	The battle-axe leg meets (or can and will meet) the technical requirements (Guidelines Appendix B3, Table 10) for minimum horizontal clearance (6 metres) or where not required to comply with the Guidelines width, it meets the requirements of the Residential Design Codes and Development Control Policy 2.2 Residential Subdivision; and
☐ ☐ ⊘	The battle-axe leg meets (or can and will meet) the technical requirements (Guidelines Appendix B3, Table 10) for minimum vertical clearance (4.5 metres), minimum weight capacity (15 tonnes - includes bridges, culverts) and minimum inner radius of road curves (8.5 metres); and
☐ ☐ ⊘	The battle-axe leg meets (or can and will meet) the technical requirements (Guidelines Appendix B3, Table 10) for the gradients of different surfaces and dips; and
☐ ☐ ⊘	Passing bays are (or can and will be) installed every 200 metres with a minimum length of 20 metres and a minimum additional carriageway width of 2 metres i.e. the combined carriageway width of the passing bay and constructed private driveway will be a minimum 6 metres; and
☐ ☐ ⊘	The turnaround area/head meets (or can and will meet) the design requirements established by the Guidelines, Figure 30.

Assessment Supporting Details: No battle-axe legs proposed for this development.

5.3.4 Element 4: Water Supply

ELEMENT 4: WATER SUPPLY (STRUCTURE PLAN / SUBDIVISION APPLICATION)				
All details of acceptable solution requirements are established in the Planning for Bushfire Guidelines (Guidelines) – WA Department of Planning, Lands and Heritage (DPLH, as amended). When relevant, the 'Bushfire Management Plan Guidance for the Dampier Peninsula' (DPLH, 2021 Rev B), is also referenced.				
O4	State Planning Policy 3.7 Bushfire - Outcomes to be Achieved			
	SPP 3.7, 6.4: Ensure that sufficient water is available and accessible for emergency services, to enable people, property and infrastructure to be defended from bushfire.			
E4	Statement for Compliance with Element E1 – The Deemed to Comply Pathway			
	The planning proposal is fully compliant with all applicable acceptable solutions and therefore achieves the required outcomes of this element.			
	Alternative Pathway Applied to Achieve SPP 3.7 Outcomes			
	N/A			
ACCEPTABLE SOLUTIONS - ASSESSMENT STATEMENTS				
Check Box Legend:	☑ Relevant & met	☒ Relevant & not met	⊘ Not relevant	
A4.1 Water supply for structure plans	Applicable:	Yes	Compliant:	Yes
☑ ☐ ☐	Evidence is provided that a reticulated water supply, available for firefighting purposes, can be provided at the subdivision and/or development application stage, in accordance with the specifications established by the relevant water supply authority.			
☐ ☐ ⊘	The provision of or the specifications of a reticulated water supply cannot be met. Evidence is provided that a sufficient, sustainable and accessible non-reticulated water supply dedicated to firefighting purposes can be provided at the subdivision and/or development application stage, in accordance with the specifications established in the Guidelines, Appendix B4: Water Supply.			
☐ ☐ ⊘	It has been determined (by the proposed number of lots and/or the local government) that the provision of a strategic water supply tank(s) is required. A suitable area(s) will be identified as a Crown reserve on the structure plan, to the satisfaction of the WAPC on advice from the local government. The land on which the strategic tank is to be located is to be ceded and should occur free of cost, without any payment or compensation by the Crown, as a Crown reserve for 'strategic water supply for firefighting purposes.'			
☐ ☐ ⊘	The structure plan is over land with fragmented ownership and the local government has determined that a strategic water supply tank is required. The first stage of the development will include the installation of the strategic water supply tank(s) on the identified Crown reserve(s).			
☐ ☐ ⊘	The applicable local planning scheme provisions provide for developer contributions for public infrastructure. The local government is supportive of applying a cash-in-lieu arrangement for the provision of a strategic water tank for firefighting purposes. This arrangement is presented as an Addendum in this BMP.			

☐ ☐ ⊘	Evidence will be provided, at the subsequent relevant planning stage, that the proposed water supply has been installed in accordance with the specifications established by the relevant water supply authority and/or the Guidelines, Appendix B4: Water supply.
☐ ☐ ⊘	The BPC Explanatory Notes in Appendix B.4: Water Supply introduce additional measure as best practice but voluntary. The following measure is adopted by the planning proposal: The subject site is planned to have a reticulated water supply but is in an area designated as Area 2 on the Map of BPA and/or the local government area has known issues with water supply or pressure. Water supply tank(s) and fittings dedicated to firefighting purposes (noting that combining drinking and firefighting uses of water is not recommended and may be contrary to relevant provisions), that satisfy the construction and design requirements established in the Guidelines, Appendix B4: Water Supply, will be provided. These will be met at the subdivision and/or development application stage as applicable.
Assessment Supporting Details: The proposed development is a Scheme Amendment. The site is located in an existing reticulated built-out area. Additional hydrant connection(s) can and will be provided for each lot in accordance with the specifications established by the relevant water supply authority (refer also to hydrant location information in Appendix D of this BMP).	
A4.2 Water supply for subdivision applications	Applicable: No Compliant: -
☐ ☐ ⊘	Evidence is provided that a reticulated water supply, available for firefighting purposes, exists or can be provided. Hydrant connection(s) will be provided in accordance with the specifications established by the relevant water supply authority (refer also to hydrant location information in Appendix D of this BMP).
☐ ☐ ⊘	The provision of or the specifications of a reticulated water supply cannot be met. Evidence is provided that a sufficient, sustainable and accessible non-reticulated water supply, dedicated to firefighting purposes, can and will be provided in accordance with the specifications established in the Guidelines, Appendix B4: Water Supply.
☐ ☐ ⊘	The planning proposal is for the creation of two lots (one additional lot) on which a 10,000 litre water supply tank, dedicated to firefighting purposes, will be installed on each lot.
☐ ☐ ⊘	The planning proposal is for the creation of three to 24 lots and a 10,000 litre water supply tank, dedicated to firefighting purposes, will be installed on each lot.
☐ ☐ ⊘	The planning proposal is for the creation of 25 lots or more. A 10,000 litre water supply tank, dedicated to firefighting purposes, will be installed on each lot, or 50,000 litre strategic water tank(s), dedicated to firefighting purposes, will be installed per 25 lots or part thereof, or a combination of these requirements will be installed - as most appropriate or as instructed by the relevant local government.
☐ ☐ ⊘	It has been determined (by the proposed number of lots and/or the local government) that the provision of a strategic water supply tank(s) is required. A suitable area(s) will be identified as a Crown reserve on the subdivision, to the satisfaction of the WAPC on advice from the local government. The land on which the strategic tank is to be located is to be ceded and should occur free of cost, without any payment or compensation by the Crown, as a Crown reserve for 'strategic water supply for firefighting purposes.'
☐ ☐ ⊘	The proposed subdivision is to be staged, and the local government has determined that a strategic water supply tank is required. The first stage of the subdivision will include the installation of the strategic water supply tank(s) on the identified Crown reserve(s).
☐ ☐ ⊘	The applicable local planning scheme provisions provide for developer contributions for public infrastructure. The local government is supportive of applying a cash-in-lieu arrangement for the

	provision of a strategic water tank for firefighting purposes. This arrangement is presented as an Addendum in this BMP.
☐ ☐ ⊘	Any strategic water supply tank dedicated to firefighting purposes and proposed to be installed, will be located no more than 10 minutes travel time (for an emergency services vehicle at legal road speeds), from the farthest development site.
☐ ☐ ⊘	Planned above ground water supply tank(s), dedicated to firefighting purposes (and tank stand(s) when applicable), will be constructed of non-combustible material and as necessary, will comply with AS/NZS 3500.1(as amended). This includes not using the same water supply for both domestic use and firefighting purposes. If a combined use tank(s) is to be used, it will separate the storage compartments in accordance with the provisions of the standard (i.e. internal installation of double partition walls).
☐ ☐ ⊘	Each strategic tank water outlet connection fitting will have a full flow valve and either a 100 mm or 50 mm male camlock coupling (with the applied size dependant on the advice or condition established by the local government).
☐ ☐ ⊘	The outlet connection fitting for the water supply tank(s), dedicated to firefighting purposes, will have a full flow valve and a 50 mm male camlock coupling.
☐ ☐ ⊘	All above-ground, exposed water supply pipes and fittings will be metal and positioned facing away from the source of bushfire hazard and/or shielded against potential bushfire impact – to allow access by emergency services.
☐ ☐ ⊘	The planned provision of the water supply tank(s) will consider locations relative to the bushfire hazard. Location of the tank(s) and management of vegetation will ensure vegetation will not exist over or against the tank(s) and that sufficient separation exists to limit the potential bushfire impact. Due consideration will also be given to the provision of sufficient separation from vegetation and/or shielding for the protection of firefighters accessing the water supply.
☐ ☐ ⊘	An unobstructed, hardened ground surface, for emergency services vehicle access, can and will be installed within 4 metres of the water supply outlet (refer to Figure 39, Guidelines).
☐ ☐ ⊘	It is proposed for a water supply tank outlet(s) is to be remote from the tank, the local government and DFES will have been consulted regarding the application and location. The determined requirements are presented as an Addendum in this BMP.
☐ ☐ ⊘	Planned below ground water supply tank(s), dedicated to firefighting purposes, will have at least a 200 mm diameter access hole – or a suitable inspection opening - to allow tankers or emergency services vehicles to refill direct from the tank, with the outlet location clearly marked on the surface. As necessary, the tanks(s) will comply with AS/NZS 3500.1 (as amended).
☐ ☐ ⊘	The BPC Explanatory Notes in Appendix B.4: Water Supply introduce additional measure as best practice but voluntary. The following measure is adopted by the planning proposal: The subject site will have a reticulated water supply but is in an area designated as Area 2 on the Map of BPA and/or the local government area has known issues with water supply or pressure. Water supply tank(s) will be provided and fittings dedicated to firefighting purposes that satisfy the construction and design requirements established in the Guidelines, Appendix B4: Water Supply.
☐ ☐ ⊘	The BPC Explanatory Notes in Appendix B.4: Water Supply introduce additional measures as best practice but voluntary. The following measure is adopted by the planning proposal:

	The subject site is in a non-reticulated area. Pumping equipment is installed and will be powered by means other than the electricity network such as an appropriately powered and capacity petrol/diesel or onsite generator/electricity, driven pump, and be shielded against potential bushfire impact.
Assessment Supporting Details: None required.	

A4.3 Water supply for existing habitable building(s)	Applicable:	No	Compliant:	-

☐ ☐ ⊘	The proposed subdivision includes an existing habitable building(s) that is to be retained. A hydrant connection(s) will be provided in accordance with the specifications established by the relevant water supply authority (refer also to hydrant location information in Appendix D of this BMP).
☐ ☐ ⊘	The provision of or the specifications of a reticulated water supply cannot be met. Evidence is provided that a sufficient, sustainable and accessible non-reticulated water supply, dedicated to firefighting purposes, can and will be provided in accordance with the specifications established in the Guidelines, Appendix B4: Water Supply. Details of the applicable specifications that will be met have been presented in the assessment of 'A4.2: Water supply for subdivision application above'.
Assessment Supporting Details: No existing habitable buildings to be retained on the subject site.	

6 RESPONSIBILITY CHECKLISTS

EXPLANATORY INFORMATION

This section of the BMP sets out the responsibilities of the relevant entity or person for:

- The initial implementation of the required bushfire protection measures and their timing; and
- The ongoing maintenance of the required bushfire protection measures to ensure their continued effectiveness.

Note: Protection measures that may be recommended by the bushfire consultant in the BMP section titled "Additional Recommended Bushfire Protection Measures" are not included in the Responsibility Checklists. Their application is at the discretion of the decision maker and/or the proponent.

6.1 Bushfire Protection Measures - Implementation Checklists

6.1.1 Developer Responsibilities Prior to Issue of Certificates of Title for New Lots

TABLE 6.1
DEVELOPER RESPONSIBILITIES PRIOR TO ISSUE OF CERTIFICATES OF TITLE FOR NEW LOTS

No.	IMPLEMENTATION OF BUSHFIRE PROTECTION MEASURES Measures Established Under SPP 3.7 / Guidelines	Local Government Clearance	Bushfire Consultant Clearance
1	For the entire area of each new lot, ensure any retained vegetation, if any, can be regarded as: • Presenting a 'low bushfire threat' currently and in perpetuity; and • Is able to be excluded from classification in accordance with AS 3959:2018 s.2.2.3.2 - where the Standard applies the determining factors of extent, connectivity, flammability, moisture and fuel load. Refer to Appendices B3 and B5 of this BMP for guidance. Where native vegetation is required to be modified or removed, ensure that prior approval has been received from the relevant authority. Refer to the applicable local government for advice.	☐	☐
2	The narrow strip of offsite vegetation adjoining the eastern boundary of existing Lot 507 (road verge labelled as "Vegetation Area 5" on Figure 3.1 and Figure 3.1.1) is expected to be removed during development works. If this vegetation is retained, or future vegetation planned for this area, it may impact the ability for proposed lots to provide a suitable development site within each lot with potential radiant heat impacts not exceeding 29 kW/m^2 (BAL-29). Any retained or future vegetation should be maintained in a low threat state in perpetuity by the relevant landholder. If it cannot be maintained in a low threat state in perpetuity by the relevant landholder, this Bushfire Management Plan and the Indicative BAL ratings within will need to be reviewed. Where native vegetation is required to be modified or removed, ensure that prior approval has been received from the relevant authority. Refer to the applicable local government for advice.	☐	☐

TABLE 6.1 DEVELOPER RESPONSIBILITIES PRIOR TO ISSUE OF CERTIFICATES OF TITLE FOR NEW LOTS			
3	Ensure the planned public open space(s) are established and vegetation can be regarded as: • Presenting a 'low bushfire threat' currently and in perpetuity; and • Is able to be excluded from classification in accordance with AS 3959:2018 s.2.2.3.2 - where the Standard applies the determining factors of extent, connectivity, flammability, moisture and fuel load. Refer to Appendices B3 and B5 of this BMP for guidance.	☐	☐
4	A landscape management plan is to be prepared, as discussed in Section 2.3.		
5	Construct the public roads to comply with the technical requirements stated and/or referenced in Section 5.3 of the BMP at Element 3: Vehicular access, A3.1 Public roads - or have these works bonded.	☐	☐
6	Install the reticulated firefighting water supply and hydrants to comply with the technical requirements stated and/or referenced in Section 5.3 of the BMP at Element 4: Water supply, A4.2 Water supply for subdivision applications - or have these works bonded.	☐	☐
7	The subdivision approval may be conditioned to require information be provided that informs the decision maker: • That the required bushfire protection measure implementation contained in Table 6.1 of this bushfire management plan, have been complied with during subdivisional works; and • Notes any evidence that relevant and required bushfire protection measures contained in Table 6.2 of this bushfire management plan will be complied with. The relevant bushfire protection measures are those that can be checked for compliance by a bushfire consultant. The compliance certification will be provided as a certificate or report (as most applicable).	☐	☐

6.1.2 Developer Responsibilities Prior to Sale of New Lots

TABLE 6.2 DEVELOPER RESPONSIBILITIES PRIOR TO SALE OF NEW LOTS	
No.	IMPLEMENTATION OF BUSHFIRE PROTECTION MEASURES Measures Established Under SPP 3.7 / Guidelines
1	Maintain all lots, and the entire subject site, in a low threat state in accordance with AS 3959 Clause 2.2.3.2 and Appendix B.2 of the Guidelines.
2	On sale of a lot, the new property owner must be made aware of the existence of this approved BMP and provided with access to a copy and be informed of their ongoing responsibilities it contains. A copy of the BMP should be attached to all contracts of sale.
3	The relevant local government either has no 'Notice' or the lot sizes of the planning proposal are too small to trigger the requirement to implement firebreaks resulting in no protection measure being established.

