

URBIS

CAMBRIDGE RESERVE

COMMUNITY ENHANCEMENT

PREPARED FOR
CITY OF KALAMUNDA
JANUARY 2019
FINAL VERSION



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1.0 PROJECT OUTLINE

Urbis was engaged by the City of Kalamunda to develop a concept plan that investigated the potential reuse and improvement of Cambridge Reserve. This site had been identified by the City as having potential to improve this community asset and to provide additional housing opportunities for the local area, including an aged care/ assisted living facility in line with the *City's Aged Accommodation Strategy 2016*.

The following outlines an opportunity to enhance the site, make use of underutilised land and offset the cost of improvement through the development of the site. The development area was primarily focused along the western edge of the reserve. This part of the site was generally flat, primarily contained introduced species and displayed the most antisocial behaviours as a result of limited surveillance of the Reserve.

A draft version of the plan was provided to the community for review and feedback. An initial community Pre-Consultation was undertaken in February – March 2018 including a workshop and survey. The outputs from this consultation influenced the concept designs and a draft plan was presented to the community through a workshop and survey in July-August 2018. The plans were generally well received, and the community identified additional features that were included in the final plan including additional seating, modified activity hub, additional shade and expanded bushland re-vegetation.

2.0 SITE UNDERSTANDING

Some of the key issues identified to engage and make best use of the site are as follows:

- **Retention of natural bushland and resolution of bushfire policy requirement** – A Preliminary Opportunities and Constraints Report was prepared by Strategen in 2012 that identified some broad bushland zones. These were further surveyed in 2017 by Eco-logical in their Australian Flora, Vegetation and Fauna Survey of Anderson Road Reserve. A key output from these reports was the identification of an expanse of natural bushland. Additionally, the reports identified several significant remnant trees that could be retained across the site. The concept design works with the site to preserve the bushland and retain trees where appropriate to ensure they become an asset for the site. The site design considers the interface with retained bushland in line with bushfire policy requirement State Planning Policy 3.7 Planning in Bushfire Prone Areas (SPP3.7), and particularly in light of the addition of vulnerable elderly users.
- **Interface with the existing overhead power-line and easement** – The overhead power-line and associated easement running alongside Anderson Road is a visual impediment and serves to disconnect this edge of the site from the surrounding neighbourhood. Given that there is limited control over what can occur in this easement it is important that the site adequately addresses this interface and identifies a solution that creates an improved outcome not just for this site but helps to stitch it back into the wider community.
- **Integration of the drainage basin** - The drainage basin on site provides a necessary function retaining water and runoff from the surrounding neighbourhood but in its current format is unsightly. With careful consideration in the design phase this basin could be converted into wetlands and living streams providing not only visual amenity for the existing and new residents but also helping to re-establish habitat for the natural flora and fauna.
- **Provide safe and legible access to alternate movement systems** – A limitation on the elderly is reduction in independent mobility. It is important that alternative modes of transportation such as buses are available and within close proximity of housing. This includes not just the provision of bus stops, but clear, legible and safe connections between transit nodes and residences. Working with the topography of the site and ensuring that connections are well lit and have opportunity for natural surveillance will be critical to the sites success as a retirement or aged care use.
- **Integration into the existing neighbourhood** – Traditionally aged care and retirement villages were separated from the surrounding community in an effort to provide a safe environment for the elderly. Recent learnings have identified that whilst providing a safe and secure environment is important there is also significant benefit in establishing strong connections with the surrounding community. The concept design will need to establish a balance between these two objectives to ensure that the elderly are not isolated and provide opportunity for the community to benefit from the knowledge, presence and engagement of its elderly population.



3.0 VISION

Cambridge Reserve will be a transformative project that re-engages with this wonderful community asset and formalises many of the existing activities on the site. The inclusion of an over 55's, aged care or retirement living on the site will provide additional activation and uplift as well as provide much needed housing opportunities for this sector of the community. The clear delineation and retention of established native vegetation and the adaption of the detention basin on site will provide a manageable asset for the community both existing and future.





