



AMENDMENT NO. 4

TO THE

EAST WANNEROO CELL 3

AGREED STRUCTURE PLAN NO. 5

RECORD OF AMENDMENTS MADE TO THE EAST WANNEROO CELL 3

AGREED STRUCTURE PLAN NO. 5

Amendment No.	Description of Amendment	Finally Endorsed by Council	Finally Endorsed by WAPC
4	Recoding Lot 68 (71) High Road, Wanneroo from R20 to R40, and revising the proposed road layout.		

**AMENDMENT NO. 4 TO THE
EAST WANNEROO CELL 3 AGREED STRUCTURE PLAN NO. 5**

The City of Wanneroo, pursuant to Part 9 of District Planning Scheme No. 2, hereby amends the above Agreed Structure Plan by:

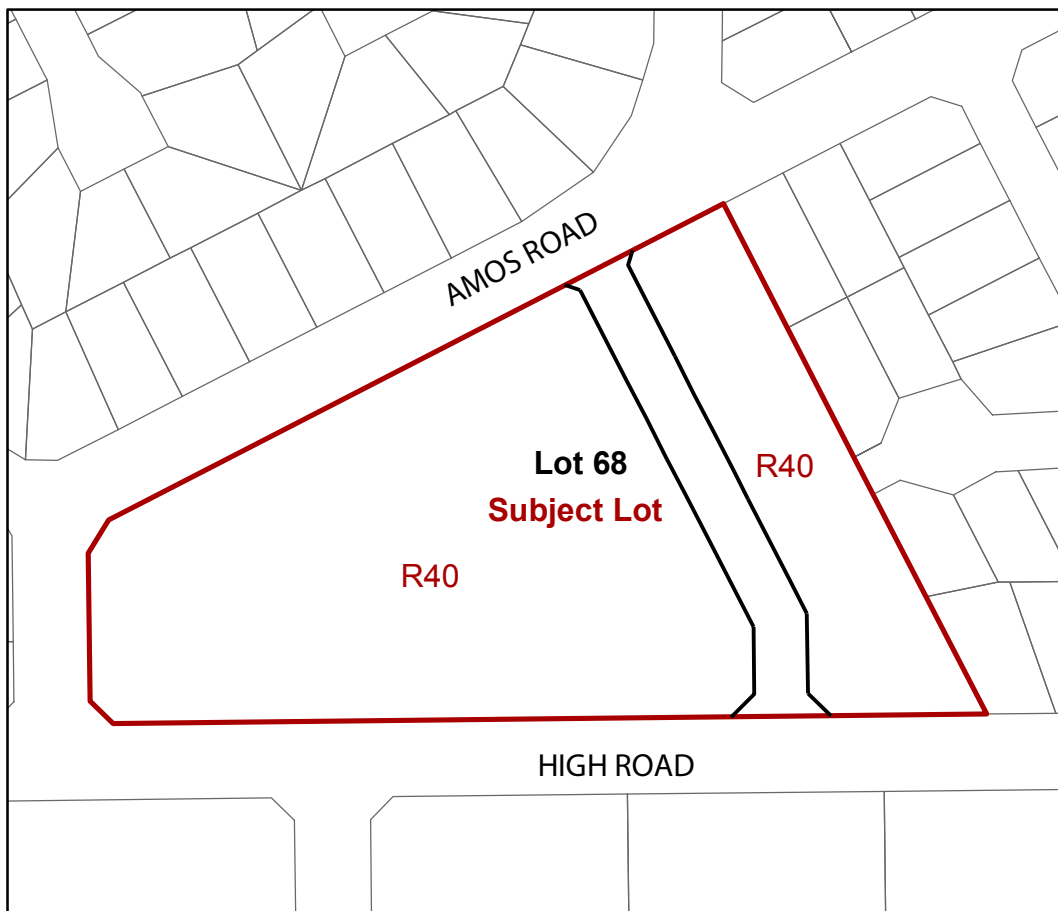
1. Recoding Lot 68 (71) High Road, Wanneroo from R20 to R40, and revising the proposed road layout.

AGREED STRUCTURE PLAN No. 5 EAST WANNEROO CELL 3 AMENDMENT No. 4

Lot 68 (71) High Road
 WANNEROO



EXISTING
 0 25 50 100 Metres



LEGEND
 ROAD RESERVE
 REALIGNMENT

AMENDMENT MAP

This Structure Plan Amendment is prepared under the provisions of the City of Wanneroo
District Planning Scheme No. 2

IT IS CERTIFIED THAT THIS STRUCTURE PLAN AMENDMENT NO. 4 TO THE EAST
WANNEROO CELL 3 AGREED STRUCTURE PLAN NO. 5

WAS APPROVED BY
RESOLUTION OF THE WESTERN AUSTRALIAN PLANNING COMMISSION ON

.....

Signed for and on behalf of the Western Australian Planning Commission

.....

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

..... Witness

..... Date

..... Date of Expiry

PART 2 - EXPLANATORY REPORT

AMENDMENT NO. 4 TO THE EAST WANNEROO CELL 3 AGREED STRUCTURE PLAN NO. 5



LOT 68 (71) HIGH ROAD, WANNEROO

RECODING FROM R20 TO R40

Prepared for Gabriel & Jilyan Morrow

May 2017

CONTENTS

1	INTRODUCTION	8
2	SITE DETAILS.....	9
2.1	LEGAL DESCRIPTION	9
2.2	REGIONAL CONTEXT	9
2.3	LOCAL CONTEXT	9
3	PROPOSAL DETAILS.....	14
3.1	AMENDMENT PROPOSAL	16
3.2	PROPOSED SUBDIVISION.....	16
4	PLANNING CONSIDERATIONS	18
4.1	METROPOLITAN REGION SCHEME.....	18
4.2	DISTRICT PLANNING SCHEME NO. 2.....	18
4.3	EAST WANNEROO CELL 3 AGREED STRUCTURE PLAN NO. 5	19
4.4	DIRECTIONS 2031 AND BEYOND.....	19
4.5	EAST WANNEROO STRUCTURE PLAN & THE CITY OF WANNEROO LOCAL PLANNING POLICY 5.3: EAST WANNEROO.....	21
4.6	CITY OF WANNEROO LOCAL HOUSING STRATEGY & LOCAL PLANNING POLICY 3.1: LOCAL HOUSING STRATEGY IMPLEMENTATION.....	21
4.7	SMART GROWTH STRATEGY 2005	27
5	OTHER PLANNING CONSIDERATIONS	29
5.1	PUBLIC OPEN SPACE	29
5.2	TRAFFIC AND MOVEMENT NETWORK.....	29
5.3	SERVICES AND INFRASTRUCTURE	31
5.3.1	SITWORKS	31
5.3.2	STORMWATER DRAINAGE	31
5.3.3	SEWERAGE	32
5.3.4	WATER SUPPLY	32
5.3.5	POWER	32
5.3.6	TELECOMMUNICATIONS.....	33
5.3.7	GAS SERVICES	33
6	CONCLUSION.....	34
APPENDIX A	CERTIFICATE OF TITLE	35
APPENDIX B	CURRENT EAST WANNEROO CELL 3 ASP NO. 5	36
APPENDIX C	PROPOSED AMENDMENT NO. 4 TO ASP NO. 5.....	37
APPENDIX D	PROPOSED SUBDIVISION CONCEPT	38
APPENDIX E	TRAFFIC IMPACT STATEMENT	39
APPENDIX F	ENGINEERING INFRASTRUCTURE REPORT	40

1 INTRODUCTION

This report has been written for G. F. Morrow and J. C. Morrow, owners of Lot 68 (71) High Road, Wanneroo (herein referred to as the 'subject site'). The following report has been prepared in support of Amendment No. 4 to the East Wanneroo Cell 3 (Wanneroo) Agreed Structure Plan No. 5 (ASP 5).

The proposed amendment seeks to increase the residential density coding of the subject site from Residential R20 to Residential R40 and to modify the proposed road layout. The following report shall discuss issues relevant to the proposal, including existing and surrounding land uses, strategic and statutory planning considerations and indicative subdivision and development.

ASP 5 was originally adopted by the Western Australian Planning Commission (WAPC) on 3 January 2001. ASP 5 seeks to facilitate the orderly development of residential lots, representing development and consolidation of the eastern portion of the suburb of Wanneroo.

This report demonstrates that the proposal to amend the residential density coding, and the amended road layout are consistent with the strategic and statutory planning requirements of both the City of Wanneroo and the WAPC.

2 SITE DETAILS

2.1 LEGAL DESCRIPTION

Lot 68 (71) High Road, Wanneroo is legally described as “Lot 68 on Plan 8238” and is wholly contained on Volume 1344, Folio 216. Lot 68 has an area of 2.0386ha (20,386m²) and the entirety of the lot is the subject of the proposed amendment.

Appendix A contains a copy of the Certificate of Title pertaining to the subject site.

2.2 REGIONAL CONTEXT

The subject site is located in the suburb of Wanneroo, within the municipality of the City of Wanneroo. The subject site is located approximately 27 kilometres north of the Perth Central Business District (CBD), and approximately 5 kilometres east of the Joondalup Strategic Metropolitan Centre. The Wangara and Landsdale Industrial areas are located approximately 3.5km from the subject site.

The site is in close proximity to major regional connectors, including Wanneroo Road to the west, Lenore Road to the east, and Ocean Reef Road to the south, which are ‘Primary Regional Roads’ and ‘Other Regional Roads’ respectively under the Metropolitan Region Scheme (MRS).

From a regional context, the land is well suited to accommodating increased density due to its locational advantages, including proximity to existing services and amenities of the Wanneroo Town Centre, and location within the suburb of Wanneroo, which has been earmarked on a state level for as having significant development potential. See **Figure 1: Regional Context**.

2.3 LOCAL CONTEXT

The subject site is located within the broader East Wanneroo area, where land ownership remains fragmented and larger land parcels of former rural land uses (market gardens, nurseries and the like) have been developed on an ad-hoc basis for urban purposes. There have been some Agreed Structure Plans that have been adopted within this East Wanneroo area, in order to guide and coordinate the future subdivision and development of the land.

The subject site is zoned ‘Urban’ under the MRS and ‘Residential’ under the City of Wanneroo District Planning Scheme No. 2 (DPS 2), which is discussed further within this report. The subject site is predominantly located adjacent to Residential-zoned land which has been developed for single-residential purposes. To the immediate south of the subject site, on the other side of High Road, is land zoned ‘Special Residential’ under the City’s DPS 2, and ‘Rural’ under the MRS.

This land to the south of the site, along with a large portion of the surrounding East Wanneroo rural area, has been earmarked for rezoning as part of Metropolitan Region Scheme Amendment no. 1308/41, released by the Western Australian Planning Commission for public comment in April 2016. This amendment, which seeks to rezone 2,099.80ha land zoned ‘Rural’ under the MRS to ‘Urban Deferred’ zone, was closed to public comment on 8 July 2016. This is discussed further in Section 4.1.

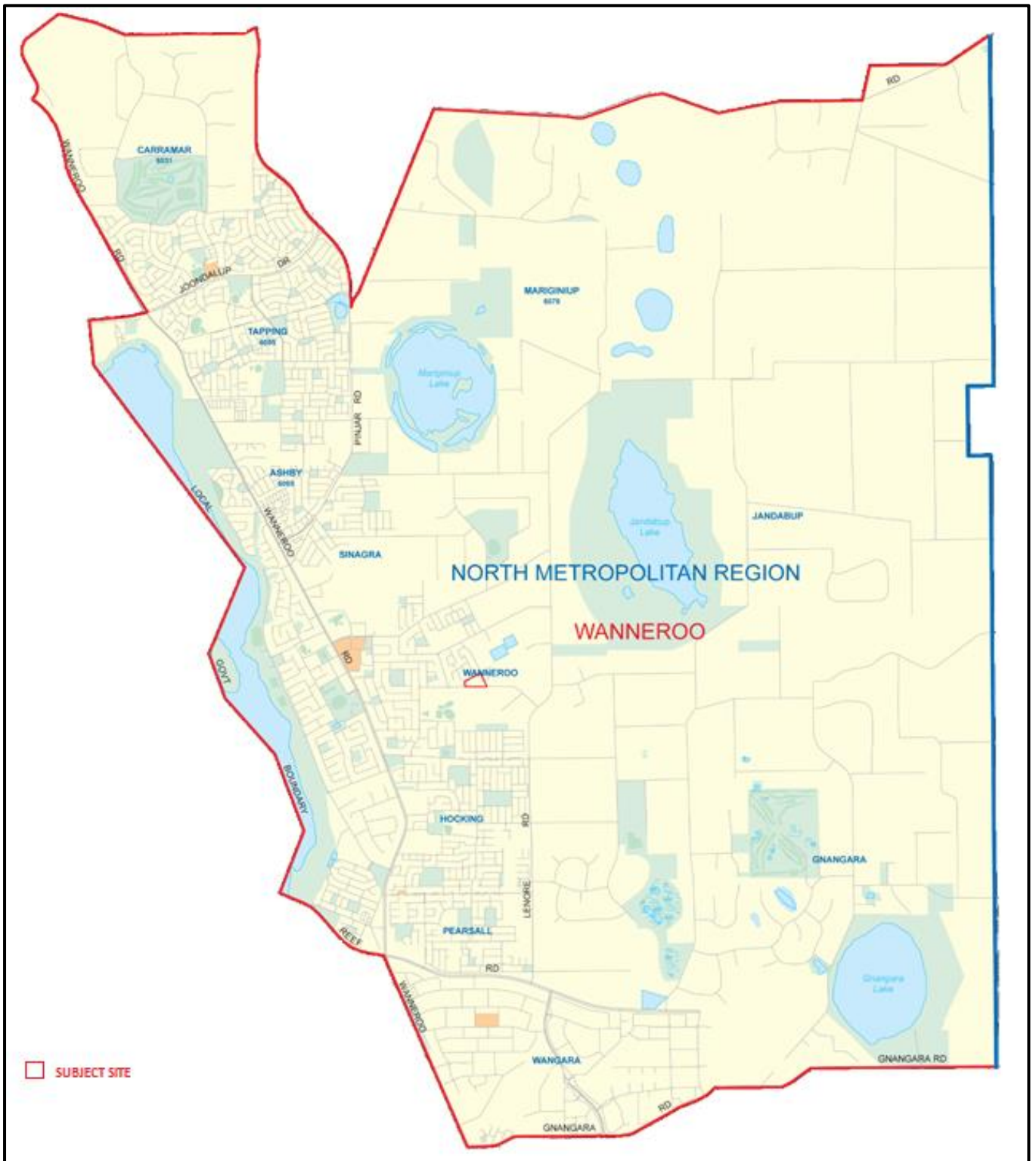


FIGURE 1: REGIONAL CONTEXT

The subject site is located approximately 1km from the Wanneroo Town Centre, which includes amenities such as the City of Wanneroo Civic Centre and Council Chambers, a public library, shopping centre, post office, police station, gyms and medical clinics. The subject site is also located approximately 150m from the East Wanneroo Primary School, located at 32 High Road, Wanneroo. Approximately 400m from the subject site lies the Wanneroo Secondary College campus, a public high school located at 56 Quarkum Street, Wanneroo.

There is a large amount of public open space available to the subject site within the walkable catchment, defined as within a 400m radius (5 minute walk) to an 800m radius (10 minute walk) as per the Liveable Neighbourhoods Guidelines. Belgrade Park, a conservation and recreation reserve, is located 250m from the subject site with access via a pedestrian accessway (PAW) from Amos Road. Barndie Park, which includes children's play equipment, is located approximately 400m from the subject site. Chicquita Park and Benmuni Park, both conservation parks, are located on High Road and Lenore Road approximately 450m and 650m from the subject site respectively.

The senior-sized oval co-located between the East Wanneroo Primary School and the Wanneroo Secondary College sites is located approximately 500m from the subject site. Although outside the standard walkable catchment, the neighbourhood park of Frederick Duffy Park is located 1.5km from the subject site, whilst the Wanneroo Showgrounds (including sporting facilities and clubhouse) is located approximately 2.2km from the site, both of which provide viable recreational opportunities in close proximity.

The subject site is serviced by public transport, with bus stops located less than 300m from the subject site on both Scott Road and High Road, providing easy access to the Wanneroo Town Centre. See **Figure 2: Local Context**.

1.1 LAND USE

The subject site is currently used for residential purposes, and contains a single house and outbuilding on an un-subdivided, semi-rural land parcel. The site is roughly triangular, with frontages to both High Road and Amos Road (formerly referred to as Rome Road, or Anna Place). See **Figure 3: Site Overview**, and **Figures 4 – 7: Site Photos**.

