

Ordinary Council Meeting - 26 February 2019 Attachments

10.1.1. Proposed Local Planning Policy P-DEV 62: Design Guidelines - Maddington Kenwick Strategic Employment Area.....	4
10.1.1.1. Draft Local Planning Policy P-DEV 62: Design Guidelines - Maddington Kenwick Strategic Employment Area -1.....	4
10.1.1.2. Landscaping Sections.....	30
10.1.2. Cambridge Reserve Community Enhancement Project - Consideration of Submissions and Modifications for Final Adoption.....	33
10.1.2.1. Final Concept Plan.....	33
10.1.2.2. Technical Note.....	36
10.1.2.3. Cambridge Reserve Community Enhancement Project Summary.....	38
10.1.2.5. Community Engagement Outcomes Report.....	52
10.1.2.6. Previous Technical Studies and Reports.....	68
10.1.2.7. Draft Concept Plan for Public Advertising.....	442
10.1.2.8. Pre-Consultation Engagement Outcomes Report.....	445
10.2.1. Ray Owen Reserve - Proposed Carpark Concept Plan.....	464
10.2.1.1. Attch 1 Ray Owen Master Plan Feb 2015.....	464
10.2.1.2. Attch 2 Carpark Concept Plan.....	465
10.3.1. City of Kalamunda - Repeal of Local Law relating to Model By-law (Old Refrigerators and Cabinets) No. 8.....	472
10.3.1.1. Repeal Local Law - Old Refrigerators and Cabinets.....	472
10.3.2. Reconciliation Action Plan.....	473
10.3.2.1. Draft Reconciliation Action Plan 2019.....	473
10.4.1. Monthly Financial Statements to January 2019.....	495
10.4.1.1. Statement of Financial Activity 31 January 2019.....	495
10.4.1.2. Statement of Net Current Funding Position 31 January 2019.....	497
10.4.1.3. Statement of Financial Activity 31 December 2018.....	498
10.4.1.4. Statement of Net Current Funding Position 31 December 2018.....	500
10.4.2. Rates Debtors Report for the Period Ended December 2018.....	501

10.4.2.1. Rates Report December 2018.....	501
10.4.3. Debtors and Creditors Report for the Period Ended December 2018.....	502
10.4.3.1. Creditor Payments for the Period Ended 31 December 2018.....	502
10.4.3.2. Summary of Debtors for the month of December 2018.....	539
10.4.3.3. Summary of Creditors for the month of December 2018.....	541
10.4.4. Rates Debtors Report for the Period Ended January 2019.....	542
10.4.4.1. Rates Report January 2019.....	542
10.4.5. Debtors and Creditors Report for the Period Ended January 2019.....	543
10.4.5.1. Creditor Payments for the Period Ending 31 January 2019.....	543
10.4.5.2. Summary of Debtors for the month of January 2019.....	573
10.4.5.3. Summary of Creditors for the month of January 2019.....	575
10.4.6. City of Kalamunda - Draft Tourism Development Strategy: For the Purpose of Public Advertising	576
10.4.6.1. Draft Tourism Development Strategy	576
10.4.7. City of Kalamunda - Draft Arts Strategy: For the Purpose of Public Advertising.....	608
10.4.7.1. Draft Arts Strategy.....	608
10.4.7.2. Draft Public Art Policy.....	621
10.4.8. City of Kalamunda - Draft Local Environment Strategy: For the Purpose of Public Advertising.....	627
10.4.8.1. Kalamunda Clean and Green Local Environment Strategy.....	627
10.4.11. Annual General Meeting of Electors 2017/2018 Report.....	659
10.4.11.1. Minutes - Annual General Meeting of Electors - 5 February 2019.....	659
16.1. Tabled Documents.....	665
16.1.1. LEMC - Unconfirmed 29 November 2018.....	665
16.1.2. Community Safety and Crime Prevention Advisory Committee Minutes 10 December 2018 UNCONFIRMED.....	671
16.1.3. Disability and Carers Advisory Committee Minutes 10 December.....	679
16.1.4. Kalamunda Aged Care Advisory Committee - Minutes 13 February.....	684

16.1.5. Kalamunda Environmental Advisory Committee Minutes 7 February.....687

Kalamunda Wedge Industrial Area - Precinct 3A

DESIGN GUIDELINES



Draft Local Planning Policy PDEV - 062
September 2018

DOCUMENT HISTORY AND STATUS

Kalamunda Wedge Industrial Area - Precinct 3A Design Guidelines

Local Planning Policy PDEV - 062

Prepared By:
Taylor Burrell Barnett
Town Planning and Design

Level 7, 160 St Georges Terrace
PERTH WA 6000
Phone: 9226 4276
admin@tbbplanning.com.au

Revision	Reviewer	Date Issued
15~073 Rev 0	JR/MB	May 2018
15~073 Rev 1	JR/MB	July 2018

TABLE OF CONTENTS

1.	INTRODUCTION	1	DESIGN GUIDELINES	5
1.1	PRECINCT VISION	2	2.1	DEVELOPMENT PRECINCTS
1.2	DESIGN PRINCIPLES	2	2.2	SUBDIVISION AND AMALGAMATION
1.3	RELATIONSHIP WITH SCHEME & STRATEGY	4	2.3	BUILT FORM
1.4	APPLICATION GUIDANCE	4	2.3.1	BUILDING DESIGN & QUALITY
			2.3.2	BUILDING ORIENTATION
			2.3.3	BUILDING SETBACKS
			2.3.4	END OF TRIP FACILITIES
			2.3.5	PARKING AND ACCESS
			2.3.6	LOADING AREAS
			2.3.7	SIGNAGE
			2.3.8	EXTERNAL LIGHTING
			2.3.9	CROSSOVERS
			2.3.10	FENCING
			2.3.11	STORMWATER MANAGEMENT
			2.3.12	WASTE MANAGEMENT
			2.4	WELSHPOOL ROAD EAST INTERFACE
			2.5	LANDSCAPING
			2.5.1	ONSITE LANDSCAPING
			2.5.2	VERGE AMENITY

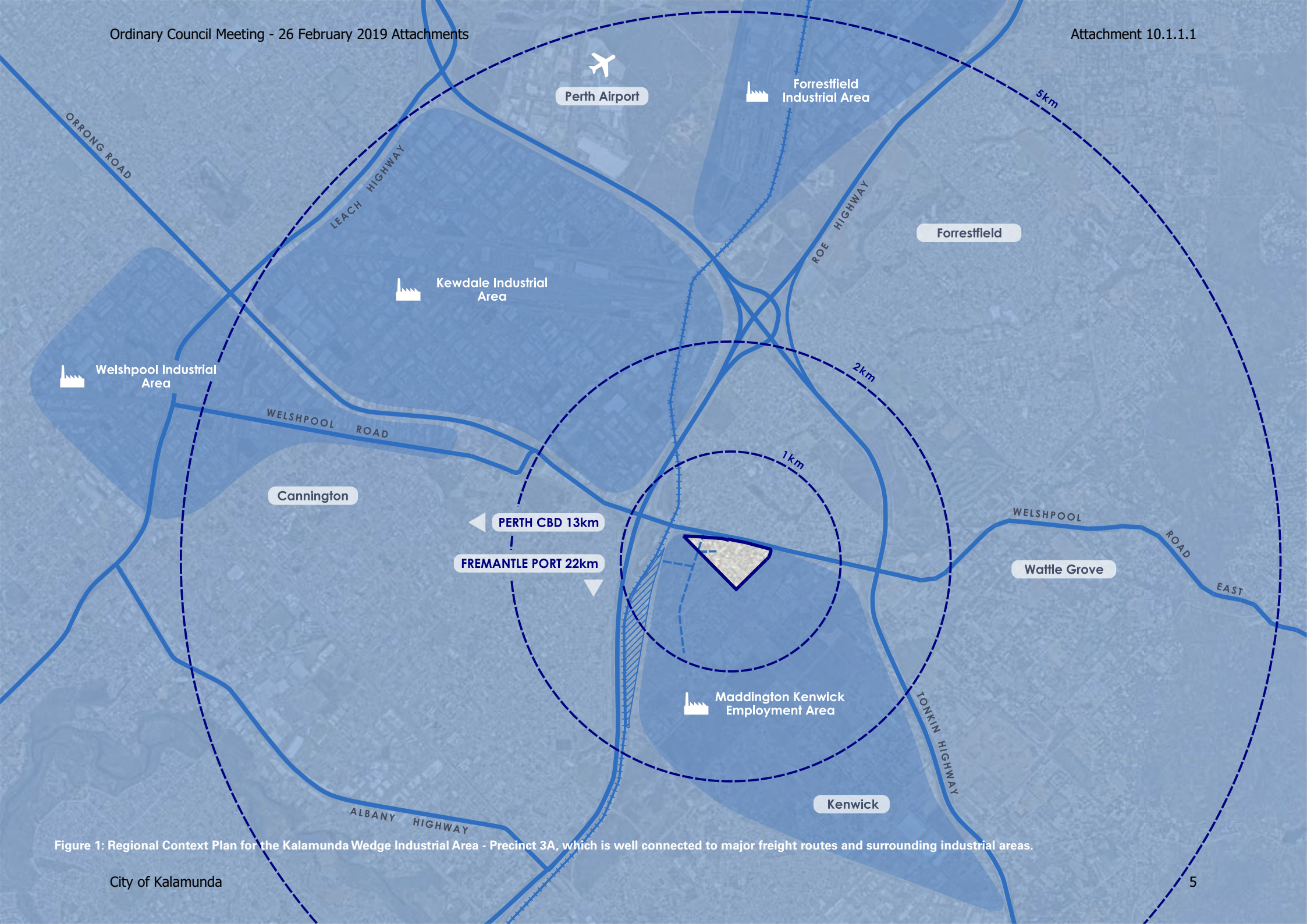


Figure 1: Regional Context Plan for the Kalamunda Wedge Industrial Area - Precinct 3A, which is well connected to major freight routes and surrounding industrial areas.

1. INTRODUCTION

These Design Guidelines apply to all land located within the Kalamunda Wedge Industrial Area - Precinct 3A ('The Precinct') within the Maddington Kenwick Strategic Employment Area ('MKSEA'), an area bound by Welshpool Road East, Bickley Road, Roe Highway and Tonkin Highway.

The precinct is located only 12 km from Perth CBD and is immediately adjacent the Primary Freight/Transport corridors of Roe Highway and Welshpool Road East and Tonkin Highway providing direct and easy access to distribution networks in all directions.

Some of the land within the Design Guidelines area has historically been subject to rural residential development. The progressive development of the area for industrial activities may lead to some short-term implications for existing residents, however, the City of Kalamunda ('the City') will endeavour to minimise any potential conflicts through the implementation of these Guidelines and the development application assessment process.

The Design Guidelines aim to provide comprehensive guidance for the design and approval of development within the precinct, and include consideration of:

- **Subdivision and amalgamation** proposals;
- **Built form design**, including orientation, bulk and scale and boundary setbacks;
- **Site design considerations**, including parking and access, landscaping and storage;
- **Building facilities**, including end of trip facilities and lighting; and
- **Interface considerations**, including screening and signage.

The Design Guidelines are intended for use by developers, assessing officers and determining authorities in their consideration of development within the precinct.

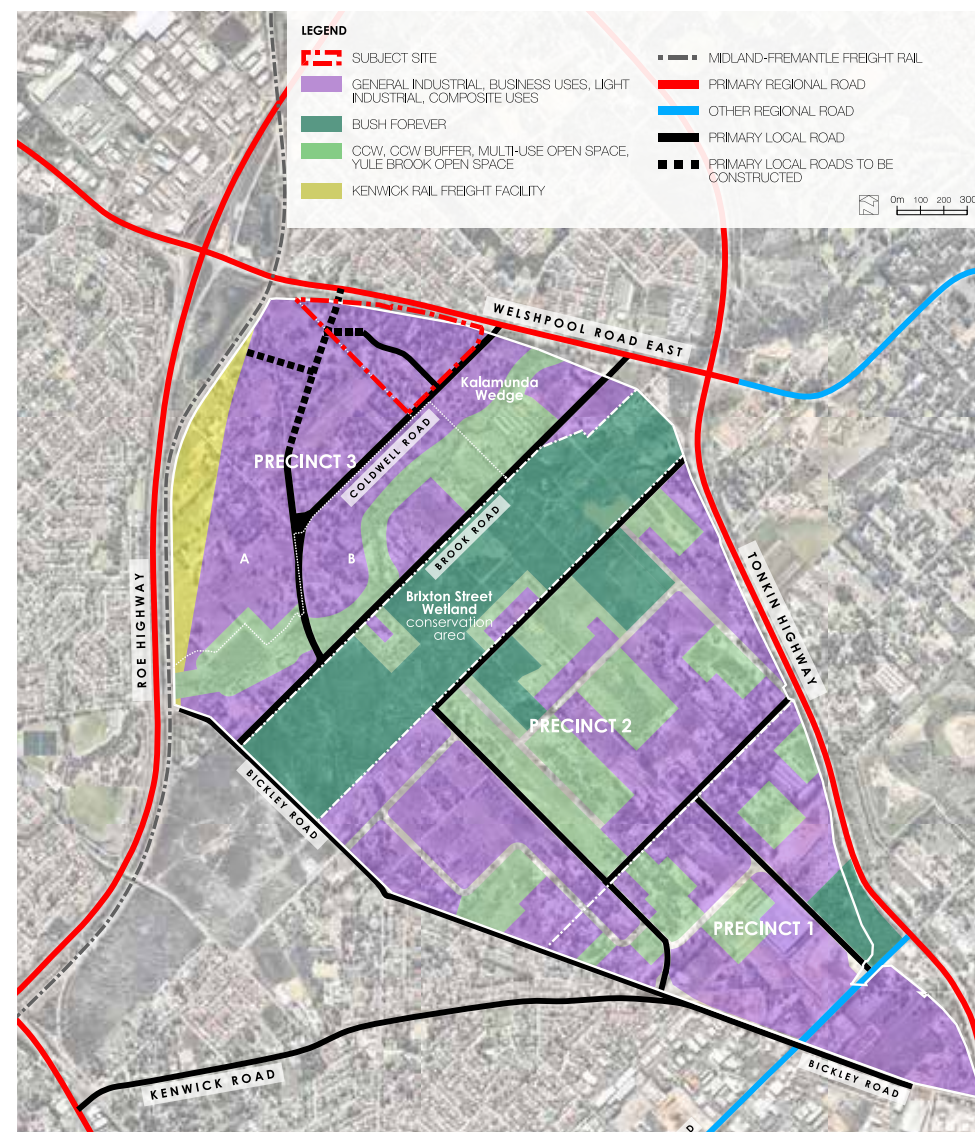


Figure 2: Sub-Regional Context Plan for the Maddington Kenwick Strategic Employment Area (MKSEA) which is to accommodate progressive industrial development over the next 10-20 years.

1.1

PRECINCT VISION

The precinct will be developed in a manner which creates an attractive, functional and sustainable industrial area which attracts a range of businesses eager to locate within the area, offering ease of access to both customers and suppliers.

These Guidelines aim to complement the attractiveness of the industrial area's geographic and strategic location, and to encourage design features, construction quality and landscaping of a high standard which will ensure the area is a sought-after location for business relocation, and a prestigious industrial address.



Figure 3: Artists impression of the style of industrial development to occur within the Kalamunda Wedge Industrial Area, representing well landscaped, high quality built form and site design.

1.2

DESIGN PRINCIPLES

The Design Guidelines are intended to provide clear and comprehensive development criteria to guide developers, assessing officers and determining authorities in their consideration of development within the precinct.

Development within the area will be guided by the following general principles:

- To encourage attractive developments that are well designed, with functional and efficient buildings and site layouts;
- To ensure that industries are environmentally compatible with surrounding zones and activities;
- To promote the development of high quality, attractive and sustainable landscaped areas and streetscapes;
- To support the street network providing permeability to the precinct for motorists, pedestrians and cyclists;
- To achieve water conservation through sustainable on-site stormwater management, water-wise landscaping and water efficient reticulation;
- To avoid unsightly and poorly planned developments; and
- To ensure proposals on the lots abutting Welshpool Road East incorporate an appropriate interface with existing residential development.

1.3

VARIATIONS TO THE POLICY

Variations to this Policy may be considered by the City but will require the applicant to provide appropriate suitable justification demonstrating how the proposed variation will not compromise the Design Principles outlined under Clause 1.2 of the Policy.

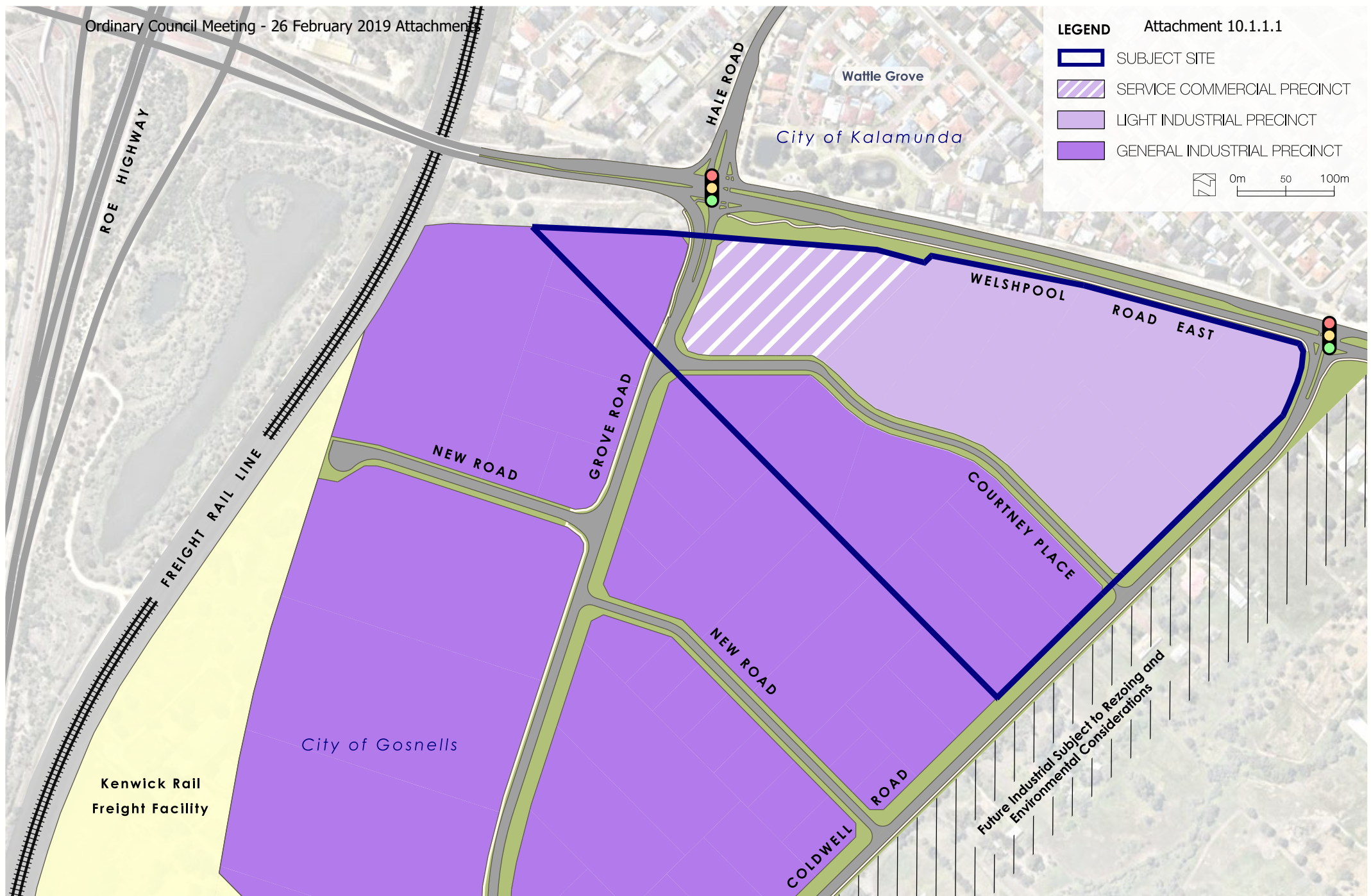


Figure 4: Local Context Plan for the Kalamunda Wedge Industrial Area, with the Roe Highway Logistics Park under development to the immediate south-west, future industrial development to the south east, established suburban residential development to the north-east and Welshpool Industrial Area to the north-west.

1.4

RELATIONSHIP WITH SCHEME & STRATEGY

These Design Guidelines have been prepared and adopted in accordance with Schedule 2, Part 2, Division 2 of the *Planning and Development (Local Planning Scheme) Regulations 2015*. The subject area is zoned 'General Industry' and 'Light Industry' under the provisions of *Local Planning Scheme No. 3*, and is subject to the requirements of the 'Development Area' outlined in clause 6.8 of the Scheme, inclusive of the requirement for the preparation of these Design Guidelines. The delineation of zoning is outlined in **Figure 5** below as at the date of preparation of these Guidelines.



Figure 5: Local Planning Scheme No. 3 zoning of the industrial area at the time of preparing these design guidelines (Note: applicants should refer to the Scheme maps to confirm the zoning and Scheme provisions applicable to the subject area).

1.5

APPLICATION GUIDANCE

These Design Guidelines have been prepared to guide the preparation and assessment of subdivision and development applications within the Kalamunda Wedge Industrial Area.

Step	Action	Reference
Step 1	Determine the zone that applies to your property, the permissibility of the proposed land use and any other matters which are required to be addressed.	Scheme Zoning Maps and Land Use Permissibility under <i>Local Planning Scheme No. 3</i> Clause 6.8 of <i>Local Planning Scheme No. 3</i> and Schedule 2, Part 9, clause 67 of the <i>Planning and Development (Local Planning Scheme) Regulations 2015</i> .
Step 2	Prepare a development concept plan and identify whether any land amalgamation or subdivision might be required.	Kalamunda Wedge Industrial Area- Precinct 3A Design Guidelines- Relevant sections of Part 2
Step 3	Meet with the City's planning team to discuss initial concept designs and key matters to be considered as part of preparing an application.	Seek advice from the City's Planning Department
Step 4	Refine concept development design for consideration of the Design Advisory Committee (optional but recommended).	Seek advice from the City's Planning Department
Step 5	Finalise development application (and necessary subdivision/amalgamation application) inclusive of all necessary supporting information to address drainage, access, landscaping, site design and built form.	Seek advice from the City's Planning Department
Step 6	Lodge application for determination by the relevant determining authority.	City for development applications to be determined by the City or by the Joint Development Assessment Panel. Western Australian Planning Commission for applications for subdivision or amalgamation of sites.

DESIGN GUIDELINES

2.1

DEVELOPMENT PRECINCTS

The following guidelines are intended to control all subdivision and development applications within the precinct.

The precinct is intended to form an interface and transition between the more traditional Roe Highway Logistics Park and Kenwick Freight Rail Facility to the south-west and the suburban residential area of Wattle Grove to the northeast.

The subject area has been divided into three distinct precincts based on the precinct plan identified in **Figure 7** and broadly described as follows:

Service/Commercial Precinct: This precinct will be focused on providing commercial services and amenity to employees and visitors of the industrial estate, in addition to providing for the surrounding residential catchment. It is anticipated that the service commercial precinct will accommodate commercial services appropriate within the broader industrial precinct, including a service station, food and beverage providers and complementary smaller commercial services.

Light Industrial Precinct: This precinct will provide an immediate transition between the established suburban area of Wattle Grove and the tree lined Welshpool Road East with the more traditional industrial activities to the south-west, and is anticipated to accommodate smaller industrial and commercial activities including warehousing, transport and logistics operations and service commercial uses.

General Industrial Precinct: This precinct will provide for more traditional industrial activities which reflect those proposed within the abutting 'General Industrial' zone within the City of Gosnells, and is anticipated to primarily accommodate larger industrial activities including freight and logistics uses, warehousing and manufacturing.



Figure 6: Artists impression of the Service/Commercial precinct within the Kalamunda Wedge Industrial Area.

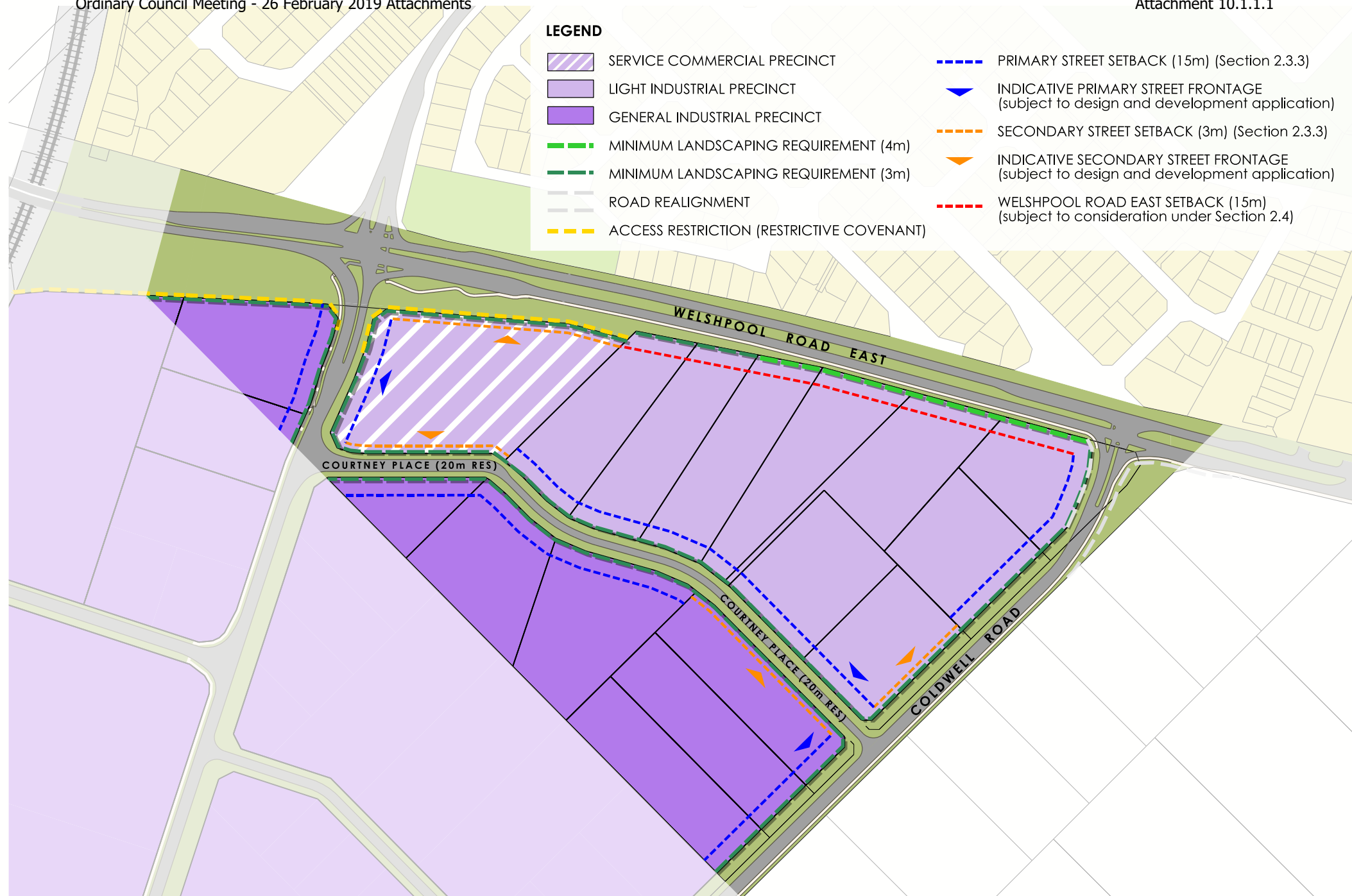


Figure 7: Precinct Plan for Kalamunda Wedge Industrial Area - Precinct 3A identifying the three distinct precincts to be developed and key design considerations for each of these precincts.

2.2

SUBDIVISION AND AMALGAMATION

Development Objectives

Alteration to the lot and public land configuration within the precinct shall be orderly and regular to facilitate a well designed industrial development.

Development Controls

- Development which necessitates the widening or creation of public land shall be conditioned to require the ceding of this land prior to occupation of the approved development.
- Development which necessitates the amalgamation or subdivision of land shall be conditioned to require the creation of the necessary lots reflective of the development approved prior to the occupation of the approved development.

Development Guidance

- Landowners should note the requirements for road reservation widening and realignment within the precinct, including:
 - Coldwell Road reservation, which is required to be widened by 10m along the north-west boundary to accommodate road and drainage upgrades in accordance with the approved Local Water Management Strategy;
 - Coldwell Road intersection with Welshpool Road East, which requires realignment of Coldwell Road and upgrade of the intersection in accordance with a future Development Contributions Plan;
 - Courtney Place reservation, which requires widening by 2m to facilitate road and drainage upgrades as an industrial standard road.

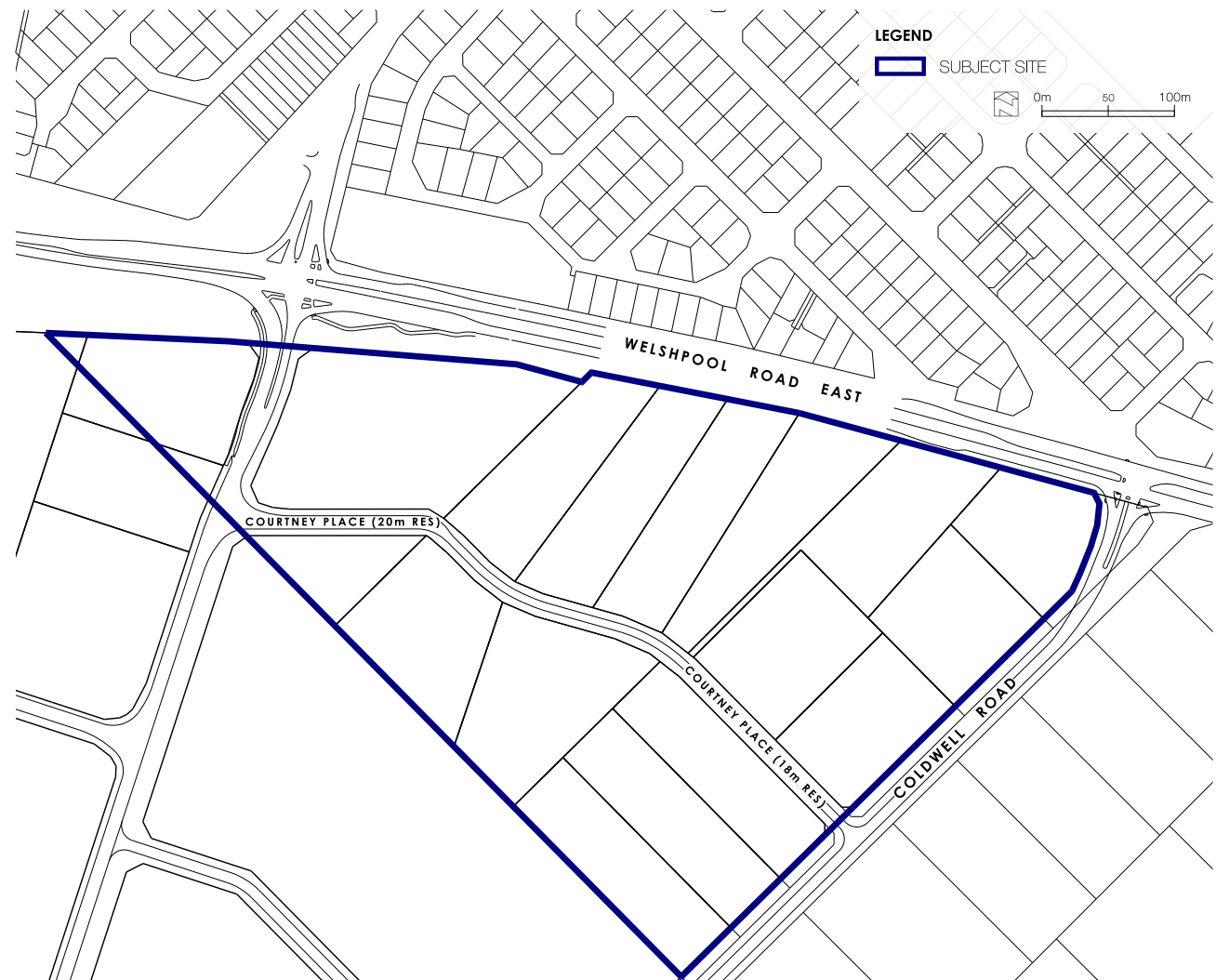


Figure 8: Lot layout within precinct.

2.3

BUILT FORM

2.3.1 BUILDING DESIGN AND QUALITY

Development Objective

The design of buildings shall promote a high quality industrial area through building articulation and presentation to the street, achieved through a diversity of building designs and materials encouraged to avoid a rigid, uniform outcome.

Development Controls

- Portions of a building which are visible from the primary or secondary streets are to incorporate:
 - Horizontal and vertical articulation to assist in breaking up the building mass through the use of recesses, columns, blades and other architectural features;
 - Variation in colours and materials with a minimum of two different colours and two different materials to be used;
 - Glazing to the street frontage, where practical, to promote surveillance of the street and/or open space;
- Areas of prefabricated concrete panels for external wall systems, i.e. 'tilt-up' visible from the primary street or secondary street frontage shall be detailed with expressed joints with a rendered and painted finish, or clad to the satisfaction of the City; and
- Building form shall use architectural features to establish visually distinct pedestrian access points. This includes the provision of legible pedestrian access points from the rear car parking areas to the rear entrance points of the building and distinctive entry doors and canopies to the street elevations.
- Plot Ratio is to be in accordance with the *Local Planning Scheme No. 3*.

Development Guidance

Contemporary industrial design style is encouraged.



Figure 9: Built form shall add to the character of the area through high quality design.

2.3.2 BUILDING ORIENTATION

Development Objective

Buildings shall be designed to be orientated to the primary street.

Development Controls

- The primary building entrance and façade shall orient to the primary street.
- For lots with multiple street frontages, the building must address both adjoining streets through orientation, design detail, materials and major opening(s).
- Where possible based on lot configuration and site design constraints, buildings shall be orientated and designed to be energy efficient through passive solar design.

Development Guidance

Passive solar design measures shall consider appropriate landscaping (trees, wall creepers etc.) to create shade in summer for car parking areas and buildings, and to allow the penetration of winter sun.



Figure 10: Buildings shall be designed to be orientated to the primary street.

2.3.3 BUILDING SETBACK

Development Objective

To achieve an attractive development outcome through individuality in building design and their relationship with the street.

Development Controls

- Buildings shall have a minimum setback of 15m to the primary street and 3m to the secondary street in accordance with the Scheme. Variations to the setback may be acceptable to the City where:
 - The variation is not considered to be detrimental to the broader streetscape;
 - The built form design for the portion of a building within the setback area is demonstrated to be of a high design quality; and
 - Additional landscaping is provided within the setback areas to mitigate the visual impact of the reduced building setback.
- Additional building setback requirements for Welshpool Road East are addressed in Section 2.4.
- Front setback areas are to be used for the purpose of access, car parking and landscaping. Other uses including stormwater drainage and storage of refuse may be undertaken in the front setback area where they are demonstrated to not be detrimental to the streetscape.
- Buildings shall have a minimum setback consistent with the Building Code of Australia for side and rear boundaries (except for buildings adjacent the Welshpool Road East boundary).

Development Guidance

Further variations to setbacks may be acceptable to the City where they are demonstrated to not have a detrimental impact on the function of the development or on the amenity or development potential of abutting properties.



Figure 11: Buildings shall be setback from the street to provide usable space between the street and building and contribute to an attractive streetscape.

2.3.4 END OF TRIP FACILITIES

Development Objective

New developments of substantial size and workforce shall provide end of trip facilities to facilitate diverse travel choices.

Development Controls

- For development with
 - NLA floorspace greater than 2000m²; and/or
 - more than 20 employees are proposed to be on site at any one time;
 there shall be allocated a minimum of one female shower and one male shower, located in separate change rooms or a minimum of two separate unisex shower and change rooms.

Development Guidance

- The showers must dispense both hot and cold water;
- The end of trip facilities shall include non-slip surfaces, hooks and/or benches for peoples belongings, adequate lighting and ventilation; and
- Secure change rooms capable of being locked.



Figure 12: End of trip facilities shall facilitate diverse travel choices for employees.

2.3.5 PARKING AND ACCESS

Development Objective

The on-site vehicular circulation and parking system shall achieve a safe, efficient, convenient, and functional movement of multiple modes of transportation.

Development Controls

- Vehicle access locations and circulation pattern shall minimize conflict with pedestrians and bicycles.
- Car parking shall be provided generally in accordance with Table 1 of the City's *Local Planning Scheme No. 3*.
- The car park area is to consist of a sealed finish such as asphalt, paving material or concrete.
- All vehicular access ways, service areas and parking areas shall be designed to enable vehicles to enter and leave in forward gear.

Development Guidance

- In accordance with the City's *Local Planning Scheme No. 3* the City may apply discretion to allow a lesser requirement for car parking than that stipulated if in its opinion the proposed use is likely to demand a lesser need for car parking bays.
- Tandem parking bays shall be accepted where the two bays are provided for the use of a single tenancy and are utilised by staff on-site.



Figure 13: Parking and access shall be designed to provide safe, efficient, convenient and functional movement of multiple modes of transportation.

2.3.6 LOADING AREAS

Development Objective

Loading areas shall be designed in a manner that minimises conflict between the delivery/ collection of goods and the access of employees and visitors to the site.

Development Controls

- Loading areas shall be designed to accommodate vehicular manoeuvring on site, including allowances for reversing so that vehicles can leave in forward gear, and shall not prohibit on-site vehicular circulation.
- Loading areas are to be screened from view of the primary and secondary streets. As an alternative the loading area should include design features to maintain a high quality presentation to the streetscape, including the use of colours and materials consistent with the broader building design to the satisfaction of the City.
- Loading and storage areas are to be screened from Welshpool Road East in accordance with Part 2.4.

Development Guidance

- Service and loading areas can be accommodated within the building area.



Figure 14: Loading areas shall be designed in a manner that minimises conflict between the delivery/ collection of goods and the access of employees and visitors to the site.

2.3.7 SIGNAGE

Development Objective

Signage within the estate shall be well designed and integrated into the building design to achieve identification of individual businesses whilst maintaining estate amenity.

Development Controls

- Signage shall be of a size and scale that reflects the surrounding environment and the need for exposure to passing trade based on the subject development.
- Signage may be internally or externally lit provided that this does not have a detrimental impact on abutting sites or on the safety of the abutting road network.

Development Guidance

- The City's *Signage on Private Property* policy (P-DEV 42) provides further guidance on the development of signs.
- Signage abutting Welshpool Road East will be assessed against the relevant Main Roads WA policy.



Figure 15: Signage within the estate shall be well designed and integrated into the building design to achieve identification of individual businesses whilst maintaining estate amenity.



2.3.8 EXTERNAL LIGHTING

Development Objective

External lighting is to be designed to provide a safe and secure environment on-site.

Development Controls

- Beacons, search lights, blinking lights, flashing or changing intensity lights will not be permitted.
- Lighting must be directed away from adjacent buildings and any public roads.
- Security lighting must be confined to entrances and pedestrian areas and must not project onto any public road.
- All car parking areas, pedestrian routes and entrances are to be well lit. Parking area lighting shall have a greater height than pedestrian area lighting, and be focussed downwards. Bollard lighting and pavement inset lighting is encouraged for pedestrian pathways.

Development Guidance

All external lighting shall be utilised in a manner which is consistent with the use for which it was designed (e.g., flood or spotlights, bollard lights, sensor lights, etc.).

2.3.9 CROSSOVERS

Development Objective

Crossovers shall compliment the streetscape and support the landscape qualities of the estate, while also meeting the requirements of safe access and egress to individual developments.

Development Controls

- Each site will be permitted to have a maximum of two (2) crossovers. Additional crossovers may also be permitted subject to City approval where the additional crossover:
 - Is considered to facilitate the safe movement of vehicles to and from the public road;
 - Is accompanied by additional verge landscaping to mitigate the impact on the streetscape.
- Crossovers are to be constructed of either concrete or block paving to the dimensions, line and level as outlined in City's specifications.
- Crossovers are to be constructed with the following dimensions:
 - Minimum width at property line – 6.0 metres;
 - Maximum width at property line – 10.0 metres or as approved; and
 - Wing dimension – To match 6.0m curve radius of crossover wing.

Development Guidance

- It is recommended that the minimum design requirement complies with the medium to heavy commercial and/or industrial traffic specifications.
- Owners and/or designers should check the pavement capacity with actual traffic loadings prior to making application to the City.

2.3.10 FENCING

Development Objective

Fencing shall compliment the visual aesthetics and overall character of the development, whilst also achieving its primary aim of providing security to businesses.

Development Controls

- Fencing located along the front lot boundary is to be black powder coated Garrison or Palisade fencing to a maximum height of 1800mm.
- Fencing shall be visually permeable to ensure passive surveillance opportunities.
- Fencing located behind the building line is to:
 - Be generally consistent with the front boundary fencing (black powder coated Garrison or Palisade fencing); or
 - Be designed to a minimum standard of 1800mm rail-less chain link or steel mesh incorporating black coloured PVC coating with black gates, posts and fittings.
- Barbed wire is generally permissible but must not be installed along a street boundary.



Figure 16: Fencing shall compliment the visual aesthetics and overall character of the development, whilst also achieving its primary aim of providing security to businesses.

2.3.11 STORMWATER MANAGEMENT

Development Objective

Achieve best practice urban water management principles through the management of storm water on each development site.

Development Controls

- Design of stormwater management on site is to be in accordance with the approved Local Water Management Strategy (LWMS).
- As per the LWMS, the lot detention areas will be required to detain flows up to the 100 year ARI event at a rate of 36 L/s/ha.
- A detention storage of 30 m³/ha is required within lots.
- Stormwater quality treatment for the first 15mm runoff needs to be addressed using WSUD treatment train approach providing bio-retention areas or suitable alternative retention measures as appropriate for the site geotechnical conditions and individual lot use.
- Onsite landscaping and potentially car park areas or other open spaces within lots can be used for the detention of stormwater with an average ponding depth of 50mm.

Development Guidance

Design of stormwater management on site is to be outlined in a drainage concept plan as a component of a development application.

2.3.12 WASTE MANAGEMENT

Development Objective

Bin storage and service facilities are to be provided on site in a manner that does not negatively impact on views from the adjacent streetscape.

Development Controls

- Outdoor storage of goods is not permitted forward of the building line, and outdoor storage areas are to be delineated in accordance with the approval of the City and are to be screened from view of the primary or secondary street in the manner approved.
- Bin storage may be undertaken internal to a building where sufficient space is identified as a component of a development application.
- A bin wash down facility shall be provided in a suitable location on site.
- Waste and recycling storage points are to be screened by solid fencing or landscaping to ensure they are not visible from public streets.
- External bin storage areas are to have a minimum site area of 10m² where located external to a building, and may be designed as a single enclosure or multiple smaller enclosures.
- Where visible from the primary or secondary street an external bin enclosure must include screening to a minimum 1.5m in height sufficient that the bins are not visible from the primary or secondary street.

2.4

WELSHPOOL ROAD EAST INTERFACE

Development Objective

Development on sites abutting Welshpool Road East (as identified in **Figure 7**) are to be designed in a manner which does not detrimentally impact upon the streetscape of Welshpool Road East.

Development Controls

- Development of land abutting Welshpool Road East is to include landscaping adjacent the lot boundary to Welshpool Road East to achieve an appropriate development interface with this road with a minimum width of:
 - 3m within the Service Commercial precinct; and
 - 6m within the Light Industrial precinct;
 as outlined in **Figure 7** and in accordance with the landscaping standards outlined in Section 2.5.
- Buildings are to be setback a minimum of 15m from the Welshpool Road East boundary. The setback requirement may be reduced to a minimum of 8m where:
 - The built form design for the portion of a building visible from Welshpool Road East is demonstrated to be of a high design quality; and
 - The 8m setback area is fully landscaped in accordance with the requirements of Section 2.5.
- Any proposed fencing or development to this road boundary shall not impact the existing tree line and vegetation located within the road reserve.
- Existing trees located in the Welshpool Road East verges are to be retained and protected during development of the adjacent property, except where specific authority has been achieved through the City for their removal or pruning.
- Direct access to Welshpool Road East is not permissible unless otherwise approved by the City and Main Roads WA.

- The design of development must ensure that all service yards and storage areas are suitably screened from Welshpool Road East to ensure that a high level of visual amenity is maintained while travelling along this road. Screening measures shall include:
 - Landscaping to a sufficient density that will screen the materials to be stored; or
 - Fencing shall be constructed of materials consistent with the adjacent approved building and in accordance with Part 2.3.10 (Fencing).
- Portions of buildings facing Welshpool Road East must be designed in a manner which makes a positive contribution to the streetscape, and shall include variations in colour and materials, architectural features and cladding of prefabricated concrete panels (in accordance with Design Guideline Criteria 2.3.1).



Figure 17: Development within the Light Industrial Precinct is to be designed in a manner which does not detrimentally impact upon the streetscape of Welshpool Road East.

2.5

LANDSCAPING

2.5.1 ON-SITE LANDSCAPING

Development Objective

All developments shall incorporate appropriate landscaping as an essential element for the enhancement of the overall aesthetics for the estate. The landscape outcomes will assist with the softening of building mass, screening of service structures and loading areas, enhance the amenity of the streetscape, define public and private areas, provide shade and climate control and filter drainage and stormwater runoff.

Development Controls

- A minimum of 5% of the total lot area is to be allocated for landscaping purposes, which includes the minimum landscaping strip provided along all street frontages outlined in **Figure 7**.
- The landscaping strip abutting street frontages is to be planted with large trees that have a minimum bag size of 100L at a spacing of 1 tree for every 10m of frontage, in addition to a variety of shrubs, as outlined in **Figure 18**.
- Trees are to be planted within uncovered car parking areas at the rate of 1 per 4 car parking spaces, as outlined in **Figure 18**.
- There are no more than 6 adjoining car bays without the area being punctuated by a tree.

Development Guidance

- The design of landscaping should take account of the approved Local Water Management Strategy and Urban Water Management Plan.
- A Landscape Intent Plan is to be provided as a component of a development application to outline the proposed on site landscaping.
- To ensure landscaping is successful, landscaped areas should be irrigated with an appropriate reticulated watering system. Land owners should:
 - Install a low flow trickle irrigation system;
 - Install a programmable water controller/timer system; and
 - Direct rainwater runoff from buildings and hardstand areas to the landscaped areas.

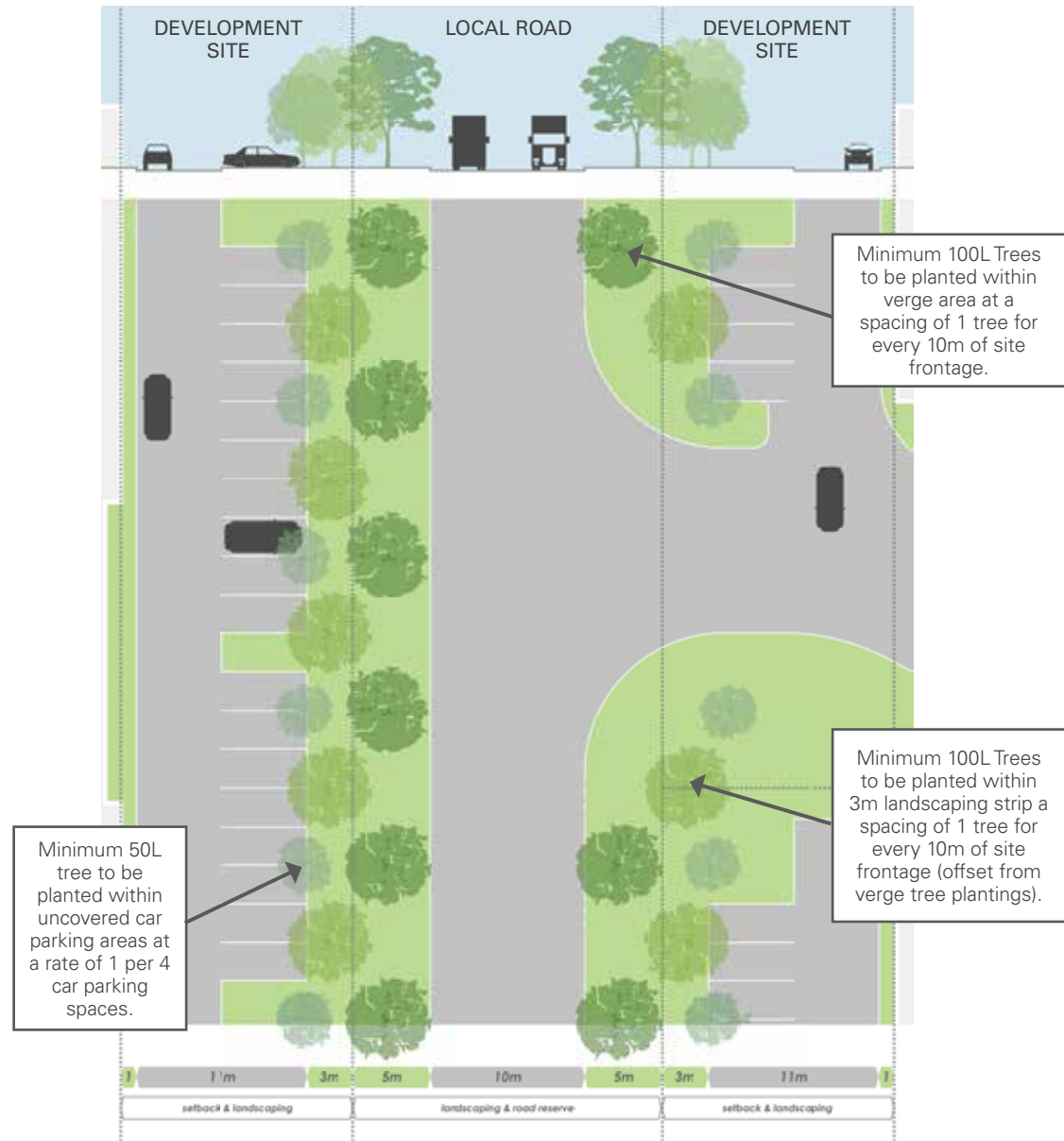


Figure 18: Cross section outlining the primary street frontage landscaping requirements within front setback area and road verge in accordance with the development controls under section 2.5.1 and 2.5.2.

2.5.2 VERGE AMENITY

Development Objective

Development will contribute to a high amenity and cohesive public realm streetscape to establish the Estate character and vision.

Development Controls

- Street verges shall be kept in a tidy and visually appealing manner at all times and maintained by abutting landowners.
- Development is to provide a minimum of one verge tree for every 10m of street frontage (**Figure 18**) and onsite reticulation shall be extended to the verge landscaping and maintained by the landowner.
- Verges are not permitted to be used for the display of goods or the informal parking of vehicles without the approval of the City.
- Verges abutting each property are required to be maintained by the abutting landowner, including the maintenance of turf and removal of hazards (including fire hazards) where applicable.
- Verge design shall be maintained to facilitate ease of pedestrian movement, particularly into the precinct from Welshpool Road East.

Development Guidance

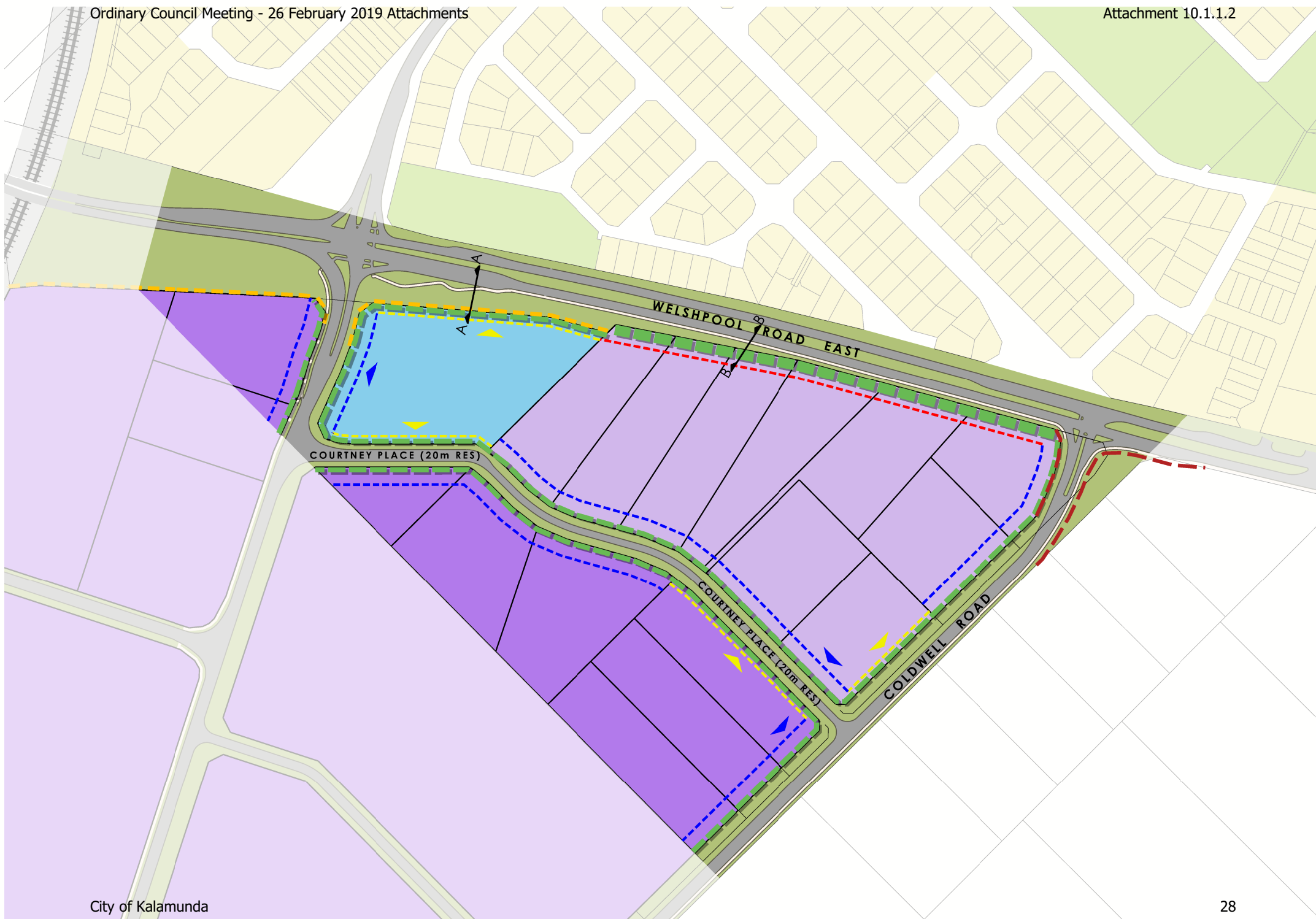
- Manicured grass verges are accepted as they are visually appealing, generally low in maintenance and can provide a consistent street aesthetic.
- Sustainable waterwise verge landscaping is permitted in lieu of turf where the plant species are supported by the City and plants are regularly maintained by the adjacent land owner.
- On request, the City will undertake street tree pruning and slash verges that present a fire hazard. All other verge improvements are the responsibility of the owner.
- Any works proposed within the street verge shall be clearly indicated on plans when lodging for a Development Approval from the City.

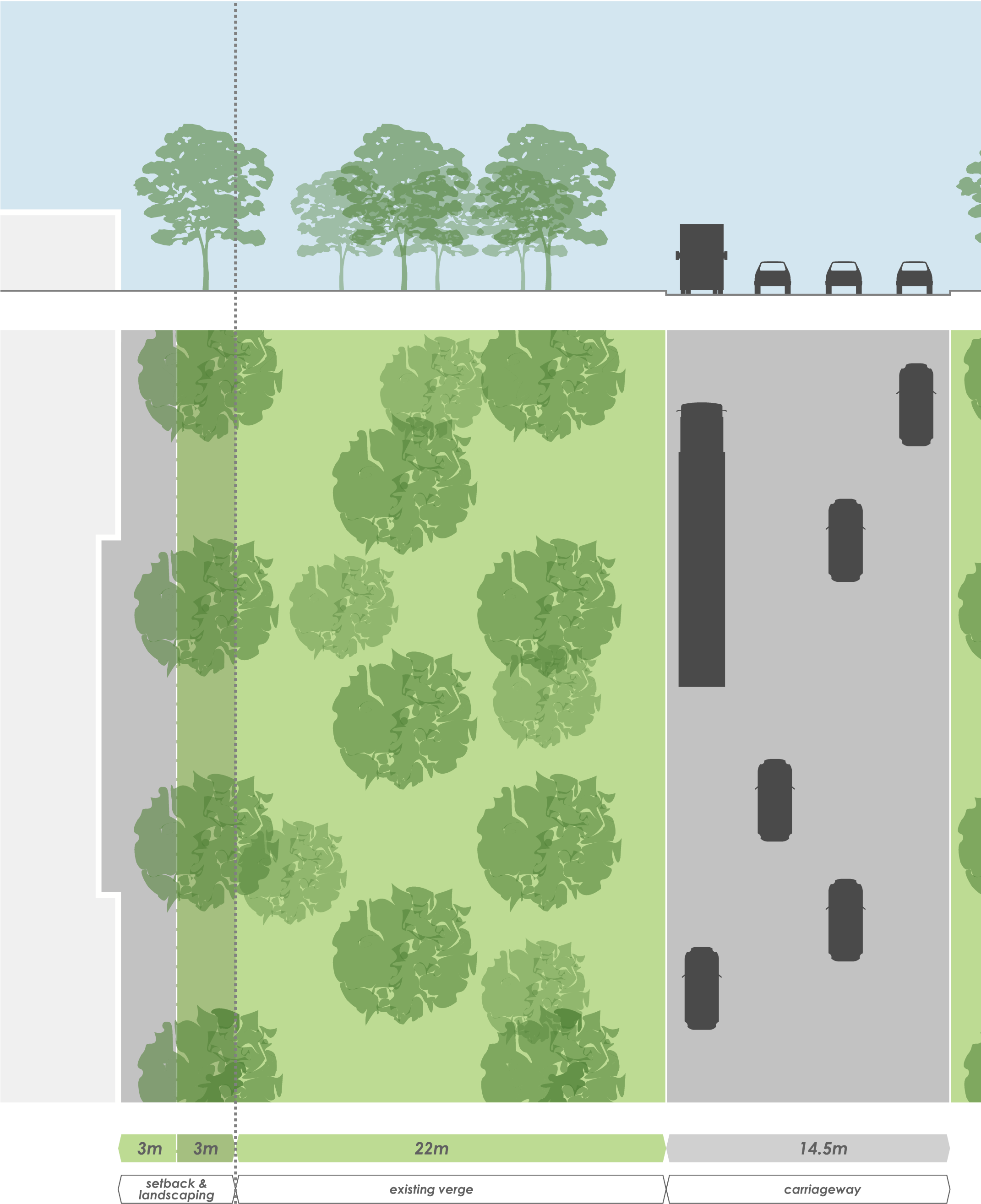
City of Kalamunda

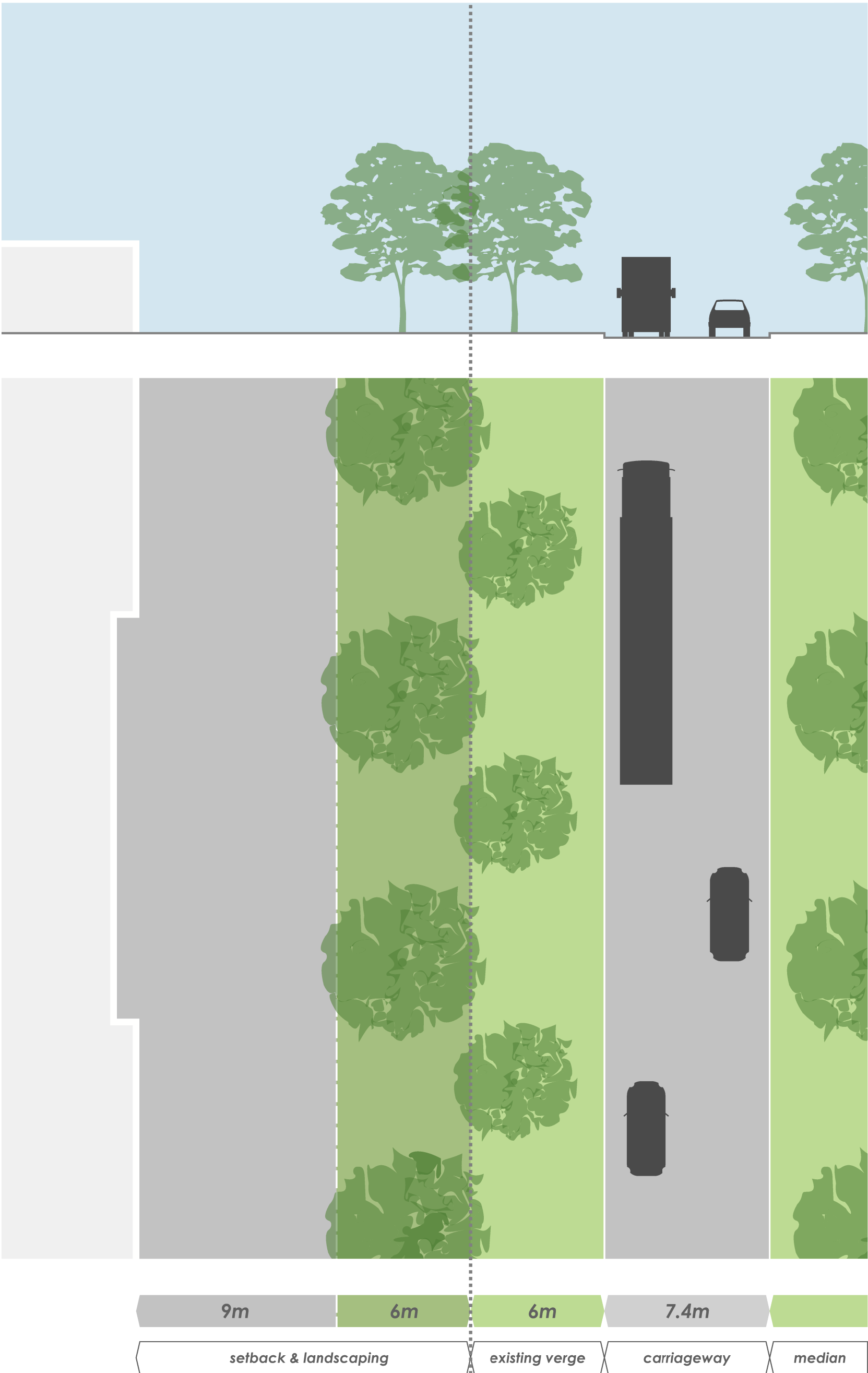


Figure 19: Development will contribute to a high amenity and cohesive public realm streetscape to establish the Estate character and vision.











AGED CARE



OVER 55



PARK INTERFACE HOUSING



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.



1



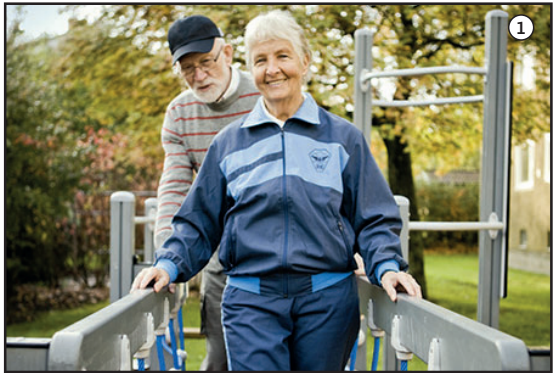
1



3



7



1



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 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.



URBIS CAMBRIDGE RESERVE LANDSCAPE CONCEPT PLAN - WESTERN PORTION

DISCLAIMER
This plan is conceptual and is for discussion purposes only.
Subject to further detail study, Council approval, engineering input and survey.
Cadastral boundaries, areas and dimensions are approximate only.
Figured dimensions shall to preference to scaled dimensions.
No relevance should be placed on this plan for any financial detailing of the land.

DATE: 07.01.19
JOB NO: ND1980
DWG NO: AR-CD04
REV: 8
1:500 @ A1



- 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.



URBIS **CAMBRIDGE RESERVE**
LANDSCAPE CONCEPT PLAN EASTERN PORTION

City of Kalamunda

DISCLAIMER
This plan is conceptual and is for discussion purposes only.
Subject to further detail study, Council approval, engineering input and survey.
Cadastral boundaries, areas and dimensions are approximate only.
Figured dimensions shall to preference to scaled dimensions.
No relevance should be placed on this plan for any financial detailing of the land.

1:500 @ A1
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100

DATE: 07.01.19
JOB NO: ND1980
DWG NO: AR-CD05
REV: 8

CAMBRIDGE RESERVE TECHNICAL NOTE:

Community views of the existing Cambridge reserve:

TOP TEN LIKES

1. Bushland / Natural Feel
2. Walking / Trails
3. Nothing
4. Waterbody / Lake
5. Quietness
6. Proximity to Home
7. Size
8. Dog Walking
9. Family Orientated
10. Playground

MOST WANTED IMPROVEMENTS

1. Seating
2. Play Equipment
3. Shade / Shelter
4. BBQs
5. Toilets

BENCHES / SEATING

Is the quantity acceptable?



4.3%
agree



80.9%
disagree



4.3%
agree



73.9%
disagree

Is the quality acceptable?

PLAY EQUIPMENT

Is the quantity acceptable?



13.0%
agree



69.6%
disagree



17.4%
agree



52.2%
disagree

Is the quality acceptable?

**IS CAMBRIDGE
RESERVE IS A
HIGH QUALITY
OPEN SPACE
THAT EVERYONE
CAN ENJOY?**



17.4%
agree



73.9%
disagree

Source: City of Kalamunda

DESIGN RATIONALE AND PHILOSOPHY

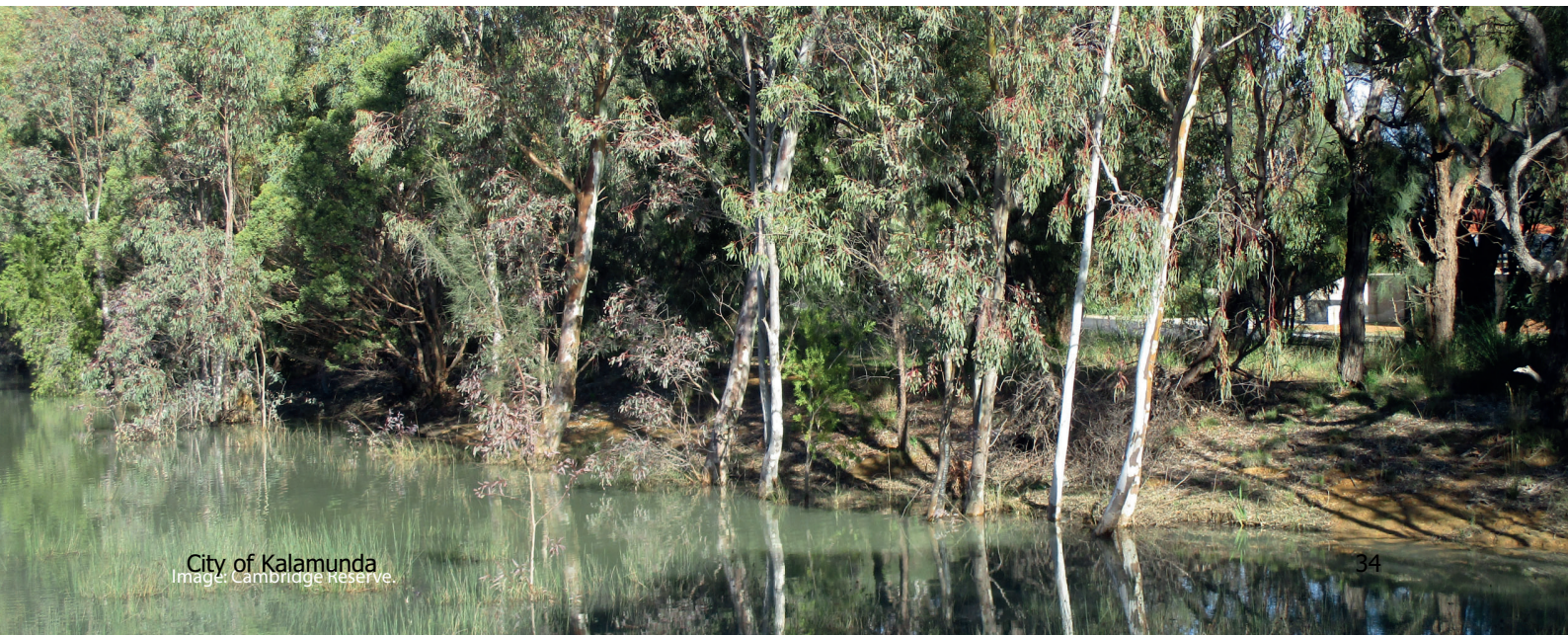
The decision to provide housing on open space is not one that is taken lightly, but one that in this case is justified given the current limited functional use of the site and the demand for aged housing in the vicinity. The following technical note outlines the approach undertaken in the design of the site in response to community feedback and provides a rationale behind the design decisions made.

Aged Accommodation Demand – The City of Kalamunda commissioned Macro Plan Dimasi to prepare an Aged Accommodation Strategy Report 2016 that identified a demand for Affordable Housing in the City. This report identified a growing demographic in the 65-84 age bracket and recommended the use of government sites as an opportunity to encourage retirement living and aged care developments in the local area. This has been a core focus of this plan on how to provide for this demographic.

An 1.28 HA aged care site/ over 55 housing site has been located in the centre of the site to address this demographic. This site is generally flat and largely cleared and offers good view lines across the basin area offering both surveillance and amenity. The site is separated from the adjacent retained bushland by a managed parkland strip and is a short walk to the activity hub/ playground.

This site has been consolidated to provide a distinct separation from surrounding residences. This forms a mini aged care precinct within the site. This could be further enhanced or acknowledged through a change in pavement type or a coordinated street interface.

Additional Housing – Additional housing sites have been identified along the rear fence of Mallow Way and in the degraded bushland adjacent. These housing sites provide additional surveillance opportunities of the retained bushland and aim to minimise antisocial behaviours that were occurring as a result of the open space backing onto rear fences. The associated road network has been designed to double as a firebreak from the retained bushland and ties in with the existing neighbourhood grid.





A final development site has been located along the western edge of the site. Access to these sites will be provided by the access spine running along the park edge. This road will also provide parallel parking opportunities for visitors. It is anticipated that structures on these lots will be two storeys to provide passive surveillance over the park.

Retained Bushland – A site assessment identified a central core area with retained local bushland of a good quality and a strip along York Street with similar qualities. The remainder of the site consisted of cleared land or degraded bushland containing non-native and invasive species. Based on this information, the retention of the quality bushland formed the focus of the design approach. Minimising impacts to this bushland through clear demarcation and the establishment of a fire buffer began to inform the remainder of the design parameters. Much of this fire buffer has been put in place through the careful placement of streets serving as access and separation. Managed parkland areas with an extensive pathway network make up the remainder of the buffer area providing additional separation between existing housing and the retained bushland. The network of pathways also intersects the bushland area offering a balance of access and preservation.

Detention Basin - The site also serves as a detention basin during large storm events. Water is brought to the site from the hills and collects in the basin along the western edge. This feature is often wet during winter months but dry during the summer period. The design approach to this feature needs to preserve the capacity of the basin but also ensure that this is also pleasant and appealing in both its states. A small retention area has been identified to replicate a wetland feature. This wetland features a boardwalk and weir that overflows to the larger basin providing an indication of function of the basin year round. Seating and shaded areas have been located around this feature in line with community feedback offering places

of quiet respite or opportunities for viewing wildlife. This has been located adjacent to the aged care group housing site to provide surveillance and amenity for the future aged population.

The existing drainage channels directing water to the site will be formalised minimising erosion issues and offering the opportunity to introduce a living stream element to assist in water filtration. The stream can be located to provide a natural border to the retained bushland area and serve as a feature for the site.

Activity Hub/ Youth and Aged Nature Playground – Linked to the development of the site is an opportunity to upgrade the existing playground and parkland to provide a feature that has more accessibility and function for the surrounding residents. Informed by the community workshop this hub can feature an upgraded playground, half-court basketball, a barbeque area and associated seating and shelters set amongst native planting. This site has good surveillance from the existing neighbourhood and from the proposed new housing sites and aged care site.

Open Managed Parkland and Managed Bushland – The remainder of the site will operate as open managed parkland or managed bushland providing a buffer to the retained bushland and offering a more formal environment in which to recreate and enjoy Cambridge Reserve. Pathway networks are located across the site to link to existing access ways and ensure this resource is accessible to the surrounding community. Benches and seating is located at key sites along these pathways to provide respite opportunities.

URBIS

CAMBRIDGE RESERVE

COMMUNITY ENHANCEMENT

PREPARED FOR
CITY OF KALAMUNDA
JANUARY 2019
FINAL VERSION



© Urbis 2019

This publication is subject to copyright. Except as permitted under the *Copyright Act 1968*, no part of it may in any form or by any means (electronic, mechanical, photocopying, recording or otherwise) be reproduced, stored in a retrieval system or transmitted without prior written permission. Enquiries should be addressed to the publishers.

URBIS.COM.AU



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.
- **Integration of the drainage basin** - The drainage basin on site provides a necessary function retaining water and run-off 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.
- **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.
- **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.





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.





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 board-walk 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
- 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.

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 requirements.

DESIGN TESTING

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

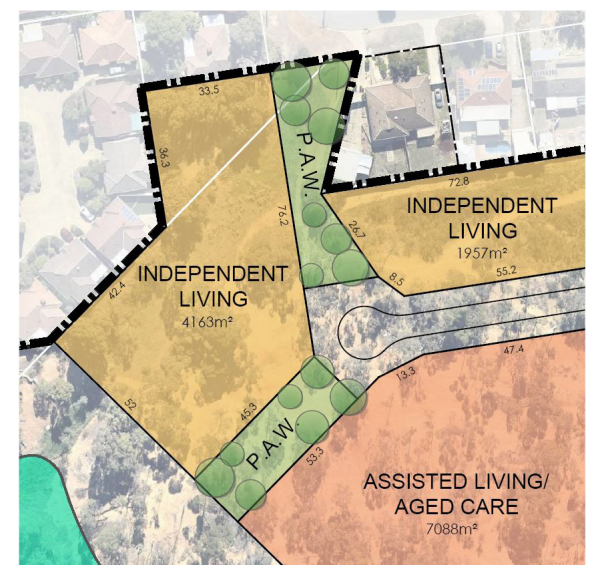


Alternate: Partnership with Department of Communities land



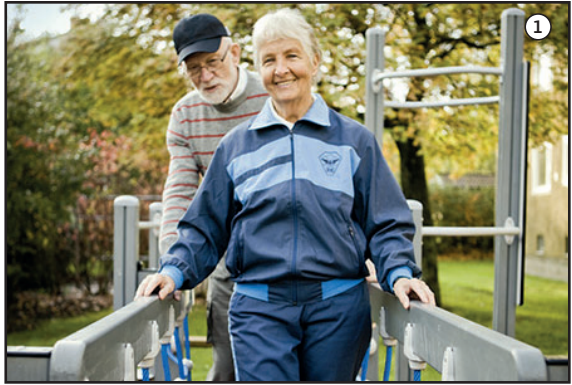
Alternate: maintaining existing drainage line from York Street

Alternatives to the existing drainage provisions on site were explored.



Alternate: Increasing retirement living component

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



6.0 SUBDIVISION, STAGING AND DELIVERY

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

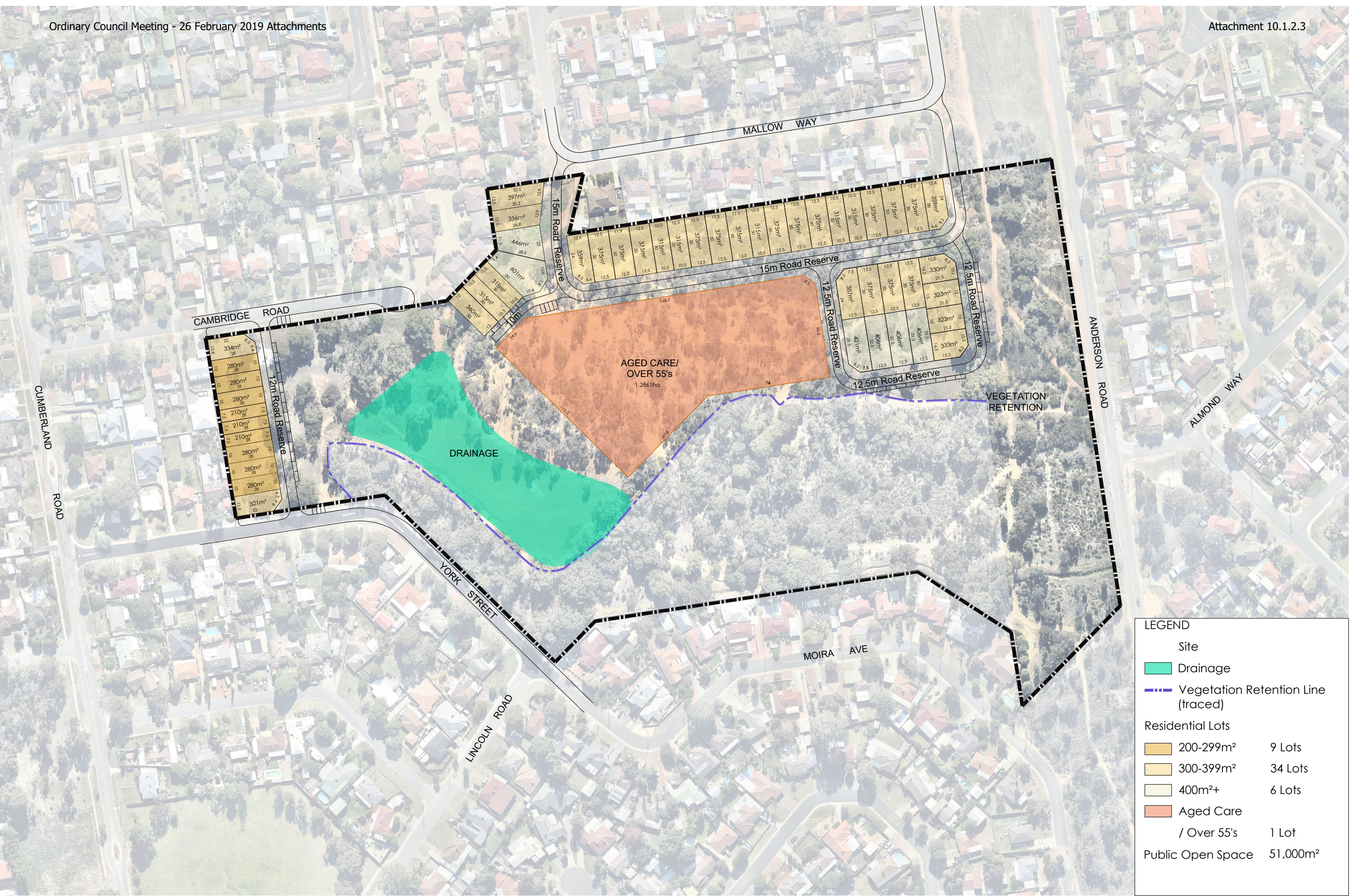
- Connections to the detention basin have been identified for upgrade, channelling overland drainage into Water Sensitive Urban Design channels or through a formal drainage network across the site.
- Standardised lot frontages and depths with a variety in products provided;
- Typical road reserve widths 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

200-299m²

9 Lots

300-399m²

34 Lots

400m²+

6 Lots

Aged Care

/ Over 55's

1 Lot

Public Open Space

51,000m²



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

City of Kalamunda

DATA SOURCE
LANDGATE
PROJECTION
MGA94, Zone 50

DISCLAIMER
Copyright by URBIS Pty Ltd. This drawing or parts thereof may not be reproduced for any purpose or used for another project without the consent of URBIS. The plan must not be used for ordering, supply or installation and no reliance should be placed on this plan for any financial dealing of the land. This plan is conceptual and is for discussion purposes only and subject to further detail study, Council approval, engineering input, and survey. Cadastral boundaries, areas and dimensions are approximate only. Written figured dimensions shall take preference to scaled dimensions.

CLIENT
City of Kalamunda

1:2000 @ A3
0 20 40m

PROJECT NO.
ND P0002785
DRAWING NO.
02
DATE
10.01.19
REVISION
E
G

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, City of Kalamunda

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



CAMBRIDGE RESERVE COMMUNITY ENGAGEMENT OUTCOMES SUMMARY

Cambridge Reserve (Concept Design) – Engagement Workshops

Findings and Outcomes Report

Background

Cambridge Reserve is nine hectares of passive open space (recreation) which falls under Local Planning Scheme Zone: Local Open Space Planning (passive recreation reserve). The City of Kalamunda (the City) may, with approval from the Minister for Lands and Department of Planning, transfer recreation reserves for development purposes and apply the proceeds from rezoning and development to capital improvements in the general locality.

In 2012–2013, the City undertook a series of technical investigations to explore the opportunities for developing a portion of Cambridge Reserve, for the purposes of residential development and improved open space. The findings of these investigations indicated that portions of the site were suitable for urban development. Preliminary consultation with the Community found that the community was not receptive to the proposal and the Council decided not to continue with the process.

The City has since undertaken a number of further investigations, which has culminated in the development of Aged Accommodation Strategy 2016 (the Strategy). The City has identified an opportunity to action some of the recommendations of the Strategy and deliver broader community outcomes by delivering a mixture of residential, aged accommodation and improved Public Open Space (POS) on the site.

This aligns with Objective 3.1 – To plan for sustainable growth, and strategy 3.1.1 – Plan for diverse and sustainable housing, community facilities and industrial development to meet changing social and economic needs.

The Cambridge Reserve Community Enhancement Project seeks to transform Cambridge Reserve into an improved open space, which will include development of aged care housing opportunities and amenities. Community consultation was undertaken in early 2018 with surrounding residents and the broader community, to assist gathering an understanding of their vision for the area and POS improvements on the site.

The City received input from 67 community members. The process identified that the community would like to see more and improved facilities such as seating, play equipment, shelter and barbeques. The process also showed that the community values the environmental aspect of the reserve, such as its bushland feel, the walking trails, quietness and waterbody. As planned, the feedback was collated and incorporated into the Concept Design.

The Concept Design, developed in conjunction with Urbis, was released to the public for comment in early July 2018.

Community members were invited to provide their feedback in three ways; by completing the survey, writing a submission to the City or attending the community workshop. The Findings and Outcome Report summarises the finding of the community workshop.

Overview of the Workshop

The Community Workshop was held on Wednesday 1 August 2018 from 5.30pm to 7.15pm, at the Woodlupine Family and Community Centre in Forrestfield.

The workshop was promoted via newspaper advertisements, social media, letters to residents within a 2-3km radius of Cambridge Reserve, flyers at City locations (i.e. recreation centres etc.), pop-ups at the Forrestfield Library and Hawaiian's Shopping Centre, the City's website and engagement portal.

38 community members attended the workshop including Councillors Allan Morton and Margaret Thomas.

Upon arrival, attendees were invited to sit at one of the six tables set up around the room. Each table was allocated a City staff member to assist with facilitation of workshop activities.

Director of Asset Services, Peter Veralis, provided attendees with background information on the project and clarified the process involved when transferring a reserve to public open space.

Manager of Customer and Public Relations, Nicole O'Neill, provided an update on the community consultation process, highlighting the findings from the engagement undertaken in early 2018 and how that feedback had been used to develop the concept design for the reserve.

Attendees were then invited to participate in four group discussions and activities relating to the draft Concept Design:

- 1) Identify three features that would be most beneficial to you and your family;
- 2) Identify an aspect of the plan you would change if you could;
- 3) Identify an example of public open space that has been done well; and
- 4) Identify the benefits the plan will bring the community as a whole.

Attendees were able to identify more than the designated number of features should the table not be able to reach a consensus.

Following each activity, a spokesperson from each table shared the results with the room.

The results from each activity are detailed below.

Results

Activity 1) Identify three features that would be most beneficial to you and your family.

Feature	Number of Times Identified	Reasons Why
Managed bushland	5	<ul style="list-style-type: none"> • Love the natural feel of walking through the bushland • The location • Natural bushland retention
Aged care	5	<ul style="list-style-type: none"> • Integrating elderly with the rest of the community is excellent • Help overcome aged crisis • There is infrastructure and space for this
Wetland	3	<ul style="list-style-type: none"> • Will improve the attractiveness of the area during summer in particular • Prevent dumping • Essential for community, somewhere to go without leaving their own suburb
Activity hub	3	<ul style="list-style-type: none"> • Good for local families • Integration of sporting facilities • Playgrounds lacking in the area
Pedestrian path	2	<ul style="list-style-type: none"> • Recreation • Walking/cycling • Provided it is well lit and accessible
Over 55's	2	<ul style="list-style-type: none"> • Provides funding • Integration of aged demographics
Fenced dog area	1	<ul style="list-style-type: none"> • Love the segregated dog park
Total	21	

Activity 2) Identify an aspect you would change and why.

Feature	Number of Times Identified	Reasons Why
Residential development	3	<ul style="list-style-type: none"> • Urban development is removing bushland • Anti-social behaviour • Loss of view from Cambridge Road for existing residents
Parking	3	<ul style="list-style-type: none"> • Not enough parking for dog park • Not enough parking for activity hub
Aged care	1	<ul style="list-style-type: none"> • Will cause loss of environmental values • No buildings
Pedestrian path lighting	1	<ul style="list-style-type: none"> • Provide lighting
Fenced dog area	1	<ul style="list-style-type: none"> • Separating dogs from water
The whole plan	1	<ul style="list-style-type: none"> • Leave the park as is • Trees and vegetation are returning
Total	10	

Activity 3) Identify good examples of public open space.

Example	Reasons Why
Cambridge Reserve	<ul style="list-style-type: none"> Environmental values
Tomato Lake	<ul style="list-style-type: none"> Environmental values
	<ul style="list-style-type: none"> Café
	<ul style="list-style-type: none"> Pathways
	<ul style="list-style-type: none"> Entertainment
Moon Pool (Kings Park)	<ul style="list-style-type: none"> Water feature
	<ul style="list-style-type: none"> Well maintained
	<ul style="list-style-type: none"> Café
Cairns Waterfront	<ul style="list-style-type: none"> Waterpark
	<ul style="list-style-type: none"> Vibrant
	<ul style="list-style-type: none"> Intergenerational
	<ul style="list-style-type: none"> Artificial beach
Kings Park	<ul style="list-style-type: none"> Open space
	<ul style="list-style-type: none"> Big
	<ul style="list-style-type: none"> Multi-use
	<ul style="list-style-type: none"> Grassed areas
	<ul style="list-style-type: none"> Water feature
	<ul style="list-style-type: none"> Environmental values
	<ul style="list-style-type: none"> Parking
	<ul style="list-style-type: none"> Café
	<ul style="list-style-type: none"> Lighting
	<ul style="list-style-type: none"> Landscaping
Wendy Whitely	<ul style="list-style-type: none"> View
	<ul style="list-style-type: none"> Indigenous references
	<ul style="list-style-type: none"> Community feel
Whitegum Valley	<ul style="list-style-type: none"> Environmental values
	<ul style="list-style-type: none"> Dog friendly
	<ul style="list-style-type: none"> Family friendly
Southbank	<ul style="list-style-type: none"> Pathways
	<ul style="list-style-type: none"> Play areas
	<ul style="list-style-type: none"> Café
	<ul style="list-style-type: none"> Intergenerational
Lake Macquarie	<ul style="list-style-type: none"> Intergenerational
Garvey Park	<ul style="list-style-type: none"> Multi-use
	<ul style="list-style-type: none"> Intergenerational
Jorgensen Park	<ul style="list-style-type: none"> Carparks
	<ul style="list-style-type: none"> BBQs
	<ul style="list-style-type: none"> Playground
	<ul style="list-style-type: none"> Environmental values
China	<ul style="list-style-type: none"> Pathways
	<ul style="list-style-type: none"> Vibrant
	<ul style="list-style-type: none"> Entertainment
South Beach	<ul style="list-style-type: none"> Environmental values
	<ul style="list-style-type: none"> Accessible
Lesmurdie Falls	<ul style="list-style-type: none"> Dog friendly
	<ul style="list-style-type: none"> Environmental values
	<ul style="list-style-type: none"> Viewing platforms

Activity 4) What are the benefits or otherwise of the plan.

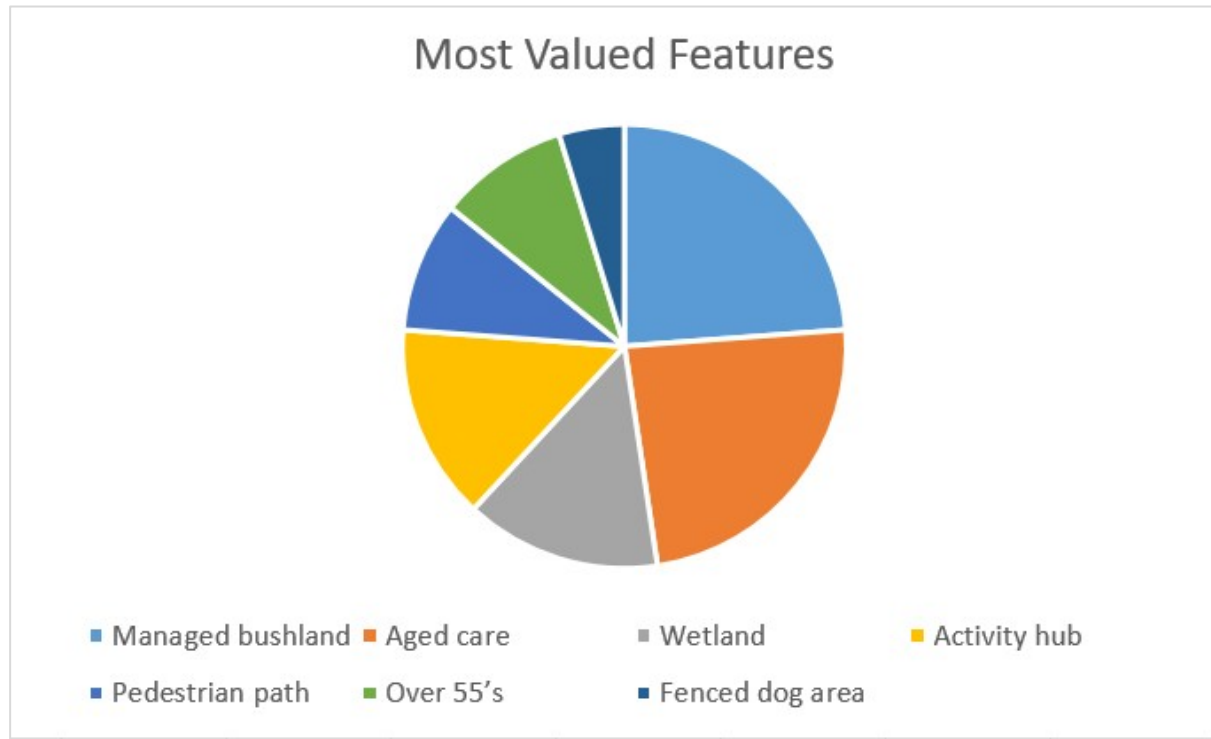
Benefits	<ul style="list-style-type: none"> • Provision of aged care in the City • Ability for aged to interact with community • Quality play areas • Fencing of bushland for protection • Park/picnics • Recreation for everyone • Enhancement of bushland • Family friendly • Intergenerational • Attractive • Improved safety • More utilisation • Established tracks • More young people • Revegetation of degraded areas • Better access • Better pathways
Otherwise	<ul style="list-style-type: none"> • Existing properties will lose their view of the park with the construction of the residential areas • Potential for anti-social behaviour • Public space reduced • Biodiversity interrupted • Traffic increase • Lack of parking • Dense housing • Not enough lighting • Loss of bushland/habitat/native flora and fauna • Dog exercise area is too small • Grassed areas replacing bushland • Potential loss of species

Comments)

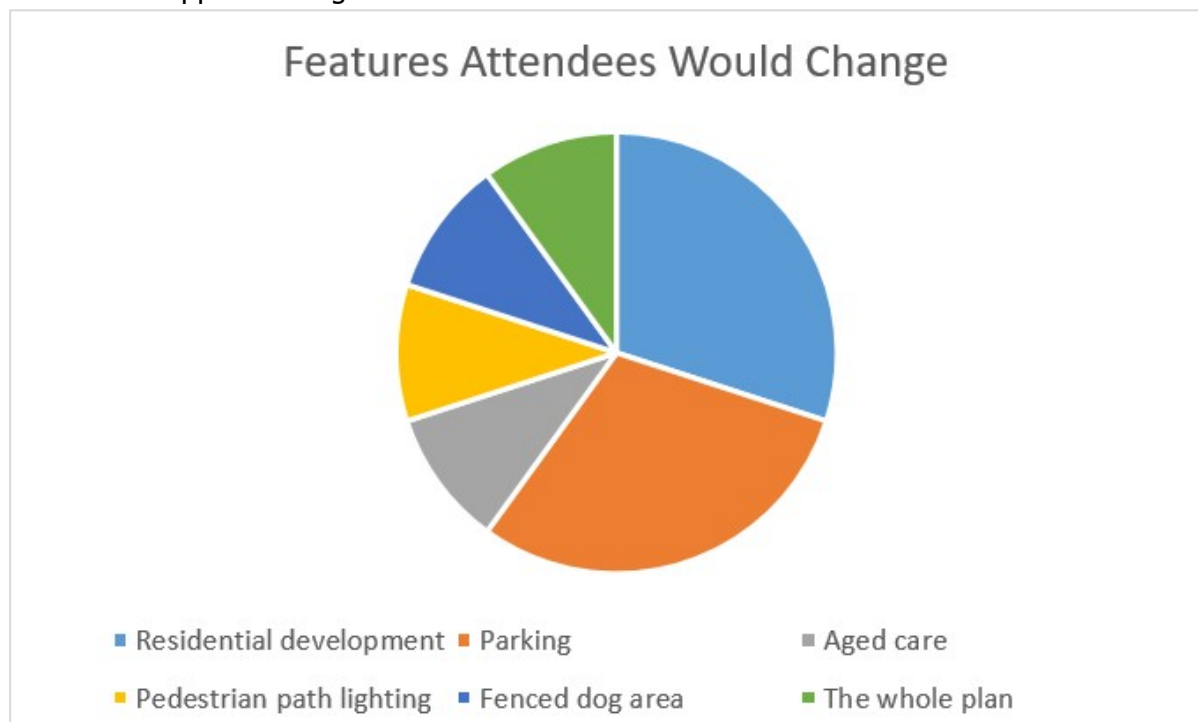
- Consider changing the half basketball court to a mini soccer pitch, or having both.
- Instead of residential, enhance the existing reserve.
- Some residents on Cambridge Road, adjacent to the residential housing, are concerned they will lose their direct view of the park.
- Some residents are concerned about the removal of vegetation to facilitate development.

Summary

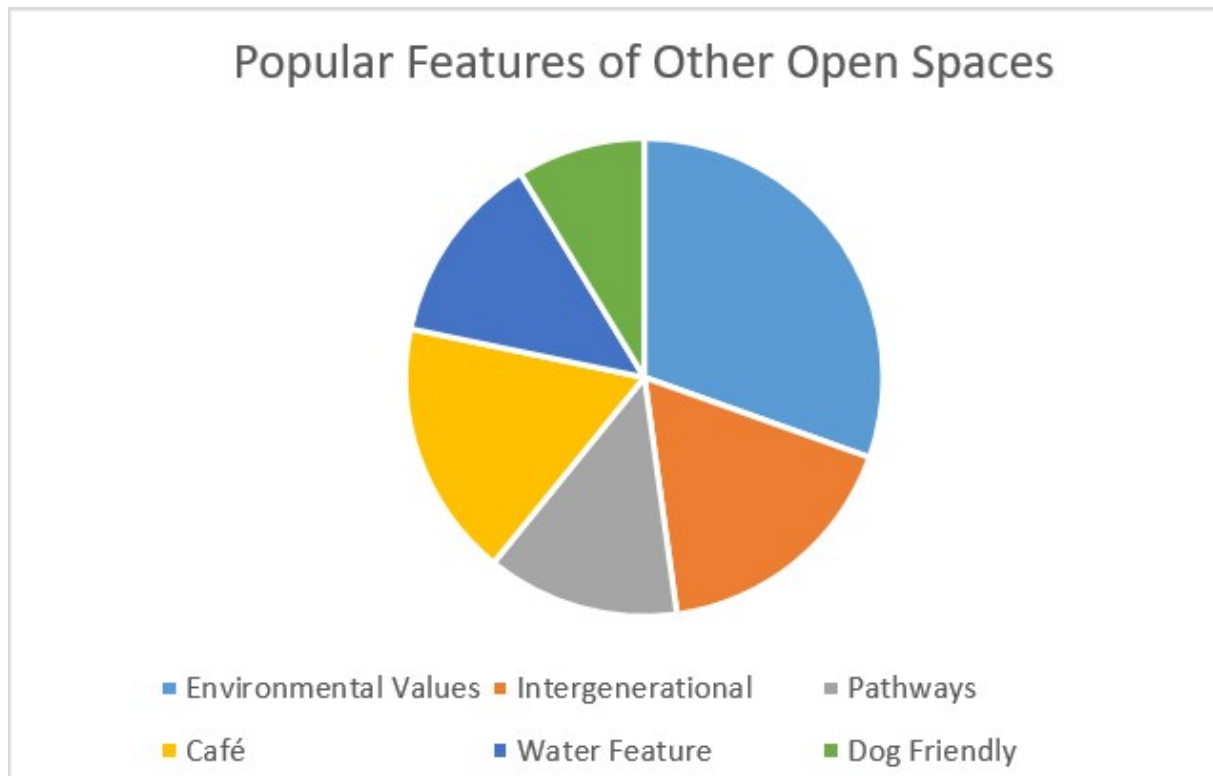
Results from Activity 1 show that the aged care facility and managed bushland were the most valued features of the plan, followed closely by the wetland/water feature and activity hub.



The feature the attendees would most like to change was a tie between the parking and the residential development, however these were not supported by the majority, receiving only 33.33% of support amongst the other tables in the room.



Identifying what the attendees believed were good examples of public open space and why has revealed some trends in features. The reason why attendees rated their spaces as a “good example” was most likely due to the space being intergenerational, holding environmental values, a water feature, pathways, café or being dog-friendly.



Activity 4 highlighted a clear divide in opinion between workshop attendees (i.e. supports the concept design vs. does not support the concept design). Those that supported the concept design were eager to see more aged care facilities in the City and a more family-friendly/intergenerational and usable space, whilst enhancing the existing bushland features.

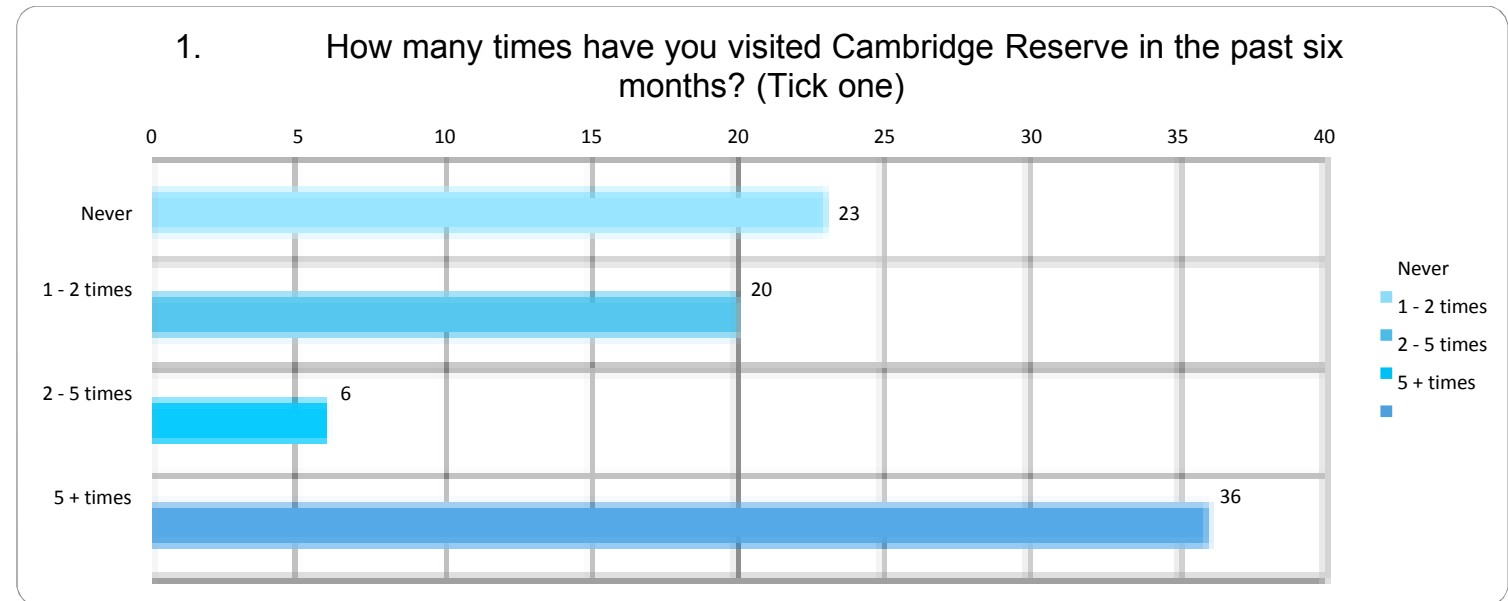
Those that did not support the concept design appeared to be concerned about the impact on the enhancement would have on them (i.e. increased traffic in their neighbourhood, loss of their view of the park, loss of property value, anti-social behaviour in their neighbourhood) or the impact on the park’s environmental values (i.e. removal of vegetation/bushland for the purpose of development).

Overall, the workshop has highlighted that the provision of aged care and maintenance of environmental values are both equally important to the community. Looking at the concept design, lack of parking and the residential feature of the plan were the aspects that most groups would like to be considered further, though there was no clear consensus within the room on what feature of the plan was the least desirable.

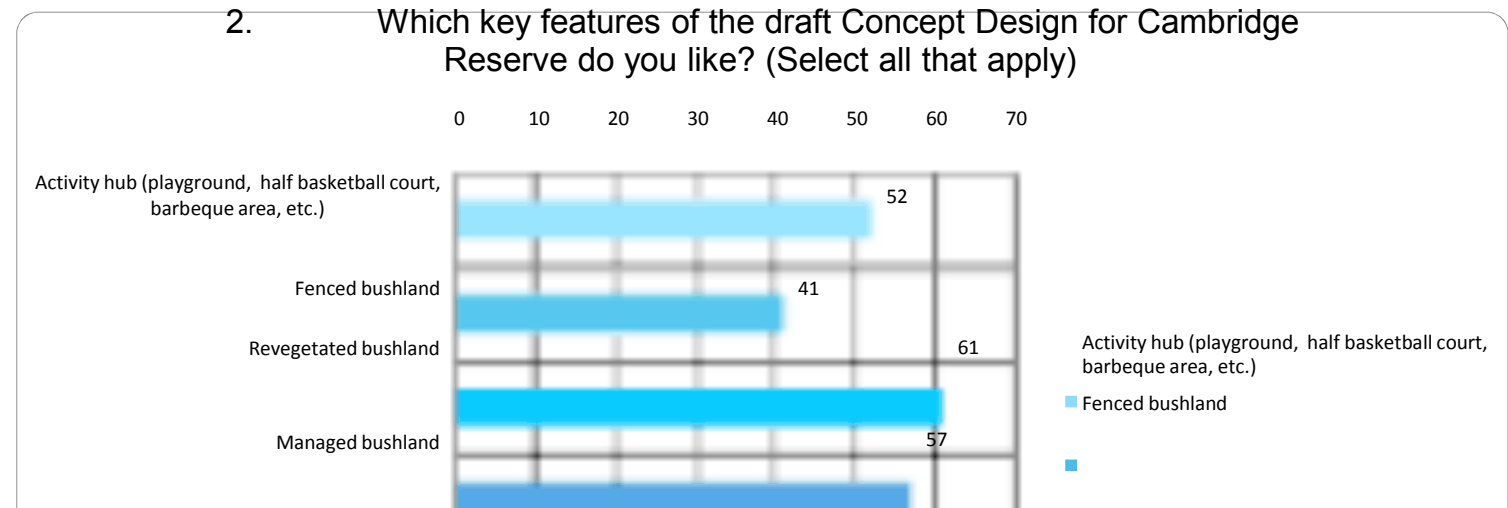
The workshop also showed that open spaces are desirable when they have strong environmental values, are intergenerational (or have something for everyone), have pathways (or provision for exercise), water features, are dog friendly or have a form of entertainment (i.e. café).

SURVEY SUMMARY

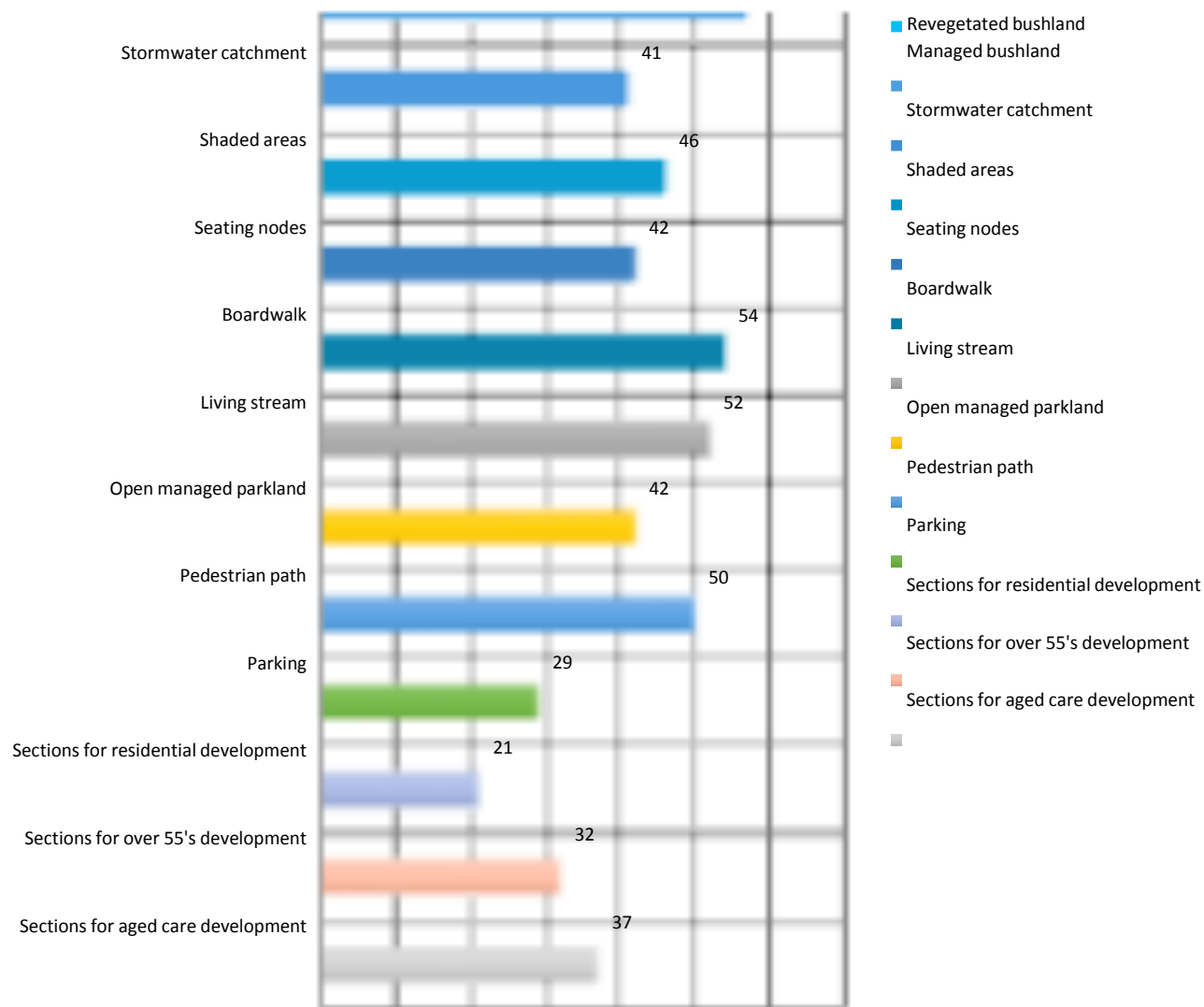
1. How many times have you visited Cambridge Reserve in the past six months? (Tick One)	
Never	23
1 - 2 times	20
2 - 5 times	6
5 + times	36



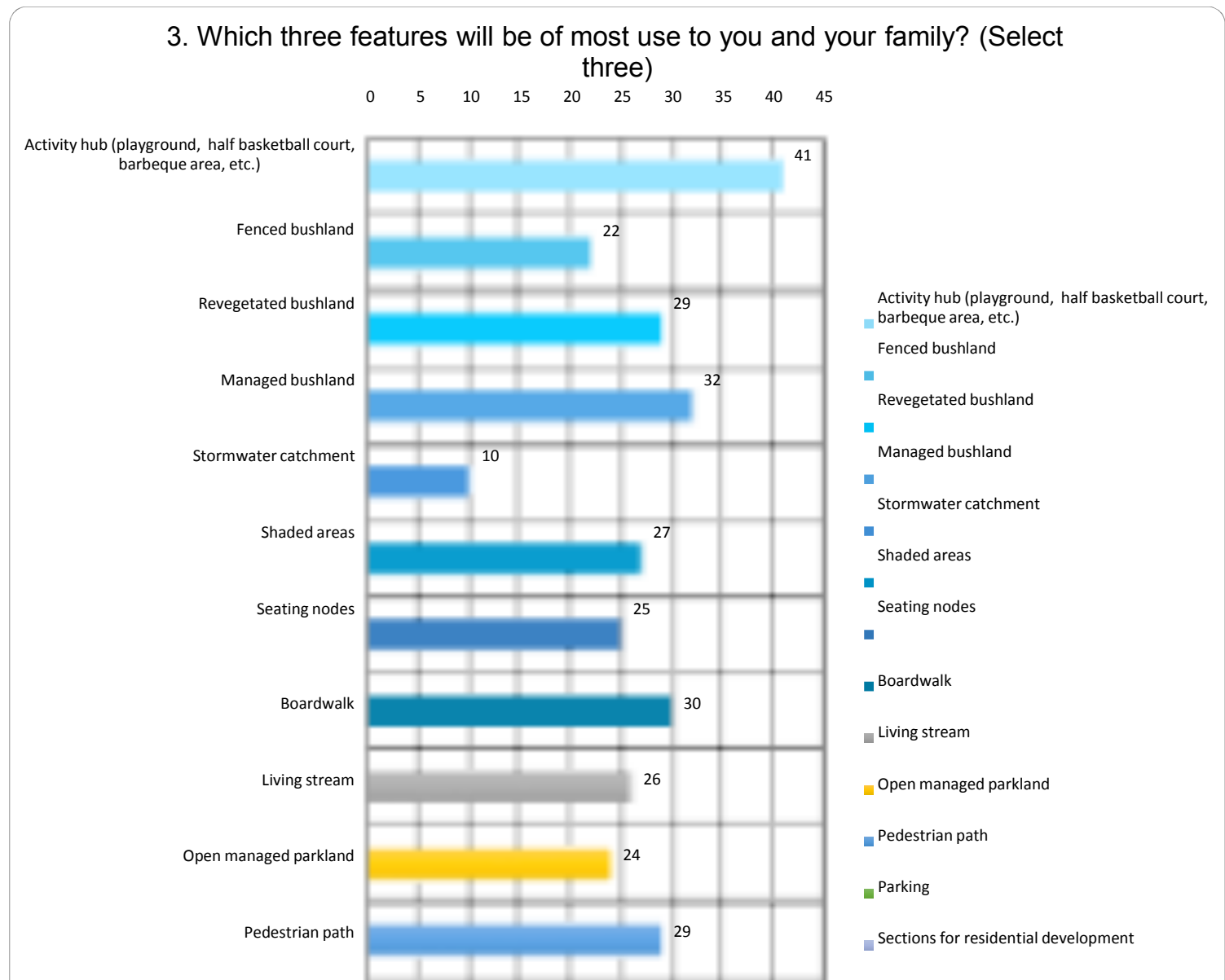
2. Which key features of the draft Concept Design for Cambridge Reserve do you like? (Select all that apply)	
Activity hub (playground, half basketball court, barbeque area, etc.)	52
Fenced bushland	41
Revegetated bushland	61
Managed bushland	57



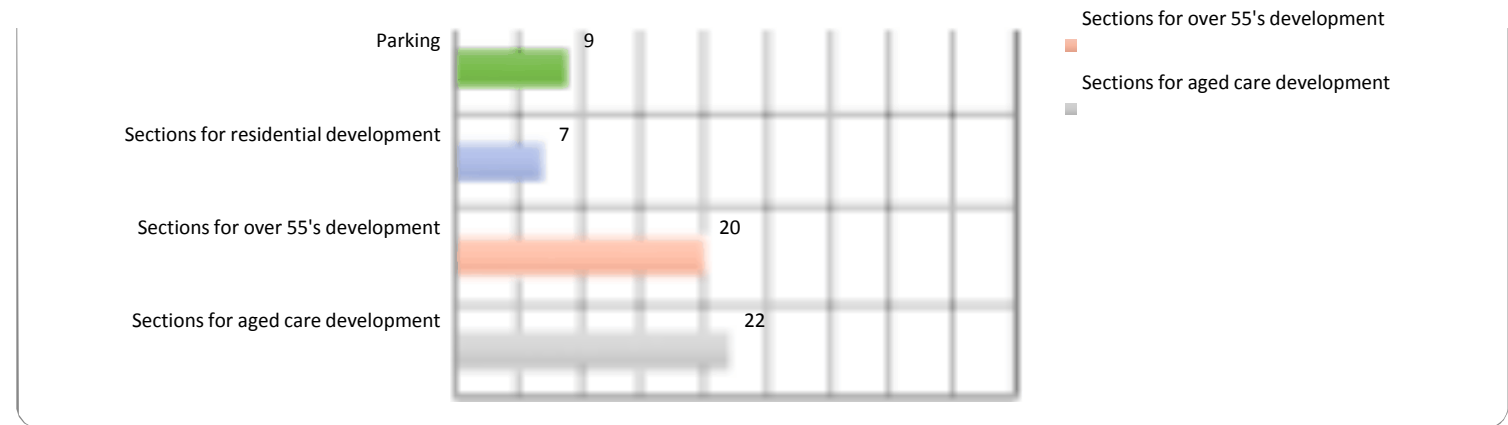
Stormwater catchment	41
Shaded areas	46
Seating nodes	42
Boardwalk	54
Living stream	52
Open managed parkland	42
Pedestrian path	50
Parking	29
Sections for residential development	21
Sections for over 55's development	32
Sections for aged care development	37



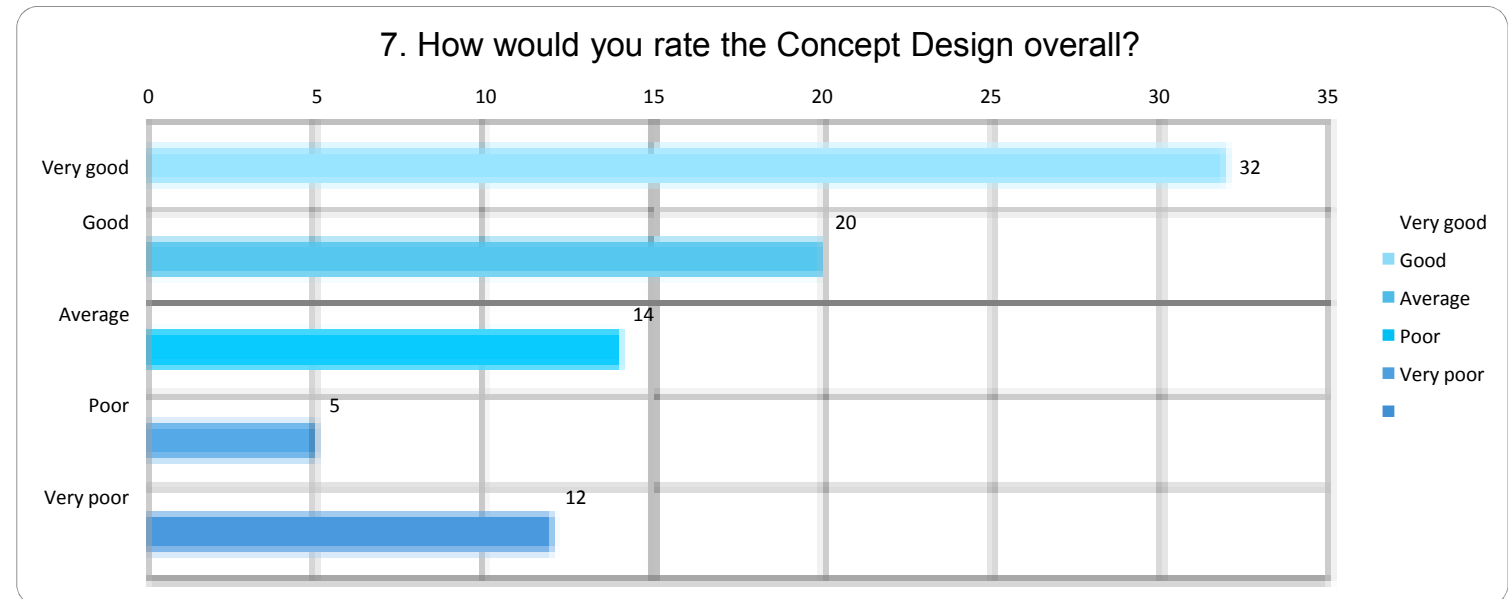
3. Which three features will be of most use to you and your family? (Select three)	
Activity hub (playground, half basketball court, barbeque area, etc.)	41
Fenced bushland	22
Revegetated bushland	29
Managed bushland	32
Stormwater catchment	10
Shaded areas	27
Seating nodes	25
Boardwalk	30
Living stream	26
Open managed parkland	24
Pedestrian path	29



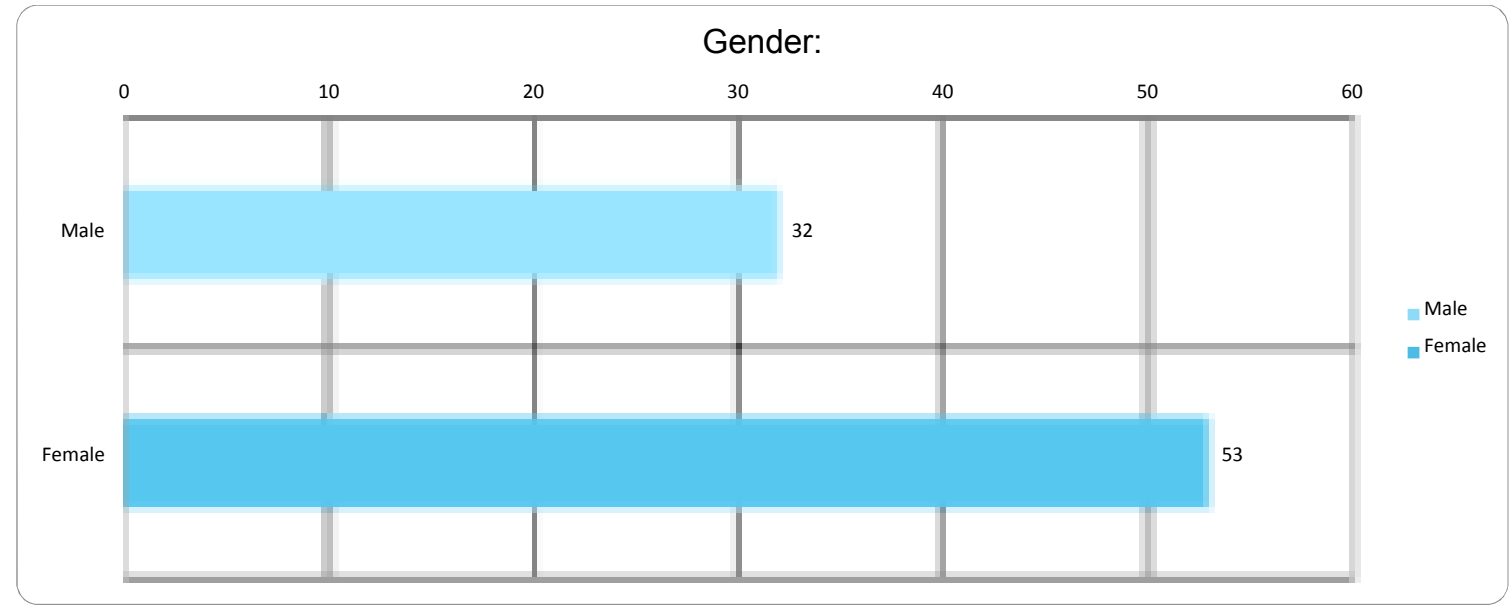
Parking	9
Sections for residential development	7
Sections for over 55's development	20
Sections for aged care development	22



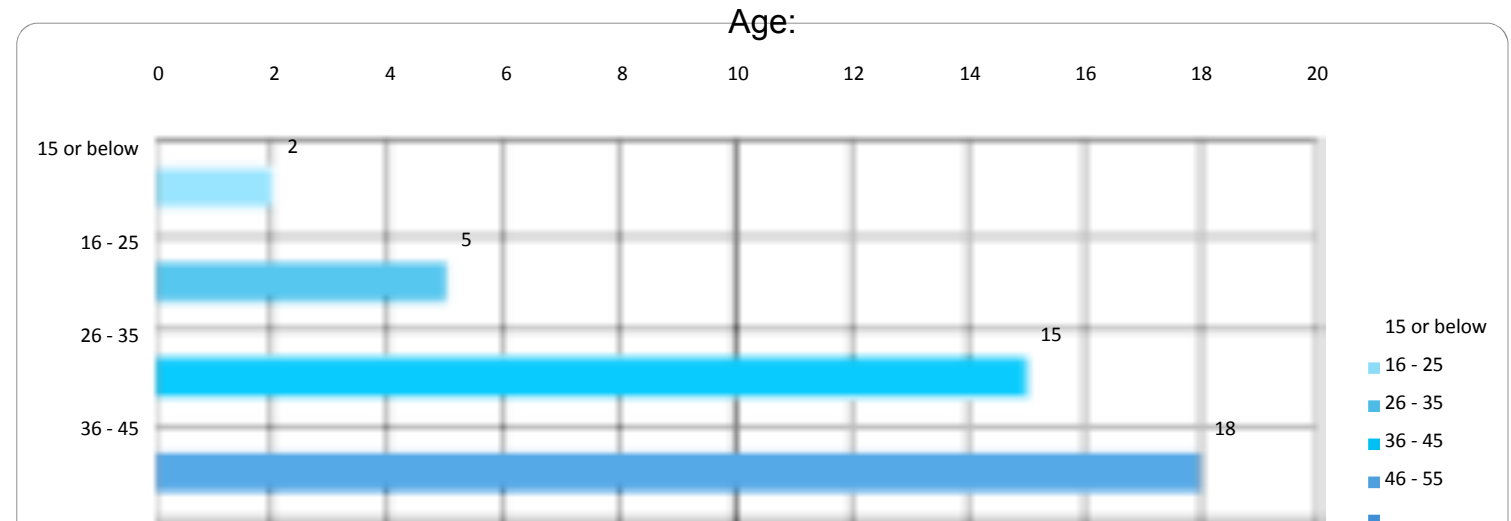
7. How would you rate the Concept Design overall?	
Very good	32
Good	20
Average	14
Poor	5
Very poor	12



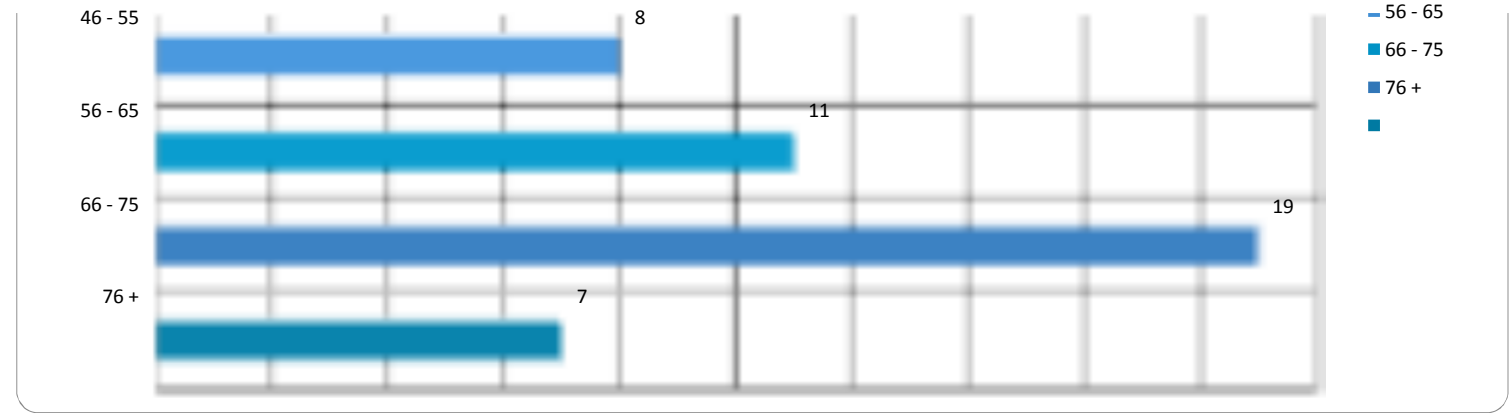
Gender:	
Male	32
Female	53



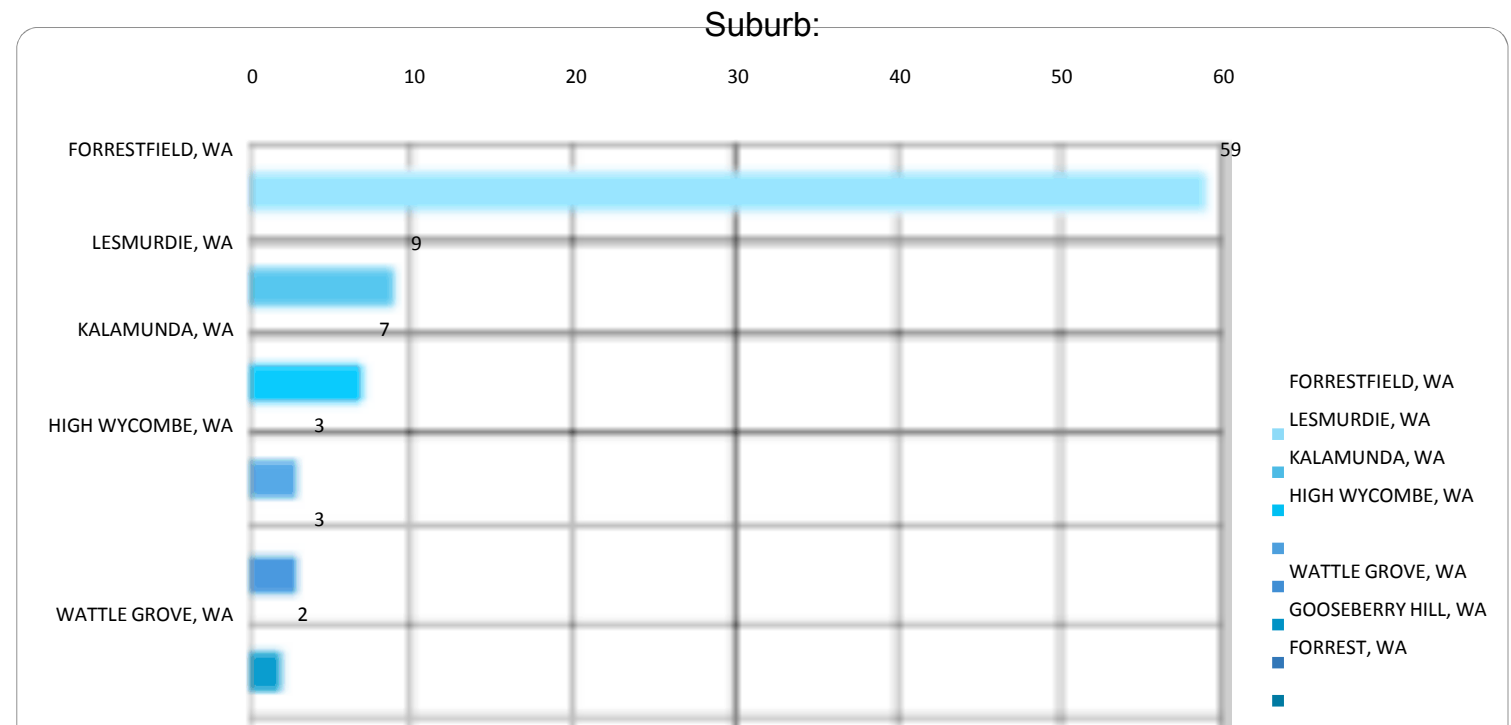
Age:	
15 or below	2
16 - 25	5
26 - 35	15
36 - 45	18



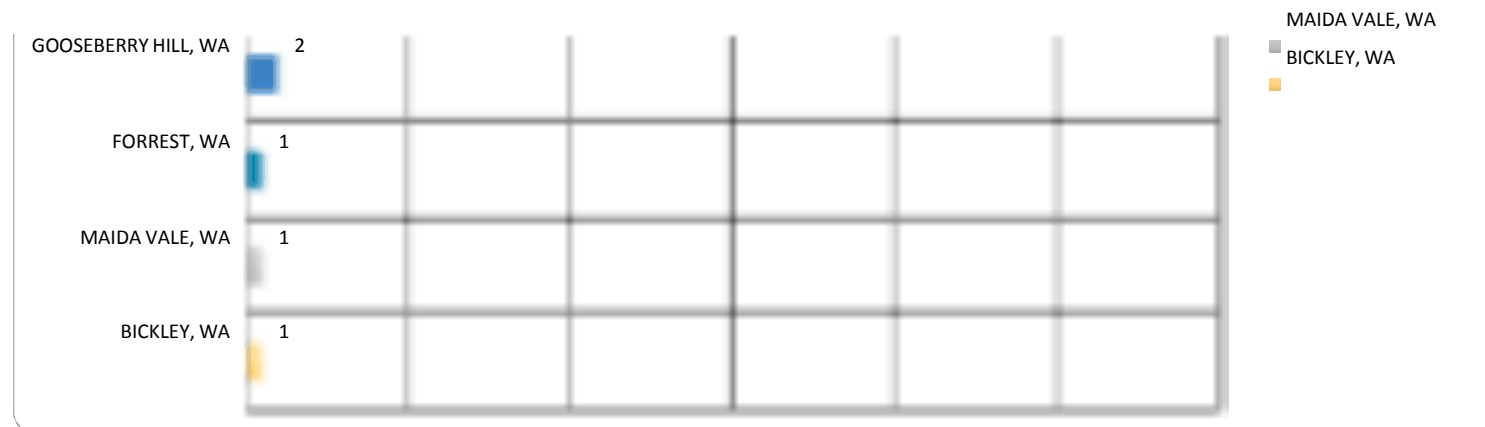
46 - 55	8
56 - 65	11
66 - 75	19
76 +	7



Suburb:	
FORRESTFIELD, WA	59
LESMURDIE, WA	9
KALAMUNDA, WA	7
HIGH WYCOMBE, WA	3
	3
WATTLE GROVE, WA	2



GOOSEBERRY HILL, WA	2
FORREST, WA	1
MAIDA VALE, WA	1
BICKLEY, WA	1





city of kalamunda

Cambridge Reserve Community Enhancement Project Previous Studies and Reports October 2017

CONTENTS

1.0	PRELIMINARY SITE ANALYSIS REPORT	3
2.0	ENVIRONMENTAL ASSESSMENT REPORTS	4
3.0	WATER MONITORING OUTCOMES SUMMARY	5
4.0	PRELIMINARY ENGINEERING SERVICES REPORT	6
5.0	DETAILED CONCEPT PLAN AND LANDSCAPE DESIGN	7

1.0 PRELIMINARY SITE ANALYSIS REPORT



CAMBRIDGE ROAD RECREATIONAL RESERVE

DUE DILIGENCE

712-359
JUNE 2012

perth
sydney

DOCUMENT CONTROL

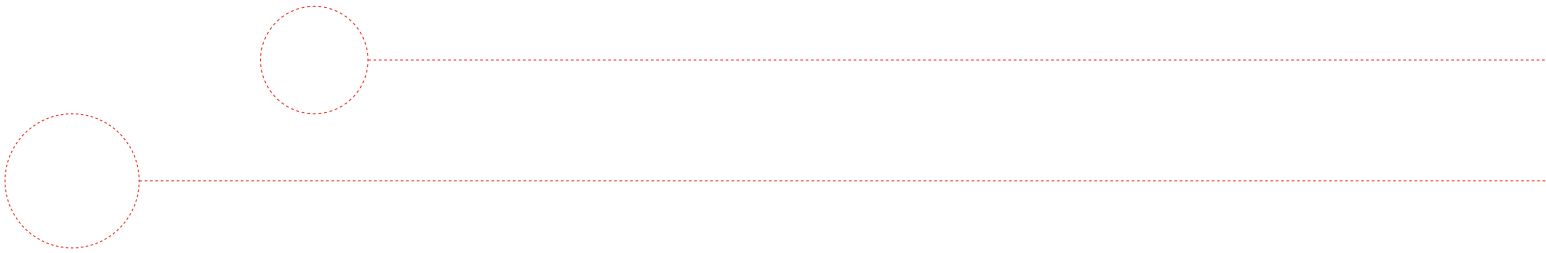
Document ID: PLANNING/PG 2012/712-359/ Draft Documents/ Draft Report/ DD Report						
Issue	Date	Status	Prepared by		Approved by	
			Name	Initials	Name	Initials
1	29.05.12	Draft	Leigh Caddy		Tony Paduano	
2	21.06.12	Draft	Leigh Caddy		Tony Paduano	
<p>This report has been prepared for the exclusive use of the Client, in accordance with the agreement between the Client and TPG ('Agreement').</p> <p>TPG accepts no liability or responsibility whatsoever in respect of any use of or reliance upon this report by any person who is not a party to the Agreement or an intended recipient.</p> <p>In particular, it should be noted that this report is a qualitative assessment only, based on the scope and timing of services defined by the Client and is based on information supplied by the Client and its agents.</p> <p>TPG cannot be held accountable for information supplied by others and relied upon by TPG.</p> <p>Copyright and any other Intellectual Property arising from the report and the provision of the services in accordance with the Agreement belongs exclusively to TPG unless otherwise agreed and may not be reproduced or disclosed to any person other than the Client without the express written authority of TPG.</p> <p>This document is in a draft form and not a final issued form. TPG reserves the right, at any time with or without notice, to amend, modify or retract any part or all of this document including any opinions, conclusions, or recommendations contained therein. Unauthorised use of this draft document in any form whatsoever is strictly prohibited. To the maximum extent permitted by law, TPG disclaims any responsibility for liability whatsoever arising from or in connection with this draft document.</p>						

TPG reports are printed on:



CONTENTS

1.	INTRODUCTION	1
2.	SITE	2
2.1	Improvements	3
3.	PLANNING FRAMEWORK	4
3.1	Directions 2031 and Beyond (2010)	4
3.2	Draft Outer Metro Perth and Peel Sub-regional Strategy (2010)	4
3.3	WAPC Policy DC 2.3 Public Open Space in Residential Areas	5
3.4	Draft Shire of Kalamunda Local Planning Strategy (2010)	5
3.5	Metropolitan Region Scheme	6
3.6	Shire of Kalamunda Town Planning Scheme No. 3	6
4.	CONTEXT ANALYSIS	7
5.	EXISTING LOCAL OPEN SPACE PROVISION	8
6.	INDICATIVE SUBDIVISION CONCEPT	11
7.	SUMMARY AND CONCLUSION	12
APPENDIX 1		13
	Certificates of Title	13
APPENDIX 2		15
	Context Analysis Plan	15
APPENDIX 3		17
	POS Provision Plan	17
APPENDIX 4		19
	Cambridge Rd POS Master Plan	19



This page has been left blank intentionally.

1. INTRODUCTION

This due diligence report has been prepared by TPG Town Planning and Urban Design and Heritage on behalf of the Shire of Kalamunda in respect of the Cambridge Road recreational reserve (the 'site').

This report has been prepared to assist with preliminary investigations with regard to the potential for the site to be developed for residential purposes.

This report outlines details relating to the site, an analysis of the site's context with the surrounding area, and an analysis of the existing public open space provision within the surrounding area.

An indicative subdivision concept has been prepared which outlines how the site may be developed for residential purposes.

2. SITE

The site is situated in the locality of Forrestfield and is bound by Cambridge Road, York Street, and existing residential properties along portions of the northern, western and southern sides, and Shire of Kalamunda owned land comprising a high voltage powerline to the eastern side.

The site comprises several Crown Land lots subject of Management Orders for the purposes of recreation (Reserve 27559 and Reserve 34364) and drainage (Reserve 31348). The primary interest holder is the Shire of Kalamunda.

The site is 8.9665 hectares in area and is approximately 230 metres by 450 metres in dimension.

The following table summarise the legal particulars of the site.

Lot	Plan/Diagram	Reserve	Crown Land Title Number	Area	Primary Interest Holder
7876	P8160	R27559	LR3119-72	0.7585	Shire of Kalamunda
12366	D77413	R27559	LR3119-73	0.0117	Shire of Kalamunda
3677	D42077	R27559	LR3119-74	0.1905	Shire of Kalamunda
2850	D49338	R34364	LR3137-923	2.5050	Shire of Kalamunda
3487	D55585	R34364	LR3137-924	3.1632	Shire of Kalamunda
3059	P12494	R34364	LR3137-925	0.2081	Shire of Kalamunda
3097	P12493	R34364	LR3137-926	0.0268	Shire of Kalamunda
9835	D53851	R34364	LR3137-927	0.0880	Shire of Kalamunda
2346	P175280	R31348	LR3005-780	2.0147	Shire of Kalamunda

A copy of the current Certificates of Title are included in Appendix 1.

The existing interests held by the Shire of Kalamunda relating to the control and management of the land would need to be relinquished in order to permit the development of the site for residential purposes.

2.1 IMPROVEMENTS

The site is undeveloped, predominantly comprising scattered vegetation dissected by several man-made tracks. Adjacent to York Street is a drainage swale whilst a children's play equipment is situated to the western end adjacent to Cambridge Road.

3. PLANNING FRAMEWORK

Outlined below are the relevant state and local planning documents relevant to the site.

3.1 DIRECTIONS 2031 AND BEYOND (2010)

The *Directions 2031 and Beyond* document prepared by the Western Australian Planning Commission (WAPC), establishes a vision for the future growth of the metropolitan Perth and Peel region in which:

“By 2031, Perth and Peel people will have created a world class liveable city: green, vibrant, more compact and accessible with a unique sense of place”.

This vision is supported by several objectives based around five strategic themes:

- **Liveable:** Living in, or visiting our city should be a safe, comfortable and enjoyable experience.
 - **Prosperous:** Our success as a global city will depend on building on our current prosperity.
 - **Accessible:** All people should be able to easily meet their education, employment, recreation, service and consumer needs within a reasonable distance of their home.
 - **Sustainable:** We should grow within the constraints placed on us by the environment we live in.
 - **Responsible:** We have a responsibility to manage urban growth and make the most efficient use of available land and infrastructure.
- City of Kalamunda

The WAPC's 'Directions 2031 and Beyond' document notes that the north-east sub-region of the metropolitan region, in which the site is situated, is forecast to grow to an estimated population of 258,000 by 2031, a 36 per cent increase on current population levels and equating to an additional 40,000 dwellings.

The document states that several areas around the Shire of Kalamunda including Forrestfield have potential for increased residential development to accommodate airport, freight, container and light industrial development in the area.

3.2 DRAFT OUTER METRO PERTH AND PEEL SUB-REGIONAL STRATEGY (2010)

The *Draft Outer Metropolitan Perth and Peel Subregional Strategy* forms part of the *Directions 2031 and Beyond* vision, providing detail at the local level. Under the Sub-regional Strategy, the Shire of Kalamunda forms part of the North-east Sub-region Region, together with the City of Swan and the Shire of Mundaring. The Sub-regional Strategy estimates that the population of the Sub-region will grow by 69,000 people and that an additional 40,000 dwellings will be required.

The Sub-regional Strategy identifies an additional 14,100 dwellings will be required through a combination of planned new urban areas in Maida Vale South and utilisation of capacity in existing urban areas. Of this 14,100 figure 9,700 are anticipated in infill/ redevelopment areas (Forrestfield, High Wycombe and Kalamunda central).

3.3 WAPC POLICY DC 2.3 PUBLIC OPEN SPACE IN RESIDENTIAL AREAS

The WAPC's Policy DC 2.3 sets out the requirements of the Commission with regard to the provision of land for public open space and community facilities in residential areas.

The policy aims to ensure that all residential development in the State is complemented by adequate, well-located areas of public open space that will enhance the amenity of the development and provide for the recreational needs of local residents.

3.4 DRAFT SHIRE OF KALAMUNDA LOCAL PLANNING STRATEGY (2010)

The Shire of Kalamunda's *Draft Local Planning Strategy* provides the framework for long-term planning and development of the Shire and will form the basis for the review of the current Local Planning Scheme No.3. The Strategy was adopted at the Special Meeting of Council on 3 October 2011 and has been forwarded to the Western Australian Planning Commission for endorsement.

The Strategy identifies a preferred growth scenario which will accommodate an additional 25,000 people by 2025 primarily through the development of existing and proposed Greenfield areas and selected areas for residential infill development.

Whilst not specifically identifying the site, the Strategy states "there is opportunity for

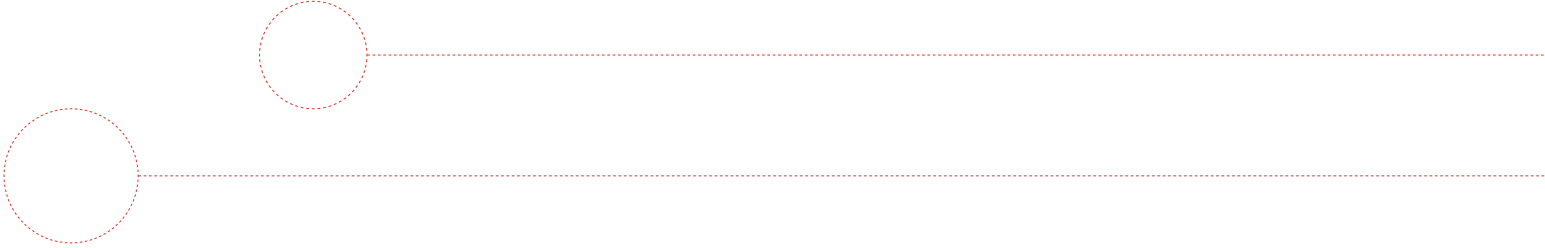
increased residential densities ranging from medium to high residential development around the Kalamunda District Centre and surrounding Forrestfield District Centre.

Opportunities also exist for increased medium density residential infill development in the older residential areas of Forrestfield, High Wycombe and Maida Vale. As these areas are connected to sewer, and within walking distance to public transport, retail provisions, medical facilities and all areas are adjacent to a community library they have a higher suitability rating.

The introduction of infill development into the older suburbs of Forrestfield, High Wycombe and Maida Vale will require existing infrastructure and services to be reviewed and potentially upgraded to accommodate the new growth.

Revitalisation of residential areas in close proximity to activity centres and services could provide a mix of housing types (town houses, apartments, single residential, and affordable housing)."

The Strategy also states that "the Shire has undertaken an independent assessment of its freehold reserves, vested reserves and state government controlled properties with a view to providing short to medium term options for redevelopment, disposal acquisition or use to deliver long term financial sustainability to its community. The assessment will also allow for the rationalisation of reserves which have no environmental value, no amenity value



and are costly to maintain, to provide greater community benefit and service delivery. Some of the freehold sites have been identified and planned for community housing including aged accommodation.”

3.5 METROPOLITAN REGION SCHEME

The *Metropolitan Region Scheme* (MRS) provides the legal basis for controls on development and land use at the regional level. Under the MRS the subject site is zoned ‘Urban’. The ‘Urban’ zone allows for residential development.

3.6 SHIRE OF KALAMUNDA TOWN PLANNING SCHEME NO. 3

Under the existing *Shire of Kalamunda Town Planning Scheme No. 3* (TPS3), the subject site is reserved ‘Local Open Space’.

To enable residential development to occur on the site, a scheme amendment will be required to identify the land within the ‘Residential’ or ‘Urban Development’ zone. Any proposal to rezone the land will likely require a Structure Plan to be prepared in accordance with the requirements of TPS3 to guide subdivision, land use and development.

4. CONTEXT ANALYSIS

The site is situated within the established residential area of Forrestfield approximately 14 kilometres from the Perth Central Business District and 11 kilometres from the Midland Strategic Regional Centre. The Kewdale-Welshpool Industrial Area is situated approximately 4 kilometres to the west of the site.

The site has excellent access to the surrounding area and broader Perth metropolitan region with access to the Tonkin Highway provided via Hale Road as well as via Welshpool Road (and Lewis Road).

The site is within close proximity to a range of local shopping and community facilities including the Forrestfield Forum District Shopping Centre approximately 400 metres to the north, Edinburgh Road Shopping Centre approximately 400 metres to the south-west and the Forrestfield Primary School approximately 250 metres to the west. Further afield approximately 1 kilometre to the south-west is the Hartfield Park Country Club and Hartfield Park Recreation Centre and associated ovals which provide district level sporting facilities.

The site is situated within close proximity to several local recreational reserves which provide passive and active recreational opportunities including the Connaught Street reserve, the Lincoln Road reserve and a relatively large reserve along Lewis Road and Anderson Road.

Within the area, housing is characterised by predominantly single storey detached dwellings on lots between 800m² and the traditional quarter acre (1012m²). Whilst the density of residential development is relatively low, the area is zoned 'Residential R25' under TPS3 which permits existing residential lots to be subdivided into two.

REFER TO APPENDIX 2 – CONTEXT ANALYSIS PLAN.

5. EXISTING LOCAL OPEN SPACE PROVISION

The Planning and Development Act 2005 requires that for residential areas, 10% of the gross subdivisible area be given up free of cost by the subdivider and vested in the Crown. This requirement has been the basis for the provision of public open space for many years and is identified under WAPC planning policy.

In examining the potential of the site to be redeveloped for residential purposes, it is important to understand the extent of public open space which currently exists and whether this requirement generally exists in the locality.

A desktop analysis was undertaken to determine the extent of public open space within the existing urban residential areas of Forrestfield. Specifically the analysis focussed on the existing Residential zoned areas within the immediate vicinity of the site which generally comprise the area bound by Berkshire Road/Wandoo Road to the north and east, Lewis Road/Hartfield Road/Hale Road to the south, and the Tonkin Highway/Dawson Avenue to the west (the 'study area'), and which amount to some 545.4016 hectares of land.

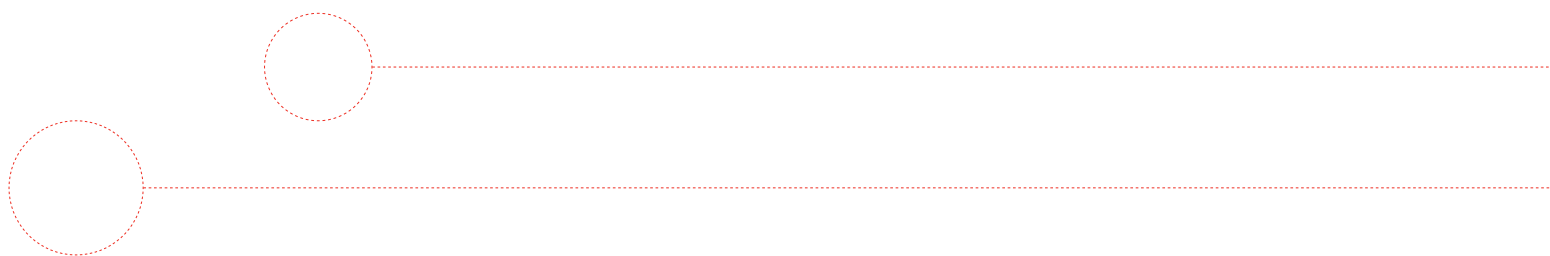
In identifying land that has been set aside for public open space, reference was made to those land parcels or portions thereof within the study area which are reserved 'Local Open Space' under TPS3. The total area of land reserved 'Local Open Space' under TPS3 comprises amounts to 62.6088 hectares.

Consideration is also given to the relevant requirements of the WAPC's Policy DC 2.3 in relation to the provision of public open space. Clause 3.1.1 of the Policy stipulates that the provision of public open space be a minimum 10% of the gross subdivisible area (being the total residential area less deductions for non residential uses such as schools, major regional roads, public utility sites, municipal use sites, or other non-residential uses).

The following table summarises land which is zoned for non-residential land uses under TPS3 within the study area:

REFER TO APPENDIX 3 – EXISTING POS PROVISION.

TPS3 Reservation / Zone		Development	Site area (hectares)	Total area of reserved / zoned land (hectares)
District Centre		Forrestfield Forum District Shopping Centre	8.9874	8.9874
Commercial Anderson Road		Edinburgh Road Shopping Centre	1.9261	2.1786
		0.2525		
Service Station BP (Cnr Hale Road & Hartfield Road)		Forrestfield Automotive (Lincoln Road)	0.1621	
		0.2289	0.3910	
Public Purpose	Aged Care	Peter Anderson Lodge / Anderson Road Community Hall	1.1994	29.5870
	Agriculture Protection Board & Conservation	Department of Agriculture Forrestfield Centre	11.8518	
	Church	St Stephen's Anglican Parish	0.3600	
	Telephone Exchange		0.2186	
	Hall / Community Centre	Woodlupine Family & Community Centre	1.8006	
		Forrestfield Hall	0.1003	
	Kindergarten	Edinburgh Road	0.2023	
	Library	Forrestfield Library	0.5064	
	Police Station	Forrestfield Police Station	0.1780	
	Primary School	Forrestfield Primary School	4.2011	
		Woodlupine Primary School	5.1040	
		Dawson Park Primary School	3.8645	
Special Use	SU1	Home Timber and Hardware / Holmes Road Centre	0.7779	7.5501
	SU2	Mead Medical Group Centre	0.1503	
	SU3	Dawson's Garden World	1.2266	
	SU4	White Star Super Deli	0.2442	
	SU9	Discovery Holiday Park	5.0699	
	SU11	Car parking (Dawson's Garden World)	0.0812	
Total				48.6941



In determining the amount of local open space in the study area, the above mentioned non-residential land uses were deducted from the Study Area to determine the gross land area from which the 10% public open space requirement would be calculated under DC Policy 2.3. The analysis revealed that based on a gross residential land area of 496.7075 hectares, the land zoned for 'Local Open Space' incorporates an additional 12.9380 hectares above the 10% minimum requirement.

The following table summarises the provision of public open space:

	Area (hectares)	%
Extent of existing 'Residential' zoned land ('Study Area')	545.4016	
Deductions (as per DC Policy 2.3)	48.6941	
Gross residential area	496.7075	
POS required @ 10%	49.6708	
Existing POS provision (land zoned 'Local Open Space')	62.6088	12.6%
Surplus local open space	12.9380	

6. INDICATIVE SUBDIVISION CONCEPT

An indicative subdivision concept has been prepared to outline how the site may be developed for residential purposes.

The concept proposes 86 single residential dwellings and proposes the retention of the western portion of the site including the existing playground and drainage swale within a new landscaped public open space area.

The concept incorporates a range of lot types and sizes with increased density around the public open space area. Lots range from laneway serviced cottage lots of approximately 300m² in area overlooking the public open space to traditional lot types of approximately 450m² in area. The average density realised under the concept equates to 15 dwellings per hectare which is consistent with the existing residential density of the surrounding area.

Lots have been arranged to front onto the public open space area thereby ensuring a high level of passive surveillance and safety of this area.

The concept is based on an interconnected grid street network with access into the site via an extension of Alder Way, as well as a new road link to Anderson Road and to York Street at Lincoln Road. The street network facilitates improved connectivity with the surrounding residential areas, and provides improved access to the Edinburgh Road Shopping Centre and Forrestfield Primary School for residents to the east of Anderson Road.

7. SUMMARY AND CONCLUSION

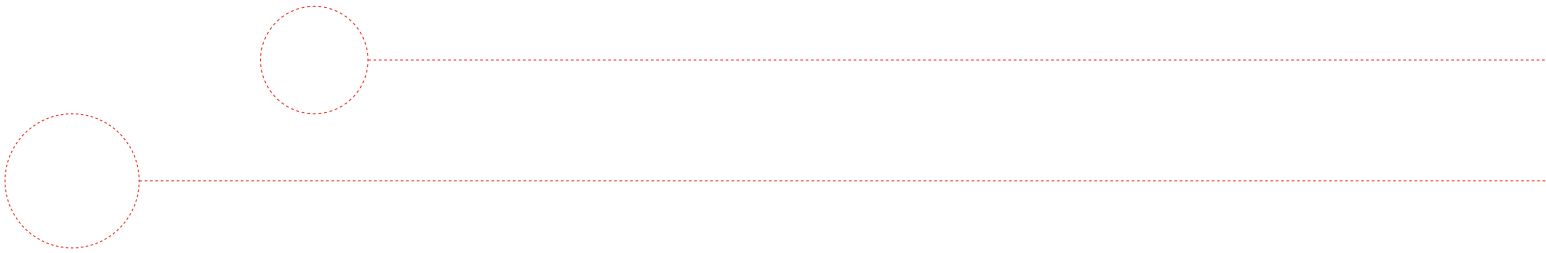
This due diligence report has been prepared by TPG Town Planning and Urban Design and Heritage on behalf of the Shire of Kalamunda in respect of the Cambridge Road recreational reserve (the 'site') to provide preliminary background information relating to the planning context and the potential of the site to be developed for residential purposes.

The following summarises the key findings contained within this report:

- The existing interests held by the Shire relating to the control and management of the land would need to be relinquished in order to permit the development of the site for residential purposes;
- The current strategic planning framework identifies a need for additional housing in the Forrestfield locality over the next 20 years to be accommodated through a combination of infill and Greenfield development;
- For the site to be developed for residential purposes, a scheme amendment to the Shire of Kalamunda Town Planning Scheme No. 3 will be required to identify the land within the 'Residential' or 'Urban Development' zone, together with a Structure Plan prior to subdivision and development;
- An analysis of land zoned for 'Local Open Space' under TPS3 within the existing residential zoned areas of Forrestfield reveal that there is a surplus of 12.9380 hectares; and
- An indicative development concept prepared for the site reveals the potential to yield 83 dwellings, including the retention of the western portion of the site as a landscaped public open space area incorporating the existing playground and drainage swale.

APPENDIX 1

CERTIFICATES OF TITLE



This page has been left blank intentionally.



REGISTER NUMBER 2346/DP175280	
DUPLICATE EDITION N/A	DATE DUPLICATE ISSUED N/A

RECORD OF QUALIFIED CERTIFICATE
OF
CROWN LAND TITLE

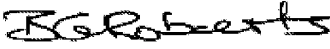
VOLUME
LR3005


FOLIO
780

UNDER THE TRANSFER OF LAND ACT 1893
AND THE LAND ADMINISTRATION ACT 1997

NO DUPLICATE CREATED

The undermentioned land is Crown land in the name of the STATE of WESTERN AUSTRALIA, subject to the interests and Status Orders shown in the first schedule which are in turn subject to the limitations, interests, encumbrances and notifications shown in the second schedule.


REGISTRAR OF TITLES



LAND DESCRIPTION:

LOT 2346 ON DEPOSITED PLAN 175280

STATUS ORDER AND PRIMARY INTEREST HOLDER:
(FIRST SCHEDULE)

STATUS ORDER/INTEREST: RESERVE UNDER MANAGEMENT ORDER

PRIMARY INTEREST HOLDER: SHIRE OF KALAMUNDA

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1.
- RESERVE 31348 FOR THE PURPOSE OF DRAINAGE
MANAGEMENT ORDER. CONTAINS CONDITIONS TO BE OBSERVED.

- Warning:
- (1)

A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.
Lot as described in the land description may be a lot or location.
- (2)

The land and interests etc. shown hereon may be affected by interests etc. that can be, but are not, shown on the register.
- (3)

The interests etc. shown hereon may have a different priority than shown.

-----END OF CERTIFICATE OF CROWN LAND TITLE-----

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND:DP175280 [SHEET 1].

PREVIOUS TITLE:THIS TITLE.

PROPERTY STREET ADDRESS:17 YORK ST, FORRESTFIELD.

LOCAL GOVERNMENT AREA:SHIRE OF KALAMUNDA.

RESPONSIBLE AGENCY:DEPARTMENT OF REGIONAL DEVELOPMENT AND LANDS (SLSD).

NOTE 1: K815566 CORRESPONDENCE FILE 02630-1971-01RO



REGISTER NUMBER 7876/P8160	
DUPLICATE EDITION N/A	DATE DUPLICATE ISSUED N/A

RECORD OF QUALIFIED CERTIFICATE
OF
CROWN LAND TITLE

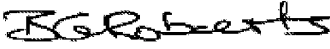
VOLUME
LR3119


FOLIO
72

UNDER THE TRANSFER OF LAND ACT 1893
AND THE LAND ADMINISTRATION ACT 1997

NO DUPLICATE CREATED

The undermentioned land is Crown land in the name of the STATE of WESTERN AUSTRALIA, subject to the interests and Status Orders shown in the first schedule which are in turn subject to the limitations, interests, encumbrances and notifications shown in the second schedule.


REGISTRAR OF TITLES



LAND DESCRIPTION:

LOT 7876 ON PLAN 8160

STATUS ORDER AND PRIMARY INTEREST HOLDER:
(FIRST SCHEDULE)

STATUS ORDER/INTEREST: RESERVE UNDER MANAGEMENT ORDER

PRIMARY INTEREST HOLDER: SHIRE OF KALAMUNDA OF 2 RAILWAY ROAD, KALAMUNDA
(XE H482616) REGISTERED 23 JULY 2000

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. RESERVE 27559 FOR THE PURPOSE OF PUBLIC RECREATION
H482616 MANAGEMENT ORDER. CONTAINS CONDITIONS TO BE OBSERVED.
REGISTERED 23.7.2000.

