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## Open Space and Recreation Analysis

**Amendment to Precinct 7A  
(PP\_2017\_CCOAS\_010\_00)**

**Applicant:**



**Date:**

January 2018

# Document Control Sheet

Issue No.	Amendment	Date	Prepared By	Checked By
A	Draft to Client	18 <sup>th</sup> December 2017	SVD	SVD
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## 1.0 Introduction

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This Open Space and Recreation Analysis has been prepared by ADW Johnson on behalf of AVJennings Pty Ltd (“the Proponent”) to support a Planning Proposal to amend the Wyong Local Environmental Plan 2013 (LEP 2013) to enable increased low and general residential zoning across numerous allotments within Warnervale.

On 17<sup>th</sup> October 2017, the Department of Planning and Environment (DPE) issued a Gateway Determination supporting the progress to rezone land in Warnervale; with this land making up approximately half of the area known as Precinct 7A. As the rezoning will result in a reduction of RE1 Public Recreation Zoned land and an increase in local population, DPE have requested justification for the reduction of the RE1 zoned land, and discussion on the adequacy (i.e. area per person and location) of public open space to service the development and expected resident population.

The following report will address this issue in both a qualitative and quantitative sense by assessing the proposed quality of the future open space and by assessing the predicted population density and demographic.

## 2.0 Background

### 2.1 THE SITE

#### 2.1.1 Location

The site contains numerous allotments (“the site”) located on the western side of Virginia Road; less than 1km from the Warnervale Train Station. The site makes up a portion of what is known as the Hannan land which makes up approximately half of land within Precinct 7A, being an area which was rezoned in 2013 from predominantly rural land holdings to residential (see Figure 1).

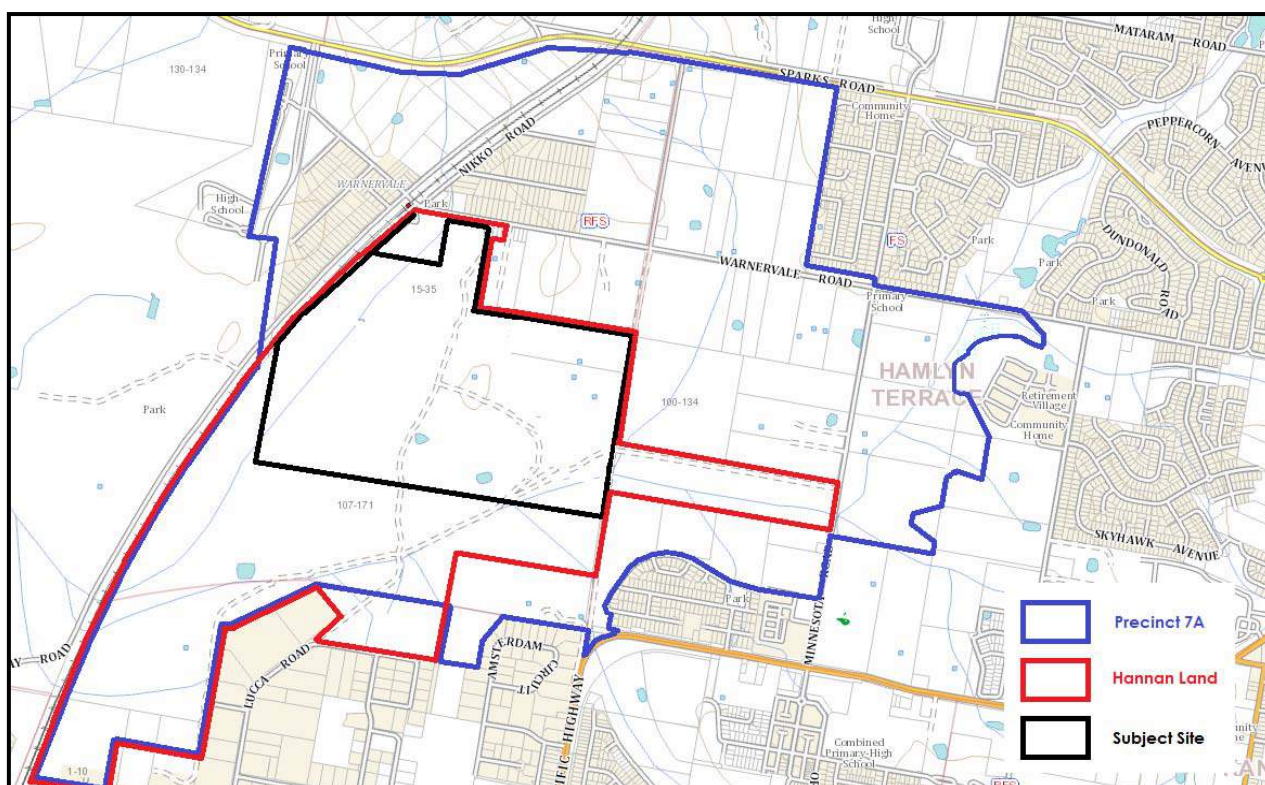


Figure 1: Locality Map Showing Site Context

#### 2.1.2 Current Zone

The site is currently zoned to include:

- 2.41ha of R1 General Residential land;
- 30.7ha of R2 Low Density Residential land; and
- 5.72ha of RE1 Public Recreation land.

Figure 2 provides a current zone plan.