6.1.3 Landowner Responsibilities Prior to Occupancy of New Lots

TABLE 6.3 LANDOWNER RESPONSIBILITIES PRIOR TO OCCUPANCY OF NEW LOTS	
No.	IMPLEMENTATION OF BUSHFIRE PROTECTION MEASURES Measures Established Under SPP 3.7 / Guidelines
-	Nil required

6.2 Bushfire Protection Measures - Maintenance Checklists

6.2.1 Landowner Responsibilities

TABLE 6.4 LANDOWNER RESPONSIBILITIES – MAINTENANCE OF BUSHFIRE PROTECTION MEASURES	
No.	MAINTENANCE OF BUSHFIRE PROTECTION MEASURES Measures Established Under SPP 3.7 / Guidelines
1	Maintain all lots, and the entire subject site, in a low threat state in accordance with AS 3959 Clause 2.2.3.2 and Appendix B.2 of the Guidelines. Each lot may have a different relevant landholder, each individual relevant landholder is responsible for maintenance of each lot (including residential lots, roads and road verges, public open space/drainage, and future school use lot).
2	The landscape management plan, discussed in Section 2.3, has detailed onsite vegetation design and management, ensure that this continues to be implemented as planned.
3	When the property changes ownership or occupancy, to assist with the ongoing maintenance of the implemented bushfire protection measures, ensure that the relevant person(s) is aware of the BMP, and the responsibilities it contains. Provide access to a copy of the BMP (Note: this BMP may be superseded by a subsequent BMP produced specially for development on a lot).
MAINTENANCE OF BUSHFIRE PROTECTION MEASURES Measures Established Under the Building Act 2011/ Building Regulations 2012/ Building Code of Australia	
4	Ensure that builders engaged to construct dwellings/additions and/or other relevant structures on the lot, are aware of the existence of this approved Bushfire Management Plan (BMP). The plan identifies that the development site is within a designated bushfire prone area. A BAL assessment report may be required to determine the applicable BAL rating. A BAL certificate will need to be issued to accompany building permit applications. Compliance with the Building Code of Australia (Volumes 1 and 2 of the National Construction Code), will require certain bushfire resistant construction requirements be applied to certain buildings in designated bushfire prone areas (i.e. Class 1, 2 and 3 and certain Class 9 buildings and associated Class 10a buildings and decks). The deemed to satisfy solutions that will meet the relevant bushfire performance requirements are found in AS 3959 – Construction of Building in Bushfire Prone Areas (as amended) and the NASH Standard - Steel Framed Construction in Bushfire Areas (as amended).
5	Maintain and repair buildings to ensure continuing compliance with the bushfire resistant construction requirements, corresponding to the BAL rating applied to the building, in accordance with AS 3959 – Construction of Building in Bushfire Prone Areas (as amended) and the NASH Standard - Steel Framed Construction in Bushfire Areas (as amended). In particular, ensure the minimisation of gaps and effectiveness of screening is maintained to prevent ember entry to internal spaces and combustible materials.

6.2.2 Local Government Responsibilities

TABLE 6.5 LOCAL GOVERNMENT RESPONSIBILITIES – MAINTENANCE OF BUSHFIRE PROTECTION MEASURES	
No.	MAINTENANCE OF BUSHFIRE PROTECTION MEASURES Measures Established by the Bushfire Management Plan
1	To be aware of the potential consequences of any significant changes in the local government's management of land (including potential re-vegetation), of which they have vested control, that could have an adverse impact on the determined BAL ratings that apply to adjacent existing or future buildings and where: • The applicable 'determined' BAL ratings have been established by an existing BMP or a BAL Assessment; and • The BAL has been correctly determined with appropriate consideration of what could reasonably be expected to potentially change in the future with regards to the composition and structure of the vegetation on the local government controlled land and therefore its correct classification under AS 3959:2018 BAL determination methodology. • The proposed "Drainage/Public Open Space" is anticipated to be established to result in low threat vegetation as per AS 3959 Clause 2.2.3.2 and Appendix B.2 of the Guidelines, and is reasonably expected to be maintained in a low threat state in perpetuity by the relevant landholder.

APPENDIX A: DETAILED BAL ASSESSMENT DATA AND SUPPORTING INFORMATION

A1: BAL Assessment Inputs Common to the Method 1 and Method 2 Procedures

A1.1: FIRE DANGER INDICES (FDI/FDI/GFDI)

When using Method 1 the relevant FDI value required to be applied for each state and region is established by AS 3959:2018, Table 2.1. Each FDI value applied in Tables 2.4 – 2.7 represents both the Forest Fire Danger Index (FFDI) and a deemed equivalent for the Grassland Fire Danger Index (GFDI), as per Table B2 in Appendix B. When using Method 2, the relevant FFDI and GFDI are applied.

The values may be able to be refined within a jurisdiction, where sufficient climatological data is available and in consultation with the relevant authority.

Relevant Jurisdiction:	WA	Region:	Whole State	Method 1	Applied FDI:	80
				Method 2	Applied FFDI:	N/A
					Applied GFDI:	N/A

A1.2: VEGETATION ASSESSMENT AND CLASSIFICATION

Vegetation Types and Classification

In accordance with AS 3959:2018 Clauses 2.2.3 and C2.2.3.1, all vegetation types within 100 metres of the 'site' (defined as "the part of the allotment of land on which a building stands or is to be erected"), are identified and classified. Any vegetation more than 100 metres from the site that has influenced the classification of vegetation within 100 metres of the site, is identified and noted. The maximum excess distance is established by AS 3959: 2018 Clause 2.2.3.2 and is an additional 100 metres.

Classification is also guided by the Visual Guide for Bushfire Risk Assessment in WA (WA Department of Planning February 2016) and any relevant FPA Australia practice notes.

Modified Vegetation

The vegetation types have been assessed as they will be in their natural mature states, rather than what might be observed on the day. Vegetation destroyed or damaged by a bushfire or other natural disaster has been assessed on its expected re-generated mature state. Modified areas of vegetation can be excluded from classification if they consist of low threat vegetation (refer to Appendix B) and that any required active management can be expected to continue in perpetuity, and this can be adequately justified.

The Influence of Ground Slope

Where significant variation in effective slope exists under a consistent vegetation type, these will be delineated as separate vegetation areas to account for the difference in potential bushfire behaviour, in accordance with AS 3959:2018 Clauses 2.2.5 and C2.2.5.

THE INFLUENCE OF VEGETATION GREATER THAN 100 METRES FROM THE SUBJECT SITE	
Vegetation area(s) within 100m of the site whose classification has been influenced by the existence of bushfire prone vegetation from 100m – 200m from the site:	None
Assessment Statement:	No vegetation types exist close enough, or to a sufficient extent, within the relevant area to influence classification of vegetation within 100 metres of the subject site.

VEGETATION AREA 1	
Exclusion Clause	2.2.3.2 (f) Low threat vegetation - minimal fuel condition.
Justification Comments:	Low-threat vegetation located on school grounds consisting primarily of sporting fields with reticulated lawns under 10cm in height. Scattered trees throughout the area form significantly less than 5% of total area, all well maintained in a low fuel state.
Post Development Assumptions:	Low threat vegetation is reasonably expected to remain in a low threat state in perpetuity.

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VEGETATION AREA 2	
Exclusion Clause	2.2.3.2 (f) Low threat vegetation - minimal fuel condition.
Justification Comments:	Low threat vegetation parkland, consisting of reticulated lawn oval/playing field, and mature trees maintained in a low fuel condition, under-pruned to a height of at least 2 metres above the ground, and with minimal fine fuels and leaf litter, mulches and reticulated lawns under.
Post Development Assumptions:	Low threat vegetation is reasonably expected to remain in a low threat state in perpetuity.

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VEGETATION AREA 3	
Exclusion Clause	2.2.3.2 (e) Non-vegetated area
Justification Comments:	Predominantly non-vegetated area includes a carpark and buildings part of the 'Quinns Village' shopping complex. Narrow strip of reticulated lawn on verge, under 10cm in height.
Post Development Assumptions:	Low threat vegetation is reasonably expected to remain in a low threat state in perpetuity.

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VEGETATION AREA 4	
Exclusion Clause	2.2.3.2 (e) Non-vegetated areas and (f) Low threat vegetation - minimal fuel condition.
Justification Comments:	Non-vegetated area includes sealed public roads, footpaths, driveways, paved yards, and buildings. Low threat vegetation includes road verges planted with a variety of species, maintained in a low fuel state with minimal fine fuels and leaf litter. Also includes reticulated lawns under 10cm in height and mulches.
Post Development Assumptions:	Low threat vegetation is reasonably expected to remain in a low threat state in perpetuity.

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VEGETATION AREA 5						
Classification	**C. SHRUBLAND**					
Types Identified	Open heath C-11		Closed (low) heath C-10		Open scrub D-14	
Effective Slope	Measured	flat 0 degrees	Applied Range (Method 1)		Upslope or flat 0 degrees	
Foliage Cover (all layers)	>30%	Shrub/Heath Height	<2m	Tree Height	N/A	
Justification Comments:	Mixed native shrubland with a variety of non-native species on limestone road verges of Marmion Avenue. Typically less than 2 metres in height, scattered shrubs up to 3 metres in height form <5% total foliage cover throughout the area. Patchy vegetation, degraded condition.					
Post Development Assumptions:	Vegetation has been classified as worst-case scenario. Offsite vegetation cannot be altered or removed by the subject site landowner without prior written authority from the relevant agency. For the purpose of this assessment, it is assumed that earthworks will be required to establish the proposed road adjacent to Area 5 vegetation. For this reason, it has been assumed as per Figure 3.1.1 (*Post Development Classified Vegetation*) that the narrow strip of Area 5 vegetation immediately adjoining the subject site will be removed during development. It is reasonably assumed that the area will either remain non-vegetated, or that any re-planted vegetation or verge treatments will be maintained in a low threat state in perpetuity by the relevant landholder, in accordance with AS 3959 Clause 2.2.3.2.					

PHOTO ID: 20

PHOTO ID: 21

PHOTO ID: 22

PHOTO ID: 23

	
PHOTO ID: 24	PHOTO ID: 25

VEGETATION AREA 6						
Classification	C. SHRUBLAND					
Types Identified	Open heath C-11					
Effective Slope	Measured	flat 0 degrees	Applied Range (Method 1)	Upslope or flat 0 degrees		
Foliage Cover (all layers)	>30%	Shrub/Heath Height	1-2m	Tree Height	N/A	
Justification Comments:	Sparsely vegetated area consisting of shrubs typically less than 2 metres in height, less than 10% of total area contains shrubs greater than 2 metres in height. Remainder of area consists of grasses. Overall degraded condition.					
Post Development Assumptions:	Vegetation has been classified as worst-case scenario. Vegetation cannot be altered or removed by the subject site landowner without authority from the relevant agency. The proponent proposes that all vegetation within the subject site will be removed for the development. All future vegetation on the subject site must be maintained in a low threat state in perpetuity, in accordance with AS 3959 Clause 2.2.3.2.					

PHOTO ID: 26

VEGETATION AREA 7						
Classification	**C. SHRUBLAND**					
Types Identified	Open heath C-11					
Effective Slope	Measured	d/slope 8.5 degrees	Applied Range (Method 1)	Downslope >5-10 degrees		
Foliage Cover (all layers)	>30%	Shrub/Heath Height	1-2m	Tree Height	N/A	
Justification Comments:	Native shrubland containing a variety of species, including grasstrees, multiple banksias incl. parrot bush, and honeymyrtle, typically 1 to 1.5 metres in height. Clipboard in Photo ID: 29 and 32 is 45cm height. Patches throughout the site are heavily degraded, and contains non-native species throughout the site.					
Post Development Assumptions:	Vegetation has been classified as worst-case scenario. Vegetation cannot be altered or removed by the subject site landowner without authority from the relevant agency. The proponent proposes that all vegetation within the subject site will be removed for the development. All future vegetation on the subject site must be maintained in a low threat state in perpetuity, in accordance with AS 3959 Clause 2.2.3.2.					

PHOTO ID: 27

PHOTO ID: 28

PHOTO ID: 29

PHOTO ID: 30

	
PHOTO ID: 31	PHOTO ID: 32

VEGETATION AREA 8						
Classification	D. SCRUB					
Types Identified	Closed scrub D-13					
Effective Slope	Measured	flat 0 degrees	Applied Range (Method 1)	Upslope or flat 0 degrees		
Foliage Cover (all layers)	>30%	Shrub/Heath Height	>2m	Tree Height	N/A	
Justification Comments:	Dense re-growth of wattles in small area on the subject site previously cleared of vegetation, 3 to 5 metres in height.					
Post Development Assumptions:	Vegetation has been classified as worst-case scenario. Vegetation cannot be altered or removed by the subject site landowner without authority from the relevant agency. The proponent proposes that all vegetation within the subject site will be removed for the development. All future vegetation on the subject site must be maintained in a low threat state in perpetuity, in accordance with AS 3959 Clause 2.2.3.2.					

PHOTO ID: 33

PHOTO ID: 34

VEGETATION AREA 9						
Classification	G. GRASSLAND					
Types Identified	Open herbfield G-27		Sparse open herbfield G-28		Tussock grassland G-22	
Effective Slope	Measured	flat 0 degrees	Applied Range (Method 1)		Upslope or flat 0 degrees	
Foliage Cover (all layers)	N/A	Shrub/Heath Height	N/A	Tree Height	N/A	
Justification Comments:	Area has been previously cleared of native vegetation, regrowth of grasses typically less than 0.5 metres in height.					
Post Development Assumptions:	Vegetation has been classified as worst-case scenario. Native vegetation cannot be altered or removed by the subject site landowner without authority from the relevant agency. The proponent proposes that all vegetation within the subject site will be removed for the development. All future vegetation on the subject site must be maintained in a low threat state in perpetuity, in accordance with AS 3959 Clause 2.2.3.2.					

PHOTO ID: 35

PHOTO ID: 36

VEGETATION AREA 10	
Exclusion Clause	2.2.3.2 (e) Non-vegetated areas and (f) Low threat vegetation - minimal fuel condition.
Justification Comments:	Existing non-vegetated area within the subject site consisting of bare earth limestone and sand firebreaks and paths.
Post Development Assumptions:	Upon completion of the proposed subdivision, the entire subject site (existing Lot 507) is proposed to be non-vegetated and/or consist of low threat vegetation as per Clause 2.2.3.2 of AS 3959. This will include residential lots, a POS/Drainage lot, and a lot "Retained for Future School Use". It is reasonably expected that any future vegetation introduced onto the subject site, specifically the POS/Drainage and Lot Retained for Future School Use, will be introduced and maintained at all times, and in perpetuity, in a low threat state as per Clause 2.2.3.2 of AS 3959. This will be the responsibility of the relevant landholder for each lot (i.e. local government, private landowners). Until such time as the "Lot Retained for Future School Use" is developed, it must be maintained in a low threat state, which shall include slashing of grasses to a height under 10cm at all times. Any future vegetation regrowth must be managed in accordance with Clause 2.2.3.2 of AS 3959. Any variations or changes to the above assumptions may change the Indicative BAL ratings and outcomes presented in this BMP report. A revision of the BMP will be required in that case.

PHOTO ID: 37

PHOTO ID: 38

VEGETATION AREA 11	
Exclusion Clause	2.2.3.2 (f) Low threat vegetation - minimal fuel condition.
Justification Comments:	Post-Development anticipated vegetation only, refer to Figure 3.1.1.
Post Development Assumptions:	This lot is proposed to be future "POS/Drainage" as per Figure 1.1 of this report. A landscape management plan currently does not exist for the site. It is acknowledged that this lot may become vegetated, however it is reasonably expected that the lot will be planted with low threat vegetation, and will be maintained at all times, and in perpetuity, in a low threat state as per Clause 2.2.3.2 of AS 3959. This will be the responsibility of the relevant landholder (i.e. local government). Upon approval of this Bushfire Management Plan, a Landscape Management Plan will be required, giving consideration to bushfire issues, specifically addressing future establishment and maintenance of the POS/Drainage lot. Any variations or changes to the above assumptions may change the Indicative BAL ratings and outcomes presented in this BMP report. A revision of the BMP will be required in that case.

A1.3: EFFECTIVE SLOPE

EXPLAINING THE ASSESSMENT METHODOLOGY APPLIED BY BUSHFIRE PRONE PLANNING

DEFINITION: Effective slope is "the slope under that classified vegetation which most influences the bushfire attack" (AS 3959:2018, Clause 1.5.11).

"The effective slope under the classified vegetation is not the same as the average slope for the land surrounding the site of the proposed building. The effective slope is that slope which most significantly influences bushfire behaviour" (AS 3959:2018, Clause CB4).

The slope is described as upslope, flat or downslope when viewed from an exposed element (e.g., building) and looking towards the vegetation. It is measured in degrees.

[Note: Additional relevant guidance provided by AS 3959:2018 and NSW RFS, Planning for Bushfire Protection (2019) is incorporated into the applied assessment methodology and is presented at the end of this explanation.]

COMPOUND SLOPES UNDER VEGETATION AND DETERMINING SLOPE SIGNIFICANCE

Non-Linear Slopes: When the slope of ground under the vegetation out to the distance to be assessed (100 m or further if necessary), is not a straight line or nearly straight line slope, then it is made up of several different slopes i.e., it is a compound slope. The different slope angles and lengths must be factored into the determination of the effective slope value to be applied. Different slopes will potentially influence the bushfire rate of spread and intensity, both increasing and decreasing it.

Significant Slope: The AS 3959:2018 bushfire attack level determination methodology, with default inputs, models a fully developed bushfire. Therefore, a 'significant' slope is one that will significantly influence bushfire behaviour. To be 'significant' the length of the slope must be 'sufficient' to support a fully developed fire on that slope. The angle of a significant slope could be the determined effective slope for the area of classified vegetation if it is the one that 'most influences the bushfire attack'.