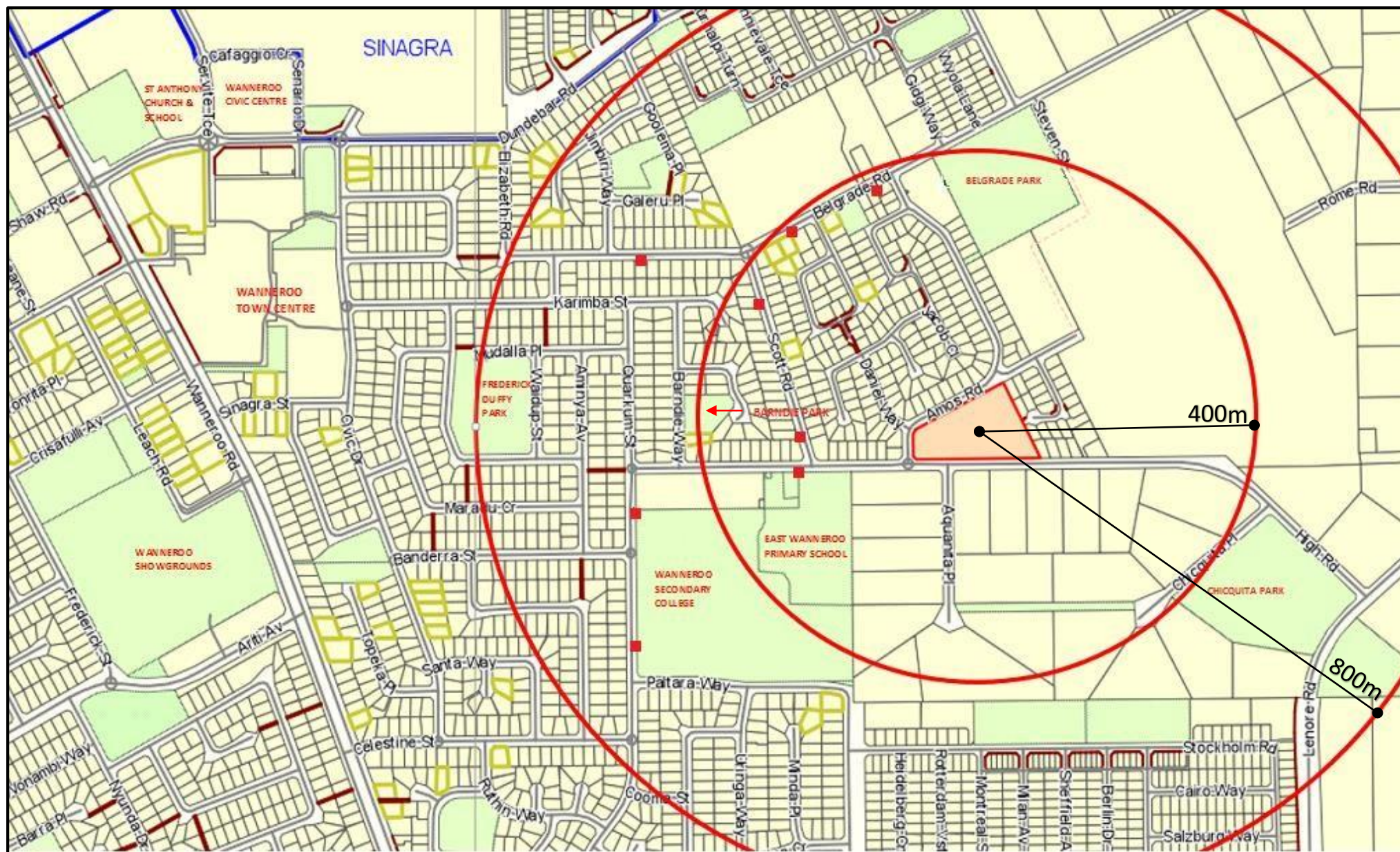


FIGURE 2: LOCAL CONTEXT

■ BUS STOP



FIGURE 3: SITE OVERVIEW



FIGURE 4: HIGH ROAD – PROPERTY ACCESS & DWELLING AS VIEWED FROM HIGH ROAD



FIGURE 5: PROPERTY AS VIEWED AT INTERSECTION OF HIGH ROAD AND AMOS ROAD



FIGURE 6: PROPERTY AS VIEWED FROM NORTH-WESTERN CORNER (AMOS ROAD BEND)



FIGURE 7: PROPERTY AS VIEWED FROM THE INTERSECTION OF AMOS RD AND BALCOMORE GARDENS

3 PROPOSAL DETAILS

3.1 AMENDMENT PROPOSAL

Under the current provisions of ASP 5, the subject site is designated Residential R20, and has an indicative road layout as shown on the current ASP 5 map (**Appendix B**). The road layout currently proposed by ASP 5 shows a local access road from High Road, with a sharp bend at right angles through the site, before culminating in a cul-de-sac. There is a PAW proposed from the future cul-de-sac head to the existing cul-de-sac of Balcomore Gardens.

The proposed amendment seeks the following:

1. Recoding of the subject site from Residential R20 to Residential R40; and
2. Reconfiguration of the road layout to a more logical design.

The road layout proposed will allow for a more user-friendly and safe design, allowing for the movement of through traffic from Amos Road to High Road, and removing the potentially dangerous sharp bend. As part of the road modifications, it is proposed to remove the proposed PAW through to Balcomore Gardens, as this is considered unnecessary. This will be discussed in more detail within this report.

The subject site is considered an appropriate site for an increase in residential development due to the proximity to major arterial routes, education facilities and the Wanneroo Town Centre, which provides employment opportunities, amenities and essential services. The planning considerations in support of the proposed amendment are discussed in further detail within this report.

It is considered that the proposed amendment will achieve improved planning outcomes, and facilitate a more orderly and cohesive subdivision of the site in the future. The proposed Amendment No. 4 to ASP 5 has been included as **Appendix C**.

3.2 PROPOSED SUBDIVISION

The proposed Amendment No. 4 to ASP 5 will facilitate the future development and subdivision of the subject site, subject to approval of the amendment and other requirements of the planning process.

A concept plan of subdivision has been prepared for the subject site, based on an R40 density coding. The indicative subdivision design allows for the creation of 34 green title (Single Residential) lots, 6 duplex lots and 2 Grouped Housing sites. The indicative subdivision design has been included as **Appendix D**.

The dwelling yield at the current density of R20 would be approximately 40 dwellings. The proposed recoding to R40 is considered to be minor, with the potential to yield a maximum of 64 dwellings, an increase of no more than 24 dwellings. The dwelling yield may in reality be as low as 53, dependent on development of the grouped housing sites and the duplex-potential lots. It is intended to retain the indicative 1148m² lot for the current owners, and as such is not expected to be developed in the foreseeable future.

Given the unusual triangular shape of the subject site, the higher density zoning of R40 is considered appropriate, as it allows for greater flexibility through lot size and the removal of a minimum lot frontage requirement.

Whilst the subdivision design is indicative only, it serves to show that the amendment facilitates logical subdivision design and sound planning outcomes, while also providing for a range of lot types and the potential for housing diversity. The concept plan is subject to change, and is only one way of potentially developing the site. Any subdivision lodged in the future will be in accordance with the subdivision requirements of the WAPC and any conditions imposed as a result.

4 PLANNING CONSIDERATIONS

4.1 METROPOLITAN REGION SCHEME

The subject site is zoned 'Urban' under the provisions of the Metropolitan Region Scheme (MRS).

The proposed amendment to ASP 5 is consistent with the 'Urban' MRS zoning due to the urban nature of the site and is considered capable of support.

4.2 DISTRICT PLANNING SCHEME NO. 2

The subject site is zoned 'Residential' under the provisions of the City of Wanneroo's *District Planning Scheme No. 2* (DPS 2). The provisions of DPS 2 do not designate a density coding to the subject site; the density coding has been allocated by ASP 5 only.

The objectives of the 'Residential' zone, as stated within DPS 2, is as follows:

- a) *Maintain the predominantly single residential character and amenity of established residential areas;*
- b) *Provide the opportunity for grouped and multiple dwellings in select locations so that there is a choice in housing type available within the City;*
- c) *Provide the opportunity for aged persons housing in most residential areas, in recognition of an increasing percentage of aged residents within the City; and*
- d) *Provide for compatible urban support services.*

The proposed amendment is not considered to compromise or contradict any of the above objectives. The land will maintain predominantly single residential purposes, but will allow for flexibility in density and subdivision design to allow for the potential development of grouped housing or aged care. Consideration of the amendment to increase the density from R20 to R40 is consistent with flexible and responsive planning.

Part 9 of DPS 2 sets out the process for preparing and adopting Agreed Structure Plans. Clause 9.7 of DPS 2 details the requirements in respect to amending a structure plan, where Council may amend an Agreed Structure Plan, subject to approval by the WAPC. Public notice of an amendment is not required if Council deem the amendment to be minor in nature; such that the amendment does not materially alter the intent of the Agreed Structure Plan or cause significant detriment to the land within or abutting the structure plan area.

The proposed amendment is not considered to materially alter the intent of ASP 5, nor is it considered to cause any detriment to land within or abutting the structure plan area. Notwithstanding the above, the amendment proposes to increase the density of Residential-zoned land outside a precinct identified within the City's Local Housing Strategy (see Section 4.6). The proposal may therefore be required to be advertised in accordance with Clause 9.5 of DPS 2.

The proposed amendment has been prepared in accordance with the provisions of Part 9 of DPS 2.

4.3 EAST WANNEROO CELL 3 AGREED STRUCTURE PLAN NO. 5

Subdivision and planning for the subject site and immediate surrounds is administered by the East Wanneroo Cell 3 Agreed Structure Plan No. 5 (ASP 5). The subject site is currently designated as Residential R20 under ASP 5. No detailed area plans (DAPs) apply to the site at present.

ASP 5 primarily seeks to control residential subdivision and development within the portion of land bounded by Dundobar Road to the north, Steven Street and the Water Corporation-owned site to the east, High Road to the south and Scott Road to the west. See **Figure 8: Existing ASP 5 Map** (subject site highlighted).

Under the provisions of ASP 5, the subject site is designated for 'Residential' development. The objectives and land use permissibilities of this zone are as per DSP 2, detailed above. The proposed amendment to ASP 5 will retain the Residential zoning in order to facilitate the development of residential lots consistent with the above objectives and the surrounding development. The increase in density will contribute to the variety and range of lot typologies and housing available within the immediate locality, and will improve housing choice for future residents.

The structure plan amendment is proposed in accordance with Clause 9.7 of DPS 2. A copy of the proposed amendment is included as **Appendix C**.

4.4 DIRECTIONS 2031 AND BEYOND – METROPOLITAN PLANNING BEYOND THE HORIZON

Directions 2031 and Beyond was released by the WAPC in August 2010. Directions 2031 and Beyond is the highest level strategic spatial plan in WA, establishing a vision for the future expansion of the Perth and Peel areas, which is expected to grow to over 2.2 million people by 2031.

The proposed amendment is considered to meet the overall objections of Directions 2031 and Beyond as follows:

- The increased residential density will assist in providing greater housing diversity, flexibility and affordable living opportunities within a locational context that provides a high level of amenity;
- The proposed amendment will assist in delivering a logical urban expansion within an area capable of accommodating residential growth;
- The proposed amendment will promote the responsible and sustainable infill development of land;
- The proposed amendment will assist in ensuring economic development of the area and accessibility to employment, given the high level of local employment within the sub-region; and
- The proposed amendment will result in an increase in residential dwellings in close proximity to schools and bus routes, which is closely aligned with sustainable development practices, in that it capitalises on existing infrastructure in the area.

The release of the draft Perth and Peel @ 3.5 Million framework further supports the strategic principles set out by Directions 2031. In light of the above, the proposed amendment is considered to be consistent with the overall strategic intent of the State as outlined in Directions 2031 and Beyond, and the Perth and Peel @ 3.5 Million framework.

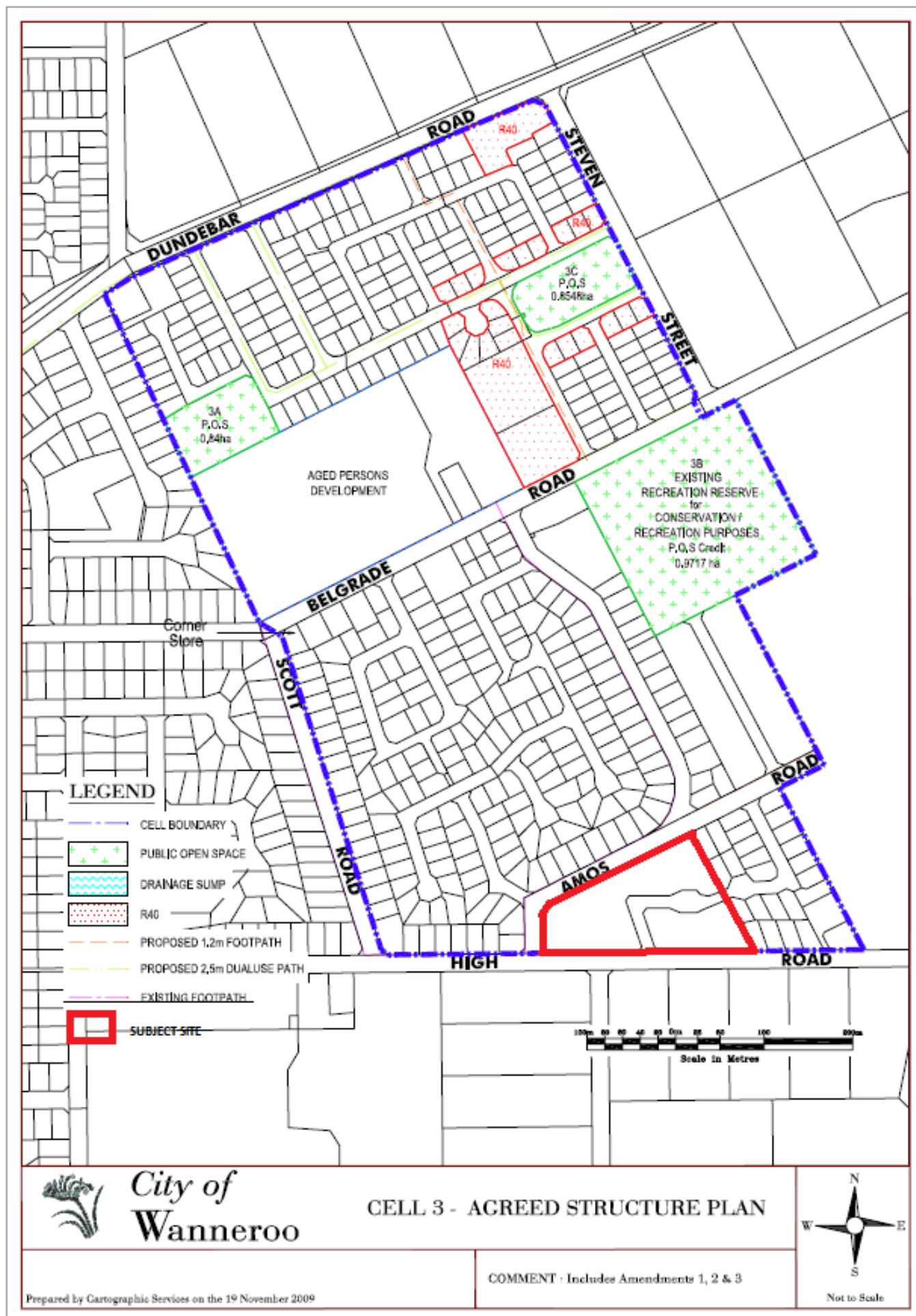


FIGURE 8: ASP 5 MAP

4.5 EAST WANNEROO STRUCTURE PLAN & THE CITY OF WANNEROO LOCAL PLANNING POLICY 5.3: EAST WANNEROO.

The East Wanneroo Structure Plan (EWSP) is a high level strategic document produced by the WAPC which identifies areas in the current rural areas of East Wanneroo (Wanneroo, Gnangrara, Jandabup and Mariginiup) as 'potential urban'. The East Wanneroo Structure Plan was produced to guide future amendments to the MRS and to provide a framework to guide preparation of more detailed structure plans for the locality.

Although the subject site is not included within the area covered by the EWSP (as a result of the existing urban zoning of the site), it is nonetheless an important consideration in the context of future development of the area. The EWSP includes the current Special Rural zoned land immediately opposite the subject site on High Road, as well as other nearby rural areas.

As previously mentioned in this report, the land to the immediate south of the site is currently zoned 'Rural' under the MRS, but is subject to a current Amendment to the MRS to be rezoned to 'Urban Deferred'. The amendment (reference 1308/41 WAPC) is applicable to 2,099.80ha of land within the East Wanneroo area, and further serves to highlight the developing urban nature of the East Wanneroo Area. See **Figure 9: Proposed MRS Amendment**.

As the urban development front has moved north along the coast, pressure has increased to explore urban development opportunities to the east. In recent years urbanisation has taken place to the east of Wanneroo Road, broadening the urban areas of the North West Sub Region and expanding the residential catchment of the Wanneroo centre.

The rural areas in proximity to Lot 68 High Road have been indicatively identified as 'Wanneroo South Precinct', with an expected residential build-out of 2200 homes. This projected urban expansion of the adjacent rural areas serves to highlight the need to develop these crucial 'outer fringes' of the Wanneroo centre. The subject site is able to utilise the existing urban nature of the site, whilst also supporting the viability of future urban development of areas located nearby.

4.6 CITY OF WANNEROO LOCAL HOUSING STRATEGY & LOCAL PLANNING POLICY 3.1: LOCAL HOUSING STRATEGY IMPLEMENTATION

The City of Wanneroo's Local Housing Strategy (LHS) was developed in 2005 and places an emphasis on increasing the residential density and housing choice in existing and planned residential areas. The LHS focusses on sites that have existing access to services and amenities, and are close to retail and employment nodes, public transport services, major arterial routes, public open space, educational establishments, and community facilities.

The City of Wanneroo's Local Planning Policy 3.1: Local Housing Strategy Implementation (LPP 3.1), recently amended in 2016, provides a framework for implementing the LHS. LPP 3.1 provides development recommendations for land identified as potential increases in residential density within the City of Wanneroo. The amendments to this policy now include some allowances for infill development outside of established LHS housing precincts where appropriate.

The subject site is not located within any of the six Housing Precincts identified within the LHS document. Notwithstanding, it is noted that the subject site is within close proximity (250m) of the Wanneroo Town Centre Housing Precinct identified in the LHS. See **Figure 10: Local Housing Strategy**.