LEGEND:

- SUBJECT SITE
- SIGNIFICANT REMNANT TREES
- BUSHLAND FOR RETENTION
- INDICATIVE BUSHFIRE PROTECTION ZONE
- REPLANTED UNIQUE LANDSCAPE CHARACTER (WHITE TRUNKED EUCALYPTS) CIRCA 1977
- DRAINAGE BASIN CIRCA 1977
- STORM WATER PIPE
- DRAIN LINE
- HIGHLY COMPACTED IMPORTED FILL
- MATURE TREE - NOT ENDEMIC - DEGRADED UNDERSTOREY
- A NUMBER OF MATURE TREES - MANY INTRODUCED SPECIES - HIGHLY DEGRADED UNDERSTOREY
- P.A.W. - DEGRADED - REPORT ANTI-SOCIAL ISSUES - KEY DESIRE LINE
- REAR FENCING - IRREGULAR POOR CONDITION
- PLAYGROUND
- BUS STOP
- STRATAGEN VEGETATION RETENTION LINE
- SIGNIFICANT VERGE WIDTH
- POWER LINE OVER HEAD



SITE ASSESSMENT
CAMBRIDGE RESERVE COMMUNITY ENHANCEMENT PROJECT

DATE: 10.01.19
 JOB NO: ND1980
 DWG NO: FIG-3
 REV: A

1:2,000 @ A3



4.0 DESIGN PRINCIPLES

From the analysis of the site some clear design principles have been established that will inform the concept moving forward.

Improve safety – Much of the site is located at the rear of the housing stock with rear fencing fronting onto Cambridge Reserve. Positioning of housing to the street edges will enable passive surveillance. The anticipated outcome is that this will have a reduction in antisocial behaviour.

Utilise site assets – the detention basin as currently sited provides a large and underutilised piece of land for much of the year. However, during wet periods, it becomes an important part of the natural ecosystem and a natural asset for the site. Through design intervention we hope to transform this feature into a site asset.

Engage with the amenity – the site is located at the foot of the hills and provides a great view. Through orientation of the streets we hope to utilise this asset as a way-finding device and also add to the natural beauty of the site.

Celebrate the bushland – There is an expanse of bushland that provides a natural habitat and serves as an asset for the site. By formalising the perimeter of this bushland we hope to contain this asset and quarantine it from degradation.

Formalising site activation – The park already has a wide range of users and activity but many of the trails are informal and not always accessible to all. By designating trails we can provide formal routes through the site and protect the natural areas. We have observed a large amount of foot traffic (particular dog walkers) using the site and will investigate opportunities for a dog park or the like to further encourage this community activation.

Providing new housing opportunities – The community can be expanded bringing additional activation and life through the careful siting of new housing opportunities including over 55's, aged and retirement living to cater for this population.





LEGEND:

- SUBJECT SITE
- SIGNIFICANT REMNANT TREES
- BUSHLAND FOR RETENTION
- RETAIN UNIQUE LANDSCAPE CHARACTER
- EXISTING RESIDENCE - OPPORTUNITY TO REDEVELOP TO BETTER ADDRESS P.O.S. & ENABLE ROAD ACCESS
- POTENTIAL WATER FEATURE / DRAINAGE LAKE
- POTENTIAL DEVELOPMENT OPPORTUNITY
- POTENTIAL UPZONING AREA
- UPGRADE EXISTING P.A.W.
- POTENTIAL ROUTE / CONNECTION ON SITE
- REAR FENCING - IRREGULAR POOR CONDITION
- VIEW TO HILLS
- VIEWS TO OPEN SPACE
- PLAYGROUND TO BE UPDRAGED
- BUS STOP
- STRAGEN VEGETATION RETENTION LINE
- CAR PARK OPPORTUNITY
- POWER LINE OVER HEAD EASEMENT OPPORTUNITY FOR PARKING / ACCESS & REHABILITATION



OPPORTUNITIES AND CONSTRAINTS
CAMBRIDGE RESERVE COMMUNITY ENHANCEMENT PROJECT

DATE: 10.01.19
 JOB NO: ND1980
 DWG NO: FIG-4
 REV: A



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5.0 DESIGN CONCEPT

The design concept has been produced to meet the established principles and deliver a housing return in an order of magnitude to make the project feasible. A range of options were examined balancing the provision of natural assets on site, the highest and best return of land and the utilisation or enhancement of existing site features to ensure the best outcome.