- Warning: (1) A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.
Lot as described in the land description may be a lot or location.
- (2) The land and interests etc. shown hereon may be affected by interests etc. that can be, but are not, shown on the register.
- (3) The interests etc. shown hereon may have a different priority than shown.

-----END OF CERTIFICATE OF CROWN LAND TITLE-----

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND: LR3119-72 (7876/P8160).

PREVIOUS TITLE: LR3103-559.

PROPERTY STREET ADDRESS: 12 CAMBRIDGE RD, FORRESTFIELD.

LOCAL GOVERNMENT AREA: SHIRE OF KALAMUNDA.

RESPONSIBLE AGENCY: DEPARTMENT OF REGIONAL DEVELOPMENT AND LANDS (SLSD).

NOTE 1: A000001A CORRESPONDENCE FILE 01166-1964-01RO.

END OF PAGE 1 - CONTINUED OVER

ORIGINAL CERTIFICATE OF CROWN LAND TITLE
QUALIFIED

REGISTER NUMBER: 7876/P8160 VOLUME/FOLIO: LR3119-72 PAGE 2

NOTE 2: LAND PARCEL IDENTIFIER OF SWAN LOCATION 7876 ON SUPERSEDED PAPER
CERTIFICATE OF CROWN LAND TITLE CHANGED TO LOT 7876 ON FREEHOLD TITLE
PLAN 8160 ON 09-SEP-02 TO ENABLE ISSUE OF A DIGITAL CERTIFICATE OF TITLE.
NOTE 3: THE ABOVE NOTE MAY NOT BE SHOWN ON THE SUPERSEDED PAPER CERTIFICATE
OF TITLE.



REGISTER NUMBER	
12366/D77413	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
N/A	N/A

RECORD OF QUALIFIED CERTIFICATE
OF
CROWN LAND TITLE

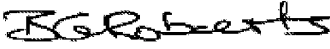
VOLUME
LR3119


FOLIO
73

UNDER THE TRANSFER OF LAND ACT 1893
AND THE LAND ADMINISTRATION ACT 1997

NO DUPLICATE CREATED

The undermentioned land is Crown land in the name of the STATE of WESTERN AUSTRALIA, subject to the interests and Status Orders shown in the first schedule which are in turn subject to the limitations, interests, encumbrances and notifications shown in the second schedule.


REGISTRAR OF TITLES



LAND DESCRIPTION:

LOT 12366 ON DIAGRAM 77413

STATUS ORDER AND PRIMARY INTEREST HOLDER:
(FIRST SCHEDULE)

STATUS ORDER/INTEREST: RESERVE UNDER MANAGEMENT ORDER

PRIMARY INTEREST HOLDER: SHIRE OF KALAMUNDA OF 2 RAILWAY ROAD, KALAMUNDA
(XE H482616) REGISTERED 23 JULY 2000

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. RESERVE 27559 FOR THE PURPOSE OF PUBLIC RECREATION
H482616 MANAGEMENT ORDER. CONTAINS CONDITIONS TO BE OBSERVED.
REGISTERED 23.7.2000.

- Warning: (1) A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.
Lot as described in the land description may be a lot or location.
- (2) The land and interests etc. shown hereon may be affected by interests etc. that can be, but are not, shown on the register.
- (3) The interests etc. shown hereon may have a different priority than shown.

-----END OF CERTIFICATE OF CROWN LAND TITLE-----

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND: LR3119-73 (12366/D77413).

PREVIOUS TITLE: LR3103-559.

PROPERTY STREET ADDRESS: LOT 12366 YORK ST, FORRESTFIELD.

LOCAL GOVERNMENT AREA: SHIRE OF KALAMUNDA.

RESPONSIBLE AGENCY: DEPARTMENT OF REGIONAL DEVELOPMENT AND LANDS (SLSD).

NOTE 1: A000001A CORRESPONDENCE FILE 01166-1964-01RO.

END OF PAGE 1 - CONTINUED OVER

ORIGINAL CERTIFICATE OF CROWN LAND TITLE
QUALIFIED

REGISTER NUMBER: 12366/D77413 VOLUME/FOLIO: LR3119-73 PAGE 2

NOTE 2: LAND PARCEL IDENTIFIER OF SWAN LOCATION 12366 ON SUPERSEDED PAPER
CERTIFICATE OF CROWN LAND TITLE CHANGED TO LOT 12366 ON FREEHOLD
TITLE DIAGRAM 77413 ON 09-SEP-02 TO ENABLE ISSUE OF A DIGITAL CERTIFICATE
OF TITLE.

NOTE 3: THE ABOVE NOTE MAY NOT BE SHOWN ON THE SUPERSEDED PAPER CERTIFICATE
OF TITLE.



REGISTER NUMBER	
3677/D42077	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
N/A	N/A

RECORD OF QUALIFIED CERTIFICATE
OF
CROWN LAND TITLE

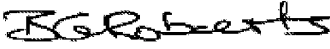
VOLUME
LR3119


FOLIO
74

UNDER THE TRANSFER OF LAND ACT 1893
AND THE LAND ADMINISTRATION ACT 1997

NO DUPLICATE CREATED

The undermentioned land is Crown land in the name of the STATE of WESTERN AUSTRALIA, subject to the interests and Status Orders shown in the first schedule which are in turn subject to the limitations, interests, encumbrances and notifications shown in the second schedule.


REGISTRAR OF TITLES



LAND DESCRIPTION:

LOT 3677 ON DIAGRAM 42077

STATUS ORDER AND PRIMARY INTEREST HOLDER:
(FIRST SCHEDULE)

STATUS ORDER/INTEREST: RESERVE UNDER MANAGEMENT ORDER

PRIMARY INTEREST HOLDER: SHIRE OF KALAMUNDA OF 2 RAILWAY ROAD, KALAMUNDA
(XE H482616) REGISTERED 23 JULY 2000

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. RESERVE 27559 FOR THE PURPOSE OF PUBLIC RECREATION
H482616 MANAGEMENT ORDER. CONTAINS CONDITIONS TO BE OBSERVED.
REGISTERED 23.7.2000.

- Warning: (1) A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.
Lot as described in the land description may be a lot or location.
- (2) The land and interests etc. shown hereon may be affected by interests etc. that can be, but are not, shown on the register.
- (3) The interests etc. shown hereon may have a different priority than shown.

-----END OF CERTIFICATE OF CROWN LAND TITLE-----

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND: LR3119-74 (3677/D42077).

PREVIOUS TITLE: LR3103-559.

PROPERTY STREET ADDRESS: 12 CAMBRIDGE RD, FORRESTFIELD.

LOCAL GOVERNMENT AREA: SHIRE OF KALAMUNDA.

RESPONSIBLE AGENCY: DEPARTMENT OF REGIONAL DEVELOPMENT AND LANDS (SLSD).

NOTE 1: A000001A CORRESPONDENCE FILE 01166-1964-01RO.

END OF PAGE 1 - CONTINUED OVER

ORIGINAL CERTIFICATE OF CROWN LAND TITLE
QUALIFIED

REGISTER NUMBER: 3677/D42077

VOLUME/FOLIO: LR3119-74

PAGE 2

NOTE 2: LAND PARCEL IDENTIFIER OF CANNING LOCATION 3677 ON SUPERSEDED PAPER
CERTIFICATE OF CROWN LAND TITLE CHANGED TO LOT 3677 ON FREEHOLD TITLE
DIAGRAM 42077 ON 09-SEP-02 TO ENABLE ISSUE OF A DIGITAL CERTIFICATE OF
TITLE.

NOTE 3: THE ABOVE NOTE MAY NOT BE SHOWN ON THE SUPERSEDED PAPER CERTIFICATE
OF TITLE.



REGISTER NUMBER 2850/D49338	
DUPLICATE EDITION N/A	DATE DUPLICATE ISSUED N/A

WESTERN AUSTRALIA

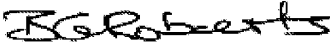
RECORD OF QUALIFIED CERTIFICATE
OF
CROWN LAND TITLE


VOLUME
LR3137
FOLIO
923

UNDER THE TRANSFER OF LAND ACT 1893
AND THE LAND ADMINISTRATION ACT 1997

NO DUPLICATE CREATED

The undermentioned land is Crown land in the name of the STATE of WESTERN AUSTRALIA, subject to the interests and Status Orders shown in the first schedule which are in turn subject to the limitations, interests, encumbrances and notifications shown in the second schedule.


REGISTRAR OF TITLES



LAND DESCRIPTION:

LOT 2850 ON DIAGRAM 49338

STATUS ORDER AND PRIMARY INTEREST HOLDER:
(FIRST SCHEDULE)

STATUS ORDER/INTEREST: RESERVE UNDER MANAGEMENT ORDER

PRIMARY INTEREST HOLDER: SHIRE OF KALAMUNDA
(XE E221602) REGISTERED 27 OCTOBER 1989

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. E221602 PART RESERVE 34364 FOR THE PURPOSE OF PUBLIC RECREATION REGISTERED 27.10.1989.
- E221602 MANAGEMENT ORDER. CONTAINS CONDITIONS TO BE OBSERVED. REGISTERED 27.10.1989.

- Warning: (1) A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.
Lot as described in the land description may be a lot or location.
- (2) The land and interests etc. shown hereon may be affected by interests etc. that can be, but are not, shown on the register.
- (3) The interests etc. shown hereon may have a different priority than shown.

-----END OF CERTIFICATE OF CROWN LAND TITLE-----

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND: D49338 [SHEET 1].

PREVIOUS TITLE: LR3000-116.

PROPERTY STREET ADDRESS: 71 MOIRA AV, FORRESTFIELD.

LOCAL GOVERNMENT AREA: SHIRE OF KALAMUNDA.

RESPONSIBLE AGENCY: DEPARTMENT OF REGIONAL DEVELOPMENT AND LANDS (SLSD).

END OF PAGE 1 - CONTINUED OVER

ORIGINAL CERTIFICATE OF CROWN LAND TITLE
QUALIFIED

REGISTER NUMBER: 2850/D49338

VOLUME/FOLIO: LR3137-923

PAGE 2

NOTE 1: J746978 CORRESPONDENCE FILE 01862-1975-01RO



REGISTER NUMBER 3487/D55585	
DUPLICATE EDITION N/A	DATE DUPLICATE ISSUED N/A

RECORD OF QUALIFIED CERTIFICATE
OF
CROWN LAND TITLE

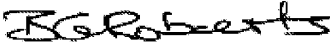
VOLUME
LR3137


FOLIO
924

UNDER THE TRANSFER OF LAND ACT 1893
AND THE LAND ADMINISTRATION ACT 1997

NO DUPLICATE CREATED

The undermentioned land is Crown land in the name of the STATE of WESTERN AUSTRALIA, subject to the interests and Status Orders shown in the first schedule which are in turn subject to the limitations, interests, encumbrances and notifications shown in the second schedule.


REGISTRAR OF TITLES



LAND DESCRIPTION:

LOT 3487 ON DIAGRAM 55585

STATUS ORDER AND PRIMARY INTEREST HOLDER:
(FIRST SCHEDULE)

STATUS ORDER/INTEREST: RESERVE UNDER MANAGEMENT ORDER

PRIMARY INTEREST HOLDER: SHIRE OF KALAMUNDA
(XE E221602) REGISTERED 27 OCTOBER 1989

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. E221602 PART RESERVE 34364 FOR THE PURPOSE OF PUBLIC RECREATION REGISTERED 27.10.1989.
- E221602 MANAGEMENT ORDER. CONTAINS CONDITIONS TO BE OBSERVED. REGISTERED 27.10.1989.

- Warning: (1) A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required. Lot as described in the land description may be a lot or location.
- (2) The land and interests etc. shown hereon may be affected by interests etc. that can be, but are not, shown on the register.
- (3) The interests etc. shown hereon may have a different priority than shown.

-----END OF CERTIFICATE OF CROWN LAND TITLE-----

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND: D55585 [SHEET 1].

PREVIOUS TITLE: LR3000-116.

PROPERTY STREET ADDRESS: 71 MOIRA AV, FORRESTFIELD.

LOCAL GOVERNMENT AREA: SHIRE OF KALAMUNDA.

RESPONSIBLE AGENCY: DEPARTMENT OF REGIONAL DEVELOPMENT AND LANDS (SLSD).

END OF PAGE 1 - CONTINUED OVER

ORIGINAL CERTIFICATE OF CROWN LAND TITLE
QUALIFIED

REGISTER NUMBER: 3487/D55585

VOLUME/FOLIO: LR3137-924

PAGE 2

NOTE 1: J746984 CORRESPONDENCE FILE 01862-1975-01RO



REGISTER NUMBER 3059/P12494	
DUPLICATE EDITION N/A	DATE DUPLICATE ISSUED N/A

RECORD OF QUALIFIED CERTIFICATE
OF
CROWN LAND TITLE

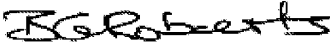
VOLUME
LR3137


FOLIO
925

UNDER THE TRANSFER OF LAND ACT 1893
AND THE LAND ADMINISTRATION ACT 1997

NO DUPLICATE CREATED

The undermentioned land is Crown land in the name of the STATE of WESTERN AUSTRALIA, subject to the interests and Status Orders shown in the first schedule which are in turn subject to the limitations, interests, encumbrances and notifications shown in the second schedule.


REGISTRAR OF TITLES



LAND DESCRIPTION:

LOT 3059 ON PLAN 12494

STATUS ORDER AND PRIMARY INTEREST HOLDER:
(FIRST SCHEDULE)

STATUS ORDER/INTEREST: RESERVE UNDER MANAGEMENT ORDER

PRIMARY INTEREST HOLDER: SHIRE OF KALAMUNDA
(XE E221602) REGISTERED 27 OCTOBER 1989

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. E221602 PART RESERVE 34364 FOR THE PURPOSE OF PUBLIC RECREATION REGISTERED 27.10.1989.
- E221602 MANAGEMENT ORDER. CONTAINS CONDITIONS TO BE OBSERVED. REGISTERED 27.10.1989.

- Warning: (1) A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required. Lot as described in the land description may be a lot or location.
- (2) The land and interests etc. shown hereon may be affected by interests etc. that can be, but are not, shown on the register.
- (3) The interests etc. shown hereon may have a different priority than shown.

-----END OF CERTIFICATE OF CROWN LAND TITLE-----

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND: P12494 [SHEET 1].

PREVIOUS TITLE: LR3000-116.

PROPERTY STREET ADDRESS: 71 MOIRA AV, FORRESTFIELD.

LOCAL GOVERNMENT AREA: SHIRE OF KALAMUNDA.

RESPONSIBLE AGENCY: DEPARTMENT OF REGIONAL DEVELOPMENT AND LANDS (SLSD).

END OF PAGE 1 - CONTINUED OVER

ORIGINAL CERTIFICATE OF CROWN LAND TITLE
QUALIFIED

REGISTER NUMBER: 3059/P12494

VOLUME/FOLIO: LR3137-925

PAGE 2

NOTE 1: J746983 CORRESPONDENCE FILE 01862-1975-01RO



REGISTER NUMBER 3097/P12493	
DUPLICATE EDITION N/A	DATE DUPLICATE ISSUED N/A

RECORD OF QUALIFIED CERTIFICATE
OF
CROWN LAND TITLE

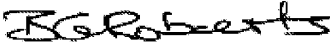
VOLUME
LR3137


FOLIO
926

UNDER THE TRANSFER OF LAND ACT 1893
AND THE LAND ADMINISTRATION ACT 1997

NO DUPLICATE CREATED

The undermentioned land is Crown land in the name of the STATE of WESTERN AUSTRALIA, subject to the interests and Status Orders shown in the first schedule which are in turn subject to the limitations, interests, encumbrances and notifications shown in the second schedule.


REGISTRAR OF TITLES



LAND DESCRIPTION:

LOT 3097 ON PLAN 12493

STATUS ORDER AND PRIMARY INTEREST HOLDER:
(FIRST SCHEDULE)

STATUS ORDER/INTEREST: RESERVE UNDER MANAGEMENT ORDER

PRIMARY INTEREST HOLDER: SHIRE OF KALAMUNDA
(XE E221602) REGISTERED 27 OCTOBER 1989

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. E221602 PART RESERVE 34364 FOR THE PURPOSE OF PUBLIC RECREATION REGISTERED 27.10.1989.
- E221602 MANAGEMENT ORDER. CONTAINS CONDITIONS TO BE OBSERVED. REGISTERED 27.10.1989.

- Warning: (1) A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required. Lot as described in the land description may be a lot or location.
- (2) The land and interests etc. shown hereon may be affected by interests etc. that can be, but are not, shown on the register.
- (3) The interests etc. shown hereon may have a different priority than shown.

-----END OF CERTIFICATE OF CROWN LAND TITLE-----

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND: P12493 [SHEET 1].

PREVIOUS TITLE: LR3000-116.

PROPERTY STREET ADDRESS: 71 MOIRA AV, FORRESTFIELD.

LOCAL GOVERNMENT AREA: SHIRE OF KALAMUNDA.

RESPONSIBLE AGENCY: DEPARTMENT OF REGIONAL DEVELOPMENT AND LANDS (SLSD).

END OF PAGE 1 - CONTINUED OVER

ORIGINAL CERTIFICATE OF CROWN LAND TITLE
QUALIFIED

REGISTER NUMBER: 3097/P12493

VOLUME/FOLIO: LR3137-926

PAGE 2

NOTE 1: J746980 CORRESPONDENCE FILE 01862-1975-01RO



REGISTER NUMBER	
9835/D53851	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
N/A	N/A

RECORD OF QUALIFIED CERTIFICATE
OF
CROWN LAND TITLE

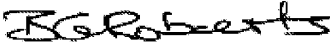
VOLUME
LR3137


FOLIO
927

UNDER THE TRANSFER OF LAND ACT 1893
AND THE LAND ADMINISTRATION ACT 1997

NO DUPLICATE CREATED

The undermentioned land is Crown land in the name of the STATE of WESTERN AUSTRALIA, subject to the interests and Status Orders shown in the first schedule which are in turn subject to the limitations, interests, encumbrances and notifications shown in the second schedule.


REGISTRAR OF TITLES



LAND DESCRIPTION:

LOT 9835 ON DIAGRAM 53851

STATUS ORDER AND PRIMARY INTEREST HOLDER:
(FIRST SCHEDULE)

STATUS ORDER/INTEREST: RESERVE UNDER MANAGEMENT ORDER

PRIMARY INTEREST HOLDER: SHIRE OF KALAMUNDA
(XE E221602) REGISTERED 27 OCTOBER 1989

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. E221602 PART RESERVE 34364 FOR THE PURPOSE OF PUBLIC RECREATION REGISTERED 27.10.1989.
- E221602 MANAGEMENT ORDER. CONTAINS CONDITIONS TO BE OBSERVED. REGISTERED 27.10.1989.

- Warning: (1) A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required. Lot as described in the land description may be a lot or location.
- (2) The land and interests etc. shown hereon may be affected by interests etc. that can be, but are not, shown on the register.
- (3) The interests etc. shown hereon may have a different priority than shown.

-----END OF CERTIFICATE OF CROWN LAND TITLE-----

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND: D53851 [SHEET 1].

PREVIOUS TITLE: LR3000-116.

PROPERTY STREET ADDRESS: LOT 9835 MALLOW WAY, FORRESTFIELD.

LOCAL GOVERNMENT AREA: SHIRE OF KALAMUNDA.

RESPONSIBLE AGENCY: DEPARTMENT OF REGIONAL DEVELOPMENT AND LANDS (SLSD).

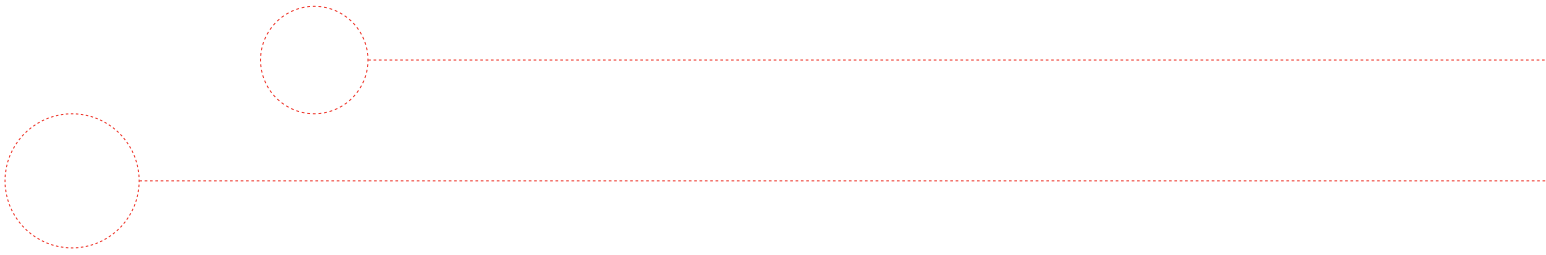
END OF PAGE 1 - CONTINUED OVER

ORIGINAL CERTIFICATE OF CROWN LAND TITLE
QUALIFIED

REGISTER NUMBER: 9835/D53851 VOLUME/FOLIO: LR3137-927

PAGE 2

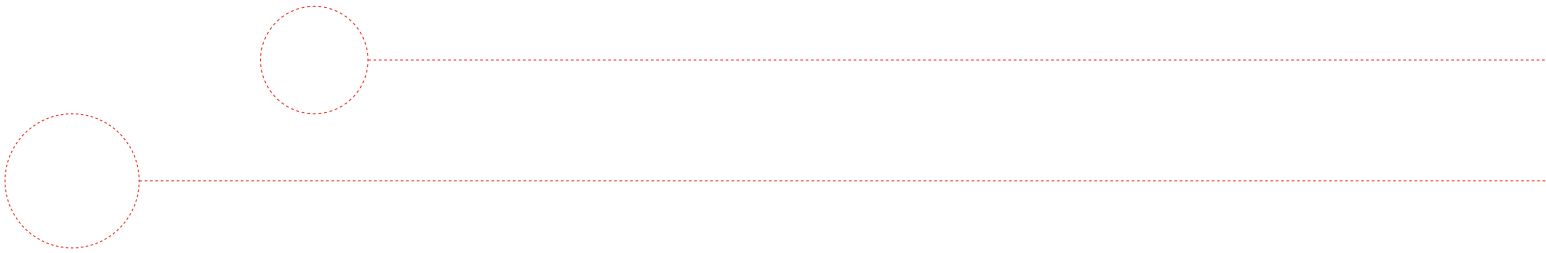
NOTE 1: J746979 CORRESPONDENCE FILE 01862-1975-01RO



This page has been left blank intentionally.

APPENDIX 2

CONTEXT ANALYSIS PLAN



This page has been left blank intentionally.



- LEGEND**
- SUBJECT SITE
 - NEIGHBOURHOOD ROAD
 - PEDESTRIAN ACCESS WAY
 - POTENTIAL ACCESS LINK
 - SHOPPING CENTRE
 - OPEN SPACE
 - SCHOOL / KINDERGARTEN
 - 400m RADIUS TO SHOPPING CENTRE
 - 132kV POWERLINE



0 500 1000m

This concept has been prepared for the purpose of meeting client specifications. The drawing does not constitute an invitation, agreement or contract (or any part thereof) of any kind whatsoever.

Although care has been taken in the compilation of this drawing by The Planning Group WA Pty Ltd, all parties associated with the proposed property development disclaim all responsibility for any errors or omissions. The right is reserved to change the plan at any time.

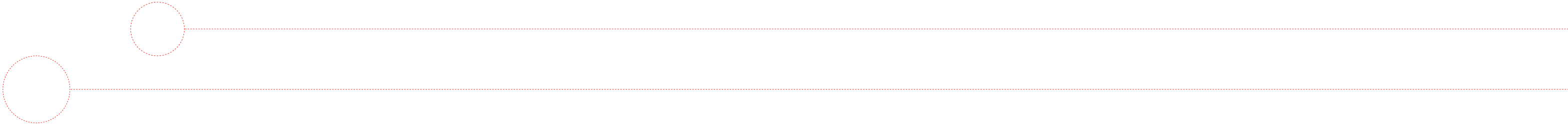
Liability is expressly disclaimed by The Planning Group WA Pty Ltd for any loss or damage which may be sustained by any person acting on any visual impression gained from this drawing.

**CONTEXT ANALYSIS
CAMBRIDGE ROAD RESERVE
SHIRE OF KALAMUNDA**

Date: 23 MAY 2012 Designer: LC
Scale: NTS @ A3 Drawn: C
Drawing No. 712.359 PL2A Context 230512.ai

**TOWN PLANNING
AND URBAN DESIGN**

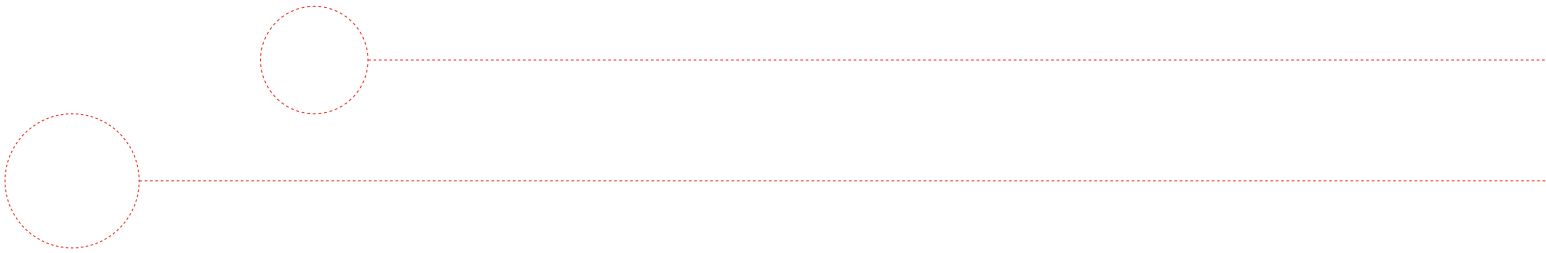




This page has been left blank intentionally.

APPENDIX 3

POS PROVISION PLAN



This page has been left blank intentionally.

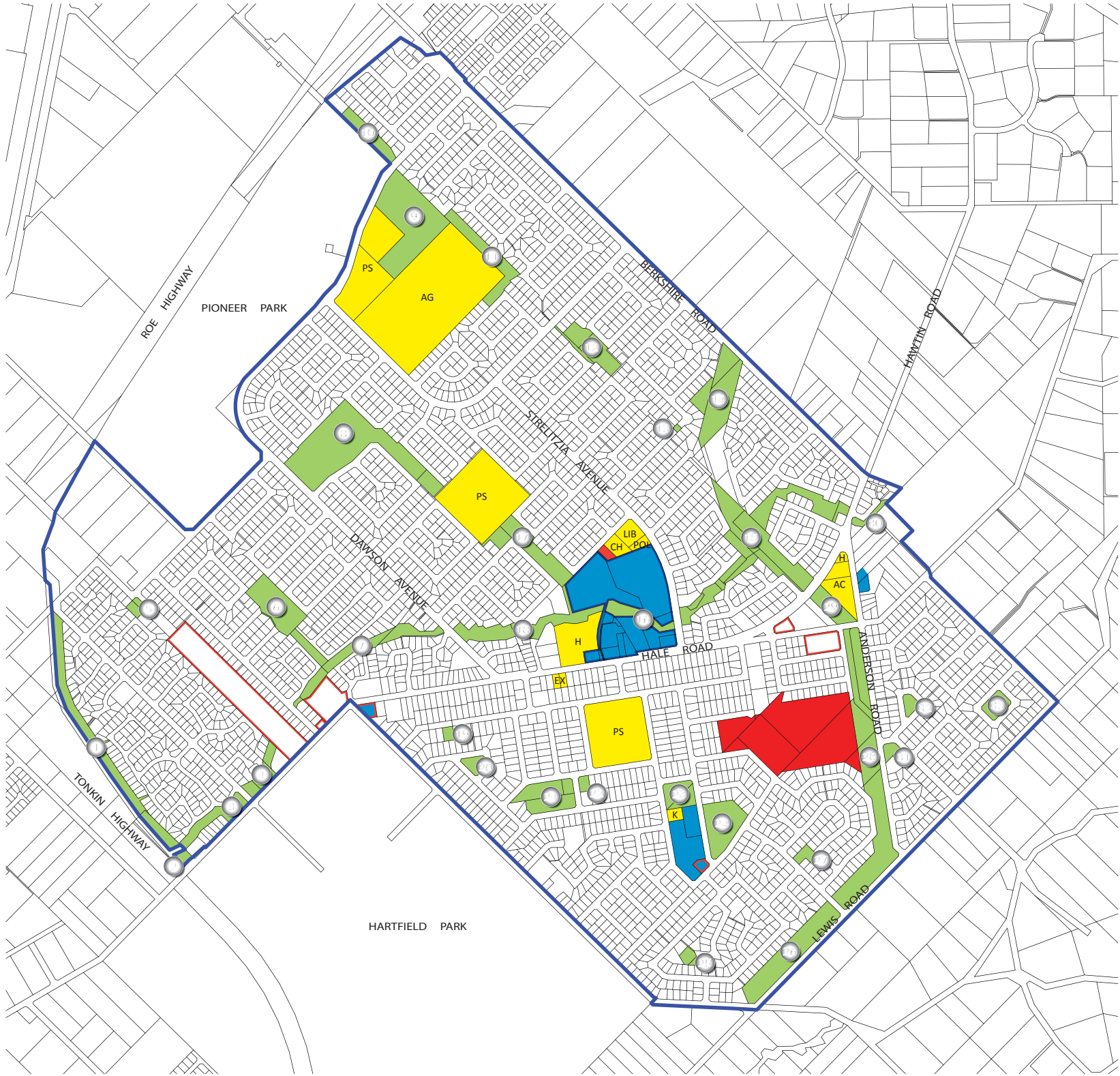
PUBLIC OPEN SPACE SCHEDULE

ID	LOT No.	RESERVE No.	LOT AREA (ha)	TOTAL AREA (ha)
Site	7876	R27559	0.7585	8.9665
	3677	R27559	0.1905	
	12366	R27559	0.0117	
	9835	R34364	0.0880	
	2346	R31348	2.0147	
	3097	R34364	0.0268	
	3487	R34364	3.1632	
	2850	R34364	2.5050	
1	3059	R34364	0.2081	2.8478
	-	R42866	2.3332	
2	23	-	0.5146	0.1745
	23	-	0.1745	
3	3803	R42573	1.0404	1.0404
4	3889	R43064	0.2054	0.6167
	3883	R43064	0.2187	
	3888	R33912	0.1926	
5	11848	R42611	0.1660	0.2384
	543	-	0.0724	
6	9388	R33741	1.8861	1.9063
	9455	R34083	0.0202	
7	13601	R33912	0.4184	2.1829
	13602	R33912	0.3622	
	13603	R33912	0.7908	
	2770	R33912	0.0479	
8	10512	R38598	0.5636	5.8982
	9639	R34706	5.5082	
9	9642	R34722	0.3900	4.6006
	9685	R35618	4.3273	
10	9687	R34877	0.2733	0.8772
	11349	R41189	0.4487	
11	9686	R41189	0.4285	1.4902
	Ptn 11858	Ptn R29815	1.4902	
12	10430	R34610	0.4324	1.4466
	9747	R35086	0.1534	
	9611	R34610	0.8608	
13	9674	R34858	0.0400	0.0400
14	9673	R34857	0.4210	2.7778
	1	-	0.5669	
	586	-	1.7899	
	10721	R34250	0.3411	
	9972	R34250	0.0836	
	9972	R34250	0.1156	
	9972	R34250	0.0609	
	10687	R34250	0.2347	
	10032	R34250	0.0703	
	10103	R34250	0.5428	
	9524	R34250	0.1085	
	-	-	0.3300	
	101	-	0.9543	
	120	-	1.6070	
	97	-	0.3313	
	9550	R34363	1.3663	
	10222	R34363	0.1667	
16	104	-	0.7686	0.7686
17	10448	R34115	0.3373	1.7912
	9479	R34115	1.4539	
18	9120	R32912	0.8965	2.1188
	104	-	1.2223	
19	8785	R31690	0.1619	0.1619
20	9127	R33000	0.3603	0.3603
21	9099	R28447	0.7681	1.7267
	8455	R28447	0.7789	
	8160	R28447	0.1797	
22	8161	R28447	0.1799	0.1799
23	7885	R27566	0.4898	0.8573
	2439	R27566	0.3675	
24	2560	R32494	1.7933	1.7933
25	3093	R35871	0.2091	0.2713
	3495	R35871	0.0622	
26	2879	R34600	2.8342	2.8342
27	3146	R36344	0.2572	0.2572
28	-	-	0.6648	5.9342
	-	-	0.8167	
	2879	R34600	2.9693	
	4	-	0.8507	
	Closed Road	-	0.6327	
29	120	-	0.8394	0.8394
30	11775	R42353	0.2460	0.2460
31	3145	R36350	0.2212	0.2212
32	2832	R34237	0.2754	0.2754
33	3018	R35230	0.2175	0.5547
	3016	R35230	0.3372	
TOTAL				62.6088

This concept has been prepared for the purpose of meeting client specifications. The drawing does not constitute an invitation, agreement or contract (or any part thereof) of any kind whatsoever.

Although care has been taken in the compilation of this drawing by The Planning Group WA Pty Ltd, all parties associated with the proposed property development disclaim all responsibility for any errors or omissions. The right is reserved to change the plan at any time.

Liability is expressly disclaimed by The Planning Group WA Pty Ltd for any loss or damage which may be sustained by any person acting on any visual impression gained from this drawing.



LEGEND

- SITE
- EXTENT OF EXISTING RESIDENTIAL ZONED LAND
- PUBLIC OPEN SPACE SITE ID

SHIRE OF KALAMUNDA TOWN PLANNING SCHEME No. 3

LOCAL SCHEME RESERVES

- LOCAL OPEN SPACE
- PUBLIC PURPOSES
 - AC AGED CARE
 - AG AGRICULTURE PROTECTION BOARD & CONSERVATION
 - CH CHURCH
 - EX TELEPHONE EXCHANGE
 - H HALL / COMMUNITY CENTRE
 - K KINDERGARTEN
 - LIB LIBRARY
 - POL POLICE STATION
 - PS PRIMARY SCHOOL

ZONES

- DISTRICT CENTRE
- COMMERCIAL
- SERVICE STATION
- SPECIAL USE



PUBLIC OPEN SPACE SCHEDULE

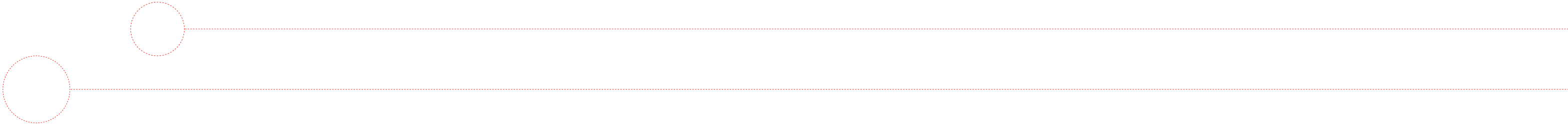
ITEM	AREA (ha)	AREA (ha)
Existing Residential Zoned Land		545.4016
Deductions (as per WAPC Policy DC 2.3)		
Schools/Kindergarten	13.3719	
Commercial	11.5570	
Special use	7.5501	
Other non-residential	16.2151	
Gross subdivisible area		496.7075
POS required @ 10%		49.6708
Existing POS provision		62.6088
POS surplus		12.9380

EXISTING POS PROVISION
CAMBRIDGE ROAD RESERVE
SHIRE OF KALAMUNDA

Date: 23 MAY 2012 Designer: LC
Scale: NTS @ A3 Drawn: C
Drawing No. 712.359 PL1A POS Provision 230512.ai

TOWN PLANNING
AND URBAN DESIGN

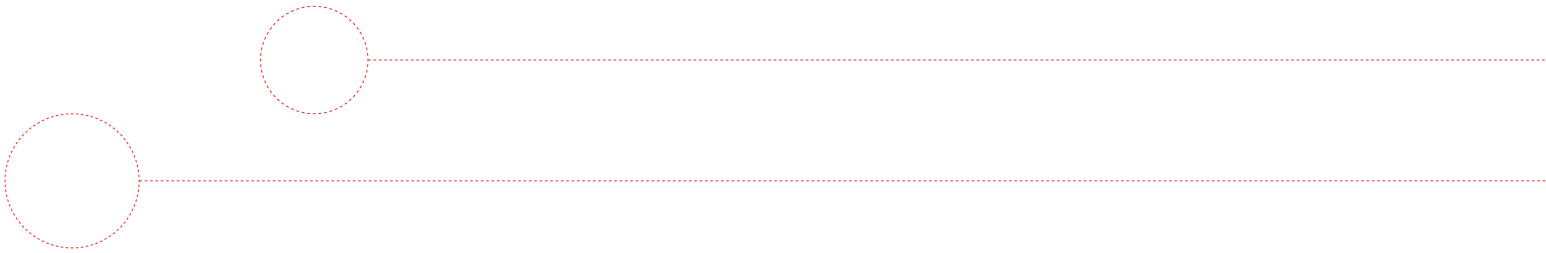




This page has been left blank intentionally.

APPENDIX 4

CAMBRIDGE RD POS MASTER PLAN



This page has been left blank intentionally.



0 20 40 80m

This concept has been prepared for the purpose of meeting client specifications. The drawing does not constitute an invitation, agreement or contract (or any part thereof) of any kind whatsoever.

Although care has been taken in the compilation of this drawing by The Planning Group WA Pty Ltd, all parties associated with the proposed property development disclaim all responsibility for any errors or omissions. The right is reserved to change the plan at any time.

Liability is expressly disclaimed by The Planning Group WA Pty Ltd for any loss or damage which may be sustained by any person acting on any visual impression gained from this drawing.

Yield Summary						
Lot Type	15 x 28	12 x 28	10 x 28	9 x 28	7.5 x 28	TOTAL
	27	3	10	11	32	83
Percentage	33%	5%	11%	13%	38%	

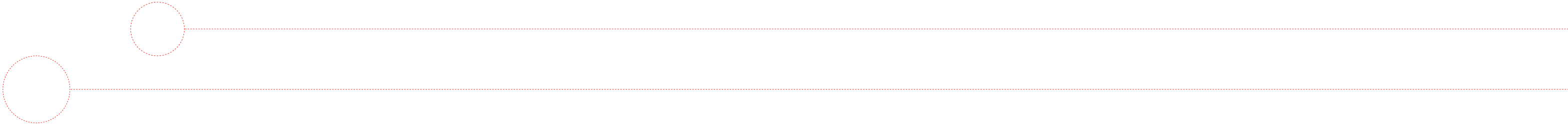
Concept Plan Cambridge Road, Forreestfield

Date: 07 June 2012 Project Manager: TP
 Scale: 1:2000 @ A3 Designer: OP
 Drawing No. 712-359 CP01A Drawn: OP

TOWN PLANNING
AND URBAN DESIGN

Level 7, 182 St Georges Terrace Perth Western Australia 6000
 PO Box 7375 Cloisters Square Perth Western Australia 6850
 Telephone +61 8 9269 8300
 Facsimile +61 8 9261 4768
 www.tpgwa.com.au
 The Planning Group WA Pty Ltd
 ABN 38 907 273 222





This page has been left blank intentionally.

2.0 ENVIRONMENTAL ASSESSMENT REPORTS



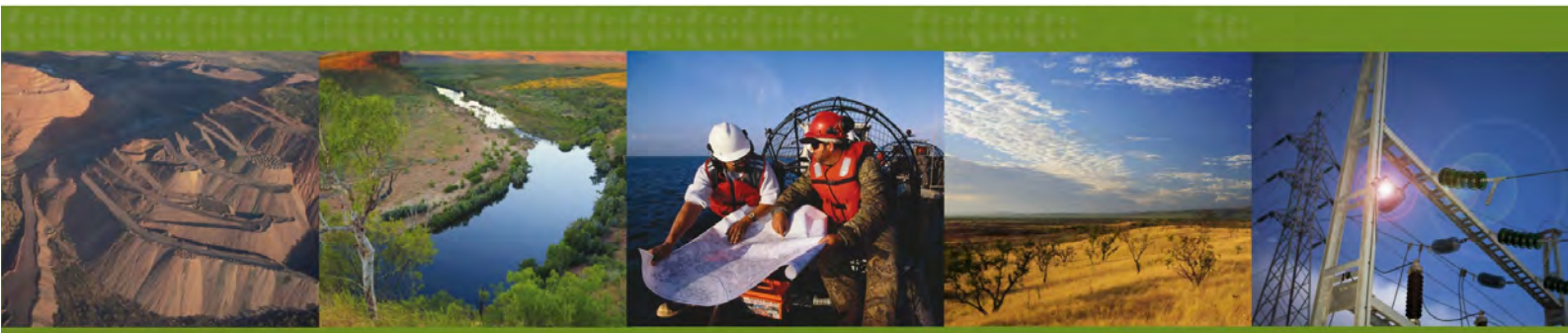
city of kalamunda

Cambridge Reserve Community Enhancement Project Environmental Reports and Studies October 2017

CONTENTS

1.0	PRELIMINARY OPPORTUNITIES AND CONSTRAINTS.....	3
2.0	LEVEL 2 FLORA AND VEGETATION SURVEY.....	4
3.0	MAPPING.....	5

1.0 PRELIMINARY OPPORTUNITIES AND CONSTRAINTS



Preliminary Opportunities and Constraints Report

York Road Reserve, Forrestfield

DRAFT

Prepared for
Shire of Kalamunda
by Strategen

May 2012



Preliminary Opportunities and Constraints Report

York Road Reserve, Forrestfield

DRAFT

Strategen is a trading name of
Strategen Environmental Consultants Pty Ltd
Level 2, 322 Hay Street Subiaco WA
ACN: 056 190 419

May 2012

Disclaimer and Limitation

This report has been prepared for the exclusive use of the Client, in accordance with the agreement between the Client and Strategen ("Agreement").

Strategen accepts no liability or responsibility whatsoever for it in respect of any use of or reliance upon this report by any person who is not a party to the Agreement.

In particular, it should be noted that this report is a qualitative assessment only, based on the scope of services defined by the Client, budgetary and time constraints imposed by the Client, the information supplied by the Client (and its agents), and the method consistent with the preceding.

Strategen has not attempted to verify the accuracy or completeness of the information supplied by the Client.

Copyright and any other Intellectual Property arising from the report and the provision of the services in accordance with the Agreement belongs exclusively to Strategen unless otherwise agreed. This document may not be reproduced or disclosed to any person other than the Client without the express written authority of Strategen unless the document has been released for referral and assessment of proposals.

Client: Shire of Kalamunda

Report Version	Revision No.	Purpose	Strategen author/reviewer	Submitted to Client	
				Form	Date
Draft Report	A0				
Final Draft Report					
Final Report					

Filename: SKA12118_01 R001 Rev A0 - 25 May 2012

DRAFT

Preliminary Opportunities and Constraints Report

Table of contents

1. Introduction	2
1.1 Background	2
1.2 Desktop review	2
1.3 Site investigation	2
2. Results and discussion	5
2.1 Disturbance history	5
2.2 Topography and soils	5
2.3 Surface water	5
2.4 Flora and vegetation	7
2.4.1 Results	7
2.4.2 Discussion	8
2.5 Fauna	11
2.5.1 Results	11
2.5.2 Discussion	14
3. Conclusions and recommendations	16
4. References	17

List of tables

Table 1	Conservation significant species potentially occurring in York Street Reserve	7
Table 2	Likelihood of occurrence of flora species identified by database searches	9
Table 3	Conservation significant species potentially occurring in York Street Reserve	11
Table 4	Likelihood of occurrence of fauna species identified by database searches	12

List of figures

Figure 1	Regional location	3
Figure 2	York Street Reserve	4
Figure 3	Assessment zones	6
Figure 4	Known locations of Carnaby's black-cockatoo habitat	15

List of appendices

Appendix 1	Conservation codes
Appendix 2	Detailed zone descriptions

DRAFT

Preliminary Opportunities and Constraints Report

1. Introduction

1.1 Background

The Shire of Kalamunda is currently examining opportunities to develop parts of York Street Reserve, Forrestfield. Strategen have been engaged to undertake an assessment of the site to determine whether any environmental constraints or opportunities for development are present within the Reserve.

York Street Reserve is located in Forrestfield (Figure 1), and is bounded by York Street and Moira Avenue along the southern boundary, a transmission line easement in the east, Mallow Way residences and Cambridge Road in the north, and Cumberland Road residences in the west (Figure 2). The Reserve is located less than 1 km from areas of remnant vegetation in Hartfield Park and is approximately 8.8 ha in size.

The Reserve is generally in a degraded state, having been subject to considerable disturbance in the form of trail bike use and rubbish dumping over an extended period of time.

1.2 Desktop review

Prior to visiting the site, searches were undertaken of the following databases to establish whether any conservation significant flora or fauna species could potentially occur in the Reserve:

- Naturemap (DEC 2012a) (search area encompassed a 5 km radius of an approximately central point of the Reserve)
- Environment Protection and Biodiversity Conservation Act (EPBC Act) Protected Matters Search Tool (SEWPaC 2012a) (search area encompassed the Reserve and a 1 km buffer along all boundaries).

This information was then used to inform the site investigation.

1.3 Site investigation

A general inspection of the Reserve was undertaken on 15 May 2012. During this investigation notes were taken on the following issues:

- broad site description including assessment of disturbance history
- broad description of vegetation (including dominant species observed in each area, level of weed infestation, and whether vegetation is remnant, revegetated or non-native)
- vegetation condition (rated according to the scale of Keighery [1994])
- location of any trees/stands of trees that potentially form Carnaby's black-cockatoo foraging/breeding habitat
- location of any potential graceful sun-moth habitat (*Lomandra hermaphrodita*) encountered opportunistically during the site visit
- location of any other items considered to be potential environmental constraints or opportunities.

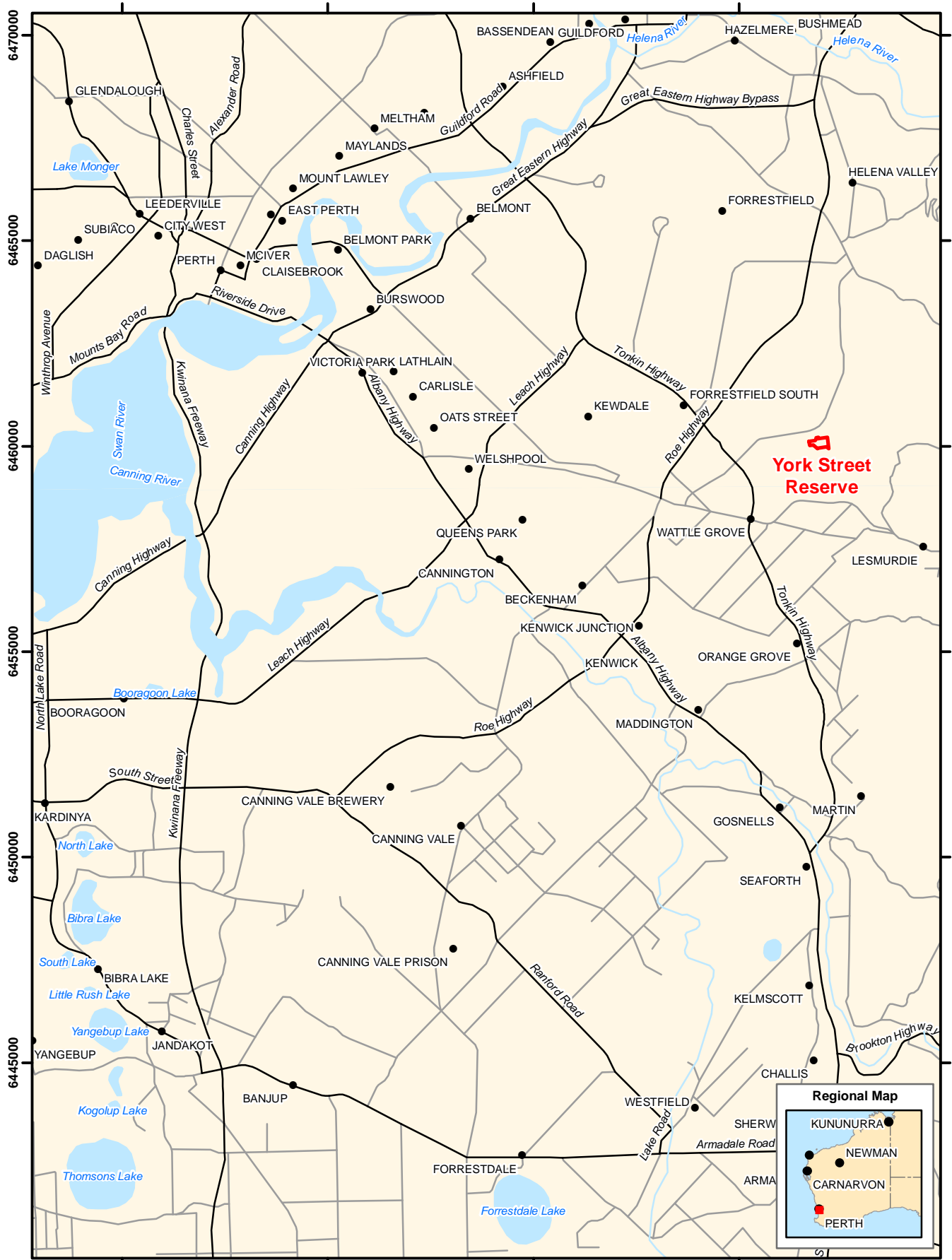






Figure 1 Regional location



Figure 2 Project area

Legend

-  High voltage power line
-  York Street Reserve
-  Sump
-  Cadastral boundaries

DRAFT

Preliminary Opportunities and Constraints Report

2. Results and discussion

For the purpose of describing environmental constraints, the Reserve has been divided into eight zones, as illustrated in Figure 3. An overview is provided in the following section, with a detailed description of each individual zone provided in Appendix 2.

2.1 Disturbance history

The Reserve appears to have an extensive history of disturbance. A large portion (Zone 2) has been cleared of native vegetation altogether and revegetated with non-local eucalypt species. Weed species occur throughout the reserve, with heavier infestations in areas where historical clearing has been undertaken, or modifications such as artificial drainage channels have been constructed. It is noted that Zone 1 (Cambridge Road Reserve) is planted with lawn grasses and playground equipment is installed.

Household rubbish has been dumped throughout the Reserve, reducing the amenity of the area. In addition vehicle tracks throughout the Reserve suggest the area is highly utilised by trail bikers for recreational purposes.

No Aboriginal or Non-Aboriginal heritage sites have been identified within the Reserve.

2.2 Topography and soils

The topography of the site is generally undulating, with a local low point present in the form of a sump to the south-west of the site (Figure 2). Surface soils range from yellow-orange clayey sand to white-grey sand. In some areas, laterite gravel varying in size is present on the surface, generally consistent with the location of the drainage channels to the sump.

2.3 Surface water

Aerial photography of the Reserve has been analysed against GIS data for geomorphic wetlands as listed by the DEC as well as lakes listed under the *Environmental Protection Swan Coastal Plain Lakes Policy 1992*. No wetlands/lakes have been recorded within or near the Reserve.

It is noted the site contains a large sump, which receives drainage from the surrounding area. The sump is what is referred to as a trap low point, in that there is no drain or creek by which the water can leave the sump. The sump receives drainage from the surrounding urban areas. Following large rainfall events or wet winters, the sump will fill up and expand in area, possibly entering Zones 1 and 3. The water levels in the sump may be driven by runoff, or local groundwater, or a mixture of both.

Surface water was present in the sump on the day of inspection. It is unclear if this water was due to recent rainfall and associated run off or was an expression of the local groundwater table. The base of the sump appeared to be clay.

The maximum water level and extent of the sump will limit the area of the reserve that can be developed. In wet years and, following large rainfall events, the water may also extend into Zones 1 and 3. Hydrological modelling of runoff and groundwater is required to determine the maximum extent of the sump. This work should be undertaken early in the planning process to determine the total area of the site that can be developed.

There may be options to reduce the area impacted by the sump through the provision of a drainage outlet to the sump. Any such option would need to be proved from an engineering viewpoint and be approved by the Water Corporation and Department of Water prior to construction.



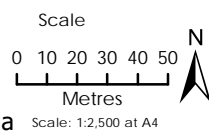
Figure 3 Assessment zones

Legend

- York Street Reserve
- Zone 1
- Zone 2
- Zone 3
- Zone 4
- Zone 5
- Zone 6
- Zone 7
- Zone 8



info@strategen.com.au
City of Kalamunda



Coordinate System: GDA 1994 MGA Zone 50

Date: 25/05/2012

Author: jcrute

Path: Q:\GIS\Consult\2012\SKA\SKA12118.01\ArcMap_documents\R001\RevA\SKA12118_01_R001_RevA_F003.mxd

Source Aerial: Client 2012.

Note that positional errors may occur in some areas

DRAFT

Preliminary Opportunities and Constraints Report

2.4 Flora and vegetation

2.4.1 Results

Table 1 provides a summary of the conservation significant flora identified as potentially occurring in the Reserve through the database searches only. Descriptions of each conservation code are available in Appendix 11.

Table 1 Conservation significant species potentially occurring in York Street Reserve

Species	Common name	Conservation status	
		WC Act/DEC listing	EPBC Act listing
<i>Acacia oncinophylla</i> subsp. <i>patulifolia</i>		P3	
<i>Andersonia gracilis</i>	Slender andersonia		Endangered
<i>Banksia mimica</i>	Summer honeypot		Endangered
<i>Boronia tenuis</i>	Blue boronia	P4	
<i>Byblis gigantea</i>	Rainbow plant	P3	
<i>Calytrix breviseta</i> subsp. <i>breviseta</i>	Swamp starflower		Endangered
<i>Centrolepis caespitosa</i>			Endangered
<i>Chamelaucium</i> sp. Gingin (N.G.Marchant 6)	Gingin wax		Endangered
<i>Conospermum undulatum</i>	Wavy-leaved smokebush	T	Vulnerable
<i>Darwinia foetida</i>	Muchea bell		Critically Endangered
<i>Eucalyptus balanites</i>	Cadda road mallee, cadda mallee		Endangered
<i>Grevillea curviloba</i> subsp. <i>incurva</i>	Narrow curved-leaf grevillea		Endangered
<i>Haemodorum loratum</i>		P3	
<i>Isopogon drummondii</i>		P3	
<i>Lasiopetalum bracteatum</i>	Helena velvet bush	P4	
<i>Lepidosperma rostratum</i>	Beaked lepidosperma		Endangered
<i>Macarthuria keigheryi</i>	Keighery's macarthuria		Endangered
<i>Pithocarpa corymbulosa</i>	Corymbose pithocarpa	P3	
<i>Senecio leucoglossus</i>		P4	
<i>Synaphea</i> sp. Fairbridge Farm (D.Papenfus 696)	Selena's synaphea		Critically Endangered
<i>Thelymitra magnifica</i>		P1	
<i>Thelymitra dedmaniarum</i> (formerly <i>T. manginii</i> K.Dixon & Batty ms)			Endangered
<i>Thelymitra stellata</i>	Star sun-orchid	T	Endangered
<i>Verticordia fimbrialepis</i> subsp. <i>fimbrialepis</i>	Shy featherflower		Endangered
<i>Villarsia calthifolia</i>	Mountain villarsia		Endangered

Source: DEC 2012a, SEWPaC 2012a

An assessment of the likelihood of each of these species actually occurring in the Reserve is provided in Table 2.

Likelihood of occurrence has been determined based on information available in the following resources:

- *Species Profile and Threats Database* (SEWPaC 2012b)
- *Florabase* (DEC 2012b)

DRAFT

Preliminary Opportunities and Constraints Report

- Conservation Advice and Recovery Plans for EPBC Act listed species
- flora and fauna survey reports from Hartfield Park (Strategen 2011a and 2011b).

Where limited information was available in the above resources or it is difficult to determine due to the time of year, likelihood has been listed as “possible” if preferred habitat/soil type corresponds to that present at the Reserve. It is recommended that a spring flora survey be undertaken to confirm presence or absence of these species.

It should be noted that species identifications were made in the field based on staff members’ experience in the area, and no formal identifications were made. Further, comments regarding non-local eucalypt species pertain to a number of white and grey-stemmed eucalypts observed around the Reserve.

Identifying eucalypts involves analysis of a number of characteristics including fruit and flowers; as such, it is difficult to accurately identify eucalypt species informally, particularly where they are potentially non-local species. In this case, it is considered that where large stands of white stemmed eucalypts occur in the Reserve, they are likely to be non-local species, as eucalypts with this characteristic are relatively uncommon on the Swan Coastal Plain.

A search of the Western Australian Herbarium/DEC database has been commissioned in order to gain further certainty regarding any specific instances of Threatened or Priority Flora known within or near the Reserve.

2.4.2 Discussion

A large portion of the Reserve vegetation has been disturbed by historical clearing.

Two areas (Zones 5 and 7) contain relatively undisturbed, good quality vegetation. Despite their proximity to one another, these two areas contain distinct vegetation types, with Zone 5 being a heath of *Hakea trifurcata* over sedges and Zone 7 being a woodland of *Eucalyptus marginata* and *Corymbia calophylla* (jarrah-marri woodland) over mixed herbs and shrubs.

Zone 3 also contains remnant vegetation in reasonable condition, with a relatively diverse understorey.

Elsewhere, vegetation is limited to a mixture of native and non-native trees over a heavily disturbed understorey.

DRAFT

Preliminary Opportunities and Constraints Report

Table 2 Likelihood of occurrence of flora species identified by database searches

Species	Likelihood of occurrence	Comments
<i>Acacia oncinophylla</i> subsp. <i>patulifolia</i>	Possible*	Known to occur on granitic soils, occasionally laterite (DEC 2012b).
<i>Andersonia gracilis</i>	Unlikely: no known populations near Reserve; lack of preferred habitat	Known to occur on white/grey sand, sandy clay, gravelly loam, winter-wet areas, near swamps (DEC 2012b). Currently known from the Badgingarra, Dandaragan and Kenwick areas where it is found on seasonally damp, black sandy clay flats near or on the margins of swamps, often on duplex soils supporting low open heath vegetation with species such as <i>Calothamnus hirsutus</i> , <i>Verticordia densiflora</i> and <i>Kunzea recurva</i> over sedges (Stack <i>et al.</i> 2008).
<i>Banksia mimica</i>	Possible*: recorded from the locality	Known to occur on white or grey sand over laterite, sandy loam (DEC 2012b). Recorded at a number of locations in nearby Hartfield Park (Strategen 2011a).
<i>Boronia tenuis</i>	Possible*	Known to occur on laterite, stony soils, granite (DEC 2012b).
<i>Byblis gigantea</i>	Unlikely: preferred habitat absent from the Reserve	Known to occur on sandy-peat swamps, seasonally wet areas (DEC 2012b).
<i>Calytrix breviseta</i> subsp. <i>breviseta</i>	Unlikely: only known populations situated in Kenwick, approximately 5 km from the Reserve	Known to occur on low lying, sandy clay flats, swampy flats (DEC 2012b, Luu & English 2004) among low heath of <i>Verticordia acerosa</i> , <i>Verticordia plumosa</i> , <i>Calothamnus hirsutus</i> and <i>Melaleuca uncinata</i> , over very open low sedges (Luu & English 2004). As at 2004, the taxon was thought to be confined to the Kenwick area (Luu & English 2004).
<i>Centrolepis caespitosa</i>	Unlikely: preferred habitat absent; no known populations in the vicinity of the Reserve	Populations of <i>C. caespitosa</i> have been recorded in swampy loam in low-lying winter depressions that are occasionally inundated with fresh water, amongst vegetation dominated by sedges and low shrubs (Gilfillan and Barrett 2004a). Eight known populations of <i>C. caespitosa</i> occur in the south-west of Western Australia, at the following locations: <ul style="list-style-type: none"> • South Stirling • Meelon Nature Reserve (Pemberton district) • east of Meckering • Pearce (Pemberton district) • Pinjarra • South Coast Highway (Albany district) • east of Busselton (Gilfillan & Barrett 2004a).
<i>Chamelaucium</i> sp. Gingin (N.G.Marchant 6)	Unlikely: no known populations in the vicinity of the Reserve	As at 2003, considered to be confined to a 3 km range in the Gingin/Chittering area (Stack & English 2003).
<i>Conospermum undulatum</i>	Possible*: recorded from the locality, similar soil type present at the Reserve	Known to occur on grey or yellow-orange clayey sand (DEC 2012b), often over laterite on flat or gently sloping sites between the Swan and Canning Rivers. A few records are from slightly swampy habitat (DEC 2009a). A number of records are known from the nearby Hartfield Park (Strategen 2011a).
<i>Darwinia foetida</i>	Unlikely: no known populations in the vicinity of the Reserve	Known to occur on grey-white sand on swampy, seasonally wet sites, alongside areas where water collects. The species' range is very restricted, occurring in a small area near the town of Muchea, approximately 70 km north of Perth (TSSC 2009).

SKA12118_01 R001 Rev A0

28-May-12

DRAFT

Preliminary Opportunities and Constraints Report

Species	Likelihood of occurrence	Comments
<i>Eucalyptus balanites</i>	Unlikely: no known populations in the vicinity of the Reserve; preferred habitat absent	Known from two populations in Badgingarra and Armadale (Patten <i>et al.</i> 2004), occurring on sandy soils with lateritic gravel (DEC 2012b). Habitat consists of gently sloping heathlands; open mallee woodland over shrubland or heathland with emergent mallees (Patten <i>et al.</i> 2004).
<i>Grevillea curviloba</i> subsp. <i>incurva</i>	Unlikely: no known populations in the vicinity of the Reserve	Known to occur on sand, sandy loam, in heath in winter-wet areas, on sand over limestone, or over ironstone at sites with a high water table, confined to an area between Muchea and Badgingarra (Phillimore & English 2000).
<i>Haemodorum loratum</i>	Possible*	Grey or yellow sand, gravel (DEC 2012b).
<i>Isopogon drummondii</i>	Possible*	White, grey or yellow sand, often over laterite (DEC 2012b).
<i>Lasiopetalum bracteatum</i>	Possible*	Sandy clay, clay, lateritic gravel, along drainage lines, creeks, gullies, granite outcrops (DEC 2012b).
<i>Lepidosperma rostratum</i>	Unlikely: preferred habitat absent from the Reserve	Known from four populations, associated with marsh banksia (<i>Banksia telmatiaea</i>) and hairy clawflower (<i>Calothamnus hirsutus</i>), in sandy soil among low heath in winter-wet swamps (TSSC 2008a).
<i>Macarthuria keigheryi</i>	Possible*	Currently known from six populations of which two are in metropolitan Perth (Welshpool and Kewdale), where it occurs in low-lying winter-wet damp, grey/white sands and grows in open patches with low tree canopy cover among heathland, jarrah (<i>Eucalyptus marginata</i>) and <i>Allocasuarina</i> /banksia woodland (DEC 2009b).
<i>Pithocarpa corymbulosa</i>	Possible*	Known to occur on gravelly or sandy loam and amongst granite outcrops (DEC 2012b).
<i>Senecio leucoglossus</i>	Possible*	Known to occur on gravelly lateritic or granitic soils and granite outcrops or slopes (DEC 2012b).
<i>Synaphea</i> sp. Fairbridge Farm (D.Papenfus 696)	Unlikely: no known populations in the vicinity of the Reserve	Known to occur on grey, clayey sand with lateritic pebbles and near winter-wet flats, in low woodland with weedy grasses (DEC 2012b, DEC 2007). Restricted to a range of approximately 870 km ² in the Shires of Murray, Serpentine-Jarrahdale and Dardanup (DEC 2007).
<i>Thelymitra magnifica</i>	Unlikely: preferred habitat absent from the Reserve	Known to occur on stony ridges (DEC 2012b).
<i>Thelymitra dedmaniarum</i> (formerly <i>T. manginii</i> K.Dixon & Batty ms)	Unlikely: no known populations in the vicinity of the Reserve; preferred habitat absent	Known from two populations northeast of Perth, confined to open wandoo woodland on red/brown sandy loam associated with dolerite and granite outcropping, with <i>Eucalyptus wandoo</i> , <i>E. accedens</i> and <i>Corymbia calophylla</i> , over low scrub of <i>Acacia pulchella</i> , <i>A. saligna</i> , <i>Calothamnus quadrifidus</i> , <i>Melaleuca radula</i> and <i>Hakea lissocarpha</i> (Phillimore <i>et al.</i> 1999)
<i>Thelymitra stellata</i>	Possible*	Known to occur on gravelly loam among low heath and scrub in <i>Eucalyptus marginata</i> and <i>E. wandoo</i> woodland, and in low heath on lateritic hill tops (TSSC 2008b).
<i>Verticordia fimbrilepis</i> subsp. <i>fimbrilepis</i>	Unlikely: no known populations in the vicinity of the Reserve; preferred habitat absent	Distributed from southeast of Armadale to Brookton and Kojonup, occurring on low-lying shallow grey sand and yellowish-white sandy loam over gravel, sometimes with clay, in heath and shrubland and open wandoo woodland (DEC 2010a).
<i>Villarsia calthifolia</i>	Unlikely: no known populations in the vicinity of the Reserve	Restricted to Porongorup Range (Gilfillan & Barrett 2004b).

*Where likelihood of occurrence is listed as possible it is recommended that a spring flora survey be undertaken to confirm presence or absence of these species.

DRAFT

Preliminary Opportunities and Constraints Report

2.5 Fauna

2.5.1 Results

Table 3 provides a summary of the conservation significant fauna identified as potentially occurring in the Reserve through the database searches only. Descriptions of each conservation code are available in Appendix 11.

Table 3 Conservation significant species potentially occurring in York Street Reserve

Species	Common name	Conservation status	
		WC Act/DEC listing	EPBC Act listing
<i>Dasyurus geoffroii</i>	Chuditch	T	
<i>Isoodon obesulus</i> subsp. <i>fusciventer</i>	Quenda	P5	
<i>Macropus irma</i>	Western brush wallaby	P4	
<i>Morelia spilota</i> subsp. <i>imbricata</i>	Carpet python	S	
<i>Neelaps calonotos</i>	Black-striped snake	P3	
<i>Calyptorhynchus banksii naso</i>	Forest Red-tailed Black-cockatoo		Vulnerable
<i>Calyptorhynchus baudinii</i>	Baudin's black-cockatoo, long-billed black-cockatoo		Endangered
<i>Calyptorhynchus latirostris</i>	Carnaby's black-cockatoo, short-billed black-cockatoo		
<i>Leipoa ocellata</i>	Malleefowl		Vulnerable, migratory
<i>Rostratula australis</i>	Australian painted snipe		Vulnerable
<i>Dasyurus geoffroii</i>	Chuditch, western quoll		Vulnerable
<i>Phascogale calura</i>	Red-tailed phascogale		Endangered
<i>Setonix brachyurus</i>	Quokka		Vulnerable
Migratory birds			
<i>Apus pacificus</i>	Fork-tailed swift		
<i>Ardea alba</i>	Great egret, white egret		
<i>Ardea ibis</i>	Cattle egret		
<i>Haliaeetus leucogaster</i>	White-bellied sea-eagle		
<i>Merops ornatus</i>	Rainbow bee-eater		
<i>Rostratula benghalensis</i> (sensu lato)	Painted snipe		Vulnerable

Source: DEC 2012a, SEWPaC 2012a

An assessment of the likelihood of occurrence of each species is presented in Table 4.

DRAFT

Preliminary Opportunities and Constraints Report

Table 4 Likelihood of occurrence of fauna species identified by database searches

Species	Likelihood of occurrence	Comments
<i>Isoodon obesulus</i> subsp. <i>fusciventer</i> (quenda)	Likely: suitable habitat; known to persist in urban areas; recorded in Hartfield Park	Preferred habitat is dense scrubby, often swampy, vegetation with cover up to one metre high, often feeds in adjacent forest and woodland that is burnt on a regular basis and in areas of pasture and cropland lying close to dense cover. Associated with wetlands on the Swan Coastal Plain, known to occur in disturbed areas around human settlements (SEWPaC 2012b). Evidence of this species was recorded in nearby Hartfield Park (Strategen 2011b).
<i>Macropus irma</i> (western brush wallaby)	Unlikely: sensitive to urban disturbance	Preferred habitat is open forest or woodland, particularly favouring open, seasonally wet flats with low grasses and open scrubby thickets. It is also found in some areas of mallee and heathland (DEC 2010b). Considered unlikely to occur in nearby Hartfield Park which contains a larger area of good quality remnant vegetation, due to tendency of the species to move away from urbanised areas (Strategen 2011b).
<i>Morelia spilota</i> subsp. <i>imbricata</i> (carpet python)	Unlikely: sensitive to urban disturbance	Considered as possibly occurring in long undisturbed vegetation in nearby Hartfield Park. Few records on the Swan Coastal Plain; only likely to persist in areas undisturbed for long periods (Strategen 2011b).
<i>Neelaps calonotos</i> (black-striped snake)	Unlikely: sensitive to urban disturbance	Considered as possibly occurring in long undisturbed vegetation in nearby Hartfield Park. Tends to move out of urbanised areas (Strategen 2011b).
<i>Calyptorhynchus banksii naso</i> (forest red-tailed black-cockatoo)	Likely: observed in Hartfield Park	Foraging habitat is <i>Eucalyptus marginata</i> , <i>Allocasuarina fraseriana</i> , <i>Corymbia calophylla</i> , all present in the Reserve..
<i>Calyptorhynchus baudinii</i> (Baudin's black-cockatoo, long-billed black-cockatoo)	Possible: potential habitat present in Hartfield Park	Generally restricted to forests in the south-west, the Reserve falls within the range of the species. Considered to possibly occur in nearby Hartfield Park given its distribution and preferred foraging habitat (Strategen 2011).
<i>Calyptorhynchus latirostris</i> (Carnaby's black-cockatoo, short-billed black cockatoo)	Likely: observed in Hartfield Park	Observed in nearby Hartfield Park (Strategen 2011).
<i>Leipoa ocellata</i> (malleefowl)	Unlikely: known distribution does not coincide with the Reserve; preferred habitat absent	Known from semi-arid and arid zones of temperate Australia, in shrublands and low woodlands dominated by mallee vegetation, eucalypt or <i>Callitris</i> woodlands, acacia shrublands, <i>Melaleuca uncinata</i> vegetation or coastal heathlands (SEWPaC 2012b).
<i>Rostratula australis</i> (Australian painted snipe)	Unlikely: preferred habitat absent from the Reserve	Generally inhabits shallow terrestrial freshwater (occasionally brackish) wetlands. The species has also been observed using natural or artificial water bodies and areas of inundated or waterlogged grasslands (SEWPaC 2012).
<i>Dasyurus geoffroii</i> (chuditch, western quoll)	Possible: recorded in Hartfield Park	Generally restricted to wet and dry sclerophyll forest and remnant mallee in the south-west, though evidence of species recorded from nearby Hartfield Park (Strategen 2011b).
<i>Phascogale calura</i> (red-tailed phascogale)	Unlikely: preferred habitat absent at the Reserve	Habitat is <i>Allocasuarina</i> woodlands with hollow-containing eucalypts (e.g. <i>Eucalyptus wandoo</i>) and <i>Gastrolobium</i> spp. (SEWPaC 2012b).

DRAFT

Preliminary Opportunities and Constraints Report

Species	Likelihood of occurrence	Comments
<i>Setonix brachyurus</i> (quokka)	Unlikely: preferred habitat absent and known mainland distribution unlikely to include the Reserve	Habitat is recently burnt stands of native vegetation, particularly dense riparian vegetation; mainland populations scarce with patchy distribution due to high levels of habitat fragmentation and feral animal competition (SEWPAC 2012b).
Migratory birds		
<i>Apus pacificus</i> (fork-tailed swift)	Possible	Almost exclusively aerial (SEWPAC), may forage over the Reserve.
<i>Ardea alba</i> (great egret, white egret)	Possible	Habitat comprises a wide range of wetland habitats including artificial water bodies (SEWPAC 2012b).
<i>Ardea ibis</i> (cattle egret)	Possible	Habitat comprises a wide range of wetland habitats including artificial water bodies (SEWPAC 2012b).
<i>Haliaeetus leucogaster</i> (white-bellied sea eagle)	Possible	Generally recorded near open water but has been observed in terrestrial areas including woodland and urban areas (SEWPAC 2012b).
<i>Merops ornatus</i> (rainbow bee-eater)	Possible	Occurs in coastal dune systems amongst open, cleared or lightly-timbered areas that are often, but not always, located in close proximity to permanent water. Regularly recorded in disturbed areas including urban and industrial areas (SEWPAC 2012b).
<i>Rostratula benghalensis</i> (sensu lato) (painted snipe)	Possible	Habitat comprises a wide range of wetland habitats including artificial water bodies (SEWPAC 2012b).

DRAFT

Preliminary Opportunities and Constraints Report

2.5.2 Discussion

Fauna and fauna habitat

Zones 5 and 7 are relatively undisturbed; as such they may act as habitat islands for some fauna species. The Reserve is also likely to provide habitat for fauna species that are less sensitive to human activity, such as the quenda and a range of bird species. Common bird species such as the Australian magpie (*Gymnorhina tibicen dorsalis*), magpie-lark (*Grallina cyanoleuca*) and common bronzewing (*Phaps chalcoptera*) were observed throughout the Reserve during the site visit.

The Reserve is connected by its eastern boundary to a partially vegetated strip of land (transmission line easement) that terminates at Hartfield Road. This area may provide some connectivity for fauna movement between the Reserve, Hartfield Park and the heavily vegetated properties along Lewis Road. The Reserve is also less than 1 km from vegetated areas (including private properties) along the base of the scarp to the east.

Graceful Sun-moth

The Graceful Sun-moth (*Synemon gratiosa*) is listed as Endangered under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and often presents an environmental constraint to development on the Swan Coastal Plain. The species can occur in areas of coastal heath, on host plant *Lomandra maritima*, or in banksia woodland, using *Lomandra hermaphrodita*.

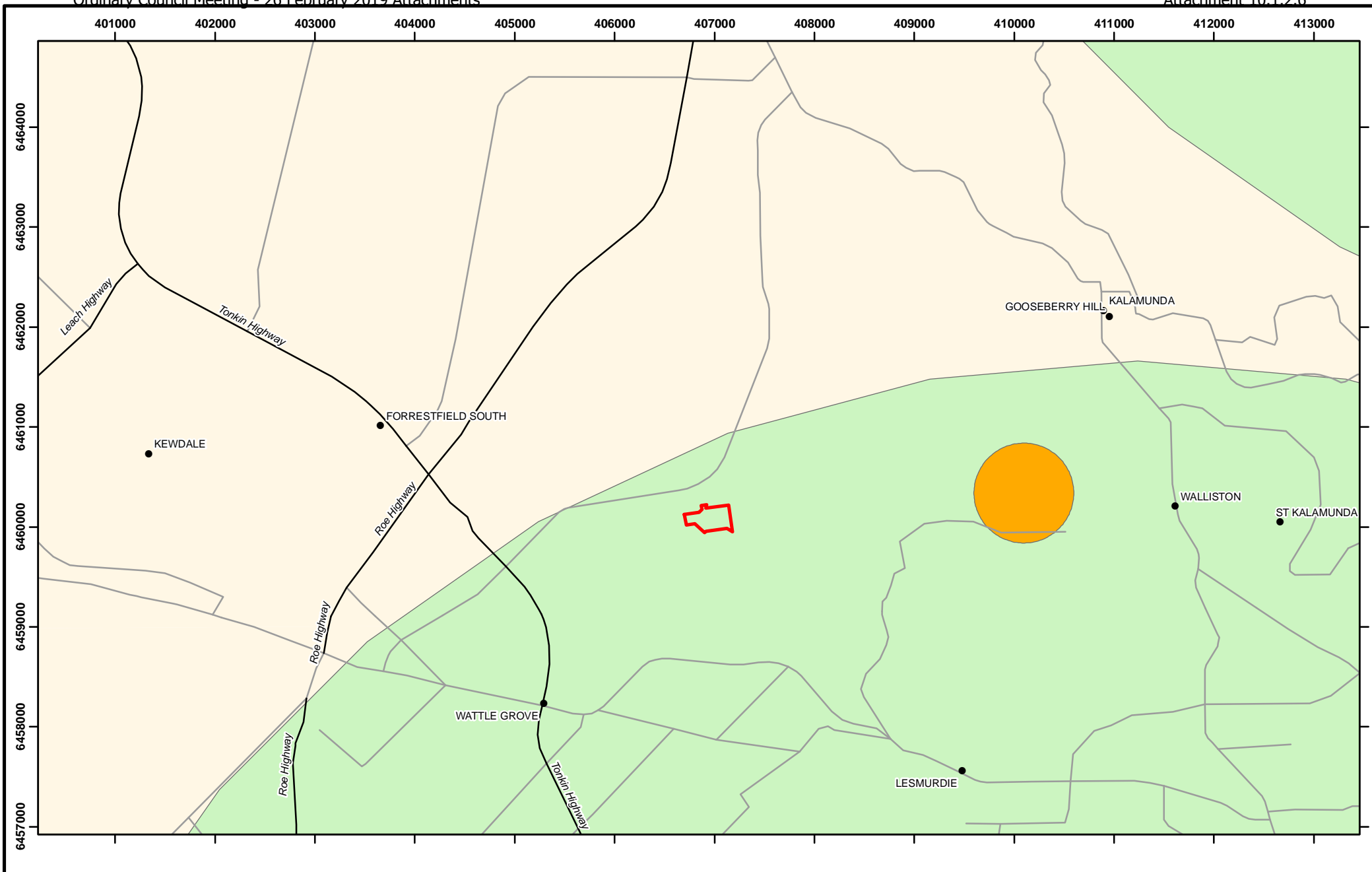
In relation to the York Street Reserve, the EPBC Protected Matters database does not identify the Graceful Sun-moth as potentially occurring in the Reserve. Corresponding with this result, banksia woodland was not observed at the Reserve nor *Lomandra hermaphrodita*. However, although *Lomandra* was not observed opportunistically during the site visit, it cannot be completely ruled out as being present, particularly in the more intact vegetation of Zones 5 and 7. Further targeted surveys could provide specific confirmation of the presence/absence of this species.

Carnaby's Black-cockatoo

Carnaby's Black cockatoo (*Calyptorhynchus latirostris*) is also listed as an Endangered threatened species under the EPBC Act and is therefore a matter of national environmental significance (NES). If a proposed development or other action is likely to have a significant impact upon a NES it must be referred for assessment under the EPBC Act.

The preliminary site assessment has identified a number of large trees in Zones 1, 3, 6, 7 and 8 which may be suitable foraging habitat for the Carnaby's black-cockatoo and/or forest red-tailed black cockatoo.

The EPBC Draft Referral Guidelines for Carnaby's cockatoo and Forest red-tailed black cockatoo (SEWPaC 2011) recommend a project be referred as 'high risk of significant impacts' if it involves clearing of more than 1 ha of quality foraging habitat. Depending on how the land is developed, it is likely that the development will involve clearing of less than 1 ha of foraging habitat; however a more detailed assessment will be required once a concept plan has been developed for the site.



City of Kalamunda

Scale
0 250 500
Metres



Figure 4

Locations of known Carnaby's black-cockatoo habitat areas

Coordinate System: GDA 1994 MGA Zone 50
Date: 17/05/2012

Author: jcrute

Path: Q:\GIS\Consult\2012\SKA\SKA12118.01\ArcMap_documents\R001\RevA\SKA12118_01_R001_RevA_F004.mxd

Source: Geoscience Australia 2006, Carnaby's: DEC 2011
Note that positional errors may occur in some areas

Legend

- Town
- Major road
- Minor road



York Street Reserve



Carnaby's confirmed roost areas



Carnaby's confirmed breeding areas

DRAFT

Preliminary Opportunities and Constraints Report

3. Conclusions and recommendations

Overall the main constraints to development identified through this assessment are as follows:

- the location of the existing sump and uncertainty regarding the maximum extent in times of heavy rainfall
- key areas of high-quality vegetation / fauna habitat located in Zones 5 and 7
- remnant vegetation in reasonable condition located in Zone 3
- potential foraging habitat for the EPBC listed Carnaby's black-cockatoo and/or Forest red-tailed cockatoo.

It is recommended that the following additional work be undertaken to more confirm the level of constraint these issues may pose to development of the site:

- a spring flora & fauna survey to clearly assess the areas of high-quality vegetation and fauna habitat
- detailed assessment of Carnaby's black-cockatoo and/or Forest red-tailed cockatoo once a concept plan has been determined for the site.

It is noted that some potentially some of these issues listed above, such as the location of high-quality vegetation in Zones 5 and 7, could actually be perceived as an opportunity to provide for an environmentally sensitive designed development if managed correctly.

DRAFT

Preliminary Opportunities and Constraints Report

4. References

- Department of Environment and Conservation (DEC) 2007, *Fairbridge Farm Synaphea (Synaphea sp. Fairbridge Farm) Interim Recovery Plan 2007-2012*, Interim Recovery Plan No. # 236, Department of Environment and Conservation, Western Australia.
- Department of Environment and Conservation (DEC) 2009a, *Wavy-leaved smokebush (Conospermum undulatum) Recovery Plan*, Commonwealth Department of the Environment, Water, Heritage and the Arts, Canberra.
- Department of Environment and Conservation (DEC) 2009b, *Keighery's Macarthuria (Macarthuria keigheryi) Recovery Plan*, Department of Environment and Conservation, Perth, Western Australia.
- Department of Environment and Conservation (DEC) 2010a, *Verticordia fimbrialepis subsp. fimbrialepis Interim Recovery Plan 2010-2015*, Interim Recovery Plan No. 304, Department of Environment and Conservation, Western Australia.
- Department of Environment and Conservation (DEC) 2010b, *Fauna species profiles: Marsupials and Monotremes*, [Online], Government of Western Australia, Available at <http://www.dec.wa.gov.au/content/view/3432/1991/1/2/> [May 2012].
- Department of Environment and Conservation (DEC) 2012a, *Naturemap*, [Online], Government of Western Australia, Available from: <http://naturemap.dec.wa.gov.au/default.aspx> [May 2012].
- Department of Environment and Conservation (DEC) 2012b, *Florabase*, [Online], Government of Western Australia, Available from: <http://florabase.dec.wa.gov.au/> [May 2012].
- Department of Sustainability, Environment, Water, Population and Communities (SEWPaC) 2012a, *EPBC Act Protected Matters Search Tool*, [Online], Australian Government, Available from: <http://www.environment.gov.au/epbc/pmst/index.html> [May 2012].
- Department of Sustainability, Environment, Water, Population and Communities (SEWPaC) 2012b, *Species Profiles and Threats Database*, [Online], Australian Government, Available from: <http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl> [May 2012].
- Department of Sustainability, Environment, Water, Population and Communities (SEWPaC) 2011, *Draft Referral Guidelines for three threatened black cockatoo species*, SEWPaC.
- Gilfillan S & Barrett S 2004a, *Matted Centrolepis (Centrolepis caespitosa) Interim Recovery Plan 2004-2008*, Interim Recovery Plan No. 159, Department of Conservation and Land Management, Western Australia.
- Gilfillan S & Barrett S 2004b, *Mountain Villarsia (Villarsia Calthifolia) Interim Recovery Plan 2004-2009*, Interim Recovery Plan No. 169, Department of Conservation and Land Management, Western Australia.
- Luu R & English V 2004, *Swamp Starflower (Calytrix breviseta subsp. breviseta) Interim Recovery Plan*, report prepared for Department of Conservation and Land Management, Western Australia.
- Keighery B 1994, *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*, Wildflower Society of Western Australia, Perth.
- Patten J, Broun G, Evans R & Willers N 2004, *Cadda Road Mallee (Eucalyptus Balanites) Interim Recovery Plan 2004-2009*, Interim Recovery Plan No. 182, Department of Conservation and Land Management, Western Australia.

DRAFT

Preliminary Opportunities and Constraints Report

- Phillimore R & English V 2000, *Narrow Curved-Leaf Grevillea (Grevillea curviloba subsp. incurva) Interim Recovery Plan 2000-2003*, Interim Recovery Plan No. 67, Department of Conservation and Land Management, Western Australia.
- Phillimore R, Brown A & English V 1999, Interim Recovery Plan for the Cinnamon Sun Orchid (*Thelymitra Manginii*) 1999-2002, [Online], Australian Government, Available from: <http://www.environment.gov.au/biodiversity/threatened/publications/recovery/t-manginii/index.html> [May 2012].
- Stack G & English V 2003, *Gingin Wax (Chamelaucium sp. Gingin) Interim Recovery Plan 2003-2008*, Interim Recovery Plan No. 140, Department of Environment and Conservation, Western Australia.
- Stack G, Taylor H, Sage L, Evans R, Broun G and English V, 2008, *Slender Andersonia (Andersonia Gracilis) Recovery Plan*, Interim Recovery Plan No. 228, Department of Environment and Conservation, Western Australia.
- Strategen 2011a, *Level 2 Flora and Vegetation Survey, Hartfield Park and Lewis Rd, Forrestfield*, report prepared for Shire of Kalamunda, Kalamunda.
- Strategen 2011b, *Level 1 Fauna Survey, Hartfield Park and Lewis Rd, Forrestfield*, report prepared for Shire of Kalamunda, Kalamunda.
- Threatened Species Scientific Committee (TSSC) 2009, *Approved Conservation Advice for Darwinia sp. Muchea (B.J. Keighery 2458) (Muchea Bell)*, [Online], Australian Government, Available from: http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=83190 [May 2012].
- Threatened Species Scientific Committee (TSSC) 2008a, *Approved Conservation Advice for Lepidosperma rostratum (Beaked Lepidosperma)*, [Online], Australian Government, Available from: http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=14152 [May 2012].
- Threatened Species Scientific Committee (TSSC) 2008b, *Approved Conservation Advice for Thelymitra stellata (Star Sun-orchid)*, [Online], Australian Government, Available from: http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=7060 [May 2012].

DRAFT

Preliminary Opportunities and Constraints Report

Appendix 1

Conservation codes

DRAFT

Preliminary Opportunities and Constraints Report

Appendix 2

Detailed zone descriptions

DRAFT

Preliminary Opportunities and Constraints Report

Zone 1

Zone 1 comprises remnant native and non-native trees over a degraded understorey. Native trees included *Allocasuarina fraseriana* (sheoak), *Eucalyptus marginata* (jarrah) and *Corymbia calophylla* (marri). Native shrubs/trees including *Nuytsia floribunda* (WA Christmas tree) and *Hakea trifurcata* (two-leaf hakea) were also observed along the boundary along the drainage channel, alongside a fence bounding a residential area.

This zone is largely cleared of native understorey, with areas of lawn in the west, and heavy weed infestations of *Oxalis* sp., *Arundo donax* (giant reed), *Eragrostis curvula* (African lovegrass) and other non-native grasses, along a drainage channel running from the corner of Mallow Way towards the sump. A small area near the corner Mallow Way retained some native understorey including shrubs such as *Xanthorrhoea preissii* (grasstree) and sedges including *Mesomelaena tetragona*. A stand of relatively young *C. calophylla* is also present, directly adjacent to the westernmost end of the sump.

Vegetation condition for this zone is Degraded – Completely Degraded.

Four large *C. calophylla* and two *E. marginata*, with diameter at breast height (DBH) of 50 cm or above, were observed in this zone. Trees with this DBH are considered by the Department of Sustainability, Environment, Water, Population and Communities (SEWPaC) to be suitably sized for potential breeding habitat for Carnaby's black-cockatoo. *C. calophylla*, *E. marginata* and *A. fraseriana* are also used as foraging habitat by Carnaby's black-cockatoo.



Plate 1 Vegetation of Zone 1, showing remnant native vegetation (right) alongside heavy weed infestation

DRAFT

Preliminary Opportunities and Constraints Report



Plate 2 Heavy weed infestation along drainage area in Zone 1

DRAFT

Preliminary Opportunities and Constraints Report

Zone 2

Zone 2 appears to have been completely cleared in the past, and revegetated with what appear to be non-local eucalypt species (possibly native to another bioregion of Western Australia), with occasional local native trees remaining in some parts. Vegetation in this zone is in Completely Degraded condition, due to the lack of remnant vegetation.

This zone also contains the sump, which receives drainage from the surrounding area. Further information on this sump is provided in Section 2.3.



Plate 3 Revegetation with non-native eucalypts in Zone 2



Plate 4 Standing water in sump area of Zone 2

DRAFT

Preliminary Opportunities and Constraints Report

Zone 3

Zone 2 comprises remnant vegetation with heavy weed infestations, but with a reasonably diverse understorey of remnant native species. Vegetation comprised an overstorey of *Allocasuarina fraseriana* with *Eucalyptus marginata*. The following native understorey species were also observed (not an exhaustive list):

- *Xanthorrhoea preissii*
- *Stirlingia latifolia*
- *Banksia dallaneyi*
- *Mesomelaena tetragona*
- *Cristonia biloba*
- *Hovea trisperma*
- *Centella asiatica*
- *Bossiea eriocarpa*
- *Daviesia incrassata*
- *Daviesia nudiflora*.

Vegetation in Zone 2 is in Degraded – Good condition, with the Degraded rating applying mainly to the cleared areas (e.g. tracks) within this zone.

A large specimen of *C. calophylla* (>50 cm DBH) was observed in the southernmost corner of the Reserve. Trees with this DBH are considered by the Department of Sustainability, Environment, Water, Population and Communities (SEWPaC) to be suitably sized for potential breeding habitat for Carnaby's black-cockatoo.



Plate 5 Remnant native vegetation in Zone 3

DRAFT

Preliminary Opportunities and Constraints Report

Zone 4

Zone 4 comprises small areas of what appear to be non-local eucalypt species and native shrubs (largely *Hakea trifurcata* and *Pericalymma ellipticum*) over weeds.

Vegetation in Zone 4 is in Degraded – Completely Degraded condition.



Plate 6 *Hakea trifurcata* heath, heavy weed infestation and disturbance in Zone 4

DRAFT

Preliminary Opportunities and Constraints Report

Zone 5

Zone 5 comprises a heath of *Hakea trifurcata* over mixed sedges, and with occasional emergent *Banksia sessilis*, *Pericalymma ellipticum*, *Corymbia calophylla* saplings and non-local eucalypt species. Soils in this zone are clayey, with laterite gravel on the surface.

Vegetation in Zone 5 is in Good – Very Good condition, with the exception of areas cleared for tracks.



Plate 7 *Hakea trifurcata* heath in Zone 5



Plate 8 *Hakea trifurcata* heath in Zone 5

DRAFT

Preliminary Opportunities and Constraints Report

Zone 6

Zone 6 comprises some remnant overstorey species including *Corymbia calophylla* and *Hakea trifurcata* over grassy weeds and occasional native understorey species.

Vegetation in Zone 6 is in Degraded – Completely Degraded condition.



Plate 9 Remnant trees and shrubs over weedy understorey in Zone 6

DRAFT

Preliminary Opportunities and Constraints Report

Zone 7

Zone 7 comprises *Corymbia calophylla* and *Eucalyptus marginata* woodland over *Xanthorrhoea preissii* and mixed shrubs and herbs. This zone appeared to be quite diverse and relatively undisturbed, with weeds restricted to tracks and boundaries.

Vegetation in Zone 7 is in Very Good to Excellent condition, with the exception of tracks and small areas of localised disturbance.



Plate 10 Relatively undisturbed jarrah-marri woodland in Zone 7



Plate 11 Relatively undisturbed jarrah-marri woodland in Zone 7

DRAFT

Preliminary Opportunities and Constraints Report

Zone 8

Zone 8 is similar in composition to Zone 1, with a mixture of remnant and non-local tree species over a heavily disturbed and weed-infested understorey.

Vegetation is in Degraded to Completely Degraded condition.



Plate 12 Mixture of native and non-native trees over disturbance and heavy weeds in Zone 8

2.0 LEVEL 2 FLORA AND VEGETATION SURVEY

York Road Reserve Forrestfield Level 2 Flora and Vegetation Survey



DECEMBER 2012



Plantecology Consulting

ABN 18 849 210 133

50 New Cross Rd

Kingsley WA 6026

Telephone: 0429 061 094

chalwell@mac.com

© Intaba Trust trading as Plantecology Consulting. All rights reserved.

The concepts and information contained in this document are the property of Plantecology Consulting. The report is for the client's use only and may be cited for scientific research or other fair use but may not be used, exploited, copied, duplicated or reproduced, in whole or in part, either physically or electronically, without the prior written permission of Plantecology Consulting.

Executive Summary

Plantecology Consulting was commissioned by Strategen to undertake a detailed spring flora and vegetation survey of the York St Reserve, Forrestfield (the site) in the Shire of Kalamunda. The purpose of the survey was to provide a detailed assessment of botanical values within the site, which could then inform the development process regarding future usage. The Reserve is located less than 1 km from areas of remnant vegetation in Hartfield Park and is approximately 8.8 ha in size.

A reconnaissance survey undertaken in May 2012 described eight vegetation zones within the reserve. Five of these zones were described as generally being in a degraded state, having been subject to considerable disturbance in the form of trail bike use and rubbish dumping over an extended period of time. Three zones of remnant vegetation were identified: Zones 3, 5 and 7. Zone 3 is a jarrah woodland in reasonable condition with Zone 7 containing similar vegetation that has less evidence of disturbance. Zone 5 is a heath of *Hakea trifurcata* over sedges.

A detailed survey of the vegetation was undertaken by a botanist from Plantecology Consulting on the 2nd November 2012. Eight sampling points, one in each vegetation type (zone) identified in the May 2012 reconnaissance survey, was used to sample the vegetation. A total of 97 native and 57 introduced (non-native) taxa were recorded within the site, representing 47 families and 115 genera. No Threatened Flora pursuant to the *Wildlife Conservation Act (1950)* nor the *EPBC Act (1999)* were recorded during the survey. Also, no Priority Flora listed by the DEC were recorded during the survey.

The vegetation types within the site largely correspond to the zones identified by Strategen (2012), except for Zones 3 and 7, which are floristically similar and have been combined into the one vegetation type (Figure 2). The seven vegetation types are:

Vegetation Type 1: Parkland of *Corymbia calophylla* and ornamental eucalypts over mixed grassland.

Vegetation Type 2: Open parkland of ornamental eucalypts over very sparse understorey on yellow sands

Vegetation Type 3/7: Open woodland of *Eucalyptus marginata* and *Allocasuarina fraseriana* over open shrubland of *Xanthorrhoea preissii* over sedgeland of *Mesomelaena tetragona*, *Mesomelaena pseudostygia* and *Dasypogon bromeliifolius*

Vegetation Type 4: Occasional trees of *Eucalyptus ?rudis* and *Eucalyptus camaldulensis* subsp. *obtusa* over open shrubland of *Hakea trifurcata* over grassland of **Ehrharta calycina* and **Pennisetum clandestinum*

Vegetation Type 5: Open heath of *Hakea trifurcata* and *Leptospermum erubescens* over sedgeland of *Mesomelaena tetragona*

Vegetation Type 6: Open woodland of *Eucalyptus wandoo* subsp. *wandoo* and ornamental eucalypts over open shrubland of *Hakea trifurcata* and *Isopogon dubius* over grassland of **Ehrharta calycina*

Vegetation Type 8: Open woodland of *Eucalyptus marginata* and *Eucalyptus camaldulensis* subsp. *obtusa* over open shrubland of *Xanthorrhoea preissii* over introduced grasses.

The results of the cluster analysis determined that both Vegetation Type 3/7 and Vegetation Type 5 belong in FCT 3c: *Corymbia calophylla* – *Xanthorrhoea preissii* woodlands and shrublands. FCT 3c is a TEC, listed as Endangered pursuant to the EPBC Act and as Critically Endangered under DEC criteria. FCT 3c is restricted to the eastern side of the Swan Coastal Plain and has been extensively cleared. According to the Department of Sustainability, Environment, Water, Population and Communities (SEWPAC), approximately 97% of the community's original extent may have been cleared, leaving only about 41 ha extant today. Among the threats to the remaining stands of this community are clearing, invasive species, and changes in hydrology and fire frequency.

In addition to listing as a TEC, the vegetation within the site is part of the Forrestfield Vegetation Complex. Only 9% of this vegetation complex remains (Government of Western Australia 2000) and is therefore considered a Critical Asset by the EPA.

Given the ecological values of the site, it is suggested that:

- Development of the site include plans or policies to improve the vegetation condition of the remnant vegetation within the York St Reserve.

Furthermore, it is recommended that:

- No clearing of Vegetation Types 3/7 and 5 be approved; and
- Any development of the site includes appropriate buffers or barriers to minimise adverse impacts to the native vegetation within the reserve.

Table of Contents

1	Introduction.....	3
1.1	Purpose	3
1.2	Location.....	3
1.3	Existing Environment	3
1.4	Climate	4
1.5	Vegetation Complexes	4
1.6	Soils.....	4
1.7	Conservation Significant Flora	4
1.8	Conservation Significant Communities.....	9
2	Methods.....	12
2.1	Field Survey	12
2.2	Data analysis and Classification	13
2.3	Study Limitations and Survey Effort.....	13
3	Results.....	15
3.1	Flora	15
3.1.1	Floristic Summary	15
3.1.2	Threatened and Priority Flora.....	15
3.2	Vegetation.....	15
3.2.1	Assignment of Plant Associations	16
3.2.2	Vegetation Condition.....	16
3.3	Weeds	16
4	Discussion.....	17
5	Summary and Recommendations	18
6	References.....	19

List of Figures

Figure 1: Locality Plan

Figure 2: Vegetation Types

Figure 3: Vegetation Condition

List of Tables

Table 1: Definitions for categories of Threatened and Priority Flora.....	5
Table 2: Categories of protection for species and communities listed under the EPBC Act.....	7
Table 3: Threatened and Priority Flora potentially occurring within the survey area.	8
Table 4: Categories and definitions of Threatened and Priority Ecological Communities (DEC 2012).....	10
Table 5: Potential limitations affecting the vegetation survey.....	14

DRAFT

1 Introduction

Plantecology Consulting was commissioned by Strategen to undertake a detailed spring flora and vegetation survey of the York St Reserve, Forrestfield (the site) in the Shire of Kalamunda (Figure 1). A reconnaissance survey of the site had already been undertaken as part of a Constraints and Opportunities study in May 2012 (Strategen 2012) for the Shire of Kalamunda, which was evaluating the development potential of the site. The reconnaissance survey found that most of the site to be disturbed and in poor condition. However, some areas of good quality native vegetation were also present and it was recommended that a more detailed assessment was required to identify the ecological values of the site.

1.1 Purpose

The purpose of the survey was to provide a detailed assessment of botanical values within the site, which could then inform the development process regarding future usage.

The objectives of the survey were to:

- Undertake a detailed spring flora and vegetation survey in accordance with the Environmental Protection Authority's (EPA) Guidance Statement No. 51 – *Terrestrial flora and vegetation survey environmental impact assessment in Western Australia* (2004).
- Undertake a desktop review by examining other local flora and vegetation reports and undertaking an on-line search of government databases;
- Identify the plant associations present and assign them to the Swan Coastal Plain Floristic Community Type classification (Gibson et al., 1994).
- Identify the presence of any Threatened Ecological Communities (TECs) and Priority Ecological Communities (PECs);
- Undertake a systematic search for all vascular flora taxa present; and
- Record the locations and numbers present of any Threatened Flora and Priority Flora.

1.2 Location

York Street Reserve is located in Forrestfield (Figure 1), and is bounded by York Street and Moira Avenue along the southern boundary, a transmission line easement in the east, Mallow Way residences and Cambridge Road in the north, and Cumberland Road residences in the west. The Reserve is located less than 1 km from areas of remnant vegetation in Hartfield Park and is approximately 8.8 ha in size.

1.3 Existing Environment

The reconnaissance survey described eight vegetation zones within the reserve. Five of these zones were described as generally being in a degraded state, having been subject to considerable disturbance in the form of trail bike use and rubbish dumping over an extended period of time. The site has been extensively cleared and used for passive recreation, with many walk trails crossing the reserve. Playground equipment has been installed in the westernmost section of the reserve (Zone 1). Zone 2 is the most extensive zone and has been planted with ornamental eucalypts with little to no understorey. It also contains a large sump. Three zones of remnant vegetation were

identified: Zones 3, 5 and 7. Zone 3 is a jarrah woodland in reasonable condition with Zone 7 containing similar vegetation that has less evidence of disturbance. Zone 5 is a heath of *Hakea trifurcata* over sedges (Strategen 2012).

1.4 Climate

The Forrestfield area experiences a dry Mediterranean climate of hot dry summers and cool wet winters. Long-term climatic averages indicate the site is located in an area of moderate to high rainfall, receiving 775.3 mm on average annually (data for Perth Airport, the nearest currently reporting station) (Bureau of Meteorology 2012) with the majority of rainfall received between June and August. The area experiences rainfall on an average of 86 days per year. Mean maximum temperatures range from 17.9 °C in July to 31.9 °C in February. Mean minimum temperatures range from 8.0 °C in July and August to 17.5 °C in February.

1.5 Vegetation Complexes

The vegetation of the site forms part of the Forrestfield Vegetation Complex, which ranges from an open forest of *Corymbia. calophylla*, *Eucalyptus wandoo* and *Eucalyptus marginata* to an open forest of *Eucalyptus marginata*, *Corymbia calophylla*, *Allocasuarina fraseriana* and *Banksia* species. A fringing woodland of *Eucalyptus. rudis* may occur in gullies within this landform (Heddle et al. 1980). Only 9% remains of the original pre-European extent of the Forrestfield Vegetation Complex (Government of Western Australia 2000). EPA Position Statement No.9 identifies vegetation complexes with less than 10% of their original extent remaining in constrained areas (such as the Perth Metropolitan Area) on the Swan Coastal Plain, to be critical assets. Any clearing of a critical asset would generally be at variance to clearing principles contained within Schedule 5 of the Environmental Protection Act 1986.

1.6 Soils

The major soil formations within the site is the Forrestfield Soil Formation, which is expressed as gently undulating spurs at the foot of the Darling Scarp and is dominated by gravelly and sandy soils (Churchward and McArthur 1980). The Atlas of Australian Soils maps the soils for the majority of the site as Map Unit Sp2, which are “hard acidic yellow soils (Dy2.61) containing ironstone gravels. Associated are brown sands (Uc4.2) often containing ironstone gravels at depth and forming a western fringe to the bench; and some (Dy3.4) soils on dissected areas” (Natural Resource Information Centre 1991). In the extreme west of the site, a small area of Map Unit Cb38, which comprises “Sandy dunes with intervening sandy and clayey swamp flats: chief soils are leached sands (Uc2.33) and (Uc2.21), sometimes with a clay D horizon below 5 ft, on the dunes and sandy swamps. Associated are various soils in the clayey swamps, such as (Ug6.4) and some (Dy) and (Dg) soils” (Natural Resource Information Centre 1991).

1.7 Conservation Significant Flora

Under the *Wildlife Conservation Act 1950* ('WC Act'), the Minister for the Environment produces a gazetted '*Wildlife Conservation (Rare Flora) Notice*' that lists Threatened (or Declared Rare) Flora under two Schedules; extant and presumed extinct. The DEC also produces a list of Priority Flora that have not been assigned statutory protection under the *WC Act* but may be under some degree of threat. The DEC recognises five Priority Flora levels. The definitions for each category of Threatened and Priority Flora are shown in Table 1.

Table 1: Definitions for categories of Threatened and Priority Flora (Department of Environment and Conservation 2012)

Category	DEC Definition
Schedule 1—Extant Flora T: Threatened Flora (Declared Rare Flora – Extant)	<p>Taxa which have been adequately searched for and are deemed to be in the wild either rare, in danger of extinction, or otherwise in need of special protection, and have been gazetted as such (Schedule 1 under the <i>Wildlife Conservation Act 1950</i>).</p> <p>Threatened Flora (Schedule 1) are further ranked by the Department according to their level of threat using IUCN Red List criteria:</p> <ul style="list-style-type: none"> ■ CR: Critically Endangered – considered to be facing an extremely high risk of extinction in the wild ■ EN: Endangered – considered to be facing a very high risk of extinction in the wild ■ VU: Vulnerable – considered to be facing a high risk of extinction in the wild
Schedule 2—Extinct Flora X: Presumed Extinct Flora (Declared Rare Flora - Extinct)	<p>Taxa which have been adequately searched for and there is no reasonable doubt that the last individual has died, and have been gazetted as such (Schedule 2 under the <i>Wildlife Conservation Act 1950</i>).</p>
P1: Priority One: Poorly Known	<p>Species that are known from one or a few collections or sight records (generally less than five), all on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, Shire, Westrail and Main Roads WA road, gravel and soil reserves, and active mineral leases and under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes.</p>
P2: Priority One: Poorly Known	<p>Species that are known from one or a few collections or sight records, some of which are on lands not under imminent threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, vacant Crown land, water reserves, etc. Species may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes.</p>
P3: Priority One: Poorly Known	<p>Species that are known from collections or sight records from several localities not under imminent threat, or from few but widespread localities with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several localities but do not meet adequacy of survey requirements and known threatening processes exist that could affect them.</p>

Category	DEC Definition
P4: Priority Four: Rare, Near Threatened and other species in need of monitoring	<ul style="list-style-type: none"> a. Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change. These species are usually represented on conservation lands. b. Near Threatened. Species that are considered to have been adequately surveyed and that do not qualify for Conservation Dependent, but that are close to qualifying for Vulnerable. c. Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.
P5: Priority Five: Conservation Dependent Species	P5: Priority Five - Conservation Dependent Species:- Species that are not threatened but are subject to a specific conservation program, the cessation of which would result in the species becoming threatened within five years.

As well as protection under State legislation, selected flora species are also afforded statutory protection at a Federal level pursuant to the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The EPBC Act provides for the protection of Threatened species, pursuant to Schedule 1 of the Act, and are defined as “Critically Endangered”, “Endangered”, “Vulnerable” or “Conservation Dependent” under Section 179. Definitions of these categories are shown in Table 2. Any action likely to have a significant impact on a species listed under the EPBC Act requires approval from the Commonwealth Minister for Sustainability, Environment, Water, Population and Communities.

Database searches conducted by Strategen (2012) identified 23 taxa with the potential to occur within the site. Of these taxa, eleven were considered more likely to occur within the site due to the proximity of previous records and/or the habitat within the site. *Banksia mimica* and *Conospermum undulatum* have both been recorded from nearby Hartfield Park. *Macarthuria keigheryi* is currently known from six populations of which two are in metropolitan Perth (Welshpool and Kewdale), where it occurs in low-lying winter-wet damp, grey/white sands. *Boronia tenuis*, *Acacia oncinophylla* subsp. *patulifolia*, *Haemodorum loratum*, *Isopogon drummondii*, *Lasiopetalum bracteatum*, *Pithocarpa corymbulosa*, *Senecio leucoglossus* and *Thelymitra stellata* are known to occur in soil types that exist within the site.

Table 2: Categories of protection for species and communities listed under the EPBC Act.

EPBC Act Category	DSEWPC Definition
Extinct	A native species is eligible to be included in the extinct category at a particular time if, at that time, there is no reasonable doubt that the last member of the species has died.
Extinct in the wild	A native species is eligible to be included in the extinct in the wild category at a particular time if, at that time:
	(a) it is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or
	(b) it has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.
Critically endangered	A native species is eligible to be included in the critically endangered category at a particular time if, at that time, it is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.
Endangered	A native species is eligible to be included in the endangered category at a particular time if, at that time
	(a) it is not critically endangered; and (b) it is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.
Vulnerable	A native species is eligible to be included in the vulnerable category at a particular time if, at that time:
	(a) it is not critically endangered or endangered; and (b) it is facing a high risk of extinction in the wild in the medium term future, as determined in accordance with the prescribed criteria.
Conservation dependent	A native species is eligible to be included in the conservation dependent category at a particular time if, at that time: (a) the species is the focus of a specific conservation program the cessation of which would result in the species becoming vulnerable, endangered or critically endangered; or (b) the following subparagraphs are satisfied: (i) the species is a species of fish; (ii) the species is the focus of a plan of management that provides for management actions necessary to stop the decline of, and support the recovery of, the species so that its chances of long term survival in nature are maximised; (iii) the plan of management is in force under a law of the Commonwealth or of a State or Territory; (iv) cessation of the plan of management would adversely affect the conservation status of the species.

Table 3: Threatened and Priority Flora potentially occurring within the survey area.

Taxa	DEC Rating	EPBC Act Category
<i>Acacia oncinophylla</i> subsp. <i>patulifolia</i>	P3	
<i>Andersonia gracilis</i>	T	Endangered
<i>Banksia mimica</i>	T	Endangered
<i>Boronia tenuis</i>	P4	
<i>Byblis gigantea</i>	P3	
<i>Calytrix breviseta</i> subsp. <i>breviseta</i>	T	Endangered
<i>Centrolepis caespitosa</i>	P4	Endangered
<i>Chamelaucium</i> sp. Gingin (N.G.Marchant 6)	T	Endangered
<i>Conospermum undulatum</i>	T	Vulnerable
<i>Darwinia foetida</i>	T	Critically Endangered
<i>Eucalyptus balanites</i>	T	Endangered
<i>Grevillea curviloba</i> subsp. <i>incurva</i>	T	Endangered
<i>Haemodorum loratum</i>	P3	
<i>Isopogon drummondii</i>	P3	
<i>Lasiopetalum bracteatum</i>	P4	
<i>Lepidosperma rostratum</i>	T	Endangered
<i>Macarthuria keigheryi</i>	T	Endangered
<i>Ornduffia calthifolia</i>	T	Critically Endangered
<i>Pithocarpa corymbulosa</i>	P3	
<i>Senecio leucoglossus</i>	P4	
<i>Synaphea</i> sp. Fairbridge Farm (D.Papenfus 696)	T	Critically Endangered
<i>Thelymitra magnifica</i>	P1	Endangered
<i>Thelymitra dedmaniarum</i> (formerly <i>T. manginii</i> K.Dixon & Batty ms)	T	Endangered
<i>Thelymitra stellata</i>	T	Endangered
<i>Verticordia fimbrialepis</i> subsp. <i>fimbrialepis</i>	T	Endangered

1.8 Conservation Significant Communities

The DEC defines an ecological community as “a naturally occurring assemblage that occurs in a particular type of habitat” (DEC 2012). A Threatened Ecological Community (TEC) is one that has declined in area or was originally limited in distribution. Uncommon ecological communities that do not strictly meet TEC defined criteria, or are inadequately defined, are listed by the DEC as a Priority Ecological Community (PEC). Definitions of the categories of Threatened and Priority Ecological Communities are given in Table 4.

As well as protection under State legislation, selected ecological communities are also afforded statutory protection at a Federal level pursuant to the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The EPBC Act provides for the protection of TECs, which are listed under section 181 of the Act, and are defined as “Critically Endangered”, “Endangered” or “Vulnerable” under Section 182. Similar to flora species listed under the EPBC Act, any action likely to have a significant impact on a TEC listed under the EPBC Act requires Commonwealth approval.

Table 4: Categories and definitions of Threatened and Priority Ecological Communities (DEC 2012)

Category	DEC definition
PD: Presumed Destroyed	An ecological community that has been adequately searched for but for which no representative occurrences have been located. The community has been found to be totally destroyed or so extensively modified throughout its range that no occurrence of it is likely to recover its species composition and/or structure in the foreseeable future.
Critically Endangered	An ecological community that has been adequately surveyed and found to have been subject to a major contraction in area and/or that was originally of limited distribution and is facing severe modification or destruction throughout its range in the immediate future, or is already severely degraded throughout its range but capable of being substantially restored or rehabilitated.
Endangered	An ecological community that has been adequately surveyed and found to have been subject to a major contraction in area and/or was originally of limited distribution and is in danger of significant modification throughout its range or severe modification or destruction over most of its range in the near future.
Vulnerable	An ecological community that has been adequately surveyed and is found to be declining and/or has declined in distribution and/or condition and whose ultimate security has not yet been assured and/or a community that is still widespread but is believed likely to move into a category of higher threat in the near future if threatening processes continue or begin operating throughout its range.
Priority 1	Ecological communities that are known from very few occurrences with a very restricted distribution (generally ≤ 5 occurrences or a total area of $\leq 100\text{ha}$). Occurrences are believed to be under threat either due to limited extent, or being on lands under immediate threat (e.g. within agricultural or pastoral lands, urban areas, active mineral leases) or for which current threats exist.
Priority 2	Communities that are known from few occurrences with a restricted distribution (generally ≤ 10 occurrences or a total area of $\leq 200\text{ha}$). At least some occurrences are not believed to be under immediate threat of destruction or degradation.

Category	DEC definition
Priority 3	<p>(i) Communities that are known from several to many occurrences, a significant number or area of which are not under threat of habitat destruction or degradation or:</p> <p>(ii) communities known from a few widespread occurrences, which are either large or with significant remaining areas of habitat in which other occurrences may occur, much of it not under imminent threat, or;</p> <p>(iii) communities made up of large, and/or widespread occurrences, that may or may not be represented in the reserve system, but are under threat of modification across much of their range from processes such as grazing by domestic and/or feral stock, and inappropriate fire regimes.</p>
Priority 4	<p>Ecological communities that are adequately known, rare but not threatened or meet criteria for Near Threatened, or that have been recently removed from the threatened list. These communities require regular monitoring.</p> <p>(i) Rare. Ecological communities known from few occurrences that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change. These communities are usually represented on conservation lands.</p> <p>(ii) Near Threatened. Ecological communities that are considered to have been adequately surveyed and that do not qualify for Conservation Dependent, but that are close to qualifying for Vulnerable.</p> <p>(iii) Ecological communities that have been removed from the list of threatened communities during the past five years.</p>
Priority 5	<p>Ecological communities that are not threatened but are subject to a specific conservation program, the cessation of which would result in the community becoming threatened within five years.</p>

2 Methods

2.1 Field Survey

The field survey was conducted by a botanist from Plantecology Consulting on the 2nd November 2012, using a standard phytosociological approach in accordance with EPA Guidance Statement No. 51.

A detailed survey of the vegetation was undertaken at 8 sampling points, one in each vegetation type (zone) identified in the May 2012 reconnaissance survey. In the stands of remnant native vegetation (i.e. Zones 3, 5 and 7) 400 m² relevés (quadrats) were established, selected to adequately sample the flora within a stand. Relevés were positioned to sample a representative and homogeneous (i.e. not located in transitional areas between communities) area of each community.

The location of each corner of a relevé was recorded with a hand-held GPS unit and a photograph taken looking inward to the quadrat. All vascular plant species were recorded and an estimate of the Foliage Projective Cover (FPC) percentage was made for each species. In addition, opportunistic plant taxa that were observed, but not located at a particular survey location, were also recorded throughout the course of the survey.

Environmental data recorded included topographic position, aspect, slope, soil colour and texture class, rock outcropping, litter cover as well as the degree of disturbance and an estimate of the time since the last fire event. The condition of the vegetation of the site was assessed to update the previous surveys and assist in determining the conservation values of the site. The vegetation condition was rated according to Keighery (1994), a vegetation condition scale commonly used in the Metropolitan Region. The categories are listed and defined in Table 5. Data on the vegetation structure was also recorded and included the height of the three main strata and the dominant species within each stratum. The vegetation structural description follows that of the National Vegetation Information System (Thackway *et al.* 2006).

In addition to the relevés, the vegetation of disturbed and parkland-cleared zones was sampled using mapping points (unbound plots) at one site within each zone. At each mapping point, the same environmental and vegetation structure data described previously was recorded and a search made for any Priority or Threatened flora, and an inventory of the species present taken.

All plant specimens collected during the field survey were dried, pressed and then sorted in accordance with requirements of the Western Australian Herbarium. Identification of specimens occurred through comparison with named material and through the use of taxonomic keys. Taxonomic determinations were made using reference material at the Western Australian State Herbarium. Taxa names utilise the current terminologies from FloraBase (2012). Family names utilise the revised phylogeny of the Angiosperm Phylogeny Group - APGIII (FloraBase 2012).

Table 5: Vegetation Condition Scale (Keighery 1994)

Vegetation Condition	Definition
Pristine (1)	Pristine or nearly so, no obvious signs of disturbance.
Excellent (2)	Vegetation structure intact, disturbance affecting individual species and weeds are non-aggressive species.
Very Good	Vegetation structure altered, obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and grazing
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and grazing.
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and grazing.
Completely Degraded	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.

2.2 Data analysis and Classification

The relevé data for each stand of remnant native vegetation was assigned a FCT using presence/absence species data so that a comparison could be made against the DEC's TEC database. The site data was reconciled with the SCP dataset of Gibson *et al.* (1994) by standardising the names of taxa with those used in the earlier study. This was necessary due to changes in nomenclature in the intervening period. Taxa that were only identified to genus level were excluded while some infra-species that have been identified since 1994 were raised to species level. The combined dataset was then analysed using a Sorenson distance measure (equivalent to the Czekanowski distance measure for presence/absence data used in the original analysis) with Group Average linkage in the analysis package PC-ORD (McCune and Mefford 2006). The analysis was first run without the addition of the York St reserve data to check for misclassifications against the original output. There were some sites misclassified, but these were considered minor as other methods that were tried produced far more misclassifications. As data from a localised study is often highly spatially correlated compared to the data from a regional study, the York St Reserve data was added to the SCP dataset and analysed for each individual sample site. This removes the influence of spatial correlation when assigning a FCT to the local plant communities.

2.3 Study Limitations and Survey Effort

Various factors can limit the effectiveness of a vegetation survey. Pursuant to *EPA Guidance Statement 51* (EPA 2004), these factors have been identified and their potential impact on the effectiveness of the survey has been assessed (Table 5).

There were no factors identified that were considered as being major impediments the effectiveness of the vegetation survey.

Table 5: Potential limitations affecting the vegetation survey

Potential limitations	Constraint	Comment
Competency and experience of the botanists undertaking the survey	No	The survey was undertaken by botanist with a comprehensive knowledge of Swan Coastal Plain vegetation, with at least 10 years experience in vegetation surveys in Western Australia.
Seasonality	Minor constraint	Rainfall was about average for September but well below average for October 2012. Rainfall therefore may be considered a minor survey constraint as the dry conditions in October could have affected the flowering of some species.
Adequate ground coverage and intensity of survey effort	No	The survey area was traversed on foot. It is considered the survey quadrats and mapping points provided adequate coverage given the degraded nature of most of the site.
Proportion of Flora identified	No	The small size of the reserve and limited number of quadrats doesn't allow for analysis of the proportion of the flora sampled. However, single visit surveys in southwestern Australia of similar intensity usually sample between 75% and 85% of the estimated total flora.
Burn Cycle	No	There were no signs of recent fires.
Resources	No	Adequate resources were available to conduct the survey.
Access restrictions	No	There were no access restrictions and all requisite areas were visited. All areas were accessible.

3 Results

3.1 Flora

3.1.1 Floristic Summary

A total of 97 native and 57 introduced (non-native) taxa were recorded within the site, representing 47 families and 115 genera. Introduced taxa included Australian native species that do not naturally occur within the local area but have been planted as ornamentals within the site. The dominant families containing mostly native taxa were Myrtaceae (13 native taxa, 9 introduced taxa), Fabaceae (12 native, 7 introduced taxa) and Proteaceae (12 native, no weed taxa). The most common genus was *Eucalyptus* spp. (10 taxa). For a complete species list and the individual site data refer to Appendix A and Appendix C, respectively.

3.1.2 Threatened and Priority Flora

No Threatened Flora pursuant to the *Wildlife Conservation Act (1950)* nor the *EPBC Act (1999)* were recorded during the survey. Also, no Priority Flora listed by the DEC were recorded during the survey.

3.2 Vegetation

The vegetation types within the site largely correspond to the zones identified by Strategen (2012), except for Zones 3 and 7, which are floristically similar and have been combined into the one vegetation type (Figure 2). The seven vegetation types are:

Vegetation Type 1: Parkland of *Corymbia calophylla* and ornamental eucalypts over mixed grassland.

Vegetation Type 2: Open parkland of ornamental eucalypts over very sparse understorey on yellow sands

Vegetation Type 3/7: Open woodland of *Eucalyptus marginata* and *Allocasuarina fraseriana* over open shrubland of *Xanthorrhoea preissii* over sedgeland of *Mesomelaena tetragona*, *Mesomelaena pseudostygia* and *Dasypogon bromeliifolius*

Vegetation Type 4: Occasional trees of *Eucalyptus ?rudis* and *Eucalyptus camaldulensis* subsp. *obtusa* over open shrubland of *Hakea trifurcata* over grassland of **Ehrharta calycina* and **Pennisetum clandestinum*

Vegetation Type 5: Open heath of *Hakea trifurcata* and *Leptospermum erubescens* over sedgeland of *Mesomelaena tetragona*

Vegetation Type 6: Open woodland of *Eucalyptus wandoo* subsp. *wandoo* and ornamental eucalypts over open shrubland of *Hakea trifurcata* and *Isopogon dubius* over grassland of **Ehrharta calycina*

Vegetation Type 8: Open woodland of *Eucalyptus marginata* and *Eucalyptus camaldulensis* subsp. *obtusa* over open shrubland of *Xanthorrhoea preissii* over introduced grasses.

In five of the described zones the vegetation has been disturbed in the past and replaced with non-native species, including ornamental eucalypts not endemic to the area. Zone 1 is at the western end of the reserve and has been parkland cleared and playground equipment installed. Zone 2 is a rehabilitated area and includes a drainage sump. The trees in this zone are mostly ornamental eucalypts such as *Angophora costata* and *Eucalyptus conferruminata*. The sump was vegetated with weed species such as *Pennisetum clandestinum* (kikuyu) and *Arundo donax*. Zones 4 and 6 were also a highly

disturbed areas with open overstories of eucalypt species and occasional native shrubs such as *Hakea trifurcata*. The groundlayer consisted of introduced grasses such kikuyu and perennial veldt grass (*Ehrharta calycina*). Zone 8 is near the southern boundary of the site and has been heavily disturbed in the past.

The two native vegetation types are Vegetation Type 3/7 and Vegetation Type 5. The lower-storeys of both vegetation types share many of the same sedge species but Vegetation Type 5 lacks the overstorey of *Eucalyptus marginata* and *Allocasuarina fraseriana*. Vegetation Type 5 is also dominated by heath of *Hakea trifurcata*.

3.2.1 Assignment of Plant Associations

The results of the cluster analysis determined that both Vegetation Type 3/7 and Vegetation Type 5 belong in FCT 3c: *Corymbia calophylla* – *Xanthorrhoea preissii* woodlands and shrublands (Appendix D). The Zone 5 quadrat was most closely associated with sites in the FCT 3c group, as was the Zone 3 quadrat. The association was not close, however, but this is often observed when adding new data to the dataset. The Zone 7 quadrat was grouped with sites belonging to FCT 6: Weed dominated wetlands on heavy soil. This is an anomalous result given the similarity between the Zone 7 and Zone 3 vegetation, but is often observed when the groundlayer contains many introduced species and/or when taxa uncommon or not included in the original SCP dataset are present at a site. It is reasonable, therefore, to infer that the vegetation within Zone 7 also belongs to FCT 3c.

3.2.2 Vegetation Condition

The majority of the site is in a “Completely Degraded” condition and retains little of its original botanical value (Figure 3). The original structure of Vegetation Types 1, 4, 6 and 8 has been extensively altered with the upper- and mid-storeys now very open. The groundlayers are dominated by mainly introduced grasses. In Zone 2, the vegetation appears to have been completely cleared and rehabilitated with ornamental eucalypts. Almost no ground- or mid-storey exists.

The native remnants in Vegetation Types 3/7 and 5 are mostly in “Very Good” condition with some areas in “Excellent” condition. Some areas in Zones 3 and 5 where there is more extensive weed invasion have been rated in “Good” condition.

3.3 Weeds

Over one third of the taxa recorded during the survey were naturalised weeds or species not endemic to the local area. Sixteen of the weed species were introduced grasses and all of the daisy species (Asteraceae spp.) recorded were weeds. A number of eucalypts not endemic to the area but commonly planted as ornamentals in the Perth region were rerecorded and included *Eucalyptus grandis*, *Eucalyptus conferuminata*, *Eucalyptus pulverulenta*, *Corymbia maculata* and *Angophora costata*.

4 Discussion

The cluster analysis determined the native vegetation of the York St Reserve to be FCT 3c. Whilst this result needs to be confirmed by the DEC's Species and Communities Branch, the result is consistent with descriptions given by Gibson *et al.* (1994). Most of the typical species listed for FCT 3c were present, including *Eucalyptus wandoo* in Zone 6, which is an occasional dominant in this community. It is likely that the original vegetation of most of the reserve belonged to FCT 3c but has now been cleared.

FCT 3c is a TEC, listed as Endangered pursuant to the EPBC Act and as Critically Endangered under DEC criteria. FCT 3c is restricted to the eastern side of the Swan Coastal Plain and has been extensively cleared. According to the Department of Sustainability, Environment, Water, Population and Communities (SEWPAC), approximately 97% of the community's original extent may have been cleared, leaving only about 41 ha extant today. Among the threats to the remaining stands of this community are clearing, invasive species, and changes in hydrology and fire frequency.

In addition to listing as a TEC, the vegetation within the site is part of the Forrestfield Vegetation Complex. Only 9% of this vegetation complex remains (Government of Western Australia 2000) and is therefore considered a Critical Asset by the EPA. Clearing of this vegetation would likely be considered as being at variance to Principle (E) of Schedule 5 of the *Environmental Protection Act 1986*.

A number of invasive weeds, mostly grasses, were recorded from the site. Whilst none are Declared Plants pursuant to the *Agricultural and Related Resources Protection Act 1976*, many are very invasive and may have a high impact on ecological processes. Grasses such as **Ehrharta calycina*, **Eragrostis curvula*, **Hyparrhenia hirta* and **Tribolium uniola* may invade disturbed sites quickly and outcompete native species. The effects of weed invasion is evident in parts of the native vegetation stands within the reserve where disturbance to the understorey has resulted in replacement to varying degrees by invasive species.

It is unlikely that clearing of the remnant vegetation within the reserve would be approved. The disturbed areas present little impediment to development but the interface with the stands of native vegetation will be very important. Buffers or barriers should be designed to minimise impacts upon the vegetation such as changes in hydrology and weed invasion.

5 Summary and Recommendations

The remnant native vegetation within the York St Reserve retains high ecological value. As part of the Forrestfield Vegetation Complex, it is considered a Critical Asset by the EPA and is afforded statutory protection pursuant to the EPBC Act and under DEC policies. Given the ecological values of the site, it is suggested that:

- Development of the site include plans or policies to improve the vegetation condition of the remnant vegetation within the York St Reserve.

Furthermore, it is recommended that:

- No clearing of Vegetation Types 3/7 and 5 be approved; and
- Any development of the site includes appropriate buffers or barriers to minimise adverse impacts to the native vegetation within the reserve.

DRAFT

6 References

- Bureau of Meteorology (2012) Climate Statistics for Perth Airport meteorological station 9021. Bureau of Meteorology. <http://www.bom.gov.au/climate/data/>
- Churchward, H.M. and McArthur (1980). Landforms and Soils of the Darling System. In: *Atlas of Natural Resources, Darling System, Western Australia*. Perth, Pinjarra and Collie Sheets. Department of Conservation and Environment, Western Australia.
- Department of Environment and Conservation (2012) *Definitions, Categories and Criteria for Threatened and Priority Ecological Communities*, Department of Environment and Conservation, Perth.
- Environmental Protection Authority, (2004) *Guidance statement No. 51*. Guidance for the Assessment of Environmental Factors – Terrestrial flora and vegetation surveys for environmental impact assessment in Western Australia. Environmental Protection Authority, Perth.
- FloraBase (2012). FloraBase the Western Australian Flora. Department of Environment and Conservation, Como, Western Australia. <http://Florabase.dec.wa.gov.au/>
- Gibson, N, Keighery, BJ, Keighery, GJ, Burbidge, AH and Lyons, MN (1994), *A floristic survey of the southern Swan Coastal Plain*, Unpublished Report for the Australian Heritage Commission prepared by the Department of Conservation and Land Management and the Conservation Council of Western Australia (Inc), Perth.
- Government of Western Australia (2000) *Bush Forever, Volume 1: Policies, Principles and Processes*, Western Australian Planning Commission, Perth.
- Hedde, EM, Loneragan, OW and Havel, JJ 1980, 'Darling Systems – Vegetation Complexes' in *Atlas of Natural Resources Darling System, Western Australia*, Department of Conservation and Environment, Perth.
- Keighery, BJ (1994), *Bushland plant survey: A Guide to Plant Community Survey for the Community*, Wildflower Society of WA (inc), Nedlands, Western Australia.
- McCune, B. and Mefford, M.J. (2006) PC-ORD: Multivariate analysis of ecological data, Version 5, MJM Software, Gleneden Beach, Oregon.
- Natural Resource Information Centre (1991) Digital Atlas of Australian Soils, Bureau of Rural Sciences, Canberra
- Strategen (2012) Preliminary Opportunities and Constraints Report, Unpublished report prepared for the Shire of Kalamunda
- Thackway, R., Neldner, J. and Bolton, M. (2006) *Chapter 8: Vegetation*, in: The Blue Book: Australian Soil and Land Survey Handbook Guidelines for Conducting Surveys, CSIRO, Canberra

7 Figures

DRAFT

Figure 1: Locality Plan

Figure 2: Vegetation Types

Figure 3: Vegetation Condition

DRAFT

Appendix A

List of flora recorded within the survey area

NB: * indicates introduced flora

DRAFT

Family	Non-native	Taxon
Colchicaceae		<i>Burchardia congesta</i>
Orchidaceae	*	<i>Disa bracteata</i>
Boryaceae		<i>Borya sphaerocephala</i>
Iridaceae	*	<i>Freesia alba x leichtlinii</i>
	*	<i>Gladiolus caryophyllaceus</i>
		<i>Patersonia juncea</i>
		<i>Patersonia occidentalis</i>
	*	<i>Romulea rosea</i>
Xanthorrhoeaceae		<i>Xanthorrhoea ?brunonis</i>
		<i>Xanthorrhoea preissii</i>
Asparagaceae		<i>Laxmannia squarrosa</i>
		<i>Lomandra hermaphrodita</i>
		<i>Lomandra sericea</i>
		<i>Thysanotus dichotomus</i>
		<i>Thysanotus thyrsoides</i>
		<i>Thysanotus triandrus</i>
Hemerocallidaceae		<i>Tricoryne elatior</i>
Haemodoraceae		<i>Anigozanthos manglesii</i> subsp. <i>manglesii</i>
		<i>Conostylis juncea</i>
		<i>Conostylis setigera</i>
		<i>Haemodorum laxum</i>
Dasypogonaceae		<i>Dasypogon bromeliifolius</i>
Juncaceae		<i>Juncus pallidus</i>
Cyperaceae		<i>Cyathochaeta avenacea</i>
		<i>Cyperus involucratus</i>
		<i>Lepidosperma leptostachyum</i>
		<i>Lepidosperma pubisquamum</i>
		<i>Leptospermum erubescens</i>
		<i>Mesomelaena pseudostygia</i>
		<i>Mesomelaena tetragona</i>
		<i>Schoenus clandestinus</i>
		<i>Schoenus grammatophylla</i>
		<i>Schoenus</i> sp.
		<i>Tetraria octandra</i>
Anarthriaceae		<i>Lyginia imberbis</i>
Restionaceae		<i>Desmocladus fasciculatus</i>
Poaceae	*	<i>Aira caryophyllea</i>
		<i>Amphipogon turbinatus</i>

Family	Non-native	Taxon
	*	<i>Arundo donax</i>
		<i>Austrostipa campylachne</i>
		<i>Austrostipa elegantissima</i>
	*	<i>Avena barbata</i>
	*	<i>Briza maxima</i>
	*	<i>Briza minor</i>
	*	<i>Bromus diandrus</i>
	*	<i>Cynodon dactylon</i>
	*	<i>Ehrharta calycina</i>
	*	<i>Eragrostis curvula</i>
	*	<i>Hyparrhenia hirta</i>
	*	<i>Lolium rigidum</i>
	*	<i>Melinis repens</i>
		<i>Neurachne alopecuroidea</i>
	*	<i>Pennisetum clandestinum</i>
	*	<i>Pentameris pallida</i>
		<i>Rytidosperma caespitosum</i>
	*	<i>Tribolium uniola</i>
	*	<i>Vulpia</i> sp.
Papaveraceae	*	<i>Fumaria capreolata</i>
Proteaceae		<i>Banksia dallanneyi</i> subsp. <i>dallanneyi</i> var.
		<i>Banksia sessilis</i>
		<i>Grevillea bipinnatifida</i> subsp. <i>bipinnatifida</i>
		<i>Hakea incrassata</i>
		<i>Hakea ruscifolia</i>
		<i>Hakea trifurcata</i>
		<i>Hakea undulata</i>
		<i>Isopogon dubius</i>
		<i>Lambertia multiflora</i> var. <i>darlingensis</i>
		<i>Petrophile macrostachya</i>
		<i>Stirlingia latifolia</i>
		<i>Synaphea petiolaris</i> subsp. <i>petiolaris</i>
Dilleniaceae		<i>Hibbertia hypericoides</i>
Crassulaceae		<i>Crassula colorata</i>
Haloragaceae		<i>Gonocarpus cordiger</i>
Fabaceae		<i>Acacia applanata</i>
	*	<i>Acacia leiophylla</i>
		<i>Acacia nervosa</i>
		<i>Acacia pulchella</i> var. <i>pulchella</i>
		<i>Acacia willdenowiana</i>
	*	<i>Chamaecytisus palmensis</i>
		<i>Cristonia biloba</i> subsp. <i>biloba</i>
		<i>Daviesia decurrens</i>
		<i>Daviesia nudiflora</i> subsp. <i>nudiflora</i>
Fabaceae		<i>Gastrolobium ebracteolatum</i>
		<i>Gompholobium confertum</i>

Family	Non-native	Taxon
		<i>Gompholobium marginatum</i>
		<i>Gompholobium tomentosum</i>
		<i>Jacksonia lehmannii</i>
	*	<i>Lotus subbiflorus</i>
	*	<i>Lupinus cosentinii</i>
	*	<i>Medicago polymorpha</i>
	*	<i>Trifolium angustifolium</i>
	*	<i>Trifolium campestre</i>
Polygalaceae		<i>Comesperma calymega</i>
Polygonaceae	*	<i>Rumex crispus</i>
Rhamnaceae		<i>Stenanthemum tridentatum</i>
Casuarinaceae		<i>Allocasuarina fraseriana</i>
		<i>Allocasuarina humilis</i>
Oxalidaceae	*	<i>Oxalis pes-caprae</i>
Euphorbiaceae	*	<i>Ricinus communis</i>
Violaceae		<i>Hybanthus calycinus</i>
Myrtaceae	*	<i>Angophora costata</i>
		<i>Baeckea camphorosmae</i>
	*	<i>Callistemon</i> sp.
		<i>Calothamnus quadrifidus</i>
		<i>Corymbia calophylla</i>
	*	<i>Corymbia maculata</i>
		<i>Eremaea pauciflora</i> var. <i>pauciflora</i>
		<i>Eucalyptus ?lane-poolei</i>
		<i>Eucalyptus ?rudis</i>
		<i>Eucalyptus camaldulensis</i> subsp. <i>obtus</i>
	*	<i>Eucalyptus conferruminata</i>
	*	<i>Eucalyptus grandis</i>
		<i>Eucalyptus marginata</i>
	*	<i>Eucalyptus pulverulenta</i>
		<i>Eucalyptus rudis</i> subsp. <i>rudis</i>
	*	<i>Eucalyptus</i> sp. (juvenile)
		<i>Eucalyptus wandoo</i> subsp. <i>wandoo</i>
		<i>Kunzea glabrescens</i>
	*	<i>Leptospermum laevigatum</i>
	*	<i>Melaleuca nesophila</i>
		<i>Melaleuca seriata</i>
Anacardiaceae	*	<i>Schinus terebinthifolia</i>
Meliaceae	*	<i>Melia azedarach</i>
Thymelaeaceae		<i>Pimelea suaveolens</i> subsp. <i>suaveolens</i>
Tropaeolaceae	*	<i>Tropaeolum majus</i>

Family	Non-native	Taxon
Brassicaceae	*	<i>Raphanus raphanistrum</i>
Loranthaceae		<i>Nuytsia floribunda</i>
Droseraceae		<i>Drosera platystigma</i>
		<i>Drosera porrecta</i>
Amaranthaceae		<i>Ptilotus manglesii</i>
Ericaceae		<i>Andersonia involucrata</i>
		<i>Leucopogon</i> sp. Great Southern
Rubiaceae		<i>Opercularia vaginata</i>
Boraginaceae	*	<i>Echium plantagineum</i>
Solanaceae	*	Solanaceae sp.
		<i>Solanum nigrum</i>
Plantaginaceae	*	Plantaginaceae sp.
	*	<i>Plantago lanceolata</i>
Orobanchaceae	*	<i>Orobanche minor</i>
Campanulaceae		<i>Isotoma hypercrateriformis</i>
	*	<i>Wahlenbergia capensis</i>
Stylidiaceae		<i>Stylidium brunonianum</i>
		<i>Stylidium piliferum</i>
Goodeniaceae		<i>Lechenaultia biloba</i>
		<i>Scaevola repens</i>
Asteraceae	*	<i>Arctotheca calendula</i>
	*	<i>Dimorphotheca ecklonis</i>
	*	<i>Gazania linearis</i>
	*	<i>Hypochaeris glabra</i>
	*	<i>Sonchus oleraceus</i>
	*	<i>Ursinia anthemoides</i>
Apiaceae	*	<i>Foeniculum vulgare</i>
		<i>Pentapeltis peltigera</i>
		<i>Xanthosia huegelii</i>

Appendix B

Species presence in each recorded community within the survey area

DRAFT

Taxon		Community						
		Vegetation Type 1	Vegetation Type 2	Vegetation Type 3/7	Vegetation Type 4	Vegetation Type 5	Vegetation Type 6	Vegetation Type 8
	<i>Acacia applanata</i>			X		X		
*	<i>Acacia leiophylla</i>			X				
	<i>Acacia nervosa</i>					X		
	<i>Acacia pulchella</i> var. <i>pulchella</i>	X		X				
	<i>Acacia willdenowiana</i>					X		
*	<i>Aira caryophyllea</i>	X		X				
	<i>Allocasuarina fraseriana</i>	X		X			X	
	<i>Allocasuarina humilis</i>	X		X				
	<i>Amphipogon turbinatus</i>					X		
	<i>Andersonia involucrata</i>					X		
*	<i>Angophora costata</i>		X		X		X	
	<i>Anigozanthos manglesii</i> subsp. <i>manglesii</i>			X				
*	<i>Arctotheca calendula</i>	X						
*	<i>Arundo donax</i>	X						
	<i>Austrostipa campylachne</i>	X		X			X	
	<i>Austrostipa elegantissima</i>					X		
*	<i>Avena barbata</i>	X	X		X		X	
	<i>Baeckea camphorosmae</i>			X			X	
	<i>Banksia dallanneyi</i> subsp. <i>dallanneyi</i> var.	X		X				
	<i>Banksia sessilis</i>			X	X		X	
	<i>Borya sphaerocephala</i>					X		
*	<i>Briza maxima</i>	X	X	X	X	X		X
*	<i>Briza minor</i>		X	X				
*	<i>Bromus diandrus</i>	X				X		
	<i>Burchardia congesta</i>			X				
*	<i>Callistemon</i> sp.			X				X

Taxon		Community						
		Vegetation Type 1	Vegetation Type 2	Vegetation Type 3/7	Vegetation Type 4	Vegetation Type 5	Vegetation Type 6	Vegetation Type 8
	<i>Calothamnus quadrifidus</i>				X			
*	<i>Chamaecytisus palmensis</i>	X		X	X			
	<i>Comesperma calymega</i>			X				
	<i>Conostylis juncea</i>			X				
	<i>Conostylis setigera</i>					X		
	<i>Corymbia calophylla</i>	X	X	X				
*	<i>Corymbia maculata</i>	X						
	<i>Crassula colorata</i>			X				
	<i>Cristonia biloba</i> subsp. <i>biloba</i>			X				
	<i>Cyathochaeta avenacea</i>					X		
*	<i>Cynodon dactylon</i>	X			X			
	<i>Cyperus involucratus</i>		X					
	<i>Dasypogon bromeliifolius</i>			X				
	<i>Daviesia decurrens</i>			X				
	<i>Daviesia nudiflora</i> subsp. <i>nudiflora</i>			X				
	<i>Desmocladius fasciculatus</i>			X		X		
*	<i>Dimorphotheca ecklonis</i>	X						X
*	<i>Disa bracteata</i>			X			X	
	<i>Drosera platystigma</i>					X		
	<i>Drosera porrecta</i>			X				
*	<i>Echium plantagineum</i>	X						
*	<i>Ehrharta calycina</i>	X		X	X		X	X
*	<i>Eragrostis curvula</i>	X	X	X	X	X	X	X
	<i>Eremaea pauciflora</i> var. <i>pauciflora</i>			X				
	<i>Eucalyptus ?lane-poolei</i>			X				
	<i>Eucalyptus ?rudis</i>		X					
	<i>Eucalyptus camaldulensis</i> subsp. <i>obtusa</i>	X	X	X	X			
*	<i>Eucalyptus conferruminata</i>		X					

Taxon		Community						
		Vegetation Type 1	Vegetation Type 2	Vegetation Type 3/7	Vegetation Type 4	Vegetation Type 5	Vegetation Type 6	Vegetation Type 8
*	<i>Eucalyptus grandis</i>			X				
	<i>Eucalyptus marginata</i>	X		X				X
*	<i>Eucalyptus pulverulenta</i>	X						
	<i>Eucalyptus rudis</i> subsp. <i>rudis</i>				X		X	
*	<i>Eucalyptus</i> sp. (juvenile)						X	
	<i>Eucalyptus wandoo</i> subsp. <i>wandoo</i>						X	
*	<i>Foeniculum vulgare</i>	X						
*	<i>Freesia alba</i> x <i>leichtlinii</i>			X	X	X	X	
*	<i>Fumaria capreolata</i>							X
	<i>Gastrolobium ebracteolatum</i>			X		X	X	
*	<i>Gazania linearis</i>	X		X	X		X	
*	<i>Gladiolus caryophyllaceus</i>	X		X		X	X	X
	<i>Gompholobium confertum</i>					X		
	<i>Gompholobium marginatum</i>			X			X	
	<i>Gompholobium tomentosum</i>						X	
	<i>Gonocarpus cordiger</i>					X		
	<i>Grevillea bipinnatifida</i> subsp. <i>bipinnatifida</i>					X		
	<i>Haemodorum laxum</i>	X		X		X		
	<i>Hakea incrassata</i>	X		X				
	<i>Hakea ruscifolia</i>			X				
	<i>Hakea trifurcata</i>	X			X	X	X	
	<i>Hakea undulata</i>					X		
	<i>Hibbertia hypericoides</i>	X		X				
	<i>Hybanthus calycinus</i>			X				
*	<i>Hyparrhenia hirta</i>	X						
*	<i>Hypochaeris glabra</i>	X		X				X
	<i>Isopogon dubius</i>						X	
	<i>Isotoma hypercrateriformis</i>			X				

Taxon		Community						
		Vegetation Type 1	Vegetation Type 2	Vegetation Type 3/7	Vegetation Type 4	Vegetation Type 5	Vegetation Type 6	Vegetation Type 8
	<i>Jacksonia lehmannii</i>			X				
	<i>Juncus pallidus</i>		X					
	<i>Kunzea glabrescens</i>				X			
	<i>Lambertia multiflora</i> var. <i>darlingensis</i>			X				
	<i>Laxmannia squarrosa</i>						X	
	<i>Lechenaultia biloba</i>			X		X	X	
	<i>Lepidosperma leptostachyum</i>						X	
	<i>Lepidosperma pubisqameum</i>			X		X		
	<i>Leptospermum erubescens</i>				X	X	X	
*	<i>Leptospermum laevigatum</i>	X			X			
	<i>Leucopogon</i> sp. Great Southern					X		
*	<i>Lolium rigidum</i>		X					
	<i>Lomandra hermaphrodita</i>			X				
	<i>Lomandra sericea</i>			X				
*	<i>Lotus subbiflorus</i>	X			X			
*	<i>Lupinus cosentinii</i>	X			X		X	
	<i>Lyginia imberbis</i>			X		X		
*	<i>Medicago polymorpha</i>		X					
*	<i>Melaleuca nesophila</i>	X						
	<i>Melaleuca seriata</i>					X		
*	<i>Melia azedarach</i>	X						
*	<i>Melinis repens</i>			X			X	
	<i>Mesomelaena pseudostygia</i>			X				X
	<i>Mesomelaena tetragona</i>	X		X	X	X	X	
	<i>Neurachne alopecuroidea</i>	X		X	X	X		
	<i>Nuytsia floribunda</i>	X						
	<i>Opercularia vaginata</i>			X			X	
*	<i>Orobanche minor</i>	X						

Taxon		Community						
		Vegetation Type 1	Vegetation Type 2	Vegetation Type 3/7	Vegetation Type 4	Vegetation Type 5	Vegetation Type 6	Vegetation Type 8
*	<i>Oxalis pes-caprae</i>	X						
	<i>Patersonia juncea</i>					X		
	<i>Patersonia occidentalis</i>			X		X	X	
*	<i>Pennisetum clandestinum</i>		X		X			
*	<i>Pentameris pallida</i>	X						
	<i>Pentapeltis peltigera</i>			X				
	<i>Petrophile macrostachya</i>			X				
	<i>Pimelea suaveolens</i> subsp. <i>suaveolens</i>			X				
*	<i>Plantaginaceae</i> sp.		X					
*	<i>Plantago lanceolata</i>		X					X
	<i>Ptilotus manglesii</i>					X		
*	<i>Raphanus raphanistrum</i>		X					
*	<i>Ricinus communis</i>							X
*	<i>Romulea rosea</i>	X		X	X	X		X
*	<i>Rumex crispus</i>		X					
	<i>Rytidosperma caespitosum</i>	X				X		
	<i>Scaevola repens</i>			X			X	
*	<i>Schinus terebinthifolia</i>	X						
	<i>Schoenus clandestinus</i>			X		X		
	<i>Schoenus grammatophyllus</i>					X		
	<i>Schoenus</i> sp.					X		
*	<i>Solanaceae</i> sp.	X						
	<i>Solanum nigrum</i>							X
*	<i>Sonchus oleraceus</i>		X					
	<i>Stenanthemum tridentatum</i>					X		
	<i>Stirlingia latifolia</i>			X				
	<i>Stylidium brunonianum</i>					X		
	<i>Stylidium piliferum</i>					X	X	

Taxon		Community						
		Vegetation Type 1	Vegetation Type 2	Vegetation Type 3/7	Vegetation Type 4	Vegetation Type 5	Vegetation Type 6	Vegetation Type 8
	<i>Synaphea petiolaris</i> subsp. <i>petiolaris</i>					X		
	<i>Tetraria octandra</i>			X		X		
	<i>Thysanotus dichotomus</i>		X					
	<i>Thysanotus thyrsoideus</i>			X				
	<i>Thysanotus triandrus</i>					X		
*	<i>Tribolium uniolae</i>	X					X	
	<i>Tricoryne elatior</i>			X			X	
*	<i>Trifolium angustifolium</i>	X	X	X	X		X	X
*	<i>Trifolium campestre</i>			X				
*	<i>Tropaeolum majus</i>			X				
*	<i>Ursinia anthemoides</i>	X		X	X		X	X
*	<i>Vulpia</i> sp.	X						
*	<i>Wahlenbergia capensis</i>						X	
	<i>Xanthorrhoea ?brunonis</i>			X				
	<i>Xanthorrhoea preissii</i>	X		X				
	<i>Xanthosia huegelii</i>			X				

Appendix C

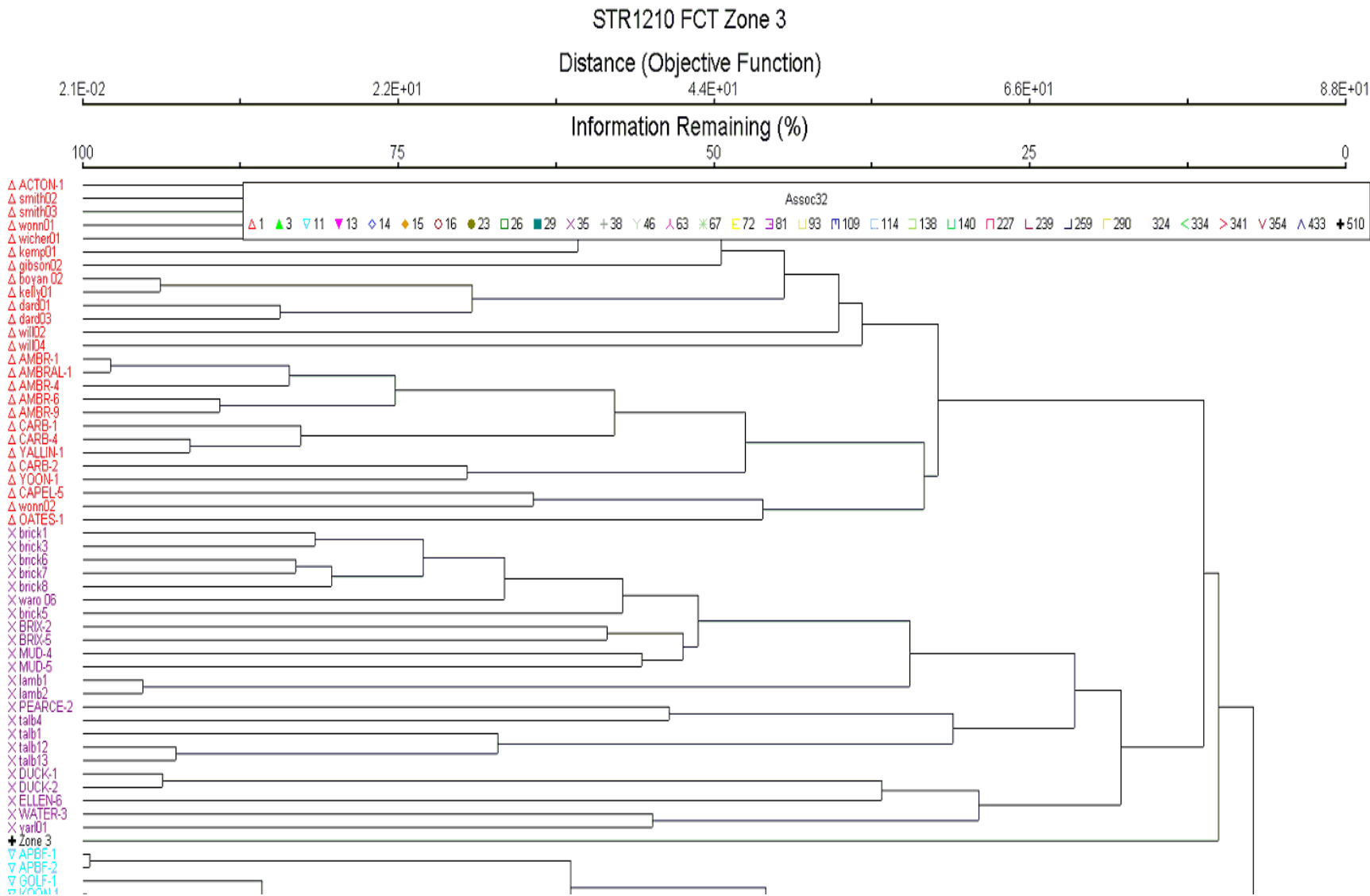
Sampling plot raw data

DRAFT

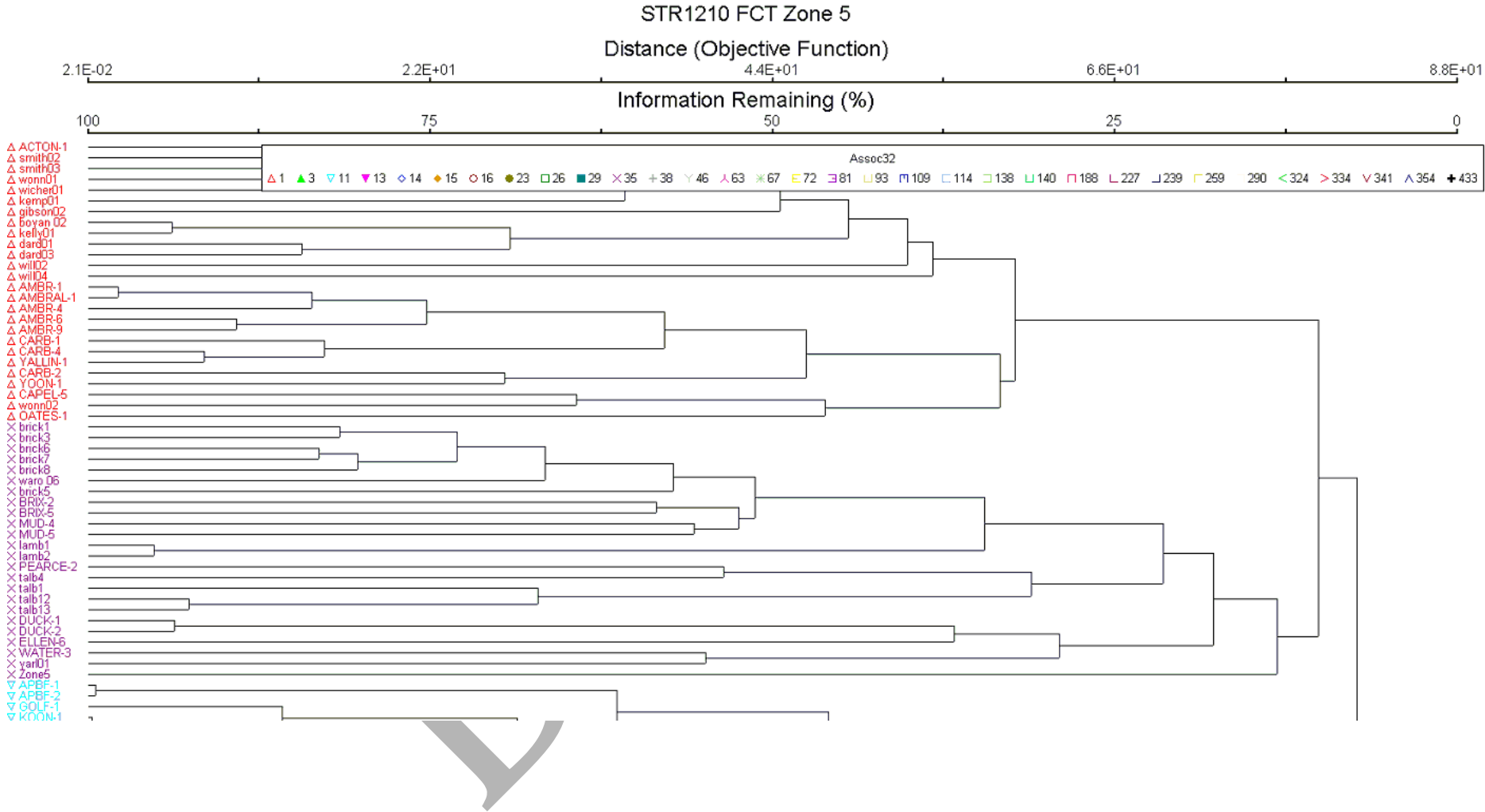
Appendix D

Cluster Dendrogram

DRAFT



DRAFT





Appendix E

Matters of National Environmental Significance Report

DRAFT



Australian Government
Department of Sustainability, Environment,
Water, Population and Communities

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about [Environment Assessments](#) and the EPBC Act including significance guidelines, forms and application process details.

Report created: 07/12/12 11:18:17

[Summary](#)

[Details](#)

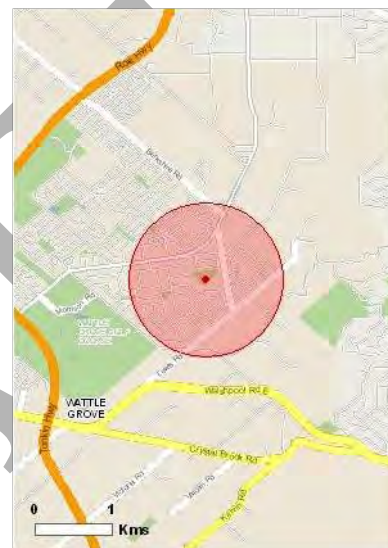
[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)



This map may contain data which are
©Commonwealth of Australia
(Geoscience Australia), ©PSMA 2010

[Coordinates](#)

Buffer: 1.0Km



Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Areas:	None
Listed Threatened Ecological Communities:	None
Listed Threatened Species:	23
Listed Migratory Species:	9

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As [heritage values](#) of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place and the heritage values of a place on the Register of the National Estate.