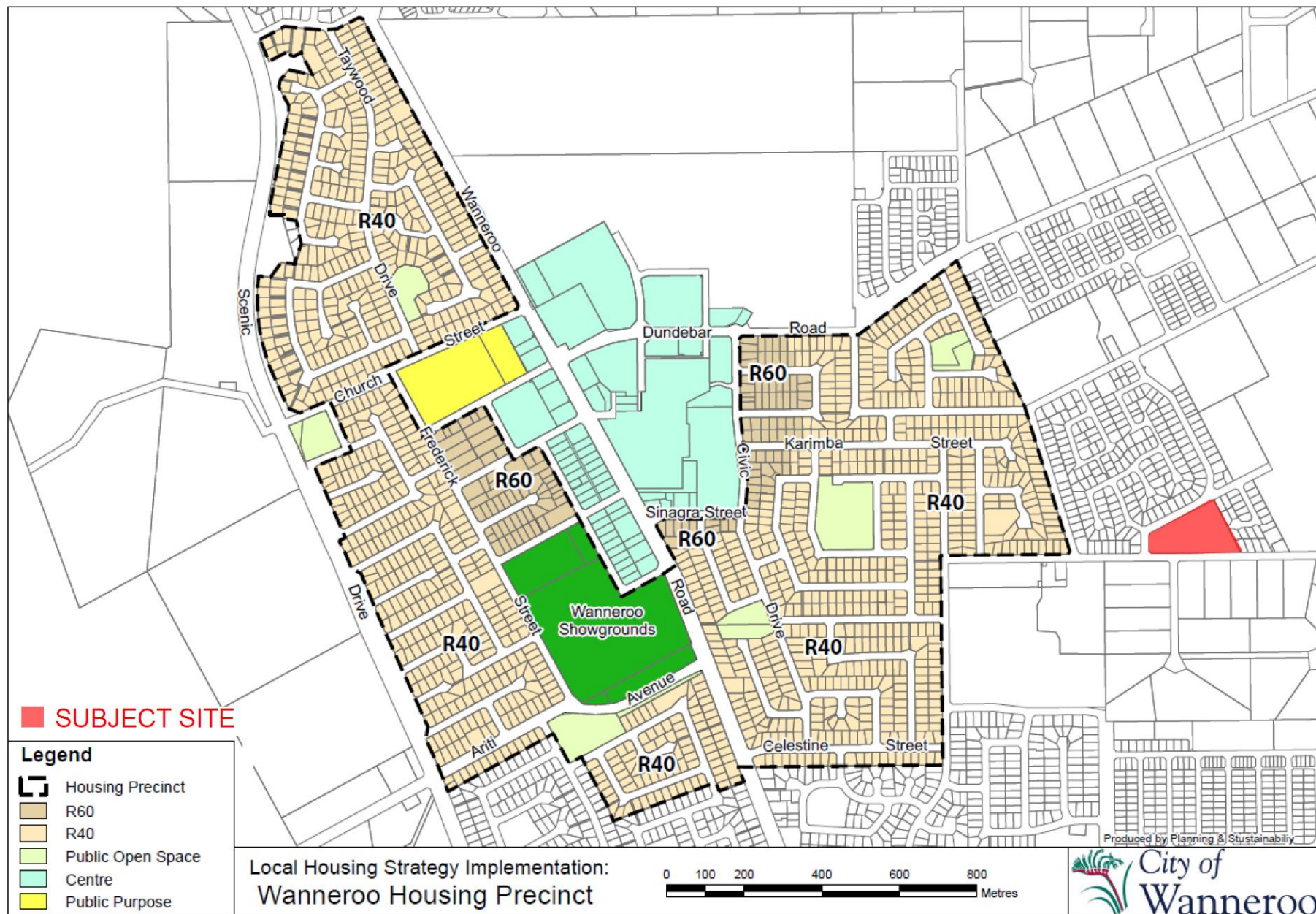


FIGURE 10: LOCAL HOUSING STRATEGY IMPLEMENTATION

The site is considered to meet the criteria of 'Other Infill Development', which allows for proposed increased densities on parcels of land in other established suburbs not identified by the LHS. Part 2 of the LPP 3.1 deals with the consideration of proposals outside of the identified Housing Precincts. Where the subject site is within a structure plan approved under DPS 2, the application for amendment of that structure plan must include an assessment of how the proposal meets the following criteria:

- a) Is appropriate within the broader planning framework provided by the Structure Plan;
- b) Satisfies the criteria of Table 3 of this Policy relating to infill development and increased density; and
- c) Supports the objectives and recommendations of the Local Housing Strategy.

The proposed amendment is considered to be consistent with the above criteria, as detailed below.

a) Is appropriate within the broader planning framework provided by the Structure Plan.

The proposed amendment to recode Lot 68 High Road, Wanneroo from Residential R20 to Residential R40 is considered to be consistent with the broader planning framework for the immediate locality and surrounds. The increase in density is responsive to the site's close proximity to existing infrastructure, public transport and public open space areas.

There are several other areas within ASP 5 which are already coded Residential R40. These sites are generally located in close proximity to POS and main roads/public transport, but are also located outside the designated housing precincts. The subject site, located a similar distance from the designated housing precinct of Wanneroo as the existing R40 sites, is considered to have a locational advantage in regards to the proximity of educational establishments in the area.

b) Satisfies the criteria of Table 3 of this Policy relating to infill development and increased density.

The Housing Precinct boundaries and densities have been based on the application of criteria included in the Local Housing Strategy. Details of the criteria are detailed in Table 1 of the LPP 3.1. Assessment of the proposed amendment against this criteria is provided in **Table 1**, below.

Table 3 – Criteria for Other Infill Development and Increased Density

Criteria	Policy Application	Proposed Amendment 4
Easy access/close proximity to Activity Centres	R40 being applicable for locations between 401m and 800m from an edge of an Activity Centre, excluding Local Centre.	<p>The western portion of the site is approximately 1km east of the Wanneroo Town Centre, which consists of a number of employment and retail opportunities, including a shopping centre, civic centre, library, recreation centre, police station, GP Super Clinic and many more.</p> <p>Although the site is not located within 800m of the Wanneroo Town Centre, the subject site is considered to have considerable ease of access to this town</p>

		<p>centre and is still within very close proximity. In addition the subject site is located within 150m of the East Wanneroo Primary School and within 400m of the Wanneroo Secondary College, which function as a minor community hub.</p> <p>There is considered to be sufficient locational criteria to support an R40 density.</p>
Easy access/close proximity to public transport with priority towards rail nodes and bus interchanges.	R40 not defined	<p>The subject site is located within 300m of two local route bus stops, located on High Road and Scott Road. The bus route serviced by these stops provides a connection to not only the Wanneroo Town Centre, but also provide connections to the Joondalup Strategic Metropolitan Centre, Joondalup bus and Train station/interchange and the Whitford bus and train station /interchange. The applicable route is No. 467.</p> <p>The subject site is also less than 500m from the bus terminus on Belgrade Road (outside the Belgrade Retirement Village), which provides a direct route to the Perth Bus Station. This route (no. 389) is considered to be an important link between the site and a number of local and activity centres, major catchments and employment areas along the major artery of Wanneroo Road (refer Figure 11 below).</p> <p>These bus routes are considered to be of medium to high frequency, with buses arriving every 15-20 minutes during peak periods.</p> <p>Furthermore, it is envisaged that with the proposed urban development of the East Wanneroo areas to the east of the subject site, the existing bus routes will be adapted to encompass greater patronage numbers. It is likely that the bus route will be extended down High Road and the nearby Lenore Road (currently being upgraded and dualled), which is already seeing a significant population increase in close proximity.</p>

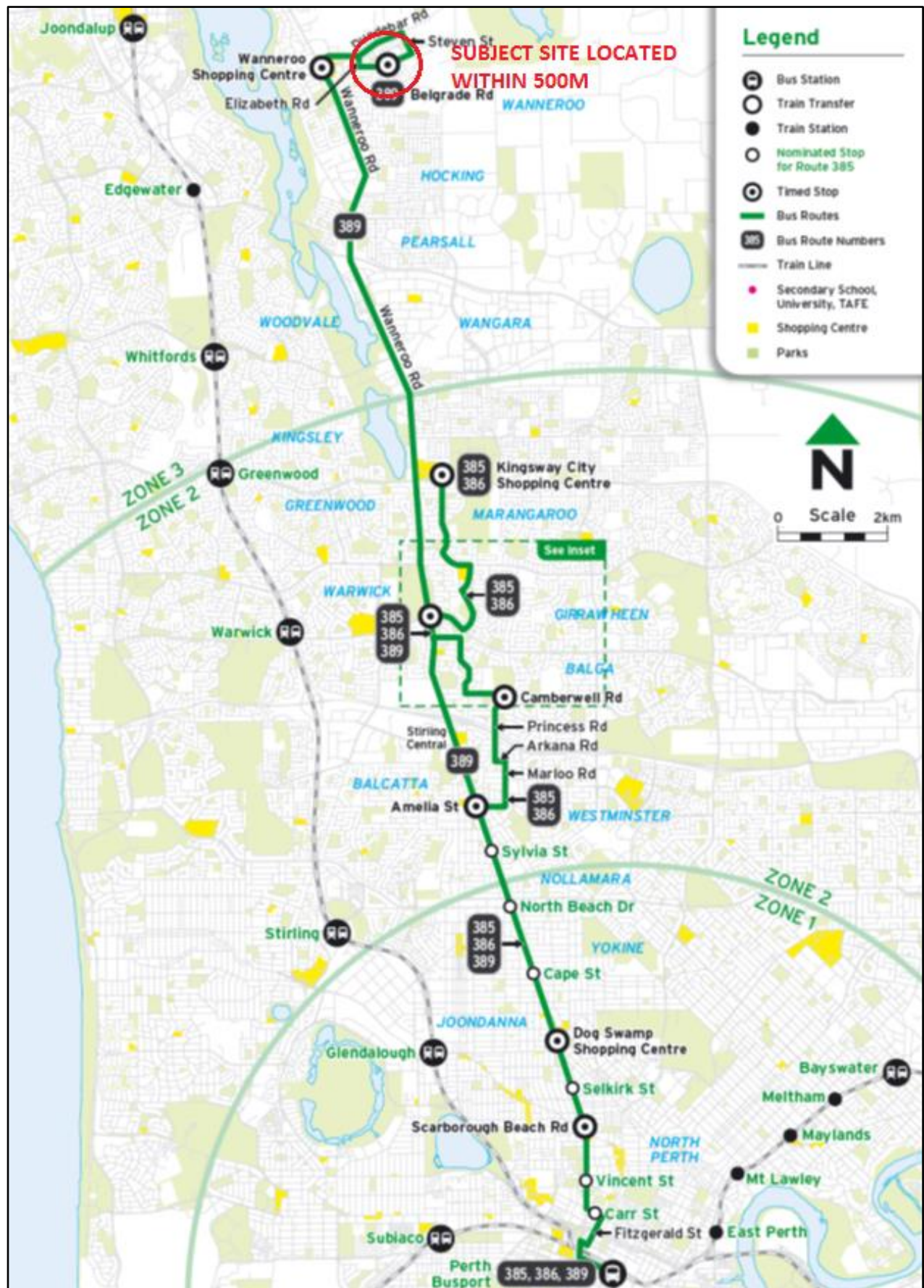


FIGURE 11 – ROUTE 389 BELGRADE ROAD TO PERTH BUSPORT

Table 3 demonstrates that the proposed amendment is appropriate within the planning framework and is considered to satisfy the criteria of LPP 3.1 in that:

- The amendment proposes a minor increase in density to R40 and is located with easy access/close proximity of a town centre, consistent with the principles of LPP 3.1;
- The subject site is located within 1km of the Wanneroo Town Centre, including access to existing medical facilities, a shopping centre, Library and community facilities, and recreation centres;
- The amendment area is located in close proximity and well within the walkable catchment to bus stops on Belgrade Road, High Road and Scott Road which provide easy and efficient access to the Wanneroo Town Centre, Joondalup Bus/train interchange, Whitfords bus/train interchange and Perth Busport/train station;
- The subject site enjoys the benefits of easy access and close proximity to regional arterial routes including Wanneroo Road, Lenore Road and Ocean Reef Road;
- The subject site enjoys six (6) areas of POS within an 800m walkable catchment, providing a variety of recreational pursuits in close proximity; and
- The amendment area is located within 150m of East Wanneroo Primary School, within 400m of Wanneroo Secondary College Campus, less than 200m from a child care centre and within 1km of a community centre and existing medical facilities.

The subject site is considered to be ideally located to provide an increased density, given its easy access and close proximity to educational establishments, POS, public transport routes and the services and amenities of the Wanneroo Town Centre.

c) Supports the objectives and recommendations of the Local Housing Strategy.

The subject amendment is considered to be consistent with the overall strategic objectives of the Local Housing Strategy. The recoding from R20 to R40 is located within an area which is well serviced and located within walking distance of public transport, educational establishments, and community facilities. Additionally, the subject site benefits from easy access to major arterial roads which connect to retail and employment nodes.

The amendment proposal is considered to contribute towards a more sustainable community through the most efficient use of the land within an existing urban area. The proposed recoding is minor within the context of overall lot yield – approximately 38 lots are able to be created under the current zoning, with only a maximum of additional 24 lots yielded through the recoding. The proposed density of R40 is consistent with the general pattern of development within the structure plan area, and is unlikely to detrimentally impact upon the neighbourhood character or streetscape values of the locality.

4.7 SMART GROWTH STRATEGY 2005

The City of Wanneroo's Smart Growth Strategy was developed in 2005 on the understanding that the population of Wanneroo will continue to grow as a result of natural population growth, immigration and regional population shifts. As Wanneroo is one of the fastest growing local governments in Australia, the Smart Growth Strategy aims to implement a more sustainable approach to development through the integration of environmental, social and economic values and considerations.

Some of the most relevant principles of the Strategy are detailed below:

- *Lifestyle and Housing Choice: encourage the provision of a variety of housing types and enhancement of lifestyle options;*
- *Effective use of Land and Infrastructure: supports the effective use and development of land and buildings for the benefit of the local area;*
- *Long term health of the Environment: promotes development that has minimum environmental impact, together with practices that conserve and enhance natural areas.*

The proposed amendment is consistent with the above principles as follows:

- The proposed amendment and resulting subdivision will enable a greater diversity of lot types and sizes, ranging from 4000m²+ grouped housing sites, to duplex sites, to standard 300m² lot product. The variety of lot sizes and shapes will result in a more varied housing typology, and an associated range of housing affordability choices.
- The proposed amendment will allow for a more efficient design of infill development, which is able to utilise the existing infrastructure and amenities in the area.
- The proposed amendment seeks to appropriately locate density within an area which will not impact upon any significant environmental qualities of the locality. Every effort will be made at the future subdivision and development stages to utilise practises that have minimal environmental impact.

The proposed amendment is considered to satisfy the above principles and overall strategic direction of the Smart Growth Strategy.

5 OTHER PLANNING CONSIDERATIONS

5.1 PUBLIC OPEN SPACE

The WAPC's Development Control Policy 2.3 – Public Open Space in Residential Areas and the City of Wanneroo's Local Planning Policy 4.3: Public Open Space (LPP 4.3) ensures that there is an adequate amount of POS within residential areas. The WAPC's standard requirement for POS contributions for subdivisions creating more than 3 residential lots is 10 per cent of the gross subdivisible area to be given up free of cost by the developer and vested in the Crown as a Reserve for Recreation.

It is not proposed to provide the 10% POS requirement as part of the subdivision concept, given the resulting size of 2000m² does not satisfy the City's LPP 4.3 minimum standards. In this particular instance, a contribution towards existing POS is incorporated in the overall POS development contribution plan for the East Wanneroo Cell 3 Agreed Structure Plan No. 5. Given the sufficient amount of POS already created within the ASP 5 area, it is expected that the contribution arrangements will be finalised during the subdivision stage and subsequent subdivision clearances.

5.2 TRAFFIC AND MOVEMENT NETWORK

The proposed amendment seeks to modify the road layout as currently proposed by ASP 5. The modified road layout will remove the right-angled cul-de-sac design, and instead set out a local access through-road between Amos Road and High Road. The amendment also proposes to remove the proposed PAW connection between the future road through the subject site and that of the existing cul-de-sac of Balcomore Gardens.

The modified road layout is considered to be of a more efficient and safe design, and will be designed and constructed in accordance with the requirements and standards of the City of Wanneroo. The internal subdivisional road will consist of a standard 15m road reserve; however this detail will be confirmed at the subdivisional stage.

It is noted that High Road is currently a rural-standard road adjacent to the subject site. High Road has been upgraded to an urban standard at the westernmost end adjacent to the school sites. High Road has also been partially upgraded (northernmost carriageway only) adjacent to the subdivision which resulted in the creation of Lots 30-33 and Lots 203-204 High Road, Wanneroo, to the immediate east of the subject site. It is expected that a similar condition requiring the partial upgrade of High Road will be required at the subdivisional stage.

A Traffic Impact Assessment (TIA) has been prepared to accompany this amendment proposal and is included as **Appendix E**. The TIA has considered the impact that the proposed recoding of Lot 68 (71) High Road, Wanneroo from R20 to R40, and the amended road layout, will have on the local road network. The report concludes the following:

- Both High Road and Amos Road have the capacity to carry up to 3,000 vehicles per day, with the current volumes at approximately 1,200 and 1,100 vehicles per day respectively;

- It is estimated that, based on an R40 coding, the development would generate under 500 vehicles per day on a typical weekday; with approximately 40 vehicle trips in the AM peak hour and 50 vehicle trips in the PM peak;
- The increase from R20 to R40 represents an increase of only 116 vehicle trips per day, and only an increase of 10 vehicle trips during a typical weekday peak hour in comparison with the approved structure plan;
- A review of the anticipated traffic impacts on the existing adjacent road network indicates that there is sufficient capacity to accommodate the intended site-generated volumes;
- Based on a review of the modelled total traffic assessment and observed traffic operations of the boundary road system, the anticipated site-generated traffic associated with the proposed modification to ASP No. 5 can be accommodated in the existing practical capacity and functional road classification of the local road system; and
- The modified internal road network proposed through the amendment is safe, efficient and effective.

Based on the outcomes of the TIA, it is therefore considered that the subject amendment is highly unlikely to have a significant detrimental impact on the function and efficiency of the local road network.

The removal of the PAW within Lot 68 High Road, Wanneroo proposed by the existing structure plan is also proposed through this amendment. The intended pedestrian connection has never been realized, and is considered largely unnecessary due to the permeability of surrounding streets and the ease of access to nearby educational establishments and bus stops. The 'closure' of the remainder of the proposed PAW by removing it from the ASP 5 structure plan map is understood to be supported by residents of Balcomore Gardens.

The portion of PAW outside the subject site, adjacent to the cul-de-sac of Balcomore Gardens is in fact road reserve and has never been formally ceded as a partial PAW. It is considered unnecessary to formally close this small portion of road reserve given the limited impact on residents and the City. However, if the City was of a mind to formally close this portion of road reserve, it is understood that the adjoining landowners of Lots 34 and 45 Balcomore Gardens have indicated interest in purchasing the surplus land. The existing portion of PAW/road reserve measures approximately 90m².

The procedure for closure of the existing portion of the road reserve is separate to that of the removal of the undeveloped PAW through the amendment and may be pursued at a later date. As such it is considered that this existing portion of PAW/road reserve has no significant impact on the proposed modified road layout and removal of the indicative PAW.