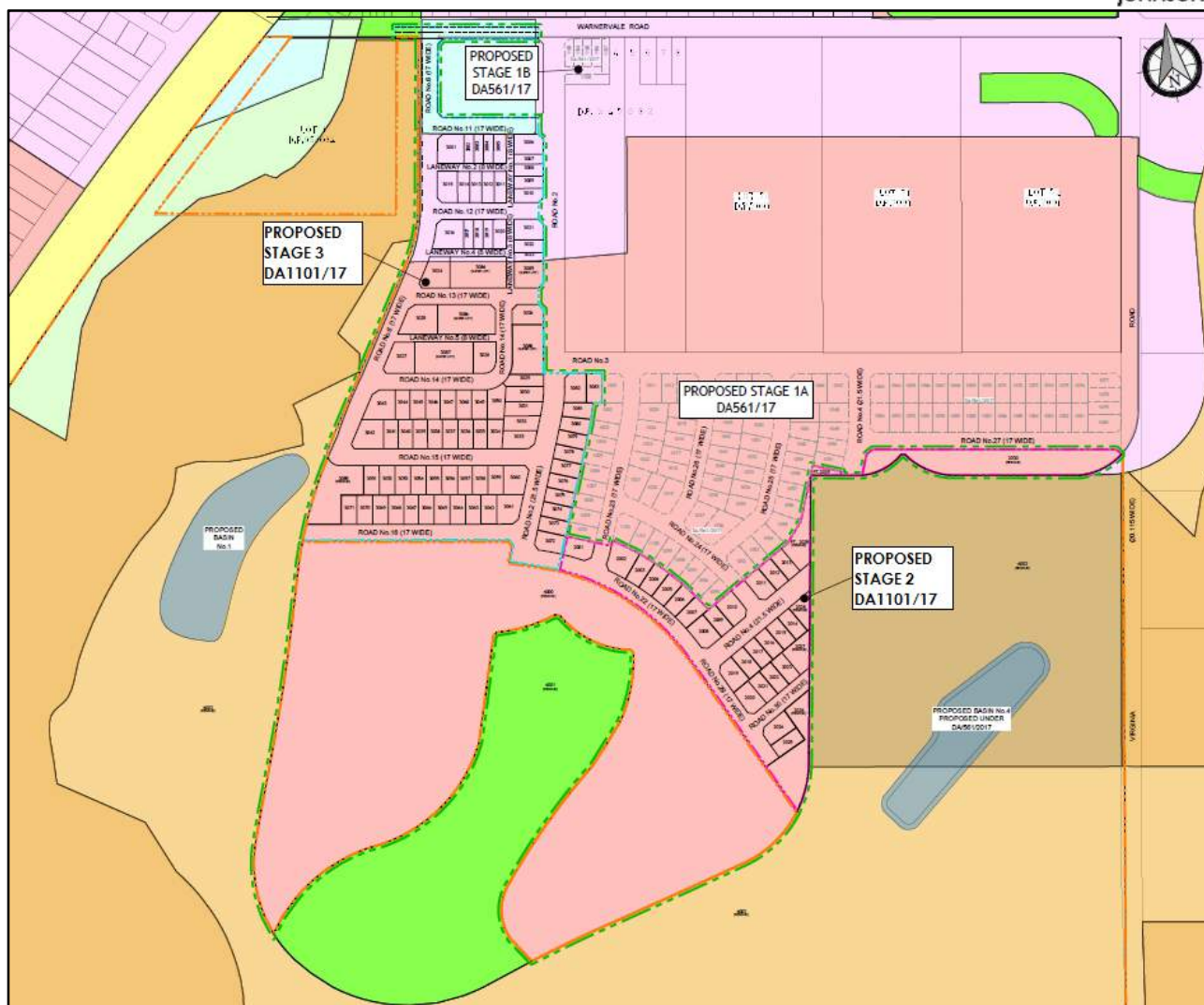
#### 2.1.3 Physical Description

The site is currently used for cattle grazing; however two (2) residential subdivision DA’s have been lodged with Council over land already appropriately zoned (see Figures 2 & 3).





Figure 2: Aerial Image



**Figure 3: Current Zone Plan showing Proposed DAs Lodged with Council**

### 2.1.4 Topography & Flooding

The land is generally located across a spur which juts out to the low lying flood affected lands beyond. The higher portions of this spur are generally contained within the current RE1 zone. The gradients across the site presents a significant opportunity to gain panoramic views of the future wetlands to the south from many points within the subdivision, particularly within the RE1 zoned land.

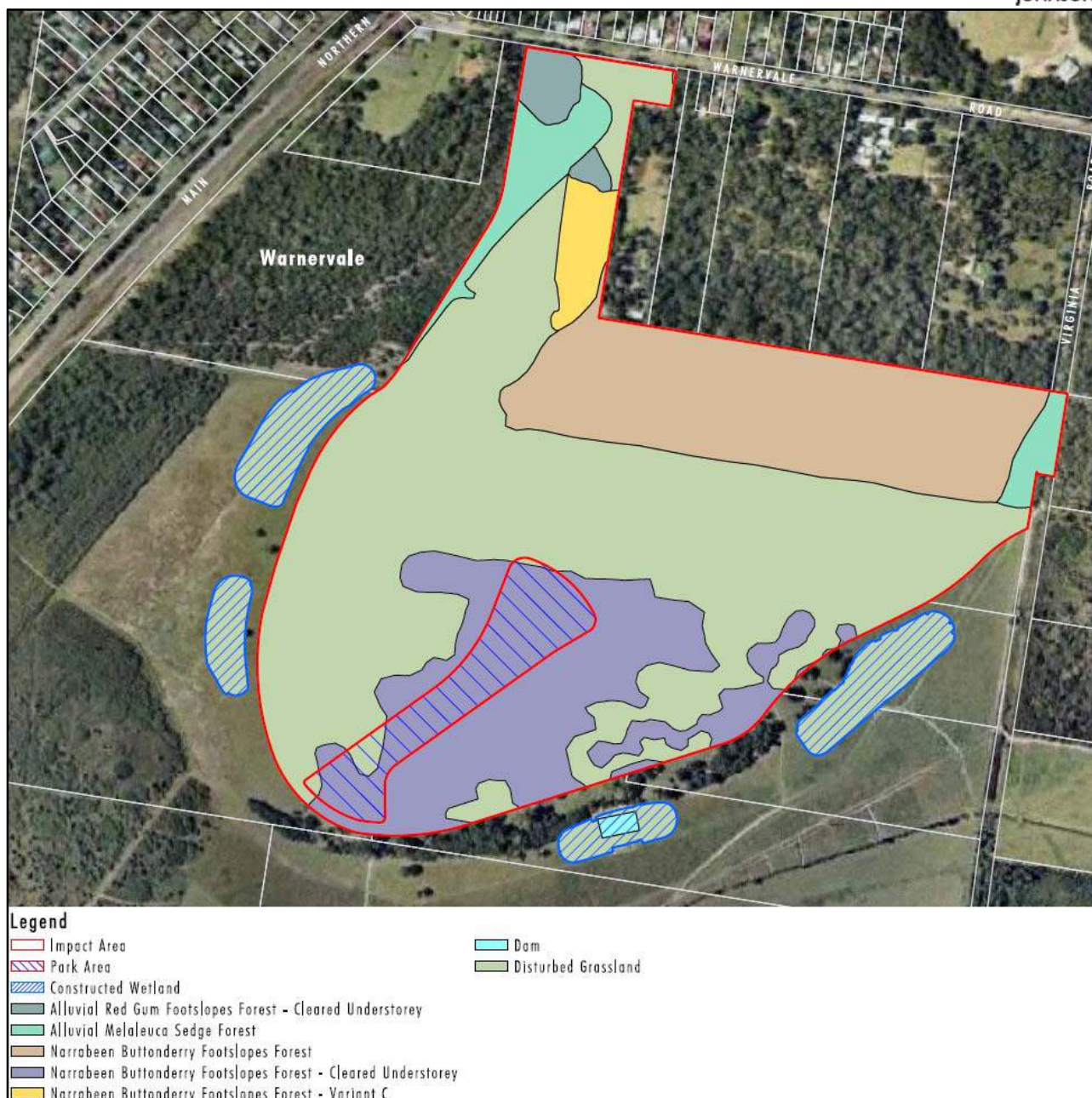
### 2.1.5 Vegetation

The site has been identified as containing four (4) vegetation communities; two (2) being Endangered Ecological Communities (EECs):

- Alluvial Red Gum Footslopes Forest (EEC);
- Alluvial Melaleuca Sedge Forest (EEC);
- Narrabeen Buttonderry Footslopes Forest; and
- Disturbed Grassland.

The majority of the site is occupied disturbed grasslands (see Figure 4).