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	1
Commonwealth Heritage Places:	None
Listed Marine Species:	6
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

Place on the RNE:	None
State and Territory Reserves:	None
Regional Forest Agreements:	1
Invasive Species:	17
Nationally Important Wetlands:	None
Key Ecological Features (Marine):	None

Details

Matters of National Environmental Significance

Listed Threatened Species		[Resource Information]
Name	Status	Type of Presence
Birds		
Calyptorhynchus banksii naso Forest Red-tailed Black-Cockatoo [67034]	Vulnerable	Species or species habitat may occur within area
Calyptorhynchus baudinii Baudin's Black-Cockatoo, Long-billed Black-Cockatoo [769]	Vulnerable	Roosting known to occur within area
Calyptorhynchus latirostris Carnaby's Black-Cockatoo, Short-billed Black-Cockatoo [59523]	Endangered	Breeding likely to occur within area
Leipoa ocellata Malleefowl [934]	Vulnerable	Species or species habitat may occur within area
Rostratula australis Australian Painted Snipe [77037]	Vulnerable	Species or species habitat may occur within area
Insects		
Synemon gratio Graceful Sun Moth [66757]	Endangered	Species or species habitat may occur within area
Mammals		
Dasyurus geoffroi Chuditch, Western Quoll [330]	Vulnerable	Species or species habitat likely to occur within area
Phascogale calura Red-tailed Phascogale [316]	Endangered	Species or species habitat may occur within area
Setonix brachyurus Quokka [229]	Vulnerable	Species or species habitat may occur within area
Plants		

Name	Status	Type of Presence
Andersonia gracilis Slender Andersonia [14470]	Endangered	Species or species habitat may occur within area
Calytrix breviseta subsp. breviseta Swamp Starflower [23879]	Endangered	Species or species habitat may occur within area
Centrolepis caespitosa [6393]	Endangered	Species or species habitat likely to occur within area
Chamelaucium sp. Gingin (N.G. Marchant 6) Gingin Wax [64649]	Endangered	Species or species habitat may occur within area
Conospermum undulatum Wavy-leaved Smokebush [24435]	Vulnerable	Species or species habitat likely to occur within area
Darwinia foetida Muehea Bell [83190]	Critically Endangered	Species or species habitat likely to occur within area
Eucalyptus balanites Cadda Road Mallee, Cadda Mallee [24264]	Endangered	Species or species habitat may occur within area
Grevillea curviloba subsp. incurva Narrow curved-leaf Grevillea [64909]	Endangered	Species or species habitat may occur within area
Macarthuria keigheryi Keighery's Macarthuria [64930]	Endangered	Species or species habitat likely to occur within area
Synaphea sp. Fairbridge Farm (D. Papenfus 696) Selena's Synaphea [82881]	Critically Endangered	Species or species habitat may occur within area
Thelymitra manginii K. Dixon & Batty ms. [67443]	Endangered	Species or species habitat likely to occur within area
Thelymitra stellata Star Sun-orchid [7060]	Endangered	Species or species habitat likely to occur within area
Verticordia fimbrialepis subsp. fimbrialepis Shy Featherflower [24631]	Endangered	Species or species habitat may occur within area
Villarsia calthifolia Mountain Villarsia [10886]	Endangered	Species or species habitat likely to occur within area

Listed Migratory Species	[Resource Information]
--------------------------	--------------------------

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba Great Egret, White Egret [59541]		Species or species habitat may occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Migratory Terrestrial Species		
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area
Leipoa ocellata Malleefowl [934]	Vulnerable	Species or species habitat may occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Migratory Wetlands Species		
Ardea alba Great Egret, White Egret [59541]		Species or species habitat may occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Vulnerable*	Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Commonwealth Land [Resource Information]

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Name
Commonwealth Land -

Listed Marine Species [Resource Information]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba Great Egret, White Egret [59541]		Species or species habitat may occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Vulnerable*	Species or species habitat may occur within area

Extra Information

Regional Forest Agreements [Resource Information]

Note that all areas with completed RFAs have been included.

Name	State
South West WA RFA	Western Australia

Invasive Species [Resource Information]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resources Audit, 2001.

Name	Status	Type of Presence
Mammals		
Capra hircus Goat [2]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Sus scrofa Pig [6]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Asparagus asparagoides Bridal Creeper, Bridal Veil Creeper, Smilax, Florist's Smilax, Smilax Asparagus [22473]		Species or species habitat likely to occur within area
Brachiaria mutica Para Grass [5879]		Species or species habitat may occur within area
Cenchrus ciliaris Buffel-grass, Black Buffel-grass [20213]		Species or species habitat may occur within area
Chrysanthemoides monilifera Bitou Bush, Boneseed [18983]		Species or species habitat may occur within area

Name	Status	Type of Presence
Genista sp. X Genista monspessulana Broom [67538]		Species or species habitat may occur within area
Lantana camara Lantana, Common Lantana, Kamara Lantana, Large-leaf Lantana, Pink Flowered Lantana, Red Flowered Lantana, Red-Flowered Sage, White Sage, Wild Sage [10892]		Species or species habitat likely to occur within area
Lycium ferocissimum African Boxthorn, Boxthorn [19235]		Species or species habitat may occur within area
Olea europaea Olive, Common Olive [9160]		Species or species habitat may occur within area
Pinus radiata Radiata Pine Monterey Pine, Insignis Pine, Wilding Pine [20780]		Species or species habitat may occur within area
Rubus fruticosus aggregate Blackberry, European Blackberry [68406]		Species or species habitat likely to occur within area
Salix spp. except S.babylonica, S.x calodendron & S.x reichardtii Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow [68497]		Species or species habitat likely to occur within area
Salvinia molesta Salvinia, Giant Salvinia, Aquarium Watermoss, Kariba Weed [13665]		Species or species habitat likely to occur within area

Coordinates

-31.9915 116.0156

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World Heritage and Register of National Estate properties, Wetlands of International Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

For species where the distributions are well known, maps are digitised from sources such as recovery plans and detailed habitat studies. Where appropriate, core breeding, foraging and roosting areas are indicated under 'type of presence'. For species whose distributions are less well known, point locations are collated from government wildlife authorities, museums, and non-government organisations; bioclimatic distribution models are generated and these validated by experts. In some cases, the distribution maps are based solely on expert knowledge.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [Department of Environment, Climate Change and Water, New South Wales](#)
- [Department of Sustainability and Environment, Victoria](#)
- [Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [Department of Environment and Natural Resources, South Australia](#)
- [Parks and Wildlife Service NT, NT Dept of Natural Resources, Environment and the Arts](#)
- [Environmental and Resource Management, Queensland](#)
- [Department of Environment and Conservation, Western Australia](#)
- [Department of the Environment, Climate Change, Energy and Water](#)
- [Birds Australia](#)
- [Australian Bird and Bat Banding Scheme](#)
- [Australian National Wildlife Collection](#)
- Natural history museums of Australia
- [Museum Victoria](#)
- [Australian Museum](#)
- [SA Museum](#)
- [Queensland Museum](#)
- [Online Zoological Collections of Australian Museums](#)
- [Queensland Herbarium](#)
- [National Herbarium of NSW](#)
- [Royal Botanic Gardens and National Herbarium of Victoria](#)
- [Tasmanian Herbarium](#)
- [State Herbarium of South Australia](#)
- [Northern Territory Herbarium](#)
- [Western Australian Herbarium](#)
- [Australian National Herbarium, Atherton and Canberra](#)
- [University of New England](#)
- [Ocean Biogeographic Information System](#)
- [Australian Government, Department of Defence](#)
- [State Forests of NSW](#)
- [Geoscience Australia](#)
- [CSIRO](#)
- Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact Us](#) page.

© Commonwealth of Australia

Department of Sustainability, Environment, Water, Population and Communities
GPO Box 787
Canberra ACT 2601 Australia
+61 2 6274 1111

DRAFT

3.0 MAPPING



Figure 1 Vegetation condition

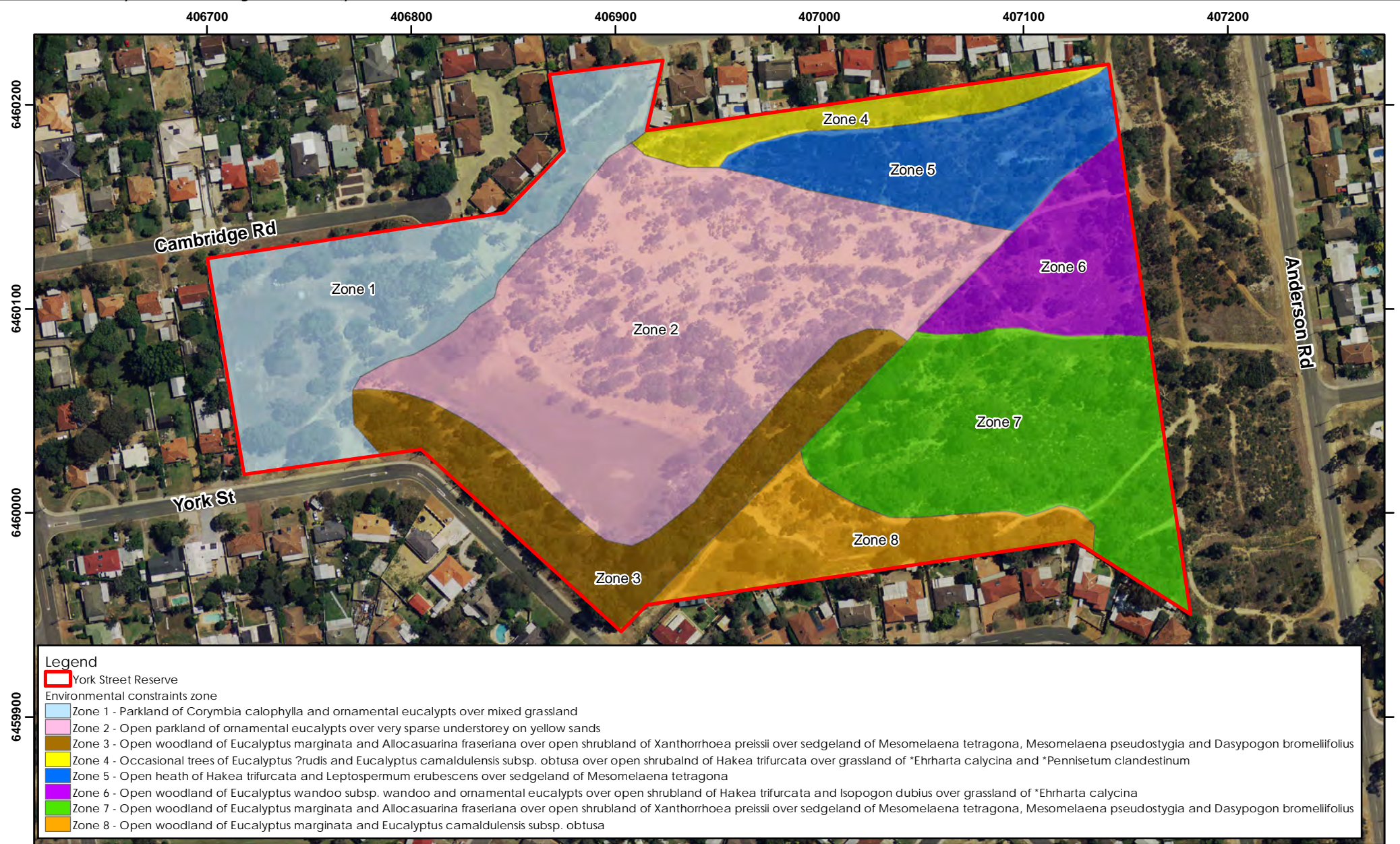


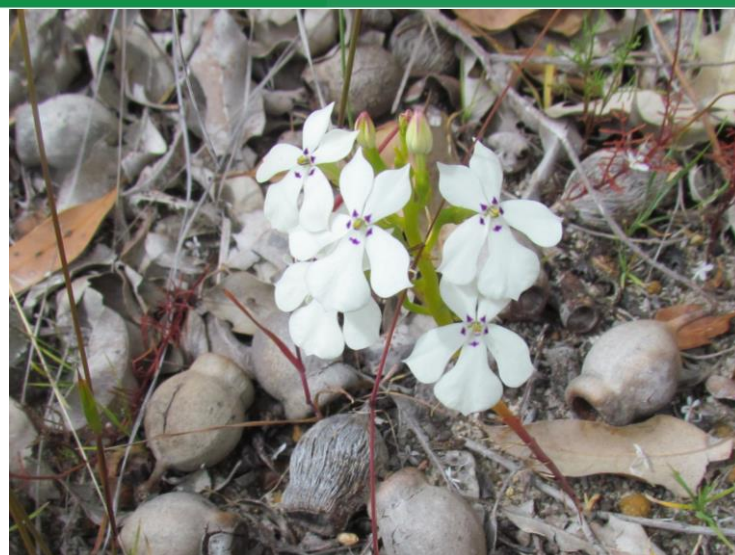
Figure 2 Vegetation types



Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Prepared for
City of Kalamunda

22 May 2017



Flora, Vegetation and Fauna Survey of Anderson Road Reserve

DOCUMENT TRACKING

Item	Detail
Project Name	Flora, Vegetation and Fauna Survey of Anderson Road Reserve
Project Number	5181
Project Manager	Katrina Zeehandelaar-Adams (08) 9227 1070 Suite 1 & 2, 49 Ord Street, West Perth WA 6005
Prepared by	Jeni Morris, Katrina Zeehandelaar-Adams, Sarah Dalglish, Joel Collins
Reviewed by	Daniel Panickar, Joel Collins
Approved by	Joel Collins
Status	FINAL
Version Number	2
Last saved on	4 October 2017
Cover photo	[Clockwise from top left] Chewed Marri nuts, <i>Isotoma hypocrateriformis</i> , nesting box, <i>Gazania linearis</i> © Eco Logical Australia

This report should be cited as 'Eco Logical Australia 2017. *Flora, Vegetation and Fauna Survey of Anderson Road Reserve*. Prepared for the City of Kalamunda.'

ACKNOWLEDGEMENTS

This document has been prepared by Eco Logical Australia Pty Ltd with support from the City of Kalamunda.

Disclaimer

This document may only be used for the purpose for which it was commissioned and in accordance with the contract between Eco Logical Australia Pty Ltd and City of Kalamunda. The scope of services was defined in consultation with City of Kalamunda, by time and budgetary constraints imposed by the client, and the availability of reports and other data on the subject area. Changes to available information, legislation and schedules are made on an ongoing basis and readers should obtain up to date information.

Eco Logical Australia Pty Ltd accepts no liability or responsibility whatsoever for or in respect of any use of or reliance upon this report and its supporting material by any third party. Information provided is not intended to be a substitute for site specific assessment or legal advice in relation to any matter. Unauthorised use of this report in any form is prohibited.

Template 29/9/2015

Contents

Executive summary	vii
1 Introduction	1
1.1 Project background	1
1.2 Objectives	1
1.3 Legislative framework	2
2 Desktop assessment	4
2.1 Study area	4
2.2 Bioregion	4
2.3 Climate	4
2.4 Landform, geology and soils	4
2.5 Vegetation	5
2.6 Conservation areas and National Parks	5
2.7 Environmentally Sensitive Areas	5
2.8 Priority Ecological Communities	6
3 Methodology	7
3.1 Desktop review	7
3.1.1 Likelihood of occurrence assessment	7
3.2 Survey team and timing	9
3.2.1 Level 2 flora and vegetation survey	9
3.2.2 FCT analysis	12
3.2.3 Specimen identification and nomenclature	12
3.3 Level 1 Fauna survey	13
3.3.2 Sampling methods	13
3.3.3 Taxonomy and nomenclature	14
3.4 Survey limitations	14
4 Results	17
4.1 Flora of the study area	17
4.1.1 Conservation listed flora	17
4.1.2 Introduced flora	17
4.2 Vegetation of the study area	23
4.2.1 Vegetation types	23
4.2.2 Conservation listed ecological communities	23
4.2.3 Vegetation condition	23
4.2.4 FCT analysis	24

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

4.3	Fauna of the study area.....	27
4.3.1	Fauna habitats.....	27
4.3.2	Black Cockatoo habitat assessment	27
4.3.3	Fauna assemblages	27
4.3.4	Conservation listed fauna	27
4.3.5	Introduced fauna.....	29
5	Conclusions and recommendations	33
5.1	Flora and vegetation	33
5.2	Fauna.....	33
5.3	Recommendations.....	34
	References	35
	Appendix A Framework for conservation listed flora and fauna in Western Australia	38
	Appendix B Database search results	47
	Appendix C Flora likelihood of occurrence assessment	61
	Appendix D Fauna likelihood of occurrence assessment	66
	Appendix E Flora species list	69
	Appendix F Flora species matrix	76
	Appendix G Introduced flora (weed) species list.....	81
	Appendix H Quadrat data	85
	Appendix I Fauna species list	101
	Appendix J Black Cockatoo potential breeding trees	103
	Appendix K Fauna locations	106

List of figures

Figure 1: Study area location	3
Figure 2: Survey sampling locations	16
Figure 3: Weeds of National Significance	18
Figure 4: Bulbous weeds.....	19
Figure 5: Woody weeds.....	20

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Figure 6: Grass weeds	21
Figure 7: Other weeds	22
Figure 8: Vegetation types within the study area	25
Figure 9: Vegetation condition within the study area	26
Figure 10: Marri nuts chewed by Forest Red-tailed Black Cockatoos in the study area	28
Figure 11: Example of Quenda digging observed in the study area	29
Figure 12: Black cockatoo potential breeding / night roosting habitat.....	30
Figure 13: Conservation listed fauna recorded during the survey	31
Figure 14: Introduced fauna recorded during the survey	32

List of tables

Table 1: Survey team	9
Table 2: Keighery (1994) vegetation condition scale for natural area assessment	10
Table 3: Target weed species list.....	11
Table 4: Survey limitations of the Anderson Road Reserve flora, vegetation and fauna survey	15
Table 5: Vegetation types within the study area	23
Table 6: Vegetation condition within the study area.....	24

Abbreviations

Abbreviation	Description
BAM Act	<i>Biosecurity and Agriculture Management Act 2007</i>
BoM	Bureau of Meteorology
DAFWA	Department of Agriculture and Food Western Australia
DBH	Diameter at Breast Height
DEC	Department of Environment Conservation
DER	Department of Environment Regulation
DotEE	Department of the Environment and Energy
DRF	Declared Rare Flora

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Abbreviation	Description
ELA	Eco Logical Australia
EP Act	<i>Environmental Protection Act 1986</i>
EPA	Environment Protection Authority
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
ESA	Environmentally Sensitive Area
FCT	Floristic Community Type
ha	Hectare
IBRA	Interim Biogeographical Regionalisation for Australia
IUCN	International Union for Conservation of Nature
km	Kilometre
LED	Light Emitting Diode
m	Metre
mm	Millimetre
Parks and Wildlife	Department of Parks and Wildlife
PEC	Priority Ecological Community
PMST	Protected Matters Search Tool
RNE	Register of the National Estate
SEWPaC	Department of Sustainability, Environment, Water, Population and Communities
SLIP	Shared Land Information Platform
SWA	State of Western Australia
TEC	Threatened Ecological Community
The Reserve	Anderson Road Reserve
The City	City of Kalamunda
WA	Western Australia
WAH	Western Australian Herbarium
WAM	Western Australian Museum
WC Act	<i>Wildlife Conservation Act 1950</i>
WoNS	Weed of National Significance

Executive summary

Eco Logical Australia was commissioned by the City of Kalamunda to undertake a flora, vegetation and fauna survey of Anderson Road Reserve to analyse the importance of the Reserve for a range of flora and fauna species, to assist in management and to achieve the best possible environmental outcomes.

A Level 2 flora and vegetation survey was undertaken over two phases during spring (26-27 October 2016) and autumn (4 April 2017). Vegetation communities were described through the establishment of six 10 m x 10 m quadrats. Target weed species and conservation listed flora were recorded and mapped through systematic traverses. A Level 1 fauna survey was conducted on the 26 October 2016 which included opportunistic searches, nocturnal searches, bird census, hand searches, and bat survey.

A total of 180 flora taxa were identified within the study area. This total included 114 native and 66 introduced (weed) taxa. No Threatened or Priority flora species were recorded. Of the weeds recorded, two are listed as Weeds of National Significance: *Opuntia stricta* and *Genista linifolia*. *O. stricta* is also listed as a Declared Pest under the *Biosecurity and Agriculture Management Act 2007*.

Three vegetation types were described within the study area comprising *Corymbia calophylla* open woodland, *Eucalyptus marginata* subsp. *marginata* woodland, and historical planting of *Eucalyptus wandoo* open woodland. The condition of the vegetation across the study area was mostly Very Good to Good condition, in areas of remnant vegetation, with smaller areas in Degraded and Completely Degraded condition. None of the vegetation types were considered to represent conservation listed ecological communities.

One broad fauna habitat type was mapped within the study area comprising mixed Eucalypt woodland. An ephemeral drainage line and sump was also identified as being important for many native fauna species. Black Cockatoo foraging and potential breeding/ night roosting habitat was recorded across the study area.

A total of 28 fauna species were opportunistically observed, or signs of their presence recorded, during the Level 1 fauna survey. This comprised 21 birds (15 native and six non-native), three mammals (one native and two introduced) and four reptiles. Two conservation listed fauna species were recorded: *Calyptrorhynchus banksii naso* (Forest Red-tailed Black Cockatoo; listed as Vulnerable) and *Isodon obesulus fusciventer* (Quenda; listed as Priority 4).

The study area, while containing high diversity and densities of weeds in some areas, still contains a diverse array of native flora and represents a significant area of remnant vegetation in an otherwise built up area in the Perth metropolitan region.

1 Introduction

1.1 Project background

Anderson Road Reserve (the Reserve) is a bushland reserve located in Forrestfield, within the City of Kalamunda (the City), approximately 18 kilometres (km) east of Perth, Western Australia (**Figure 1**). The City wishes to gain a better understanding of the range of flora and fauna species present within the Reserve, particularly Threatened Black Cockatoos, mammals and reptiles, to assist in management and to achieve the best possible environmental outcomes.

The Reserve provides visual amenity between Lewis Road, Anderson Road and the adjacent housing. The vegetation within the Reserve provides screening from existing infrastructure and allows the local community to connect with the environment in an otherwise built up area. The local community currently use the Reserve to access Forrestfield Schools, shops and bus routes.

The Reserve, to date, has undergone extensive work including weed control, dieback treatment, firebreak maintenance and revegetation, undertaken by the City's environmental team. Additional work, for example installation of nesting boxes, has been made possible by external funding, grants and initiatives such as the Green Army. There is a large community engagement within the Reserve, including a volunteer friends group, that undertake weed removal and assist with revegetation programs. There are Nature Awareness events, night stalks and bird watching, held within the Reserve.

Eco Logical Australia (ELA) was commissioned to undertake a two-phase Level 2 flora survey and a Level 1 fauna survey of the Reserve to identify the ecological values present within the Reserve, as well as to assess for the presence of Threatened or Priority flora, fauna and ecological communities.

1.2 Objectives

The objectives of the flora, vegetation and fauna survey were to:

- Document, describe and map the vegetation communities and Floristic Community Types (FCTs) present, including identification of Threatened Ecological Communities (TECs) and Priority Ecological Communities (PECs).
- Provide a full species inventory, including the establishment and mapping of any *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) listed, *Wildlife Conservation Act 1950* (WC Act) Threatened flora, Priority or other significant flora on site.
- Assess and map vegetation structure, cover and condition, per the Environment Protection Authority (EPA) and Department of Parks and Wildlife (Parks and Wildlife) Technical Guide – Flora and Vegetation Surveys for Environmental Impact Assessment (EPA and Parks and Wildlife 2015).
- Establish the extent of and map target introduced flora (weed) species.
- Establish the occurrence of native and introduced fauna species, including targeted searches for direct (vertebrate fauna seen or heard) or indirect (scats, tracks, burrows etc.) evidence of fauna.
- Describe and map native vertebrate fauna habitat, including a habitat assessment for Threatened Black Cockatoos.
- Make management recommendations to the City to achieve the best possible environmental outcomes.

1.3 Legislative framework

This survey was undertaken to meet requirements under the Western Australian (WA) *Environmental Protection Act 1986* (EP Act) and the EPBC Act. The survey was consistent with relevant WA EPA guidelines. Specifically, the survey was undertaken in accordance with the following:

- EPA and Parks and Wildlife Technical Guide – Flora and Vegetation Surveys for Environmental Impact Assessment (EPA and Parks and Wildlife 2015).
- No. 51 - Terrestrial Flora Surveys for Environmental Impact Assessment in Western Australia (EPA 2004a).
- EPA Guidance Statement No. 56 - Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia (EPA 2004b).
- EPA Guidance Statement EPA and Department of Environment and Conservation (DEC) Technical Guide – Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment (EPA and DEC 2010).
- EPA Position Statement No. 3 - Terrestrial Biological Surveys as an Element of Biodiversity Protection (EPA 2002).
- EPBC Act referral guidelines for three Threatened Black Cockatoo species (Department of Sustainability, Environment, Water, Population and Communities [SEWPaC] 2012).

Flora, Vegetation and Fauna Survey of Anderson Road Reserve



Figure 1: Study area location

2 Desktop assessment

2.1 Study area

Anderson Road Reserve is a small reserve located in Forrestfield, within the City of Kalamunda, approximately 18 km east of Perth, Western Australia. The Reserve is small, approximately 17 hectares (ha) in size and is an irregular shape. It comprises several land parcels along Anderson Road, and is bound by Anderson Road to the east, Lewis Road to the south, Moira Avenue to the west and housing to the north. The Reserve contains a diverse array of plants and animals, characteristic of the Forrestfield area (Shire of Kalamunda 2015).

2.2 Bioregion

The Interim Biogeographical Regionalisation for Australia (IBRA) Version 7 recognises 89 geographically distinct bioregions based on common climate, geology, landform, native vegetation and species information. The 89 bioregions are further refined into 419 subregions which are more localised and homogenous geomorphological units in each bioregion (Department of the Environment and Energy [DotEE] 2017a).

The study area is located on the eastern edge of the Swan Coastal Plain bioregion as defined by IBRA. The Swan Coastal Plain bioregion has been further subdivided into two subregions: Dandaragan Plateau (SWA1) and Perth (SWA2). The study area falls within the Perth subregion, which is described by Mitchell et al. (2002) as:

- Colluvial and Aeolian sands, alluvial river flats, coastal limestone. Heath and/or Tuart woodlands on limestone, Banksia and Jarrah-Banksia woodlands on Quaternary marine dunes of various ages, Marri on colluvial and alluvials. Includes a complex series of seasonal wetlands. Rainfall ranges between 600 and 1000 mm annually and the climate is Mediterranean.

2.3 Climate

The Perth subregion experiences a warm, Mediterranean climate with hot dry summers and mild wet winters (Mitchell et al. 2002). Based on climatic data from the Bureau of Meteorology (BoM) Maida Vale weather station (station number 9182, rainfall data 1961 – current; located approximately 2.5 km north of the study area), the area receives an annual average rainfall of 804.2 millimetres (mm), with most rainfall occurring during the months of June, July and August (156.7 mm, 159.6 mm and 127.5 mm respectively) (BoM 2017). Based on climatic data from the BoM Perth Airport weather station (station number 9021; temperature data 1991 – current; located approximately 9 km to the north of the study area), mean maximum air temperatures range from 32.0 °C in February to 17.9 °C in July, and mean minimum air temperatures range from 17.5 °C in February to 8.0 °C in July/August (BoM 2017).

2.4 Landform, geology and soils

The study area is situated on the Bassendean Dune system, which is Pleistocene Aeolian heavily leached sands falling from 40 to 80 metres (m) relief in the north of the plain to almost sea level in the south. The study area has extremely low to very low relief dunes with undulating sandplains and discrete sand with deep bleached grey sands sometimes with a pale yellow or a weak iron-organic hardpan at depths generally greater than 2 m (Government of Western Australia 2000).

2.5 Vegetation

Vegetation across the Perth metropolitan area has been described by Heddle et al. (1980) as vegetation complexes. The vegetation of the study area is mapped as the Forrestfield Complex. This vegetation complex is described as predominantly vegetation ranging from open forest of *Eucalyptus calophylla*, *E. wandoo* and *E. marginata* to open forest of *E. marginata*, *E. calophylla*, *Casuarina fraseriana* and *Banksia* spp. There is also fringing woodland of *E. rudis* in the gullies that dissect this landform (by Heddle et al. 1980).

Vegetation type and extent has been mapped at a regional scale by Beard (1975) who categorised vegetation into broad vegetation associations. Based on Beard's (1975) mapping at a scale of 1:1,000,000, Department of Agriculture and Food Western Australia (DAFWA 2017a) has compiled a list of the types and extent of vegetation associations across WA (Shepherd et al. 2002).

Two broad vegetation associations occur within the study area:

- Vegetation association 3: *Eucalyptus marginata* and *Corymbia calophylla* open forest; and
- Vegetation association 1009: *Corymbia calophylla* and *Eucalyptus rudis* woodland.

The extent of vegetation association 3 remaining within the Perth subregion is 16.70% of its pre-European extent, while the extent of vegetation association 1009 remaining within the Perth subregion is 16.35% of its pre-European extent (Government of Western Australia 2016).

2.6 Conservation areas and National Parks

The study area does not occur within any conservation area or National Park. Lesmurdie Falls National Park lies less than a kilometre east of the study area, which forms part of the greater Mundy Regional Park. Based on Beard's (1975) mapping at a scale of 1:1,000,000, Department of Agriculture and Food Western Australia (DAFWA 2017a) has compiled a list of the types and extent of vegetation associations across WA (Shepherd et al. 2002).

One broad vegetation association occur within Lesmurdie Falls National Park:

- Vegetation association 4: *Corymbia calophylla* and *Eucalyptus wandoo* open woodland.

This vegetation association differs to the association that is present within in the study area.

2.7 Environmentally Sensitive Areas

Environmentally Sensitive Areas (ESAs) are defined in the Environmental Protection (Environmentally Sensitive Areas) Notice 2005 under section 51B of the EP Act. ESAs include areas declared as World Heritage, areas included on the Register of the National Estate (RNE)¹, defined wetlands, vegetation containing rare (Threatened) flora, TECs and Bush Forever sites. The study area does not occur within any ESAs and there are no TECs identified as potentially occurring within the study area.

¹ Note the RNE was closed in 2007 and is no longer a statutory list. The RNE has been replaced by the National Heritage List under the EPBC Act.

2.8 Priority Ecological Communities

Priority Ecological Communities (PECs) are biological flora or fauna communities that are recognised to be of significance, but do not meet the criteria for a TEC. There are five categories of PECs, none of which are currently protected under legislation (see **Appendix A**).

One PEC occurs within the City of Kalamunda: 'Central Northern Darling Scarp Granite Shrubland Community' (Shire of Kalamunda 2012). This PEC is listed as Priority 4 by the Department of Parks and Wildlife and is described as:

'Shrublands and heath on deeper loams and red earths on fragmented granite/quartzite'. Heath species typically consist of the taller shrubs *Xanthorrhoea acanthostachya* and *Allocasuarina humilis* over smaller proteaceous and myrtaceous shrubs, namely *Melaleuca* aff. *scabra*, *Baeckea camphorosmae* and to a lesser extent, the proteaceous shrubs *Banksia armata*, *Hakea incrassata* and *Hakea undulata*. Located in central region of the Northern Darling Scarp near Perth' (Parks and Wildlife 2015).

The closest known occurrence of this PEC is located in Lesmurdie Falls National Park, approximately 600 metres (m) east of the study area. It is considered unlikely to occur because the dominant species commonly found in association with this PEC were not present within the study area.

3 Methodology

3.1 Desktop review

The following Commonwealth and State databases were searched for information relating to conservation listed ecological communities, flora and fauna in order to compile and summarise existing data to inform the field survey:

- Parks and Wildlife databases for Threatened Flora listed under the latest WA Wildlife Conservation (Rare Flora) Notice and Priority listed flora (Parks and Wildlife 2016a)
- Parks and Wildlife and Western Australian Museum (WAM) NatureMap online flora and fauna database (Parks and Wildlife 2016b)
- Commonwealth EPBC Act Protected Matters Search Tool (PMST) for Threatened species and communities listed under the EPBC Act (DotEE 2017b).

The following databases/information sources were also used to inform the survey and likelihood of occurrence of flora, vegetation and fauna species:

- The International Union for Conservation of Nature (IUCN) red list (IUCN 2017)
- Department of Environment Regulation (DER) ESA database (DER 2017)
- BirdLife Australia (BirdLife Australia 2017)
- Western Australian Organism List (DAFWA 2017b)
- Relevant Landgate databases (Shared Land Information Platform [SLIP] portal) for TECs and PECs (State of Western Australia [SWA] 2017).

Conservation codes, categories and criteria for flora and fauna protected under the EPBC Act and WC Act are provided in **Appendix A**. Results of the NatureMap and PMST database searches are presented in **Appendix B**.

3.1.1 Likelihood of occurrence assessment

Conservation listed flora and fauna species that possibly occur within the survey area were identified from a review of key datasets and literature as described above. An assessment of the likelihood of occurrence of conservation listed flora and fauna was made using existing species records from the database searches and the results of the site inspection.

The following criteria was used to assess likelihood of occurrence:

- Known to occur: Recorded from the study area, through database search results and/or from previous surveys of the study area (<20 years).
- Likely to occur: The study area is within the species current distribution and contains suitable habitat for the species, however;
 - The species utilises seasonal habitat or has a large home range, so is not always present/visible in the study area; and/or
 - Survey limitations identified.
- Potential to occur: The study area is within the species current distribution and contains habitat, however (at least two of below);
 - The study area is located on the edge of the species range or it has a patchy distribution; and/or
 - Survey limitations identified; and/or
 - Habitat is less suitable; and/or

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

- Species is cryptic, and/or difficult to record utilising traditional survey methods.
- Unlikely to occur: The study area is within the species current distribution and contains habitat, however; the study area was adequately surveyed (including for seasonal, migratory and cryptic species and fauna species with large home ranges) and did not record the species or; the habitat is modified and not likely to support the species and survey limitations identified.
- Does not occur: The study area is within the species current distribution, and was adequately surveyed (including for seasonal, migratory and cryptic species and fauna species with large home ranges) and did not record the species; or the study area does not contain suitable habitat and there is certainty that the species is not present in the study area.

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

3.2 Survey team and timing

The Level 2 flora and vegetation survey was undertaken over two phases by Katrina Zeelandelaar-Adams (Ecologist), Sarah Dalglish (Botanist) and Jeni Morris (Graduate Ecologist). The first phase was undertaken on 26-27 October 2016 (spring survey) and the second phase on 4 April 2017 (autumn survey). The Level 1 fauna survey was conducted by Nicki Thompson (Ecologist) on the 26 October 2016. The timing of the surveys was optimal for these types of assessment. The survey team's relevant qualifications, experience and licences are provided in **Table 1**.

A total of 354 mm of rainfall was recorded in the three months prior to the fauna survey and the first phase of the flora survey (July to September 2016; BoM 2017). This is below the long-term average for the same period (375.6 mm). A total of 155.5 mm of rainfall was recorded in the three months prior to the second phase of the flora survey (January to March 2017; BoM 2017). This is above the long-term average for the same period (54.6 mm). Despite these discrepancies, the timing was still considered suitable for both surveys.

Table 1: Survey team

Name	Qualification	Relevant experience	Licence numbers
Katrina Zeelandelaar-Adams	BSc (Hons) Conservation Biology and Management	Undertaken numerous flora and fauna surveys throughout WA, with experience in the Perth region.	Flora scientific collection Licence No. SL011844 DRF collection licence No. 11-1617
Sarah Dalglish	BSc (Hons) Environmental Management	Undertaken numerous flora surveys throughout WA, with experience in the Perth region.	Flora scientific collection licence No. SL011820 Declared Rare Flora (DRF) collection licence No. 12-1617
Jeni Morris	BSc Conservation and Wildlife Biology	Undertaken numerous flora, vegetation and weed surveys and fauna surveys on the Swan Coastal Plain.	Flora scientific collection Licence No. SL011818 DRF collection licence No. 10-1617
Nicki Thompson	BSc (Hons) Zoology	Extensive fauna surveys within the Jarrah Forrest and most WA bioregions. Includes target surveys for relevant conservation listed species, baseline and Level 2 surveys.	N/A for Level 1 fauna survey

3.2.1 Level 2 flora and vegetation survey

The Level 2 flora survey was conducted in accordance with EPA and Parks and Wildlife Technical Guide – Flora and Vegetation Surveys for Environmental Impact Assessment (EPA and Parks and Wildlife 2015) and EPA Guidance Statement 51: Terrestrial Flora and vegetation Surveys for Environmental Impact Assessment in Western Australia (EPA 2004a).

 Flora, Vegetation and Fauna Survey of Anderson Road Reserve

The number of quadrats established to describe vegetation communities was informed using aerial imagery and previous background survey reports. Dominant vegetation communities were described, including with respect to dominant species, structure and overall condition. The survey involved the use of 10 m x 10 m quadrats, relevés to supplement the data obtained from the quadrats, and opportunistic sampling of species not recorded within the quadrats to inform a species inventory of the study area. EPA and Parks and Wildlife Technical Guide states a minimum of three quadrats per vegetation type are required to be established (EPA and Parks and Wildlife 2015).

Six quadrats and one relevé were installed across the study area (**Figure 2**). Stainless steel fence droppers were used to permanently mark the north-west corner of each quadrat to repeat sampling in phase two of the flora survey. Photos were taken of each quadrat, from the north-west corner showing the marker and quadrat tape. All quadrats and their positions were recorded via an Android tablet.

The following data was recorded as part of the flora and vegetation survey:

- Vegetation structure classes, cover of all species observed in quadrats and dominant species lists for each vegetation type in accordance with Keighery (1994)
- Full species inventory (angiosperm and gymnosperm) of both native and introduced species across the study area
- Vegetation condition was assessed using the Keighery (1994) vegetation condition scale for natural assessment (**Table 2**)
- Other observational data such as landform, soils, time since fire, etc.

Table 2: Keighery (1994) vegetation condition scale for natural area assessment

Condition Rating	Explanation
Pristine	Pristine or nearly so, no obvious signs of disturbance.
Excellent	Vegetation structure intact; disturbance affecting individual species; weeds are non-aggressive species.
Very Good	Vegetation structure altered; obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires; the presence of some more aggressive weeds; dieback; logging; grazing
Good	Vegetation structure significantly altered by obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires; the presence of some very aggressive weeds at high density; partial clearing; dieback; grazing.
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires; the presence of very aggressive weeds; partial clearing; dieback; grazing.
Completely Degraded	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

A targeted survey was completed within the study area for conservation listed flora, communities and weeds including:

- Threatened flora listed under the EPBC Act
- Threatened (Declared Rare) Flora listed under the latest WA Wildlife Conservation (Rare Flora) Notice
- Priority flora recognised by Parks and Wildlife
- Introduced flora (weeds) flora, including Declared Pest plants under the WA Biosecurity and Agriculture Management Act 2007 (BAM Act; Department of Agriculture and Food Western Australia [DAFWA] 2017b) and Weeds of National Significance (WoNS), and weeds of interest to the City (**Table 3**).

Table 3: Target weed species list

Scientific name	Common name	Status
* <i>Acacia dealbata</i>	Silver Wattle	
* <i>Acacia iteaphylla</i>	Flinders Range Wattle	
* <i>Acacia longifolia</i>	Sydney Golden Wattle	
* <i>Acacia podalyriifolia</i>	Queensland Silver Wattle	
* <i>Arundo donax</i>	False Bamboo	
* <i>Asparagus asparagoides</i>	Bridal Creeper	Declared Pest, WoNS
* <i>Cenchrus clandestinus</i>	Kikuyu Grass	
* <i>Chamaecytisus palmensis</i>	Tagasaste	
* <i>Chamelaucium uncinatum</i>	Geraldton Wax	
* <i>Cynodon dactylon</i>	Couch	
* <i>Ehrharta calycina</i>	Perennial Veldt Grass	
* <i>Eragrostis curvula</i>	African Love Grass	
* <i>Freesia alba x leichtlinii</i>	Freesia	
* <i>Genista linifolia</i>	Flaxleaf Broom	WoNS
* <i>Gladiolus caryophyllaceus</i>	Wild Gladiolus	
* <i>Gomphocarpus fruticosus</i>	Narrow Leaf Cotton Bush	Declared Pest
* <i>Leptospermum laevigatum</i>	Victorian Tea Tree	
* <i>Lupinus angustifolius</i>	Narrowleaf Lupin	
* <i>Lupinus cosentinii</i>	Blue Lupin	
* <i>Opuntia stricta</i>	Common Prickly Pear	Declared Pest, WoNS
* <i>Tribolium uniolae</i>	Tribolium	
* <i>Watsonia meriana</i>	Watsonia	

The survey methodology involved personnel walking meandering transects across the study area as well as outside the study area boundary if required. The location of ELA transects and survey effort are shown in **Figure 2**.

In addition to point locations, the following data were collected for any conservation listed species identified in the study area:

- Number of individuals and/or percent cover (recording a range of coordinates if necessary)
- Estimates were made for groups of individuals within a 20 m radius and for large populations to record a significant area polygon
- Reproductive phase (flowering, fruiting, etc.)
- Description of dominant vegetation unit in which the species is located
- Associated dominant species
- Photograph of the plant *in situ*.

The targeted weed survey was undertaken in conjunction with the conservation listed flora and communities survey. Focus was given to the boundaries of the study area, along tracks and other areas of increased disturbance. When encountered, mapping of weeds was undertaken using 'point' or 'density' mapping, or a combination of both. Where density mapping was used, four density categories were used: <5%, 6–30%, 31–60% and >61% cover for each species.

Except where specifically noted, the field survey was undertaken using an Android Nexus 7 tablet operating the ArcGIS Collector app. These units can have errors of 3-20 m (subject to availability of satellites on the day) with an average of 5 m.

3.2.2 FCT analysis

Species lists for each quadrat were entered into the statistical analysis package Primer (version 6.1.11). The complete dataset of Gibson et al. (1994) was entered into Primer and merged with the ELA dataset to allow comparison of all ELA quadrats against all FCT quadrats of Gibson et al. (1994). The taxonomy of each species was aligned with that used by Gibson et al. (1994) to permit direct comparison between datasets. All data were analysed using presence/absence of each species within each quadrat.

The merged dataset was analysed using hierarchical cluster analysis (Everitt 1980). The Primer routine uses hierarchical agglomerative clustering, which takes a similarity matrix and successively fuses the samples into groups and the groups into larger clusters, starting with the highest mutual similarities then gradually lowering the similarity level at which groups are formed (Clarke and Warwick 2001). The hierarchical clustering is represented by the x-axis representing the full set of samples (in this case, the quadrats sampled by ELA and Gibson et al. [1994] and the y-axis defining a similarity level at which two samples or groups are considered to have fused). The purpose of this analysis was to determine whether the quadrats sampled in the study area were similar in species composition to any of those quadrats sampled by Gibson et al. (1994) and therefore similar to a FCT assigned by Gibson et al. (1994). Hierarchical clustering was performed on similarity matrices computed using the Bray-Curtis coefficient and using the 'group average' cluster mode (Clarke and Warwick 2001).

3.2.3 Specimen identification and nomenclature

Nomenclature used for the flora species within this report follows the WA Plant Census as available on FloraBase (Western Australian Herbarium [WAH]1998-2017). Voucher specimens were collected in the field of all actual or potential conservation listed flora species. Collections were made of other species, if required, that commonly occurred in the habitat of the conservation listed species to enable correct identification. All collections were assigned a unique collecting number.

Specimen identification was undertaken by ELA Senior Botanist Joel Collins and ELA Botanist Sarah Dalglish. Species identification utilised taxonomic literature and keys with all specimens confirmed using the WAH reference collection.

3.3 Level 1 Fauna survey

The survey design was aligned with methodology outlined in EPA Guidance Statement No. 56: Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia (EPA 2004b), the principles outlined in EPA Position Statement No. 3: Terrestrial Biological Surveys as an Element of Biodiversity Protection (EPA 2002), and the Technical Guide – Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment (EPA and DEC 2010).

3.3.1 Fauna habitat assessment

An assessment of fauna habitat in terms of its ability to support and sustain populations of fauna, along with an assessment of the likelihood of occurrence of conservation listed fauna species was undertaken during the survey. The habitat characteristic and fauna database records used in assessing likelihood of occurrence for fauna included:

- Vegetation type, structure and condition
- Soil and landform type
- Extent and connectivity of bushland
- Fauna species habitat preferences
- Proximity of conservation listed fauna records
- Signs of species presence.

The habitat assessment included assessing habitat for its potential to support conservation listed species, such as Western Quoll (*Dasyurus geoffroii*) or Quenda (*Isodon obesulus fusciventer*). This included searches for diggings and evidence of feeding, and nocturnal searches for activity.

Black Cockatoo habitat assessment

An assessment of Black Cockatoo habitat was undertaken in accordance with the EPBC Act referral guidelines (SEWPaC 2012). This involved assessing all tree species known to support breeding for their diameter at breast height (DBH) and their potential to support hollows. Trees with a DBH over 50 cm are defined as suitable for breeding (SEWPaC 2012).

Prior to the survey, aerial imagery was studied to determine the vegetation communities present within the study area and their potential for providing foraging habitat for Black Cockatoos. These values were then ground-truthed during the survey to determine the extent of potential foraging habitat within the study area. This was undertaken in conjunction with the vegetation mapping methodology described in **Section 3.2.1**.

Observations were made of Black Cockatoo foraging activity based on feeding residue such as chewed *Banksia* and eucalypt nuts, and any Black Cockatoo individuals observed foraging within the study area. In addition, the study area was assessed for any Black Cockatoo night roosting or breeding behaviour during the nocturnal/twilight survey.

3.3.2 Sampling methods

The survey was undertaken using a variety of sampling techniques, both systematic and opportunistic. Systematic sampling refers to data methodically collected over a fixed time in a discrete habitat type or location, using an equal or standardised sampling effort across multiple sample locations. This approach provides a range of detection methods that cover the full suite of vertebrate fauna assemblages. Opportunistic sampling includes data collected non-systematically from both fixed sampling sites and as opportunistic records from chance encounters with fauna. This method generally accounts for the majority of bird species and a significant proportion of other fauna groups recorded.

Direct observation and opportunistic sightings

Direct observations over one day and evening were made. These included visual sightings of active fauna such as reptiles and birds; records of bird calls; and signs of species presence such as tracks, diggings, burrows, scats and any other signs of fauna activity. Searches were also conducted beneath leaf litter, logs and other suitable shelter sites and microhabitats.

Motion camera traps

Motion camera traps were deployed to detect species such as Quenda or introduced predators. Two traps were set over one night. Camera trap locations are shown in **Figure 2**.

Nocturnal/twilight searching

Nocturnal and twilight searching was conducted using Light Emitting Diode (LED) head torches to detect active crepuscular (dusk active) and nocturnal fauna by eye-shine. This method targets crepuscular and nocturnal mammals, owls, frogs and geckos. Searching was conducted by traversing walk tracks whilst spotlighting into adjacent bushland within the study area. The nocturnal and twilight survey occurred over a period of approximately two hours by two ecologists, from 18:30 to 20:30 hours on 26 October 2016.

Bat survey

Sampling for microchiropteran bats was undertaken during the twilight and nocturnal periods on 26 October 2016. A bat detector was deployed to record ultrasonic bat calls, an Anabat SD2®, held in the hand while traversing during nocturnal searches. This detector was operating for approximately two hours, from 18:30 to 20:30 hours. Specialised software was used to visualise ultrasonic bat echolocation calls recorded on the bat detector into a corresponding graphical representation for analysis. Most bats species have a unique call which appears as a 'fingerprint' graph output. Bat calls were analysed by comparing recorded calls with reference calls by Alicia Scanlon, an ELA ecologist specialising in bat survey and identification.

3.3.3 Taxonomy and nomenclature

Nomenclature used for the vertebrate fauna species within this report follows the WAM Checklist of the Vertebrates of Western Australia (WAM 2017). Where common names were not stated for certain species, the following references were consulted:

- Amphibians and reptiles: Bush et al. (2010);
- Reptiles: Wilson and Swan (2013);
- Birds: Simpson and Day (2010); and
- Mammals: Menkhorst and Knight (2011).

3.4 Survey limitations

EPA Guidance Statement 51 (EPA 2004a) and EPA Guidance Statement No. 56 (EPA 2004b) recommend including discussion of the constraints and limitations of the survey methods used. Constraints and limitations for the Level 2 flora and vegetation, and Level 1 fauna survey for the study area are summarised in **Table 4**.

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Table 4: Survey limitations of the Anderson Road Reserve flora, vegetation and fauna survey

Factor	Limitations
Sources of information	The Perth subregion has been relatively well surveyed. Numerous flora and fauna surveys have been undertaken in the wider area. Database searches provide adequate information about Threatened and Priority flora and fauna, TECs and PECs.
Scope of works	The scope of works provided adequate detail to achieve the survey objectives.
Completeness of survey	The survey requirements of a Level 2 flora and Level 1 fauna survey including Black Cockatoo assessment were adequately met. Transect sampling was undertaken to effectively search for Threatened and Priority flora, and flora quadrats were established to identify vegetation communities. Habitat assessment was conducted to effectively determine likelihood of occurrence of the relevant conservation listed flora and fauna species.
Intensity of survey	The survey effort was satisfactory for a Level 2 flora, Level 1 fauna and targeted flora survey, and considering the size and location of the study area as per EPA Guidance Statement No. 51 and SEWPaC (2012).
Timing, weather, season, cycle	Phase 1 of the flora survey was undertaken during spring when flora species are flowering and more easily detectable. The timing of the survey was appropriate for a targeted flora survey and in accordance with EPA and Parks and Wildlife Technical Guide and EPA Guidance Statement 51.
Disturbances	There were moderate indications of disturbances within the study area, including human activity and weeds.
Resources	The team members that completed the surveys are suitably qualified in their respective fields to identify specimens, assess habitat, and detect species.
Accessibility	All relevant areas in the study area were easily accessed and surveyed on foot.



Figure 2: Survey sampling locations

4 Results

4.1 Flora of the study area

A total of 180 flora taxa were identified within the study area (**Appendix E**). This included 114 native and 66 introduced taxa. The taxa comprised 49 families and 124 genera. The most commonly occurring families were Fabaceae (29 taxa), Myrtaceae (24 taxa) and Proteaceae (19 taxa). *Acacia* (Fabaceae) was the most common genus with 9 taxa recorded in the study area.

The mean native species richness for quadrats sampled was 25.3 species per quadrat (range: 8 – 45 species per quadrat). A flora species matrix is provided in **Appendix F** and floristic quadrat data is provided in **Appendix H**.

4.1.1 Conservation listed flora

A total of 60 conservation listed flora species that possibly occur within the study area were identified from the database searches, based on records of occurrence within a 3 km radius (Parks and Wildlife 2007-2017; Parks and Wildlife 2016; DotEE 2017b). However, no Threatened or Priority listed flora was recorded during the two-phase survey. Additionally, no conservation listed flora has previously been recorded within the study area, and as such, none are considered likely to occur (**Appendix C**).

4.1.2 Introduced flora

Introduced (weed) species represented approximately 37% of the total species recorded, with a total of 66 taxa recorded. This number of weed species is typical for remnant vegetation in Perth and the surrounding metropolitan areas, with many of the species recorded in disturbed areas such as along the edge of tracks, edges of remnant vegetation and in cleared/parkland areas. A full list of weed species recorded from the study area is included in **Appendix G**.

Two weed species recorded during the field survey are listed as WoNS: **Opuntia stricta* and **Genista linifolia*. **O. stricta* is also listed as a Declared Pest under the BAM Act (DAFWA 2017b). **O. stricta* was recorded from two locations along the south-western border of the study area, and **G. linifolia* was recorded from two locations in the north of the study area (**Figure 3**).

Weed mapping of the remaining target weed species (as listed in **Table 3**) has been separated into the following:

- Bulbous weeds (**Figure 4**)
- Woody weeds (**Figure 5**)
- Grass weeds (**Figure 6**)
- Other weeds (**Figure 7**).



Figure 3: Weeds of National Significance

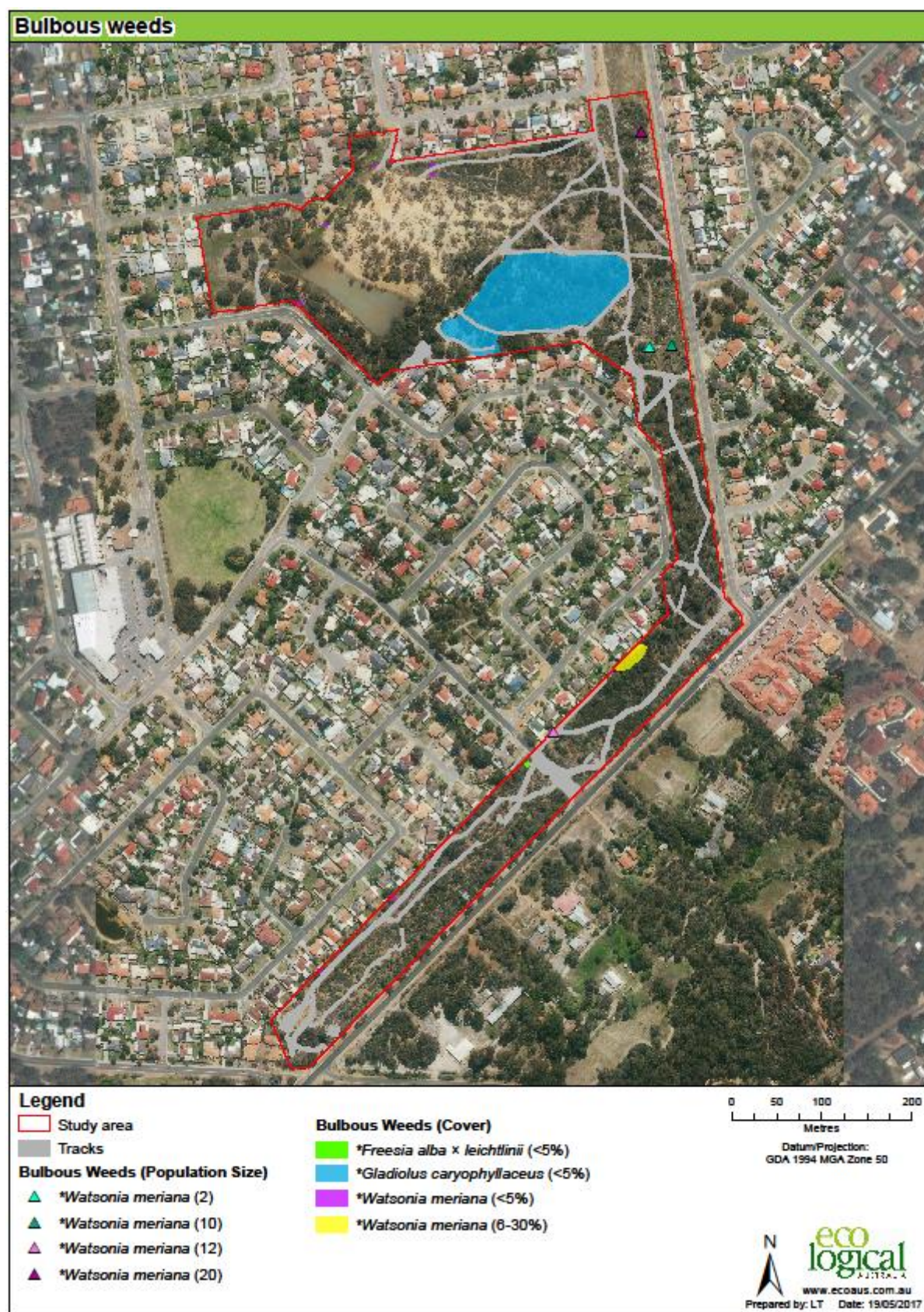


Figure 4: Bulbous weeds

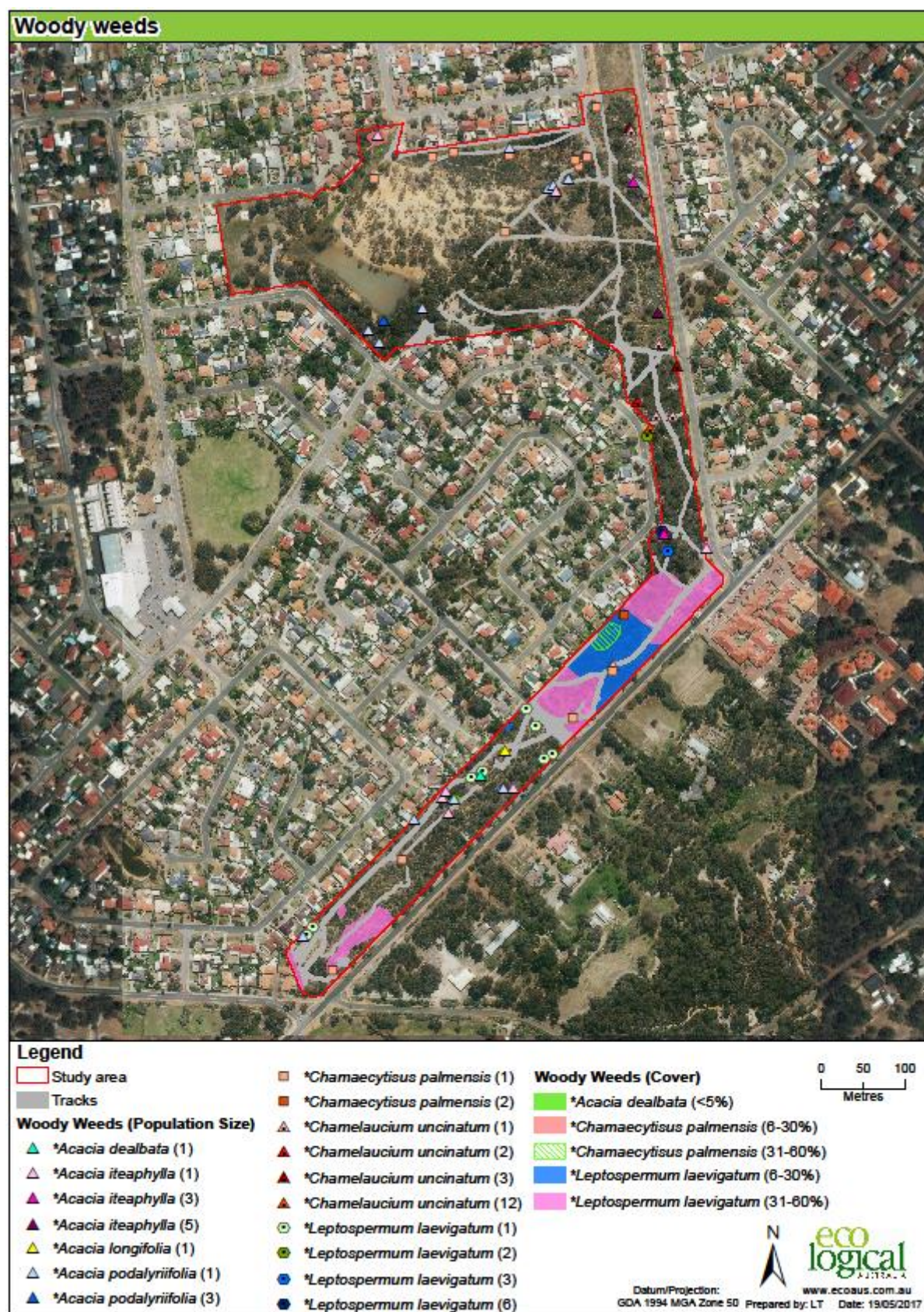


Figure 5: Woody weeds

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

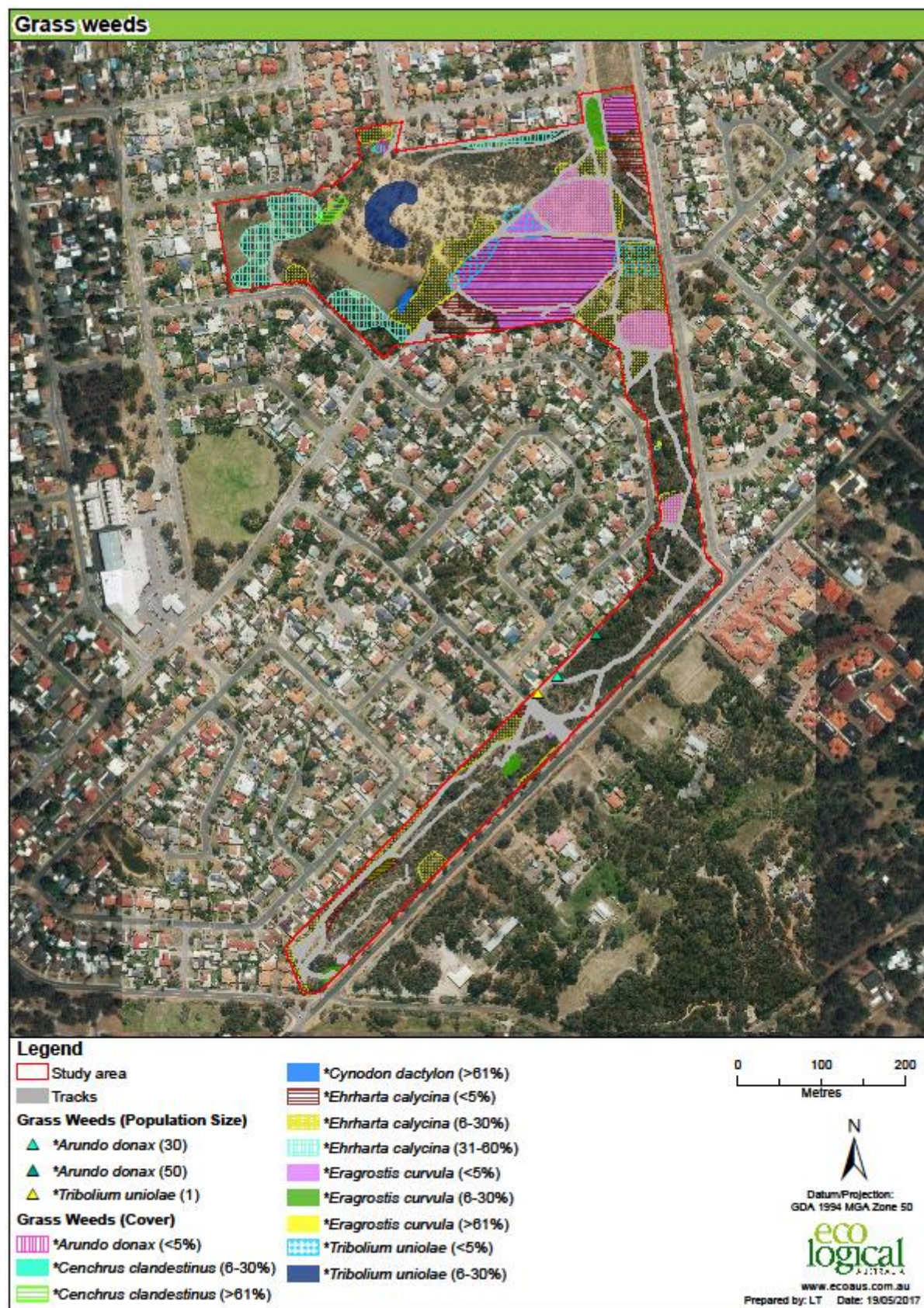


Figure 6: Grass weeds



Figure 7: Other weeds

4.2 Vegetation of the study area

4.2.1 Vegetation types

Three vegetation types were mapped in the study area (**Table 5** and **Figure 8**). Vegetation type CcOW was present throughout the southern narrow strip and a small patch in the north of the study area. Vegetation type EmW was the dominant vegetation type in the northern half of the study area, including areas of parkland that have been predominantly cleared. Vegetation type EwOW was present in one patch in the north of the study area and appeared to be historically cleared and planted with *Eucalyptus wandoo*. Recently revegetated areas were not assigned vegetation types, however, species from the Forrestfield Vegetation complex were used for revegetation.

Table 5: Vegetation types within the study area

Vegetation type	Description	ELA quadrats	Condition	Extent within study area (ha)	Portion of study area (%)
CcOW	<i>Corymbia calophylla</i> open woodland over <i>Hakea trifurcata</i> open shrubland over <i>Neurachne alopecuroidea</i> , <i>Opercularia vaginata</i> , * <i>Freesia alba</i> x <i>leichtlinii</i> isolated forbs.	ELA_01 ELA_05 ELA_06	Very Good - Degraded	5.07	29.82
EmW	<i>Eucalyptus marginata</i> subsp. <i>marginata</i> woodland over <i>Xanthorrhoea preissii</i> , <i>Allocasuarina humilis</i> and <i>Melaleuca aspalathoides</i> sparse shrubland over * <i>Briza maxima</i> and * <i>Ehrharta calycina</i> isolated grasses.	ELA_02 ELA_03 ELA_04	Very Good - Completely Degraded	6.74	39.66
EwOW	<i>Eucalyptus wandoo</i> open woodland over * <i>Briza maxima</i> and * <i>Ehrharta calycina</i> isolated grasses (historical planting).	-	Completely Degraded	2.08	12.24
Other	Tracks, revegetation, ephemeral drainage	-	-	3.11	18.29
Total				17.0	100.0

4.2.2 Conservation listed ecological communities

The vegetation communities of the study area do not represent the 'Banksia Woodlands of the Swan Coastal Plain' TEC based on the absence of key diagnostic species *Banksia attenuata* and *B. menziesii*, either as dominants or sub-dominants (DotEE 2016).

No other TECs or PECs are considered to be represented by the vegetation of the study area.

4.2.3 Vegetation condition

Vegetation condition in the study area ranged from Very Good to Completely Degraded based on the Keighery (1994) scale (**Table 6** and **Figure 9**). The majority of remnant vegetation was in Very Good and Good condition. The study area contained high numbers and densities of weeds, and several areas

 Flora, Vegetation and Fauna Survey of Anderson Road Reserve

showed obvious signs of edge effects, which is reflected in lower vegetation condition ratings along tracks and roads (**Figure 9**). Other disturbances observed across the study area affecting condition included rubbish and garden waste dumping, historical clearing and revegetation using non-native species.

Other areas such as tracks, revegetation and drainage were not considered in the assessment of vegetation condition. Two areas previously revegetated to the south of the study area were very sparse and lacking in good cover of native plants; however, weed loads in these areas were low (**Figure 9**). The revegetation to the north of the study area appeared to be older and plants were much more mature in this area, consequently vegetation cover was better.

Table 6: Vegetation condition within the study area

Vegetation condition	Total area (ha)	Portion of study area (%)
Pristine	0.0	0.0
Excellent	0.0	0.0
Very Good	4.82	28.34
Good	4.20	24.72
Degraded	2.06	12.15
Completely Degraded	2.81	16.52
Tracks/paths	2.00	11.76
Other (Drainage, revegetation)	1.11	6.52
Total	17.0	100.0

4.2.4 FCT analysis

Results of the cluster analysis indicated that the ELA quadrats established in the study area clustered together into two separate groupings with various similarities to each other. The first group contained ELA_05 and ELA_01, the most similar at 41%, and ELA_06 joined at 29%, however, they joined a much larger group of Gibson et al. (1994) quadrats at a very low similarity which did not allow a determination of the likely FCT to be made at an appropriate confidence level.

The second group contained ELA_02 and ELA_04 the most similar at 47% and ELA_03 joined at 35%. These ELA quadrats joined two Gibson et al. (1994) quadrats; Card11 and Card4 at 26% similarity, which is classed as FCT 6 'Weed dominated wetlands on heavy soils' (Gibson et al. 1994). The low similarity (26%) is not considered an appropriate confidence level and thus FCT 6 is not considered to occur in the study area.

The reason for these low similarities is most likely due to the fact that Gibson et al. (1994) did not establish any quadrats on the far eastern side of the Swan Coastal Plain where the foothills vegetation grades into the Swan Coastal Plain vegetation, where the study area is located. The absence of any Gibson et al. (1994) quadrats to compare in the statistical analysis resulted in an inconclusive result. As such, the vegetation communities of the study area have not been assigned FCTs.

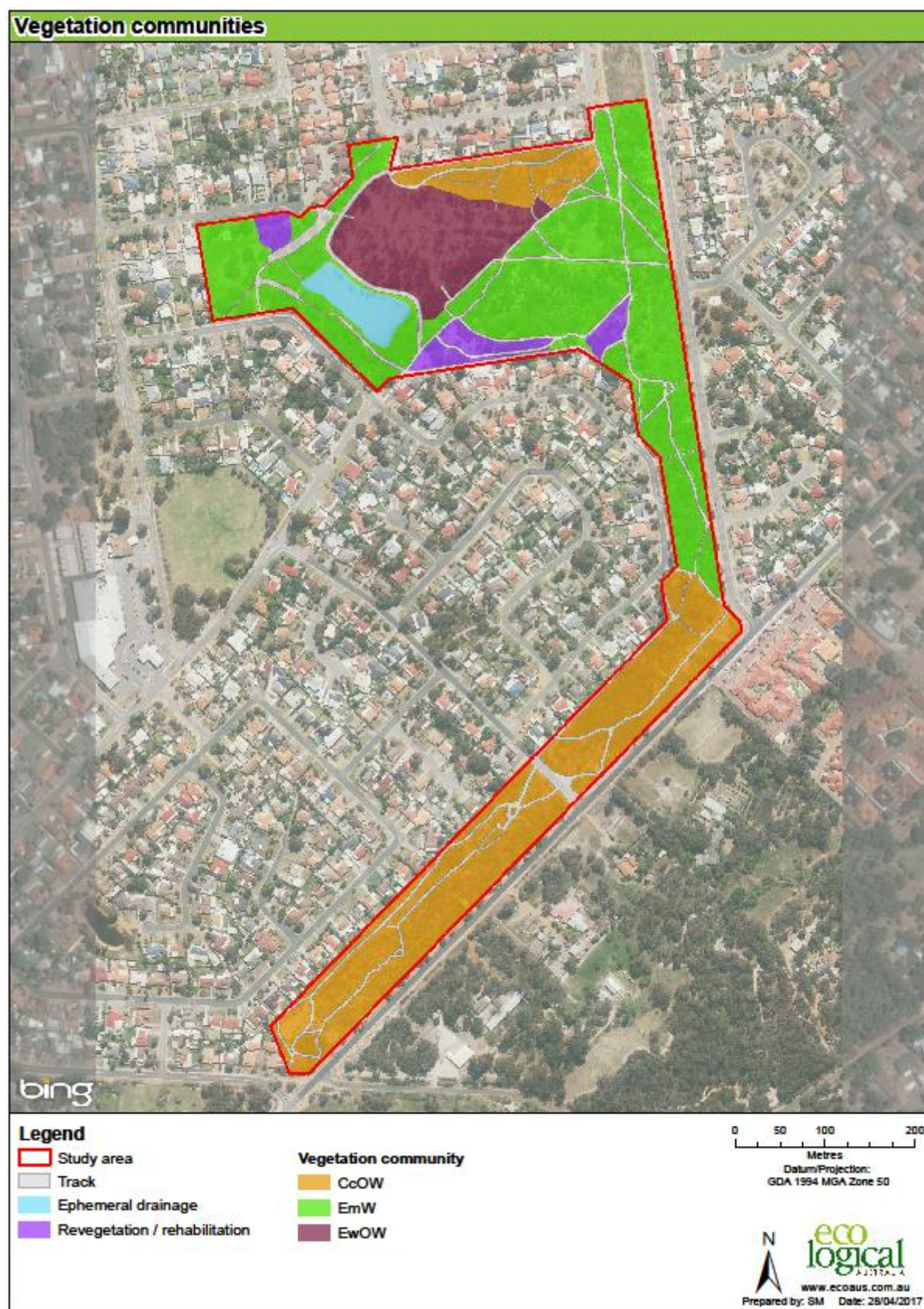


Figure 8: Vegetation types within the study area

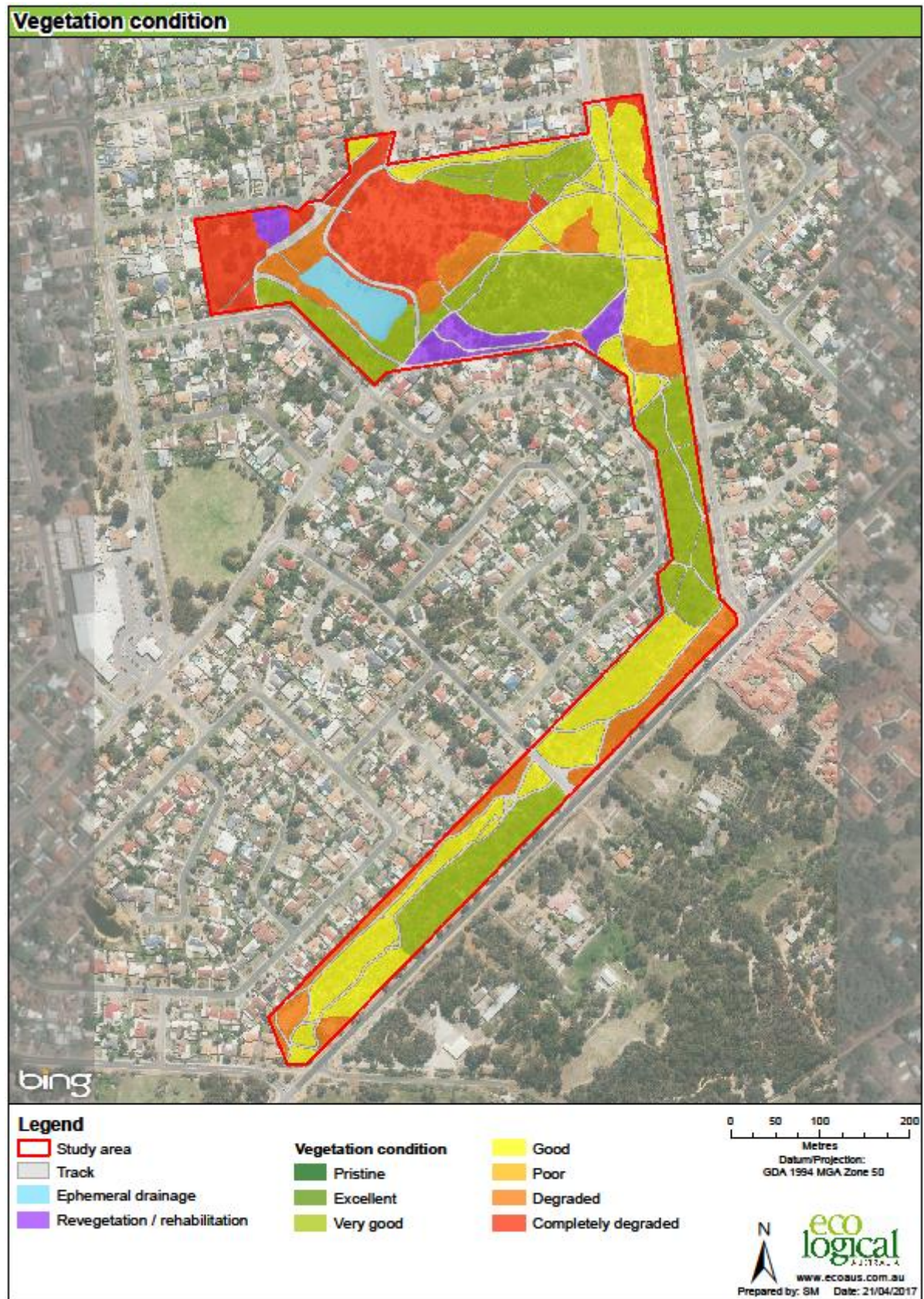


Figure 9: Vegetation condition within the study area

4.3 Fauna of the study area

4.3.1 Fauna habitats

The vegetation types identified in the study area can be classed as one broad fauna habitat type: mixed Eucalypt woodland. The Eucalypt woodland habitat provides foraging and nesting habitat for a range of shrubland birds, including honeyeaters, wrens and other insectivorous birds; a range of terrestrial and fossorial reptiles, such as skinks, snakes and geckos; and for small mammals such as Quenda. Large *Eucalyptus marginata* (Jarrah) and *Corymbia calophylla* (Marri) trees provide nesting and roosting habitat for a range of larger birds, including Black Cockatoos.

The ephemeral drainage line leading into an artificial drainage sump also provides habitat for fauna when water is present. This provides suitable habitat for a number of common frog species, as well as providing an ephemeral water source for a wide range of fauna.

4.3.2 Black Cockatoo habitat assessment

The study area provides good foraging habitat for Black Cockatoos, such as *Banksia sessilis*, Jarrah, and Marri, which were present across most of the study area. Other species such as *Callistemon* and other eucalypts also provide potential foraging habitat.

Sixty-nine mature or dead Jarrah, Marri and *Eucalyptus wandoo* (Wandoo) trees, with DBH over 50 cm, were recorded throughout the study area (**Figure 12**). These trees provide potential breeding habitat for Black Cockatoos (SEWPaC 2012). Five of these trees had visible hollows; however, it is likely that additional trees within the study area would contain hollows that were not visible from the ground. The 69 potential breeding trees also provide suitable night roosting habitat for Black Cockatoos, as would other tall trees present throughout the study area.

4.3.3 Fauna assemblages

A total of 28 fauna species were opportunistically observed, or signs of their presence recorded, during the Level 1 fauna survey. This comprised 21 birds (15 native and six non-native), three mammals (one native and two introduced) and four reptiles (**Appendix I**).

4.3.4 Conservation listed fauna

A total of 22 conservation listed fauna species that possibly occur within the study area were identified from the database searches, based on records of occurrence within a 3 km radius (Parks and Wildlife 2007-2017; Parks and Wildlife 2016; DotEE 2017b). Of these 22, two were recorded, or signs of their presence recorded, within the study area:

- Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii naso*) – listed as Vulnerable under the EPBC and WC Acts.
- Quenda (*Isodon obesulus fusciventer*) – listed as Priority 4 by DPaW.

Forest Red-tailed Black Cockatoos were heard calling in the study area during the spring field survey (**Figure 13**). In addition, evidence of Black Cockatoo foraging activity on Marri nuts was recorded in the north of the study area (**Figure 10** and **Appendix K**). It is possible that Carnaby's Cockatoo (*Calyptorhynchus latirostris*) and Baudin's Cockatoo (*C. baudinii*) would also occur in the study area based on the presence of suitable foraging, breeding and night roosting habitat (**Figure 12**). No Black Cockatoo breeding or night roosting activity was observed during the fauna survey. Environmental staff have sighted white tailed cockatoos foraging in the reserve, however these have not been identified as being either Carnaby's Cockatoo or Baudin's Cockatoo (City of Kalamunda pers comm., 26 September 2017).

Numerous Quenda diggings were observed in the north-eastern section of the study area in remnant vegetation (**Figure 11**, **Figure 13** and **Appendix K**). Majority of diggings were observed in vegetation considered to be in Very Good condition, however a few diggings were also observed in lesser quality vegetation (refer to **Figure 9** for vegetation condition). These areas still retained good coverage in the under storey, which is likely why Quenda are able to persist in the area. The presence of the ephemeral drainage in the north may also provide a water source for Quenda. Motion cameras were set up over one night during the spring survey in areas where Quenda diggings were observed, however no Quenda were recorded via motion camera.

Five additional conservation listed fauna species were considered to have the potential to occur, despite not being recorded, due to their seasonal movement patterns or their wide-ranging occurrence:

- *Apus pacificus* (Fork-tailed Swift)
- *Calyptorhynchus baudinii* (Baudin's Cockatoo)
- *Calyptorhynchus latirostris* (Carnaby's Cockatoo)
- *Dasyurus geoffroii* (Chuditch)
- *Merops ornatus* (Rainbow Bee-eater).

Environmental staff have sighted Rainbow Bee-eaters in the areas and it is known to burrow and breed in Hartfield Park in the sandy soils, adjacent to the study area. It is considered to potentially be present within the reserve. The remaining conservation listed fauna species were considered unlikely to occur either due to lack of habitat or erroneous records (**Appendix D**).



Figure 10: Marri nuts chewed by Forest Red-tailed Black Cockatoos in the study area



Figure 11: Example of Quenda digging observed in the study area

4.3.5 Introduced fauna

Five pest birds, one introduced bird and two introduced mammals were observed in the study area (**Appendix I**):

- Domestic Cat
- Domestic Pigeon
- European Rabbit
- Galah
- Laughing Dove
- Laughing Kookaburra
- Little Corella
- Rainbow Lorikeet

While pest birds are native to Australia, they are not native to the Perth area, and consequently create problems for native wildlife. This includes competition for nest hollows and food, predation, and the introduction and spread of disease. European Rabbits cause land degradation and competition for food, and Domestic Cats prey on numerous native fauna species.

In addition, several dog walkers were observed throughout the study area. Feral Bees (**Apis mellifera*) were also recorded in nest boxes in the north of the study area (**Figure 14**).

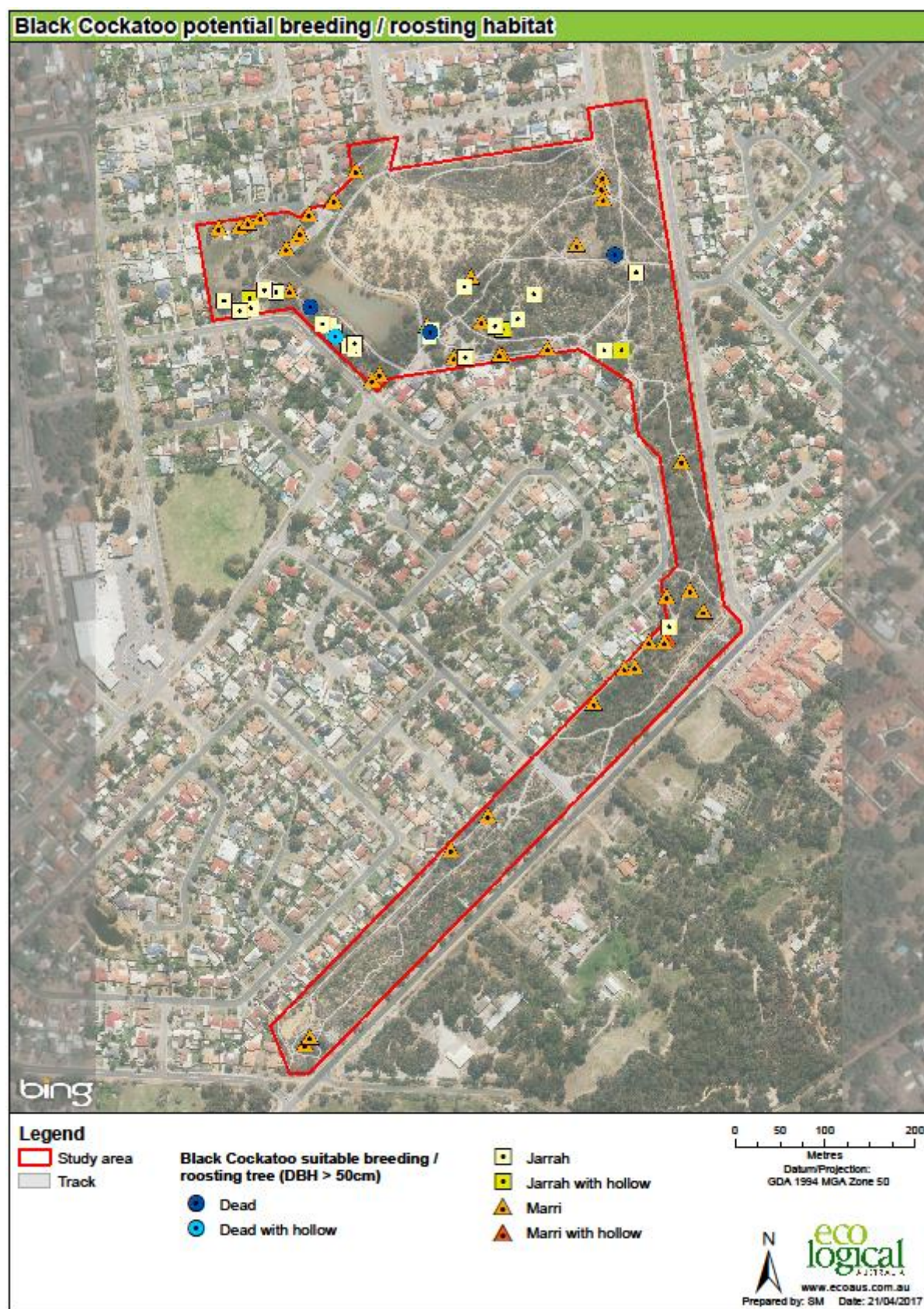


Figure 12: Black cockatoo potential breeding / night roosting habitat



Figure 13: Conservation listed fauna recorded during the survey

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

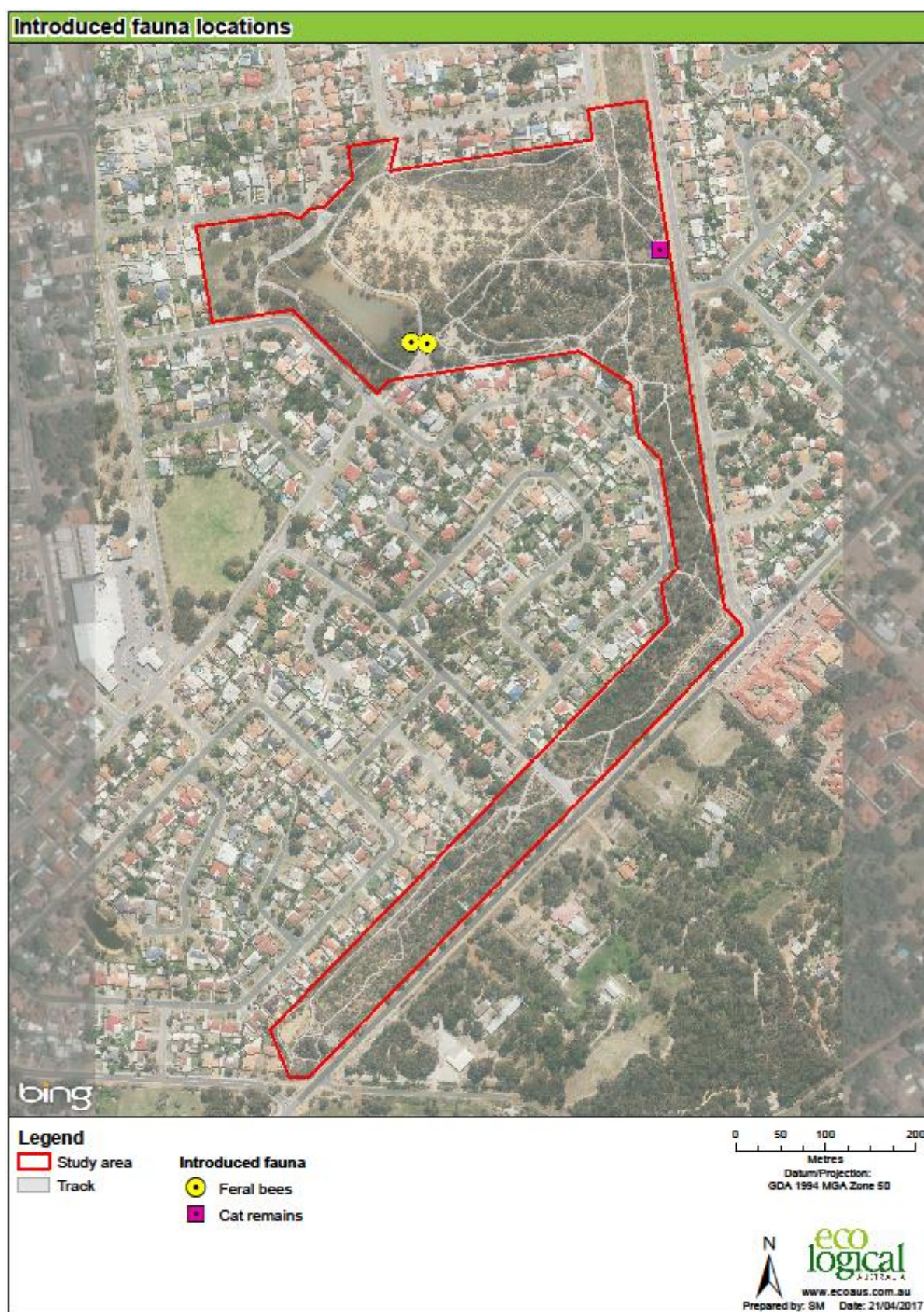


Figure 14: Introduced fauna recorded during the survey

5 Conclusions and recommendations

5.1 Flora and vegetation

The study area is comprised of three vegetation types, all of which are broadly defined as eucalypt woodlands characterised by the dominant species of eucalypt in each (i.e. Marri, Jarrah and Wandoo). Boundaries between vegetation types are generally discontinuous, with interfaces representing an admixture of multiple vegetation types. However, in some cases the boundaries are more discrete due to a change in soil profile or disturbance (e.g. tracks, firebreaks, clearing etc.). None of these vegetation types represents a conservation significant ecological community which is supported by the FCT analysis undertaken from quadrat data recorded in the study area.

A total of 180 flora taxa were identified within the study area; 114 of which are native. The study area contains a high proportion of weeds, with 66 species (i.e. 37% of the total species recorded) documented during the survey. This level of weed infestation is a significant contributing factor to vegetation condition within the study area which ranged from Very Good to Completely Degraded. Weeds are present throughout the study area; however higher concentrations occur adjacent to cleared areas and in areas which have been subject to disturbance. Two weed species recorded during the field survey are listed as WoNS: **Opuntia stricta* and **Genista linifolia*. **O. stricta* is also listed as a Declared Pest under the BAM Act and was recorded from two locations along the south-western border of the study area. **G. linifolia* was recorded from two locations in the north of the study area.

A total of 60 conservation listed flora species that possibly occur within the study area were identified from the database searches, however no Threatened or Priority listed flora was recorded during the survey. Additionally, no conservation listed flora has previously been recorded within the study area, and as such, none are considered likely to occur.

5.2 Fauna

The fauna species recorded during the survey represent a snapshot of the fauna actually occurring within the study area, and it is therefore likely that many more species occur than were observed. A total of 294 vertebrate fauna taxa (native and introduced) were identified as possibly occurring based on NatureMap database search, including 10 amphibians, 51 reptiles, 212 birds and 21 mammals (Parks and Wildlife 2007 – 2017).

The study area provides an important area of remnant fauna habitat within the City of Kalamunda. The vegetation and habitat resources it contains are likely to support a diverse and species-rich assemblage of native birds and reptiles, and the bushland is considered to have high local conservation value. Several areas of large, intact remnant native vegetation occur on the Darling Scarp: Lesmurdie Falls National Park to the east and Mundy Regional Park to the north-east. However, few areas of remnant vegetation occur in close proximity on the Swan Coastal Plain. In addition, the study area is fragmented by roads and housing, which would limit the dispersal of many reptiles, mammals and amphibians.

The study area provides habitat and connectivity for many bird species and is important for the continued presence of a range of local reptile species. The occurrence of Forest Red-tailed Black Cockatoos highlights the foraging and potential breeding value of the study area for avifauna. It is also an important site for the Priority listed Quenda, which may be locally restricted to the area given the fragmented nature of the study area.

Despite the certainty of introduced fauna preying on and competing with native fauna, the fact that Quenda are persisting in the study area is a positive indication that it represents a refuge for a range of native fauna. Feral animal control could potentially increase numbers of Quenda, other small mammals and a wide range of reptiles within the study area.

5.3 Recommendations

The following is recommended to continue to conserve and protect the environmental values of Anderson Road Reserve:

- Undertake a dieback survey to determine presence of *Phytophthora* Dieback in the reserve and to inform future management of the pathogen.
- Undertake a feasibility study to determine opportunities to create habitat linkages between Hartfield Park, Mundy Regional Park, Lesmurdie Falls and Woodlupine Brook.
- Continue weed management, particularly in areas adjacent to housing. Priorities include treatment and removal of WoNS (**Figure 3**).
- Undertake targeted weed control to minimise the spread of weeds in the areas of 'very good' vegetation condition.
- Remove dumped rubbish as soon as practicable and consider barrier or fencing options to prevent unauthorised access.
- Rationalise the existing pathways for passive recreational use.
- Undertake regular feral bee control within nest boxes and tree hollows across the study area.
- Consider infill planting and ongoing monitoring/management of revegetated areas.
- Continue implementation of *Anderson Road Reserve Action Plan 2015-2017* (Shire of Kalamunda 2015), update accordingly and recruit new volunteers.

References

Beard, J.S. 1975. *Pilbara*. Explanatory notes to Sheet 4, 1:1,000,000 Series Vegetation Survey of Western Australia. University of Western Australia Press, Nedlands.

BirdLife Australia. 2017. *Birdlife website*. Available from: <http://birdlife.org.au/>.

Bureau of Meteorology (BoM). 2017. *Climate Data Online*. Available from: <http://www.bom.gov.au/climate/data/>.

Bush, B., Maryan, B., Browne-Cooper, R. and Robinson, D. 2010. *Field Guide to Reptiles and Frogs of the Perth Region*. Western Australian Museum.

Clarke, K.R. and Warwick, R.M., 2001. *Change in Marine Communities: An Approach to Statistical Analysis and Interpretation*. PRIMER-E, Plymouth, U.K. 38 pp.

Department of Agriculture and Food Western Australia (DAFWA). 2017a. *Soil-landscape systems mapping of Western Australia, version 5*. Department of Agriculture and Food Western Australia, Perth. Available from: <http://catalogue.beta.data.wa.gov.au/dataset/soil-landscape-systems>.

Department of Agriculture and Food Western Australia (DAFWA). 2017b. *Western Australian Organism List (WAOL)*. Available from: <https://www.agric.wa.gov.au/bam/western-australian-organism-list-waol>.

Department of the Environment and Energy (DotEE). 2016. *Threatened Species Scientific Committee Approved Conservation Advice (incorporating listing advice) for the Banksia Woodlands of the Swan Coastal Plain Ecological Community*. Listing effective 16 September 2016. Department of the Environment and Energy, Canberra. Available from: <http://www.environment.gov.au/biodiversity/threatened/communities/pubs/131-conservation-advice.pdf>.

Department of the Environment and Energy (DotEE) 2017a. *Australia's bioregions (IBRA)*. Available from: <http://www.environment.gov.au/parks/nrs/science/bioregion-framework/ibra/>.

Department of the Environment and Energy (DotEE). 2017b. *EPBC Protected Matters Search Tool*. Available from: <http://www.environment.gov.au/epbc/pmst/>.

Department of Environment Regulation (DER). 2017. *Clearing Permit System*. Available from: <https://cps.der.wa.gov.au/main.html#{{%22xclass%22%3A%22app.map.Main%22}}%2C{{%22xclass%22%3A%22app.Content%22}}>

Department of Parks and Wildlife (Parks and Wildlife). 2015. *Priority Ecological Communities for Western Australia, Version 23*. Species and Communities Branch, Department of Parks and Wildlife, correct to 3 December 2015.

Department of Parks and Wildlife (Parks and Wildlife). 2016. *Threatened and Priority Flora database search*. Reference number 30-1116FL. Department of Parks and Wildlife, Perth.

Department of Parks and Wildlife (Parks and Wildlife). 2007 – 2017. *NatureMap*. Available from: <http://NatureMap.dec.wa.gov.au/default.aspx>.

Department of Sustainability, Environment, Water, Population and Communities (SEWPaC). 2012. *EPBC Act referral guidelines for three threatened black cockatoo species*. Commonwealth of Australia.

Environmental Protection Authority (EPA). 2002. *Terrestrial Biological Surveys as an Element of Biodiversity Protection*. Position Statement No. 3. Perth, Western Australia.

Environmental Protection Authority (EPA). 2004a. *Terrestrial Flora Surveys for Environmental Impact Assessment in Western Australia*. Guidance Statement No. 51. Perth, Western Australia.

Environmental Protection Authority (EPA). 2004b. *Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia*. Guidance Statement No. 56. Perth, Western Australia.

Environmental Protection Authority (EPA) and Department of Environment Conservation (DEC). 2010. *Technical Guide – Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment*. Perth, Western Australia.

Environmental Protection Authority (EPA) and Department of Parks and Wildlife (Parks and Wildlife). 2015. *Technical Guide – Flora and vegetation Surveys for Environmental Impact Assessment*. Perth, Western Australia.

Everitt, B. 1980. *Cluster Analysis, 2nd Edition*. Heinemann, London.

Gibson, N., Keighery, B.J., Keighery, G.J., Burbidge, A.H. and Lyons, M.N. 1994. *A Floristic Survey of the Southern Swan Coastal Plain*. Report prepared for the Australian Heritage Commission. Western Australian Department of Conservation and Land Management, and Western Australia Conservation Council.

Government of Western Australia. 2000. *Bush Forever Volume 2: Directory of Bush Forever Sites*. Western Australian Planning Commission, Perth, Western Australia.

Government of Western Australia. 2016. *2016 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report)*. Department of Parks and Wildlife, Perth, Western Australia. Available from: <https://www2.landgate.wa.gov.au/web/guest/downloader>.

Hedde, E. M., Loneragan O. W., and Havel, J. J. 1980. Vegetation Complexes of the Darling System, Western Australia, In: *Atlas of Natural Resources, Darling System Western Australia*. Department of Conservation and Environment, WA.

International Union for Conservation of Nature (IUCN). 2017. *The IUCN Red List of Threatened Species*. Available from: <http://www.iucnredlist.org/search>.

Keighery, B.J. 1994. *Bushland Plant Survey: A guide to plant community survey for the community*. Wildflower Society of Western Australia, Nedlands.

Menkhorst, P. and Knight, F. 2011. *A Field Guide to the Mammals of Australia*. Oxford University Press, Melbourne.

Mitchell, D., Williams, K. and Desmond, A. 2002. Swan Coastal Plain 2 (SWA2 – Swan Coastal Plain subregion). In: (CALM (Ed) *A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions in 2002*, pp. 606 – 623. Department of Conservation and Land Management, Perth, Western Australia.

Northcote, K.H., Beckmann, G.G., Bettenay, E., Churchward, H.M., Van Dijk, D.C., Dimmock, G.M., Hubble, G.D., Isbell, R.F., McArthur, W.M., Murtha, G.G., Nicolls K.D., Paton, T.R., Thompson, C.H., Webb, A.A. and Wright, M.J. 1960 - 1968. *Atlas of Australian Soils, Sheets 1 to 10*. With explanatory data (CSIRO Aust. and Melbourne University Press: Melbourne).

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. 2002. Native Vegetation. In: *Western Australia*. Technical Report 249. Department of Agriculture, South Perth, Western Australia.

Shire of Kalamunda. 2012. *Listing of Threatened and Priority Ecological Communities*. Available from: <http://www.kalamunda.wa.gov.au/Waste-Environment/Managing-Our-Reserves/Flora-Fauna/Threatened-Ecological-Communities/Listing-of-threatened-ecological-communities>.

Shire of Kalamunda. 2015. *Anderson Rd Reserve Action Plan 2015-2017*. Shire of Kalamunda, Western Australia. Available from: http://www.kalamunda.wa.gov.au/files/1da64d39-ac19-4314-a41e-a56000f82b6e/Anderson_Rd_Reserve_Action_Plan_2015_2017.pdf

Simpson, K. and Day, N. 2010. *Field Guide to the Birds of Australia*. Eighth Edition. Penguin Group, Victoria, Australia.

State of Western Australia (SWA). 2017. *SLIP Public Web Map Service (ISO 19115 Categories)*. Landgate, Midland.

Western Australian Herbarium (1998–2017). *FloraBase—the Western Australian Flora*. Department of Parks and Wildlife. Available: <https://florabase.dpaw.wa.gov.au/>

Western Australian Museum (WAM) 2017. *Checklist of the Terrestrial Vertebrate Fauna of Western Australia*. Available from: <http://museum.wa.gov.au/research/departments/terrestrial-zoology/checklist-terrestrial-vertebrate-fauna-western-australia>.

Wilson, S. and Swan, G. 2013. *A Complete Guide to Reptiles of Australia*. New Holland Publishers, Frenchs Forest, NSW.

Appendix A Framework for conservation listed flora and fauna in Western Australia

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

CATEGORIES OF THREATENED SPECIES UNDER THE ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT 1999 (EPBC ACT)

Threatened fauna and flora may be listed in any one of the following categories as defined in Section 179 of the EPBC Act. Species listed as 'conservation dependent' and 'extinct' are not Matters of National Environmental Significance and therefore do not trigger the EPBC Act.

Category	Definition
Extinct (EX)	There is no reasonable doubt that the last member of the species has died.
Extinct in the Wild (EW)	Taxa known to survive only in captivity or as a naturalised population well outside its past range; or taxa has not been recorded in its known and/or expected habitat at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.
Critically Endangered (CE)	Taxa considered to be facing an extremely high risk of extinction in the wild.
Endangered (EN)	Taxa considered to be facing a very high risk of extinction in the wild.
Vulnerable (VU)	Taxa considered to be facing a high risk of extinction in the wild.
Near Threatened (NT)	Taxa has been evaluated against the criteria but does not qualify for Critically Endangered, Endangered or Vulnerable now, but is close to qualifying for or is likely to qualify for a threatened category in the near future.
Least Concern (LC)	Taxa has been evaluated against the criteria and does not qualify for Critically Endangered, Endangered, Vulnerable or Near Threatened. Widespread and abundant taxa are included in this category.
Data Deficient (DD)	There is inadequate information to make a direct, or indirect, assessment of taxa's risk extinction based on its distribution and/or population status.
Not Evaluated (NE)	Taxa has not yet been evaluated against the criteria.
Migratory (M)	<p>Not an IUCN category.</p> <p>Species are defined as migratory if they are listed in an international agreement approved by the Commonwealth Environment Minister, including:</p> <ul style="list-style-type: none"> • the Bonn Convention (Convention on the Conservation of Migratory Species of Wild Animal) for which Australia is a range state; • the agreement between the Government of Australian and the Government of the People's Republic of China for the Protection of Migratory Birds and their environment (CAMBA); • the agreement between the Government of Japan and the Government of Australia for the Protection of Migratory Birds and Birds in Danger of Extinction and their Environment (JAMBA); or • the agreement between Australia and the Republic of Korea to develop a bilateral migratory bird agreement similar to the JAMBA and CAMBA in respect to migratory bird conservation and provides a basis for collaboration on the protection of migratory shorebirds and their habitat (ROKAMBA).

CONSERVATION CODES FOR WESTERN AUSTRALIA FLORA AND FAUNA

Specially protected fauna or flora are species which have been adequately searched for and are deemed to be, in the wild, either rare, at risk of extinction, or otherwise in need of special protection, and have been gazetted as such.

Threatened species (T)

Published as Specially Protected under the Wildlife Conservation Act 1950, and listed under Schedules 1 to 4 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora (which may also be referred to as Declared Rare Flora).

Threatened fauna is that subset of 'Specially Protected Fauna' declared to be 'likely to become extinct' pursuant to section 14(4) of the Wildlife Conservation Act.

Threatened flora is flora that has been declared to be 'likely to become extinct or is rare, or otherwise in need of special protection', pursuant to section 23F(2) of the Wildlife Conservation Act.

The assessment of the conservation status of these species is based on their national extent and ranked according to their level of threat using IUCN Red List categories and criteria as detailed below.

Schedule	Code	Description
Schedule 1 Critically Endangered species	S1 (CR)	Threatened species considered to be facing an extremely high risk of extinction in the wild. Published as Specially Protected under the Wildlife Conservation Act 1950, in Schedule 1 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.
Schedule 2 Endangered species	S2 (EN)	Threatened species considered to be facing a very high risk of extinction in the wild. Published as Specially Protected under the Wildlife Conservation Act 1950, in Schedule 2 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.
Schedule 3 Vulnerable species	S3 (VU)	Threatened species considered to be facing a high risk of extinction in the wild. Published as Specially Protected under the Wildlife Conservation Act 1950, in Schedule 3 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.
Schedule 4 Presumed extinct species	S4 (EX)	Species which have been adequately searched for and there is no reasonable doubt that the last individual has died. Published as Specially Protected under the Wildlife Conservation Act 1950, in Schedule 4 of the Wildlife Conservation (Specially Protected Fauna) Notice for Presumed Extinct Fauna and Wildlife Conservation (Rare Flora) Notice for Presumed Extinct Flora.

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Schedule	Code	Description
Schedule 5 Migratory birds protected under an international agreement	S5 (IA)	Birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and the Bonn Convention, relating to the protection of migratory birds. Published as Specially Protected under the Wildlife Conservation Act 1950, in Schedule 5 of the Wildlife Conservation (Specially Protected Fauna) Notice.
Schedule 6 Conservation dependent fauna	S6 (CD)	Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened. Published as Specially Protected under the Wildlife Conservation Act 1950, in Schedule 6 of the Wildlife Conservation (Specially Protected Fauna) Notice.
Schedule 7 Other specially protected fauna	S7 (OS)	Fauna otherwise in need of special protection to ensure their conservation. Published as Specially Protected under the Wildlife Conservation Act 1950, in Schedule 7 of the Wildlife Conservation (Specially Protected Fauna) Notice.

Priority species (P)

Possibly threatened species that do not meet survey criteria, or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened flora or fauna.

Species that are adequately known, are rare but not threatened, or meet criteria for near threatened, or that have been recently removed from the threatened species or other specially protected fauna lists for other than taxonomic reasons, are placed in Priority 4. These species require regular monitoring.

Assessment of Priority codes is based on the Western Australian distribution of the species, unless the distribution in WA is part of a contiguous population extending into adjacent States, as defined by the known spread of locations.

Category	Code	Definition
Priority 1	P1	<i>Poorly-known species</i> Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.
Priority 2	P2	<i>Poorly-known species</i> Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Category	Code	Definition
		requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.
Priority 3	P3	<i>Poorly-known species</i> Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.
Priority 4	P4	<i>Rare, Near Threatened and other species in need of monitoring</i> (a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change. These species are usually represented on conservation lands. (b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for Vulnerable, but are not listed as Conservation Dependent. (c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

DEFINITIONS, CATEGORIES AND CRITERIA FOR THREATENED AND PRIORITY ECOLOGICAL COMMUNITIES

An Ecological Community is described as “a naturally occurring biological assemblage that occurs in a particular type of habitat”.

A threatened ecological community (TEC) is one which is found to fit into one of the following categories; “presumed totally destroyed”, “critically endangered”, “endangered” or “vulnerable”.

Possible TECs that do not meet survey criteria are added to DPaW's Priority Ecological Community Lists under Priorities 1, 2 and 3. Ecological Communities that are adequately known, are rare but not threatened, or meet criteria for Near Threatened, or that have been recently removed from the threatened list, are placed in Priority 4. These ecological communities require regular monitoring. Conservation Dependent ecological communities are placed in Priority 5.

Definitions and Criteria for Presumed Totally Destroyed, Critically Endangered, Endangered and Vulnerable Ecological Communities

Presumed Totally Destroyed (PD)

An ecological community that has been adequately searched for but for which no representative occurrences have been located. The community has been found to be totally destroyed or so extensively modified throughout its range that no occurrence of it is likely to recover its species composition and/or structure in the foreseeable future.

An ecological community will be listed as presumed totally destroyed if there are no recent records of the community being extant and either of the following applies (A or B):

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

A) Records within the last 50 years have not been confirmed despite thorough searches of known or likely habitats,

B) All occurrences recorded within the last 50 years have since been destroyed.

Critically Endangered (CR)

An ecological community that has been adequately surveyed and found to have been subject to a major contraction in area and/or that was originally of limited distribution and is facing severe modification or destruction throughout its range in the immediate future, or is already severely degraded throughout its range but capable of being substantially restored or rehabilitated.

An ecological community will be listed as Critically Endangered when it has been adequately surveyed and is found to be facing an extremely high risk of total destruction in the immediate future. This will be determined on the basis of the best available information, by it meeting any one or more of the following criteria (A, B or C):

A) The estimated geographic range, and/or total area occupied, and/or number of discrete occurrences since European settlement have been reduced by at least 90% and either or both of the following apply (i or ii):

i) geographic range, and/or total area occupied and/or number of discrete occurrences are continuing to decline such that total destruction of the community is imminent (within approximately 10 years);

ii) modification throughout its range is continuing such that in the immediate future (within approximately 10 years) the c

B) Current distribution is limited, and one or more of the following apply (i, ii or iii):

i) geographic range and/or number of discrete occurrences, and/or area occupied is highly restricted and the community is currently subject to known threatening processes which are likely to result in total destruction throughout its range in the short term future (within approximately 20 years);

ii) there are few occurrences, each of which is small and/or isolated and all or most occurrences are very vulnerable to known threatening processes;

iii) there may be many occurrences but total area is small and all or most occurrences are small and/or isolated and very vulnerable to known threatening processes.

C) The ecological community exists only as very modified occurrences that may be capable of being substantially restored or rehabilitated if such work begins in the short-term future (within approximately 20 years).

Endangered (EN)

An ecological community that has been adequately surveyed and found to have been subject to a major contraction in area and/or was originally of limited distribution and is in danger of significant modification throughout its range or severe modification or destruction over most of its range in the near future.

An ecological community will be listed as Endangered when it has been adequately surveyed and is not Critically Endangered but is facing a very high risk of total destruction in the near future. This will be

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

determined on the basis of the best available information by it meeting any one or more of the following criteria (A, B, or C):

A) The geographic range, and/or total area occupied, and/or number of discrete occurrences have been reduced by at least 70% since European settlement and either or both of the following apply (i or ii):

i) the estimated geographic range, and/or total area occupied and/or number of discrete occurrences are continuing to decline such that total destruction of the community is likely in the short term future (within approximately 20 years);

ii) modification throughout its range is continuing such that in the short term future (within approximately 20 years) the community is unlikely to be capable of being substantially restored or rehabilitated.

B) Current distribution is limited, and one or more of the following apply (i, ii or iii):

i) geographic range and/or number of discrete occurrences, and/or area occupied is highly restricted and the community is currently subject to known threatening processes which are likely to result in total destruction throughout its range in the short term future (within approximately 20 years);

ii) there are few occurrences, each of which is small and/or isolated and all or most occurrences are very vulnerable to known threatening processes;

iii) there may be many occurrences but total area is small and all or most occurrences are small and/or isolated and very vulnerable to known threatening processes.

C) The ecological community exists only as very modified occurrences that may be capable of being substantially restored or rehabilitated if such work begins in the short-term future (within approximately 20 years).

Vulnerable (VU)

An ecological community that has been adequately surveyed and is found to be declining and/or has declined in distribution and/or condition and whose ultimate security has not yet been assured and/or a community that is still widespread but is believed likely to move into a category of higher threat in the near future if threatening processes continue or begin operating throughout its range.

An ecological community will be listed as Vulnerable when it has been adequately surveyed and is not Critically Endangered or Endangered but is facing a high risk of total destruction or significant modification in the medium to long-term future. This will be determined on the basis of the best available information by it meeting any one or more of the following criteria (A, B or C):

A) The ecological community exists largely as modified occurrences that are likely to be capable of being substantially restored or rehabilitated.

B) The ecological community may already be modified and would be vulnerable to threatening processes, is restricted in area and/or range and/or is only found at a few locations.

C) The ecological community may be still widespread but is believed likely to move into a category of higher threat in the medium to long term future because of existing or impending threatening processes.

Definitions and Criteria for Priority Ecological Communities

Possible threatened ecological communities that do not meet survey criteria or that are not adequately defined are added to the Priority Ecological Community List under priorities 1, 2 and 3. These three categories are ranked in order of priority for survey and/or definition of the community, and evaluation of conservation status, so that consideration can be given to their declaration as threatened ecological communities. Ecological communities that are adequately known, and are rare but not threatened or meet criteria for Near Threatened, or that have been recently removed from the threatened list, are placed in Priority 4. These ecological communities require regular monitoring. Conservation Dependent ecological communities are placed in Priority 5.

Priority One: Poorly-known ecological communities

Ecological communities that are known from very few occurrences with a very restricted distribution (generally ≤ 5 occurrences or a total area of $\leq 100\text{ha}$). Occurrences are believed to be under threat either due to limited extent, or being on lands under immediate threat (e.g. within agricultural or pastoral lands, urban areas, active mineral leases) or for which current threats exist. May include communities with occurrences on protected lands. Communities may be included if they are comparatively well-known from one or more localities but do not meet adequacy of survey requirements, and/or are not well defined, and appear to be under immediate threat from known threatening processes across their range.

Priority Two: Poorly-known ecological communities

Communities that are known from few occurrences with a restricted distribution (generally ≤ 10 occurrences or a total area of $\leq 200\text{ha}$). At least some occurrences are not believed to be under immediate threat of destruction or degradation. Communities may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements, and/or are not well defined, and appear to be under threat from known threatening processes.

Priority Three: Poorly known ecological communities

(i) Communities that are known from several to many occurrences, a significant number or area of which are not under threat of habitat destruction or degradation or:

(ii) communities known from a few widespread occurrences, which are either large or with significant remaining areas of habitat in which other occurrences may occur, much of it not under imminent threat, or;

(iii) communities made up of large, and/or widespread occurrences, that may or may not be represented in the reserve system, but are under threat of modification across much of their range from processes such as grazing by domestic and/or feral stock, and inappropriate fire regimes.

Communities may be included if they are comparatively well known from several localities but do not meet adequacy of survey requirements and/or are not well defined, and known threatening processes exist that could affect them.

Priority Four: Ecological communities that are adequately known, rare but not threatened or meet criteria for Near Threatened or that have been recently removed from the threatened list. These communities require regular monitoring.

(i) Rare. Ecological communities known from few occurrences that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

threatened or in need of special protection, but could be if present circumstances change. These communities are usually represented on conservation lands.

(ii) Near Threatened. Ecological communities that are considered to have been adequately surveyed and that do not qualify for Conservation Dependent, but that are close to qualifying for Vulnerable.

(iii) Ecological communities that have been removed from the list of threatened communities during the past five years.

Priority Five: Conservation Dependent ecological communities

Ecological communities that are not threatened but are subject to a specific conservation program, the cessation of which would result in the community becoming threatened within five years.

Appendix B Database search results

NatureMap Species Report

Created By Guest user on 25/10/2016

Kingdom Plantae
Conservation Status Conservation Taxon (T, X, IA, S, P1-P5)
Current Names Only Yes
Core Datasets Only Yes
Method 'By Circle'
Centre 116° 01' 05" E, 31° 59' 40" S
Buffer 3km

	Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
1.	3219	<i>Acacia anomala</i> (Grass Wattle)		T	
2.	14131	<i>Acacia oncinophylla</i> subsp. <i>patulifolia</i>		P4	
3.	32211	<i>Banksia mimica</i> (Summer Honeypot)		T	
4.	32138	<i>Banksia pteridifolia</i> subsp. <i>vernalis</i>		P3	
5.	4444	<i>Boronia tenuis</i> (Blue Boronia)		P4	
6.	3178	<i>Byblis gigantea</i> (Rainbow Plant)		P3	
7.	13999	<i>Conospermum undulatum</i>		T	
8.	5505	<i>Darwinia apiculata</i> (Scarp Darwinia)		T	
9.	19630	<i>Grevillea bipinnatifida</i> subsp. <i>pagna</i>		P1	
10.	13439	<i>Grevillea thelemanniana</i> subsp. <i>thelmanniana</i> (Spider Net Grevillea)		T	
11.	1469	<i>Haemodorum loratum</i>		P3	
12.	5133	<i>Hibbertia helianthemoides</i>		P4	
13.	2228	<i>Isopogon drummondii</i>		P3	
14.	5025	<i>Lasiopetalum bracteatum</i> (Helena Velvet Bush)		P4	
15.	45081	<i>Lasiopetalum glutinosum</i> subsp. <i>glutinosum</i>		P3	
16.	37683	<i>Melaleuca viminalis</i>		P2	
17.	8163	<i>Pithocarpa corymbulosa</i> (Corymbose Pithocarpa)		P3	
18.	8212	<i>Senecio leucoglossus</i>		P4	
19.	7803	<i>Stylidium striatum</i> (Fan-leaved Triggerplant)		P4	
20.	8244	<i>Taraxacum cygnorum</i>		X	
21.	14333	<i>Tetratheca</i> sp. <i>Granite</i> (S. Patrick SP1224)		P3	
22.	20729	<i>Thelymitra magnifica</i> (Crystal Brook Star Orchid)		P1	
23.	10862	<i>Thelymitra stellata</i> (Star Orchid)		T	
24.	14714	<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>		P4	

Conservation Codes

T - Rare or likely to become extinct
X - Presumed extinct
IA - Protected under international agreement
S - Other specially protected fauna
1 - Priority 1
2 - Priority 2
3 - Priority 3
4 - Priority 4
5 - Priority 5

¹ For NatureMap's purposes, species flagged as endemic are those whose records are wholly contained within the search area. Note that only those records complying with the search criterion are included in the calculation. For example, if you limit records to those from a specific datasource, only records from that datasource are used to determine if a species is restricted to the query area.

NatureMap Species Report

Created By Guest user on 12/04/2017

Kingdom Animalia
Conservation Status Conservation Taxon (T, X, IA, S, P1-P5)
Current Names Only Yes
Core Datasets Only Yes
Method 'By Circle'
Centre 116° 01' 05" E, 31° 59' 40" S
Buffer 3km

	Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
1.	24162	<i>Bettongia penicillata</i> subsp. <i>ogilbyi</i> (Woylie, Brush-tailed Bettong)		T	
2.	24731	<i>Calyptorhynchus banksii</i> subsp. <i>naso</i> (Forest Red-tailed Black-Cockatoo)		T	
3.	24734	<i>Calyptorhynchus latirostris</i> (Carnaby's Cockatoo (short-billed black-cockatoo), Carnaby's Cockatoo)		T	
4.	24092	<i>Dasyurus geoffroii</i> (Chuditch, Western Quoll)		T	
5.	24215	<i>Hydromys chrysogaster</i> (Water-rat, Rakali)		P4	
6.	25478	<i>Isodon obesulus</i> (Southern Brown Bandicoot)		P4	
7.	24153	<i>Isodon obesulus</i> subsp. <i>fusciventer</i> (Quenda, Southern Brown Bandicoot)		P4	
8.	24133	<i>Macropus irma</i> (Western Brush Wallaby)		P4	
9.	24598	<i>Merops ornatus</i> (Rainbow Bee-eater)		IA	
10.	25249	<i>Neelaps calonotos</i> (Black-striped Snake)		P3	
11.	24328	<i>Oxyura australis</i> (Blue-billed Duck)		P4	

Conservation Codes

T - Rare or likely to become extinct
X - Presumed extinct
IA - Protected under international agreement
S - Other specially protected fauna
1 - Priority 1
2 - Priority 2
3 - Priority 3
4 - Priority 4
5 - Priority 5

¹ For NatureMap's purposes, species flagged as endemic are those whose records are wholly contained within the search area. Note that only those records complying with the search criterion are included in the calculation. For example, if you limit records to those from a specific datasource, only records from that datasource are used to determine if a species is restricted to the query area.



EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about [Environment Assessments](#) and the EPBC Act including significance guidelines, forms and application process details.

Report created: 20/10/16 14:15:26

[Summary](#)

[Details](#)

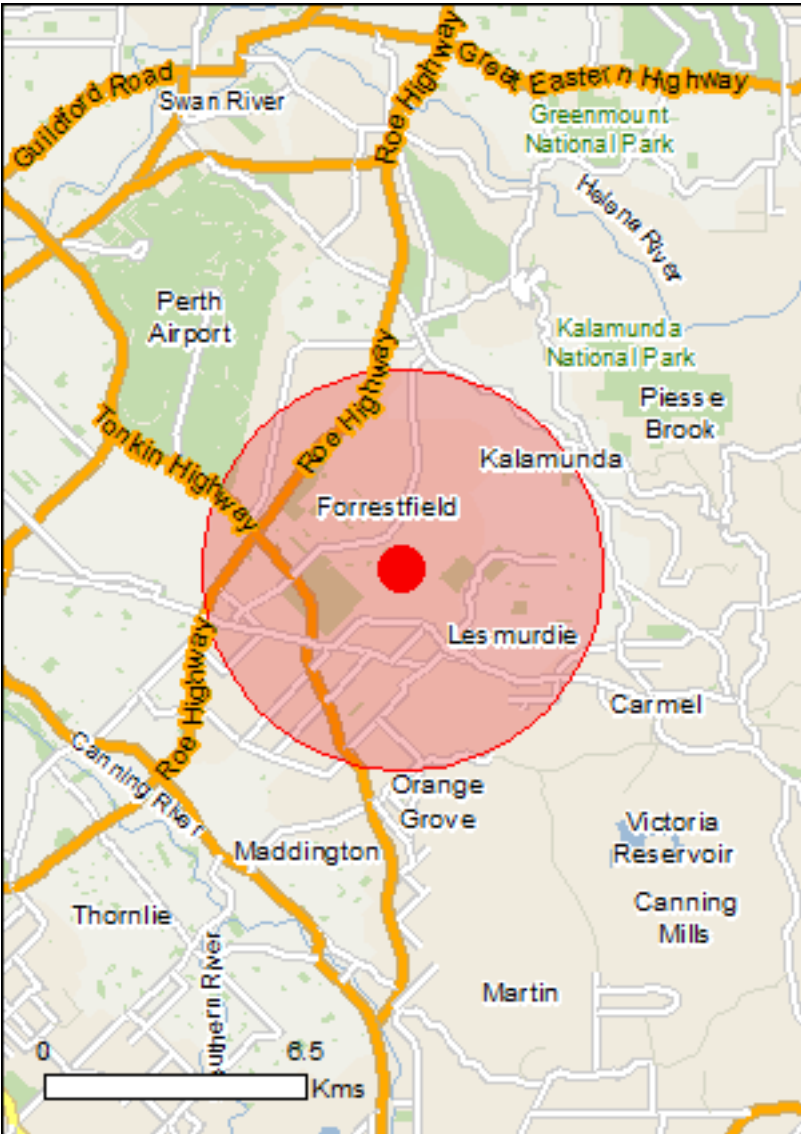
[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)



This map may contain data which are
©Commonwealth of Australia
(Geoscience Australia), ©PSMA 2010

[Coordinates](#)

[Buffer: 5.0Km](#)



Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	3
Listed Threatened Species:	36
Listed Migratory Species:	6

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <http://www.environment.gov.au/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	1
Commonwealth Heritage Places:	None
Listed Marine Species:	12
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Commonwealth Reserves Marine:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	7
Regional Forest Agreements:	1
Invasive Species:	43
Nationally Important Wetlands:	1
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Listed Threatened Ecological Communities [Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Name	Status	Type of Presence
Banksia Woodlands of the Swan Coastal Plain	Endangered	Community likely to occur within area
Claypans of the Swan Coastal Plain	Critically Endangered	Community likely to occur within area
Corymbia calophylla - Kingia australis woodlands on heavy soils of the Swan Coastal Plain	Endangered	Community known to occur within area

Listed Threatened Species [Resource Information]

Name	Status	Type of Presence
Birds		

Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calyptorhynchus banksii naso Forest Red-tailed Black-Cockatoo, Karrak [67034]	Vulnerable	Species or species habitat known to occur within area
Calyptorhynchus baudinii Baudin's Cockatoo, Baudin's Black-Cockatoo, Long-billed Black-Cockatoo [769]	Vulnerable	Roosting known to occur within area
Calyptorhynchus latirostris Carnaby's Black-Cockatoo, Short-billed Black-Cockatoo [59523]	Endangered	Species or species habitat known to occur within area
Leipoa ocellata Malleefowl [934]	Vulnerable	Species or species habitat likely to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area

Mammals

Bettongia penicillata Brush-tailed Bettong, Woylie [213]	Endangered	Species or species habitat may occur within area
Dasyurus geoffroii Chuditch, Western Quoll [330]	Vulnerable	Species or species habitat known to occur

Name		Status	Type of Presence
Ordinary Council Meeting - 26 February 2019 Attachments			Attachment 1.2.6
Pseudocheirus occidentalis			within area
Western Ringtail Possum, Ngwayir, Womp, Woder, Ngoor, Ngoolangit [25911]		Vulnerable	Species or species habitat may occur within area
Setonix brachyurus			
Quokka [229]		Vulnerable	Species or species habitat likely to occur within area
Plants			
Acacia anomala			
Grass Wattle, Chittering Grass Wattle [8153]		Vulnerable	Species or species habitat known to occur within area
Andersonia gracilis			
Slender Andersonia [14470]		Endangered	Species or species habitat known to occur within area
Anthocercis gracilis			
Slender Tailflower [11103]		Vulnerable	Species or species habitat likely to occur within area
Banksia mimica			
Summer Honeypot [82765]		Endangered	Species or species habitat likely to occur within area
Caladenia huegelii			
King Spider-orchid, Grand Spider-orchid, Rusty Spider-orchid [7309]		Endangered	Species or species habitat likely to occur within area
Calytrix breviseta subsp. breviseta			
Swamp Starflower [23879]		Endangered	Species or species habitat known to occur within area
Chamelaucium sp. Gingin (N.G.Marchant s.n., 4/11/1988)			
Gingin Wax [64649]		Endangered	Species or species habitat may occur within area
Conospermum undulatum			
Wavy-leaved Smokebush [24435]		Vulnerable	Species or species habitat likely to occur within area
Darwinia apiculata			
Scarp Darwinia [8763]		Endangered	Species or species habitat likely to occur within area
Diuris drummondii			
Tall Donkey Orchid [4365]		Vulnerable	Species or species habitat likely to occur within area
Diuris micrantha			
Dwarf Bee-orchid [55082]		Vulnerable	Species or species habitat likely to occur within area
Diuris purdiei			
Purdie's Donkey-orchid [12950]		Endangered	Species or species habitat known to occur within area
Drakaea elastica			
Glossy-leaved Hammer Orchid, Glossy-leaved Hammer Orchid, Warty Hammer Orchid [16753]		Endangered	Species or species habitat likely to occur within area
Drakaea micrantha			
Dwarf Hammer-orchid [56755]		Vulnerable	Species or species habitat may occur within area
Eleocharis keigheryi			
Keighery's Eleocharis [64893]		Vulnerable	Species or species habitat likely to occur within area
Eucalyptus balanites			
Cadda Road Mallee, Cadda Mallee [24264]		Endangered	Species or species habitat may occur within

Ordinary Council Meeting - 26 February 2019 Attachments		Status	Type of Presence
			Area 1.2.6
Grevillea curviloba subsp. incurva			area
Narrow curved-leaf Grevillea [64909]		Endangered	Species or species habitat may occur within area
Lasiopetalum pterocarpum			
Wing-fruited Lasiopetalum [64922]		Endangered	Species or species habitat may occur within area
Lepidosperma rostratum			
Beaked Lepidosperma [14152]		Endangered	Species or species habitat likely to occur within area
Macarthuria keigheryi			
Keighery's Macarthuria [64930]		Endangered	Species or species habitat likely to occur within area
Ptilotus pyramidatus			
Pyramid Mulla-mulla [18216]		Critically Endangered	Species or species habitat known to occur within area
Synaphea sp. Fairbridge Farm (D.Papenfus 696)			
Selena's Synaphea [82881]		Critically Endangered	Species or species habitat likely to occur within area
Thelymitra dedmaniarum			
Cinnamon Sun Orchid [65105]		Endangered	Species or species habitat likely to occur within area
Thelymitra stellata			
Star Sun-orchid [7060]		Endangered	Species or species habitat known to occur within area

Listed Migratory Species		[Resource Information]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus		
Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Motacilla cinerea		
Grey Wagtail [642]		Species or species habitat may occur within area
Migratory Wetlands Species		
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Numenius madagascariensis		
Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pandion haliaetus		
Osprey [952]		Species or species habitat may occur within area
Tringa nebularia		
Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Other Matters Protected by the EPBC Act

Commonwealth Land [Resource Information]

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Name
Commonwealth Land -

Listed Marine Species [Resource Information]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Birds		

Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba Great Egret, White Egret [59541]		Species or species habitat known to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pandion haliaetus Osprey [952]		Species or species habitat may occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat may occur within area
Thinornis rubricollis Hooded Plover [59510]		Species or species habitat may occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Extra Information

State and Territory Reserves		[Resource Information]
Name		State
Kenwick Wetlands		WA
Korung		WA
Lesmurdie Falls		WA
Unnamed WA23076		WA
Unnamed WA24657		WA
Unnamed WA29815		WA
Unnamed WA37997		WA

Regional Forest Agreements		[Resource Information]
----------------------------	--	--------------------------

Note that all areas with completed RFAs have been included.

Name		State
South West WA RFA		Western Australia

Invasive Species		[Resource Information]
------------------	--	--------------------------

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resouces Audit, 2001.

Name		Status	Type of Presence
Birds			
Acridotheres tristis			
Common Myna, Indian Myna [387]			Species or species habitat likely to occur within area
Anas platyrhynchos			
Mallard [974]			Species or species habitat likely to occur within area
Carduelis carduelis			
European Goldfinch [403]			Species or species habitat likely to occur within area
Columba livia			
Rock Pigeon, Rock Dove, Domestic Pigeon [803]			Species or species habitat likely to occur within area
Passer domesticus			
House Sparrow [405]			Species or species habitat likely to occur within area
Passer montanus			
Eurasian Tree Sparrow [406]			Species or species habitat likely to occur within area
Streptopelia chinensis			
Spotted Turtle-Dove [780]			Species or species habitat likely to occur within area
Streptopelia senegalensis			
Laughing Turtle-dove, Laughing Dove [781]			Species or species habitat likely to occur within area
Sturnus vulgaris			
Common Starling [389]			Species or species habitat likely to occur within area
Turdus merula			
Common Blackbird, Eurasian Blackbird [596]			Species or species habitat likely to occur within area
Mammals			
Bos taurus			
Domestic Cattle [16]			Species or species habitat likely to occur within area

Ordinary Council Meeting - 26 February 2019 Attachments		Status	Type of Presence
Name	Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
	Capra hircus Goat [2]		Species or species habitat likely to occur within area
	Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
	Feral deer Feral deer species in Australia [85733]		Species or species habitat likely to occur within area
	Funambulus pennantii Northern Palm Squirrel, Five-striped Palm Squirrel [129]		Species or species habitat likely to occur within area
Name	Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
	Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
	Rattus norvegicus Brown Rat, Norway Rat [83]		Species or species habitat likely to occur within area
	Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
	Sus scrofa Pig [6]		Species or species habitat likely to occur within area
Name	Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
	Plants		
	Anredera cordifolia Madeira Vine, Jalap, Lamb's-tail, Mignonette Vine, Anredera, Gulf Madeiravine, Heartleaf Madeiravine, Potato Vine [2643]		Species or species habitat likely to occur within area
	Asparagus asparagoides Bridal Creeper, Bridal Veil Creeper, Smilax, Florist's Smilax, Smilax Asparagus [22473]		Species or species habitat likely to occur within area
	Brachiaria mutica Para Grass [5879]		Species or species habitat may occur within area
Name	Cenchrus ciliaris Buffel-grass, Black Buffel-grass [20213]		Species or species habitat may occur within area
	Chrysanthemoides monilifera Bitou Bush, Boneseed [18983]		Species or species habitat may occur within area
	Chrysanthemoides monilifera subsp. monilifera Boneseed [16905]		Species or species habitat likely to occur within area
	Eichhornia crassipes Water Hyacinth, Water Orchid, Nile Lily [13466]		Species or species habitat likely to occur within area

Ordinary Council Meeting - 26 February 2019 Attachments		Status	Type of Presence
Genista linifolia			Assessment 1.2.6
Flax-leaved Broom, Mediterranean Broom, Flax Broom [2800]			Species or species habitat likely to occur within area
Genista monspessulana			
Montpellier Broom, Cape Broom, Canary Broom, Common Broom, French Broom, Soft Broom [20126]			Species or species habitat likely to occur within area
Genista sp. X Genista monspessulana			
Broom [67538]			Species or species habitat may occur within area
Lantana camara			
Lantana, Common Lantana, Kamara Lantana, Large-leaf Lantana, Pink Flowered Lantana, Red Flowered Lantana, Red-Flowered Sage, White Sage, Wild Sage [10892]			Species or species habitat likely to occur within area
Lycium ferocissimum			
African Boxthorn, Boxthorn [19235]			Species or species habitat likely to occur within area
Olea europaea			
Olive, Common Olive [9160]			Species or species habitat may occur within area
Pinus radiata			
Radiata Pine Monterey Pine, Insignis Pine, Wilding Pine [20780]			Species or species habitat may occur within area
Rubus fruticosus aggregate			
Blackberry, European Blackberry [68406]			Species or species habitat likely to occur within area
Sagittaria platyphylla			
Delta Arrowhead, Arrowhead, Slender Arrowhead [68483]			Species or species habitat likely to occur within area
Salix spp. except S.babylonica, S.x calodendron & S.x reichardtii			
Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow [68497]			Species or species habitat likely to occur within area
Salvinia molesta			
Salvinia, Giant Salvinia, Aquarium Watermoss, Kariba Weed [13665]			Species or species habitat likely to occur within area
Tamarix aphylla			
Athel Pine, Athel Tree, Tamarisk, Athel Tamarisk, Athel Tamarix, Desert Tamarisk, Flowering Cypress, Salt Cedar [16018]			Species or species habitat likely to occur within area
Reptiles			
Hemidactylus frenatus			
Asian House Gecko [1708]			Species or species habitat likely to occur within area
Ramphotyphlops braminus			
Flowerpot Blind Snake, Brahminy Blind Snake, Cacing Besi [1258]			Species or species habitat likely to occur within area
Nationally Important Wetlands			[Resource Information]
Name			State
Brixton Street Swamps			WA

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

For species where the distributions are well known, maps are digitised from sources such as recovery plans and detailed habitat studies. Where appropriate, core breeding, foraging and roosting areas are indicated under 'type of presence'. For species whose distributions are less well known, point locations are collated from government wildlife authorities, museums, and non-government organisations; bioclimatic distribution models are generated and these validated by experts. In some cases, the distribution maps are based solely on expert knowledge.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Coordinates

-31.99444 116.01806

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Parks and Wildlife Commission NT, Northern Territory Government](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- Natural history museums of Australia
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Atherton and Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence](#)
- [Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact Us](#) page.

[© Commonwealth of Australia](#)
[Department of the Environment](#)
GPO Box 787
Canberra ACT 2601 Australia
+61 2 6274 1111

Appendix C Flora likelihood of occurrence assessment

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Species	Conservation status ¹			Source ²				Likelihood assessment
	EPBC Act	WC Act	Parks and Wildlife	NatureMap	PMST	WAHerb	TPFL	
<i>Acacia anomala</i>	VU	S3	T	X	X	X	X	Unlikely
<i>Acacia aphylla</i>	VU	S3	T	-	-	X	X	Unlikely
<i>Acacia oncinophylla</i> subsp. <i>patulifolia</i>	-	-	P4	X	-	X	X	Unlikely
<i>Amanita kalamundae</i>	-	-	P3	-	-	X	-	Unlikely
<i>Andersonia gracilis</i>	EN	S3	T	-	X	X	X	Unlikely
<i>Anthocercis gracilis</i>	VU	S3	T	-	X	X	X	Unlikely
<i>Austrostipa bronwenae</i>	-	S2	T	-	-	X	X	Unlikely
<i>Babingtonia urbana</i>	-	-	P3	-	-	-	X	Unlikely
<i>Banksia mimica</i>	EN	S3	T	X	X	X	X	Unlikely
<i>Banksia pteridifolia</i> subsp. <i>vernalis</i>	-	-	P3	X	-	X	-	Unlikely
<i>Boronia humifusa</i>	-	-	P1	-	-	X	X	Unlikely
<i>Boronia tenuis</i>	-	-	P4	X	-	X	X	Unlikely
<i>Byblis gigantea</i>	-	-	P3	X	-	X	X	Unlikely
<i>Caladenia huegelii</i>	EN	S1	T	-	X	-	-	Unlikely
<i>Calandrinia</i> sp. Piawaning (A.C. Beauglehole 12257)	-	-	P1	-	-	X	-	Unlikely
<i>Calytrix breviseta</i> subsp. <i>breviseta</i>	EN	S1	T	-	X	X	X	Unlikely
<i>Centrolepis caespitosa</i>	-	-	P4	-	-	X	-	Unlikely
<i>Chamelaucium</i> sp. Gingin (N.G. Marchant 6)	EN	S3	T	-	X	-	-	Unlikely
<i>Comesperma rhadinocarpum</i>	-	-	P2	-	-	-	X	Unlikely

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Species	Conservation status ¹			Source ²				Likelihood assessment
	EPBC Act	WC Act	Parks and Wildlife	NatureMap	PMST	WAHerb	TPFL	
<i>Conospermum undulatum</i>	VU	S3	T	X	X	X	X	Unlikely
<i>Darwinia apiculata</i>	EN	S2	T	X	X	X	X	Unlikely
<i>Diuris drummondii</i>	VU	S3	T	-	X	-	-	Unlikely
<i>Diuris micrantha</i>	VU	S3	T	-	X	-	-	Unlikely
<i>Diuris purdiei</i>	EN	S2	T	-	X	-	X	Unlikely
<i>Drakaea elastica</i>	EN	S1	T	-	X	-	-	Unlikely
<i>Drakaea micrantha</i>	VU	S2	T	-	X	-	-	Unlikely
<i>Drosera occidentalis</i> subsp. <i>occidentalis</i>	-	-	P4	-	-	X	X	Unlikely
<i>Eleocharis keigheryi</i>	VU	S3	T	-	X	-	-	Unlikely
<i>Eremophila glabra</i> subsp. <i>chlorella</i>	-	S2	T	-	-	X	X	Unlikely
<i>Eucalyptus x balanites</i>	EN	S1	T	-	X	-	-	Unlikely
<i>Grevillea bipinnatifida</i> subsp. <i>pagna</i>	-	-	P1	X	-	-	-	Unlikely
<i>Grevillea curviloba</i> subsp. <i>incurva</i>	EN	S1	T	-	X	-	-	Unlikely
<i>Grevillea thelemanniana</i> subsp. <i>thelemanniana</i>	-	-	P1	X	-	X	X	Unlikely
<i>Haemodorum loratum</i>	-	-	P3	X	-	X	X	Unlikely
<i>Halgania corymbosa</i>	-	-	P4	-	-	X	-	Unlikely
<i>Hibbertia helianthemoides</i>	-	-	P4	X	-	-	-	Unlikely
<i>Hibbertia montana</i>	-	-	P4	-	-	X	-	Unlikely
<i>Hypocalymma</i> sp. <i>Cataby</i> (G.J. Keighery 5151)	-	-	P2	-	-	-	X	Unlikely

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Species	Conservation status ¹			Source ²				Likelihood assessment
	EPBC Act	WC Act	Parks and Wildlife	NatureMap	PMST	WAHerb	TPFL	
<i>Isopogon drummondii</i>	-	-	P3	X	-	X	-	Unlikely
<i>Lasiopetalum bracteatum</i>	-	-	P4	X	-	X	-	Unlikely
<i>Lasiopetalum glutinosum</i> subsp. <i>glutinosum</i>	-	-	P3	X	-	X	-	Unlikely
<i>Lasiopetalum pterocarpum</i>	EN	S1	T	-	X	-	-	Unlikely
<i>Lepidosperma rostratum</i>	EN	S2	T	-	X	X	X	Unlikely
<i>Macarthuria keigheryi</i>	EN	S2	T	-	X	X	X	Unlikely
<i>Melaleuca viminalis</i>	-	-	P2	X	-	X	-	Unlikely
<i>Myriophyllum echinatum</i>	-	-	P3	-	-	X	-	Unlikely
<i>Ornduffia submersa</i>	-	-	P4	-	-	X	-	Unlikely
<i>Pithocarpa corymbulosa</i>	-	-	P3	X	-	X	X	Unlikely
<i>Platysace ramosissima</i>	-	-	P3	-	-	X	X	Unlikely
<i>Ptilotus pyramidatus</i>	CR	S1	T	-	X	-	-	Unlikely
<i>Schoenus pennisetis</i>	-	-	P3	-	-	X	X	Unlikely
<i>Senecio leucoglossus</i>	-	-	P4	X	-	X	X	Unlikely
<i>Stylidium striatum</i>	-	-	P4	X	-	X	-	Unlikely
<i>Synaphea</i> sp. Fairbridge Farm (D. Papenfus 696)	CR	S1	T	-	X	-	X	Unlikely
<i>Tetratheca</i> sp. Granite (S. Patrick SP1224)	-	-	P3	X	-	X	X	Unlikely
<i>Thelymitra dedmaniarum</i>	EN	S1	T	-	X	-	-	Unlikely
<i>Thelymitra magnifica</i>	-	-	P1	X	-	X	X	Unlikely

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Species	Conservation status ¹			Source ²				Likelihood assessment
	EPBC Act	WC Act	Parks and Wildlife	NatureMap	PMST	WAHerb	TPFL	
<i>Thelymitra stellata</i>	EN	S2	T	X	X	X	X	Unlikely
<i>Thysanotus anceps</i>	-	-	P3	-	-	X	-	Unlikely
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	-	-	P4	X	-	X	X	Unlikely

¹CR = listed as Critically Endangered under the EPBC Act.

EN = listed as Endangered under the EPBC Act.

VU = listed as Vulnerable under the EPBC Act.

S1 = Schedule 1: Flora that are considered likely to become extinct or rare, as critically endangered flora (CR) under the WC Act.

S2 = Schedule 2: Flora that are considered likely to become extinct or rare, as endangered flora (EN) under the WC Act.

S3 = Schedule 3: Flora that are considered likely to become extinct or rare, as vulnerable flora (VU) under the WC Act.

T = Threatened species: flora that has been declared likely to become extinct or is rare, or otherwise in need of special protection, pursuant to section 23F(2) of the WC Act.

P1 = Priority 1: poorly known species that are known from one or a few locations which are potentially at risk, and are in urgent need of further survey. Listed by Department of Parks and Wildlife.

P2 = Priority 2: poorly known species known from one or a few locations, some of which are on lands managed primarily for nature conservation, and are in urgent need of further survey. Listed by Department of Parks and Wildlife.

P3 = Priority 3: poorly-known species known from several specimens or records but not under imminent threat, and need further survey. Listed by Department of Parks and Wildlife.

P4 = Priority 4: Rare, Near Threatened and other species in need of monitoring but not currently threatened; could become threatened if present circumstances change. Listed by Department of Parks and Wildlife.

²NatureMap = NatureMap database search (Parks and Wildlife 2007 - 2017); PMST = EPBC Act Protected Matters Report (DotEE 2017b); WAHerb = Western Australian Herbarium; TPFL = Threatened and Priority Flora database (Parks and Wildlife 2016a)

Appendix D Fauna likelihood of occurrence assessment

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Species	Conservation status ¹			Source ²		Likelihood assessment
	EPBC Act	Parks and Wildlife	WC Act	NatureMap	PMST	
<i>Apus pacificus</i> (Fork-tailed Swift)	M	-	S5	-	X	Potential
<i>Bettongia penicillata</i> (Brush-tailed Bettong, Woylie)	EN	-	S1	X	X	Unlikely
<i>Botaurus poiciloptilus</i> (Australasian Bittern)	EN	-	S2	-	X	Unlikely
<i>Calidris ferruginea</i> (Curlew Sandpiper)	CR, M	-	S3	-	X	Unlikely
<i>Calyptorhynchus banksii naso</i> (Forest Red-tailed Black-Cockatoo)	VU	-	S3	X	-	Known
<i>Calyptorhynchus baudinii</i> (Baudin's Cockatoo)	VU	-	S2	-	X	Potential
<i>Calyptorhynchus latirostris</i> (Carnaby's Cockatoo)	EN	-	S2	X	-	Potential
<i>Dasyurus geoffroii</i> (Chuditch)	VU	-	S3	X	-	Potential
<i>Hydromys chrysogaster</i> (Water-rat)	-	P4	-	X	-	Unlikely
<i>Isodon obesulus fusciventer</i> (Southern Brown Bandicoot, Quenda)	-	P4	-	X	-	Known
<i>Leipoa ocellata</i> (Malleefowl)	VU	-	S3	-	X	Unlikely
<i>Macropus irma</i> (Western Brush Wallaby)	-	P4	-	X	-	Unlikely
<i>Merops ornatus</i> (Rainbow Bee-eater)	M		S5	X	-	Potential
<i>Motacilla cinerea</i> (Grey Wagtail)	M	-	S5	-	X	Unlikely
<i>Neelaps calonotos</i> (Black-striped Snake)	-	P3	-	X	-	Unlikely
<i>Numenius madagascariensis</i> (Eastern Curlew)	CR	-	S3	-	X	Unlikely
<i>Oxyura australis</i> (Blue-billed Duck)	-	P4	-	X	-	Unlikely
<i>Pandion haliaetus</i> (Osprey)	M	-	S5	-	X	Unlikely

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Species	Conservation status ¹			Source ²		Likelihood assessment
	EPBC Act	Parks and Wildlife	WC Act	NatureMap	PMST	
<i>Pseudocheirus occidentalis</i> (Western Ring-tailed Possum)	VU	-	S1	-	X	Unlikely
<i>Rostratula australis</i> (Australian Painted Snipe)	EN	-	S2	-	X	Unlikely
<i>Setonix brachyurus</i> (Quokka)	VU	-	S3	-	X	Unlikely
<i>Tringa nebularia</i> (Common Greenshank)	M	-	S5	-	X	Unlikely

¹CR = listed as Critically Endangered under the EPBC Act.

EN = listed as Endangered under the EPBC Act.

VU = listed as Vulnerable under the EPBC Act.

M = listed as Migratory species under the EPBC Act.

S1 = Schedule 1: Fauna that is rare or is likely to become extinct as critically endangered fauna (CR) under the WC Act.

S2 = Schedule 2: Fauna that is rare or likely to become extinct as endangered fauna (EN) under the WC Act.

S3 = Schedule 3: Fauna that is rare or likely to become extinct as vulnerable fauna (VU) under the WC Act.

S5 = Schedule 5: Migratory birds protected under an international agreement (IA) under the WC Act.

P3 = Priority 3: poorly-known species known from several specimens or records but not under imminent threat, and need further survey. Listed by Department of Parks and Wildlife.

P4 = Priority 4: Rare, Near Threatened and other species in need of monitoring but not currently threatened; could become threatened if present circumstances change. Listed by Department of Parks and Wildlife.

²NatureMap = NatureMap database search (Parks and Wildlife 2007 - 2017); PMST = EPBC Act Protected Matters Report (DotEE 2017b).