5.3 VEGETATION

The subject site is of a rural-residential nature, and thus there is a large portion of the site which retains native vegetation. A number of large mature screening pines have been planted along the High Road boundary and a portion of the Amos Road side boundary. A cleared lawn area adjoins the dwelling and shed on site, and a number of fruit trees form a small orchard adjacent to the lawn, shed and dwelling. The remainder of the site is untouched vegetation, except for firebreaks and removal of undergrowth in some areas.

The subject site is located within the Swan Coastal Plain Interim Biogeographic Regionalisation of Australia (IBRA) Bioregion, Perth Sub-Region (SWA02). This sub-region is dominated by

woodlands of *Banksia* and Tuart on sandy soils, sheoak on outwash plains, and paperbark in swampy areas. Broad-scale vegetation mapping of the area (Hettle et al, 1980) identified the following vegetation association present within the subject site:

- **Cottesloe complex – central and south:** Mosaic of woodland of *Eucalyptus gomphocephala* and open forest of *E. gomphocephala* – *E. marginata* – *E. calophylla* [now *Corymbia calophylla*]; closed heath on the Limestone outcrops.

A detailed ecological assessment of flora and fauna will be undertaken on site prior to any subdivision.

5.4 SERVICES AND INFRASTRUCTURE

Based on preliminary investigations, the subject site has been deemed capable of being serviced by all essential services. An Engineering Infrastructure Report has been included as **Appendix F**. The report is based on the civil engineering aspects of urban residential and related land uses, and in particular considers earthworks, roads, drainage, wastewater and utility services to support urban development.

Details of the report findings are summarized below. Further geotechnical and/or servicing reports will be undertaken as conditions of any future subdivision.

5.4.1 SITEWORKS

The site generally slopes from the centre of the site to the north-west of the site. The surface levels range from approximately 95 AHD in the south corner to around 90 AHD along Amos Road. Finished development levels will need to account for the existing road levels of High Road, Amos Road and the existing dwellings on the eastern boundary of Lot 68. The site is identified as having a low to nil risk of acid sulfate soils.

The site has medium to dense native vegetation consisting of medium trees and low-lying shrubs, with the exception of approximately 2,500m² cleared around the existing dwelling and outbuilding. Existing native trees on site deemed worthy of retention will be identified prior to subdivision, and every effort made to retain these trees where possible.

Site grading and earthworks will generally be determined by the servicing requirements but as a result of site characteristics, the fill required to provide clearance from groundwater and flooding is not expected to be an issue. The sandy nature of the site (Bassendean Sand) will require earthworks to be undertaken such that foundations for residential development on the created lots within the proposed development can be designed for the Australian Standard Classification “A” as set out in AS2870-2011.

Bulk earthworks will be completed using locally sourced material from existing sand supply operations within the locality. Disturbed areas will be stabilised during earthworks by re-spreading stockpile topsoil or using hydromulching stabilisation where appropriate, in accordance with any management plans required as a condition of future subdivision approval.

5.4.2 STORMWATER DRAINAGE

The existing drainage infrastructure surrounding the development site consists of a pit and pipe network in Amos Road to the north of the subject site. The existing drainage network flows north

along Amos Road then turns west on Joel Way before discharging into a sump south of Belgrade Road.

All stormwater will be managed in accordance with the City of Wanneroo Guidelines and connected to the existing system. Surface runoff will be contained on site and discharged via soakwells in storage basins or dedicated stormwater drainage sites. Subject to approval by the City, the development may provide for a direct connection to the existing drainage infrastructure in Amos Road, which ultimately discharges into the existing Belgrade Road sump.

While modification of the internal road layout allows for an increase in density from R20 to R40, the resulting increase in pavement area is minor and will result in a minimal increase to stormwater road runoff.

5.4.3 SEWERAGE

The Water Corporation (WaterCorp) has indicated that there are a number of existing sewer assets in the vicinity of the subject site. WaterCorp has not confirmed if there is capacity for the site; however given the extent of the existing system and the minor increase in flows, it is expected that the existing infrastructure has capacity for the proposed R40 development.

A conventional reticulated sewer will provide connections to individual lots throughout the proposed development. WaterCorp have advised that a gravity sewer will need to be constructed in existing verges of Amos Road and High Road, as well as along the proposed internal subdivisional road. The gravity sewer system will be connected to the existing access chamber on Amos Road to the east of the subject site.

5.4.4 WATER SUPPLY

Potable water supply to the subject site will be provided by a reticulated system that connects to the existing water distribution mains along High Road and Amos Road. WaterCorp requires the construction of a new water reticulation main on the proposed internal subdivisional road, with proposed lots along Amos and High roads being serviced directly from the existing water mains within these roads.

5.4.5 POWER

Installation of a transformer and connection to the existing high voltage cables will be required to serve the subject site. An internal underground electrical distribution system will be provided in accordance with the requirements of Western Power to supply allotments within the development area. This will include both high and low voltage cables and the transformers and switchgear to be installed within the development.

Current indications from the WAPC and Western Power Network Asset Policy are that the aerial power line along High Road will require undergrounding as part of the development.

Street lighting in accordance with Western Power and City of Wanneroo guidelines will also be required as part of the development.

5.4.6 TELECOMMUNICATIONS

Existing Telstra copper infrastructure is currently located in High Road and in Amos Road to the north. Two existing Telstra connections to the lot are present on the southern and western boundary of Lot 68.

NBN Co is responsible for the installation of fibre in all broad acre developments of 100 or more premises within the long term optic fibre footprint. As Lot 68 High Road is expected to yield less than the 100 premises criteria, it will not automatically qualify for NBN. An application can still be made to service the lots with fibre, but it is unlikely that an application for fibre would be approved.

It is expected that the telecommunication network for the subject site would be an extension of the existing Telstra infrastructure in the surrounding area. A telecommunication pit and pipe network would be installed, including a service conduit to each lot to facilitate the connection to each premises.

5.4.7 GAS SERVICES

There is existing ATCO Gas Australia infrastructure surrounding Lot 68. There is a gas main in the eastern and northern verge of Amos Road as well as in the northern verge of High Road. Based on the number of proposed dwellings and the existing infrastructure surrounding the development site, it is expected that there is sufficient capacity to supply the development. ATCO has been contacted with regards to this development, however planning advice has not yet been provided.

There is no requirement to allow for any capital cost of the gas headworks extension. The provision of internal gas reticulation to the Lot 68 development area will be at no cost to the developer if common open trenching is supplied.

6 CONCLUSION

The proposed Amendment No. 4 to the East Wanneroo Cell 3 (Wanneroo) Agreed Structure Plan No. 5 (ASP 5) has been submitted to the City of Wanneroo to facilitate the recoding of Lot 68 71) High Road, Wanneroo from a residential density coding of R20 to R40, and to modify the proposed road layout.

This report has provided justification as to how the proposed amendment is consistent with the broader State and local planning framework. In summary, the proposed amendment is considered capable of support for the following reasons:

- The recoding is consistent with planning framework on a State level, being the Metropolitan Region Scheme, and the strategic direction of Directions 2031 and Beyond and the draft Perth and Peel @ 3.5 Million through infill development within established residential areas;
- The recoding from Residential R20 to R40 will not materially alter the intent of ASP 5 and is not considered to substantially impact on existing amenity or neighbourhood character within the structure plan area;
- The minor increase in density is consistent with existing densities within the structure plan area and is consistent with the objectives of the Residential zone, as it facilitates a variety of housing choices and lifestyle options;
- The subject site is located within close proximity and with easy access to a high number of services and amenities including education establishments, public transport, POS and the Wanneroo Town Centre;
- The amendment is consistent with the City of Wanneroo's Local Housing Strategy, Local Planning Policy 3.1 and the Smart Growth Strategy in regards to public transport, public open space and other services and amenities; and
- The indicative subdivision concept plan demonstrates that the increased density will create a diverse range of lot shapes and sizes, and will produce a more viable and logical planning outcome.

Having due regard to the above, it is requested that the City of Wanneroo and the Western Australian Planning Commission endorse the proposed Amendment No. 4 to the East Wanneroo Cell 3 (Wanneroo) Agreed Structure Plan No. 5.

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WESTERN



AUSTRALIA

REGISTER BOOK
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1344 216

CERTIFICATE OF TITLE

UNDER THE "TRANSFER OF LAND ACT, 1893" AS AMENDED

I certify that the person described in the First Schedule hereto is the registered proprietor of the undermentioned estate in the undermentioned land subject to the easements and encumbrances shown in the Second Schedule hereto.

DATED 24th January, 1973

M. Edwards

REGISTRAR OF TITLES



ESTATE AND LAND REFERRED TO

Estate in fee simple in portion of Swan Location 1791 and being Lot 68 on Plan 8238, delineated and coloured green on the map in the Third Schedule hereto, limited however to the natural surface and therefrom to a depth of 609.6 metres.

FIRST SCHEDULE (continued overleaf)

~~Gerardus Noordyk, Painter and Cornelia Alida Noordyk, Married Woman, both of 30 Almondbury Road, Mount Lawley, as joint tenants.~~

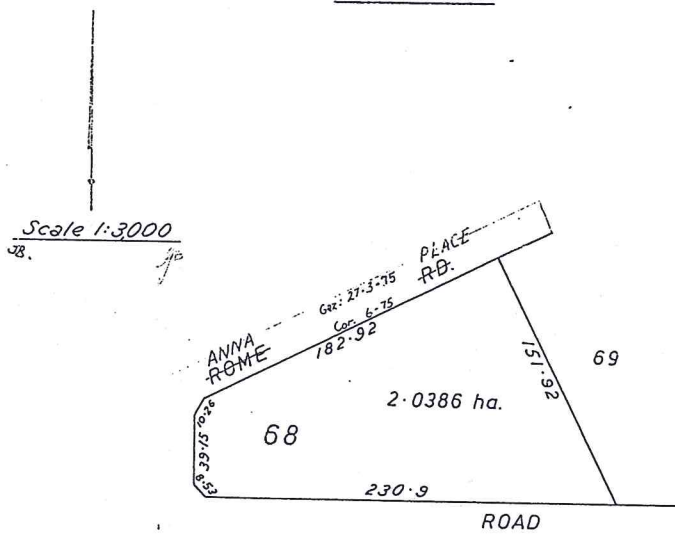
SECOND SCHEDULE (continued overleaf)

NIL

M. Edwards

REGISTRAR OF TITLES

THIRD SCHEDULE



NOTE: RULING THROUGH AND SEALING WITH THE OFFICE SEAL INDICATES THAT AN ENTRY NO LONGER HAS EFFECT. ENTRIES NOT RULED THROUGH MAY BE AFFECTED BY SUBSEQUENT ENDORSEMENTS.

PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON

Page 1 (of 2 pages)
1344 VOL.
216 FOL.

FIRST SCHEDULE (continued)NOTE: RULING THROUGH AND SEALING WITH THE OFFICE SEAL INDICATES THAT AN ENTRY NO LONGER HAS EFFECT.
ENTRIES NOT RULED THROUGH MAY BE AFFECTED BY SUBSEQUENT ENDORSEMENTS.**REGISTERED PROPRIETOR**

Gabriel Francis Morrow, Shire Foreman, and Jilyan Constance Morrow, Married Woman, both of 52 Kemp Street, Wanneroo.

INITIALS

SEAL

TIME

REGISTERED

NUMBER

NATURE

INSTRUMENT

D61090

5.7.85

9.23

Transfer

D61090

5.7.85

9.23

11.12.86

Discharged

E987528

14.9.92

Discharged

E987529

14.9.92

SECOND SCHEDULE (continued)NOTE: RULING THROUGH AND SEALING WITH THE OFFICE SEAL INDICATES THAT AN ENTRY NO LONGER HAS EFFECT.
ENTRIES NOT RULED THROUGH MAY BE AFFECTED BY SUBSEQUENT ENDORSEMENTS.

INSTRUMENT

NATURE

NUMBER

PARTICULARS

REGISTERED

TIME

SEAL

INITIALS

CANCELLATION

NUMBER

REGISTERED OR LODGED

SEAL

INITIALS

D61091

Mortgage

to National Australia Bank Ltd.

5.7.85

9.23

SEAL

INITIALS

Discharged

E987528

14.9.92

SEAL

INITIALS

D379016

Mortgage

to National Australia Savings Bank Ltd.

11.12.86

9.07

SEAL

INITIALS

Discharged

E987529

14.9.92

SEAL

INITIALS

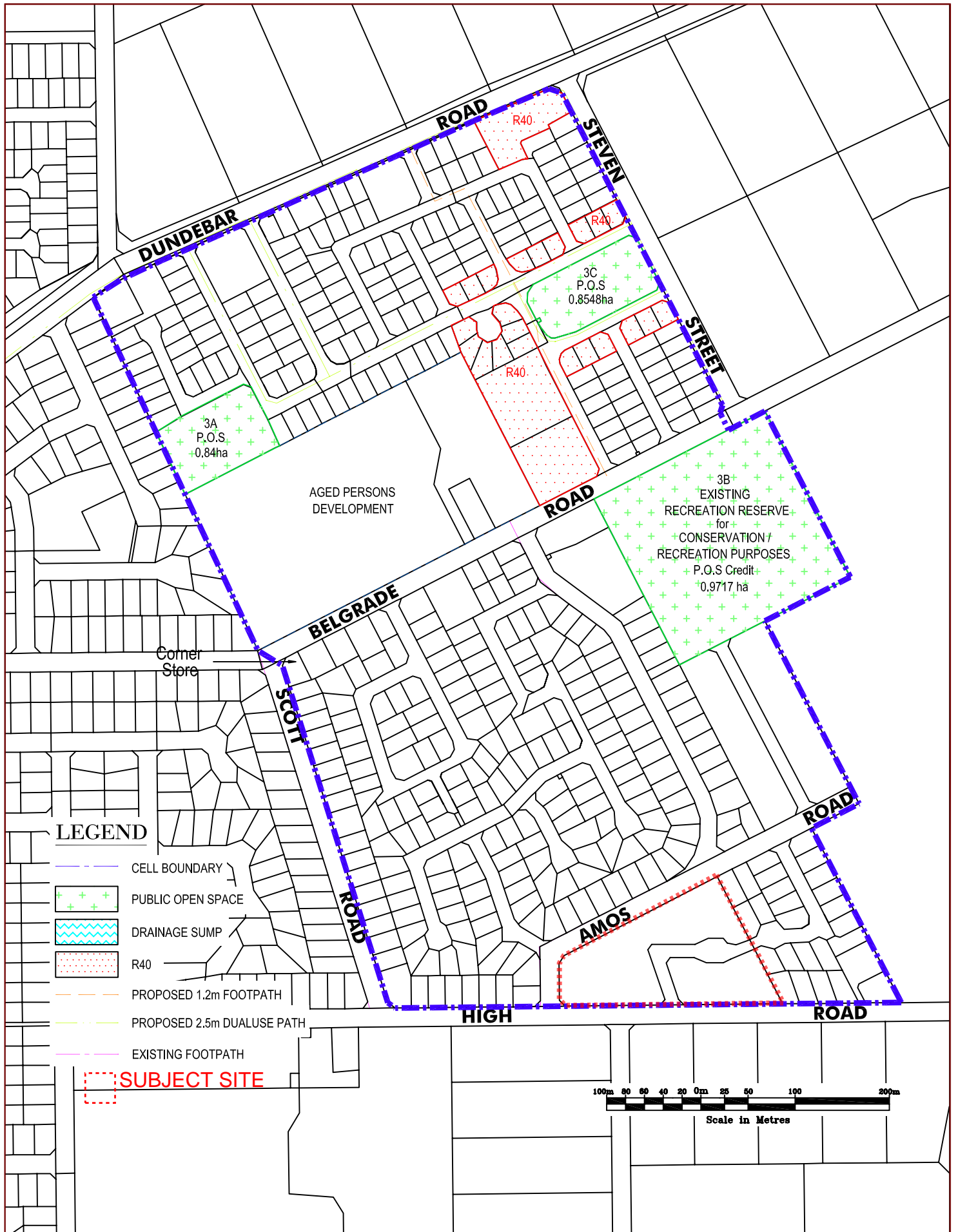
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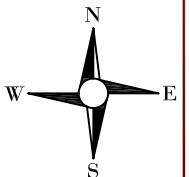
**APPENDIX B CURRENT EAST WANNEROO CELL 3 AGREED
STRUCTURE PLAN NO. 5**