Some of the key features of the proposal include:

- A connection to Mallow Way has been identified serving as an extension of the existing street network. This street would serve a limited number of properties it provides a natural link to the existing street network and maintains and enhances existing pedestrian connections.
- The drainage basin has been utilised as a feature of the site. During the winter months this forms a 'lake frontage' setting water feature' style setting and serves as an asset for the site.
- The northern and eastern edges of the site include a managed parkland and combine with an upgrade of the existing playground serving both the new and existing communities.
- Footpaths prescribe a boundary to the detention basin including a new pre-filtering area contained by a boardwalk located adjacent to the aged care/ assisted living facility. By retaining water here this feature could provide a year round amenity.
- The southern edge of the basin retains the natural bushland and allows the continuation of the existing informal pathway.
- Connections to the detention basin have been identified for upgrade, channelling overland drainage into Water Sensitive Urban Design channels or through formal drainage networks across the site.
- Natural bushland has been preserved on the site and has been fenced to offer additional protection. These fenced

areas contain the most significant local vegetation with dense undergrowth and represent the best local habitat on site. Setbacks to new properties from this retained vegetation have been provided in accordance with SPP3.7 requirements.

- Pathways have been provided across the site. The pathways correlate with and formalise existing movement patterns. Along the southern boundary the footpaths also serve as a fire-break between properties and the retained natural vegetation.
- An activity hub and youth and aged nature playground area has been located adjacent to the water feature and has immediate passive surveillance from new residences adjacent.
- New residences have been oriented to ensure that they front onto the public open space to assist in the provision of passive surveillance.
- New streets have been aligned to take advantage of views to the hills and to provide a natural extension of the existing street network.
- The design of the new streets incorporates fire separation requirements and provides a managed edge to the retained bushland.
- The site has also been designed with flexibility in mind with the block structure adaptable to changing market conditions.

DESIGN TESTING

An alternate access opportunity was identified during design testing that allowed for the integration of the adjacent Department of Communities property.



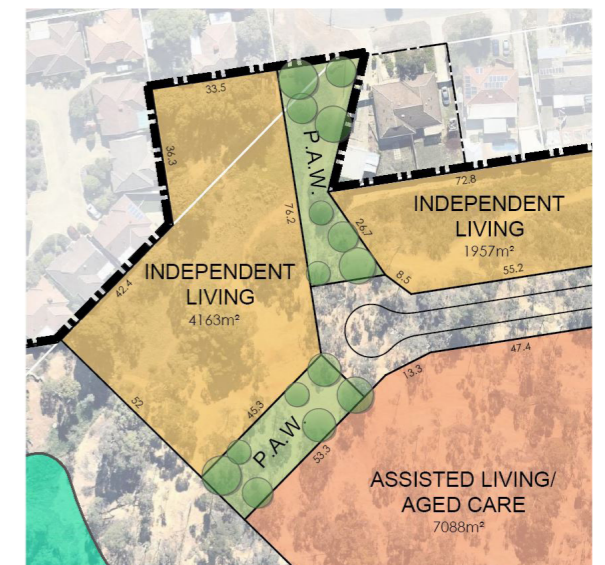
Alternate: Partnership with Department of Communities land

Alternatives to the existing drainage provisions on site were explored.



Alternate: maintaining existing drainage line from York Street

An alternate option was examined that explored a re-cut of the lots to provide for additional retirement or aged care / assisted living.



Alternate: Increasing retirement living component

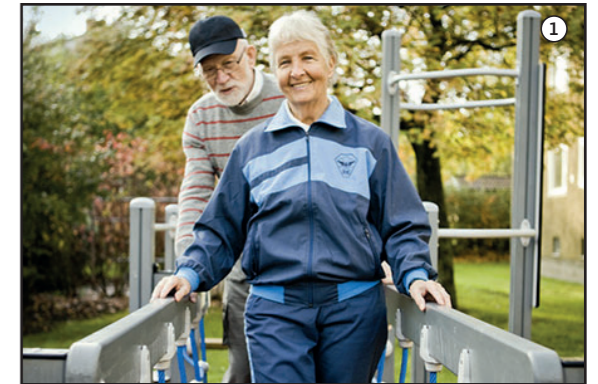


LEGEND:

- ① ACTIVITY HUB - YOUTH & AGED NATURE PLAYGROUND
- ② STORMWATER CATCHMENT
- ③ FENCED 'GOOD' BUSHLAND
- ④ SHADE STRUCTURE & SEATING NODE
- ⑤ BOARD-WALK / WETLAND
- ⑥ EXISTING DRAIN - PIPE AND DAYLIGHT
- ⑦ OPEN MANAGED PARKLAND
- ⑧ FENCED BUSHLAND REVEG
- ⑨ PEDESTRIAN PATH NETWORK
- ⑩ BUSH RE-VEGETATION
- ⑪ EXISTING PAW
- ⑫ EXISTING LOTS
- ⑬ FIRST FLUSH STORMWATER CATCHMENT
- ⑭ PARKING
- ⑮ RELOCATED BUS STOP
- ⑯ INDICATIVE RESIDENTIAL LOT LAYOUT

NOTES:

- 1. Concept is indicative only and subject to detailed design.
- 2. Extent of lighting is to be determined during detailed design.
- 3. Edges of existing drainage basin to be treated / graded in order to 'make safe'.
- 4. Revegetation is to be carried out using endemic and / or native species.
- 5. Extent of all revegetation works are subject to Bushfire assessment and requirements.
- 6. Irrigation is to be limited to high use areas around activities nodes and play areas.
- 7. Path network will include cycle path connections, pedestrian paths as well as informal path networks within areas of revegetation.
- 8. Parking locations and quantities are indicative only and subject to technical advice.



6.0 SUBDIVISION, STAGING AND DELIVERY

Subdivision of the site has been arranged to provide a range of housing opportunities. The subdivision plan features:

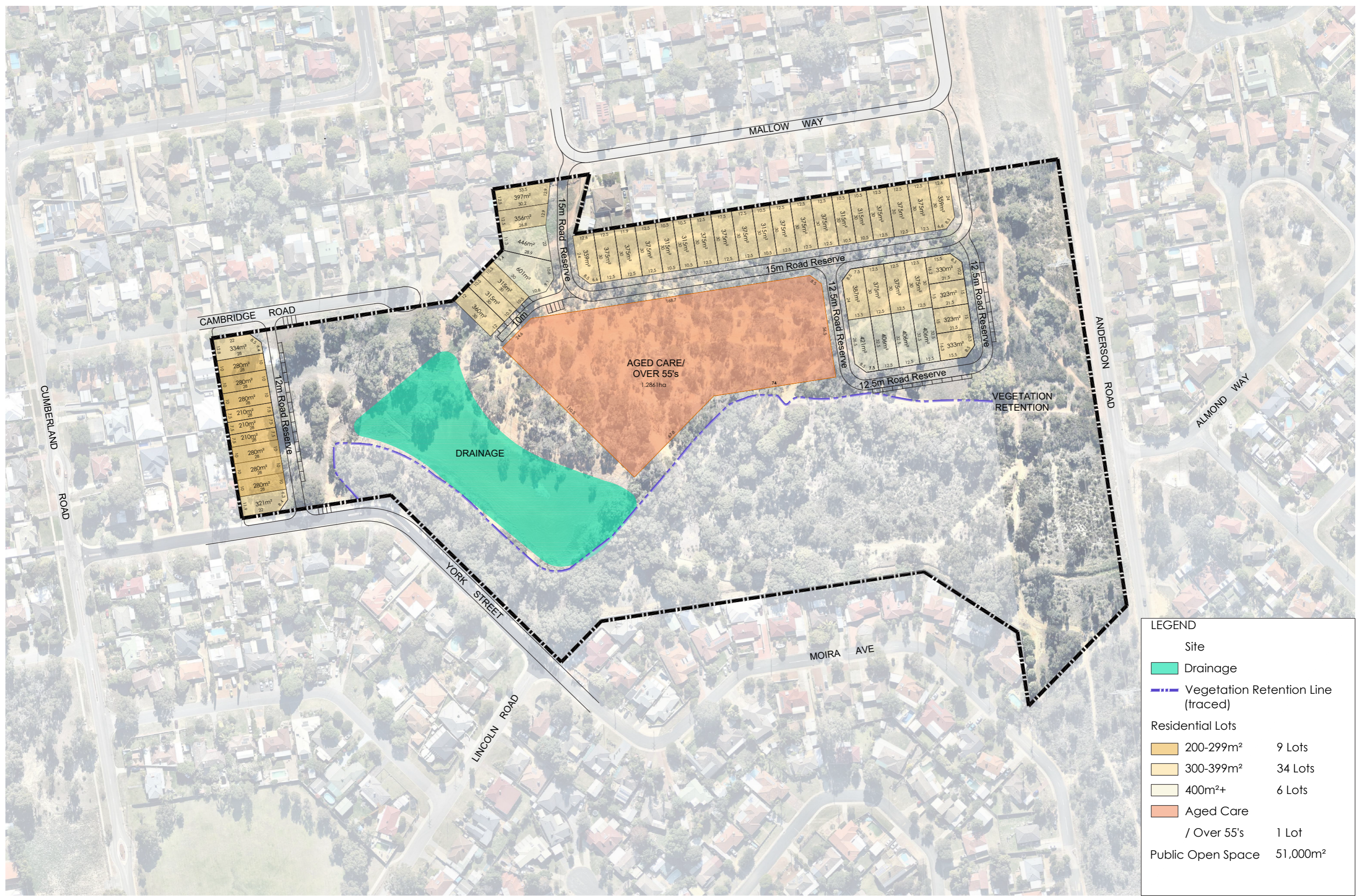
- Connections to the detention basin have been identified for upgrade, channelling overland drainage into Water Sensitive Urban Design channels or through a formal drainage network across the site.
- Standardised lot frontages and depths with a variety in products provided;
- Typical road reserve widths including 15m for standard roads, 12.5m for roads adjacent to Public Open Space. Movement priorities reflect this arrangement.
- The width of the nib road has been reduced and includes visitors parking.
- A regular shaped Aged Care/ Over 55's site has been provided to offer flexibility in layout and suitability for the market.
- A centrally located Over 55's site has been identified that ties into the aged care site and provides additional surveillance and engagement with the adjacent bushland.
- A road along the western edge connects Cambridge Road to York Street. This provides access to new lots and opportunity for parking bays. Buildings on these new lots are anticipated to be 2 storeys to provide passive surveillance of the park and playground.
- Lots opposite the vegetation retention area have been afforded extra depth to ensure a minimum 20m building zone.