Sufficient Slope Length: Is a slope that will, as a minimum, allow the entire flame depth (flaming zone) of a fully developed fire (100m flame width) to exist on that slope.

The expected flame depth of a fully developed bushfire is a function of the length of time the flaming phase will exist on a section of the fuel bed (the 'residence time') and the bushfire's 'rate of spread'. For a given rate of spread, longer residence times result in greater flame depths. Greater flame depths are correlated with greater flame temperatures and greater flows of radiant heat.

The primary factors that will increase the residence time are:

- Heavier fine fuel loads of grass, leaf litter, twigs, bark etc less than 6mm in width and existing within the surface and near surface layers (and elevated fuel layers when contiguous with the base layers); and
- A greater percentage of larger fine fuels within the fuel load.

The primary factors that increase the rate of spread (apart from fire weather factors), include finer fuels, drier fuels, horizonal continuity of fuel and steeper upward ground slope in the direction of fire travel.

Example values:

- Residence Time: Grassfire 5 – 15 seconds, Forest fire 25 -50 seconds.
- Rate of Spread: Grassfires of a few km/hr are considered fast moving, 5-10 km/hr is common and fastest in the order of 25km/hr. Forest fire typically recorded in metres/hour with 1-1.5 km/hr being considered fast moving and fastest in the order of 3–4 km/hr.
- Flame Depth: More typically, a few metres for grasses to tens of metres for forest fires.

An Isolated Slope: For scenarios where there is a single significant slope (based on the above criteria) additional consideration would need to be given to the time and distance consumed by a bushfire still in its 'developing' phase. This will require due consideration be given to how it is potentially ignited i.e., from a single or multiple points, as this will influence the time and distance required to fully develop. For such scenarios, a normally significant slope may not be sufficiently long. It may be necessary to determine the potential bushfire impact more accurately by

justifying the application of a lesser effective slope, or a lower threat vegetation classification, or calculating a reduced head fire width (using short fire run modelling).

Determined Effective Slope: Only a 'significant' slope can potentially be the effective slope by itself. In which case, for a defined area of classified vegetation area, the worst significant slope under that vegetation is to apply.

The table below presents Bushfire Prone Planning's considerations applied to assessing short and/or compound slopes in determining the effective slope.

Slope Length (m)	Considered a Significant Slope	Considerations in Determining the Effective Slope
< 5	No	Where these short slopes exist as part of a compound slope under an area of classified vegetation, they can be ignored as they will not influence the fire behaviour in that vegetation.
5-20	Will Vary	These slopes will have a range of influence on fire behaviour from very little to a degree of influence that must be accounted for to some extent by the effective slope value that is applied (i.e., with a greater length - apply to a greater extent). But the actual slope of these shorter slopes is less likely to be applied as it is not a 'significant' length.
20-30	Possibly - Likely	The same considerations applied to the 5-20m slope lengths should be applied here. However, more justification would need to be presented to support an assessment of not 'significant'. For these slope lengths, consideration must be given more broadly to the potential level of risks associated with a bushfire event in this location. The risk level will be a function of the bushfire hazard threat levels (direct attack mechanisms) within the immediate and broader assessment area as influenced by local topography, vegetation extents and types and the exposure and vulnerability of persons and/or buildings/structures to these threats. Higher consequent risk levels require greater precaution meaning these length slopes should be considered 'significant', and vice versa. Consider the potential for a bushfire on adjoining or nearby land be a source of ignition and/or pre-heating to vegetation on the subject slope. Consider if vegetation on the slope is likely be ignited by a single ignition point or is multipoint ignition possible from bushfire an adjoining slopes or the surrounding area. Single point ignition will require a fire to travel further before being fully developed (DFES considers less than 100m fire runs may be considered a short fire run for forest, woodland and scrub vegetation classifications, RFS NSW applies 150m). Isolated slopes of this length are less likely to be considered significant as compared to when part of a compound slope.
>30	Yes	Likely to always be a significant slope unless isolated (i.e., exists alone) – in which case, justifying the application of a lesser effective slope, or a lower threat vegetation classification, or calculating a reduced head fire width, are approaches that may justifiably be applied.

BPP Approach - Slope Variation Within Areas of Vegetation

When multiple 'significant' slope lengths with large differences in degrees of effective slope (or different applicable slope ranges when AS 3959:2018 Method 1 is applied), exists under a single vegetation classification, these will be delineated as separate vegetation areas of classified vegetation to account for the difference in potential bushfire behaviour and impact, in accordance with AS 3959:2018 clauses 2.2.5 and C2.2.5.

Effective Slope Variation Due to Multiple Development Sites

When the effective slope, under a single area of bushfire prone vegetation, will vary significantly relative to multiple proposed development sites (exposed elements), then the effective slopes corresponding to each of the different locations, are separately identified. The relevant (worst case) effective slope is determined in the direction corresponding to the potential directions of fire spread towards the subject building(s).

AS 3959:2018 EFFECTIVE SLOPE DETERMINATION - GUIDANCE

The Standard presents a broad set of guidance statements that indicate the intent of deriving an effective slope value for use in calculations, rather than detailing the 'in the field' determination process. These include:

- Highlighting the importance of the value by stating "The slope of the land under the classified vegetation has a direct influence on the rate of fire spread, the severity of the fire and the ultimate level of radiant heat flux" (Clause C2.2.5). [Note: A common rule of thumb is that for every 10 degrees of upslope, a fire will double its rate of spread if moving in the direction of the prevailing wind].

- "It may be necessary to consider the slope under the classified vegetation for distances greater than 100 m in order to determine the effective slope for that vegetation classification) … (i.e. the vegetation within 100 m) (Clause C2.2.5).

- "Where there is more than one slope within the classified vegetation, each slope shall be individually assessed, and the worst case Bushfire Attack Level shall apply" (Clause 2.2.5).

NSW RFS 2019, PLANNING FOR BUSHFIRE PROTECTION - APPENDIX A1.5 - ADDITIONAL DETERMINATION GUIDANCE

- "In identifying the effective slope - it may be found that there are a variety of slopes covering different distances within the vegetation. The effective slope is considered to be the slope under the vegetation which will most significantly influence the bushfire behaviour for each aspect. This is usually the steepest slope. In situations where this is not the case, the proposed approach must be justified".
- "Vegetation located closest to an asset may not necessarily be located on the effective slope".

SITE ASSESSMENT DETAILS - EXPLANATION & JUSTIFICATION

The effective slopes determined from the site assessment are recorded in Table 3.2 of this Bushfire Management Plan.

A1.4: SEPARATION DISTANCE

Measuring

The separation distance is the distance in the horizontal plane between the receiver (building/structure or area of land being considered) and the edge of the classified vegetation (AS 3959:2018, clause 2.2.4)

The relevant parts of a building/structure from which the measurement is taken is the nearest part of an external wall or where a wall does not exist, the supporting posts or columns. Certain parts of buildings are excluded including eaves and roof overhangs.

The edge of the vegetation, for forests and woodlands, will be determined by the unmanaged understorey rather than either the canopy (drip line) or the trunk (AS 3959:2018, clause C2.2.5).

Measured Separation Distance as a Calculation Input

If a separation distance can be measured because the location of the building/structure relative to the edge of the relevant classified vegetation is known, this figure can be entered into the BAL calculation. The result is a determined BAL rating.

Assumed Separation Distance as a Calculation Input

When the building/structure location within the lot is not known, an assumed building location may be applied that would establish the closest positioning of the building/structure relative to the relevant area of vegetation.

The assumed location would be based on a factor that puts a restriction on a building location such as:

- An established setback from the boundary of a lot, such as a residential design code setback or a restrictive covenant; or
- Within an established building envelope.

The resultant BAL rating would be indicative and require later confirmation (via a Compliance Report) of the building/structure actual location relative to the vegetation to establish the determined BAL rating.

Separation Distance as a Calculation Output

With the necessary site specific assessment inputs and using the AS 3959:2018 bushfire modelling equations, the range of separation distances that will correspond to each BAL rating (each of which represents a range of radiant heat flux), can be calculated. This has application for bushfire planning scenarios such as:

- When the separation distance cannot be measured because the exact location of the exposed element (i.e., the building, structure or area), relative to classified vegetation, is yet to be determined.

  In this scenario, the required information is the identification of building locations onsite that will correspond to each BAL rating. That is, indicative BAL ratings can be derived for a variety of potential building/structure locations; or

- The separation distance is known for a given building, structure or area (and a determined BAL rating can be derived), but additional information is required regarding the exposure levels (to the transfer of radiant heat from a bushfire), of buildings or persons, that will exist at different points within the subject site.

The calculated range of separation distances corresponding to each BAL rating can be presented in a table and/or illustrated as a BAL Contour Map – whichever is determined to best fit the purpose of the assessment.

For additional information refer to the information boxes in Section 3 'Bushfire Attack Levels (BAL) - Understanding the Results and Section 3.2. 'Interpretation of the BAL Contour Map'.

SITE ASSESSMENT DETAILS - EXPLANATION & JUSTIFICATION

For the subject development/use the applicable separation distances values are derived from calculations applying the assessed site data. They are an output value, not an input value and therefore are not presented or justified in this appendix.

The derived values are presented in Section 3, Table 3.1 and illustrated as a BAL contour map in Figure 3.2 and Figure 3.2.1.

APPENDIX B: GUIDANCE – BUSHFIRE ATTACK LEVELS AND ASSET PROTECTION ZONES

B1: Bushfire Attack Level (BAL) - Understanding the Results

UNDERSTANDING A BAL RATING

The potential transfer (flux/flow) of radiant heat from a bushfire to a receiving object is measured in kW/m^2. The AS 3959:2018 Bushfire Attack Level (BAL) determination methodology establishes the ranges of radiant heat flux that correspond to each bushfire attack level. These are identified in increasing levels of flux as BAL-LOW, BAL-12.5, BAL-19, BAL-29, BAL-40 and BAL-FZ.

The bushfire performance requirements for certain classes of buildings are established by the Building Code of Australia (Vol. 1 & 2 of the NCC). The BAL will establish the bushfire resistant construction requirements that are to apply in accordance with AS 3959:2018 - *Construction of buildings in bushfire prone areas* and the NASH Standard – *Steel framed construction in bushfire areas (NS 300 2021)*, whose solutions are deemed to satisfy the NCC bushfire performance requirements.

DETERMINED BAL RATINGS

A BAL can only be classed as 'determined' for an existing or future building/structure when:

1. The building/structure final design and position on the lot are known and the stated separation distance from classified bushfire prone vegetation exists and can justifiably be expected to remain in perpetuity; or
2. The building/structure will always remain subject to the same BAL regardless of:
    (a) The retention of all existing classified vegetation either onsite or offsite; and
    (b) Its design or position on the lot - including, as relevant and necessary, accounting for any regulatory or enforceable building setbacks from lot boundaries (i.e. R-codes, restrictive covenants and defined building envelopes).

A BAL Certificate <u>can</u> be issued for a determined BAL. If the BMP derives determined BAL(s), the BAL Certificate(s) required for submission with building applications can be provided, using the BMP as the supporting assessment data.

INDICATIVE AND CONDITIONAL BAL RATINGS

An indicative BAL indicates the highest BAL rating that exists for the applied set of assessment parameters (which may vary resulting in the inability to be considered 'determined').

A conditional BAL establishes the BAL rating that will be considered as a 'determined' rating once the stated required conditions are approved by the relevant authority and confirmed as being met.

The possible variables of the 'conditions' include:

- The future development sites being either identified accurately or modified; and/or
- Classified vegetation being modified or removed to establish the required vegetation separation distances.

A BAL Certificate <u>cannot</u> be issued for an indicative or conditional BAL rating.

B4: BAL /APZ and Planning vs Building Approval Requirements

BAL RATINGS AND APZ DIMENSIONS - PLANNING VERSUS BUILDING APPROVAL REQUIREMENTS

Statement: It is not the purpose of this 'planning' BMP to derive a 'determined' BAL rating that will apply to an existing or future habitable or specified building to establish its bushfire resistant construction requirements in accordance with the Building Code of Australia (although in limited situations this can be done – refer to Appendix B1).

Planning Applications: To be compliant, a planning proposal must demonstrate it will be possible to install the required minimum sized asset protection zone (APZ), to the required technical requirements, surrounding a habitable or specified building, while applying APZ location constraints and allowances established by the Guidelines.

The Minimum Sized APZ: Is one whose dimensions ensure the potential radiant heat impact on the relevant buildings does not exceed 29 kW/m^2 from fire in any surrounding types of classified vegetation. This is the upper limit of the range of radiant heat flux corresponding to the BAL-29 rating. The dimensions of this 'BAL-29 APZ' will vary dependent on the site specific conditions.

Building Permit Applications: Require a determined BAL rating for proposed buildings works (stated on a BAL Certificate). The lower the BAL rating the greater the size of the corresponding APZ that would need to be installed and maintained in a low bushfire threat state to ensure the building's exposure to bushfire threats continues to be matched to the bushfire resistant construction applied.

APZ Dimensions: A larger APZ, potentially requiring the modification/removal of additional native vegetation, is required to subject a building to a lower BAL rating. However, bushfire planning policy does not support such an approach as evidenced by the following guidance to which due regard must be given:

> *SPP 3.7 Bushfire, Policy Objectives, cl. 5.5 states – "Prioritise the retention of native vegetation for biodiversity conservation, environmental protection and landscape amenity.*
>
> *SPP 3.7 Bushfire, Policy Outcomes, cl. 6.2 - establishes that clearing of native vegetation is to be avoided or minimised in managing or mitigating bushfire risk.*
>
> *The Guidelines, Appendix B2, B.2.1 states "clearing or modification of native vegetation to reduce the radiant heat impact below 29 kW/m^2 is generally not supported."*

Additional Assessment and Reporting: The implication of the planning policy's guidance is if developers/landowners desire to lower the BAL rating to which future building works are subjected – by modification or removal of native vegetation greater than the BAL-29 dimensioned APZ - additional site assessment and reporting would be required to be submitted to the relevant authority for approval to modify/remove that vegetation.

Consequently, the determination of a BAL rating for building permit application purposes is likely to require a separate assessment as:

- It will potentially have implications regarding the obtaining of approvals for native vegetation modification and/or removal – the retention of which is an objective of State Planning Policy 3.7 Bushfire; and/or
- The precise location of a future building/structure within a lot and relative to any bushfire hazard may not be known at the time of producing this BMP.

Dimensions of the APZ to be Installed and Maintained by the Landowner: The dimensions of the APZ that will be the responsibility of a landowner to implement and maintain around a habitable or specified building (to align the building bushfire resistance to its level of exposure to flames, radiant heat and embers), will be those corresponding to the building's 'determined' BAL rating and the site specific conditions.

The dimensions of the 'BAL-29 APZ' identified in this BMP for planning assessment purposes, will not necessarily be the APZ that is to be implemented and maintained by a landowner in perpetuity.

B2: BAL Contour Map Interpretation

THE BAL CONTOUR MAP

Caution! *Future building works require a 'determined' BAL rating for building permit applications. When a BAL contour map is being used for planning assessment purposes, (as opposed to a building assessment purpose), the required 'determined' BAL rating typically is not able to be derived from the map (there are only limited scenarios where this is possible).*

The BAL ratings identified from the map will more likely be only 'indicative' of what can be achieved – with planning compliance for this factor being achieved when BAL-29 is indicated.

Otherwise, an additional assessment of the site data for building application purposes is required, and potentially approval will need to be obtained for native vegetation modification and/or removal from the relevant authority.

The Bushfire Attack Level (BAL) contour map, when used, is a diagrammatic representation of the results of the bushfire attack level assessment that has been conducted. It presents different coloured contours extending out from the different areas of classified vegetation.

Each contour represents a set range of radiant heat, corresponding to the BAL rating as defined by the AS 3959:2018 BAL determination methodology. When an exposed element (building, person or other defined element), is fully or partly located within a specific contour, it is potentially subject to the corresponding level of radiant heat transfer.

The width of each coloured BAL contour is dependent on both the BAL rating it represents, and the relevant site specific calculation inputs and will vary. It represents the minimum and maximum vegetation separation distances that correspond to each BAL rating for that site.

For post development BAL contour maps, the areas of classified vegetation applied to the production of the BAL contours, are those that will remain at the intended end state of the subject development once earthworks, clearing and/or landscaping and/or re-vegetation have been completed.

B3: The Asset Protection Zone (APZ)

THE APZ – DESCRIPTION, DIMENSION AND TECHNICAL REQUIREMENTS

DESCRIPTION AND PURPOSE

An asset protection zone (APZ) is an area surrounding a habitable or specified building that is not vegetated and/or supports retained or planted vegetation that can be considered to present a low bushfire threat as a result of flammability and/or moisture content characteristics and/or minimal fuel loads (either naturally or as a result of continual maintenance).