City of
Wanneroo

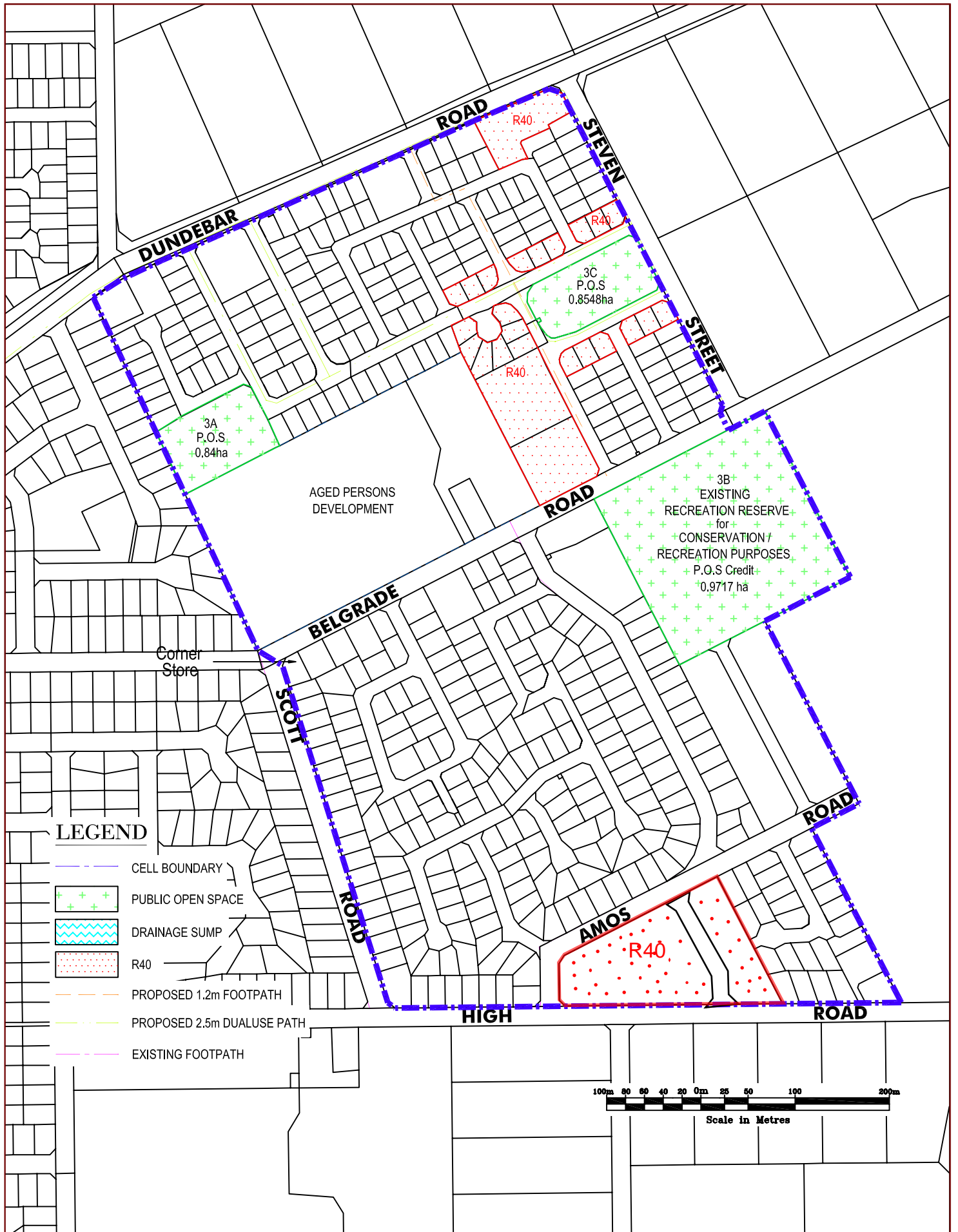
CELL 3 - AGREED STRUCTURE PLAN

COMMENT : Includes Amendments 1, 2 & 3



Not to Scale

**APPENDIX C PROPOSED AMENDMENT NO. 4 TO EAST
WANNEROO CELL 3 AGREED STRUCTURE PLAN NO.
5**



LEGEND

- CELL BOUNDARY
- PUBLIC OPEN SPACE
- DRAINAGE SUMP
- R40
- PROPOSED 1.2m FOOTPATH
- PROPOSED 2.5m DUALUSE PATH
- EXISTING FOOTPATH

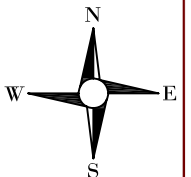
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Scale in Metres



City of
Wanneroo

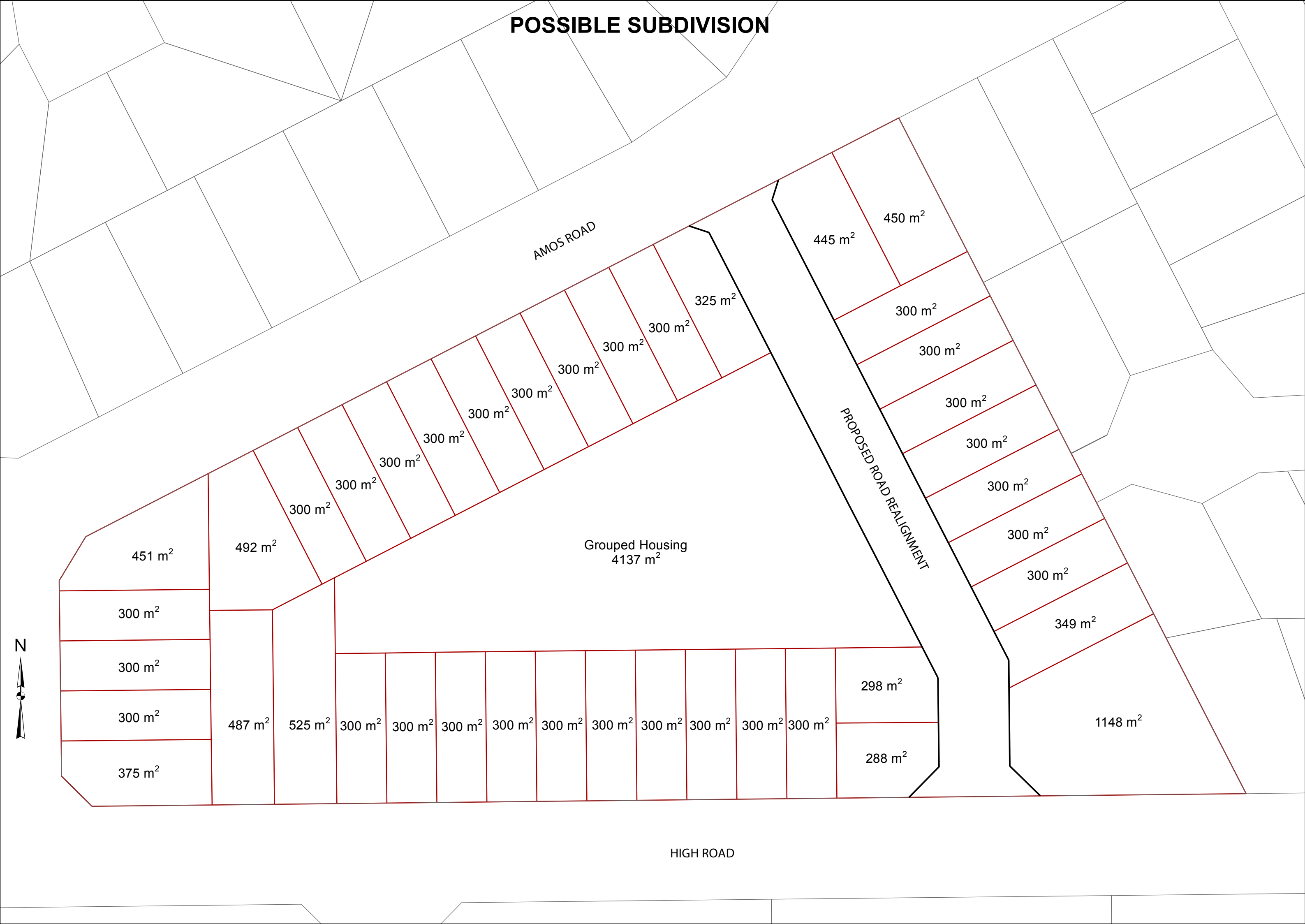
CELL 3 - AGREED STRUCTURE PLAN

COMMENT : Includes Amendments 1, 2 & 3



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POSSIBLE SUBDIVISION



Proposed Amendment No. 4
To East Wanneroo Cell 3
Approved Structure Plan No 5

Lot 68 (No. 71), High Road, Wanneroo

TRANSPORT IMPACT ASSESSMENT

FINAL REPORT – V1

Prepared for: Jilyan & Gabriel Morrow

Prepared by: Move Consultants



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February 2016

DOCUMENT ISSUE AUTHORISATION

Issue	Rev	Date	Description	Checked	Approved
1	0	06/01/16	FINAL	HL	HL
2	1	10/02/16	REV	HL	HL

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TABLE OF CONTENTS

	PAGE
1. INTRODUCTION	1
2. EXISTING TRANSPORT NETWORK.....	3
2.1. ROAD NETWORK	3
2.2. EXISTING PUBLIC TRANSPORT NETWORK	5
2.3. EXISTING PEDESTRIAN AND CYCLING NETWORK.....	6
3. PROPOSED MODIFICATION TO APPROVED STRUCTURE PLAN NO. 5.....	7
4. TRANSPORT IMPACT ASSESSMENT	8
4.1. TRIP GENERATION	8
4.2. TRIP DISTRIBUTION AND ASSIGNMENT	9
4.3. CRASH HISTORY	9
5. INTERNAL ROAD NETWORK	10
5.1. INTERSECTION AND LANE TREATMENTS	10
5.2. PEDESTRIAN AND CYCLING TREATMENTS	10
5.3. PUBLIC TRANSPORT FACILITIES.....	10
6. REVIEW OF INTERNAL ROAD RESERVATIONS, SERVICE AND DELIVERY ARRANGEMENTS AND CAR PARKING	10
7. CONCLUSIONS	11
APPENDIX A – APPROVED LOCAL STRUCTURE PLAN, PROPOSED AMENDMENT AND INDICATIVE SUBDIVISION LAYOUT	12

1. INTRODUCTION

Move Consultants has been commissioned to prepare a Transport Impact Assessment for the proposed amendment to the endorsed East Wanneroo Cell 3 Agreed Structure Plan No. 5 (ASP 5) located on the lands at Lot 68 (No. 71), High Road, Wanneroo, in the City of Wanneroo.

The proposed amendment consists of an increase in the residential density on the subject lands from R20 to R40 and a modification to the internal road layout resulting in a potential change in yield from approximately 40 dwelling units to a maximum of 64 dwelling units. The revised yield is intended to result in the provision of approximately 34 green title lots, 6 duplex lots and 2 grouped housing sites.

The subject lands are located on the north side of High Road, approximately 1.5km due south-east of the Wanneroo City Centre and approximately 1.3 km due east of Wanneroo Road. High Road forms the southern boundary of the lands with the eastern boundary formed by existing residential uses and Amos Road forming the western and north-eastern boundary of the lands. The subject site is located within an existing established residential area.

The lands form part of the approved East Wanneroo Cell 3 Approved Structure Plan No. 5.

Approved access points to the primary boundary road system within ASP 5 included access points to the north side of High Road and a connection through to the west side of Balcomore Gardens, respectively. The proposed modification to ASP No. 5 also includes a modification to the internal road network which would result in the elimination of the access point to Balcomore Gardens and replacement of this access point with a new access point to the south side of Amos Road.

The internal road network is therefore proposed to consist of a single broadly north-south road connection providing permeability between High Road and Amos Road with the green title or single family residential and duplex lots fronting onto Amos Road, High Road and the new internal north-south local road with the grouped housing sites fronting onto the internal north-south road. The revision to ASP No. 5 in the context of the revised road network is intended to maximise an efficient orthogonally arranged internal access road providing direct access to the boundary road network for all elements within the proposed development. This proposed internal road network has been designed in a permeable grid fashion to allow for maximal efficient distribution of site-generated traffic.

This assessment has been prepared in a format suitable for submission to the City of Wanneroo as well as the Department of Transport, the Public Transport Authority and the Western Australian Planning Commission. This assessment has been prepared in accordance with the WAPC Guidelines for *Transport Assessment – Volume 2: Structure Plans* and the City of Wanneroo *Town Planning Scheme No. 2* and other relevant district planning policies.

Figure 1 shows the local context of the site and Figure 2 shows the broader metropolitan context of the site.



Figure 1: Location of Subject Site – Local Context

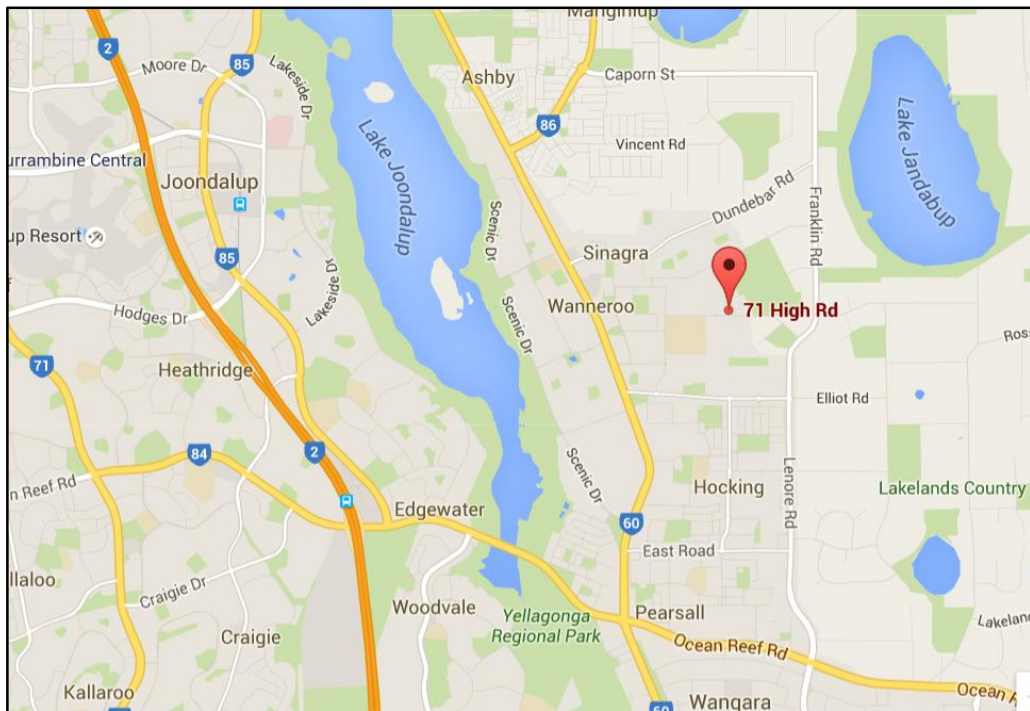


Figure 2: Location of Subject Site – Metropolitan Context

2. EXISTING TRANSPORT NETWORK

The subject lands are located between High Road and Amos Road and located approximately 1.5km due south-east of the Wanneroo City Centre. Access to the primary road network is afforded via High Road and Amos Road to the internal road network to the north and west to access Dundobar Road and Wanneroo Road and Franklin Road and Elliott Road to the east and south, respectively.

2.1. ROAD NETWORK

High Road and Amos Road are proposed to provide the primary road connections into the subject lands under the proposed ASP No. 5 amendment. Both roads have been classified as Access Roads under the Main Roads Western Australia Functional Road Hierarchy. High Road connects into Franklin Road to the east which subsequently provides direct access to Dundobar Road to the north and Elliott Road to the south. Wanneroo Road can be accessed via both Elliott Road and Dundobar Road. Amos Road connects through the local road network via Belgrade Road and Civic Drive to the north-west to connect into Dundobar Road. It should be noted that the existing function resulting from location and layout as well as function of High Road renders its operation more in the vein of a Local Distributor Road.

Dundobar Road, Franklin Road and Elliott Road have been classified as Local Distributor roads which are defined as roads which "...carry traffic within a cell and link District Distributors at the boundary to access roads. The route of the Local Distributor discourages through traffic so that the cell formed by the grid of District Distributors only carries

traffic belonging to or serving the area. These roads should accommodate buses but discourage trucks and is managed by Local Government.” Generally, these roads have been constructed as single divided carriageways within the broader City Centre precinct with the section of Dundebur Road immediately east of Wanneroo Road constructed as a dual divided carriageway transitioning to a single divided carriageway. Typically, local intersections along these roads are controlled by single circulating roundabouts. The speed limit on these roads is 50kph with the exception of Dundebur Road east of the City Centre transitioning to a speed limit of 60kph. Dundebur Road also has on-road cycle lanes on both sides of the road with a shared path in place on both sides adjacent to the City Centre as well as further east in the vicinity of Franklin Road. Table 1 shows indicative traffic volumes for the boundary roads.

Table 1: Existing Traffic Volumes (Indicative)

Road	Daily Volume (vpd)	Source (Date)	Practical Capacity (vpd)
High Road	1,200 vpd (estimated)	N/A	3,000 vpd (as Access Road) to 5,000 vpd (as Local Distributor Road)
Amos Road	1,100 vpd (estimated)	N/A	3,000 vpd

Figure 3 shows the local road network abutting the subject site in the context of the Main Roads Western Australia Functional Road Hierarchy.



Existing public transport services to the general area are generally limited to line haul bus services along Wanneroo Road and within the local road network to the west and north of the site on Belgrade Road, Scott Street and Dundobar Road, respectively. Bus stops are in place on both sides of Scott Street to the west of the site and further west on High Road as well as on both sides of Belgrade Road to the north. Transperth Routes 389 (Perth-Nollamara via Wanneroo Road) and 467 (Whitfords Station-Joondalup via Pearsall, Hocking and Ashby) provide collectively 5 to 10-minute service during the weekday roadway peak periods and 15 to 30-minute service during the midday, evening

and weekend periods. This bus service provides direct service into the high frequency Northern Suburbs Railway Line at Joondalup and Whitfords Stations.

Figure 4 illustrates the existing public transport network in the vicinity of the site.