**Figure 4: Vegetation Community Map**

### 2.1.6 Accessibility

The site has exceptional connections to the Northern Railway, the Pacific Highway and the M1 Motorway. There are also currently plans to improve this further via the construction of the Link Road which will connect Wyong to Warnervale through Woongarah.

The site is within walking distance to numerous bus routes providing connections to the commercial centres of Lake Haven, Wyong and Tuggerah. As part of the future development, these are likely to extend through the site.

Pedestrian pathways will be provided throughout the development, with shared pathways along the perimeter road and collector roads, as well as two (2) linking cycleways from the future park to the perimeter road.



## 2.1.7 Aboriginal Heritage

The site contains two (2) Aboriginal archaeological sites which were discovered as part of the previous Precinct 7A rezoning and current Aboriginal Heritage Cultural Assessment Report (ACHAR). These include one (1) isolated find within existing residential zoned land to the west of the RE1 zone (No. 26) and one (1) artefact scatter (WR AS1) which occurs across a portion of the existing RE1 zone and residential zone in the southern area (see Figure 5).

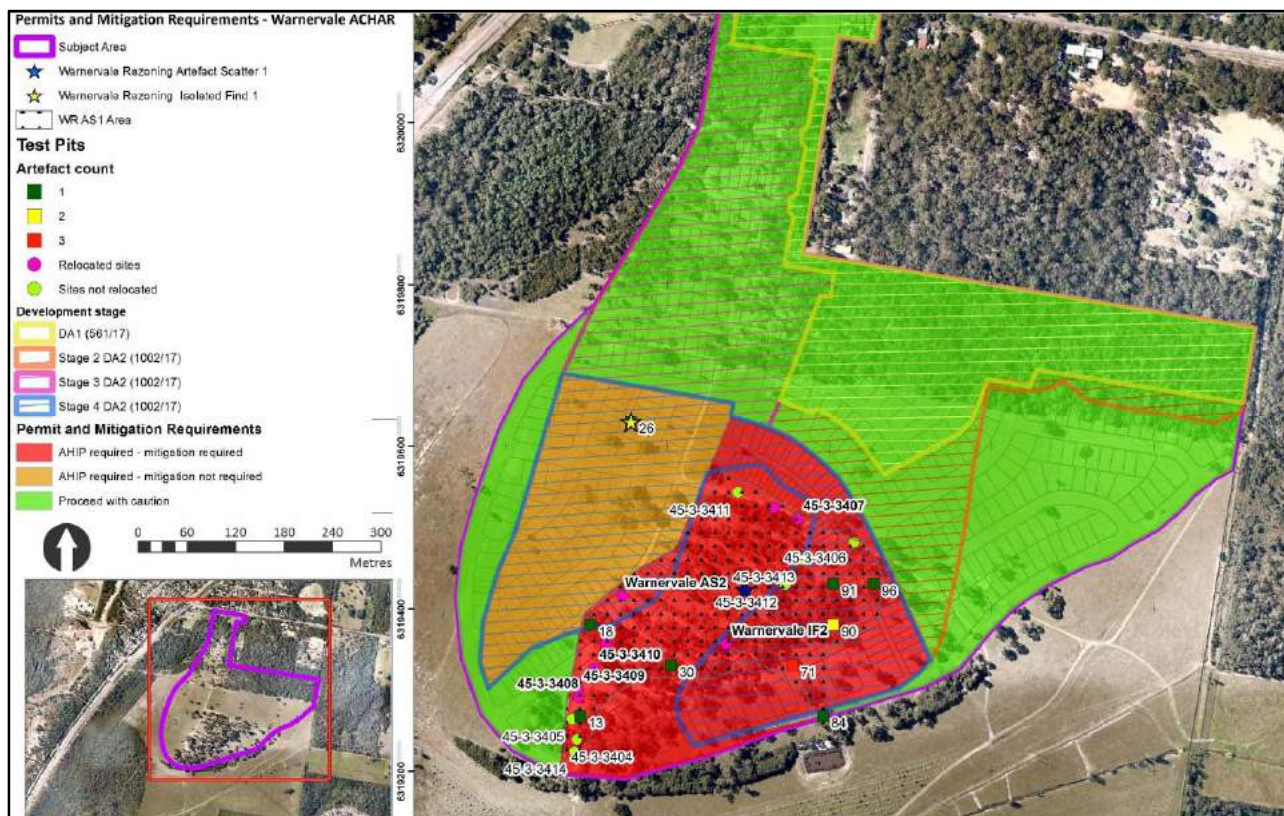


Figure 5: Aboriginal Sites Map (Source: Extent 2017)

The ACHAR undertaken by Extent Heritage Advisors in 2017 has advised that the future park located over the red areas shown in Figure 5 will require an Aboriginal Heritage Impact Permit (AHIP). In order to obtain an AHIP, an Aboriginal Cultural Heritage Management Plan (ACHMP) will be prepared in consultation with the Registered Aboriginal Parties (RAPs) which have been part of the consultation process for the ACHAR. Mitigation measures which may be included within the ACHAR could involve naming areas of the park; collection and reburial of artefacts within a protected area on site, and management of top soils. These measures would be finalised as part of the AHIP following approval of the future application for the embellishment of the park.

## 2.2 THE RE1 RECREATION ZONE

As mentioned above, the RE1 zoned portion of land equates to 5.72ha and under the Warnervale Contributions Plan (WCP) is identified as only containing a 5,000m<sup>2</sup> formal park, with the remaining space to be semi-natural. Development Control Plan (DCP) Chapter 6.5 – Warnervale South shows the formal park as being within the north-east corner of the RE1 zone and has identified it as providing formalised structures such as shelters and play equipment (see Figure 6).



**Figure 6: Chapter 6.5 - Park and Open Space Location**

In order to deliver the current RE1 zoned land, the WCP provides \$228,857 in embellishment costs and \$2,375,000 in acquisition costs (\$415,209 per ha).

## 2.3 DEMOGRAPHICS

As part of the Precinct 7A rezoning undertaken by Council, a predicted population was calculated to inform the required amount of open space required (see Table 1).

Zoning	Development Characteristics	Estimated Net Developable Area (ha)	Assumed Dwelling Density (DUs)	Total Projected DUs	Assumed Occupancy Rate	Assumed Population Increase
R1 Residential	Greenfield	19.29	24	463	2.76	1,276
R2 Residential	Greenfield	86.25	20	1,725	2.90	5,003
	Additional dwelling estimates on existing residential lots			42	2.90	123
		105.54		2,230		6,401

**Table 1: Land Budget, Dwelling Unit and Population Projections for Precinct 7A (Source: Council)**

Based on the above, Council predicted Precinct 7A to generate an additional 6,401 persons.

The composition for the future Precinct 7A population is likely to be similar to Woongarah, which is now an established low density suburb. The chart overleaf shows the Census 2016 data for Woongarah compared to New South Wales, where it can be seen that the highest proportion of Woongarah's population are aged 0 to 19 years old at 34% compared to the NSW average of 24.5%<sup>1</sup>. Precinct 7A is likely to emulate this trend which would not be unexpected given that both suburbs would offer affordable housing stock for first home buyers and young families.