Appendix E Flora species list

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Family	Species
Arecaceae	* <i>Washingtonia filifera</i>
Asparagaceae	* <i>Agave americana</i>
	<i>Laxmannia ramosa</i> subsp. <i>ramosa</i>
	<i>Lomandra preissii</i>
	<i>Thysanotus manglesianus</i>
	<i>Thysanotus sparteus</i>
	<i>Thysanotus tenellus</i>
Asteraceae	* <i>Arctotheca calendula</i>
	* <i>Gazania linearis</i>
	* <i>Hypochaeris glabra</i>
	* <i>Lactuca serriola</i>
	* <i>Osteospermum ecklonis</i>
	* <i>Taraxacum khatoonae</i>
	* <i>Ursinia anthemoides</i>
	<i>Pterochaeta paniculata</i>
Brassicaceae	* <i>Raphanus raphanistrum</i>
Cactaceae	* <i>Opuntia stricta</i>
Campanulaceae	* <i>Wahlenbergia capensis</i>
	<i>Isotoma hypocrateriformis</i>
Caprifoliaceae	* <i>Centranthus macrosiphon</i>
Caryophyllaceae	* <i>Silene gallica</i>
Casuarinaceae	<i>Allocasuarina huegeliana</i>
	<i>Allocasuarina humilis</i>
Colchicaceae	<i>Burchardia congesta</i>
Convolvulaceae	* <i>Ipomoea cairica</i>
Crassulaceae	<i>Crassula colorata</i> var. <i>colorata</i>
Cyperaceae	<i>Mesomelaena pseudostygia</i>
	<i>Mesomelaena tetragona</i>
	<i>Schoenus</i> sp.
Dasypogonaceae	<i>Dasypogon bromeliifolius</i>
Dilleniaceae	<i>Hibbertia hypericoides</i>
	<i>Hibbertia huegelii</i>

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Family	Species
Droseraceae	<i>Drosera</i> sp.
	<i>Drosera erythrorhiza</i>
	<i>Drosera glanduligera</i>
	<i>Drosera macrantha</i>
	<i>Drosera pallida</i>
Elaeocarpaceae	<i>Tetratheca nuda</i>
Euphorbiaceae	* <i>Euphorbia peplus</i>
Fabaceae	* <i>Acacia dealbata</i>
	* <i>Acacia iteaphylla</i>
	* <i>Acacia longifolia</i>
	* <i>Acacia podalyriifolia</i>
	* <i>Acacia</i> sp. (Eastern States)
	* <i>Chamaecytisus palmensis</i>
	* <i>Genista linifolia</i>
	* <i>Lotus angustissimus</i>
	* <i>Lotus subbiflorus</i>
	* <i>Lupinus angustifolius</i>
	* <i>Lupinus cosentinii</i>
	* <i>Trifolium campestre</i>
	* <i>Trifolium angustifolium</i>
	* <i>Trifolium arvense</i>
	* <i>Vicia sativa</i>
	<i>Acacia pulchella</i>
	<i>Acacia nervosa</i>
	<i>Acacia pulchella</i> var. <i>pulchella</i>
	<i>Acacia saligna</i>
	<i>Bossiaea eriocarpa</i>
	<i>Daviesia decurrens</i> subsp. <i>decurrens</i>
	<i>Daviesia nudiflora</i> subsp. <i>nudiflora</i>
	<i>Gastrolobium retusum</i>
	<i>Gompholobium</i> sp.
	<i>Gompholobium knightianum</i>

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Family	Species
	<i>Gompholobium marginatum</i>
	<i>Jacksonia lehmannii</i>
	<i>Kennedia prostrata</i>
	<i>Sphaerolobium linophyllum</i>
Geraniaceae	* <i>Erodium botrys</i>
Goodeniaceae	<i>Dampiera linearis</i>
	<i>Lechenaultia biloba</i>
	<i>Scaevola repens</i> var. <i>repens</i>
Haemodoraceae	<i>Anigozanthos humilis</i> subsp. <i>humilis</i>
	<i>Anigozanthos manglesii</i> subsp. <i>manglesii</i>
	<i>Conostylis candicans</i>
	<i>Conostylis setosa</i>
	<i>Haemodorum</i> sp.
	<i>Haemodorum discolor</i>
Hemerocallidaceae	<i>Agrostocrinum hirsutum</i>
	<i>Caesia micrantha</i>
	<i>Tricoryne elatior</i>
Iridaceae	* <i>Freesia alba</i> × <i>leichtlinii</i>
	* <i>Gladiolus undulatus</i>
	* <i>Gladiolus</i> ? <i>angustus</i>
	* <i>Gladiolus caryophyllaceus</i>
	* <i>Hesperantha falcata</i>
	* <i>Romulea rosea</i>
	* <i>Watsonia meriana</i>
	<i>Patersonia occidentalis</i>
	<i>Patersonia umbrosa</i> var. <i>xanthina</i>
Lamiaceae	* <i>Lavandula dentata</i>
	<i>Hemiphora bartlingii</i>
Lauraceae	<i>Cassytha racemosa</i>
Linaceae	* <i>Linum trigynum</i>
Loranthaceae	<i>Nuytsia floribunda</i>
Meliaceae	* <i>Melia azedarach</i>

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Family	Species
Myrtaceae	<i>*Angophora costata</i> subsp. <i>costata</i> (planted)
	<i>*Callistemon</i> sp. (cultivar planted)
	<i>*Chamelaucium uncinatum</i>
	<i>*Leptospermum laevigatum</i>
	<i>Babingtonia camphorosmae</i>
	<i>Beaufortia squarrosa</i>
	<i>Calothamnus quadrifidus</i>
	<i>Calothamnus torulosus</i>
	<i>Calytrix glutinosa</i>
	<i>Corymbia calophylla</i>
	<i>Eremaea pauciflora</i>
	<i>Eremaea pauciflora</i> var. <i>pauciflora</i>
	<i>Eucalyptus</i> sp. (seedling)
	<i>Eucalyptus camaldulensis</i>
	<i>Eucalyptus lane-poolei</i>
	<i>Eucalyptus marginata</i> subsp. <i>marginata</i>
	<i>Eucalyptus utilis</i>
	<i>Eucalyptus wandoo</i> subsp. <i>wandoo</i>
	<i>Kunzea glabrescens</i>
	<i>Melaleuca aspalathoides</i>
	<i>Melaleuca radula</i>
	<i>Pericalymma ellipticum</i> var. <i>ellipticum</i>
	<i>Verticordia densiflora</i> var. <i>densiflora</i>
	<i>Verticordia plumosa</i>
Onagraceae	<i>*Oenothera stricta</i>
Orchidaceae	<i>Caladenia flava</i>
	<i>Pterostylis sanguinea</i>
Orobanchaceae	<i>*Orobanche minor</i>
Oxalidaceae	<i>*Oxalis pes-caprae</i>
Papaveraceae	<i>*Fumaria capreolata</i>
Phyllanthaceae	<i>Poranthera microphylla</i>
Poaceae	<i>*Arundo donax</i>

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Family	Species
	<i>*Avena barbata</i>
	<i>*Briza maxima</i>
	<i>*Briza minor</i>
	<i>*Bromus diandrus</i>
	<i>*Bromus hordeaceus</i>
	<i>*Cenchrus clandestinus</i>
	<i>*Cynodon dactylon</i>
	<i>*Ehrharta calycina</i>
	<i>*Eragrostis curvula</i>
	<i>*Pentameris airoides</i>
	<i>*Tribolium uniola</i>
	<i>*Vulpia bromoides</i>
	<i>Austrostipa elegantissima</i>
	<i>Neurachne alopecuroides</i>
	<i>Rytidosperma setaceum</i>
	<i>Themeda triandra</i>
Primulaceae	<i>*Lysimachia arvensis</i>
Proteaceae	<i>Banksia grandis</i>
	<i>Banksia sessilis</i>
	<i>Banksia dallanneyi</i> var. <i>dallanneyi</i>
	<i>Banksia menziesii</i>
	<i>Grevillea bipinnatifida</i> subsp. <i>bipinnatifida</i>
	<i>Grevillea preissii</i> subsp. <i>preissii</i>
	<i>Hakea trifurcata</i>
	<i>Hakea conchifolia</i>
	<i>Hakea laurina</i>
	<i>Hakea trifurcata</i>
	<i>Hakea undulata</i>
	<i>Isopogon divergens</i>
	<i>Lambertia multiflora</i>
	<i>Lambertia multiflora</i> var. <i>darlingensis</i>
	<i>Petrophile linearis</i>

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Family	Species
	<i>Petrophile striata</i>
	<i>Stirlingia latifolia</i>
	<i>Synaphea gracillima</i>
	<i>Synaphea spinulosa</i>
Pteridaceae	<i>Cheilanthes sieberi</i> subsp. <i>sieberi</i>
Restionaceae	<i>Desmocladius fasciculatus</i>
Rhamnaceae	<i>Trymalium odoratissimum</i> subsp. <i>odoratissimum</i>
Rubiaceae	<i>Opercularia vaginata</i>
Rutaceae	<i>Boronia</i> sp.
	<i>Levenhookia pusilla</i>
	<i>Levenhookia stipitata</i>
Stylidiaceae	<i>Stylidium brunonianum</i>
	<i>Stylidium piliferum</i>
	<i>Stylidium repens</i>
Thymelaeaceae	<i>Pimelea imbricata</i>
	<i>Pimelea lehmanniana</i>
Tropaeolaceae	* <i>Tropaeolum majus</i>
Violaceae	<i>Hybanthus</i> sp.
Xanthorrhoeaceae	<i>Xanthorrhoea preissii</i>

Appendix F Flora species matrix

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Species	ELA01	ELA02	ELA03	ELA04	ELA05	ELA06	Releve
<i>*Arctotheca calendula</i>	0	0	1	0	0	0	0
<i>*Briza maxima</i>	1	1	1	1	1	0	0
<i>*Briza minor</i>	0	0	1	0	1	0	0
<i>*Bromus hordeaceus</i>	0	0	0	0	0	1	0
<i>*Cynodon dactylon</i>	0	0	0	1	0	0	0
<i>*Ehrharta calycina</i>	0	1	1	1	1	0	0
<i>*Eragrostis curvula</i>	0	1	0	0	0	1	0
<i>*Freesia alba x leichtlinii</i>	1	1	0	1	1	1	0
<i>*Gladiolus ?angustus</i>	0	0	0	0	0	1	0
<i>*Gladiolus caryophyllaceus</i>	0	1	0	1	0	0	0
<i>*Hypochaeris glabra</i>	0	1	0	1	0	0	0
<i>*Lactuca serriola</i>	0	0	0	0	1	0	0
<i>*Leptospermum laevigatum</i>	0	0	0	0	1	0	0
<i>*Linum trigynum</i>	0	0	0	0	0	1	0
<i>*Lysimachia arvensis</i>	0	0	1	0	0	0	0
<i>*Pentameris airoides</i>	0	0	1	0	0	0	0
<i>*Romulea rosea</i>	0	1	0	0	0	1	0
<i>*Silene gallica</i>	0	0	1	0	0	0	0
<i>*Taraxacum khatoonae</i>	0	0	1	0	0	0	0
<i>*Trifolium campestre</i>	0	0	0	0	1	0	0
<i>*Trifolium angustifolium</i>	0	0	0	0	0	1	0
<i>*Trifolium angustifolium var. angustifolium</i>	0	0	0	0	0	1	0
<i>*Trifolium campestre var. campestre</i>	1	0	0	0	0	0	0
<i>*Ursinia anthemoides</i>	1	1	1	1	0	0	0
<i>Acacia nervosa</i>	1	0	0	0	0	0	0
<i>Acacia pulchella var. pulchella</i>	0	0	0	0	0	1	0
<i>Acacia saligna</i>	0	0	1	0	0	0	0
<i>Allocasuarina huegeliana</i>	0	0	1	0	0	0	1
<i>Allocasuarina humilis</i>	0	1	1	1	0	0	0
<i>Anigozanthos humilis subsp. humilis</i>	0	1	0	0	0	0	0
<i>Austrostipa elegantissima</i>	0	0	0	1	1	1	0
<i>Babingtonia camphorosmae</i>	0	0	0	1	0	0	0

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Species	ELA01	ELA02	ELA03	ELA04	ELA05	ELA06	Releve
<i>Banksia sessilis</i>	0	0	0	0	0	1	1
<i>Banksia dallanneyi</i> var. <i>dallanneyi</i>	0	1	0	1	0	0	0
<i>Boronia</i> sp.	1	0	0	0	0	0	0
<i>Bossiaea eriocarpa</i>	0	0	0	1	0	0	0
<i>Burchardia congesta</i>	0	1	1	1	0	0	0
<i>Caesia micrantha</i>	0	0	0	1	0	0	0
<i>Calothamnus torulosus</i>	0	0	0	0	0	0	1
<i>Calytrix glutinosa</i>	0	0	0	0	0	1	0
<i>Cassytha racemosa</i>	0	0	0	1	1	0	0
<i>Conostylis candicans</i>	0	0	0	0	1	0	0
<i>Conostylis setosa</i>	0	1	0	1	0	0	0
<i>Corymbia calophylla</i>	1	0	0	1	1	1	0
<i>Crassula colorata</i> var. <i>colorata</i>	0	1	0	0	0	0	0
<i>Dampiera linearis</i>	1	0	0	1	0	0	0
<i>Dasypogon bromeliifolius</i>	0	0	1	0	0	0	0
<i>Daviesia decurrens</i> subsp. <i>decurrens</i>	0	1	0	0	1	0	0
<i>Daviesia nudiflora</i> subsp. <i>nudiflora</i>	0	0	1	1	0	0	0
<i>Desmocladus fasciculatus</i>	1	0	0	0	1	0	0
<i>Drosera erythrorhiza</i>	0	0	0	1	0	0	0
<i>Drosera glanduligera</i>	0	0	1	0	0	0	0
<i>Drosera macrantha</i>	1	0	0	0	0	0	0
<i>Drosera pallida</i>	0	0	0	1	0	0	0
<i>Eremaea pauciflora</i>	0	1	0	0	0	0	0
<i>Eremaea pauciflora</i> var. <i>pauciflora</i>	0	1	0	0	0	0	0
<i>Eucalyptus</i> sp. (seedling)	1	0	0	0	0	0	0
<i>Eucalyptus marginata</i> subsp. <i>marginata</i>	0	1	0	1	0	0	0
<i>Gastrolobium retusum</i>	1	0	0	1	0	0	0
<i>Gompholobium</i> sp.	0	0	0	0	0	1	0
<i>Gompholobium knightianum</i>	0	0	0	0	1	0	0
<i>Gompholobium marginatum</i>	1	0	0	0	0	0	0
<i>Grevillea bipinnatifida</i> subsp. <i>bipinnatifida</i>	0	1	0	0	0	0	0
<i>Haemodorum</i> sp.	1	0	0	0	0	0	0

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Species	ELA01	ELA02	ELA03	ELA04	ELA05	ELA06	Releve
<i>Haemodorum discolor</i>	0	0	0	1	0	0	0
<i>Hakea trifurcata</i>	1	0	0	0	1	1	1
<i>Hakea conchifolia</i>	0	0	0	1	0	0	0
<i>Hakea laurina</i>	0	0	0	0	0	1	1
<i>Hakea trifurcata</i>	0	1	0	0	0	0	0
<i>Hibbertia hypericoides</i>	0	1	1	1	0	1	0
<i>Hibbertia huegelii</i>	0	0	0	0	1	0	0
<i>Hybanthus</i> sp.	0	0	0	0	0	1	0
<i>Isotoma hypocrateriformis</i>	0	0	1	0	0	0	0
<i>Jacksonia lehmannii</i>	0	1	0	1	0	0	0
<i>Kunzea glabrescens</i>	0	1	0	0	0	0	0
<i>Lambertia multiflora</i> var. <i>darlingensis</i>	0	0	0	1	0	0	0
<i>Lechenaultia biloba</i>	0	0	1	1	1	0	0
<i>Leptospermum laevigatum</i>	0	0	0	0	0	0	1
<i>Levenhookia pusilla</i>	0	0	0	1	0	0	0
<i>Levenhookia stipitata</i>	0	0	0	1	0	0	0
<i>Lomandra preissii</i>	0	1	0	0	0	0	0
<i>Melaleuca aspalathoides</i>	0	1	1	1	0	0	0
<i>Melaleuca radula</i>	0	0	0	0	0	0	1
<i>Mesomelaena pseudostygia</i>	0	1	0	1	0	0	0
<i>Mesomelaena tetragona</i>	1	0	0	0	0	0	0
<i>Neurachne alopecuroides</i>	1	0	0	1	1	1	0
<i>Nuytsia floribunda</i>	0	0	1	0	0	0	0
<i>Opercularia vaginata</i>	0	0	0	0	1	1	0
<i>Patersonia occidentalis</i>	0	0	1	0	0	0	0
<i>Patersonia umbrosa</i> var. <i>xanthina</i>	1	0	0	0	0	0	0
<i>Pericalymma ellipticum</i> var. <i>ellipticum</i>	1	0	0	0	0	0	0
<i>Petrophile linearis</i>	0	1	0	0	0	0	0
<i>Petrophile striata</i>	0	0	1	1	1	0	0
<i>Pimelea lehmanniana</i>	0	0	0	1	0	0	0
<i>Poranthera microphylla</i>	0	0	0	0	1	0	0
<i>Pterochaeta paniculata</i>	1	0	0	0	0	0	0

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Species	ELA01	ELA02	ELA03	ELA04	ELA05	ELA06	Releve
<i>Pterostylis sanguinea</i>	0	1	0	0	0	0	0
<i>Rytidosperma setaceum</i>	0	0	0	1	0	0	0
<i>Scaevola repens</i> var. <i>repens</i>	0	1	1	0	0	0	0
<i>Schoenus</i> sp.	0	0	1	1	1	0	1
<i>Sphaerolobium linophyllum</i>	0	0	0	1	0	0	0
<i>Stylidium brunonianum</i>	1	0	0	1	0	0	0
<i>Stylidium piliferum</i>	0	0	0	1	0	0	0
<i>Stylidium repens</i>	1	0	0	0	1	0	0
<i>Synaphea gracillima</i>	0	0	0	1	0	0	0
<i>Themeda triandra</i>	1	0	0	0	0	0	0
<i>Thysanotus sparteus</i>	0	0	0	1	0	0	0
<i>Thysanotus tenellus</i>	1	0	0	0	0	0	0
<i>Tricoryne elatior</i>	0	1	1	1	0	0	0
<i>Verticordia densiflora</i> var. <i>densiflora</i>	1	0	0	0	0	0	0
<i>Xanthorrhoea preissii</i>	0	1	1	1	0	0	0

Appendix G Introduced flora (weed) species list

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Family	Species
Arecaceae	* <i>Washingtonia filifera</i>
Asparagaceae	* <i>Agave americana</i>
Asteraceae	* <i>Arctotheca calendula</i>
	* <i>Dimorphotheca ecklonis</i>
	* <i>Gazania linearis</i>
	* <i>Hypochaeris glabra</i>
	* <i>Lactuca serriola</i>
	* <i>Osteospermum ecklonis</i>
	* <i>Taraxacum khatoonae</i>
	* <i>Ursinia anthemoides</i>
Brassicaceae	* <i>Raphanus raphanistrum</i>
Cactaceae	* <i>Opuntia stricta</i>
Campanulaceae	* <i>Wahlenbergia capensis</i>
Caprifoliaceae	* <i>Centranthus macrosiphon</i>
Caryophyllaceae	* <i>Silene gallica</i>
Convolvulaceae	* <i>Ipomoea cairica</i>
Euphorbiaceae	* <i>Euphorbia peplus</i>
Fabaceae	* <i>Acacia dealbata</i>
	* <i>Acacia iteaphylla</i>
	* <i>Acacia longifolia</i>
	* <i>Acacia podalyriifolia</i>
	* <i>Acacia</i> sp. (Eastern States)
	* <i>Chamaecytisus palmensis</i>
	* <i>Genista linifolia</i>
	* <i>Lotus angustissimus</i>
	* <i>Lotus subbiflorus</i>
	* <i>Lupinus angustifolius</i>
	* <i>Lupinus cosentinii</i>
	* <i>Trifolium campestre</i>
	* <i>Trifolium angustifolium</i>
	* <i>Trifolium arvense</i>
	* <i>Vicia sativa</i>

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Family	Species
Geraniaceae	* <i>Erodium botrys</i>
Iridaceae	* <i>Freesia alba</i> × <i>leichtlinii</i>
	* <i>Gladiolus undulatus</i>
	* <i>Gladiolus</i> ? <i>angustus</i>
	* <i>Gladiolus caryophyllaceus</i>
	* <i>Hesperantha falcata</i>
	* <i>Romulea rosea</i>
	* <i>Watsonia meriana</i>
Lamiaceae	* <i>Lavandula dentata</i>
Linaceae	* <i>Linum trigynum</i>
Meliaceae	* <i>Melia azedarach</i>
Myrtaceae	* <i>Angophora costata</i> subsp. <i>costata</i> (planted)
	* <i>Callistemon</i> sp. (cultivar planted)
	* <i>Chamelaucium uncinatum</i>
	* <i>Leptospermum laevigatum</i>
Onagraceae	* <i>Oenothera stricta</i>
Orobanchaceae	* <i>Orobanche minor</i>
Oxalidaceae	* <i>Oxalis pes-caprae</i>
Papaveraceae	* <i>Fumaria capreolata</i>
Poaceae	* <i>Arundo donax</i>
	* <i>Avena barbata</i>
	* <i>Briza maxima</i>
	* <i>Briza minor</i>
	* <i>Bromus diandrus</i>
	* <i>Bromus hordeaceus</i>
	* <i>Cenchrus clandestinus</i>
	* <i>Cynodon dactylon</i>
	* <i>Ehrharta calycina</i>
	* <i>Eragrostis curvula</i>
	* <i>Pentameris airoides</i>
	* <i>Tribolium uniola</i>
	* <i>Vulpia bromoides</i>

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Family	Species
Primulaceae	<i>*Lysimachia arvensis</i>
Tropaeolaceae	<i>*Tropaeolum majus</i>

Appendix H Quadrat data

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Site number	Date	Site type	Observer
ELA01	26/10/2016	Quadrat 10x10 m	KZA, SD & JM
Habitat description	Landform unit	Easting	Northing
Flat, foothills	Flat	407044	6460177
Rock type	Soil type	Soil texture	Soil colour
Gravelly	Clay loam	Fine	Grey-brown
Condition	Geology	Disturbance	Time since fire (years)
Very Good	Laterite	Weeds	10 – 20



Taxon	Cover (%)	Stratum*	Sub-Stratum
<i>Corymbia calophylla</i>	8	U	Trees over 30 m
<i>Hakea trifurcata</i>	20	M	Shrubs 1 – 2 m
<i>Pericalymma ellipticum</i> var. <i>ellipticum</i>	15	M	Shrubs 1 – 2 m
<i>Verticordia densiflora</i> var. <i>densiflora</i>	1	M	Shrubs 1 – 2 m
<i>Gastrolobium retusum</i>	0.1	M	Shrubs 1 – 2 m
<i>Acacia nervosa</i>	0.1	M	Shrubs under 1 m
<i>Boronia</i> sp.	0.1	M	Shrubs under 1 m
<i>Gompholobium marginatum</i>	0.1	M	Shrubs under 1 m
<i>Eucalyptus</i> sp. (seedling)	0.1	M	Shrubs under 1 m

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Taxon	Cover (%)	Stratum*	Sub-Stratum
<i>Mesomelaena tetragona</i>	15	L	Grasses
* <i>Briza maxima</i>	0.1	L	Grasses
* <i>Ursinia anthemoides</i>	0.1	L	Grasses
<i>Neurachne alopecuroidea</i>	10	L	Herbs
<i>Stylidium repens</i>	2	L	Herbs
<i>Dampiera linearis</i>	0.1	L	Herbs
<i>Desmocladius fasciculatus</i>	0.1	L	Herbs
<i>Drosera macrantha</i>	0.1	L	Herbs
* <i>Freesia alba</i> × <i>leichtlinii</i>	0.1	L	Herbs
<i>Haemodorum</i> sp.	0.1	L	Herbs
<i>Patersonia umbrosa</i> var. <i>xanthina</i>	0.1	L	Herbs
<i>Pterochaeta paniculata</i>	0.1	L	Herbs
<i>Stylidium brunonianum</i>	0.1	L	Herbs
<i>Themeda triandra</i>	0.1	L	Herbs
<i>Thysanotus tenellus</i>	0.1	L	Herbs
* <i>Trifolium campestre</i> var. <i>campestre</i>	0.1	L	Herbs

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Site number	Date	Site type	Observer
ELA02	26/10/2016	Quadrat 10x10 m	KZA, SD & JM
Habitat description	Landform unit	Easting	Northing
Flat, foothills, close to drainage	Flat	407018	6460036
Rock type	Soil type	Soil texture	Soil colour
Gravelly	Loam	Fine	Grey-yellow
Condition	Geology	Disturbance	Time since fire (years)
Good	Laterite	Weeds	1-10



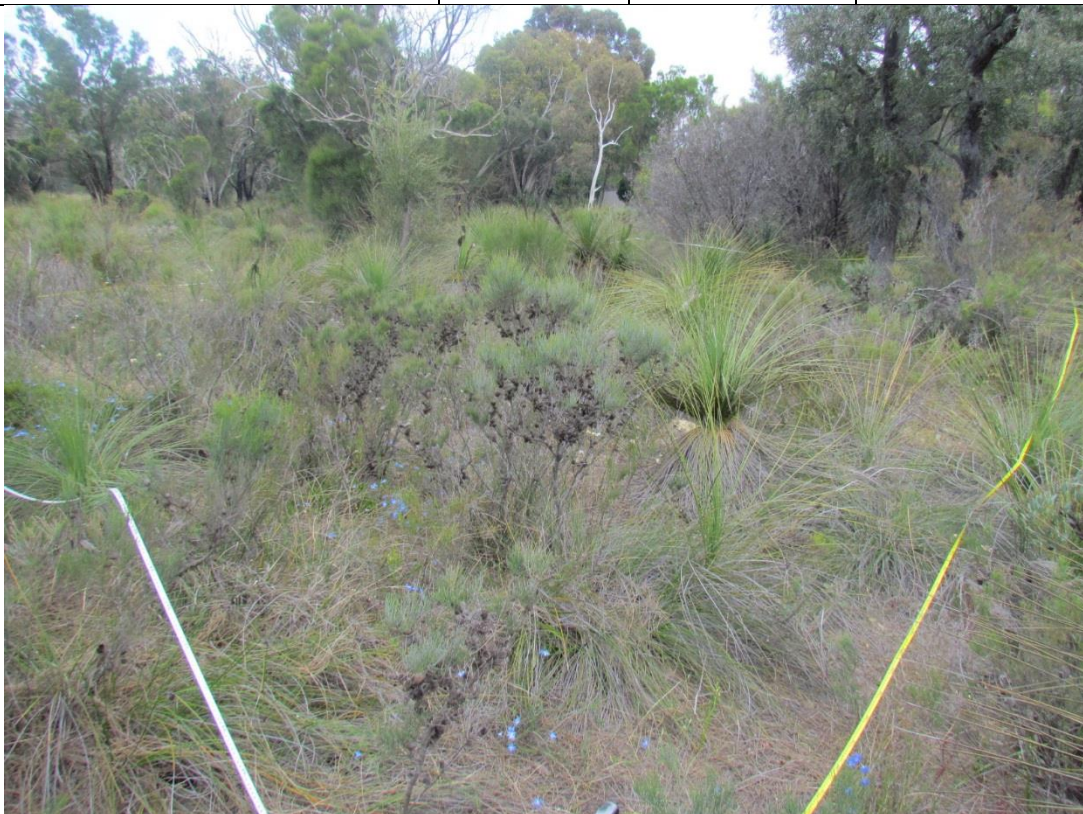
Taxon	Cover (%)	Stratum*	Sub-Stratum
<i>Eucalyptus marginata</i> subsp. <i>marginata</i>	5	U	Trees over 30 m
<i>Eremaea pauciflora</i> var. <i>pauciflora</i>	0.1	U	Trees 10 – 30 m
<i>Banksia dallanneyi</i> var. <i>dallanneyi</i>	0.1	U	Trees under 30 m
<i>Xanthorrhoea preissii</i>	5	M	Shrubs over 2 m
<i>Eremaea pauciflora</i>	0.1	M	Shrubs over 2 m
<i>Allocasuarina humilis</i>	10	M	Shrubs 1 – 2 m
<i>Hakea trifurcata</i>	2	M	Shrubs 1 – 2 m
<i>Kunzea glabrescens</i>	0.1	M	Shrubs 1 – 2 m
<i>Melaleuca aspalathoides</i>	0.1	M	Shrubs 1 – 2 m

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Taxon	Cover (%)	Stratum*	Sub-Stratum
<i>Hibbertia hypericoides</i>	1	M	Shrubs under 1 m
<i>Daviesia decurrens</i> subsp. <i>decurrens</i>	0.1	M	Shrubs under 1 m
<i>Grevillea bipinnatifida</i> subsp. <i>bipinnatifida</i>	0.1	M	Shrubs under 1 m
<i>Jacksonia lehmannii</i>	0.1	M	Shrubs under 1 m
<i>Petrophile linearis</i>	0.1	M	Shrubs under 1 m
<i>Scaevola repens</i> var. <i>repens</i>	0.1	M	Shrubs under 1 m
* <i>Ehrharta calycina</i>	5	L	Grasses
* <i>Eragrostis curvula</i>	1	L	Grasses
* <i>Briza maxima</i>	0.1	L	Grasses
<i>Mesomelaena pseudostygia</i>	0.1	L	Grasses
<i>Lomandra preissii</i>	2	L	Herbs
<i>Anigozanthos humilis</i> subsp. <i>humilis</i>	0.1	L	Herbs
<i>Burchardia congesta</i>	0.1	L	Herbs
<i>Conostylis setosa</i>	0.1	L	Herbs
<i>Crassula colorata</i> var. <i>colorata</i>	0.1	L	Herbs
* <i>Freesia alba</i> × <i>leichtlinii</i>	0.1	L	Herbs
* <i>Gladiolus caryophyllaceus</i>	0.1	L	Herbs
* <i>Hypochaeris glabra</i>	0.1	L	Herbs
<i>Pterostylis sanguinea</i>	0.1	L	Herbs
* <i>Romulea rosea</i>	0.1	L	Herbs
<i>Tricoryne elatior</i>	0.1	L	Herbs
* <i>Ursinia anthemoides</i>	0.1	L	Herbs

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Site number	Date	Site type	Observer
ELA03	26/10/2016	Quadrat 10x10 m	KZA, SD & JM
Habitat description	Landform unit	Easting	Northing
Flat, foothills	Flat	407122	6460033
Rock type	Soil type	Soil texture	Soil colour
Gravelly	Loam	Fine	Grey-brown
Condition	Geology	Disturbance	Time since fire (years)
Very Good	Laterite	Weeds	10 – 20



Taxon	Cover (%)	Stratum*	Sub-Stratum
<i>Nuytsia floribunda</i>	5	U	Trees under 10 m
<i>Allocasuarina huegeliana</i>	2	U	Trees under 10 m
<i>Xanthorrhoea preissii</i>	20	M	Shrubs over 2 m
<i>Acacia saligna</i>	0.1	M	Shrubs over 2 m
<i>Allocasuarina humilis</i>	15	M	Shrubs 1 – 2 m
<i>Daviesia nudiflora</i> subsp. <i>nudiflora</i>	1	M	Shrubs 1 – 2 m
<i>Melaleuca aspalathoides</i>	1	M	Shrubs 1 – 2 m
<i>Lechenaultia biloba</i>	2	M	Shrubs under 1 m
<i>Hibbertia hypericoides</i>	1	M	Shrubs under 1 m

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Taxon	Cover (%)	Stratum*	Sub-Stratum
<i>Isotoma hypocrateriformis</i>	0.1	M	Shrubs under 1 m
<i>Petrophile striata</i>	0.1	M	Shrubs under 1 m
<i>Scaevola repens</i> var. <i>repens</i>	0.1	M	Shrubs under 1 m
* <i>Briza maxima</i>	1	L	Grasses
* <i>Briza minor</i>	1	L	Grasses
* <i>Ehrharta calycina</i>	1	L	Grasses
* <i>Taraxacum khatoonae</i>	0.1	L	Grasses
<i>Schoenus</i> sp.	5	L	Herbs
<i>Dasypogon bromeliifolius</i>	2	L	Herbs
<i>Isotoma hypocrateriformis</i>	2	L	Herbs
<i>Patersonia occidentalis</i>	1	L	Herbs
* <i>Ursinia anthemoides</i>	1	L	Herbs
* <i>Arctotheca calendula</i>	0.1	L	Herbs
<i>Burchardia congesta</i>	0.1	L	Herbs
<i>Drosera glanduligera</i>	0.1	L	Herbs
* <i>Lysimachia arvensis</i>	0.1	L	Herbs
* <i>Pentameris airoides</i>	0.1	L	Herbs
* <i>Silene gallica</i>	0.1	L	Herbs
<i>Tricoryne elatior</i>	0.1	L	Herbs

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Site number	Date	Site type	Observer
ELA04	26/10/2016	Quadrat 10x10 m	KZA, SD & JM
Habitat description	Landform unit	Easting	Northing
Flat, foothills	Flat	407240	6459789
Rock type	Soil type	Soil texture	Soil colour
Gravelly	Sandy loam	Fine	Brown
Condition	Geology	Disturbance	Time since fire (years)
Very Good	Laterite	Weeds	10 – 20



Taxon	Cover (%)	Stratum*	Sub-Stratum
<i>Corymbia calophylla</i>	2	U	Trees over 30 m
<i>Conostylis setosa</i>	0.1	U	Trees over 30 m
<i>Eucalyptus marginata</i> subsp. <i>marginata</i>	20	U	Trees 10 – 30 m
<i>Banksia dallanneyi</i> var. <i>dallanneyi</i>	2	U	Trees under 10 m
<i>Lechenaultia biloba</i>	0.1	U	Trees under 10 m
<i>Xanthorrhoea preissii</i>	5	M	Shrubs over 2 m
<i>Drosera pallida</i>	0.1	M	Shrubs over 2 m
<i>Allocasuarina humilis</i>	2	M	Shrubs 1 – 2 m
<i>Haemodorum discolor</i>	2	M	Shrubs 1 – 2 m

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Taxon	Cover (%)	Stratum*	Sub-Stratum
<i>Lambertia multiflora</i> var. <i>darlingensis</i>	2	M	Shrubs 1 – 2 m
<i>Melaleuca aspalathoides</i>	2	M	Shrubs 1 – 2 m
<i>Hibbertia hypericoides</i>	15	M	Shrubs under 1 m
<i>Petrophile striata</i>	2	M	Shrubs under 1 m
<i>Babingtonia camphorosmae</i>	1	M	Shrubs under 1 m
<i>Gastrolobium retusum</i>	1	M	Shrubs under 1 m
<i>Lechenaultia biloba</i>	1	M	Shrubs under 1 m
<i>Synaphea gracillima</i>	1	M	Shrubs under 1 m
<i>Bossiaea eriocarpa</i>	0.1	M	Shrubs under 1 m
<i>Hakea conchifolia</i>	0.1	M	Shrubs under 1 m
<i>Jacksonia lehmannii</i>	0.1	M	Shrubs under 1 m
<i>Pimelea lehmanniana</i>	0.1	M	Shrubs under 1 m
<i>Sphaerolobium linophyllum</i>	0.1	M	Shrubs under 1 m
<i>Mesomelaena pseudostygia</i>	5	L	Grasses
* <i>Briza maxima</i>	1	L	Grasses
<i>Austrostipa elegantissima</i>	0.1	L	Grasses
* <i>Cynodon dactylon</i>	0.1	L	Grasses
* <i>Ehrharta calycina</i>	0.1	L	Grasses
<i>Schoenus</i> sp.	2	L	Herbs
<i>Burchardia congesta</i>	1	L	Herbs
<i>Dampiera linearis</i>	1	L	Herbs
<i>Daviesia nudiflora</i> subsp. <i>nudiflora</i>	1	L	Herbs
<i>Stylidium brunonianum</i>	1	L	Herbs
<i>Tricoryne elatior</i>	1	L	Herbs
<i>Caesia micrantha</i>	0.1	L	Herbs
<i>Cassytha racemosa</i>	0.1	L	Herbs
<i>Drosera erythrorhiza</i>	0.1	L	Herbs
* <i>Freesia alba</i> x <i>leichtlinii</i>	0.1	L	Herbs
* <i>Gladiolus caryophyllaceus</i>	0.1	L	Herbs
* <i>Hypochaeris glabra</i>	0.1	L	Herbs
<i>Levenhookia pusilla</i>	0.1	L	Herbs
<i>Levenhookia stipitata</i>	0.1	L	Herbs

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Taxon	Cover (%)	Stratum*	Sub-Stratum
<i>Neurachne alopecuroides</i>	0.1	L	Herbs
<i>Rytidosperma setaceum</i>	0.1	L	Herbs
<i>Stylidium piliferum</i>	0.1	L	Herbs
<i>Thysanotus sparteus</i>	0.1	L	Herbs
<i>*Ursinia anthemoides</i>	0.1	L	Herbs

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Site number	Date	Site type	Observer
ELA05	26/10/2016	Quadrat 10x10 m	KZA, SD & JM
Habitat description	Landform unit	Easting	Northing
Flat, foothills	Flat	407192	6459599
Rock type	Soil type	Soil texture	Soil colour
Gravelly	Sandy loam	Fine	Brown
Condition	Geology	Disturbance	Time since fire (years)
Good	Laterite	Weeds, clearing	10 – 20



Taxon	Cover (%)	Stratum*	Sub-Stratum
<i>Corymbia calophylla</i>	2	U	Trees over 30 m
* <i>Leptospermum laevigatum</i>	5	M	Shrubs over 2 m
<i>Hakea trifurcata</i>	25	M	Shrubs 1 – 2 m
<i>Daviesia decurrens</i> subsp. <i>decurrens</i>	0.1	M	Shrubs 1 – 2 m
<i>Hibbertia huegelii</i>	1	M	Shrubs under 1 m
<i>Petrophile striata</i>	1	M	Shrubs under 1 m
<i>Gompholobium knightianum</i>	0.1	M	Shrubs under 1 m
<i>Lechenaultia biloba</i>	0.1	M	Shrubs under 1 m
* <i>Briza maxima</i>	5	L	Grasses

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Taxon	Cover (%)	Stratum*	Sub-Stratum
<i>*Ehrharta calycina</i>	2	L	Grasses
<i>Austrostipa elegantissima</i>	0.1	L	Grasses
<i>*Briza minor</i>	0.1	L	Grasses
<i>Schoenus</i> sp.	5	L	Herbs
<i>Conostylis candicans</i>	1	L	Herbs
<i>Desmocladius fasciculatus</i>	1	L	Herbs
<i>*Freesia alba</i> × <i>leichtlinii</i>	1	L	Herbs
<i>Neurachne alopecuroides</i>	1	L	Herbs
<i>Opercularia vaginata</i>	1	L	Herbs
<i>Cassutha racemosa</i>	0.1	L	Herbs
<i>*Lactuca serriola</i>	0.1	L	Herbs
<i>Poranthera microphylla</i>	0.1	L	Herbs
<i>Stylidium repens</i>	0.1	L	Herbs
<i>*Trifolium campestre</i>	0.1	L	Herbs

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Site number	Date	Site type	Observer
ELA06	26/10/2016	Quadrat 10x10 m	KZA, SD & JM
Habitat description	Landform unit	Easting	Northing
Flat, foothills	Flat	406963	6459380
Rock type	Soil type	Soil texture	Soil colour
Gravelly	Loam	Fine	Brown
Condition	Geology	Disturbance	Time since fire (years)
Very Good	Laterite	Weeds	10 – 20



Taxon	Cover (%)	Stratum*	Sub-Stratum
<i>Corymbia calophylla</i>	2	U	Trees over 30 m
<i>Banksia sessilis</i>	15	U	Trees under 10 m
<i>Hakea laurina</i>	3	U	Trees under 10 m
<i>Acacia pulchella</i> var. <i>pulchella</i>	1	M	Shrubs over 2 m
<i>Hakea trifurcata</i>	15	M	Shrubs 1 – 2 m
<i>Hybanthus</i> sp.	1	M	Shrubs 1 – 2 m
<i>Austrostipa elegantissima</i>	0.1	M	Shrubs under 1 m
<i>Gompholobium</i> sp.	0.1	M	Shrubs under 1 m
<i>Hibbertia hypericoides</i>	0.1	M	Shrubs under 1 m

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Taxon	Cover (%)	Stratum*	Sub-Stratum
<i>*Eragrostis curvula</i>	2	L	Grasses
<i>*Bromus hordeaceus</i>	0.1	L	Grasses
<i>Calytrix glutinosa</i>	5	L	Herbs
<i>*Freesia alba</i> × <i>leichtlinii</i>	2	L	Herbs
<i>Opercularia vaginata</i>	2	L	Herbs
<i>*Gladiolus ?angustus</i>	1	L	Herbs
<i>*Trifolium angustifolium</i>	1	L	Herbs
<i>*Linum trigynum</i>	0.1	L	Herbs
<i>Neurachne alopecuroidea</i>	0.1	L	Herbs
<i>*Romulea rosea</i>	0.1	L	Herbs
<i>*Trifolium angustifolium</i> var. <i>angustifolium</i>	0.1	L	Herbs

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Site number	Date	Site type	Observer
Releve	26/10/2016	Quadrat 10x10 m	KZA, SD & JM
Habitat description	Landform unit	Easting	Northing
Flat, foothills	Flat	407022	6459445
Rock type	Soil type	Soil texture	Soil colour
Gravelly	Sandy gravelly loam	Fine	Grey-brown
Condition	Geology	Disturbance	Time since fire (years)
Very Good	Laterite	Weeds	10 – 20



Taxon	Cover (%)	Stratum*	Sub-Stratum
<i>Banksia sessilis</i>	15	U	Trees under 10 m
<i>Hakea laurina</i>	0.1	U	Trees under 10 m
<i>Melaleuca radula</i>	25	M	Shrubs 1 – 2 m
<i>Hakea laurina</i>	5	M	Shrubs 1 – 2 m
<i>Allocasuarina huegeliana</i>	0.1	M	Shrubs 1 – 2 m
<i>Hakea trifurcata</i>	7	M	Shrubs under 1 m
<i>Calothamnus torulosus</i>	0.1	M	Shrubs under 1 m
* <i>Leptospermum laevigatum</i>	2	L	Herbs

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

<i>Schoenus</i> sp.	1	L	Herbs
---------------------	---	---	-------

Appendix I Fauna species list

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Common name	Species	Notes
Birds		
Australian Magpie	<i>Cracticus tibicen</i>	Observed
Australian Raven	<i>Corvus coronoides</i>	Observed
Australian Ringneck Parrot	<i>Barnardius zonarius</i>	Observed
Black-faced Cuckoo-shrike	<i>Coracina novaehollandiae</i>	Observed
Brown Honeyeater	<i>Lichmera indistincta</i>	Observed
Common Bronzewing	<i>Phaps chalcoptera</i>	Observed
Domestic Pigeon	* <i>Columba livia</i>	Observed
Galah	* <i>Eolophus roseicapilla</i>	Observed
Grey Butcherbird	<i>Cracticus torquatus</i>	Observed
Laughing Dove	* <i>Spilopelia senegalensis</i>	Observed
Laughing Kookaburra	* <i>Dacelo novaeguineae</i>	Observed
Little Corella	* <i>Cacatua sanguinea</i>	Observed
Magpie-lark	<i>Grallina cyanoleuca</i>	Observed
New Holland Honeyeater	<i>Phylidonyris novaehollandiae</i>	Observed
Rainbow Lorikeet	* <i>Trichoglossus moluccanus</i>	Observed
Red Wattlebird	<i>Anthochaera carunculata</i>	Observed
Red-tailed Black Cockatoo	<i>Calyptorhynchus banksii naso</i>	Calls heard, foraging evidence
Scarlet Robin	<i>Petroica boodang</i>	Observed
Singing Honeyeater	<i>Lichenostomus virescens</i>	Observed
Weebill	<i>Smicrornis brevirostris</i>	Observed
Willie Wagtail	<i>Rhipidura leucophrys</i>	Observed
Mammals		
Domestic Cat	* <i>Felis catus</i>	Remains
European Rabbit	* <i>Oryctolagus cuniculus</i>	Diggings
Quenda	<i>Isodon obesulus fusciventer</i>	Diggings
Reptiles		
Bobtail	<i>Tiliqua rugosa rugosa</i>	Observed
Buchanan's Snake-eyed Skink	<i>Cryptoblepharus buchananii</i>	Observed
Burton's Legless Lizard	<i>Lialis burtonis</i>	Observed
Southwestern Earless Skink	<i>Hemiergis quadrilineata</i>	Observed

Appendix J Black Cockatoo potential breeding trees

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Tree species	DBH (cm)	Co-ordinates	
		Northing	Easting
Marri	86	6460137	406825.5
Marri	58	6460151	406851.1
Marri	50	6460153	406853.2
Marri	50	6460186	406877.6
Marri	85	6460179	407151.3
Marri	50	6460166	407150.1
Marri	50	6460154	407152.3
Marri	50	6460014	406956.6
Dead	50	6460006	406960.4
Jarrah	50	6460008	406962.8
Jarrah	68	6460001	406959.4
Marri (with nest box)	75	6459960	406903.6
Marri	50	6459953	406895.6
Jarrah	70	6459988	406876.2
Jarrah	90	6459990	406869.5
Jarrah	50	6459993	406876.9
Dead (hollows present)	90	6460001	406855.1
Jarrah	50	6460013	406848
Jarrah	50	6460006	406853.8
Jarrah	60	6460015	406840.6
Dead	90	6460033	406827.4
Marri	50	6460052	406804.3
Jarrah	50	6460050	406789.7
Jarrah	50	6460052	406776.5
Jarrah (hollows present)	100	6460043	406760.2
Jarrah	50	6460032	406761.3
Jarrah	55	6460029	406749.2
Jarrah	200	6460041	406731.6
Marri	60	6460122	406724.9
Marri	65	6460123	406748
Marri	70	6460128	406757.5
Marri	75	6460134	406771.4
Marri	50	6460111	406811.9
Marri	100	6460099	406799.9
Marri	50	6460116	406815.5
Jarrah	70	6460072	407189.6
Wandoo	50	6460079	407176.1
Dead	60	6460092	407165.5

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Tree species	DBH (cm)	Co-ordinates	
		Northing	Easting
Marri	60	6460103	407122.5
Marri	80	6460067	407005.3
Jarrah	60	6460056	406998.5
Marri	60	6460018	407016.8
Jarrah	70	6460012	407032.6
Jarrah (hollows present)	75	6460009	407041.1
Jarrah	70	6460020	407057.7
Jarrah	50	6460048	407076
Jarrah (hollows present)	60	6459986	407173.4
Jarrah	50	6459986	407153.8
Marri	50	6459988	407090.1
Marri	60	6459980	407041.2
Marri	50	6459981	407037.1
Wandoo	50	6459989	407028.5
Jarrah	60	6459978	406999.5
Marri	50	6459978	406986.1
Marri	60	6459863	407239
Marri	70	6459696	407263.7
marri	60	6459719	407248.9
Jarrah	50	6459678	407226
Marri (hollows present)	95	6459665	407224
Marri	90	6459469	407024.1
Marri	50	6459431	406983.1
Marri	50	6459214	406820.6
Marri	50	6459223	406826.6
Marri	50	6459594	407141.8
Marri	180	6459632	407175.7
Marri	50	6459634	407187.5
Marri	70	6459662	407203
Marri	85	6459662	407220
Marri	80	6459712	407222.6

Appendix K Fauna locations

Flora, Vegetation and Fauna Survey of Anderson Road Reserve

Fauna locations	Northing	Easting
Conservation significant fauna locations		
Quenda digging	6460114	407197
Quenda digging	6460008	407046
Quenda digging	6460042	407074
Quenda digging	6460040	407082
Quenda digging	6460036	407132
Forest Red-tailed Black Cockatoo foraging evidence	6460019	406972
Forest Red-tailed Black Cockatoos heard calling	6460050	406931
Forest Red-tailed Black Cockatoos heard calling	6459318	406876
Introduced fauna locations		
Feral Bee hive	406957	6459995
Feral Bee hive	406939	6459997
Cat remains observed	407215	6460098

**HEAD OFFICE**

Suite 2, Level 3
668-672 Old Princes Highway
Sutherland NSW 2232
T 02 8536 8600
F 02 9542 5622

CANBERRA

Level 2
11 London Circuit
Canberra ACT 2601
T 02 6103 0145
F 02 9542 5622

COFFS HARBOUR

35 Orlando Street
Coffs Harbour Jetty NSW 2450
T 02 6651 5484
F 02 6651 6890

PERTH

Suite 1 & 2
49 Ord Street
West Perth WA 6005
T 08 9227 1070
F 02 9542 5622

DARWIN

16/56 Marina Boulevard
Cullen Bay NT 0820
T 08 8989 5601
F 08 8941 1220

SYDNEY

Suite 1, Level 1
101 Sussex Street
Sydney NSW 2000
T 02 8536 8650
F 02 9542 5622

NEWCASTLE

Suites 28 & 29, Level 7
19 Bolton Street
Newcastle NSW 2300
T 02 4910 0125
F 02 9542 5622

ARMIDALE

92 Taylor Street
Armidale NSW 2350
T 02 8081 2685
F 02 9542 5622

WOLLONGONG

Suite 204, Level 2
62 Moore Street
Austinmer NSW 2515
T 02 4201 2200
F 02 9542 5622

BRISBANE

Suite 1, Level 3
471 Adelaide Street
Brisbane QLD 4000
T 07 3503 7192
F 07 3854 0310

HUSKISSON

Unit 1, 51 Owen Street
Huskysson NSW 2540
T 02 4201 2264
F 02 9542 5622

NAROOMA

5/20 Canty Street
Narooma NSW 2546
T 02 4302 1266
F 02 9542 5622

MUDGEES

Unit 1, Level 1
79 Market Street
Mudgee NSW 2850
T 02 4302 1234
F 02 6372 9230

GOSFORD

Suite 5, Baker One
1-5 Baker Street
Gosford NSW 2250
T 02 4302 1221
F 02 9542 5622

ADELAIDE

2, 70 Pirie Street
Adelaide SA 5000
T 08 8470 6650
F 02 9542 5622

1300 646 131

www.ecoaus.com.au

3.0 WATER MONITORING OUTCOMES SUMMARY



Level 2, 322 Hay Subiaco WA 6008 PO Box 243 Subiaco WA 6904

Phone (08) 9380 3100 Fax (08) 9380 4606

Podium Level, Bunbury Tower, 61 Victoria Street Bunbury WA 6230 PO Box 287 Bunbury WA 6231

Phone 08 9792 4797 Fax 08 9792 4708

To Warwick Carter Date 19 May 2014
 Company Shire of Kalamunda Reference No SKA12110.01
 Fax/Email warwick.carter@kalamunda.wa.gov.au Inquiries Margaret Dunlop

Results of groundwater and surface water monitoring, Moira Avenue, Forrestfield

In 2012, Shire of Kalamunda (SoK) proposed to develop an 8.8 ha (approx.) reserve in Moira Avenue, Forrestfield, also known as York Street Reserve (the site), for residential purposes. Development of this site will require the preparation of a Local Water Management Strategy (LWMS) to support a Local Structure Plan. Department of Water (DoW) generally requires groundwater and surface water monitoring over an 18 month period including two winter peaks (September/October) to be undertaken to support the LWMS. To meet this requirement, Strategen was commissioned by SoK to undertake groundwater and surface water monitoring of the site between May 2012 and November 2013. This memo presents the findings of the monitoring.

Site description

The site generally slopes in a northwesterly direction, with a local low point present in the form of a sump to the south-west of the site. The site varies from approximately 52 metres Australian Height Datum (mAHD) in the east to 40 m AHD at the sump (DoE 2004). Drainage network mapping provided by SoK indicates that the sump receives stormwater from the residential areas to the south. Inspection by Strategen indicates that there is no drain or creek enabling water to leave the sump as surface water.

Surface soils range from yellow-orange clayey sand to white-grey sand (Strategen 2012). In some areas, laterite gravel varying in size is present on the surface, generally around the drainage channels leading to the sump (Strategen 2012).

The Perth Groundwater Atlas (2nd edition) indicates a depth to the regional summer groundwater levels of at least 20 m (DoE 2004). The site is located at the eastern edge of the groundwater contouring presented by the Atlas. In the experience of Strategen, groundwater levels near the edge of the Atlas do not always accurately represent of local groundwater levels. Discussion with SoK indicated that the sump may contain water for several months of the year. This indicates that a local perched watertable may be present as seasonal regional watertable level variations are of the order of several metres, and consequently insufficient to enable a watertable at 20 m depth to present at the sump base. On the basis of this information, it was decided that groundwater and surface water monitoring was required to assess the hydrology of the site.

Methodology

The scope of works was based on the draft *Water Monitoring Guidelines for Better Urban Water Management Strategies/Plans* (DoW 2011). The scope of works included:

- installation of five bores on the site to a depth of six metres, unless a clayey perching layer was found before this depth was reached
- geological logging of the bores
- installation of three surface water monitoring locations (at the entrances of the drain on the site to the basin and in the compensating basin)
- monitoring of water levels at each location for 18 months

- quarterly sampling of physical parameters and nutrients (pH, electrical conductivity, total dissolved solids, total nitrogen, nitrate/nitrite, ammonia, Kjeldahl nitrogen, total phosphorus and phosphate)
- sampling of eight heavy metals on two occasions (arsenic, cadmium, chromium, copper, lead, zinc, nickel and mercury)
- preparation of a report outlining the results at the end of the monitoring period.

The depth of 6 m was selected on the basis that if groundwater was deeper than 6 m, it would not be anticipated to require management if the site was developed for residential purposes.

Bore installation

Bores were installed on 30 May 2012 using a hollow flight auger drill at the locations shown in Figure 1. No groundwater was observed during the drilling process. All bores were installed to a depth of 6 m, except SK01. At SK01, a potential perching layer of silty clay was observed at a depth of 4.25 m. Drilling was stopped at this depth to prevent the perching layer being disturbed, which may cause inaccuracies in groundwater level readings.

Geology on the site was variable. SK01, SK02 and SK03 in the north consisted of sandy silts. At SK03, this changed to silt at a depth of 5.5 m below ground level (mbgl). SK04 recorded yellow sands to a depth of 6 m. The geology of SK05 was more variable, with 0.75 m of sand on top of layers of clayey and sandy silt to a depth of 6.75 m. At this depth, fragments of weathered dolerite and granite were observed at SK05, indicating that rock may be present at depth. Bore logs are presented in Attachment A.

Locations of this equipment are displayed in Figure 1.

Bores were installed in steel risers and the risers were locked to prevent damage, as per standard precautions for bore installation. Bore logs are presented in Attachment A.

Surface water monitoring

Surface water stakes to measure surface water levels were installed in three locations, two near inlets to the sump (Figure 2).

Management of monitoring infrastructure

The site was subject to extensive vandalism that resulted in regular interference and destruction of monitoring infrastructure, as outlined below. Strategen kept SoK project managers informed of the incidents. SoK was involved in decision-making in relation to incident response and site management.

Bore SK01 was destroyed prior to the first sampling event (Table 1). Following this event, it was agreed to undertake surveying after the bore was reinstalled. Surveying of bores is required to convert groundwater levels into metres Australian Height Datum (mAHD) to allow these levels to be used in design of lot levels and drainage infrastructure.

The bore was reinstalled prior to the second sampling event in July 2012. Between the July and August 2012 sampling events, the surface water stakes were removed and four of the five sampling bores had been tampered with (Table 1). This continued for the remainder of the sampling period (Table 1). SoK was advised of all damage when it was observed by Strategen.

Results of groundwater and surface water monitoring, Moira Avenue, Forrestfield DRAFT

Figure 1: Groundwater monitoring locations

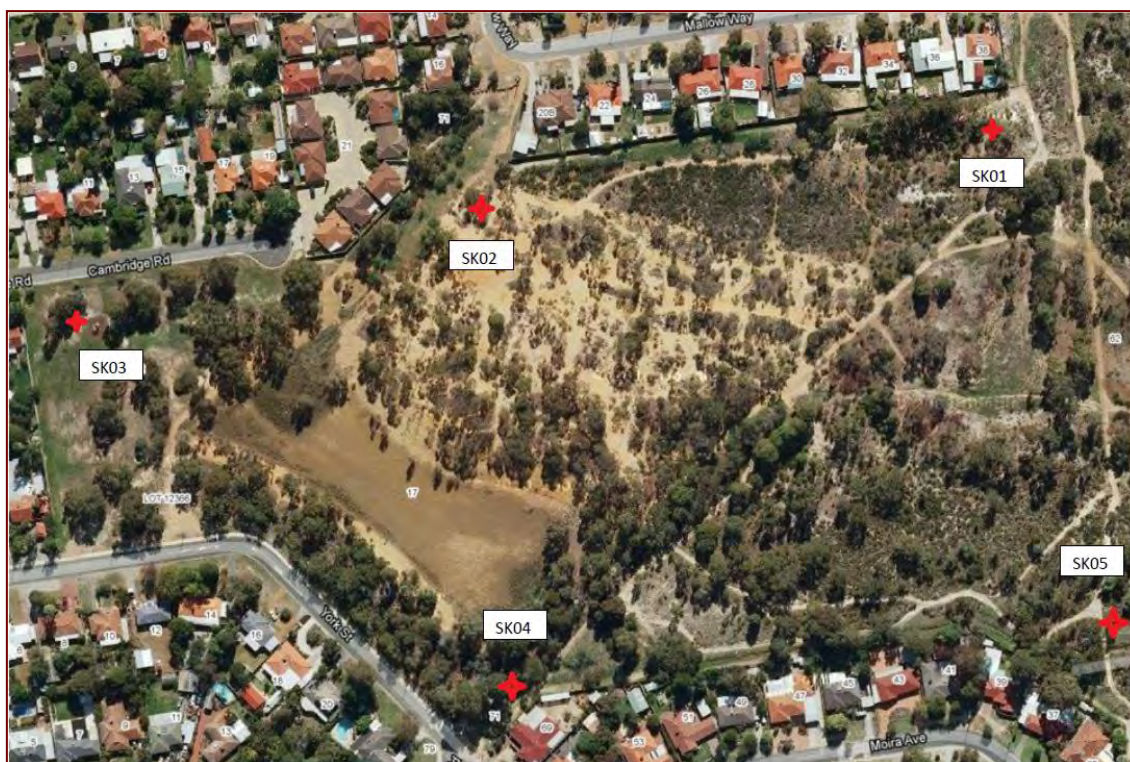


Figure 2: Surface water monitoring locations



Results of groundwater and surface water monitoring, Moira Avenue, Forrestfield DRAFT

Table 1: Monitoring infrastructure incidents

Sampling event	Groundwater	Surface water
May 2012	Monitoring wells installed	
June 2012	SK01 Monitoring bore SK01 had been destroyed	
July 2012	SK01 re-installed	Surface water monitoring stakes installed
August 2012	SK02 Lock on bore SK02 had been cut. Bore operational. SK03 Lock on bore SK03 had been cut. Bore operational. SK04 Lock on bore SK04 had been damaged. Bore operational. SK05 Monitoring bore SK05 has been spray painted. Bore operational.	Surface water monitoring stakes had been removed. Surface water samples taken.
September 2012	SK02 Lock on bore SK02 has been cut off. Bore operational although damaged. SK04 Lock on bore SK04 damaged but bore still operational.	Surface water stakes had been removed. Surface water monitoring stakes have not been replaced due to the amount of surface water inhibiting adequate fixation of the stakes to the surface of the ground.
October 2012	SK02 Bore had been interfered with. Bore smelled of hydrocarbons and an empty jerry can was found near the bore. SK05 Monitoring bore SK05 has been completely destroyed. Bore upright pipe and metal stand pipe missing, no bailer or lock etc.	All surface water monitoring stakes replaced using a stake driver to drive stakes at least 0.8 m into the ground. These stakes were hammered into the ground below the surface water expression while the area was dry.
April 2013	SK02 Monitoring bore destroyed. Metal stand pipe on ground near bore, no bailer or lock.	No change.
August 2013	No change	SW02 and SW03 had been removed.

It was initially agreed that Shire of Kalamunda (SoK) would provide survey levels of top and casing and ground levels to minimise the cost of the project. The initial survey was planned for July 2012, but destruction of SK01 resulted in this being delayed until the bore was replaced. The survey was delayed again following removal of the monitoring stakes in September 2012. Due to decreasing interest from the client in developing the site, Strategen and SoK agreed that survey would be undertaken by SoK at completion of monitoring.

At the time of survey, the infrastructure that remained was:

- SW01
- SK01, SK02, SK03 and SK04.

Top of casing/top of stake and ground levels for these items are presented in the results in Attachment B.

Water levels

Groundwater bores on the site remained dry throughout the 18 month monitoring period. Groundwater did not occur within 4.25 m of the surface at SK01 or within 6 m of the surface at the other bores during the monitoring period. This is consistent with the DoE Atlas indicating the regional watertable to be at depth. No perched groundwater was evident during the drilling. Consequently, groundwater levels are unlikely to constrain development of this site.

Results of groundwater and surface water monitoring, Moira Avenue, Forrestfield DRAFT

Surface water was present in the sump between July and September 2012 and in March, June and July 2013. Water was present in October 2013 but water levels were below the level of the stakes. Due to destruction of the surface water stakes prior to surveying, water levels in m AHD are only known at SW01. At SW01 water levels were recorded as:

- 41.151 mAHD in March 2013 (0.3 m above natural surface)
- 40.901 mAHD in June 2013 (0.05 m above natural surface)
- 41.201 mAHD in July 2013 (0.35 m above natural surface).

Water quality analysis

One round of water quality sampling and analysis was conducted for the surface water located on-site. Sampling was conducted on the 23 August 2012 and the results are presented in Table 2 and Attachment B. In summary:

- water was generally slightly acidic, with pH between 6.1 and 6.2
- water quality was fresh with electrical conductivity less than 100 $\mu\text{S}/\text{cm}$ (salinity less than 550 mg/L Total Dissolved Solids)
- total nitrogen concentrations were between 0.43 and 1.40 mg/L, below the ANZECC and ARMCANZ (2000) trigger values for slightly disturbed wetlands in South West Australia of 1.5 mg/L
- total phosphorus concentrations were between 0.09 and 0.36 mg/L, slightly exceeding the ANZECC and ARMCANZ (2000) trigger value of 0.06 mg/L.

Table 2: Surface water quality (August 2012)

Sample Identification Number	Sample Date	Nutrients							Physiochemical	
		Ammonia as N	Nitrite as N	Nitrate as N	Total Kjeldahl Nitrogen as N	Total Nitrogen	Total Phosphorus	Reactive Phosphorus as P	pH	Conductivity (µS/cm)
ANZECC & ARMCANZ (2000) guidelines for slightly disturbed ecosystems in South West Australia (Wetlands)		0.04	0.1	0.1	N/A	1.5	0.06	0.03	7 - 8.5	
Units		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pH units	µS/cm
SW01	23/08/2012	0.047	<0.05	<0.05	0.43	0.44	0.09	0.002	6.20	75
SW02	23/08/2012	0.013	<0.05	<0.05	0.79	0.79	0.36	0.002	6.10	73
SW03	23/08/2012	0.036	<0.05	<0.05	1.40	1.40	0.12	0.004	6.10	71

Conclusions

Groundwater was not encountered during the program and is consequently not considered a constraint to development of the site.

The sump appears to be dry, except after rainfall events when rainfall and stormwater from the surrounding catchment will enter the sump. Stormwater collecting in the sump will be removed by evaporation and possibly infiltration. Development of the site would require modelling of the response of the sump to rainfall events in order to ensure that roads and houses are not installed in potentially flooded areas. A pump system may be required to control water levels in the sump following rainfall events. Pumped water may then be discharged to a local drain or stream. Any such system would need to be approved by the Water Corporation and Department of Water through the preparation of a Local Water Management Strategy or Urban Water Management Plan.

Results of groundwater and surface water monitoring, Moira Avenue, Forrestfield DRAFT

If you have further questions or queries regarding the monitoring information please don't hesitate to contact me.

Regards

Yours sincerely



Margaret Dunlop

SENIOR CONSULTANT

19 May 2014

Enclosures: (2)

Attachment A: Bore logs

Attachment B: Monitoring results

Attachment C: Laboratory reports

References

Australian and New Zealand Environment and Conservation Council [ANZECC] and Agriculture and Resource Management Council of Australia and New Zealand [ARMCANZ] 2000, *National Water Quality Management Strategy – Australian and New Zealand Guidelines for Fresh and Marine Water Quality*, Department of the Environment [Online], Available from
<<http://www.environment.gov.au/water/publications/quality/nwqms-guidelines-4-vol1.html>>, [15/5/13].

Department of Environment 2004, *Perth Groundwater Atlas (Second Edition)*, Government of Western Australia, Perth.

Strategen 2012, *Preliminary Opportunities and Constraints Report York Road Reserve, Forrestfield*, unpublished draft report to Shire of Kalamunda, May 2012.

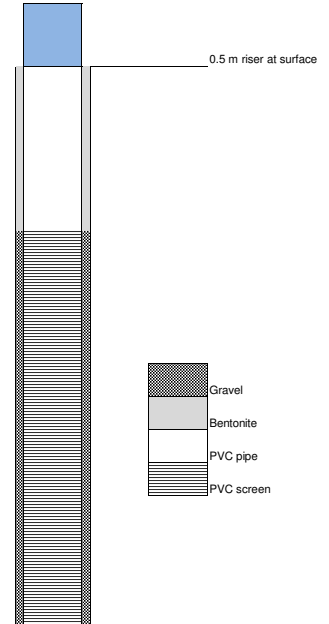
Attachment A

Bore logs

Soil Log

Page No:		Drill method:	Strataprobe drill rig
Job Number:	SKA11210.01	Hole diameter:	50mm
Project:	Moirav Av	Groundwater at:	N/A
Date of works:	30/05/2012	End of hole:	Not Encountered
Borehole ID:	SK01	GPS:	31° 59' 25.5" S
Logged by:	Jesse Shepherd		116° 01' 00.9" E

Depth (m)	Graphic log	Description of soil type	Additional observations
0		SANDY SILT - Pale orange brown topsoil, 7.5YR 5/6, organics matter and dolerite fragments visible,	Munsell color system used for soil colour identification
0.25		consistent sorting, weathered rock and silica, inconsistent hardness.	
0.5		SANDY SILT - Pale orange/ brown, 7.5 YR 5/6, consistent sorting, angular, dolerite fragments visible	
0.75		weathered rock and silica, inconsistent hardness.	
1			
1.25			
1.5			
1.75		Becoming darker, Dark orange/ brown, 7.5 YR 5/8	
2			
2.25			
2.5			
2.75			
3			
3.25		Fragments of ferrous rock and weathered granite visible	
3.5			
3.75			
4		CLAYEY SILT - Blackish grey, moist, plastic, very fine grained, possible perching layer	
4.25		END OF BORE HOLE	
4.5			
4.75			
5			
5.25			
5.5			
5.75			
6			
6.25			
6.5			
6.75			
7			
7.25			



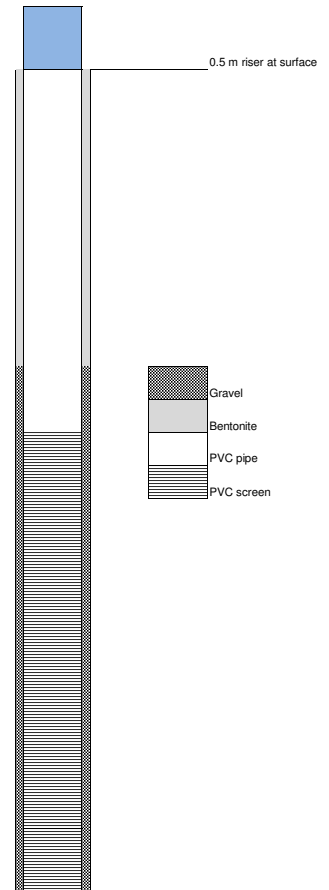
	CLAYEY SILT
	SANDY SILT

Soil Log

Page No:		Drill method:	Auger / drill Strataprobe
Job Number:	SKA11210.01	Hole diameter:	50 mm
Project:	Moirav Av	Groundwater at:	Not Encountered
Date of works:	30/05/2012	End of hole:	6.5m
Borehole ID:	SK02	GPS:	31° 59' 26.7" S
Logged by:	Jesse Shepherd		116° 00' 52.6" E

Depth (m)	Graphic log	Description of soil type	Additional observations
0		SANDY SILT - Pale orange brown, top soil, 7.5YR 5/8, organics and dolerite fragments visible,	Munsell color system used for soil colour identification
0.25		consistent sorting, weathered rock and silica, inconsistent hardness.	
0.5			
0.75		SANDY SILT - orange/darker brown, 7/8 7.5YR, variable hardness, friable pieces,	
1		weathered dolerite and granite visible	
1.25			
1.5		Becoming darker	
1.75			
2			
2.25			
2.5			
2.75			
3		SANDY SILT - significant colour change - Red/ Brown, 5YR 6/8, ferrous in nature,	
3.25		dolerite and granite fragments, pieces of weathered haematite, hardness increased	
3.5			
3.75			
4			
4.25			
4.5			
4.75			
5			
5.25		SANDY SILT - Dark Blood Red/ Brown, 5YR 4/8, ferrous in nature, very fine grained	
5.5		dolerite and granite fragments, pieces of visible weathered haematite, hardness stabilised	
5.75			
6			
6.25		END OF BORE HOLE	
6.5			
6.75			



 SANDY SILT

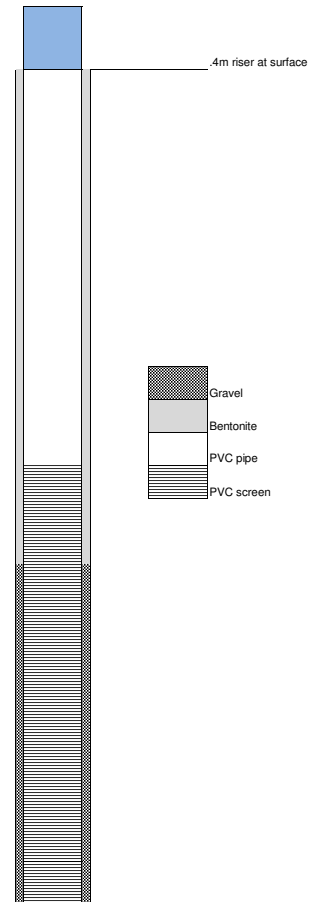


Soil Log

Page No:		Drill method:	Auger / drill Strataprobe
Job Number:	SKA11210.01	Hole diameter:	50 mm
Project:	Moirav Av	Groundwater at:	Not Encountered
Date of works:	30/05/2012	End of hole:	6 m
Borehole ID:	SK03	GPS:	31° 59' 28.4" S
Logged by:	Jesse Shepherd		116° 00' 45.5" E

Depth (m)	Graphic log	Description of soil type	Additional observations
0		SANDY SILT - Pale orange brown, topsoil, 7.5YR 5/8, organics and dolerite fragments visible,	Munsell color system used for soil colour identification
0.25		consistent sorting, weathered rock and silica, inconsistent hardness.	
0.5		SANDY SILT - orange/darker brown, 7/8 7.5YR, variable hardness, friable pieces,	
0.75		weathered dolerite and granite visible, some larger pieces, poorly sorted	
1			
1.25			
1.5			
1.75			
2			
2.25			
2.5			
2.75			
3		SANDY SILT - significant colour change - Red/ Brown, 5YR 6/8, ferrous in nature,	
3.25		dolerite and granite fragments, pieces of weathered haematite, hardness increased	
3.5		angular in nature, high iron content (Visible), lateritic properties	
3.75			
4			
4.25			
4.5			
4.75		SANDY SILT - Dark Red/ Brown, 5YR 4/8, ferrous in nature, very fine grained	
5		dolerite and granite fragments, pieces of weathered haematite, hardness increased	
5.25			
5.5		SILT - Dark Red/ Brown, 5YR 4/8, ferrous in nature, very fine grained, some quartz available	
5.75		dolerite and granite fragments, pieces of weathered haematite, hardness increased	
6		END OF BORE	
6.25			
6.5			
6.75			
7			
7.25			

 SANDY SILT
 SILT

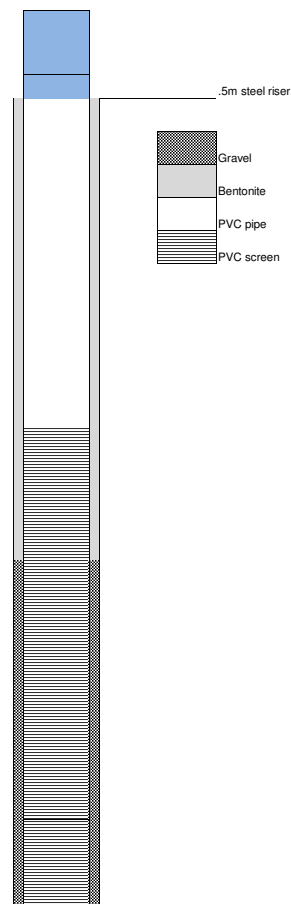


Soil Log

Page No:		Drill method:	Auger / drill Strataprobe
Job Number:	SKA11210.01	Hole diameter:	50 mm
Project:	Moirav Av	Groundwater at:	Not Encountered
Date of works:	30/05/2012	End of hole:	6 m
Borehole ID:	SK04	GPS:	31° 59' 33.6" S
Logged by:	Jesse Shepherd		116° 00' 52.8" E

Depth (m)	Graphic log	Description of soil type	Additional observations
0		SAND, non plastic, medium subrounded grain, yellow/black, well sorted/poorly graded,	organics present
0.25		SAND, non plastic, medium subrounded grain, yellow, well sorted/poorly graded,	
0.5			
0.75			
1			
1.25			
1.5			
1.75			
2			
2.25			
2.5			
2.75			
3			
3.25			
3.5			
3.75			
4			
4.25			
4.5			
4.75		*colour getting darker, darker yellow	
5			
5.25			
5.5			
5.75			
6			
6.25		END OF BORE HOLE	
6.5			
6.75			
7			
7.25			

 : SAND

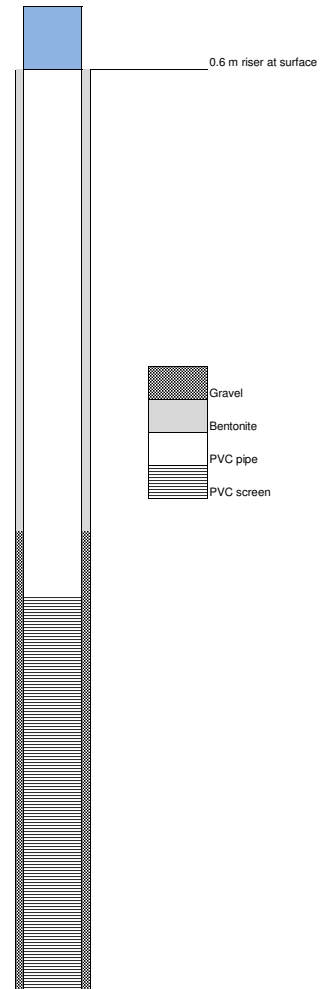


Soil Log

Page No:		Drill method:	Auger / drill Strataprobe
Job Number:	SKA11210.01	Hole diameter:	50 mm
Project:	Moirav Av	Groundwater at:	Not Encountered
Date of works:	30/05/2012	End of hole:	6.0 m
Borehole ID:	SK05	GPS:	39° 59' 33.2" S
Logged by:	Jesse Shepherd		116° 01' 03.1" E

Depth (m)	Graphic log	Description of soil type	Additional observations
0		SAND, sandy, non plastic, medium subangular grain, yellow brown, well sorted/poorly graded,	no smell
0.25		organics present.	
0.5			
0.75		CLAYEY SILT, Dark yellow, compact, clumps together easily, minimal organics,	* Damp
1		ferrous material present, weathered haematite present	
1.25			
1.5		SANDY SILT, orange - brown, ferrous in nature, well sorted, consistent structure	
1.75		larger fragments noticed among generally small particles	
2			
2.25			
2.5		SANDY SILT, orange - brown, ferrous in nature, well sorted, consistent structure	
2.75		larger fragments noticed among generally small particles	
3			
3.25		SANDY SILT, orange - brown, ferrous in nature, well sorted, consistent structure	
3.5		larger fragments noticed among generally small particles, larger chunks becoming more friable	
3.75			
4			
4.25			
4.5		SANDY SILT, orange - brown, ferrous in nature, well sorted, consistent structure	
4.75		larger fragments noticed among generally small particles, larger chunks becoming more friable	
5			
5.25			
5.5		CLAYEY SILT, red-brown, ferrous in nature, with larger particles of weathered granite and dolerite, possibly kaolinite	
5.75		damp, harder particles, very friable, angular, poorly sorted	
6			
6.25		* harder layer encountered by drilling rig, not as hard as SK04, possible perching layer	
6.5			
6.75			

	: SAND
	: SANDY SILT
	: CLAYEY SILT



Attachment B Results

Sample Identification Number	Sample Date	Depth to groundwater (mbtoc)	Groundwater level (m AHD)	Comments
Units				
SK01	Top of casing = 50.292 m AHD			
June	22/06/2012	-	-	Bore is destroyed, replacement has occurred
July	24/07/2012	-	-	Bore is dry
August	23/08/2012	-	-	Bore is dry
September	26/09/2012	-	-	Bore is dry
October	24/10/2012	-	-	Bore is dry
November	21/11/2012	-	-	Bore is dry
December	20/12/2012	-	-	Bore is dry
January	23/01/2013	-	-	Bore is dry
February	18/02/2013	-	-	Bore is dry
March	19/03/2013	-	-	Bore is dry
April	16/04/2013	-	-	Bore is dry
May	15/05/2013	-	-	Bore is dry
June	13/06/2013	-	-	Bore is dry
July	11/07/2013	-	-	Bore is dry
August	14/08/2013	-	-	Bore is dry
September	13/09/2013	-	-	Bore is dry
October	3/10/2013	-	-	Bore is dry
November	1/11/2013	-	-	Bore is dry
December				
SK02	Top of casing = 45.382 m AHD			
June	22/06/2012	-	-	Bore is dry
July	24/07/2012	-	-	Bore is dry
August	23/08/2012	-	-	Bore is dry
September	26/09/2012	-	-	Bore is dry, bore equipment removed (bailer and lock)
October	24/10/2012	-	-	Bore is dry, equipment reattached
November	21/11/2012	-	-	Bore is dry
December	20/12/2012	-	-	Bore is dry
January	23/01/2013	-	-	Bore is dry
February	18/02/2013	-	-	Bore is dry, bore equipment removed (bailer, riser and lock)
March	19/03/2013	-	-	Bore is dry
April	16/04/2013	-	-	Bore is dry
May	15/05/2013	-	-	Bore is dry
June	13/06/2013	-	-	Bore is dry
July	11/07/2013	-	-	Bore is dry
August	14/08/2013	-	-	Bore is dry
September	13/09/2013	-	-	Bore is dry
October	3/10/2013	-	-	Bore is dry
November	1/11/2013	-	-	Bore is dry
December				
SK03	Top of casing = 41.828 m AHD			
June	22/06/2012	-	-	Bore is dry
July	24/07/2012	-	-	Bore is dry
August	23/08/2012	-	-	Bore is dry
September	26/09/2012	-	-	Bore is dry
October	24/10/2012	-	-	Bore is dry
November	21/11/2012	-	-	Bore is dry
December	20/12/2012	-	-	Bore is dry
January	23/01/2013	-	-	Bore is dry
February	18/02/2013	-	-	Bore is dry
March	19/03/2013	-	-	Bore is dry
April	16/04/2013	-	-	Bore is dry
May	15/05/2013	-	-	Bore is dry
June	13/06/2013	-	-	Bore is dry
July	11/07/2013	-	-	Bore is dry
August	14/08/2013	-	-	Bore is dry
September	13/09/2013	-	-	Bore is dry
October	3/10/2013	-	-	Bore is dry
November	1/11/2013	-	-	Bore is dry
December				

SK04	Top of casing = 43.877 m AHD			
June	22/06/2012	-	-	Bore is dry
July	24/07/2012	-	-	Bore is dry
August	23/08/2012	-	-	Bore is dry
September	26/09/2012	-	-	Bore is dry
October	24/10/2012	-	-	Bore is dry
November	21/11/2012	-	-	Bore is dry
December	20/12/2012	-	-	Bore is dry
January	23/01/2013	-	-	Bore is dry
February	18/02/2013	-	-	Bore is dry
March	19/03/2013	-	-	Bore is dry
April	16/04/2013	-	-	Bore is dry
May	15/05/2013	-	-	Bore is dry
June	13/06/2013	-	-	Bore is dry
July	11/07/2013	-	-	Bore is dry
August	14/08/2013	-	-	Bore is dry
September	13/09/2013	-	-	Bore is dry
October	3/10/2013	-	-	Bore is dry
November	1/11/2013	-	-	Bore is dry
December				
SK05	Top of casing = NA			
June	22/06/2012	-	-	Bore is dry
July	24/07/2012	-	-	Bore is dry
August	23/08/2012	-	-	Bore is dry
September	26/09/2012	-	-	Bore is dry
October	24/10/2012	-	-	Bore is dry, bore has been demolished
November	21/11/2012	-	-	Bore is dry and demolished
December	20/12/2012	-	-	Bore is dry and demolished
January	23/01/2013	-	-	Bore is dry and demolished
February	18/02/2013	-	-	Bore is dry and demolished
March	19/03/2013	-	-	Bore is dry and demolished
April	16/04/2013	-	-	Bore is dry and demolished
May	15/05/2013	-	-	Bore is dry and demolished
June	13/06/2013	-	-	Bore is dry and demolished
July	11/07/2013	-	-	Bore is dry and demolished
August	14/08/2013	-	-	Bore is dry and demolished
September	13/09/2013	-	-	Bore is dry and demolished
October	3/10/2013	-	-	Bore is dry and demolished
November	1/11/2013	-	-	Bore is dry and demolished
December				

Sample Identification Number	Sample Date	Depth from surface (meters above ground level)	Groundwater level (m AHD)	Comments	Level mAHD
SW01	GL=40.851	m			
June	22/06/2012	-	-	Lake bed dry	-
July	24/07/2012	-	-	Lake bed inundated	-
August	23/08/2012	-	-	Lake bed inundated, surface water stake removed	-
September	26/09/2012	-	-	Lake bed inundated	-
October	24/10/2012	-	-	Lake bed dry, stakes installed	-
November	21/11/2012	-	-	Lake bed dry	-
December	20/12/2012	-	-	Lake bed dry	-
January	23/01/2013	-	-	Lake bed dry	-
February	18/02/2013	-	-	Lake bed dry	-
March	19/03/2013	0.300	-		41.151
April	16/04/2013	-	-	Lake bed dry	-
May	15/05/2013	-	-	Lake bed dry	-
June	13/06/2013	0.050	-		40.901
July	11/07/2013	0.350	-		41.201
August	14/08/2013	-	-	Lake bed dry	-
September	13/09/2013	-	-	Lake bed dry	-
October	3/10/2013	-	-	Lake bed nearly dry	-
November	1/11/2013	-	-	Lake bed dry	-
December					-
SW02	GL not measured, destroyed	not measured			
June	22/06/2012	-	-	Lake bed dry	
July	24/07/2012	-	-	Lake bed inundated	
August	23/08/2012	-	-	Lake bed inundated, surface water stake removed	
September	26/09/2012	-	-	Lake bed inundated	
October	24/10/2012	-	-	Lake bed dry, stakes installed	
November	21/11/2012	-	-	Lake bed dry	
December	20/12/2012	-	-	Lake bed dry	
January	23/01/2013	-	-	Lake bed dry	
February	18/02/2013	-	-	Lake bed dry	
March	19/03/2013	0.250	-		
April	16/04/2013	-	-	Lake bed dry	
May	15/05/2013	-	-	Lake bed dry	
June	13/06/2013	0.150	-		
July	11/07/2013	-	-	Monitoring stake not visible	
August	14/08/2013	-	-	Lake bed dry	
September	13/09/2013	-	-	Lake bed dry	
October	3/10/2013	-	-	Lake bed nearly dry	
November	1/11/2013	-	-	Lake bed dry	
December					
SW03	GL not measured, destroyed				
June	22/06/2012	-	-	Lake bed dry	
July	24/07/2012	-	-	Lake bed inundated	
August	23/08/2012	-	-	Lake bed inundated, surface water stake removed	
September	26/09/2012	-	-	Lake bed inundated	
October	24/10/2012	-	-	Lake bed dry, stakes installed	
November	21/11/2012	-	-	Lake bed dry	
December	20/12/2012	-	-	Lake bed dry	
January	23/01/2013	-	-	Lake bed dry	
February	18/02/2013	-	-	Lake bed dry	
March	19/03/2013	0.300	-		
April	16/04/2013	-	-	Lake bed dry	
May	15/05/2013	-	-	Lake bed dry	
June	13/06/2013	0.350	-		
July	11/07/2013	0.400	-		
August	14/08/2013	-	-	Lake bed dry	
September	13/09/2013	-	-	Lake bed dry	
October	3/10/2013	-	-	Lake bed nearly dry	
November	1/11/2013	-	-	Lake bed dry	
December					

GROUNDWATER LABORATORY

ANALYTICAL RESULTS

Sample Identification Number	Sample Date	Metals and Metalloids								Nutrients							Physio-Chem	
		Arsenic	Cadmium	Copper	Chromium	Nickel	Lead	Zinc	Mercury	Ammonia as N	Nitrite as N	Nitrate as N	Total Kjeldahl Nitrogen as N	Total N	Total P	Reactive Phosphorus as P	pH	Conductivity and TDS by Calculation
ANZECC & ARMCANZ (2000) guidelines for fresh and marine water quality - 95% trigger value (Freshwater)		13	0.2	1.4	1	11	3.4	8	0.6									
ANZECC & ARMCANZ (2000) guidelines for slightly disturbed ecosystems in South West Australia (Wetlands)										0.04	0.1	0.1	N/A	1.5	0.06	0.03	7 - 8.5	
Units		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pH units	µS/cm
SK01	24/07/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	24/10/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	23/01/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	16/04/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	11/07/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3/10/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SK02	24/07/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	24/10/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	23/01/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	16/04/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	11/07/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3/10/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SK03	24/07/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	24/10/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	23/01/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	16/04/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	11/07/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3/10/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SK04	24/07/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	24/10/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	23/01/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	16/04/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	11/07/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3/10/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SK05	24/07/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	24/10/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	23/01/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	16/04/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	11/07/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3/10/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW01	24/07/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	23/08/2012	-	-	-	-	-	-	-	-	0.047	<0.05	<0.05	0.43	0.44	0.09	0.002	6.20	75.00
	24/10/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	23/01/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	16/04/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	11/07/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3/10/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW02	24/07/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	23/08/2012	-	-	-	-	-	-	-	-	0.013	<0.05	<0.05	0.79	0.79	0.36	0.002	6.10	73.00
	24/10/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	23/01/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	16/04/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	11/07/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3/10/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW03	24/07/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	23/08/2012	-	-	-	-	-	-	-	-	0.036	<0.05	<0.05	1.40	1.40	0.12	0.004	6.10	71.00
	24/10/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	23/01/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	16/04/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	11/07/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3/10/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

* - Indicates that no sample was analysed



Survey results 5 February 2014

Location	ID	Description	GDA94 (MGA50)			Horizontal Accuracy (m)	Ellipsoidal Height (m)	Vertical Accuracy (m)	n Value (m)	AHD71		Surface Elevation (m)	SWL (m)	RWL (m)	Notes
			Easting (m)	Accuracy (m)	Northing (m)					AHD (m) T.O.C.	Height Pipe A.G.L. (m)				
Forrestfield	SK01	Piezometer	407129.653	0.010	6460205.056	0.010	19.559	0.010	-30.733	50.292	0.450	49.842	Dry	dry	Steel Riser Lid Broken
Forrestfield	SK02	Piezometer	406902.262	0.010	6460165.723	0.010	14.612	0.010	-30.770	45.382	0.530	44.852	Dry	dry	No Steel Riser
Forrestfield	SK03	Piezometer	406720.896	0.010	6460118.774	0.010	11.028	0.010	-30.800	41.828	0.600	41.228	Dry	dry	
Forrestfield	SK04	Piezometer	406915.340	0.010	6459956.933	0.010	13.109	0.010	-30.768	43.877	0.4	43.477	Dry	dry	
Forrestfield	SK05	Piezometer													Destroyed
Forrestfield	SW01	Surface Water Stake	406919.946	0.010	6460024.701	0.010	10.978	0.010	-30.765	41.743	0.892	40.851	Dry	dry	
Forrestfield	SW02	Surface Water Stake													Destroyed
Forrestfield	SW03	Surface Water Stake													Destroyed

Sample Identification Number	Sample Date	Nutrients							Physiochemical	
		Ammonia as N	Nitrite as N	Nitrate as N	Total Kjeldahl Nitrogen as N	Total Nitrogen	Total Phosphorus	Reactive Phosphorus as P	pH	Conductivity (µS/cm)
ANZECC & ARMCANZ (2000) guidelines for slightly disturbed ecosystems in South West Australia (Wetlands)		0.04	0.1	0.1	N/A	1.5	0.06	0.03	7 - 8.5	
Units		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pH units	µS/cm
SW01	23/08/2012	0.047	<0.05	<0.05	0.43	0.44	0.09	0.002	6.20	75
SW02	23/08/2012	0.013	<0.05	<0.05	0.79	0.79	0.36	0.002	6.10	73
SW03	23/08/2012	0.036	<0.05	<0.05	1.40	1.40	0.12	0.004	6.10	71

Attachment C

Laboratory report



ANALYTICAL REPORT



CLIENT DETAILS

Contact Margaret Dunlop
 Client Strategen
 Address PO BOX 243
 Subiaco
 WA 6904

 Telephone 08 9380 3100
 Facsimile 08 9380 4606
 Email m.dunlop@strategen.com.au

 Project (Not specified)
 Order Number (Not specified)
 Samples 3

LABORATORY DETAILS

Manager Ros Ma
 Laboratory SGS Newburn Environmental
 Address 10 Reid Rd
 Newburn WA 6105

 Telephone (08) 9373 3500
 Facsimile (08) 9373 3556
 Email au.environmental.perth@sgs.com

 SGS Reference **PE070035 R0**
 Report Number 0000045704
 Date Reported 04 Sep 2012
 Date Received 23 Aug 2012

COMMENTS

Accredited for compliance with ISO/IEC 17025. NATA accredited laboratory 2562(898/20210).

SIGNATORIES

Leanne Orsmond

Michael McKay
Inorganic Team Leader - Waters

Murray O'Neill
Laboratory Technician

Ros Ma
Laboratory Assistant Manager



ANALYTICAL REPORT

PE070035 R0

Parameter	Units	LOR	Sample Number	PE070035.001	PE070035.002	PE070035.003
			Sample Matrix	Water	Water	Water
			Sample Date	23 Aug 2012	23 Aug 2012	23 Aug 2012
			Sample Name	SW01	SW02	SW03

pH in water Method: AN101

pH	pH Units	0.1	6.2	6.1	6.1
----	----------	-----	------------	------------	------------

Conductivity and TDS by Calculation - Water Method: AN106

Conductivity @ 25 C	µS/cm	2	75	73	71
---------------------	-------	---	-----------	-----------	-----------

Total Dissolved Solids (TDS) in water Method: AN113

Total Dissolved Solids Dried at 180°C	mg/L	10	42	51	45
---------------------------------------	------	----	-----------	-----------	-----------

Nitrate Nitrogen and Nitrite Nitrogen (NOx) by FIA Method: AN258

Nitrate, NO ₃ as NO ₃	mg/L	0.05	0.06	<0.05	0.07
Nitrite, NO ₂ as NO ₂	mg/L	0.05	<0.05	<0.05	<0.05

Low Level Ammonia Nitrogen by FIA Method: AN261

Ammonia Nitrogen, NH ₃ as N	mg/L	0.005	0.047	0.013	0.036
--	------	-------	--------------	--------------	--------------

TKN Kjeldahl Digestion by Discrete Analyser Method: AN281

Total Kjeldahl Nitrogen	mg/L	0.05	0.43	0.79	1.4
Total Nitrogen (calc)	mg/L	0.05	0.44	0.79	1.4

Total Phosphorus by Kjeldahl Digestion DA in Water Method: AN279/AN293

Total Phosphorus (Kjeldahl Digestion)	mg/L	0.01	0.09	0.36	0.12
---------------------------------------	------	------	-------------	-------------	-------------

Filterable Reactive Phosphorus (FRP) Method: AN278

Filterable Reactive Phosphorus	mg/L	0.002	0.004	0.002	0.002
--------------------------------	------	-------	--------------	--------------	--------------



QC SUMMARY

PE070035 R0

MB blank results are compared to the Limit of Reporting

LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.

DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula: *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA', the results are less than the LOR and thus the RPD is not applicable.

Conductivity and TDS by Calculation - Water Method: ME-(AU)-[ENV]AN106

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Conductivity @ 25 C	LB047925	µS/cm	2	<2	0 - 2%	97 - 101%

Filterable Reactive Phosphorus (FRP) Method: ME-(AU)-[ENV]AN278

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Filterable Reactive Phosphorus	LB048542	mg/L	0.002	<0.002	1 - 35%	117 - 118%	118 - 124%

Low Level Ammonia Nitrogen by FIA Method: ME-(AU)-[ENV]AN261

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Ammonia Nitrogen, NH ₃ as N	LB047951	mg/L	0.005	<0.005	0 - 32%	105 - 106%

Nitrate Nitrogen and Nitrite Nitrogen (NO_x) by FIA Method: ME-(AU)-[ENV]AN258

Parameter	QC Reference	Units	LOR	MB
Nitrate, NO ₃ as NO ₃	LB047951	mg/L	0.05	<0.05
Nitrite, NO ₂ as NO ₂	LB047951	mg/L	0.05	<0.05

pH in water Method: ME-(AU)-[ENV]AN101

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
pH	LB047925	pH Units	0.1	5.2 - 7.3	0 - 2%	100%

TKN Kjeldahl Digestion by Discrete Analyser Method: ME-(AU)-[ENV]AN281

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Total Kjeldahl Nitrogen	LB047929	mg/L	0.05	<0.05	0 - 7%	96%
Total Nitrogen (calc)	LB047929	mg/L	0.05		0 - 4%	



QC SUMMARY

PE070035 R0

MB blank results are compared to the Limit of Reporting

LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.

DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula: *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

Total Dissolved Solids (TDS) in water Method: ME-(AU)-[ENV]AN113

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery	MSD %RPD
Total Dissolved Solids Dried at 180°C	LB048279	mg/L	10	<10	3%	102%	88%	7%

Total Phosphorus by Kjeldahl Digestion DA in Water Method: ME-(AU)-[ENV]AN279/AN293

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Total Phosphorus (Kjeldahl Digestion)	LB047929	mg/L	0.01	<0.01	7 - 16%	93%



METHOD SUMMARY

PE070035 R0

METHOD

METHODOLOGY SUMMARY

AN101	pH in Soil Sludge Sediment and Water: pH is measured electrometrically using a combination electrode (glass plus reference electrode) and is calibrated against 3 buffers purchased commercially. For soils, an extract with water is made at a ratio of 1:5 and the pH determined and reported on the extract. Reference APHA 4500-H+.
AN106	Conductivity and TDS by Calculation: Conductivity is measured by meter with temperature compensation and is calibrated against a standard solution of potassium chloride. Conductivity is generally reported as $\mu\text{mhos/cm}$ or $\mu\text{S/cm}$ @ 25°C. For soils, an extract with water is made at a ratio of 1:5 and the EC determined and reported on the extract, or calculated back to the as-received sample. Total Dissolved Salts can be estimated from conductivity using a conversion factor, which for natural waters, is in the range 0.55 to 0.75. SGS use 0.6. Reference APHA 2520 B.
AN113	Total Dissolved Solids: A well-mixed filtered sample of known volume is evaporated to dryness at 180°C and the residue weighed. Approximate methods for correlating chemical analysis with dissolved solids are available. Reference APHA 2540 C.
AN258	Nitrate and Nitrite by FIA: In an acidic medium, nitrate is reduced quantitatively to nitrite by cadmium metal. This nitrite plus any original nitrite is determined as an intense red-pink azo dye at 540 nm following diazotisation with sulphanilamide and subsequent coupling with N-(1-naphthyl) ethylenediamine dihydrochloride. Without the cadmium reduction only the original nitrite is determined. Reference APHA 4500-NO ₃ - F.
AN261	Ammonia by Continuous Flow Analyser: Ammonium in a basic medium forms ammonia gas, which is separated from the sample matrix by diffusion through a polypropylene membrane. The ammonia is reacted with phenol and hypochlorite to form indophenol blue at an intensity proportional to the ammonia concentration. The blue colour is intensified with sodium nitroprusside and the absorbance measured at 630 nm. The sensitivity of the automated method is 10-20 times that of the macro method. Reference APHA 4500-NH ₃ H.
AN278	Reactive Phosphorus by DA: Orthophosphate reacts with ammonium molybdate (Mo VI) and potassium antimonyl tartrate (Sb III) in acid medium to form an antimony-phosphomolybdate complex. This complex is subsequently reduced with ascorbic acid to form a blue colour and the absorbance is read at 880 nm. The sensitivity of the automated method is 10-20 times that of the macro method. Reference APHA 4500-P F
AN279/AN293	The sample is digested with Sulphuric acid, K ₂ SO ₄ and CuSO ₄ . All forms of phosphorus are converted into orthophosphate. The digest is cooled and placed on the discrete analyser for colorimetric analysis.
AN281	An unfiltered water or soil sample is first digested in a block digester with sulphuric acid, K ₂ SO ₄ and CuSO ₄ . The ammonia produced following digestion is then measured colourimetrically using the Aquakem 250 Discrete Analyser. A portion of the digested sample is buffered to an alkaline pH, and interfering cations are complexed. The ammonia then reacts with salicylate and hypochlorite to give a blue colour whose absorbance is measured at 660nm and compared with calibration standards. This is proportional to the concentration of Total Kjeldahl Nitrogen in the original sample.



PE070035 R0

FOOTNOTES

IS	Insufficient sample for analysis.	QFH	QC result is above the upper tolerance
LNR	Sample listed, but not received.	QFL	QC result is below the lower tolerance
*	This analysis is not covered by the scope of accreditation.	-	The sample was not analysed for this analyte
^	Performed by outside laboratory.	NVL	Not Validated
LOR	Limit of Reporting		
↑↓	Raised or Lowered Limit of Reporting		

Samples analysed as received.

Solid samples expressed on a dry weight basis.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

The QC criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here:
<http://www.sgs.com.au.pv.sgs.v3/~media/Local/Australia/Documents/Technical%20Documents/MP-AU-ENV-QU-022%20QA%20QC%20Plan.pdf>

This document is issued, on the Client's behalf, by the Company under its General Conditions of Service available on request and accessible at http://www.au.sgs.com/terms_and_conditions_au. The Client's attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

Any other holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents.

This report must not be reproduced, except in full.



SGS Environmental Services
10 Reid Road,
Perth International Airport,
Newburn WA 6105
Tel: 08 9373 3500 Fax: 08 9373
3668

ATTN: Kelly Mahar
Email: kelly.mahar@sgs.com

CHAIN OF CUSTODY & ANALYSIS REQUEST

Page 1 of 1

Lab ID Number: 16070035 (please quote on all correspondence)

Company Name: Strategen

Project Name/No: Forrestfield, Moira av

Address: Level 1, 322 Hay Street, Subiaco,

Purchase Order No:

WA, 6008

Results Required Date: asap

Telephone: 08 9380 3100

Fax: 08 9380 4606

Contact Name: Margaret Dunlop

Email Results to:

j.shepherd@strategen.com.au

Laboratory
Quotation No:

m.dunlop@strategen.com.au

SGS ID	Client Sample ID	Sampling Date/Time (field record sheet number)	Tick as Appropriate			PRESERVATIVE	NO. OF ITEMS	ANALYSIS REQUESTED. SPECIFY & TICK AS APPROPRIATE										Notes/Guidelines/LOR/ Special instructions
			Solid Sample	Liquid Sample	Gas/Air Sample			Nutrients (TKN, NH3, NO2, NO3, TN, TP, PO4)	pH, electrical conductivity, total dissolved solids (TDS)									
1	SW01	23/08/2012 8:30 am		X			1	X	X									
2	SW02	23/08/2012 9:30 am		X			1	X	X									
3	SW03	23/08/2012 10:30 am		X			1	X	X									

Relinquished By: JESSE SHEPHERD

Date/Time: 23/8/12 11:30am

Received By: HR

Date/Time:

Relinquished By:

Date/Time:

Received By:

Date/Time:

Samples Intact: Yes / No

Temperature: Ambient / Chilled / NA

Sample Security Sealed: Yes / No

Comments / Subcontracting details:

Quarantine: Yes / No

i.e. samples subcontracted to SGS Sydney due to TAT requested
City of Kalamunda

Hazards: e.g. may contain Asbestos

356



AUSTRALIA-ENVIRONMENTAL-PERTH AIRPORT- PROFORMA -QU101

REGISTRATION DETAILS

APPROVED BY: R. MA

Bottle Map	1L Plastic	500mL Plastic	500mL Plastic	250mL Plastic	125mL Plastic	1L Amber	500mL Amber	100mL Amber	40mL Glass Vial	500mL Plastic	250mL Plastic	125mL Plastic	250mL Glass Jar	125mL Glass Jar	Other Lab	Ziplock Bag/ Other	Job Number:
Sample Numbers:	Green	Green	Purple	Green	Red	Green	Orange	Green	White	Blue	Orange	Brown					P6070035
1-73		3															
																	# of Eskies:
																	1
																	IB / ICE / None
																	Temp: 10.5
																	Tray Numbers:
																	W-073

Registration comments:

Action Taken:

Registered By:

AR 23/8/12



SAMPLE RECEIPT ADVICE

PE070035

CLIENT DETAILS

Contact Margaret Dunlop
 Client Strategen
 Address PO BOX 243
 Subiaco
 WA 6904

Telephone 08 9380 3100
 Facsimile 08 9380 4606
 Email m.dunlop@strategen.com.au

Project (Not specified)
 Order Number (Not specified)
 Samples 3

LABORATORY DETAILS

Manager Ros Ma
 Laboratory SGS Newburn Environmental
 Address 10 Reid Rd
 Newburn WA 6105

Telephone (08) 9373 3500
 Facsimile (08) 9373 3556
 Email au.environmental.perth@sgs.com

Samples Received Thu 23/8/2012
 Report Due Thu 30/8/2012
 SGS Reference **PE070035**

SUBMISSION DETAILS

This is to confirm that 3 samples were received on Thursday 23/8/2012. Results are expected to be ready by Thursday 30/8/2012. Please quote SGS reference PE070035 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	3 Waters	Type of documentation received	COC
Date documentation received	23/8/2012	Samples received in good order	Yes
Samples received without headspace	N/A	Sample temperature upon receipt	10.5°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes	Number of eskies/boxes received	1

Samples will be held for one month for water samples and two months for soil samples from date of report, unless otherwise instructed.

COMMENTS

To the extent not inconsistent with the other provisions of this document and unless specifically agreed otherwise in writing by SGS, all SGS services are rendered in accordance with the applicable SGS General Conditions of Service accessible at http://www.sgs.com/terms_and_conditions.htm as at the date of this document. Attention is drawn to the limitations of liability and to the clauses of indemnification.



SAMPLE RECEIPT ADVICE

PE070035

CLIENT DETAILS

Client

Strategen

Project

(Not specified)

SUMMARY OF ANALYSIS

No.	Sample ID	Conductivity and TDS by Calculation - Water	Filterable Reactive Phosphorus (FRP)	Low Level Ammonia Nitrogen by FIA	Nitrate Nitrogen and Nitrite Nitrogen (NOx) by FIA	pH in water	TKN Kjeldahl Digestion by Discrete Analyser	Total Dissolved Solids (TDS) in water	Total Phosphorus by Kjeldahl Digestion DA in
001	SW01	1	1	1	2	1	2	1	1
002	SW02	1	1	1	2	1	2	1	1
003	SW03	1	1	1	2	1	2	1	1

The above table represents SGS Environmental Services' interpretation of the client-supplied Chain Of Custody document.

The numbers shown in the table indicate the number of results requested in each package.

Please indicate as soon as possible should your request differ from these details.

Testing as per this table shall commence immediately unless the client intervenes with a correction.

City of Kalamunda

4.0 PRELIMINARY ENGINEERING SERVICES REPORT



Job No: 12-205

Cambridge Road, FORRESTFIELD

On behalf of

The Shire of Kalamunda

Engineering Opportunity and Constraints Report

for

Proposed Residential Development

September 2012

PRITCHARD FRANCIS PTY LTD
Civil and Structural Engineering Consultants

Level 1, 430 Roberts Road
SUBIACO WA 6904
Telephone: 9382 5111 Fax: 9388 5199

CONTENTS

1	INTRODUCTION	1
2	SITE CONDITIONS.....	2
2.1	Existing Infrastructure	2
2.2	Geology	2
2.3	Topography	2
2.4	Groundwater Levels	3
2.5	Earthworks and Retaining Walls	3
3	INFRASTRUCTURE.....	4
3.1	Stormwater Drainage	4
3.2	Sewer Reticulation	4
3.3	Water Reticulation	5
3.4	Gas Supply.....	5
3.5	Electrical Supply	5
3.6	Communications	5
4	COST ESTIMATE.....	6
5	CONCLUSION.....	6
	APPENDIX A - CONCEPTUAL LOT SETOUT	7
	APPENDIX B – WATER CORPORATION REPROGRAPHICS	8
	APPENDIX C – STRATEGEN PRELIMINARY OPPORTUNITY AND CONSTRAINTS REPORT	9
	APPENDIX D – DOW GROUNDWATER	10
	APPENDIX E - EXISTING SEWER INFRASTRUCTURE	11
	APPENDIX F - EXISTING WATER INFRASTRUCTURE	12
	APPENDIX G - EXISTING ATCO GAS INFRASTRUCTURE	13
	APPENDIX H - EXISTING WESTERN POWER INFRASTRUCTURE	14
	APPENDIX I – PRELIMINARY ORDER OF MAGNITUDE COST ESTIMATE	15

**Cambridge Road, Forrestfield
Engineering Services Report**

1 INTRODUCTION

At the request of Ryan Uszko of The Shire of Kalamunda, Pritchard Francis Pty Ltd has prepared this report on the existing services and authority conditions expected to be required to serve the proposed development.

The landholding has an area of approximately nine hectares and is bound by existing development fronting Mallow Way as well as Cambridge Road to the north, York Street and existing development fronting Moira Avenue to the south. To the east of the landholding is a power easement.

Preliminary lot layouts have been provided by the Shire of Kalamunda, namely TPG Plan 712-359 dated 7 June 2012, attached in Appendix A. The plan details 83 lots ranging from R20 to R50, retained vegetation and significant drainage basin to the south west as well as enhanced landscaped public open space to the south east.

The following pages outline the expected earthworks, retaining walls, stormwater drainage, water reticulation, sewer reticulation, gas, electrical infrastructure and anticipated engineering conditions required to serve the proposed development.



Figure 1.1 – Aerial photograph of the site

2 SITE CONDITIONS

2.1 Existing Infrastructure

The current site consists of mature trees and vegetation, some of which will have to be removed to allow for the proposed development. Costs associated with the clearing of existing vegetation have been allowed for in the attached Preliminary Order of Magnitude Cost Estimate.

The landholding site contains a large sump (approximately 1.3 hectares in plan area), which receives drainage from the surrounding area. Immediately to the east of the site is a Western Power easement, with 330 kV transmission line running parallel to Anderson Road.

2.2 Geology

A review of the 1:50 000 Environmental Geology Series maps of Perth classifies the soils as thin Bassendean sand over Guildford formation. The sand layer is likely to be of high permeability, high ease of excavation, low slope stability, medium to high bearing capacity and suitable for roads and urbanisation. However, it is noted that the sand is of variable thickness, and sands physical properties are modified by the underlying material.

The Shire of Kalamunda has provided a Preliminary Opportunity and Constraints Report completed by Strategen attached in Appendix B of this report. They note in this report that the base of the sump appears to be clay. Furthermore, a site inspection was completed by Pritchard Francis on the 9 September. Upon inspection in areas of the site the surface material appears to be clayey material. As such, it is possible that lot connection pits will need to be provided as insitu infiltration may not be suitable. This will need to be confirmed by a geotechnical engineer following a geotechnical investigation of the site.

We note that a site specific geotechnical investigation would need to be undertaken by a certified geotechnical engineer prior to construction to confirm the site conditions and geological development constraints. Infiltration testing should be undertaken with this study to assist with drainage modelling.

2.3 Topography

Reprographics obtained from the Water Corporation indicate that the landholding falls from east to west with the site at approximately RL 50.0m on the eastern side and RL 41.0 on the western side, as part of a drainage sump. Design levels on the site are constrained by the existing developments to the north and west as well as the existing road levels along Mallow Way, to which the proposed subdivision is to tie into. Please refer to Appendix C which illustrates the topography of the site.

We note that a site specific survey would need to be undertaken by a certified surveyor prior to construction to confirm the site levels, as well as the existing levels surrounding the site and at tie in points.

2.4 Groundwater Levels

The Department of Water's website indicates that the water table sits at RL 17.0m (based on May 2003, Groundwater Contours). This level is likely to fluctuate by 3 metres due to seasonal variations, but will be in the vicinity of 21 to 30 metres below natural surface level. Please refer to Appendix D for the DoW's groundwater contours.

Based on the above information, we would not expect any development constraints would result due to the groundwater table. Pritchard Francis recommends that site conditions be confirmed by a geotechnical engineer prior to any detailed design.

2.5 Earthworks and Retaining Walls

Design levels of the lots adjacent to the sump are to be set with an appropriate clearance between flood levels. To integrate the elevated design levels of these lots, with the level of the existing sump retaining it is anticipated that retaining walls will be required along the western boundary of the site, and have been allowed for in the attached cost estimate. Retaining walls will also be required to create flat stepping pads for the lots, with appropriate allowance being made in the attached Preliminary Order of Magnitude Cost Estimate.

Importation of fill will be required to create a site suitable for development and allowances have been made in the attached Preliminary Order of Magnitude Cost Estimate. Final import quantities will be determined following a survey and geotechnical investigation of the site.

3 INFRASTRUCTURE

3.1 Stormwater Drainage

In line with the Shire of Kalamunda's requirements all stormwater shall be detained within site for a 1 in 100 year ARI storm event. The attached TPG Plan (Appendix A) details a drainage basin located on the south west portion of the site as well as a swale (adjacent to the proposed road interconnecting with Mallow Way) transmitting water south to the basin.

Stormwater management for the proposed subdivision is likely to include the provision of a pit and pipe system that ultimately discharges the water to the drainage basin. In line with the Shire of Kalamunda's requirements this pit and pipe system will be sized to facilitate a 1 in 5 year ARI storm event. The attached Preliminary Order of Magnitude Cost Estimate includes the provision of lot connection pits which may need to be provided as insitu infiltration may not be suitable.

Preliminary stormwater calculations show that for approximately 4000 m³ of additional volume shall be provided to compensate the post development stormwater runoff. It is anticipated that following that this volume of water will be facilitated by the reshaping of the existing stormwater basin to allow for the extra storage capacity required post development. Allowances have been made for in the attached cost estimate for the reshaping of the existing sump. No allowances have been made for landscaping or environmental costs.

Pritchard Francis recommends that further modelling is undertaken to further develop a stormwater management strategy for the site. The stormwater strategy will be dependent on the geological conditions on the site as well as the contributing catchment to the drainage sump located onsite. In the detailed design stage of the development consideration should be given to Water Sensitive Urban Sensitive Design (WSUD) and further investigation into methods of treatment of stormwater at source. Any stormwater drainage employed on site shall also manage flood and inundation risks by providing adequate clearance from 1 in 100 ARI flood levels.

3.2 Sewer Reticulation

The Water Corporation reprographics show that there is an existing an 150mm VC sewer main along Mallow Way to the north of the proposed development, 150mm VC sewer main to the south as well as 150mm PVC sewer along Cambridge Road to the east of the landholding. It is anticipated that sewer will be provided to the proposed development by the extension of the existing sewer along Cambridge Road.

Pritchard Francis has been in contact with the Water Corporation with their preliminary advice indicating that there is no Water Corporation planning for the area. It is anticipated that the existing catchment will be able to facilitate increased flows, with the Water Corporation utilising head works to undertake any upgrades required to their existing downstream sewage infrastructure. Further liaison will be required with the Water Corporation in the detailed design stage.

Please refer to Appendix E which illustrates the current sewer infrastructure.

3.3 Water Reticulation

The reprographics obtained from the Water Corporation show that there is an existing 100mm water main along Cambridge Road, as well as a 100mm main along Mallow Way. A 150mm main is located along Moira Way to the south of the land holding. It is anticipated that water will be provided to the proposed subdivision via the interconnection of the existing 100mm mains on Cambridge Road and Mallow Way.

Pritchard Francis has not been able to confirm whether the existing infrastructure is capable of supporting the proposed development. The design engineer at the time will require confirmation from the Water Corporation of the water reticulation supply; however we would assume that the existing 100mm mains have sufficient capacity.

Please refer to Appendix F which illustrates the existing water infrastructure surrounding the development.

3.4 Gas Supply

Dial Before You Dig Plans have been received from ATCO Gas and show existing gas reticulation surrounding the development with a 50mm main along Cambridge Road and Mallow Way. We would presume that this main has sufficient capacity to serve the proposed development, however further consultation with ATCO will be required in the design phase.

Please refer to Appendix G for the received Dial Before You Dig data Plan.

3.5 Electrical Supply

Western Power's Dial Before You Dig Plans have been obtained and are attached in Appendix H of this report. Existing developments in the area are served by connections into overhead power lines. Western Power's Network Capacity Mapping indicates that there is capacity available in the area. We anticipate that as part of the development additional switchgears and transformers will be required to reinforce the network to allow for the expansion of 83 lots. Associated costs have been allowed for in the attached Preliminary Order of Magnitude Cost Estimate. This should be confirmed with an application to Western Power for a Design Information Package (DIP).

3.6 Communications

Given the site is less than 100 lots and an infill development NBN is expected to reject any proposal to service the site and subsequently Telstra will be the provider of communications infrastructure by extending existing infrastructure internally to serve the proposed lots. A contract will need to be entered into with Telstra for the design of this infrastructure.

4 COST ESTIMATE

A Preliminary Order of Magnitude Cost Estimate (attached in Appendix I) has been prepared in accordance with the TPG's 83 lot subdivisional plan received from The Shire of Kalamunda. The cost estimate is based on the assumption that all works are carried out in one stage and should be read in conjunction with the notes which detail any assumptions and allowances that have been made in the estimate.

5 CONCLUSION

This report confirms that the proposed development should be capable of being served with all of the essential services. Based on the information available at the time of this report, geological conditions of the site should not present any constraints to the development.

Confirmation will be required from service authorities at the detailed design stage on the actual capacities of existing infrastructure and any upgrades that may be required to serve the proposed subdivision. Further surveys, geotechnical and environmental investigations will be required prior to any detailed design.

We recommend that further flood analysis is carried out to ascertain the impact of the proposed development on the existing sump in the area as well as required clearances from flood levels. Following this and confirmation of the geological conditions onsite a stormwater management strategy can be formulated for the site in line with water sensitive urban design methodologies.

APPENDIX A - CONCEPTUAL LOT SETOUT



0 20 40 80m

This concept has been prepared for the purpose of meeting client specifications. The drawing does not constitute an invitation, agreement or contract (or any part thereof) of any kind whatsoever.

Although care has been taken in the compilation of this drawing by The Planning Group WA Pty Ltd, all parties associated with the proposed property development disclaim all responsibility for any errors or omissions. The right is reserved to change the plan at any time.

Liability is expressly disclaimed by The Planning Group WA Pty Ltd for any loss or damage which may be sustained by any person acting on any visual impression gained from this drawing.

Yield Summary						
Lot Type	15 x 28	12 x 28	10 x 28	9 x 28	7.5 x 28	TOTAL
	27	3	10	11	32	83
Percentage	33%	5%	11%	13%	38%	

Concept Plan
Cambridge Road, Forreestfield

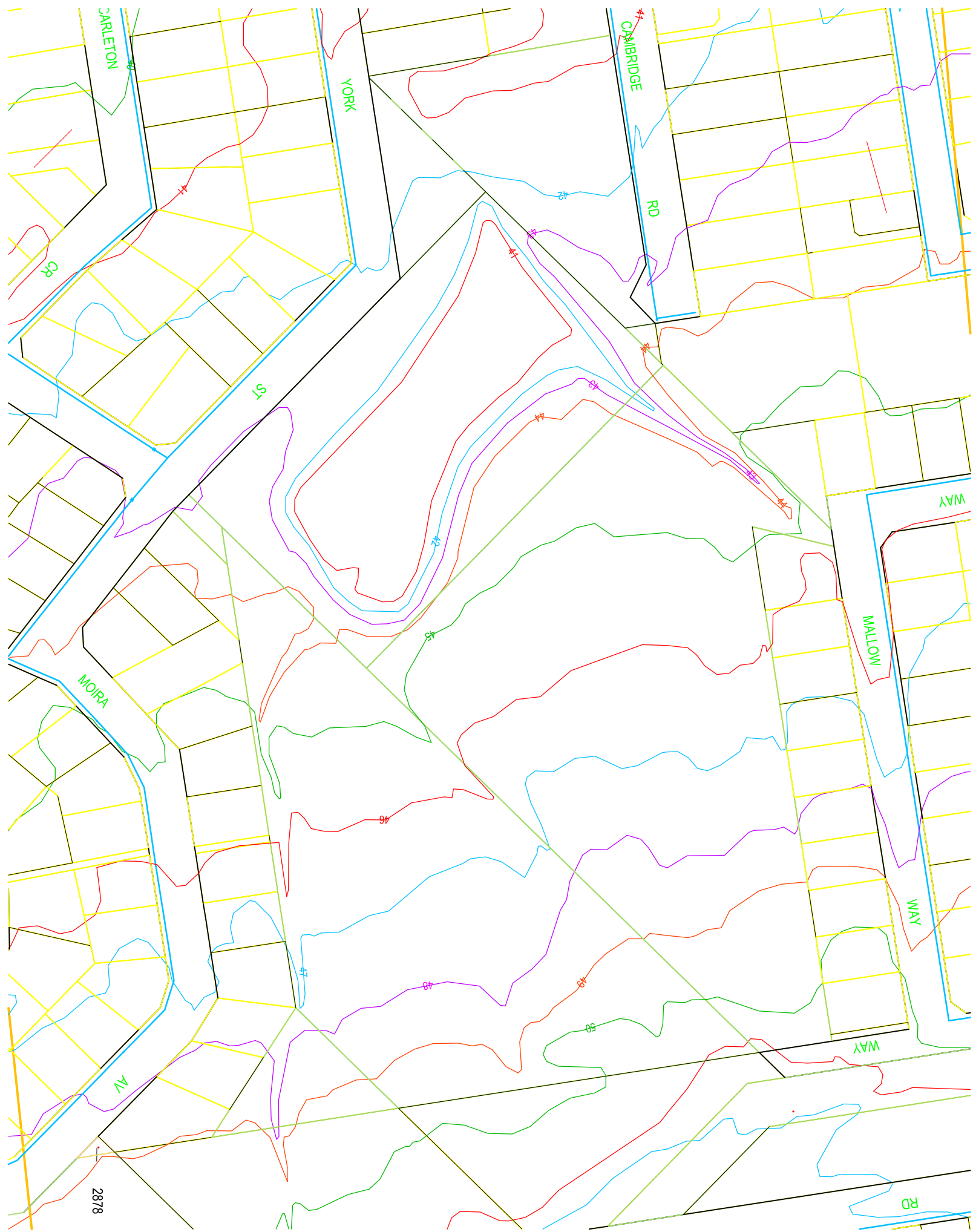
Date: 07 June 2012 Project Manager: TP
Scale: 1:2000 @ A3 Designer: OP
Drawing No. 712-359 CP01A Drawn: OP

TOWN PLANNING
AND URBAN DESIGN

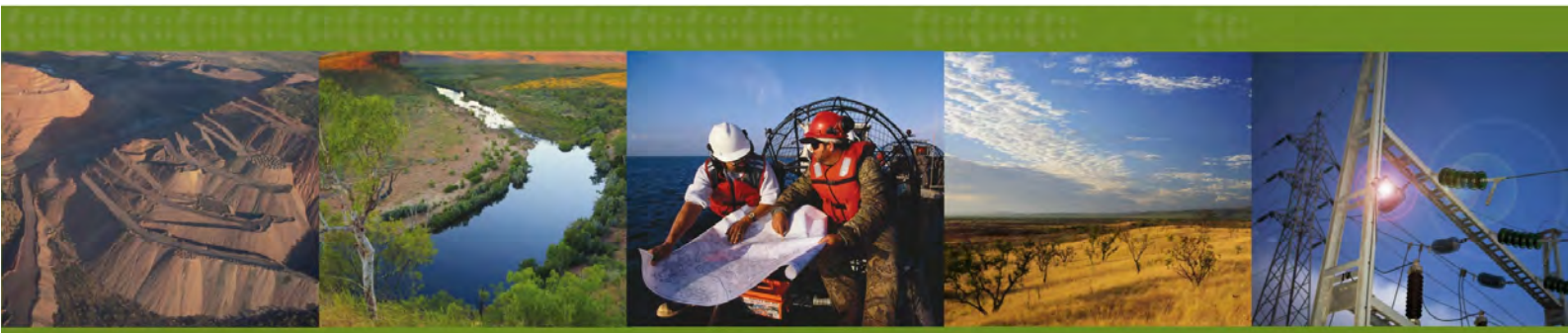
Level 7, 182 St Georges Terrace Perth Western Australia 6000
PO Box 7375 Cloisters Square Perth Western Australia 6850
Telephone +61 8 9269 8300
Facsimile +61 8 9261 4768
www.tpgwa.com.au
The Planning Group WA Pty Ltd
ABN 38 907 273 222



APPENDIX B – WATER CORPORATION REPROGRAPHICS



APPENDIX C – STRATEGEN PRELIMINARY OPPORTUNITY AND CONSTRAINTS REPORT



Preliminary Opportunities and Constraints Report

York Road Reserve, Forrestfield

DRAFT

Prepared for
Shire of Kalamunda
by Strategen

May 2012



Preliminary Opportunities and Constraints Report

York Road Reserve, Forrestfield

DRAFT

Strategen is a trading name of
Strategen Environmental Consultants Pty Ltd
Level 2, 322 Hay Street Subiaco WA
ACN: 056 190 419

May 2012

Disclaimer and Limitation

This report has been prepared for the exclusive use of the Client, in accordance with the agreement between the Client and Strategen ("Agreement").

Strategen accepts no liability or responsibility whatsoever for it in respect of any use of or reliance upon this report by any person who is not a party to the Agreement.

In particular, it should be noted that this report is a qualitative assessment only, based on the scope of services defined by the Client, budgetary and time constraints imposed by the Client, the information supplied by the Client (and its agents), and the method consistent with the preceding.

Strategen has not attempted to verify the accuracy or completeness of the information supplied by the Client.

Copyright and any other Intellectual Property arising from the report and the provision of the services in accordance with the Agreement belongs exclusively to Strategen unless otherwise agreed. This document may not be reproduced or disclosed to any person other than the Client without the express written authority of Strategen unless the document has been released for referral and assessment of proposals.

Client: Shire of Kalamunda

Report Version	Revision No.	Purpose	Strategen author/reviewer	Submitted to Client	
				Form	Date
Draft Report	A0				
Final Draft Report					
Final Report					

Filename: SKA12118_01 R001 Rev A0 - 25 May 2012

DRAFT

Preliminary Opportunities and Constraints Report

Table of contents

1. Introduction	2
1.1 Background	2
1.2 Desktop review	2
1.3 Site investigation	2
2. Results and discussion	5
2.1 Disturbance history	5
2.2 Topography and soils	5
2.3 Surface water	5
2.4 Flora and vegetation	7
2.4.1 Results	7
2.4.2 Discussion	8
2.5 Fauna	11
2.5.1 Results	11
2.5.2 Discussion	14
3. Conclusions and recommendations	16
4. References	17

List of tables

Table 1	Conservation significant species potentially occurring in York Street Reserve	7
Table 2	Likelihood of occurrence of flora species identified by database searches	9
Table 3	Conservation significant species potentially occurring in York Street Reserve	11
Table 4	Likelihood of occurrence of fauna species identified by database searches	12

List of figures

Figure 1	Regional location	3
Figure 2	York Street Reserve	4
Figure 3	Assessment zones	6
Figure 4	Known locations of Carnaby's black-cockatoo habitat	15

List of appendices

Appendix 1	Conservation codes
Appendix 2	Detailed zone descriptions

DRAFT

Preliminary Opportunities and Constraints Report

1. Introduction

1.1 Background

The Shire of Kalamunda is currently examining opportunities to develop parts of York Street Reserve, Forrestfield. Strategen have been engaged to undertake an assessment of the site to determine whether any environmental constraints or opportunities for development are present within the Reserve.

York Street Reserve is located in Forrestfield (Figure 1), and is bounded by York Street and Moira Avenue along the southern boundary, a transmission line easement in the east, Mallow Way residences and Cambridge Road in the north, and Cumberland Road residences in the west (Figure 2). The Reserve is located less than 1 km from areas of remnant vegetation in Hartfield Park and is approximately 8.8 ha in size.

The Reserve is generally in a degraded state, having been subject to considerable disturbance in the form of trail bike use and rubbish dumping over an extended period of time.

1.2 Desktop review

Prior to visiting the site, searches were undertaken of the following databases to establish whether any conservation significant flora or fauna species could potentially occur in the Reserve:

- Naturemap (DEC 2012a) (search area encompassed a 5 km radius of an approximately central point of the Reserve)
- Environment Protection and Biodiversity Conservation Act (EPBC Act) Protected Matters Search Tool (SEWPaC 2012a) (search area encompassed the Reserve and a 1 km buffer along all boundaries).

This information was then used to inform the site investigation.

1.3 Site investigation

A general inspection of the Reserve was undertaken on 15 May 2012. During this investigation notes were taken on the following issues:

- broad site description including assessment of disturbance history
- broad description of vegetation (including dominant species observed in each area, level of weed infestation, and whether vegetation is remnant, revegetated or non-native)
- vegetation condition (rated according to the scale of Keighery [1994])
- location of any trees/stands of trees that potentially form Carnaby's black-cockatoo foraging/breeding habitat
- location of any potential graceful sun-moth habitat (*Lomandra hermaphrodita*) encountered opportunistically during the site visit
- location of any other items considered to be potential environmental constraints or opportunities.

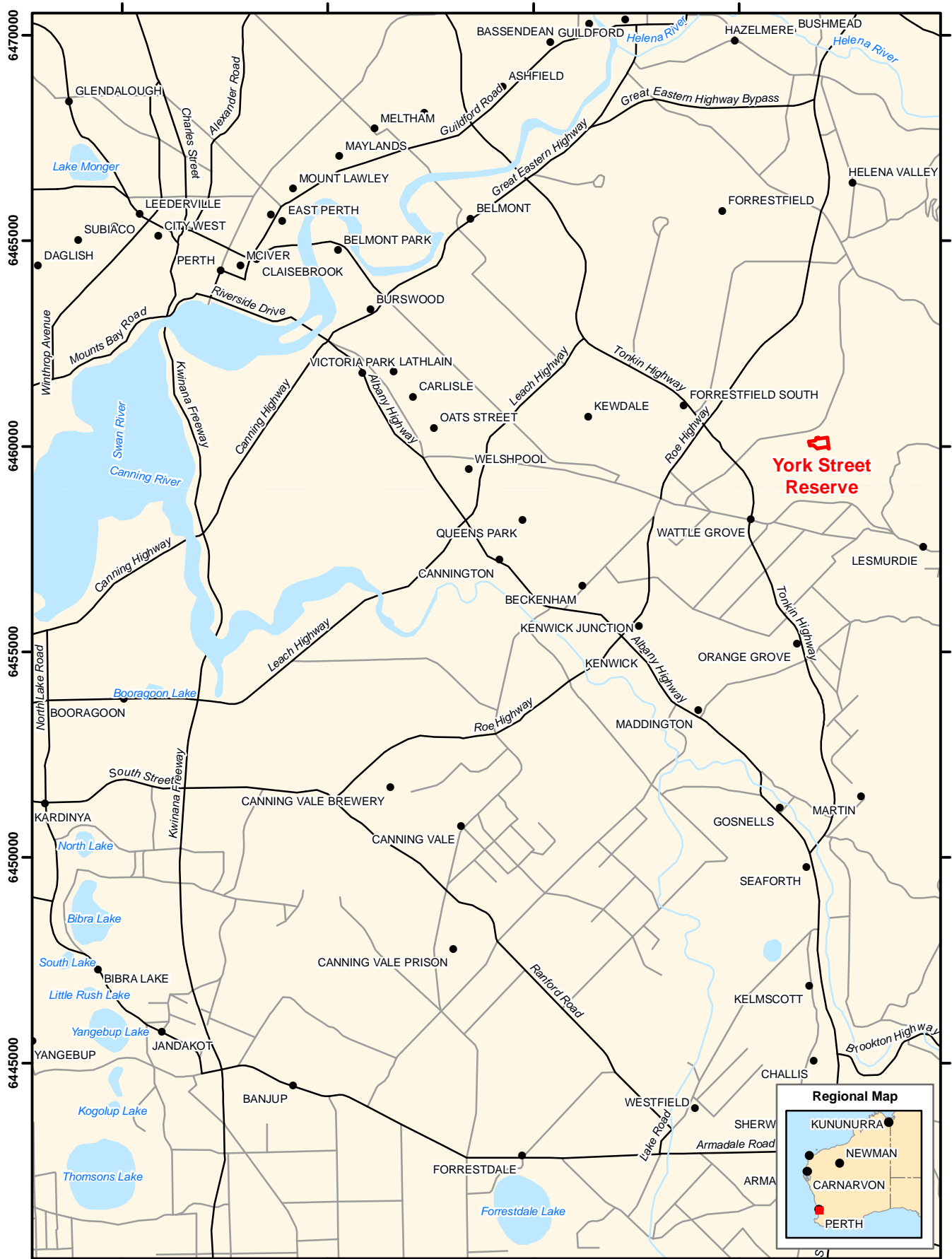






Figure 1 Regional location



Figure 2 Project area

Legend

-  High voltage power line
-  York Street Reserve
-  Sump
-  Cadastral boundaries

DRAFT

Preliminary Opportunities and Constraints Report

2. Results and discussion

For the purpose of describing environmental constraints, the Reserve has been divided into eight zones, as illustrated in Figure 3. An overview is provided in the following section, with a detailed description of each individual zone provided in Appendix 2.

2.1 Disturbance history

The Reserve appears to have an extensive history of disturbance. A large portion (Zone 2) has been cleared of native vegetation altogether and revegetated with non-local eucalypt species. Weed species occur throughout the reserve, with heavier infestations in areas where historical clearing has been undertaken, or modifications such as artificial drainage channels have been constructed. It is noted that Zone 1 (Cambridge Road Reserve) is planted with lawn grasses and playground equipment is installed.

Household rubbish has been dumped throughout the Reserve, reducing the amenity of the area. In addition vehicle tracks throughout the Reserve suggest the area is highly utilised by trail bikers for recreational purposes.

No Aboriginal or Non-Aboriginal heritage sites have been identified within the Reserve.

2.2 Topography and soils

The topography of the site is generally undulating, with a local low point present in the form of a sump to the south-west of the site (Figure 2). Surface soils range from yellow-orange clayey sand to white-grey sand. In some areas, laterite gravel varying in size is present on the surface, generally consistent with the location of the drainage channels to the sump.

2.3 Surface water

Aerial photography of the Reserve has been analysed against GIS data for geomorphic wetlands as listed by the DEC as well as lakes listed under the *Environmental Protection Swan Coastal Plain Lakes Policy 1992*. No wetlands/lakes have been recorded within or near the Reserve.

It is noted the site contains a large sump, which receives drainage from the surrounding area. The sump is what is referred to as a trap low point, in that there is no drain or creek by which the water can leave the sump. The sump receives drainage from the surrounding urban areas. Following large rainfall events or wet winters, the sump will fill up and expand in area, possibly entering Zones 1 and 3. The water levels in the sump may be driven by runoff, or local groundwater, or a mixture of both.

Surface water was present in the sump on the day of inspection. It is unclear if this water was due to recent rainfall and associated run off or was an expression of the local groundwater table. The base of the sump appeared to be clay.

The maximum water level and extent of the sump will limit the area of the reserve that can be developed. In wet years and, following large rainfall events, the water may also extend into Zones 1 and 3. Hydrological modelling of runoff and groundwater is required to determine the maximum extent of the sump. This work should be undertaken early in the planning process to determine the total area of the site that can be developed.

There may be options to reduce the area impacted by the sump through the provision of a drainage outlet to the sump. Any such option would need to be proved from an engineering viewpoint and be approved by the Water Corporation and Department of Water prior to construction.



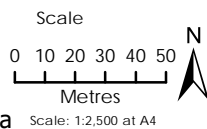
Figure 3 Assessment zones

Legend

- York Street Reserve
- Zone 1
- Zone 2
- Zone 3
- Zone 4
- Zone 5
- Zone 6
- Zone 7
- Zone 8



info@strategen.com.au
City of Kalamunda



Coordinate System: GDA 1994 MGA Zone 50

Date: 25/05/2012

Author: jcrute

Path: Q:\GIS\Consult\2012\SKA\SKA12118.01\ArcMap_documents\R001\RevA\SKA12118_01_R001_RevA_F003.mxd

Source Aerial: Client 2012.

Note that positional errors may occur in some areas

DRAFT

Preliminary Opportunities and Constraints Report

2.4 Flora and vegetation

2.4.1 Results

Table 1 provides a summary of the conservation significant flora identified as potentially occurring in the Reserve through the database searches only. Descriptions of each conservation code are available in Appendix 11.

Table 1 Conservation significant species potentially occurring in York Street Reserve

Species	Common name	Conservation status	
		WC Act/DEC listing	EPBC Act listing
<i>Acacia oenanthophylla</i> subsp. <i>patulifolia</i>		P3	
<i>Andersonia gracilis</i>	Slender andersonia		Endangered
<i>Banksia mimica</i>	Summer honeypot		Endangered
<i>Boronia tenuis</i>	Blue boronia	P4	
<i>Byblis gigantea</i>	Rainbow plant	P3	
<i>Calytrix breviseta</i> subsp. <i>breviseta</i>	Swamp starflower		Endangered
<i>Centrolepis caespitosa</i>			Endangered
<i>Chamelaucium</i> sp. Gingin (N.G.Marchant 6)	Gingin wax		Endangered
<i>Conospermum undulatum</i>	Wavy-leaved smokebush	T	Vulnerable
<i>Darwinia foetida</i>	Muchea bell		Critically Endangered
<i>Eucalyptus balanites</i>	Cadda road mallee, cadda mallee		Endangered
<i>Grevillea curviloba</i> subsp. <i>incurva</i>	Narrow curved-leaf grevillea		Endangered
<i>Haemodorum loratum</i>		P3	
<i>Isopogon drummondii</i>		P3	
<i>Lasiopetalum bracteatum</i>	Helena velvet bush	P4	
<i>Lepidosperma rostratum</i>	Beaked lepidosperma		Endangered
<i>Macarthuria keigheryi</i>	Keighery's macarthuria		Endangered
<i>Pithocarpa corymbulosa</i>	Corymbose pithocarpa	P3	
<i>Senecio leucoglossus</i>		P4	
<i>Synaphea</i> sp. Fairbridge Farm (D.Papenfus 696)	Selena's synaphea		Critically Endangered
<i>Thelymitra magnifica</i>		P1	
<i>Thelymitra dedmaniarum</i> (formerly <i>T. manginii</i> K.Dixon & Batty ms)			Endangered
<i>Thelymitra stellata</i>	Star sun-orchid	T	Endangered
<i>Verticordia fimbrialepis</i> subsp. <i>fimbrialepis</i>	Shy featherflower		Endangered
<i>Villarsia calthifolia</i>	Mountain villarsia		Endangered

Source: DEC 2012a, SEWPaC 2012a

An assessment of the likelihood of each of these species actually occurring in the Reserve is provided in Table 2.

Likelihood of occurrence has been determined based on information available in the following resources:

- *Species Profile and Threats Database* (SEWPaC 2012b)
- *Florabase* (DEC 2012b)

DRAFT

Preliminary Opportunities and Constraints Report

- Conservation Advice and Recovery Plans for EPBC Act listed species
- flora and fauna survey reports from Hartfield Park (Strategen 2011a and 2011b).

Where limited information was available in the above resources or it is difficult to determine due to the time of year, likelihood has been listed as “possible” if preferred habitat/soil type corresponds to that present at the Reserve. It is recommended that a spring flora survey be undertaken to confirm presence or absence of these species.

It should be noted that species identifications were made in the field based on staff members’ experience in the area, and no formal identifications were made. Further, comments regarding non-local eucalypt species pertain to a number of white and grey-stemmed eucalypts observed around the Reserve.

Identifying eucalypts involves analysis of a number of characteristics including fruit and flowers; as such, it is difficult to accurately identify eucalypt species informally, particularly where they are potentially non-local species. In this case, it is considered that where large stands of white stemmed eucalypts occur in the Reserve, they are likely to be non-local species, as eucalypts with this characteristic are relatively uncommon on the Swan Coastal Plain.

A search of the Western Australian Herbarium/DEC database has been commissioned in order to gain further certainty regarding any specific instances of Threatened or Priority Flora known within or near the Reserve.

2.4.2 Discussion

A large portion of the Reserve vegetation has been disturbed by historical clearing.

Two areas (Zones 5 and 7) contain relatively undisturbed, good quality vegetation. Despite their proximity to one another, these two areas contain distinct vegetation types, with Zone 5 being a heath of *Hakea trifurcata* over sedges and Zone 7 being a woodland of *Eucalyptus marginata* and *Corymbia calophylla* (jarrah-marri woodland) over mixed herbs and shrubs.

Zone 3 also contains remnant vegetation in reasonable condition, with a relatively diverse understorey.

Elsewhere, vegetation is limited to a mixture of native and non-native trees over a heavily disturbed understorey.

DRAFT

Preliminary Opportunities and Constraints Report

Table 2 Likelihood of occurrence of flora species identified by database searches

Species	Likelihood of occurrence	Comments
<i>Acacia oncinophylla</i> subsp. <i>patulifolia</i>	Possible*	Known to occur on granitic soils, occasionally laterite (DEC 2012b).
<i>Andersonia gracilis</i>	Unlikely: no known populations near Reserve; lack of preferred habitat	Known to occur on white/grey sand, sandy clay, gravelly loam, winter-wet areas, near swamps (DEC 2012b). Currently known from the Badgingarra, Dandaragan and Kenwick areas where it is found on seasonally damp, black sandy clay flats near or on the margins of swamps, often on duplex soils supporting low open heath vegetation with species such as <i>Calothamnus hirsutus</i> , <i>Verticordia densiflora</i> and <i>Kunzea recurva</i> over sedges (Stack <i>et al.</i> 2008).
<i>Banksia mimica</i>	Possible*: recorded from the locality	Known to occur on white or grey sand over laterite, sandy loam (DEC 2012b). Recorded at a number of locations in nearby Hartfield Park (Strategen 2011a).
<i>Boronia tenuis</i>	Possible*	Known to occur on laterite, stony soils, granite (DEC 2012b).
<i>Byblis gigantea</i>	Unlikely: preferred habitat absent from the Reserve	Known to occur on sandy-peat swamps, seasonally wet areas (DEC 2012b).
<i>Calytrix breviseta</i> subsp. <i>breviseta</i>	Unlikely: only known populations situated in Kenwick, approximately 5 km from the Reserve	Known to occur on low lying, sandy clay flats, swampy flats (DEC 2012b, Luu & English 2004) among low heath of <i>Verticordia acerosa</i> , <i>Verticordia plumosa</i> , <i>Calothamnus hirsutus</i> and <i>Melaleuca uncinata</i> , over very open low sedges (Luu & English 2004). As at 2004, the taxon was thought to be confined to the Kenwick area (Luu & English 2004).
<i>Centrolepis caespitosa</i>	Unlikely: preferred habitat absent; no known populations in the vicinity of the Reserve	Populations of <i>C. caespitosa</i> have been recorded in swampy loam in low-lying winter depressions that are occasionally inundated with fresh water, amongst vegetation dominated by sedges and low shrubs (Gilfillan and Barrett 2004a). Eight known populations of <i>C. caespitosa</i> occur in the south-west of Western Australia, at the following locations: <ul style="list-style-type: none"> • South Stirling • Meelon Nature Reserve (Pemberton district) • east of Meckering • Pearce (Pemberton district) • Pinjarra • South Coast Highway (Albany district) • east of Busselton (Gilfillan & Barrett 2004a).
<i>Chamelaucium</i> sp. Gingin (N.G.Marchant 6)	Unlikely: no known populations in the vicinity of the Reserve	As at 2003, considered to be confined to a 3 km range in the Gingin/Chittering area (Stack & English 2003).
<i>Conospermum undulatum</i>	Possible*: recorded from the locality, similar soil type present at the Reserve	Known to occur on grey or yellow-orange clayey sand (DEC 2012b), often over laterite on flat or gently sloping sites between the Swan and Canning Rivers. A few records are from slightly swampy habitat (DEC 2009a). A number of records are known from the nearby Hartfield Park (Strategen 2011a).
<i>Darwinia foetida</i>	Unlikely: no known populations in the vicinity of the Reserve	Known to occur on grey-white sand on swampy, seasonally wet sites, alongside areas where water collects. The species' range is very restricted, occurring in a small area near the town of Muchea, approximately 70 km north of Perth (TSSC 2009).

SKA12118_01 R001 Rev A0

28-May-12

DRAFT

Preliminary Opportunities and Constraints Report

Species	Likelihood of occurrence	Comments
<i>Eucalyptus balanites</i>	Unlikely: no known populations in the vicinity of the Reserve; preferred habitat absent	Known from two populations in Badgingarra and Armadale (Patten <i>et al.</i> 2004), occurring on sandy soils with lateritic gravel (DEC 2012b). Habitat consists of gently sloping heathlands; open mallee woodland over shrubland or heathland with emergent mallees (Patten <i>et al.</i> 2004).
<i>Grevillea curviloba</i> subsp. <i>incurva</i>	Unlikely: no known populations in the vicinity of the Reserve	Known to occur on sand, sandy loam, in heath in winter-wet areas, on sand over limestone, or over ironstone at sites with a high water table, confined to an area between Muchea and Badgingarra (Phillimore & English 2000).
<i>Haemodorum loratum</i>	Possible*	Grey or yellow sand, gravel (DEC 2012b).
<i>Isopogon drummondii</i>	Possible*	White, grey or yellow sand, often over laterite (DEC 2012b).
<i>Lasiopetalum bracteatum</i>	Possible*	Sandy clay, clay, lateritic gravel, along drainage lines, creeks, gullies, granite outcrops (DEC 2012b).
<i>Lepidosperma rostratum</i>	Unlikely: preferred habitat absent from the Reserve	Known from four populations, associated with marsh banksia (<i>Banksia telmatiaea</i>) and hairy clawflower (<i>Calothamnus hirsutus</i>), in sandy soil among low heath in winter-wet swamps (TSSC 2008a).
<i>Macarthuria keigheryi</i>	Possible*	Currently known from six populations of which two are in metropolitan Perth (Welshpool and Kewdale), where it occurs in low-lying winter-wet damp, grey/white sands and grows in open patches with low tree canopy cover among heathland, jarrah (<i>Eucalyptus marginata</i>) and <i>Allocasuarina</i> /banksia woodland (DEC 2009b).
<i>Pithocarpa corymbulosa</i>	Possible*	Known to occur on gravelly or sandy loam and amongst granite outcrops (DEC 2012b).
<i>Senecio leucoglossus</i>	Possible*	Known to occur on gravelly lateritic or granitic soils and granite outcrops or slopes (DEC 2012b).
<i>Synaphea</i> sp. Fairbridge Farm (D.Papenfus 696)	Unlikely: no known populations in the vicinity of the Reserve	Known to occur on grey, clayey sand with lateritic pebbles and near winter-wet flats, in low woodland with weedy grasses (DEC 2012b, DEC 2007). Restricted to a range of approximately 870 km ² in the Shires of Murray, Serpentine-Jarrahdale and Dardanup (DEC 2007).
<i>Thelymitra magnifica</i>	Unlikely: preferred habitat absent from the Reserve	Known to occur on stony ridges (DEC 2012b).
<i>Thelymitra dedmaniarum</i> (formerly <i>T. manginii</i> K.Dixon & Batty ms)	Unlikely: no known populations in the vicinity of the Reserve; preferred habitat absent	Known from two populations northeast of Perth, confined to open wandoo woodland on red/brown sandy loam associated with dolerite and granite outcropping, with <i>Eucalyptus wandoo</i> , <i>E. accedens</i> and <i>Corymbia calophylla</i> , over low scrub of <i>Acacia pulchella</i> , <i>A. saligna</i> , <i>Calothamnus quadrifidus</i> , <i>Melaleuca radula</i> and <i>Hakea lissocarpha</i> (Phillimore <i>et al.</i> 1999)
<i>Thelymitra stellata</i>	Possible*	Known to occur on gravelly loam among low heath and scrub in <i>Eucalyptus marginata</i> and <i>E. wandoo</i> woodland, and in low heath on lateritic hill tops (TSSC 2008b).
<i>Verticordia fimbrilepis</i> subsp. <i>fimbrilepis</i>	Unlikely: no known populations in the vicinity of the Reserve; preferred habitat absent	Distributed from southeast of Armadale to Brookton and Kojonup, occurring on low-lying shallow grey sand and yellowish-white sandy loam over gravel, sometimes with clay, in heath and shrubland and open wandoo woodland (DEC 2010a).
<i>Villarsia calthifolia</i>	Unlikely: no known populations in the vicinity of the Reserve	Restricted to Porongorup Range (Gilfillan & Barrett 2004b).

*Where likelihood of occurrence is listed as possible it is recommended that a spring flora survey be undertaken to confirm presence or absence of these species.

DRAFT

Preliminary Opportunities and Constraints Report

2.5 Fauna

2.5.1 Results

Table 3 provides a summary of the conservation significant fauna identified as potentially occurring in the Reserve through the database searches only. Descriptions of each conservation code are available in Appendix 11.

Table 3 Conservation significant species potentially occurring in York Street Reserve

Species	Common name	Conservation status	
		WC Act/DEC listing	EPBC Act listing
<i>Dasyurus geoffroii</i>	Chuditch	T	
<i>Isoodon obesulus</i> subsp. <i>fusciventer</i>	Quenda	P5	
<i>Macropus irma</i>	Western brush wallaby	P4	
<i>Morelia spilota</i> subsp. <i>imbricata</i>	Carpet python	S	
<i>Neelaps calonotos</i>	Black-striped snake	P3	
<i>Calyptorhynchus banksii naso</i>	Forest Red-tailed Black-cockatoo		Vulnerable
<i>Calyptorhynchus baudinii</i>	Baudin's black-cockatoo, long-billed black-cockatoo		Endangered
<i>Calyptorhynchus latirostris</i>	Carnaby's black-cockatoo, short-billed black-cockatoo		
<i>Leipoa ocellata</i>	Malleefowl		Vulnerable, migratory
<i>Rostratula australis</i>	Australian painted snipe		Vulnerable
<i>Dasyurus geoffroii</i>	Chuditch, western quoll		Vulnerable
<i>Phascogale calura</i>	Red-tailed phascogale		Endangered
<i>Setonix brachyurus</i>	Quokka		Vulnerable
Migratory birds			
<i>Apus pacificus</i>	Fork-tailed swift		
<i>Ardea alba</i>	Great egret, white egret		
<i>Ardea ibis</i>	Cattle egret		
<i>Haliaeetus leucogaster</i>	White-bellied sea-eagle		
<i>Merops ornatus</i>	Rainbow bee-eater		
<i>Rostratula benghalensis</i> (sensu lato)	Painted snipe		Vulnerable

Source: DEC 2012a, SEWPaC 2012a

An assessment of the likelihood of occurrence of each species is presented in Table 4.

DRAFT

Preliminary Opportunities and Constraints Report

Table 4 Likelihood of occurrence of fauna species identified by database searches

Species	Likelihood of occurrence	Comments
<i>Isoodon obesulus</i> subsp. <i>fusciventer</i> (quenda)	Likely: suitable habitat; known to persist in urban areas; recorded in Hartfield Park	Preferred habitat is dense scrubby, often swampy, vegetation with cover up to one metre high, often feeds in adjacent forest and woodland that is burnt on a regular basis and in areas of pasture and cropland lying close to dense cover. Associated with wetlands on the Swan Coastal Plain, known to occur in disturbed areas around human settlements (SEWPaC 2012b). Evidence of this species was recorded in nearby Hartfield Park (Strategen 2011b).
<i>Macropus irma</i> (western brush wallaby)	Unlikely: sensitive to urban disturbance	Preferred habitat is open forest or woodland, particularly favouring open, seasonally wet flats with low grasses and open scrubby thickets. It is also found in some areas of mallee and heathland (DEC 2010b). Considered unlikely to occur in nearby Hartfield Park which contains a larger area of good quality remnant vegetation, due to tendency of the species to move away from urbanised areas (Strategen 2011b).
<i>Morelia spilota</i> subsp. <i>imbricata</i> (carpet python)	Unlikely: sensitive to urban disturbance	Considered as possibly occurring in long undisturbed vegetation in nearby Hartfield Park. Few records on the Swan Coastal Plain; only likely to persist in areas undisturbed for long periods (Strategen 2011b).
<i>Neelaps calonotos</i> (black-striped snake)	Unlikely: sensitive to urban disturbance	Considered as possibly occurring in long undisturbed vegetation in nearby Hartfield Park. Tends to move out of urbanised areas (Strategen 2011b).
<i>Calyptorhynchus banksii naso</i> (forest red-tailed black-cockatoo)	Likely: observed in Hartfield Park	Foraging habitat is <i>Eucalyptus marginata</i> , <i>Allocasuarina fraseriana</i> , <i>Corymbia calophylla</i> , all present in the Reserve..
<i>Calyptorhynchus baudinii</i> (Baudin's black-cockatoo, long-billed black-cockatoo)	Possible: potential habitat present in Hartfield Park	Generally restricted to forests in the south-west, the Reserve falls within the range of the species. Considered to possibly occur in nearby Hartfield Park given its distribution and preferred foraging habitat (Strategen 2011).
<i>Calyptorhynchus latirostris</i> (Carnaby's black-cockatoo, short-billed black cockatoo)	Likely: observed in Hartfield Park	Observed in nearby Hartfield Park (Strategen 2011).
<i>Leipoa ocellata</i> (malleefowl)	Unlikely: known distribution does not coincide with the Reserve; preferred habitat absent	Known from semi-arid and arid zones of temperate Australia, in shrublands and low woodlands dominated by mallee vegetation, eucalypt or <i>Callitris</i> woodlands, acacia shrublands, <i>Melaleuca uncinata</i> vegetation or coastal heathlands (SEWPaC 2012b).
<i>Rostratula australis</i> (Australian painted snipe)	Unlikely: preferred habitat absent from the Reserve	Generally inhabits shallow terrestrial freshwater (occasionally brackish) wetlands. The species has also been observed using natural or artificial water bodies and areas of inundated or waterlogged grasslands (SEWPaC 2012).
<i>Dasyurus geoffroii</i> (chuditch, western quoll)	Possible: recorded in Hartfield Park	Generally restricted to wet and dry sclerophyll forest and remnant mallee in the south-west, though evidence of species recorded from nearby Hartfield Park (Strategen 2011b).
<i>Phascogale calura</i> (red-tailed phascogale)	Unlikely: preferred habitat absent at the Reserve	Habitat is <i>Allocasuarina</i> woodlands with hollow-containing eucalypts (e.g. <i>Eucalyptus wandoo</i>) and <i>Gastrolobium</i> spp. (SEWPaC 2012b).

DRAFT

Preliminary Opportunities and Constraints Report

Species	Likelihood of occurrence	Comments
<i>Setonix brachyurus</i> (quokka)	Unlikely: preferred habitat absent and known mainland distribution unlikely to include the Reserve	Habitat is recently burnt stands of native vegetation, particularly dense riparian vegetation; mainland populations scarce with patchy distribution due to high levels of habitat fragmentation and feral animal competition (SEWPAC 2012b).
Migratory birds		
<i>Apus pacificus</i> (fork-tailed swift)	Possible	Almost exclusively aerial (SEWPAC), may forage over the Reserve.
<i>Ardea alba</i> (great egret, white egret)	Possible	Habitat comprises a wide range of wetland habitats including artificial water bodies (SEWPAC 2012b).
<i>Ardea ibis</i> (cattle egret)	Possible	Habitat comprises a wide range of wetland habitats including artificial water bodies (SEWPAC 2012b).
<i>Haliaeetus leucogaster</i> (white-bellied sea eagle)	Possible	Generally recorded near open water but has been observed in terrestrial areas including woodland and urban areas (SEWPAC 2012b).
<i>Merops ornatus</i> (rainbow bee-eater)	Possible	Occurs in coastal dune systems amongst open, cleared or lightly-timbered areas that are often, but not always, located in close proximity to permanent water. Regularly recorded in disturbed areas including urban and industrial areas (SEWPAC 2012b).
<i>Rostratula benghalensis</i> (sensu lato) (painted snipe)	Possible	Habitat comprises a wide range of wetland habitats including artificial water bodies (SEWPAC 2012b).

DRAFT

Preliminary Opportunities and Constraints Report

2.5.2 Discussion

Fauna and fauna habitat

Zones 5 and 7 are relatively undisturbed; as such they may act as habitat islands for some fauna species. The Reserve is also likely to provide habitat for fauna species that are less sensitive to human activity, such as the quenda and a range of bird species. Common bird species such as the Australian magpie (*Gymnorhina tibicen dorsalis*), magpie-lark (*Grallina cyanoleuca*) and common bronzewing (*Phaps chalcoptera*) were observed throughout the Reserve during the site visit.

The Reserve is connected by its eastern boundary to a partially vegetated strip of land (transmission line easement) that terminates at Hartfield Road. This area may provide some connectivity for fauna movement between the Reserve, Hartfield Park and the heavily vegetated properties along Lewis Road. The Reserve is also less than 1 km from vegetated areas (including private properties) along the base of the scarp to the east.

Graceful Sun-moth

The Graceful Sun-moth (*Synemon gratiosa*) is listed as Endangered under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and often presents an environmental constraint to development on the Swan Coastal Plain. The species can occur in areas of coastal heath, on host plant *Lomandra maritima*, or in banksia woodland, using *Lomandra hermaphrodita*.

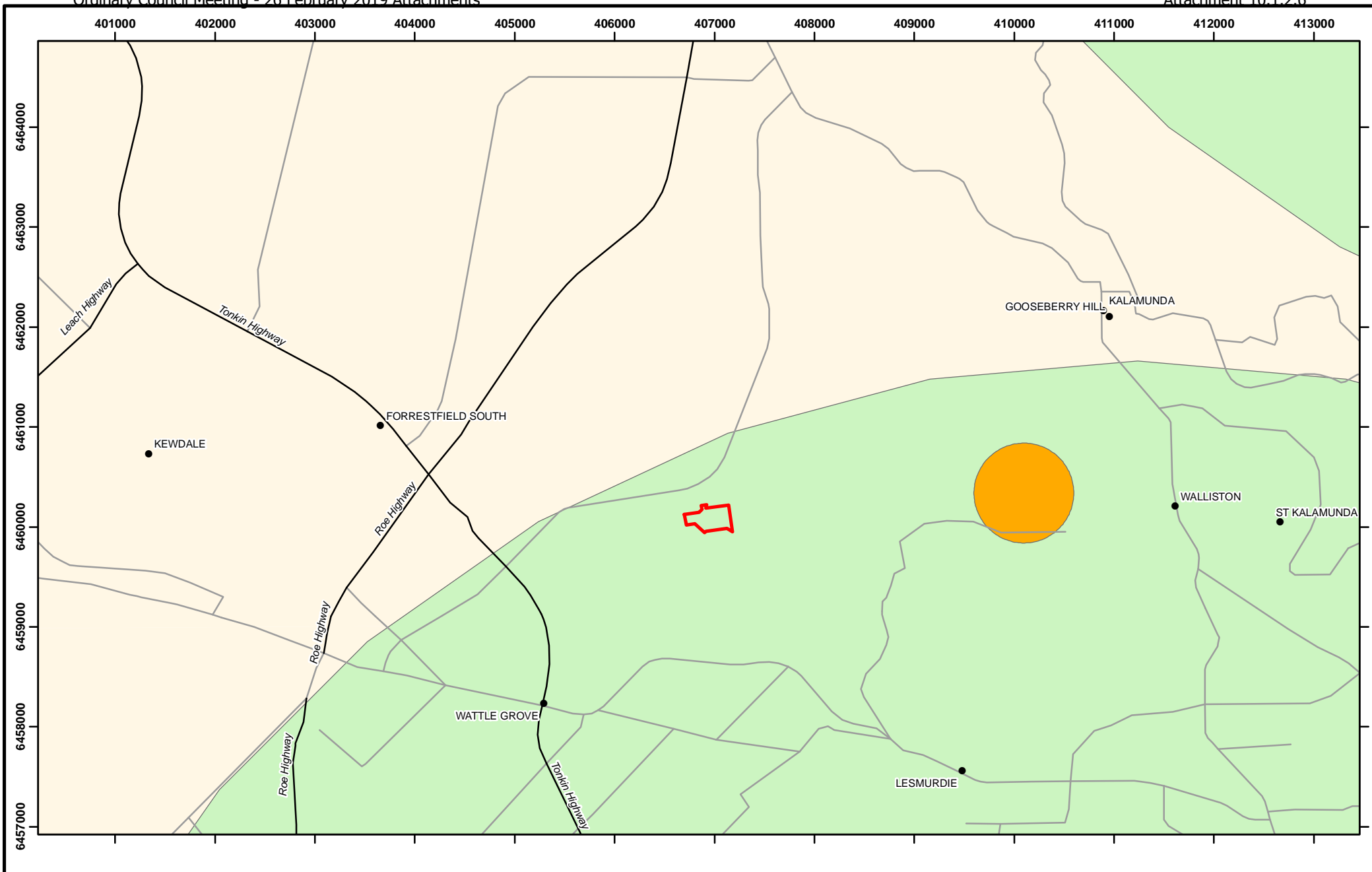
In relation to the York Street Reserve, the EPBC Protected Matters database does not identify the Graceful Sun-moth as potentially occurring in the Reserve. Corresponding with this result, banksia woodland was not observed at the Reserve nor *Lomandra hermaphrodita*. However, although *Lomandra* was not observed opportunistically during the site visit, it cannot be completely ruled out as being present, particularly in the more intact vegetation of Zones 5 and 7. Further targeted surveys could provide specific confirmation of the presence/absence of this species.

Carnaby's Black-cockatoo

Carnaby's Black cockatoo (*Calyptorhynchus latirostris*) is also listed as an Endangered threatened species under the EPBC Act and is therefore a matter of national environmental significance (NES). If a proposed development or other action is likely to have a significant impact upon a NES it must be referred for assessment under the EPBC Act.

The preliminary site assessment has identified a number of large trees in Zones 1, 3, 6, 7 and 8 which may be suitable foraging habitat for the Carnaby's black-cockatoo and/or forest red-tailed black cockatoo.

The EPBC Draft Referral Guidelines for Carnaby's cockatoo and Forest red-tailed black cockatoo (SEWPaC 2011) recommend a project be referred as 'high risk of significant impacts' if it involves clearing of more than 1 ha of quality foraging habitat. Depending on how the land is developed, it is likely that the development will involve clearing of less than 1 ha of foraging habitat; however a more detailed assessment will be required once a concept plan has been developed for the site.



City of Kalamunda

Scale
0 250 500
Metres



Figure 4

Locations of known Carnaby's black-cockatoo habitat areas

Coordinate System: GDA 1994 MGA Zone 50
Date: 17/05/2012

Author: jcrute

Path: Q:\GIS\Consult\2012\SKA\SKA12118.01\ArcMap_documents\R001\RevA\SKA12118_01_R001_RevA_F004.mxd

Source: Geoscience Australia 2006, Carnaby's: DEC 2011
Note that positional errors may occur in some areas

Legend

- Town
- Major road
- Minor road



York Street Reserve



Carnaby's confirmed roost areas



Carnaby's confirmed breeding areas

DRAFT

Preliminary Opportunities and Constraints Report

3. Conclusions and recommendations

Overall the main constraints to development identified through this assessment are as follows:

- the location of the existing sump and uncertainty regarding the maximum extent in times of heavy rainfall
- key areas of high-quality vegetation / fauna habitat located in Zones 5 and 7
- remnant vegetation in reasonable condition located in Zone 3
- potential foraging habitat for the EPBC listed Carnaby's black-cockatoo and/or Forest red-tailed cockatoo.

It is recommended that the following additional work be undertaken to more confirm the level of constraint these issues may pose to development of the site:

- a spring flora & fauna survey to clearly assess the areas of high-quality vegetation and fauna habitat
- detailed assessment of Carnaby's black-cockatoo and/or Forest red-tailed cockatoo once a concept plan has been determined for the site.

It is noted that some potentially some of these issues listed above, such as the location of high-quality vegetation in Zones 5 and 7, could actually be perceived as an opportunity to provide for an environmentally sensitive designed development if managed correctly.

APPENDIX D – DOW GROUNDWATER



APPENDIX E - EXISTING SEWER INFRASTRUCTURE



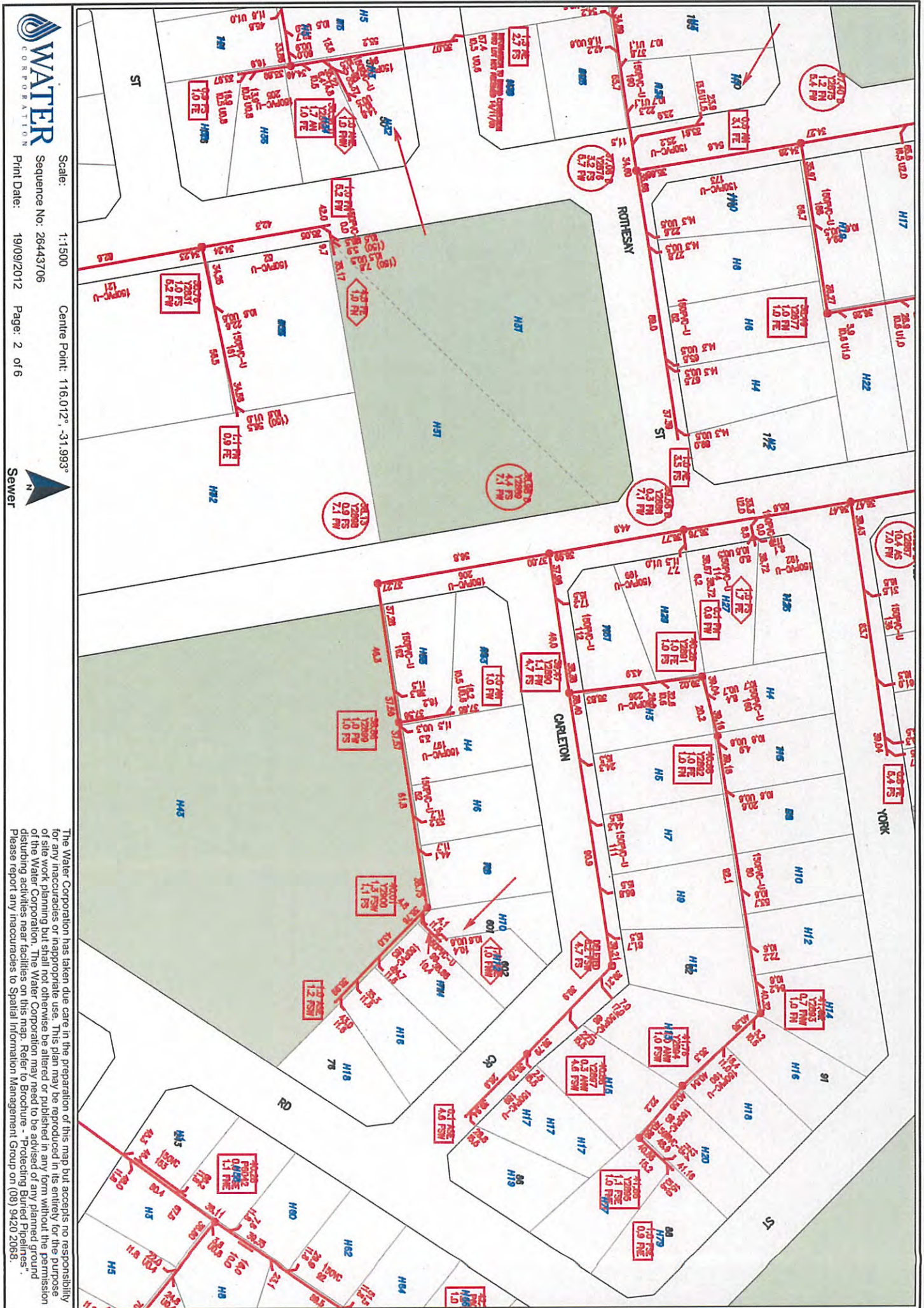
Scale: 1:4567
Sequence No: 26443706
Print Date: 19/09/2012 Page: 1 of 6

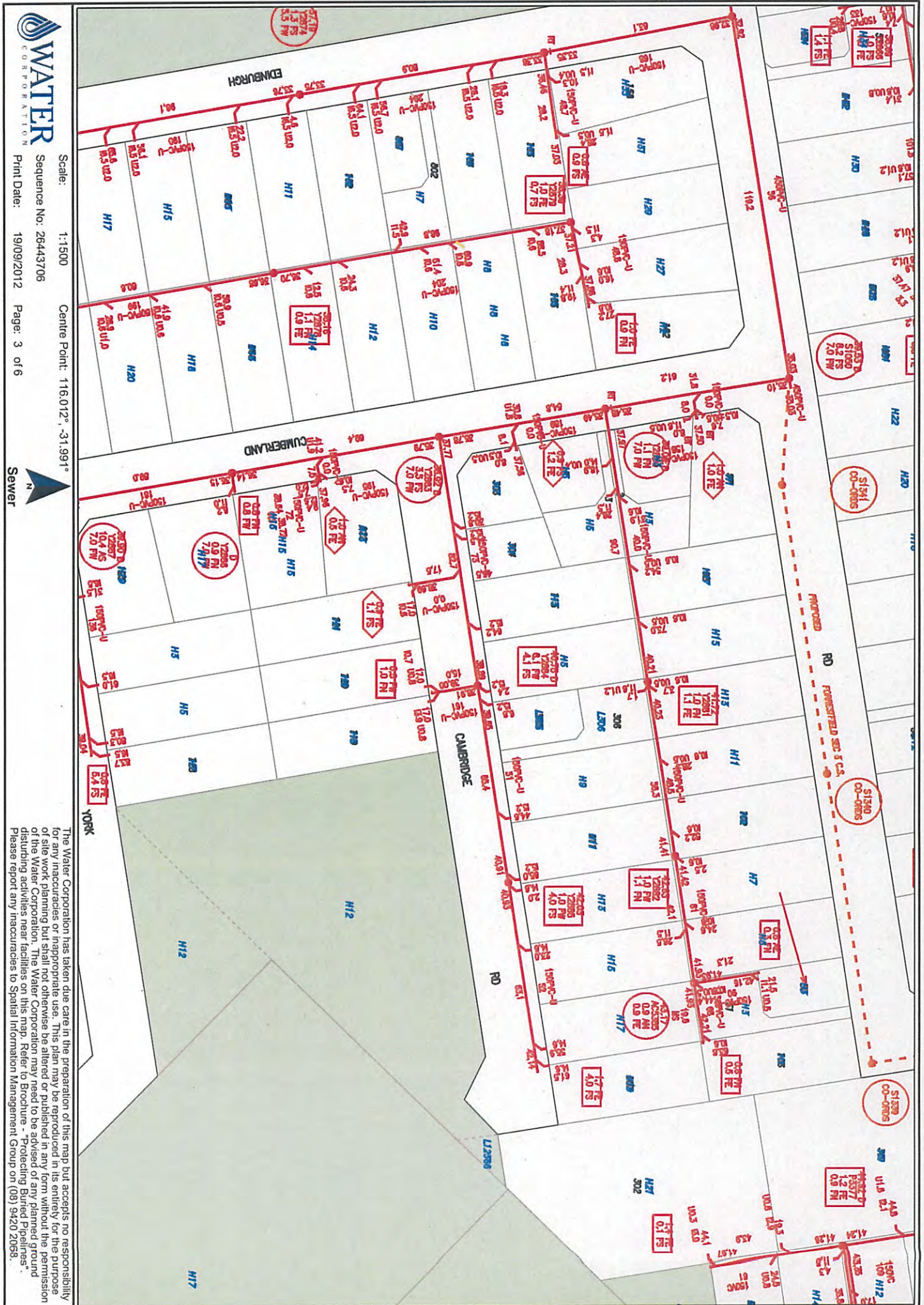


Sewer



The Water Corporation has taken due care in the preparation of this map but accepts no responsibility for any inaccuracies or inappropriate use. This plan may be reproduced in its entirety for the purpose of site work planning but shall not otherwise be altered or published in any form without the permission of the Water Corporation. The Water Corporation may need to be advised of any planned ground disturbing activities near facilities on this map. Refer to Brochure - "Protecting Buried Pipelines". Please report any inaccuracies to Spatial Information Management Group on (08) 9420 2068.