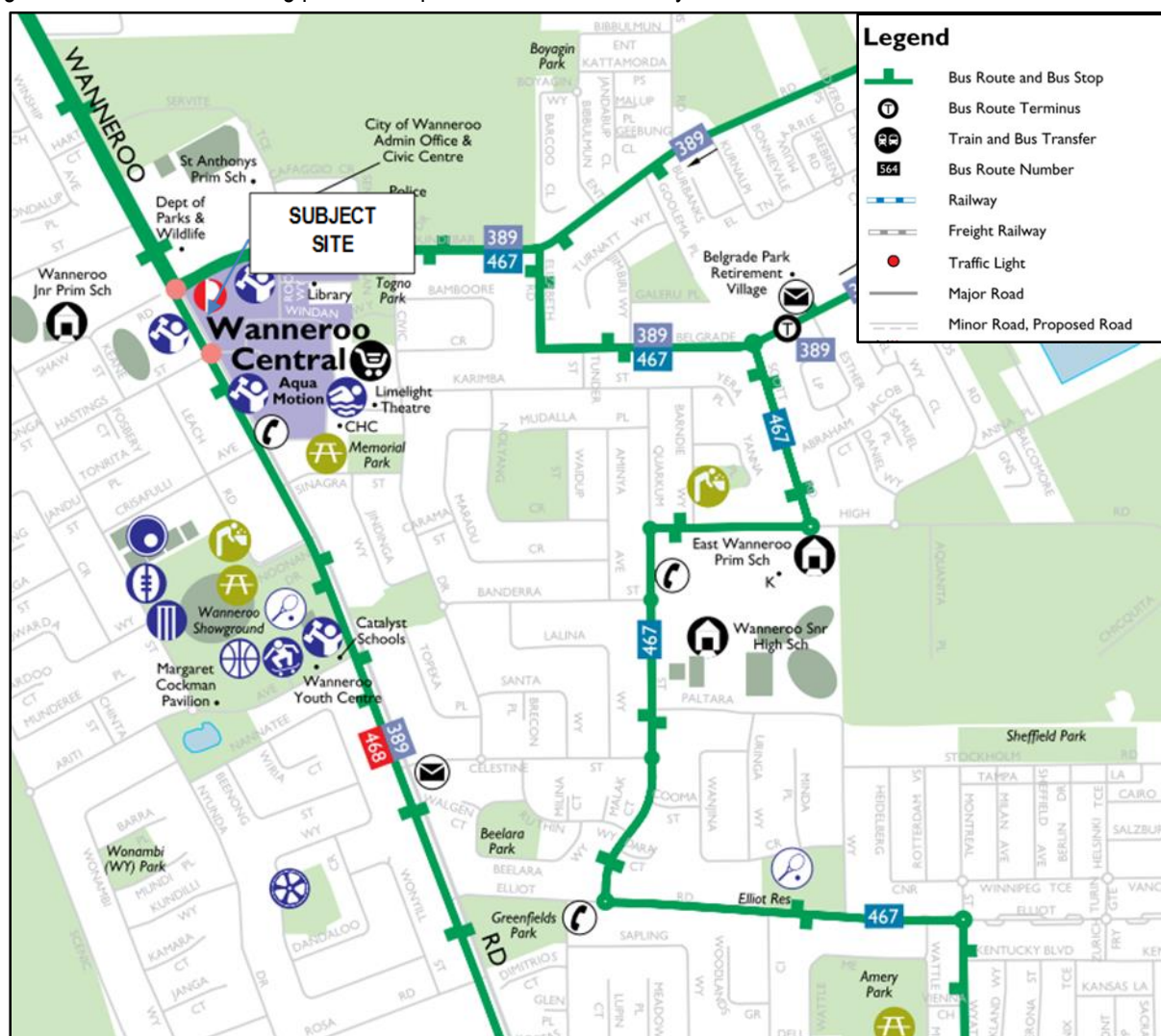


Figure 4: Existing Local Public Transport Network

2.3. EXISTING PEDESTRIAN AND CYCLING NETWORK

Figure 5 illustrates the existing local pedestrian and cycling network in the vicinity of the subject lands.

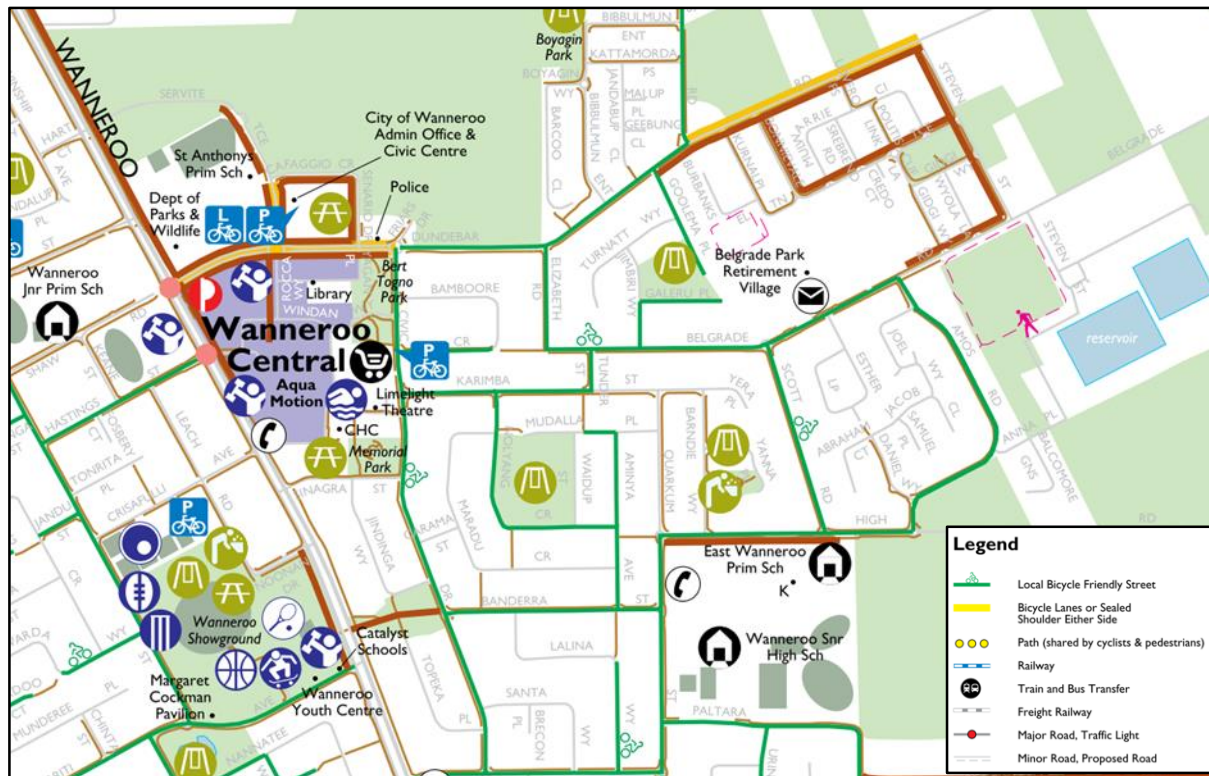


Figure 5: Existing Pedestrian and Cycling Network

3. PROPOSED MODIFICATION TO APPROVED STRUCTURE PLAN NO. 5

The proposed modification to the approved structure plan East Wanneroo Cell 3 Approved Structure Plan No. 5 consists of an increase in the residential density from R20 to R40 and includes the following indicative elements:

- 34 green title or single family residential blocks;
- 6 duplex lots; and
- 2 grouped housing sites.

This represents an indicative increase from approximately 40 residential dwelling units to in the order of 64 residential units. Modified access arrangements to the lands include the realignment of the internal access road through the removal of the approved access point to the west side of Balcomore Gardens and the replacement with this access with an access point to the south side of Amos Road resulting in a north-south road through the subject site.

This will result in an efficient permeable layout so as to allow for effective and safe ingress from and egress to the local road network for maximal efficient distribution of locally-generated traffic.

The existing ASP No. 5, proposed modified ASP No. 5 and indicative subdivision plan are attached in Appendix A.

4. TRANSPORT IMPACT ASSESSMENT

In order to assess the potential traffic impacts associated with the proposed uses detailed on the site plan on the boundary road network, a traffic generation and distribution exercise was undertaken. The aim of this exercise was to establish the anticipated traffic volumes which would be generated from the proposed development of the site in order to quantify the effect that the additional traffic has on the boundary road network, specifically on the operations of the nearby intersections.

4.1. TRIP GENERATION

Trip generation rates were applied using the *Institute of Transportation Engineers (ITE) Trip Generation Manual, 8th Edition*. The category chosen for the assessment was *Single Family Residential* (Category 210) and *Residential Condominium/Townhouse* (Category 230). The proposed directional distribution of trips was also derived from ITE rates.

The change in indicative daily and weekday peak period traffic volumes as a result of the proposed modification to ASP 5 is shown in Table 2.

Table 2: Comparison of ASP No. 5 R20 and Proposed ASP No. 5 R40 Traffic Generation

Development Proposal	Daily Traffic (vpd)	Weekday Peak Hour (vph)
Approved ASP 5 – 40 single family dwelling units	383 vpd	30 vph – A.M. Peak Hour 40 vph – P.M. Peak Hour
Proposed ASP 5 – 34 single family/green title lots + 6 duplex lots + 2 grouped housing site	499 vpd	40 vph – A.M. Peak Hour 50 vph – P.M. Peak Hour
Net Increase:	+116 vpd	+10 vph – Both A.M. and P.M. Peak Hour

Based upon the proposed changes to the approved structure plan uses, it can be concluded that the changes to residential density will have a negligible impact on existing traffic on the boundary road network both on a daily and weekday roadway peak hour basis.

4.2. TRIP DISTRIBUTION AND ASSIGNMENT

Based on the layout and connectivity of the surrounding road network, the spatial distribution of abutting land uses and existing travel patterns on the boundary road network, the following assumptions have been made for the distribution of the site-generated traffic:

- 40% of site-generated trips enter and exit the lands to and from the north via Amos Road; and
- 60% of site-generated trips enter and exit the lands to and from the local boundary road network to and from the High Road.

The following results illustrate the total anticipated daily traffic volumes on the boundary road network as a result of the modification to the ASP No. 5:

High Road:

- Daily: +70 vehicle trips
- A.M. Peak Hour: +6 vehicle trips
- P.M. Peak Hour: +6 vehicle trips

Amos Road:

- Daily: +200 vehicle trips
- A.M. Peak Hour: +16 vehicle trips
- P.M. Peak Hour: +20 vehicle trips

Additional traffic associated with the proposed modification to the ASP No. 5 on other roads such as Elliot Road, Franklin Road, Dundobar Road and Wanneroo Road would also be negligible and not impact traffic operations on these roads into the future. No road improvements required on the existing boundary road network. Details relating to the proposed road connections from High Road and Amos Road to the boundary road network will be addressed during the detailed design process. It is expected that these connections will be priority-controlled at these locations.

4.3. CRASH HISTORY

A review of the crash history on both High Road and Amos Road in the vicinity of the subject lands for the 5-year reporting periods 2010-2014 indicates a very low occurrence of crashes during this period with only 9 and 5 crashes, respectively with the vast majority of these crashes at local intersections. This would indicate that the increase in vehicle traffic and the proposed realignment of the internal road within the structure plan will not impact the existing risk profile of the adjacent road network.

5. INTERNAL ROAD NETWORK

5.1. INTERSECTION AND LANE TREATMENTS

The proposed intersections to the external boundary road network at both High Road and Amos Road will be basic priority-controlled T-intersections due to the relatively low traffic volumes with maximum expected road volumes on the internal north-south road in the order of 250 vpd with the balance accommodated on High Road and Amos Road.

The internal road is expected to be classified as an *Access Road C* with a road reservation in the order of 14 to 15m and a minimum 6 to 7m seal. Details relating to line marking, intersection control and local area traffic management measures will be addressed during the detailed development stages of the project.

5.2. PEDESTRIAN AND CYCLING TREATMENTS

A footpath will be implemented internal to the proposed north-south connection on one side of the road and will be addressed in detail during the future subdivision and/or development application processes. No internal dedicated cycling facilities will be required.

As part of the development of the modified ASP No. 5, pedestrian and cycling facilities will be implemented external to the site along the boundary road network frontages consistent with the existing infrastructure already in place.

5.3. PUBLIC TRANSPORT FACILITIES

No additional services associated with the proposed modification to the ASP No. 5 are required with the existing bus services in the vicinity of the subject lands Boulevard adequate to accommodate the expected demand associated with the change to the structure plan.

6. REVIEW OF INTERNAL ROAD RESERVATIONS, SERVICE AND DELIVERY ARRANGEMENTS AND CAR PARKING

The proposed north-south local road within the subject site area will typically consist of a minimum 6 to 7m seal which will accommodate both passenger vehicles and Council rubbish collection vehicles.

The central north-south spine road internal to the site has been designated as an *Access Road C* with an indicative road reservation ranging between 14 and 15m.

Details relating to on-site and on-street car parking will be addressed during the detailed design stages of the subdivision approvals process.

7. CONCLUSIONS

Move Consultants has been commissioned to prepare a Transport Impact Assessment for the proposed amendment to the endorsed East Wanneroo Cell 3 Agreed Structure Plan No. 5 (ASP 5) located on the lands at Lot 68 (No. 71), High Road, Wanneroo, in the City of Wanneroo.

The proposed amendment consists of an increase in the residential density on the subject lands from R20 to R40 and a modification to the internal road layout resulting in a potential change in yield from approximately 40 dwelling units to a maximum of 64 dwelling units. The revised yield is intended to result in the provision of approximately 34 green title lots, 6 duplex lots and a 2 grouped housing sites.

Based upon the proposed land uses, it has therefore been estimated that the proposed amendment to ASP No. 5 lands would generate in the order of 499 vpd on a typical weekday, with approximately 40 and 50 vehicle trips during both the a.m. and p.m. weekday peak hours, respectively. This represents an increase of 116 vpd on a daily basis and 1 0 vph during the respective weekday roadway peak hours in comparison to the approved structure plan.

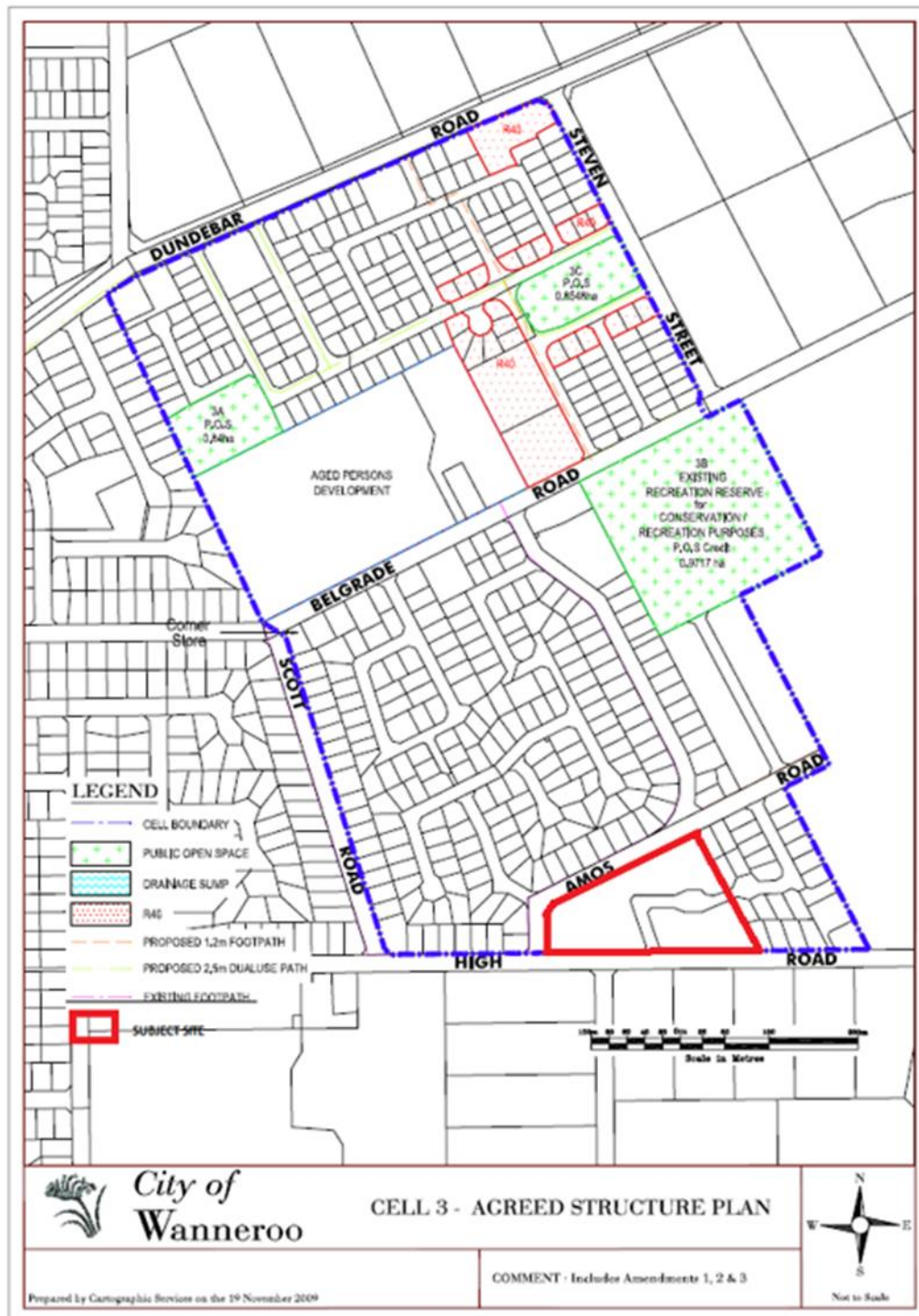
A review of the anticipated traffic impacts on the existing adjacent boundary road network indicates that there is sufficient practical capacity to accommodate these site-generated volumes. The proposed realignment of the internal local road to a north-south alignment between Amos Road and High Road has been designated as an *Access Road C* with an indicative road reservation ranging between 14 and 15m with a minimum seal width of 6 to 7m. Details relating to the design of the internal road network negotiated with Council at subdivision and/or development application stages of development.

Details relating to the waste management arrangements associated with the development will be addressed directly with Council. The proposed internal car parking supply both on- and off-street within the site will be consistent with relevant Council policies and R-code requirements.