The primary objectives of establishing an APZ are to ensure:

1. A reduction in the exposure of the building/structure to bushfire direct attack mechanisms (threats) of flame contact, radiant heat transfer and ember attack, by establishing appropriate separation from each area of classified vegetation. [The required APZ dimensions will be dependent on site specific conditions and the use of the site and are measured from the nearest part of an external wall and/or supporting posts of building parts without external walls]; and
2. A reduction in the exposure of the building/structure to bushfire indirect attack mechanisms (threats) by:
    - Preventing surface fire spreading to the building/structure;
    - Minimising the potential for tree strike; and
    - Limiting the potential for consequential fire to impact the building/structure by eliminating, reducing and/or shielding consequential fire fuels. These fuels include accumulated debris, stored combustible/flammable items and constructed combustible items. Consequential fire, typically ignited by embers, is the primary cause of building loss in a bushfire event; and
3. To provide a defendable space for firefighting activities.

DIMENSIONS

Established by the Guidelines

No APZ dimensions are established by the Planning for Bushfire Guidelines, DPLH/WAPC (as amended). The Guidelines are intended to inform the application of State bushfire planning policy. For planning approval purposes, it only needs to be demonstrated that a BAL-29 dimensioned APZ can be appropriately established, surrounding a building/structure for the specific development site conditions.

For certain vulnerable land uses, evidence of the ability to implement a larger APZ may be required to inform planning decisions. These include dimensions corresponding to radiant heat impact levels of 10 kW/m^2 and/or 2 kW/m^2 and calculated using a flame temperature of 1200 K rather than 1090 K.

Established by the 'Determined' BAL Rating

The dimensions of the APZ that will be the responsibility of a landowner to implement and maintain around a habitable or specified building - to align the building's bushfire resistance construction level, to its level of exposure to flames, radiant heat and embers - will be those corresponding to the building's 'determined' BAL rating.

This rating will account for the relevant physical characteristics of a specific site and the applicable building's separation distance from classified vegetation, the type of vegetation it is exposed to and the slope of the ground supporting that vegetation.

Variations to these dimensions (i.e. vegetation separation distances) will only exist as the result of either:

- A requirement presented within an associated Bushfire Management Plan to increase the size of the APZ as part of a required additional protection measure; or
- A directive of the relevant Local Government through their annual notice, issued under s.33 of the Bushfires Act 1954 (see below), that results in a larger dimension.

Established by the Relevant Local Government

To satisfy the local governments requirements, a required APZ dimension may be stated in the notice issued annually by the relevant local government under s.33 of the Bushfires Act 1954 (e.g. Bushfire Risk Reduction Notice or Firebreak and Hazard Reduction Notice etc).

For certain vegetation/sites, based on environmental considerations, a maximum allowable dimension may be established, typically that corresponding to a BAL-29 rating for the relevant building – which will vary in response to the site specific conditions.

The existence of any such restrictions is information that would need to be sought from the relevant local government planning department.

TECHNICAL REQUIREMENTS

Established by the Guidelines

The relevant technical requirements for an APZ are established in the Planning for Bushfire Guidelines (DPLH/WAPC) (as amended), Appendix B2: Siting and design and available online at Planning WA - SPP 3.7 Bushfire

Established by the Relevant Local Government

Refer to the notice issued annually by the relevant local government under s33 of the Bushfires Act 1954 (e.g. Bushfire Risk Reduction Notice or Firebreak and Hazard Reduction Notice etc). It may state technical requirements that vary from and/or are additional to those established by the Guidelines to be complied with. Refer to the ratepayer notice and/or the local government's website for the current version.

The local government's technical requirements may be established by their gazetted local planning scheme.

B5: Vegetation Excluded from Classification – Ensure Continued Low Threat Status

MAINTAINING THE LOW THREAT STATUS OF EXCLUDED VEGETATION

When applying AS 3959:2018 BAL determination methodology, vegetation adjoining or adjacent to the subject site can be excluded from classification based on being a 'low bushfire threat'. To maintain this status, certain requirements must continue to be met in accordance with the below extract from AS3959:2018. Refer to the 'Classified Vegetation and Topography Map' for the relevant low threat areas associated with the subject site.

Determination of 'low threat' vegetation is based on factors such as - proximity to the subject site / small areas of vegetation / low flammability / higher moisture content / low fuel load.

Aside from a naturally occurring low fuel load, vegetation maintained in a minimal fuel condition through active management can be excluded. The associated key requisite is that the active management can be expected to continue in perpetuity, and this can be adequately justified.

Acceptable forms of justification typically involve supportable evidence or the existence of an enforceable mechanism. Examples of enforceable mechanisms include:

- Requirements established by a Section 33 (Bush Fires Act 1954) notice issued by a local government;
- An appropriate and enforceable agreement between relevant parties (which may involve additions to land titles); and
- For public open space or crown land, written evidence that the land manager e.g. local government or a State Government department, agrees to maintain the designated area of land in a low threat state in perpetuity.

2.2.3.2 *Exclusions—Low threat vegetation and non-vegetated areas*

The following vegetation shall be excluded from a BAL assessment:

(a) Vegetation of any type that is more than 100 m from the site.

(b) Single areas of vegetation less than 1 ha in area and not within 100 m of other areas of vegetation being classified vegetation.

(c) Multiple areas of vegetation less than 0.25 ha in area and not within 20 m of the site, or each other or of other areas of vegetation being classified vegetation.

(d) Strips of vegetation less than 20 m in width (measured perpendicular to the elevation exposed to the strip of vegetation) regardless of length and not within 20 m of the site or each other, or other areas of vegetation being classified vegetation.

(e) Non-vegetated areas, that is, areas permanently cleared of vegetation, including waterways, exposed beaches, roads, footpaths, buildings and rocky outcrops.

(f) Vegetation regarded as low threat due to factors such as flammability, moisture content or fuel load. This includes grassland managed in a minimal fuel condition, mangroves and other saline wetlands, maintained lawns, golf courses (such as playing areas and fairways), maintained public reserves and parklands, sporting fields, vineyards, orchards, banana plantations, market gardens (and other non-curing crops), cultivated gardens, commercial nurseries, nature strips and windbreaks.

NOTES:

1 Minimal fuel condition means there is insufficient fuel available to significantly increase the severity of the bushfire attack (recognizable as short-cropped grass for example, to a nominal height of 100 mm).

2 A windbreak is considered a single row of trees used as a screen or to reduce the effect of wind on the leeward side of the trees.

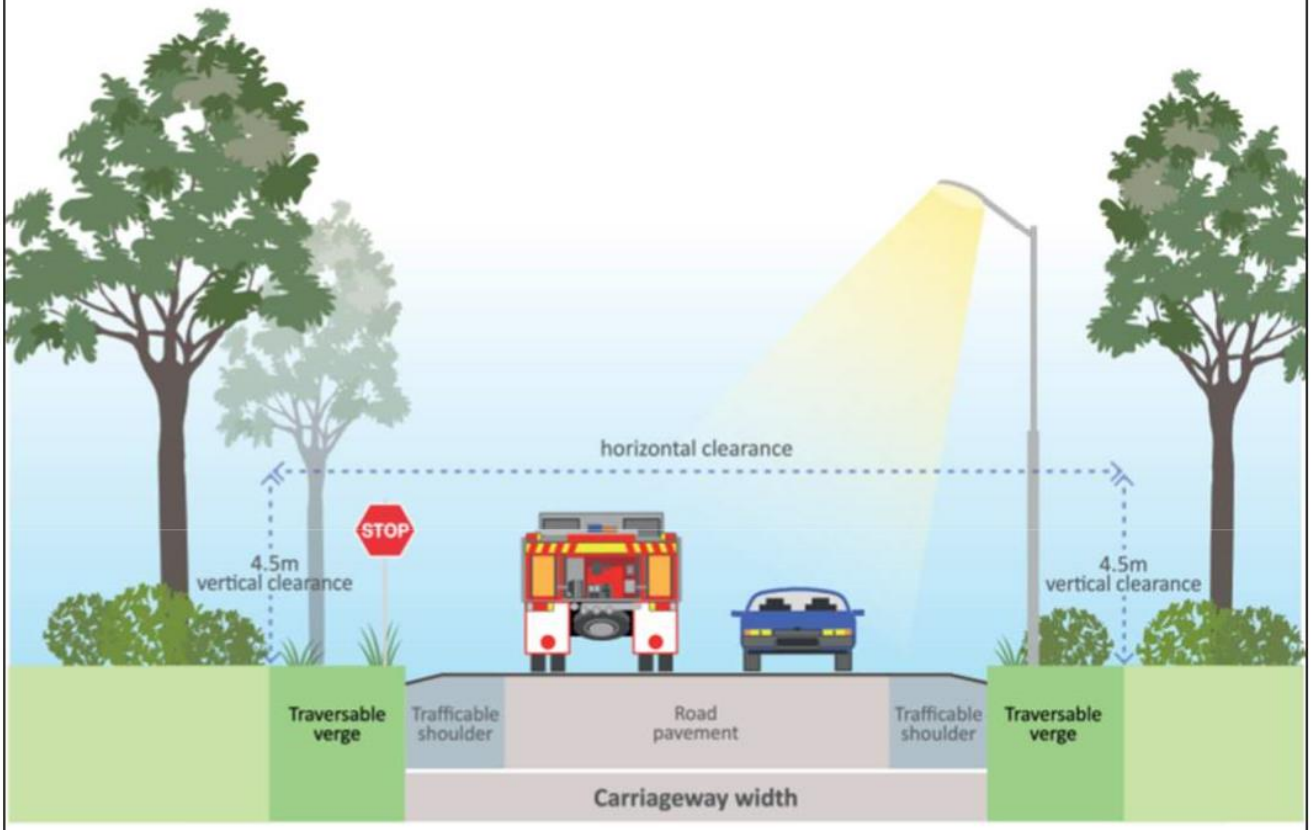
APPENDIX C: GUIDANCE - TECHNICAL REQUIREMENTS FOR VEHICULAR ACCESS

The relevant technical requirements are established in the Planning for Bushfire Guidelines (DPLH/WAPC) (as amended), Appendix B3: Vehicular access and available online at Planning WA - SPP 3.7 Bushfire

The following excerpts are presented here as a quick reference to applicable terminology and design requirements applied in the assessment against the bushfire protection criteria, Element 3: Vehicular access in this BMP.

C1: Road Component Terminology

Figure 26: Area encompassing horizontal clearance and vertical clearance



Horizontal clearance: The carriageway width (including the road pavement and trafficable shoulder) and traversable verge that provides for the movement and parking of vehicles and area required by emergency services to operate. Infrastructure and vegetation within the traversable verge should be frangible, however, non-frangible items can occur providing they do not restrict vehicular movement in the event of an emergency.

C2: Vehicular Access Technical Requirements

Table 10: Vehicular access technical requirements

	1		2		3		4		5	
TECHNICAL REQUIREMENTS	**PERIMETER ROADS**		**PUBLIC ROADS**		**EMERGENCY ACCESS WAY[3]**		**FIRE SERVICE ACCESS ROUTE[3]**		**BATTLE-AXE & PRIVATE DRIVEWAYS[1]**	
MAP OF BUSH FIRE PRONE AREAS DESIGNATION	**Area 2**	**Area 1**	**Area 2**	**Area 1**	**Area 2**	**Area 1**	**Area 2**	**Area 1**	**Area 2**	**Area 1**
Minimum horizontal clearance (metres)	12	8	See note 5		10	6	10	6	6	
Minimum vertical clearance (metres)	4.5									
Minimum weight capacity (tonnes)	15									
Maximum grade unsealed road[2]	See note 5		See note 5		1:10 (10% or 6°)					
Maximum grade sealed road[2,4]					1:7 (14.3% or 8°)					
Maximum average grade sealed road					1:10 (10% or 6°)					
Minimum inner radius of road curves (metres)					8.5					

Notes:

[1] Driveways and battle-axe legs to comply with the Residential Design Codes and Development Control Policy 2.2 Residential Subdivision where not required to comply with the widths in this Appendix or the Guidelines.

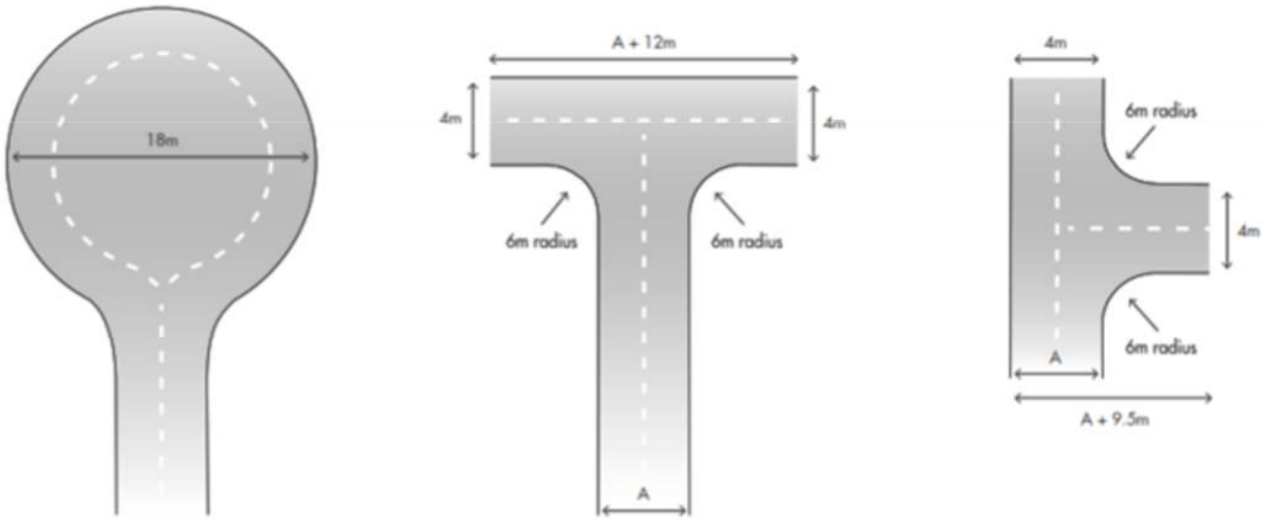
[2] Dips must have no more than a 1 in 8 (12.5% - 7.1 degrees) entry and exit angle.

[3] To have crossfalls between 3 per cent and 6 per cent.

[4] For sealed roads only the maximum grade of no more than 1 in 5 (20 per cent) (11.3 degrees) for no more than 50 metres is permissible, except for short constrictions to 3.5 metres for no more than 30 metres in length where an obstruction cannot be reasonably avoided or removed.

[5] As outlined in the Institute of **Public Works Engineering Australasia (IPWEA) subdivision guidelines, Liveable Neighbourhoods, Austroads Standards** Main Roads standard, supplement, policy or guideline and/or any applicable or relevant local government standard or policy.

Figure 30: Design requirements for a turn-around area



APPENDIX D: GUIDANCE - TECHNICAL REQUIREMENTS FOR FIREFIGHTING WATER SUPPLY

The relevant technical requirements are established in the Planning for Bushfire Guidelines (DPLH/WAPC) (as amended), Appendix B4: Water supply and available online at Planning WA - SPP 3.7 Bushfire

The information provided in this appendix is additional to that provided in the Guidelines. It includes:

- For reticulated water supply, the hydrant location specifications established by the WA Water Corporation (Design Standard DS 63), as dependant on land use type and relevant to bushfire planning assessments (highlighted). Note: the maximum distance from a hydrant to the rear of a lot/building is generally interpreted as not applicable to large lot sizes where the maximum distance becomes an impractical limitation i.e., typically rural residential areas; and
- Images of example installations of acceptable water supply tanks and outlet fittings.