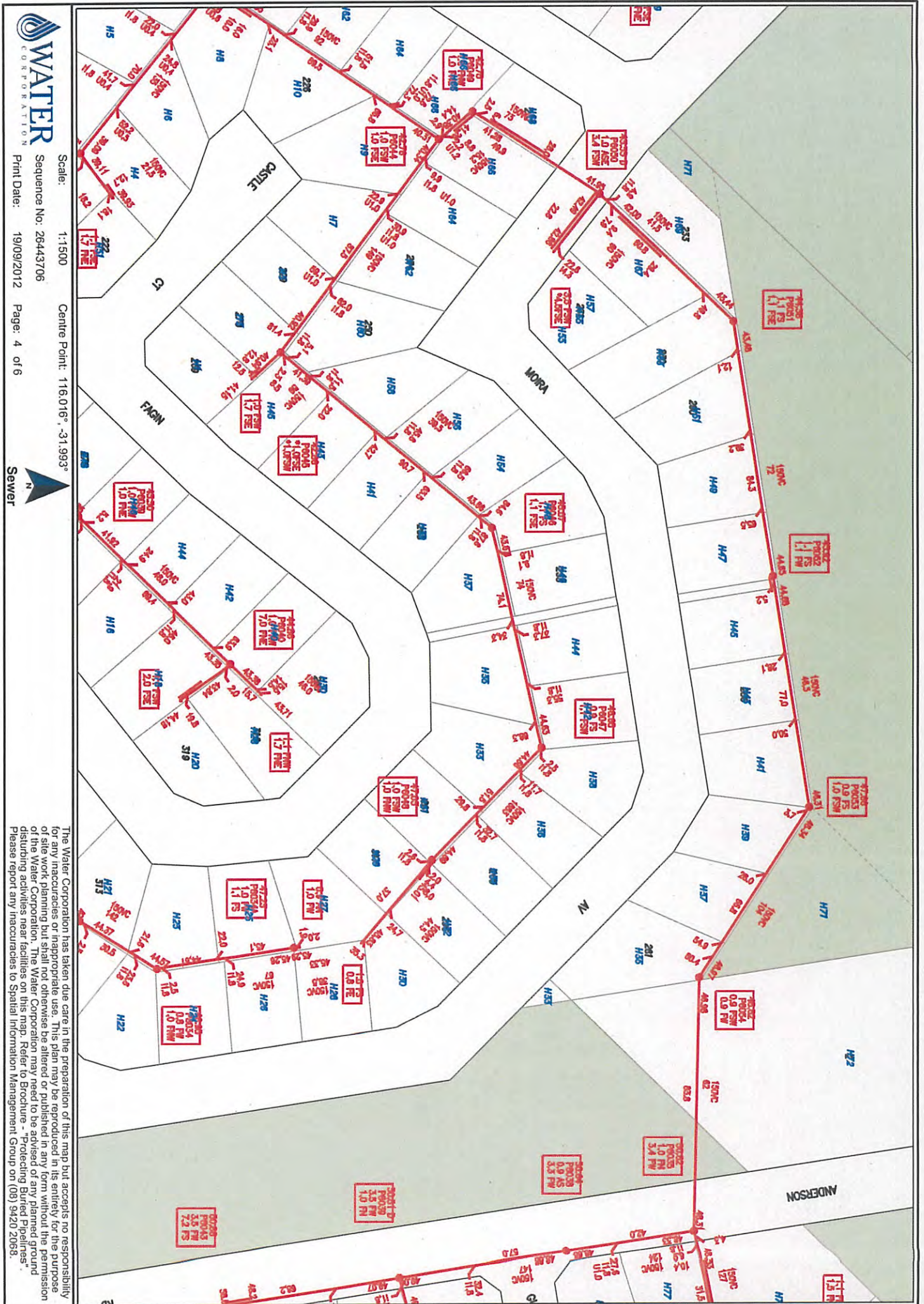


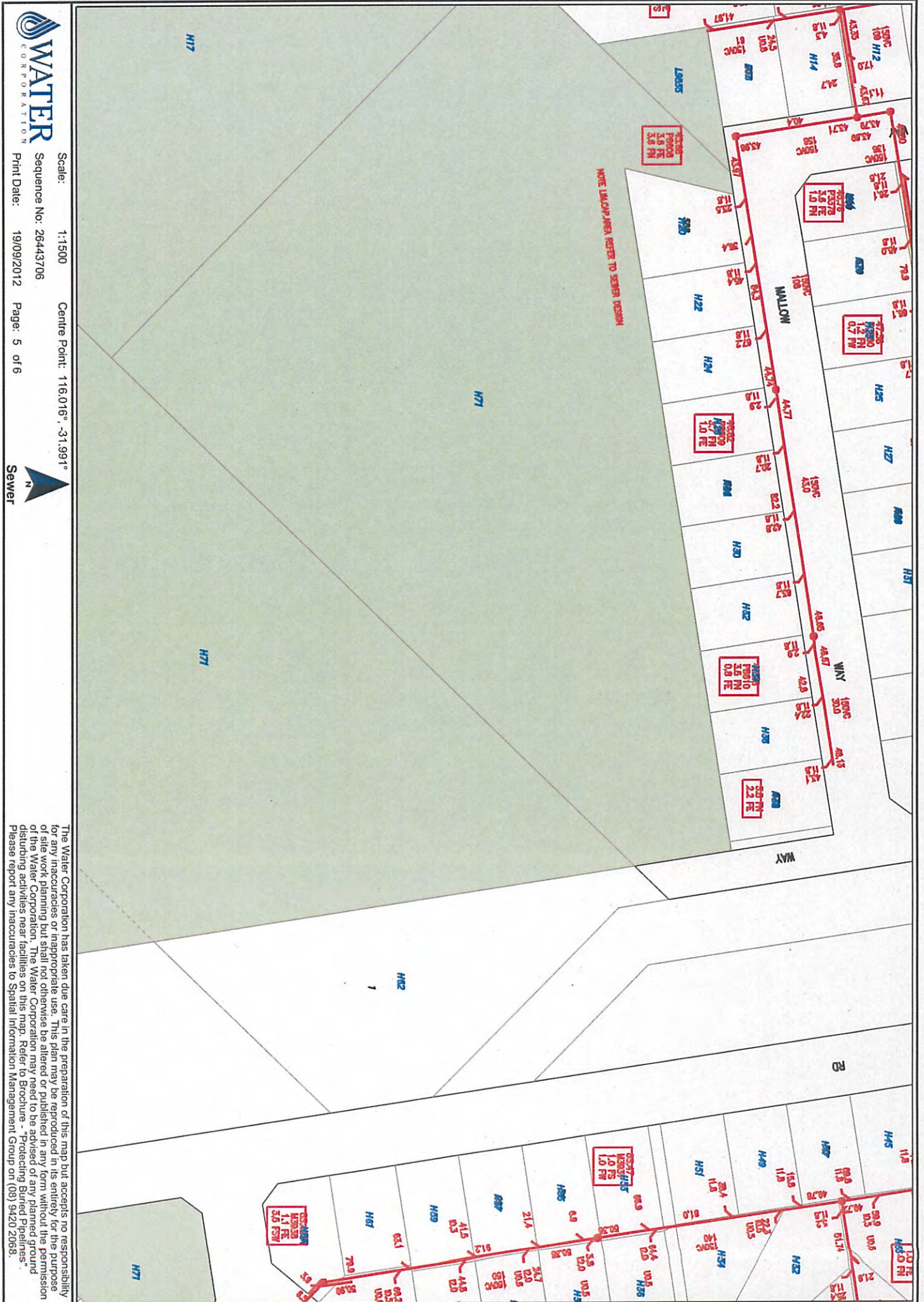


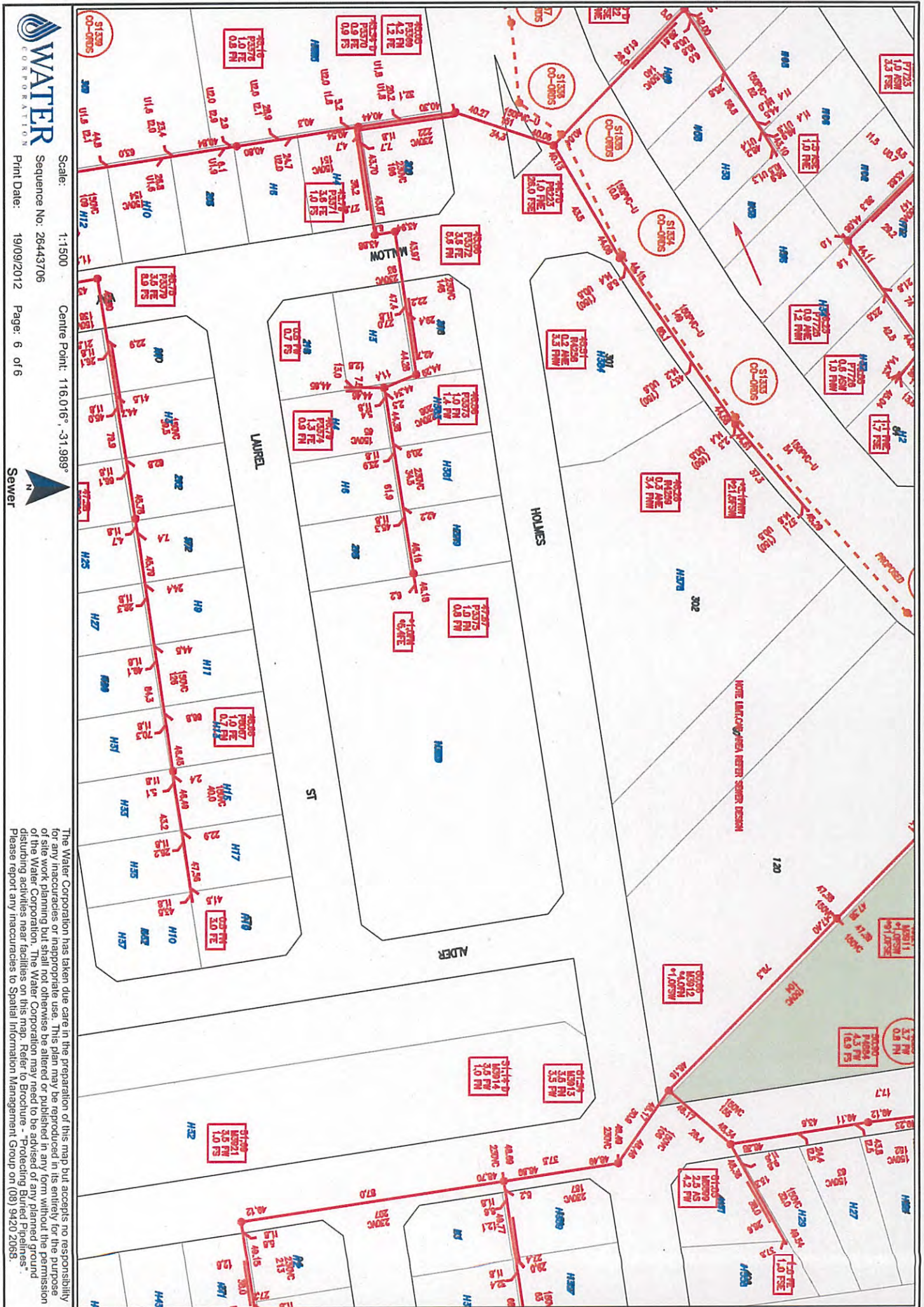
Scale: 1:1500
 Centre Point: 116.012°, -31.991°
 Sequence No: 26443706
 Print Date: 19/09/2012 Page: 3 of 6



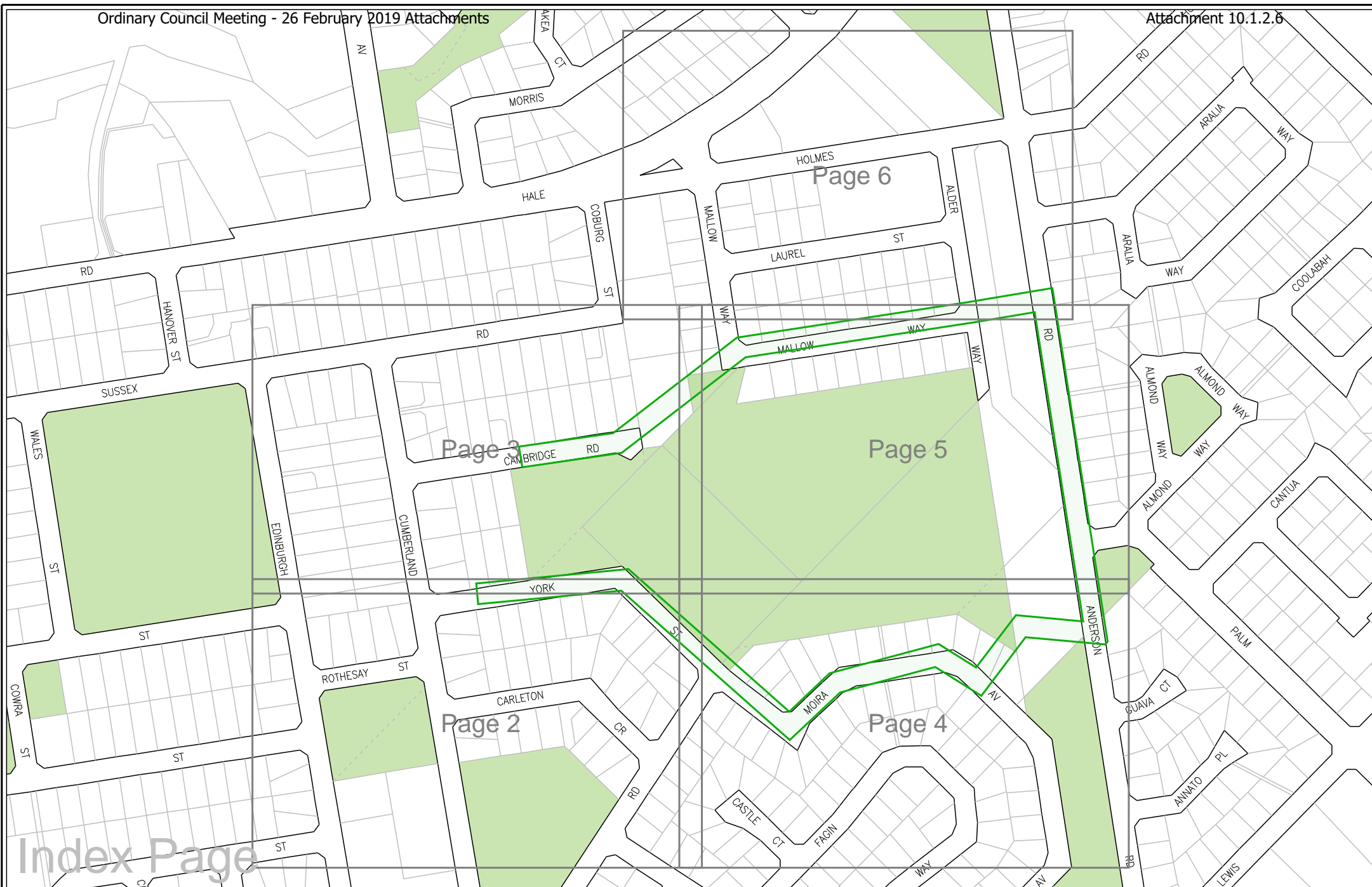
The Water Corporation has taken due care in the preparation of this map but accepts no responsibility for any inaccuracies or inappropriate use. This plan may be reproduced in its entirety for the purpose of site work planning but shall not otherwise be altered or published in any form without the permission of the Water Corporation. The Water Corporation may need to be advised of any planned ground disturbing activities near facilities on this map. Refer to Brochure - "Protecting Buried Pipelines". Please report any inaccuracies to Spatial Information Management Group on (08) 9420 2058.







APPENDIX F - EXISTING WATER INFRASTRUCTURE



Scale: 1:4567

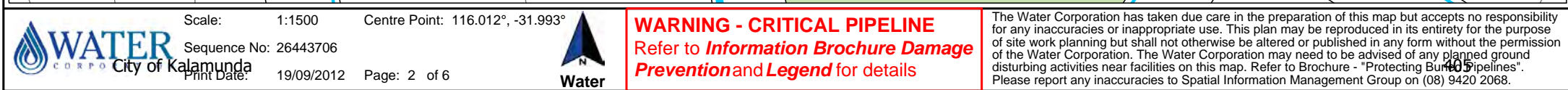
Sequence No: 26443706

Print Date: 19/09/2012 Page: 1 of 6



WARNING - CRITICAL PIPELINE
Refer to Information Brochure Damage
Prevention and **Legend for details**

The Water Corporation has taken due care in the preparation of this map but accepts no responsibility for any inaccuracies or inappropriate use. This plan may be reproduced in its entirety for the purpose of site work planning but shall not otherwise be altered or published in any form without the permission of the Water Corporation. The Water Corporation may need to be advised of any planned ground disturbing activities near facilities on this map. Refer to Brochure - "Protecting Buried Pipelines". Please report any inaccuracies to Spatial Information Management Group on (08) 9420 2068.



The Water Corporation has taken due care in the preparation of this map but accepts no responsibility for any inaccuracies or inappropriate use. This plan may be reproduced in its entirety for the purpose of site work planning but shall not otherwise be altered or published in any form without the permission of the Water Corporation. The Water Corporation may need to be advised of any planned ground disturbing activities near facilities on this map. Refer to Brochure - "Protecting Buried Pipelines". Please report any inaccuracies to Spatial Information Management Group on (08) 9420 2068.



Scale: 1:1500

Centre Point: 116.012°, -31.991°

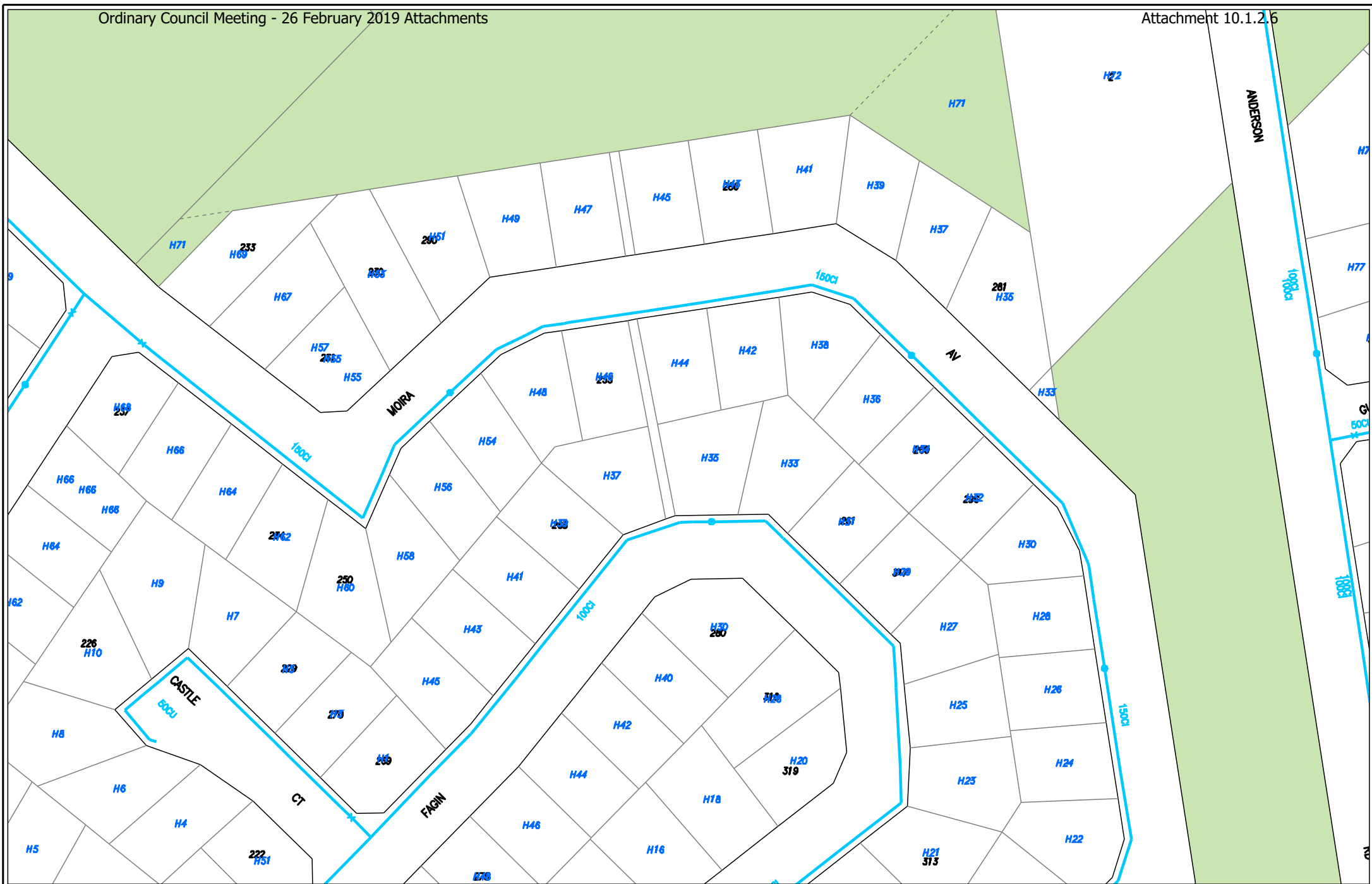
Sequence No: 26443706

Print Date: 19/09/2012 Page: 3 of 6



WARNING - CRITICAL PIPELINE
Refer to **Information Brochure Damage Prevention and Legend** for details

The Water Corporation has taken due care in the preparation of this map but accepts no responsibility for any inaccuracies or inappropriate use. This plan may be reproduced in its entirety for the purpose of site work planning but shall not otherwise be altered or published in any form without the permission of the Water Corporation. The Water Corporation may need to be advised of any planned ground disturbing activities near facilities on this map. Refer to Brochure - "Protecting Buried Pipelines". Please report any inaccuracies to Spatial Information Management Group on (08) 9420 2068.

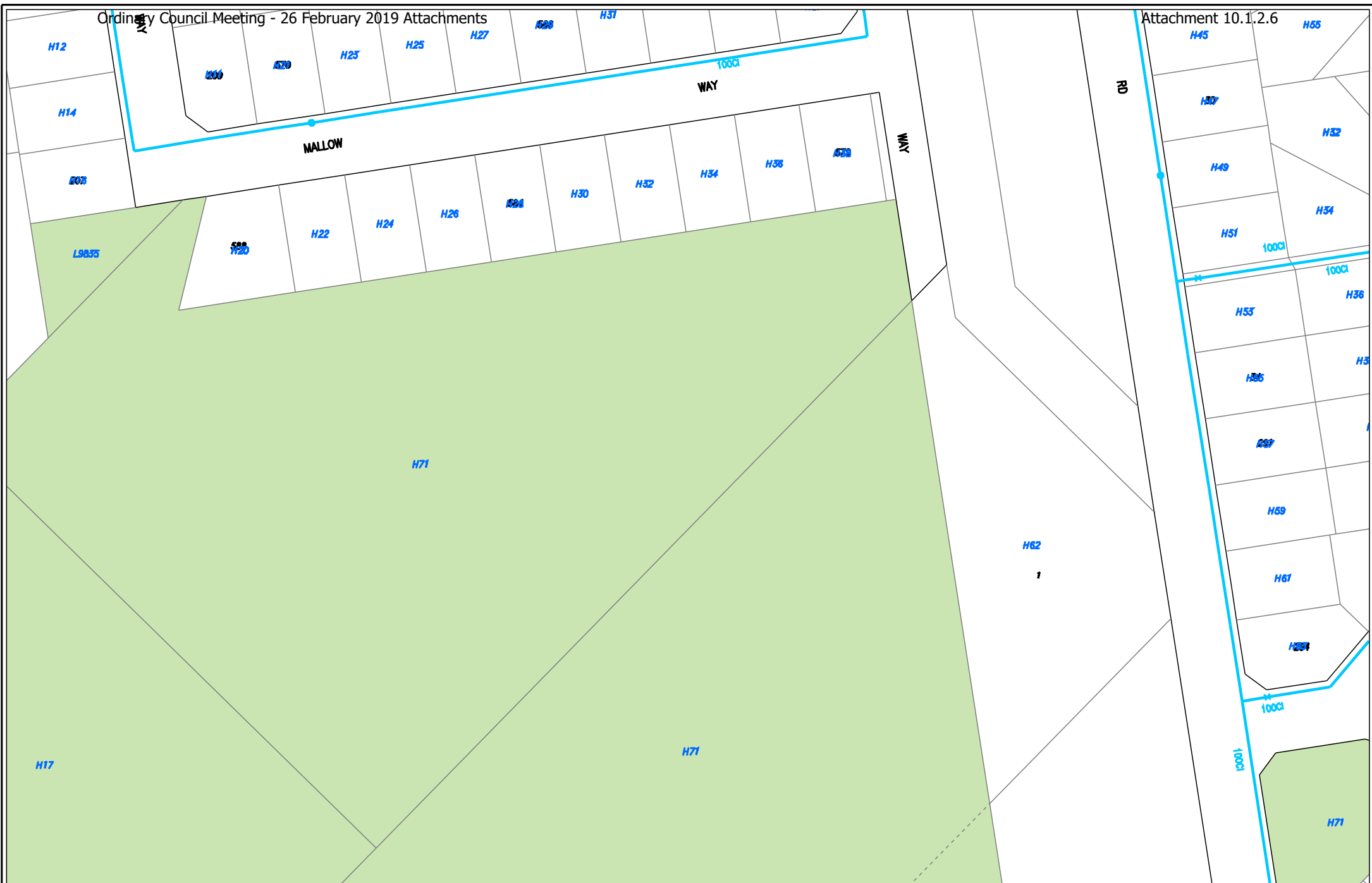


Scale: 1:1500

Centre Point: 116.016°, -31.993°

Sequence No: 26443706

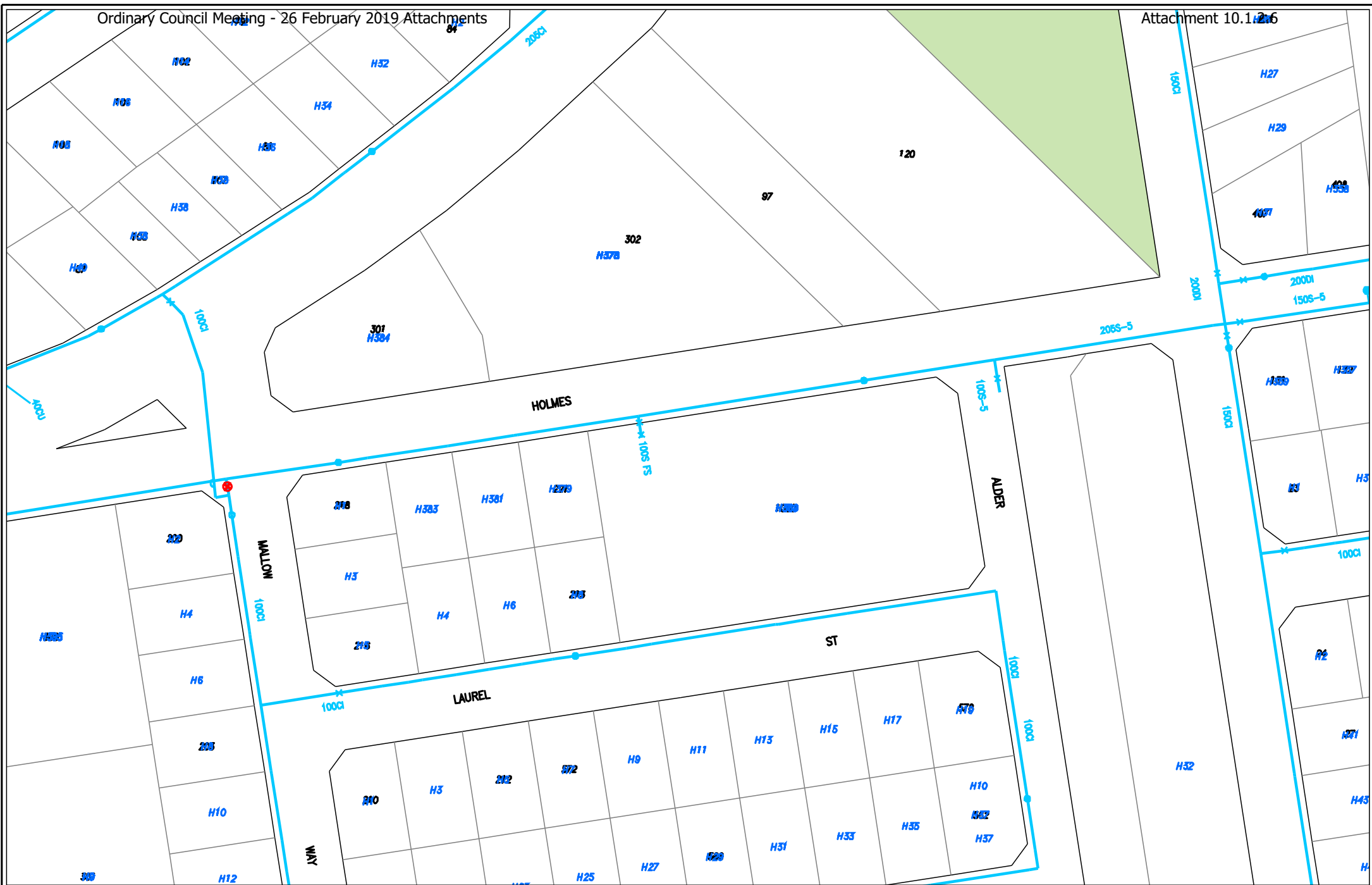
Print Date: 19/09/2012 Page: 4 of 6



Scale: 1:1500 Centre Point: 116.016°, -31.991°

Sequence No: 26443706

Print Date: 19/09/2012 Page: 5 of 6

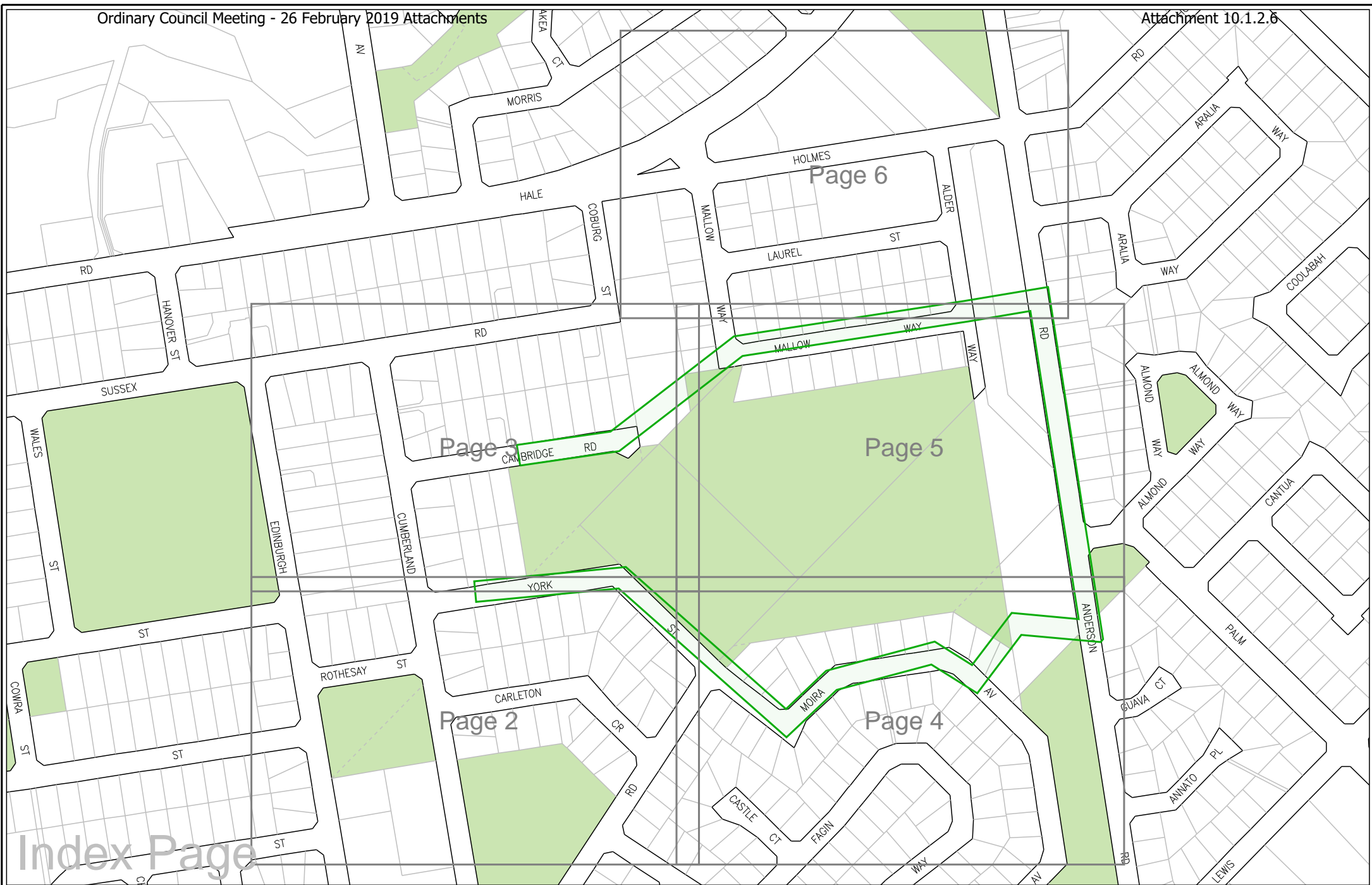


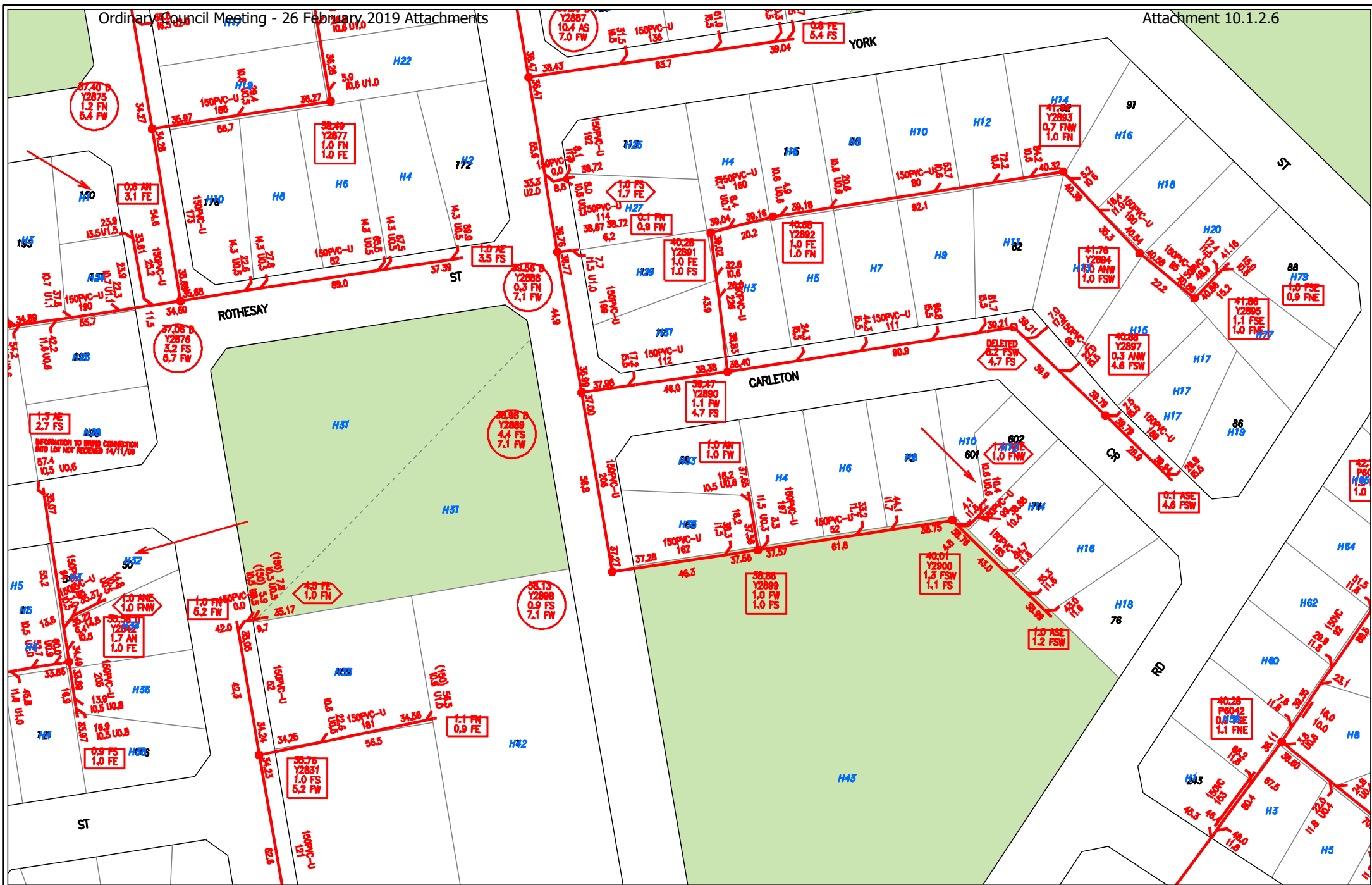
Scale: 1:1500

Centre Point: 116.016°, -31.989°

Sequence No: 26443706

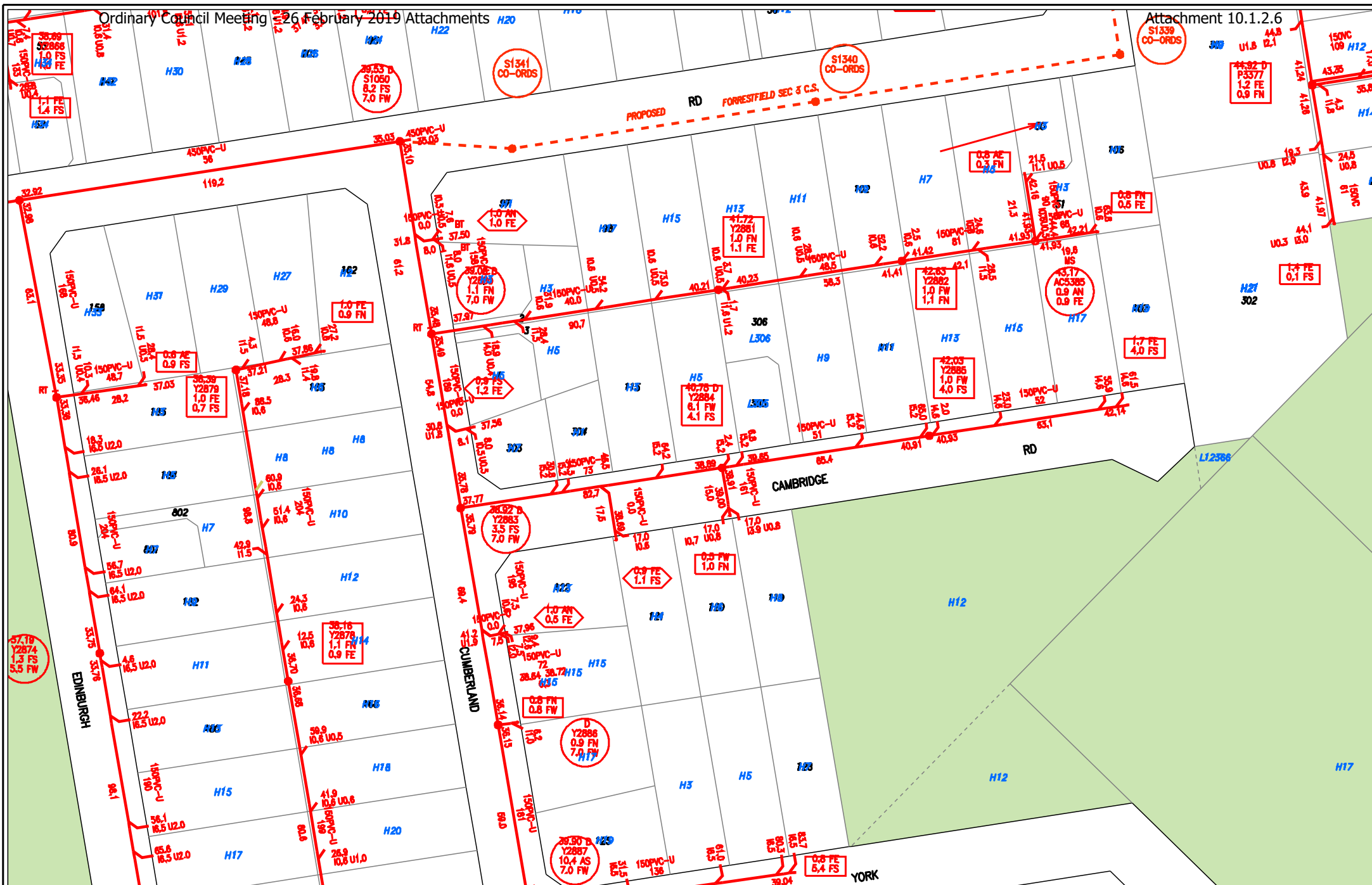
Print Date: 19/09/2012 Page: 6 of 6





Scale: 1:1500 Centre Point: 116.012°, -31.993°



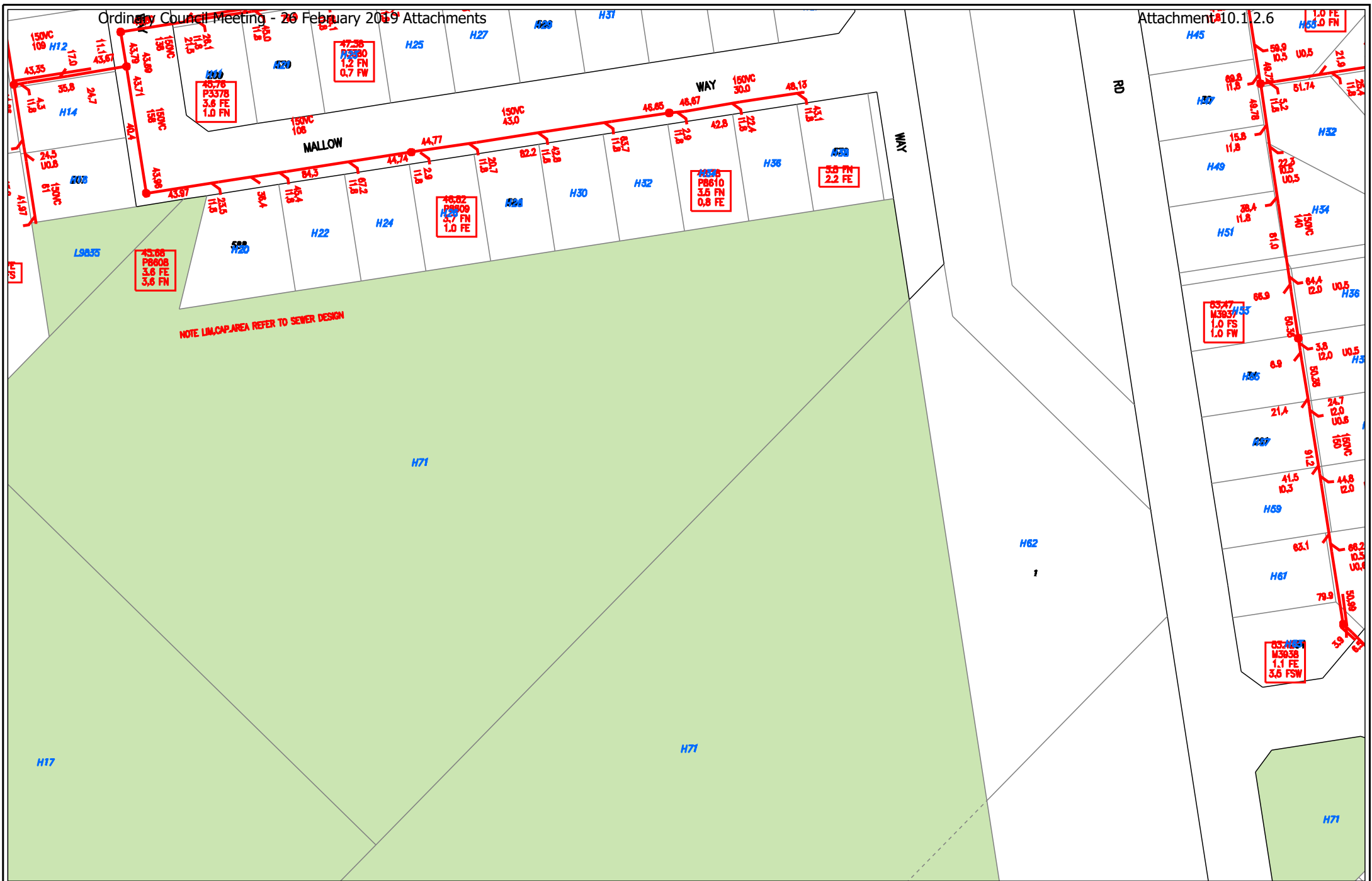


Scale: 1:1500 Centre Point: 116.012°, -31.991°





The Water Corporation has taken due care in the preparation of this map but accepts no responsibility for any inaccuracies or inappropriate use. This plan may be reproduced in its entirety for the purpose of site work planning but shall not otherwise be altered or published in any form without the permission of the Water Corporation. The Water Corporation may need to be advised of any planned ground disturbing activities near facilities on this map. Refer to Brochure - "Protecting Buried Pipelines". Please report any inaccuracies to Spatial Information Management Group on (08) 9420 2068.



Scale: 1:1500 Centre Point: 116.016°, -31.991°

Sequence No: 26443706

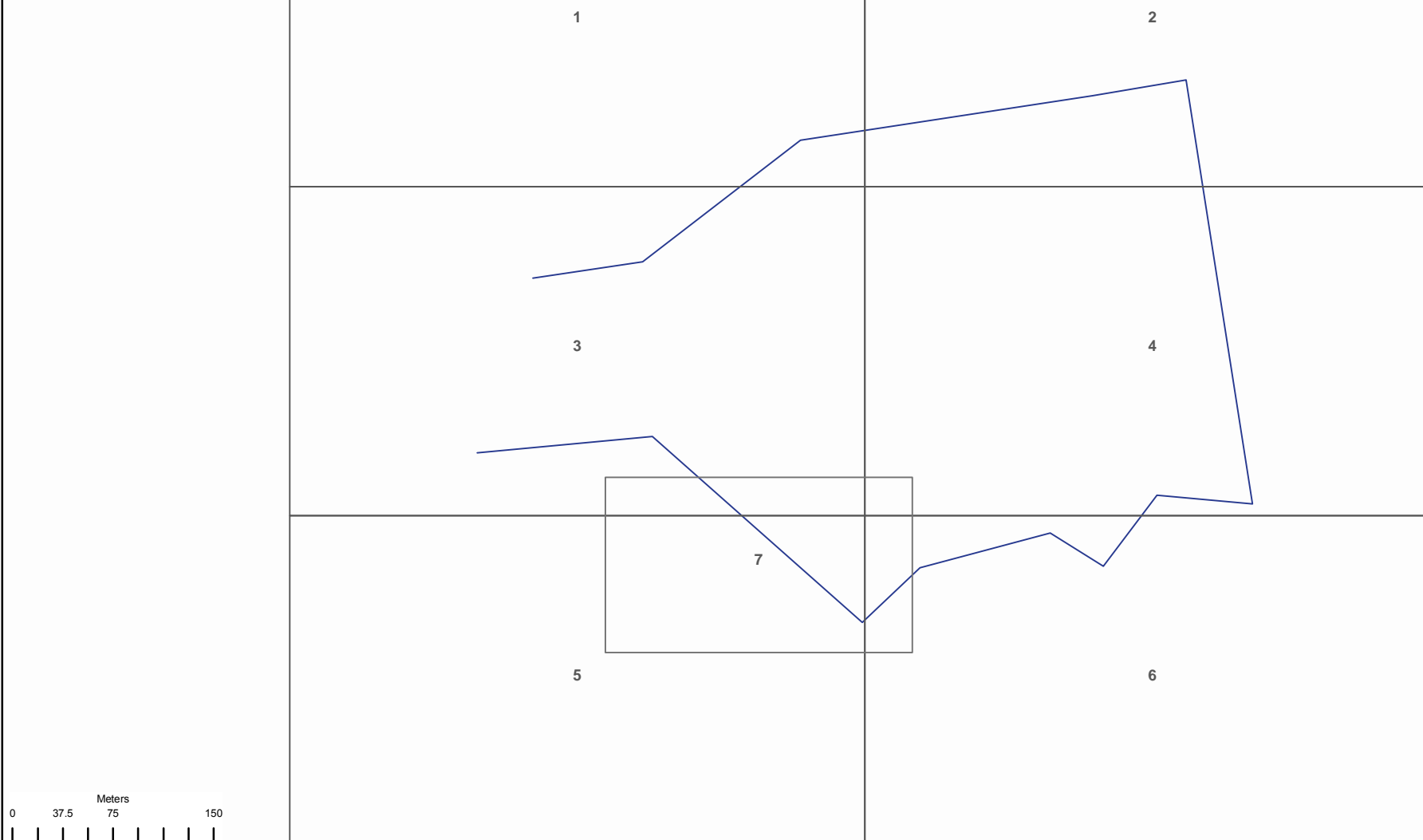
Print Date: 19/09/2012 Page: 5 of 6



The Water Corporation has taken due care in the preparation of this map but accepts no responsibility for any inaccuracies or inappropriate use. This plan may be reproduced in its entirety for the purpose of site work planning but shall not otherwise be altered or published in any form without the permission of the Water Corporation. The Water Corporation may need to be advised of any planned ground disturbing activities near facilities on this map. Refer to Brochure - "Protecting Buried Pipelines". Please report any inaccuracies to Spatial Information Management Group on (08) 9420 2068.

APPENDIX G - EXISTING ATCO GAS INFRASTRUCTURE

Overview Map Only



Sequence No:26443705

Map Tile: Overview

Scale: 1:4,501

© 2011 ATCO Gas Australia Pty Ltd
ACN 089 531 975

Job No: 5767084

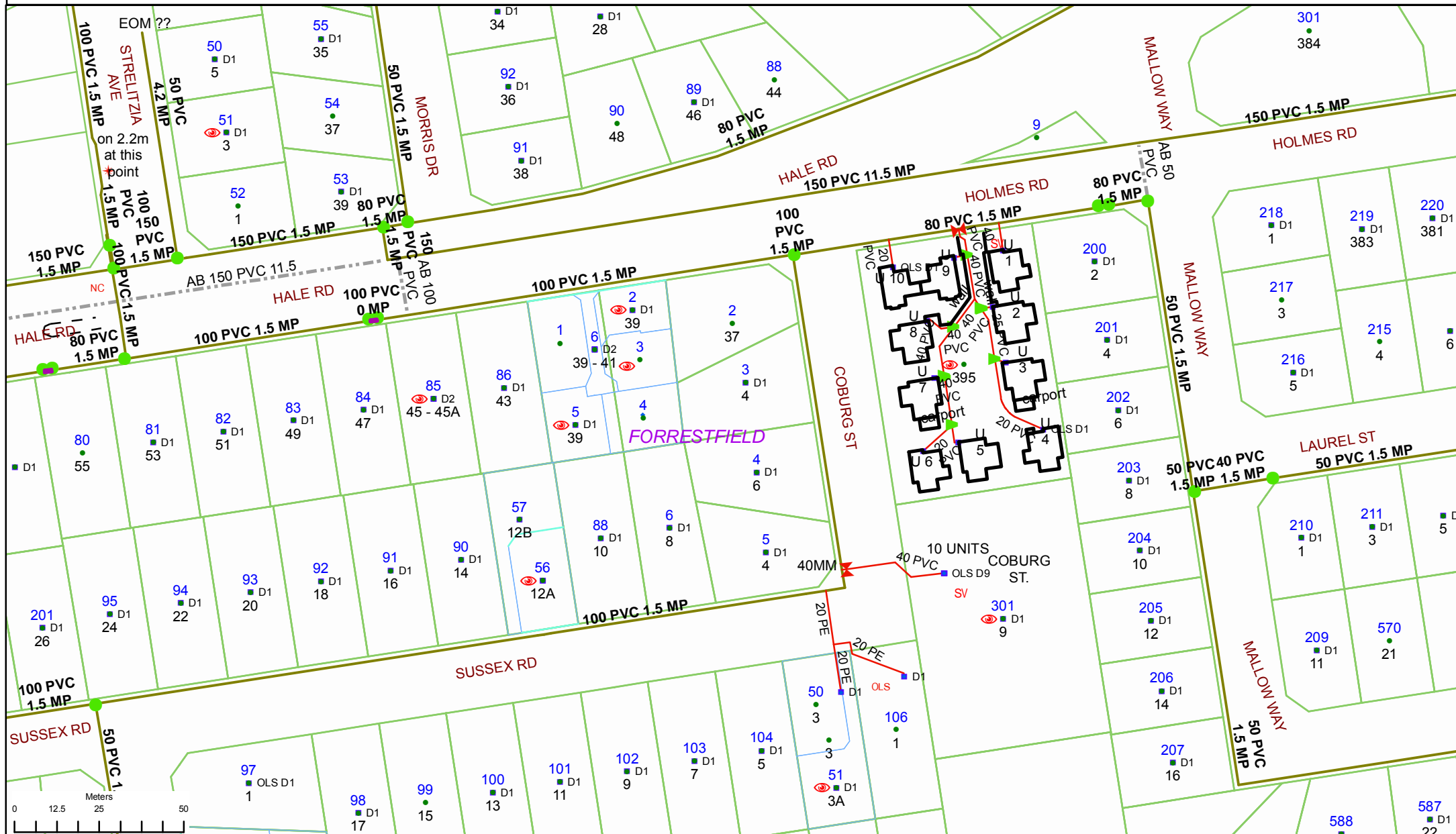
Date: 19/09/2012

Location: Cambridge Rd



Please read all **warnings**, conditions and information on the attached "Underground Asset Details" information sheet. This plan is issued subject to that information and those conditions and **warnings** (including, but not limited to, the "NO HOT WORKS" warning). Plans are current for only **30 days** from date of request, indicative only and not warranted to be accurate. It is your responsibility to carefully locate underground assets and follow safe work practises and procedures (eg pot-holing). ATCO Gas Australia will seek compensation for damage caused to assets.

© 2011 Western Australian Land Information Authority trading as Landgate
Based on information provided by and with the permission of the
Western Australian Land Information Authority trading as Landgate



Sequence No: 26443705

Map Tile: 1

Scale: 1:1,500

© 2011 ATCO Gas Australia Pty Ltd
ACN 089 531 975

Job No: 5767084

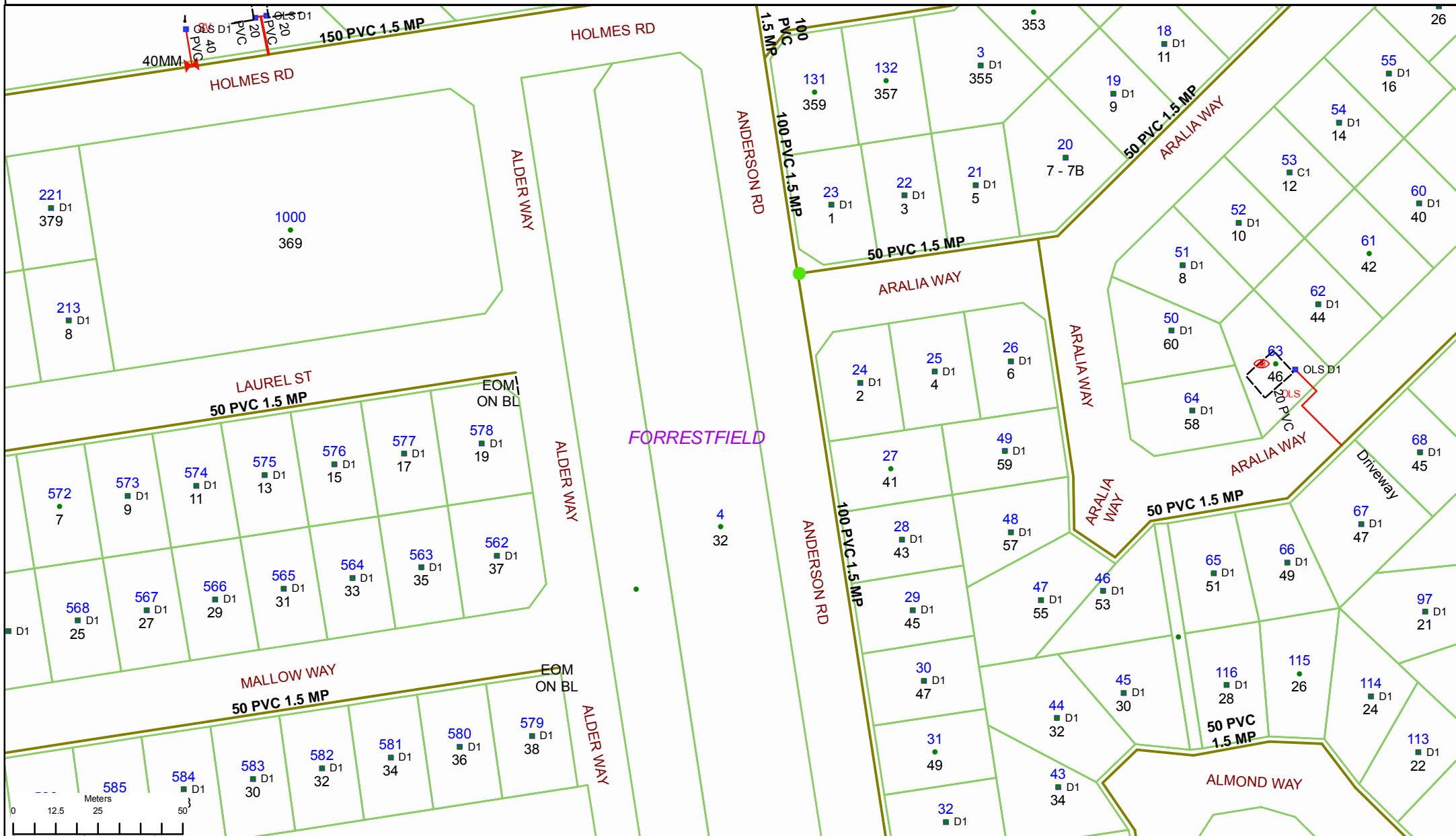
Date: 19/09/2012

Location: Cambridge Rd



Please read all **warnings**, conditions and information on the attached "Underground Asset Details" information sheet. This plan is issued subject to that information and those conditions and **warnings** (including, but not limited to, the "NO HOT WORKS" warning). Plans are current for only **30 days** from date of request, indicative only and not warranted to be accurate. It is your responsibility to carefully locate underground assets and follow safe work practises and procedures (eg pot-holing). ATCO Gas Australia will seek compensation for damage caused to assets.

© 2011 Western Australian Land Information Authority trading as Landgate
Based on information provided by and with the permission of the
Western Australian Land Information Authority trading as Landgate



Sequence No: 26443705

Map Tile: 2

Scale: 1:1,500

© 2011 ATCO Gas Australia Pty Ltd
ACN 089 531 975

Job No: 5767084

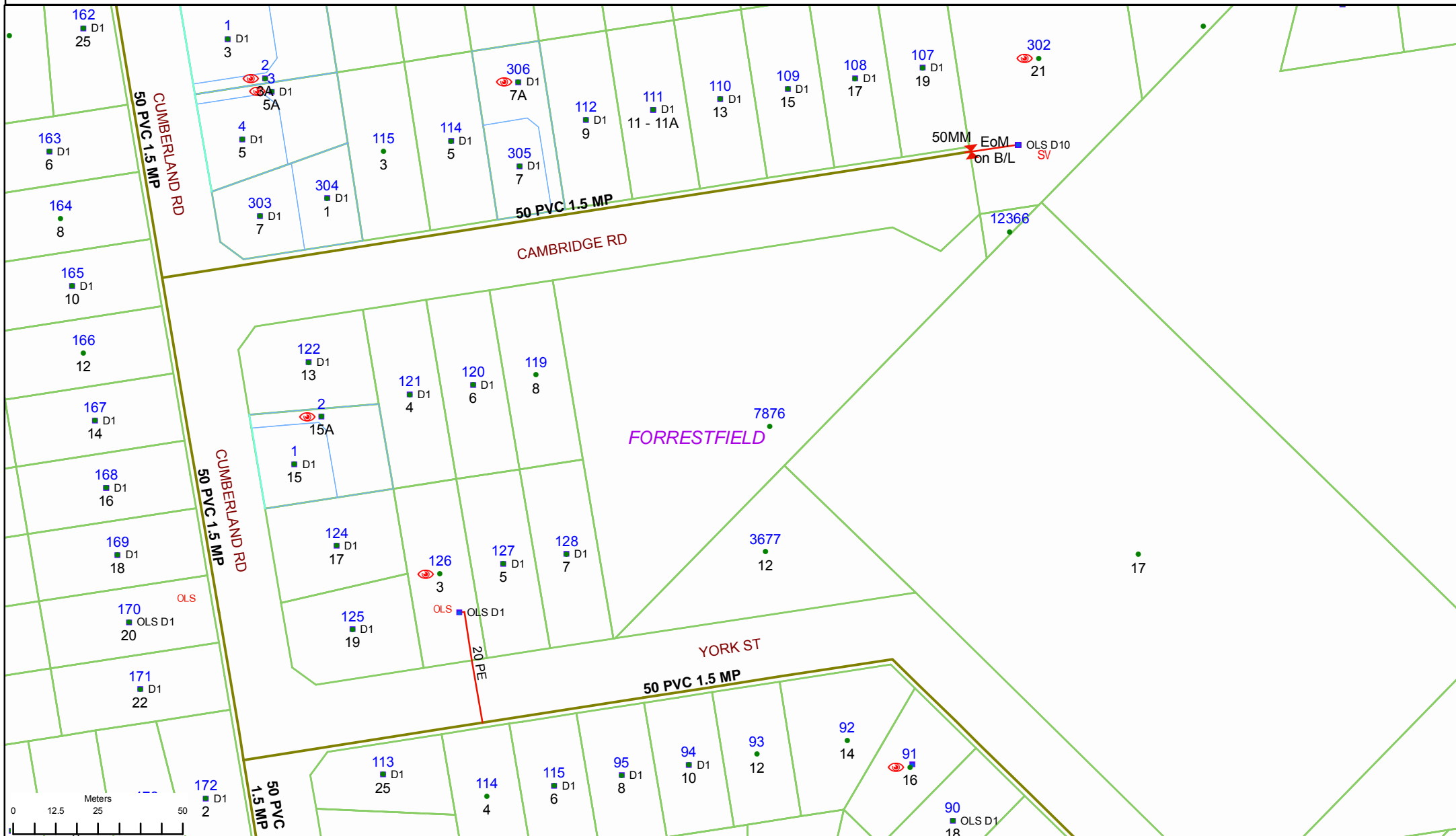
Date: 19/09/2012

Location: Cambridge Rd



Please read all **warnings**, conditions and information on the attached "Underground Asset Details" information sheet. This plan is issued subject to that information and those conditions and **warnings** (including, but not limited to, the "NO HOT WORKS" warning). Plans are current for only **30 days** from date of request, indicative only and not warranted to be accurate. It is your responsibility to carefully locate underground assets and follow safe work practises and procedures (eg pot-holing). ATCO Gas Australia will seek compensation for damage caused to assets.

© 2011 Western Australian Land Information Authority trading as Landgate
Based on information provided by and with the permission of the
Western Australian Land Information Authority trading as Landgate



Sequence No: 26443705

Map Tile: 3

Scale: 1:1,500

© 2011 ATCO Gas Australia Pty Ltd
ACN 089 531 975

Job No: 5767084

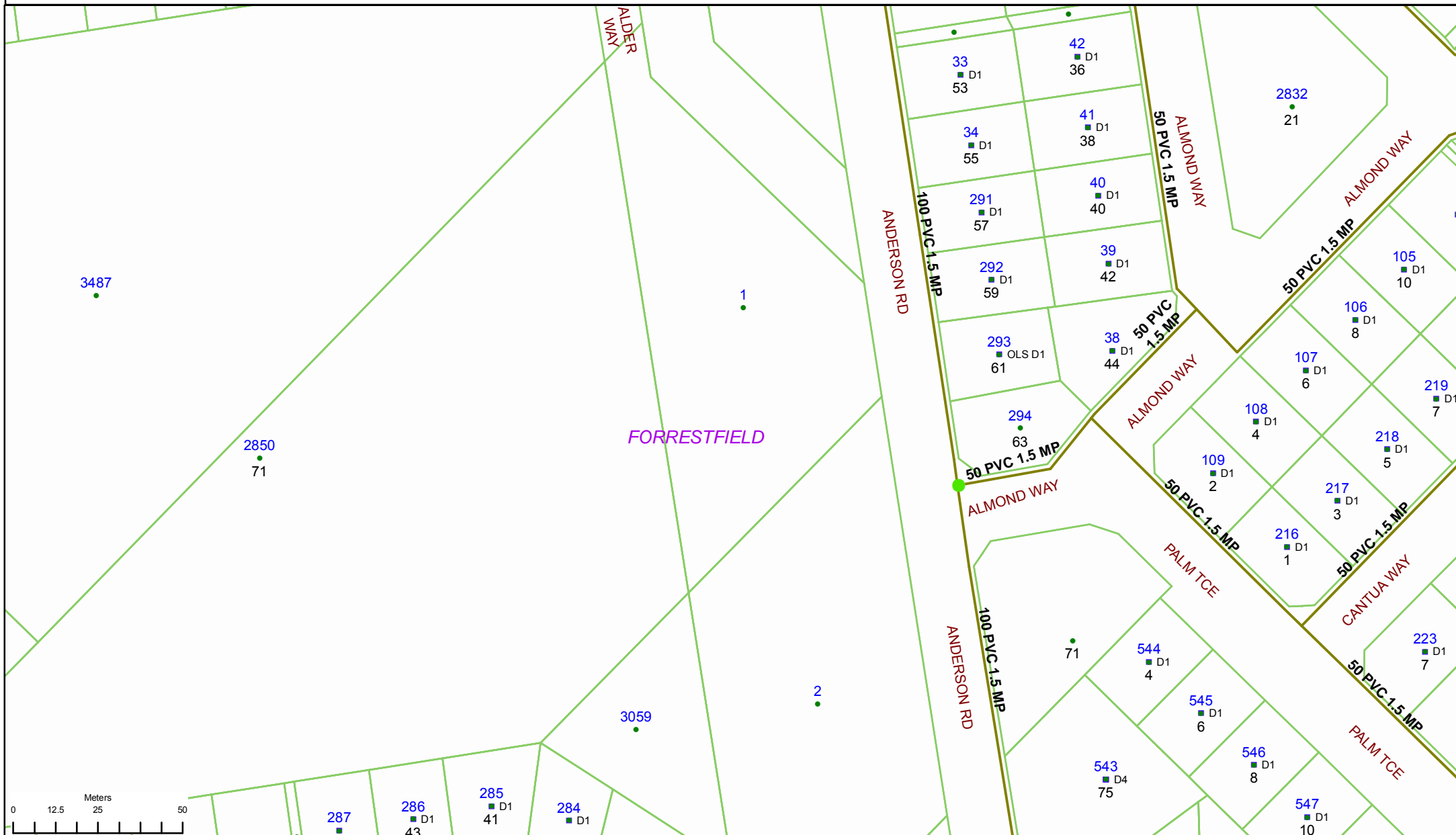
Date: 19/09/2012

Location: Cambridge Rd

Please read all **warnings**, conditions and information on the attached "Underground Asset Details" information sheet. This plan is issued subject to that information and those conditions and **warnings** (including, but not limited to, the "NO HOT WORKS" warning). Plans are current for only **30 days** from date of request, indicative only and not warranted to be accurate. It is your responsibility to carefully locate underground assets and follow safe work practises and procedures (eg pot-holing). ATCO Gas Australia will seek compensation for damage caused to assets.

© 2011 Western Australian Land Information Authority trading as Landgate
Based on information provided by and with the permission of the Western Australian Land Information Authority trading as Landgate





Sequence No: 26443705

Map Tile: 4

Scale: 1:1,500

© 2011 ATCO Gas Australia Pty Ltd
ACN 089 531 975

Job No: 5767084

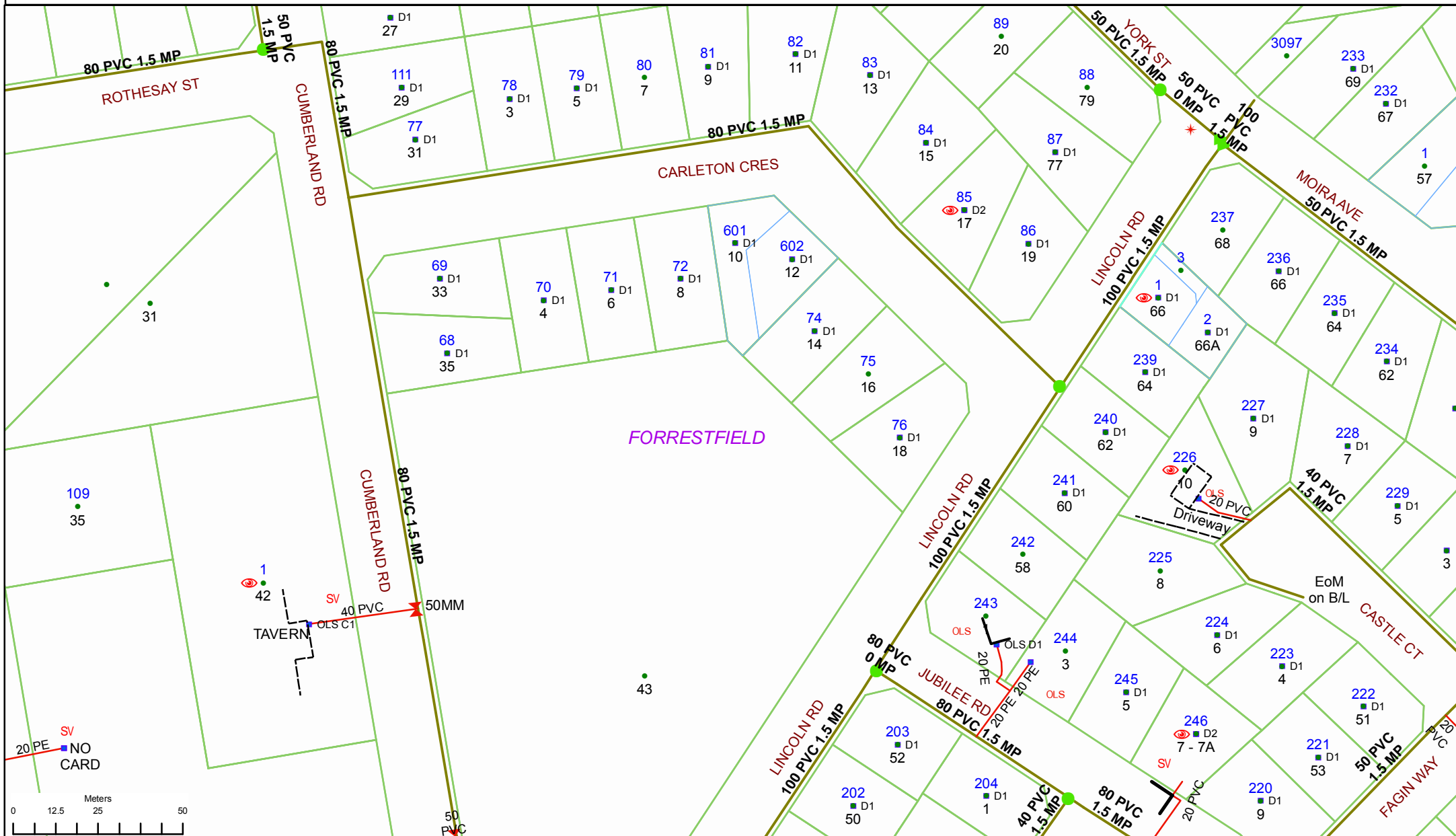
Date: 19/09/2012

Location: Cambridge Rd



Please read all **warnings**, conditions and information on the attached "Underground Asset Details" information sheet. This plan is issued subject to that information and those conditions and **warnings** (including, but not limited to, the "NO HOT WORKS" warning). Plans are current for only **30 days** from date of request, indicative only and not warranted to be accurate. It is your responsibility to carefully locate underground assets and follow safe work practises and procedures (eg pot-holing). ATCO Gas Australia will seek compensation for damage caused to assets.

© 2011 Western Australian Land Information Authority trading as Landgate
Based on information provided by and with the permission of the Western Australian Land Information Authority trading as Landgate



Sequence No: 26443705

Map Tile: 5

Scale: 1:1,500

© 2011 ATCO Gas Australia Pty Ltd
ACN 089 531 975

Job No: 5767084

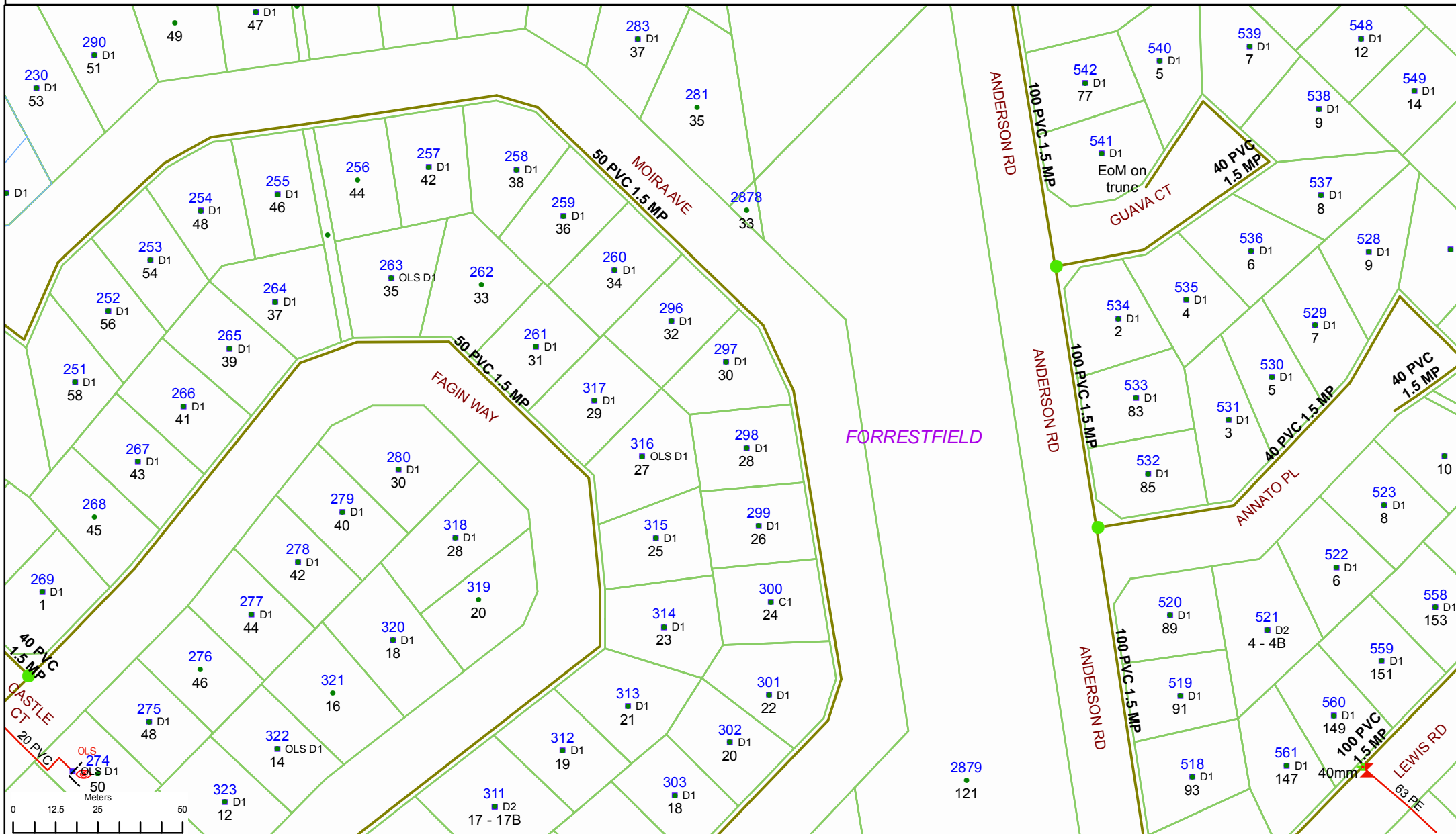
Date: 19/09/2012

Location: Cambridge Rd

Please read all **warnings**, conditions and information on the attached "Underground Asset Details" information sheet. This plan is issued subject to that information and those conditions and **warnings** (including, but not limited to, the "NO HOT WORKS" warning). Plans are current for only **30 days** from date of request, indicative only and not warranted to be accurate. It is your responsibility to carefully locate underground assets and follow safe work practises and procedures (eg pot-holing). ATCO Gas Australia will seek compensation for damage caused to assets.

© 2011 Western Australian Land Information Authority trading as Landgate
Based on information provided by and with the permission of the
Western Australian Land Information Authority trading as Landgate





Sequence No: 26443705

Map Tile: 6

Scale: 1:1,500

© 2011 ATCO Gas Australia Pty Ltd
ACN 089 531 975

Job No: 5767084

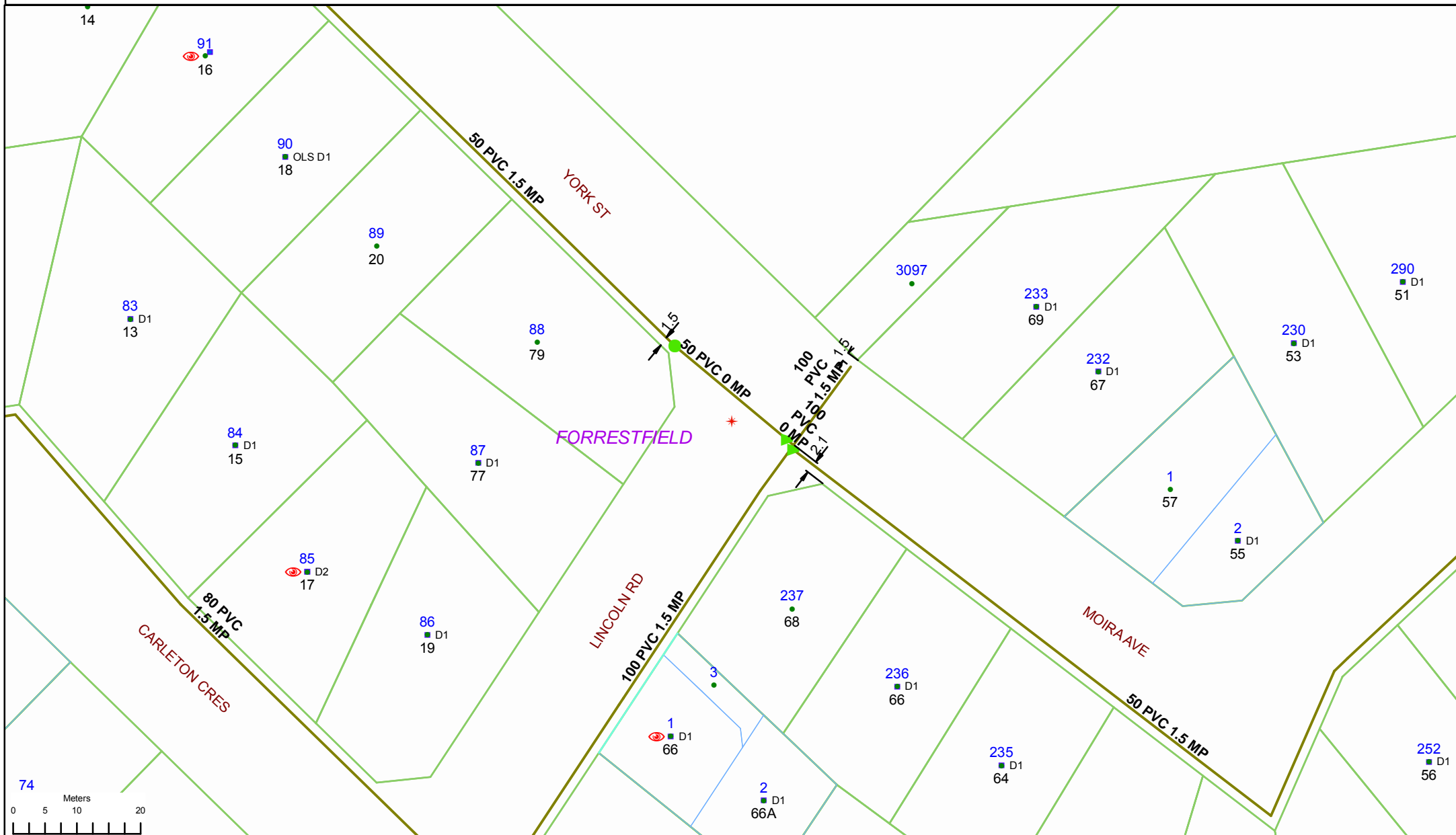
Date: 19/09/2012

Location: Cambridge Rd



Please read all **warnings**, conditions and information on the attached "Underground Asset Details" information sheet. This plan is issued subject to that information and those conditions and **warnings** (including, but not limited to, the "NO HOT WORKS" warning). Plans are current for only **30 days** from date of request, indicative only and not warranted to be accurate. It is your responsibility to carefully locate underground assets and follow safe work practises and procedures (eg pot-holing). ATCO Gas Australia will seek compensation for damage caused to assets.

© 2011 Western Australian Land Information Authority trading as Landgate
Based on information provided by and with the permission of the
Western Australian Land Information Authority trading as Landgate



Sequence No: 26443705

Map Tile: 7

Scale: 1:800

© 2011 ATCO Gas Australia Pty Ltd
ACN 089 531 975

Job No: 5767084

Date: 19/09/2012

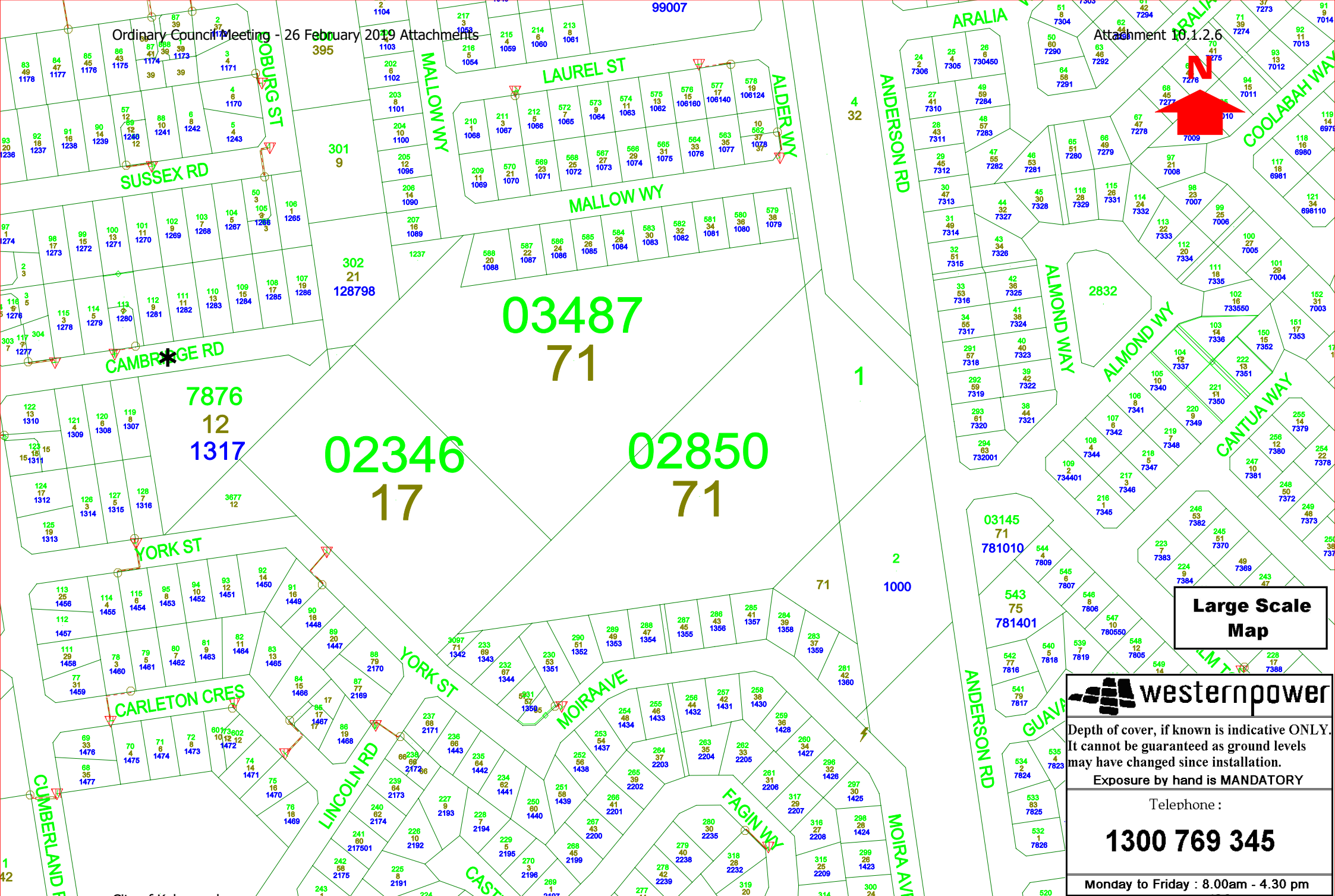
Location: Cambridge Rd



Please read all **warnings**, conditions and information on the attached "Underground Asset Details" information sheet. This plan is issued subject to that information and those conditions and **warnings** (including, but not limited to, the "NO HOT WORKS" warning). Plans are current for only **30 days** from date of request, indicative only and not warranted to be accurate. It is your responsibility to carefully locate underground assets and follow safe work practises and procedures (eg pot-holing). ATCO Gas Australia will seek compensation for damage caused to assets.

© 2011 Western Australian Land Information Authority trading as Landgate
Based on information provided by and with the permission of the
Western Australian Land Information Authority trading as Landgate

APPENDIX H - EXISTING WESTERN POWER INFRASTRUCTURE



Large Scale
Map





















































Depth of cover, if known is indicative ONLY.
It cannot be guaranteed as ground levels
may have changed since installation.














Exposure by hand is MANDATORY

Telephone :

1300 769 345

Monday to Friday : 8.00am - 4.30 pm

	Cable Joint
	Join Underground
	Join
	Tee Junction
	Carrier Approximation
	Data Overhead
	Data Underground
	Kiosk
	L. V. Distribution Frame
	Pillar
	Ring Main Unit
	Substation
	Underground Crossing
	St. Lt. Pilot, Overhead
	St. Lt. Pilot, Underground
	Fuse Disconnecter, Overhead
	St. Lt. Circuit, Overhead
	St. Lt. Circuit, Underground
	Distribution Pipe
	Link Pipe
	Trunk Pipe
	Bright Conduit Ug Carrier
	Perth Fibre Conduit Ug Carrier
	Communication Pit
	66kv Underground
	66kv Termination
	132kv Underground
	132kv Termination
	330kv Underground
	High Voltage Busbar
	H. V. Underground
	High Volt Single Phase
	Single Phase Underground
	Capacitor Bank
	Circuit Breaker
	Disconnecter
	Fuse Switch
	Hv Cable Pole Termination
	Metering Unit
	Non Load Break Connector
	Reactor
	Surge Divertor
	Switch Disconnecter
	Low Voltage Busbar
	L. V. Underground
	Circuit Breaker Disconnecter
	Disconnecter, Underground
	Fuse Disconnecter, Underground
	Lamp
	Lv Cable Pole Termination
	Building Lines To 1000
	Building Lines To 10000
	Building Lines To 5000

	Ces Scheme
	Easements
	Water Feature
	Obstacle
	Oil Pipe
	Otc Underground Cable
	Lodged Centroids
	Planned Subdivisions
	Turquoise Precalc Centroids
	Turquoise Precalc Int Lot Boun
	Turquoise Precalc Road Front
	Green Legal Centroids
	Obsolete Centroids

APPENDIX I – PRELIMINARY ORDER OF MAGNITUDE COST ESTIMATE



Level 1
430 Roberts Road
PO Box 2150
Subiaco WA 6904

Telephone: (08) 9382 5111
Facsimile: (08) 9382 5199
admin@pfeng.com.au

PROJECT	Cambridge Road, Forrestfield	
CLIENT	The Shire of Kalamunda	
JOB NO.	12-205	REF. NO. 5
REVISION	1	
SENDER	AT	
DATE	24-Sep-12	

PRELIMINARY ORDER OF MAGNITUDE COST ESTIMATE
(Based on TPG Plan 712-359 7 June 2012)

NUMBER OF LOTS			83	
COST SUMMARY			COST PER LOT	TOTAL COST
A CONSTRUCTION COSTS				
1	General and Establishment		\$2,361	\$196,000
2	Earthworks	(Refer to Note 5 & 6)	\$16,566	\$1,375,000
3	Retaining Walls and Fencing	(Refer to Note 7)	\$3,964	\$329,000
4	Road Works		\$6,867	\$570,000
5	Stormwater Drainage and Lot Connection Pits	(Refer to Note 8)	\$6,482	\$538,000
6	Sewerage Reticulation		\$3,048	\$253,000
7	Water Supply Reticulation		\$1,494	\$124,000
8	Underground Power and Street Lighting	(Refer to Note 9)	\$6,500	\$539,500
9	Communication Services	(Refer to Note 10)	\$1,250	\$103,750
10	Gas	(Refer to Note 11)	\$850	\$70,550
SUB TOTAL CONSTRUCTION			\$49,383	\$4,098,800
B EXTERNAL WORKS				
11	External Road Upgrades	(Refer to Note 12)	No allowance	No allowance
12	Development and Rehabilitation of Sump	(Allowance Only - Refer to Note 14)	\$1,205	\$100,000
SUB TOTAL EXTERNAL WORKS			\$1,205	\$100,000
C HEADWORKS				
13	Water Corporation - Water (1 July 2012 - 30 June 2013)	(Refer to Note 15)	\$4,015	\$333,245
14	Water Corporation - Sewer (1 July 2012 - 30 June 2013)	(Refer to Note 15)	\$1,347	\$111,801
15	Western Power Energisation Fees	(Allowance Only Refer to Note - 16)	\$2,500	\$207,500
SUB TOTAL HEADWORKS			\$7,862	\$652,546
D PROFESSIONAL FEES				
16	Survey	(Allowance Only - Refer to Note 17)	\$1,500	\$125,000
17	Engineering Fees		\$3,289	\$273,000
18	Geotechnical Fees	(Allowance Only - Refer to Note 18 & 19)	\$422	\$35,000
19	Electrical Fees	(Allowance Only - Refer to Note 20)	\$400	\$33,200
20	Local Authority Supervision Fees		\$253	\$21,000
SUB TOTAL FEES			\$5,864	\$487,200
TOTAL COSTS (EXCL. GST) SUBDIVISION ONLY			\$64,314	\$5,338,546
CONTINGENCY (A+B) 15%			\$7,588	\$629,820
GST (A+B+D)			\$5,645	\$468,600
TOTAL COST (inc. GST, CONTINGENCY)			\$77,547	\$6,436,966

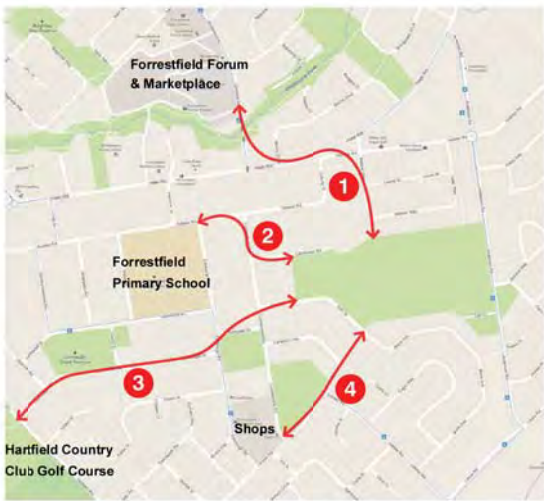
Notes:

- The Preliminary Order of Magnitude Cost Estimate (POMCE) is based upon TPG Plan 712-359 dated 7 June 2012
- The POMCE detailed above shall be read in conjunction with the explanatory notes.
- All costs are based on standard construction methods and anticipated WAPC conditions.
- The POMCE is valid for a period of 3 months from the date of preparation noted above.
- The POMCE allows for 100mm of topsoil to be stripped and respread in POS areas. This should be confirmed by a geotechnical engineer onsite.
- An allowance to hydromulch the construction area twice during the construction programme has been made.
- A higher aesthetic treatment on the (infill panels and piers) has been allowed for on the western retaining wall.
- It has been assumed that a 1:100 year 24 hour event will be retained in the existing sump, with an appropriate increase in the capacity of the sump been made.
- Underground Power has been assumed to be \$6,500 per lot from current market rates for similar developments.
- Communications has been assumed to be \$1,250 per lot from current market rates for similar developments.
- Atco Gas costs have been assumed to be \$850 per lot from current market rates for similar developments.
- No Allowance has been made for the upgrade of surrounding roads.
- No council or drainage scheme costs have been allowed for.
- An allowance has been made for the shaping of the existing sump to accommodate the development. Landscaping costs for the sump have not been allowed for.
- Headworks charges are based upon current Water Corporation rates and are subject to change every 12 months.
- Western Power Energisation fees have been assumed to be \$2,500 per lot from current market rates for similar developments.
- Survey fees have been assumed to be \$1,500 per lot based on current market rates for similar developments
- Geotechnical fees are assumed to be 2% of the earthworks and retaining walls construction costs.
- No allowance has been made for geotechnical improvement other than removal of topsoil/uncontrolled fill and placement of clean fill.
- Electrical engineering fees have been assumed to be \$400 per lot based on current market rates for similar developments
- No allowance has been made for project management fees, environmental fees, planning fees, land acquisition, marketing, selling costs, irrigation or landscaping costs.

5.0 DETAILED CONCEPT PLAN AND LANDSCAPE DESIGN



ANDERSON ROAD RESERVE REDEVELOPMENT



LEGEND

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

ROUTE 1 850m < 10 MINS WALKING DISTANCE
 ROUTE 2 400m < 5 MINS WALKING DISTANCE
 ROUTE 3 800m ABOUT 10 MINS WALKING DISTANCE
 ROUTE 4 600m < 10 MINS WALKING DISTANCE

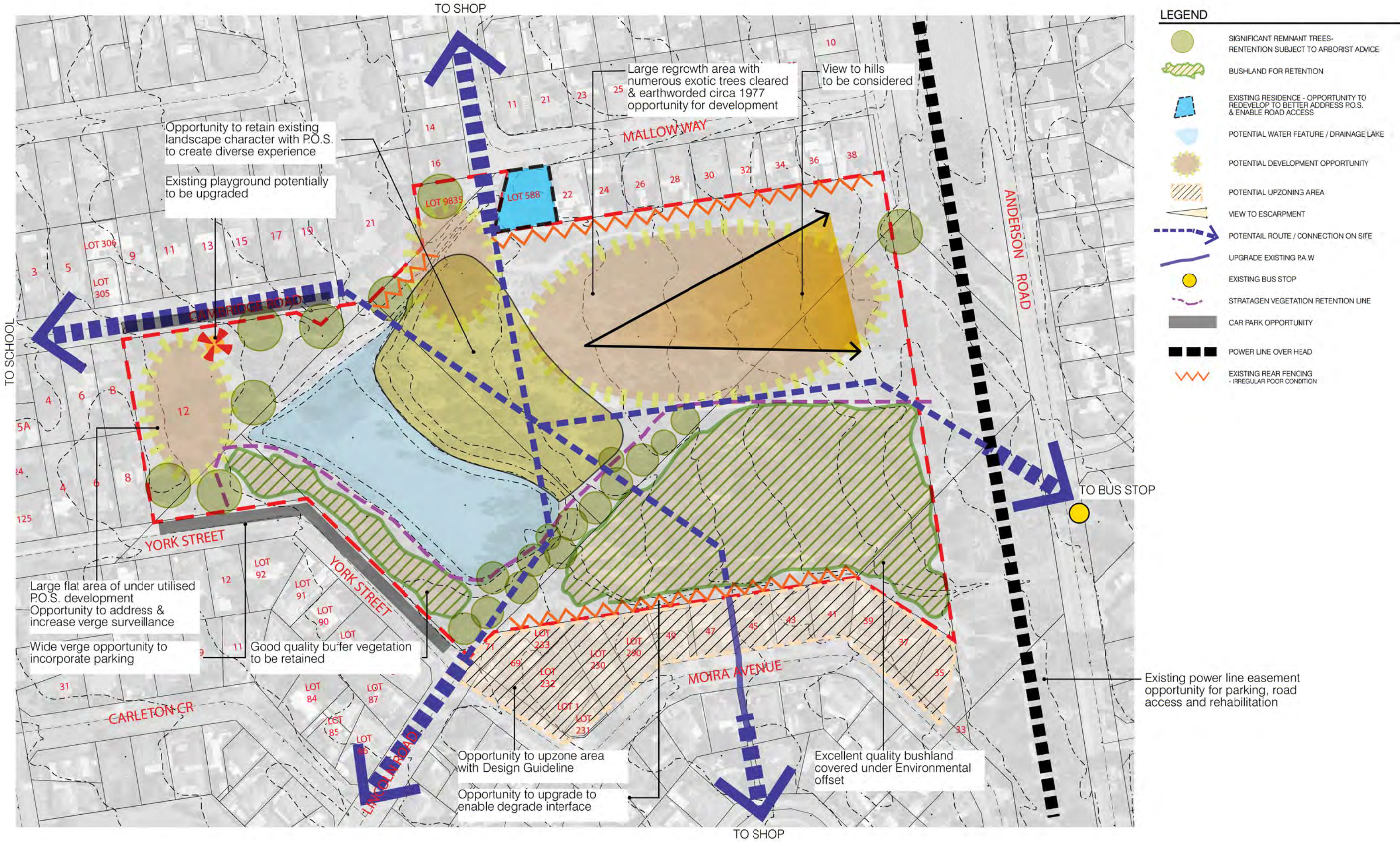
SITE AREA: 109,833 sq.m

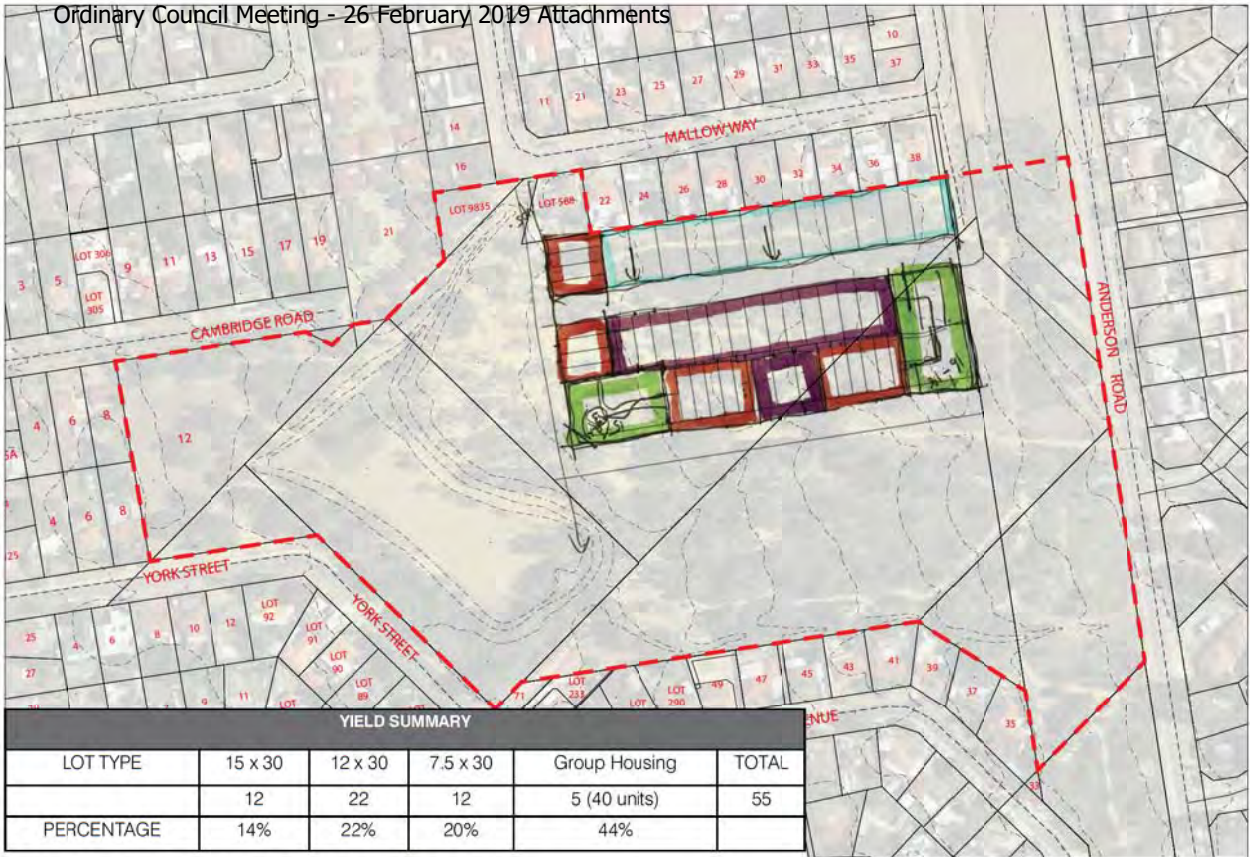


SITE ASSESSMENT

ANDERSON ROAD
City of Kalamunda







LOW IMPACT CONCEPT PLAN



MEDIUM IMPACT CONCEPT PLAN



HIGH IMPACT CONCEPT PLAN OPTION 1



HIGH IMPACT CONCEPT PLAN OPTION 2

- 7.5m (225m² approx.)
- 12m (360m² approx.)
- 15m (450m² approx.)
- GROUP HOUSING
- STUDY BOUNDARY



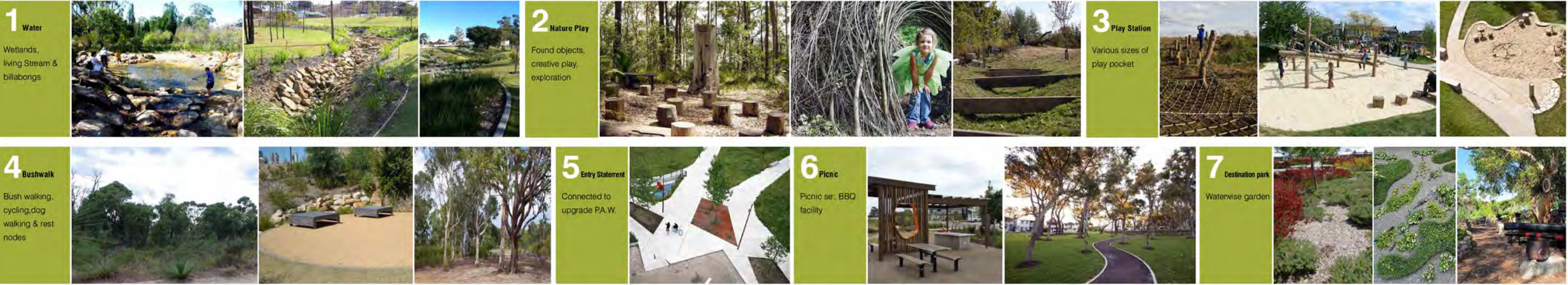
LEGEND

- CONCRETE FOOTPATH
- COMPACTED GRAVEL
- SHELTER
- WATERWISE GARDEN
- WETLAND
- LIVING STREAM
- BILLABONGS
- PLAY STATION
- DECK TO PROVIDE INFORMAL SEATING
- BUSHLAND FOR RETENTION
- BOARDWALK
- REVEGETATION AREA

LOT TYPE

- 15m (450m² approx.)
- 12m (360m² approx.)
- 7.5m (225m² approx.)
- GROUP HOUSING

YIELD SUMMARY					
LOT TYPE	15 x 30	12 x 30	7.5 x 30	Group Housing	TOTAL
	12	22	12	5 (40 units)	55
PERCENTAGE	14%	22%	20%	44%	



LOW IMPACT LANDSCAPE CONCEPT PLAN

LEGEND

- CONCRETE FOOTPATH
- COMPACTED GRAVEL
- SHELTER
- WATERWISE GARDEN
- WETLAND
- LIVE STREAM
- BILLABONGS
- PLAY STATION
- FITNESS STATION
- DECK TO PROVIDE INFORMAL SEATING
- BUSHLAND FOR RETENTION
- BOARDWALK
- REVEGETATION AREA

LOT TYPE

- 15m (450m² approx.)
- 12m (360m² approx.)
- 7.5m (225m² approx.)
- GROUP HOUSING

YIELD SUMMARY					
LOT TYPE	15 x 30	12 x 30	7.5 x 30	Group Housing	TOTAL
	12	29	23	3 (58 units)	64
PERCENTAGE	14%	22%	20%	52%	



MEDIUM IMPACT LANDSCAPE CONCEPT PLAN

ANDERSON ROAD
City of Kalamunda



LEGEND

- CONCRETE FOOTPATH
- COMPACTED GRAVEL
- SHELTER
- WATERWISE GARDEN WITH BECH SEATS
- WETLAND
- ARTIFICIAL LAKE
- LIVE STREAM
- BILLABONGS
- PLAY STATION
- FITNESS STATION
- WATER PLAY STATION
- DECK TO PROVIDE INFORMAL SEATING
- BUSHLAND FOR RETENTION
- BOARDWALK
- REVEGETATION AREA

LOT TYPE

- 15m (450m² approx.)
- 12m (360m² approx.)
- 7.5m (225m² approx.)
- GROUP HOUSING

- PROPOSED ROAD CONNECTION
- ROADSIDE PARKING
- DESTINATION PARK
- EXISTING BUSHLAND FOR RETENTION
- SIGNIFICANT EXISTING TREES TO BE RETAINED
- LIVING STREAM WITH BILLABONGS
- REVEGETATION AREA
- UPGRADED P.A.W.
- ROADSIDE PARKING

YIELD SUMMARY					
LOT TYPE	15 x 30	12 x 30	7.5 x 30	Group Housing	TOTAL
	12	44	23	3(58 units)	82
PERCENTAGE	10%	18%	20%	52%	

1 Water

Artificial Lake, Wetlands & Living Stream

2 Water Play

3 Nature Play

Found objects, creative play, exploration

4 Play

Play variety

5 Boardwalk

Bush walking, cycling, dog walking & Fitness station

6 Amphitheatre

Performance space

7 Entry Statement

Connected with upgraded P.A.W.

8 Shelter

9 Destination

Outdoor kitchen, orchard, waterwise garden, basketball court.

HIGH IMPACT LANDSCAPE CONCEPT PLAN

GENERAL	HIGH IMPACT CONCEPT PLAN LOT YIELD Summary Total Lot Yield = 82 Total Dwelling Number=108-113							MEDIUM IMPACT CONCEPT PLAN LOT YIELD Summary Total Lot Yield = 64 Total Dwelling Number=90			LOW IMPACT CONCEPT PLAN LOT YIELD Summary Total Lot Yield = 55 Total Dwelling Number=72		
	Total Cost ~ 8.3M (\$ 100,000/Lot Yield)							~ Total Cost 6.5M			~ Total Cost 5.6M		
	ITEM	DESCRIPTION	UNIT	RATE	QTY	TOTAL	NOTE	QTY	TOTAL	NOTE	QTY	TOTAL	NOTE
	1	GENERAL ITEM											
	1.1	Include all costs for complying with the Specification and General Conditions of Contract including insurances.	item		1	\$ 160,000.00		1	\$ 120,000.00		1	\$ 100,000.00	
	1.2	Allow for survey works	item	\$ 5,000.00	1	\$ 5,000.00		1	\$ 5,000.00		1	\$ 5,000.00	
	1.3	Allow for protective fencing around existing trees	item	\$ 20,000.00	1	\$ 20,000.00		1	\$ 20,000.00		1	\$ 20,000.00	
	1.4	Allow for Arborist advice	item	\$ 7,500.00	1	\$ 7,500.00		1	\$ 7,500.00		1	\$ 7,500.00	
	1.5	Allow for tree pruning to all existing trees	item	\$ 50,000.00	1	\$ 50,000.00		1	\$ 50,000.00		1	\$ 50,000.00	
	1.6	Allow for pruning to undergrowth and weed control	item	\$ 6,500.00	1	\$ 20,000.00		1	\$ 20,000.00		1	\$ 20,000.00	
	1.7	Allow for 'As Constructed Drawings' of irrigation works	item	\$ 2,500.00	1	\$ 5,000.00		1	\$ 5,000.00		1	\$ 5,000.00	
	1.8	Allow for supply and installation of bore and pump	item	\$ 40,000.00	1	\$ 40,000.00		1	\$ 40,000.00		1	\$ 40,000.00	
	TOTAL GENERAL SUMS					\$ 307,500.00			\$ 267,500.00			\$ 247,500.00	
	2	PROVISIONAL SUMS											
	2.1	Hard Digging	item	\$ 30,000.00	1	\$ 30,000.00		1	\$ 30,000.00		1	\$ 30,000.00	
	2.2	Supply and installation of Lighting (Solar)	item	\$ 100,000.00	1	\$ 150,000.00		1	\$ 100,000.00		1	\$ 100,000.00	
	2.3	Public Art	item	\$ 200,000.00	1	\$ 200,000.00		1	\$ 200,000.00		1	\$ 200,000.00	
	2.4	Contingency (20% of Landscape Budget)	%	\$1,324,300.00	-	\$ 1,324,300.00		\$997,655.00	\$ 997,655.00		\$874,087.48	\$874,087.48	
	TOTAL PROVISIONAL SUMS					\$ 1,704,300.00			\$ 1,327,655.00			\$ 1,204,087.48	
	3	SITE PREPARATION & EARTH WORK											
	3.1	Allow for earth works as necessary and fine grading	sq.m	\$ 1.50	51500	\$ 77,250.00		56550	\$ 84,825.00		59310	\$ 88,965.00	
	3.2	Allow for soil testing x 4	item	\$ 175.00	4	\$ 700.00		4	\$ 700.00		4	\$ 700.00	
	3.3	Allow for traffic and dust management as required	item	\$ 5,000.00	1	\$ 5,000.00		1	\$ 5,000.00		1	\$ 5,000.00	
	TOTAL PREPARATION & EARTH WORK					\$ 82,950.00			\$ 90,525.00			\$ 94,665.00	
	4	SOIL PREPARATION											
	4.1	Allow for the supply and installation of Terracottem to shrub and trees	sq.m	\$ 1.00	15000	\$ 15,000.00		17500	\$ 17,500.00		18328	\$ 18,328.00	
	4.2	Allow for the supply and installation of wetting agent to tur	sq.m	\$ 0.20	7000	\$ 1,400.00		10500	\$ 2,100.00		12432	\$ 2,486.40	
	TOTAL SOIL PREPARATION					\$ 16,400.00			\$ 19,600.00			\$ 20,814.40	
	5	PLANTING											
	5.1	Allow for the supply and installation of 130mm shrubs (2/sqm)	sq.m	\$ 30.00	15000	\$ 450,000.00	assume 40% of landscape area	17500	\$ 525,000.00		18328	\$ 549,840.00	
	5.2	Allow for the supply and installation of mulch	sq.m	\$ 6.00	15000	\$ 90,000.00		17500	\$ 105,000.00		18328	\$ 109,968.00	
	5.3	Allow for the supply and installation of 45 litre trees	No.	\$ 110.00	150	\$ 16,500.00		160	\$ 17,600.00		160	\$ 17,600.00	
	5.4	Allow for the supply and installation of 100 litre trees	No.	\$ 240.00	100	\$ 24,000.00		110	\$ 26,400.00		110	\$ 26,400.00	
	5.4	Supply and installation of mature trees	No.	\$ 5,000.00	20	\$ 100,000.00		20	\$ 100,000.00		10	\$ 50,000.00	
	TOTAL PLANTING					\$ 680,500.00			\$ 774,000.00			\$ 753,808.00	
	6	FOOTPATH											
	6.1	Allow for the supply and installation of insitu grey concrete path. Including ground preparation, compaction etc	sq.m	\$ 75.00	3500	\$ 262,500.00		3920	\$ 294,000.00		4000	\$ 300,000.00	
	TOTAL PAVING & STEPS					\$ 262,500.00			\$ 294,000.00			\$ 300,000.00	
	7	EDGING											
	7.1	Allow for the supply and installation of 200mm concrete edging to grassed areas adjoining shrub beds and mowing edge to walls.	lin.m	\$ 35.00	250	\$ 8,750.00		250	\$ 8,750.00		250	\$ 8,750.00	
	TOTAL EDGING & ANTI - SKATE DEVICES					\$ 8,750.00			\$ 8,750.00			\$ 8,750.00	
	8	IRRIGATION											
	8.1	Allow for the supply and installation of irrigation (refer to irrigation schedules for further breakdown.)	item	\$ 60,000.00	1	\$ 80,000.00		1	\$ 80,000.00		1	\$ 80,000.00	
	TOTAL IRRIGATION					\$ 80,000.00			\$ 80,000.00			\$ 80,000.00	
	9	POTENTIAL FURNITURE & ELEMENTS											
	Play Station (large)	Allow for supply and installation of large play station incl. tree house	Item	\$ 450,000.00	2	\$ 900,000.00	assume themed play modules, swings, slide, a tree house, space net and climbing frames	1	\$ 450,000.00		1	\$ 450,000.00	
	Play Station (medium)	Allow for supply and installation of medium play station	Item	\$ 150,000.00	1	\$ 150,000.00	assume mud kitchen / hill slide/ willow hub	1	\$ 150,000.00		1	\$ 150,000.00	
	Play Station (small)	Allow for supply and installation of small play station incl. sand pit with wooden play items	Item	\$ 50,000.00	0	\$ -		4	\$ 200,000.00		3	\$ 150,000.00	
	Ball Kicking Area	Allow for the supply and installation of roll-on lawn	sqm	\$ 7.00	5000	\$ 35,000.00		5000	\$ 35,000.00		5500	\$ 38,500.00	
	Water Play station	Allow for supply and installation of water play equipment	Item	\$ 500,000.00	1	\$ 500,000.00		0	\$ -	no water play station	0	\$ -	no water play station
	Fitness Station	Allow for supply and installation of fitness equipment	Item	\$ 50,000.00	1	\$ 50,000.00		0	\$ -	no fitness station	0	\$ -	no fitness station
	Bins	Allow for the supply and installation of bins	item	\$ 3,500.00	10	\$ 35,000.00		5	\$ 17,500.00		2	\$ 7,000.00	
	Drinking Fountain	Allow for supply and installation of drinking fountain (from mains supply)	Item	\$ 5,500.00	3	\$ 16,500.00		2	\$ 11,000.00		1	\$ 5,500.00	
	Interpretive signage	Supply and installation of interpretive signage	Item	\$ 1,000.00	10	\$ 10,000.00		10	\$ 10,000.00		2	\$ 2,000.00	
	TOTAL FURNITURE & ELEMENTS					\$ 1,696,500.00			\$ 873,500.00			\$ 803,000.00	

DESTINATION/HUB	Compacated Gravel	Allow for the supply and installation of compacted gravel	sq.m	\$ 60.00	190	\$ 11,400.00	assume gravel pavement for destination park area	190	\$ 11,400.00		190	\$ 11,400.00		
	Bench seating	Allow for the supply and installation of standard bench seating	Item	\$ 2,500.00	20	\$ 50,000.00		15	\$ 37,500.00		10	\$ 25,000.00		
	Picnic Set	Allow for the supply and installation of picnic tables (table + 2 bench seats)	Item	\$ 6,000.00	15	\$ 90,000.00		10	\$ 60,000.00		5	\$ 30,000.00		
	Orchard	Allow for the supply and installation of fruit trees	Item	\$ 50,000.00	1	\$ 50,000.00	assume 30 x low maintenance fruit trees (25/100sqm)(about 120sqm)	1	\$ 50,000.00		0	\$ -	no orchard	
	Waterwise Demonstration Garden	Allow for the supply and installation of waterwise demonstration garden	Item	\$ 5,000.00	1	\$ 5,000.00	assume 130mm shrub planting (2/sqm) (about 40sqm)	1	\$ 5,000.00		1	\$ 5,000.00	assume 130mm shrub planting (2/sqm) (about 40sqm)	
	Performance Space (gazebo)	Allow for the supply and installation of paving / concrete pad to performance space	Item	\$ 50,000.00	1	\$ 50,000.00	Infrastructure upgrade (about 280sqm)	1	\$ 50,000.00		1	\$ 50,000.00	Infrastructure upgrade (about 280sqm)	
	Amphitheatre	Allow for the supply and installtion of paving / concrete base to amphitreatre steps	Item	\$ 100,000.00	1	\$ 100,000.00	assume amphitreatre steps associated with performance space (about 240 lin.m)	0	\$ -		no amphitheatre	0	\$ -	no amphitheatre
	BBQ	Allow for the supply and installation of BBQ	Item	\$ 16,000.00	4	\$ 64,000.00	assume 3 BBQ Facility	3	\$ 48,000.00		1	\$ 16,000.00	assume 1 BBQ Facility	
	Shelter	Allow for the supply and installation of shelter	Item	\$ 60,000.00	6	\$ 360,000.00	assume 2 Picnic Shelter (Solar)	6	\$ 360,000.00		3	\$ 180,000.00	5 for picnic node one for gazebo assume 1 Half-court basketball	
	Hardcourt	Allow for the supply and installation of hardcourts	Item	\$ 20,000.00	1	\$ 20,000.00	assume 1 Half-court basketball	1	\$ 20,000.00		1	\$ 20,000.00		
	Bins	Allow for the supply and installation of bins	Item	\$ 3,500.00	4	\$ 14,000.00		3	\$ 10,500.00		2	\$ 7,000.00		
	Drinking Fountain	Allow supply and installation of drinking fountain (from mains supply)	Item	\$ 5,500.00	3	\$ 16,500.00		2	\$ 11,000.00		1	\$ 5,500.00		
	Interpretive signage	Supply and installation of interpretive signage	Item	\$ 1,000.00	3	\$ 3,000.00		1	\$ 1,000.00		1	\$ 1,000.00		
	Bike rack	Allow for the supply and installation of bike rack	Item	\$ 2,000.00	10	\$ 20,000.00		5	\$ 10,000.00		10	\$ 20,000.00		
	Toilet		Item	\$ 50,000.00	1	\$ 50,000.00	Infrastructure upgrade	1	\$ 50,000.00		Infrastructure upgrade	0	\$ -	no toilet
TOTAL FURNITURE & ELEMENTS						\$ 903,900.00		\$ 724,400.00			\$ 370,900.00			
WETLAND	Irrigation lake		Item	\$ 600,000.00	1	\$ 600,000.00		1	\$ 600,000.00		1	\$ 600,000.00		
	Water feature (Artificial lake/Frog pond)	Allow for supply & install Water fountain incl. pumps & hydraulics	Item	\$ 100,000.00	1	\$ 100,000.00	assume permannent water body conected with water play station and irrigation lake	0	\$ -	No artificial lake	0	\$ -	No artificial lake	
	Timber decking	Allow for supply and installation of timber decking	sq.m	\$ 600.00	400	\$ 240,000.00		400	\$ 240,000.00		400	\$ 240,000.00		
	Bridge	Allow for supply and installation 1 timber boardwalk (2500mm wide)	lin.m	\$ 1,000.00	125	\$ 125,000.00		125	\$ 125,000.00		125	\$ 125,000.00		
	Play Station (large)	Allow for supply and installation of large play station incl. tree house	Item	\$ 150,000.00	1	\$ 150,000.00	assume themed play modules, swings, silde, a tree house, space net and climbing frames	0	\$ -		0	\$ -		
	Play Station (medium)	Allow for supply and installation of medium play station	Item	\$ 80,000.00	1	\$ 80,000.00	assume mud kitchen / hill slide/ willow hub	2	\$ 160,000.00		2	\$ 160,000.00		
	Play Station (small)	Allow for supply and installation of small play station incl. sand pit with wooden play items	Item	\$ 50,000.00	1	\$ 50,000.00	assume 10 x wooden steep blocks / 2 x seats 1 bridge	1	\$ 50,000.00		1	\$ 50,000.00		
	Limestone boulder	Allow for the supply and installation of limestone boulder	Item	\$ 200.00	50	\$ 10,000.00		50	\$ 10,000.00		50	\$ 10,000.00		
	Bins	Allow for the supply and installation of bins	Item	\$ 3,500.00	3	\$ 10,500.00		2	\$ 7,000.00		2	\$ 7,000.00		
	TOTAL FURNITURE & ELEMENTS						\$ 1,365,500.00		\$ 1,192,000.00			\$ 1,192,000.00		
BUSHLAND	Timber decking	Allow for the supply and installation of timber decking	sq.m	\$ 600.00	200	\$ 120,000.00		100	\$ 60,000.00		100	\$ 60,000.00		
	Boardwalk	Allow for the supply and installation of Steel boardwalk (2500mm wide)	lin.m	\$ 1,500.00	365	\$ 547,500.00	assume boardwalk for bush walking/dog walking	113	\$ 169,500.00		113	\$ 169,500.00		
	Turf nodes	Allow for the supply and installation of turf nodes	sqm	\$ 10.00	2000	\$ 20,000.00		5500	\$ 55,000.00		5500	\$ 55,000.00		
	Living stream	Allow for the supply and installation of living stream	Item	\$ 100,000.00	1	\$ 100,000.00	assume moving/dry stram with rocks/revegetation & water storv nodes	1	\$ 100,000.00		1	\$ 100,000.00		
	Play Station (medium)	Allow for supply and installation of medium play station	Item	\$ 80,000.00	1	\$ 80,000.00	assume mud kitchen / hill slide/ willow hub	1	\$ 80,000.00		0	\$ -		
	Fitness Station	Allow for supply and installation of fitness equipment	Item	\$ 25,000.00	10	\$ 250,000.00		4	\$ 100,000.00		0	\$ -		
	Shelter	Allow for the supply and installation of shelter	Item	\$ 60,000.00	1	\$ 60,000.00	assume 1 Shelter (Solar)	1	\$ 60,000.00		1	\$ 60,000.00		
	Feature Paving	Allow for the supply and installation of feature paving	sq.m	\$ 100.00	265	\$ 26,500.00		265	\$ 26,500.00		265	\$ 26,500.00		
	Bench seating	Allow for the supply and installation of standard bench seating	Item	\$ 2,500.00	2	\$ 5,000.00		2	\$ 5,000.00		8	\$ 20,000.00		
	Interpretive signage	Supply and installation of interpretive signage	Item	\$ 1,000.00	1	\$ 1,000.00		1	\$ 1,000.00		1	\$ 1,000.00		
	Bins	Allow for the supply and installation of bins	Item	\$ 3,500.00	2	\$ 7,000.00		2	\$ 7,000.00		2	\$ 7,000.00		
	TOTAL FURNITURE & ELEMENTS						\$ 1,217,000.00		\$ 664,000.00				\$ 499,000.00	
LUMP SUM TOTAL (excluding GST)						\$ 8,325,800.00		\$ 6,315,930.00			\$ 5,574,524.88			



CAMBRIDGE RESERVE LANDSCAPE CONCEPT PLAN

DISCLAIMER
This plan is conceptual and is for discussion purposes only.
Subject to further detail study, Council approval, engineering input and survey.
Cadastral boundaries, areas and dimensions are approximate only.
Figured dimensions shall, to preference, be scaled dimensions.
No relevance should be placed on this plan for any financial detailing of the land.

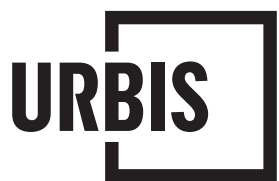
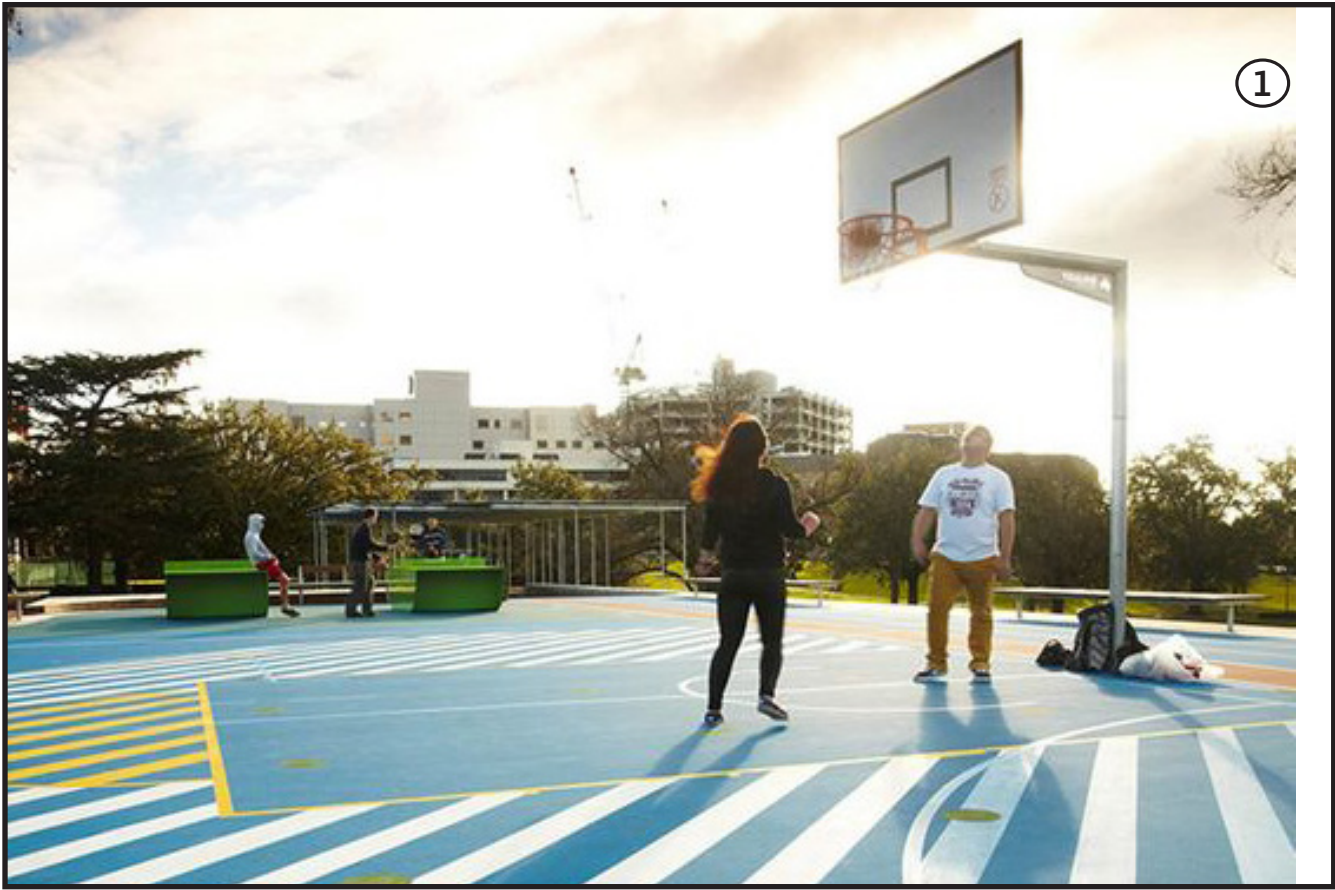
1:1000 @ A1
0 10 20 30 40 50

DATE: 08.06.18
JOB NO: ND1980
DWG NO: AR-CD02
REV: B



- LEGEND:**
- ① ACTIVITY HUB / PLAYGROUND
 - ② STORMWATER CATCHMENT
 - ③ FENCED BUSHLAND
 - ④ SHADE STRUCTURE & SEATING NODE
 - ⑤ BOARD-WALK / WETLAND
 - ⑥ LIVING STREAM - REALIGNED DRAIN
 - ⑦ OPEN MANAGED PARKLAND
 - ⑧ FENCED DOG PARK
 - ⑨ PEDESTRIAN PATH NETWORK
 - ⑩ BUSH RE-VEGETATION
 - ⑪ EXISTING PAW
 - ⑫ EXISTING LOTS
 - ⑬ MANAGED BUSHLAND
 - ⑭ OPTION FOR ADDITIONAL PARKING

- 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. Irrigation is to be limited to high use areas around activities nodes and play areas.
 - 6. Path network will include cycle path connections, pedestrian paths as well as informal path networks within areas of revegetation.
 - 7. Parking locations and quantities are indicative only and subject to technical advice.



CAMBRIDGE RESERVE LANDSCAPE CONCEPT PLAN - WESTERN PORTION

DISCLAIMER
This plan is conceptual and is for discussion purposes only.
Subject to further detail study, Council approval, engineering input and survey.
Cadastral boundaries, areas and dimensions are approximate only.
Figured dimensions shall, to preference to scaled dimensions.
No relevance should be placed on this plan for any financial detailing of the land.

1:500 @ A1
0 5 10 15 20 25

DATE: 08.06.18
JOB NO: ND1980
DWG NO: AR-CD04
REV: A



- LEGEND:**
- ① ACTIVITY HUB / PLAYGROUND
 - ② STORMWATER CATCHMENT
 - ③ FENCED BUSHLAND
 - ④ SHADE STRUCTURE & SEATING NODE
 - ⑤ BOARD-WALK / WETLAND
 - ⑥ LIVING STREAM - REALIGNED DRAIN
 - ⑦ OPEN MANAGED PARKLAND
 - ⑧ FENCED DOG PARK
 - ⑨ PEDESTRIAN PATH NETWORK
 - ⑩ BUSH RE-VEGETATION
 - ⑪ EXISTING PAW
 - ⑫ EXISTING LOTS
 - ⑬ MANAGED BUSHLAND
 - ⑭ OPTION FOR ADDITIONAL PARKING

- 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. Irrigation is to be limited to high use areas around activities nodes and play areas.
 6. Path network will include cycle path connections, pedestrian paths as well as informal path networks within areas of revegetation.
 7. Parking locations and quantities are indicative only and subject to technical advice.



CAMBRIDGE RESERVE LANDSCAPE CONCEPT PLAN EASTERN PORTION

DISCLAIMER
This plan is conceptual and is for discussion purposes only.
Subject to further detail study, Council approval, engineering input and survey.
Cadastral boundaries, areas and dimensions are approximate only.
Figured dimensions shall, to preference to scaled dimensions.
No relevance should be placed on this plan for any financial detailing of the land.

1:500 @ A1
0 5 10 15 20 25

DATE: 08.06.18
JOB NO: ND1980
DWG NO: AR-CD05
REV: A

Cambridge Reserve – Community Engagement

Findings and Outcomes Report

Surveys

Overview

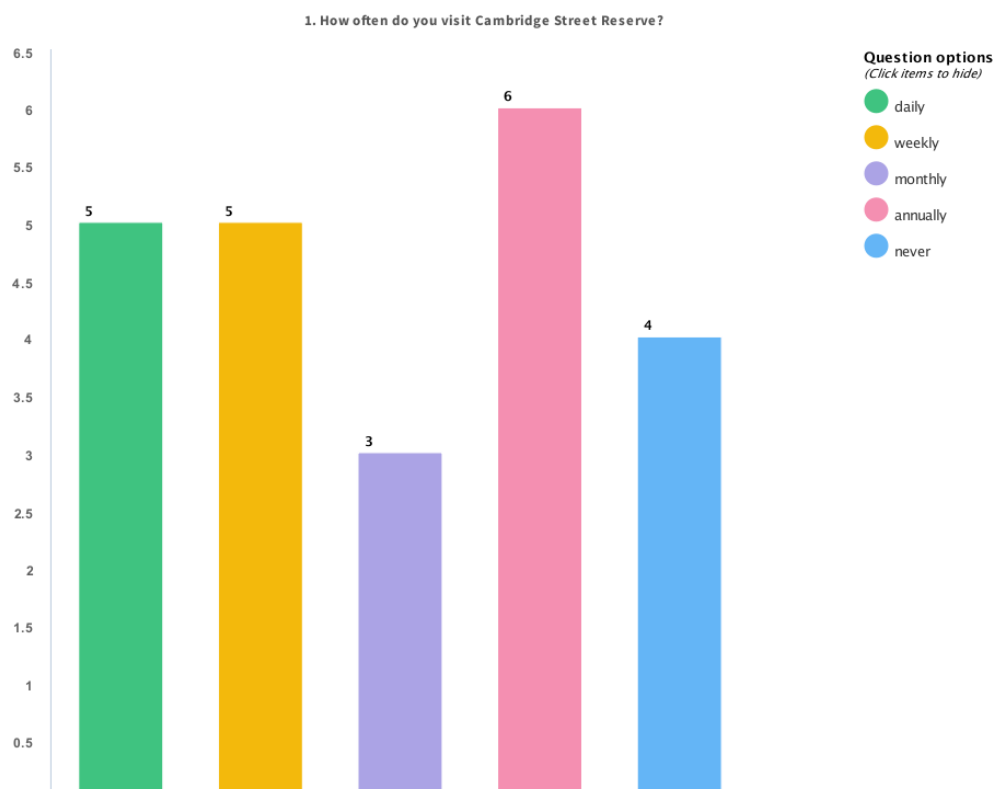
The City of Kalamunda (the City) engaged the community on the future improvement of Cambridge Reserve in Forrestfield. The survey was open from February 2018 to March 2018. Over that time 23 surveys were completed. The survey was responded by 55% female and 45% male (of those that indicated their gender).

The 36-45 age bracket provided the highest number of responses, this was followed by 66-75, all other age age brackets had similar response numbers.

14 of the 23 responses were from people living in Forrestfield. 4 people from Kalamunda, 1 from Lesmurdie, 2 from Gooseberry Hill, 1 from Redcliffe (outside the City) and 1 from Bickley answered the survey.

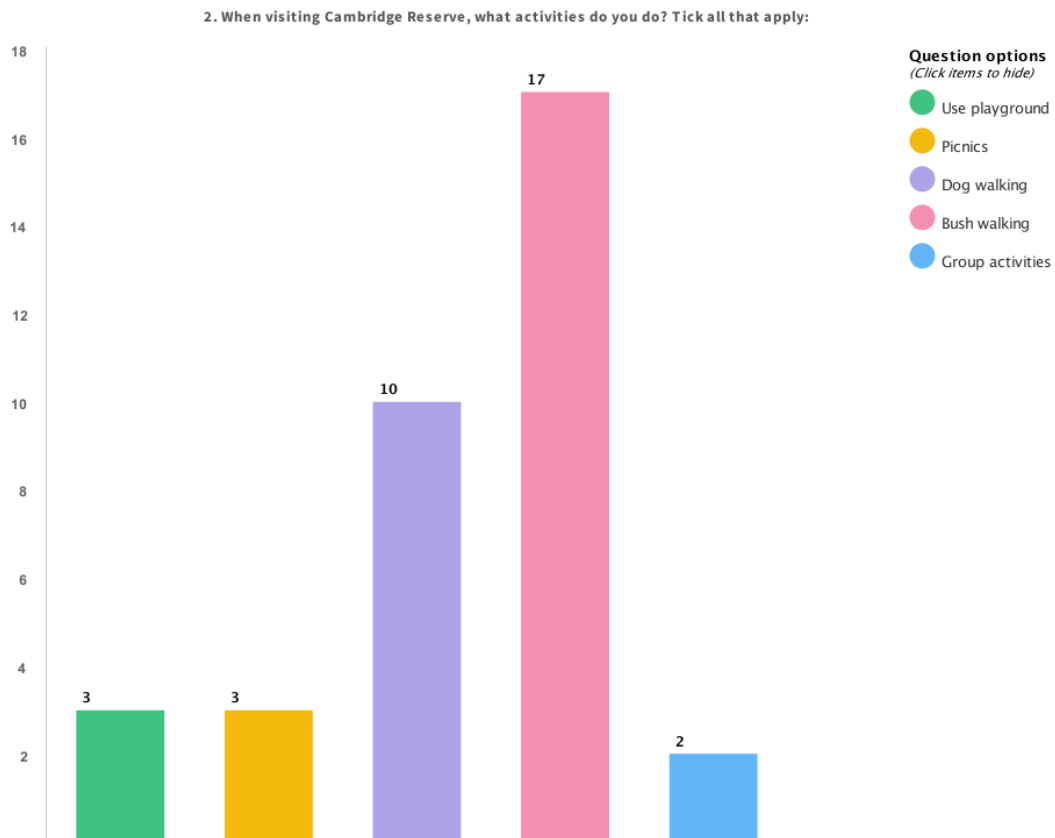
Park Visitation

The frequency which people visit the Reserve was similar for all options, with annually marginally the most common frequency.



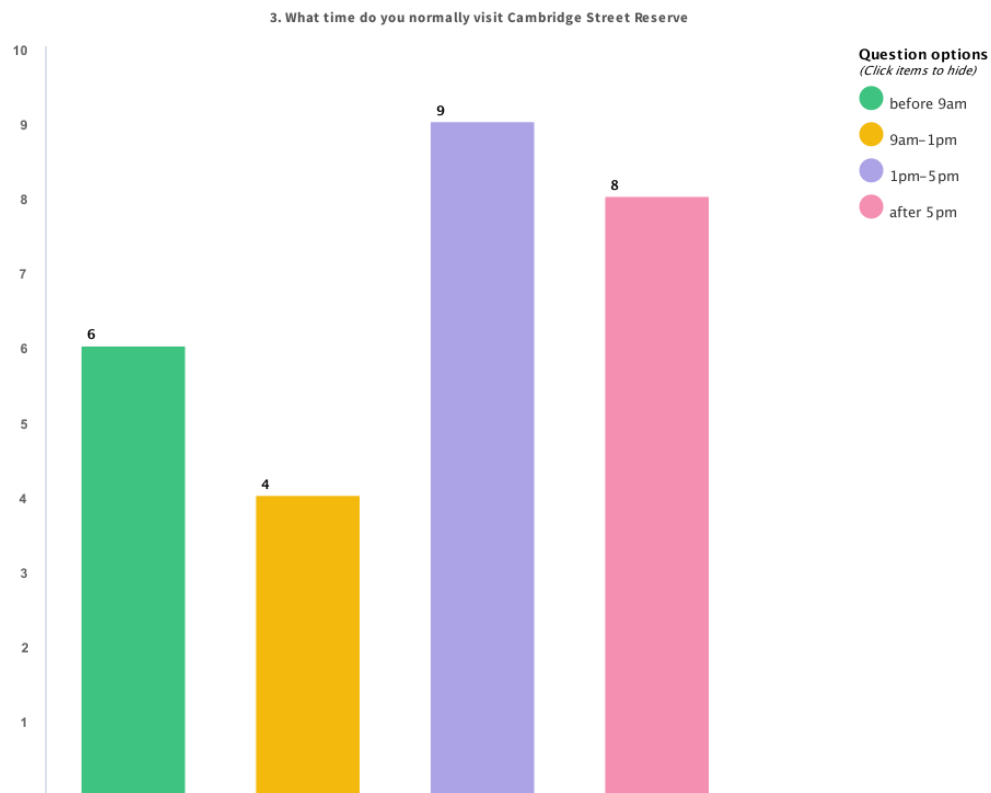
Activities

The most common activity was bush walking by a fair margin, which was followed by dog walking. Playground usage, picnics and group activities appear to be less common activities undertaken at the Reserve.



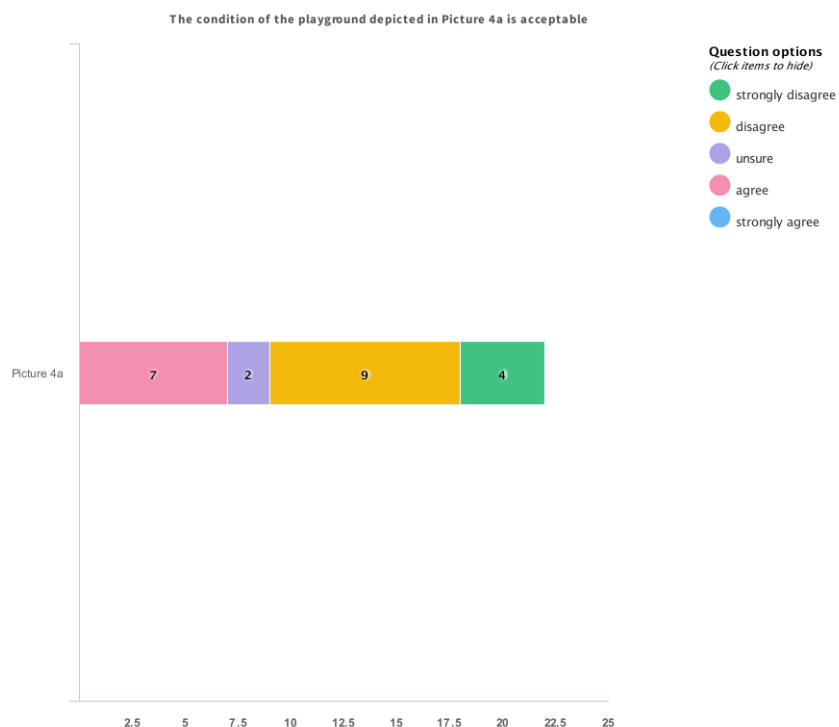
Time

The most common time to visit Cambridge Reserve was between 1-5pm. After 5pm was also a common time to visit the Reserve.

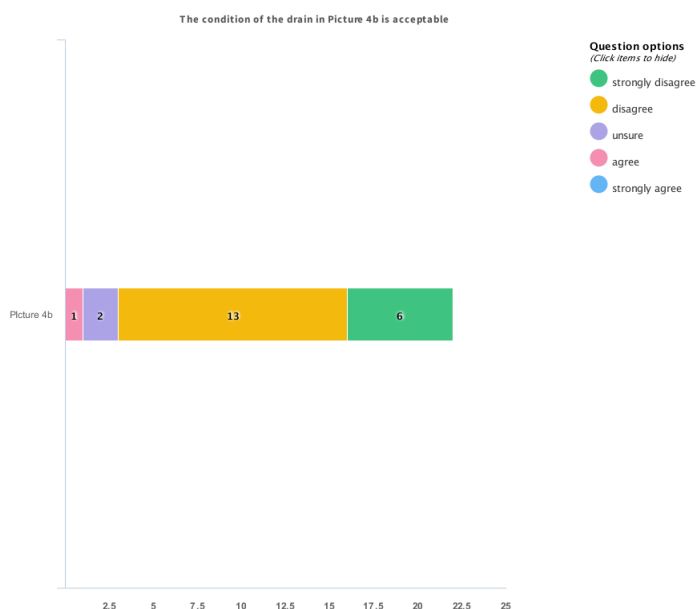


Condition of the Reserve

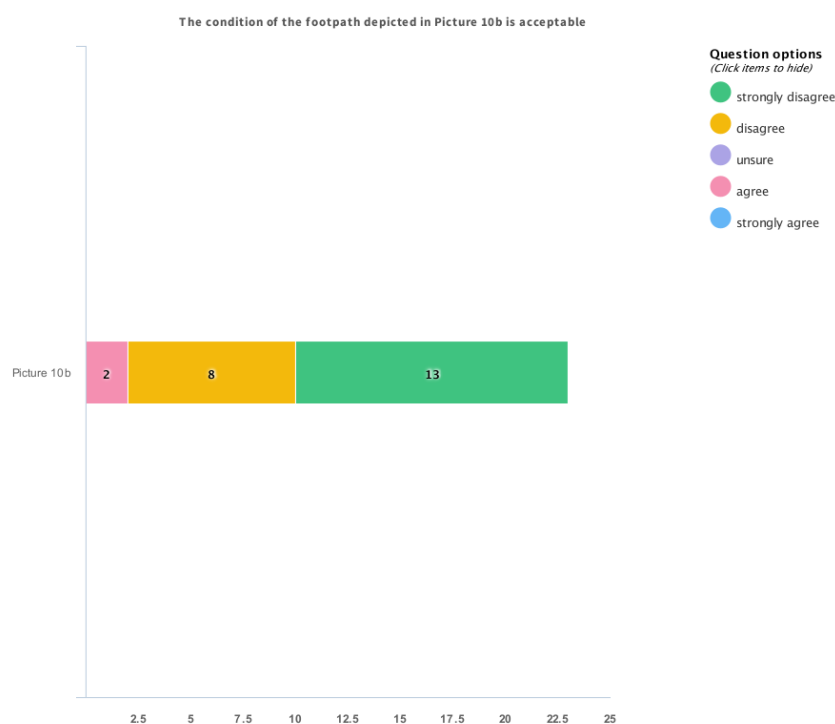
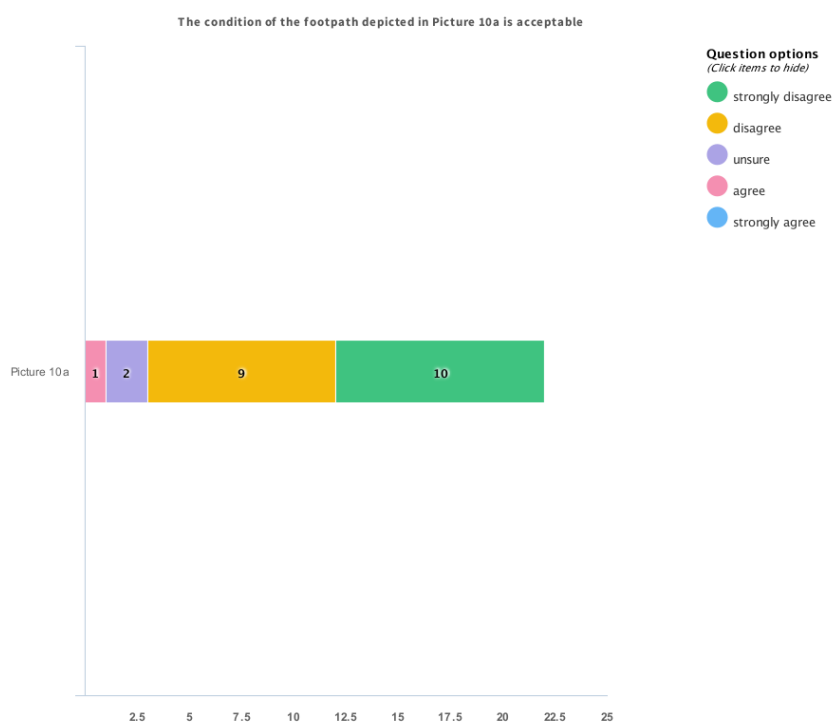
The majority of respondents (59.1%) either disagree or strongly disagree that the playground condition is acceptable.



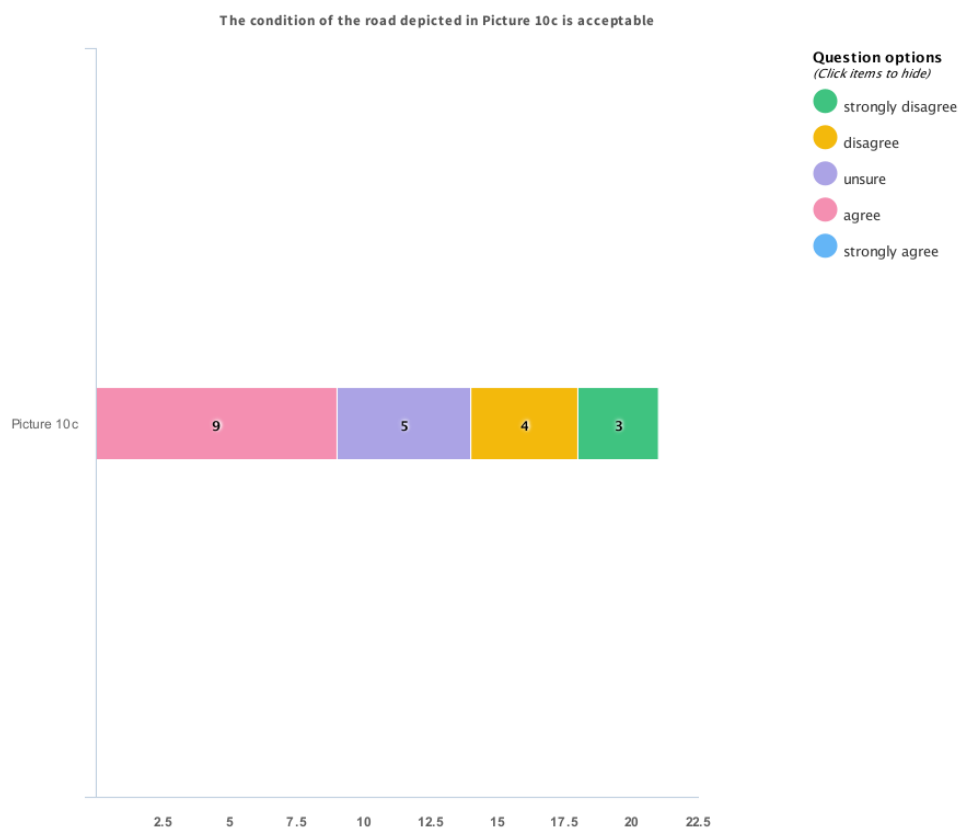
A considerable majority (86.4%) either disagree or strongly disagree that the condition of the drain is acceptable.



A considerable majority of respondents (86.5% for footpath A and 91.3% for footpath B) either disagree or strongly disagree that the condition of footpaths are acceptable.

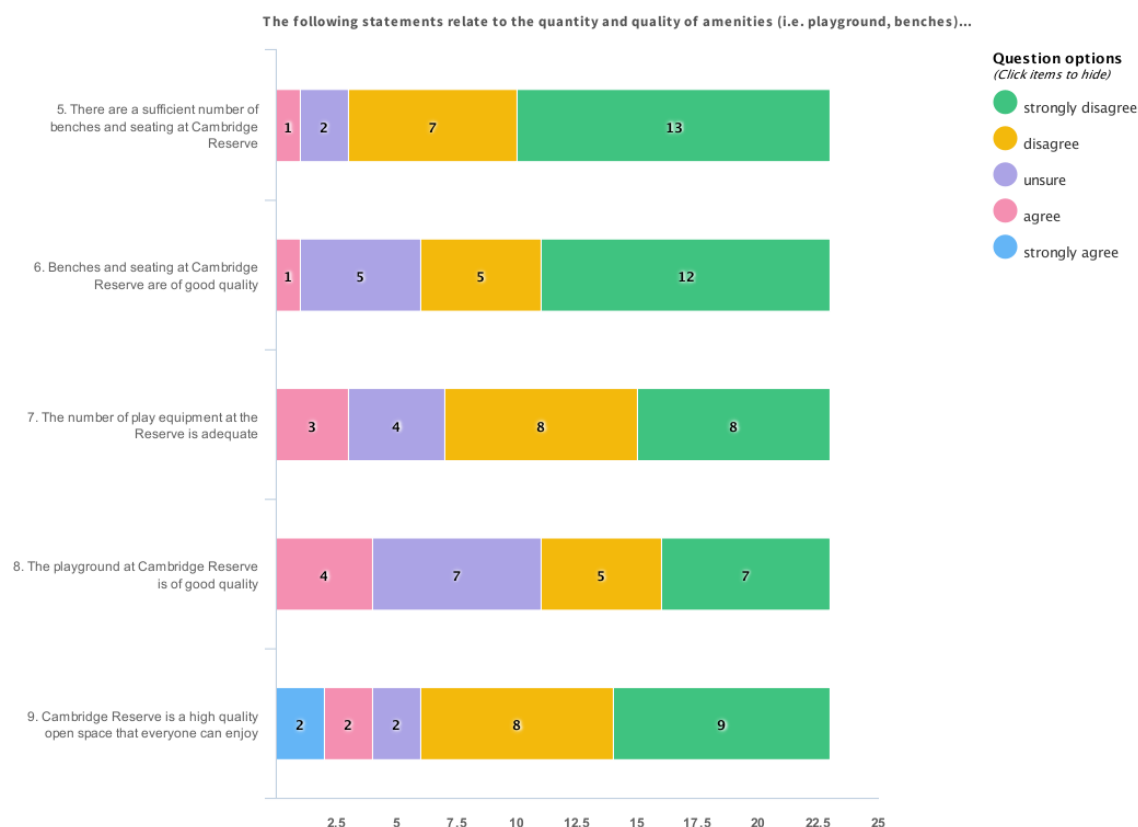


Respondents were more in favour of the condition of the road surrounding the Reserve. 66.7% of respondents either agreed or were unsure whether the condition of the road is acceptable, whereas 33% of respondents either disagreed or strongly disagreed that the condition of the road is acceptable.



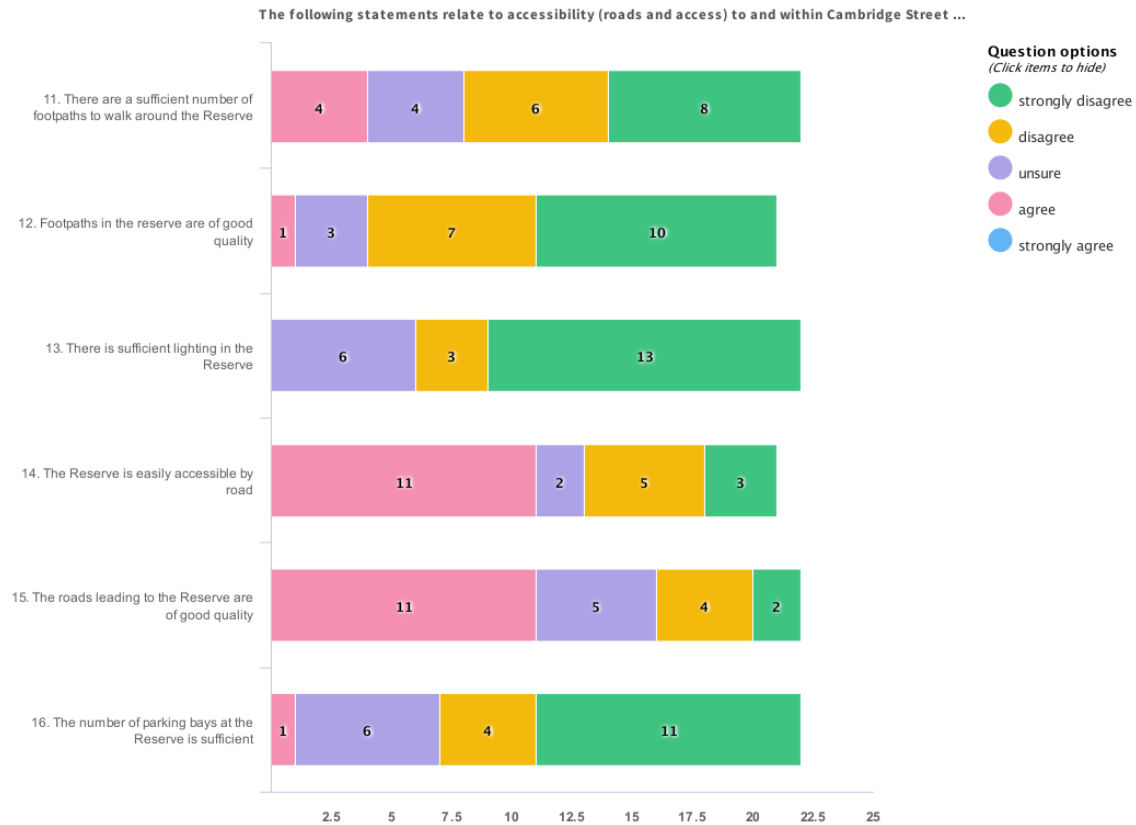
Quality of Amenities

Respondents indicated that the quality of amenities at the Reserve are poor for all categories. 80.9% disagree or strongly disagree that there are sufficient number of seating at the Reserve, 73.9% either disagree or strongly disagree that the seating is of good quality, 69.6% either disagree or strongly disagree that the amount of play equipment is adequate and 73.9% either disagree or strongly disagree that the Reserve is a high quality open space that everyone can enjoy.



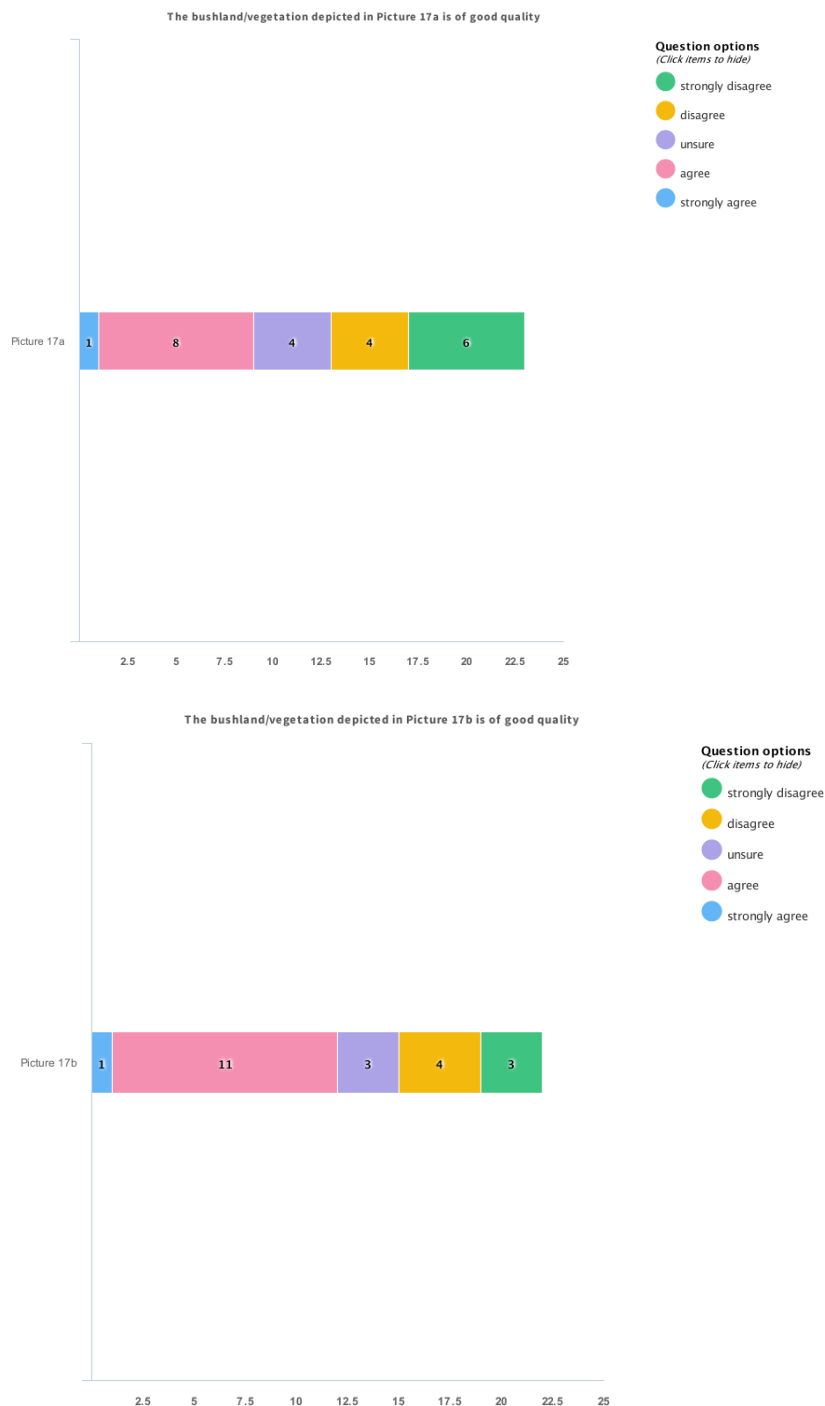
Accessibility

Respondents indicated that the quality of access relating to footpaths, lighting and car parking is of poor quality. Road access however had more favourable results.



Bushland

The views on the quality of bushland in the Reserve was mixed and was the view of the quality and quantity of reserves throughout the City. It was clear from respondents that the preservation of bushland on the Reserve is important for the community with 95% of respondents stating its importance.