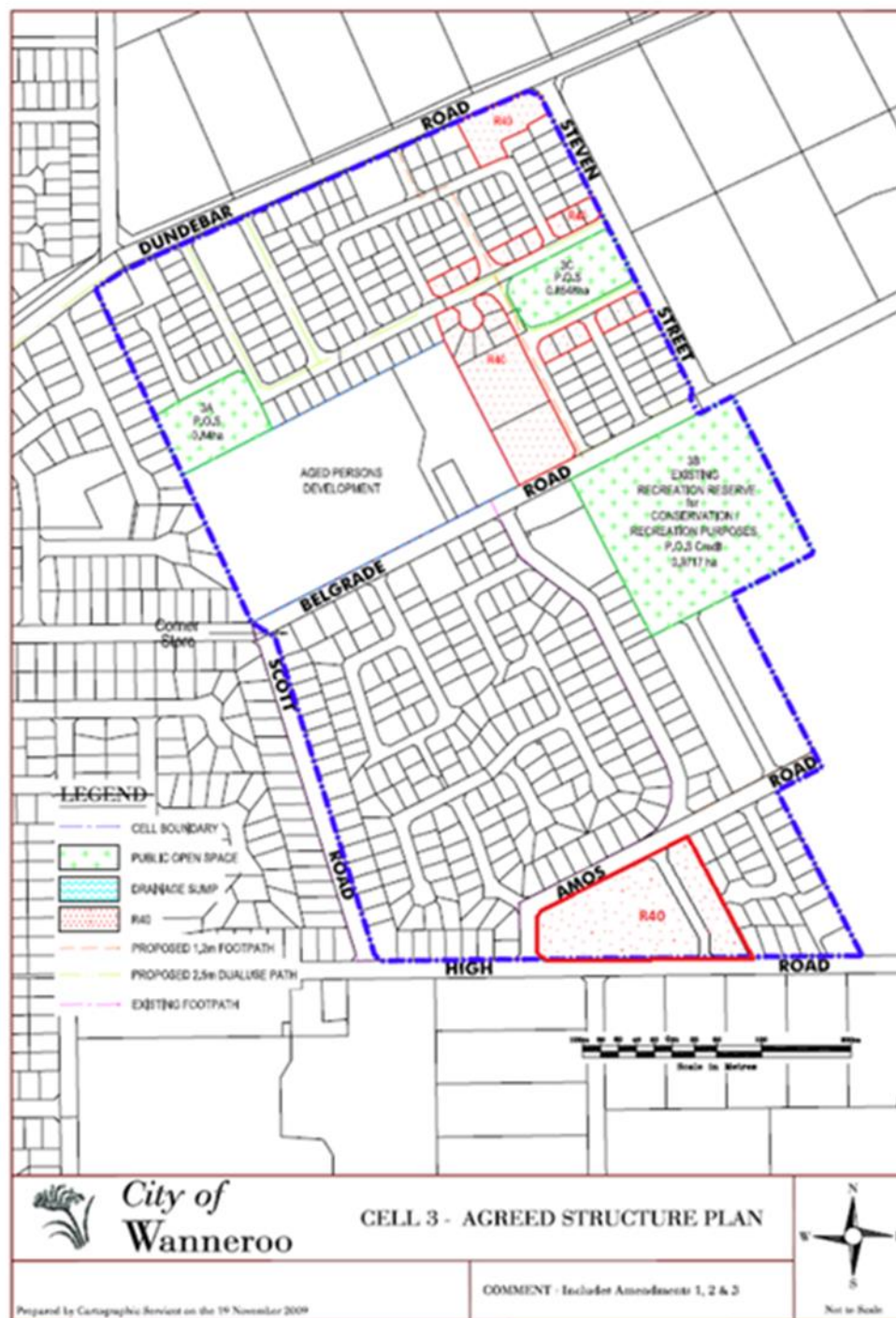
No additional dedicated internal public transport or pedestrian and cycling facilities will be required. The existing pedestrian and cycling facilities external to the site along the respective boundary road frontages will be upgraded to connect with the existing infrastructure currently in place.

In conclusion, it should be noted that based both on a review of the modelled total traffic assessment and observed traffic operations of the boundary road system, the anticipated site-generated traffic associated with the proposed modification to the East Wanneroo Cell 3 Approved Structure Plan No. 5 can be accommodated within the existing practical capacity and functional road classification of the local road system and that the design of the internal road network is safe, efficient and effective.

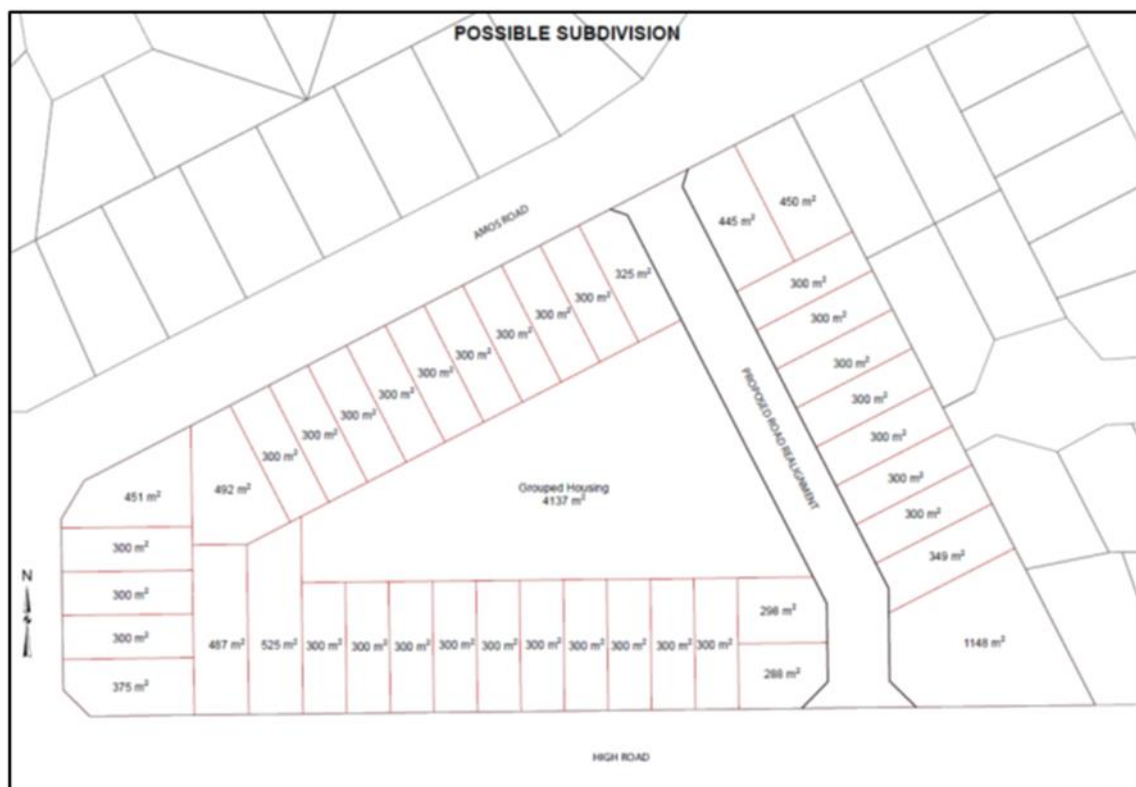
APPENDIX A – APPROVED LOCAL STRUCTURE PLAN, PROPOSED AMENDMENT AND INDICATIVE SUBDIVISION LAYOUT



APPROVED STRUCTURE PLAN NO. 5



PROPOSED AMENDMENT TO ASP NO. 5



LOT 68 HIGH ROAD WANNEROO
Engineering Infrastructure Report

TABEC Pty Ltd
June 2016

CLIENT: Jilyan and Gabriel Morrow

PROJECT: 2352 – Lot 68 High Road, Wanneroo

TITLE: LOT 68 HIGH ROAD WANNEROO ENGINEERING INFRASTRUCTURE REPORT

DOCUMENT REVIEW				
Revision	Date Issued	Written By	Reviewed By	Approved By
1	25/05/2016	IK	BS	BS
2	09/06/2016	IK	BS	BS
3	23/06/2016	IK	BS	BS

Note:

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TABLE OF CONTENTS

1	INTRODUCTION AND SUMMARY	4
1.1	Introduction.....	4
2	THE STUDY AREA	5
2.1	Landform / Topography.....	5
2.2	Ground Conditions.....	5
2.3	Groundwater	5
2.4	Acid Sulfate Soils (ASS)	5
3	SITWORKS	6
4	ROADS AND TRAFFIC.....	6
4.1	Existing Road Infrastructure.....	6
4.2	Proposed Roads and Upgrade Requirements	6
5	STORMWATER DRAINAGE	7
5.1	Existing Stormwater Drainage Infrastructure	7
5.2	Proposed Stormwater Drainage Infrastructure	7
6	WASTEWATER.....	8
6.1	Existing Wastewater Services	8
6.2	Proposed Wastewater Services.....	9
7	WATER SUPPLY	9
7.1	Existing Water Services	9
7.2	Proposed Water Services.....	10
8	POWER SUPPLY	10
8.1	Existing Power Infrastructure	10
8.2	Proposed Power Infrastructure Requirements.....	10
9	GAS.....	10
10	TELECOMMUNICATIONS.....	11
10.1	Existing Telecommunication Assets	11
10.2	Proposed Telecommunication Requirements	11

APPENDICES

<i>APPENDIX 1 DEVELOPMENT CONCEPT PLAN.....</i>	<i>12</i>
<i>APPENDIX 2 APPROVED ASP5 AND PROPOSED AMENDMENT NO.4.....</i>	<i>14</i>

1 INTRODUCTION AND SUMMARY

1.1 Introduction

TABEC Pty Ltd has prepared this report for Jilyan and Gabriel Morrow for inclusion within Amendment No. 4 to the East Wanneroo Cell 3 Agreed Structure Plan No. 5 (Amendment No. 4 to ASP 5).

The proposed amendment to ASP 5 includes an increase in the residential density on Lot 68 from R20 to R40. This change results in an increase from 40 dwellings to a maximum of 64 dwellings comprising up to 34 green title lots, 6 duplex lots and 2 grouped housing sites. This report provides civil engineering advice on the existing infrastructure surrounding Lot 68 High Road to confirm the suitability of the infrastructure should the property be rezoned from R20 to R40.

This report has been based on the civil engineering aspects of urban residential and related land uses. In particular we have considered earthworks, roads, drainage, wastewater and utility services to support urban development.

The investigation and preparation of the report are mainly based on preliminary advice from the various service authorities the information is current as of May 2016 and is subject to change as the development proceeds around the proposed development site.

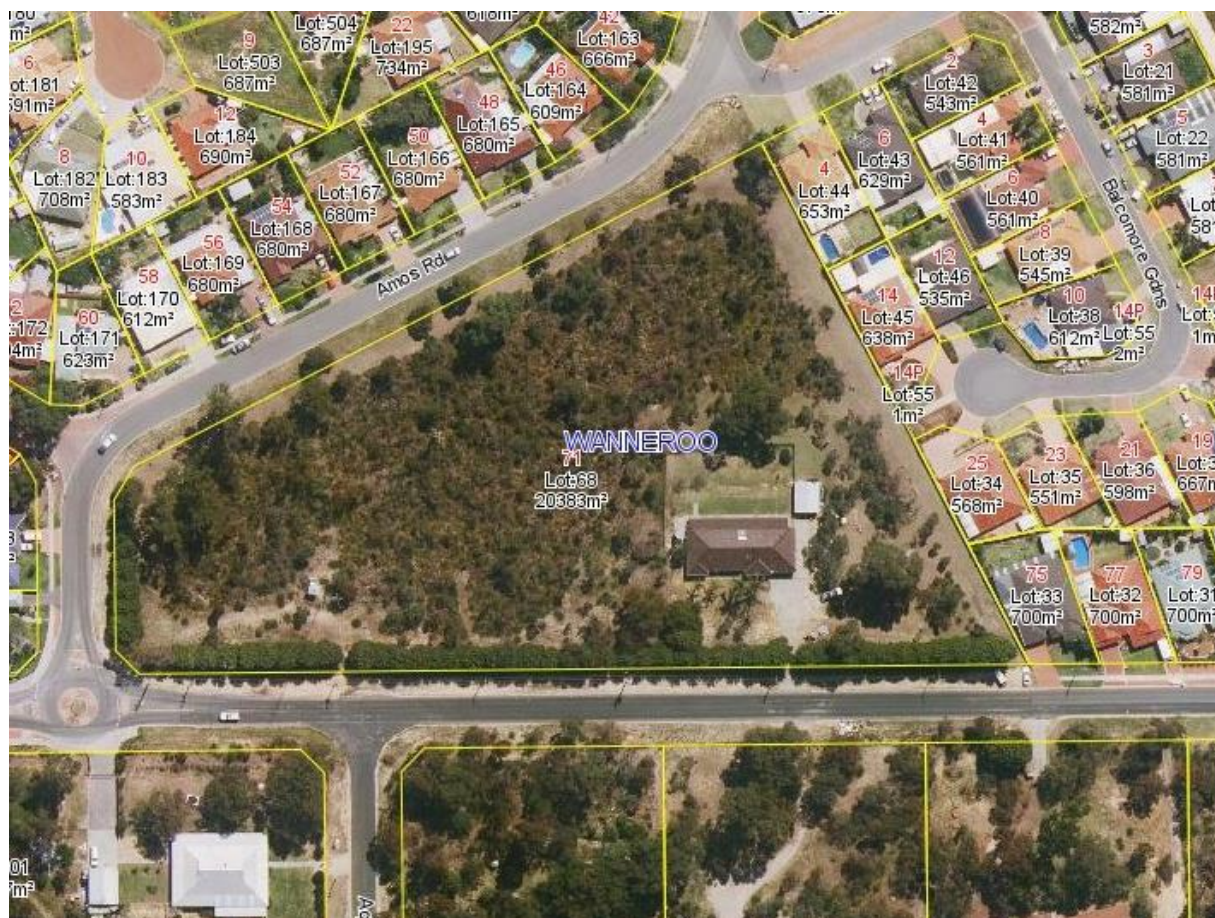


Figure 1 – Subject Area Aerial

2 THE STUDY AREA

The proposed development site is approximately 2.3Ha and is bounded by Amos Road to the north and west, High Road to the south and existing dwellings to the east.

The Preliminary Development Concept plan within the draft Amendment No. 4 to ASP 5 indicates a total maximum yield of approximately 64 dwellings comprising of 34 green title lots, 6 duplex lots and 2 grouped housing sites.

The proposed development yield and elements will be subject to further refinement and modification at the subdivision design stage. A copy of the Concept Plan is included in Appendix 1.

2.1 Landform / Topography

The Lot 68 High Road development area has medium to dense native vegetation consisting of large and medium trees as well as low-lying shrubs. The site is currently a single green title lot.

The topography is sloping with the surface levels ranging from approximately 95m AHD in the south east corner to around 90 AHD along Amos Road.

2.2 Ground Conditions

Existing geology mapping for the area indicates the site generally comprises of Bassendean Sand of variable thickness.

Due to the expected sandy nature of the site, earthworks would be undertaken such that foundations for residential development on the created lots within the proposed development should be able to be designed for the Australian Standard Classification "A", as set out in AS2870-2011.

A geotechnical investigation prior to subdivision will be required to confirm the "A" site classification and further define the site preparation requirements. In addition to this, should the investigation determine that a significant risk of karstic features exists beneath the site, City of Wanneroo may require a karst management plan be prepared and approved prior to the commencement of subdivisional work.

Although it is noted that the sites previous land use has only been rural/residential and contamination is unlikely, an environmental study may also be required by the City if any potential clearing or contamination issues arise within the development site.

2.3 Groundwater

A number of factors including regional groundwater levels, local geology, rainfall and urbanisation can influence groundwater levels.

Perth Groundwater Atlas 2004 indicates ground water levels between 38 and 39m AHD (May 2003 Levels). However historical maximum data indicates groundwater levels could reach 40.5m AHD, but still well below the existing surface levels of 90m AHD at lot 68 High Road.

2.4 Acid Sulfate Soils (ASS)

According to the acid sulfate soil risk maps provided in WAPC Bulletin Number 64, the site is classified as having a low to nil risk of acid or potentially acid sulfate soils less than 3m below ground surface.

3 SITEWORKS

Siteworks for urban development generally comprises the clearing of existing vegetation and the earthworking of existing ground surfaces to facilitate a required form of development.

While there is a growing appreciation of the importance to retain significant existing vegetation and topography to provide a sense of place within development areas and to meet sustainability objectives, the recent introduction for Bushfire Attack Level (BAL) assessments to determine the application of building restrictions and buffer zones to areas of vegetation, will require further consideration in the planning phase to ensure lots are fully developable and not unduly impacted on by existing adjacent vegetation and requisite buffers.

Prior to site works, significant vegetation can be identified for potential retention and typically vegetation within $\pm 150\text{mm}$ earthwork band and outside the service trenching requirements can be considered for retention.

Earthworking of the site, particularly lot areas and road reserves, will be required to ensure the positive drainage of the lots to the road reserves for disposal. Finished development levels within the development will need to account for the existing road levels of High Road, Amos Road and the existing dwellings on the eastern boundary of Lot 68.

It is anticipated that site works within the development area will be undertaken such that foundations for residential development on the created lots within the proposed development can be designed for the desired Australian Standard Classification, as set out in AS2870-2011.

4 ROADS AND TRAFFIC

4.1 Existing Road Infrastructure

Lot 68 High Road is bounded by Amos Road to the north and west, High Road to the south and existing dwellings to the east. The existing road infrastructure surrounding the site is sealed, however a portion of High Road is not kerbed.

4.2 Proposed Roads and Upgrade Requirements

One new road and the upgrading of existing roads will be required to provide an acceptable level of service for the fully developed Lot 68.

The internal north south road shown in Appendix 1 and 3, will be constructed when development occurs and will be funded by the developer. In addition to the construction of the internal road, City of Wanneroo will likely require that High Road is upgraded, kerbed and drainage infrastructure installed along the development frontage.

The engineering design of the streets will be based on City of Wanneroo subdivisional guidelines, Liveable Neighbourhoods recommendations and stormwater drainage requirements. Street cross-sections will be designed to consider utility services, street trees, parking and paths.

A foot path will be provided along the north south road in accordance with the 2016 Traffic Report completed by Move Consultants and City of Wanneroo subdivisional guidelines.

5 STORMWATER DRAINAGE

5.1 Existing Stormwater Drainage Infrastructure

The existing drainage infrastructure surrounding the development site consist of a pit and pipe network in Amos Road to the North of Lot 68. The existing drainage network flows north along Amos Road then turns west on Joel way before discharging into a sump south of Belgrade Road.