D1: Hydrant Location in Reticulated Areas

Design Standard DS 63
Water Reticulation Standard

2.2.1.5 Appurtenances

c. Hydrants

Hydrants shall be screw-down hydrant with built-in isolation valve and installed only on DN100 or larger pipes. Hydrants shall be located:

- so that the maximum distance between a hydrant and the rear of a building envelope, (or in the absence of a building envelope the rear of the lot) shall be 120m;
- so that spacing (as measured by hose-run) between hydrants in non-residential or mixed use areas shall be maximized and no greater than 100m;
- so that spacing (as measured by hose-run)between hydrants in residential areas with lots per dwelling <10,000m² shall be maximized and no greater than 200m;
- so that spacing between hydrants (as measured by hose-run) in rural residential areas where minimum lots per dwelling is >10,000 m² (1ha) shall be maximized and no greater than 400m;
- centrally along the frontage of a lot to avoid being under driveways, unless the lot features a frontage 6m or less, in which case it shall be placed to the side opposite the driveway;
- at lots that have the widest frontage in the local area;
- where appropriate at the truncation of road junctions or intersections so that they can serve more than one street and can be readily located;
- on both sides of the major roads at staggered intervals where there are mains on both sides of the road;
- at major intersections on dual multi-lane roads, where two hydrants are to be sited on diagonally opposite corners;
- hydrants should be located at least 20m from traffic calming devices i.e. median slow points or chokers, chicanes, mini traffic circles, and intersection 'pop-outs' to ensure traffic is not impeded;
- in a position not less than 10m from any high voltage main electrical distribution equipment such as transformers and distribution boards, liquefied petroleum gas or other combustible storage
- directly on top of the main using a tee unless proved to be impractical

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The Anglican School Commission Incorporated

Lot 507 (#50) Salerno Drive, Mindarie

District Planning Scheme No.2 Amendment

July 2025

Project Code: 09265

Version	Date	Main Contributor	Issued by	Approved by
A - Draft	27 June 2025	Gary Soo	Tanya Moran	Tanya Moran
B- Final	01 July 2025	Tanya Moran	Tanya Moran	Tanya Moran

Prepared for

Tom Carmody
Director
The Anglican School Commission Incorporated
c/o Tomahawk Property
8/355 Stirling Highway
Claremont WA
6010

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1 Introduction

1.1 Background

Tomahawk Property, on behalf of The Anglican School Commission Incorporated, has commissioned PJA Australia Pty Ltd to prepare this Transport Impact Assessment (TIA) in relation to the proposed development site located on Lot 507 (#50) Salerno Drive in Mindarie, Western Australia. The site sits under the jurisdiction of City of Wanneroo.

Specifically, this TIA has been prepared to accompany a proposed amendment to the current City of Wanneroo's District Planning Scheme No.2 (DPS2). The DPS2 amendment proposes a portion of the land be rezoned from its current designation as 'Private Community Purposes' which could be yet another school in the area, to instead be rezoned 'Residential'.

This assessment has been prepared in accordance with the Western Australian Planning Commission (WAPC) *Transport Impact Assessment Guidelines Volume 2 – Planning Schemes, Structure Plans & Activity Centre Plans (2016)*, which is the most appropriate level of TIA for a proposed DPS2 Amendment.

Under the WAPC Guidelines for TIAs, a DPS2 Amendment requires a 'broad brush' assessment of the impacts of the development. Accordingly, this scheme amendment report sets out recommendations suitable for the current rezoning planning process and subject to the DPS2 amendment being ultimately supported by WAPC.

The scope of this 'broad-brush' TIA has been developed in consultation with City of Wanneroo and the agreements on content and scope of assessments have been fully adhered to within this report.

The potential yield of the development site (the Site) in terms of developable land use, is expected to be:

- Residential Lots = 55 residential lots
- Community School = 5,001m^2 (area not included in this application, see below).

The location of the Site in relation to the immediate surrounding road network is shown on **Figure 1-1**. It should be noted that this proposed DPS2 Amendment is looking to rezone the land area designated for residential lots only while the land area that is already designated for Community School will remain unchanged as 'Private Community Purposes' and therefore as agreed with the City of Wanneroo, does not need to form a part of this TIA.

It is also noted that typically any residential development less than 100 dwellings would only require a Traffic Impact Statement (TIS) due to its anticipated 'moderate impact' as defined within the

WAPC Guidelines. This scheme amendment proposal is well below 100 dwellings (~55 dwellings) and therefore would traditionally require a TIS as it will not have a 'high' impact, but for the purposes of this document, we have called the report a TIA as is noted for district level scheme amendments.

Figure 1-1: Site Location

Base map source: Nearmap

1.2 Summary of TIA

In accordance with the WAPC Guidelines, this report sets out the details of the proposed DPS2 scheme amendment, the key transport issues and impacts related to the development of the Site from a residential traffic generation perspective including the current level of accessibility by road, public transport, cycle and on foot.

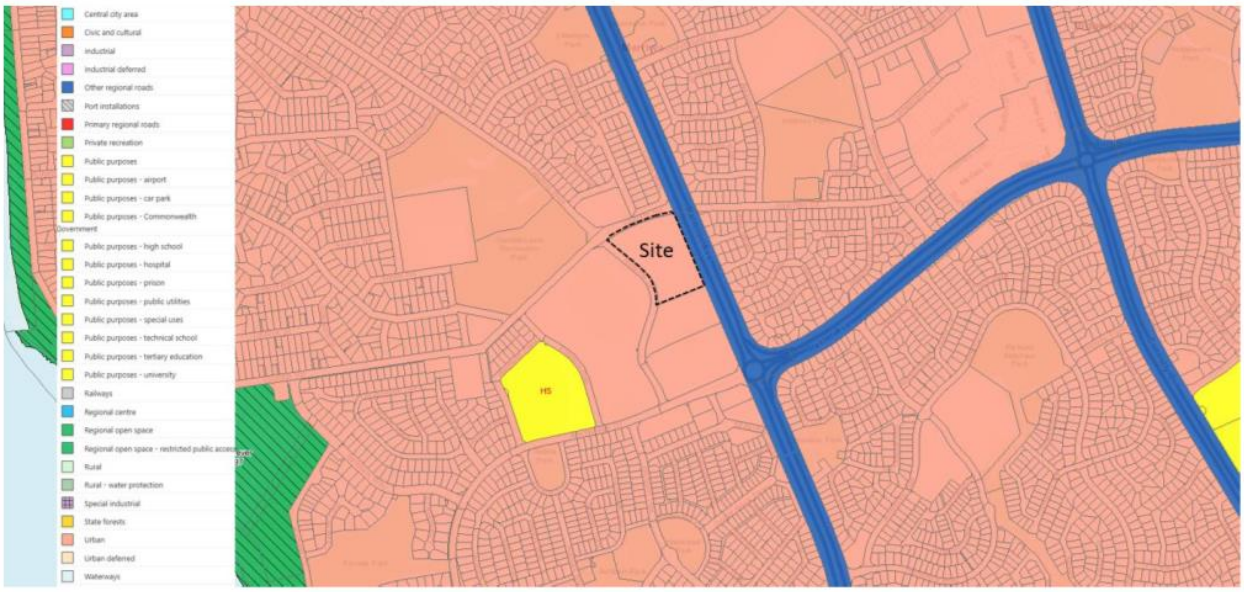
This TIA identifies where the level of accessibility and infrastructure is acceptable and where it is found to be deficient, sets recommendations to improve these areas to a suitable level where required and appropriate for this future development.

1.3 Regional and Local Policy Context

Metropolitan Region Scheme (MRS)

The Site area is currently zoned 'Urban' under the MRS and is located immediately west of Marmion Avenue, a 'Other regional roads', surrounded by land currently zoned as 'Urban'. The *Mindarie Senior College* to the west of the Site is zoned as 'Public purposes – high school'.

Figure 1-2: MRS Zone



Source: Department of Planning, Lands and Heritage PlanWA Map Viewer

City of Wanneroo District Planning Scheme No.2

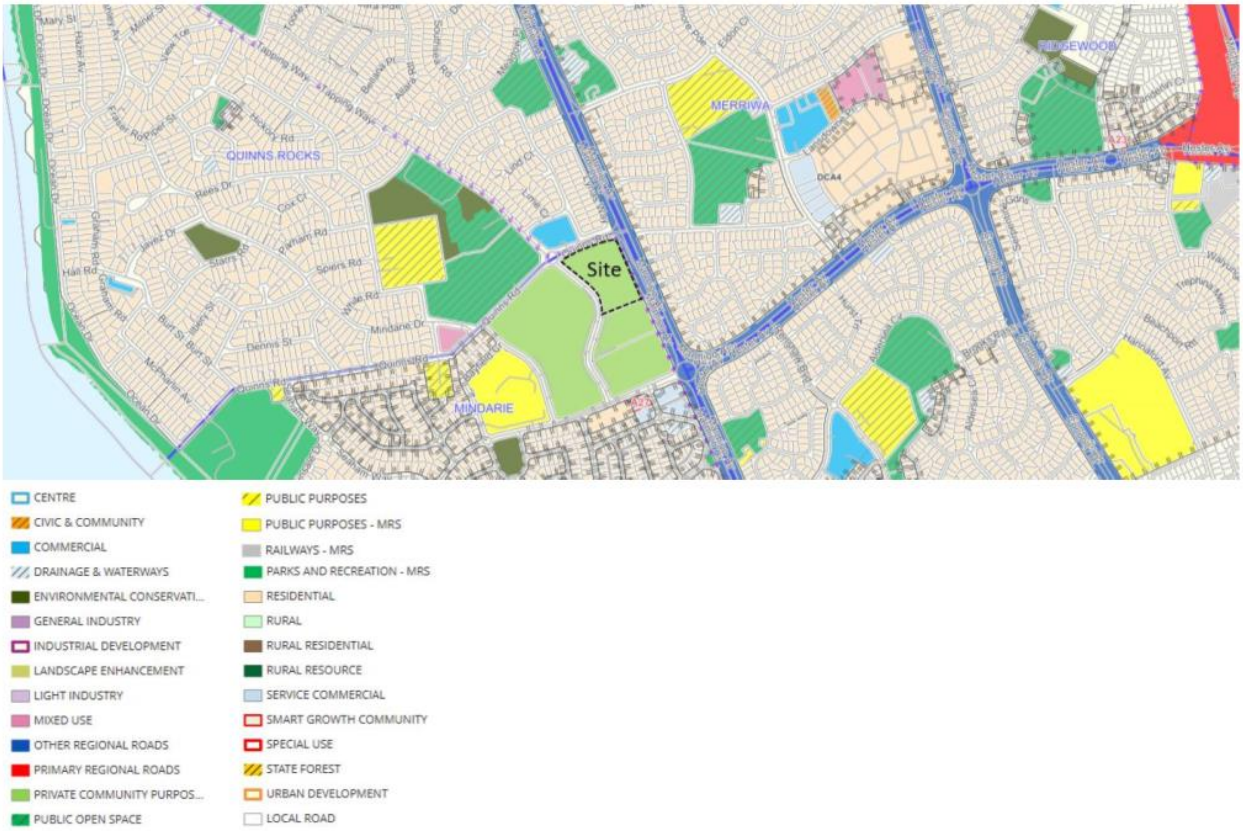
Under the provisions of the DPS2 the site area is currently zoned as 'Private Community Purposes'. To the south of Site, there is the existing *Quinns Baptist College* and *Peter Moyes Anglican Community School*, both which are zoned as 'Private Community Purposes'. The parcel of land adjacent to the *Peter Moyes Anglican Community School* is zoned as 'Public Purposes (High School)' and is in use as *Mindarie Senior College*.

The parcel of land to the north of *Mindarie Senior College* is zoned as 'Mixed Use' and is used for *Quinns Medical Health Hub*.

The parcel of land to the north of the Site is zoned as 'Commercial' and is used for *Quinns Village Shopping Centre*.

The majority of the land surrounding the Site is predominantly zoned as 'Residential'. **Figure 1-3** illustrates the DPS2 area zoning.

Figure 1-3: City of Wanneroo District Planning Scheme No.2



Source: City of Wanneroo

2 Existing Situation

2.1 Existing Site Context and Land Uses

The Site is located at the southwest corner of the intersection of Marmion Avenue / Quinns Road within City of Wanneroo jurisdiction. The Site is currently vacant and approximately 3.25ha in area. It is adjacent to *Quinns Baptist College, Peter Moyes Anglican Community School* and *Quinns Village Shopping Centre*. Other than that, the Site is predominantly surrounded by residential area.

While the Site could be developed as a school, the rezoning proposal to residential would in fact decrease the peak hour and daily number of vehicular trips that would be generated on the road network. As such the rezoning to residential, a less intense traffic generating land use, is seen as a positive outcome for the area.

2.2 Existing Road Network

A TIA for Scheme Amendment or Structure Plan usually require assessing the existing road network within a minimum of 2.0 kilometres from the site boundaries. However, given the small scale of the Site and the very low yield, the impact of the proposed DPS2 amendment is minimal in the context of other uses in the surrounds. As such, the extent of the assessment for the road network adjacent to the Site are:

- Marmion Avenue
- Quinns Road
- Salerno Drive.

The characteristics of the adjacent road network fronting the Site is summarised in **Table 2-1**. The road hierarchy, speed classification and Restricted Access Vehicles (RAV) Network mappings for the adjacent road network are shown in **Figure 2-1**, **Figure 2-2** and **Figure 2-3**.

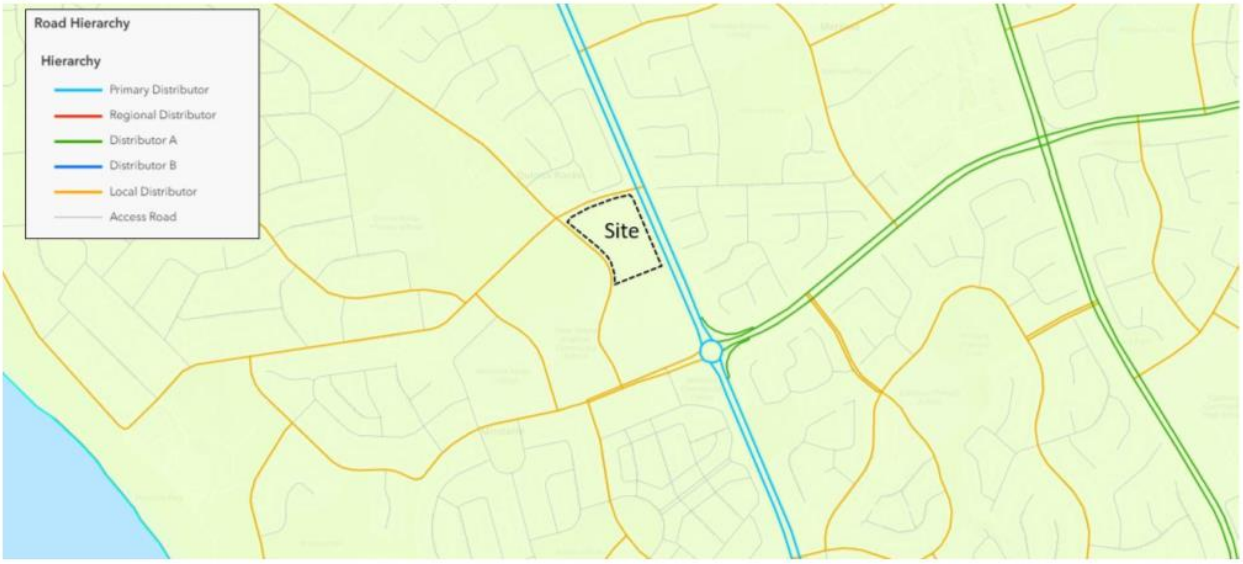
Table 2-1: Existing Road Network Characteristics

Road	Marmion Avenue	Quinns Road	Salerno Drive
Jurisdiction	Main Roads WA	City of Wanneroo	City of Wanneroo
Road Hierarchy	Primary Distributor	Local Distributor	Local Distributor
Carriageway	Four-lane Two-Way median divided dual carriageway	Median divided carriageway	Undivided single carriageway, median divided around the bend
Pavement Width	7m wide on each direction	**Eastbound** 6.6m wide two-lane carriageway **Westbound** 4.3m wide single lane carriageway	7.4m wide carriageway
Pathway	**West** 2.5m concrete shared path **East** 2m red asphalt cycle lane	**North** 2.5m concrete shared path **South** 1.5m pedestrian path	2m concrete shared path on both sides
Cycle Facilities	1.5m wide on-street bike lanes on both directions	2.5m concrete shared path	2m concrete shared path on both sides
Parking Facilities	None	None	Embayed parking on both sides
Posted Speed Limit	70 km/h	Default 50 km/h for built up areas, subject to 40 km/h school zone	Default 50 km/h for built up areas, subject to 40 km/h school zone
RAV Network	NA	NA	NA
Existing Traffic Volumes	41,350 vehicles per day[1]	12,000 vehicles per day[1]	3,578 vehicles per day[2]

[1] Estimated based on intersection of Marmion Avenue / Quinns Road SCATS data (19/06/23 – 23/06/23)

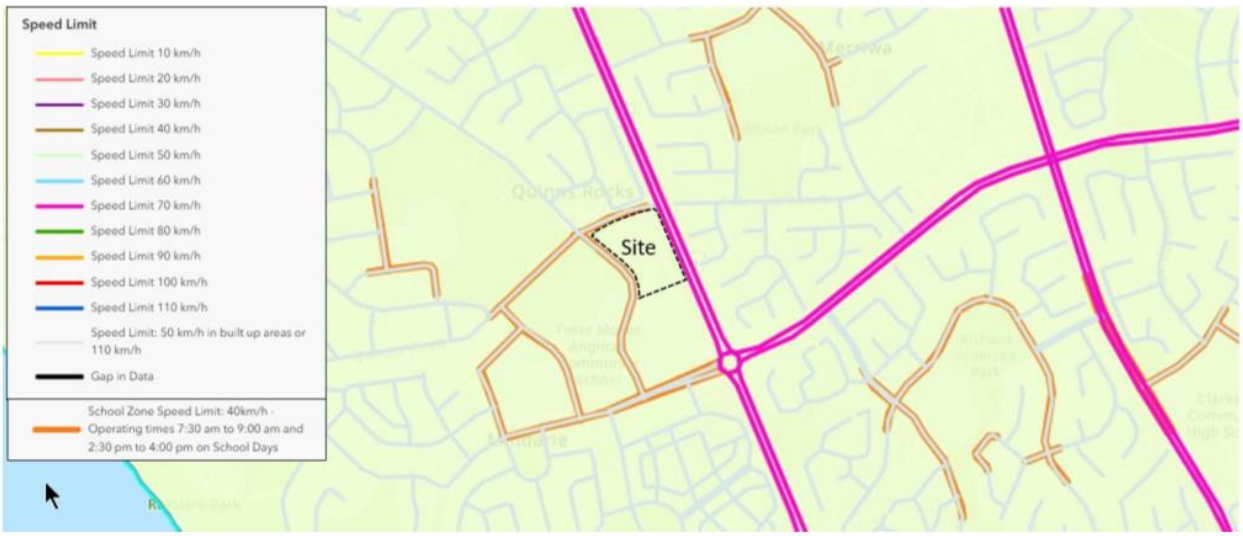
[2] Based on traffic count provided by City of Wanneroo (19/05/23 – 29/05/23)

Figure 2-1: Main Roads WA Road Hierarchy



Source: Main Roads WA Road Information Mapping System

Figure 2-2: Main Roads WA Speed Classifications



Source: Main Roads WA Road Information Mapping System

Figure 2-3: Existing RAV Network

Source: Main Roads WA RAV Network Mapping System

2.3 Existing Key Intersections

The following key intersections, providing access to the wider road network, adjacent to the Site are as follows:

- Marmion Avenue / Quinns Road
- Quinns Road / Salerno Drive / Tapping Way.