<sup>1</sup> Given that only very few residential developments have been completed in Precinct 7A since 2013 it was considered more accurate to use Census data from a similar established residential area.

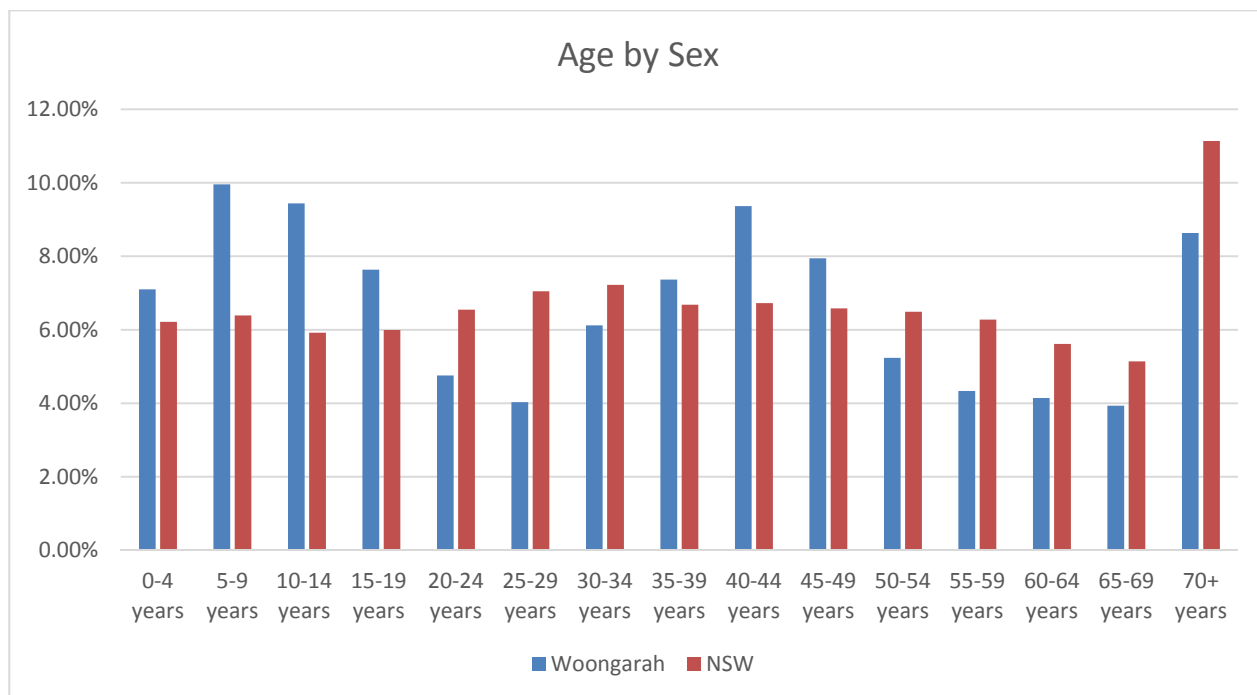


Chart 1: Woongarah Age by Sex (Source: Census 2016)

## 2.4 CURRENT OPEN SPACE AND RECREATION FACILITIES

Based on Precinct 7A’s predicted additional population of 6,401, Council planned for the following open space within the WCP:

OPEN SPACE PROVISION			Excluding Completely Passive					
Recreational Category	Area Type	Area Details	Provided	Planned	Total Area Type	Category Total	%	Provision by Category
Projected Population	6,401		ha	ha	ha	ha		area per 1000 people (ha)
<b>Completely Passive</b>	Semi Natural Areas	plus extensive drainage channel land & Environmental Corridors						
<b>Passive &amp; Informal Active</b>	<b>Small parks</b>	P7-OS3 to P7-OS7	0.00	2.28	<b>2.28</b>			
	<b>Large parks</b>	P7-OS1 & P7-OS2	0.00	5.72	<b>5.72</b>	9.09	55.6%	1.42
	<b>District Park</b>	Apportioned Hill Top Park		1.09	<b>1.09</b>			
<b>Formal Active</b>	<b>Local Playing Fields &amp; Courts</b>	Apportioned F1, F2, F3 & F4	5.64	0.00	<b>5.64</b>	7.25	44.4%	1.13
	<b>District fields<sup>1</sup></b>	Apportioned Area		1.61	<b>1.61</b>			
<b>TOTAL</b>			<b>5.64</b>	10.70	<b>16.33</b>	16.33	100%	<b>2.55</b>

Table 2: Planned Open Space Provision for Precinct 7A (Source: Council)

In summary, Precinct 7A currently allows for:

- 9.09ha of passive and informal active areas in the form of small, local and district parks; and
- 7.25ha of formal active spaces in the form of local and district playing fields and courts.



The above results in Precinct 7A providing 2.55ha of open space per 1,000 people, with this not including the extensive environmental zoned land or cycleways.



## 3.0 Proposed Master Plan

### 3.1 SUBDIVISION DESIGN

To inform the rezoning, AVJennings and a team of subdivision and urban designers created a master plan for the entire site. The master plan was driven by a number of forces, most notably the ecological, Aboriginal and bushfire constraints over the site; Council's engineering requirements for development; and the unique view opportunities available towards the flood plain. These factors were also balanced with the anticipated future market for smaller type medium density housing and high amenity living. Figure 7 is the latest iteration of the master plan where it can be seen that the smaller product has been concentrated around the future RE1 zone (see Figure 7).