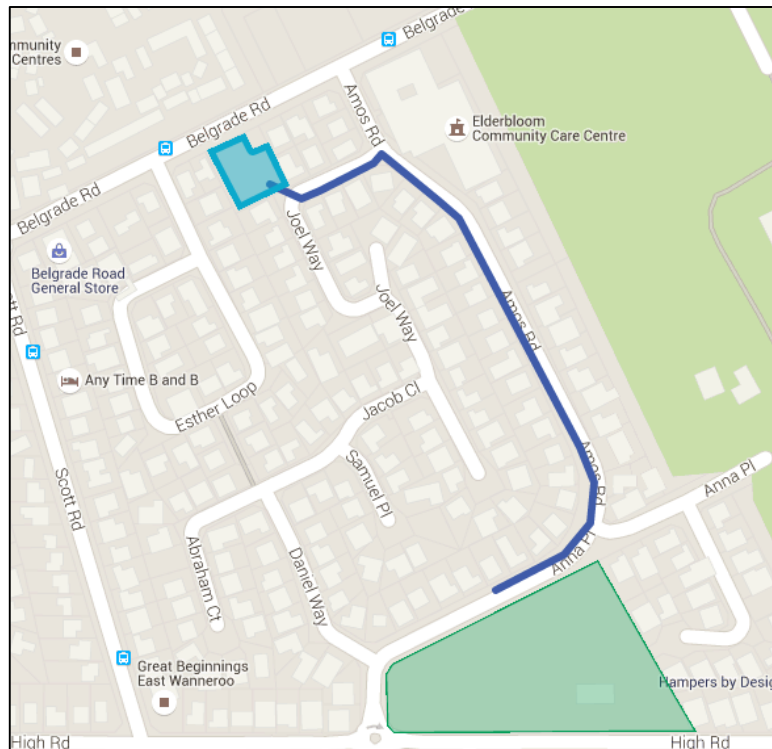


Figure 2 – Existing Drainage Infrastructure. Subject Site: Green, Existing Drainage Line: Dark Blue, Existing Drainage Sump: Light Blue.

5.2 Proposed Stormwater Drainage Infrastructure

City of Wanneroo (CoW) require private properties to manage small event rainfall runoff from constructed impervious surfaces within the lot. City of Wanneroo require soak well storage of 1cum per 60sqm of constructed impervious surface runoff area.

In addition to the above requirements the Grouped housing lots must also manage major rainfall event (1 in 100 year ARI) runoff on site.

With regards to stormwater runoff from road reserves, CoW typically requires that:

- The 1 year 1 hour ARI storm is detained and treated on site for water quality purposes; and
- A pit and pipe conveyance system and retention basin designed to cater for the critical 5 year ARI storm.

The current planning for this site does not have provision for a bio-retention basin to treat the 1 year 1 hour ARI storm. Therefore the city may allow direct connection to the existing drainage infrastructure in Amos Road, which ultimately discharges to the existing Belgrade Road sump.

Lot 68 Subdivision forms part of the Belgrade Road catchment area. Therefore provisions would have been made for runoff from Lot 68. We envisage that as a minimum predevelopment flow would have been considered in the sizing of the sump. As a minimum City of Wanneroo will require that the development maintain predevelopment runoff.

The proposed amendment will modify the internal road layout in ASP 5. While the modification of the internal layout allows for an increase in density from R20 to R40, the resulting increase in pavement area is minor. As a result only a minimal increase in stormwater road runoff is expected when compared to the ASP 5 layout.

In addition to the drainage system required within the internal road, the upgrade of High Road along the developments southern frontage will require that drainage pit and pipe is installed to the City's requirements. This will link with the Lot 68 developments internal drainage infrastructure

If connection to the existing drainage network is allowed as anticipated, a drainage line will need to cross Amos Road to connect to an existing pit. Details of the pit levels are unknown and a detailed review of the existing infrastructure will need to be completed to confirm the connection details and to prevent clashes with other existing services.

Further investigation as part of planning and design will need to be completed to confirm the acceptable strategy.

6 WASTEWATER

6.1 Existing Wastewater Services

Water Corporation has the following existing assets in the vicinity of lot 68 High Road.

- DN150 PVC gravity sewer main located in Amos Road to the east of the subject area.
- DN150 PVC gravity sewer in Balcomore Gardens to the east of the subject area.
- DN150 PVC gravity sewer on the corner of Daniel Way and Anna Place

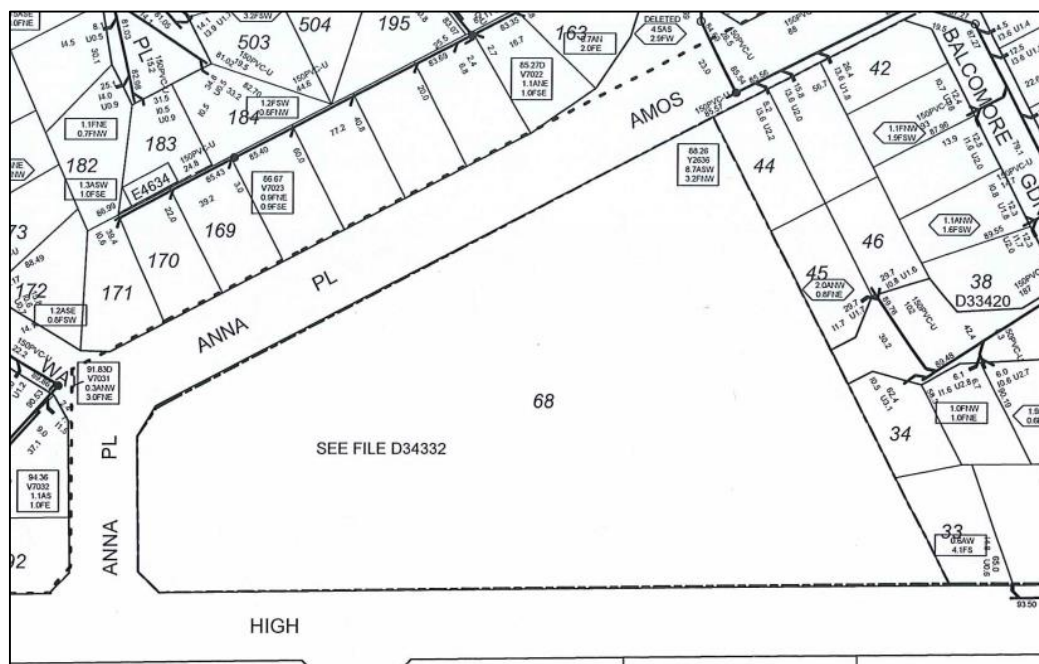


Figure 3 – Existing Wastewater Infrastructure

6.2 Proposed Wastewater Services

Water Corporation planning has been contacted with regards to this development however confirmation that there is capacity for the proposed R40 development has not yet been provided. Notwithstanding, given the extent of the existing system and the minor increase in flows, it is expected that the existing infrastructure has capacity for the proposed R40 development.

A conventional reticulated gravity sewer system will provide connections to individual lots throughout the development. To facilitate development of Lot 68 High Road Water Corporation Planning has advised that a gravity sewer will need to be constructed in existing verges of Amos and High Road as well as along the proposed North South Road. The Lot 68 High Road internal gravity sewer system will be connected to the existing access chamber Y2636 on Amos road to the east of the subdivision.

Water Corporation planning would be reviewed when the timing of the development progresses further.

7 WATER SUPPLY

7.1 Existing Water Services

Water Corporation has the following existing assets in the vicinity of Lot 68 High Road.

- 150AC in Amos Road
- 150AC in High Road

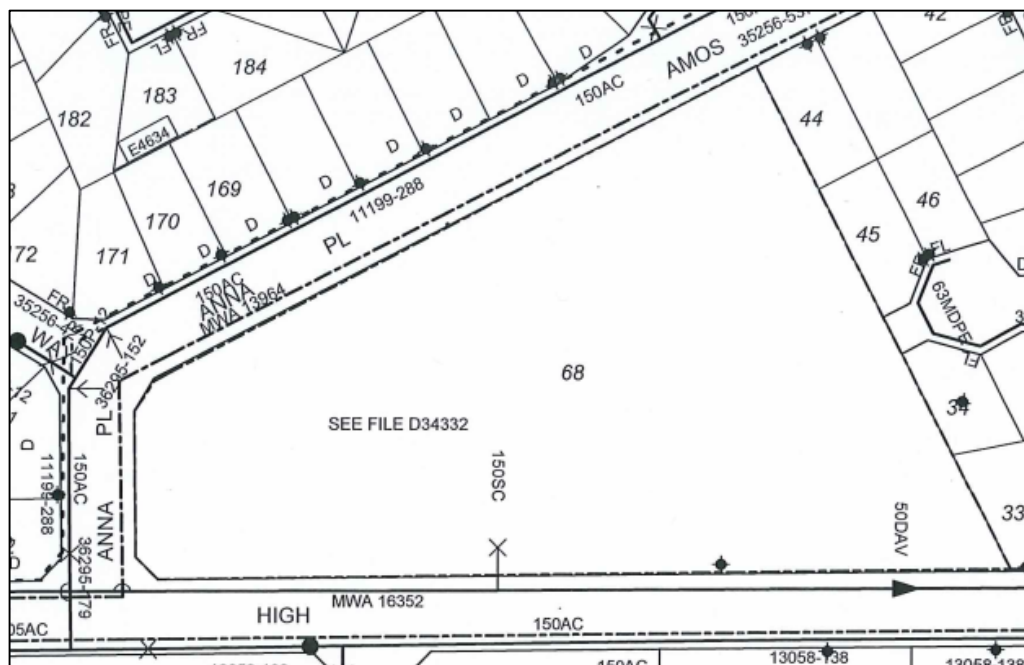


Figure 4 – Existing Water Reticulation Infrastructure

7.2 Proposed Water Services

To serve the development, the current Water Corporation planning requires the construction of a new 100mm diameter P-12 water reticulation main within the proposed north south road between Amos Road through to High Road.

Proposed lots along Amos Road and High Road can be serviced directly from the existing 150AC water mains within these roads. Water Corporation planning has advised that a deferred water service connection will apply at subdivision stage for these lots.

Standard Water Corporation headworks contributions shall apply to the development.

8 POWER SUPPLY

8.1 Existing Power Infrastructure

The existing Western Power (WP) distribution infrastructure in the vicinity of Lot 68 High Road comprises underground high voltage cable along Amos Road along the lot boundary with overhead high voltage power along High Road. Existing low voltage power runs overhead along the southern boundary of Lot 68 and on the western and northern verge of Amos Road.

8.2 Proposed Power Infrastructure Requirements

Installation of a transformer and connection to the existing high voltage cables will be required to serve the Lot 68 High Road development. An internal underground electrical distribution system will be provided in accordance with the requirements of Western Power to supply allotments within the development area. This will include both high and low voltage cables and the transformers and switchgear to be installed within the development.

According to the WAPC and Western Power Network Asset Policy, aerial power lines that abut a development may have to be undergrounded as part of the development. Current indications are that the aerial power line along High Road will require undergrounding as part of the development. Any existing consumers affected must have their consumer mains reconnected to the underground network.

Street lighting in accordance with Western Power and City of Wanneroo guidelines will also be required as part of the development.

To confirm requirements, a Western Power network study would be undertaken as part of the design process.

9 Gas

There is existing ATCO Gas Australia infrastructure surrounding Lot 68. There is an 80PVC MLP gas main in the eastern and northern verge of Amos Road as well as in the northern verge of High Road. Based on the number of proposed dwellings and the existing infrastructure surrounding the development site, it is expected that there is sufficient capacity to supply the development. ATCO has been contacted with regards to this development, however planning advice has not yet been provided.

There is no requirement to allow for any capital cost of the gas headworks extension. The provision of internal gas reticulation to the Lot 68 development area will be at no cost to the developer if common open trenching is supplied.

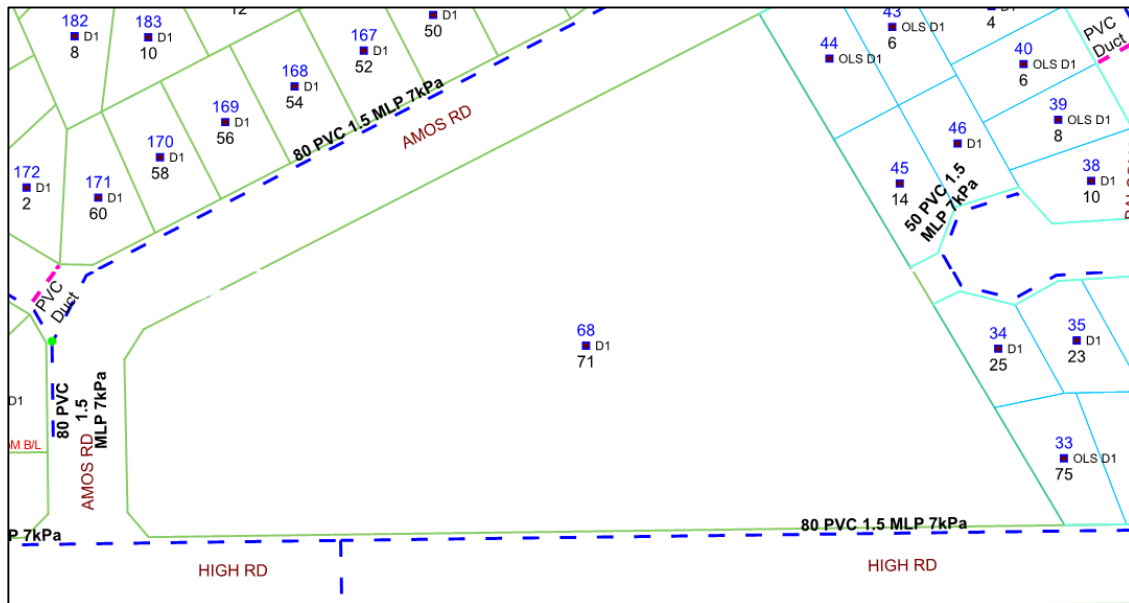


Figure 5 – Existing Gas Reticulation Infrastructure

10 TELECOMMUNICATIONS

10.1 Existing Telecommunication Assets

Existing Telstra copper infrastructure is currently located in High Road and in Amos Road to the north. Two existing Telstra connections to the lot are present on the southern and western boundary of Lot 68.

NBN Co is responsible for the installation of fibre in all broad acre developments of 100 or more premises within the long term optic fibre footprint. As Lot 68 High Road is expected to yield less than the 100 premises criteria, it will not automatically qualify for NBN. An application can still be made to service the lots with fibre, however as there is no existing NBN infrastructure within the surrounding areas, it is unlikely that an application for fibre would be approved.

10.2 Proposed Telecommunication Requirements

It is expected that the telecommunication network for Lot 68 would be an extension of the existing Telstra infrastructure in the surrounding area. A telecommunication pit and pipe network would be installed, including a service conduit to each lot to facilitate the connection to each premises.

Developers are required to make an application for reticulation (AFR) during the design phase. Telstra will assess the development and provide advice with regards to how the Lot 68 will be serviced with telecommunications.

APPENDIX 1 DEVELOPMENT CONCEPT PLAN

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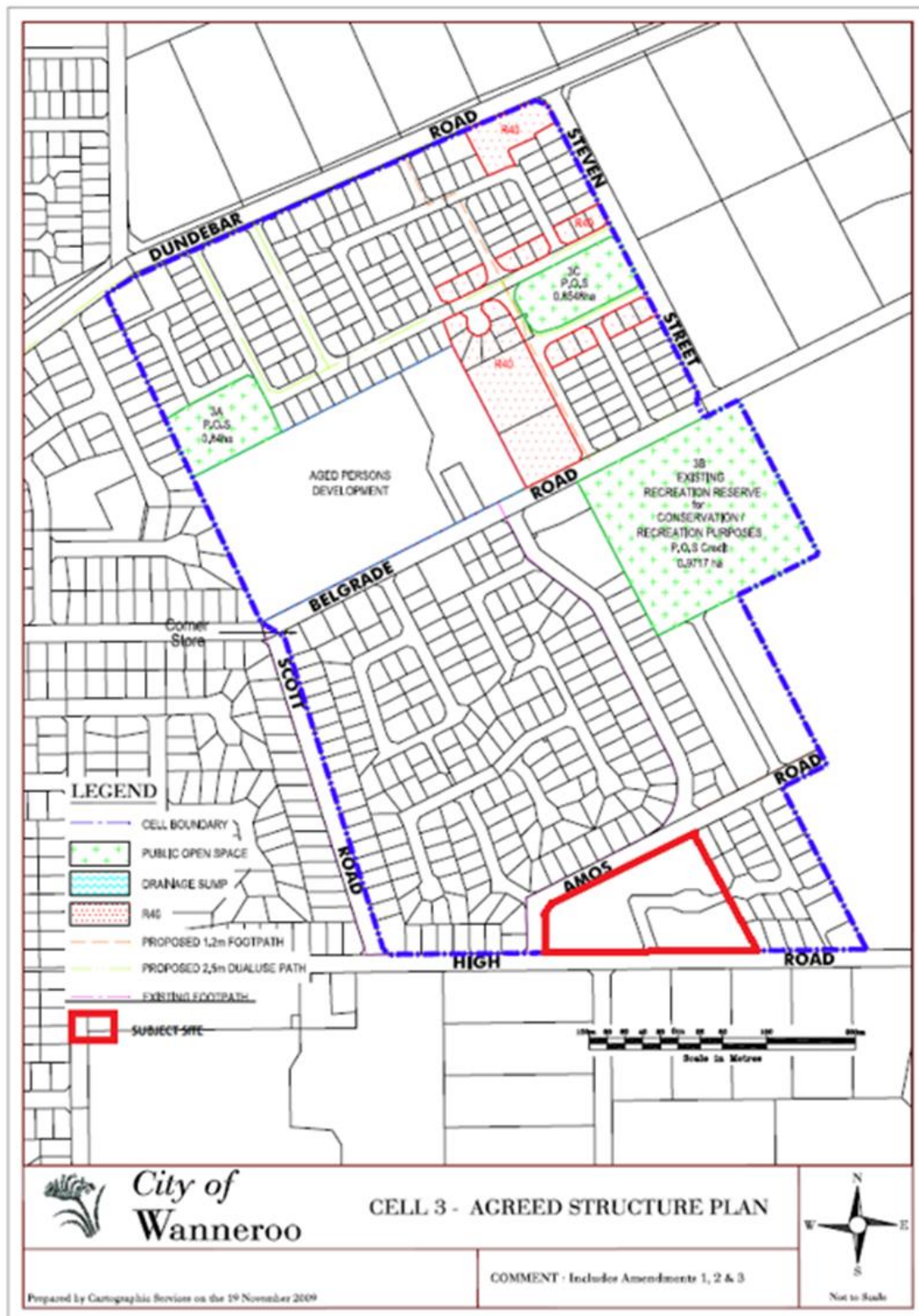
AMOS ROAD

PROPOSED ROAD REALIGNMENT

Grouped Housing
4137 m²

HIGH ROAD

APPENDIX 2 APPROVED LOCAL STRUCTURE PLAN 5



PROPOSED AMENDMENT TO ASP 5