Values

The following lists in order the most common themes the community stated they value about the Reserve:

1. Bushland / Natural Feel
2. Walking / Trails
3. Nothing
4. Waterbody / Lake
5. Quietness
6. Proximity to Home
7. Size
8. Dog Walking
9. Family Orientated
10. Playground

Improvements

The following lists in order the most common themes the community stated they said would like to see improved at the Reserve:

1. Pedestrian / Cycling Pathways
2. Weed Control / Better Maintenance
3. Nature Play / Play Equipment
4. Seating
5. Shade / Shelter
6. Retain Bushland / Vegetation Planting
7. Lighting
8. Prevent Vehicle / Motorbike Access
9. Toilets
10. BBQs

Priorities

Respondents were asked to allocate \$100 to the following items at the reserve for improvement:

- Play Equipment
- Shade / Shelter
- Toilets
- Seating
- BBQs

Seating had the highest average allocation of \$26.78, followed by play equipment \$22.68, shade / shelter \$22.53, BBQs \$17.92 and toilets \$17.09.

Additional Comments

Respondents were asked to add anything else they wished to comment on. The most common additional comments received were regarding the importance of retaining bushland, improvement of amenities, better maintenance and the potential for the site to be used as an aged care site.

Workshop

A workshop was undertaken onsite at Cambridge Reserve on 28 February 2018. The workshop allowed the community to see the Reserve and provide ideas and concerns.

Refer to Appendix 1 and 2 for the summary and notes.

Information Stalls

During February the City set up information stalls for the Reserve, handing out surveys and gathering the community's ideas. The stalls were set up at Forrestfield District Shopping Centre.

The themes and ideas the community mentioned included the following:

- Improved pathways
- Better maintenance
- Retain and enhance the bushland
- Green space
- Prevent vehicle and motorbike access to the park
- Use a portion of the site for aged care
- Improved playground
- More shade / shelter

Submissions

A total of 4 submissions were received during the public advertising period, and are taken into consideration as part of the concept planning for Cambridge Reserve.

The key theme that was expressed by the submissions was utilising a portion of the Reserve for aged care. The site has previously been flagged as an aged care site and submissions requested this option be considered as part of the concept planning.

Appendix 1 – Workshop Notes



CAMBRIDGE ROAD RESERVE ENGAGEMENT NOTES

**Public engagement workshop undertaken: Wednesday, 28 February from
3:30pm -
5:45pm at Cambridge road reserve**

Emotional Mapping

- Stronger communications about preservation i.e. plaques about wildlife, boxes in trees, etc
- This is a much better way to engage then previous attempts
- Make something happen and keep in touch!
- I like natural aspect (trees, natural shrubs)
- Happy – Restoration of Shrubbery
- Happy – Natural feel of park
- Sad – Storm drain not working and causes flooding in winter
- Sad – Poor maintenance of laneway
- Happy – Trail leads to Lesmurdie Falls – Needs improved wayfinding to find track
- Sad – Unauthorised vehicles entering park
- Happy – park playground
- Sad – Only part of park not green
- Happy – Quietness
- Sad – Needs better maintenance
- Confused – Not sure what happened to BMX track – attracted people
- Happy – Natural areas for playing – not very common anymore in most parks
- Happy – love the area around the lake – better paths would be great
- Unsure – keep drains clean
- Happy – lake, ducks and wildlife
- Happy – playing in mud
- Confused – Boxes in Trees
- Happy – bike riding

Ideas Mapping

- Everything is currently balanced, keep the same
- Love natural wildlife, don't want to disturb
- Create a general active area near existing playground i.e. Tomato Lake
- Irrigate and keep the rest of the area natural
- Seating
- Lighting in play area (if you want open after dark)
- Larger playground and playground – no toilets
- Pop-up café – maybe in stage 2 once park becomes more popular

- Improved grass area with BBQ – paths and natural plantings
- Mini soccer pitch and half court basketball – drink fountain – don't want to annoy residents
- Signage with info about wildlife – plants to look out for
- Sheltered areas – sealed natural paths for walking and riding, BBQ, etc
- Fountain for ppl and dogs
- Natural Play Area
- Natural filtration of lake – protect dogs using in Winter
- Bins and seating
- Tidy lake , water feature, sculpture, BBQ, paths
- Mountain bike trail around park
- Understore planting under trees which were planted many years ago
- Pathways better maintained
- Dog exercise area – where appropriate
- Keep trees – Attracts bird life
- Would be good to see some of the area used for development of aged care
- Natural sealed path around park for prams, etc
- Pipe drainage areas – maybe lake will be filled for longer periods
- Signs to keep dogs on leads – don't agree
- Would like mechanisms to keep unauthorised vehicles out (bollards, signs, etc)
- Bins and seating
- Ranger to monitor wildlife
- Kids hide and seek
- Generally keep natural, be mindful and preserve wildlife
- Maybe look at kiosk if opportunity arises
- Like wild bush

Choose Top 5 Ideas

Idea	Tally
Dirt BMX	3
Mountain Bikes	3
Play Equipment	2
Nature Play	4
Open Space Lawns	8
BBQ	7
Natural plantings and hangout spaces	5
Improved lighting	10
Water Sensitive Urban Design	6
Shade and Seating	8
Walking Trails and Improved Footpaths	19

Pet Friendly	16
Park Kiosk	4
Drinking Fountain	7
Kids Activities	7
Community Garden	3
Flying Fox and Adventure Play	7
Exercise Equipment	3
Toilets	4
Public Sculptures	3
Basketball Half Court	13
Soccer Mini Pitch	8
Bins	6

Other ideas: cross-country track for runners, more green areas, more natural areas, a nice dog track, swings, keep native bush, fenced dog area

General Brainstorming Notes

- Too many delays in residential zoning
- Don't cut down trees
- Maintenance
- Today was the best grass cutting we've seen. Normally we need to poison areas next to our fence
- Pathways for prams
- Kids love the wild bushland
- Prefer no toilets
- Doggy bags for pet waste
- Free range for pets
- I like there being neighbourhood parks in Forrestfield due to increased living density (no backyards)
-

Appendix 2 – Workshop Summary



CAMBRIDGE ROAD RESERVE ENGAGEMENT SUMMARY

Report prepared on: 2 March 2018

**Public engagement workshop undertaken: Wednesday, 28 February from
3:30pm – 5:45pm at Cambridge road reserve**

The public engagement workshop provided fairly clear and consistent reporting from the community without too much general debate about development of the reserve as public open space. In general, the community communicated the following as a priority for development:

- Appreciate the current natural feel of the reserve and would like to see this maintained and protected without the loss of any trees or wildlife.
- A majority of people identified the open area near the children's playground as more of an active and social community space with barbeques, native plantings, a large grassed area, seating, shade and possibility of a half-court basketball court and mini soccer pitch.
- Better maintenance of existing trails throughout the park with a preferred desire for sealed areas that have a natural feel for prams, scooters and people with disabilities.
- On-going regular maintenance of the entire reserve and laneways leading to the park.
- A fenced dog area with drinking fountain, natural play area and better maintenance of the open drain were also desired.

Although the above is a general recollection from the written notes, there were a few residents who live opposite the reserve on Cambridge Road who prefer the park as it is due to its quietness, natural feel and abundance of wild life. They believe any development of the reserve will compromise the natural balance, existing amenity and attract too many people.

Below is a brief summary of the five engagement boards.

Emotional Mapping:

Elements of the park, which made people feel happy are mostly revolved around the natural feel of the park, using the existing trails, the quietness, wildlife (including the ducks, which use the lake) and restoration of a patch of shrubbery.

Elements that make people feel sad are generally about the poor maintenance of the park, which includes the open drain, which causes flooding in winter, mowing of the grassed area, laneways leading to the park, the grassed area around the play equipment and trails throughout the park.

The participants also felt confused about some of the previous decisions, which were allegedly not communicated very well and include the 'bird feeding boxes in trees', demolition of the

independently made dirt BMX tracks and felt some better signage and letter drops could resolve these matters.

In general, participants also acknowledged that they are much happier with this engagement program and would like to be kept in touch in regard to the progress of any development.

Ideas Mapping:

There are many different ideas to develop the park, however in general most people agreed the reserve needs to maintain its natural uniqueness. There was some debate over ideas such as:

- Sealed or unsealed pathways;
- Lighting or no lighting;
- Toilets or no toilets
- Allowing dogs off leads or having a fenced area (most people agreed with having a fenced area)
- Pop-Up café

Popular ideas included:

- Creating a general active area near the child's playground
- Paths around the park
- Kids play area – natural, hide and seek and/or larger equipment
- Seating
- Native Plantings
- Pipe drainage areas.

Top 5 Ideas:

Having people prioritise their favourite ideas is a great way to better understand what is really important to people. The most popular ideas for developing the park include:

Walking Trails and Improved Footpaths	19
Pet Friendly	16
Basketball Half Court	13
Improved lighting	10
Open Space Lawns	8
Shade and Seating	8
Soccer Mini Pitch	8

It is noted that there was a family with a few kids who may have skewed the waiting of the basketball half court and soccer pitch, however regardless they were still popular items.

General Brainstorming Notes:

The brainstorming notes mostly reiterated the other engagement presentation boards, however there were a few interesting comments including:

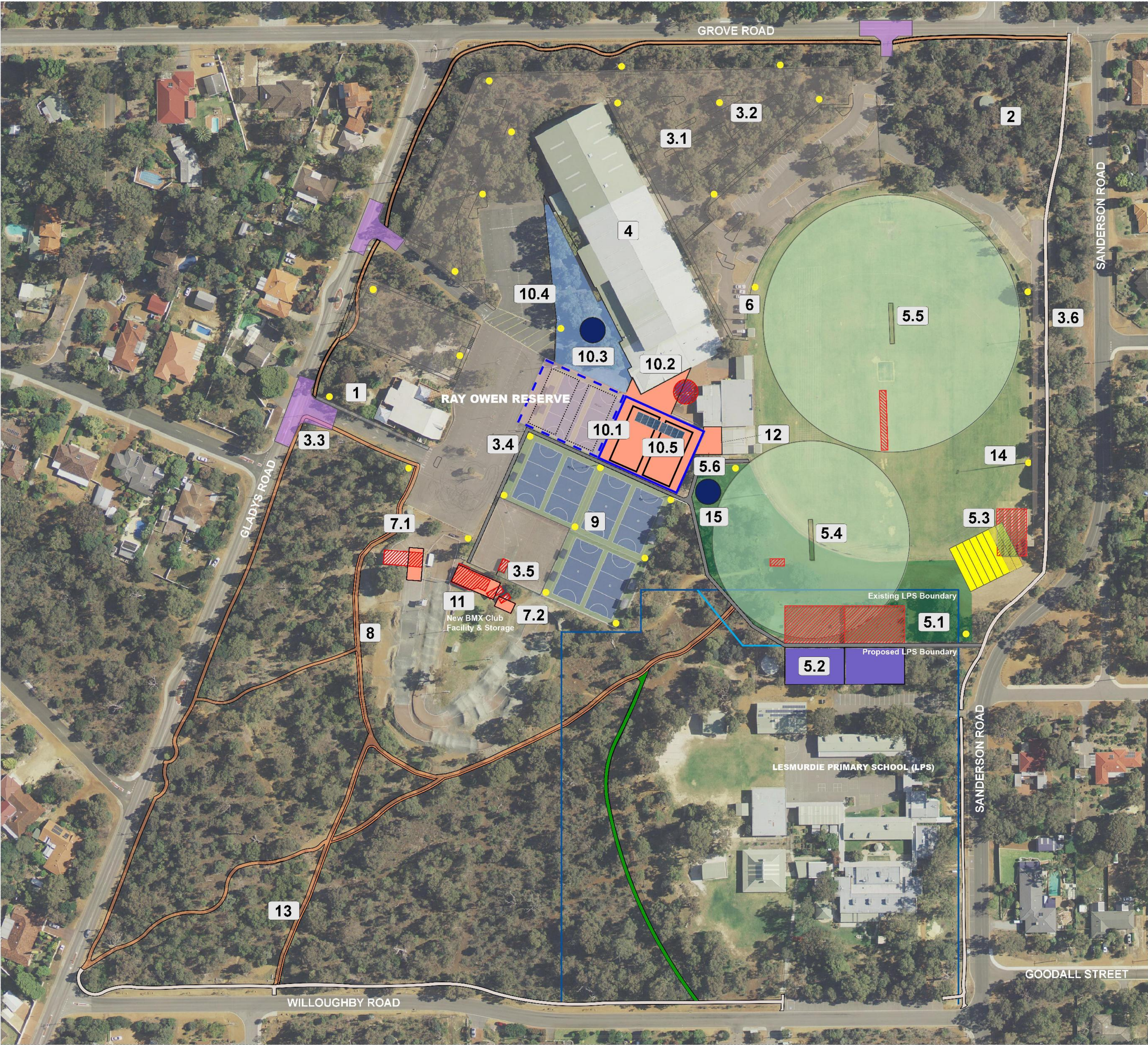
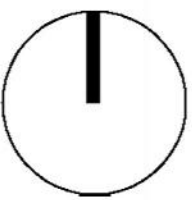
- Too many delays in residential zoning
- Doggy bags for pet waste
- I like there being neighbourhood parks in Forrestfield due to increased living density (no backyards)
- Today was the best grass cutting we've seen. Normally we need to poison areas next to our fence

Shire of Kalamunda - Ray Owen Reserve Master Plan



LEGEND

- Demolished Buildings/Structures
- New Buildings & Extensions
- New Parking Expansion
- New Lighting
- New Dual Use Pathways
- Upgrade Existing Gravel Paths
- Existing LPS Boundary
- Proposed LPS Boundary
- New Turf Expansion
- Driveway Entrance Upgrade
- Potential Second Stage of Indoor Courts
- New/Relocated Playground
- Relocated School Outdoor Court
- Priority Pram Passable Trail
- Track along LPS fence: student access
- Concrete Paths



Summary of Facility Developments

- Power upgrade to the site
- Water supply upgrade to the site
- Parking and Access Expansion subject to Environmental Impact Assessment and Detailed Parking Study
 - Parking area expansion
 - Lighting to all parking areas
 - Upgrade entrances
 - Anti-hooring treatments to all parking areas
 - Formalise old netball court car park
 - Formalise old fire track parking and provide separation barrier for pathway
- Install ventilation/air circulation equipment to the indoor courts
- Develop turf expansion area including:
 - Oval Turf Expansion subject to Environmental Impact Assessment
 - Relocation of Lesmurdie Primary School outdoor courts
 - New practice nets (6 short term + 2 long term)
 - New cricket wicket
 - Relocate current wicket
 - Public toilets
- Install new floodlighting to the Oval
- New BMX Start Ramp and Storage
 - 5m Start Ramp
 - Equipment Storage Shed
- Undertake enhanced protection measures of bushland from BMX run off
- Install floodlighting to outdoor netball courts
- Ray Owen Sports Centre expansion
 - Develop new indoor courts, potentially staged.
 - Supporting facilities including additional administration space, changerooms and storage
 - Playground relocation
 - External entrance upgrade (i.e. landscaping, paving, awning, public artwork etc)
 - Possible PV solar system
- New BMX Clubroom facility
- Develop new football/cricket away team changeroom and physio rooms
- Upgrade existing trails and develop new pathways including rest stops, fencing in sensitive areas and interpretive signage.
- Redevelopment of existing oval turf sub-grade.
- New/Relocated Playground

Concept Site Master Plan - As Proposed

Scale Approx. 1:1250/A1 & 1:2500/A3

Date: January 2015

Drg. No: P14002. SK.01. Rev:8



RAY OWEN RESERVE PROPOSED CARPARK & DRAINAGE

city of
Kalamunda



SHEET INDEX	
DRAWING No.	DESCRIPTION
4235-01/0	OVERALL CONCEPT PLAN
4235-02/0	CONCEPT PLAN - STAGE 1
4235-03/0	CONCEPT PLAN - STAGE 2
4235-04/0	CONCEPT PLAN - STAGE 3 (1 OF 2)
4235-05/0	CONCEPT PLAN - STAGE 3 (2 OF 2)
4235-06/0	CONCEPT PLAN - STAGE 4

MAZENOD JUNIOR FOOTBALL CLUB

[Signature]
VICE PRESIDENT, IVAN ADRIANO
20/11/18

LESMURDIE MAZENOD JUNIOR CRICKET CLUB

[Signature]
PRESIDENT, NEIL WARDEN
8/11/18

CLUB / ORGANISATION NAME:
KALAMUNDA DISTRICT BASKETBALL ASSOCIATION
REPRESENTATIVE DETAILS:
SIGNATURE: *[Signature]*
NAME: PETER HANSON
POSITION HELD: PRESIDENT
DATE: 1/11/2018

CLUB / ORGANISATION NAME:
KALAMUNDA DISTRICT NETBALL ASSOCIATION
REPRESENTATIVE DETAILS:
SIGNATURE: *[Signature]*
NAME: NICOLE MCKENNEY
POSITION HELD: PRESIDENT
DATE: 20/11/18

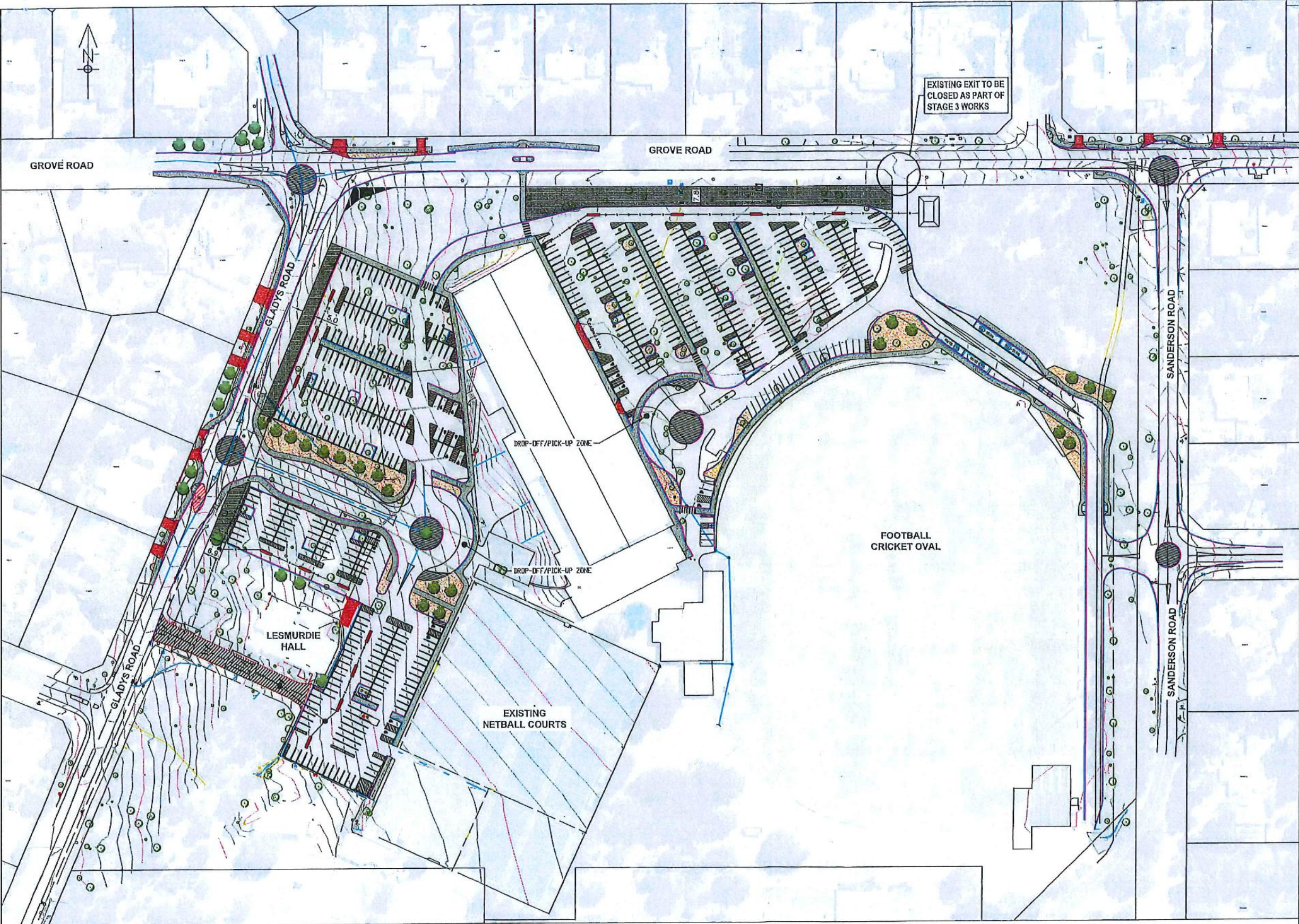
CLUB / ORGANISATION NAME:
LESMURDIE MAZENOD CRICKET CLUB
REPRESENTATIVE DETAILS:
SIGNATURE: *[Signature]*
NAME: BUSTER AMOT
POSITION HELD: PRESIDENT
DATE: 20/11/2018

CLUB / ORGANISATION NAME:
KALAMUNDA AND DISTRICTS FOOTBALL CLUB
REPRESENTATIVE DETAILS:
SIGNATURE: *[Signature]*
NAME: BEAU BARRETT
POSITION HELD: PRESIDENT
DATE: 22/11/2018

CLUB / ORGANISATION NAME:
HILLS BMX
REPRESENTATIVE DETAILS:
SIGNATURE: *[Signature]*
NAME: MATT CLANCY LIBBY
POSITION HELD: PRESIDENT
DATE: 1/11/18

CLUB / ORGANISATION NAME:
FRIENDS OF RAY OWEN GROUP
REPRESENTATIVE DETAILS:
SIGNATURE: *[Signature]*
NAME: BRUCE GLOVER
POSITION HELD: PRESIDENT
DATE: 1/11/2018

CLUB / ORGANISATION NAME:
LESMURDIE PRIMARY SCHOOL
REPRESENTATIVE DETAILS:
SIGNATURE: *[Signature]*
NAME: RITCHIE GRIFFITHS
POSITION HELD: PRINCIPAL
DATE: 8/11/18



LEGEND

- PROPOSED KERBING MK-MOUNTABLE KERB
- PROPOSED PRAM RAMP
- PROPOSED FOOTPATH
- EXISTING VEGETATION BUFFER
- RAISED ROAD ISLAND
- PROPOSED MULCH
- PROPOSED CONCRETE CROSSOVER
- PROPOSED RED FLOWERING GUM
- PROPOSED MARKING PARKING ROW (NUMBER OF BAYS AVAILABLE - 507 and 8 BUS BAYS)
- PROPOSED MARKING DISABLE PARKING ROW (NUMBER OF BAYS AVAILABLE - 20)
- PROPOSED MARKING TRAILER PARKING ROW (NUMBER OF BAYS AVAILABLE - 8)
- PROPOSED SIDE ENTRY PIT
- PROPOSED STORMWATER DRAINAGE CELL
- PROPOSED DRAINAGE
- EXISTING FENCE
- EXISTING FOOTPATH
- EXISTING KERBING
- EXISTING CADASTRAL BOUNDARY
- EXISTING ONE POST SIGN FACING ONE DIRECTION
- EXISTING SERVICE LP
- EXISTING DRAIN MH CONC. CIRC.
- EXISTING SERVICE METER
- EXISTING SERVICE TELSTRA PIT
- EXISTING TREE
- EXISTING DRAIN GULLY
- EXISTING DRAIN SIDE ENTRY PIT
- EXISTING SERVICE SEWER MH
- EXISTING SERVICE MAILBOX
- TO BE UNDERTAKE AS SEPARATE PROJECTS

- NOTES:**
1. TRAFFIC CALMING TO BE INCORPORATED WITH DETAILED DESIGN
 2. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH THE SPECIFICATION AND REQUIREMENTS OF THE LOCAL GOVERNMENT.
 3. ALL CONSTRUCTION SHALL MAKE SMOOTH CONNECTION TO EXISTING WORK.
 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPORT OF ALL EXISTING SERVICES. WHERE SERVICES CROSS, THE UPPER SERVICE SHALL BE PROVIDED WITH A SUITABLE SUPPORT AS REQUIRED, BY THE RELEVANT SERVICE AUTHORITY MANUAL.
 5. ALL DRAWING DETAILS LIKE PROPOSED: KERB MK - DWG NO: , FOOTPATH, CROSSOVER - DWG NO: 1/3, PRAM-RAM, - DWG NO: SHEET 12/30 AND DWG NO: SHEET 4/30, ENTRY PIT - DWG NO: 17/30, GULLY PIT - DWG NO: STD-DRO1-01/A, - AS THE SPECIFICATION (STANDARD DRAWINGS) AND REQUIREMENTS OF THE CITY OF KALAMUNDA.

PRELIMINARY
UNCHECKED

CONCEPT
ONLY

WARNING
SERVICES AND CADASTRAL BOUNDARY LOCATIONS ARE ONLY INDICATIVE AND MUST NOT BE USED FOR EXCAVATION. THE "ONE CALL 1100" SYSTEM SHALL BE USED TO OBTAIN ACCURATE SERVICE LOCATIONS.

PLAN

REVISION				REVISION			
NO.	BY	DATE	AUTH.	NO.	BY	DATE	AUTH.
0	ISSUED FOR CONCEPT ENGAGEMENT	11/09/18	UP				
1	TWO-THREE DESIGN NOTE ADDED	11/10/18	UP				

city of Kalamunda

ASSET SERVICES

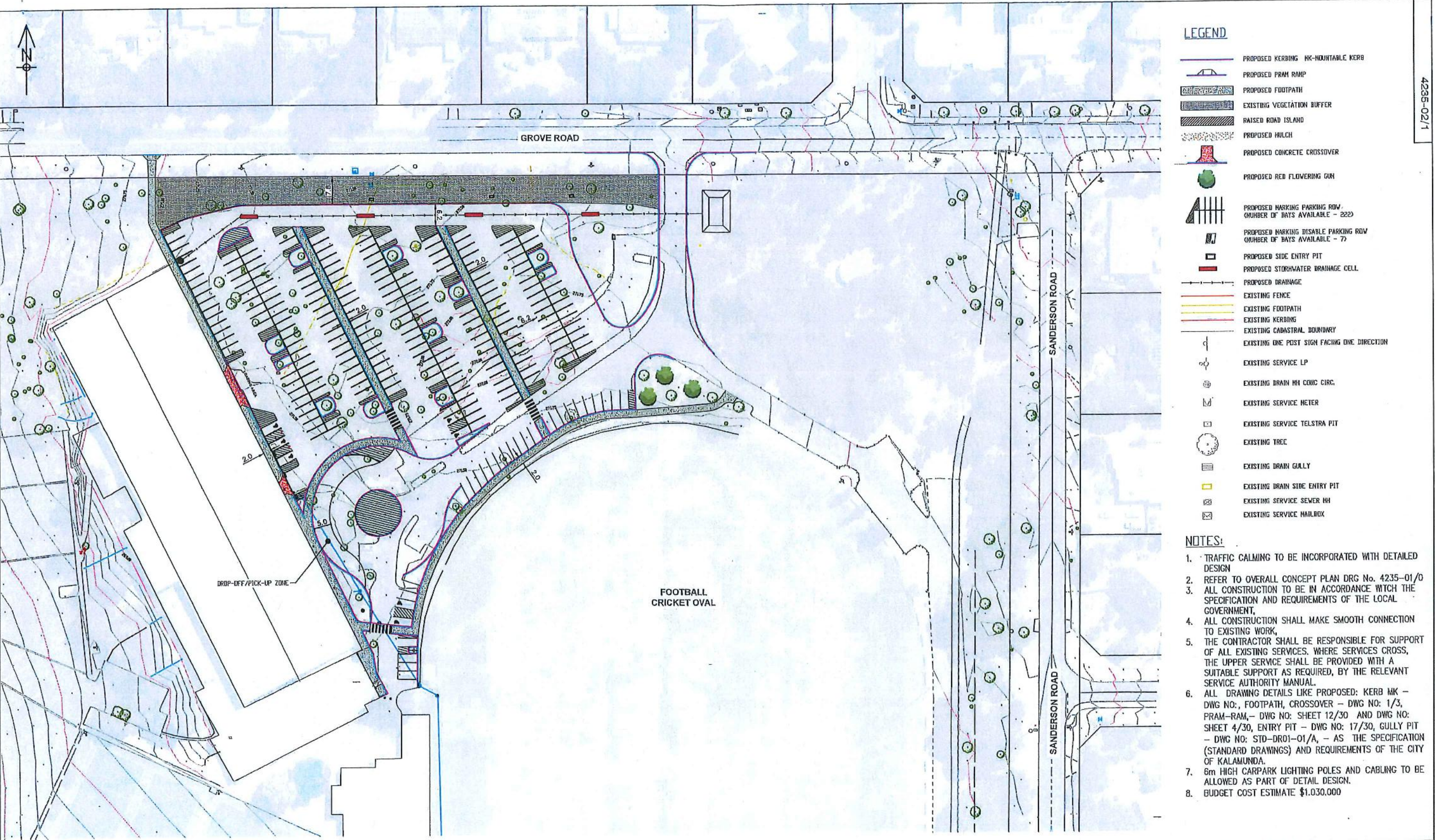
RAY OWEN

PROPOSED CARPARK & DRAINAGE
LESMURDIE

OVERALL ULTIMATE CONCEPT PLAN

4235-01/1

A1



PLAN

PRELIMINARY
UNCHECKED

CONCEPT
ONLY

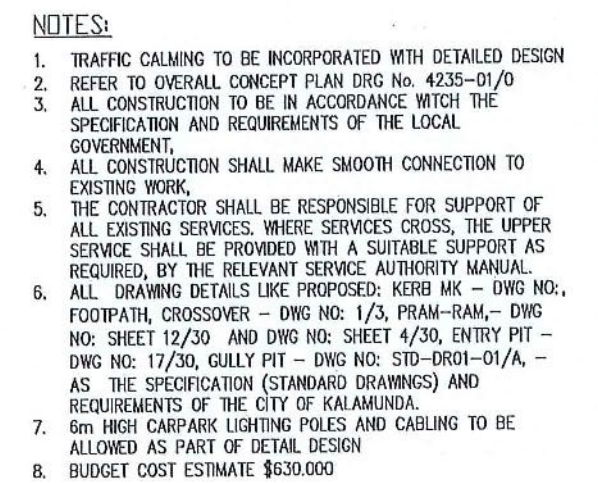
WARNING
SERVICES AND CADASTRAL BOUNDARY
LOCATIONS ARE ONLY INDICATIVE AND
MUST NOT BE USED FOR EXCAVATION.
THE "ONE CALL 1100" SYSTEM SHALL BE
USED TO OBTAIN ACCURATE SERVICE
LOCATIONS.



REVISION				REVISION				REVISION			
Rev.	BY	DATE	AUTH.	Rev.	BY	DATE	AUTH.	Rev.	BY	DATE	AUTH.
0	CC	11/09/18	UP								
1	CC	11/09/18	UP								

SCALE: 1:500	SCALE IN METRES	50 0 5 10 15 20 25	DATE: 01/09/2018	DESIGNED BY: C. CARRILLO	DESIGNED BY: R. KORNHOF	DATE: 28/09/2018	STRUCTURE CODE: 420
DATE: 01/09/2018	DATE: 01/09/2018	DATE: 28/09/2018	DATE: 28/09/2018	DESIGNED BY: C. CARRILLO	DESIGNED BY: R. KORNHOF	DATE: 28/09/2018	STRUCTURE CODE: 420
DATE: 01/09/2018	DATE: 01/09/2018	DATE: 28/09/2018	DATE: 28/09/2018	DESIGNED BY: C. CARRILLO	DESIGNED BY: R. KORNHOF	DATE: 28/09/2018	STRUCTURE CODE: 420

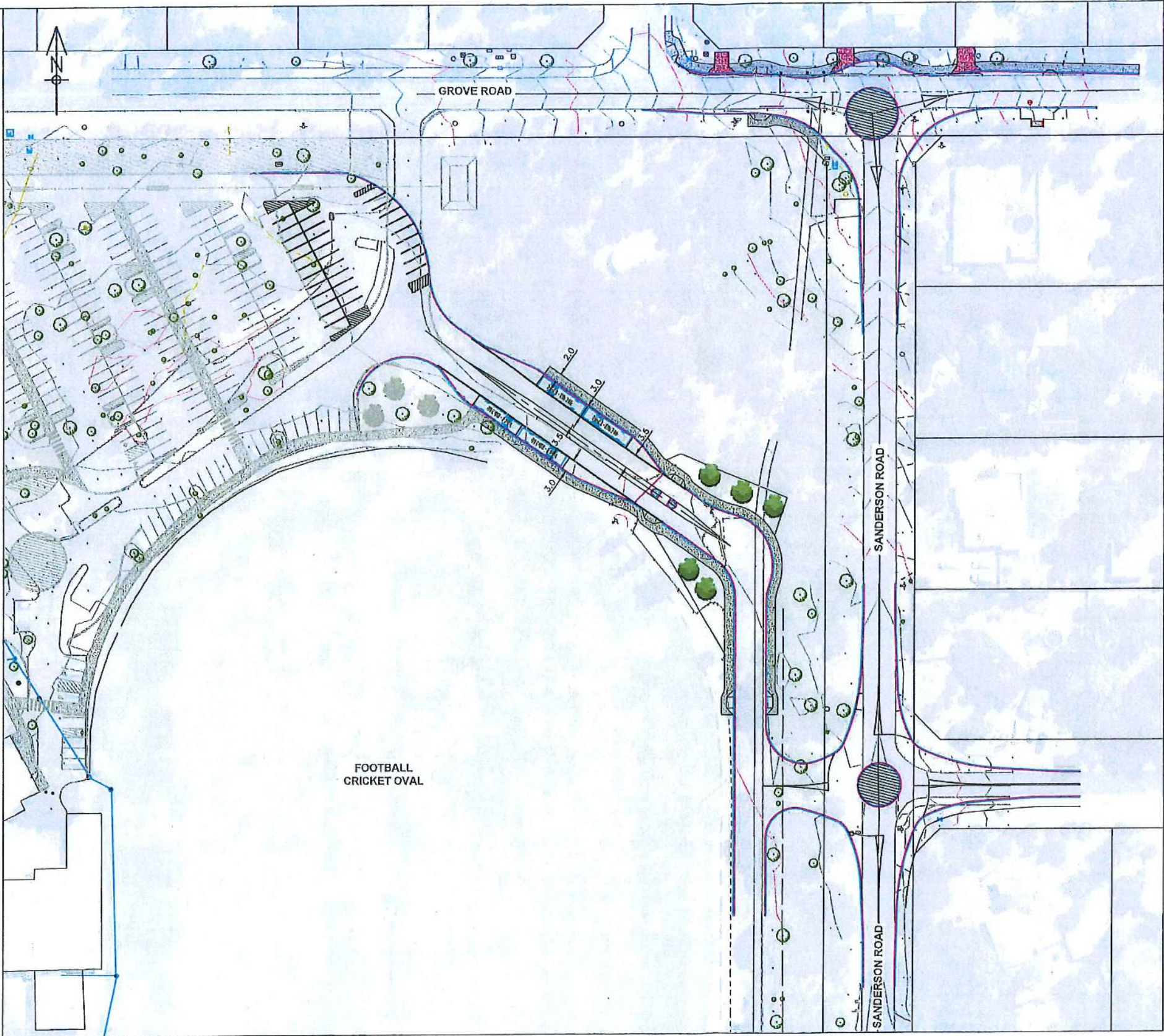
4235-02/1	A1
-----------	----



WARNING
SERVICES AND CADASTRAL BOUNDARY
LOCATIONS ARE ONLY INDICATIVE AND
MUST NOT BE USED FOR EXCAVATION.
THE "ONE CALL 1100" SYSTEM SHALL
USED TO OBTAIN ACCURATE SERVICE
LOCATIONS.

[illegible]





PLAN

LEGEND

- PROPOSED KERBING HK-MOUNTABLE KERB
- PROPOSED PRAM RAMP
- PROPOSED FOOTPATH
- EXISTING VEGETATION BUFFER
- RAISED ROAD ISLAND
- PROPOSED CONCRETE CROSSOVER
- PROPOSED RED FLOWERING GUM
- PROPOSED PARKING PARKING ROW (NUMBER OF BAYS AVAILABLE - 34 and 4 BUS BAYS)
- PROPOSED PARKING DISABLE PARKING ROW (NUMBER OF BAYS AVAILABLE - 6)
- PROPOSED SIDE ENTRY PIT
- PROPOSED STORMWATER DRAINAGE CELL
- PROPOSED DRAINAGE
- EXISTING FENCE
- EXISTING FOOTPATH
- EXISTING KERBING
- EXISTING CADASTRAL BOUNDARY
- EXISTING ONE POST SIGN FACING ONE DIRECTION
- EXISTING SERVICE LP
- EXISTING DRAIN IN CONC. CIRC.
- EXISTING SERVICE METER
- EXISTING SERVICE TELSTRA PIT
- EXISTING TREE
- EXISTING DRAIN GULLY
- EXISTING DRAIN SIDE ENTRY PIT
- EXISTING SERVICE SEWER MH
- EXISTING SERVICE MAILBOX
- PAVEMENT REMOVAL AND VEGETATION REINSTATEMENT

NOTES:

1. TRAFFIC CALMING TO BE INCORPORATED WITH DETAILED DESIGN
2. REFER TO OVERALL CONCEPT PLAN DRG No. 4235-01/0
3. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH THE SPECIFICATION AND REQUIREMENTS OF THE LOCAL GOVERNMENT.
4. ALL CONSTRUCTION SHALL MAKE SMOOTH CONNECTION TO EXISTING WORK.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPORT OF ALL EXISTING SERVICES. WHERE SERVICES CROSS, THE UPPER SERVICE SHALL BE PROVIDED WITH A SUITABLE SUPPORT AS REQUIRED, BY THE RELEVANT SERVICE AUTHORITY MANUAL.
6. ALL DRAWING DETAILS LIKE PROPOSED: KERB MK - DWG NO: 1/3, FOOTPATH, CROSSOVER - DWG NO: 1/3, PRAM-RAM, - DWG NO: SHEET 12/30 AND DWG NO: SHEET 4/30, ENTRY PIT - DWG NO: 17/30, GULLY PIT - DWG NO: STD-DRO1-01/A, - AS THE SPECIFICATION (STANDARD DRAWINGS) AND REQUIREMENTS OF THE CITY OF KALAMUNDA.
7. 6m HIGH CARPARK LIGHTING POLES AND CABLING TO BE ALLOWED AS PART OF DETAIL DESIGN
8. BUDGET COST ESTIMATE \$505,000

PRELIMINARY
UNCHECKED

CONCEPT
ONLY

WARNING
SERVICES AND CADASTRAL BOUNDARY
LOCATIONS ARE ONLY INDICATIVE AND
MUST NOT BE USED FOR EXCAVATION.
THE "ONE CALL 1100" SYSTEM SHALL BE
USED TO OBTAIN ACCURATE SERVICE
LOCATIONS.



No.	REVISION	BY	DATE	APPN	No.
0	ISSUED FOR CONCEPT DISCUSSION	CC	13/04/18	LP	
1	TRAFFIC CALMING HERE ADDED	CC	11/10/18	LP	

REVISION	BY	DATE	APPN	No.

SCALE: 1:500	SCALE BY METRES
0 5 10 15 20 25	

DESIGNED BY: C. CARRILLO	DATE: 01/04/2018
CHECKED BY: C. CARRILLO	DATE: 01/04/2018

APPROVED BY: R. KORNHOF	DATE: 29/04/2018
CHECKED BY: L. PUGHOTA	DATE: 29/04/2018

Drawn No. CI	Sheet No. 420
Doc No.	

**ASSET SERVICES**

RAY OWEN

PROPOSED CARPARK & DRAINAGE
LESMURDIE

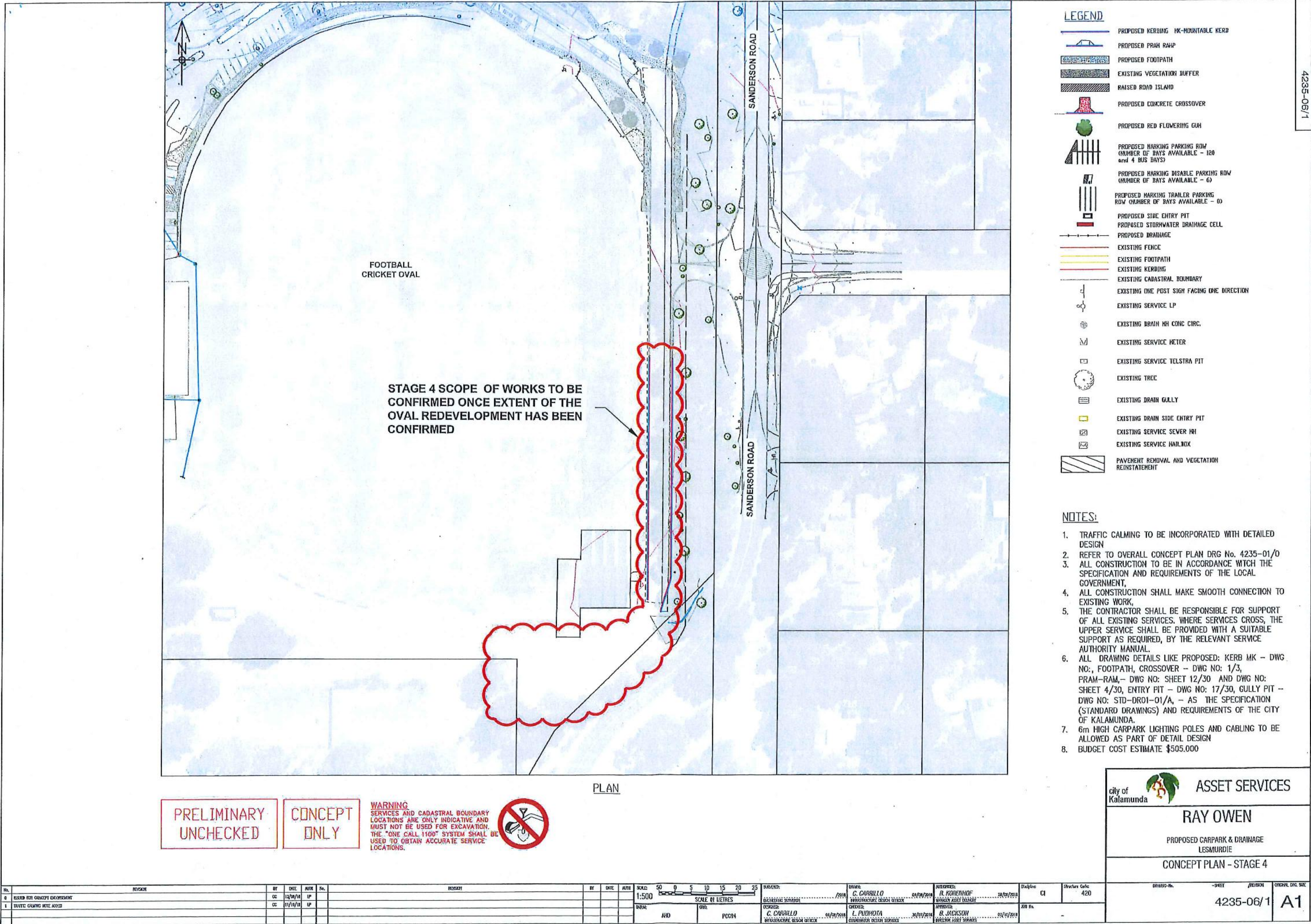
CONCEPT PLAN - STAGE 3
2 OF 2

DATE: 01/04/2018

SHEET: 420

4235-05/1

A1



LOCAL GOVERNMENT ACT 1995

City of Kalamunda

REPEAL OF LOCAL LAW RELATING TO MODEL BY-LAW (OLD REFRIGERATORS AND CABINETS) No. 8

Under the powers conferred by the Local Government Act 1995 and all other powers enabling it, the Council of the City of Kalamunda resolved on ??? to make the following Local Law-

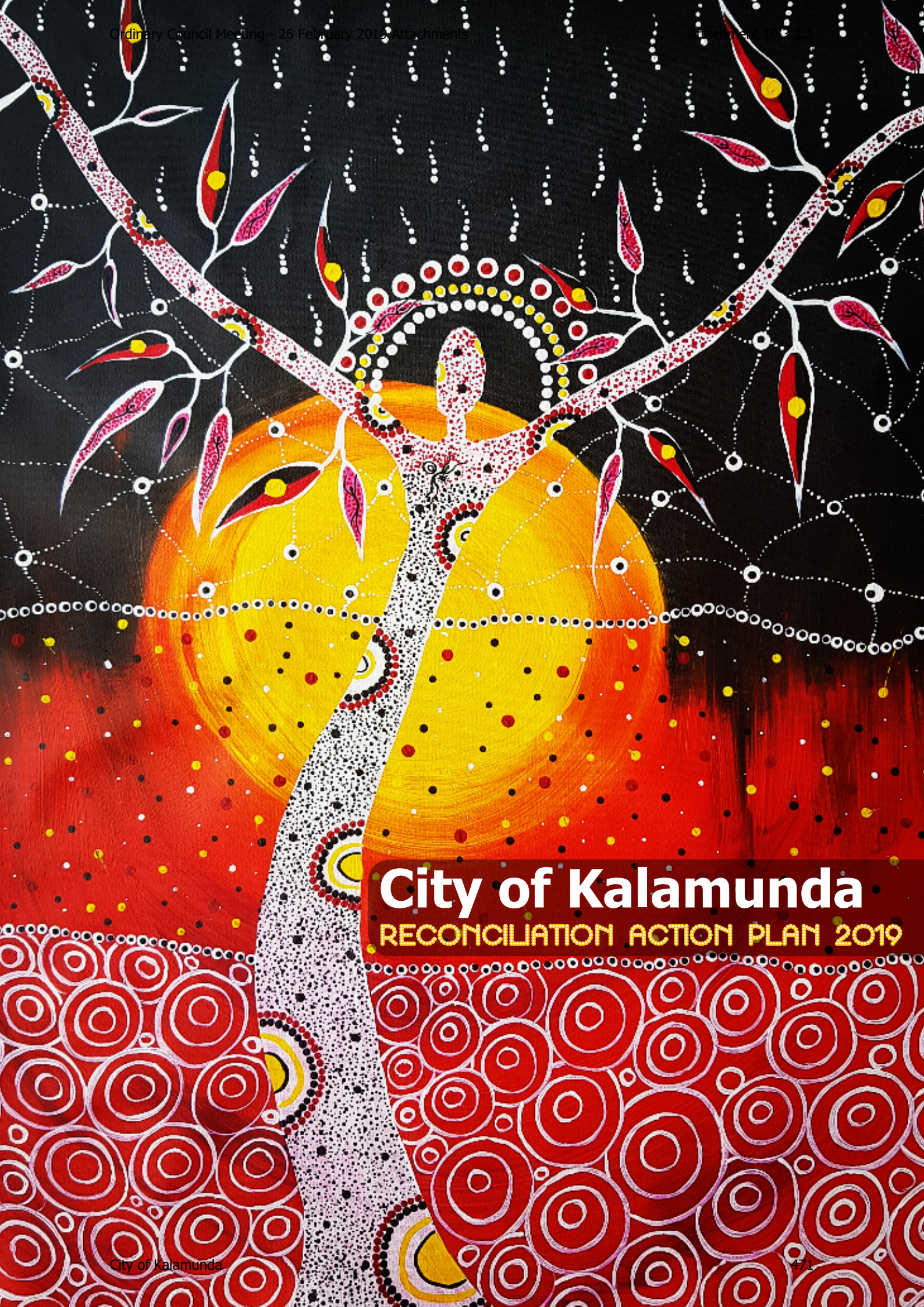
Repeal Local Law relating to "Model By Law (Old Refrigerators and Cabinets) No. 8", published in the *Government Gazette* on 1 May 1962.

Dated ???

The Common Seal of the City of Kalamunda was affixed in the presence of-

John Giardia
Mayor

Rhonda Hardy
Chief Executive Officer



City of Kalamunda

RECONCILIATION ACTION PLAN 2019

ACKNOWLEDGEMENT TO COUNTRY

The City of Kalamunda acknowledges the Traditional Owners of the land, the Whadjuk people of the Noongar nation and pay our respects to Elders past, present and emerging.

Cover page artwork by Nerolie Bynder-Blurton

CONTENTS PAGE

Message from the Mayor	4
Message from the CEO	5
Our Business	6
Our Organisation	6
Towards Partnership	7
Cultural Heritage Management Plan	7
What is a RAP?	8
In keeping with our Strategic Community Plan	8
Respect	10
Relationships	14
Opportunities	17
Governance and Reporting	19
Glossary	20



MESSAGE FROM THE MAYOR

Kaya (Hello). As Mayor of the City of Kalamunda I am proud to be part of delivering the City's Reconciliation Action Plan (RAP).

The Reflect RAP will guide us in our understanding of where we need to progress in our reconciliation journey; what we are doing well to build on as foundations; and continue to develop relationships and seek guidance from our Aboriginal and Torres Strait Islander community.



This plan is our commitment to support our community and staff to build respect, lasting relationships, and generate opportunities to create business synergies. It will also support us when developing events and community activities that will acknowledge and recognise respect and pride for Aboriginal culture and history.

I acknowledge the strength and resilience shown by Aboriginal and Torres Strait Islander peoples, cultures and communities through our histories and celebrate the continued significance of Aboriginal and Torres Strait Islander contributions in shaping a shared sense of unity and identity in our region. I am proud to present this Reflect RAP as Council's first formal commitment to advancing reconciliation.

As your Mayor I look forward to delivering this Plan and along with the community's support we will continue to work together to see the Plan become a success.

Reconciliation brings unity, understanding and respect between Aboriginal and Torres Strait Islanders and non-Indigenous Australians.

John Giardina
Mayor

MESSAGE FROM THE CEO

Kaya (Hello.) Nyung kaditj nidja boodjar Whadjuk Noongar boodjar, nguny wongi baal birdiyah moort kure yeye boorda. (I acknowledge that I work on the grounds of the Whadjuk Noongar people, the traditional owners of this area and pay my respects to their ancestors past present and future.)



This 'Reflect' Reconciliation Action Plan (RAP) represents a significant and symbolic step on the City of Kalamunda ongoing journey towards reconciliation. Kalamunda is an area of great social, cultural and spiritual importance to the Whadjuk Noongar people. For several years, the City of Kalamunda has shown commitment to building relationships with the Aboriginal and Torres Strait Islander community by celebrating National Reconciliation Week and NAIDOC Week. Each year community participation and engagement in these celebrations grows.

Reconciliation Action Plans (RAP) are about organisations from every sector turning good intentions into real actions and rising to the challenge of reconciling Australia. A RAP is a business plan that uses a holistic approach to create meaningful relationships, enhanced respect and promote opportunities with Aboriginal and Torres Strait Islander Australians.

A Reflect RAP is for organisations starting out their journey of reconciliation. The City of Kalamunda's Reflect RAP commits to completing the following actions as this will reinforce that as a Local Government Authority we will have time to build relationships with our community.

Under the RAP, the City will work with our community to solve problems and generate success that is in everyone's best interests. I believe through the actions within this Reconciliation Action Plan we will foster an inclusive culture and increase positive, productive relationships with local Aboriginal communities.

Rhonda Hardy

CEO





OUR BUSINESS

Governing For Our Place and Our People

The City of Kalamunda is a local government. We are focused, then, on our much more than ourselves as a corporation; we are committed to ensuring that people and communities living in our area have optimum wellbeing. In this, we also strive to ensure that the natural environment — the Boodjar — in our area is healthy and strong, and that all infrastructure and buildings meet the needs and aspirations of our residents and other stakeholders.

We also have responsibility for much of the land — the Boodjar — in our area. We are responsible for ensuring that the Boodjar remains as healthy as possible, and that our communities and our visitors are enriched by connection with this Boodjar. Whadjuk people have been the custodians of this Boodjar for millennia, and remain deeply connected to it today, so we want to honour that connection by working in partnership with them in this work of caring for country.

We cover an area of 324 square km. The majority of that area is rural, state forest, or National Park. Around 60,000 people live within our boundaries, with over 75% of them living in the urban suburbs. Over 1,000 people — 1.8% — identified as Aboriginal or Torres Strait Islander in the 2016 Census. In addition, many traditional custodians of our country live in other parts of the Perth Metropolitan area.

OUR ORGANISATION

We employ 304 people. Of these, 0.65% identify as Aboriginal. We hope that in enacting this plan and subsequent Reconciliation Action Plans we will increase this percentage. One of our Councillors is Aboriginal (non-Noongar).





TOWARDS PARTNERSHIP

We govern for all our residents and stakeholders. We are aware that Aboriginal people have experienced a very particular history of race-based exclusion, segregation and injustice on our land. As a result, we acknowledge that quite specific reconciliation work is needed to build a relationship of trust and partnership; a relationship in which the people who so generously welcome us to country come to know that they and thousands of generations of their ancestors are genuinely respected. Our hope and our commitment is that this relationship and respect will provide a foundation for us to stand together with Aboriginal people in their long, courageous journey of healing, re-empowerment and opportunity.

CULTURAL HERITAGE MANAGEMENT PLAN

The RAP will also honour a commitment made in February 2017. At that time, Council endorsed the Hartfield Park Redevelopment Project inclusive of an Aboriginal Cultural Heritage Management Plan requiring the City to enter into a RAP, engaging with the Whadjuk Noongar people and other Noongar consultants.

In doing so we hope we can support Whadjuk Noongar people in their ongoing cultural revival and maintenance and they in turn will help us all in genuinely understanding this land we are on. That is an exciting prospect and we hope that this Reflect RAP will create the foundations for that work. Many of our residents have a thirst for Noongar knowledge of our country and we will all benefit as we work together to build that knowledge.



WHAT IS A RAP?

The City of Kalamunda Reflect RAP outlines the steps to prepare our organisation for Reconciliation. The City's vision for reconciliation is to promote unity, respect and understanding. We aim to create lasting and meaningful relationships, encourage respect, and promote sustainable opportunities for Aboriginal and Torres Strait Islander Australians within our region. The Reflect RAP has four focus areas.

Focus Area 1 **RESPECT**

Through partnerships we can work with all our community to create mutual respect and harmony by:

- Respect for Boodjar
- Respect for Culture
- Acknowledgement of Dispossession
- Creating Public Awareness

Focus Area 2 **RELATIONSHIPS**

The City values more meaningful relationships with the Traditional owners of the land by:

- Community Connections
- Undertaking Events
- Exploring a Local Treaty
- Enhancing Cultural Competence

Focus Area 3 **OPPORTUNITIES**

The City aims to build capacity within the community, to create opportunities for all and ensure equality and diversity within our organisation by:

- Employment Opportunities
- Supporting Business Development
- Creating Opportunities for Young People
- Working Collaboratively

Focus Area 4 **GOVERNANCE AND REPORTING**

The City will continue to reinforce current strategic directions and Reconciliation Australia guidelines by:

- Developing a RAP Reference Group
- Implementation of the Plan

IN KEEPING WITH OUR STRATEGIC COMMUNITY PLAN

Our Reflect RAP will help us realise key aspects of our Strategic Community Plan including:

Our Vision: "Connected Communities, Valuing Nature and Creating our Future Together."

"Our simple guiding principle will be to ensure everything we do will make Kalamunda socially, environmentally and economically sustainable."

In particular it will further our values of:

- Service
- Respect
- Diversity
- Ethics (including honest, open, equitable and responsive leadership)
- Creativity
- Courage
- Prosperity and
- Harmony



Our Priorities

1 Kalamunda Cares and Interacts

Looking after our people and providing our people with social and cultural enjoyment

2 Kalamunda Clean and Green

Delivering environmental sustainability and maintaining the integrity of the natural environment

3 Kalamunda Develops

Supporting our local economy and using our land and assets sustainably, diversely and effectively

4 Kalamunda Leads

Providing good government and leadership

Our hope through this RAP is that Whadjuk, Noongar and other Aboriginal residents and stakeholders will want to stand in partnership with us in ensuring that their people and their Boodjar thrives. We know that can only occur if we take genuine, committed action as outlined in this Plan.

ACTION PLAN FOCUS AREA 1:

RESPECT

1.1 RESPECT FOR BOODJAR

Work together to enhance respect for the Boodjar (life-giving country) we're on; led by Whadjuk knowledge and perspectives.

	RECOMMENDED DELIVERABLE	TIMELINE	RESPONSIBILITY
1.1.1	Identify in partnership with RAP Reference Group, appropriate Whadjuk partners to undertake 'respect for Boodjar' project.	Short Term	Community Services
1.1.2	Develop, together, a 'Respect for Boodjar' Plan that: <ul style="list-style-type: none"> a) Identifies and documents: <ul style="list-style-type: none"> • Sacred or significant sites • Important cultural or historic features of open spaces • Original (i.E. Noongar) names of any localities or sites b) Proposes ideas for: <ul style="list-style-type: none"> • Creating appropriate awareness, understanding and/or celebration of identified sites • Co-naming of identified sites • Bi-lingual signage c) Creates clear implementation plan for 'respect for Boodjar' project. 	Long Term	Asset Planning and Management



ACTION PLAN FOCUS AREA 1:

RESPECT

1.2 RESPECT FOR CULTURE

Enhance visibility of, and respect for, ongoing Whadjuk presence, culture and language.

	RECOMMENDED DELIVERABLE	TIMELINE	RESPONSIBILITY
1.2.1	Fly the Aboriginal flag at all City of Kalamunda Council buildings with flag mast, whenever the Australian flag is being flown.	Ongoing	Customer and Public Relations
1.2.2	Develop public awareness campaign on why the Aboriginal flag is being flown.	Ongoing	Public Relations
1.2.3	Encourage community learning centres and educational institutions to provide Noongar language courses.	Ongoing	Community Development
1.2.4	Work with Reconciliation Reference Group to consider/be consulted on new open spaces, roads, sub-divisions, etc with appropriate and approved Noongar names.	Ongoing	Asset Planning & Management
1.2.5	Encourage staff and Councillors to participate in Aboriginal cultural events including: <ul style="list-style-type: none"> • Reconciliation Week events • NAIDOC Week events 	Ongoing	Public Relations
1.2.6	Promote Reconciliation Week and NAIDOC Week events to Kalamunda residents.	Ongoing	Public Relations
1.2.7	Ensure Noongar culture, art, knowledge and creativity is incorporated into local events.	Ongoing	Public Relations
1.2.8	Include appropriate Acknowledgment to Country at all events hosted by Council (including Citizenship ceremonies) and Welcome to Country at significant Civic events.	Ongoing	Public Relations

ACTION PLAN FOCUS AREA 1:

RESPECT

1.3 ACKNOWLEDGE IMPACTS OF DISPOSSESSION AND NEED FOR HEALING AND RE-EMPOWERMENT

Heighten awareness and acknowledgement of the history of dispossession and its impacts on us today (within Council and local community).

	RECOMMENDED DELIVERABLE	TIMELINE	RESPONSIBILITY
1.3.1	Include in local historical information the facts about and impacts of, dispossession on Whadjuk people.	Long Term	Economic & Tourism Development
1.3.2	Library Services to develop and promote collections on local, state and national history from an Aboriginal and/or reconciliation perspective.	Ongoing	Library Services
1.3.3	Identify healing places within the City.	Long Term	Economic & Tourism Development
1.3.4	Tourism/historical tours to be incorporated into the Tourism Strategy.	Long Term	Economic & Tourism Development



ACTION PLAN FOCUS AREA 1:

RESPECT

1.4 PUBLIC AWARENESS AND INTEREST

Heighten public awareness of, and interest in, Aboriginal culture, history, and current Aboriginal circumstances (including strengths).

	RECOMMENDED DELIVERABLE	TIMELINE	RESPONSIBILITY
1.4.1	Develop, in collaboration with Reconciliation Reference Group, an 'information pack' about Whadjuk, and wider Aboriginal culture, history and current circumstances.	Long Term	Public Relations Economic & Tourism Development Community Development
1.4.2	Provide and promote the 'information pack' via: <ul style="list-style-type: none"> • The Council website and related social media • Local Newspapers • Local Library 	Medium Term	Public Relations Economic & Tourism Development Community Development
1.4.3	Pursue via Western Australian Local Government Association (WALGA) a coordinated local government approach to public engagement in Reconciliation.	Ongoing	Public Relations Community Development
1.4.4	Identify opportunities for interpretive signage that positively highlights Aboriginal connection (both historic and contemporary).	Long Term	Public Relations
1.4.5	Establish an 'Aboriginal Leadership Award' that recognises leadership by local residents or by Aboriginal people who have a positive impact on local Boodjar (land) or community.	Medium	Public Relations

ACTION PLAN FOCUS AREA 2: RELATIONSHIPS

2.1 COMMUNITY CONNECTIONS

Enhance direct connections between Aboriginal and non-Aboriginal residents.

	RECOMMENDED DELIVERABLE	TIMELINE	RESPONSIBILITY
2.1.1	Encourage local community centres, learning centres and agencies to hold 'story circles'.	Ongoing	Economic & Tourism Development Community Development
2.1.2	Identify opportunities for shared experiences at which Aboriginal and non-Aboriginal people can engage together.	Ongoing	All staff
2.1.3	Strongly encourage City of Kalamunda staff to attend all these opportunities.	Ongoing	All staff

2.2 EVENTS

Facilitate and/or arrange events that bring Aboriginal and non-Aboriginal people together. Encourage arts and creativity to promote connection, interest and awareness.

	RECOMMENDED DELIVERABLE	TIMELINE	RESPONSIBILITY
2.2.1	Identify in partnership with the Reconciliation Reference Group, events and festivals that will promote Reconciliation.	Medium Term	Public Relations
2.2.2	Engage with local event organisers to include Aboriginal community connection.	Ongoing	Public Relations
2.2.3	Encourage Staff who organise events and festivals to actively include Aboriginal people as performers, entertainers and public attendees.	Ongoing	Public Relations

ACTION PLAN FOCUS AREA 2:

RELATIONSHIPS

2.3 TREATY

Explore (in collaboration with other Local Governments, and Whadjuk people) a local treaty or equivalent agreement.

	RECOMMENDED DELIVERABLE	TIMELINE	RESPONSIBILITY
2.3.1	Consider, with the Reconciliation Reference Group and other key Elders and leaders, the potential benefits and risks of a local treaty or equivalent agreement.	Long Term	Community Services

2.4 CULTURAL COMPETENCE

Enhance cultural competence within the City of Kalamunda.

	RECOMMENDED DELIVERABLE	TIMELINE	RESPONSIBILITY
2.4.1	Create 'Towards Reconciliation' training opportunities for staff and Councillors, to gain a greater understanding of: <ul style="list-style-type: none"> Cultural issues Impacts of dispossession Keys to enhancing the relationship with Aboriginal residents, visitors and stakeholders 	Ongoing	People Services

2.5 ANTI-DISCRIMINATION STRATEGIES

Promote positive race relations through anti-discrimination strategies.

2.5.1	Workforce Plan includes review of People Services policies and procedures to identify existing anti-discrimination provisions and future needs.	Ongoing	People Services
-------	---	---------	-----------------

ACTION PLAN FOCUS AREA 2:

RELATIONSHIPS

2.6 COMMUNICATION AND CONNECTION

Develop improved communications and connections between Council, Whadjuk people and other Aboriginal and non-Aboriginal residents.

	RECOMMENDED DELIVERABLE	TIMELINE	RESPONSIBILITY
2.6.1	Identify via the Reconciliation Reference Group Aboriginal residents and stakeholders who may be interested in ongoing communications.	Short Term	Public Relations
2.6.2	Identify volunteer opportunities for community to assist with local Noongar activities.	Ongoing	All staff
2.6.3	Develop locally focused connection with Noongar Radio.	Medium Term	Public Relations
2.6.4	Facilitate the establishment of Aboriginal led community workshops.	Medium Term	Public Relations



ACTION PLAN FOCUS AREA 3:

OPPORTUNITIES

3.1 EMPLOYMENT

Significantly increase Aboriginal employment within the City.

	RECOMMENDED DELIVERABLE	TIMELINE	RESPONSIBILITY
3.1.1	Workforce Plan includes an annual review of industry best practise strategies.	Ongoing	People Services
3.1.2	Develop an Aboriginal employment strategy including: <ul style="list-style-type: none"> identifying internal champions identifying appropriate mentors considering an Aboriginal employment target identifying opportunities to assist in Aboriginal-led 'caring for Boodjar' for example environmental/horticultural/park management. 	Ongoing	People Services

3.2 BUSINESS DEVELOPMENT

Support Aboriginal business development.

	RECOMMENDED DELIVERABLE	TIMELINE	RESPONSIBILITY
3.2.1	Establish a relationship with the Noongar Chamber of Commerce to identify opportunities for Aboriginal business development.	Ongoing	Economic & Tourism Development

ACTION PLAN FOCUS AREA 3:

OPPORTUNITIES

3.3 OPPORTUNITIES FOR YOUNG PEOPLE

Contribute to the empowerment of young Aboriginal residents (and emerging leaders).

	RECOMMENDED DELIVERABLE	TIMELINE	RESPONSIBILITY
3.3.1	Seek out and engage with young Aboriginal residents and emerging leaders.	Ongoing	Community Development
3.3.2	Through ongoing support and engagement with young people, provide opportunities for: <ul style="list-style-type: none"> • Connection with Elders • Leadership programs and/or awards • Access to relevant and culturally safe services, clubs, etc. • Sports opportunities • Employment opportunities 	Ongoing	Community Development

3.4 WORK COLLABORATIVELY

Foster genuine 'co-design' - collaborative planning and decision making around policies and practices that particularly impact on Aboriginal stakeholders and residents.

	RECOMMENDED DELIVERABLE	TIMELINE	RESPONSIBILITY
3.4.1	Develop, in collaboration with Aboriginal Stakeholders and residents, clear protocols on 'who can speak' for different issues.	Short Term	Public Relations
3.4.2	Ensure that the Reconciliation Reference Group continues to have a direct and formal relationship with the City of Kalamunda to oversee the development of the RAP and consequent activities.	Ongoing	Public Relations Community Development



ACTION PLAN FOCUS AREA 4:

GOVERNANCE AND REPORTING

4.1 RECONCILIATION REFERENCE GROUP

Establish and maintain an effective Reconciliation Reference Group (RRG) to drive governance of the RAP.

	RECOMMENDED DELIVERABLE	TIMELINE	RESPONSIBILITY
4.1.1	Form a RRG to govern RAP implementation.	Short Term	Public Relations Community Development
4.1.2	Draft a Terms of Reference for the RRG.	Short Term	Public Relations Community Development
4.1.3	Establish Aboriginal and Torres Strait Islander representation on RRG.	Medium Term	Public Relations Community Development

4.2 IMPLEMENTATION

Provide appropriate support for effective implementation of RAP commitments.

	RECOMMENDED DELIVERABLE	TIMELINE	RESPONSIBILITY
4.2.1	Define resource needs for RAP implementation.	Long Term	Public Relations Community Development
4.2.2	Engage senior leaders in the delivery of RAP commitments.	Long Term	Public Relations Community Development
4.2.3	Define appropriate systems and capability to track, measure and report on RAP commitments.	Long Term	Public Relations Community Development

GLOSSARY



The City of Kalamunda will align with Reconciliation Australia's guidelines with a view to consider developing our future Reconciliation Action Plan



City of Kalamunda

2 Railway Road, Kalamunda WA

PO Box 42, Kalamunda 6926

Telephone: (08) 9257 9999

Facsimile: (08) 9293 2715

Email: enquiries@kalamunda.wa.gov.au

www.kalamunda.wa.gov.au



CITY OF KALAMUNDA
STATEMENT OF FINANCIAL ACTIVITY
BY NATURE AND TYPE
FOR THE SEVEN MONTHS ENDED 31 JANUARY 2019



	31/01/2019 YTD Actual (b) \$	31/01/2019 YTD Budget (a) \$	Annual Budget \$	Var. \$ (b)-(a) \$	Var. % (b)-(a)/(b) %
Net current assets at start of financial year - surplus/(deficit)	4,090,357	4,090,357	4,090,357	0	0%
	4,090,357	4,090,357	4,090,357	0	0%
Revenue from operating activities (excluding rates)					
Operating Grants and Subsidies	831,663	988,144	1,707,536	(156,481)	(18.8%)
Contributions, Reimbursements and Donations	345,776	576,091	2,589,973	(230,315)	(66.6%)
Profit on Asset Disposal	36,792	0	0	36,792	100.0%
Fees and Charges	14,309,702	14,412,241	15,759,809	(102,539)	(0.7%)
Interest Earnings	505,295	759,304	1,301,727	(254,009)	(50.3%)
Other Revenue	23,171	46,340	79,473	(23,169)	(100.0%)
Ex Gratia Rates Revenue	123,749	123,749	193,331	0	0.0%
Total (Excluding Rates)	16,176,148	16,905,869	21,631,849	(729,721)	
Expenditure from operating activities					
Employee Costs	(13,929,492)	(14,176,433)	(24,569,193)	246,941	1.8%
Materials and Contracts	(11,482,158)	(12,262,913)	(22,062,365)	780,755	6.8%
Utilities Charges	(1,021,304)	(1,098,944)	(1,884,865)	77,640	7.6%
Depreciation (Non-Current Assets)	(6,522,888)	(6,320,776)	(10,835,774)	(202,112)	(3.1%)
Interest Expenses	(179,554)	(184,737)	(316,697)	5,183	2.9%
Insurance Expenses	(600,430)	(570,800)	(570,800)	(29,630)	(4.9%)
Other Expenditure	(184,286)	(314,051)	(1,696,699)	129,765	70.4%
Total	(33,965,927)	(34,928,654)	(61,936,393)	962,727	
Operating activities excluded					
Depreciation (Non-Current Assets)	6,522,888	6,320,776	10,835,774	202,112	3.1%
(Profit)/Loss on Asset Disposal	9,023	0	0	9,023	100.0%
EMRC Contribution (Non-cash)	0	0	(1,630,348)	0	
Deferred Loan (non-current) FUSC	4,432	(329)	(337)	4,761	107.4%
Movement in Provisions	(273,563)	35,000	773,634	(308,563)	112.8%
Pensioners Deferred Rates Movement	0	0	(33,000)	0	
Total	6,262,781	6,355,447	9,945,723	(92,666)	
Amount attributable to operating activities	(7,436,642)	(7,576,981)	(26,268,464)	140,339	
Investing Activities					
Proceeds from Disposal of Assets	123,214	0	0	123,214	100.0%
Non-Operating Grants, Subsidies and Contributions	1,528,720	187,621	5,571,227	1,341,099	87.7%
Land and Buildings New	(1,556,851)	(1,309,524)	(2,918,140)	(247,327)	15.9%
Land and Buildings Replacement	(364,375)	(968,309)	(2,142,717)	603,934	(165.7%)
Plant and Equipment New	(179,032)	(172,949)	(296,500)	(6,083)	3.4%
Plant and Equipment Replacement	(202,287)	(29,162)	(1,203,500)	(173,125)	85.6%
Furniture and Equipment	(259,992)	(90,302)	(840,514)	(169,690)	65.3%
Infrastructure Assets - Roads New	(49,325)	(1,487,640)	(3,371,282)	1,438,315	(2916.0%)
Infrastructure Assets - Roads Renewal	(509,348)	(2,838,257)	(6,257,573)	2,328,909	(457.2%)
Infrastructure Assets - Drainage New	(122,823)	(111,772)	(254,043)	(11,051)	9.0%
Infrastructure Assets - Drainage Renewal	(327,150)	(707,704)	(1,520,070)	380,554	(116.3%)
Infrastructure Assets - Footpaths New	(383,368)	(371,679)	(824,136)	(11,689)	3.0%
Infrastructure Assets - Footpaths Renewal	(355,895)	(191,391)	(415,375)	(164,504)	46.2%
Infrastructure Assets - Car Parks New	(2,819)	(109,830)	(202,895)	107,011	(3796.1%)
Infrastructure Assets - Car Parks Renewal	(134,593)	(600,620)	(1,282,680)	466,027	(346.3%)
Infrastructure Assets - Parks and Ovals New	(267,303)	(397,307)	(901,418)	130,004	(48.6%)
Infrastructure Assets - Parks and Ovals Renewal	(685,036)	(564,840)	(1,301,249)	(120,196)	17.5%
Infrastructure Assets - Capital Work-in progress	(970,958)	0	(6,257,671)	(970,958)	100.0%
Amounts attributable to investing activities	(4,719,221)	(9,763,665)	(24,418,536)	5,044,444	
Financing Activities					
Repayment of borrowings	(399,041)	(369,153)	(657,818)	(29,888)	(7.5%)
Self-Supporting Loan Principal	23,014	18,475	34,492	4,539	19.7%
Proceeds from new borrowings	0	0	2,520,000	0	
Capital (Developer) - Contributions	1,031,054	0	4,759,393	1,031,054	100.0%
Transfers from cash backed reserves (restricted assets)	365,891	249,081	12,420,744	116,810	31.9%
Transfers to cash backed reserves (restricted assets)	(393,068)	(20,412)	(1,728,069)	(372,656)	(94.8%)
Amounts attributable to financing activities	627,850	(122,009)	17,348,742	749,859	
Surplus / (deficiency) before general rates	(11,528,011)	(17,462,655)	(33,338,258)	5,934,642	
Rate Revenue	35,565,864	36,330,908	36,556,916	(765,044)	(2.2%)
Net current assets at end of the period - surplus/(deficit)	24,037,853	18,868,253	3,218,657	5,169,598	21.5%

CITY OF KALAMUNDA
STATEMENT OF FINANCIAL ACTIVITY
(STATUTORY REPORTING PROGRAM)
FOR THE SEVEN MONTHS ENDED 31 JANUARY 2019



	31/01/2019 YTD Actual (b) \$	31/01/2019 YTD Budget (a) \$	Annual Budget \$	Var. \$ (b)-(a) \$	Var. % (b)-(a)/(b) %
Net current assets at start of financial year					
- surplus/(deficit)	4,090,357	4,090,357	4,090,357	0	0.0%
	<u>4,090,357</u>	<u>4,090,357</u>	<u>4,090,357</u>	<u>0</u>	
Revenue from operating activities					
(excluding rates)					
Governance	3,551	67,340	115,453	(63,789)	(1796.4%)
General Purpose Funding	1,519,160	1,878,143	4,729,671	(358,983)	(23.6%)
Law, Order and Public Safety	326,542	378,060	572,398	(51,518)	(15.8%)
Health	867,825	832,004	885,584	35,821	4.1%
Education and Welfare	37,524	40,537	69,517	(3,013)	(8.0%)
Community Amenities	12,016,760	12,059,933	12,444,246	(43,173)	(0.4%)
Recreation and Culture	1,001,569	1,100,856	1,873,669	(99,287)	(9.9%)
Transport	2,014	17,500	30,000	(15,486)	(768.9%)
Economic Services	153,305	213,395	365,887	(60,090)	(39.2%)
Other Property and Services	247,900	318,101	545,423	(70,201)	(28.3%)
Total (Excluding Rates)	<u>16,176,150</u>	<u>16,905,869</u>	<u>21,631,848</u>	<u>(729,719)</u>	
Expenditure from operating activities					
Governance	(2,213,841)	(2,104,289)	(3,628,522)	(109,552)	(4.9%)
General Purpose Funding	(544,975)	(466,899)	(663,134)	(78,076)	(14.3%)
Law, Order and Public Safety	(1,188,093)	(1,253,585)	(2,122,668)	65,492	5.5%
Health	(896,353)	(1,103,123)	(1,903,278)	206,770	23.1%
Education and Welfare	(256,413)	(300,083)	(494,479)	43,670	17.0%
Community Amenities	(8,064,882)	(8,900,513)	(16,165,563)	835,631	10.4%
Recreation and Culture	(10,975,225)	(12,143,861)	(20,835,600)	1,168,636	10.6%
Transport	(7,939,730)	(7,275,155)	(12,481,674)	(664,575)	(8.4%)
Economic Services	(586,359)	(682,411)	(1,226,485)	96,052	16.4%
Other Property and Services	(1,265,136)	(698,735)	(2,414,991)	(566,401)	(44.8%)
Total	<u>(33,931,007)</u>	<u>(34,928,654)</u>	<u>(61,936,394)</u>	<u>997,647</u>	
Operating activities excluded					
Depreciation (Non-Current Assets)	6,522,888	6,320,776	10,835,774	202,112	3.1%
(Profit)/Loss on Asset Disposal	(25,898)	0	0	(25,898)	100.0%
EMRC Contribution (Non-cash)	0	0	(1,630,348)	0	
Deferred Loan (non-current) FUSC	4,432	(329)	(337)	4,761	107.4%
Movement in Provisions	(273,563)	35,000	773,634	(308,563)	112.8%
Pensioners Deferred Rates Movement	0	0	(33,000)	0	
Total	<u>6,227,860</u>	<u>6,355,447</u>	<u>9,945,723</u>	<u>(127,587)</u>	
Amount attributable to operating activities	<u>(7,436,641)</u>	<u>(7,576,981)</u>	<u>(26,268,466)</u>	<u>140,341</u>	
Investing Activities					
Proceeds from Disposal of Assets	123,214	0	0	123,214	100.0%
Non-operating grants, subsidies and contributions	1,528,720	187,621	5,571,227	1,341,099	87.7%
Land and Buildings New	(1,556,851)	(1,309,524)	(2,918,140)	(247,327)	15.9%
Land and Buildings Replacement	(364,375)	(968,309)	(2,142,717)	603,934	(165.7%)
Plant and Equipment New	(179,032)	(172,949)	(296,500)	(6,083)	3.4%
Plant and Equipment Replacement	(202,287)	(29,162)	(1,203,500)	(173,125)	85.6%
Furniture and Equipment	(259,992)	(90,302)	(840,514)	(169,690)	65.3%
Infrastructure Assets - Roads New	(49,325)	(1,487,640)	(3,371,282)	1,438,315	(2916.0%)
Infrastructure Assets - Roads Renewal	(509,348)	(2,838,257)	(6,257,573)	2,328,909	(457.2%)
Infrastructure Assets - Drainage New	(122,823)	(111,772)	(254,043)	(11,051)	9.0%
Infrastructure Assets - Drainage Renewal	(327,150)	(707,704)	(1,520,070)	380,554	(116.3%)
Infrastructure Assets - Footpaths New	(383,368)	(371,679)	(824,136)	(11,689)	3.0%
Infrastructure Assets - Footpaths Renewal	(355,895)	(191,391)	(415,375)	(164,504)	46.2%
Infrastructure Assets - Car Parks New	(2,819)	(109,830)	(202,895)	107,011	(3796.1%)
Infrastructure Assets - Car Parks Renewal	(134,593)	(600,620)	(1,282,680)	466,027	(346.3%)
Infrastructure Assets - Parks and Ovals New	(267,303)	(397,307)	(901,418)	130,004	(48.6%)
Infrastructure Assets - Parks and Ovals Renewal	(685,036)	(564,840)	(1,301,249)	(120,196)	17.5%
Infrastructure Assets - Capital Work-in progress	(970,958)	0	(6,257,671)	(970,958)	100.0%
Amounts attributable to investing activities	<u>(4,719,221)</u>	<u>(9,763,665)</u>	<u>(24,418,536)</u>	<u>5,044,444</u>	
Financing Activities					
Self-Supporting Loan Principal Income	23,014	18,475	34,492	4,539	19.7%
Proceeds from new borrowings	0	0	2,520,000	0	
Capital (Developer) - Contributions	1,031,054	0	4,759,393	1,031,054	100.0%
Transfers from cash backed reserves (restricted assets)	365,891	249,081	12,420,744	116,810	31.9%
Capital Contributions and Grants Owing	0	0	0	0	
Repayment of borrowings	(399,041)	(369,153)	(657,818)	(29,888)	(7.5%)
Transfers to cash backed reserves (restricted assets)	(393,068)	(20,412)	(1,728,069)	(372,656)	(94.8%)
Amounts attributable to financing activities	<u>627,850</u>	<u>(122,009)</u>	<u>17,348,742</u>	<u>749,859</u>	
Surplus / (deficiency) before general rates	<u>(11,528,011)</u>	<u>(17,462,655)</u>	<u>(33,338,259)</u>	<u>5,934,642</u>	
Rate Revenue	35,565,864	36,330,908	36,556,916	(765,044)	(2.2%)
Net current assets at end of the period - surplus/(deficit)	<u>24,037,853</u>	<u>18,868,253</u>	<u>3,218,657</u>	<u>5,169,598</u>	21.5%

CITY OF KALAMUNDA
NOTES TO AND FORMING PART OF THE FINANCIAL REPORT
FOR THE SEVEN MONTHS ENDED 31 JANUARY 2019



NET CURRENT FUNDING POSITION

Positive=Surplus (Negative=Deficit)

	31/01/2019 \$	31/01/2018 \$
Current Assets		
Cash and Cash Equivalents (Unrestricted)	21,776,094	28,012,161
Cash and Cash Equivalents - Reserves (Restricted)	18,248,345	13,317,272
Receivables - Rates	6,830,134	6,578,745
Receivables - Sundry	809,561	143,163
Receivables -Other	1,878,773	1,664,274
Inventories	113,680	114,523
(* exclude loan receivable)	49,656,587	49,830,139
Less: Current Liabilities		
Payables	(7,370,388)	(7,473,413)
Provisions	(2,908,634)	(3,017,660)
(* exclude loan payable)	(10,279,022)	(10,491,073)
Net Current Asset Position	39,377,565	39,339,066
Add:		
Provision for Long Service Leave	1,634,523	1,538,587
Provision for Annual Leave	1,274,111	1,479,074
Less:		
Cash and Cash Equivalents - Reserves (Restricted)	(18,248,345)	(13,317,272)
Net Current Funding Position	24,037,853	29,039,454
Balance made up of Municipal Surplus	24,037,853	29,039,454

CITY OF KALAMUNDA
STATEMENT OF FINANCIAL ACTIVITY
BY NATURE AND TYPE
FOR THE SIX MONTHS ENDED 31 DECEMBER 2018



	31/12/2018 YTD Actual (b) \$	31/12/2018 YTD Budget (a) \$	Annual Budget \$	Var. \$ (b)-(a) \$	Var. % (b)-(a)/(b) %
Net current assets at start of financial year - surplus/(deficit)	4,090,357	4,090,357	4,090,357	0	0%
	4,090,357	4,090,357	4,090,357	0	0%
Revenue from operating activities (excluding rates)					
Operating Grants and Subsidies	780,871	863,738	1,707,536	(82,867)	(10.6%)
Contributions, Reimbursements and Donations	879,648	499,466	2,589,973	380,182	43.2%
Profit on Asset Disposal	25,950	0	0	25,950	100.0%
Fees and Charges	13,986,236	14,131,579	15,759,809	(145,343)	(1.0%)
Interest Earnings	474,783	650,832	1,301,727	(176,049)	(37.1%)
Other Revenue	14,503	39,720	79,473	(25,217)	(173.9%)
Ex Gratia Rates Revenue	123,749	123,749	193,331	0	0.0%
Total (Excluding Rates)	16,285,740	16,309,084	21,631,849	(23,344)	
Expenditure from operating activities					
Employee Costs	(12,278,547)	(12,293,437)	(24,569,193)	14,890	0.1%
Materials and Contracts	(10,207,272)	(10,538,190)	(22,062,365)	330,918	3.2%
Utilities Charges	(866,391)	(941,952)	(1,884,865)	75,561	8.7%
Depreciation (Non-Current Assets)	(5,583,932)	(5,417,808)	(10,835,774)	(166,124)	(3.0%)
Interest Expenses	(147,801)	(158,346)	(316,697)	10,545	7.1%
Insurance Expenses	(599,367)	(532,935)	(570,800)	(66,432)	(11.1%)
Other Expenditure	(154,818)	(276,408)	(1,696,699)	121,590	78.5%
Total	(29,883,943)	(30,159,076)	(61,936,393)	275,133	
Operating activities excluded					
Depreciation (Non-Current Assets)	5,583,932	5,417,808	10,835,774	166,124	3.0%
(Profit)/Loss on Asset Disposal	19,865	0	0	19,865	100.0%
EMRC Contribution (Non-cash)	0	0	(1,630,348)	0	
Deferred Loan (non-current) FUSC	2,132	(329)	(337)	2,461	115.4%
Movement in Provisions	(123,866)	35,000	773,634	(158,866)	128.3%
Pensioners Deferred Rates Movement	0	0	(33,000)	0	
Total	5,482,063	5,452,479	9,945,723	29,584	
Amount attributable to operating activities	(4,025,784)	(4,307,156)	(26,268,464)	281,373	
Investing Activities					
Proceeds from Disposal of Assets	109,698	0	0	109,698	100.0%
Non-Operating Grants, Subsidies and Contributions	1,136,128	160,818	5,571,227	975,310	85.8%
Land and Buildings New	(1,271,964)	(993,268)	(2,918,140)	(278,696)	21.9%
Land and Buildings Replacement	(309,202)	(753,689)	(2,142,717)	444,487	(143.8%)
Plant and Equipment New	(87,600)	(148,242)	(296,500)	60,642	(69.2%)
Plant and Equipment Replacement	(202,287)	(24,996)	(1,203,500)	(177,291)	87.6%
Furniture and Equipment	(201,863)	(84,721)	(840,514)	(117,142)	58.0%
Infrastructure Assets - Roads New	(40,258)	(1,117,605)	(3,371,282)	1,077,347	(2676.1%)
Infrastructure Assets - Roads Renewal	(500,549)	(2,165,754)	(6,257,573)	1,665,205	(332.7%)
Infrastructure Assets - Drainage New	(124,045)	(83,829)	(254,043)	(40,216)	32.4%
Infrastructure Assets - Drainage Renewal	(297,614)	(558,730)	(1,520,070)	261,116	(87.7%)
Infrastructure Assets - Footpaths New	(383,368)	(282,723)	(824,136)	(100,645)	26.3%
Infrastructure Assets - Footpaths Renewal	(323,970)	(147,315)	(415,375)	(176,655)	54.5%
Infrastructure Assets - Car Parks New	(2,404)	(91,338)	(202,895)	88,934	(3700.0%)
Infrastructure Assets - Car Parks Renewal	(80,492)	(465,164)	(1,282,680)	384,672	(477.9%)
Infrastructure Assets - Parks and Ovals New	(219,011)	(298,290)	(901,418)	79,279	(36.2%)
Infrastructure Assets - Parks and Ovals Renewal	(526,284)	(429,885)	(1,301,249)	(96,399)	18.3%
Infrastructure Assets - Capital Work-in progress	(925,029)	0	(6,257,671)	(925,029)	100.0%
Amounts attributable to investing activities	(4,250,114)	(7,484,731)	(24,418,536)	3,234,617	
Financing Activities					
Repayment of borrowings	(285,595)	(328,898)	(657,818)	43,303	15.2%
Self-Supporting Loan Principal	21,837	17,243	34,492	4,594	21.0%
Proceeds from new borrowings	0	0	2,520,000	0	
Capital (Developer) - Contributions	479,308	0	4,759,393	479,308	100.0%
Transfers from cash backed reserves (restricted assets)	344,964	213,498	12,420,744	131,466	38.1%
Transfers to cash backed reserves (restricted assets)	(387,971)	(17,496)	(1,728,069)	(370,475)	(95.5%)
Amounts attributable to financing activities	172,543	(115,653)	17,348,742	288,196	
Surplus / (deficiency) before general rates	(8,103,353)	(11,907,540)	(33,338,258)	3,804,185	
Rate Revenue	35,549,709	36,265,536	36,556,916	(715,827)	(2.0%)
Net current assets at end of the period - surplus/(deficit)	27,446,356	24,357,996	3,218,657	3,088,358	11.3%

CITY OF KALAMUNDA
STATEMENT OF FINANCIAL ACTIVITY
(STATUTORY REPORTING PROGRAM)
FOR THE SIX MONTHS ENDED 31 DECEMBER 2018



	31/12/2018 YTD Actual (b) \$	31/12/2018 YTD Budget (a) \$	Annual Budget \$	Var. \$ (b)-(a) \$	Var. % (b)-(a)/(b) %
Net current assets at start of financial year					
- surplus/(deficit)	4,090,357	4,090,357	4,090,357	0	0.0%
Revenue from operating activities	4,090,357	4,090,357	4,090,357	0	
(excluding rates)					
Governance	2,758	57,720	115,453	(54,962)	(1992.8%)
General Purpose Funding	1,485,349	1,643,796	4,729,671	(158,447)	(10.7%)
Law, Order and Public Safety	246,278	358,666	572,398	(112,388)	(45.6%)
Health	865,041	820,996	885,584	44,045	5.1%
Education and Welfare	32,969	34,746	69,517	(1,777)	(5.4%)
Community Amenities	11,928,903	11,976,144	12,444,246	(47,241)	(0.4%)
Recreation and Culture	759,107	946,448	1,873,669	(187,341)	(24.7%)
Transport	514	15,000	30,000	(14,486)	(2818.3%)
Economic Services	131,879	182,910	365,887	(51,031)	(38.7%)
Other Property and Services	832,943	272,658	545,423	560,285	67.3%
Total (Excluding Rates)	16,285,741	16,309,084	21,631,848	(23,343)	
Expenditure from operating activities					
Governance	(1,933,718)	(1,820,848)	(3,628,522)	(112,870)	(5.8%)
General Purpose Funding	(508,694)	(430,214)	(663,134)	(78,480)	(15.4%)
Law, Order and Public Safety	(1,044,624)	(1,069,400)	(2,116,668)	24,776	2.4%
Health	(789,338)	(951,522)	(1,903,278)	162,184	20.5%
Education and Welfare	(230,128)	(262,975)	(494,479)	32,847	14.3%
Community Amenities	(7,106,166)	(7,651,612)	(16,165,563)	545,446	7.7%
Recreation and Culture	(9,870,448)	(10,446,890)	(20,841,600)	576,442	5.8%
Transport	(6,874,005)	(6,240,472)	(12,481,674)	(633,533)	(9.2%)
Economic Services	(506,201)	(585,675)	(1,226,485)	79,474	15.7%
Other Property and Services	(985,699)	(699,468)	(2,414,991)	(286,231)	(29.0%)
Total	(29,849,021)	(30,159,076)	(61,936,394)	310,055	
Operating activities excluded					
Depreciation (Non-Current Assets)	5,583,932	5,417,808	10,835,774	166,124	3.0%
(Profit)/Loss on Asset Disposal	(15,056)	0	0	(15,056)	100.0%
EMRC Contribution (Non-cash)	0	0	(1,630,348)	0	
Deferred Loan (non-current) FUSC	2,132	(329)	(337)	2,461	115.4%
Movement in Provisions	(123,866)	35,000	773,634	(158,866)	128.3%
Pensioners Deferred Rates Movement	0	0	(33,000)	0	
Total	5,447,142	5,452,479	9,945,723	(5,337)	
Amount attributable to operating activities	(4,025,782)	(4,307,156)	(26,268,466)	281,375	
Investing Activities					
Proceeds from Disposal of Assets	109,698	0	0	109,698	100.0%
Non-operating grants, subsidies and contributions	1,136,128	160,818	5,571,227	975,310	85.8%
Land and Buildings New	(1,271,964)	(993,268)	(2,918,140)	(278,696)	21.9%
Land and Buildings Replacement	(309,202)	(753,689)	(2,142,717)	444,487	(143.8%)
Plant and Equipment New	(87,600)	(148,242)	(296,500)	60,642	(69.2%)
Plant and Equipment Replacement	(202,287)	(24,996)	(1,203,500)	(177,291)	87.6%
Furniture and Equipment	(201,863)	(84,721)	(840,514)	(117,142)	58.0%
Infrastructure Assets - Roads New	(40,258)	(1,117,605)	(3,371,282)	1,077,347	(2676.1%)
Infrastructure Assets - Roads Renewal	(500,549)	(2,165,754)	(6,257,573)	1,665,205	(332.7%)
Infrastructure Assets - Drainage New	(124,045)	(83,829)	(254,043)	(40,216)	32.4%
Infrastructure Assets - Drainage Renewal	(297,614)	(558,730)	(1,520,070)	261,116	(87.7%)
Infrastructure Assets - Footpaths New	(383,368)	(282,723)	(824,136)	(100,645)	26.3%
Infrastructure Assets - Footpaths Renewal	(323,970)	(147,315)	(415,375)	(176,655)	54.5%
Infrastructure Assets - Car Parks New	(2,404)	(91,338)	(202,895)	88,934	(3700.0%)
Infrastructure Assets - Car Parks Renewal	(80,492)	(465,164)	(1,282,680)	384,672	(477.9%)
Infrastructure Assets - Parks and Ovals New	(219,011)	(298,290)	(901,418)	79,279	(36.2%)
Infrastructure Assets - Parks and Ovals Renewal	(526,284)	(429,885)	(1,301,249)	(96,399)	18.3%
Infrastructure Assets - Capital Work-in progress	(925,029)	0	(6,257,671)	(925,029)	100.0%
Amounts attributable to investing activities	(4,250,114)	(7,484,731)	(24,418,536)	3,234,617	
Financing Activities					
Self-Supporting Loan Principal Income	21,837	17,243	34,492	4,594	21.0%
Proceeds from new borrowings	0	0	2,520,000	0	
Capital (Developer) - Contributions	479,308	0	4,759,393	479,308	100.0%
Transfers from cash backed reserves (restricted assets)	344,964	213,498	12,420,744	131,466	38.1%
Capital Contributions and Grants Owing	0	0	0	0	
Repayment of borrowings	(285,595)	(328,898)	(657,818)	43,303	15.2%
Transfers to cash backed reserves (restricted assets)	(387,971)	(17,496)	(1,728,069)	(370,475)	(95.5%)
Amounts attributable to financing activities	172,542	(115,653)	17,348,742	288,196	
Surplus / (deficiency) before general rates	(8,103,353)	(11,907,540)	(33,338,259)	3,804,186	
Rate Revenue	35,549,709	36,265,536	36,556,916	(715,827)	(2.0%)
Net current assets at end of the period - surplus/(deficit)	27,446,356	24,357,996	3,218,657	3,088,359	11.3%

CITY OF KALAMUNDA
NOTES TO AND FORMING PART OF THE FINANCIAL REPORT
FOR THE SIX MONTHS ENDED 31 DECEMBER 2018



NET CURRENT FUNDING POSITION

Positive=Surplus (Negative=Deficit)

	31/12/2018 \$	31/12/2017 \$
Current Assets		
Cash and Cash Equivalents (Unrestricted)	23,041,095	29,698,863
Cash and Cash Equivalents - Reserves (Restricted)	18,264,175	13,312,970
Receivables - Rates	8,287,927	7,836,626
Receivables - Sundry	518,438	99,120
Receivables -Other	2,829,392	2,083,297
Inventories	103,169	109,530
(* exclude loan receivable)	53,044,196	53,140,406
Less: Current Liabilities		
Payables	(7,333,664)	(7,306,730)
Provisions	(3,058,330)	(3,212,503)
(* exclude loan payable)	(10,391,994)	(10,519,233)
Net Current Asset Position	42,652,202	42,621,173
Add:		
Provision for Long Service Leave	1,623,871	1,546,556
Provision for Annual Leave	1,434,459	1,665,947
Less:		
Cash and Cash Equivalents - Reserves (Restricted)	(18,264,175)	(13,312,970)
Net Current Funding Position	27,446,357	32,520,706
Balance made up of Municipal Surplus	27,446,357	32,520,706

CITY OF KALAMUNDA**SUMMARY OF OUTSTANDING RATES****FOR THE PERIOD ENDED 31 DECEMBER 2018****Rates Outstanding Debtors**

	3rd Previous Year + Outstanding	2nd Previous Year Outstanding	Previous Year Outstanding	Current Outstanding	Total Outstanding	Previous Year Total Outstanding
30-Jun-18		Balance Forward			\$2,048,010	\$1,413,452
31-Jul-18	\$533,913.35	\$251,718.55	\$1,086,267.97	\$31,926,450.22	\$33,798,350.09	\$32,382,830.26
31-Aug-18	\$530,731.22	\$238,860.53	\$753,974.94	\$18,030,233.51	\$19,553,800.20	\$19,230,682.84
30-Sep-18	\$527,248.36	\$232,952.41	\$662,625.00	\$17,042,123.41	\$18,464,949.18	\$17,603,166.06
31-Oct-18	\$520,294.63	\$225,518.73	\$563,584.86	\$13,693,359.86	\$15,002,758.08	\$14,914,997.96
30-Nov-18	\$514,614.36	\$209,760.93	\$490,277.54	\$12,112,516.07	\$13,327,168.90	\$13,353,964.59
31-Dec-18	\$511,830.87	\$203,232.47	\$465,032.82	\$7,689,103.41	\$8,869,199.57	\$8,226,887.75
31-Jan-19					\$0.00	\$6,964,609.49
28-Feb-19					\$0.00	\$3,468,662.49
31-Mar-19					\$0.00	\$2,889,268.43
30-Apr-19					\$0.00	\$2,626,795.46
31-May-19					\$0.00	\$2,531,157.96
30-Jun-19					\$0.00	\$2,048,009.53

Rates Outstanding as at 30/06/2018**\$2,048,010****Rate Levied 2018/19**

\$36,333,316

Interim 2018/19

\$455,378

Back Rates

\$27,403

Total Levies To Date for 2018/19**\$36,816,097**

Total Collectable

\$38,864,107

Total Collected to date

\$29,994,907

Total Rates Outstanding

\$8,869,200

Current Deferred Rates Amt (from Rate Reports)

\$ 584,269**Total Rates amount to be collected not including deferred****\$8,284,931**

% of Rates Outstanding :

21.64%

% of Rates Collected :

78.36%

Chq/EFT	Date	Name	Description	Amount
1324	03/12/2018	WESTERN AUSTRALIAN TREASURY CORPORATION	LOAN NO. 214 INTEREST PAYMENT	5878.99
1325	04/12/2018	LES MILLS ASIA PACIFIC INDUSTRIES	MONTHLY LICENCE FEE	1284.42
1326	06/12/2018	FINES ENFORCEMENT REGISTRY	FINES ENFORCEMENT REGISTRY	2476.50
1327	10/12/2018	IINET TECHNOLOGIES PTY LTD	INTERNET ACCESS	1009.78
1328	10/12/2018	FLEETCARE PTY LTD	STAFF CONTRIBUTIONS TO NOVATED / OPERATING LEASING	4057.95
1329	12/12/2018	AUSTRALIAN TAXATION OFFICE	TAXATION	209632.90
1330	18/12/2018	COMMONWEALTH BANK - BUSINESS CARD	BUSINESS CORPORATE CARD - VARIOUS COSTS GENERAL COUNCEL & EXECUTIVE ADVISOR, GOVERNANCE & LEGAL SERVICES - \$513.20 PROCUREMENT SPECIALIST - \$219.23 PROCUREMENT & FINANCE OFFICER - \$4817.93 RECREATION FACILITIES TEAM LEADER - \$118.80 DIRECTOR ASSET SERVICES - \$465.00 FUNCTIONS ASSISTANT - \$1820.42 FUNCTIONS CO-ORDINATOR - \$1058.84 MANAGER PEOPLE SERVICES - \$3601.43 CO-ORDINATOR LIBRARY SERVICES - \$1891.56 MANAGER CUSTOMER & PUBLIC RELATIONS - \$1290.49 SUPERVISOR FACILITY MAINTENANCE - \$101.30	15898.20
1331	21/12/2018	AUSTRALIAN TAXATION OFFICE	TAXATION	212946.18
EFT66909	13/12/2018	ADRIAN & SUZANNE VAN DEN AVOORT	RATES REFUND	100.45
EFT66910	13/12/2018	WEX AUSTRALIA PTY LTD - WRIGHT EXPRESS FUEL CARDS AUSTRALIA LTD	FUEL - PERIOD ENDING 10 DECEMBER 2018	2793.09

Chq/EFT	Date	Name	Description	Amount
EFT66911	13/12/2018	MR POT PLANTS	POT PLANT HIRE FOR HOUSING EXPO 2018 AT KALAMUNDA PERFORMING ARTS CENTRE	874.50
EFT66912	13/12/2018	NEVERFAIL SPRINGWATER LTD (KALA LIB)	BOTTLED WATER SUPPLIES / MAINTENANCE FOR KALAMUNDA LIBRARY	37.85
EFT66913	13/12/2018	LOCAL GOVERNMENT PROFESSIONAL AUSTRALIA	EARLY BIRD REGISTRATION FOR THE 2019 AUSTRALASIAN MANAGEMENT CHALLENGE	5720.00
EFT66914	13/12/2018	KALAMUNDA GLASS & WINDSCREENS ON WHEELS	SUPPLY & FIT TOUGHENED CLEAR GLASS TO SQUASH COURT 3 AT HARTFIELD PARK RECREATION CENTRE	26939.74
EFT66915	13/12/2018	CARDNO (WA) PTY LTD	UNDERTAKE STRUCTURAL AND MAINTENANCE VISUAL CONDITION ASSESSMENT OF COMMUNICATION TOWERS	8635.00
EFT66916	13/12/2018	PAUL'S BUS COMPANY PTY LTD	SHUTTLE BUS HIRE FOR SKATE AT STIRK PARK EVENT	792.00
EFT66917	13/12/2018	CABCHARGE AUSTRALIA LIMITED	CABCHARGE FEES	54.60
EFT66918	13/12/2018	DOT ULIJN (DOT BLASZCZAK)	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18	35.70
EFT66919	13/12/2018	CARLISLE EVENTS HIRE PTY LTD	EQUIPMENT HIRE OF DISPLAY BOARDS FOR INNOVATIVE HOUSING EXPO STALLHOLDERS	550.00
EFT66920	13/12/2018	THOMAS HOUSTON FRASER	FOOTPATH DEPOSIT REFUND	700.00
EFT66921	13/12/2018	GERALDINE SUSAN SMAILES	SUPPLY OF 2 CAKES FOR THANK A VOLUNTEER DAY 2018	180.00
EFT66922	13/12/2018	WENDY ANNE PEARCE	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18	70.00
EFT66923	13/12/2018	ANTONINO & ROSA CANNAVO	FOOTPATH DEPOSIT REFUND	500.00
EFT66924	13/12/2018	MAZENOD COLLEGE	CONTRIBUTION FOR CHRISTMAS FESTIVAL EVENT 2018	2000.00

Chq/EFT	Date	Name	Description	Amount
EFT66925	13/12/2018	BARBARA WOODHEAD	PLANNING APPLICATION FEE REFUND	132.91
EFT66926	13/12/2018	IAN HARROWER	PLANNING APPLICATION FEE REFUND	132.91
EFT66927	13/12/2018	ROBYN BEARDSSELL	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18	70.00
EFT66928	13/12/2018	GARY KERR	VEHICLE REPAIRS REIMBURSEMENT - DAMAGED INCURRED DURING VERGE SLASHING	420.00
EFT66929	13/12/2018	KASSETT PTY LTD	FOOTPATH DEPOSIT REFUNDS	3100.00
EFT66930	13/12/2018	KALAMUNDA RSL SUB BRANCH	DONATION TO MEMORIAL CONCERT HELD 18/11/18	1000.00
EFT66931	13/12/2018	SPECTRUM ARTS	STAGE 2 PAYMENT - SEATING AT FEDERATION GARDENS FROM NATURAL LOGS FROM HARTFIELD PARK RESERVE	5500.00
EFT66932	13/12/2018	JOHN LOMAS	PART DOG REGISTRATION FEE REFUND	25.83
EFT66933	13/12/2018	ZANTHORREA NURSERY	PLANT GIFTS FOR INNOVATIVE HOUSING EXPO PRESENTERS	48.60
EFT66934	13/12/2018	GILL BAXTER	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18	24.50
EFT66935	13/12/2018	RAYMOND J & LILLIAN M WINNING	RATES REFUND	941.99
EFT66936	13/12/2018	PAUL H & DEBORAH L NORDHOFF	RATES REFUND	448.01
EFT66937	13/12/2018	MICHAEL J & LYNETTE C DWYER	RATES REFUND	520.74
EFT66938	13/12/2018	PIETER BAARSPUL	STAGE 2 PAYMENT - SEATING AT FEDERATION GARDENS, USING NATURAL LOGS FROM HARTFIELD PARK RESERVE	5000.00
EFT66939	13/12/2018	JURG KONRAD HUNZIKER	DESIGN ADVISORY COMMITTEE CONSULTANT SERVICE - FEE CLAIM	800.00
EFT66940	13/12/2018	DOUGLAS N & SUSAN J WHITING	RATES REFUND	440.57
EFT66941	13/12/2018	KNACK SOLUTIONS PTY LTD	FOOTPATH DEPOSIT REFUND	700.00
EFT66942	13/12/2018	AUSTRALIAN SERVICES UNION	PAYROLL DEDUCTIONS	71.70
EFT66943	13/12/2018	CITY OF KALAMUNDA STAFF SOCIAL CLUB	PAYROLL DEDUCTIONS & CONTRIBUTION TO SOCIAL CLUB	16150.00

Chq/EFT	Date	Name	Description	Amount
EFT66944	13/12/2018	CHILD SUPPORT AGENCY	PAYROLL DEDUCTIONS	775.49
EFT66945	13/12/2018	AUSTRALIA POST	POSTAL EXPENSES / COUNTER BILLPAY TRANSACTION FEES	12528.91
EFT66946	13/12/2018	BUNNINGS BUILDING SUPPLIES	HARDWARE SUPPLIES FOR VARIOUS LOCATIONS	1590.36
EFT66947	13/12/2018	COVS PARTS PTY LTD	PLANT / VEHICLE PARTS	906.45
EFT66948	13/12/2018	LANDGATE	LAND ENQUIRIES FOR VARIOUS LOCATIONS	257.00
EFT66949	13/12/2018	KALAMUNDA AUTO ELECTRICS	PLANT / VEHICLE PARTS	3578.30
EFT66950	13/12/2018	MCLEODS BARRISTERS & SOLICITORS	LEGAL EXPENSES	1352.50
EFT66951	13/12/2018	CLEANAWAY	WASTE / RECYCLING & BULK BIN DISPOSAL SERVICES FEES	262715.80
EFT66952	13/12/2018	WALKERS HARDWARE (MITRE 10)	HARDWARE SUPPLIES	1217.58
EFT66953	13/12/2018	MCKAY EARTHMOVING PTY LTD	PLANT EQUIPMENT AND OPERATOR HIRE FOR VARIOUS LOCATIONS, LEACH DRAINS AT PICKERING BROOK SPORTS CLUB & PUMP OUT SEPTIC TANKS AT FALLS ROAD FARM	40174.75
EFT66954	13/12/2018	BORAL CONSTRUCTION MATERIALS GROUP	ROAD MATERIALS FOR VARIOUS LOCATIONS	6108.75
EFT66955	13/12/2018	ZIPFORM PTY LTD	PRINTING OF 3RD RATES INSTALMENT NOTICES	4011.55
EFT66956	13/12/2018	VODAFONE HUTCHISON AUSTRALIA PTY LTD	COMMUNICATION EXPENSES FOR EMERGENCY SERVICES - DECEMBER 2018 & A CREDIT FOR CANCELLED SERVICE	672.49
EFT66957	13/12/2018	FASTA COURIERS	COURIER FEES	656.49
EFT66958	13/12/2018	BCITF	LEVY FEE - NOVEMBER 2018	8002.44
EFT66959	13/12/2018	THE WATERSHED WATER SYSTEMS	RETICULATION PARTS FOR VARIOUS RESERVES	2931.15
EFT66960	13/12/2018	SG ENVIRO	SEPTIC / GREASE TANK CLEAN OUT SERVICES AT VARIOUS LOCATIONS	2490.00

Chq/EFT	Date	Name	Description	Amount
EFT66961	13/12/2018	MAJOR MOTORS PTY LTD	PLANT / VEHICLE PARTS	240.90
EFT66962	13/12/2018	ALSCO LINEN SERVICE	LINEN HIRE / LAUNDRY SERVICES / CLEANING SUPPLIES	1443.50
EFT66963	13/12/2018	BRADOCK PODIATRY SERVICES PTY LTD	PODIATRY SERVICES AT JACK HEALEY CENTRE	539.51
EFT66964	13/12/2018	LINDLEY CONTRACTING	PLUMBING REPAIRS / MAINTENANCE FOR VARIOUS LOCATIONS	2222.00
EFT66965	13/12/2018	SYNERGY	POWER CHARGES	124526.75
EFT66966	13/12/2018	STEWART & HEATON CLOTHING CO PTY LTD	FIRE PROTECTION WEAR / SUPPLIES	175.90
EFT66967	13/12/2018	GRONBEK SECURITY	SECURITY KEY SERVICES TO VARIOUS LOCATIONS	55.68
EFT66968	13/12/2018	GRIMES CONTRACTING PTY LTD	CONTRACTOR BUILDING MAINTENANCE FOR VARIOUS BUILDINGS	2590.59
EFT66969	13/12/2018	KENNEDYS TREE SERVICES	TREE REMOVAL / PRUNING FOR VARIOUS LOCATIONS	4767.00
EFT66970	13/12/2018	WESTSIDE FIRE SERVICES	TESTING AND INSPECTION OF FIRE EQUIPMENT / SUPPLIES	313.50
EFT66971	13/12/2018	WINC AUSTRALIA PTY LTD	MICROSOFT ANNUAL LICENSING RENEWAL	141574.52
EFT66972	13/12/2018	MILPRO WA (INCORPORATING HILL TOP TROPHIES)	SUPPLY OF NAME BADGES	41.25
EFT66973	13/12/2018	BRICK CONCEPTS	CROSSOVER MAINTENANCE / REPAIRS FOR VARIOUS LOCATIONS	1705.00
EFT66974	13/12/2018	MARKETFORCE PTY LTD	ADVERTISING FOR VARIOUS JOBS / EVENTS	1208.74
EFT66975	13/12/2018	IT VISION AUSTRALIA PTY LTD	CONFLUENCE USER LICENCES - ALTUS PROJECT FOR NOVEMBER 2018	104.50
EFT66976	13/12/2018	LESMURDIE SENIOR HIGH SCHOOL	HALL BOND REFUND	400.00
EFT66977	13/12/2018	LO-GO APPOINTMENTS	HIRE OF TEMPORARY STAFF FOR DEPOT / ADMIN	7059.11
EFT66978	13/12/2018	STAFF AUSTRALIA	HIRE OF TEMPORARY STAFF FOR DEPOT / ADMIN	8290.71

Chq/EFT	Date	Name	Description	Amount
EFT66979	13/12/2018	GREEN SKILLS (ECOJOBS)	LABOUR ASSISTANCE FOR TREE PLANTING	774.40
EFT66980	13/12/2018	EASTERN HILLS SAWS AND MOWERS	PLANT / VEHICLE PARTS	966.50
EFT66981	13/12/2018	AIR LIQUIDE WA PTY LTD	SUPPLY OF GAS CYLINDER REFILLS AND RENTAL FEES	183.87
EFT66982	13/12/2018	KALAMUNDA & DISTRICTS HISTORICAL SOCIETY	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18	166.25
EFT66983	13/12/2018	CRABBS KALAMUNDA (IGA)	GROCERY SUPPLIES FOR VARIOUS FUNCTIONS	294.41
EFT66984	13/12/2018	VENTURA HOMES PTY LTD	FOOTPATH DEPOSIT REFUND	2500.00
EFT66985	13/12/2018	OCE CORPORATE PTY LTD - OFFICE CLEANING EXPERTS PTY LTD	CLEANING SERVICES / CONSUMABLES FOR VARIOUS LOCATIONS	37891.30
EFT66986	13/12/2018	FORRESTFIELD UNITED SOCCER CLUB	KIDSPORT FUNDING FOR VARIOUS PLAYERS	165.00
EFT66987	13/12/2018	KALAMUNDA CAROLS BY CANDLELIGHT INC	ADJUSTMENT TO ANNUAL DONATION TO CAROLS BY CANDLELIGHT AS PREVIOUS PAYMENT WAS NOT THE CORRECT FIGURE AND KEY BOND REFUND	550.00
EFT66988	13/12/2018	GEM CAMERA CLUB INC	KEY BOND REFUND	50.00
EFT66989	13/12/2018	PLUNKETT HOMES (1903) PTY LTD	FOOTPATH DEPOSIT REFUND	1550.00
EFT66990	13/12/2018	GCS SERVICES	PLUMBING SERVICES TO VARIOUS LOCATIONS	280.50
EFT66991	13/12/2018	WOODLUPINE FAMILY CENTRE INC	CONTRIBUTION FOR CHRISTMAS FESTIVAL EVENT 2018	250.00
EFT66992	13/12/2018	ST JOHN AMBULANCE AUSTRALIA (WA) INC	FIRST AID MEDICS FOR PERTH HILLS SPRING FESTIVAL - SKATE RINK EVENT & SENIORS WEEK 2018	1724.80
EFT66993	13/12/2018	KALAMUNDA CRICKET CLUB	KALAMUNDA SPORTING PRECINCT GRASS TURF WICKETS SERVICE AGREEMENT SEASON - WORKS COMPLETED AT KOSTERA OVAL JULY - SEPTEMBER 2018	4200.00
EFT66994	13/12/2018	HELEN ARMSTRONG & ASSOCIATES (T/AS WAXING LYRICAL CANDLES)	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18	127.40

Chq/EFT	Date	Name	Description	Amount
EFT66995	13/12/2018	KALAMUNDA PLUMBING & ELECTRICAL	PLUMBING REPAIRS / MAINTENANC FOR VARIOUS LOCATIONS & NEW LEACH DRAIN ST LESMURDIE BMX TRACK	10610.60
EFT66996	13/12/2018	SWAN EVENT HIRE	EQUIPMENT HIRE FOR THANKS A VOLUNTEER DAY 2018	5690.33
EFT66997	13/12/2018	PERTH AUTO ALLIANCE T/AS TITAN FORD	SUPPLY OF 1 NEW VEHICLE	31843.09
EFT66998	13/12/2018	HAWLEY'S BOBCAT SERVICE	PLANT EQUIPMENT AND OPERATOR HIRE FOR VARIOUS LOCATIONS	7137.25
EFT66999	13/12/2018	BENTLEY SYSTEMS INTERNATIONAL LTD	MICROSTATION SELECT SUBSCRIPTION 01/01/19 TO 31/12/19 RENEWAL FEES	1614.00
EFT67000	13/12/2018	KEVIN JOSE	FOOTPATH DEPOSIT & PLANNING APPLICATION FEE REFUNDS	2632.91
EFT67001	13/12/2018	DEPARTMENT OF FIRE AND EMERGENCY SERVICES (DFES)	HALL BOND REFUND	400.00
EFT67002	13/12/2018	ANNA HAMERSLEY	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18	43.40
EFT67003	13/12/2018	AMEREX FIRE (WA) (E FIRE AND SAFETY)	FIRE EQUIPMENT MAINTENANCE FOR VARIOUS LOCATIONS	1941.50
EFT67004	13/12/2018	HILL TOP GROUP PTY	CONTRACTOR BUILDING MAINTENANCE FOR VARIOUS BUILDINGS	9556.80
EFT67005	13/12/2018	TALONS HSF PTY LTD T/A TALONS HIGH SECURITY FENCING	SERVICE AS REQUIRED AND SUPPLY OF PARTS TO REPAIR THE DEPOT GATES AND FENCE	1732.50
EFT67006	13/12/2018	BUILDING COMMISSION - DEPARTMENT OF MINES, INDUSTRY REGULATION & SAFETY	BUILDING LEVY - NOVEMBER 2018	16804.12
EFT67007	13/12/2018	MOORE STEPHENS (WA) PTY LTD	PROGRESSIVE BILLING IN RELATION TO THE PROVISION OF STRATEGIC RESOURCE PLANNING SERVICES - 29/10/18 & REGISTRATION FOR 1 STAFF MEMBER TO ATTEND NUTS & BOLTS & FINANCE ESSENTIALS WORKSHOP	5445.00

Chq/EFT	Date	Name	Description	Amount
EFT67008	13/12/2018	MOIRA A COURT	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18	3.50
EFT67009	13/12/2018	ELISABETH PURSER & PAUL A GLIDDON	RATES REFUND	89.77
EFT67010	13/12/2018	JEFF AND JUDI POLETTI	FOOTPATH DEPOSIT REFUND	1550.00
EFT67011	13/12/2018	WEST AUSTRALIAN NEWSPAPERS HOLDINGS LTD	WEEKLY PROMOTION OF GALLERY EXHIBITION PROGRAM	168.80
EFT67012	13/12/2018	KANYANA WILDLIFE REHABILITATION CENTRE INC	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18 WILDLIFE EDUCATION ENCOUNTER AT RAILWAY HERITAGE TRAIL	975.20
EFT67013	13/12/2018	BIG W (AR W1.C3.U.07)	VARIOUS SUPPLIES FOR FORRESTFIELD LIBRARY	796.00
EFT67014	13/12/2018	ILLION (AUSTRALIA) PTY LTD	DEBT COLLECTION FEES FOR RATES	7042.20
EFT67015	13/12/2018	BANK OF IDEAS	CONTRIBUTION FOR CHRISTMAS FESTIVAL EVENT 2018	4000.00
EFT67016	13/12/2018	FOOD TECHNOLOGY SERVICES PTY LTD	HIRE OF TEMPORARY STAFF FOR HEALTH DEPARTMENT	3263.98
EFT67017	13/12/2018	PICKERING BROOK HERITAGE GROUP	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18	28.00
EFT67018	13/12/2018	LINEKER PTY LTD ATF LINEKER TRUST	FOOTPATH DEPOSIT REFUND	700.00
EFT67019	13/12/2018	DANIEL VARGA	FOOTPATH DEPOSIT REFUND	700.00
EFT67020	13/12/2018	GEMMILL HOMES	FOOTPATH DEPOSIT REFUND	2500.00
EFT67021	13/12/2018	STRATAGREEN	GARDEN / RESERVE SUPPLIES	1177.44
EFT67022	13/12/2018	OFFICEWORKS SUPERSTORES PTY LTD	OFFICE SUPPLIES / STATIONERY	1667.15
EFT67023	13/12/2018	RETECH RUBBER	SUPPLY AND INSTALLATION OF SOFT FALL - WOODLUPINE BROOK	9570.00
EFT67024	13/12/2018	GOOSEBERRY HILL ARTS & CRAFTS	HALL & KEY BOND REFUND	455.00
EFT67025	13/12/2018	BLUEPRINT HOMES (WA) PTY LTD	FOOTPATH DEPOSIT REFUND	2500.00
EFT67026	13/12/2018	CGU INSURANCE	EXCESS INSURANCE CLAIM - KM49234	500.00

Chq/EFT	Date	Name	Description	Amount
EFT67027	13/12/2018	ELECTRICITY NETWORKS CORP T/A WESTERN POWER	STREET LIGHTING - MP17706 SHEFFIELD RD & ST JOHN RD WATTLE GROVE	27965.00
EFT67028	13/12/2018	WOOLWORTHS GROUP LIMITED	GROCERY SUPPLIES FOR VARIOUS FUNCTIONS	1686.83
EFT67029	13/12/2018	FORRESTFIELD TENNIS CLUB (INC)	FORRESTFIELD TENNIS CLUB HIRE FEES FROM HARTFIELD PARK RECREATION CENTRE 1 NOVEMBER 2018 - 30 NOVEMBER 2018	60.00
EFT67030	13/12/2018	EASTERN REGION SECURITY	SECURITY SERVICES TO VARIOUS LOCATIONS	6038.31
EFT67031	13/12/2018	GLENDA DAWN CHARLTON (PODIATRY)	PODIATRY SERVICES AT JACK HEALEY CENTRE	837.37
EFT67032	13/12/2018	GREAT AUSSIE PATIOS	PLANNING APPLICATION FEE REFUND	132.91
EFT67033	13/12/2018	JACKSON MCDONALD LAWYERS	LEGAL EXPENSES	9258.70
EFT67034	13/12/2018	EASIFLEET MANAGEMENT	STAFF CONTRIBUTIONS TO NOVATED / OPERATING LEASES	5975.46
EFT67035	13/12/2018	COREENA MUSTICA	PART DOG REGISTRATION FEE REFUND	51.67
EFT67036	13/12/2018	TOM CAIRNS	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18	2.80
EFT67037	13/12/2018	REDINK HOMES PTY LTD	FOOTPATH DEPOSIT REFUND	4000.00
EFT67038	13/12/2018	SHIRLEY SPENCER	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18	324.80
EFT67039	13/12/2018	KEITH E ORCHARD	RATES REFUND	1191.60
EFT67040	13/12/2018	ROSE SMART	MAINTAIN ROSE BEDS AT VARIOUS LOCATIONS	2237.50
EFT67041	13/12/2018	LESMURDIE ARTS & CRAFTS INC	HALL & KEY BOND REFUND	350.00
EFT67042	13/12/2018	DRAINFLOW SERVICES PTY LTD	CLEANING / MAINTAINING STORM WATER DRAINS	38846.78
EFT67043	13/12/2018	AW AUSTRALIA HOLDINGS PTY LTD	FOOTPATH DEPOSIT REFUND	950.00
EFT67044	13/12/2018	HENRIETTE ROSSOUW	KEY BOND REFUND	100.00

Chq/EFT	Date	Name	Description	Amount
EFT67045	13/12/2018	LESMURDIE BAPTIST CHURCH	CONTRIBUTION FOR CHRISTMAS FESTIVAL EVENT 2018	300.00
EFT67046	13/12/2018	LIBERTY OIL AUSTRALIA PTY LTD	SUPPLY OF FUEL FOR OPERATIONS CENTRE	26877.89
EFT67047	13/12/2018	GUMNUTS & LAVENDER	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18	25.20
EFT67048	13/12/2018	MATTHEW HARKEN	FOOTPATH DEPOSIT REFUND	700.00
EFT67049	13/12/2018	GKR KARATE WA INCORPORATED	KEY BOND REFUND	50.00
EFT67050	13/12/2018	RAIN PROJECTS PTY LTD	FOOTPATH DEPOSIT REFUND	950.00
EFT67051	13/12/2018	DBM CONTRACTORS PTY LTD	FOOTPATH DEPOSIT REFUND	700.00
EFT67052	13/12/2018	CHRISTINE VITLER	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18	30.45
EFT67053	13/12/2018	NANCY GILLESPIE	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18	7.00
EFT67054	13/12/2018	BEAVER TREE SERVICES	TREE REMOVAL / PRUNING FOR VARIOUS LOCATIONS	4682.70
EFT67055	13/12/2018	DARLINGHURST PTY LTD	FOOTPATH DEPOSIT REFUNDS	2200.00
EFT67056	13/12/2018	WEST-SURE GROUP PTY LTD	CASH IN TRANSIT SERVICES - NOVEMBER 2018	1590.88
EFT67057	13/12/2018	SIMSAI CONSTRUCTIONS GROUP PTY LTD	FOOTPATH DEPOSIT REFUND	2500.00
EFT67058	13/12/2018	DONNA JEBB	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18	51.80
EFT67059	13/12/2018	ALISON MULCAHY	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18	37.80
EFT67060	13/12/2018	FIRE 4 HIRE	VERGE / RESERVE MAINTENANCE AT VARIOUS LOCATIONS	7375.50
EFT67061	13/12/2018	SONJA SPEIGHT	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18	60.20
EFT67062	13/12/2018	THE PETAL PRESS	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18	20.58

Chq/EFT	Date	Name	Description	Amount
EFT67063	13/12/2018	BOONADOO	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18	84.00
EFT67064	13/12/2018	CLAIRE O'NEILL - CLAIRE'S EMBROIDERY	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18	152.95
EFT67065	13/12/2018	LINDA STONES	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18	40.00
EFT67066	13/12/2018	IAN MOSS	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18	98.00
EFT67067	13/12/2018	AROUNABOUT GARDENING SERVICES	VERGE / GARDEN MAINTENANCE FOR VARIOUS LOCATIONS	2660.20
EFT67068	13/12/2018	JANICE PITTMAN	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18	15.40
EFT67069	13/12/2018	SAFE T CARD AUSTRALIA PTY LTD	MONTHLY MONITORING CHARGES FOR VARIOUS LOCATIONS	264.00
EFT67070	13/12/2018	BRADON WAINWRIGHT	HALL & KEY BOND REFUND	550.00
EFT67071	13/12/2018	MARY FORWARD	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18	44.10
EFT67072	13/12/2018	NEOPOST PTY LTD	NEOPOST SERVICE RENEWAL - 31/01/19 - 31/01/20	1694.23
EFT67073	13/12/2018	FOXTEL	MONTHLY SUBSCRIPTION FEE	210.00
EFT67074	13/12/2018	KALAMUNDA ELECTRICS	ELECTRICAL REPAIRS / MAINTENANCE FOR VARIOUS LOCATIONS	6567.40
EFT67075	13/12/2018	THE ARTFUL FLOWE - FELICIA LOWE	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18	42.00
EFT67076	13/12/2018	AAAC TOWING PTY LTD	TOWING SERVICES FEES	330.00
EFT67077	13/12/2018	DAVID GREEN	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18	31.43
EFT67078	13/12/2018	RIDING FOR THE DISABLED ASSOCIATION BRIGADOON	KIDSPORT FUNDING FOR VARIOUS PLAYERS	165.00

Chq/EFT	Date	Name	Description	Amount
EFT67079	13/12/2018	SIDRA SOLUTIONS	2X NETWORK LICENSES - INTERSECTION 8 SIDRA INTERSECTION 8 SOFTWARE	8690.00
EFT67080	13/12/2018	SILK ON SILK (ROSEMARY LONSDALE)	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18	252.00
EFT67081	13/12/2018	ASHJAD PTY LTD T/A CUROST MILK SUPPLY	MILK SUPPLY FOR ADMINISTRATION CENTRE AND DEPOT	425.26
EFT67082	13/12/2018	DFP RECRUITMENT SERVICES PTY LTD	HIRE OF TEMPORARY STAFF FOR DEPOT / ADMIN	8180.77
EFT67083	13/12/2018	MAVIS PASKULICH	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18	338.10
EFT67084	13/12/2018	PERSONA HOMES	FOOTPATH DEPOSIT REFUND	2500.00
EFT67085	13/12/2018	RAZ MUSIC	PERFORMANCE FEE FOR LIOR AT KALAMUNDA PERFORMING ARTS CENTRE	6662.00
EFT67086	13/12/2018	NICHOLAS ROUND	REIMBURSEMENT OF COSTS RELATING TO SHANDY - GRAFFITI WORKING DOG	370.80
EFT67087	13/12/2018	BE PROJECTS (WA) PTY LTD	PROGRESS PAYMENT - CONSTRUCTION OF HOCKEY CLUBROOMS FACILITY AT HARTFIELD PARK, FORRESTFIELD	368248.52
EFT67088	13/12/2018	A1 TROJAN PEST CONTROL	PEST CONTROL SERVICES FOR VARIOUS LOCATIONS	396.00
EFT67089	13/12/2018	TALIS CONSULTANTS PTY LTD ATF TALIS UNIT TRUST	CONSULTING SERVICES - FORMULATION OF ROAD KALAMUNDA TREATMENT MATRIX PROJECT WORK & CANNING ROAD PAVEMENT INVESTIGATION	10890.00
EFT67090	13/12/2018	OFF PEN PUBLISHING - BETH BAKER	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18	36.40
EFT67091	13/12/2018	STAN THE TYRE MAN (STAN'S TYRE SERVICE WA)	PLANT / VEHICLE PARTS	423.50
EFT67092	13/12/2018	DEANNE MURRAY CONVEYANCING	RATES REFUND	515.30
EFT67093	13/12/2018	GRAHAM STIMSON	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18	38.50

Chq/EFT	Date	Name	Description	Amount
EFT67094	13/12/2018	BALLIGART - HELEN LOCK	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18	66.50
EFT67095	13/12/2018	FLEETCARE PTY LTD	STAFF CONTRIBUTIONS TO NOVATED / OPERATING LEASING	12215.91
EFT67096		EFT PAYMENT CANCELLED		
EFT67097	13/12/2018	IRENE YOUNG	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18	15.40
EFT67098	13/12/2018	LINDA RAPHAEL	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18	80.00
EFT67099	13/12/2018	CRAIG O'BRIEN	FOOTPATH DEPOSIT REFUND	2500.00
EFT67100	13/12/2018	RED HAT SOCIETY - HIGHLAND HIGHNESSES	HALL BOND REFUND	400.00
EFT67101	13/12/2018	NICKY WINTER - KASZAZZ IN KALAMUNDA	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18	126.70
EFT67102	13/12/2018	HERB & ESSENCE	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18	19.60
EFT67103	13/12/2018	FOCUS MUSIC PTY LTD	PERFORMANCE & PA HIRE - YOUTH EVENT - FRIDAY 30 NOVEMBER 2018	385.00
EFT67104	13/12/2018	SEATADVISOR PTY LTD	MONTHLY TICKET SALES FEES - NOVEMBER 2018	232.82
EFT67105	13/12/2018	JOBY KUNNATHUKUZHIL JOSEPH	HALL & KEY BOND REFUND	550.00
EFT67106	13/12/2018	BLACKTREE TECHNOLOGY PTY LTD	RADIO ID & ACCESS TO THE CENTRAL PARK REPEATER SITE FOR 8 RADIOS FOR DECEMBER 2018	255.20
EFT67107	13/12/2018	SECURE PAY	TICKET TRANSACTION FEES FOR KALAMUNDA PERFORMING ARTS CENTRE	22.97
EFT67108	13/12/2018	LINDA STANLEY	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18	12.25
EFT67109	13/12/2018	TELSTRA SNP MONITORING PTY LTD	SECURITY MONITORING, EQUIPMENT AND REPAIRS TO VARIOUS LOCATIONS	905.30

Chq/EFT	Date	Name	Description	Amount
EFT67110	13/12/2018	CLINT WILSON	REFUND OF ENTRY PASS AT WALLISTON TRANSFER STATION	44.00
EFT67111	13/12/2018	ROSEMARY (ROSE) HANCOCK	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18	3.43
EFT67112	13/12/2018	ECO LOGICAL AUSTRALIA	FLORA & FAUNA ASSESSMENTS AT VARIOUS LOCATIONS	3795.00
EFT67113	13/12/2018	A-LIST ENTERTAINMENT	HALL BOND REFUND	400.00
EFT67114	13/12/2018	NATURE CALLS PORTABLE TOILETS	PORTABLE TOILET HIRE FEES FOR THANK A VOLUNTEER DAY 2018	395.00
EFT67115	13/12/2018	AUDIO TECHNIK	SUPPLY AUDIO & VISUAL EQUIPMENT & AV TECHNICIAN SERVICES FOR PUBLIC BRIEFING FORUM	2153.80
EFT67116	13/12/2018	MARKET CREATIONS	MARKETING & TECHNOLOGY SERVICE FEES & MONTHLY CLOUD HOSTING SERVICES	8825.44
EFT67117	13/12/2018	BICKLEY VALLEY COTTAGE	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18	34.30
EFT67118	13/12/2018	ATI MARTIAL ARTS FORRESTFIELD T/A TOMSHIN TAEKWONDO	KIDSPORT FUNDING FOR VARIOUS PLAYERS	154.00
EFT67119	13/12/2018	STELLA MACINTYRE	REIMBURSEMENT OF VERGE TREE REPLACEMENT BOND	2637.00
EFT67120	13/12/2018	UNWINED T/A POSSUM CREEK LODGE	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18	250.60
EFT67121	13/12/2018	TREASURES OF AUSTRALIA	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18	141.89
EFT67122	13/12/2018	KERB DIRECT KERBING PTY LTD	SUPPLY AND LAY EXTRUDED CONCRETE KERBING AT VARIOUS LOCATIONS	9924.68
EFT67123	13/12/2018	ALINTA ENERGY (ELECTRICITY ACCOUNT)	POWER CHARGES	6031.98
EFT67124	13/12/2018	SPICK AND SPAN COMMERCIAL PROPERTY MAINTENANCE PTY LTD	CLEANING SERVICES	6066.11
EFT67125	13/12/2018	ROBERT MILLER	FOOTPATH DEPOSIT REFUND	700.00

Chq/EFT	Date	Name	Description	Amount
EFT67126	13/12/2018	ENTIRE FIRE MANAGEMENT	FIREBREAK MAINTENANCE AT VARIOUS LOCATIONS	28521.90
EFT67127	13/12/2018	BORRELLO GRAHAM LAWYERS (LSV BORRELLO LAWYERS)	LEGAL EXPENSES	4631.00
EFT67128	13/12/2018	ABRUZZO & MOLISE SPORTING CLUB INC	BOND FEES FOR THE HIRE OF COMMUNITY HALL FOR AUSTRALIA DAY CITIZENSHIP CEREMONY 2019	1400.00
EFT67129	13/12/2018	NATURES ART FINE CRAFTS	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18	27.30
EFT67130	13/12/2018	DOWSING GROUP PTY LTD	CONCRETE REMOVAL AND INSTALLATION OF CONCRETE PATHWAYS AT VARIOUS LOCATIONS	116508.26
EFT67131	13/12/2018	CAPITAL FINANCE AUSTRALIA LTD	LEASING OF PHOTOCOPIERS AND PRINTERS - PERIOD 01/01/19 - 31/03/19	13553.82
EFT67132	13/12/2018	2TONE AUTO DETAILING	DETAILING OF CITY'S VEHICLES AS REQUIRED	200.00
EFT67133	13/12/2018	ANIMAL PEST MANAGEMENT SERVICES	BAIT STATIONS AND SERVICE	338.91
EFT67134	13/12/2018	SETS ENTERPRISES	REGISTRATION FOR FIRE BRIGADE VOLUNTEERS TO ATTEND DRIVE VEHICLES UNDER OPERATIONAL CONDITIONS COURSE	2800.00
EFT67135	13/12/2018	TUMBLE TOTS PARTY AND TOY HIRE	LITTLE BUILDERS SET FOR INNOVATIVE HOUSING EXPO 2018 BUILDING BLOCKS FOR CHILDRENS ACTIVITY	95.00
EFT67136	13/12/2018	FLY BY FUN	ENTERTAINMENT SERVICES FATHER CHRISTMAS & CHRISTMAS FESTIVAL	1778.00
EFT67137	13/12/2018	PGV ENVIRONMENTAL	FLORA & FAUNA STUDY LOT 300 DAWSON AVE FORRESTFIELD (FORMER LANDFILL SITE)	1773.16
EFT67138	13/12/2018	A PROUD LANDMARK PTY LTD	LANDSCAPE WORKS AT VIV ROBINSON PARK INCLUSIVE OF LIMESTONE BLOCKS DISPOSAL	22717.37

Chq/EFT	Date	Name	Description	Amount
EFT67139	13/12/2018	A J POWER	LEGAL EXPENSES	330.00
EFT67140	13/12/2018	MOUNTAIN BIKE AUSTRALIA LTD	HALL BOND REFUND	300.00
EFT67141	13/12/2018	JOSEF DROMMER	KEY BOND REFUND	50.00
EFT67142	13/12/2018	ES2 PTY LTD	VARIOUS TRAINING SESSIONS - EMAIL & INSTANT MESSAGING - SOCIAL ENGINEERING THREATS - DATA PROTECTION - YOU ARE THE TARGET	1760.00
EFT67143	13/12/2018	SERPENTINE SPRING WATER	SPRING WATER SUPPLIES FOR ZIG ZAG CULTURAL CENTRE	20.00
EFT67144	13/12/2018	THE STRUGGLING KINGS	PERFORMANCE AT PERTH HILLS SPRING FESTIVAL 2018	1320.00
EFT67145	13/12/2018	LABYRINTH CONSTRUCTIONS	INSTALL EXERCISE EQUIPMENT AT WOODLUPINE LIVING STREAM UPGRADE STAGE 2	5098.50
EFT67146	13/12/2018	ANDREW MATTHEWS	PLANNING APPLICATION FEE REFUND	132.91
EFT67147	13/12/2018	MAHARI	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18	65.10
EFT67148	13/12/2018	D & T ASPHALT PTY LTD	BITUMEN REPAIR AT THE INTERSECTION OF REID ROAD AND ALBERT ROAD, LESMURDIE	3777.84
EFT67149	13/12/2018	AKRON PTY LTD	BUILDING APPLICATION FEE REFUND	511.28
EFT67150	13/12/2018	THE DARLING RANGE BRANCH OF THE WA NATURALISTS CLUB	BIRDS IN YOUR GARDEN, STREET OR RESERVE IN KALAMUNDA WORKSHOP HELD AT JORGENSEN PARK	275.00
EFT67151	13/12/2018	INDUSTRIAL RECRUITMENT PARTNERS (IRP) PTY LTD	HIRE OF TEMPORARY STAFF FOR DEPOT / ADMIN	9330.42
EFT67152	13/12/2018	AVANTGARDE TECHNOLOGIES PTY LTD	CONSULTING SERVICES - 10 HOUR BLOCK AGREEMENT	2255.00
EFT67153	13/12/2018	JUSTFORKIKS ENTERTAINMENT	PHOTO BOOTH HIRE - TEE OR TIE 4 BLACK DOG - YAK EVENT AT KALAMUNDA PERFORMING ARTS CENTRE	340.00
EFT67154	13/12/2018	CHI KWAN KUNG	FOOTPATH DEPOSIT REFUND	700.00

Chq/EFT	Date	Name	Description	Amount
EFT67155	13/12/2018	REECE'S EVENT HIRE	FURNITURE HIRE FOR INNOVATIVE HOUSING EXPO	632.50
EFT67156	13/12/2018	NATHAN HAIGH	REIMBURSEMENT FOR PAINT DAMAGE ON SHIRT AT BUS STOP	40.00
EFT67157		EFT PAYMENT CANCELLED		
EFT67158	13/12/2018	KELMSCOTT BASEBALL CLUB INC	KIDSPORT FUNDING FOR VARIOUS PLAYERS	150.00
EFT67159		EFT PAYMENT CANCELLED		
EFT67160	13/12/2018	TINY FOOTPRINT	CONTRIBUTION TOWARDS FLIGHT TO ATTEND INNOVATIVE HOUSING EXPO 2018	300.00
EFT67161	13/12/2018	NICOLE O'NEILL	CONTRIBUTION TO KALAMUNDA HOUSING EXPO	125.00
EFT67162	13/12/2018	FUGLE GROUP PTY LTD T/A COMMSPIRE	CUSTOMER SATISFACTION PHONE SURVEY	3500.00
EFT67163	13/12/2018	ALIDA FERREIRA	REFUND OF EMPLOYMENT CONTRACT ALLOWANCE	660.00
EFT67164	13/12/2018	MICHELLE STEWARD	HALL & KEY BOND REFUND	450.00
EFT67165	13/12/2018	KUMON WATTLE GROVE EDUCATION CENTRE	HALL & KEY BOND REFUND	350.00
EFT67166	13/12/2018	MICHELLE CARDEN	FOOTPATH DEPOSIT REFUND	2850.00
EFT67167	20/12/2018	THE WORKWEAR GROUP PTY LTD	SUPPLY OF UNIFORM FOR VARIOUS STAFF MEMBERS	1042.02
EFT67168	20/12/2018	RICOH AUSTRALIA PTY LTD	PHOTOCOPYING CHARGES FOR ALL CITY LOCATIONS	5451.90
EFT67169	20/12/2018	DVA FABRICATIONS	SUPPLY OF TWO SEATER SINGLE SIDED BOOTH SEATS FOR KALAMUNDA LIBRARY	888.00
EFT67170	20/12/2018	THE EDUCATIONAL EXPERIENCE	CRAFT SUPPLIES FOR CHRISTMAS AND SCHOOL HOLIDAY PROGRAMMES FOR KALAMUNDA LIBRARY	134.97
EFT67171	20/12/2018	INFORM CONNECTION PTY LTD	SUPPLY OF GRAYS YELLOW DOT SQUASH BALL FOR HARTFIELD PARK RECREATION CENTRE	259.60

Chq/EFT	Date	Name	Description	Amount
EFT67172	20/12/2018	WATERCOM PTY LTD	ANNUAL MAINTENANCE OF WATERCOM DRAINS SOFTWARE - 01/12/18 - 01/12/19	1182.50
EFT67173	20/12/2018	OLK & ASSOCIATES	ARCHITECTURAL CONSULTING SERVICES FOR THE NEW HOCKEY CLUB CHANGEROOM AT HARTFIELD PARK RECREATION CENTRE	2365.00
EFT67174	20/12/2018	NEVERFAIL SPRINGWATERLTD (FORRESTFIELD LIB)	BOTTLED WATER SUPPLIES / MAINTENANCE FOR FORRESTFIELD LIBRARY	60.56
EFT67175	20/12/2018	PICTON PRESS	PRINTING OF TIP PASSES	117.18
EFT67176	20/12/2018	HILLS HOCUS POCUS	SUPPLY OF BALLOON ARRANGEMENTS FOR THANK A VOLUNTEER DAY 2018	178.80
EFT67177	20/12/2018	MONSTERBALL AMUSEMENTS & HIRE	HIRE INFLATABLE GAMES & EQUIPMENT FOR SCHOOLS OUT POOL PARTY AT KALAMUNDA WATER PARK	1990.00
EFT67178	20/12/2018	SHADE & SAIL INNOVATIONS	SUPPLY OF SHADE STRUCTURE FOR PLAYGROUND AT DAVIES PARK MAIDA VALE	14971.00
EFT67179	20/12/2018	VIP CARPET AND UPHOLSTERY CLEANING SERVICE	CARPET CLEANING AT VARIOUS LOCATIONS	110.00
EFT67180	20/12/2018	TOTALLY WORKWEAR	SUPPLY OF PROTECTIVE CLOTHING	2334.99
EFT67181	20/12/2018	CARLISLE EVENTS HIRE PTY LTD	SUPPLY OF MARQUEES FOR THE CHRISTMAS MOVIE NIGHT	550.00
EFT67182	20/12/2018	JOSHUA DAVENPORT	FOOTPATH DEPOSIT REFUND	700.00
EFT67183	20/12/2018	ALLAN MORTON	COUNCILLOR ALLOWANCE - 01/12/18 - 31/12/18	2212.51
EFT67184	20/12/2018	LESLEY BOYD	COUNCILLOR ALLOWANCE - 01/12/18 - 31/12/18	2212.51
EFT67185	20/12/2018	KERRY & WILLIAM LISLE	RATES REFUND	230.00
EFT67186	20/12/2018	KATHLEEN (KATHY) RITCHIE	COUNCILLOR ALLOWANCE - 14/12/18 - 31/12/18	1273.67
EFT67187	20/12/2018	JOHN LOMAS	PART DOG REGISTRATION FEE REFUND	12.92

Chq/EFT	Date	Name	Description	Amount
EFT67188	20/12/2018	BUNNINGS BUILDING SUPPLIES	HARDWARE SUPPLIES FOR VARIOUS LOCATIONS	1207.02
EFT67189	20/12/2018	COATES HIRE OPERATIONS PTY LTD	PLANT / EQUIPMENT HIRE	556.90
EFT67190	20/12/2018	FORPARK PTY LTD	PLAY GROUND EQUIPMENT REPAIRS / MAINTENANCE AT JUNIPER WAY RESERVE	21230.00
EFT67191	20/12/2018	MAXWELL ROBINSON & PHELPS PEST MANAGEMENT	PEST CONTROL SERVICES	525.00
EFT67192	20/12/2018	CLEANAWAY	WASTE / RECYCLING & BULK BIN DISPOSAL SERVICES FEES	262639.99
EFT67193	20/12/2018	WALKERS HARDWARE (MITRE 10)	HARDWARE SUPPLIES	135.34
EFT67194	20/12/2018	ECHO NEWSPAPER	ADVERTISING FOR VARIOUS JOBS / EVENTS	3560.00
EFT67195	20/12/2018	MCKAY EARTHMOVING PTY LTD	PLANT EQUIPMENT AND OPERATOR HIRE FOR VARIOUS LOCATIONS	36940.57
EFT67196	20/12/2018	EASTERN METROPOLITAN REGIONAL COUNCIL	DOMESTIC / WASTE CHARGES - RED HILL TIP & MATTRESS DISPOSAL FEES	410641.39
EFT67197	20/12/2018	BORAL CONSTRUCTION MATERIALS GROUP	ROAD MATERIALS FOR VARIOUS LOCATIONS	1905.81
EFT67198	20/12/2018	ALSCO LINEN SERVICE	LINEN HIRE / LAUNDRY SERVICES / CLEANING SUPPLIES	1178.16
EFT67199	20/12/2018	BRADOCK PODIATRY SERVICES PTY LTD	PODIATRY SERVICES AT JACK HEALEY CENTRE	1079.02
EFT67200	20/12/2018	CLEAN CLOTH COTTON TRADERS	PROTECTIVE SUPPLIES	164.87
EFT67201	20/12/2018	SYNERGY	POWER CHARGES	12057.50
EFT67202	20/12/2018	ACTIMED AUSTRALIA PTY LTD	MEDICAL SUPPLIES FOR PODIARTIST	474.21
EFT67203	20/12/2018	GRIMES CONTRACTING PTY LTD	CONTRACTOR BUILDING MAINTENANCE FOR VARIOUS BUILDINGS	5874.00
EFT67204	20/12/2018	COCKBURN CEMENT	ROAD / FOOTPATH MATERIALS	438.33
EFT67205	20/12/2018	WA LIMESTONE COMPANY	ROAD MATERIALS FOR VARIOUS LOCATIONS	8882.91
EFT67206	20/12/2018	WINC AUSTRALIA PTY LTD	STATIONERY / OFFICE SUPPLIES	1074.17

Chq/EFT	Date	Name	Description	Amount
EFT67207	20/12/2018	MILPRO WA (INCORPORATING HILL TOP TROPHIES)	SUPPLY OF NAME BADGES	30.25
EFT67208	20/12/2018	BLADON WA PTY LTD	MEMORABILIA SUPPLIES	4664.00
EFT67209	20/12/2018	JOHN GIARDINA	COUNCILLOR ALLOWANCE - 01/12/18 - 31/12/18	8093.17
EFT67210	20/12/2018	GEOFF STALLARD	COUNCILLOR ALLOWANCE - 01/12/18 - 31/12/18	2212.51
EFT67211	20/12/2018	BUCHER MUNICIPAL PTY LTD	PLANT / VEHICLE PARTS	3089.70
EFT67212	20/12/2018	LO-GO APPOINTMENTS	HIRE OF TEMPORARY STAFF FOR DEPOT / ADMIN	3842.86
EFT67213	20/12/2018	STAFF AUSTRALIA	HIRE OF TEMPORARY STAFF FOR DEPOT / ADMIN	3928.52
EFT67214	20/12/2018	BRIDGESTONE AUSTRALIA LTD	PLANT / VEHICLE PARTS	3013.00
EFT67215	20/12/2018	HOSEMASTERS	PLANT / VEHICLE PARTS	375.65
EFT67216	20/12/2018	GLENN SWIFT ENTERTAINMENT	CHRISTMAS STORYTELLING EVENT WITH STORYTELLER AND FATHER CHRISTMAS AT KALAMUNDA & HIGH WYCOMBE LIBRARIES	1122.00
EFT67217	20/12/2018	ARRB TRANSPORT RESEARCH LTD	FWD TESTING ALONG CANNING RD BETWEEN SLK 12.20 AND 12.63 IN BOTH LANES	3630.00
EFT67218	20/12/2018	J BLACKWOOD & SON LIMITED	PROTECTIVE WEAR / SUPPLIES	4962.16
EFT67219	20/12/2018	SLATER GARTRELL SPORTS	REPAIR ONE WICKET AT SCOTT RESERVE	1419.00
EFT67220	20/12/2018	EASTERN HILLS SAWS AND MOWERS	PLANT / VEHICLE PARTS	75.00
EFT67221	20/12/2018	REPCO BRAKE & CLUTCH	PLANT / VEHICLE PARTS	548.00
EFT67222	20/12/2018	PICKERING BROOK SPORTS CLUB (INC)	DONATION PICKERING BROOK GOLF CLUB - TOWARD FENCING MATERIALS	5000.00
EFT67223	20/12/2018	CRABBS KALAMUNDA (IGA)	GROCERY SUPPLIES FOR VARIOUS FUNCTIONS	373.11
EFT67224	20/12/2018	OCE CORPORATE PTY LTD - OFFICE CLEANING EXPERTS PTY LTD	CLEANING SERVICES / CONSUMABLES FOR VARIOUS LOCATIONS	7936.50
EFT67225	20/12/2018	WATTLE GROVE VETERINARY HOSPITAL	VETERINARY FEES	180.00

Chq/EFT	Date	Name	Description	Amount
EFT67226	20/12/2018	CAT WELFARE SOCIETY INC	CAT HAVEN REHOMING OF UNCLAIMED CATS FROM THE CITYS POUND	176.00
EFT67227	20/12/2018	HIGH WYCOMBE CRICKET CLUB	SCOTT RESERVE TURF WICKET MAINTENANCE FROM JULY TO DECEMBER 2018	14000.00
EFT67228	20/12/2018	GCS SERVICES	PLUMBING SERVICES TO VARIOUS LOCATIONS	170.50
EFT67229	20/12/2018	MARTIN'S TRAILER PARTS	PLANT / VEHICLE PARTS	51.42
EFT67230	20/12/2018	ST JOHN AMBULANCE AUSTRALIA (WA) INC	EVENT HIRE SERVICES FOR CHRISTMAS MOVIE NIGHT & INNOVATIVE HOUSING EXPO	624.80
EFT67231	20/12/2018	KALAMUNDA CRICKET CLUB	KALAMUNDA SPORTING PRECINCT GRASS TURF WICKETS MAINTENANCE AT KOSTERA OVAL FROM OCTOBER TO DECEMBER 2018	9000.00
EFT67232	20/12/2018	SWAN EVENT HIRE	EQUIPMENT HIRE FOR VARIOUS EVENTS	78.00
EFT67233	20/12/2018	TOTAL EDEN PTY LTD	SUPPLY OF RETICULATION / SPRINKLER PARTS	4130.77
EFT67234	20/12/2018	HAWLEY'S BOBCAT SERVICE	PLANT EQUIPMENT AND OPERATOR HIRE FOR VARIOUS LOCATIONS	17045.05
EFT67235	20/12/2018	TOTAL PACKAGING (WA) PTY LTD	SUPPLY OF DOG LITTER BAGS	858.00
EFT67236	20/12/2018	WA HINO SALES & SERVICE	PLANT / VEHICLE PARTS	5507.26
EFT67237	20/12/2018	FINES ENFORCEMENT REGISTRY	FINES ENFORCEMENT REGISTRY	680.10
EFT67238	20/12/2018	TECHNOLOGY ONE LTD	GIS CONSULTING SERVICES	1804.00
EFT67239	20/12/2018	DEPARTMENT OF FIRE AND EMERGENCY SERVICES (DFES)	EMERGNCEY SERVICES LEVY - 2018/2019 - QUARTER 2 CONTRIBUTION	2079984.71
EFT67240	20/12/2018	SCANLAN SURVEYS PTY LTD	SURVEYING CONSULTING SERVICES - CANNING ROAD CARMEL	1650.00
EFT67241	20/12/2018	GHD PTY LTD	COMPLETION & SUBMISSION OF DAWSON AVE FORMER LANDFILL STUDY REPORT	4730.00

Chq/EFT	Date	Name	Description	Amount
EFT67242	20/12/2018	ACCESS ICON PTY LTD T/A CASCADA	DRAINAGE SUPPLIES FOR VARIOUS LOCATIONS	8531.44
EFT67243	20/12/2018	B & J CATALANO PTY LTD	ROAD MATERIALS FOR VARIOUS LOCATIONS	14722.08
EFT67244	20/12/2018	HILL TOP GROUP PTY	CONTRACTOR BUILDING MAINTENANCE FOR VARIOUS BUILDINGS	601.37
EFT67245	20/12/2018	TALONS HSF PTY LTD T/A TALONS HIGH SECURITY FENCING	SERVICE AS REQUIRED AND SUPPLY OF PARTS TO REPAIR THE DEPOT GATES AND FENCE	4838.90
EFT67246	20/12/2018	KALAMUNDA VOLUNTEER FIRE & RESCUE	DONATION - 60TH ANNIVERSARY DINNER	500.00
EFT67247	20/12/2018	LIFTING BY DESIGN PTY LTD	PLANT / VEHICLE PARTS	324.50
EFT67248	20/12/2018	HAYS SPECIALIST RECRUITMENT (AUSTRALIA) PTY LTD	HIRE OF TEMPORARY STAFF FOR ADMIN / DEPOT	810.79
EFT67249	20/12/2018	ENGIE MECHANICAL SERVICES AUSTRALIA PTY LTD	AIRCONDITIONING MAINTENANCE / REPAIRS FOR VARIOUS LOCATIONS	3018.88
EFT67250	20/12/2018	QUICK CORPORATE AUST PTY LTD	STATIONERY & OFFICE SUPPLIES	3240.85
EFT67251	20/12/2018	AUTO ONE KALAMUNDA	PLANT / VEHICLE PARTS	27.60
EFT67252	20/12/2018	A KAPPELLA MUNDA CHOIR	CHRISTMAS CAROLLING PERFORMANCES FOR 2018 CHRISTMAS FESTIVAL	400.00
EFT67253	20/12/2018	DANIEL & ANNA PANTON	FOOTPATH DEPOSIT REFUND	700.00
EFT67254	20/12/2018	PHONOGRAPHIC PERFORMANCE COMPANY OF AUSTRALIA LTD	LICENCE FEES FOR THE USE OF COPYRIGHT MUSIC AT HARTFIELD PARK & HIGH WYCOMBE RECREATION CENTRES	1114.79
EFT67255	20/12/2018	SUSAN BILICH	REFUND OF CANDIDATE DEPOSITS - EXTRAORDINARY ELECTIONS 14 DECEMBER 2018	80.00
EFT67256	20/12/2018	COMMUNITY NEWSPAPER GROUP LTD	ADVERTISING FOR VARIOUS JOBS AND EVENTS	2201.52
EFT67257	20/12/2018	WREN OIL	WASTE OIL RECYCLING - DISPOSAL FEES	16.50
EFT67258	20/12/2018	PERRY ENVIRONMENTAL CONTRACTING	WEED CONTROL AT VARIOUS LOCATIONS	3388.00
EFT67259	20/12/2018	BIG W (AR W1.C3.U.07)	SUPPLIES FOR FORRESTFIELD LIBRARY	880.00

Chq/EFT	Date	Name	Description	Amount
EFT67260	20/12/2018	WALLISTON PRIMARY P & C ASSOCIATION	CONTRIBUTION TO COMMUNITY FUNDING GRANT - WALLISTON BAND	500.00
EFT67261	20/12/2018	DEPARTMENT OF TRANSPORT	SEARCH FOR VEHICLE OWNERSHIP FOR NOVEMBER 2018	23.80
EFT67262	20/12/2018	BT EQUIPMENT P/L T/A TUTT BRYANT EQUIPMENT	PLANT / VEHICLE PARTS	551.21
EFT67263	20/12/2018	BROOKE O'DONNELL	COUNCILLOR ALLOWANCE - 01/12/18 - 31/12/18	2212.51
EFT67264	20/12/2018	SAI GLOBAL LTD	SUPPLY OF AUSTRALIAN STANDARDS	256.93
EFT67265	20/12/2018	LOCK, STOCK & FARRELL LOCKSMITH PTY LTD	PADLOCKS / KEYS SUPPLIES	1265.10
EFT67266	20/12/2018	BRIAN BLECHYNDEN	RACQUET RE-STRINGING FOR HARTFIELD PARK RECREATION CENTRE	60.00
EFT67267	20/12/2018	MICHAEL ANDREW FERNIE	COUNCILLOR ALLOWANCE - 01/12/18 - 31/12/18	2212.51
EFT67268	20/12/2018	COCA-COLA AMATIL (AUST) PTY LTD	KIOSK SUPPLIES FOR HARTFIELD RECREATION CENTRE	610.40
EFT67269	20/12/2018	G FORCE PRINTING	SUPPLY OF PRINTED STATIONERY STOCK	2044.11
EFT67270	20/12/2018	T-QUIP	PLANT / VEHICLE PARTS	1936.00
EFT67271	20/12/2018	CELIA CHEFFINS	OVERALL LOCAL HERO - SENIOR OF THE YEAR 2018	500.00
EFT67272	20/12/2018	MIRACLE RECREATION EQUIPMENT	SUPPLY AND INSTALL INFANT SWING AT KALARI PARK WATTLE GROVE	214.50
EFT67273	20/12/2018	SWAN TOWING SERVICE PTY LTD	TOWING SERVICES	984.50
EFT67274	20/12/2018	HYDROQUIP PUMPS	REPLACE FAULTY PUMP AT MAIDA VALE RESERVE	24826.78
EFT67275	20/12/2018	DIRECT TRADES SUPPLY PTY LTD	HARDWARE SUPPLIES	1288.62
EFT67276	20/12/2018	SHRED-X PTY LTD	SECURE DOCUMENT DISPOSAL BIN REMOVAL AND REPLACEMENT	33.00
EFT67277	20/12/2018	MARGARET THOMAS	COUNCILLOR ALLOWANCE - 01/12/18 - 31/12/18	2212.51
EFT67278	20/12/2018	OFFICEWORKS SUPERSTORES PTY LTD	OFFICE SUPPLIES / STATIONERY	320.96

Chq/EFT	Date	Name	Description	Amount
EFT67279	20/12/2018	AUSTREND INTERNATIONAL PTY LTD	ROAD SAFETY AND TRAFFIC CONTROL PRODUCTS	2510.03
EFT67280	20/12/2018	UNA BELL	BOND REFUND FOR THE USE OF THE GALLERY AT THE ZIG ZAG CULTURAL CENTRE	500.00
EFT67281	20/12/2018	SARA LOHMEYER	COUNCILLOR ALLOWANCE - 01/12/18 - 31/12/18	2212.51
EFT67282	20/12/2018	MAYDAY EARTHMOVING	PLANT AND EQUIPMENT HIRE	6292.00
EFT67283	20/12/2018	MATRIX PRODUCTIONS AUSTRALIA PTY LTD	LIGHTING EQUIPMENT, SOUND SYSTEMS, STAGING & AUDIOVISUAL SUPPLIES FOR KPAC	1150.94
EFT67284	20/12/2018	TRANSHILL PROPERTIES PTY LTD	FOOTPATH DEPOSIT REFUND	500.00
EFT67285	20/12/2018	MONUMENTAL SERVICES T/A A BALANCED VIEW LEISURE CONSULTANCY SERVICES	ADDITIONAL CONCEPT DESIGN AND QS COSTING FOR MAIDA VALE RESERVE MASTER PLAN	3300.00
EFT67286	20/12/2018	MODERN TEACHING AIDS PTY LTD	CHILDREN ACTIVITY SUPPLIES	391.66
EFT67287	20/12/2018	ELECTRICITY NETWORKS CORP T/A WESTERN POWER	1 LASCELLES PARADE GOOSEBERRY HILL - STREET LIGHT INSTALLATION	1950.00
EFT67288	20/12/2018	WOOLWORTHS GROUP LIMITED	GROCERY SUPPLIES FOR VARIOUS FUNCTIONS	1342.16
EFT67289	20/12/2018	GLENDA DAWN CHARLTON (PODIATRY)	PODIATRY SERVICES AT JACK HEALEY CENTRE	418.68
EFT67290	20/12/2018	WEBSITE WEED & PEST PTY LTD	WEED CONTROL AT VARIOUS LOCATIONS	4026.00
EFT67291	20/12/2018	BOYA EQUIPMENT PTY LTD	PLANT / VEHICLE PARTS	725.14
EFT67292	20/12/2018	THE CHAIR DOCTOR WA PTY LTD	SUPPLY OF OFFICE CHAIR FOR OPERATIONS CENTRE	450.00
EFT67293	20/12/2018	360 ENVIRONMENTAL PTY LTD	KALAMUNDA HISTORY VILLAGE LOCOMOTIVE - TENDER REVIEW AND ENQUIRIES FOR RESTORATION OF KALAMUNDA HISTORY VILLAGE LOCOMOTIVE	1672.00
EFT67294	20/12/2018	AJ BAKER & SONS PTY LTD	ICE MACHINE SERVICE / MAINTENANCE	509.41