LOT TYPE	YIELD
200-299m ²	9 Lots
300-399m ²	34 Lots
400m ² +	7 Lots
Aged Care/ Over 55's	1 Lot

USE	apx AREA
Total Site Area	9.0ha
Public Open Space	5.1 ha
- Drainage	(0.84ha)
- Retained Vegetation	(3.1ha)
Total Development Area (Including Roads)	3.9 ha
- Aged Care/ Over 55's	1.3 ha

The site and proposed layout present a range of staging and delivery opportunities. We anticipate the staging and delivery of the site as follows.

- The properties along the western edge can be released independently of the remainder of the site. Subject to the cash flow for the site these lots can be released first to generate income for improvements across the remainder of the site. Alternatively, these lots may be released as the final stage once the site has been redeveloped and improvements have already been made, to ensure the highest return.
- It is anticipated the remainder of the site would be released as a single stage and the central new road installed to initially provide access to the aged care/ over 55's site. The new road on the perimeter would be established early and double as a fire-break between the retained bushland and the housing site.



LEGEND

- Site
- Drainage
- Vegetation Retention Line (traced)

Residential Lots

 200-299m ²	9 Lots
 300-399m ²	34 Lots
 400m ² +	6 Lots
 Aged Care / Over 55's	1 Lot
Public Open Space	51,000m ²



**CONCEPT PLAN A - PRELIMINARY
CAMBRIDGE RESERVE COMMUNITY ENHANCEMENT**

Level 14, The Quadrant, 1 William Street | Perth WA 6000 Australia | +61 8 9346 0500 | URBIS Pty Ltd | ABN 50 105 256 228

DATA SOURCE
LANDGATE
PROJECTION
MGA94, Zone 50

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CLIENT
City of Kalamunda

PROJECT NO.
ND P0002785
DATE
10.01.19
DRAWING NO.
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7.0 STATUTORY PROCESS

Cambridge Reserve Approach to Disposal and future planning.