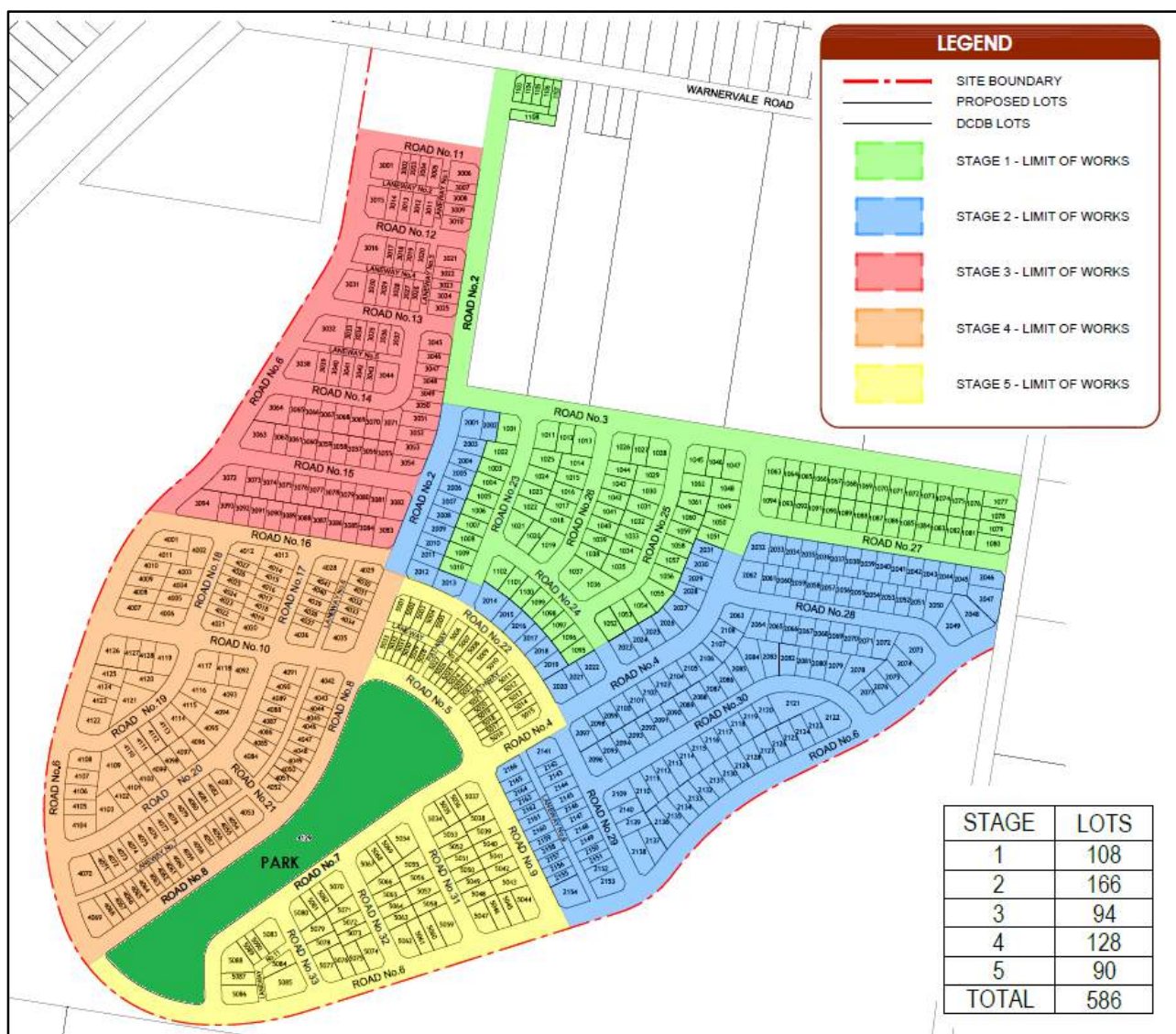


Figure 7: Proposed Master Plan

The overall result is the creation of 586 lots including a mix of housing styles.

### 3.2 PARK DESIGN

As part of designing the master plan, the positioning and treatment of future open space lands was an integral component and took into consideration the following objectives:

- Objective 1: Ensure all future residents are within 400m of open space;
- Objective 2: Protect existing Aboriginal sites where possible;
- Objective 3: Protect existing mature trees where possible;
- Objective 4: Reduce the number of parks for ease of maintenance whilst maintaining sufficient useable area;
- Objective 5: Locate open space near public transport;
- Objective 6: Link open space to environmental lands; and
- Objective 7: Embellish open space to a standard not seen within Central Coast Council.

Based on the above, one (1) central area of open space (RE1 zoned land) was proposed which achieved all seven (7) objectives but which reduced its size to 3.17ha (see Figure 8).

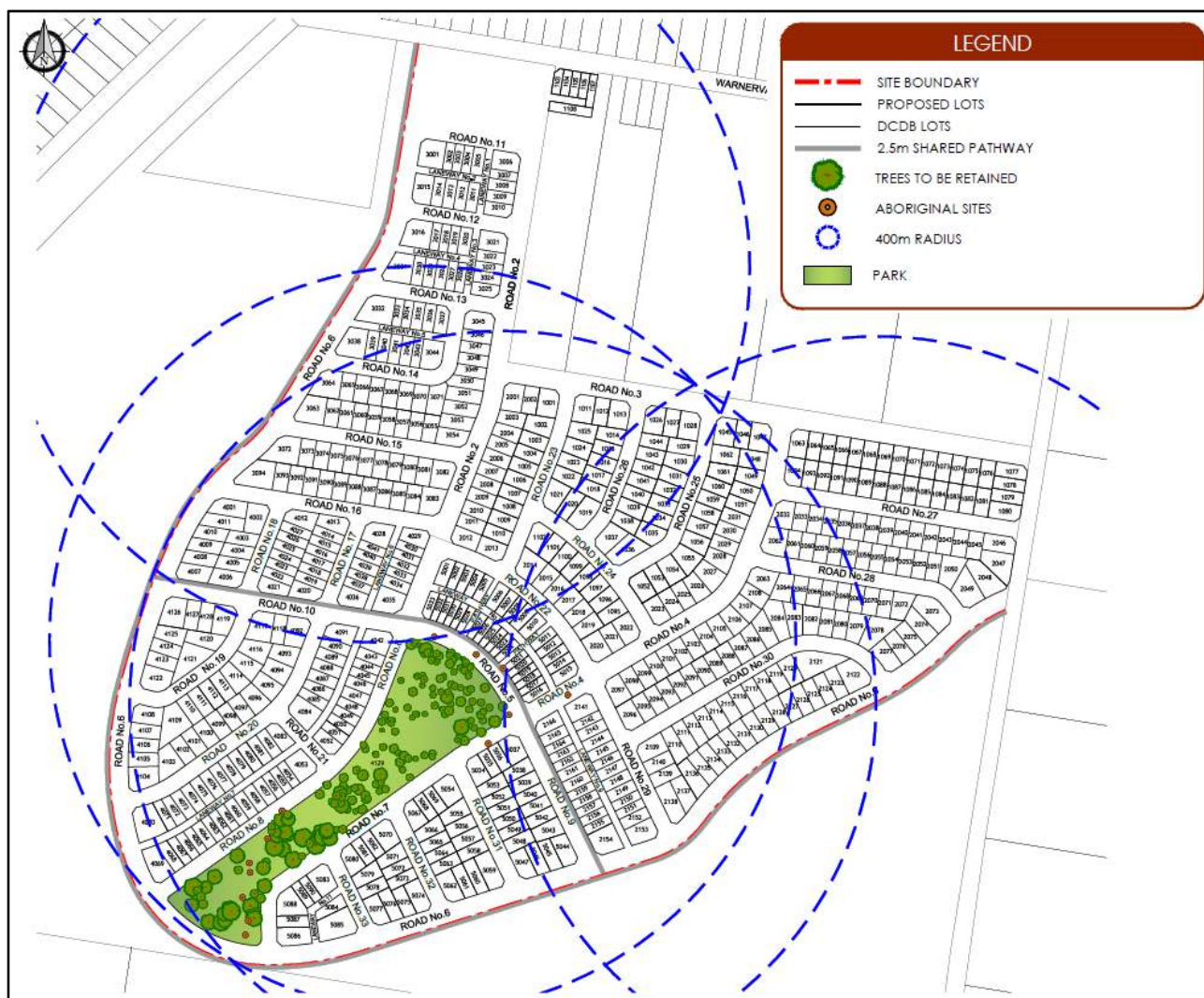


Figure 8: Proposed Open Space



## 4.0 Future Demand/Provision

### 4.1 CURRENT ASSUMPTIONS

Under the current zoning, Council has provided the following table to illustrate the estimated potential DUs generated by the Hannan land:

Zone	NDA	DUs per ha	Total DUs	Persons per DU	Pop.
R1	1.60	24	38	2.76	106
R2	21.43	20	429	2.90	1,243
	23.0		<b>467</b>		1,349

**Table 3: Current Assumptions (Source: Council)**

In summary, the Hannan land could currently accommodate 467 DUs.