Figure 2-4: Existing Key Intersections into Site

Base map source: Nearmap

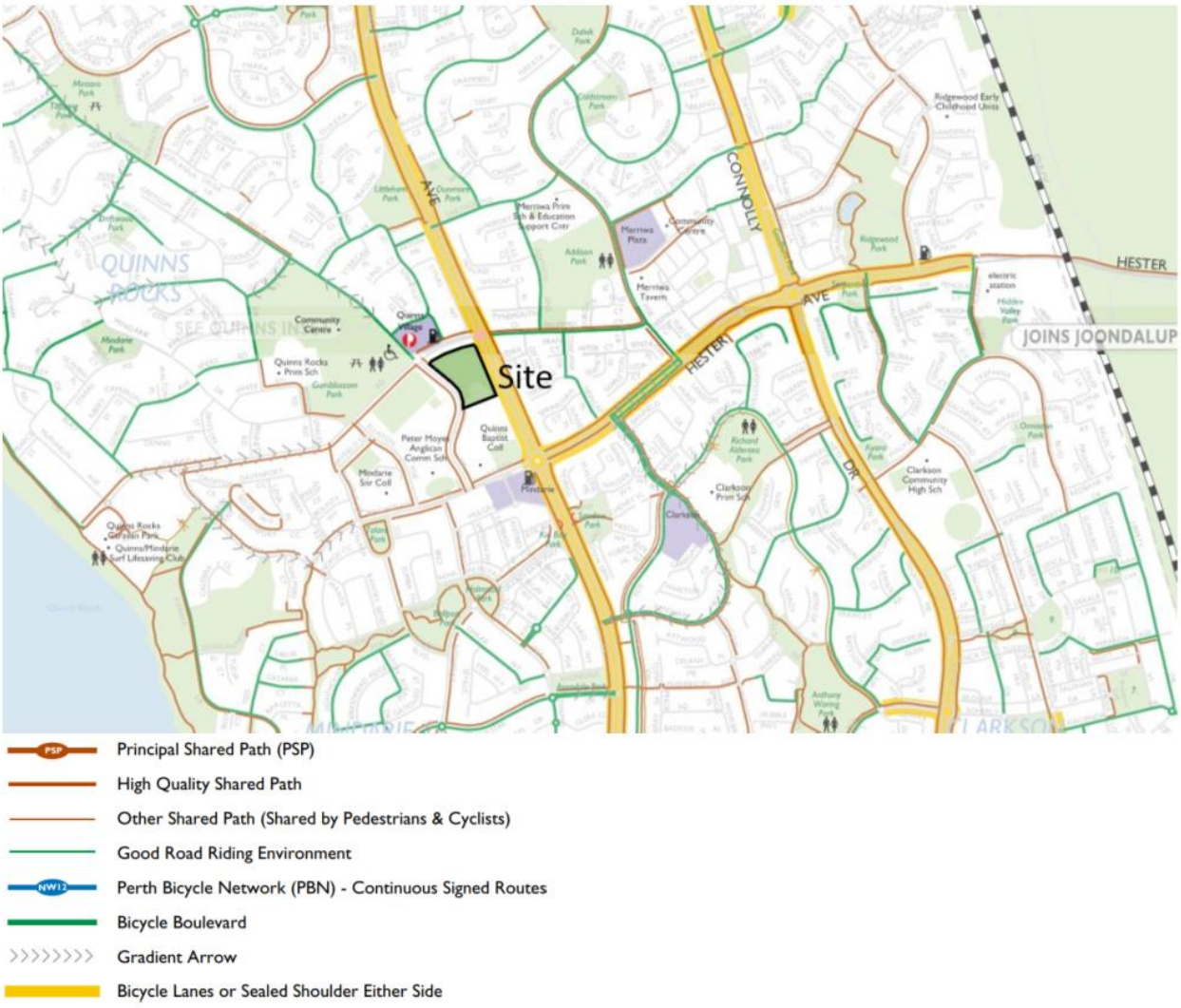
2.4 Existing Pedestrian / Cycle Networks

Existing pedestrian / cycle networks are illustrated in **Figure 2-5.** In the vicinity of the Site, there is at least one shared path on one side of the key surrounding roads of Marmion Avenue, Quinns Road and Salerno Drive. There are also on-street bike lanes along Marmion Avenue in both directions of travel which take cyclists through the Quinns Road signalised intersection.

The Palermo Court cul-de-sac to the east of the intersection of Marmion Avenue / Quinns Road also has a 2m wide concrete shared path on one side of the road that forms part of the Perth (Joondalup and Stirling) Bike Map. This connects with the concrete shared path along Baltimore Parade then further onto Hester Avenue which then finally connects to the Kwinana Freeway Principal Shared Path (PSP).

The Kwinana Freeway PSP runs north-south on the western side of the Freeway and is accessible via Hester Avenue. The PSP provides convenient and easy cycling access to Clarkson Train Station to the south, Romeo Road to the north, and destinations further afield.

Figure 2-5: Existing pedestrian / cycle networks



Source: Department of Transport

2.5 Existing Public Transport

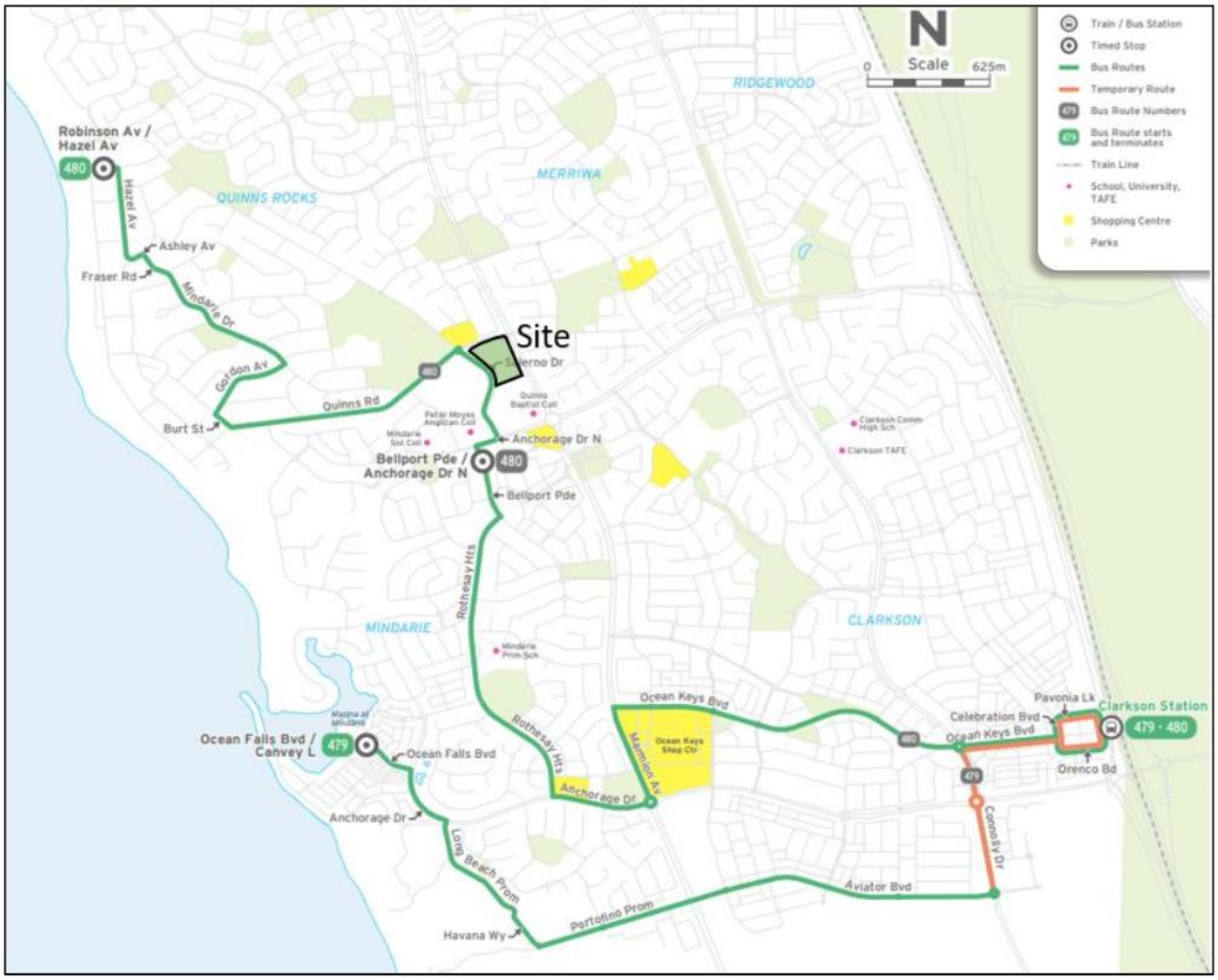
Bus Service 480

The existing bus route within close vicinity of the Site includes the 480, which operates on Quinns Road and Salerno Drive and provides a link between Quinns Rocks and Clarkson Station, including *Quinns Village Shopping Centre* and *Ocean Keys Shopping Centre* in the south. Bus stops in each direction on Salerno Drive are located approximately 240m walking distance south of the proposed

southern intersection into the Site. This is highly conducive to walking and an approximate five-minute walk from every lot within the Site.

The frequency of service 480 is 20-30 minute intervals during peak periods and then hourly during off peak periods. The existing bus route map is shown in **Figure 2-7**.

Figure 2-6: Bus Service 480 Route Map



Source: Public Transport Authority

Bus Service 481 & 482

The existing bus routes 481 and 482 operates on Marmion Avenue and provides a link between Butler Station and Clarkson Station, including *Quinns Beach Primary School*, *Butler District Centre* and *Butler Shopping Centre* in the north, and *Ocean Keys Shopping Centre* in the south. Bus stops in each direction on Marmion Avenue are located to the south of Quinns Road, adjacent to the Site. The bus stops are approximately 600m walking distance from the centre of the Sited via Salerno

Drive and Quinns Road, a distance which is an approximate nine minute walk by 75% of the site, with the majority of the site located within a 10 minute walk of this service.

The frequency of service 481 and 482 during the week (Mon to Fri) is at an excellent 10-15 minute interval in the peak periods and then hourly during off-peak periods. The existing bus route map is shown in **Figure 2-7**.

Figure 2-7: Bus Service 481& 482 Route Map

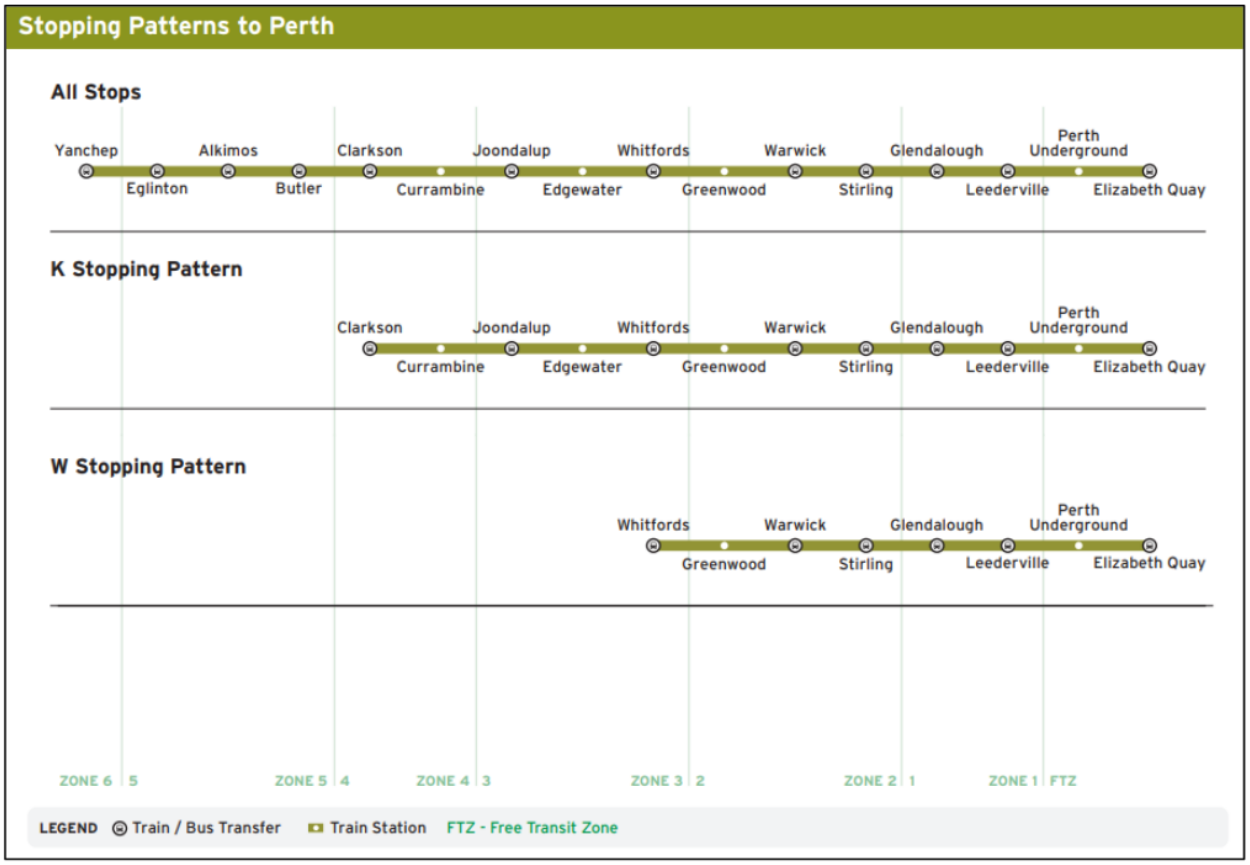
Source: Public Transport Authority

Rail Services

Clarkson Station and Butler Station are accessible via bus services 481 and 482 and provides access to the Yanchep Line and additional bus services 471, 474, 479, 480, 483, 484, 485, 486, 487 and 488.

During the week, the Yanchep line carries passenger rail services between Perth city and stations in between, stopping at Clarkson and Butler Station at intervals of approximately 10 minutes during the peak periods and every 15 to 30 minutes during the remainder of the day.

Figure 2-8: Stopping Pattern on the Yanchep to Perth



Source: Public Transport Authority

2.6 Crash Assessment

A search of the Main Roads WA Reporting Centre for crash data surrounding the site was undertaken. This search covered all recorded traffic accidents for the most recently available five-year reporting period between 1 January 2020 and 31 December 2024.

Marmion Avenue / Quinns Road

A total of 25 reported crashes have occurred at the intersection of Marmion Avenue / Quinns Road in the past five-year period as shown in **Figure 2-9**. Of the 25 crashes, 3 involved a 'right-turn factor' ('right-turn angle' and 'right-turn thru'), 21 involved 'Rear End' type crash and 1 involved a hitting object. 10 crashes resulted in medical treatment being required, including 5 which required hospital treatment.