The Crown Land Administration Practice Manual 2013 provides guidance to local authorities on the disposal of local reserves. In summary, in making a request to the Ministers responsible for Planning and Lands to dispose of a portion of Cambridge Reserve in order to fund redevelopment of the balance portions of the open space, the City will need to provide the following:

- Provide a summary for the reasons for disposal including evidence of sufficient open space in the locality.
- Identification of land involved and the proposed end use for these portions of land.
- Details of community consultation on the matter.

In the context of Cambridge Reserve, the Urbis prepared subdivision concept and landscape masterplan for the balance portion of the reserve will be critical. The narrative around the reasons for redeveloping a portion of the site to fund open space improvements elsewhere will be important in engaging the community. Preliminary estimates on income generated from the sale of the proposed land will be essential in this community discussion.

From a planning perspective, we consider there to be 2 clear potential approaches to the disposal and redevelopment of the subject portions of Cambridge Reserve. The following table considers the “pros and cons” of each approach.

Urbis recommends Approach No.2, which involves only divesting and rezoning the portion of land to be disposed of. Overall, whilst potentially losing some design flexibility, this approach will be far more palatable and from a community and political perspective in comparison to divesting the entire Cambridge Reserve and undertaking a structure plan process

APPROACH	PROS	CONS
1- Rezone the entirety of Cambridge Reserve to Development Zone subject to a future Structure Plan Rezone.	Provides absolute flexibility in defining those portions of the reserve to be retained and those to be developed for urban purposes. Flexibility may be essential from a drainage or environmental perspective.	Divesting an entire open space reserve (albeit much will be re-vested for open space purposes) will likely raise community concern.
	Structure Plans can be readily amended if design or development drivers for the project change over time.	At the conclusion of a structure plan process, the balance open space to remain will need to be re-vested after having been purchased by the City.
2- Rezone only those initially identified portions of Cambridge Reserve required for development purposes.	Politically a more palatable approach (doesn't look like Cambridge Reserve in its entirety is being removed). Far more easily communicated to the community.	Significantly reduced flexibility. Development bound by extent of zoning.
		Requires an technical documentation and approvals to be undertaken upfront. No room for error in defining edge of open space/residential development.
		Scheme amendment requirement to amend development edges or residential coding (minimum 9- 12 month process).

8.0 COST ESTIMATE

The following cost estimate has been provided outlining the potential cost of site upgrades. This is based on the upgrades to the site as illustrated in the Landscape Concept Plan.

Note these figures are based on an anticipated initial capital cost and do not include ongoing maintenance costs. Also note that the fire break along the rear of the Moira Avenue properties is not an asset protection zone

ITEM	DESCRIPTION	TOTAL
1	SITE PREPARATION & EARTHWORKS	
1.1	Allow for minor earth works as necessary and fine grading (Note bulk earthworks by Civil contractor) - excluding bushland	\$56,760.00
1.2	Allow for clearing of weed, weed removal & spraying as required - General Works	\$14,190.00
1.3	Allow for clearing of weed, weed removal & spraying as required to revegetation areas (20% total revegetation area)	\$2,089.00
1.4	Allow for bushland weed management	\$10,500.00
1.5	Allow for structural / cosmetic pruning & making safe of existing trees as required	\$15,000.00
1.6	Allow for soil testing x 2	\$350.00
	Total Site Preparation & Earthworks	\$98,889.00

2	SOIL PREPARATION	
2.1	Allow for the supply and installation of soil conditioner to shrub beds (100mm)	\$20,317.50
2.2	Allow for the supply and installation of soil conditioner to 30/45lt Trees	\$4,500.00
2.3	Allow for the supply and installation of soil conditioner to 90/100lt Trees	\$3,500.00
2.4	Allow for the supply and installation of wetting agent to turf	\$16,260.00
	Total Soil Preparation	\$44,577.50

3	MULCH	
3.1	Allow for the supply and installation of mulch shrub beds	\$20,317.50
3.2	Allow for the supply and installation of enviro mulch to reveg area	\$104,450.00
3.3	Allow for the supply and installation of mulch rings to trees in grassed areas	\$600.00
	Total Mulch	\$125,367.50