Chq/EFT	Date	Name	Description	Amount
EFT67295	20/12/2018	DAVID K ALMOND	COUNCILLOR ALLOWANCE - 01/12/18 - 31/12/18	2212.51
EFT67296	20/12/2018	TECHNIFIRE 2000	PUMP UPGRADE TO 2 FIRE VEHICLES	7729.66
EFT67297	20/12/2018	DRAINFLOW SERVICES PTY LTD	CLEANING / MAINTAINING STORM WATER DRAINS	4645.30
EFT67298	20/12/2018	LOCHNESS LANDSCAPE SERVICES	MOWING OF VARIOUS RESERVES FOR NOVEMBER 2018	10638.83
EFT67299	20/12/2018	ORANGE VALLEY SAND SUPPLIES	TOP UP LAWN SAND TO AREA AT WOODLUPINE PARK	7700.00
EFT67300	20/12/2018	WEST COAST SHADE PTY LTD ATF THE WEST COAST SHADE TRUST	CHERRY PICKER HIRE REQUIRED FOR INSTALLATION OF SUMMER SHADES AT VARIOUS LOCATIONS	1936.00
EFT67301	20/12/2018	DYLAN O'CONNOR	COUNCILLOR ALLOWANCE - 01/12/18 - 31/12/18	3519.34
EFT67302		EFT PAYMENT CANCELLED		
EFT67303	20/12/2018	CONTRAFLOW	TRAFFIC MANAGEMENT FOR VARIOUS LOCATIONS	43218.45
EFT67304	20/12/2018	PK TECHNOLOGY PTY LTD T/A PK TECHNOLOGY	PLANT / VEHICLE PARTS	4062.80
EFT67305	20/12/2018	GUNDRY'S CARPET CHOICE	SUPPLY AND LAY 250SQM CARPET TILES AT RAY OWEN PAVILLION	12790.00
EFT67306	20/12/2018	STATE WIDE TURF SERVICES	TURF SUPPLIES / MAINTENANCE FOR MAIDA VALE RESERVE	12311.20
EFT67307	20/12/2018	GDD DESIGN GROUP	FOOTPATH DEPOSIT REFUND	700.00
EFT67308	20/12/2018	OFFICEWORKS MIDLAND	OFFICE / STATIONERY SUPPLIES	357.85
EFT67309	20/12/2018	NEROLIES ART - NEROLIE BLURTON	DIGITAL IMAGE OF ARTWORK FOR USE ON RECONCILIATION ACTION PLAN	1500.00
EFT67310	20/12/2018	BEAVER TREE SERVICES	TREE REMOVAL / PRUNING FOR VARIOUS LOCATIONS	152157.50
EFT67311	20/12/2018	DELL AUSTRALIA	COMPUTER PARTS / ACCESSORY SUPPLIES	13596.00
EFT67312	20/12/2018	CENTURION TEMPORARY FENCING	TEMPORARY FENCING HIRE	1148.13

Chq/EFT	Date	Name	Description	Amount
EFT67313	20/12/2018	CHEMCENTRE	WATER SAMPLY, SUPPLY OF SAMPLE BOTTLES, ESKYS AND ANALYSIS IN OCTOBER 2018	924.00
EFT67314	20/12/2018	ACCESS OFFICE INDUSTRIES	LIBRARY SUPPLIES	1279.08
EFT67315	20/12/2018	TOX FREE AUSTRALIA (KWINANA)	COLLECTION AND DISPOSAL OF CHEMICAL / PAINT WASTES	1212.15
EFT67316	20/12/2018	REINOL WA	CLEANING SUPPLIES	215.16
EFT67317	20/12/2018	FUJI XEROX AUSTRALIA PTY LTD	PHOTOCOPYING CHARGES	437.84
EFT67318	20/12/2018	THE TEMP FENCE SHOP - TTFS GROUP PTY LTD	FENCING SUPPLIES FOR OPERATIONS CENTRE	3674.00
EFT67319	20/12/2018	SIGNS & LINES	SUPPLY AND INSTALL NEW SIGNAGE FOR HIGH WYCOMBE LIBRARY	282.35
EFT67320	20/12/2018	LINDA STONES	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/11/18 - 30/11/18 & AN ADJUSTMENT FOR UNDERPAYMENT FOR PREVIOUS MONTH	100.00
EFT67321	20/12/2018	DEPARTMENT OF PLANNING, LANDS AND HERITAGE OPERATING ACCOUNT (DAPS)	DEVELOPMENT APPLICATION FEE - DA18/0497/JDP - CARGILL MALT ASIA PACIFIC 770 ABERNETHY ROAD FORRESTFIELD	10486.00
EFT67322	20/12/2018	REMONDIS AUSTRALIA PTY LTD	COLLECTION AND RECYCLING OF CARDBOARD AT WALLISTON TRANSFER STATION	2988.87
EFT67323	20/12/2018	ASPHALTECH PTY LTD	ROAD MATERIALS FOR ORANGEDALE ROAD LESMURDIE & ANNE AVE WALLISTON	244424.37
EFT67324	20/12/2018	GOODSTART EARLY LEARNING KALAMUNDA	KEY BOND REFUND	50.00
EFT67325	20/12/2018	DAIMLER TRUCKS PERTH	PLANT / VEHICLE PARTS	247.79
EFT67326	20/12/2018	PERTH BRAKE PARTS	PLANT / VEHICLE PARTS	67.00
EFT67327	20/12/2018	KALAMUNDA ELECTRICS	ELECTRICAL REPAIRS / MAINTENANCE FOR VARIOUS LOCATIONS	3153.15

Chq/EFT	Date	Name	Description	Amount
EFT67328	20/12/2018	DATATEL COMMUNICATIONS PTY LTD T/A ETTIS	ANNUAL TAGGING AND TESTING OF ELECTRICAL APPLIANCES	912.34
EFT67329	20/12/2018	JB HI-FI COMMERCIAL	VARIOUS ELECTRICAL / COMPUTER / ACCESSORY SUPPLIES	399.00
EFT67330	20/12/2018	SAVILLS VALUATIONS PTY LTD	UPDATED VALUATION FOR STAGE 1 FORRESTFIELD/HIGH WYCOMBE INDUSTRIAL AREA - FOR DCP REVIEWS	3850.00
EFT67331	20/12/2018	JULIA E AVERY	REIMBURSEMENT FOR REPAIR TO DAMAGED GATE AT 7 BINYA COURT KALAMUNDA DAMAGED BY THE WASTE COLLECTION VEHICLE ON 30/08/18	1500.00
EFT67332	20/12/2018	DMC CLEANING	CLEANING SERVICES / CONSUMABLES FOR VARIOUS LOCATIONS	96.25
EFT67333	20/12/2018	ASHJAD PTY LTD T/A CUROST MILK SUPPLY	MILK SUPPLY FOR DEPOT	194.40
EFT67334	20/12/2018	DFP RECRUITMENT SERVICES PTY LTD	HIRE OF TEMPORARY STAFF FOR DEPOT / ADMIN	2948.63
EFT67335	20/12/2018	CAMERON BLAIR	COUNCILLOR ALLOWANCE - 01/12/18 - 31/12/18	2212.51
EFT67336	20/12/2018	FLOORGUARD	RESURFACING OF COURTS 5 & 6 AT RAY OWEN BASKETBALL STADIUM	5124.13
EFT67337	20/12/2018	TIELEMAN BUILDING COMPANY	FOOTPATH DEPOSIT REFUND	5000.00
EFT67338	20/12/2018	A1 TROJAN PEST CONTROL	PEST CONTROL SERVICES FOR VARIOUS LOCATIONS	660.00
EFT67339	20/12/2018	URBIS PTY LTD	KALAMUNDA ACTIVITY CENTRE PLAN	6359.21
EFT67340	20/12/2018	NEVERFAIL SPRINGWATER LTD (ADMIN OFFICE)	BOTTLED WATER SUPPLIES / MAINTENANCE	52.80
EFT67341	20/12/2018	STAN THE TYRE MAN (STAN'S TYRE SERVICE WA)	PLANT / VEHICLE PARTS	242.00
EFT67342	20/12/2018	SUEZ RECYCLING & RECOVERY (PERTH) PTY LTD	BULK BIN SERVICES FOR GREEN AND MIXED WASTE COLLECTIONS AND DISPOSAL	1226.70

Chq/EFT	Date	Name	Description	Amount
EFT67343	20/12/2018	ZIRCODATA PTY LTD	MONTHLY OFFSITE STORAGE FEES - PERIOD 26/10/18 - 25/11/18	534.11
EFT67344	20/12/2018	ANIL YUVRAJ JAMDADE	HALL & KEY BOND REFUND	550.00
EFT67345	20/12/2018	DAYTONE PRINTING PTY LTD	PRINTING OF BROCHURES / INVITES FOR VARIOUS LOCATIONS	125.40
EFT67346	20/12/2018	WORKPOWER INCORPORATED	WEED CONTROL AT VARIOUS LOCATIONS	830.50
EFT67347	20/12/2018	SHONA EREMIN JARVIS	RATES REFUND	207.73
EFT67348	20/12/2018	WEST TIP WASTE CONTROL PTY LTD	REMOVAL & PROCESSING OF BUILDING RUBBLE, GULLY EDUCTING, SWEEPINGS	31018.24
EFT67349	20/12/2018	ELLIKA IRENE CARSON	PAYMENT FOR DAMAGE TO VEHICLE FROM FALLEN TREE	300.00
EFT67350	20/12/2018	THE LUCKY CHARM	NEWSPAPERS / MAGAZINES SUPPLIES FOR VARIOUS LOCATIONS	63.94
EFT67351	20/12/2018	FOCUS MUSIC PTY LTD	PERFORMANCE FOR THANK A VOLUNTEER DAY	1105.00
EFT67352	20/12/2018	A TEAM PRINTING	PRINTING OF MORNING MUSIC 'FRIDGE MAGNET' PROGRAMME BROCHURES	486.20
EFT67353	20/12/2018	APN OUTDOOR (TRADING) PTY LTD	METROBACKS BUS BACK ADVERTISING FOR PERTH HILLS SPRING FESTIVAL 2018	592.03
EFT67354	20/12/2018	TESSA A MEEGAN	PART DOG REGISTRATION FEE REFUND	51.67
EFT67355	20/12/2018	LG ASSIST AUSTRALIA	ADVERTISEMENT PLACED ON LG ASSIST FOR MANAGER PARKS & ENVIRONMENTAL SERVICES	302.50
EFT67356	20/12/2018	THE PLATINUM ZONE	HALL BOND REFUND	400.00
EFT67357	20/12/2018	BLUE STEEL ENTERPRISES PTY LTD T/A FRONTLINE FIRE & RESCUE EQUIPMENT	MAINTENANCE OF FIRE AND RESCUE EQUIPMENT	1804.00
EFT67358	20/12/2018	NATURE CALLS PORTABLE TOILETS	PORTABLE TOILETS FOR CHRISTMAS MOVIE NIGHT 2018	468.00
EFT67359	20/12/2018	HOST CATERING SUPPLIES	SUPPLY OF DISHWASH/GLASSWARE RACK TROLLEY FOR KALAMUNDA PERFORMING ARTS CENTRE	548.90

Chq/EFT	Date	Name	Description	Amount
EFT67360	20/12/2018	INSTANT WASTE MANAGEMENT	HOOK LIFT BIN TRANSPORTATION	10725.00
EFT67361	20/12/2018	ROADLINE REMOVAL WA	HIGH PRESSURE WATER BLAST LINE REMOVAL OF OBSOLETE MARKINGS AT VARIOUS LOCATIONS	3957.36
EFT67362	20/12/2018	AMIAD WATER SYSTEMS	UNDERTAKE IMPLEMENTATION OF ALTERNATIVE WATER SUPPLY PROJECT DRAWING SUBMISSIONS - PURCHASING MAIN COMPONENTS OF HARTFIELD PARK PROJECT	54300.40
EFT67363	20/12/2018	RONALD JUAN SPARK	RATES REFUND	80.44
EFT67364	20/12/2018	LE GROVE LANDSCAPING PTY LTD (IN LIQUIDATION)	CASH RETENTION - BIBBULMUN TRACK STREETSCAPE WORKS TO THE NORTHERN TERMINUS LINK & RAILWAY ROAD IN KALAMUNDA	8603.38
EFT67365	20/12/2018	SLIMLINE WAREHOUSE	OFFICE DISPLAY SUPPLIES	208.02
EFT67366	20/12/2018	ALINTA ENERGY (ELECTRICITY ACCOUNT)	POWER CHARGES	4001.96
EFT67367	20/12/2018	ROTARACT CLUB OF KALAMUNDA	EVENY ASSISTANCE FOR SAUSAGE SIZZLE AT SCHOOLS OUT POOL PARTY 2018 AT KALAMUNDA WATER PARK	525.00
EFT67368	20/12/2018	ALL FUN FACE PAINTING	SUPPLY OF 2 X FACE PAINTERS FOR CHRISTMAS MOVIE NIGHT 2018	260.00
EFT67369	20/12/2018	SHOP FOR SHOPS	MERCHANDISE SUPPLIES FOR RESALE AT THE ZIG ZAG CULTURAL CENTRE	58.00
EFT67370	20/12/2018	POWERVAC PTY LTD	SERVICE TO TENNANT T300 PLUS BRUSH MOTOR WIRING KIT HARNESS KIT EXTENSION AT HARTFIELD PARK RECREATION CENTRE	436.50
EFT67371	20/12/2018	AUSSIE TELECOM PTY LTD	DEEP FREEZE CLOUD ULTIMATE SUBSCRIPTION - 22 CLIENTS - ULTIMATE PLUS ANTI-VIRUS	2798.90
EFT67372	20/12/2018	PICASSO PRINT & DESIGN PTY LTD	ARTWORK / PRINTING OF VARIOUS BROCHURES	652.30

Chq/EFT	Date	Name	Description	Amount
EFT67373	20/12/2018	AURORA ABRAHAM	NOONGAR STORIES & ART FOR HARTFIELD PARK REDEVELOPMENT	5000.00
EFT67374	20/12/2018	DOWSING GROUP PTY LTD	SUPPLY AND INSTALL NEW PATHWAYS AT VARIOUS LOCATIONS	153149.71
EFT67375	20/12/2018	ANNABEL TRENDS PTY LTD	MERCHANDISE SUPPLIES FOR RESALE AT THE ZIG ZAG CULTURAL CENTRE	150.70
EFT67376	20/12/2018	ASTERISK INFORMATION SECURITY PTY LTD	SUPPLY REPLACEMENT ANTI VIRUS SOFTWARE	19291.14
EFT67377	20/12/2018	WESTERN TREE RECYCLERS	GREEN WASTE PROCESSING/COLLECTION	10109.58
EFT67378	20/12/2018	BROOK & MARSH PTY LTD	RE-PEG ASHBY CLOSE / SULTANA RD FORRESTFIELD & ROAD WIDENING HALE ROAD WATTLE GROVE	4696.00
EFT67379	20/12/2018	CORSIGN WA PTY LTD	SUPPLIES OF SIGNAGE AND RELATED EQUIPMENT	5935.60
EFT67380	20/12/2018	PRESTIGE COMMUNICATIONS	SUPPLY OF UNIDEN BELT CLIPS FOR OPERATIONS CENTRE	862.40
EFT67381	20/12/2018	CONNOR DEVLIN MEDIA	SANTA & KIDS PHOTOGRAPHY - PHOTOGRAPHY, EDITING, PROVISION OF IMAGES	470.00
EFT67382	20/12/2018	MARSH PTY LTD	INSURANCE WORKERS COMPENSATION RENEWAL - 30/06/2018 TO 30/06/2019	109147.50
EFT67383	20/12/2018	ANIMAL PEST MANAGEMENT SERVICES	BAIT STATIONS AND SERVICE FOR DECEMBER 2018	336.71
EFT67384	20/12/2018	VIZSTONE	MANAGE ENGINE ENTERPRISE FOR DECEMBER 2018	2689.50
EFT67385	20/12/2018	HORIZON WEST LANDSCAPE & IRRIGATION PTY LTD	BIBBULMUN TRACK MAINTENANCE WORKS - 05/11/18 - 26/11/18	748.00
EFT67386	20/12/2018	LEARNING DISCOVERY AS TRUSTEE FOR ENCORE DISCRETIONARY TRUST	VARIOUS SUPPLIES FOR FORRESTFIELD & KALAMUNDA LIBRARIES	180.00
EFT67387	20/12/2018	CITY OF PERTH BAND	HALL BOND REFUND - LESS TECHNICIAN FEES	290.50

Chq/EFT	Date	Name	Description	Amount
EFT67388	20/12/2018	INSPEK CALIBRATIONS	SUPPLY OF 1THERMOMETER CALIBRATION FOR HEALTH DEPARTMENT	595.21
EFT67389	20/12/2018	TENDERLINK.COM	TENDERLINK FOR THE RELEASE OF PUBLIC TENDERS THROUGH THE E-TENDERING PORTAL	708.40
EFT67390	20/12/2018	TENNANT AUSTRALIA PYT LTD	PLANT / VEHICLE PARTS	1039.81
EFT67391	20/12/2018	A PROUD LANDMARK PTY LTD	PLAYGROUND SURROUND UPGRADE AT PETER THIEL RESERVE & STREET TREE MAINTENANCE IN WATTLE GROVE	17272.20
EFT67392	20/12/2018	JBS&G AUSTRALIA PTY LTD	CONTAMINATED SITES AUDITOR FOR FORMER BRAND RD LANDFILL SITE	5258.00
EFT67393	20/12/2018	GYMMASTER SOFTWARE - TRESHNA ENTERPRISES LTD	HIGH WYCOMBE STUDIO PACKAGE FOR THE 24/7 GYM MONTHLY CHARGE.	80.00
EFT67394	20/12/2018	MOUNTAIN BIKE AUSTRALIA LTD	BOND REFUND FOR THE USE OF THE SEMINAR ROOM AT THE ZIG ZAG CULTURAL CENTRE	300.00
EFT67395	20/12/2018	DEAN SHEPHERD	DJ SERVICES AT THE SCHOOLS OUT POOL PARTY - KALAMUNDA WATER PARK	150.00
EFT67396	20/12/2018	ARCHITEX DESIGN	DESIGN ADVISORY COMMITTEE CONSULTANT SERVICE - FEE CLAIMS - WORK COMPLETED 01/11/18	1950.00
EFT67397	20/12/2018	FOCUS AUDIOVISUAL PTY LTD	SUPPLY AND INSTALL OF TV'S FOR RANGERS AND OPS CENTRE MEETING ROOMS	5110.60
EFT67398	20/12/2018	EMPLOYEECONNECT PTY LTD	MONTHLY SOFTWARE AND SERVICE FOR PRO - PERIOD NOVEMBER 2018	2524.50
EFT67399	20/12/2018	MATERON INVESTMENTS PTY LTD	FOOTPATH DEPOSIT REFUND	5000.00
EFT67400	20/12/2018	ADAM C BENNETTS	EMERGENCY FATHER CHRISTMAS FOR CAROLS BY CANDLELIGHT	180.00
EFT67401	20/12/2018	TOM STODDART PTY LTD	SUPPLY AND DELIVER TOWN & PARK DRINK FOUNTAIN TO ALAN ANDERSON PARK	5189.80

Chq/EFT	Date	Name	Description	Amount
EFT67402	20/12/2018	PLAYFIX WA PTY LTD	REPAIR RUBBER SOFT FALL AT STIRK PARK AT MAIDA VALE RESERVE	2992.00
EFT67403	20/12/2018	CROWE HORWATH (AUST) PTY LTD	PROFESSIONAL SERVICES - INTERNAL AUDIT OF GRANTS MANAGEMENT PREPARATION & ATTENDANCE OF THE AUDIT & RISK COMMITTEE MEETING INTERNAL AUDIT OF DEVELOPMENT CONTRIBUTIONS PLANS INTERNAL AUDIT OF WASTE MANAGEMENT	31548.00
EFT67404	20/12/2018	LD THOMPSON & CO	DILAPIDATION REPORT FOR 20 FALLS ROAD LESMURDIE FOR WORKS ASSOCIATED TO THE MEN'S SHED SEPTIC TANK AND LEACH DRAIN INSTALLATION	385.00
EFT67405	20/12/2018	ORACLE CUSTOMER MANAGEMENT SOLUTIONS PTY LTD T/AS ORACLE CMS	AFTER HOURS SERVICE - OCTOBER 2018	1589.84
EFT67406	20/12/2018	ALL LINES	LINEMARKING TO PICKERING BROOK NETBALL AND BASKETBALL COURTS	990.00
EFT67407	20/12/2018	TREE WATERING SERVICES	TREE WATERING OF STREET TREES AT VARIOUS LOCATIONS	2634.00
EFT67408	20/12/2018	THE PRINTING FACTORY	SUPPLY OF 1 A1 COREFLUTE SIGN, INCL DELIVERY FOR ADVERTISING - PDEV 65 - HERITAGE AREA - WELSHPOOL ROAD EAST	173.25
EFT67409	20/12/2018	BGC BUILDERS SUPPLIES PTY LTD	SUPPLY OF CONCRETE BAGS FOR OPERATIONS CENTRE	339.16
EFT67410	20/12/2018	CGM COMMUNICATIONS PTY LTD	REVIEW OF CRISIS PLAN AND CREATION OF DRAFT MATERIALS	2816.00
EFT67411	20/12/2018	PROTEK 247 BUILDING	SUPPLY MINOR ROOF REPAIR SERVICES AND GUTTER CLEANING AT VARIOUS LOCATIONS	11994.97
EFT67412	20/12/2018	EUROPEAN FOODS WHOLESALERS PTY LTD	SUPPLY OF VEGWARE COFFEE CUPS FOR OPERATIONS CENTRE	533.50

Chq/EFT	Date	Name	Description	Amount
EFT67413	20/12/2018	ACTION GLASS & ALUMINIUM	SUPPLY GENERAL GLAZING SERVICES AT VARIOUS LOCATIONS	854.15
EFT67414	20/12/2018	ISOBAR	STAGE 2: DESIGN APPROVAL 20% - WEBSITE REDEVELOPMENT DISCOVERY & DESIGN	33528.00
EFT67415	20/12/2018	GREEN OPTIONS	MOWING OF HARTFIELD PARK HOCKEY FIELDS PERIOD 01/11/18 - 27/11/18	2728.00
EFT67416	20/12/2018	LIVING TURF	SOIL TESTS FOR COMPLETE MAJOR NUTRIENT AND TRACE ELEMENT ANALYSIS, TOGETHER WITH REPORT / RECOMMENDATION FOR VARIOUS LOCATIONS	1072.50
EFT67417	20/12/2018	GREG J PARSONS - GREG'S CINEMAS	SUPPLY OF SCREEN, PA/MIC, POPCORN STAND, GENERATOR FOR THE FORRESTFIELD CHRISTMAS MOVIE NIGHT EVENT 2018	1841.40
EFT67418	20/12/2018	TYRE STORAGE AND RECOVERY WA (TSR WA)	COLLECTION AND PROCESSING OF TYRES	414.30
EFT67419	20/12/2018	NEWHAWK CORPORATION PTY LTD T/AS EJAN COMMUNICATIONS	RENTAL MOBILE SOFTWARE AIR TIME FOR THE PERIOD OF 01/12/2018 TO 28/02/2019 RANGER 2 WAY / PHONE SYSTEM AND 2 X POC DISPATCH ADMIN CRO	1518.00
EFT67420	20/12/2018	LEEWAY GROUP PTY LTD	RELOCATION OF WATER AND FIRE MAINS AT LOT 100 (7) ASHBY CLOSE, FORRESTFIELD & DEWATER TRENCH FOR PIPE INSTALLATION	6501.55
EFT67421	20/12/2018	JK BUSINESS CONSULTING	CONSULTING SERVICES PROVIDED IN NOVEMBER & DECEMBER 2018	10450.00
EFT67422	20/12/2018	LASER ELECTRICAL GREENWOOD	SERVICE ON 2 VMB AND REPAIR FOR LED LIGHTS	2575.09
EFT67423	20/12/2018	INDUSTRIAL RECRUITMENT PARTNERS (IRP) PTY LTD	HIRE OF TEMPORARY STAFF FOR DEPOT / ADMIN	5262.18

Chq/EFT	Date	Name	Description	Amount
EFT67424	20/12/2018	ROTHWELL PUBLISHING	AUSTRALIAN ADVENTURE PASSPORT INITIAL STARTUP PACKAGE WITH PASSPORTS	200.00
EFT67425	20/12/2018	AVANTGARDE TECHNOLOGIES PTY LTD	CONSULTING SERVICES FOR IT DEPARTMENT	2255.00
EFT67426	20/12/2018	METAL ARTWORK CREATIONS	SUPPLY DOOR NAME PLAQUES FOR OPERATIONS CENTRE	211.20
EFT67427	20/12/2018	HARBOUR SOFTWARE	DOC ASSEMBLER ANNUAL LICENSE FEE 1 DEC 2018 - 30 NOV 2019	15785.00
EFT67428	20/12/2018	TOBIAS BAILYE	OVERALL WINNER - YOUNG LOCAL HERO OF THE YEAR AWARD 2018	500.00
EFT67429	20/12/2018	GRACIES CAFE	DONATION TO CHRISTMAS DAY LUNCH	500.00
EFT67430	20/12/2018	ROCK N TODDLER	CHRISTMAS ACTIVITY FOR CHRISTMAS FESTIVAL MOVIE NIGHT 2018	1445.00
EFT67431	20/12/2018	STEPHANIE BROKENSHIRE	REIMBURSEMENT - KALAMUNDA HOUSING EXPO	227.50
EFT67432	20/12/2018	DAMIEN LEE	LOCAL HERO OF THE YEAR AWARD 2018 - MAKING A DIFFERENCE IN YOUR COMMUNITY	500.00
EFT67433	20/12/2018	CELINA CHUNG (CC DANCE COMPANY)	HALL BOND REFUND	400.00
EFT67434	20/12/2018	CHARLIE RODAN	LEEWIN OCEAN ADVENTURE FOUNDATION - YOUTH LEADERSHIP	200.00
EFT67435	20/12/2018	TEENA LEUBA	KEY BOND REFUND	50.00
EFT67436	20/12/2018	ALINTA FIDZEWICZ	KEY BOND REFUND	50.00
EFT67437	20/12/2018	JESSICA HUNT	HALL & KEY BOND REFUND	550.00
72384	12/12/2018	HOSPITAL BENEFIT FUND OF WA	PAYROLL DEDUCTIONS	178.10
72385	12/12/2018	MUNICIPAL EMPLOYEES UNION	PAYROLL DEDUCTIONS	850.76
72386	12/12/2018	TELSTRA CORPORATION	TELEPHONE EXPENSES	30759.76
72387	12/12/2018	WATER CORPORATION	WATER USE AND SERVICE CHARGE FEES	1175.05
72388	12/12/2018	SHAREE LOVEGROVE	KEY BOND REFUND	50.00
72389	12/12/2018	CASH - ADMIN	PETTY CASH REIMBURSEMENT	1145.98

Chq/EFT	Date	Name	Description	Amount
72390	12/12/2018	CASH - KALAMUNDA LIBRARY	PETTY CASH REIMBURSEMENT	242.66
72391	12/12/2018	CASH - FORRESTFIELD LIBRARY	PETTY CASH REIMBURSEMENT	240.10
72392	12/12/2018	CASH - HARTFIELD PARK	PETTY CASH REIMBURSEMENT	108.54
72393	12/12/2018	CASH - LESMURDIE LIBRARY	PETTY CASH REIMBURSEMENT	78.80
72394	12/12/2018	CASH - HIGH WYCOMBE LIBRARY	PETTY CASH REIMBURSEMENT	190.90
72395	12/12/2018	CASH - ZIG ZAG CULTURAL CENTRE	PETTY CASH REIMBURSEMENT	105.93
72396	19/12/2018	ROBERT GEAGEA	REFUND OF CANDIDATE DEPOSITS - EXTRAORDINARY ELECTIONS - 14 DECEMBER 2018	80.00
72397	19/12/2018	WATER CORPORATION	WATER USE AND SERVICE CHARGE FEES	2045.04
72398	19/12/2018	CASH - FORRESTFIELD LIBRARY	PETTY CASH REIMBURSEMENT	247.45
72399	19/12/2018	CASH - HARTFIELD PARK	PETTY CASH REIMBURSEMENT	398.70
72400	19/12/2018	ANDRE STASIKOWSKI	REFUND OF CANDIDATE DEPOSITS - EXTRAORDINARY ELECTIONS 14 DECEMBER 2018	80.00
72401	19/12/2018	KALEM TYMUS	REFUND OF CANDIDATE DEPOSITS - EXTRAORDINARY ELECTIONS 14 DECEMBER 2018	80.00
DD40332.1	11/12/2018	WA LOCAL GOVERNMENT SUPERANNUATION PLAN	SUPERANNUATION CONTRIBUTIONS	101826.11
DD40332.2	11/12/2018	AUSTRALIAN ETHICAL SUPERANNUATION	SUPERANNUATION CONTRIBUTIONS	193.75
DD40332.3	11/12/2018	MACQUARIE ADF SUPERANNUATION FUND	SUPERANNUATION CONTRIBUTIONS	66.93
DD40332.4	11/12/2018	BT SUPER FOR LIFE	SUPERANNUATION CONTRIBUTIONS	337.97
DD40332.5	11/12/2018	ESSENTIAL SUPER	SUPERANNUATION CONTRIBUTIONS	272.17
DD40332.6	11/12/2018	HUNDAL & ROGERS FUTURE FUND	SUPERANNUATION CONTRIBUTIONS	467.16
DD40332.7	11/12/2018	MLC MASTERKEY SUPER GOLD STAR VERSION ACCOUNT	SUPERANNUATION CONTRIBUTIONS	414.08
DD40332.8	11/12/2018	IOOF PORTFOLIO SERVICE PERSONAL SUPERANNUATION	SUPERANNUATION CONTRIBUTIONS	179.81
DD40332.9	11/12/2018	AUSTRALIAN CATHOLIC SUPERANNUATION & RETIREMENT FUND (ACSRF)	SUPERANNUATION CONTRIBUTIONS	271.25
DD40414.1	25/12/2018	WA LOCAL GOVERNMENT SUPERANNUATION PLAN	SUPERANNUATION CONTRIBUTIONS	100719.47

Chq/EFT	Date	Name	Description	Amount
DD40414.2	25/12/2018	ESSENTIAL SUPER	SUPERANNUATION CONTRIBUTIONS	272.17
DD40414.3	25/12/2018	HUNDAL & ROGERS FUTURE FUND	SUPERANNUATION CONTRIBUTIONS	467.16
DD40414.4	25/12/2018	MLC MASTERKEY SUPER GOLD STAR VERSION ACCOUNT	SUPERANNUATION CONTRIBUTIONS	494.33
DD40414.5	25/12/2018	IOOF PORTFOLIO SERVICE PERSONAL SUPERANNUATION	SUPERANNUATION CONTRIBUTIONS	160.02
DD40414.6	25/12/2018	AUSTRALIAN CATHOLIC SUPERANNUATION & RETIREMENT FUND (ACSRF)	SUPERANNUATION CONTRIBUTIONS	271.25
DD40414.7	25/12/2018	AMP SUPER	SUPERANNUATION CONTRIBUTIONS	65.68
DD40414.8	25/12/2018	REI SUPER	SUPERANNUATION CONTRIBUTIONS	236.67
DD40414.9	25/12/2018	ONEPATH MASTERFUND	SUPERANNUATION CONTRIBUTIONS	251.09
DD40418.1	25/12/2018	WA LOCAL GOVERNMENT SUPERANNUATION PLAN	SUPERANNUATION CONTRIBUTIONS	349.75
DD40332.10	11/12/2018	REI SUPER	SUPERANNUATION CONTRIBUTIONS	236.67
DD40332.11	11/12/2018	ONEPATH MASTERFUND	SUPERANNUATION CONTRIBUTIONS	247.03
DD40332.12	11/12/2018	PETER TUCATS SUPERANNUATION FUND	SUPERANNUATION CONTRIBUTIONS	296.80
DD40332.13	11/12/2018	THE TRUSTEE FOR DK ALWAYS SUPERANNUATION FUND	SUPERANNUATION CONTRIBUTIONS	505.52
DD40332.14	11/12/2018	THE TRUSTEE FOR YOZ MIGHTY SUPERANNUATION FUND	SUPERANNUATION CONTRIBUTIONS	295.34
DD40332.15	11/12/2018	TWU SUPERANNUATION FUND	SUPERANNUATION CONTRIBUTIONS	235.52
DD40332.16	11/12/2018	CBUS SUPERANNUATION	SUPERANNUATION CONTRIBUTIONS	378.42
DD40332.17	11/12/2018	BWMT SUPERANNUATION FUND	SUPERANNUATION CONTRIBUTIONS	256.77
DD40332.18	11/12/2018	HESTA SUPER FUND	SUPERANNUATION CONTRIBUTIONS	76.33
DD40332.19	11/12/2018	REST SUPERANNUATION	SUPERANNUATION CONTRIBUTIONS	1509.18
DD40332.20	11/12/2018	COLONIAL 1ST STATE SUPERANNUATION	SUPERANNUATION CONTRIBUTIONS	757.04
DD40332.21	11/12/2018	AUSTRALIAN SUPERANNUATION	SUPERANNUATION CONTRIBUTIONS	4694.83
DD40332.22	11/12/2018	HOSTPLUS PTY LTD	SUPERANNUATION CONTRIBUTIONS	1377.15
DD40332.23	11/12/2018	ANZ SMART CHOICE SUPER	SUPERANNUATION CONTRIBUTIONS	551.49
DD40332.24	11/12/2018	THE ROBERT ETIENNE SUPERANNUATION FUND	SUPERANNUATION CONTRIBUTIONS	716.39
DD40332.25	11/12/2018	AMPLIFE LIMITED	SUPERANNUATION CONTRIBUTIONS	830.29

Chq/EFT	Date	Name	Description	Amount
DD40414.10	25/12/2018	THE TRUSTEE FOR DK ALWAYS SUPERANNUATION FUND	SUPERANNUATION CONTRIBUTIONS	665.78
DD40414.11	25/12/2018	THE TRUSTEE FOR YOZ MIGHTY SUPERANNUATION FUND	SUPERANNUATION CONTRIBUTIONS	303.64
DD40414.12	25/12/2018	PETER TUCATS SUPERANNUATION FUND	SUPERANNUATION CONTRIBUTIONS	296.80
DD40414.13	25/12/2018	TWU SUPERANNUATION FUND	SUPERANNUATION CONTRIBUTIONS	234.31
DD40414.14	25/12/2018	BWMT SUPERANNUATION FUND	SUPERANNUATION CONTRIBUTIONS	246.25
DD40414.15	25/12/2018	HESTA SUPER FUND	SUPERANNUATION CONTRIBUTIONS	253.38
DD40414.16	25/12/2018	REST SUPERANNUATION	SUPERANNUATION CONTRIBUTIONS	1495.14
DD40414.17	25/12/2018	BT SUPER FOR LIFE	SUPERANNUATION CONTRIBUTIONS	343.64
DD40414.18	25/12/2018	COLONIAL 1ST STATE SUPERANNUATION	SUPERANNUATION CONTRIBUTIONS	1005.34
DD40414.19	25/12/2018	AUSTRALIAN SUPERANNUATION	SUPERANNUATION CONTRIBUTIONS	5020.09
DD40414.20	25/12/2018	HOSTPLUS PTY LTD	SUPERANNUATION CONTRIBUTIONS	1393.94
DD40414.21	25/12/2018	ANZ SMART CHOICE SUPER	SUPERANNUATION CONTRIBUTIONS	858.56
DD40414.22	25/12/2018	AMPLIFE LIMITED	SUPERANNUATION CONTRIBUTIONS	775.65
				6829868.15

City of Kalamunda Payroll

F812121463908	12/12/2018	CITY OF KALAMUNDA PAYROLL	VARIOUS AWARDS TO 12 December 2018	622,715.48
F812212129796	25/12/2018	CITY OF KALAMUNDA PAYROLL	VARIOUS AWARDS TO 25 December 2018	618,672.68
				1,241,388.16

CITY OF KALAMUNDA

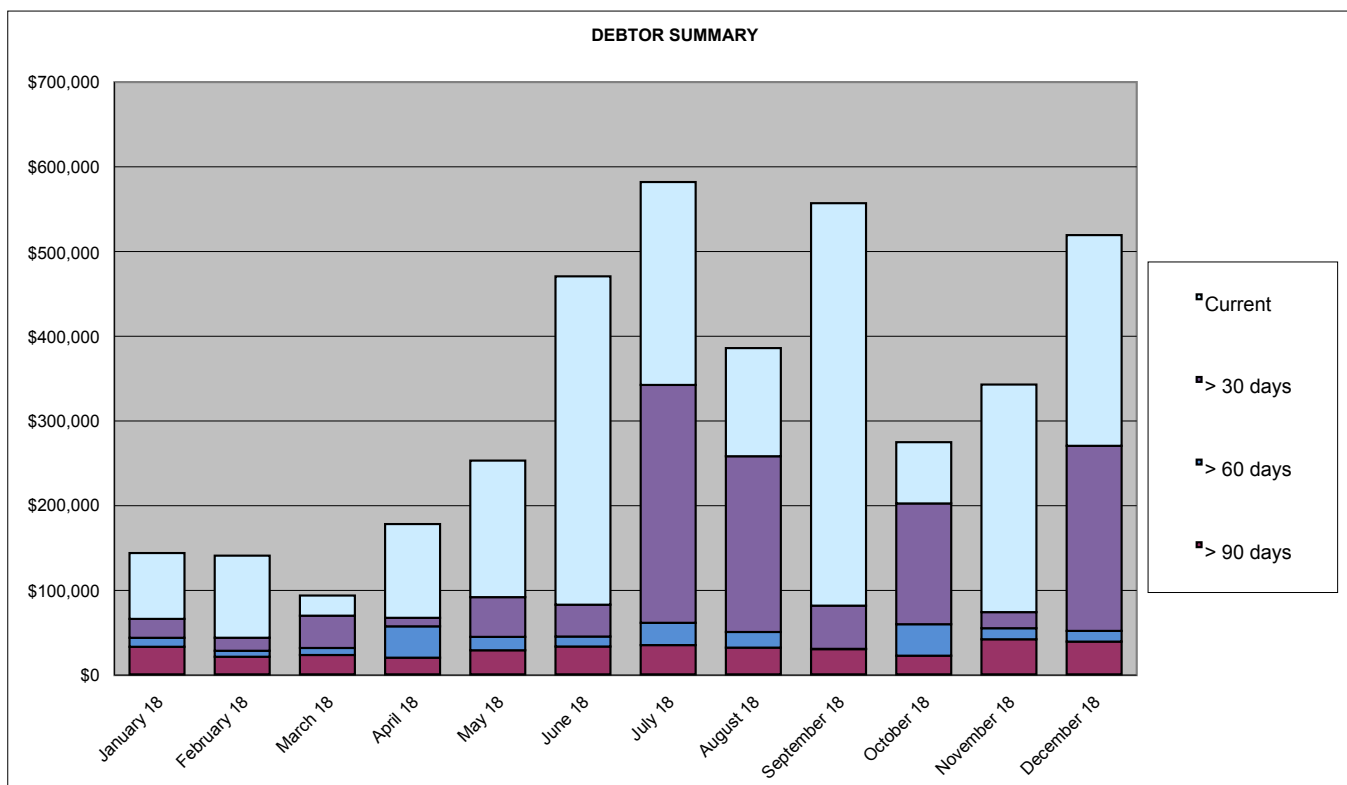
SUMMARY OF DEBTORS

FOR THE PERIOD ENDED 31st December 2018



Sundry Debtors Trial Balance - Summary Aged Listing

	> 90 days	> 60 days	> 30 days	Current	Total
January 18	\$32,525	\$10,603	\$22,322	\$77,713	\$143,163
February 18	\$20,762	\$7,064	\$15,369	\$96,892	\$140,087
March 18	\$22,834	\$8,284	\$38,129	\$23,773	\$93,020
April 18	\$19,674	\$36,986	\$10,065	\$110,649	\$177,374
May 18	\$28,412	\$15,815	\$46,892	\$161,174	\$252,292
June 18	\$32,833	\$11,788	\$37,582	\$387,557	\$469,760
July 18	\$34,520	\$26,301	\$280,772	\$239,486	\$581,079
August 18	\$31,533	\$18,465	\$207,431	\$127,642	\$385,071
September 18	\$29,734	\$374	\$50,973	\$475,018	\$556,100
October 18	\$22,021	\$37,150	\$142,548	\$72,312	\$274,030
November 18	\$41,383	\$13,052	\$18,999	\$268,626	\$342,060
December 18	\$38,652	\$12,627	\$218,454	\$248,704	\$518,438



CITY OF KALAMUNDA SUMMARY OF DEBTORS FOR THE PERIOD ENDED 31st December 2018			
AMOUNT	DEBTOR	DETAILS	STATUS
>90 days			
\$21,482.64	Kalamunda Club	Loan Instalment	Club seeking deferment - pending consideration by Council
\$4,926.80	Evolution Cheer & Dance^	Hall Hire	Cash Flow issues - self managed instalments
\$4,455.01	Zig Zag Gymnastics^	Lease	Cash Flow issues - Discussions held with Owner - self managed instalments
\$7,787.87	90+ Days Debts consisting of amounts under \$1,000.00.	40 Debtors - average debt \$194.69	Debtors to be contacted to advise debt recovery action pending / final notices issued / debt with D&B or possible write-off of debt pending
\$38,652.32	Total Debts 90+ Days		
>60 days			
\$3,323.34	Kalamunda & District Junior Football Club	Electricity Usage - Reserve Hire	Statement issued - direct contact to be made
\$2,923.14	Zig Zag Gymnastics^	Lease	Cash Flow issues - Discussions held with Owner - self managed instalments
\$1,806.25	Forrestfield Sisdac	Hall Hire	Statement issued - direct contact to be made
\$4,574.69	60+ Days Debts consisting of amounts under \$1,000.00.	13 Debtors - average debt \$351.90	All debtors contacted by telephone / email / copy invoices mailed. Large number due to issue of health services annual fees 28/08/18
\$12,627.42	Total Debts 60+ Days		
>30 days			
\$210,843.05	Linc Property	Works Bond	Bank Guarantee received - to credit outstanding balance on account
\$2,923.14	Zig Zag Gymnastics^	Lease	Cash Flow issues - Discussions held with Owner - self managed instalments
\$2,500.00	Private Citizen	Contribution - removal of verge tree	Statement Issued
\$2,188.00	30+ Days Debts consisting of amounts under \$1,000.00.	3 Debtors - average debt \$729.33	Statements issued
\$218,454.19	Total Debts 30+ Days		
< 30 days			
\$252,251.10	Total of Current Debts		
\$3,547.24	Total of Accounts in Credit		
\$518,437.79	Total - Debtors Trial Balance		
FOOTNOTES			
* Denotes currently in negotiation of invoice amount and / or details			
^ Denotes payment arrangement in place			

CITY OF KALAMUNDA
SUMMARY OF CREDITORS
FOR THE PERIOD ENDED 31 DECEMBER 2018

**Sundry Creditors Trial Balance - Summary Aged Listing**

Month End	> 90 days	> 60 days	> 30 days	Current	Total
7/31/2017	\$7,214	-\$85	\$2,330	\$928,027	\$937,483
8/31/2017	\$11,870	\$24,652	\$232,335	\$1,318,300	\$1,587,157
9/30/2017	\$3,924	\$48,721	\$21,845	\$613,992	\$688,482
10/31/2017	\$9,241	\$3,450	\$25,817	\$1,182,360	\$1,220,868
11/30/2017	-\$806	\$28,733	\$12,953	\$637,757	\$678,637
12/31/2017	-\$56,248	\$112,765	\$45,257	\$796,722	\$898,496
1/31/2018	\$6,710	\$5,258	\$122,852	\$867,737	\$1,002,558
2/28/2018	\$1,890	\$40,937	\$29,239	\$2,798,433	\$2,870,498
3/31/2018	\$38,065	\$24,067	\$75,776	\$1,590,758	\$1,728,666
4/30/2018	\$39,403	\$23,826	\$306,301	\$1,121,313	\$1,490,842
5/31/2018	\$39,334	\$35	\$38,880	\$1,384,603	\$1,462,852
6/30/2018	\$61,398	\$78,812	\$176,898	\$2,688,142	\$3,005,250
7/31/2018	\$39,807	\$239	\$17,773	\$1,044,603	\$1,102,423
8/31/2018	\$40,230	\$48,103	\$103,073	\$3,025,026	\$3,186,732
9/30/2018	\$41,418	\$0	\$261,665	\$733,054	\$1,036,137
10/31/2018	\$50,571	\$60,482	\$40,328	\$1,766,760	\$1,918,142
11/30/2018	\$0	-\$90	\$22,363	\$3,414,169	\$3,436,442
12/31/2018	\$2,898	\$419	\$39,367	\$519,670	\$588,440

Comment

- > 90 days Original invoices for North Metro Tafe, Beaver Tree Services & credits for Hema Maps Pty Ltd not received in Accounts for processing
- > 60 days Original invoices for DatatelCommunicationsPty Ltd t/a Ettis not received in Accounts for processing
- > 30 days These invoices are paid on the third fortnightly payment run.

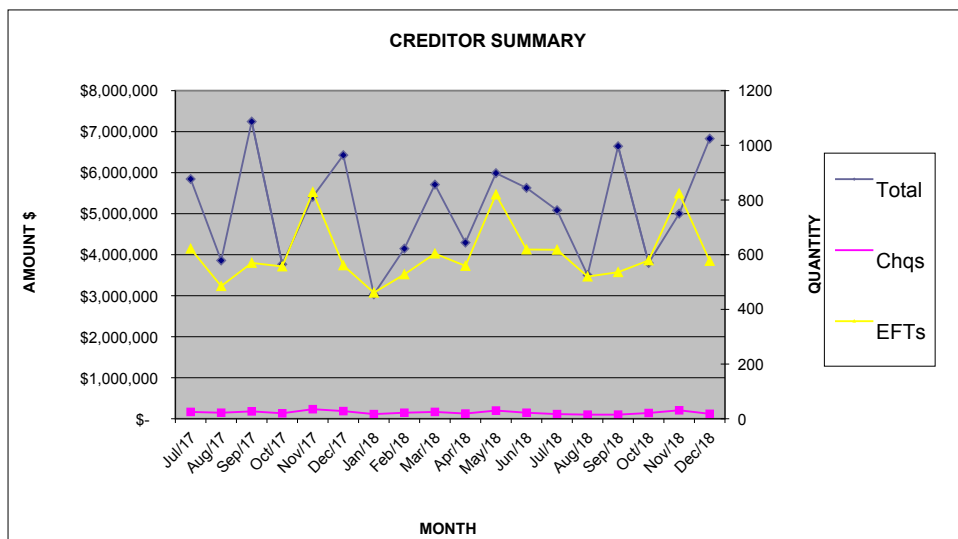
Creditor Payments made

Month	Amount \$	Quantity		
		Cheques	EFTs	Total
Jul-17	\$ 5,846,091	25	622	647
Aug-17	\$ 3,859,524	22	485	507
Sep-17	\$ 7,246,066	27	570	597
Oct-17	\$ 3,766,484	20	557	577
Nov-17	\$ 5,412,342	35	829	864
Dec-17	\$ 6,427,319	28	561	589
Jan-18	\$ 3,034,896	17	461	478
Feb-18	\$ 4,148,129	22	528	550
Mar-18	\$ 5,709,513	25	604	629
Apr-18	\$ 4,294,934	19	559	578
May-18	\$ 5,988,484	30	820	850
Jun-18	\$ 5,628,881	22	619	641
Jul-18	\$ 5,084,485	17	618	635
Aug-18	\$ 3,502,919	15	520	535
Sep-18	\$ 6,644,740	15	536	551
Oct-18	\$ 3,798,437	21	579	600
Nov-18	\$ 5,001,070	31	824	855
Dec-18	\$ 6,829,868	18	577	595

*Excludes net staff payroll

*Creditors on 30 day terms are paid on the 28th of the month following.

*Local suppliers are paid on 14 day terms.



CITY OF KALAMUNDA**SUMMARY OF OUTSTANDING RATES****FOR THE PERIOD ENDED 31 January 2019****Rates Outstanding Debtors**

	3rd Previous Year + Outstanding	2nd Previous Year Outstanding	Previous Year Outstanding	Current Outstanding	Total Outstanding	Previous Year Total Outstanding
30-Jun-18		Balance Forward			\$2,048,010	\$1,413,452
31-Jul-18	\$533,913.35	\$251,718.55	\$1,086,267.97	\$31,926,450.22	\$33,798,350.09	\$32,382,830.26
31-Aug-18	\$530,731.22	\$238,860.53	\$753,974.94	\$18,030,233.51	\$19,553,800.20	\$19,230,682.84
30-Sep-18	\$527,248.36	\$232,952.41	\$662,625.00	\$17,042,123.41	\$18,464,949.18	\$17,603,166.06
31-Oct-18	\$520,294.63	\$225,518.73	\$563,584.86	\$13,693,359.86	\$15,002,758.08	\$14,914,997.96
30-Nov-18	\$514,614.36	\$209,760.93	\$490,277.54	\$12,112,516.07	\$13,327,168.90	\$13,353,964.59
31-Dec-18	\$511,830.87	\$203,232.47	\$465,032.82	\$7,689,103.41	\$8,869,199.57	\$8,226,887.75
31-Jan-19	\$508,182.97	\$195,754.93	\$437,554.06	\$6,111,221.42	\$7,252,713.38	\$6,964,609.49
28-Feb-19					\$0.00	\$3,468,662.49
31-Mar-19					\$0.00	\$2,889,268.43
30-Apr-19					\$0.00	\$2,626,795.46
31-May-19					\$0.00	\$2,531,157.96
30-Jun-19					\$0.00	\$2,048,009.53

Rates Outstanding as at 30/06/2018**\$2,048,010****Rate Levied 2018/19****\$36,333,316**

Interim 2018/19

\$471,125

Back Rates

\$26,727**Total Levies To Date for 2018/19****\$36,831,168**

Total Collectable

\$38,879,177

Total Collected to date

\$31,626,464

Total Rates Outstanding

\$7,252,713

Current Deferred Rates Amt (from Rate Reports)

\$ 663,354**Total Rates amount to be collected not including deferred****\$6,589,360**

% of Rates Outstanding :

17.24%

% of Rates Collected :

82.76%

Chq/EFT	Date	Name	Description	Amount
1332	02-01-2019	WESTERN AUSTRALIAN TREASURY CORPORATION	LOAN NO. 226 FIXED COMPONENT	43026.44
1333	02-01-2019	EASIFLEET MANAGEMENT	STAFF CONTRIBUTIONS TO NOVATED / OPERATING LEASES	3430.13
1334	04-01-2019	LES MILLS ASIA PACIFIC INDUSTRIES	MONTHLY LICENCE FEE	1311.40
1335	07-01-2019	MACQUARIE EQUIPMENT RENTALS PTY LTD	RENT INSTALLMENT OF GYM EQUIPMENT AT HARTFIELD PARK RECREATION CENTRE	8369.38
1336	08-01-2019	FLEETCARE PTY LTD	STAFF CONTRIBUTIONS TO NOVATED / OPERATING LEASING	4395.79
1337	09-01-2019	IINET TECHNOLOGIES PTY LTD	INTERNET ACCESS	1009.93
1338	09-01-2019	AUSTRALIAN TAXATION OFFICE	TAXATION	188513.10
1339	16-01-2019	WESTERN AUSTRALIAN TREASURY CORPORATION	LOAN NO. 222 FIXED COMPONENT	33950.58
1340	16-01-2019	WESTERN AUSTRALIAN TREASURY CORPORATION	LOAN NO. 221 FIXED COMPONENT	96590.44
1341	16-01-2019	WESTERN AUSTRALIAN TREASURY CORPORATION	LOAN NO. 220 FIXED COMPONENT	1290.12
1342	18-01-2019	FINES ENFORCEMENT REGISTRY	FINES ENFORCEMENT REGISTRY	889.00
1343	23-01-2019	AUSTRALIAN TAXATION OFFICE	TAXATION	191559.39
1344	24-01-2019	COMMONWEALTH BANK - BUSINESS CARD	BUSINESS CORPORATE CARD - VARIOUS COSTS PROCUREMENT SPECIALIST - \$-33.33 PROCUREMENT & FINANCE OFFICER - \$4667.50 RECREATION FACILITIES TEAM LEADER - \$108.81 CEO - \$850.95 DIRECTOR ASSET SERVICES - \$15.14 FUNCTIONS ASSISTANT - \$2300.92 FUNCTIONS CO-ORDINATOR - \$1350.60 FACILITY MAINTENANCE OFFICER - \$434.52 MANAGER PEOPLE SERVICES - \$5811.30 CO-ORDINATOR LIBRARY SERVICES - \$1456.11 MANAGER CUSTOMER & PUBLIC RELATIONS - \$874.64 SUPERVISOR FACILITY MAINTENANCE - \$858.10	18695.26

Chq/EFT	Date	Name	Description	Amount
1345	25-01-2019	EASIFLEET MANAGEMENT	STAFF CONTRIBUTIONS TO NOVATED / OPERATING LEASES	5678.11
EFT67438		EFT PAYMENT CANCELLED		0.00
EFT67439		EFT PAYMENT CANCELLED		0.00
EFT67440		EFT PAYMENT CANCELLED		0.00
EFT67441		EFT PAYMENT CANCELLED		0.00
EFT67442	10-01-2019	BARNETTS (WA) PTY LTD	HARDWARE SUPPLIES	647.50
EFT67443	10-01-2019	WEX AUSTRALIA PTY LTD - WRIGHT EXPRESS FUEL CARDS AUSTRALIA LTD	FUEL - PERIOD ENDINGS 24/12/18 & 07/01/19	3577.29
EFT67444	10-01-2019	NIGHTINGALES PHARMACY & NEWSAGENCY KALAMUNDA	FIRST AID SUPPLY'S AS REQUIRED FOR THE WORKS DEPOTR FIRST AID KITS	222.32
EFT67445	10-01-2019	NEVERFAIL SPRINGWATER LTD (KALA LIB)	BOTTLED WATER SUPPLIES / MAINTENANCE FOR KALAMUNDA LIBRARY	88.40
EFT67446	10-01-2019	CABCHARGE AUSTRALIA LIMITED	CABCHARGE FEES	185.85
EFT67447	10-01-2019	PICTON PRESS	PRINTING OF COREFLUTE SIGNAGE FOR HAZARD REDUCTION BURNS	649.72
EFT67448	10-01-2019	ELEMENT ADVISORY PTY LTD	PROFESSIONAL PLANNING SERVICES FOR FORRESTFIELD NORTH STRUCTURE PLAN	2750.00
EFT67449	10-01-2019	VIP CARPET AND UPHOLSTERY CLEANING SERVICE	CARPET CLEANING AT VARIOUS LOCATIONS	5870.00
EFT67450	10-01-2019	TREVOR DEAN & SHARON MARY HUDSON	12 MONTH OFFF PEAK CONCESSION MEMBERSHIP REFUND	254.35
EFT67451		EFT PAYMENT CANCELLED		0.00
EFT67452	10-01-2019	ROBYN BEARDSSELL	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	79.10
EFT67453	10-01-2019	AVERIL ANNE BAKER	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	42.00
EFT67454	10-01-2019	GILL BAXTER	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	26.60
EFT67455	10-01-2019	DEBORAH L JOHNSON	RATES REFUND	135.88

Chq/EFT	Date	Name	Description	Amount
EFT67456	10-01-2019	NICOLE IRELAND	KEY BOND REFUND	50.00
EFT67457	10-01-2019	AUSTRALIAN SERVICES UNION	PAYROLL DEDUCTIONS	143.40
EFT67458	10-01-2019	CITY OF KALAMUNDA STAFF SOCIAL CLUB	PAYROLL DEDUCTIONS	296.00
EFT67459	10-01-2019	CHILD SUPPORT AGENCY	PAYROLL DEDUCTIONS	1587.96
EFT67460	10-01-2019	AUSTRALIA POST	POSTAL EXPENSES FEES	3043.17
EFT67461	10-01-2019	BUNNINGS BUILDING SUPPLIES	HARDWARE SUPPLIES FOR VARIOUS LOCATIONS	351.40
EFT67462	10-01-2019	COVS PARTS PTY LTD	PLANT / VEHICLE PARTS	970.36
EFT67463	10-01-2019	KALAMUNDA AUTO ELECTRICS	PLANT / VEHICLE PARTS	1428.00
EFT67464	10-01-2019	WALKERS HARDWARE (MITRE 10)	HARDWARE SUPPLIES	405.73
EFT67465	10-01-2019	MCKAY EARTHMOVING PTY LTD	PLANT EQUIPMENT AND OPERATOR HIRE FOR VARIOUS LOCATIONS	5005.00
EFT67466	10-01-2019	BORAL CONSTRUCTION MATERIALS GROUP	ROAD MATERIALS FOR VARIOUS LOCATIONS	6451.97
EFT67467	10-01-2019	FASTA COURIERS	COURIER FEES	482.83
EFT67468	10-01-2019	SG ENVIRO	SEPTIC / GREASE TANK CLEAN OUT SERVICES AT RAYMOND RD WALLISTON	932.00
EFT67469	10-01-2019	MAJOR MOTORS PTY LTD	PLANT / VEHICLE PARTS	224.81
EFT67470	10-01-2019	ALSCO LINEN SERVICE	LINEN HIRE / LAUNDRY SERVICES / CLEANING SUPPLIES	1481.07
EFT67471	10-01-2019	BRADOCK PODIATRY SERVICES PTY LTD	PODIATRY SERVICES AT JACK HEALEY CENTRE	539.51
EFT67472	10-01-2019	KALA BOB KATS PTY LTD	PLANT EQUIPMENT AND OPERATOR HIRE FOR VARIOUS LOCATIONS	5280.00
EFT67473	10-01-2019	SYNERGY	POWER CHARGES	12215.45
EFT67474	10-01-2019	ALINTA ENERGY	GAS CHARGES	68.70
EFT67475	10-01-2019	STEWART & HEATON CLOTHING CO PTY LTD	FIRE PROTECTION WEAR / SUPPLIES	5791.67
EFT67476	10-01-2019	GRIMES CONTRACTING PTY LTD	CONTRACTOR BUILDING MAINTENANCE FOR VARIOUS BUILDINGS	220.00
EFT67477	10-01-2019	KENNEDYS TREE SERVICES	TREE REMOVAL / PRUNING FOR VARIOUS LOCATIONS	52828.60

Chq/EFT	Date	Name	Description	Amount
EFT67478	10-01-2019	DORMAKABA AUSTRALIA PTY LTD	DOOR MAINTENANCE FEES AT KALAMUNDA PERFORMING ARTS CENTRE TO THE THEATRE AUTO DOOR	198.00
EFT67479	10-01-2019	WESTSIDE FIRE SERVICES	TESTING AND INSPECTION OF FIRE EQUIPMENT / SUPPLIES	442.01
EFT67480	10-01-2019	MARKETFORCE PTY LTD	ADVERTISING FOR VARIOUS JOBS / EVENTS	3046.23
EFT67481	10-01-2019	IT VISION AUSTRALIA PTY LTD	CONFLUENCE USER LICENCES - ALTUS PROJECT - DECEMBER 2018	104.50
EFT67482	10-01-2019	LO-GO APPOINTMENTS	HIRE OF TEMPORARY STAFF FOR DEPOT / ADMIN	7140.41
EFT67483	10-01-2019	STAFF AUSTRALIA	HIRE OF TEMPORARY STAFF FOR DEPOT / ADMIN	10122.05
EFT67484	10-01-2019	WESTERN AUSTRALIAN TREASURY CORPORATION	GOVERNMENT GUARANTEE FEE INVOICE - PERIOD ENDING 31 DECEMBER 2018	19218.75
EFT67485	10-01-2019	KALAMUNDA & DISTRICTS HISTORICAL SOCIETY	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	185.10
EFT67486	10-01-2019	KALAMUNDA WATER PARK	SUPPLY OF ICY POLES FOR SCHOOLS OUT POOL PARTY FRIDAY 13 DECEMBER 2018	150.00
EFT67487	10-01-2019	CRABBS KALAMUNDA (IGA)	GROCERY SUPPLIES	52.90
EFT67488	10-01-2019	ANDANTINO PTY LTD T/AS OUTDOOR WORLD	SUPPLY AND INSTALLATION OF SHED WITH ROLLER DOOR TO KALAMUNDA YOUTH SWING BAND 7 SANDERSON RD LESMURDIE	9925.00
EFT67489	10-01-2019	OCE CORPORATE PTY LTD - OFFICE CLEANING EXPERTS PTY LTD	CLEANING SERVICES / CONSUMABLES FOR VARIOUS LOCATIONS	31299.00
EFT67490	10-01-2019	WATTLE GROVE VETERINARY HOSPITAL	VETERINARY FEES	80.00
EFT67491	10-01-2019	HELEN ARMSTRONG & ASSOCIATES (T/AS WAXING LYRICAL CANDLES)	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	72.80
EFT67492	10-01-2019	CHADSON ENGINEERING PTY LTD	POOL MAINTENANCE SUPPLIES	100.65
EFT67493	10-01-2019	COMMISSIONER OF POLICE	VOLUNTEER POLICE CHECKS FOR NOVEMBER 2018	15.90
EFT67494	10-01-2019	KALAMUNDA PLUMBING & ELECTRICAL	PLUMBING REPAIRS / MAINTENANC FOR VARIOUS LOCATIONS	21980.20

Chq/EFT	Date	Name	Description	Amount
EFT67495	10-01-2019	HAWLEY'S BOBCAT SERVICE	PLANT EQUIPMENT AND OPERATOR HIRE FOR VARIOUS LOCATIONS	4920.85
EFT67496	10-01-2019	NOISE & VIBRATION MEASUREMENT SYSTEMS PTY LTD (NVMS)	REGISTRATION FOR VARIOUS STAFF MEMBERS TO ATTEND SOUND LEVEL METER & NOISE SOFTWARE TRAINING	1045.00
EFT67497	10-01-2019	WILD SEASONS FLOWERS PTY LTD	VARIOUS FLOWER ARRANGEMENTS	596.40
EFT67498	10-01-2019	TECHNOLOGY ONE LTD	INTRAMAPS SUBSCRIPTION PLAN FOR 20/11/18 - 30/06/19	1033.03
EFT67499	10-01-2019	ANNA HAMERSLEY	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	37.80
EFT67500	10-01-2019	HILL TOP GROUP PTY	CONTRACTOR BUILDING MAINTENANCE FOR VARIOUS BUILDINGS	10081.29
EFT67501	10-01-2019	MOIRA A COURT	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	3.50
EFT67502	10-01-2019	HAYS SPECIALIST RECRUITMENT (AUSTRALIA) PTY LTD	HIRE OF TEMPORARY STAFF FOR ADMIN / DEPOT	3292.81
EFT67503	10-01-2019	QUICK CORPORATE AUST PTY LTD	STATIONERY & OFFICE SUPPLIES	1138.50
EFT67504	10-01-2019	PHONOGRAPHIC PERFORMANCE COMPANY OF AUSTRALIA LTD	LICENCE FEES FOR THE USE OF COPYRIGHT MUSIC AT VARIOUS LOCATIONS FOR THE PERIOD 01/01/19 - 31/12/19	1066.84
EFT67505	10-01-2019	DAWSON PARK PRIMARY SCHOOL	KEY BOND REFUND	50.00
EFT67506	10-01-2019	WEST AUSTRALIAN NEWSPAPERS HOLDINGS LTD	WEEKLY PROMOTION OF GALLERY EXHIBITION PROGRAM	353.60
EFT67507	10-01-2019	KANYANA WILDLIFE REHABILITATION CENTRE INC	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	452.80
EFT67508	10-01-2019	BANK OF IDEAS	BOND REFUND FEE FOR HIRE OF SCOTT RESERVE FOR HIGH WYCOMBE CHRISTMAS PARTY	1000.00
EFT67509	10-01-2019	FOOD TECHNOLOGY SERVICES PTY LTD	HIRE OF TEMPORARY STAFF FOR HEALTH DEPARTMENT	2215.40

Chq/EFT	Date	Name	Description	Amount
EFT67510	10-01-2019	PICKERING BROOK HERITAGE GROUP	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	42.00
EFT67511	10-01-2019	ALISON W LAYFIELD	WINNER OF THE PEOPLES PRIZE SENIORS WEEK RESIDENT EXHIBITION	100.00
EFT67512	10-01-2019	OFFICEWORKS SUPERSTORES PTY LTD	OFFICE SUPPLIES / STATIONERY	462.00
EFT67513	10-01-2019	UNA BELL	SALE OF ARTWORK - DENDRITICA EXHIBITION	1396.50
EFT67514	10-01-2019	PORTER CONSULTING ENGINEERS	DRAWINGS & SPECIFICATION UPDATED & ISSUED FOR TENDER REVIEW FOR ROAD 2A FORRESTFIELD & HIGH WYCOMBE INDUSTRIAL AREA	3300.00
EFT67515	10-01-2019	DAVID H AND JOAN M WILLCOX	FOOTPATH DEPOSIT REFUND	1000.00
EFT67516	10-01-2019	VANESSA A FARBER	KEY BOND REFUND	50.00
EFT67517	10-01-2019	WOOLWORTHS GROUP LIMITED	GROCERY SUPPLIES	380.77
EFT67518	10-01-2019	AFFORDABLE LIVING HOMES	FOOTPATH DEPOSIT REFUND	2500.00
EFT67519	10-01-2019	FORRESTFIELD TENNIS CLUB (INC)	FORRESTFIELD TENNIS CLUB HIRE FEES FROM HARTFIELD PARK RECREATION CENTRE - 01/12/18 - 31/12/18	116.00
EFT67520	10-01-2019	MICHAEL GIGLIA	FOOTPATH DEPOSIT REFUND	700.00
EFT67521	10-01-2019	EASTERN REGION SECURITY	SECURITY SERVICES TO VARIOUS LOCATIONS	6808.31
EFT67522	10-01-2019	GLENDA DAWN CHARLTON (PODIATRY)	PODIATRY SERVICES AT JACK HEALEY CENTRE	705.78
EFT67523	10-01-2019	EASIFLEET MANAGEMENT	STAFF CONTRIBUTIONS TO NOVATED / OPERATING LEASES	7362.68
EFT67524	10-01-2019	TOM CAIRNS	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	2.80
EFT67525	10-01-2019	SHIRLEY SPENCER	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	373.80
EFT67526	10-01-2019	LEGACY DEVELOPMENTS	BUILDING APPLICATION FEE REFUND	797.95
EFT67527	10-01-2019	ROSE SMART	MAINTAIN ROSE BEDS AT VARIOUS LOCATIONS	1377.50
EFT67528	10-01-2019	KALAMUNDA MENS SHED INC	CONTRIBUTION TO MENS SHED CHRISTMAS FUNCTION	500.00

Chq/EFT	Date	Name	Description	Amount
EFT67529	10-01-2019	ANNE O'LEARY	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	20.30
EFT67530	10-01-2019	ENERO TADENA	HALL & KEY BOND REFUND	550.00
EFT67531	10-01-2019	DYLAN O'CONNOR	HALL BOND REFUND	200.00
EFT67532	10-01-2019	GUMNUTS & LAVENDER	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	7.00
EFT67533	10-01-2019	SAFETY BARRIERS WA PTY LTD	REPAIR OF SENTRYLINE WIRE ROPE SAFETY BARRIER AT 2 LOCATIONS ON WELSHPOOL ROAD EAST, WATTLE GROVE	3025.00
EFT67534	10-01-2019	CHRISTINE VITLER	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	30.45
EFT67535	10-01-2019	NANCY GILLESPIE	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	7.00
EFT67536	10-01-2019	BEAVER TREE SERVICES	TREE REMOVAL / PRUNING FOR VARIOUS LOCATIONS	29011.40
EFT67537	10-01-2019	WEST-SURE GROUP PTY LTD	CASH IN TRANSIT SERVICES - DECEMBER 2018	1175.79
EFT67538	10-01-2019	DONNA JEBB	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	3.15
EFT67539	10-01-2019	ALISON MULCAHY	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	42.70
EFT67540	10-01-2019	THE GOOD GUYS	SUPPLY OF 2 MOTOROLA PHONES FOR OPERATIONS CENTRE	998.00
EFT67541	10-01-2019	SONJA SPEIGHT	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	60.20
EFT67542	10-01-2019	THE PETAL PRESS	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	26.46
EFT67543	10-01-2019	SUPALUX PAINT CO PTY LTD	REPAINT ALL PREVIOUSLY PAINTED SURFACES OF LESMURDIE GIRL GUIDES HALL	15290.00

Chq/EFT	Date	Name	Description	Amount
EFT67544	10-01-2019	BOONADOO	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	126.00
EFT67545	10-01-2019	CLAIRE O'NEILL - CLAIRE'S EMBROIDERY	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	212.80
EFT67546	10-01-2019	LINDA STONES	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	151.20
EFT67547	10-01-2019	IAN MOSS	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	49.00
EFT67548	10-01-2019	AROUNABOUT GARDENING SERVICES	VERGE / GARDEN MAINTENANCE FOR VARIOUS LOCATIONS	7312.80
EFT67549	10-01-2019	PETER FALCONER	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	2.10
EFT67550	10-01-2019	DEPARTMENT OF PLANNING, LANDS AND HERITAGE OPERATING ACCOUNT (DAPS)	REFUND OF DEVELOPMENT ASSESSMENT PANELS (DAP) - DA19/0001 - 28 LEWIS RD WATTLE GROVE	5603.00
EFT67551	10-01-2019	JANICE PITTMAN	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	77.00
EFT67552	10-01-2019	SAFE T CARD AUSTRALIA PTY LTD	MONTHLY MONITORING CHARGES FOR VARIOUS LOCATIONS	99.00
EFT67553	10-01-2019	MARY FORWARD	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	31.50
EFT67554	10-01-2019	FOXTEL	MONTHLY SUBSCRIPTION FEE FOR JANUARY 2019	210.00
EFT67555	10-01-2019	KALAMUNDA ELECTRICS	ELECTRICAL REPAIRS / MAINTENANCE FOR VARIOUS LOCATIONS	25789.88
EFT67556	10-01-2019	THE ARTFUL FLOWE - FELICIA LOWE	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	42.00
EFT67557	10-01-2019	DATATEL COMMUNICATIONS PTY LTD T/A ETTIS	ANNUAL TAGGING AND TESTING OF ELECTRICAL APPLIANCES AT WALLISTON TRANSFER STATION	419.10
EFT67558	10-01-2019	DAVID GREEN	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	136.08

Chq/EFT	Date	Name	Description	Amount
EFT67559	10-01-2019	JB HI-FI COMMERCIAL	VARIOUS ELECTRICAL / COMPUTER / ACCESSORY SUPPLIES FOR VARIOUS LOCATIONS	2785.49
EFT67560	10-01-2019	CAESAR PEREIRA	HALL & KEY BOND REFUND	550.00
EFT67561	10-01-2019	TTM HOME SERVICES	COLLECTION AND INSTALLATION OF BANNERS FOR VARIOUS LOCATIONS	192.50
EFT67562	10-01-2019	SILK ON SILK (ROSEMARY LONSDALE)	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	287.00
EFT67563	10-01-2019	ASHJAD PTY LTD T/A CUROST MILK SUPPLY	MILK SUPPLY FOR ADMINISTRATION CENTRE	185.76
EFT67564	10-01-2019	DFP RECRUITMENT SERVICES PTY LTD	HIRE OF TEMPORARY STAFF FOR DEPOT / ADMIN	8816.57
EFT67565	10-01-2019	MAVIS PASKULICH	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	167.30
EFT67566		EFT PAYMENT CANCELLED		0.00
EFT67567	10-01-2019	BE PROJECTS (WA) PTY LTD	CONSTRUCTION OF HOCKEY CLUBROOMS FACILITY -HARTFIELD PARK, FORRESTFIELD	247707.41
EFT67568	10-01-2019	A1 TROJAN PEST CONTROL	BEE REMOVAL & TREATMENT AT 98 SUSSEX ROAD FORRESTFIELD	198.00
EFT67569	10-01-2019	EQUIFAX AUSTRALASIA CREDIT RATINGS PTY LTD (CORPORATE SCORECARD PTY) LTD	INDEPENDENT FINANCIAL AND PERFORMANCE ASSESSMENT FOR VARIOUS COMPANIES	4268.22
EFT67570	10-01-2019	SPARKS REFRIGERATION AND AIRCONDITIONING	DEGASSING OF FRIDGES, FREEZERS AND AIR CONDITIONING UNITS	1244.97
EFT67571	10-01-2019	OFF PEN PUBLISHING - BETH BAKER	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	34.30
EFT67572	10-01-2019	ARROW ELECTRICAL SERVICES PTY LTD	MAINTENANCE & SUPPLIES FOR THE ADMINISTRATION BUILDING GENERATOR	1634.52
EFT67573	10-01-2019	GRAHAM STIMSON	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	38.50
EFT67574	10-01-2019	BALLIGART - HELEN LOCK	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	50.40

Chq/EFT	Date	Name	Description	Amount
EFT67575	10-01-2019	FLEETCARE PTY LTD	STAFF CONTRIBUTIONS TO NOVATED / OPERATING LEASING	6569.12
EFT67576	10-01-2019	DENSFORD CIVIL PTY LTD	HIRE OF GRADER TO MAINTAIN GRAVEL ROADS	18557.00
EFT67577	10-01-2019	PETER WEBB	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	44.59
EFT67578	10-01-2019	AUSTRALIAN INSTITUTE OF INTERNATIONAL UNDERSTANDING	KEY BOND REFUND	50.00
EFT67579	10-01-2019	LINDAS BOOKS / ROLEYSTONE COURIER	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	18.90
EFT67580	10-01-2019	BRENDAS CLAY CRAFT	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	35.28
EFT67581	10-01-2019	IRENE YOUNG	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	5.60
EFT67582	10-01-2019	LINDA RAPHAEL	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	15.68
EFT67583	10-01-2019	NICKY WINTER - KASZAZZ IN KALAMUNDA	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	112.35
EFT67584	10-01-2019	HERB & ESSENCE	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	19.60
EFT67585	10-01-2019	SECURE PAY	TICKET TRANSACTION FEES	11.09
EFT67586	10-01-2019	TELSTRA SNP MONITORING PTY LTD	SECURITY MONITORING, EQUIPMENT AND REPAIRS TO VARIOUS LOCATIONS	2033.34
EFT67587	10-01-2019	ROSEMARY (ROSE) HANCOCK	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	6.86
EFT67588	10-01-2019	QUALITY PRESS	ASSORTED SUPPLIES FOR KALAMUNDA FIRE BRIGADE	132.00
EFT67589	10-01-2019	INSTANT WASTE MANAGEMENT	HOOK LIFT BIN TRANSPORTATION	11220.00
EFT67590	10-01-2019	VIRTUE SECURITY SERVICES PTY LTD	SUPPLY OF SECURITY OFFICER FOR SCHOOLS OUT POOL PARTY - KALAMUNDA WATER PARK	184.80

Chq/EFT	Date	Name	Description	Amount
EFT67591	10-01-2019	BICKLEY VALLEY COTTAGE	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	22.40
EFT67592	10-01-2019	UNWINED T/A POSSUM CREEK LODGE	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	296.80
EFT67593	10-01-2019	TREASURES OF AUSTRALIA	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	113.19
EFT67594	10-01-2019	ALINTA ENERGY (ELECTRICITY ACCOUNT)	POWER CHARGES	10094.61
EFT67595	10-01-2019	DOUGLAS AUTOMOTIVE (WA) PTY LTD	WHEEL ALIGNMENT SERVICES FOR CITY VEHICLES	88.00
EFT67596	10-01-2019	EMBROIDERY HOUSE KALAMUNDA	UNIFORM EMBROIDERY SUPPLIES FOR VOLUNTEERS AT ZIG ZAG CULTURAL CENTRE	206.00
EFT67597	10-01-2019	SPICK AND SPAN COMMERCIAL PROPERTY MAINTENANCE PTY LTD	SUPPLY CLEANING SERVICES, INCLUDING ADDITIONS TO THE SCHEDULE, SPECIAL CLEANS AND SUPPLY OF CONSUMABLES AT VARIOUS LOCATIONS	5976.92
EFT67598	10-01-2019	ENTIRE FIRE MANAGEMENT	FIREBREAK MAINTENANCE AT VARIOUS LOCATIONS	2640.00
EFT67599	10-01-2019	TERRI HILL T/A ABLAZE GLASS STUDIO	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	35.00
EFT67600	10-01-2019	DOWSING GROUP PTY LTD	SUPPLY & LAY CONCRETE PATHWAY MAINTENANCE & MISC. WORKS AT VARIOUS LOCATIONS	18175.64
EFT67601	10-01-2019	SCOTT & TARA SMITH	CROSSOVER CONTRIBUTION	428.00
EFT67602	10-01-2019	PROMAPP SOLUTIONS LTD	PROMAPP PROCESS MANAGER, SOFTWARE , ENTERPRISE LICENSE - MONTHLY SUBSCRIPTION FOR DECEMBER 2018	4235.00
EFT67603	10-01-2019	PETER & JOELYN GIBSON	FOOTPATH DEPOSIT REFUND	1000.00
EFT67604	10-01-2019	SYLVANA DOUGLAS	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	5.60
EFT67605	10-01-2019	KYLIE COOPER	HALL, KEY, LIQUOR PERMIT BOND & HALL HIRE FEES REFUND	746.00

Chq/EFT	Date	Name	Description	Amount
EFT67606	10-01-2019	SERPENTINE SPRING WATER	SPRING WATER SUPPLIES FOR ZIG ZAG CULTURAL CENTRE	30.00
EFT67607	10-01-2019	STEPHEN JAMES PRICE	KEY BOND REFUND	50.00
EFT67608	10-01-2019	PRICE CONSULTING GROUP PTY LTD	HR CONSULTING IN RELATION TO CEO PERFORMANCE REVIEW; JANUARY - JUNE 2018 (INCLUDING REVIEW OF KPIS)	3882.45
EFT67609	10-01-2019	RICHARD BARKMAN	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	11.13
EFT67610	10-01-2019	MAHARI	CONSIGNMENT SUPPLIER - ZIG ZAG CULTURAL CENTRE - 01/12/18 - 31/12/18	210.00
EFT67611	10-01-2019	LASER ELECTRICAL GREENWOOD	REPLACEMENT PARTS & REPAIRS REQUIRED FOR RANGER SERVICES TRAILERS	2809.84
EFT67612	10-01-2019	CRAIG & NATALIE LANKESTER	FOOTPATH DEPOSIT REFUND	2500.00
EFT67613	10-01-2019	INDUSTRIAL RECRUITMENT PARTNERS (IRP) PTY LTD	HIRE OF TEMPORARY STAFF FOR DEPOT / ADMIN	12550.57
EFT67614	10-01-2019	ALLBLACK ONE PTY LTD T/A DENTPRO	FOOTPATH DEPOSIT REFUND	700.00
EFT67615	18-01-2019	ALLAN MORTON	COUNCILLOR ALLOWANCE - 01/01/19 - 31/01/19	2212.51
EFT67616	18-01-2019	LESLEY BOYD	COUNCILLOR ALLOWANCE - 01/01/19 - 31/01/19	2212.51
EFT67617	18-01-2019	KATHLEEN (KATHY) RITCHIE	COUNCILLOR ALLOWANCE - 01/01/19 - 31/01/19	2212.51
EFT67618	18-01-2019	JOHN GIARDINA	COUNCILLOR ALLOWANCE - 01/01/19 - 31/01/19	8093.17
EFT67619	18-01-2019	GEOFF STALLARD	COUNCILLOR ALLOWANCE - 01/01/19 - 31/01/19	2212.51
EFT67620	18-01-2019	BUILDING COMMISSION - DEPARTMENT OF MINES, INDUSTRY REGULATION & SAFETY	BUILDING LEVY - DECEMBER 2018	9948.19
EFT67621	18-01-2019	BROOKE O'DONNELL	COUNCILLOR ALLOWANCE - 01/01/19 - 31/01/19	2212.51
EFT67622	18-01-2019	MICHAEL ANDREW FERNIE	COUNCILLOR ALLOWANCE - 01/01/19 - 31/01/19	2212.51
EFT67623	18-01-2019	MARGARET THOMAS	COUNCILLOR ALLOWANCE - 01/01/19 - 31/01/19	2212.51
EFT67624	18-01-2019	SARA LOHMEYER	COUNCILLOR ALLOWANCE - 01/01/19 - 31/01/19	2212.51
EFT67625	18-01-2019	DAVID K ALMOND	COUNCILLOR ALLOWANCE - 01/01/19 - 31/01/19	2212.51
EFT67626	18-01-2019	DYLAN O'CONNOR	COUNCILLOR ALLOWANCE - 01/01/19 - 31/01/19	3519.34

Chq/EFT	Date	Name	Description	Amount
EFT67627	18-01-2019	CAMERON BLAIR	COUNCILLOR ALLOWANCE - 01/01/19 - 31/01/19	2212.51
EFT67628	24-01-2019	THE WORKWEAR GROUP PTY LTD	SUPPLY OF UNIFORM FOR VARIOUS STAFF MEMBERS	15360.73
EFT67629	24-01-2019	WEX AUSTRALIA PTY LTD - WRIGHT EXPRESS FUEL CARDS AUSTRALIA LTD	FUEL - PERIOD ENDING 21/01/19	1878.07
EFT67630	24-01-2019	PLE COMPUTERS	COMPUTER SUPPLIES & ACCESSORIES FOR BUSG FIRE BRIGADE	1159.00
EFT67631	24-01-2019	PERTH AIRPORTS MUNICIPALITIES GROUP INC	ANNUAL SUBSCRIPTION FEE FOR MEMBERSHIP FOR 2018/2019	500.00
EFT67632	24-01-2019	NIGHTINGALES PHARMACY & NEWSAGENCY KALAMUNDA	FIRST AID SUPPLIES AS SELECTED FOR THE WORKS DEPOT FIRST AID KITS	361.64
EFT67633	24-01-2019	SHAWMAC PTY LTD	PROGRESS PAYMENT FOR KALAMUNDA ROAD PAVEMENT & DRAINAGE REHABILITATION DESIGN	1628.00
EFT67634	24-01-2019	NEVERFAIL SPRINGWATER LTD (KALA LIB)	BOTTLED WATER SUPPLIES / MAINTENANCE FOR KALAMUNDA LIBRARY	50.65
EFT67635	24-01-2019	RICOH AUSTRALIA PTY LTD	PHOTOCOPYING CHARGES FOR ALL CITY LOCATIONS	5141.69
EFT67636	24-01-2019	IMAGE EMBROIDERY	SUPPLY OF UNIFORM FOR VARIOUS STAFF MEMBERS	514.14
EFT67637	24-01-2019	PFD FOOD SERVICES	KIOSK SUPPLIES FOR HARTFIELD PARK RECREATION CENTRE	536.55
EFT67638	24-01-2019	PERTH REGION TOURISM ORGANISATION INC T/A DESTINATION PERTH	2019 DESTINATION PERTH HOLIDAY PLANNER - 2/3 ADVERT - HALF SHARE WITH MUNDARING SHIRE	1787.50
EFT67639	24-01-2019	COLLECTOR OF PUBLIC MONIES (CENTRELINK)	CENTREPAY TRANSACTION FEES	78.54
EFT67640	24-01-2019	ID CONSULTING PTY LTD (INFORMED DECISIONS)	FORECAST.ID, PROFILE.ID & ATLAS.ID QUARTERLY SUBSCRIPTION FEE - PERIOD 01/01/19 - 31/03/19	7920.00
EFT67641	24-01-2019	THE JAFFA ROOM/ ARTISTRALIA	SCREENING APPROVAL FOR 7 X TITLES FOR THE 2019 SUMMER SERIES MOVIE NIGHTS	5236.00
EFT67642	24-01-2019	TOTALLY WORKWEAR	SUPPLY OF PROTECTIVE CLOTHING	1087.16

Chq/EFT	Date	Name	Description	Amount
EFT67643	24-01-2019	KOORI KIDS PTY LTD	ANNUAL CONTRIBUTION OT NAIDOC SCHOOL INITIATIVES 2019 TOWARDS DESIGN, PRINTING AN DISTRIBUTION OF INFORMATION PACKS, ENTRY FORMS TO ALL SCHOOLS ACROSS CITY OF KALAMUNDA LGA	450.00
EFT67644	24-01-2019	AUSTRALIAN SERVICES UNION	PAYROLL DEDUCTIONS	71.70
EFT67645	24-01-2019	CITY OF KALAMUNDA STAFF SOCIAL CLUB	PAYROLL DEDUCTIONS	148.00
EFT67646	24-01-2019	CHILD SUPPORT AGENCY	PAYROLL DEDUCTIONS	812.47
EFT67647	24-01-2019	AUSTRALIA POST	COUNTER BILLPAY TRANSACTION FEES	2706.68
EFT67648	24-01-2019	BUNNINGS BUILDING SUPPLIES	HARDWARE SUPPLIES FOR VARIOUS LOCATIONS	1225.36
EFT67649	24-01-2019	COATES HIRE OPERATIONS PTY LTD	PLANT / EQUIPMENT HIRE	686.83
EFT67650	24-01-2019	COVS PARTS PTY LTD	PLANT / VEHICLE PARTS	570.42
EFT67651	24-01-2019	CROMMELINS MACHINERY	PLANT / VEHICLE PARTS	604.47
EFT67652	24-01-2019	LANDGATE	LAND ENQUIRIES FOR VARIOUS LOCATIONS	51.40
EFT67653	24-01-2019	MAXWELL ROBINSON & PHELPS PEST MANAGEMENT	PEST CONTROL SERVICES	842.60
EFT67654	24-01-2019	MCLEODS BARRISTERS & SOLICITORS	LEGAL EXPENSES	1173.11
EFT67655	24-01-2019	LANDGATE - VALUATIONS	GROSS RENTAL VALUATION FEES FOR VARIOUS LOCATIONS	200.31
EFT67656	24-01-2019	WA LIBRARY SUPPLIES PTY LTD	LIBRARY / OFFICE SUPPLIES	950.90
EFT67657	24-01-2019	WALKERS HARDWARE (MITRE 10)	HARDWARE SUPPLIES	86.73
EFT67658	24-01-2019	ECHO NEWSPAPER	ADVERTISING FOR VARIOUS JOBS / EVENTS	7260.00
EFT67659	24-01-2019	MCKAY EARTHMOVING PTY LTD	PLANT EQUIPMENT AND OPERATOR HIRE FOR VARIOUS LOCATIONS	14850.00
EFT67660	24-01-2019	EASTERN METROPOLITAN REGIONAL COUNCIL	DOMESTIC / WASTE CHARGES - RED HILL TIP & MATTRESS DISPOSAL FEES	385689.97
EFT67661	24-01-2019	BORAL CONSTRUCTION MATERIALS GROUP	ROAD MATERIALS FOR VARIOUS LOCATIONS	788.43
EFT67662	24-01-2019	ZIPFORM PTY LTD	PRINTING 4TH & FINAL INSTALMENT NOTICES FOR RATES 2018	3423.29

Chq/EFT	Date	Name	Description	Amount
EFT67663	24-01-2019	OFFICE LINE GROUP PTY LTD	OFFICE FURNITURE SUPPLIES	1266.10
EFT67664	24-01-2019	JASON SIGNMAKERS	SIGNAGE SUPPLIES FOR BUSH FIRE BRAGADE	297.00
EFT67665	24-01-2019	FASTA COURIERS	COURIER FEES	79.71
EFT67666	24-01-2019	BCITF	LEVY FEE	44748.95
EFT67667	24-01-2019	THE WATERSHED WATER SYSTEMS	RETICULATION PARTS FOR VARIOUS RESERVES	734.22
EFT67668	24-01-2019	FORRESTFIELD MOWER CENTRE	SUPPLY OF HARDWARE / PLANT PARTS	1325.80
EFT67669	24-01-2019	MCINTOSH & SON	PLANT / VEHICLE PARTS	1790.43
EFT67670	24-01-2019	SONIC HEALTHPLUS (KINETIC HEALTH GROUP LTD)	PREPLACEMENT MEDICALS / BASELINE HEARING TESTS	259.60
EFT67671	24-01-2019	SG ENVIRO	SEPTIC / GREASE TANK CLEAN OUT SERVICES AT HARTFIELD PARK	149.69
EFT67672	24-01-2019	ALSCO LINEN SERVICE	LINEN HIRE / LAUNDRY SERVICES / CLEANING SUPPLIES	420.15
EFT67673	24-01-2019	BRADOCK PODIATRY SERVICES PTY LTD	PODIATRY SERVICES AT JACK HEALEY CENTRE	539.51
EFT67674	24-01-2019	LINDLEY CONTRACTING	PLUMBING REPAIRS / MAINTENANCE FOR VARIOUS LOCATIONS	3124.00
EFT67675	24-01-2019	KALA BOB KATS PTY LTD	PLANT EQUIPMENT AND OPERATOR HIRE FOR VARIOUS LOCATIONS, INCLUDING ASBESTOS & ILLEGAL DUMPING REMOVAL EXCAVATION WORKS AT MAIDAVALE RESERVE	28693.50
EFT67676	24-01-2019	SYNERGY	POWER CHARGES	113534.90
EFT67677	24-01-2019	STEWART & HEATON CLOTHING CO PTY LTD	FIRE PROTECTION WEAR / SUPPLIES	699.30
EFT67678	24-01-2019	GRONBEK SECURITY	SECURITY KEY SERVICES TO VARIOUS LOCATIONS	141.05
EFT67679	24-01-2019	BGC ASPHALT	ROAD MATERIALS FOR VARIOUS LOCATIONS	225.81
EFT67680	24-01-2019	WESTBOOKS	SUPPLIES FOR KALAMUNDA LIBRARY	139.02
EFT67681	24-01-2019	KENNEDYS TREE SERVICES	TREE REMOVAL / PRUNING FOR VARIOUS LOCATIONS	20177.85
EFT67682	24-01-2019	WESTSIDE FIRE SERVICES	TESTING AND INSPECTION OF FIRE EQUIPMENT / SUPPLIES AT VARIOUS LOCATIONS	865.51

Chq/EFT	Date	Name	Description	Amount
EFT67683	24-01-2019	WINC AUSTRALIA PTY LTD	STATIONERY / OFFICE SUPPLIES	11.77
EFT67684	24-01-2019	KALAMUNDA STATE EMERGENCY SERVICE (SES)	HALL & KEY BOND REFUND	550.00
EFT67685	24-01-2019	FULTON HOGAN INDUSTRIES PTY LTD	ROAD MATERIALS FOR VARIOUS LOCATIONS	308.89
EFT67686	24-01-2019	AUSTRALASIAN PERFORMING RIGHTS ASSOCIATION (APRA)	LICENCE FEE FOR THE USE OF COPYRIGHT MUSIC AT KALAMUNDA PERFORMING ARTS CENTRE FOR THE PERIOD 01/01/19 - 31/03/19	184.30
EFT67687	24-01-2019	GOOSEBERRY HILL PRIMARY SCHOOL	HALL BOND REFUND	400.00
EFT67688	24-01-2019	KALAMUNDA DRAMATIC SOCIETY INS (KADS)	KEY BOND REFUND	50.00
EFT67689	24-01-2019	BUCHER MUNICIPAL PTY LTD	PLANT / VEHICLE PARTS	379.50
EFT67690	24-01-2019	LO-GO APPOINTMENTS	HIRE OF TEMPORARY STAFF FOR DEPOT / ADMIN	4249.75
EFT67691	24-01-2019	STAFF AUSTRALIA	HIRE OF TEMPORARY STAFF FOR DEPOT / ADMIN	3186.72
EFT67692	24-01-2019	BRIDGESTONE AUSTRALIA LTD	PLANT / VEHICLE PARTS	319.50
EFT67693	24-01-2019	HOSEMASTERS	PLANT / VEHICLE PARTS	489.47
EFT67694	24-01-2019	J BLACKWOOD & SON LIMITED	PROTECTIVE WEAR / SUPPLIES	1986.58
EFT67695	24-01-2019	EASTERN HILLS SAWS AND MOWERS	PLANT / VEHICLE PARTS	3336.60
EFT67696	24-01-2019	REPCO BRAKE & CLUTCH	PLANT / VEHICLE PARTS	213.90
EFT67697	24-01-2019	KALAMUNDA PRIMARY SCHOOL	HALL BOND REFUND	400.00
EFT67698	24-01-2019	CRABBS KALAMUNDA (IGA)	GROCERY SUPPLIES	239.00
EFT67699	24-01-2019	VENTURA HOMES PTY LTD	BUILDING APPLICATION FEE REFUND	456.40
EFT67700	24-01-2019	DALE ALCOCK HOMES PTY LTD	FOOTPATH DEPOSIT REFUND	2500.00
EFT67701	24-01-2019	MIRCO BROS PTY LTD	PLANT / GARDEN SUPPLIES FOR ALAN ANDERSON RESERVE WALLISTON	7450.00
EFT67702	24-01-2019	OCE CORPORATE PTY LTD - OFFICE CLEANING EXPERTS PTY LTD	CLEANING SERVICES / CONSUMABLES FOR VARIOUS LOCATIONS	4738.30
EFT67703	24-01-2019	CAT WELFARE SOCIETY INC	CAT HAVEN REHOMING OF UNCLAIMED CATS FROM THE CITYS POUND	132.00
EFT67704	24-01-2019	HIGH WYCOMBE CRICKET CLUB	DONATION TOWARD PINK STUMPS DAY 2019	200.00
EFT67705	24-01-2019	GCS SERVICES	PLUMBING SERVICES TO VARIOUS LOCATIONS	360.80
EFT67706	24-01-2019	LANDMARK OPERATIONS LTD	CHEMICALS & SUPPLIES	2847.90

Chq/EFT	Date	Name	Description	Amount
EFT67707	24-01-2019	AUSTRALIAN MANUFACTURERS CORP P/T T/A PARK MOTOR BODY BUILDERS	REMOVE OLD RING FEEDER & REPLACE WITH NEW TRAILER FOR WASTE MANAGEMENT	2640.00
EFT67708	24-01-2019	RAC BUSINESS WISE	ROADSIDE ASSISTANT	99.00
EFT67709	24-01-2019	KALAMUNDA PLUMBING & ELECTRICAL	PLUMBING REPAIRS / MAINTENANC FOR VARIOUS LOCATIONS	99.00
EFT67710	24-01-2019	TOTAL EDEN PTY LTD	RETICULATION PARTS FOR VARIOUS RESERVES	6072.54
EFT67711	24-01-2019	HAWLEY'S BOBCAT SERVICE	PLANT EQUIPMENT AND OPERATOR HIRE FOR VARIOUS LOCATIONS	7901.61
EFT67712	24-01-2019	BAILEYS FERTILISERS	GARDEN / RESERVE SUPPLIES	6707.84
EFT67713	24-01-2019	TOTAL PACKAGING (WA) PTY LTD	SUPPLY OF DOG LITTER BAGS	1029.60
EFT67714	24-01-2019	WA HINO SALES & SERVICE	PLANT / VEHICLE PARTS	223.95
EFT67715	24-01-2019	IFAP	REGISTRATION FOR A STAFF MEMBER TO ATTEND INJURY MANAGEMENT COORDINATOR SEMINAR	1430.00
EFT67716	24-01-2019	DEPARTMENT OF FIRE AND EMERGENCY SERVICES (DFES)	50% COST SHARING FOR THE COMMUNITY FIRE MANAGER FOR THE PERIOD 28/09/18 - 27/12/18 AS PER THE MOU BETWEEN DFES AND THE CITY OF KALAMUNDA	13253.83
EFT67717	24-01-2019	ACCESS ICON PTY LTD T/A CASCADA	DRAINAGE SUPPLIES FOR VARIOUS LOCATIONS	4796.00
EFT67718	24-01-2019	RSEA PTY LTD	SAFETY MATERIALS SUPPLIES	195.45
EFT67719	24-01-2019	HILL TOP GROUP PTY	CONTRACTOR BUILDING MAINTENANCE FOR VARIOUS BUILDINGS	20813.60
EFT67720	24-01-2019	TALONS HSF PTY LTD T/A TALONS HIGH SECURITY FENCING	SERVICE AS REQUIRED AND SUPPLY OF PARTS TO REPAIR THE DEPOT GATES AND FENCE	605.00
EFT67721	24-01-2019	KWICKS	SERVICE AS REQUIRED FOR HIGH PRESSURE CLEANER IN THE DEPOT	219.56
EFT67722	24-01-2019	MOORE STEPHENS (WA) PTY LTD	PROGRESSIVE PAYMENT OF STRATEGIC RESOURCE PLANNING SERVICES	1100.00
EFT67723	24-01-2019	HAYS SPECIALIST RECRUITMENT (AUSTRALIA) PTY LTD	HIRE OF TEMPORARY STAFF FOR ADMIN / DEPOT	2801.70

Chq/EFT	Date	Name	Description	Amount
EFT67724	24-01-2019	ENGIE MECHANICAL SERVICES AUSTRALIA PTY LTD	AIRCONDITIONING MAINTENANCE / REPAIRS FOR VARIOUS LOCATIONS	3018.88
EFT67725	24-01-2019	LOCAL GOVERNMENT PLANNERS ASSOCIATION	REGISTRATION FOR A STAFF MEMBER TO ATTEND RESHAPING OUR SUBURBS - THE CHALLENGES OF INFILL DEVELOPMENT	80.00
EFT67726	24-01-2019	SANNY ANG	ORIGAMI WORKSHOP AT KALAMUNDA LIBRARY	148.50
EFT67727	24-01-2019	QUICK CORPORATE AUST PTY LTD	STATIONERY & OFFICE SUPPLIES	16137.66
EFT67728	24-01-2019	WEST AUSTRALIAN NEWSPAPERS HOLDINGS LTD	SUPPLY OF THE WEST AUSTRALIAN NEWSPAPER FOR THE OPERATIONS CENTRE - MONDAY TO FRIDAY	106.80
EFT67729	24-01-2019	COMMUNITY NEWSPAPER GROUP LTD	ADVERTISING FOR VARIOUS JOBS AND EVENTS	2586.52
EFT67730	24-01-2019	WREN OIL	WASTE OIL RECYCLING - DISPOSAL FEES	16.50
EFT67731	24-01-2019	ZIG ZAG COMMUNITY ARTS INC	ZIG ZAG FESTIVAL SHARE OF PERTH AIRPORT SPONSORSHIP FUNDING	5000.00
EFT67732	24-01-2019	BIG W (AR W1.C3.U.07)	SUPPLY OF VARIOUS GOODS FOR FORRESTFIELD LIBRARY	877.00
EFT67733	24-01-2019	PACIFIC BIOLOGICS PTY LTD	MOSQUITO CONTROL SUPPLIES	4387.27
EFT67734	24-01-2019	MAIN ROADS (WA)	GOVERNMENT GRANTS - STATE CAPITAL - REFUND OF COMMODITY ROUTE SUPPLEMENTARY FUND PROJECT 21113339 CANNING ROAD	8446.90
EFT67735	24-01-2019	BOC LIMITED	SUPPLY OF DRY ICE PELLETS FOR ENCIRONMENTAL HEALTH DEPARTMENT	25.88
EFT67736	24-01-2019	KAB SEATING SYSTEMS	PLANT / VEHICLE PARTS	1249.95
EFT67737	24-01-2019	RENTOKIL INITIAL PTY LTD (CANNON)	HYGIENE SERVICES FOR VARIOUS LOCATIONS	4082.38
EFT67738	24-01-2019	G FORCE PRINTING	SUPPLY OF PRINTED STATIONERY STOCK	1294.59
EFT67739	24-01-2019	T-QUIP	PLANT / VEHICLE PARTS	84134.95
EFT67740	24-01-2019	MIRACLE RECREATION EQUIPMENT	REPAIR OF SWING AT GALA WAY PUBLIC OPEN SPACE	110.00
EFT67741	24-01-2019	SWAN TOWING SERVICE PTY LTD	TOWING SERVICES	550.00

Chq/EFT	Date	Name	Description	Amount
EFT67742	24-01-2019	HYDROQUIP PUMPS	REPAIRS TO FOUNTAIN UNIT NOT PERFORMING AT FEDERATION GARDENS	6301.90
EFT67743	24-01-2019	DIRECT TRADES SUPPLY PTY LTD	HARDWARE SUPPLIES	1467.09
EFT67744	24-01-2019	OFFICEWORKS SUPERSTORES PTY LTD	OFFICE SUPPLIES / STATIONERY	1837.95
EFT67745	24-01-2019	MG CAR CLUB OF WA	HALL BOND REFUND	300.00
EFT67746	24-01-2019	HERITAGE HOMES WA PTY LTD	FOOTPATH DEPOSIT REFUND	2500.00
EFT67747	24-01-2019	MAYDAY EARTHMOVING	PLANT AND EQUIPMENT HIRE	4290.00
EFT67748	24-01-2019	ROSEBRIDGE HOUSE BED & BREAKFAST	ACCOMMODATION FOR FIONA O'LOUGHLIN - COMEDIAN PERFORMER IN 'RON & BRENDA GO COUNTRY'	185.00
EFT67749	24-01-2019	MODERN TEACHING AIDS PTY LTD	CHILDREN ACTIVITY SUPPLIES FOR VARIOUS LIBRARIES	43.95
EFT67750	24-01-2019	WOOLWORTHS GROUP LIMITED	GROCERY SUPPLIES	416.32
EFT67751	24-01-2019	GLENDA DAWN CHARLTON (PODIATRY)	PODIATRY SERVICES AT JACK HEALEY CENTRE	1591.00
EFT67752	24-01-2019	WEBSITE WEED & PEST PTY LTD	WEED CONTROL AT VARIOUS LOCATIONS	19210.40
EFT67753	24-01-2019	BOYA EQUIPMENT PTY LTD	PLANT / VEHICLE PARTS	30.67
EFT67754	24-01-2019	360 ENVIRONMENTAL PTY LTD	BRAND RD PRIMARY SCHOOL - INVESTIGATION OF LANDFILL FROM PERIOD 31/10/18 - 14/12/18 & ASBESTOS MATERIALS INSPECTION AT LEDGER RD RESERVE	3156.45
EFT67755	24-01-2019	WARDEN CONSTRUCTION (WA) PTY LTD	FOOTPATH DEPOSIT REFUND	2500.00
EFT67756	24-01-2019	OVEN SPARKLE PTY LTD	OVEN CLEANING SERVICES FOR VARIOUS LOCATIONS	280.00
EFT67757	24-01-2019	HARVEY NORMAN AV/IT SUPERSTORE MIDLAND	SUPPLY OF 2 FREESTANDING ELECTRIC OVENS FOR WOODLUPINE & CYRIL ROAD HALLS	1868.00
EFT67758	24-01-2019	FELTON INDUSTRIES PTY LTD	SUPPLY OF PARK / RESERVES SETTINGS FOR OPERATIONS CENTRE	1338.70
EFT67759	24-01-2019	CHEYNE & LISA TURNOUR	FOOTPATH DEPOSIT REFUND	2500.00

Chq/EFT	Date	Name	Description	Amount
EFT67760	24-01-2019	TECHNIFIRE 2000	SUPPLY & FIT LED RESERVE LIGHTS FOR BUSHFIRE BRIGADE	253.00
EFT67761	24-01-2019	DRAINFLOW SERVICES PTY LTD	CLEANING / MAINTAINING STORM WATER DRAINS AT VARIOUS LOCATIONS	23952.50
EFT67762	24-01-2019	LOCHNESS LANDSCAPE SERVICES	MOWING OF VARIOUS RESERVES	10638.83
EFT67763	24-01-2019	BOWDEN TREE CONSULTANCY	ARBORICULTURAL CONSULTANCY / ASSESSMENT AT 4 BARONET ROAD LESMURDIE	715.00
EFT67764	24-01-2019	LIBERTY OIL AUSTRALIA PTY LTD	SUPPLY OF FUEL FOR OPERATIONS CENTRE	25429.94
EFT67765	24-01-2019	CONTRAFLOW	TRAFFIC MANAGEMENT FOR VARIOUS LOCATIONS	16703.37
EFT67766	24-01-2019	CATALYSE PTY LTD	OCCUPATIONAL HEALTH SAFETY BASE SURVEY FOR THE ASSET SERVICES TEAM	5500.00
EFT67767	24-01-2019	STATE WIDE TURF SERVICES	TURF SUPPLIES / MAINTENANCE FOR VARIOUS LOCATIONS	19049.80
EFT67768	24-01-2019	KOTT GUNNING LAWYERS	LEGAL EXPENSES	3368.11
EFT67769	24-01-2019	GREENSENSE PTY LTD	ANNUAL GV LGER SOFTWARE SERVICE FEE FOR 8/10/2018 TO 7/10/2019. GREENSENSE, ENERGY REPORTING PLATFORM ANNUAL SUBSCRIPTION AND DATA INTEGRATION FEE.	6600.00
EFT67770	24-01-2019	CENTURION TEMPORARY FENCING	TEMPORARY FENCING HIRE AT ALAN ANDERSON RESERVE	1148.13
EFT67771	24-01-2019	3E CONSULTING ENGINEERS	ELECTRICIAL & COMMUNICATIONS ENGINEERING DESIGN & DOCUMENTATION SERVICES AT NARDINE & ASHBY CLOSE FORRESTFIELD	3795.00
EFT67772	24-01-2019	FUJI XEROX AUSTRALIA PTY LTD	PHOTOCOPYING CHARGES	242.50
EFT67773	24-01-2019	101 RESIDENTIAL PTY LTD	BUILDING APPLICATION FEE REFUND	415.00
EFT67774	24-01-2019	CAPTIVATE GLOBAL (DIGITAL MARKETING ATC MPH UNIT TRUST)	1 X IVR- RECORDING - CHRISTMAS MESSAGE FOR FRONT COUNTER	217.80
EFT67775	24-01-2019	RHONDA HARDY	REIMBURSEMENT OF COSTS INCURRED IN LINE WITH EMPLOYEMENT CONTRACT	1159.50

Chq/EFT	Date	Name	Description	Amount
EFT67776	24-01-2019	AROUNDBOUT GARDENING SERVICES	VERGE / GARDEN MAINTENANCE FOR VARIOUS LOCATIONS	3379.20
EFT67777	24-01-2019	REMONDIS AUSTRALIA PTY LTD	COLLECTION AND RECYCLING OF CARDBOARD FROM SPORTING CLUBS	3639.18
EFT67778	24-01-2019	ASPHALTECH PTY LTD	ROAD MATERIALS FOR VARIOUS LOCATIONS	667.26
EFT67779	24-01-2019	PERTH BRAKE PARTS	PLANT / VEHICLE PARTS	828.00
EFT67780	24-01-2019	HANDS-ON INFECTION CONTROL	HEPATITIS VACCINATION SUPPLIES FOR STAFF MEMBERS	82.50
EFT67781	24-01-2019	KALAMUNDA ELECTRICS	ELECTRICAL REPAIRS / MAINTENANCE FOR VARIOUS LOCATIONS	68176.15
EFT67782	24-01-2019	DATATEL COMMUNICATIONS PTY LTD T/A ETTIS	ANNUAL TAGGING AND TESTING OF ELECTRICAL APPLIANCES AT VARIOUS LOCATIONS	3580.06
EFT67783	24-01-2019	LISA HEDDITCH	KEY BOND REFUND	50.00
EFT67784	24-01-2019	JB HI-FI COMMERCIAL	VARIOUS ELECTRICAL / COMPUTER / ACCESSORY SUPPLIES	5136.97
EFT67785	24-01-2019	CANNINGTON RETRAVISION	ELECTRICAL SUPPLIES	675.00
EFT67786	24-01-2019	ASHJAD PTY LTD T/A CUROST MILK SUPPLY	MILK SUPPLY FOR DEPOT	199.15
EFT67787	24-01-2019	DFP RECRUITMENT SERVICES PTY LTD	HIRE OF TEMPORARY STAFF FOR DEPOT / ADMIN	3695.49
EFT67788	24-01-2019	ENVIRO PIPES PTY LTD	SUPPLY OF PIPES FOR VARIOUS LOCATIONS	2563.00
EFT67789	24-01-2019	LASER CORPS	DEPOSIT FOR MOBILE LASER TAG (16 TAGGERS & 16 HERO BLASTERS) FOR CORYMBIA MULTICULTURAL FESTIVAL 2019	450.00
EFT67790	24-01-2019	A1 TROJAN PEST CONTROL	PEST CONTROL SERVICES FOR VARIOUS LOCATIONS	198.00
EFT67791	24-01-2019	EQUIFAX AUSTRALASIA CREDIT RATINGS PTY LTD (CORPORATE SCORECARD PTY) LTD	INDEPENDENT FINANCIAL AND PERFORMANCE ASSESSMENT FOR VARIOUS COMPANIES	1581.80
EFT67792	24-01-2019	SPARKS REFRIGERATION AND AIRCONDITIONING	DEGASSING OF FRIDGES, FREEZERS AND AIR CONDITIONING UNITS	1492.12

Chq/EFT	Date	Name	Description	Amount
EFT67793	24-01-2019	URBIS PTY LTD	CAMBRIDGE RESERVE ENHANCEMENT PROJECT - DESIGN REVIEW	8686.92
EFT67794	24-01-2019	NEVERFAIL SPRINGWATER LTD (ADMIN OFFICE)	BOTTLED WATER SUPPLIES / MAINTENANCE	65.85
EFT67795	24-01-2019	TALIS CONSULTANTS PTY LTD ATF TALIS UNIT TRUST	CONSULTING SERVICES - ABERNETHY - KALAMUNDA ROAD DESIGN REVIEW	2090.00
EFT67796	24-01-2019	SUEZ RECYCLING & RECOVERY (PERTH) PTY LTD	BULK BIN SERVICES FOR GREEN AND MIXED WASTE COLLECTIONS AND DISPOSAL	1293.23
EFT67797	24-01-2019	ZIRCODATA PTY LTD	MONTHLY OFFSITE STORAGE FEES - PERIOD 26/11/18 - 25/12/18	542.91
EFT67798	24-01-2019	MSA GROUP PTY LTD	STAGE 1 REVIEW OF PLANS AND ISSUING OF BA3 CERTIFICATE OF DESIGN COMPLIANCEFOR BUILDING PERMIT FOR NEW HOCKEY STORAGE SHED AT HARTFIELD PARK	495.00
EFT67799	24-01-2019	READSPEAKER PTY LTD	READSPEAKER ENTERPRISE ANNUAL SERVICE FEE - PERIOD 01/10/18 - 30/09/18	3853.85
EFT67800	24-01-2019	DS AGENCIES PTY LTD	SUPPLY AND INSTALL ARQUA DRINK FOUNTAIN AT KALAMUNDA WATER PARKS	6534.00
EFT67801	24-01-2019	CAROLYN MARKS	HALL & KEY BOND REFUND	350.00
EFT67802	24-01-2019	DAYTONE PRINTING PTY LTD	PRINTING OF BROCHURES / INVITES FOR VARIOUS LOCATIONS	1273.80
EFT67803	24-01-2019	CMA ECOCYCLE PTY LTD	GLOBE COLLECTION	2048.64
EFT67804	24-01-2019	WEST TIP WASTE CONTROL PTY LTD	REMOVAL & PROCESSING OF BUILDING RUBBLE, GULLY EDUCTING, SWEEPINGS	6316.18
EFT67805	24-01-2019	THE LUCKY CHARM	NEWSPAPERS / MAGAZINES SUPPLIES FOR VARIOUS LOCATIONS	53.50
EFT67806	24-01-2019	SEATADVISOR PTY LTD	MONTHLY TICKET SALES FEES FOR DECEMBER 2018	142.12

Chq/EFT	Date	Name	Description	Amount
EFT67807	24-01-2019	A TEAM PRINTING	PRINTING OF 2019 FEB-JUNE SEASON ONE BOOKLET FOR KALAMUNDA PERFORMING ARTS CENTRE	1532.30
EFT67808	24-01-2019	BLACKTREE TECHNOLOGY PTY LTD	RADIO ID & ACCESS TO THE CENTRAL PARK REPEATER SITE FOR 8 RADIOS - JANUARY 2019	255.20
EFT67809	24-01-2019	J. PRESTIPINO BUILDING DESIGNS PTY LTD	PROPOSED UPGRADE WORKS FOR 4 BUS STOPS AT VARIOUS LOCATIONS	3388.00
EFT67810	24-01-2019	JOHN LODGE T/A LANDCARE WEED CONTROL	SPRING WEED TREATMENT AT SMOKEBUSH PLACE	1236.40
EFT67811	24-01-2019	SAFEWORK LABORATORIES PTY LTD	DRUG TESTING CONDUCTED FOR A STAFF MEMBER	190.30
EFT67812	24-01-2019	BAND & ENTERTAINMENT BOOKING OFFICES	PERFORMANCE BY JAY WESTON FOR CHRISTMAS MORNING MUSIC - DECEMBER 2018	500.00
EFT67813	24-01-2019	TELSTRA SNP MONITORING PTY LTD	SECURITY MONITORING, EQUIPMENT AND REPAIRS TO VARIOUS LOCATIONS	4134.84
EFT67814	24-01-2019	BLUE STEEL ENTERPRISES PTY LTD T/A FRONTLINE FIRE & RESCUE EQUIPMENT	MAINTENANCE OF FIRE AND RESCUE EQUIPMENT	5501.60
EFT67815	24-01-2019	NATURE CALLS PORTABLE TOILETS	HIRE OF PORTABLE TOILETS FOR SUMMER MOVIE SERIES 2019 AT OLLIE WORRELL RESERVE	462.00
EFT67816	24-01-2019	INSTANT WASTE MANAGEMENT	HOOK LIFT BIN TRANSPORTATION	11385.00
EFT67817	24-01-2019	MARK ONE VISUAL	INSTALLATION, MAINTENANCE AND STORAGE OF CHRISTMAS LIGHTS FOR VARIOUS LOCATIONS	42504.00
EFT67818	24-01-2019	ROADLINE REMOVAL WA	ROAD LINE MARKING REMOVAL AT RAY OWEN CARPARK	1593.90
EFT67819	24-01-2019	MARKET CREATIONS	MARKETING & TECHNOLOGY SERVICE FEES & MONTHLY CLOUD HOSTING SERVICES	45061.86
EFT67820	24-01-2019	FORTH CONSULTING PTY LTD	HARTFIELD HOCKEY CLUB UPGRADE - STRUCTURAL ENGINEERING CA SERVICES	165.00
EFT67821	24-01-2019	ACACIA CONNECTION PTY LTD	EMPLOYMENT ASSISTANCE PROGRAM SESSIONS	2145.00

Chq/EFT	Date	Name	Description	Amount
EFT67822	24-01-2019	KERB DIRECT KERBING PTY LTD	SUPPLY AND LAY CONCRETE KERBING AT VARIOUS LOCATIONS	12101.51
EFT67823	24-01-2019	ALINTA ENERGY (ELECTRICITY ACCOUNT)	POWER CHARGES	3210.23
EFT67824	24-01-2019	EMBROIDERY HOUSE KALAMUNDA	ARTWORK FOR DIGITISING OF YOUTH ACTION GROUP LOGO	66.00
EFT67825	24-01-2019	MURPHY PAINTING & DECORATING	PAINTING WORKS AT KALAMUNDA PERFORMING ARTS CENTRE	6610.00
EFT67826	24-01-2019	ENTIRE FIRE MANAGEMENT	FIREBREAK MAINTENANCE AT WOODLUPINE CREEK UNDEVELOPED RESERVE	2640.00
EFT67827	24-01-2019	DOWSING GROUP PTY LTD	SUPPLY AND INSTALL CONCRETE PATHWAYS AT VARIOUS LOCATIONS	86733.61
EFT67828	24-01-2019	PAVEMENT MANAGEMENT SERVICES	UNDERTAKE SEALED ROAD CONDITION SURVEY AT VARIOUS LOCATIONS	8831.27
EFT67829	24-01-2019	WESTERN TREE RECYCLERS	GREEN WASTE PROCESSING/COLLECTION	11368.02
EFT67830	24-01-2019	MAPS GROUP LTD T/AS PROCUREMENT AUSTRALIA	FOURTH & FINAL INSTALMENT - PROFESSIONAL FEES FOR THE PROVISION OF INSURANCE TENDER REVIEW SERIES	3300.00
EFT67831	24-01-2019	CORSIGN WA PTY LTD	SUPPLIES OF SIGNAGE AND RELATED EQUIPMENT	1534.50
EFT67832	24-01-2019	VIZSTONE	MANAGE ENGINE HELPDESK FOR JANUARY 2019	2689.50
EFT67833	24-01-2019	HORIZON WEST LANDSCAPE & IRRIGATION PTY LTD	PLANTING AND MULCHING AT BIBBULMEN TRACK	4644.75
EFT67834	24-01-2019	CHESS ENGINEERING	PLANT / VEHICLE PARTS	374.00
EFT67835	24-01-2019	PGV ENVIRONMENTAL	FLORA & FAUNA STUDY LOT 300 DAWSON AVE FORRESTFIELD (FORMER LANDFILL SITE)	2629.00
EFT67836	24-01-2019	TAKIRA THARCZ IAMO	CROSSOVER CONTRIBUTION	428.00
EFT67837	24-01-2019	A PROUD LANDMARK PTY LTD	RESERVE LANDSCAPE WORKS AT ALAN ANDERSON & VIV ROBINSON RESERVES	9564.50
EFT67838	24-01-2019	GYMMASTER SOFTWARE - TRESHNA ENTERPRISES LTD	HIGH WYCOMBE STUDIO PACKAGE FOR THE 24/7 GYM MONTHLY CHARGE	80.00

Chq/EFT	Date	Name	Description	Amount
EFT67839	24-01-2019	FOCUS AUDIOVISUAL PTY LTD	SUPPLY & INSTALLATION OF VIDEO EQUIPMENT UPGRADE IN THE FUNCTION ROOM	45713.80
EFT67840	24-01-2019	ENERGETIC KIDS	HALL BOND REFUND	400.00
EFT67841	24-01-2019	HILLS SILENT DISCO	SILENT DISCO HEADSETS - YOUTH EVENT - 30 NOVEMBER 2018	220.00
EFT67842	24-01-2019	EMPLOYEECONNECT PTY LTD	MONTHLY SOFTWARE AND SERVICE FOR PRO FOR DECEMBER 2018	2623.50
EFT67843	24-01-2019	DONEGAN ENTERPRISES	SUPPLY AND INSTALL 4M HDG BOOM GATE AT ALAN ANDERSON RESERVE	3520.00
EFT67844	24-01-2019	MATERON INVESTMENTS PTY LTD	FOOTPATH DEPOSIT REFUNDS	3500.00
EFT67845	24-01-2019	KAMYAR & LAURA NADJI	CROSSOVER CONTRIBUTION	428.00
EFT67846	24-01-2019	LYCOPODIUM INFRASTRUCTURE PTY LTD	DETAIL DESIGN & DOCUMENTATION FOR HALE ROAD WIDENING & ENHANCEMENT	5844.85
EFT67847	24-01-2019	TREE WATERING SERVICES	TREE WATERING OF STREET TREES AT VARIOUS LOCATIONS	4138.00
EFT67848	24-01-2019	SKATEBOARDING WA	SKATEBOARDING WA COACHING CLINICS AT HIGH WYCOMBE SKATE PARK	522.50
EFT67849	24-01-2019	ACTION GLASS & ALUMINIUM	SUPPLY AND INSTALL 3 NEW ANODISED ALUMINUMUM WINDOWS WITH SECURITY SCREENS TO REPLACE OLD TIMBER WINDOWS AT 7 SANDERSON RD LESMURDIE	12602.15
EFT67850	24-01-2019	ABSOLUTE TRAIL PLANNING	SUPPLY & INSTALL NEW MIRROR AT HPRC HARTFIELD PARK REDEVELOPMENT TRADITIONAL NOONGAR STORIES OF JUBITCH & MAMBA INCLUDING INFO ON TRADITIONAL USES OF SURROUNDING NATURAL BUSHLAND	5000.00
EFT67851	24-01-2019	GREEN OPTIONS	MOWING OF HARTFIELD PARK HOCKEY FIELDS - PERIOD 04/12/18 - 27/12/18	2728.00

Chq/EFT	Date	Name	Description	Amount
EFT67852	24-01-2019	LIVING TURF	FERTILISER AND GYPSUM TREATMENTS AT HARTFIELD HOCKEY GROUND	4449.50
EFT67853	24-01-2019	GREG J PARSONS - GREG'S CINEMAS	SUMMER SERIES 2019 - HIRE OF SCREEN, PROJECTION, SOUND AND LIGHTING PLUS GENERATOR AND POPCORN AT OLLIE WORRELL RESERVE	1261.70
EFT67854	24-01-2019	KINGMILL PTY LTD T/A THRIFTY CAR RENTAL	DFAX DUAL CAB UTILITY RENTAL OF 3 VEHICLES FOR FIRE BRIGADE - PERIODS 29/10/18 - 28/11/18 & 28/11/18 - 28/12/18	12372.36
EFT67855	24-01-2019	TYRE STORAGE AND RECOVERY WA (TSR WA)	COLLECTION AND PROCESSING OF TYRES	582.09
EFT67856	24-01-2019	KALAMUNDA PLANT COMPANY	KEY BOND REFUND	50.00
EFT67857	24-01-2019	LASER ELECTRICAL GREENWOOD	REPAIRS TO THE VMB 2 X CHARGING SYSTEMS FITTED	1770.69
EFT67858	24-01-2019	LANDFORM RESEARCH	HEIDELBERG PARK GEOTECHNICAL REPORT PERIOD 19/10/18 - 23/11/18	9842.25
EFT67859	24-01-2019	INDUSTRIAL RECRUITMENT PARTNERS (IRP) PTY LTD	HIRE OF TEMPORARY STAFF FOR DEPOT / ADMIN	6874.02
EFT67860		EFT PAYMENT CANCELLED		0.00
EFT67861	24-01-2019	NS PROJECTS PTY LTD	PROJECT MANAGEMENT SERVICES FOR ARCHITECTURAL SERVICES FOR THE KALAMUNDA COMMUNITY CENTRE	8332.50
EFT67862	24-01-2019	SPECIALIST TESTING & TECHNICAL SERVICES (STATS) PTY LTD	FWD TESTING OF VARIOUS ROADS	6533.78
EFT67863	24-01-2019	POS99 PTY LTD	SUPPLY OF ZEBRA GC420T THERMAL TRANSFER PRINTER & LABELS FOR THE OPERATIONS CENTRE	945.95
EFT67864	24-01-2019	CLAUDIA PLATT	KEY BOND REFUND	50.00
EFT67865	24-01-2019	MARILENA NOTTE	REFUND FOR KIDS COOKING CLUB X 2	54.40
EFT67866	24-01-2019	ALISTAR MCEVOY	PERFORMANCE AT THE LIONS CLUB ART AWARDS	750.00

Chq/EFT	Date	Name	Description	Amount
EFT67867	31-01-2019	DELOITTE TOUCHE TOHMATSU	PROFESSIONAL SERVICES - DATA TRANSFER REPORT, ENGAGEMENT NUMBER CIT00288-1	17850.14
72402	02-01-2019	DAVID & JANINE BAIN	61 HOLMES ROAD FORRESTFIELD - OUTSTANDING WORKS BOND FOR ACCESS WAY AND CROSSOVER	20000.00
72403	09-01-2019	HOSPITAL BENEFIT FUND OF WA	PAYROLL DEDUCTIONS	356.20
72404	09-01-2019	MUNICIPAL EMPLOYEES UNION	PAYROLL DEDUCTIONS	1681.02
72405	09-01-2019	TELSTRA CORPORATION	TELEPHONE EXPENSES	29183.92
72406	09-01-2019	WATER CORPORATION	WATER USE AND SERVICE CHARGE FEES	17097.05
72407	09-01-2019	GEORGIA L CARRAGHER	FOOTPATH DEPOSIT REFUND	500.00
72408	09-01-2019	CASH - ADMIN	PETTY CASH REIMBURSEMENT	952.23
72409	09-01-2019	CASH - KALAMUNDA LIBRARY	PETTY CASH REIMBURSEMENT	165.08
72410	09-01-2019	CASH - LESMURDIE LIBRARY	PETTY CASH REIMBURSEMENT	98.23
72411	09-01-2019	CASH - ZIG ZAG CULTURAL CENTRE	PETTY CASH REIMBURSEMENT	89.75
72412	23-01-2019	DAVID LEWIS	REIMBURSEMENT FOR THE COST OF THE REPLACEMENT OF THE BICYCLE HELMET	200.00
72413	23-01-2019	HOSPITAL BENEFIT FUND OF WA	PAYROLL DEDUCTIONS	178.10
72414	23-01-2019	MUNICIPAL EMPLOYEES UNION	PAYROLL DEDUCTIONS	830.26
72415	23-01-2019	WATER CORPORATION	WATER USE AND SERVICE CHARGE FEES	18880.58
72416	23-01-2019	CASH - FORRESTFIELD LIBRARY	PETTY CASH REIMBURSEMENT	209.59
72417	23-01-2019	CASH - HARTFIELD PARK	PETTY CASH REIMBURSEMENT	177.78
72418	23-01-2019	CASH - HIGH WYCOMBE LIBRARY	PETTY CASH REIMBURSEMENT	184.66
72419	23-01-2019	CASH - KPAC	PETTY CASH REIMBURSEMENT	87.28
DD40488.1	08-01-2019	WA LOCAL GOVERNMENT SUPERANNUATION PLAN	SUPERANNUATION CONTRIBUTIONS	98638.58
DD40488.2	08-01-2019	CBUS SUPERANNUATION	SUPERANNUATION CONTRIBUTIONS	176.98
DD40488.3	08-01-2019	HUNDAL & ROGERS FUTURE FUND	SUPERANNUATION CONTRIBUTIONS	467.16
DD40488.4	08-01-2019	ANZ SMART CHOICE SUPER	SUPERANNUATION CONTRIBUTIONS	326.01
DD40488.5	08-01-2019	IOOF PORTFOLIO SERVICE PERSONAL SUPERANNUATION	SUPERANNUATION CONTRIBUTIONS	108.88

Chq/EFT	Date	Name	Description	Amount
DD40488.6	08-01-2019	AUSTRALIAN CATHOLIC SUPERANNUATION & RETIREMENT FUND (ACSRF)	SUPERANNUATION CONTRIBUTIONS	271.25
DD40488.7	08-01-2019	REI SUPER	SUPERANNUATION CONTRIBUTIONS	236.67
DD40488.8	08-01-2019	ONEPATH MASTERFUND	SUPERANNUATION CONTRIBUTIONS	247.03
DD40488.9	08-01-2019	THE TRUSTEE FOR DK ALWAYS SUPERANNUATION FUND	SUPERANNUATION CONTRIBUTIONS	505.52
DD40602.1	22-01-2019	WA LOCAL GOVERNMENT SUPERANNUATION PLAN	SUPERANNUATION CONTRIBUTIONS	95069.42
DD40602.2	22-01-2019	BT SUPER FOR LIFE	SUPERANNUATION CONTRIBUTIONS	343.64
DD40602.3	22-01-2019	ESSENTIAL SUPER	SUPERANNUATION CONTRIBUTIONS	272.17
DD40602.4	22-01-2019	CBUS SUPERANNUATION	SUPERANNUATION CONTRIBUTIONS	284.41
DD40602.5	22-01-2019	HUNDAL & ROGERS FUTURE FUND	SUPERANNUATION CONTRIBUTIONS	467.16
DD40602.6	22-01-2019	IOOF PORTFOLIO SERVICE PERSONAL SUPERANNUATION	SUPERANNUATION CONTRIBUTIONS	176.51
DD40602.7	22-01-2019	AUSTRALIAN CATHOLIC SUPERANNUATION & RETIREMENT FUND (ACSRF)	SUPERANNUATION CONTRIBUTIONS	319.90
DD40602.8	22-01-2019	REI SUPER	SUPERANNUATION CONTRIBUTIONS	236.67
DD40602.9	22-01-2019	ONEPATH MASTERFUND	SUPERANNUATION CONTRIBUTIONS	247.03
DD40488.10	08-01-2019	THE TRUSTEE FOR YOZ MIGHTY SUPERANNUATION FUND	SUPERANNUATION CONTRIBUTIONS	298.10
DD40488.11	08-01-2019	MLC MASTERKEY SUPER GOLD STAR VERSION ACCOUNT	SUPERANNUATION CONTRIBUTIONS	315.27
DD40488.12	08-01-2019	PETER TUCATS SUPERANNUATION FUND	SUPERANNUATION CONTRIBUTIONS	296.80
DD40488.13	08-01-2019	TWU SUPERANNUATION FUND	SUPERANNUATION CONTRIBUTIONS	231.90
DD40488.14	08-01-2019	BWMT SUPERANNUATION FUND	SUPERANNUATION CONTRIBUTIONS	240.33
DD40488.15	08-01-2019	HESTA SUPER FUND	SUPERANNUATION CONTRIBUTIONS	60.07
DD40488.16	08-01-2019	REST SUPERANNUATION	SUPERANNUATION CONTRIBUTIONS	1412.84
DD40488.17	08-01-2019	BT SUPER FOR LIFE	SUPERANNUATION CONTRIBUTIONS	343.64
DD40488.18	08-01-2019	COLONIAL 1ST STATE SUPERANNUATION	SUPERANNUATION CONTRIBUTIONS	1004.49

Chq/EFT	Date	Name	Description	Amount
DD40488.19	08-01-2019	AUSTRALIAN SUPERANNUATION	SUPERANNUATION CONTRIBUTIONS	4343.17
DD40488.20	08-01-2019	HOSTPLUS PTY LTD	SUPERANNUATION CONTRIBUTIONS	1437.36
DD40488.21	08-01-2019	AMPLIFE LIMITED	SUPERANNUATION CONTRIBUTIONS	868.47
DD40488.22	08-01-2019	ESSENTIAL SUPER	SUPERANNUATION CONTRIBUTIONS	272.17
DD40602.10	22-01-2019	THE TRUSTEE FOR DK ALWAYS SUPERANNUATION FUND	SUPERANNUATION CONTRIBUTIONS	505.52
DD40602.11	22-01-2019	THE TRUSTEE FOR YOZ MIGHTY SUPERANNUATION FUND	SUPERANNUATION CONTRIBUTIONS	300.87
DD40602.12	22-01-2019	PETER TUCATS SUPERANNUATION FUND	SUPERANNUATION CONTRIBUTIONS	296.80
DD40602.13	22-01-2019	MLC MASTERKEY SUPER GOLD STAR VERSION ACCOUNT	SUPERANNUATION CONTRIBUTIONS	318.76
DD40602.14	22-01-2019	TWU SUPERANNUATION FUND	SUPERANNUATION CONTRIBUTIONS	234.28
DD40602.15	22-01-2019	BWMT SUPERANNUATION FUND	SUPERANNUATION CONTRIBUTIONS	256.77
DD40602.16	22-01-2019	HESTA SUPER FUND	SUPERANNUATION CONTRIBUTIONS	85.65
DD40602.17	22-01-2019	REST SUPERANNUATION	SUPERANNUATION CONTRIBUTIONS	1336.59
DD40602.18	22-01-2019	COLONIAL 1ST STATE SUPERANNUATION	SUPERANNUATION CONTRIBUTIONS	1033.01
DD40602.19	22-01-2019	AUSTRALIAN SUPERANNUATION	SUPERANNUATION CONTRIBUTIONS	5475.36
DD40602.20	22-01-2019	HOSTPLUS PTY LTD	SUPERANNUATION CONTRIBUTIONS	1338.54
DD40602.21	22-01-2019	ANZ SMART CHOICE SUPER	SUPERANNUATION CONTRIBUTIONS	531.77
DD40602.22	22-01-2019	AMPLIFE LIMITED	SUPERANNUATION CONTRIBUTIONS	896.92
DD40602.23	22-01-2019	AUSTRALIAN ETHICAL SUPERANNUATION	SUPERANNUATION CONTRIBUTIONS	95.11
				3,351,153.95

Chq/EFT	Date	Name	Description	Amount
<u>City of Kalamunda Payroll</u>				
F901092703024	08/01/19	CITY OF KALAMUNDA PAYROLL	VARIOUS AWARDS TO 8 January 2019	567,726.32
F901233396218	22/01/19	CITY OF KALAMUNDA PAYROLL	VARIOUS AWARDS TO 22 January 2019	585,523.69
				1,153,250.01

CITY OF KALAMUNDA

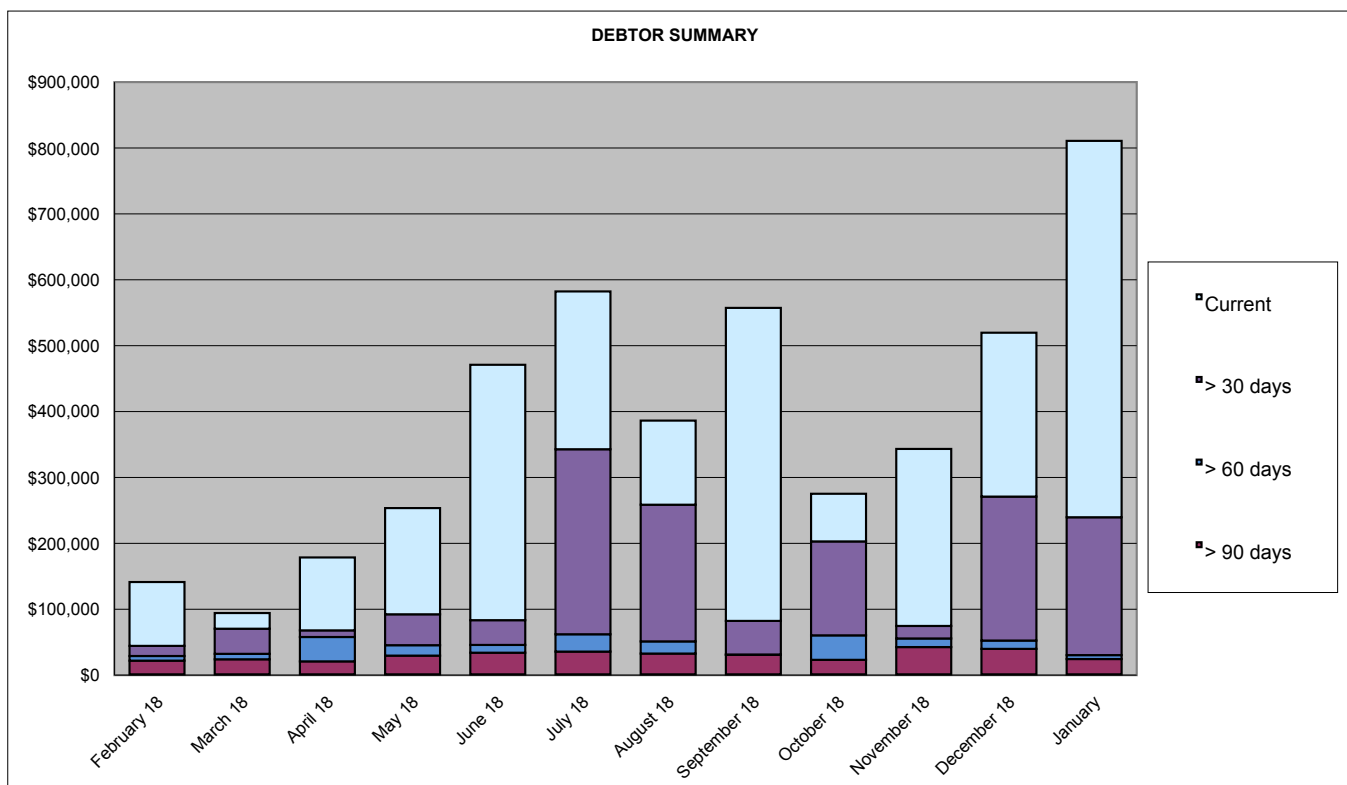
SUMMARY OF DEBTORS

FOR THE PERIOD ENDED 31st January 2019



Sundry Debtors Trial Balance - Summary Aged Listing

	> 90 days	> 60 days	> 30 days	Current	Total
February 18	\$20,762	\$7,064	\$15,369	\$96,892	\$140,087
March 18	\$22,834	\$8,284	\$38,129	\$23,773	\$93,020
April 18	\$19,674	\$36,986	\$10,065	\$110,649	\$177,374
May 18	\$28,412	\$15,815	\$46,892	\$161,174	\$252,292
June 18	\$32,833	\$11,788	\$37,582	\$387,557	\$469,760
July 18	\$34,520	\$26,301	\$280,772	\$239,486	\$581,079
August 18	\$31,533	\$18,465	\$207,431	\$127,642	\$385,071
September 18	\$29,734	\$374	\$50,973	\$475,018	\$556,100
October 18	\$22,021	\$37,150	\$142,548	\$72,312	\$274,030
November 18	\$41,383	\$13,052	\$18,999	\$268,626	\$342,060
December 18	\$38,652	\$12,627	\$218,454	\$248,704	\$518,438
January	\$23,227	\$5,952	\$209,193	\$571,188	\$809,561



CITY OF KALAMUNDA SUMMARY OF DEBTORS FOR THE PERIOD ENDED 31st January 2019			
AMOUNT	DEBTOR	DETAILS	STATUS
>90 days			
\$7,378.15	Zig Zag Gymnastics^	Lease	Cash Flow issues - Discussions held with Owner - self managed instalments
\$4,926.80	Evolution Cheer & Dance^	Hall Hire	Cash Flow issues - self managed instalments - no longer hiring
\$1,806.25	Forrestfield Sisdac	Hall Hire	Statement issued - direct contact to be made
\$9,116.28	90+ Days Debts consisting of amounts under \$1,000.00.	42 Debtors - average debt \$217.05	Debtors to be contacted to advise debt recovery action pending / final notices issued / debt with D&B or possible write-off of debt pending
\$23,227.48	Total Debts 90+ Days		
>60 days			
\$2,923.14	Zig Zag Gymnastics^	Lease	Cash Flow issues - Discussions held with Owner - self managed instalments
\$2,500.00	Private Citizen	Contribution - removal of verge tree	Copy invoice mailed
\$528.60	60+ Days Debts consisting of amounts under \$1,000.00.	2 Debtors - average debt \$264.30	All debtors contacted by telephone / email / copy invoices mailed. Large number due to issue of health services annual fees 28/08/18
\$5,951.74	Total Debts 60+ Days		
>30 days			
\$170,100.00	PJ Dujmovic Pty Ltd	Developer Contribution	Statement issued and copy invoice emailed
\$20,000.00	High Wycombe Junior Football Club	Contribution towards Electrical Upgrades	Statement issued
\$14,456.27	Berkshire Hathaway	Insurance - Employee Claim	Statement issued
\$2,923.14	Zig Zag Gymnastics^	Lease	Cash Flow issues - Discussions held with Owner - self managed instalments
\$1,713.45	30+ Days Debts consisting of amounts under \$1,000.00.	6 Debtors - average debt \$285.57	Statements issued
\$209,192.86	Total Debts 30+ Days		
< 30 days			
\$574,030.29	Total of Current Debts		
\$2,841.84	Total of Accounts in Credit		
\$809,560.53	Total - Debtors Trial Balance		
FOOTNOTES			
* Denotes currently in negotiation of invoice amount and / or details			
^ Denotes payment arrangement in place			



CITY OF KALAMUNDA

SUMMARY OF CREDITORS

FOR THE PERIOD ENDED 31 DECEMBER 2018



Sundry Creditors Trial Balance - Summary Aged Listing

Month End	> 90 days	> 60 days	> 30 days	Current	Total
7/31/2017	\$7,214	-\$85	\$2,330	\$928,027	\$937,483
8/31/2017	\$11,870	\$24,652	\$232,335	\$1,318,300	\$1,587,157
9/30/2017	\$3,924	\$48,721	\$21,845	\$613,992	\$688,482
10/31/2017	\$9,241	\$3,450	\$25,817	\$1,182,360	\$1,220,868
11/30/2017	-\$806	\$28,733	\$12,953	\$637,757	\$678,637
12/31/2017	-\$56,248	\$112,765	\$45,257	\$796,722	\$898,496
1/31/2018	\$6,710	\$5,258	\$122,852	\$867,737	\$1,002,558
2/28/2018	\$1,890	\$40,937	\$29,239	\$2,798,433	\$2,870,498
3/31/2018	\$38,065	\$24,067	\$75,776	\$1,590,758	\$1,728,666
4/30/2018	\$39,403	\$23,826	\$306,301	\$1,121,313	\$1,490,842
5/31/2018	\$39,334	\$35	\$38,880	\$1,384,603	\$1,462,852
6/30/2018	\$61,398	\$78,812	\$176,898	\$2,688,142	\$3,005,250
7/31/2018	\$39,807	\$239	\$17,773	\$1,044,603	\$1,102,423
8/31/2018	\$40,230	\$48,103	\$103,073	\$3,025,026	\$3,186,732
9/30/2018	\$41,418	\$0	\$261,665	\$733,054	\$1,036,137
10/31/2018	\$50,571	\$60,482	\$40,328	\$1,766,760	\$1,918,142
11/30/2018	\$0	-\$90	\$22,363	\$3,414,169	\$3,436,442
12/31/2018	\$2,898	\$419	\$39,367	\$519,670	\$588,440
1/1/2019	\$4,270	\$71,043	\$28,325	\$663,423	\$767,061

Comment

- > 90 days Original invoices for Remondis Australia Pty Ltd, Kalamunda Electrics, Freedom Fairies, Local Government Professionals Australia & credits for Hema Maps Pty Ltd not received in Accounts for
- > 60 days Original invoices for Talis Consulting Pty Ltd, Forpak Pty Ltd & Echo Newspaper not received in Accounts for processing
- > 30 days These invoices are paid on the third fortnightly payment run.

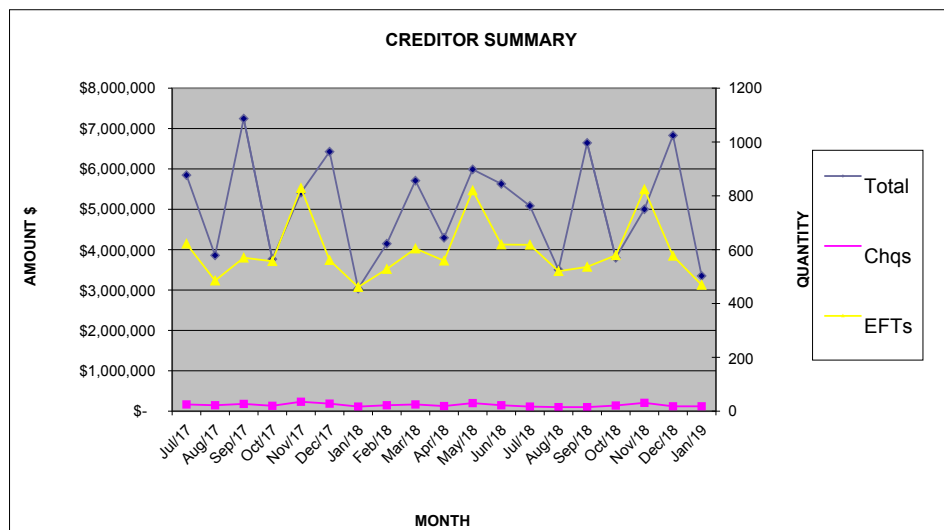
Creditor Payments made

Month	Amount \$	Quantity		
		Cheques	EFTs	Total
Jul-17	\$ 5,846,091	25	622	647
Aug-17	\$ 3,859,524	22	485	507
Sep-17	\$ 7,246,066	27	570	597
Oct-17	\$ 3,766,484	20	557	577
Nov-17	\$ 5,412,342	35	829	864
Dec-17	\$ 6,427,319	28	561	589
Jan-18	\$ 3,034,896	17	461	478
Feb-18	\$ 4,148,129	22	528	550
Mar-18	\$ 5,709,513	25	604	629
Apr-18	\$ 4,294,934	19	559	578
May-18	\$ 5,988,484	30	820	850
Jun-18	\$ 5,628,881	22	619	641
Jul-18	\$ 5,084,485	17	618	635
Aug-18	\$ 3,502,919	15	520	535
Sep-18	\$ 6,644,740	15	536	551
Oct-18	\$ 3,798,437	21	579	600
Nov-18	\$ 5,001,070	31	824	855
Dec-18	\$ 6,829,868	18	577	595
Jan-19	\$ 3,351,154	18	469	487

*Excludes net staff payroll

*Creditors on 30 day terms are paid on the 28th of the month following.

*Local suppliers are paid on 14 day terms.



Working Draft **City of Kalamunda: Draft Tourism Development Strategy**

Prepared by: Tourism Community Reference Group



**city of
kalamunda** 574

City of Kalamunda

DRAFT Tourism Development Strategy 2019 - 2025

February 2019



Contents

ACKNOWLEDGEMENTS	2
1. INTRODUCTION	3
2. VISION AND MISSION	3
3. METHODOLOGY	4
4. ALIGNMENT WITH STRATEGIES	4
5. TOURISM CONTEXT	5
5.1. Federal	5
5.2. State	5
5.3. Local	6
5.4. Perth Hills Tourism Alliance	7
5.5. Perth Hills Tourism Taskforce	7
6. KALAMUNDA TOURISM MARKET	8
7. KALAMUNDA TOURIST PRECINCTS	10
7.1. Kalamunda Townsite	10
7.2. Bickley Valley and Carmel	10
7.3. Pickering Brook	11
7.4. Foothill Suburbs	11
7.5. Cycling Precinct	12
8. COMMUNITY CONSULTATION	13
8.1. Tourism Community Reference Group	13
8.2. Community Engagement Workshops	13
9. KALAMUNDA'S TOURISM STRENGTHS	15
10. TOURIST OPPORTUNITIES AND CONSTRAINTS	16
10.1. Opportunities	16
10.2. Constraints	17
11. TOURISM DEVELOPMENT STRATEGIES	18
12. TOURIST DEVELOPMENT STRATEGIES ACTION PLAN	19
Strategy 1:	19
Strategy 2	21
Strategy 3	24
Strategy 4	26
Strategy 5	28
13. Appendices	30

ACKNOWLEDGEMENTS

The City of Kalamunda adopted a community-led approach to production of this Tourism Development Strategy through engagement of a Tourism Community Reference Group (TCRG), who aimed to bring a community-driven focus centred on protecting the area's natural beauty and cultural heritage, supporting local businesses and residents, and coordinating a network of key individuals motivated to drive change.

This Tourism Development Strategy was authored by the Chair of the Kalamunda TCRG, Francesca Flynn, who worked in collaboration with the TCRG, City of Kalamunda staff and councillors, and the wider community throughout the production of this document.

We wish to acknowledge the hard work, dedication and commitment shown by members of the Kalamunda Tourism Community Reference Group (TCRG) and thank them for volunteering their time to bring a community-led approach to driving tourism in Kalamunda. The TCRG comprises:

- TCRG Chair: Francesca Flynn, Operations Manager Perth Observatory
- TCRG Deputy Chair: Caroline Babbage, President of Kalamunda Chamber of Commerce
- Bob Melville, former President of Tourism Association of WA
- Mack McCormack, Owner of Chalet Rigi Restaurant, Piesse Brook
- Eric and Lucy Radice, Owners of La Fattoria Perth Hills Restaurant and Orchard
- Judy Poletti, Bickley Valley land owner
- Rebekah Wilson, Owner of Lawnbrook Estate and Packing Shed Restaurant, Bickley Valley
- Michael Collins, Wattle Grove resident and FACET Board Member
- Kerry Ann-Winmar, Owner of Nyungar Tours, South Perth

We also wish to acknowledge the City of Kalamunda's staff and councillors, in particular Mayor John Giardina, who vision it was to create a Tourism Development Strategy for Kalamunda and realise the region's true tourist potential. City staff, led by CEO Rhonda Hardy, have been immensely supportive of the unique community-led approach of this Strategy and it is this innovation that has enabled the TCRG to develop this extraordinary flagship Tourism Development Strategy – developed BY the community, FOR the community.

Finally, and most importantly, we wish to acknowledge the community of Kalamunda who have shown tremendous enthusiasm and backing for development of this Strategy and provided invaluable feedback through a series of community workshops. Without community engagement, this Strategy would not exist, and we are immensely grateful for the opportunity to share community insights and develop a one-of-a-kind Community-led Strategy.

The Kalamunda TCRG is proud to share our Vision of establishing the City of Kalamunda as a major tourist destination with a sustainable and vibrant future for visitors and locals alike; a future filled with remarkable visitor experiences, innovative partnerships and ventures, and a connected and passionate community. In delivering this Tourism Development Strategy, we look forward to an exciting future of making our vision a reality.

1. INTRODUCTION

Scattered throughout the extensive Darling Scarp is the Perth Hills region, an increasingly popular tourist destination set within pristine Western Australian bush. Kalamunda, one of the region's character townships, enjoys a lofty view over Perth and the Swan Coastal Plain, and exudes a gentle country charm and historical elegance.

Kalamunda offers a range of experiences centred on stunning natural beauty, rich cultural heritage, and gourmet food and wine establishments delivering local produce and friendly service. The rolling Bickley Valley and Carmel region boasts award-winning family-owned boutique wineries, breweries and orchards, whilst surrounding National Parks offer endless freedom to interact with nature via world-class mountain bike and walking trails that meander past creeks and waterfalls through pristine forest. Kalamunda's bustling townsite is a vibrant setting for socialising and engagement with local arts, heritage and culture, and it enjoys an ideal location only 30 minutes from Perth CBD.

The first European settler in the area was Benjamin Mason who built a successful timber station. By 1872, he and his partner Francis Bird had constructed a horse-drawn wooden tram to transport timber to the Canning River. Stirk Cottage, the first dwelling on the future townsite, was built in 1881 by the Stirk family, and by 1891, the tram was replaced with a steel tracked Zig Zag Railway designed to overcome the scarp's steep gradient. Many orchards were established in the surrounding fertile valley soils and by 1902, the Kalamunda townsite was created. The area quickly developed into a popular tourist destination and weekend retreat, with the Zig Zag railway taken over by the State Government for passenger transport and extending from Midland through to Karragullen at its peak.

By the 1920s, Kalamunda had been cemented as a premier health and spa resort, with thousands of visitors journeying "up-the-hill" to escape City life and experience the rural tranquillity of a nearby cool mountain retreat. The Kalamunda Hotel saw fame as a world-class visitor resort until World War II, which saw an immediate down-turn in visitors from which Kalamunda never fully recovered. The Zig Zag railway became economically unviable in 1949 and the track removed in 1952. Since the 1950s, Kalamunda has continued to grow to meet demand for property within commuting distance of Perth, and whilst it thrives with natural beauty and cultural heritage, it is yet to reach its full potential in terms of re-establishing its status as an iconic Perth tourist destination.

The City of Kalamunda's "*Strategic Community Plan – Kalamunda Advancing 2017-2027*" identifies a key priority as the production of a **Tourism Development Strategy** leveraging the award-winning Experience Perth Hills brand to promote Kalamunda's many food and wine establishments and cultural heritage assets; maximise visitor numbers; and drive economic growth and diversity.

The City of Kalamunda adopted a community-led approach to production of the Tourism Development Strategy through engagement of a Tourism Community Reference Group, who bring a community-focus centred on protecting the area's natural beauty and cultural heritage, supporting local businesses/residents, and coordinating a network of individuals motivated to drive change.

2. VISION AND MISSION

Vision: To establish the City of Kalamunda as a major tourist destination with a sustainable and vibrant future

Mission: To create remarkable and memorable visitor experiences that celebrate our natural environment and rich cultural heritage, to maximise opportunities for innovative partnerships and tourism ventures, and to work collaboratively with the community to create committed and passionate local ambassadors for the City.

3. METHODOLOGY

This Tourism Development Strategy is designed to guide the City of Kalamunda in achieving their vision and mission, by providing a community-led framework for tourism planning, destination branding and product marketing over the next six financial years (2019-2025). A community-led approach was adopted by the City in production of this Strategy, with key steps identified below:

1. **Kalamunda Tourism Visioning Workshop** to identify key themes and community stakeholders
2. **Tourism Community Reference Group** established to lead engagement and drive focus
3. **Community Engagement Workshops** to obtain detailed feedback on key strengths, opportunities and constraints for developing tourism products in Kalamunda
4. **Data Review and Collation** to transcribe and summarise community feedback
5. **Draft Tourist Development Strategy** authored by City of Kalamunda and Chair of TCRG
6. **Summary Workshops** to enable TCRG to review key strategies and provide comment
7. **Council Review** to seek approval for release for public comment
8. **Public Review** period to allow comment on the draft Strategy
9. **Final Tourism Development Strategy** amended based on public comment
10. **Adoption by Council** for implementation by the City

4. ALIGNMENT WITH STRATEGIES

This Tourism Development Strategy seeks to align with existing City of Kalamunda strategies that set the broader planning context for tourism development in the region, including:

- Public Open Space Strategy (2018)
- Economic Development Strategy (2017)
- Kalamunda Advancing - Strategic Community Plan: 2017-2027 (2017)
- Kalamunda Bicycle Plan (2017)
- Hills Rural Strategy 2014 (2015)
- Community Development Plan
- Annual Business Plan & Budget

This Tourism Development Strategy also seeks alignment with developing City of Kalamunda strategies that will directly impact tourism development, including:

- **Local Planning Scheme (LPS) amendment** – successful implementation of this Strategy requires close collaboration with the City's Planning Department and adoption of key Tourism Precincts and Strategies into the updated LPS (anticipated 2019).
- **Kalamunda Activity Centre Plan** – will address key components of this Strategy through redevelopment of the Kalamunda townsite to celebrate its character, strong and engaged community, and vibrancy as a social hub to live/work/play.
- **Arts and Cultural Policy/ Art in Public Places Policy** – will address key components of this Strategy through placing creative practise at the heart of the Kalamunda community, strengthening sense of place and visual appeal, and promoting engaging arts and cultural experiences.
- **Industrial Development Policy** - opportunity for developments to support tourism, including potential hotel and commercial complexes that complement the natural environment.

5. TOURISM CONTEXT

5.1. Federal

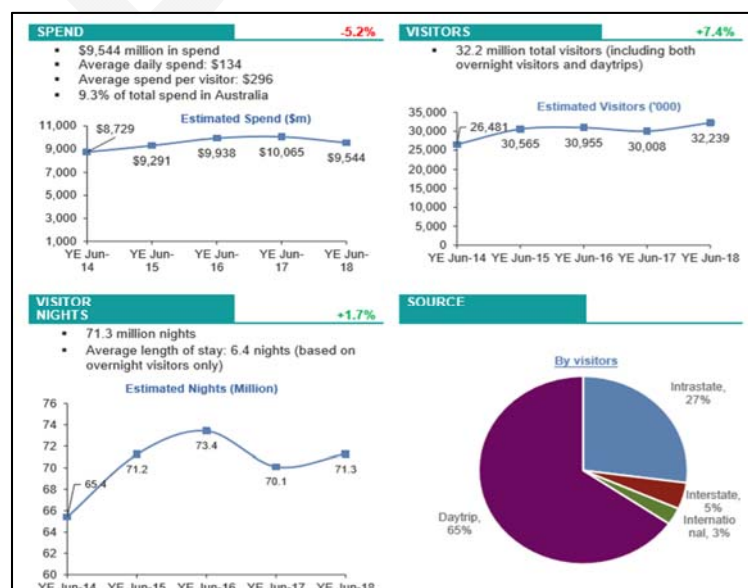
Tourism Australia is the Australian Federal Government agency responsible for attracting international visitors to Australia, both for leisure and business. It is active in 15 key areas including advertising, PR and media, trade shows and industry programs, online communications and consumer promotions and research. In 2010, Tourism Australia released a national strategy entitled “*Tourism 2020*” - a whole-of-government and industry long-term strategy designed to build the resilience and competitiveness of Australia’s tourism industry and grow its economic contributions. The strategy focuses on improving performance by pursuing new opportunities for growth and increased consumer spending and addressing supply-side factors. The primary goal of “*Tourism 2020*” is to achieve more than \$115 billion in overnight spend by 2020 (up from \$70 billion in 2009).

5.2. State

Tourism WA is the State Government agency responsible for developing tourism in WA and promoting it as an extraordinary tourism destination. It works in partnership with industry, private sector and government to develop and promote WA’s tourism experiences, attract events to the State, and help the tourism industry thrive, including providing funding, strategic direction, domestic marketing, research and other resources. In response to “*Tourism 2020*”, Tourism WA published **WA Tourism 2020 Strategy** in 2012, which describes 7 strategic ‘pillars’ of growth (Brand; Infrastructure; Business Travel; Regional Travel; Indigenous Tourism; Events; Asia) linked by ongoing operations, to deliver a goal of **doubling tourism spend from \$6 billion in 2010 to \$12 billion by 2020**.

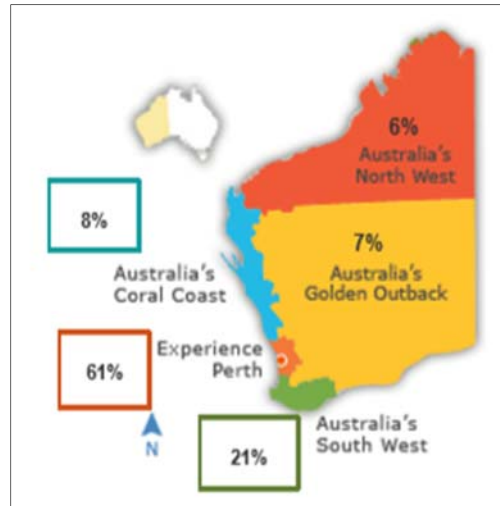
Tourism Council WA is the peak body representing tourism businesses, industries and regions in WA. It promotes the value of tourism, facilitates sustainable tourism development and advocates industry policy on behalf of members, comprising more than 1,500 private and public sector organisations including aviation, accommodation, venues, hospitality, tours, attractions and events sectors. The Council is also the peak body for WA regional and industry tourism associations.