### 4.2 COUNCIL ASSUMPTIONS BASED ON PROPOSED REZONING

As part of the information submitted to Council to inform the planning proposal, plans were submitted which illustrated lot typologies and indicative dwelling product. These plans were prepared to illustrate maximum yield potential (see Figures 9 & 10).



**Figure 9: Master Plan Lot Typologies**



**Figure 10: Master Plan Indicative Dwelling Product**

As can be seen from the figures above, the master plan has been designed to accommodate the following:

- Corner lots within the R2 Zone can accommodate dual-occupancy development; and
- Corner lots within the R1 Zone can accommodate multi-dwellings (three (3) dwellings) and manor homes (four (4) dwellings) on alternate corners.

Council has provided the following table illustrating the potential population of the Hannan land were every corner lot developed in accordance with Figure 10:

		Lot Size	No of Lots	NDA	No of Dwells	DU for Lot size	total Dus
R1	Type D	225	18	4,050	1	0.83	15
R1	???	300	77	23,100	1	1	77
R1	???	375	32	12,000	1	1	32
R1	???	400	38	15,200	1	1	38
R1	Type H	407	20	8,140	3	0.57	34
R1	Type K	602.5	22	13,255	4	0.57	50
R1	custom Lots (say 500m2)		6	3,000	0.83	2	10
R2		450	114	51,300	1	1	114
R2		456	48	21,888	1	1	48
R2		459	11	5,049	1	1	11
R2		480	104	49,920	1	1	104
R2		480	20	9,600	1	1	20
R2		486	7	3,402	1	1	7
R2	Corner Duplex Lots	557.5	30	16,725	2	0.83	50
R2	Corner Duplex Lots	563.5	26	14,651	2	0.83	43
			573	251,280			653

**Table 4: Schedule of Lots in AV Jennings Master Plan for Hannan Land (Source: Council)**

From this table, Council have assumed the proposed rezoning will result in 653 Development Units (DUs), or 186 DUs more than under the current zoning.

Council have calculated the likely additional population by multiplying the 186 additional DUs by an occupancy rate of 2.9 per DU to come to an additional population of 540 persons.

#### 4.3 LIKELY DEVELOPMENT SCENARIO

The above estimated population and DU figures are based on AVJennings developing every corner lot in accordance with Figure 10 and all land having an occupancy rate of 2.9 persons per DU as opposed to using an occupancy rate of 2.76 person per DU for R1 zoned land (as was the case with the Precinct 7A rezoning).

AVJennings have however, advised that the corners lots will be developed according to market demand. Dual-occupancy; multi-dwellings and manor homes are all relatively new to the Central Coast and were each corner developed in accordance with Figure 10, there may be significant housing stock which will not sell. With this in mind, AVJennings have advised that corner lot delivery will likely happen as follows:

- Stage 1 will include only one (1) of the super lots developed with dual-occupancy development on each corner – i.e. 4 x dual-occupancies;
- If the dual-occupancies sold in Stage 1, the same scenario would be proposed for Stages 2-4; along with a further super lot to include a multi-dwelling/manor home development on each corner – i.e. 4 x dual-occupancies plus 2 x multi-dwelling and 2 x manor homes;
- Stage 5 is likely to include 6 x dual-occupancies plus 1 x multi-dwelling and 1 x manor home.

If at any time, the market stopped purchasing these products, they would stop being constructed and the lots would be sold as standard dwelling lots.



Similarly, the corner lots not chosen for dual-occupancies, multi-dwellings or manor homes would also be sold as standard lots, however the internal lot layout may be slightly reconfigured to reduce their size.

Based on the above, the following table illustrates the maximum intended corner lot build out:

Stage	Dual Occupancies	Multi-dwellings	Manor Homes
1	4	0	0
2	4	2	2
3	4	2	2
4	4	2	2
5	6	1	1
<b>Total</b>	<b>22</b>	<b>7</b>	<b>7</b>

**Table 5: Likely Maximum Corner Lot Build Out**

In addition to the above, the master plan lot layout has been amended to remove some of laneways due to cost constraints and reconfigured lots to make a more efficient layout. This has resulted in 13 additional lots.

Based on the above, the following table illustrates a more likely development outcome<sup>2</sup>:

Zone	Type	Lot Size	No of Lots	No of Dwells	DU for Lot size	Total Dus	Occupancy rate	Population
R1	Lot	225	18	1	0.83	15	2.76	41
R1	Lot	300	77	1	0.83	64	2.76	176
R1	Lot	375	32	1	1	32	2.76	88
R1	Lot	400	38	1	1	38	2.76	105
R1	13 additional lots	Less than 500	13	1	1	13	2.90	38
R1	Multi-dwelling	407	7	3	0.57	12	2.76	33
R1	Lot	407	13	1	1	13	2.76	36
R1	Manor	602.5	7	4	0.57	16	2.76	44
R1	Lot	602.5	15	1	1	15	2.76	41
R1	Stage 1B (current DA)	custom Lots (less than 350m2)	6	1	0.83	5	2.76	14
R2	Lot	450	114	1	1	114	2.9	331
R2	Lot	456	48	1	1	48	2.9	139
R2	Lot	459	11	1	1	11	2.9	32
R2	Lot	480	104	1	1	104	2.9	302
R2	Lot	480	20	1	1	20	2.9	58
R2	Lot	486	7	1	1	7	2.9	20
R2	Corner Duplex Lots	557.5	11	2	0.83	18	2.9	53
R2	Lot	557.5	19	1	1	19	2.9	55
R2	Corner Duplex Lots	563.5	11	2	0.83	18	2.9	53
R2	Lot	563.5	15	1	0.83	12	2.9	36
<b>TOTAL</b>			<b>586</b>			<b>595</b>		<b>1695</b>

**Table 6: Anticipated DU and Population Schedule based on Latest Master Plan**

From this table, the proposed rezoning will result in 595 DUs, or 128 DUs more than under the current zoning. It will also result in a total population of 1,695 persons or 346 additional.

<sup>2</sup> Note: DU rate of 0.83 has been used for lots under 350m<sup>2</sup>; the custom lots have used their actual proposed size; and number of dwellings on custom lot is one (1) as opposed to two (2).