Exclusions: Preliminaries, Building Margin, Truck watering, Mulching of existing bushland vegetation, Irrigation sleeves & bore, Dust Management, Rock breaking, Repair of theft and vandalism, Walls by Civil Contractor, Hydraulic and Electrical Connections, Signage, Public Art, Bollards

ITEM	DESCRIPTION	TOTAL
4	PLANTING	
4.1	Allow for the supply and installation of 130mm shrubs	\$64,800.00
4.2	Allow for the supply and installation of tubestock / sedge stock to Bushland	\$17,500.00
4.3	Allow for the supply and installation of tubestock / sedge stock to reveg area	\$35,000.00
4.4	Allow for the supply and installation of tubestock / sedge stock to living stream	\$5,267.50
4.5	Allow for the supply and installation of 30/45 litre trees	\$27,000.00
4.6	Allow for the supply and installation of 90/100 litre trees	\$20,300.00
	Total Plantings	\$169,867.50

5	TREE STAKES	
5.1	Allow for the supply and installation of painted tree stakes	\$17,100.00
	Total Tree Stakes	\$17,100.00

6	ROOT CONTROL BARRIERS	
6.1	Allow for the supply and installation of Root-stop root control barriers (6 l/m)	\$1,800.00
	Total Root Control Barriers	\$1,800.00

7	TURF	
7.1	Allow for the supply and installation of roll-on lawn	\$135,000.00
	Total Turf	\$135,000.00

8	EDGING	
8.1	Allow for the supply and installation of 150mm concrete edging to grassed areas adjoining shrub beds and mowing edge to walls.	\$20,000.00
	Total Edging	\$20,000.00

9	PAVING AND STEPS	
9.1	Allow for the supply and installation of placed limestone boulders	\$10,000.00
9.2	Allow for the materials and construction of 1.2m coloured concrete path. Including ground preparation, compaction etc (Profile 1)	\$350,000.00
9.3	Allow for the supply and installation of stone boulders to outlet	\$2,500.00
	Total Paving and Steps	\$362,500.00

10	WALLS	
10.1	Allow for supply and installation of feature retaining walls including ground preparation, ground compaction, cladding, graffiti protection & waterproof parging (height to 1m)	\$15,000.00
10.2	Culverts & headwalls to living stream	\$20,000.00
	Total Walls	\$35,000.00

Notes: Quantities are estimates only
Rates are based on latest tender prices
All figures exclude GST
POS Estimate only

ITEM	DESCRIPTION	TOTAL
11	FURNITURE and ELEMENTS	
11.1	Allow for the supply and installation of bench seating to parkland and bushland	\$35,000.00
11.2	Allow for the supply and installation of Shade structures incl furniture	\$120,000.00
11.3	Allow for bins	\$12,000.00
11.4	Allow for BBQ	\$15,000.00
11.5	Allow for drinking fountains	\$10,000.00
11.6	Fence to bushland	\$294,000.00
11.7	Play equipment incl sand/mulch softfall	\$175,000.00
11.8	Raised boardwalk	\$138,000.00
	Total Furniture	\$799,000.00

12	LIGHTING	
12.1	Parkland lights	\$105,000.00
12.2	Lighting to Shade structures	\$4,000.00
	Total Furniture	\$109,000.00

13	IRRIGATION	
	Allow for the supply and installation of irrigation	
13.1	Connection to existing bore infrastructure	\$1,000.00
13.2	Electrical connection to existing power source	\$1,000.00
13.3	Supply & install new irrigation cabinet	\$2,000.00
13.4	Supply & install irrigation controller	\$1,500.00
13.5	Irrigation to shrub beds	\$40,635.00
13.6	Irrigation to turf areas	\$162,600.00
13.7	Bubblers to trees	\$31,250.00
13.8	As Constructed drawings	\$500.00
	Total Irrigation	\$240,485.00

	"SUB- TOTAL LUMP SUM (excluding GST & Contingency)"	\$2,158,586.50
	Contingency at 15%	\$323,787.98
	LUMP SUM TOTAL (excluding GST)	\$2,482,374.48