Most of these 'Rear End' crashes were due to vehicles not stopping on time at the traffic signals while the crashes involved 'right-turn factor' are due to vehicles violating red light.

Figure 2-9: Crash Statistics – Marmion Avenue / Quinns Road – Traffic Signal Controlled Intersection

Severity	No.	%
Fatal	0	0
Hospital	0	0
Medical	12	48.00
PDO Major	5	20.00
PDO Minor	8	32.00

Year	No.	%
2020	11	44.00
2021	5	20.00
2022	3	12.00
2023	4	16.00
2024	2	8.00

Nature	No.	%
Head On	0	0
Hit Animal	0	0
Hit Object	1	4.00
Hit Pedestrian	0	0
Non Collision	0	0
Not Known	0	0
Rear End	21	84.00
Right Angle	2	8.00
Right Turn Thru	1	4.00
Sideswipe Opposite Dirn	0	0
Sideswipe Same Dirn	0	0

Source: Main Roads Crash Map

Quinns Road / Salerno Drive / Tapping Way

A total of 7 recorded crashes have occurred at the intersection of Quinns Road / Salerno Drive / Tapping Way in the past five-year period as shown in **Figure 2-10**. Of the 7 crashes, 4 involved a 'right-turn factor' and 3 involved 'Rear End' type crash. 3 crashes resulted in medical treatment being required, including 1 which required hospital treatment.

Figure 2-10: Crash Statistics – Quinns Road / Salerno Drive / Tapping Way – Roundabout

Severity	No.	%
Fatal	0	0
Hospital	1	14.29
Medical	2	28.57
PDO Major	2	28.57
PDO Minor	2	28.57
Year	**No.**	**%**
2020	2	28.57
2021	2	28.57
2023	2	28.57
2024	1	14.29
Nature	**No.**	**%**
Head On	0	0
Hit Animal	0	0
Hit Object	0	0
Hit Pedestrian	0	0
Non Collision	0	0
Not Known	0	0
Rear End	3	42.86
Right Angle	4	57.14
Right Turn Thru	0	0
Sideswipe Opposite Dirn	0	0
Sideswipe Same Dirn	0	0

Source: Main Roads Crash Map

Quinns Road

A total of 4 recorded crashes have occurred along Quinns Road, between Marmion Avenue and Salerno Drive in the past five-year period as shown in **Figure 2-11**. All of these crashes involved 'right-turn factor' while 2 crashes resulted in medical treatment being required.

All of these crashes occurred at Quinns Village Shopping Centre driveway due to vehicles failing to give way to through traffic on Quinns Road.

Figure 2-11: Crash Statistics - Quinns Road, between Marmion Avenue and Salerno Drive

Source: Main Roads Crash Map

Salerno Drive

Interestingly, only a total of 2 recorded crashes have occurred along Salerno Drive, between Quinns Road and Anchorage Drive North in the past five-year period as shown in **Figure 2-12**. All of these crashes involved side-swipe from the same direction that resulted in properties damage only.

These crashes occurred along the section of Salerno Drive with embayed parking as vehicles exited parking and were overtaken.

Figure 2-12: Crash Statistics – Salerno Drive, between Quinns Road and Anchorage Drive North

Source: Main Roads Crash Map

Existing Situation

On the basis of the above property damage only crash records on Salerno Drive, the scheme amendment proposal would actually remove some of the on-street car parking.

3 Proposed Amendment

3.1 Private Community Purposes to Residential Rezoning

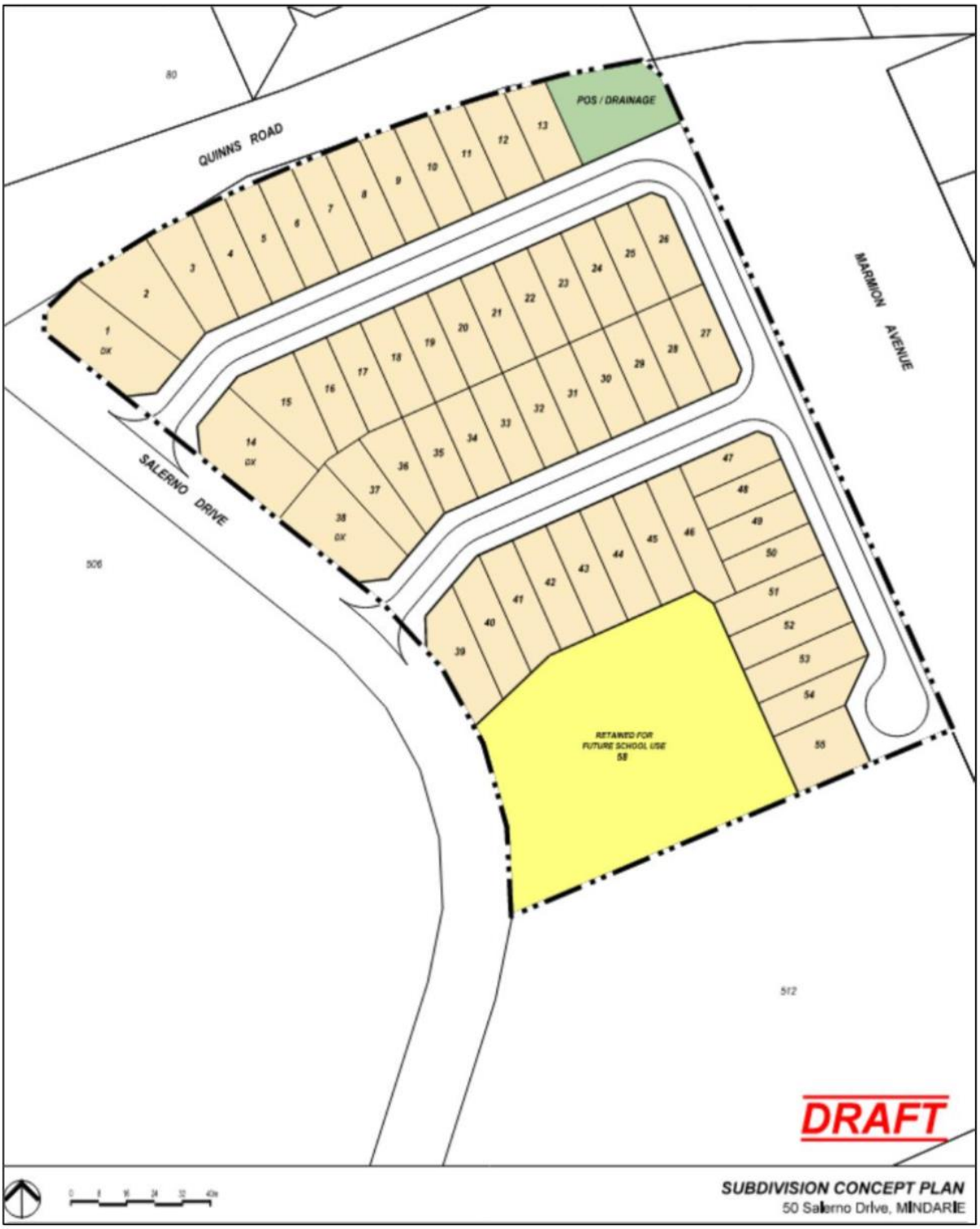
The Site area is currently zoned 'Urban' under the MRS. Under the provisions of the City of Wanneroo DPS2, the site area is currently zoned as 'Private Community Purposes'.

The DPS2 amendment proposes most of the Site to be rezoned from its current designation as 'Private Community Purposes' to 'Residential' for green titled residential subdivision, in line with a R40 residential density.

The subdivision concept plan as shown in Figure 3-1 (full plan attached in Appendix A) currently proposes 55 residential lots and the remaining ~5,000m^2 of the land to remain as 'Private Community Purposes'.

Proposed Amendment

Figure 3-1: Proposed DPS2 Amendment and Residential Subdivision



Source: Tomahawk Property, July 2025

3.2 Internal Road Network

The proposed DPS2 amendment (for residential subdivision) will continue to be developed in line with guidance in *Liveable Neighbourhoods Guidelines 2009 (LN09)* with reviews of sustainable transport modes (public transport, walking and cycling) and high-quality cycling facilities, footpaths, street trees etc to facilitate and encourage non-car modes as practically possible.

The proposed internal road network for the Site will form two intersections along Salerno Drive to the south of the intersection of Quinns Road / Salerno Drive / Tapping Way roundabout. The proposed internal road network is proposed to be all Access Street D type streets, with road reserve widths of 15m and 13m respectively, as shown in **Figure 3-2**.

Figure 3-2: Concept Road Hierarchy and Road Reserve

Source: Tomahawk Property, July 2025

3.3 Road Cross Sections

As shown in **Figure 3-2,** there will only be Local Access Streets across the Site, originating from the proposed access intersections along Salerno Drive. These will feature road reserves of between 13m to 15m wide where volumes are up to 1,000 vehicles per day with at least one 1.5m footpath on one side of the roads as per *City of Wanneroo's Pathways Policy 2024* and *LN09*.

A summary of the proposed streets is set out in **Table 3-1**Table 3-1**.**

Table 3-1: Proposed Streets

Road	Road Reserve	Location Description	Liveable Streets Road Type
Local Access Streets	13m Road Reserve	Most streets providing access to properties	Based on Access Street D (likely 5.5m - 6m wide pavement, 4.5m wide verges on both sides, 1.8m minimum footpath on at least one side)
	15m Road Reserve	Most streets providing access to properties with no through road	

The street types have been reviewed based on the LN09. This specifies the following for Access Streets and Laneways:

Table 3-2: Liveable Neighbourhoods, Element 2 - Road Specifications

Street Type	Max Design Speed / Target Operating Speed (km/hr)	Indicative Volume (vehicles per day)	Indicative Street Reserve Width (m)	Indicative Road Pavement Width (m)
Small Town Centre Street or Access Street D – Narrow, Yield or Give Way Street	50 / 30	<1000	10 to 14.2	5.5 to 6

The Access Street D roads (Narrow Yield or Give Way Streets) will have a 5.5m to 6.0m wide carriageway, as well as at least one footpath of at least 1.8m width.

3.4 Intersection Controls

Due to the low volume and low speed residential nature of the internal roads within the Site, the internal roads are proposed to be two-lane two-way single carriageway. The internal roads are expected to only have to accommodate vehicle volumes of up to 500 vehicles per day.

All intersections within the Site are intended to be constructed as priority-controlled T-intersections, where three street approaches meet. All intersections will require signage (Give Way or Stop) on the approaches to the intersection.

3.5 Pedestrian and Cyclist Access

Pedestrian and cyclist access has not yet been fully defined on the internal concept plan, however it should be provided generally in accordance with the requirements of the guidance for LN09 as discussed in **Section 3.3**. The internal road network should have at least one 1.8m wide footpath

on one side of the street that connects to already excellent existing pedestrian and cyclist network along Salerno Drive and the wider network.

3.6 Pedestrian Crossing Thresholds

As the internal road network within the Site are to have relatively low volumes of traffic, with a maximum of up to 50 two-way vehicle trips within the AM or PM peak hour, it is considered that none of the proposed roads within the site would be particularly difficult for pedestrians and cyclists to cross.

This is in line with Table 3 of the *WA Transport Impact Assessment Guidelines Volume 2,* which has been reproduced below. This states that for a two-lane undivided road, which is what is proposed for the internal road network, the ability of most pedestrians to cross would only be affected if there are more than 1,100 vehicles per **hour**. As such, the proposed internal road network will provide an acceptable environment for pedestrians to cross an undivided road.

Table 3-3: Traffic Volumes Affecting Pedestrian Crossing Amenity

Road cross-section	Traffic volume affecting ability of pedestrians to cross (vehicles per hour – two-way)
2 lane undivided	1,100 vph
2 lane divided (or with pedestrian refuse islands)	2,800 vph
4 lane undivided (without pedestrian refuge islands)	700 vph
4 lane divided (or with pedestrian refuge islands)	1,600 vph

3.7 Safe Walk/Cycle to School Assessment

As discussed previously, the Site is bounded to the south by *Peter Moyes Anglican Community School* and *Quinns Baptist College*. The *Quinns Rocks Primary School* is approximately 820m walk distance to the east of the Site.

The entrances to the *Peter Moyes Anglican Community School* and *Quinns Baptist College* are accessible off Salerno Drive. The internal road network proposes at least one 1.8m wide footpath on one side of the roads and these footpaths will connect to the existing concrete shared paths along both sides of Salerno Drive which provide convenient walk / cycle path to these schools.

As shown in **Figure 2-5,** there are shared paths along Mindarie Drive, Ainger Road, White Road and Rees Drive that provide walk / cycle paths to *Quinns Rocks Primary School*.

4 Changes to External Transport Network

Given the excellent pedestrian / cycle network which already exists and the number/frequency of bus routes around the Site, the proposed DPS2 amendment does not need to propose any changes to the road / pedestrian / cycle networks and public transport services. The key road infrastructure to be constructed to support the DPS2 amendment would be the two intersections along Salerno Drive to access the Site.

4.1 Salerno Drive Intersection Control

The proposed internal road network will form two intersections along Salerno Drive. The northern intersection is proposed to be a full movement intersection while the southern intersection is proposed to be a Left-In/Left Out intersection due to the existing raised median at the proposed location of the intersection.

Northern Intersection

Preliminary desktop review of the northern intersection in 2D is shown in **Figure 4-1**. This has indicated that for an exiting vehicle from the minor street, there is likely to be approximately 120m Stopping Intersection Sight Distance (SISD) looking to the left (south) and 48m SISD looking to the right (north).

The northern intersection is located at section of Salerno Drive that has an uphill grade of approximately 8% from the roundabout at Quinns Road to the south. While Salerno Drive has a default speed limit of 50 km/h for built up area, the vehicle operating speed for the west approach from the roundabout at Quinns Road is expected to be much lower than 50 km/h due to the roundabout. As shown in **Figure 4-1,** the roundabout has a 12m curve radius. Referring to *Austroads Guide to Road Design Part 3: Geometric Design 2016*, this road design is conducive to a vehicle speed travelling at approximately 22 km/h.

Based on the above and with reference to *Austroads Guide to Road Design Part 4A: Unsignalised and Signalised Intersection 2023*, the required and available SISD for the proposed northern intersection complies and is summarised in **Table 4-1**.

Figure 4-1: Northern Intersection Available SISD

Base map source: Nearmap

Table 4-1: Required SISD for proposed Northern Intersection

Direction	Operating Speed	Grade	SISD Required	SISD Available	Compliance
Looking right (to roundabout)	22 km/h	+ 8%	35m	48m	**Complies**
Looking left (to schools)	50 km/h	- 8%	105m	120m	**Complies**

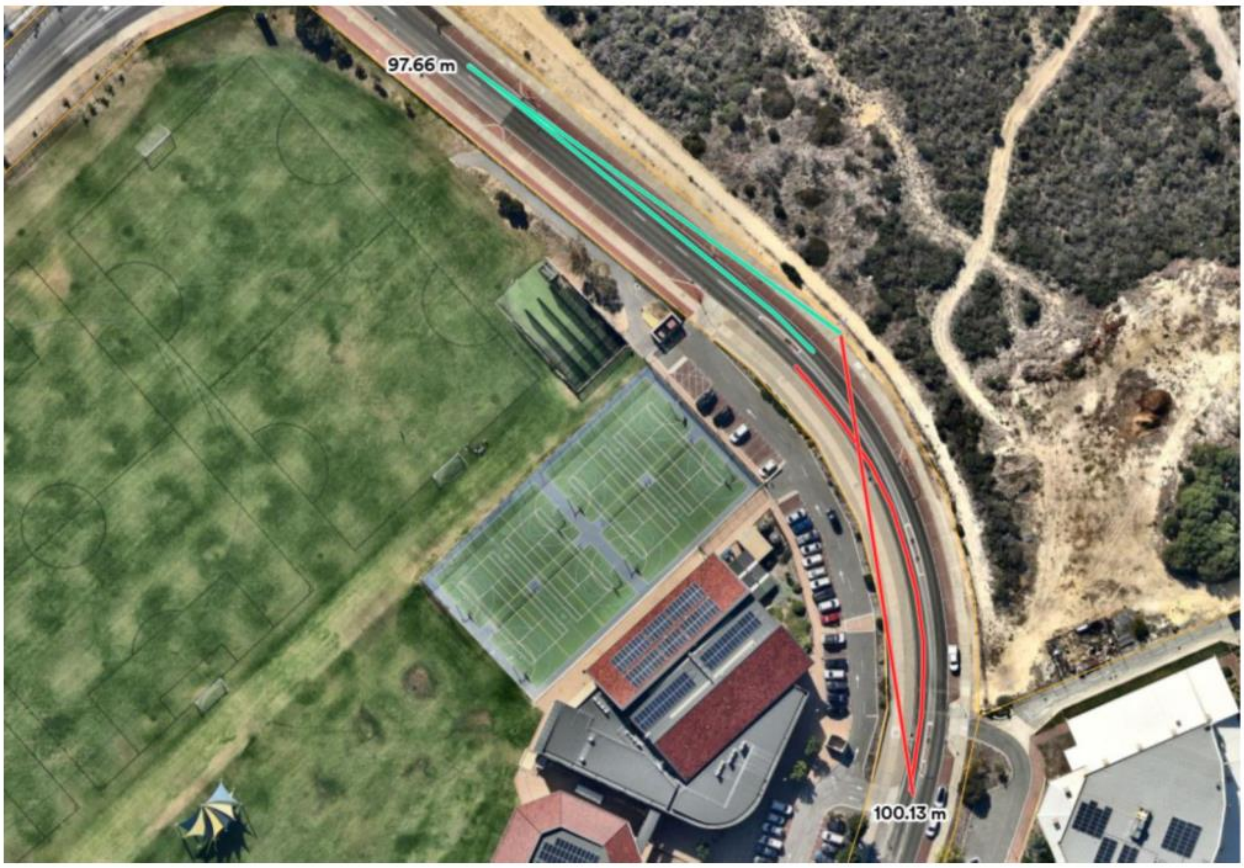
The table above shows that the northern intersection complies with the required SISD.