## 4.4 PROPOSED OPEN SPACE PROVIDED

Using the above DU and population data, the following table illustrates the proposed open space provided per 1,000 people for Precinct 7A including the additional population generated by the proposed rezoning:

OPEN SPACE PROVISION			Excluding Completely Passive					
Recreational Category	Area Type	Area Details	Provided	Planned	Total Area Type	Category Total	%	Provision by Category
Projected Population	6,747		ha	ha	ha	ha		area per 1000 people (ha)
Completely Passive	Semi Natural Areas	plus extensive drainage channel land & Environmental Corridors						
Passive & Informal Active	Small parks	P7-OS3 to P7-OS7	0.00	2.28	2.28			
	Large parks	P7-OS1 & P7-OS2	0.00	3.17	3.17	6.54	47.4%	0.97
	District Park	Apportioned Hill Top Park		1.09	1.09			
Formal Active	Local Playing Fields & Courts	Apportioned F1, F2, F3 & F4	5.64	0.00	5.64	7.25	52.6%	1.07
	District fields <sup>1</sup>	Apportioned Area		1.61	1.61			
<b>TOTAL</b>			<b>5.64</b>	<b>8.15</b>	<b>13.78</b>	<b>13.78</b>	<b>100%</b>	<b>2.04</b>

**Table 7: Proposed Open Space Provision for Precinct 7A**

From this table, the proposed rezoning will result in **2.04ha of open space per 1,000 persons**.

Council have provided the following table which illustrates the global open space standard provision rate applicable to the subject rezoning:

GLOBAL OPEN SPACE STANDARD				Components Applicable to Warnervale District (i.e.excluding Regional Open Space)		
Type of Open Space	Notional Proportion (%)	Notional Area Required per 1000 persons m <sup>2</sup>	Area per person m <sup>2</sup>	Area per person m <sup>2</sup>	Type of Open Space	Area per person m <sup>2</sup>
<b>Parks</b>	25.0%	6,250	6.25	6.25	<b>Parks</b>	10.00
<b>Large Parks</b>	15.0%	3,750	3.75	3.75		
<b>Fields</b>	45.0%	11,250	11.25	11.25	<b>Fields &amp; Courts</b>	12.50
<b>Courts</b>	5.0%	1,250	1.25	1.25		
<b>Regional facilities</b>	10.0%	2,500	2.50			
<b>TOTAL</b>	<b>100.0%</b>	<b>25,000</b>	<b>25.00</b>	<b>22.50</b>		<b>22.50</b>
Hectares per 1,000 persons				2.25		2.25

**Table 8: Open Space Standard Provision Rate (Source: Council)**

Based on the above, the proposed rezoning results in a **shortfall of open space of 0.21ha per 1,000 persons**.

## 4.5 PROPOSED OPEN SPACE DESIGN

As discussed above, an integral consideration in designing the master plan for the Hannan land was the treatment of the proposed RE1 zoned land. AVJennings intend to deliver to provide a park which far exceeds the standards generally seen within developer funded open space.

To this end, it is proposed to include the following features within the 3.17ha of RE1 zoned land:

- Multiple picnic areas with shade structure, tables and amenities;
- Playground equipment catering for all ages;
- A multipurpose amphitheatre to showcase open air cinema screenings at select times throughout the year;
- Free public Wi-Fi;
- Installation of artwork from local school design competitions;
- Tangible water features, unique street furniture and outdoor gym equipment to cater for all demographics within the community;
- Walking tracks throughout and linking to the perimeter road; and
- Retention of mature trees.

An example of the embellishment proposed can be seen in Figure 11.



**Figure 11: Indicative Park Embellishment**

A cost estimate of \$1,200,000 has been provided by Oculus (designers of the master plan) to embellish the park. This is a shortfall of almost \$1,000,000 compared to the embellishment credit within WCP.



## 5.0 Quality of Open Space

As discussed above, the proposed rezoning will result in a shortfall of 0.21ha of open space per 1,000 persons. The following section will justify this shortfall by proving that less, higher quality open space land is valued higher than more, lower quality open space land; i.e. the proposed rezoning will result in quality of open space over quantity. It will conclude by providing a quantifiable value of the proposed RE1 zoned land to come about an amended rate of open space per 1,000 persons.

### 5.1 STANDARD PARK EMBELLISHMENT

#### 5.1.1 Existing Parks in the Area

Open space throughout the Warnervale, Wadalba and Hamlyn Terrace area provided by developers is generally of a similar standard, including turfed ground, some play equipment and picnic chairs.

Photos of parks within the area are provided below:



**Photo 1: Owl Park (Wadalba)**





Photo 2: Willow Park (Hamlyn Terrace)



Photo 3: Highland Crescent Playground (Hamlyn Terrace)



As can be seen from the above parks, their design is similar including; two (2) to three (3) small pieces of play equipment, one (1) shelter, table and chairs and a level turfed area. All of these parks are approximately 5,000m<sup>2</sup> in size and contain no mature trees which provide shade over the play area or the majority of the turf despite some having been established for more than 10 years.

### 5.1.2 Useability

The main feature of all of the parks described above is the central play equipment area. The size and equipment provided in this area could support active play for five (5) to 10 children. The remaining 90-95% of the park area is turfed, however given its limited size and lack of interesting vegetation or topography, is not conducive to leisure walking or picnicking; though could be used for a variety of ball sports.

Based on the features and size of the parks within the area, the primary users would be expected to be children under 10; however some users over this age could use the turf area for sports. This theory is supported by the fact that at the time the photos were taken, between 10-12 on a weekday (being school hours), none of the parks were being used. This would suggest that for 40% of the time these spaces provide very little value to the community and when they do they really target a maximum of 30% of the population.

Using Council's target of 2.5ha of open space per 1,000 persons, these parks would accommodate approximately 200 persons.

### 5.1.3 Costs

The embellishment costs to create a park like one of those shown above is significant. Similar parks are currently being designed for an AVJennings development at Hamlyn Terrace where the parks total 5,000m<sup>2</sup> in area and include four (4) pieces of play equipment; shelters and turfed area. The cost to build these areas is approximately \$420,000; almost double the embellishment costs provided for within the WCP for subject RE1 zone.

## 5.2 VALUE OF CURRENT POTENTIAL OPEN SPACE PROVISION

As discussed above, the open space embellishment amount provided for within the WCP is only \$228,857. Using this amount, and based on the above recent AVJennings Hamlyn Terrace park, the standard of embellishment for the currently proposed 5.72 ha of RE1 zoned land would likely include one (1) shelter and picnic chairs; two (2) pieces of play equipment and 5,000m<sup>2</sup> of turfed area. This would be similar to all of the above examples and as such, would generally be expected to accommodate children up to 17.

Using Council's target of 2.5ha of open space per 1,000 persons, the current park size is credited as accommodating approximately 2,000 persons, or 10 times that of the examples provided for within Section 5.1.1. That is despite the fact that 5.22ha of this area is identified as not being embellished and would remain as bushland. In terms of usability, this area would be little different to the vast environmental lands surrounding the master plan but which are not included within the open space calculations despite them being able to be enjoyed by the perimeter shared pathway.

Two (2) crucial points can be taken able from the above:

1. Simply using area as a measure of open space value distorts actual value in terms of usability;
2. If unembellished open space is provided a value, then shared pathways adjoining environmental lands should similarly be given a value.

### 5.3 VALUE OF PROPOSED OPEN SPACE PROVISION

#### 5.3.1 Quantitative Value based on Embellishment Cost

The proposed 3.17ha of RE1 zoned land is proposed to be embellished at a cost of five (5) times the amount provided for with the WCP.

#### 5.3.2 Qualitative Value based on Usability

The features proposed for the 3.17ha of RE1 zoned land, as described within Section 3.2, will have the following usability advantage over a design likely within a standard park:

- All ages will be accommodated including play equipment for children 0-14; gym equipment for all ages; amphitheater for all ages;
- The larger area accommodates long tracks conducive to walkers, joggers and cyclists; these being extended further through the provision of linking pathways to the perimeter road;
- Length of stay can be extended through the provision of amenities, thus increasing the usability particularly for picnics; a use enjoyed by all age groups;
- Time of use can extend through night periods, particularly uses involving the amphitheater;
- Retention of existing mature trees creates instant shade across all areas thereby extending seasonal usability;
- Retention of mature trees and the topography of the park encourages informal explorative use by children.

In summary, the proposed open space would cater for all age groups, all seasons, for long periods and during daylight and evening hours. In essence, the area would be used to its fullest capacity.

#### 5.3.3 Actual Open Space Value

Using the information above, the following four (4) components should be considered when deriving an actual open space value:

Quantitative

1. The embellishment costs proposed are five (5) times that of a standard park (5x value); and
2. The area of the shared pathway provided around the master plan perimeter (2,000m x 2.5m = 5,000m<sup>2</sup>).

Qualitative

3. 100% of the population can use the park (2x value - conservative); and
4. The park can be used all year round (2x value - conservative).

The following tables provide alternative open space calculations for Precinct 7A under the proposed scenario.

OPEN SPACE PROVISION			Excluding Completely Passive						
Recreational Category	Area Type	Area Details	Provided	Planned	Quantitative Value Multiplier based on Embellishment Costs	Total Area Type	Category Total	%	Provision by Category
Projected Population	6,747		ha	ha		ha	ha		area per 1000 people (ha)
Completely Passive	Semi Natural Areas	plus extensive drainage channel land & Environmental Corridors							
Passive & Informal Active	Small parks	P7-OS3 to P7-OS7	0.00	2.28	1.00	2.28			
	Large parks	P7-OS1 & P7-OS2	0.00	3.17	5.00	15.85	19.72	73.1%	2.92
	Shared pathway			0.50	1.00	0.50			
	District Park	Apportioned Hill Top Park		1.09	1.00	1.09			
Formal Active	Local Playing Fields & Courts	Apportioned F1, F2, F3 & F4	5.64	0.00	1.00	5.64	7.25	26.9%	1.07
	District fields <sup>1</sup>	Apportioned Area		1.61	1.00	1.61			
<b>TOTAL</b>			<b>5.64</b>	<b>8.65</b>		<b>26.96</b>	<b>26.96</b>	<b>100%</b>	<b>4.00</b>

**Table 9: Alternative Open Space Provision for Precinct 7A (Quantitative)**

In summary, by embellishing the park to the standard proposed using a cost measure and including the perimeter road shared pathway, the rezoning would provide 4.00ha of open space per 1,000 persons.

OPEN SPACE PROVISION			Excluding Completely Passive						
Recreational Category	Area Type	Area Details	Provided	Planned	Qualitative Value Multiplier based on Useability	Total Area Type	Category Total	%	Provision by Category
Projected Population	6,747		ha	ha		ha	ha		area per 1000 people (ha)
Completely Passive	Semi Natural Areas	plus extensive drainage channel land & Environmental Corridors							
Passive & Informal Active	Small parks	P7-OS3 to P7-OS7	0.00	2.28	1.00	2.28			
	Large parks	P7-OS1 & P7-OS2	0.00	3.17	4.00	12.68	16.05	68.9%	2.38
	District Park	Apportioned Hill Top Park		1.09	1.00	1.09			
Formal Active	Local Playing Fields & Courts	Apportioned F1, F2, F3 & F4	5.64	0.00	1.00	5.64	7.25	31.1%	1.07
	District fields <sup>1</sup>	Apportioned Area		1.61	1.00	1.61			
<b>TOTAL</b>			<b>5.64</b>	<b>8.15</b>		<b>23.29</b>	<b>23.29</b>	<b>100%</b>	<b>3.45</b>

**Table 10: Alternative Open Space Provision for Precinct 7A (Qualitative)**

In summary, by embellishing the park to the standard proposed using a usability measure, the rezoning would provide 3.45ha of open space per 1,000 persons.



## 6.0 Implementation

### 6.1 CONTRIBUTIONS

Using the above DU and population data, the proposed rezoning will result in an additional 128 DUs which would each pay the following open space contributions (current until February 2018):

- Open Space Land -  $\$3,323.39 \times 128 = \$425,393.92$ ;
- Open Space Works -  $\$4,167.14 \times 128 = \$533,393.92$ ;
- Total =  $\$958,787.84$ .

In addition to the above, as only 3.72ha of land is proposed to be dedicated, the following credit would be applied:

- P7-OS 1 & 2 (Part Lot 1 and 2 DP1101086) =  $\$1,316,215$  ( $\$1,058,785$  less than currently provided).

**Based on the above, the embellishment costs within the WCP could be increased by \$1,058,785, bringing the total to \$1,287,642 and therefore more in line with the proposed embellishment cost estimate.**

### 6.2 MAINTENANCE

It is understood that a significant consideration with regards to open space design is accommodating low ongoing maintenance costs. In this regard, AVJennings would work with Council Open Space and Recreation Department to design the park to allow its ongoing maintenance cost to be reduced. Despite this, when designing a park to the high standard proposed, it is expected that the maintenance costs would be more than for a standard park. With this in mind, it is considered that the additional contributions generated by the additional 128 DUs be accommodated within the WCP through an additional line item for maintenance purposes. Alternative, a Planning Agreement could be entered into by AVJennings and Council which may include setting up a maintenance account whereby the interest generated by the additional  $\$958,787.84$  could facilitate maintenance in perpetuity.

## 7.0 Summary

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Based on the likely population generated by the proposed rezoning and the area of open space provided, Precinct 7A would accommodate 2.04ha of open space per 1,000 persons; representing a shortfall of 0.21ha. Despite this, it has been shown using real open space examples within suburbs similar to Warnervale, that simply using area as a measure of open space value distorts actual value in terms of usability.

When the proposed embellishment costs are taken into consideration when compared to standard park design, it has been shown that the proposed rezoning and future park would accommodate 4.01ha of open space per 1,000 persons; representing an excess of 1.51ha. Alternatively, when usability of the park is taken into consideration over that provided within a standard park, it has been shown that the proposed rezoning and future park would accommodate 3.45ha of open space per 1,000 persons; representing an excess of 0.95ha.

Whichever method of value is used, it is evident that the reduced area of RE1 zoned land will continue to satisfactorily provide sufficient open space for the population within Precinct 7A due to its proposed exemplary standard of design and embellishment.