Southern Intersection

Preliminary desktop review of the southern intersection in 2D is shown in **Figure 4-2**. This has indicated that for an exiting vehicle from the minor street, there is likely to be approximately 100m SISD looking to the left (south) and 98m SISD looking to the right (north).

The southern intersection is proposed to be located at section of Salerno Drive with a raised median. It has an uphill grade of approximately 4% from the north and it is generally flat from the south. The required and available SISD for the northern intersection is summarised in **Table 4-2**.

Figure 4-2: Southern Intersection Available SISD



Base map source: Nearmap

Table 4-2: Required SISD for proposed Southern Intersection

Direction	Operating Speed	Grade	SISD Required	SISD Available	Compliance
Looking right (to roundabout)	50 km/h	+ 4%	94m	98m	**Complies**
Looking left (to schools)	50 km/h	- 1%	99m	100m	**Complies**

The table above shows that the southern intersection complies with the required SISD.

4.2 Salerno Drive Embayed Parking Bays

There are currently embayed parking bays on both sides of Salerno Drive fronting the Site. Consultation with the City for the purposes of this scheme amendment report, has noted that the

bays were likely installed by the City a long time ago (based on aerial imagery) and the City would consider removal of these bays as is required to service the intended development of the land.

As the parking bays are currently available for use with no land use development to its east, the City has noted it is currently being used by parents/carers for school pick up / set down. Based on a preliminary assessment (see **Figure 4-3**), 11 of these on-street bays on the east side of Salerno Drive, adjacent to Site will need removal to construct the two intersections that are necessary to support development of the Site. A further assessment of seven of the bays between the two new proposed intersections would require a further assessment at subdivision stages to maintain unobstructed required SISD discussed above.

It is noted that given the only two property damage only type crashes recorded on Salerno Drive in the last 5 years were associated with overtaking manoeuvres of on-street parking vehicles, a removal of some spaces currently on both sides of Salerno Drive may assist an improved crash outcome. This is to be further reviewed at subdivision stages, following the sites rezoning to Residential.

Figure 4-3: Embayed Parking Bays to be assessed for removal

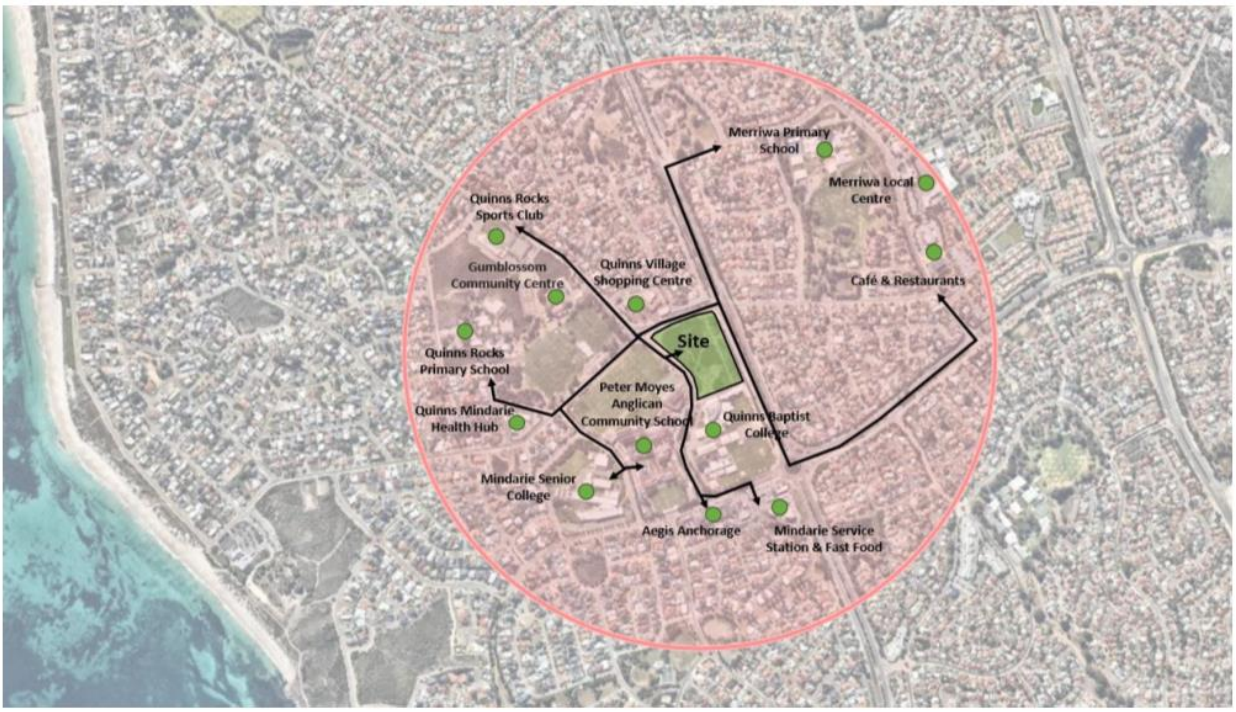
Source: Tomahawk Property, June 2025

5 Integration with Surrounding Areas

5.1 Trip Attractors/Generators Within 800 Metres

The major trip attractors and generators within 800m of the Site are shown in **Figure 5-1**. These trip attractors and generators can be readily accessed via the extensive road and pedestrian / cycle networks around the Site.

Figure 5-1: Surrounding Trip Generators / Attractors



Base map source: Nearmap

5.2 Proposed Changes to Land Uses Within 800 Metres

The Site is the only large vacant lot in the surrounding area where the other lots are mostly developed. With reference to DPS2, there is currently no known proposed changes to land uses within 800m of the Site.

5.3 Adequacy / Deficiencies in External Transport Networks

The Site is well located in relation to the existing local and primary state road network which connects to the wider road network, such as Marmion Avenue and Mitchell Freeway further to the east. The road network also comprises of shared path or footpath that provide linkages to the adjacent trip generators and attractors, bus stops, and the PSP along Mitchell Freeway.

The Site also has excellent public transport within proximity. There are three bus routes, 480, 481 and 482 that service Marmion Avenue and Salerno Drive within 600m walking distance from the Site. Thus, the external road network around the Site is adequate.

6 Analysis of Internal / External Networks

6.1 Proposed Traffic Generation

The traffic generation rates in **Table 6-1,** sourced from the WAPC Guidelines, have been used to calculate an estimate of the traffic generated in the AM and PM peak periods by the proposed residential land use.

Table 6-1: WAPC Trip Generation Rates – Residential

Land Use	Units	Daily	AM In	AM Out	PM In	PM Out
Residential	Per Dwelling	8	0.2	0.6	0.5	0.3

Table 6-2 summarises the trip volumes derived from the adopted generation rates.

Table 6-2: Proposed Development Traffic Generation

Land Use	Units	Daily	AM In	AM Out	PM In	PM Out
Residential	~55 Dwelling	440 veh/day	12 veh/h	33 veh/h	38 veh/h	17 veh/h

6.2 Proposed DPS2 Amendment Traffic Impact

As shown in **Table 6-2**, the proposed DPS2 amendment is expected to generate some 440 vehicles per day (two-way) and 44 vehicles per hour (two-way) in a typical peak. **Table 6-3** shows the increase in external road network traffic due to proposed DPS2 amendment development traffic based on the traffic counts reported in **Section 2.2**. As discussed in WAPC TIA Guidelines, a development that generates less than 100 vehicles per hour is considered moderate impact. Besides that, an increase in traffic of less than 10% on existing road is not likely to have material impact.

As demonstrated in **Table 6-2**, the increase in traffic on Quinns Road and Marmion Avenue is lower than 10%, namely some 3.6% of the existing traffic. Regarding traffic to/from Salerno Drive, the northern intersection can operate as a full-movement and the southern intersection is likely a be Left-In/Left-Out (due to a solid median), meaning a portion of the Site generated trips will travel north towards Quinns Road and a portion will travel south toward Anchorage Drive North. As such, this will result to increase in traffic along Salerno Drive to be 6.0% to 6.3%. This suggests that based on WAPC Guidelines no specific intersection modelling assessment is required around the Site.

Besides that and as noted earlier, the proposed DPS2 amendment to residential will generate significantly lower trips than the approved zoning of 'Private Community Purposes' as that allows for another school use to be developed at the Site instead.

Table 6-3: Increase in Traffic Due to Proposed DPS2 Amendment

Road	Recorded Daily Traffic	Proposed DPS2 Amendment Traffic	Increase in Traffic %
Salerno Drive north	3,578 vehicles per day	225 vehicles per day	6.3%
Salerno Drive south	3,578 vehicles per day	215 vehicles per day	6.0%
Quinns Road	12,000 vehicles per day	440 vehicles per day	3.6%
Marmion Avenue	41,350 vehicles per day	440 vehicles per day	1.0%
Anchorage Drive North	5,445 vehicles per day	215 vehicles per day	3.9%

6.3 Existing External Traffic Issues

While the proposed DPS2 amendment is not expected to have material impact on the existing road network, it has been noted from the City that the existing wider road network does experience significant queuing during peak periods on Anchorage Drive North at the approach to Marmion Avenue. Due to the concentrated number of schools in the area, Salerno Drive fronting the existing schools, will experience some typical school related congestions for an acute short period (~15mins typically before and after school ending time) which is typical of most school streets. City of Wanneroo are aware of this and have installed a bollard median along Salerno Drive fronting the schools (much further south of the Site) to prevent any u-turning behaviour, especially during a school pick-up period. Outside of the school peak periods and on non-school days, Salerno Drive performs satisfactorily given it is carrying low volumes of daily traffic.

The City of Wanneroo advised that they had previously engaged WSP to investigate feasible road improvement options in the wider area to help improve the traffic capacity/flow of the surrounding road network, although this study was not able to be provided for this development TIA. The City advised that they had improved the intersection capacity of Anchorage Drive North / Salerno Drive by constructing a left-turn and right-turn pockets to help improve traffic flow.

7 Conclusion

Based on the findings and discussions presented within this report, the following traffic and transport conclusions are made:

1. The Site is currently zoned as 'Urban' under Metropolitan Regional Scheme and as 'Private Community Purposes' under City of Wanneroo's District Planning Scheme No.2.
2. The proposed District Planning Scheme No.2 Amendment intends to rezone a large portion of the Site from 'Private Community Purposes' to 'Residential'.
3. While the Site could be developed as yet another school in the area, the rezoning proposal to residential in fact decreases the peak hour and daily number of vehicular trips that would be generated on the road network. As such the rezoning to residential, a less intense traffic generating land use, is seen as a positive outcome for the area.
4. The subject site is well serviced by existing bus routes on all frontage roads, which are no more than 600m from the site.
5. The subject site is adjacent to an extensive shared path network that provide linkages to bus stops, train stations and the Mitchell Freeway PSP. Protected crossings are available at Quinns Street intersection to assist cross Marmion Avenue. A continuous path is also available from Quinns Street to the north and Anchorage Drive North to the south, to access the Marmion Avenue bus stops.
6. The proposed internal road network should be designed in accordance with *Liveable Neighbourhood Guidelines 2009* and *City of Wanneroo's Pathway Policy 2024*.
7. The two proposed intersections off Salerno Drive into the Site have sufficient Safe Intersection Sight Distance along both directions of travel. The northern intersection is proposed to be a full movement priority-controlled intersection and is expected to operate satisfactorily under the traffic volumes recorded, while the southern intersection is proposed to be a Left-In/Left-Out due to the existing raised median at the location of the intersection. Both intersections will operate well under assessed volumes.
8. There is likely to be a loss of 11 on-street parking bays on the eastern side of Salerno Drive, adjacent to Site to construct the two new proposed intersections. A further assessment of seven of the bays between the two new proposed intersections would require a further assessment at subdivision stages to maintain unobstructed required SISD discussed in this report.
9. The site traffic generated by the proposed District Planning Scheme No.2 Amendment is in the order of 440 vehicles per day or 44 vehicles per hour in the AM and PM peaks. The increase in traffic on surrounding immediate road network is expected to be as low as 3.6%.

10. Therefore, the impact of the lower number of trips to be generated by the Proposed District Planning Scheme No.2 Amendment is expected be indeed 'moderate' and will not have material impact to the road network.

Appendix A Subdivision Concept Plan

0 8 16 24 32 40m

SUBDIVISION CONCEPT PLAN
50 Salerno Drive, MINDARIE

NOTE:
Base Data supplied by BE SURVEYS
Aerial Photography supplied by LANDGATE (capture date - Sept/2023)
Areas and dimensions shown are subject to final survey calculations and servicing requirements.

Revision	Date	Item
A	12/06/25	Initial Issue

LEGEND
- SUBJECT LOT BOUNDARY
- PROPOSED R40 LOTS
- PROPOSED POS / DRAINAGE
- RETAINED FOR FUTURE SCHOOL USE

Tomahawk Property Pty Ltd	:	CLIENT
A3@1:000	:	SCALE
23 JUNE 2025	:	DATE
5OS-DC-002	:	PLAN No
D	:	REVISION
B.C.	:	PLANNER

TOMAHAWK PROPERTY
M: 0413 010 830
E: scarmody@tomahawkproperty.com.au

Appendix B TIA Checklist

Item	Provided	Comments/Proposals
Introduction / Background	Y	
Structure Plan Proposal		
Regional context	Y	
Proposed land uses	Y	
Table of land uses and quantities	Y	
Major attractors / generators	Y	
Specific issues	Y	
Existing Situation		
Existing land uses within structure plan	Y	
Existing land uses within 800m of structure plan area	Y	
Existing road network within structure plan area	Y	
Existing pedestrian / cycle network within structure plan area	Y	
Existing public transport services within structure plan area	Y	
Existing road network within 2 (or 5) km of structure plan area	Y	
Traffic flows on roads within structure plan area (PM and/or AM peak hours)	Y	
Existing pedestrian / cycle networks within 800m of structure plan area.	Y	
Existing public transport services within 800m of structure plan area.	Y	
Proposed Internal Transport Networks		
Changes / additions to existing road network or proposed new road network	Y	
Road reservation widths	Y	
Road cross-sections & speed limits	Y	
Intersection controls	Y	
Pedestrian / cycle networks and crossing facilities	Y	
Changes to External Transport Networks		
Road network	Y	
Intersection controls	Y	
Pedestrian/cycle networks and crossing facilities	Y	
Public transport services	Y	

Integration with surrounding area		
Trip attractors / generators within 800 metres	Y	
proposed changes to land uses within 800 metres	Y	
travel desire lines from development to these attractors/ generators	Y	
adequacy of external transport networks	Y	
deficiencies in external transport networks	Y	
remedial measures to address deficiencies	Y	
Analysis of internal transport networks		
assessment years	Y	
time periods	Y	
Structure plan generated traffic	Y	
Extraneous (through) traffic	Y	
Design traffic flows (that is, total traffic)	Y	
Road cross-sections	Y	
Intersection controls	Y	
Access strategy	Y	
Pedestrian / cycle networks	Y	
Safe routes to schools	Y	
Pedestrian permeability & efficiency	Y	
Access to public transport	Y	
Analysis of external transport networks		
Extent of analysis	Y	
Base flows for assessment year(s)	Y	
Total traffic flows	Y	
Road cross-sections	Y	
Intersection layouts and controls	Y	
Pedestrian / cycle networks	Y	
Conclusions	Y	

The Anglican School Commission Incorporated c/o Tomahawk Property	35	Lot 507 (#50) Salerno Drive, Mindarie District Planning Scheme No.2 Amendment