Tourism makes an increasingly significant contribution to the WA economy. In 2016-2017, Tourism WA reported that the tourism industry employed over 7.7% of the WA workforce and was valued at \$11.8 billion by Gross State Product (GSP) – a rise of 0.9% from the previous year and over \$3 billion in 4 years (2012-2013 \$8.6 billion GSP). However, whilst 2017-2018 saw an increase of 7.4% in overnight and daytrip visitors to or within WA, visitor spend declined by 5.2%, largely due to reduced length of stays by interstate and international visitors and declining daily spend of intrastate visitors.



5.3. Local

Within WA, there are 5 Government funded regional tourism organisations who work both independently and in partnership with Tourism Australia, Tourism Western Australia, the tourism industry and key local stakeholders to promote tourism across the State. The City of Kalamunda sits within the **Perth Region Tourism Organisation** or “**Destination Perth**” (formerly Experience Perth), which captures around 60% of visitors to the State.



Source: Tourism WA

Destination Perth is the region's peak destination marketing organisation responsible for promoting Perth and its surrounds as a desirable leisure destination. It is a not-for-profit marketing organisation established in 2004 to act as the primary body for the marketing of Perth to domestic and international consumers, travel trade and media. Their vision is to establish the Perth region as a globally recognised must-visit tourist destination through increased visitor numbers, length of stay and visitor spending in the region. Their focus is on building destination awareness within Australia and targeted international markets through a program of marketing initiatives that grow sustainable tourism for the region.

Destination Perth represents Perth and its surrounds, comprising six tourism precincts:

1. Perth City
2. Fremantle and Rottnest Island
3. Sunset Coast
4. Peel and Rockingham
5. Swan Valley and Darling Range
6. Avon Valley

Whilst the City of Kalamunda currently falls within the “Swan Valley and Darling Range” tourism precinct; recent focus from both the State Government and Tourism Industry Bodies has been centred on creation of a separate tourism precinct for the Perth Hills, which is in many ways a hugely different visitor experience to the Swan Valley. The Perth Hills are a hidden gem which by contrast to other food and wine focused destinations, offers a more intimate connection with the natural environment and boutique family-owned venues where you can meet the maker and hear personal stories. Aligning with the “*Taste 2020 Tourism WA Strategy*”, Kalamunda offers a smaller-scale, rustic and personal charm enhanced by rich a cultural heritage and burgeoning calendar of Special Events.

5.4. Perth Hills Tourism Alliance

The Perth Hills Tourism Alliance is a collaboration between the neighbouring local government authorities of the Perth Hills region aiming to coordinate marketing efforts and resources to increase visitor numbers, maximise branding opportunities, and attract increased investment to the region.

The Alliance, who comprise the Cities of Kalamunda, Armadale, Swan and the Shires of Mundaring and Serpentine and Jarrahdale, are working closely with Destination Perth to develop an integrated tourism brand for the Perth Hills, focusing on combined Perth Hills marketing and visitor maps, a coordinated social media, online and visitor centre experience, and promotion of industry training opportunities.

Each Local Government Area within the Alliance has signed a Memorandum of Understanding to forge an agreement to work in collaboration to develop combined tourism products for the wider Perth Hills region, and the Alliance meet on a regular basis with a remit to encourage positive promotion of the wider Perth Hills region.

5.5. Perth Hills Tourism Taskforce

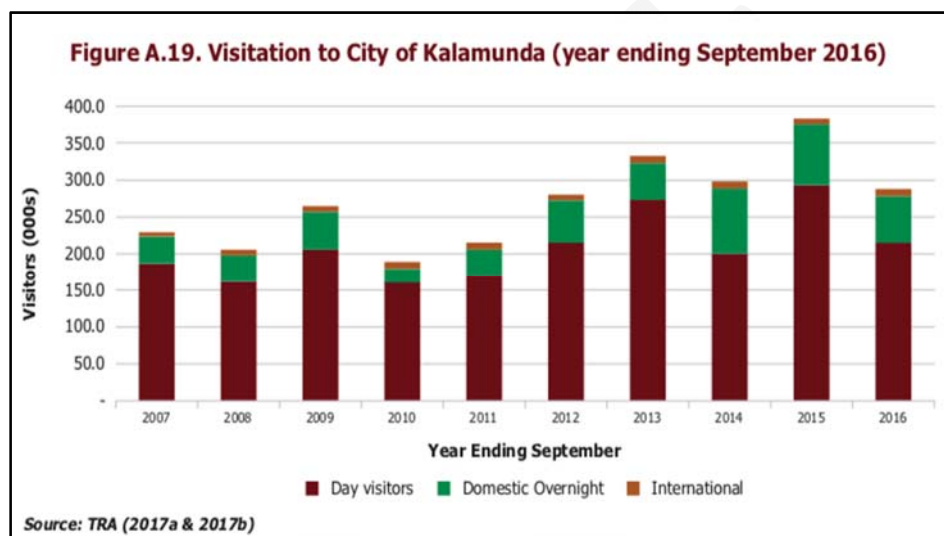
Focus on the Perth Hills was cemented in June 2018 by WA Premier Mark McGowan who announced the Perth Hills Tourism Taskforce to be led by Tourism Minister Paul Papalia and Planning Minister Rita Saffioti and include collaboration between the City of Kalamunda and surrounding Local Government Authorities. The Taskforce aims to address planning, tourism and agricultural challenges to create a more sustainable economic future for landowners, encourage job growth for new and existing businesses, and engage with the community to retain and strengthen cultural heritage values. Key focuses will include development of the Pickering Brook townsite, improved accommodation facilities, opportunities for horticultural businesses to expand into eco and agritourism, and branding and marketing of the Perth Hills region. The Premier was clear in his commitment, stating:

“Our picturesque Hills have so much to offer, and they are right on our doorstep. It’s time we develop a proper plan for this precinct, so it can thrive into the future and attract more visitors, boosting our local tourism industry and creating new jobs along the way.”

6. KALAMUNDA TOURISM MARKET

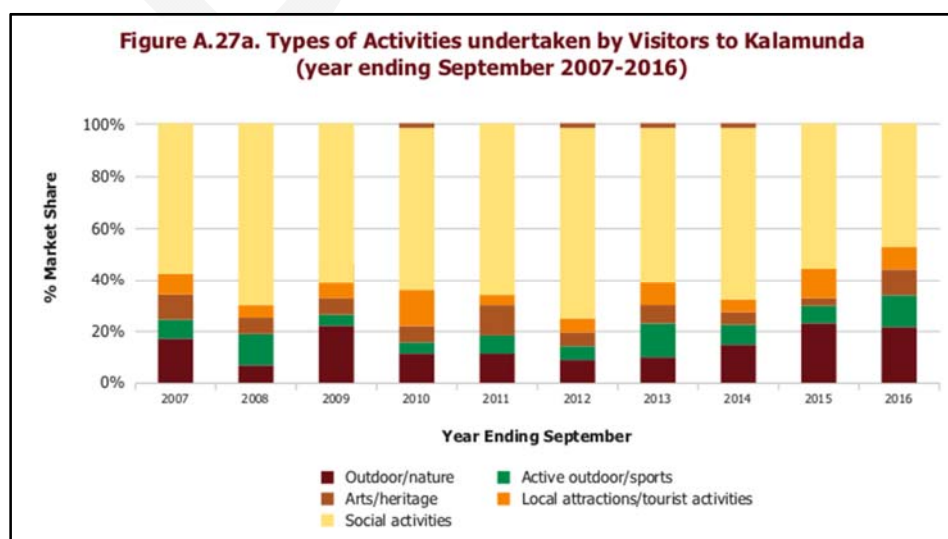
Over the last five years, Kalamunda has welcomed an average of 295,000 visitors a year who make the trip “up to the hill” (source: Tourism Research Australia). Most of these (75%) are “day visitors”, whilst the remainder are “domestic overnight visitors” (22%) with only 3% comprising international visitors. Domestic overnight visitors are most likely to come from Perth or regional WA, day visitors are most likely to come from the eastern regions of Perth, whilst international visitors are most likely to come from the UK. Strategic opportunities exist to “convert” day visitors to overnight visitors and increase interstate and international visitor numbers, whilst retaining spend from local visitors.

Average growth in visitor numbers to Kalamunda is around 8.7% each year, with the largest increases reported in domestic overnight visitors (+ 26%) and international visitors (+17%). The over 55 demographic is the main visitor group, making up 36% of all visitors, although Kalamunda is experiencing increasing visitor numbers in the 20-29 age group.



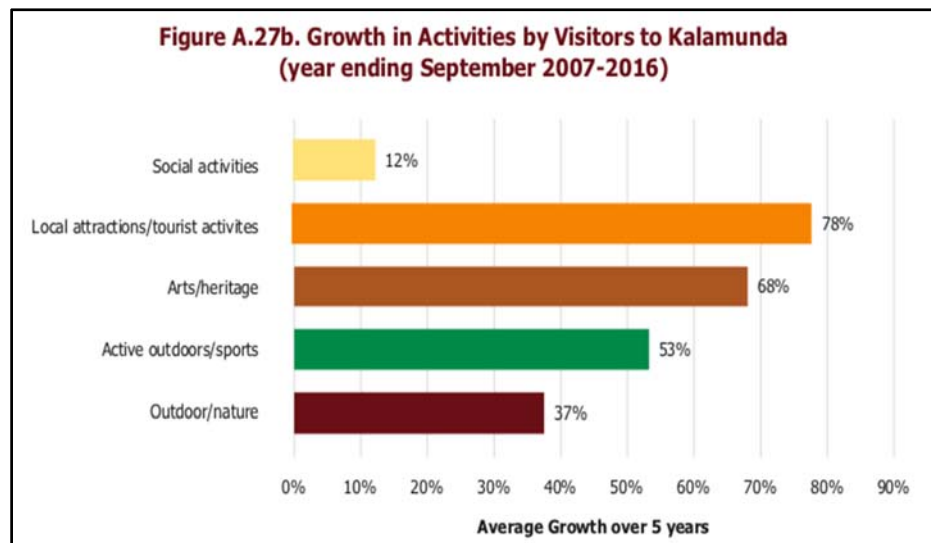
Visitation to City of Kalamunda by type (Tourism Research Australia)

‘Social’ activities”, including dining out/bars, visiting family/friends or shopping, were reported as the main visitor activity (48%) in Kalamunda, followed by participation in outdoor/nature activities (23%), active outdoor sports (12%), arts/heritage activities (10%) and visiting local attractions (8%). “Visiting Friends and Family” was the major reason for visiting Kalamunda with this accounting for approximately 40% of visitors over the last five years.



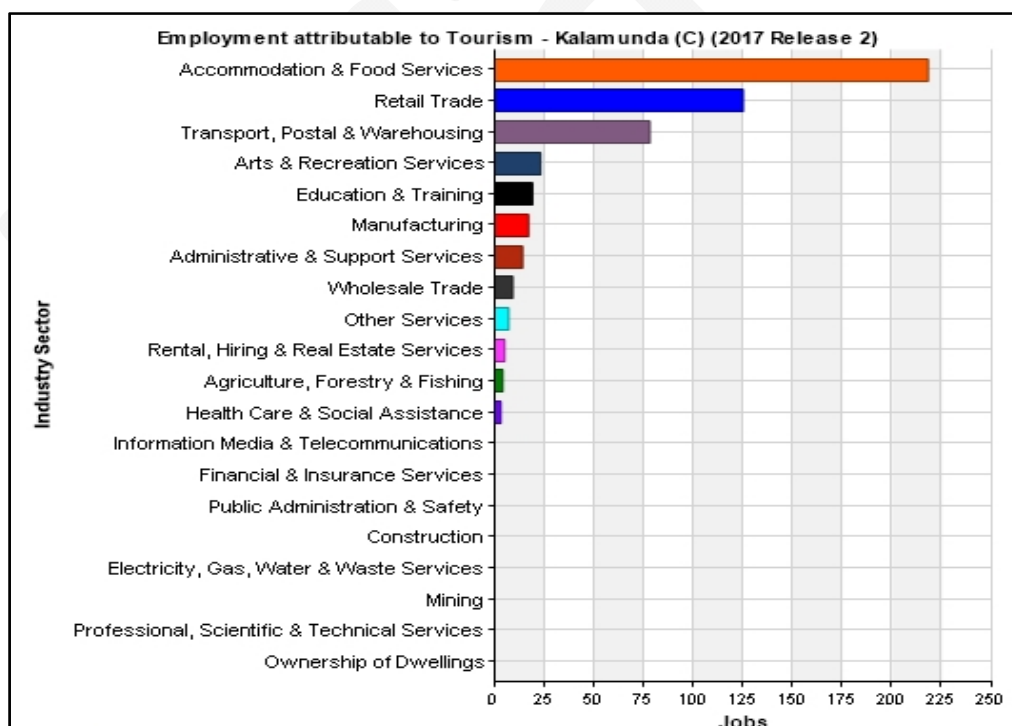
Types of Activities undertaken by Visitors (Tourism Research Australia)

With respect to growth trends, whilst social activities have remained the most popular visitor activity, it showed the lowest growth rate (12%) over the 2007 – 2016 period. Conversely, significant increases in visits to local attractions and tourist activities (78%), arts and heritage attractions (68%) and active/outdoor sports (53%) were reported, representing an increased demand from visitors for tourism experiences, and reflecting the State-wide focus on key attractions over recent years.



Growth Activities by Visitors (Tourism Research Australia)

The value of tourism to the Kalamunda economy is \$112.4 million with an estimated 523 jobs created across industry sectors such as retail, accommodation, cafes/restaurants, and cultural and recreational services.



Source: REMPLAN

While the Kalamunda economy is not dominated by tourism, it holds huge potential. Kalamunda's rich diversity of tourist products, if properly developed, invested and managed, can offer a significant boost to the economy through visitor expenditure. As identified in the City's 2017 Economic Development Strategy: *"With the right mix of proactive product development, destination marketing and destination management activities, Kalamunda can reach its tourism potential."*

7. KALAMUNDA TOURIST PRECINCTS

7.1. Kalamunda Townsite

Kalamunda townsite is located 25km east of Perth and a short 30-minute drive from Perth CBD. It is situated 300 metres above sea level on the Darling Scarp, is bound by National Parks and State forest, and offers magnificent views over the Swan Coastal Plain. European settlement dates from 1860, with the townsite boasting several points of historical and cultural interest including Heritage Trails, Stirk Cottage and the Zig Zag Scenic Drive. It is home to the Kalamunda Cultural Precinct, featuring Kalamunda History Village and Steam Locomotive, Zig Zag Gallery, and the award-winning Experience Perth Hills Visitor Centre, which provides a range of visitor services and information.

The townsite has become a hub for world-class mountain bike and walking trails; hosting the Northern Terminus of the Bibbulmun Track and offering connection to the Munda Biddi. A strong café and market culture is firmly entrenched, with flourishing artisan, farmers and night markets operated by Kalamunda Chamber of Commerce and Kalamunda Rotary, showcasing local produce and artistic talent. A range of restaurants, bars and historical taverns offer lively venues for socialising, whilst nearby Stirk Park provides a historical stage for open air concerts and special events. The townsite hosts numerous art galleries and studios, offering the chance to purchase local artwork and learn new skills during workshops and artist residencies.

Further south, the neighbouring suburb of Lesmurdie delivers the stunning Lesmurdie Falls National Park, with breathtaking views of the cascading falls and surrounding Swan Coastal Plain, and a chance to encounter native wildlife at Kanyana Wildlife Rehabilitation Centre.

Despite proximity to Perth Airport, there are no significant commercial hotel developments in the City and tourist accommodation is limited to small bed and breakfast offerings. Public transport from Perth CBD is available via a direct 60-minute Transperth bus service from St Georges Terrace to Kalamunda's Mead St, and various buses operate within the townsite and surrounding suburbs. The closest rail link is Midland, with connecting buses to Kalamunda. The future Forrestfield-Airport Link, which forms part of METRONET, will see Kalamunda connected to Perth Airport and Midland via rail, significantly expanding visitor transport options.

7.2. Bickley Valley and Carmel

The Bickley Valley and Carmel region is located a short drive south-east/south of Kalamunda townsite and is characterised by rolling valleys, winding roads, boutique wineries, vineyards and orchards, rustic day spas and luxury retreats, and State Forest/National Parks.

The popular Bickley and Carmel Wine Trail winds its way through a cluster of small family-owned wineries, cideries and breweries offering award-winning beverages and dining options showcasing fresh local produce, from simple platters to à la carte dining.

The area boasts world-class mountain bike experiences; with over 40 km of signed single-tracks, Kalamunda Trails is the most popular mountain bike destination in WA. They are situated in picturesque National Park and State Forest and connect with the Munda Biddi. Trail management involves community stewardship by the Kalamunda Mountain Bike Collective (KMBC); a not-for-profit association that aims to develop trail networks and encourage participation in the sport.

Bickley Valley is home to the Perth Observatory; a unique tourist attraction where science and history come to life through telescopes and artefacts. Last year, it hosted over 200 events attended by 10,000 visitors, including telescope viewings, heritage tours, school programs, star adoptions, public lectures, Aboriginal tours and global science events. Recent funding is set to transform WA's

oldest Observatory into a “Living Museum of Science and Technology” through creation of an Aboriginal Astronomy Centre, redevelopment of the museum, and improved visitor facilities.

Given proximity to Mundaring Weir, some areas are located within a Public Drinking Water Source area meaning that recreation and leisure activities are governed by the Department of Water and Environmental Regulation (DWER) Operational Policy 13 to protect water quality in the catchment.

Tourist accommodation needs are serviced by several small-scale boutique establishments offering rustic sophistication that reflects the rural nature of the Bickley Valley, including a variety of five-star award-winning spa resorts and luxury retreats. A large majority of the area is not serviced by regular public transport, so visitors are required to have their own transport.

7.3. Pickering Brook

Located 15 minutes south-east of Kalamunda, Pickering Brook is a former mill town previously connected by the Upper Darling Railway at the turn of the 20th century. Following decline of the timber industry, much of the fertile valley became home to family-run orchards involved in apple, stone-fruit and grape production. Seasonal produce is often available direct from the farm-gate and some orchards offer “pick-your-own” experiences.

A growing number of small-scale boutique wineries and cideries can be found within the grounds of the working orchards, with a focus on orchard-originated food, wine and cider in an intimate setting. Challenges exist due to agricultural land-use zoning throughout most of the area, particularly restrictions on subdivision, lot size and waste-water treatment for properties not on mains sewerage. The June 2018 State Government “Perth Hills Tourism Taskforce” aims to focus on redevelopment of the Pickering Brook townsite and opportunities for horticultural businesses to expand into eco and agritourism. Potential exists for a wide variety of experiences that leverage our key strengths, including working farm holidays, eco-stays, and “glamping under the stars”.

Tourist accommodation needs are serviced by several family-owned bed and breakfast establishments. A large majority of the area is not serviced by public transport, so visitors are required to have their own transport.

7.4. Foothill Suburbs

Whilst a natural focus for tourism is the spectacular landscapes of the National Park and State Forest that make up the eastern portion of the City of Kalamunda, opportunities should equally be sought to improve visitor facilities in suburbs lying at the foothills of the scarp. These suburbs, comprising High Wycombe, Maida Vale, Forrestfield and Wattle Grove, are well connected to the Kalamunda townsite via regular public transport and offer access to major road links including the Roe and Tonkin Highways. The eastern boundary of Perth Airport directly neighbours the foothill suburbs from High Wycombe in the north to Wattle Grove in the south and opportunity should be leveraged from the Forrestfield-Airport rail link to foster strong relationships with Perth Airport.

Forrestfield is home to Hartfield Country Park and Golf Club, an award-winning championship 18-hole course set in natural bush with spectacular views of the Darling Range and located just 10 minutes from Perth Airport. The City of Kalamunda’s premier leisure facility, Hartfield Park Recreation Centre, is also located in Forrestfield, where refurbished facilities provide a wide range of recreational opportunities and a thriving social environment.

Like nearby Pickering Brook, Wattle Grove was historically involved in timber production and fruit growing. Orchards continue to operate in the area alongside other agricultural uses including poultry farms, equestrian studs, agistment paddocks, horticultural nurseries, pet kennels, hobby farms and cattle breeders. The WA Planning Commission’s (WAPC) North-East Sub-Regional Planning Framework, adopted March 2018, identifies the majority of Wattle Grove South as Urban Expansion/

Urban Investigation Area. As a result of community opposition, Wattle Grove South was removed as an investigation area from the City's draft Industrial Development Strategy in October 2018, however, its status remains in the WAPC Framework.

7.5. Cycling Precinct

The cycling precinct comprises the extensive network of road and mountain bike trails which extend throughout the City of Kalamunda. The cycling network is considered a separate precinct in its own right; extending throughout the City and connecting key tourism precincts to provide a City-wide approach to visitor flow.

The City's 2017 *Bicycle Plan* identifies the following route types within Kalamunda's cycling precinct:

- **Primary Routes:** high-quality regional routes such as the existing and proposed Principal Shared Paths (PSPs) along Roe Highway, Tonkin Highway and railway corridors, which are also the backbone of the cycling network in Perth Metropolitan Area. These paths provide high-quality direct cycling connections completely separated from road traffic.
- **Secondary Routes:** safe and directional connections between Primary Routes and major attractions or facilities such as shopping centres, sporting and civic facilities.
- **Local Routes:** provide safe cycling conditions in local (predominantly residential) areas, collecting cycling traffic from local roads within suburbs and distributing it to the primary and secondary networks.
- **Training Routes:** provide training or sports cyclists with designated routes in which to undertake long distance rides in on-road environments. These are normally located on rural or semi-rural roads but can also include other major access roads to these areas.

The Bicycle Plan offers the opportunity to overcome one of the key barriers to encouraging greater cycle tourism in the City – the condition of the cycling network and lack of clearly defined, high-quality touring routes.

8. COMMUNITY CONSULTATION

8.1. Tourism Community Reference Group

The City of Kalamunda adopted a community-led approach to production of this Strategy through engagement of a **Tourism Community Reference Group** (TCRG) who worked in collaboration with the City to host a series of interactive community workshops and develop this Strategy. Community engagement is vital to the successful implementation of this Strategy, by ensuring local residents and businesses are connected, passionate and committed to the City's tourism vision.

The TCRG was formed following an Initial Tourism Visioning Workshop hosted by the City in May 2018 and attended by key community stakeholders. The TCRG comprises nine residents and business operators who volunteered their time to bring a community-led approach to the Strategy, focusing on protecting the area's natural beauty and cultural heritage, supporting local businesses/residents, and coordinating a network of motivated individuals to drive change.

- **Chair:** Francesca Flynn, Operations Manager Perth Observatory (Author of Strategy)
- **Deputy Chair:** Caroline Babbage, President of Kalamunda Chamber of Commerce and Owner of Fawkes House Spa Retreat, Carmel
- Bob Melville, Vice President of Kalamunda Chamber of Commerce, former President of Tourism Association of WA
- Mack McCormack, Owner of Chalet Rigi Restaurant, Piesse Brook
- Eric and Lucy Radice, Owners of La Fattoria Perth Hills Restaurant and Orchard
- Judy Poletti, Bickley Valley land owner
- Rebekah Wilson, Owner of Lawnbrook Estate and Packing Shed Restaurant, Bickley Valley
- Michael Collins, Wattle Grove resident and FACET Board Member
- Kerry Ann-Winmar, Owner of Nyungar Tours, South Perth

The TCRG worked in collaboration with City of Kalamunda staff and councillors throughout the production of this document.

8.2. Community Engagement Workshops

The TCRG hosted six interactive Community Engagement Workshops facilitated by the TCRG Chair and City of Kalamunda. The workshops focused on key tourism themes and were designed to gather information on what the community wants and expects from tourism in Kalamunda. The workshops were well attended by over 150 residents, businesses owners, community organisations and government agencies. A full list of workshop participants is provided in Appendix 1.

Workshop	Location	Date	Participants
Agri-Tourism, Food & Wine, Accommodation and Retail Tourism	City of Kalamunda Function Room, 2 Railway Rd	19 Sept 2018	52
Special Events Tourism	Zig Zag Cultural Centre, Seminar Room, 50 Railway Rd	25 Sept 2018	16
Heritage, Arts & Culture Tourism	Perth Observatory, 337 Walnut Rd, Bickley	27 Sept 2018	17
Aboriginal Tourism	Perth Observatory	2 Oct 2018	19
Active Adventures, Cycling & Sport Nature Based & Physical Attractions	City of Kalamunda Function Room	17 Oct 2018	30
Tourism Support Services, Infrastructure, Marketing & Planning	City of Kalamunda Function Room	24 Oct 2018	17

Workshop participants were asked to consider four questions to gain insight into strengths, weaknesses, opportunities and threats associated with tourism in Kalamunda.

1. Describe our key tourism products or offerings available in the City of Kalamunda?
2. What opportunities exist for tourism experiences/products?
3. What constraints exist for tourism experiences/products?
4. It would be interesting if we could.....?

A large volume of data was collected, which provided a diverse range of local opinions, community insights, suggestions and industry views, that form the basis of this Tourism Development Strategy. All data collected during workshops was transcribed in full as presented in Appendix 2.

9. KALAMUNDA'S TOURISM STRENGTHS

When asked to describe where our strengths lie in tourism products or experiences offered by the City of Kalamunda, the following key themes emerged in community feedback:

- **A charming and historical townsite**, offering a wide range of social activities centred on café/restaurants, museums, heritage attractions, markets, art galleries and cultural experiences that allow engagement with our friendly and connected local community.
- **Unique vantage point** at the top of the escarpment offering spectacular elevated views over Perth and the Swan Coastal Plain.
- **Stunning backdrop of pristine natural beauty** in National and Regional Parks that provide endless opportunities to interact with nature, including towering forest, rolling valleys and hills, meandering creeks, pools and waterfalls, and an abundance of native flora and fauna.
- **Award-winning boutique wineries, breweries, cideries and restaurants** within a small locality, offering fresh seasonal produce and opportunity to engage with local families.
- **World-class mountain, road bike and hiking trails** through outstanding National and Regional Park landscape, with potential to host large-scale events in connection with the Bibbulmun Track and Munda Biddi trail.
- **Engaged and active arts community** with a wide range of public artwork, art galleries and travelling exhibitions, studios, artist residences, open-air theatre and music concerts.
- **Rich cultural heritage attractions** including award-winning Perth Observatory, Kalamunda History Village and strong links with Aboriginal culture including Noongar name.
- **Flourishing Special Events Calendar** including annual Perth Hills Spring Festival, Bickley Valley Harvest Festival, Summer Series Movie Festival, Jazz in the Park, Quit Targa West, Zig Zag Festival, Kalamunda Agricultural Show, Corymbia Festival and well-established markets.
- **Luxury boutique accommodation** including small-scale high-end spa retreats, family-owned bed and breakfasts and home stays that offer an intimate window into Kalamunda life.
- **Proximity to Perth CBD and Perth Airport** with State Government funded improvements to public transport and future rail connection through the Metronet Forrestfield-Airport Link.
- **Strong and connected local community** including thriving community-led markets, active engagement groups, and an abundance of volunteer-led organisations.

10. TOURIST OPPORTUNITIES AND CONSTRAINTS

When asked to describe opportunities and challenges relating to the development of tourism within the City of Kalamunda, the following key themes emerged in community feedback:

10.1. Opportunities

1. Revitalise the Kalamunda Townsite to improve visual appeal and build connectivity:

- Rejuvenate Haynes Street to improve aesthetic appeal of shop fronts and commercial units
- Use public art, street furniture and gardens to add colour and texture
- Revitalise empty commercial space via innovative “start-ups/pop-ups” or community hub
- Investigate traffic control measures and pedestrianisation zones

2. Leverage Kalamunda’s unique location and setting to maximise opportunities:

- Develop products that showcase views over Swan Coastal Plain e.g. Zig Zag, Lesmurdie Falls
- Develop “photographic viewpoints” at key locations to encourage social media posts/tags
- Partner with local operators to promote major attractions including Bibbulum Track, Munda Biddi Trail, Perth Observatory and Kalamunda History Village.
- Promote proximity of Kalamunda to Perth CBD and neighbouring Perth Airport

3. Encourage tourism products that cement Kalamunda as a key tourism destination:

- Boutique wineries, cideries, orchards, breweries and restaurants offering fresh local produce
- World-class bike trails through unspoiled National Parks ready to support global events
- Strong links with Noongar heritage present opportunity to create authentic Aboriginal tourism products including guided tours, public art, workshops and festivals
- Expand Special Events in collaboration with key attractions and globally recognised events
- Develop interactive app to provide easily accessible and single information source for visitors

4. Improve constraints associated with Planning to encourage new business ventures:

- Investigate subdivision in agricultural areas to support environmentally sensitive ventures such as agri and eco-tourism, open-orchards, working/hobby farms, eco-stays and glamping
- Champion wastewater management for landowners not connected to mains sewerage to support new tourism ventures that are sensitive to our drinking water catchment location
- Manage bushfire risk including improved road access to support increased visitor numbers

5. Improve Kalamunda destination marketing, branding and signage:

- Develop striking and memorable destination marketing that identifies Kalamunda as a key tourist destination with a niche brand to complement that of the wider Perth Hills region
- Improve how visitors navigate to Kalamunda including creation of bold welcoming entry statements along key transport links and improved directional signage
- Adopt consistent Perth Hills branding in collaboration with other local government authorities to promote cohesion within the region
- Improve information signage for key attractions and combine with walking tours to promote visitor engagement
- Facilitate visitor navigation via visually appealing and easily-identifiable road and trail signs

6. Improve transport links, services and resources:

- Leverage the new rail link to Forrestfield including regular connecting buses
- Improve local transport links and investigate set fares to encourage hop-on/hop-off use
- Develop tour packages combining attractions, transport and accommodation
- Develop relationships with Perth Airport and tour operators at refurbished Fremantle Docks
- Increase parking facilities to support larger visitor numbers

7. Increase and diversify tourist accommodation:

- Investigate medium-sized hotel to cater for larger visitor numbers and leverage proximity to Perth Airport and major transport links
- Encourage alternative accommodation that celebrates our natural setting, e.g. camping, glamping, eco-resorts, air-crete domes and tree-house cabins,
- Experience Perth Hills Visitor Centre to be a potential conduit for accommodation booking

10.2. Constraints

1. Financial pressure on local businesses and community organisations:

- Lack of significant funding opportunities and support for new and existing businesses throughout all levels of Federal, State and Local government
- Competition from other more established food and wine destinations

2. Restrictions from Bushfire risk management:

- State Planning Policy 3.7 (Planning in Bushfire Prone Areas) limits new developments, particularly in relation to road access capable of supporting higher visitor numbers

3. Restrictions from Public Drinking Water Source Area:

- DWER Policy 13 (Recreation within Public Drinking Water Source Areas on Crown Land) limits recreational land use and development
- Lack of State guidance on waste-water management for properties not on mains sewerage
- New ventures face arduous and economically unfeasible off-site water treatment
- “Way-forward” sought through review of Policy 13 (anticipated 2019) and production of a catchment District Water Management Strategy

4. Restricted access and land-use on government or privately-owned land:

- City houses extensive Water Corporation owned-land and State National Parks managed by the Department of Biodiversity Conservation and Attractions (DBCA)
- Recent conflicting interests include removal of informal bike trails on the Zig Zag by DBCA due to environmental degradation and soil erosion concerns
- Opportunity to strengthen relationship with DBCA and other landowners to achieve shared goals to protect and celebrate the natural environment through eco-sensitive tourism

5. City of Kalamunda planning restrictions

- LPS considered obstructive and disconnected with the City’s tourism vision
- Seen to limit and delay progress rather than a mechanism of encouraging new ventures
- Lack of support to guide businesses through “red-tape” approvals with City and State
- Kalamunda developed in piecemeal fashion under differing planning regimes, resulting in an ad-hoc and fragmented town centre that lacks cohesion of architecture, land use and access.
- Opportunity to revitalise planning process and support ventures that align with the tourism vision through the updated LPS currently under development (anticipated 2019)

6. Inadequate tourist services and infrastructure:

- Limited directional and information signage, and lack of entry statements/welcome
- Inadequate parking, public transport and toilets
- Limited business opening hours - major tourist destinations offer extended opening hours
- Limited mobile phone and Wi-Fi coverage and lack of interactive tourist app
- Absence of medium sized hotel and limited caravan/RV and camping facilities
- Lack of trackable statistical data on visitor numbers by the City of Kalamunda

11. TOURISM DEVELOPMENT STRATEGIES

Strategy 1: Create and maintain welcoming, inclusive and accessible facilities for visitors to enjoy the natural and built environment

- 1.1 Improve visitor access to and navigation between key attractions, precincts and services
- 1.2 Provide accessible and robust tourism support services that exceed visitor expectations
- 1.3 Develop diverse and unique accommodation offerings that encourage visitors to stay longer

Strategy 2: Leverage Kalamunda's natural beauty and award-winning attractions to grow destination appeal and recognition

- 2.1 Enhance Kalamunda townsite to grow vibrant and engaging "rural village" atmosphere
- 2.2 Promote key attractions that secure Kalamunda's reputation as a premier tourist destination
- 2.3 Preserve and celebrate the natural environment through eco-sensitive outdoor adventures

Strategy 3: Develop arts, heritage and culture opportunities that engage creative investment, participation and community pride

- 3.1 Promote Kalamunda as a thriving arts, heritage and cultural hub within the Perth Hills
- 3.2 Lead authentic and culturally-aware Aboriginal tourism experiences
- 3.3 Expand Special Events to offer diverse, stimulating and globally recognised programs

Strategy 4: Further develop the Kalamunda tourism brand and destination marketing to raise awareness and inspire visitor interest

- 4.1 Foster strong awareness and recognition of the Kalamunda brand
- 4.2 Work towards cohesive and connected regional Perth Hills branding and marketing
- 4.3 Increase Kalamunda's share of local, intrastate, interstate and international tourism markets

Strategy 5: Encourage an innovative and collaborative tourism industry that supports local business and drives economic growth

- 5.1 Provide dedicated and industry-specific support services for local tourism operators
- 5.2 Foster strong partnerships with key stakeholders, industry bodies and local community
- 5.3 Lead innovation through creative collaboration and progressive forward-thinking ethos

To ensure a continued community-led approach, it is recommended that the City of Kalamunda engage a Tourism Advisory Committee of Council by at least October 2019 to lead the successful implementation of this Strategy and the Action Plan contained within.

12. TOURIST DEVELOPMENT STRATEGIES ACTION PLAN

STRATEGY 1:

Create and maintain welcoming, inclusive and accessible facilities for visitors to enjoy the natural and built environment

1.1 Improve visitor access to and navigation between key attractions, precincts and services		
Actions	Responsibility	Timing
Conduct major tourism signage audit: <ul style="list-style-type: none"> - Identify optimum locations for wayfinding signage and entry stacks. - Install bold, colourful and welcoming entry statements along major transport links. - Identify major tourist attractions, precincts and services to include in directional signage. - Improve wayfinding signage to provide easily-identifiable and visually appealing signs at key locations for road and trail users. - Audit walking and cycling trails to improve navigational and information signs directing users to nearby attractions or services. - Review signage to improve and facilitate disability access. - Improve information signage for key visitor attractions and combine with walking tours to promote visitor engagement. 	TBC	TBC
Improve delivery and quality of tourist information: <ul style="list-style-type: none"> - Review printed and digital tourist maps relating to Kalamunda to assess usability. - Update visitor maps with new developments to keep them relevant and dynamic. - Audit Tourist Information bays and maintain with up-to-date information, maps and visually appealing displays. - Investigate increased WiFi Hotspot coverage to enable self-guided tours and digital wayfinding. - Develop holistic interactive Kalamunda tourism app that combines maps, navigation, cultural heritage information, special events and promotions. - Prepare a Kalamunda tourism investment prospectus to attract investors to the region. 	TBC	TBC
Engage with key stakeholders: <ul style="list-style-type: none"> - Foster strong relationship with Perth Airport and promote link through Forrestfield-Airport rail link. - Collaborate with Main Roads WA to identify optimum locations for directional and entry statement signage on major transport routes. - Work with DBCA, DFES, Department of Water, Water Corporation and other stakeholders to manage access and land-use. - Collaborate with key tourism bodies including Tourism WA, Destination Perth and local Visitor Centres, to maintain up-to-date information. 	TBC	TBC
1.2 Provide accessible and robust tourism support services that exceed visitor expectations		
Actions	Responsibility	Timing
Increase and improve road access to and within City of Kalamunda: <ul style="list-style-type: none"> - Work with Main Roads, DBCA and other stakeholders to review road infrastructure to and within Kalamunda and surrounding National Parks. - Work with DFES to improve access to tourism precincts in adherence with Policy 3.7 (Planning in Bushfire Prone Areas). - Audit and improve vehicle access to National Parks including off-road access in partnership with DBCA. 	TBC	TBC
Increase parking facilities and accessibility: <ul style="list-style-type: none"> - Review and increase parking capacity at key attractions/points of interest and ensure cost-effective options to encourage longer stays. - Develop facilities for coach/bus parking to encourage day trip excursions and work with DBCA to manage parking within National Parks. 	TBC	TBC

Advocate for and develop public transport offerings: <ul style="list-style-type: none"> - Work with State Government to increase transport opportunities to Kalamunda, including shuttle from Perth CBD. - Leverage development of Forresterfield Train Station to include regular buses to tourist precincts via the foothill suburbs. - Develop the Kalamunda bus station to make it more accessible, visually appealing, user friendly and connected to the town centre. - Forge strong relationship with Perth Airport to develop connecting road, bus and rail networks. - Improve local transport links throughout Tourist Precincts through commercially operated shuttle buses featuring set day or weekend fares to encourage hop-on/hop-off use by visitors. 	TBC	TBC
Increase profile and service diversity of the Experience Perth Hills Visitor Centre: <ul style="list-style-type: none"> - Investigate and implement more robust booking system for attractions and events; - Visitor Centre to be actively marketed as a conduit for booking accommodation. - Investigate opportunity for online sales website. - Implement Local Products Policy to support local producers, artists and suppliers. - Research options for liquor licensing and sale of locally produced wine at the Visitor Centre. - Develop "day" and "weekend" packages which combine key attractions with group transport. - Investigate innovative visitor information opportunities and interactive displays. - Liaise with other VCs, particularly Perth Hills Mundaring and Armadale, to ensure cohesion. 	TBC	TBC
Increase and improve ablution amenities and waste-water management facilities: <ul style="list-style-type: none"> - Audit public toilet facilities in the City to identify locations where additional facilities are required. - Work with DBCA to manage toilets in National Parks. - Lobby State Government to develop management procedures to support tourism development in drinking water catchments. - Champion innovative wastewater treatment facilities to enable tourist ventures to manage wastewater in a cost efficient and sustainable manner. 	TBC	TBC
1.3 Develop diverse and unique accommodation offerings that encourage visitors to stay longer		
Actions	Responsibility	Timing
Increase tourist accommodation capacity: <ul style="list-style-type: none"> - Investigate medium-sized hotel development to cater for larger visitor numbers and leverage proximity to Perth Airport and major transport links. - Environmentally-sensitive development to be located on brownfield land, in keeping with Kalamunda's cultural heritage, and providing clear benefit to the community e.g. transport such as shuttle bus and coordinated special events. 	TBC	TBC
Expand low-cost camping and recreational vehicle amenities: <ul style="list-style-type: none"> - Audit current facilities, including privately owned holiday parks and National Parks, to investigate demand for increased offerings. - Investigate demand for increased facilities including overnight stops, powered sites, wastewater dump points and electric charge facilities. - Explore options for DBCA campgrounds to be located within surrounding National Parks. 	TBC	TBC
Encourage alternative and boutique accommodation: <ul style="list-style-type: none"> - Provide support for unique accommodation that maximises the beauty of our natural setting e.g. glamping, air-crete domes and tree-house cabins. - Investigate opportunity for small-scale, open-air options that showcase the views over Perth and the Swan Coastal Plain. - Investigate opportunity for Tiny House Policy, pioneered by the City of Fremantle, to provide small-scale and alternative accommodation options. - Encourage accommodation providers to develop tourist products in collaboration with local tourism operators to inspire longer stays. 	TBC	TBC

STRATEGY 2

Leverage Kalamunda's natural beauty and award-winning attractions to grow destination appeal

2.1 Enhance Kalamunda townsite to create vibrant and engaging “rural village” atmosphere		
Actions	Responsibility	Timing
Improve visual appeal and charm of Kalamunda town centre: <ul style="list-style-type: none"> - Create central and focal meeting point focusing on rejuvenation of Haynes Street as a bustling high street. - Develop cost effective and simple method to improve aesthetic appeal of shops and commercial units e.g. colours, patterns, screens and awnings. - Use public art, outdoor furniture, decorative lighting, information signage and street gardens to add features and points of interest. - Use the City's planning process to support ventures that reflect our history and environment and are in keeping with a “small-village” feel. - Revitalise empty commercial space by developing or supporting innovative “start-ups/pop-ups” or locations for community hubs. - Improve connection to the Northern Terminus of the Bibbulmun Track including visual appeal of the nearby St Barnaby's Church wall. - Preserve and protect cultural and historical assets that enhance the townsite's character e.g. protection of heritage trails from urban development. - Kalamunda Activity Centre Plan will redevelop the townsite to celebrate its character and vibrancy as a social hub to live, work and play. 	TBC	TBC
Provide opportunities to interact with the local community and “bring life onto the street”: <ul style="list-style-type: none"> - Encourage live entertainment e.g. acoustic and classical sessions at bars/wineries, comedians and open-mic nights and open-air concerts. - Promote night-time activities e.g. markets, pop-up street bars, walking tours, and late-night theatre and music gigs. - Encourage interactive experiences e.g. street performers, magicians and art buskers. - Increase diversity and capacity of cafés, restaurants and bars that offer alfresco seating, outdoor dining, good acoustics and landscape views. - Expand shaded public seating with beneficial vantage points where visitors can sit and watch the world go by. 	TBC	TBC
Improve accessibility and functionality of the town centre and provide strong connections to tourism precincts: <ul style="list-style-type: none"> - Improve connections between key attractions within town centre e.g. Haynes St, Zig Zag Scenic Drive, Stirk House, Bibbulmun Track, History Village. - Improve public transport facilities through better connection with the bus station and increased number of bus stops. - Work with Transperth or private companies to expand public transport services through the centre and between surrounding tourism precincts. - Investigate commercially operated shuttle buses featuring set fares to encourage hop-on/hop-off use by visitors. - Improve traffic control measures and speed limits to manage and guide vehicle flow through key areas. - Increase road crossings and paved footpaths and investigate potential pedestrianisation zones to improve walkability e.g. Haynes Street, Railway Rd. - Improve wayfinding signage to provide easily-identifiable and visually appealing signs at key locations for road and trail users. - Increase parking capacity, improve access from carparks to key attractions, and ensure cost-effective options to encourage longer stays. - Improve cycling facilities and infrastructure e.g. increased cycle lanes, paved tracks, bike racks and bike lock-ups. 	TBC	TBC
2.2 Promote key attractions that secure Kalamunda's reputation as a premier tourist destination		
Actions	Responsibility	Timing
Promote award-winning and boutique wineries, cideries, breweries and restaurants: <ul style="list-style-type: none"> - Strong marketing to cement Kalamunda as a key Perth metro food and wine destination, uniquely different to Swan Valley and Margaret River. 	TBC	TBC

<ul style="list-style-type: none"> - Encourage local businesses to coordinate openings to achieve coverage all-week long across several establishments and extend opening hours over public and school holidays. - Encourage venues that maximise our natural setting e.g. alfresco dining, open-air seating and landscape views, or reflect our cultural heritage. - Encourage vendors to focus on providing seasonal and fresh produce from local suppliers with opportunities for farm-to-plate experiences. - Advocate for bars and restaurants to showcase diversity of locally-produced beverages e.g. beers, ciders, wines and soft drinks. - Promote and support agri-tourism ventures e.g. open-orchards, "pick-your-own", working farms/allotments and apiaries. - Encourage operators to add a personal touch to visitor experiences e.g. meet the maker and sharing personal tales of family-operated businesses. - Host national and international culinary events, competitions and festivals at City owned venues or encourage events at private owned venues. - Champion wastewater management for landowners not connected to mains sewerage to support new tourism ventures in the catchment area. - Work in partnership with Transperth and private operators to improve local transport links between venues to support businesses who extend their opening hours e.g. potential shuttle bus. - Work closely with tourism operators to maintain best-practice alcohol awareness. 		
<p>Develop and market iconic "Hero Attractions" that entice visitors to the region:</p> <ul style="list-style-type: none"> - Develop active adventure activities at Lesmurdie Falls in partnership with DBCA that showcase the spectacular views and surrounding National Park e.g. climbing, abseiling, ziplining and tree-top walks. - Expand and upgrade the world-class Kalamunda Trails in partnership with DBCA and KMBC e.g. increased trail network and land access, improved facilities, and hosting of international events and competitions. - Increase collaboration and support for Perth Observatory, a unique historical tourist attraction that provides a gateway to our universe through telescope viewings, exploration of Aboriginal culture and global science, e.g. host community events, improve transport links, and leverage marketing appeal. - Develop the Kalamunda Cultural Precinct as an engaging focal point that offers an award-winning Visitor Centre and cultural heritage via Kalamunda History Village and Zig Zag Gallery, e.g. expand KHV openings and services, repair steam locomotive, and improve connection with Haynes Street. - Promote Kalamunda as a Market Town and expand offerings in collaboration with Chamber of Commerce and Rotary Kalamunda to encourage arts and cultural engagement e.g. markets featuring live music and pop-up markets at Perth Observatory that include astronomy or Aboriginal themes. - Produce Zig Zag Feasibility Study to convert under-utilized Zig Zag Scenic Drive into a Hero Attraction and fulfil its potential as an iconic heritage attraction with stunning views. Community suggestions include a replica train to transport passengers up the scarp, installation of a cable cart, luge or zipline, removal of vehicle access, construction of revolving café/restaurant, and eco-glamping that offers extraordinary vantage. 	TBC	TBC
2.3 Preserve and celebrate the natural environment through eco-sensitive outdoor adventures		
Actions	Responsibility	Timing
<p>Promote world-class mountain biking and road cycling facilities:</p> <ul style="list-style-type: none"> - Market Kalamunda as a world-class cycling hub offering spectacular scenery, challenging landscapes and easy-access from Perth metro. - Improve cycling infrastructure in townsite e.g. increased cycle lanes, paved tracks, bike racks and bike lock-ups. - Expand, upgrade and improve the Kalamunda Trails mountain bike network and facilities in partnership with key stakeholders. - Work with DBCA and KMBC to manage and map informal trails network. - Work with Munda Biddi Foundation to identify opportunities to strengthen its connection with Kalamunda. - Review road safety for bike users e.g. increased road crossings, cycle lanes, sealed paths and improved links from townsite to mountain bike circuits. 	TBC	TBC

<ul style="list-style-type: none"> - Remove accident blackspot by diverting cyclists from Mundaring Weir Road onto alternative routes with low traffic e.g. Hummerston Road. - Audit cycling trails to improve navigational and information signage directing users to nearby attractions or services. - Identify opportunities to host national and international cycling events, including a potential annual “Hero Event” e.g. week-long cycling festival. - Work with residents to build a more tolerant acceptance of cyclists in the City. - Work with other local government authorities to encourage cross-boundary cycling events. - Leverage the thriving local cycling community and work collaboratively to provide a community-led approach to developing Kalamunda’s trails. 		
Expand opportunities for outdoor activities, including hiking and active adventures: <ul style="list-style-type: none"> - Expand, upgrade and improve key hiking trails in partnership with DBCA. - Work with Bibbulmun Track Foundation to improve connection of the town centre with the northern terminus. - Investigate potential to extend footpath from Bibbulmun Track northern terminus through the town centre to Stirk Park or the Zig Zag. - Audit walking trails to improve navigational and information signage directing users to nearby attractions or services. - Expand and diversify outdoor active adventure products that exploit our natural setting e.g. abseiling, climbing, high-ropes, and tree-top walks. - Investigate opportunities for ziplining that maximise our elevated vantage point and deep valleys e.g. Lesmurdie Falls and Kalamunda National Park. - Seek opportunities to host national sporting events e.g. annual King of the Mountain triathlon combining running, road cycling and mountain biking. - Encourage outdoor accommodation offerings that promote interaction with nature e.g. camping, glamping, tree-cabins and air-crete domes. - Develop outdoor activities for children through increased “nature play” infrastructure e.g. large playground development in foothills. - Develop geo-caching and “treasure-hunting” opportunities. 	TBC	TBC
Preserve and protect Kalamunda’s natural environment: <ul style="list-style-type: none"> - Work with key Government stakeholders and community groups to protect and preserve Kalamunda’s natural environment. - Prioritise the preservation of natural assets e.g. protection of heritage trails from urban development. - Increase coverage of native garden beds, particularly in the town centre and foothill suburbs, to attract birds, bees and other wildlife. - Encourage protection of and interaction with native wildlife through Kanyana Wildlife Rehabilitation Centre. - Encourage growth of astro-tourism, a niche and expanding market, by protecting dark skies from light pollution through appropriate public lighting. 	TBC	TBC
Celebrate Kalamunda’s striking natural beauty, elevated location and unique landscapes: <ul style="list-style-type: none"> - Develop visitor attractions at locations that leverage the stunning views over the Swan Coastal Plain e.g. Zig Zag, Lesmurdie Falls and Lions Lookout. - Install “photographic viewpoints” at key locations that showcase Kalamunda’s diversity and encourage social media posts/tags. - Strong marketing to showcase Kalamunda’s backdrop of pristine natural beauty and abundant National Parks. 	TBC	TBC
Work with key stakeholders to improve accessibility of land for recreational use: <ul style="list-style-type: none"> - Develop strong partnerships with key landowners to achieve shared goal of protecting and celebrating the environment through tourism. - Seek opportunities to expand land access to National Parks and State forest, including review of key vehicle entry points, trails and “off-limit” areas. - Seek enterprise between DBCA, Water Corporation and KMBC to bring a progressive and cohesive approach to developing mountain bike trails. - Consult with DWER on updated Policy 13 Recreation within Public Drinking Water Source Areas on Crown Land (anticipated 2019). - Lobby State Government and DWER to produce a District Water Management Strategy to guide and support development of tourism products in drinking water catchments, particularly endorsement of innovative wastewater treatment facilities for properties not connected to mains sewerage to enable tourist ventures to manage wastewater in a cost efficient and sustainable manner. 	TBC	TBC

STRATEGY 3

Develop arts, heritage and culture opportunities that engage creative investment, participation and community pride

3.1 Advance Kalamunda as a thriving arts, heritage and cultural hub within the Perth Hills		
Actions	Responsibility	Timing
Identify, connect, develop and promote arts and cultural tourism attractions and providers: <ul style="list-style-type: none"> - Establish and maintain a publicly available network of key arts and cultural attractions, providers and stakeholders within the City. - Work with Kalamunda Arts Advisory Committee to develop and implement the “<i>Arts and Cultural Policy</i>” and “<i>Art in Public Places</i>” policy. - Invest in public artworks that create a strong Kalamunda identity, a focal point for social media tags and improved visual appeal of public places. - Support and engage Kalamunda-based artists where ever possible to grow local talent. - Develop and support interactive arts and cultural programs that encourage visitor participation and engagement. - Work with the local arts community to maximize participation in arts and cultural programs by all generations of residents and visitors. - Develop public artwork opportunities that allow community participation and create a sense of ownership and pride e.g. mural on St Barnaby’s wall. - Identify opportunities to enhance arts and culture programs by incorporating elements of our natural environment or choosing unique host venues. - Increase engagement by residents to become more involved in the arts e.g. as creators, audience and source of ideas. - Ensure that arts and cultural contributions are recognised for their value. 	TBC	TBC
Preserve, protect and share the rich history and cultural heritage of Kalamunda: <ul style="list-style-type: none"> - Establish and maintain a publicly available network of key historical attractions, providers and stakeholders within the City. - Use State and Municipal Registers to identify significant historical buildings and work with key stakeholders to develop the registers further. - Prioritise the protection and preservation of historical and cultural heritage assets e.g. protection of heritage trails from urban development. - Partner with local attractions to develop heritage tour packages that combine attractions and transport with a historical focus. - Promote and support historical focused Hero Attractions e.g. Kalamunda History Village, Perth Observatory and Zig Zag Scenic Drive. - Increase interpretative signage for historical attractions e.g. information signs at former historical sites within Pickering Brook townsite. - Develop self-guided heritage tours, both walking and driving, which encourage visitors to learn about our past at their own speed. - Leverage community support through promotion and backing of local groups e.g. Pickering Brook Heritage Group, Kalamunda Historical Society. - Encourage and support unique heritage experiences e.g. School of Clock Making led by Watch and Clock Makers Association of WA. 	TBC	TBC
3.2 Lead authentic and culturally aware Aboriginal tourism experiences		
Actions	Responsibility	Timing
Develop and promote strong Aboriginal cultural identity: <ul style="list-style-type: none"> - Clarify and promote Noongar origin of the name Kalamunda and leverage connection with Noongar warrior Yagan through his brother Mundi. - Develop Aboriginal marketing and brand for the City of Kalamunda in collaboration with Traditional Land Owners. - Establish Advisory Panel with local Elders and operators to guide Aboriginal tourism and ensure cultural protection, permissions and approval. 	TBC	TBC
Expand and grow Aboriginal-led tourism products: <ul style="list-style-type: none"> - Develop Hartfield Park to promote Aboriginal culture e.g. walking trails, information signs, art installations, sacred trees, fire pit and yarning circles. - Develop self-guided and operator-led walking tours that document and celebrate Noongar occupation of Kalamunda and the wider Perth Hills. - Develop Aboriginal-led accommodation offerings through State Government Camping with Custodians program. 	TBC	TBC

<ul style="list-style-type: none"> - Collaborate with Perth Observatory to promote their Aboriginal Astronomy Centre which aims to celebrate 60,000 years of Noongar sky stories. - Support employment of Aboriginal youth e.g. proposed Aboriginal Nature Trekz (ANTZ) led by Koya Aboriginal Corporation at Perth Observatory. - Develop experiences showcasing native bush tucker e.g. harvesting of native flora, cooking classes, and cafes offering local bush tucker. - Engage Noongar Artists through Art in Public Places Policy to create authentic and vibrant artwork celebrating Kalamunda's Noongar heritage. - Develop a program of Special Events focusing on the six Noongar seasons and culminating in Makuru Arts Festival celebrating the Noongar "winter" season e.g. artist workshops, cooking classes, music and theatre, and public education. 		
<p>Promote understanding and awareness of Aboriginal culture:</p> <ul style="list-style-type: none"> - Develop interpretative signage sharing knowledge of local Aboriginal culture, heritage, songlines and dreaming. - Work with State Government to protect, promote and expand registered Aboriginal heritage sites. - Work with key stakeholders and Traditional Land Owners to identify new Aboriginal sites of interest and ensure protection of their heritage. - Work with key stakeholders to research, document and share stories of Wadjuk occupation of Kalamunda prior to arrival of European settlers. 	TBC	TBC
<p>3.3 Expand Special Events program to offer diverse, stimulating and globally recognised programs</p>		
<p>Actions</p>	<p>Responsibility</p>	<p>Timing</p>
<p>Develop and expand existing Special Events program:</p> <ul style="list-style-type: none"> - Combine Kalamunda Show with a food and wine event showcasing local producers. - Develop a Kalamunda Gourmet Escape satellite event comprising a weekend long festival of gourmet food and beverages. - Increase open-air concert offerings hosted at City and privately-owned venues e.g. Stirk Park, Perth Observatory and local wineries. - Develop series of events to complement the long-established annual Perth Festival (previously Perth International Arts Festival). - Create local hub for annual Fringe Festival through partnership with organisers and register of City-owned venues. - Improve offerings and promotion of Bickley Carmel Harvest Festival to encourage higher visitor numbers. - Support and promote global astronomy and public education events at Perth Observatory. - Develop tourist-facing competitions e.g. barista competitions. - Investigate potential for annual "Sculpture in the Trees" event in similar vein to Sculpture by the Sea event. - Investigate potential for Farmers Market to be expanded to include Pickering Brook oval (in addition to Kalamunda town centre). - Develop and expand Corymbia and Makuru Festivals offerings including increased local and state-wide promotion. 	TBC	TBC
<p>Improve organisation and coordination of Special Events program:</p> <ul style="list-style-type: none"> - Promote and communicate a calendar of events with key stakeholders sufficiently in advance to allow preparation and marketing. - Distribute calendar of events amongst key tourism industry bodies and at Perth CBD hotels and Visitor Centre. - Work with bordering local government areas to coordinate regional events and avoid clashes e.g. Open Studios on different weekends. - Provide advice and networking to tourist attractions and community members who are looking to develop new events e.g. liquor licensing. 	TBC	TBC
<p>Investigate and develop opportunities for flagship annual "Hero Events" – community suggestions include:</p> <ul style="list-style-type: none"> - Food festival and long table lunch/dinner event at independent venue to showcase diversity of local produce e.g. Perth Observatory. - Progressive dinner held across several establishments with accompanying transport. - World-class sporting events e.g. King of the Mountain, international competitions. - Kalamunda rodeo in collaboration with local pony club e.g. Walliston Pony Club. - Large "Woodstock"-style music festival within City parks e.g. Kalamunda Oval. - Event to capitalize on the location of the northern terminus of Bibbulmun track e.g. "Bibfest". - International wedding festival to promote Kalamunda's wineries and historical attractions as a key wedding destination. 	TBC	TBC

STRATEGY 4

Further develop the Kalamunda tourism brand and destination marketing to raise awareness and inspire visitor interest

4.1 Foster strong awareness and recognition of the Kalamunda brand		
Actions	Responsibility	Timing
Strengthen Kalamunda brand through striking, bold and memorable marketing: <ul style="list-style-type: none"> - Develop striking and memorable logo and associated destination marketing that identifies Kalamunda as a key tourist destination. - Produce concise, clever, conceptual and customer centric marketing with a niche “Kalamunda” identity that complements the Perth Hills brand. - Develop catchy and memorable slogan capturing what Kalamunda represents to a tourist e.g. Gateway to the Hills. - Investigate potential to improve “Experience Perth Hills” brand and remove confusion by incorporating the name “Kalamunda”. - Create bold, visually-appealing and welcoming entry statements along key transport links and improved directional signage. - Invest in public artworks that create a strong Kalamunda identity and a focal point for #Kalamunda social media tags. - Install “photographic viewpoints” at key locations that showcase Kalamunda’s diversity and encourage social media posts/tags. - Investigate opportunity for celebrity selfie in Kalamunda to go viral on social media and spark “copycat” selfies. - Engage a professional photographer to produce catalogue of marketing imagery demonstrating range of visitor opportunities and beauty of natural and built environments to be used by the City of Kalamunda and key tourism industry bodies e.g. Destination Perth. - Provide City of Kalamunda staff and volunteers with key marketing messages and images for use in promoting attractions and events e.g. slogans, logos, information on Hero Attractions and Events, key resources to support tourist visitors etc. - Develop tourist survey, potentially in connection with tourism app, that provides clear and measurable feedback on visitor experiences. - Partner with local operators, within and outside the City, to promote awareness of major attractions including Bibbulum Track, Munda Biddi Trail, Perth Observatory and Kalamunda History Village. - Leverage opportunities available through the 2018 Excellence in Local Government Tourism Award bestowed to the Experience Perth Hills brand. 	TBC	TBC
Increase advertising efforts and promotion: <ul style="list-style-type: none"> - Tap in to Scoop Digital marketing. - Investigate opportunities for promotion through Western Tourism Radio (87.6 FM). - Leverage Federal and State funding for tourism marketing and local/interstate promotion. - Focus on local print, radio and online marketing to target day visitors and encourage them to “convert” to overnight visitors. - Organise annual exposition at Parliament House to showcase Kalamunda’s diversity and increase awareness amongst State politicians. - Develop short marketing film for online promotion and investigate opportunity to engage local filmmakers e.g. aerial drone footage. - Develop holistic interactive Kalamunda tourism app that combines maps, navigation, cultural heritage information, special events and promotions. - Investigate opportunities for visually striking advertising within Arrivals Terminals at neighbouring Perth Airport. - Investigate free and paid advertising opportunities available to Local Government Authorities through Tourism WA and Destination Perth. 	TBC	TBC
4.2 Work towards cohesive and connected regional Perth Hills branding and marketing		
Actions	Responsibility	Timing
Develop and support Perth Hills tourism branding: <ul style="list-style-type: none"> - Develop and adopt consistent Perth Hills branding in collaboration with other local government authorities to promote cohesion within the region. 	TBC	TBC

<ul style="list-style-type: none"> - Create a Perth Hills destination marketing plan and promotional strategy in collaboration with other local government authorities, including clear definition of the geographical boundaries of the “Perth Hills”. - Create a shared fund or reserve to support Perth Hills tourism marketing across relevant local government authorities. - Work in conjunction with the Perth Hills Tourism Alliance to facilitate improved opportunities for marketing and promotion with collective collateral across several Local Government Authorities. - Work in partnership with Destination Perth to have “Perth Hills” recognised as a separate tourism precinct distinct to Swan Valley. 		
<p>Work closely with the State Government’s Perth Hills Tourism Taskforce to achieve common goals:</p> <ul style="list-style-type: none"> - Work closely with the Perth Hills Tourism Taskforce to facilitate opportunities for redevelopment, shared marketing and branding, and joint promotion and advertising. - Address strategic planning challenges at a regional level (e.g. bushfire risk, waste water use) through regular and proactive engagement with the Taskforce and key stakeholders including DBCA, DFES, Department of Water and others. - Focus on providing a solution to shared goals in partnership with the Taskforce, including redevelopment of the Pickering Brook townsite, provision of increased accommodation facilities and opportunities for horticultural businesses to expand into eco and agritourism, and branding and marketing of the Perth Hills region. 		
<p>4.3 Increase Kalamunda’s share of local, intrastate, interstate and international tourism markets</p>		
<p>Actions</p>	<p>Responsibility</p>	<p>Timing</p>
<p>Increase marketing and promotion to interstate and international markets:</p> <ul style="list-style-type: none"> - Investigate opportunities for advertising on international airlines and cruise operators servicing Perth e.g. inflight magazines, short video adverts. - Investigate opportunities for visually striking advertising within Arrivals Terminals at neighbouring Perth Airport. - Increase marketing of Kalamunda at key “tourist hot spots” within Perth and WA e.g. Visitor Centres, hotel chains, regional airports, roadhouses. - Leverage global-astronomy events held by Perth Observatory e.g. live stream of eclipses viewed by up to 5 million people globally. - Investigate opportunities for overseas marketing in print and online forms in key countries e.g. UK, Singapore, Malaysia. - Investigate and promote “Sister City” relationship. - Work with Tourism WA and Destination Perth to lobby interstate and international travel journalists to visit and review Kalamunda. 	<p>TBC</p>	<p>TBC</p>
<p>Develop specific tourism packages or services targeting international travelers:</p> <ul style="list-style-type: none"> - Develop holistic “day” and “weekend” packages which combine key attractions, food/beverages and group transport. - Develop relationship with key cruise/tour operators at newly refurbished Fremantle Docks and promote “day” packages to incoming passengers. - Look for opportunities to host and promote globally-recognised or international events and competitions. - Investigate medium-sized hotel development that leverages proximity to Perth Airport and major transport links. - Improve public transport links for international visitors who do not have their own vehicle. - Encourage tourism operators to become “China-ready” and “India Ready” through provision of training and support for new applicants. 	<p>TBC</p>	<p>TBC</p>

STRATEGY 5

Encourage an innovative and collaborative tourism industry that supports local business and drives economic growth

5.1 Provide dedicated and industry-specific support services for local tourism operators		
Actions	Responsibility	Timing
Design and implement City of Kalamunda specific support services: <ul style="list-style-type: none"> - Designate a member of staff to “walk” tourism businesses through City of Kalamunda and State Government department approvals requirements. - Provide a single contact person to communicate with new tourism business ventures and connect them with the existing network of businesses. - Develop tourism-specific networking events to encourage collaborations and partnerships. - Offer training opportunities to upskill tourism operators in best-practice customer service, marketing and promotion. - Offer training opportunities and support for businesses who want to become “China Ready” and “India Ready”. - Work with key stakeholders to provide professional advice to businesses to maintain and improve their offerings and enhance visitor experience. - Develop planning templates and guidelines for tourism operators to guide them through complex planning approvals. - Develop Local Planning Scheme that supports tourism operators and recognises the economic contribution tourism brings e.g. strong connection between City’s tourism vision and Planning Department, adoption of key tourism precincts and strategies into LPS. - Lobby State Government to develop management procedures to support tourism development in drinking water catchments. 	TBC	TBC
5.2 Foster strong partnerships with key stakeholders, industry bodies and local community		
Actions	Responsibility	Timing
Identify and communicate regularly with key stakeholders and industry bodies: <ul style="list-style-type: none"> - Create Tourism Stakeholder database detailing relevant contacts and identifying City staff responsible for relationship management. - Regularly review key stakeholders and continually investigate potential new contacts for ongoing engagement. - Establish regular (at least quarterly) face-to-face meetings with Tourism WA and Destination Perth to keep them informed of recent developments. - Maintain relationship with Tourism Council of Western Australia and ensure continued accreditation of the Perth Hills Visitor Centre. - Maintain initial monthly meetings with the Perth Hills Tourism Alliance to sustain momentum of regional focus. - Host bi-annual events attended by key stakeholders and tourism operators to encourage networking and local partnerships. - Foster strong relationship with neighbouring Perth Airport and promote link through Forresterfield-Airport rail link. - Collaborate with Main Roads WA and DBCA to identify optimum locations for directional and entry statement signage on major transport routes and increase/improve road access to and within the City and its surrounding National Parks. - Work with DBCA, Water Corporation and other stakeholders to manage access and land-use particularly in relation to Policy 13. Work closely with DFES to assess and manage bush fire risks: <ul style="list-style-type: none"> - Establish strong relationship with key staff at DFES to identify and overcome challenges associated with adherence to Policy 3.7 (Planning in Bushfire Prone Areas) including regular meetings and updates. Communication should be proactive and not reactive. - Work to secure early “buy-in” to this Strategy by DFES such that common goals can be shared. - Promote a “can-do” attitude to overcoming challenges, rather than adopting a “too hard” approach. - Work in partnership with DFES and the State Government, particularly Perth Hills Tourism Taskforce, to overcome challenges associated with planning and bushfire management, e.g. lot size, road access and access to water. 	TBC	TBC

Work closely with the community to involve them in key decision-making processes: <ul style="list-style-type: none"> - Create a Tourism Community Advisory Committee to provide feedback from local residents and business owners on all aspects of tourism. - Work with the local community to promote understanding around the value of tourism and create community ambassadors through regular workshops and Q&A sessions. 				
5.3 Lead innovation through creative collaboration and progressive forward-thinking ethos				
Actions			Responsibility	Timing
<ul style="list-style-type: none"> - Research and develop initiatives to support the growth of the MICE market (Meetings, Incentives, Conferences and Events). - Promote innovative and unique community-led approach of this Tourism Development Strategy. - Investigate opportunities to tailor the City's planning process to facilitate the application process, support new tourism ventures and encourage more creativity in town planning e.g. staged planning conditions, designated Planning Officer assigned solely to tourism-related applications, delayed fees to allow operators to recoup money rather than paying upfront and controlled development conditions. - Investigate opportunity for reduced rates to support tourism operators. - Champion innovative wastewater treatment facilities to enable tourist ventures to manage wastewater in a cost efficient and sustainable manner. 			TBC	TBC

13. Appendices

Appendix 1 Community Workshop Participants

Appendix 2 Community Workshop Responses

Draft

Working Draft **City of Kalamunda: Draft Arts Strategy**

Prepared by: Kalamunda Arts Advisory Committee



**city of
kalamunda** 606

CREATIVE COMMUNITIES

AN ARTS STRATEGY

CITY OF KALAMUNDA

This document sets out new ways for the arts to become a larger part of life within the City of Kalamunda over the next four years. The high level objectives of this strategy are to:

- **Diversify the economy of the City by ensuring that the contribution by the arts is well recognised for its value and so that this part of the economy continues to grow**
- **Increase engagement by residents to become more involved in the many disciplines of the arts as creators, audience and the source of ideas**
- **Increase arts investment to the City from diverse external sources**
- **Improve the visual appeal of communities and public places across the City so that they are used and valued by residents and so that visitors want to return to explore the City some more**

Overtime, achieving these objectives will add to the attractiveness and value of Kalamunda as a place to live, visit and where there is a strong community spirit.

Strategy Positioning Statement

The City of Kalamunda recognises that we are all arts consumers. Every day, the arts influence the quality of life across Australia and locally for our families and friends.

The Arts are part of an enriched and rewarding life. Communities gather to celebrate, visitors travel to discover new things and community strength is boosted by engaging with creative activities.

Despite the perception that all activities in the arts are undertaken on a not-for-profit basis, the arts and cultural sector is a dynamic force in the economy. Australians spend \$50bn annually on the arts activity – equivalent to 4% of average household expenditure. Through ticket sales, artworks sales, entry fees, commissions and events, it is this economic benefit can be measured.

Arts tourism is an important contributor to the broader tourism sector with over 2.4 million international visitors to Australia taking part in this growing activity.¹ Tourists want to engage with our country's unique Indigenous culture and the City of Kalamunda has largely untapped assets that this strategy seeks to highlight.

Research by the Australian Cultural Ministers' Council (a regular meeting of all States, Territories and Federal Arts Ministers) found the following: *"that engagement in arts and culture improves cognitive skills and the educational attainment of individuals, increased self-esteem, improved community confidence, boosted social cohesion and behaviour and played a role in crime prevention."*²

This Strategic document is a statement of future intent and opportunity to engage with the arts in a way that adds value to the community and individuals in the City of Kalamunda.

¹ Arts Nation, The Australia Council for the Arts, 2015.

² Social Impacts in Arts and Cultural Activities – Evidence Issues and Recommendations, Cultural Ministers' Council

https://www.stategrowth.tas.gov.au/_data/assets/pdf_file/0003/160833/Social_Impacts_of_the_Arts.pdf

To nurture and grow involvement by the community as spectators, motivators and creators of uplifting and transforming activities through arts events and experiences. To place creative practise at the heart of the City of Kalamunda's communities and neighbourhoods. Each of these will add to the City's visual appeal, strengthen sense-of-place, diversify the economy and elevate arts practice that is accessible, challenging and engaging.

Definition

Though by no means an exhaustive definition of the arts, for the purposes of the City of Kalamunda and the application of this document they are defined as follows:

A process of creativity, imagination, and observation that sparks ideas and new interpretations by individuals or groups that can be shared with others or enjoyed alone. This includes many disciplines: oral tradition, language, dance, visual art, design, writing, poetry, theatre and music – activities that can help make sense of the world and challenge our own perceptions of it.

Statement of Commitment

The City of Kalamunda recognises that the arts are a way of building community strength, personal creativity, shared experiences, valued physical spaces, celebrations and other touchstones that enrich our individual and community lives. The City commits to placing a high value on arts into its core work and services, so that it is a truly creative organisation able to meet community needs.

The City acknowledges the importance of connecting with the traditional custodians of this land, the Wadjuk people of the Noongar Nation. Where appropriate, the City will aim to understand and share the vast traditional knowledge of this unique place.

The City supports the arts in the ways outlined below. The City recognises that there are strong links to tourism and the environment and that these are two sectors with which it is currently actively engaged. These and other strategic links are demonstrated by the alignment of this document with a number of other City Strategies listed at the end of this strategy.

KEY FOCUS AREA ONE

Place-making and Identity: Urban and Commercial Developments and Renewal

Background

In the next 10 years large sections of the City of Kalamunda will undergo significant changes. New urban developments will be planned in the City as the population is predicted to grow by 28% to 2036³. Population density will also increase as urban infill extends to larger home blocks in built areas. This is an opportunity to integrate good urban design with a progressive arts policy.

These developments are opportunities to create distinct urban zones centred on parks, open spaces and natural bushland which are linked to local services and infrastructure. Similarly, creating industrial developments considerate of workers' needs will enrich the local surrounds and make it an attractive place to live and work.

³ <https://forecast.id.com.au/kalamunda/population-summary>

Housing development plans need to go beyond technical competency to ensure that creative design elements inform the design of new communities so they are a pleasure to live in, have a strong sense of place and where there are areas that are attractive for families and the community to gather.

Note: each of the actions in the three Key Focus areas are listed in priority from participants in the Arts Forum held in January 2019.

So that full community value is achieved for these new developments the following strategies are recommended so that the arts are considered at each development step. This will integrate input from the creative sector in a considered manner:

1.1: The City employs a Creative Communities Coordinator. The Coordinator will be the primary link between the creative sector and the City's community.

The role will, over time, create strong working relationships between the City and professional, community arts and cultural organisations, individuals and networks. The objective is to create strong collaborations, support links to external funding, creation and expansion of artforms, events and activities that will engage residents and attract visitors to sites across the City.

Positioning this role at Coordinator level will enable them to work across the City's Directorates, liaising with staff and management. To be successful it will require support from the CEO and Executive members.

The Coordinator will need strong knowledge of external sources of funding so that community organisations and artists can apply for grants from different sources.

The Coordinator will work with multiple stakeholders within the City and externally to link services, approvals and bigger picture initiatives that will increase arts activities across the City.

1.2: Create a Public Art Policy.

This policy will drive the commissioning, siting and installation of public art that may include elements of design that reflect unique aspects of an area (history, natural environment and Indigenous cultural practise). The artworks and interpretations will enhance how an area looks and activity options available.

Comparable policies exist in the vast majority of local governments across the Perth metropolitan area. To date Kalamunda has missed out on investment and enhancement, but adopting this policy will bring it in line with current State Government policy that has been in place for over two decades.

The contribution to Public Art provided under this Policy shall be no less than 1% of the final⁴ project cost for new and renewal of all private industrial, commercial, and residential subdivisions developments valued above \$250,000 capital expenditure.

⁴ **Note:** Calculation of the final cost of any development or renewal will be demonstrated by the completion of a Statutory Declaration by the Developer that provides an accurate real cost of the development rather than a pre-construction estimate.

The developer will be responsible for its upkeep and maintenance and the artwork that will become part of the City's art collection.

City capital works renewal and upgrades with a final value of over \$250,000 will contribute a maximum of 2% of each development. These funds are to be used to commission public artworks or placed into the City of Kalamunda Public Art Reserve Fund to buy or commission new public art in accordance with the City of Kalamunda Public Art Masterplan 1.3, below.

Other sources of income for this Special Reserve Fund would be from donations, bequests and gifts of artworks.

Currently an annual audit is undertaken of the City's artwork collection as a function of asset management. Works need to be properly stored and regularly checked for damage or repair. The amount of appropriate storage will also require review.

Ongoing art handling training is also required to ensure the financial and cultural value of works is optimised. In the case where a piece is of little cultural significance or worth, the City may divest itself of these rather than continue storage and upkeep.

Advice from a registered valuer may be required to be sure that values of the artwork reflect market value.

1.3: Develop a City of Kalamunda Public Art Masterplan. The objective is creative place-making in neighbourhoods to reflect the distinctive natural assets, significant indigenous sites and key destinations of for the community and visitors. The Masterplan will identify specific artwork opportunities and prioritise sites and projects within the City of Kalamunda.

The Masterplan will define a set of shared principles and a framework to inform all levels of decision making that relate to public art including the allocation of resources. The Masterplan aims to reflect the future aspirations of the City's residents and the diverse neighbourhoods within the City.

1.4: The City adopts and monitors an initiative to upgrade of city-wide visual attractiveness

This action will extend across the whole City to improve its aesthetic; the look of the streetscape, parks and other public places. An attractive setting increases the liveability and visual appeal of the City.

The objective of this policy is to enhance the aesthetics of the City through consideration of coherent building and landscaping design themes.

One role of the Kalamunda City Arts Advisory Committee (CoKAAC) is to provide advice and input into proposals for design, planning and place-making of public spaces and other assets across the City. These elements will lead to a longer term visual attractiveness and public use of facilities.

There is a role in core City functions of Planning, Infrastructure, Parks and Gardens that directly relate to this policy. Strong links to the work of these teams and skills development may be required so the policy intention and details are applied.

1.5: Adopt an Urban Development Policy that informs and provides for variations in agreements with developers. The purpose of this policy is for the City to prioritise developers, seeking to bring new urban sites to the market, who will willingly work

with creative input to drive high quality design and construction of new communities that go beyond the core State Planning Template.

1.6: Engage key creative specialists (artists/curators). These will inform and enliven all six parts of development and master planning processes for future developments and renewal projects. The City creates a consultancy panel of experienced and qualified personnel who will work with in-house staff or other contracted consultants as an equal professional who contributes to all elements of the planning and design process.

The creative consultants will be an active player in all planning meetings, DSP stages and have input into proposed design and technical solutions. They will also be critical in helping prepare for the Project Briefs for the consultants for these development projects. These consultants will also inform stages 4-6 (above) of the planning and design process.

The scope for each development project will be drafted and creative consultants selected from the panel to work in the project based on the project needs and scope related to the skills and experiences of the creative personnel.

The creative consultants will use their networks to introduce suitable professional artists and community cultural workers to aspects of activities that arise from the input into the planning process. They may also connect the City with Indigenous Artists/practitioners living and working in the area.

The City will gain significant benefits by adopting the use of creative consultants from the panel for development of its own projects and upgrades to public areas and facilities.

Key Focus Area One

ACTIONS	KEY STEPS TO ACHIEVEMENT	TIMEFRAME
1.1 The City employs a Creative Communities Coordinator.	<ul style="list-style-type: none"> Secure funds in the budget Draft a Job Description Form Initiate a recruitment process Appoint and induct Coordinator 	2019 - ongoing
1.2: Adopt a Public Art Policy.	<ul style="list-style-type: none"> Complete policy draft Present for adoption by Council Establish steps for the introduction via the DA planning and approvals process 	2019
1.3: Develop a City of Kalamunda Public Art Masterplan.	<ul style="list-style-type: none"> Draft the Masterplan Present to Council for adoption and application in line with the Policy 	2019
1.4: The City adopts and monitors an initiative to upgrade of city-wide visual attractiveness.	<ul style="list-style-type: none"> Use creative personnel on the panel to inform City upgrade & design processes Use this initiative to inform other City strategies 	2019
1.5: Adopt an Urban Development Policy.	<ul style="list-style-type: none"> Draft the Policy Present to Council for adoption 	2019
1.6: Engage key creative specialists (artists/curators).	<ul style="list-style-type: none"> Establish a panel of specialists Select panel members Individual project briefs written by staff 	2019/2020 FY

KEY FOCUS AREA TWO**Community Enrichment, Creativity and Pride: Shared experiences created by and for local residents and visitors to Kalamunda City.****Background**

Within the City of Kalamunda are many professional artists and artswomen and a large number of people who are interested in the arts. There is also a great wealth of talented community members who pursue creative work in a volunteer capacity. The value of volunteers in the arts sector across Australia is estimated at over \$800 million per year.

Community members and professional artists often collaborate to create and deliver valuable public events. Local examples include: the Zig Zag Festival, History Village, Kalamunda Amateur Dramatic Society, Kalamunda Show, Kalamunda Markets, Stirk Park Jazz Concerts, Corymbia Multicultural Festival, Perth Hills Spring Festival, Foothills Unearthed and a host of other one off and annual events.

It is these events, and the people who run them, that bring to life public spaces. In turn, the community takes part, sales to earn income for community organisations and visitors discover new things in the City.

2.1: The City brings to life its newly adopted Reconciliation Action Plan.

This policy links to the [Noongar Recognition Act](#) of the State Government.

As part of this policy the City should also adopt the [Six Noongar Seasons](#) and refer to them and their significance in speeches at public presentations as part of an ongoing process of acknowledgement of Noongar culture. These seasons could be linked to yearly events like the existing 'Makuru' festival held at the Zig Zag Gallery.

2.2: Consulting and clarifying the arts direction for the next 4 years.

City of Kalamunda Arts Advisory Committee will hold annual community information and idea sessions with the wider arts community of professional and volunteer artists and arts workers. The Committee plans and deliver events that bring the arts sector together to share new ideas and initiatives to inform this Arts Strategy.

2.3: Online arts engagement. We live in an era of digital communications whose power to attract audiences, build loyalty and relationships with the arts should not be ignored. There are many avenues for creative output as online content that range from event documentation loaded to You Tube and linked to the City's website, to new online games to and a host of other imaginative digital content.

The City and its community is yet to take full advantage of the many online opportunities as content, information and marketing material that profiles local creative works.

2.4: Prepare an Artists-in-Residence Policy and initiate a residency program

The purpose of this policy is for the City and partners to offer to artists the opportunity of residencies in the City and for the community to have access to the artists and the work undertaken during the residency. City libraries, Kalamunda Learning Centre, Kalamunda Performing Arts Centre, the History Village and Falls Farm may each be some of the suitable sites for the residencies.

Partners in this program could include commercial businesses – EG Hawaiian, the owners of Forrestfield Central Shopping Centre.

Other examples for collaboration could include these examples:

- Kalamunda History Village to have a videographer in residence for 3 weeks to create digital content on the village, its collection and the stories these tell. The resident videographer could teach History Village members how to shoot, edit and load digital material to social media and websites
- The Zig Zag Gallery – a songwriter in residence, commissioned to write works that relate to the setting and a forthcoming exhibition, which the artist performs at the opening. The artist may also run song writing workshops at local schools
- A writer in residence at Falls Farm who uses the Farm, its setting and historical story as inspiration for their work. This artist would run community writing workshops. This could also include the writer working with students at St Brigid's College, Mazenod College and Falls Road Primary School

As part of this policy, a Toolkit will need to be drawn up to provide advice and input into how to propose and host an artist in residence. What to prepare, how to set out expected outcomes, what the roles are and agreed timelines. An example of one toolkit can be found at [this](#) link.

2.5 The City embrace a can-do culture of facilitating events that activate community spaces.

Take steps to further develop partnerships with community, commercial and professional organisations so they can present events and creative projects. Survey community groups to test if the access to funds from the City by these groups meets their needs and offers the right financial level. While application processes in some instances have been improved, a further review of these will keep these processes contemporary and efficient. Some processes may be able to be evaluated by online self-assessment tools for event organisers.

There is an important role for the Creative Communities Coordinator in this process.

Action Plan - Key Focus Area Two

ACTIONS	KEY STEPS TO ACHIEVEMENT	TIMEFRAME
2.1: The City brings to life its newly adopted Reconciliation Action Plan.	<ul style="list-style-type: none"> • Once adopted, use arts activities to further the RAP's enrichment. • Through CoKAAC members' specialist knowledge explore ways of greater engagement for the City with traditional practice and sites of significance. 	2019
2.2: Consulting and clarifying the arts direction for the next 4 years.	<ul style="list-style-type: none"> • Establish and maintain an arts database. • Hold annual arts community briefing and value checking events. • Establish small arts specialist working groups to meet specific needs or revisions. 	2019 - ongoing
2.3: Online arts engagement.	<ul style="list-style-type: none"> • Link with and inform the City's new website so that digital arts stories can be uploaded. • Commission short 90 second videos on City arts events and artists profiles. 	2019

	<ul style="list-style-type: none"> •Invest in community organisations use of digital content. •Extend the use of Kalamunda Arts Facebook page and link it to City arts initiatives. 	
2.4: Prepare an Artists-in-Residence Policy and initiate a residency program.	<ul style="list-style-type: none"> •Seek advice from Artsource and FORM on useful residency structures in use in WA (see link above). •Identify places where residencies can take place and potential partners to support and engage with the residency. •Establish a small pool of residency champions to assist and support visiting artists. •Seek international residency opportunities and associated funds. 	2020 - ongoing
2.5: The City embrace a can-do culture of facilitating events that activate community spaces.	<ul style="list-style-type: none"> •Review and identify ways of improving access by community organisations' access to City funds for the arts. •Seek ways of improving event the compliance processes. •Search out examples of self-assessment tools for events and business activities 	2019 - ongoing

KEY FOCUS AREA THREE

The Kalamunda City Economy: The Arts Growing, Diversifying and Recognised as a Valued Part of Local Life

Background

Nationally the arts sector is a significant part of the economy and arts expenditure by Australians is valued at 4% of weekly average earnings. Australians are constant arts consumers. Grand Finals cannot begin without a major international artist performing, the ceremony and ritual of an ANZAC Day commemoration is steeped in deep and rich culture with the Last Post sounding out the sense of spirit and loss that is felt on this day.

Kalamunda High School is a visual arts-specialist centre and well recognised for its successes. The City is a partner with the High School in Kalamunda Performing Arts Centre as well. The City invests significant funds into arts facilities for communities and visitors. There are commercial organisations reliant on creativity including glass makers, steel suppliers and fabricators to the work of professional artists who operate from studios within the City. These individuals are often sole traders – small commercial entities whose year-round work and economic value is often not recognised as they exhibit, perform, sell product outside of the City, nationally and internationally.

A number of the following points will become part of the Creative Communities Coordinator role.

3.1: Invest in the Open Studios Program to grow its audience, increase sales, and document visitation to the City. Open Studios is for professional artists who have proven status in exhibiting and selling works in various professional settings. This current City activity is a major economic boost and reputation-enhancement annual event. There is a bigger role for the City to play to add to the organisation and measurement of this annual event.

It offers visitors a unique opportunity to glimpse into artists' studios, to meet the artists and buy work. This one event plays a large role in increasing sales by artists and attracting new tourists to the City.

It also brings business to the City as visitors enjoy local café and restaurant meals on the Open Studio day.

This program is not currently being measured for visitor impact and total value of sales. There is an opportunity to extend the value of this program by supporting the organisers to measure Open Studios' full economic value. A further extension of this program could be the allocation of funds to hire a professional photographer to visit the studio of all exhibiting artists and document works for marketing purposes.

3.2: Invest in the arts professional development for staff and councillors with pivotal roles in City services, events and community engagement.

Some City staff may not be familiar with the arts sector and the positive impact it can have on a community's quality of life. The professional development sessions below and others will give staff and councillors a better understanding of how new creative processes can improve design and aesthetics in the City and how the staff can apply their own creativity to their work. If applied, these new skills will, over time, change how the City looks and residents' attitudes to their neighbourhood.

Proposed professional development includes:

- A day tour by planning, construction and building staff to Ellenbrook to see how this one development has benefited from long engagement with arts personnel to create this unique community. Included in this event will be a presentation by the lead artist Philippa O'Brien and a workshop by a design practitioner in the principles of design-thinking in an urban setting
- All current and new staff undertake Indigenous cultural training to build their understanding of Kalamunda's unique Aboriginal story
- Executive members visits to two artists' studios and hear firsthand from nationally renowned artists and learn about their work
- Creative investment program – several three hour workshops of artform exploration & teambuilding
- Open workshop – staff from all directorates working with artists on projects in the Agricultural Hall Development
- Small group workshop with artists in residence
- Creative development workshop on a site in the City for a diverse staff group

Community Arts Network and WALGA each have specialist staff who can assist in some of these professional as development programs as can local artists. Members of CoKAAC can assist in preparing the brief for this work.

3.3: Establish a unique international sculpture event. Begin feasibility and planning of an International Sculpture exhibition in spring on the Zig Zag. This event offers the opportunity to partner with Perth's Sculpture by the Sea and the Department of Biodiversity and Attractions among others. The natural setting creates an opportunity to further engage with Indigenous culture and the Noongar seasons.

The sculpture event could align with the City's Bike Strategy including opening up the Zig Zag Scenic trail and making it a safe conduit for enjoyable access to Kalamunda. The sculpture event could be timed with other events including the Perth Hills Spring Festival or Kalamunda Open Studios.

3.4: Take full advantage of the findings of reviews of the city's two important arts sites. Following the 2019 review of the Zig Zag Gallery and the Kalamunda Performing Arts Centre, use the findings to enliven and better resource these assets. The reports will help to secure additional funds from external sources and future City budgets. They will ensure that the two arts centres meet community needs, are well marketed, active, and possibly host residencies, masterclasses and other new events that relate to these community assets.

Business cases will also assist in securing budget items for facility, equipment and amenity upgrades so each building meets contemporary standards for audiences, artists and visitors over the next four years.

3.5: Seek external investment to support city arts ventures. These can come from Commonwealth, State, philanthropic and donor sources.

These funds will support and expand events, improve marketing and raise the profile of the City and add to the economic, social and creative worth of the arts sector.

The Coordinator of Creative Communities and other staff across the City's staff will need to identify and apply for these funds as part of their core work.

Invest in an audit of community assets – the people, places, spaces and opportunities that are currently active and those that need further development. For example, the Kalamunda Youth Swing Band plays in Stirk Park for four months each year. The audit would identify the Youth Swing Band as an asset, and would establish what it needs to grow its audiences so that Stirk Park is packed with entertained, picnicking visitors and locals.

Action Plan - Key Focus Area Three

ACTIONS	KEY STEPS TO ACHIEVEMENT	TIMEFRAME
3.1: Invest in the Open Studios Program to grow its audience, increase sales, and document visitation to Kalamunda.	<ul style="list-style-type: none"> • Allocate funds for a part time project coordinator who will deliver marketing and establish a simple data recording process. • Establish a data structure so the impact of the project can be measured in visitors and value of sales year on year. 	2020 - ongoing

<p>Ordinary Council Meeting - 26 February 2019 Attachments</p> <p>3.2: Invest in the arts professional development for staff with pivotal roles in City services, events and community engagement.</p>	<ul style="list-style-type: none"> • Identify staff teams who have important roles to play in bringing this strategy to life – particularly the design and aesthetics elements. • Planning, building and construction staff attend the full day at Ellenbrook and undertake the workshop with artist, Philippa O'Brien. • Deliver indigenous cultural training for all City staff. • Executive members visit two artists' studios to talk with the artists and establish a greater understanding of the work they undertake and the arts sector more generally. • Selected staff undertake a half day creative project workshop led by an experienced artist. 	<p>2019 - ongoing</p>
<p>3.3: Establish a unique international sculpture event.</p>	<ul style="list-style-type: none"> • Scope and draft a vision and objectives for the event. • Establish partnerships with national and international sponsors. • Develop the business, and project plan. • Create a project team. • Define applicant criteria, terms and conditions. • Secure external funding. • Open, review and select works from applicants. • Secure assembly and logistical support. • Install, remove and evaluate the event. 	<p>2021</p>
<p>3.4: Take full advantage of the findings of reviews of the City's two important arts sites.</p>	<ul style="list-style-type: none"> • Identify priority recommendations from these reviews and set these out of the next three years for adoption. • Present 2019 priority findings to Council for adoption. • Seek partners to invest in and support activities and collaborations. • Seek external financial supporters and external programs of funding and philanthropy to add value. • Include recommendations in the 2020 budget 	<p>2019-2021</p>
<p>3.5: Seek External Investment to Support City Arts Ventures</p>	<ul style="list-style-type: none"> • Establish donor-friendly giving (tax deductible) structures within the City. • Ensure the Creative Communities Coordinator has strong funding experience and understanding of opportunities. • Identify local residents and families who may provide philanthropic support for the arts in the City and engage with them with a long term view. 	<p>2020 - ongoing</p>
<p>3.6: Invest in an Audit of Community Assets.</p>	<ul style="list-style-type: none"> • Decide whether the audit can be undertaken with existing resources or whether external assistance is required. • Undertake audit across all communities and neighbourhoods in the City. • Develop a database of the results that links to the City's website. 	<p>2020 - biennial review</p>

STRATEGIC LINKS

This document does not stand alone in the City. Arts are linked in many ways across all areas of operations by the City. Below is a list of other City documents that link:

- Kalamunda Advancing - Strategic Community Plan 2017-2027
- Kalamunda Connected-Creating Active Citizens Plan 2018-2020
- Kalamunda Achieving: Corporate Business Plan 2018-2022
- Kalamunda Economic Development Strategy
- Kalamunda Accountable - Long Term Financial Plan to 2023
- Kalamunda Builds - Asset Management Strategy to 2023
- Public Open Space Strategy 2018
- Community Safety & Crime Prevention Plan
- Kalamunda Design Advisory Committee
- Planning and Development Compliance Policy
- Capital Grants - Clubs and Community Groups Policy
- Disability and Access Inclusion Policy
- Local Environment Strategy
- Kalamunda Connected – Active Citizens Plan 2018

Working Draft

City of Kalamunda: Public Art Policy

Prepared by: Kalamunda Arts Advisory Committee



city of
kalamunda 619

City of Kalamunda

Public Art Policy

1. PURPOSE

This policy applies to all applications for development approval for multiple dwellings, industrial, mixed use or non-residential developments (including additions, extensions or redevelopments of these developments)

It also applies to the acquisition of artworks for the City of Kalamunda Art Collection.

2. APPLICATION OF POLICY

This policy aims to include Public Art within the City of Kalamunda and is supported by the City's Arts Strategy (2019). This Policy aims to guide the installation of artworks in public places across the City to:

- Develop and promote community identity;
- Improve the quality of the City's built environment;
- Increase the social, cultural and economic value of the City;
- Establish new design partnerships between artists, architects and other professionals;
- Engage with the community in a way that contributes to their understanding of spaces and places near where they live;
- Increase public awareness of the value of art and design;
- Support and celebrate contemporary art and art practice;
- Expand the City's art collection for the enjoyment of residents and visitors; and
- Enhance the reputation of the City as a modern, vibrant and culturally enriched environment with global ambitions for residents and visitors.

2. GLOSSARY AND DEFINITIONS

Public Art - refers to the integration of an artistic concept into the public domain.

Professional Artist - an artist with extensive Public Art experience. A professional artist can be defined as a person who fits into at least two of the following categories:

- A person who has a tertiary qualification in the visual arts, or relevant qualifications, when the brief calls for it, for other artforms such as multimedia;
- A person who has a track record of exhibiting and selling artwork at reputable art galleries or exhibitions;
- A person who represented in major public collections;
- A person who earns more than 50% of their income from arts related activities such as undertaking public art commissions.

Note:

- An artist under consideration for an art commission who has a familial relationship to the developer or has a financial interest in the development must declare the relationship. The City reserves the right to disapprove according to the circumstances.
- The Public Art Scheme is not an emerging artist initiative, however in some instances emerging artists may be considered for particular projects.

3. POLICY STATEMENT

The City of Kalamunda requires all new public and private development proposals to include public artworks as set out below.

This Policy and related Management Procedure, therefore, provides guiding principles and procedural requirements for the planning, development, approval and management of future Public Art projects across the City.

All permanent artworks will become part of the City of Kalamunda Art Collection.

4. METHOD OF DETERMINING PUBLIC ART CONTRIBUTIONS

The contribution to Public Art shall be no less than one percent of the total capital project cost¹ of all private developments including industrial, commercial, and commercial/residential developments as well as extensions and upgrades over the total project cost of \$250,000 and to a maximum of 2% of the total capital project cost of each Council capital works project. These funds are to be held in the City of Kalamunda Public Art Reserve Fund which will need to be established by the City. Funds in this account will be used for the acquisition or commissioning of public artworks in accordance with the procedures detailed in the City of Kalamunda Public Art Masterplan.

Alternatively, where a multifaceted program of works is scheduled within a demarcated area (such as the staged City of Kalamunda Public Art Masterplan), the Art Advisory Committee may select to combine multiple smaller public art budgets and compound the value into one of the prioritised projects.

5. PUBLIC ART CRITERIA

The criteria for a Public Art Project are as follows:

- be an original artwork;
- be of high aesthetic quality;
- be fit for purpose, durable, sustainable and easy to maintain;
- be located where it is accessible and can be clearly seen by the public;
- be responsive to the site context and reflect the local area's natural, physical, cultural, historical or social values;
- Consider the existing public art in vicinity to avoid repetition and to ensure the artwork is unique;
- Public artworks to be located within the lot boundaries of the development site, unless otherwise agreed by the City;
 - Should not detract from the amenity or safety of the surrounding area. Where appropriate, be lit at night and use energy efficient lighting that is sympathetic to the surrounding area;
 - Commissioned by professional artists to produce the public artwork.

6. PUBLIC ART PROJECTS

Public art projects may include community arts content resulting in tangible art work, i.e. community murals. Art project(s) may be an interpretation of cultural heritage, and the City may also consider alternative art projects including community arts programs, which involve the public working with professional artists. (Note: these projects can be delivered as other parts of the City's budget).

¹ Definition: Total Capital Project Cost is the final capital cost of the development at time of completion and includes project variations and additions as an aggregated total of the development's total cost.

Public art projects may include the following, subject to approval at the discretion of the City:

- A stand-alone unique sculptural works;
- 3D works which can be freestanding or wall-supported;
- Artworks that include elements of design that reflect unique aspects of the area (history, natural environment, Indigenous cultural practise) identify or interpret a significant site, person, community, history or event, such as, an interpretive marker, heritage trail, or monument;
- Murals, tiles, mosaics or bas-relief covering walls, floors and walkways. Murals may be painted or constructed with a variety of materials;
- Neon or glass art works, photographs, prints and any combination of media including sound, video projection, lighting, ephemeral or temporary works;
- Landscape artworks which integrate with the property (in addition to any required landscape design), if it is created by or led by a professional artist;
- Public art, where provided on a development site in fulfilment of a condition of the Development Application, shall not require a further development approval.

However, Public Art projects cannot consist of:

- business logos, wording or names related to the development or Owner/Applicant;
- Directional elements such as super graphics, signage, way-finding or colour coding;
- Art objects which are mass produced such as fountains, statuary or playground equipment;
- Off-the-shelf art, and/or, reproductions, unless approved by the City (Note: While Public Art must not be a mass produced or an “*off-the-shelf*” piece, the City is open to a unique, pre-existing art work being purchased and installed as the Public Artwork);
- Landscaping, or architectural elements, which would normally be associated with the development, and,
- Functional items which are not deemed unique such as street furniture, signage, lighting, bike racks, gates.

7. PUBLIC ART CATEGORIES

The acquisition of public artworks is divided into five categories as outlined below, which will allow for a diversity of value and types of artworks which can be acquired or commissioned.

The relevant category will be determined based these thresholds:

7.1 - Council Capital Works Projects

- Minor public art project budget – up to \$50,000
- Moderate public art project budget – between \$50,000 to \$150,000
- Major public art project budget – over \$150,000

The procurement for these artworks will include expression of interest and request for quote or tender whichever appropriate.

The procurement of these artworks will be considered via the Public Art Advisory Group as outlined in the terms of reference and City Policy XXXX: Purchasing policy.

Recommendations of the Public Art Advisory Group are subsequently provided to Councillors by way of a report for consideration.

7.2 - Donated Public Art

Public art offered to the City of Kalamunda as a donation (the donated work will

become the responsibility of the City to maintain) is to be referred to the Public Art Advisory Group for consideration.

Decisions will reflect the above categories (based on the value of the artwork) and take into consideration any ongoing financial commitments, including maintenance.

Once considered by the Public Art Advisory Group, a recommendation to Councillors will be prepared.

7.3 – Bequests and donations for public art

Where citizens of the City of Kalamunda bequest or donate money for public art the funds will be added to the City of Kalamunda Public Art Reserve Fund.

Public Artworks would then be acquired using these funds in accordance to the City's Public Art Masterplan under the guidance of the Public Art Advisory Group.

8. OWNERSHIP, COPYRIGHT AND MORAL RIGHTS

Ownership of Public Art commissioned will depend upon the location of the Public Art. The following general principles will apply to ownership of public art unless otherwise agreed by the City:

- Where the Artwork is situated on private property², the public art is owned and maintained by the Owner.
- Where the artwork is situated on public property³, the public art is owned and maintained by the City, regardless of how the commission was coordinated.
- Ownership of the public artwork is subject to agreement between the artist and the Owner/Applicant or, where the Owner/Applicant chooses the cash-in-lieu option, the artist and the City.
- The City will have the right to reproduce extracts from the design documentation of the public art and photographic images of the public art for non-commercial purposes, such as annual reports, information brochures, and information on the City's website.
- Australian Copyright Law requires all original public art to be attributed to the artist. A didactic plaque must be installed, by the developer, next to the artwork/s to acknowledge the artist. Artists are also to be acknowledged when images of their work are published. Therefore, plaques will be near a public art work, with the following information:
 - The title of the artwork (most prominent text);
 - The artist's name and, where appropriate, the artist's statement to assist in interpretation of the artwork;
 - The year the artwork was commissioned;
 - The City of Kalamunda logo and acknowledgment of the percent for art scheme;
 - The details of any partner organisations or funding bodies, and;
- The City will consult with the artist if the public Art work is to be changed in any way (including by removing or re-locating the Public Art).

9. ROLES AND RESPONSIBILITIES

² Definition: land privately held by commercial, non profit, religious or public benefit entities.

³ Definition: land owned by the City of Kalamunda including reserves, road verges, easements, parks, or public facilities that are developed or undeveloped.

Public Art Advisory Group: The role of the Public Art Advisory Group is to guide and inform public art processes, as well as maintain the provisions of this Public Arts Policy. It is the responsibility of all City staff to ensure that they adhere to the policy, direction and legislation.

All Officers are accountable for implementing the policy and ensuring that every person or organisation contracted to or acting on behalf of the City adheres to this policy. The City is responsible for the application and review of the policy.

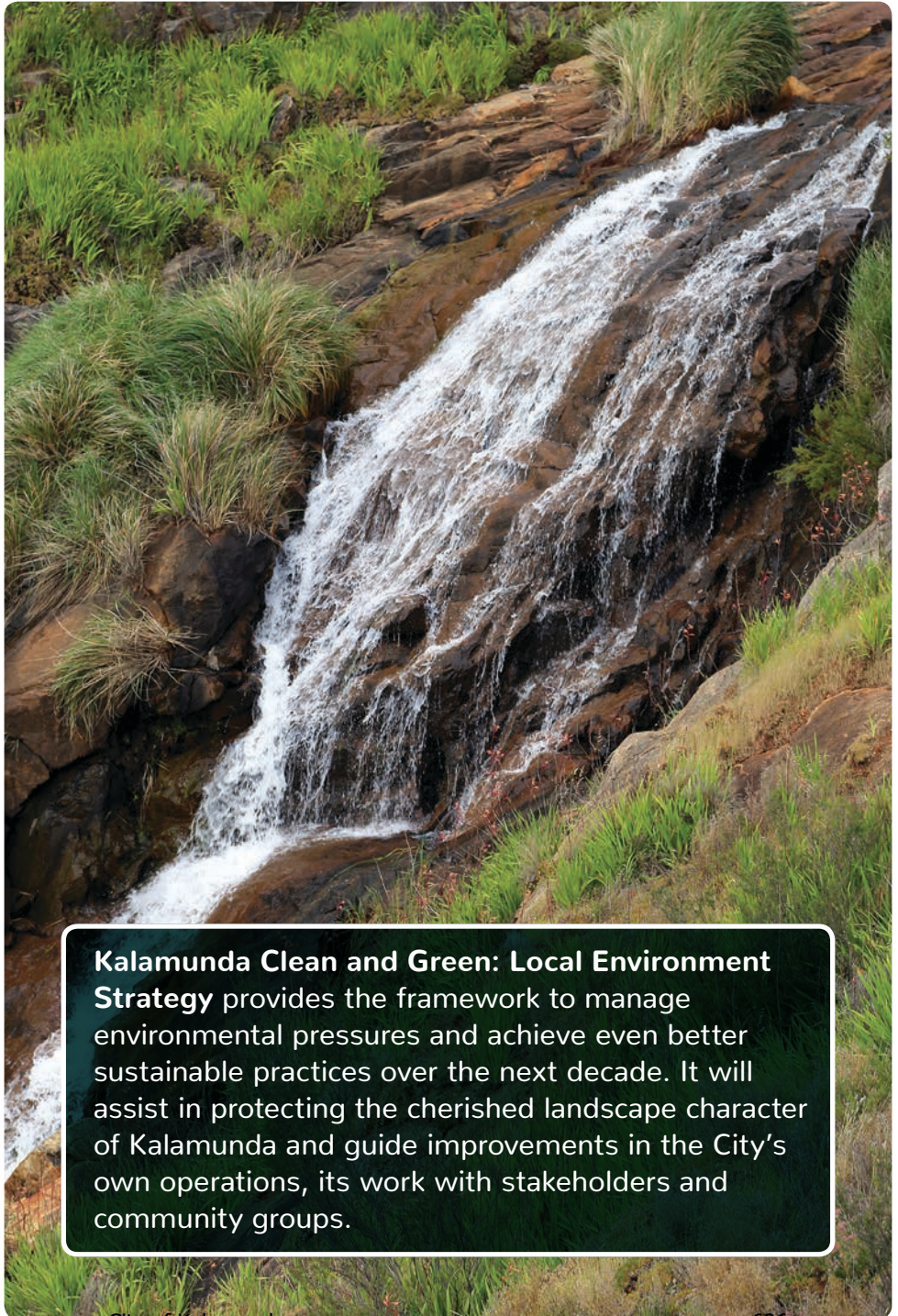


Kalamunda Clean and Green

Local Environment Strategy

2018 - 2028





Kalamunda Clean and Green: Local Environment Strategy provides the framework to manage environmental pressures and achieve even better sustainable practices over the next decade. It will assist in protecting the cherished landscape character of Kalamunda and guide improvements in the City's own operations, its work with stakeholders and community groups.

Mayor’s Message

Executive Summary

Glossary

- 1 Background**
 - 1.1 Local Environment Management
 - 1.2 Strategic Context
 - 1.3 Need for an Environment Strategy
 - 1.4 Our Commitment to the Local Environment
- 2 Key Themes**
- 3 How we will get to where we want to be**
- 4 Further Reading**



MAYOR'S MESSAGE

On behalf of the Kalamunda Council I am delighted to present the City of Kalamunda's first community informed plan for protecting and managing our local environment: **Kalamunda Clean and Green: Local Environment Strategy**. The City of Kalamunda promise to work hard on caring for our environment over the next ten years.



This blueprint is a partner document to Kalamunda Advancing 2027, our long term vision for the transformational journey towards a prosperous and sustainable community. The Kalamunda Advancing community strategic plan identified key priority areas for engaging community to gain their views to help us with looking after our place, our home, our biodiversity and natural environment.

Throughout the many workshops, survey feedback and conversations that we undertook to prepare the Local Environment Strategy, you told us many times that the City needs to demonstrate stronger leadership in environmental management and decision making and this is our pledge to you.

A Sense of Place



The Wadjuk Noongar peoples are the traditional custodians of the land of the coastal plain and the Perth Hills. The Beeloo Clan were the family group known to be living in the area in and around Kalamunda. At the time of settlement, Munda was the Elder of the Beeloo clan and there is one thought that the name Kala (fire, hearth) Munda may derive from his name.

City of Kalamunda

Local Elders have commented on the traditional use of the Kalamunda area by coastal people coming to the Hills at certain times of the year to hunt, where kangaroos were sought for skins to make cloaks as well as for food.

The City of Kalamunda is a diverse community that feels a strong sense of place. Generations of local people

630



have woven powerful memories into Kalamunda's unique and rich landscape of agriculture and rural retreat, verdant parklands and wildflowers, flowing streams and hidden valleys. A legacy of orchards, forestry, and native plants, animals and birds still abound. From bandicoots to black cockatoos, from abundant eucalypts to rare flowering plants, the City of Kalamunda has much to share and protect.

A sense of entering the country starts on the Swan Coastal Plain, along the seasonal waterways, and leads on to the village-sized tranquillity of our urban hubs, the craggy reaches of the Darling Scarp and into the heart of the Northern Jarrah forest. Collectively these elements conjure up a sense of belonging and abundance.

Kalamunda Today



OUR CITY is renowned for its unique and diverse natural and cultural environment. Local residents, visitors from more urbanised parts of Perth and even international guests head to Kalamunda to enjoy our quiet natural beauty, meandering parklands, hilly ranges or elevated city view streets and the bushland on our doorstep.



OUR COUNCIL plays a critical role in ensuring that urban development and natural assets complement each other and that as our City grows we retain our green credentials.



OUR RESPONSIBILITY lies in enacting policies to care for our reserves, water resources, habitat, wildlife and landscapes, reducing waste, providing quality parkland, minimising bushfire risk and protecting vegetation.



OUR STRATEGIES for conserving the best in our Kalamunda environment are largely shaped and informed by you, our community. **Kalamunda Clean and Green: Local Environmental Strategy** is our blueprint for the next ten years, shaped and informed by the community.

2008

The Local Biodiversity Strategy and other plans to protect and manage our local natural areas

2013

A Waste Strategy that set out how household, business, agricultural and industry waste will be collected, recycled and disposed of, and what community education will be provided by the City

2016

Street Tree and Streetscape Management Policy and procedures for protecting streetscapes

2017

Commenced revision of the 2010 Local Planning Strategy, a framework and strategic vision for development of the City

2018

The Public Open Space Strategy, a stocktake of the City's reserves to guide parkland development to meet the needs of the community

2018

The Environmental Land Use Planning Strategy reviewing the current physical environmental characteristics and considerations for further development in the City

Good News for the City

Did you know Perth is the only capital city in the world surrounded by Banksia woodland? The City of Kalamunda contains some of the best remaining woodland so conservation starts with careful planning to maintain these assets in our landscape. Who will thank us? The endangered Black Cockatoos that feed in Banksia woodland, of course!

We have 343 kilometres of natural waterways in the City of Kalamunda, filled with fish, waterbirds and many

frogs like the 'Quacking frog' *Crinia georgiana*. Have you heard it?

We have more than 260 natural areas across the City and 40 Friends of Groups who volunteer to restore the bushland and control weeds.

In dollar terms, our 183 bush care volunteers are invaluable. Last year they performed around 2,000 hours of free bushland maintenance, a gift equivalent to \$205,000 worth of work.



City of Kalamunda



Did you know our City is a world-class, award-winning innovator in recycling water? A novel plan to capture stormwater and recharge the underground aquifer, then use that water for summer watering at Hartfield Park, has won several awards and the City’s project manager was a finalist for the AWA Water Professional of the Year (2017).



City of Kalamunda

Our City lies on part of the Swan Coastal Plain which is renowned for its world-class diversity of native plants. In spring our own Hartfield Park Reserve Maida Vale Reserve and other bush reserves are filled with wildflowers, some rare and a few endangered.

On our doorstep is the Kalamunda National Park and the Northern Terminus of the Bibbulmun Track. Fast gaining global fame, this 963 km recreational walking trail is a national treasure. From a quick shop for last minute hikers' essentials in Kalamunda,

you can be on the Bibbulmun in minutes!

Wee-lah! Wee-lah! The call of Carnaby Cockatoos rings out as they fly over our City looking for night roosts or marri trees on which to feast. The City lies within the Mundaring-Kalamunda Important Bird Area, so identified by BirdLife International because the area is a roost site and foraging base for Black Cockatoos.

The City proudly recycles approximately 5,000 tonnes of waste from 22, 000 households per year and



City of Kalamunda

has identified 21 streams of waste to recycle.

Since the City’s Local Planning Scheme No. 3 was adopted in 2007, the Council have worked hard to improve land use and development outcomes through more than 53 gazetted amendments. This adaptive planning framework allows the City to guide decision makers through provisions to control conflicting land use activities and protect our City’s unique features.



City of Kalamunda

Our Blueprint for a Green City

We recognise the need to meet the social, health and wellbeing needs of our changing community and to manage adverse impacts on our natural resources and landscapes.

Kalamunda Clean and Green: Local Environment Strategy sets our sights on the next 10 years and beyond and guides joint actions by the City and community. This strategy is carefully drawn from your views about what you value most and where the City should place its efforts for better results.


It focuses the City's policy, planning and work on protecting our highly valued green spaces, reducing waste and enhancing and celebrating our local environment. It also identifies how our community wish to share the journey, by being better informed, having a say and taking ownership for the environment.

What you told the City was formulated into measurable goals and actions to track and report. This strategy will guide us to make the right choices for our future and a healthy environment that contributes to a thriving community and to why people make Kalamunda their home.



In my local environment I overwhelmingly value the natural areas & greenspaces. It provides habitat for wildlife. It is a place to destress, recreate on walk trails, bike trails and in parkland.

City of Kalamunda



Reducing and recycling waste is important to me. I value a litter free, clean local environment.

638



People of the City of Kalamunda:

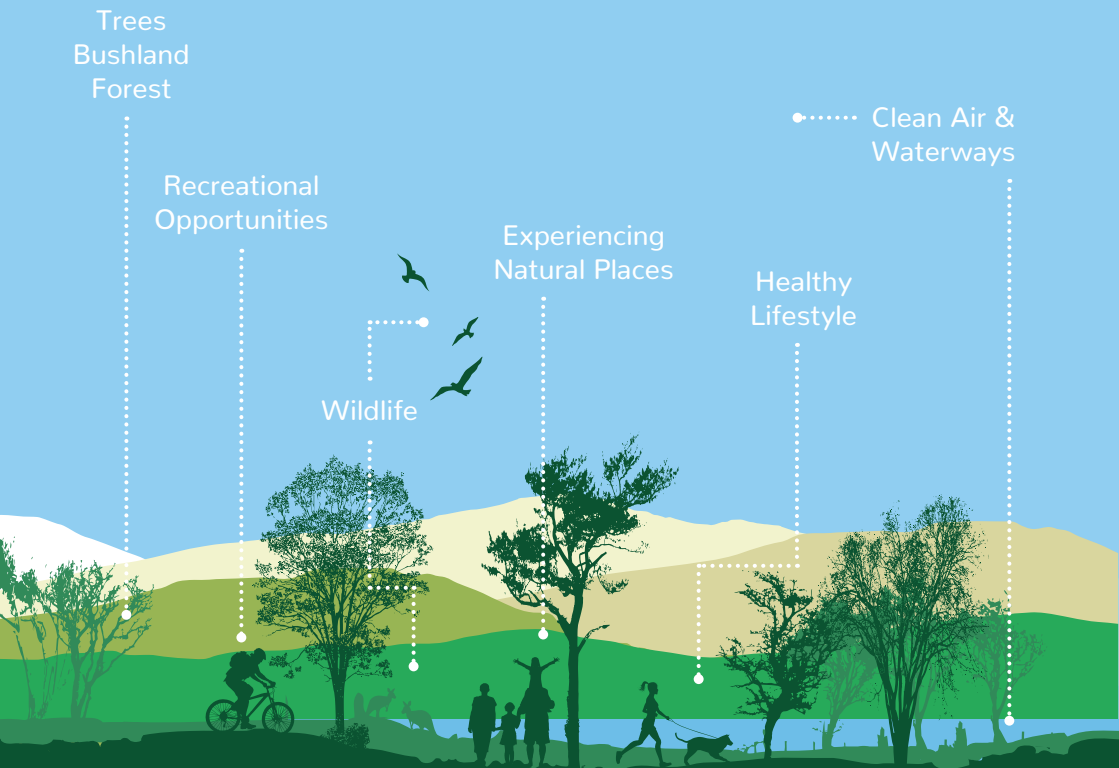
- » Put a high value on our natural and built landscapes; our green spaces, trees and streetscapes
- » Want the City to protect and responsibly manage our natural resources
- » Want to help the City minimise waste, recycle and re-use as much as possible
- » Expect imaginative thinking and shared responsibilities for managing the impacts of change to our physical environment.



City of Kalamunda

639

What you value about living in Kalamunda



The Kalamunda community has given voice to what it values in our built and natural environment. From the thousands of comments from surveys and workshops, we learned that any blueprint for a green city should focus on four areas:



The value of green
space & natural areas
City of Kalamunda



Conserving
natural resources



Reducing
waste



Managing
the impacts

The extensive engagement undertaken in 2017 and 2018 identified four key themes and priorities which represent the drive, passion and commitment of the Kalamunda community to protect their natural environment into the future.



THE VALUE OF GREEN SPACE AND NATURAL AREAS

Caring for our parks, streetscapes & public places, culturally significant features & places, natural features, vegetation & wetland areas is vital to maintaining a healthy community.



CONSERVING NATURAL RESOURCES

By conserving our nature resources we contribute to a thriving community & provide a future for our children.



REDUCING WASTE

Reducing waste is critical to maintaining a healthy community through clean air, water, habitat & biodiversity.



MANAGING THE IMPACTS

Managing impacts on our local environment is crucial to achieving a sustainable future. We will strive to avoid & minimise impacts & replace non-renewable resources with renewable alternatives.

A detailed summary of the Community Engagement Outcomes and Findings can be viewed at: www.kalamunda.wa.gov.au

What you care about the most



We value green space and natural areas

These are places for wildlife, nature play and learning for children and areas for people to destress and revive. They include bushland, waterways, parks, streetscapes and culturally significant places. When asked by our community survey, nearly all want the integrity of our natural environment to be protected and enhanced; agree that the bush, trees and natural vegetation are important; and that green spaces, parks and streets are safe, cool summer places for outdoor activity, connecting with people and attractive to birdlife.



We want to conserve natural resources

Clean air, vegetation, water and our natural and cultural landscapes help us to live healthier lifestyles and give the City of Kalamunda its unique character. You said conserving energy and water is important to you and that precious natural areas should be kept in healthy condition for residents and visitors to enjoy. The City needs to make sure that our unique landscapes in rural areas, along the escarpment and foothills and plains streams, are protected for locals, visitors and tourists.



We want to reduce waste

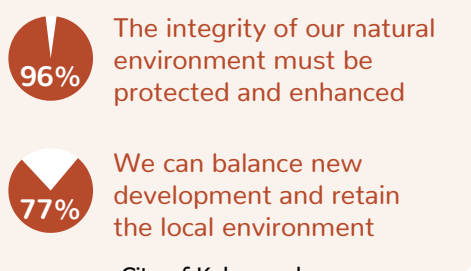
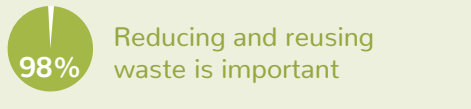
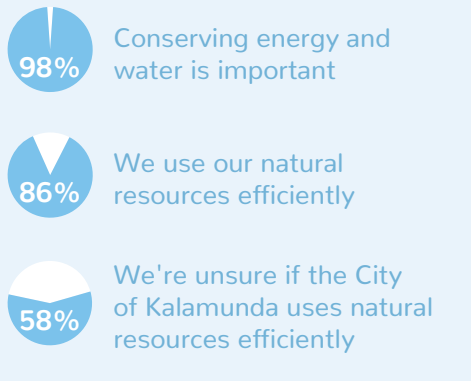
Clean, litter-free bushland, streams and parks are good for wildlife and people. By reducing waste, we lower our energy use, our need for landfill sites and the risk of contaminating natural areas. You said that we need to do more with reducing, recycling and reusing waste.



We want to manage human impact

Building and roads works should result in beautifying and our City and not cause damage or pollution. You told us that it is very important that we carefully manage urban development, to protect the natural environment and enhance landscape character. There was a common view we should reduce our environmental footprint and as a community collaboratively make changes to protect and enhance our City.

SURVEY RESPONDENTS SAID



City of Kalamunda



What you told the City



What you all love about living in the City of Kalamunda was shared in many workshops, surveys and conversations. You told the City what it was about your local environment that was most important to you. You told the City to ensure it leads the way in reducing our footprint on the natural environment. You suggested how to protect our most prized local environment values - ample parklands and reserves, fresh air and roads lined with shady trees. Inevitably more people will want to make Kalamunda their home, attracted by those same qualities that we have all identified as precious.

From time to time you are surprised or alarmed at sudden changes in

the landscape, concerned about negative impacts on the surrounding environment, or what the future holds. Sometimes these changes are gradual and you hark back to a better way of life, or a more beautiful memory than what the modern world presents today. This sentiment was raised many times when we asked what you valued in the local environment. This included the youngest people who participated in the surveys and workshops.

You challenged the City to show environmental leadership and this can be most keenly observed through how we manage changes in the landscape. As we grow and develop into a modern City we need to be

on the front foot with meeting the community needs for a quality urban environment with all of the modern facilities for a healthy active life. We need to ensure that expectations and awareness of future changes are harmonised to make sure we have common understandings about where we are going. It is crucial that we share the journey together.

Kalamunda Clean and Green: Local Environment Strategy will help us to achieve this with economic benefit, managing resources for better open spaces and retaining tree cover to manage urban heat.



CHALLENGES OF A CHANGING LANDSCAPE



Where we need to focus our efforts

To meet community expectations, the City should invest resources and build working relationships in four focus areas.



GREEN SPACES

41% of all comments regarding the priorities, respondents suggested the City of Kalamunda should focus on were associated with the City directly protecting and better managing natural areas and green spaces.

- » Clear environmental leadership in the organisation and the community
- » Protecting ecological communities and priority species
- » Connecting natural spaces. Environmental corridors
- » Environmental spokesperson
- » Maintain more trees - wildlife habitats, maintain public open spaces
- » Preserve and enhance existing mature vegetation and trees (particularly the native vegetation)



NATURAL RESOURCES

10% of all comments regarding the priorities, respondents for the City to attend was for conserving natural resources.

- » Bush fire management and prevention
- » Reserve water options, creek lines - need not to be drains but restored with natural vegetation
- » Weed control on street verges
- » Light Pollution and effects on fauna, neighbours
- » Water consumption and water sources

We understand that to protect the things we value most an holistic approach is required. We must maximise the quality of our corridors, waterways, reserves, greenspaces & streetscapes. We must be innovative to conserve our valuable resources.



REDUCING WASTE

12% of comments regarding priorities for the City to attend to waste management

- » Recycling
- » Upcycling
- » Education on the importance of recycling
- » Innovations and alternatives to landfill.
- » Enforcing controls of illegal dumping
- » Red bins for green matter



MANAGING IMPACTS

38% of all comments regarding the priorities respondents suggested the City of Kalamunda should focus on were associated with managing environmental impacts and implementing mechanisms to facilitate better outcomes.

- » More creative development
- » Building with 6-leaf status
- » For every block cleared an area must be planted with trees (offsets)
- » Local laws and restrictions on clearing according to block/lot size
- » Policy and strategy that will help deliver our environmental goals

The City must continue to lead the way in community recycling and upcycling programs. Opportunities to assist us and educate us is important.

My priority is that the city directly manage the values I have for natural areas & greenspaces. Natural areas, streetscapes, open spaces & trees must be managed for our future.



City of Kalamunda

647

What are our aims for the next decade?



Across the four focus themes you told us that you are looking for leadership in each and every activity of the City. The City of Kalamunda needs to do its best, seek support, stick to its commitments, measure and show how these commitments are being met. You also said that we need to educate and train the community, our partners and the people who work in the City to ensure they have the tools and resources to meet expectations. Sharing the knowledge, journey and successes is essential.



City of Kalamunda



GREEN SPACES

Our aim	In the short term	Within the next 10 years
Our needs for green spaces and natural areas are met	Control identified pests, plant diseases and weeds.	Review the WAPC 10% POS allocation.
	Optimise and improve maintenance to parks, reserves and streetscapes.	Maintain canopy at a consistent level for 10 years.
	Develop and implement a streetscape master plan, including entries to the City.	Manage and mitigate bush fire risks in our reserves.
	Implement actions of the POS Strategy.	Adopt the Environmental Land Use Planning Strategy.
	Review and implement the Local Biodiversity Strategy	Adopt provisions for protecting natural features within the private and public realm.
Partner with our community to maintain and improve our knowledge	Deliver an annual program of at least 10 environmental education events. Deliver 3 per year of the 'Adopt a Patch' bushland school program.	Promote the benefits of our reserves and green spaces for mental and physical wellbeing.
Trees and canopy to provide shade and sense of place are protected and improved	Protect bushland and trees to preserve and enhance biodiversity by setting targets and implementing policy.	A network of linked reserves and places informed by the City' Community Facilities planning.



NATURAL RESOURCES

Our aim	In the short term	Within the next 10 years
A catchment management focus to improve surface water quality and environs across the City	Protect waterways and manage stormwater infrastructure in an environmentally sensitive manner.	Energy conservation and clean air targets are set and met.
	Develop guidance for design and management of surface waterways and groundwater resources.	Minimum 10 living stream projects are completed within 10 years
Protect and enhance our region's unique landscapes	Identify and plan for multi-purpose corridors for wildlife, biodiversity and passive transport routes.	Develop an integrated transport plan to shift people from cars to passive and public transport.
	Promote the City for its nature based, landscapes and physical attractions.	Adopt planning provisions to omit damage to significant landscapes: escarpment, horticultural landscapes, etc
Ensure viable parkland irrigation sources	Develop a water resources strategy for public parkland	Utilise and develop fit for purpose water resources and apply efficiency initiatives for our future water needs.



MANAGING IMPACTS

Our aim	In the short term	Within the next 10 years
We share our journey and celebrate success	Encourage stewardship and creative solutions for planning and development in the City.	Better park management and development that meets what the community needs.
	Support and grow our 40 bushland Friends of Groups for annual action planning and program delivery.	Comprehensive support and promotion program for environmental volunteers
	Celebrate our environmental volunteers and all environmental stewards.	
Community values about our local environment are built into the City of Kalamunda's business plans and actions	Investigate and implement appropriate measures that balance the need for development and environmental protection.	Better controls and education for safe and attractive streets.
	Implement the Local Environment Strategy and review periodically against community aspirations	Put robust policies for the long term into practice.
	Engage in conversations to identify pinch points and find better environmental outcomes and celebrate the achievements.	Annual reports on reaching Local Environment Strategy targets are posted on the City's website



Our aim	In the short term	Within the next 10 years
Protect the City's natural resources	Reduce pollution emissions into the environment, through planning provisions and revised work practices.	Adopt the Environmental Land Use Planning Strategy.
		Works and contract controls to minimise pollution and waste.
Increase recycling and up-cycling.	Set targets for diverting waste to landfill	A target for recycled waste is defined and met e.g. 50% of recyclable materials currently sent to landfill are recycled
Partner with the community to reduce waste to landfill	Increase community, business and City waste education and responsible behaviours.	Transparent and accountable waste reporting that meets aspirational targets.
	Provide more accessible and regular community recycling stations.	Develop creative community upcycling programs.
	Encourage up-cycling and reuse of items through composting, community garden workshops and possibly a tip recycle shop	



Want To Know More?

Keep close your copy of Kalamunda Clean and Green: Local Environment Strategy and tell us how we are doing.

If you want to learn more about the City's broader journey towards a greener, cleaner City, you can go online for further reading.

- » Kalamunda Advancing 2027: Strategic Community Plan
- » Kalamunda Biodiversity Strategy 2008
- » Local Planning Strategy
- » Local Environment Strategy
- » Local Biodiversity Strategy 2008
- » Waste Strategy 2017
- » Maida Vale Reserve Masterplan
- » High Wycombe Recreation & Scott Reserve Masterplan
- » Ray Owen Masterplan
- » Stirk Park Masterplan



PO Box 42 Kalamunda WA 6926
Telephone: (08) 9257 9999
Email: enquiries@kalamunda.wa.gov.au

www.kalamunda.wa.gov.au

Annual General Meeting of Electors

Minutes for 5 February 2019

UNCONFIRMED



**city of
kalamunda**

INDEX

1. Official Opening	3
2. Attendance and Apologies.....	3
3. Business of the Meeting	3
3.1. Presentation of the 2017/2018 Annual Report.....	3
4. Any Other Business	3
5. Closure	3

1. **Official Opening**

The Presiding Member opened the meeting at 6.57pm and welcomed Councillors, Staff and Members of the Public Gallery. The meeting start was delayed due to the volume of attendees to be registered.

The Presiding Member provided a overview of the meeting procedure.

2. **Attendance and Apologies**

Councillors

South East Ward

John Giardina - (Mayor) (Presiding Member)

Geoff Stallard

Michael Fernie

South West Ward

Lesley Boyd

Allan Morton

Brooke O'Donnell

North West Ward

David Almond

Sara Lohmeyer

Dylan O'Connor

North Ward

Cameron Blair

Kathy Ritchie

Members of Staff

Chief Executive Officer

Rhonda Hardy

Executive Team

Brett Jackson - Director Asset Services

Gary Ticehurst - Director Corporate Services

Peter Varelis - Director Development Services

Management Team

Alida Ferreira – Manager Financial Services

Jamie Paterson – Manager Information Services

Nicole O'Neill – Manager Customer & Public Relations

Virginia Miltrup – Manager People Services

Administration Support

Darrell Forrest – Governance Advisor

Donna McPherson - Executive Research Officer to Chief Executive Officer

Sarah Griffiths - Council Support Officer

Members of the Public 265

Members of the Press 2

Apologies

Simon Di Rosso - General Counsel & Executive Advisor

Leave of Absence Previously Approved

Cr Margaret Thomas – Leave of Absence

3. Business of the Meeting

3.1. Presentation of the 2017/2018 Annual Report

The Presiding Member presented the Annual Report 2017/2018 to the meeting and invited the Director Corporate Services to provide a summary of the Annual Report before seeking a mover and seconder to receive the City of Kalamunda Annual Report 2017/2018.

Mr Peter Forrest of 73 Panoramic Terrace, Kalamunda sought clarification on matters within the Annual Report.

Q. What is the City going to do to improve the dialogue with the Community about further Planning that determines the communities living environments?

A. The Chief Executive Officer took this question on notice.

RESOLVED AGM 12/2019

That the 2017/2018 Annual Report of the City of Kalamunda be received as presented at Attachment 1.

Moved: **Geof Irvin**

Seconded: **James Dean**

Vote: **CARRIED (216 in favour)**

4. Any Other Business

The Presiding Member invited the meeting to present any other business.

4.1 No Confidence

Mr Charles Dornan of 28 Easterbrook Place, Wattle Grove, introduced a motion of No Confidence in the Mayor to the meeting for consideration. The motion received a seconder before being debated.

1. Mr Doran addressed the meeting and provided rationale for the motion.
2. Mr Robert Prew, 52 Crystal Brook Road, Wattle Grove, seconded the motion and provided rationale for support of the motion.
3. Mr James Dean, 8 Flora Terrace Lesmurdie, spoke against the motion.
4. Ms Beverley Dornan, 28 Easterbrook Place Wattle Grove, spoke in support of the motion.

5. Ms Lynette DeReggi, 80 Brae Road, High Wycombe, spoke against the motion.
6. Ms Kathleen Edmonds, 72 Valcan Road, Orange Grove, spoke in support of the motion.
7. Mr Geof Irvin, 5B Railway Road Kalamunda, spoke against the motion.

The debate was exhausted before the motion was put to the vote.

RESOLVED AGM 13/2019

That this meeting of Electors express No Confidence in Mayor John Giardina and respectfully requests that he immediately stand down from his elected position of Mayor to ascertain whether he still enjoys the full support of the majority of Councillors to remain Mayor and Spokesperson for the City at this very difficult time in the City's history.

Moved: **Charles Dornan**

Seconded: **Robert Prew**

Vote: **LOST 87/163**

4.2 Motion of Confidence

Ms Iris Jones of Orangedale Road Lesmurdie, introduced a motion of Confidence in the Mayor and Councillors to the meeting for consideration. The motion received a seconder.

1. Ms Jones addressed the meeting and provided rationale for the motion.
2. Ms Emma Kallan, 67 Huntley Street Gooseberry Hill, seconded the motion and provided rationale for support of the motion.

There being no debate on this motion it was put to the vote.

RESOLVED AGM 14/2019

That this meeting has full confidence in the City of Kalamunda Mayor and all Councillors, and respects the decisions made by the electors of the City of Kalamunda at the Ballot Box.

Moved: **Iris Jones**

Seconded: **Emma Kallan**

Vote: **CARRIED 122/26**

5. Closure

There being no further business, the Presiding Member declared the Meeting closed at 8.33pm.

I confirm these Minutes to be a true and accurate record of the proceedings of this Council.

Signed: _____
Presiding Member

Dated this _____ day of _____ 2019.

LOCAL EMERGENCY MANAGEMENT COMMITTEE MINUTES
29 NOVEMBER 2018 – 8.30AM
Function Room, City of Kalamunda
Administration Building – 2 Railway Road, Kalamunda

1.0 Opening of Meeting

Cr John Giardina (Chair) opened the meeting at 8:30

2.0 Attendance and Apologies

Members:

City of Kalamunda – Director Development Services – Peter Varelis	PV
City of Kalamunda – Manager Community Safety – Michele Rogers	MR
City of Kalamunda – Acting Coordinator Community Safety – Tim Parry	TP
City of Kalamunda – Acting Senior Fire Control Officer – Nick Parry	NP
City of Kalamunda – Director Asset Services – Brett Jackson	BJ
City of Kalamunda – Principle Building Surveyor – Duncan Wilson	DW
Community Emergency Services Manager – Mike Ward	MW
City of Kalamunda – Customer Relations Officer Community Safety – Angie House	AH
Volunteer Bush Fire Brigade – Deputy Chief Bush Fire Control Officer – David Carroll	DC
Volunteer Fire & Rescue Services – Captain – Tony Moiler	TM
WA Police – OIC Forrestfield – Simon Parke	SP
Department of Fire and Emergency Services – District Emergency Management Advisor – Metropolitan Operations – Merveen Cross	MC
Department of Fire and Emergency Services – Paul Southam	PS
Department of Communities – Child Protection Family Services – Michelle Clough	MC
Department of Communities – Ryan Hamblion	RH
Department of Health – Kalamunda Hospital – Jo Harris	JH
Lesmurdie High State High School – Principle – Kerry Chipchase	KC
Western Power – Roger Fitzpatrick	RF

Apologies:

City of Kalamunda – Acting Senior Ranger – Sarah Stampalia	SS
Kalamunda State High School – Principle – Helen Deacon	HD
City of Kalamunda – Chief Executive Officer – Rhonda Hardy	CEO

3.0 Confirmation of minutes of the previous meeting

- 3.1 Item 6.6 regarding WALGA The Director Asset Services will be undertaking training in November 2018. Correction 6.6 should say December 2018. BJ
- Moved: MR Seconded: TP
- All in favour

4.0 Business arising from previous minutes

Nil

5.0 Correspondence In/Out

- 5.1 In relation to the Principle of Bushfire Booklet, page 10 outlines how the school responds. The Department of Education has shifted the timing of closing schools. On receiving advice from Emergency Management Services and BOMB, a clear, conscious decision may be made to close the schools the day before in extreme fire danger ratings. KC

6.0 General Business

6.1 LEMA

The LEMA has undergone a thorough review, leading to the document being upgraded. TP
The document is thoroughly reviewed and upgraded every five years. The review is now complete and is currently with the City's Public Relations team for graphical enhancement. It is expected to be sent to Merveen Cross within a few weeks. All contacts are up to date and ready to go.

Once comments are back from Merveen on LEMA they will be put through Council for endorsement. PV

6.2 Terms of Reference vote on acceptance

Presentation for Terms of Reference for Local Emergency Management Committee (TOR) was presented to the last LEMC meeting. Comments received at the meeting were incorporated into the TOR. The committee were given a final opportunity to comment on the document, before voting on its acceptance. MR

- (i) A query was raised regarding the membership (item 3.5 of the TOR) with the following amendments being recommended by the committee: TM

- a. include the Captain Kalamunda Local Volunteer Fire and Rescue TM
- b. representative Kalamunda Hospital JH
- c. Deputy Chief Fire Control Officer (nominated by the Chief Fire Control Officer) DC
- d. representative St John Ambulance MW
- e. representative Department of Biodiversity, Conservation and Attractions. MC

6.2.1 Actions

Motion put forward to accept the Terms of References with the minor amendments. PV
Moved: MR Seconded: TP
All in Favour.

6.3 Update on Fire Hazard Inspections Programme

The fire inspections commenced on 1st November 2018. The engagement and targeting of extreme fire hazard properties is working well. It has been found that NP

there is a much better number of compliant properties than last year and a more positive feedback. There have been some teething issues with the app and the city is working through them with IT vision.

6.4 Christmas and New Year break

MR

Can all members on the response list email the City with additional contact information if you are taking leave and if someone else is acting in your position.

All

7.0 Members Reports

7.1 Western Power

RF

7.1.1 Western Power have a specially fitted out vehicle to assist with fire suppression when they carry out hot works. They will advise DFES when the works are being carried out. Western Power cannot undertake repairs during vehicle movement bans.

7.1.2 Issues with mobile devices when the power goes out and the batteries in the mobile phone towers go flat. TM provide advice on the impact to the mobile phone network during power outages:

TM

- (a) Mobile phone towers and all exchanges have a battery backup of up to 8 hours. Alarms are set off when low levels of power are detected, the towers are then backed up with a transportable power supply.
- (b) There are no plans to provide permanent backup generators at the mobile phone towers.
- (c) Generators are provided by a third party contractor. This occurs when the alarm is tripped. The contractors will only place a generator in position once the threat of fire has passed and it is safe to enter the area.
- (d) The supply of generators may be hotly contested, with a number of agencies relying on the service.

7.2 WA Police

SP

There was a number of fires around the local area, caused by young people lighting the fires. Fire crews attended the scenes quickly. When attending a scene, fire crew are reminded to be vigilant. With fire crews normally being the first on the scene, they may encounter suspects as most arsonists will tend to stay on the scene to see what happens. Fire crews are asked to take notes, regos and description of young people. On a previous incident young people were held by City Rangers, resulting in the youth being charges being laid.

- (a) JAFFA is a programme for young offenders. Young kids will stay and watch what often talking with fire fighters.
- (b) Recommendation made for Brigades to have dash cams installed for potential evidence. TM confirmed the VKFRS have dash cameras installed on their vehicles.

7.2.1 Action:
Fire crews to report all illegal fires to WA Police and the City for investigation.

MW

TM

7.3 City of Kalamunda "CCTV"**MR**

Footings are being laid for the erection of towers at Lions Lookout, Upper Lesmurdie Falls' carpark, Jack Healey Centre and the Zig Zag carpark providing coverage of hotspots for antisocial behaviour.

Computers were set up at Forrestfield station allowing WA Police officer with ability to monitor the City's fixed street cameras. There are still a few issues to work through but once the NBN is finalised it will resolve the speed issues. Presently the Police can view the CCTV for the upper end of Haynes Street, Woolworths, Kalamunda Road outside of the High Wycombe Shopping Centre, the roundabout at Hale Road and Hartfield Park.

The City has put in a grant application for funds to install CCTV on the roundabout of Berkshire and Dawson Roads, Morrison Road, outside the BP on Welshpool East Road and the Lower Car Park for Lesmurdie Falls.

- (a) The direct access to the Police Station assisted with apprehension of a hoon driver, with cameras capturing the vent at the roundabout on the corner of Hale and Hartfield Road. The footage support the action taken by the police as they seized the vehicle. Likewise, the cameras at Haynes Road assisted with identifying a vehicle all be it stolen involved in the theft of bikes from the Kalamunda Bike Shop. The CCTV in combination with the computers at the Forrestfield Police Station are proving highly effective local policing. **SP**
- (b) CCTV have proven highly valuable when dealing fires. They provide great and timely intelligence. **PS**

7.3.1 Action:**MR**

MR to provide Mike Ward with remote viewing access to the City's CCTV, using the remote desktop app created by IT.

7.4 Kalamunda Hospital**JH**

The Kalamunda Hospital are undergoing generator upgrades to make everything safer. The hospital in total is receiving approximately \$1.8 million in upgrades.

7.5 District Emergency Management Advisor – Metropolitan Operations**MC**

LEMC District Emergency Management Advisory Report. See attachment 1 for a copy of the report. SEMC Meeting 7th December 2018.

MC emphasised the earlier message (item 6.4) to email the City with all contact details for the Christmas / New Year period, indicating you will away and who will be replacing you. **MC**

7.6 Department of Communities**RH**

'Local Emergency Welfare Plan – Midland Region upgraded. See attachment 2 for a copy of the plan.

The City has referenced the plan in its Local Emergency Management Arrangements.

MR

7.7 Department of Fire and Emergency Services

PS

DFES—are launching their Bushfire Season media campaign on 2 December 2018, encouraging people to take responsibility. The District Officer will be working closely with the Community Safety Emergency Services Manager as assistance is provided to the City's schools.

Five volunteers were deployed to Queensland to assist with the fires and would like to personally thank the City for releasing its volunteers. Steve Lake from the Kalamunda Bush Fire Brigade was deployed to Queensland.

7.8 Community Emergency Services Manager

MW

- (a) Mitigation burns have finished.
- (b) Vehicles are well maintained and ready for summer months.

7.9 Lesmurdie High State High School

MW

The summer school break commences in 14 December 2018 and run for 6 – 7 weeks. All grounds have been cleared of overgrown material and there will be skeleton staff at the school during this time.

7.10 Kalamunda Volunteer Fire and Rescue Services

TM

The Kalamunda Volunteer Fire and Rescue Services (KVFRS) are operating as normal. There was a de-briefing on 28 November 2018 to discuss big events. The KVFRS are ready to go.

7.11 City of Kalamunda Community Safety Team

TP

- (a) Rangers have issued 150 permits so far compared to 162 this time last year. Residents have been educated on different methods of disposing of waste, as an alternate method to burning.
- (b) The VMB's were vandalised. They had been down for a while but are now back on line.
- (c) There has been an upgrade at the emergency evacuation centres. All have now got power points for external generators. All evacuation centres are restocked and ready to go for the 2018/19 fire season.

7.11.1 Action:

TP

- (i) Review the contractual arrangements for the supply of generators to the evacuation centres.
- (ii) Undertake an exercise to test the setting up of the generators and switching of the building from mains to back up power.

BJ

8.0 Date of next meeting

8.1 28 February 2019 8.00am

9.0 Closure

The presiding member thanked everyone for their efforts in 2018 and closed the meeting at 9.30am

JG

Unconfirmed

**Community Safety and Crime Prevention Advisory Committee Minutes
10 December 2018 – 18:00
Function Room, City of Kalamunda Administration Building – 2 Railway Road,
Kalamunda**

1.0 Opening of Meeting

PV welcomed everyone to the inaugural meeting of the Community Safety and Crime Prevention Advisory Committee. The meeting was officially opened at 18:02

2.0 Attendance and Apologise**Members:**

Cr Lesley Boyd	LB
Dr Shirlee-ann Knight	SK
Patricia McQuade	PM
Cr Dylan O'Connor	DO
SSGT Simon Parke (OIC Forrestfield Police Station)	SP
Cr Geoff Stallard	GS
Cr Margaret Thomas	MT
Ray Thompson	RT
Cameron Watts	CW
Cr David Almond	DA

Staff Members:

Peter Varelis	PV
Michele Rogers	MR
Doug Bartlett	DB

3.0	Confirmation of Minutes	NIL
------------	--------------------------------	------------

4.0	Business Arising from Previous Minutes	NIL
------------	---	------------

5.0 Disclosure of Interests

CW put a professional in confidence clause into his submission.	CW
---	----

6.0	Correspondence	NIL
------------	-----------------------	------------

7.0 Items of Committee Consideration

7.1 Member Introductions / Nominations

- | | | |
|-------|---|----|
| 7.1.1 | MR introduced herself as the Manager Community Safety Services. MR is responsible for the management of the Community Safety and Crime Prevention Advisory Committee. | MR |
| 7.1.2 | DB introduced himself as the Manager Asset Planning and Management. DB is able to provide advice on the WALGA RoadWise Safety program. DB receives regular updates on the program. A copy of the December newsletter is attached to the minutes. | DB |
| 7.1.3 | PV introduced himself as the Director Development Services. PV has strategic governance over the operations of the Community Safety and Crime Prevention Advisory Committee. | PV |
| 7.1.4 | LB is a City of Kalamunda Councillor for the SW ward. LB put forward the motion to re-establish the Community Safety and Crime Prevention Advisory Committee. She is a former Police Officer, having experience in both WA and QLD. LB currently works with the WA Police in their drug divergence program. She also works part-time assisting with detox and youth in a mental health facility. | LB |
| 7.1.5 | TM, while only living in the area for a year, she brings to the committee a wealth of community safety and crime prevention experience in South Africa, being 20 years assisting Council and 4 years supporting the local Police. | TM |
| 7.1.6 | SK is an IT lecturer with Curtin University. She worked of the development of an app to assist young people with mental health. Her area of speciality is in evidence-based practice, noting she has a PHD in systems, cause and effect. She brought up her children in the area. SK's partner has a close connection to the local community. | SK |
| 7.1.7 | RT has lived in the area for 44 years. He retired four years ago. Having a background in electronic engineering, working with Telecom, and the Water Corporation he expressed an interest in the CCTV strategy and its implementation. RT is looking to contribute to the community being interested in measures to reduce antisocial behaviour, and the perceived high rate of burglary in the area. | RT |
| 7.1.8 | SP is the Officer in Charge of the Forrestfield Police Station. SP has been a Police officer for 29 years. A large number of these years were spent as a detective. SP has a personal interest in reducing youth offending. Personally, he has lived in the area for 20 years, and is an active member of the community. He wants to assist our youth overcome the problems they are facing today. | SP |
| 7.1.9 | GS is a City of Kalamunda Councillor for the SE ward. GS is a semiretired teacher and has worked with students to prevent antisocial behaviour. | GS |

7.1.10 MT is a City of Kalamunda Councillor for the N Ward. She agrees with the importance of the committee. While not have a lot experience, she is keen to get involved in any of the strategies the committee puts forward. MT

7.1.11 CW is a local resident, with a close connection to the community. His wife grew up in Kalamunda. CW runs Zenion, a security company which specialises in CCTV. CW is offering his skills and experience with CCTV to assist the City. He also has experience in covert surveillance. He is familiar with the City's CCTV strategy. CW

Action: The committee notes comments and advice given by CW may be considered as intellectual property, as such should be regarded as professional in confidence.

7.1.12 DA is a City of Kalamunda Councillor for the NW ward. DA is interested in reducing the incidence of hooning, issues impacting our youth and other antisocial behaviour. DA is particularly interested in issues which are impacting the residents of Forrestfield and High Wycombe and has general interest in getting involved in making the City a safer place. DA

7.1.13 Motion to Council

MT nominated LB to be the Presiding Member of the Community Safety and Crime Prevention Advisory Committee.

Moved MT Seconded SP

All in favour

SP nominated to be the Deputy Presiding Member of the Community Safety and Crime Prevention Advisory Committee.

Moved SP Seconded LB

All in favour.

7.2 Strategic position of the Advisory Committee

7.2.1 LB discussed the background behind re-establishing the committee. LB put forward the concept of creating subcommittees. This may also include a youth subcommittee, made up of young people focused on addressing youth issues. LB

The Arts Advisory committee have expressed in interest in working collaboratively with the Community Safety and Crime Prevention Advisory Committee to create activities for our youth.

LB introduced three key focus areas:

- CCTV subcommittee
- CSCP subcommittee
- Youth focused subcommittee.

MT

7.2.2 MT stated the CSCP must be an advisory committee to council, where it puts forward matters to Council.



**city of
kalamunda**

- 7.2.3 SP advised the City does so much in the community. He only became aware of the works being done after he got involved with other advisory committees. SP sees the committee being able to provide input into initiatives such as, soccer in the parks (attachment 2), CCTV, cross district offenders through number plate recognition and identifying stolen vehicles. SP
- SP would like to have PCYC in the area to provide another avenue for the youth to look into. Another example is welding for life. SP
- LB in cooperation with the men's shed it may be possible for the youth to get involved in building or repairing cars, bikes etc. the idea is to give them training and experience which can be transferred into life skills. LB
- SP advised there were issues with using the men's shed, relating to concerns over legal liability. SP advised they did run a bike building / repair program and there were social issues. The issues included: SP
- Youth not attending unless picked up by Police.
 - Parents assaulting other parents because of disagreements between their children.
 - Children getting into altercations between themselves.
- DA suggested looking at the work undertaken by Parkerville Children and Youth Care. DA
- Parkerville Children and Youth Care is a Not-For-Profit organisation located throughout Western Australia. Their mission is to protect, care, advocate and promote recovery for children and young people who have experienced trauma from abuse, to support families and to work with the community to prevent child abuse.
- SP said the simple things work better than the complex things. Soccer in the park works because of the reduced costs. SP
- MT spoke about the kickboxing classes done in Kalamunda and how the instructor has formed bonds of respect with the young people involved. MT
- SP spoke of another example, at the Hawaiian Shopping Centre, they have good security who are able talk to the youth and have gained their respect. This has reduced the incidence SP
- MT asked if we can obtain a grant through the committee to assist the youth in High Wycombe. MT
- SP suggested we look to support our clubs. SP
- DA suggested there are after hour's issues for the youth are concern, putting forward concerns about them getting bored. DA
- MT asked if the largest proportion of crime was youth based. MT
- SP has examined the statistics for the last 2 days indicating 22 offences with only 4 offences on the top of the hill with the majority being domestic violence. There was only 4 break-ins. Opportunistic break-ins, and then other break-ins is a bigger issue. SP
- SK, MT and DA asked about the type of crime and whether it was youth based.

- SP said the majority of the crime reported to the Police was stealing valuables from the cars. SP
- SK asked if there was a link between domestic violence and youth offending. SK
- SP said we now have mandatory reporting of sexual offences. If we had mandatory reporting of domestic violence it would assist in breaking the cycle. If we can break the process with the youth, we will set up a strong future. The committee can get more involved in supporting the youth. The committee can encourage the sponsorship of our young people. SP
- GS gave an example of the school breakfast programs. GS
- SK suggested a program where young people are supported by the City or the Council. SK
- SP suggested putting together a program where we can identify parents who can support other families by picking up and dropping off children at sports and other activities. SP spoke about young people who do not go to school with lunch and become socially isolated in the school environment. SP
- CW spoke about the example raised previously of using performing arts as an alternative program from younger people who do not have an aptitude for sports. It provides broader options for the younger people to get involved and provide them with a sense of belonging. CW
- MT does the City promote the activities. MT
- CW suggested the committee may become a conduit for promoting these programs. CW
- SK spoke about a program where old musical instruments are donated allowing young people to learn a new talent and provide them with another avenue to express themselves. SK
- SK suggested we may look at the spaces like Scots Reserves and activating them for our young people. SK
- SP if we had a scheme where clubs could take on a young person. This way the City would support the young people to get involved in programs where the other younger people are involved. SP
- SP advised that it comes from leadership. SP
- MT asked about the leadership in the community and how the committee can find the leaders to get involved the program. MT
- CW suggested the committee become the conduit for connection of community resources. CW
- 7.2.4 DB raised a question, is there much of an appetite for the committee to consider Road Safety?
- DB spoke about the "RoadWise" program and using it as an education and awareness program for local road safety issues include hooning. The WALGA "RoadWise" program considers statistics such as crashes, pedestrians being struck by vehicles etc. to developing their material. DB

asked the question does the committee want to look at educating people about the safety message through the "RoadWise" campaign? DB put forward information which will be circulated to the committee via a PDF. Email DB for to get this information (Attachment 1 contains the December 2018 "RoadWise" newsletter).

SP designing out crime through CPTED principles. Having a 24hr centres in the area of Kalamunda.

Action:

DB

The committee supports the inclusion of discussion and updates on hooning and the "RoadWise" campaign as a standing item.

7.3 CCTV Status Update / CCTV Strategy Review

CW signage at the major entries into the City advertising the existence of the cameras and the positive impact this has on the number events in the locality. CW

7.3.1 The City has CCTV located at the following locations: MR

- i. Woolworths Drive, Forrestfield
- ii. Kalamunda Road (High Wycombe Shopping Centre)
- iii. Corner of Hale and Hartfield Roads, Forrestfield
- iv. Top of Haynes Street (Outside Kalamunda Library).

7.3.2 The City is currently installing CCTV at the following locations:

- i. Zigzag Carpark
- ii. Outside the Jack Healy Recreation Centre
- iii. Lions Lookout Carpark
- iv. Upper Carpark Lesmurdie Falls.

7.3.3 The City has an application for grant money to install additional CCTV. This is discussed at item 7.5.

7.3.4 Call for interested members for the subcommittee, RT, CW, DA, SK and SP will be involved into the CCTV subgroup. MR

Action:

MR to send information on the CCTV subgroup to its members and details on project under discussion.

7.3.5 CCTV Strategy MR

The City launched a project earlier this year to develop a CCTV Strategy. The purpose of the strategy is to document current status of the City CCTV, identify where we want to be and provide a guidance on how to get there. The CCTV Strategy which was email to everyone is a draft document. The City is now seeking the guidance and feedback from the Community Safety and Crime Prevention Advisory Committee on the following matters:

- i. Strategy 1 – Operations: Action Items (page 6)
- ii. Strategy 2 – Expanding: Action Items (page 12)

- iii. Strategy 3 – Funding: Action Items (page 14).
- iv. CCTV Implementation Action Plan (pages 15 – 18)
- v. Annexure A: City of Kalamunda CCTV Policy (page 19)
- vi. Annexure B: City of Kalamunda CCTV Policy Framework (page 20)
- vii. Annexure E: Management (Standard Operating) Procedures (page 24).

When considering the matters noted the members are requested to determine the following:

- Is there anything missing from the strategy?
- Would you remove anything from the strategy?
- Would you amend anything included in the strategy?

7.4 Community Safety and Crime Prevention Plan Review MR

- 7.4.1 The City sent the committee seeking a copy of existing, with feedback requested so a scope of works for the new plan can be put together. The goals of the plan are to establish achievable outcomes which can be measured and will produce lasting positive change in the community.

Action:

Call for interested members for the subcommittee LB, TM, MT, GS and RT will form the CSCP Plan subcommittee.

7.5 Funding / grant applications MR

- 7.5.1 Grant applications were made for following two projects:

- i. Sideeffect Australia to present to the City's secondary schools.

Action:

Send a link to the members about Sideeffect Australia.

- ii. CCTV cameras at six locations with the City.

Action:

Bring items to the CCTV subcommittee.

7.6 Standing Items

- i. CCTV
- ii. Crime prevention
- iii. **Crime Prevention Through Environmental Design (CPTED)**
- iv. RoadWise
- v. Youth Focus

7.7 Youth Focus

Remain as a standing item.

8.0 URGENT BUSINESS WITH THE APPROVAL OF THE PRESIDING MEMBER

NIL

9.0 DATE OF NEXT MEETING

Subgroups to meet earlier.

Early February 2019 (Frequency of meetings every 2 months)

Action

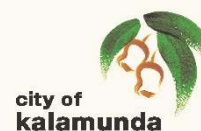
MR

MR to send an email to members to seek dates for the coming year.

10.0 CLOSURE

Meeting closed at 2030 hours.

Unconfirmed



MINUTES

DISABILITY AND CARERS ADVISORY COMMITTEE 3.30PM MONDAY 10 DECEMBER 2018 COMMITTEE ROOM 1 ADMINISTRATION CENTRE

1.0 OPENING OF MEETING

- 1.1 Senior and Disability Officer opened the meeting at 3.35pm and welcomed attendees.

2.0 ATTENDANCE AND APOLOGIES

2.1 Members:

Justin O'Meara Smith	Presiding Member - Representative organisation providing services – arrived 3.45pm
Michelle Baines	Deputy Presiding Member – Community representative arrived - 3.40pm
Peter Thorpe	Community representative
Cr. Lesley Boyd	Councillor Delegate
Michael Serjeant	Community representative
Peter Bolden	Community representative

Staff:

Darren Jones	Manager Community Development (MCD)
Nadine Popelier	Coordinator Community Services (CCS)
Leah Matthes	Senior and Disability Officer (S&DO)

Visitors:

Tracey Van Niekerk	Coordinator Website Development
Nic Daxter	Leisure Planning Project Manager

Apologies

Evan Williams	Representative organisation providing services
Daniel Baines	Community representative

3.0 CONFIRMATION OF MINUTES

- 3.1 That the minutes of the Disability and Carers Advisory Committee (DACAC) held on 8 October 2018 as published and circulated, are confirmed as a true and accurate record of the proceedings.

Moved: **Michelle Baines**
 Seconded: **Peter Thorpe**
 Vote: **Carried 6/0**

4.0 DISCLOSURE OF INTERESTS

4.1 Disclosure of Financial and Proximity Interests:

- a) Members must disclose the nature of their interest in matters to be discussed at the meeting. (Section 5.65 of the *Local Government Act 1995*)
- b) Employees must disclose the nature of their interest in reports or advice when giving the report or advice to the meeting. (Section 5.7 of the *Local Government Act 1995*)

4.2 Disclosure of Interest Affecting Impartiality

- a) Members and staff must disclose their interests in matters to be discussed at the meeting in respect of which the member or employee has given or will give advice.

5.0 CORRESPONDENCE

Nil

6.0 ITEMS FOR COMMITTEE CONSIDERATION

6.1 Redevelopment of Website

Presentation by Coordinator Website Development – Tracey Van Niekerk

The City is now well underway with the website redevelopment. As part of this development process, a key focus has been put on accessibility.

The City will undergo an independent, dedicated accessibility testing period and audit with WebKeyIT as part of the website redevelopment project.

Other tools being incorporated into the new website are the continued use of ReadSpeaker, links for the community to utilise the TIS National Service (Translating and Interpreting Service) and National Relay Service. Landing pages will provide language support to community members where English is not the primary language.

Early in 2019 the City will engage community members to be part of the user testing phase to obtain feedback on how the website works when performing task-orientated objectives. Committee members who wish to participate in the testing are requested to contact the Senior and Disability Officer to register their interest.

<p>Action: The Committee notes the information and members provide expressions of interest to Senior and Disability Officer.</p>

6.2 **Community Facilities Plan**

Presentation by Leisure Planning Project Manager – Nic Daxter

The Community Facilities Plan will guide the future provision of community facilities within the City of Kalamunda. The plan will have a life of 20 years from 2019 to 2039 and will align to State Government Policy.

The plan considers:

- The needs of the broader community in both a local and city-wide context
- Identifies any facility provision gaps; and
- Reviews the existing community, sport and recreation opportunities within the City

This will identify the current standard and future requirements of sport, recreation and community facilities with the City. The plan will outline how these requirements should be provided in the most affordable, achievable and sustainable way possible.

The City hosted four workshops in November 2018 for community members. The Disability and Carers Advisory Committee members are invited to provide feedback, through the online community engagement portal by the end of the public comment period which closes on 18 December 2018.

All consultation will be collated to inform the first draft of the Community facilities Plan 2019 – 2039. Subject to Council support, a draft Community Facilities Plan 2019 – 2039 will be advertised to the public for comment mid-year 2019. The community feedback will then be collated and considered by Council as part of the final Community Facilities Plan.

An email containing copies of the survey will be forwarded to committee members from the Leisure Planning Project Manager.

Action: The Committee notes the information and provides feedback via survey form.

6.3 **Disability Awareness Week/International Day of People with Disability**

All Abilities Online Community Forum is an online area which provides a platform for carers and people with disability to share their tips, knowledge and insight into all things accessible in the local area. This platform allows people to share their stories, mark local spots via the map and ask questions to members. All members are encouraged to contribute stories or information to the forum.

The All Abilities Online Community Forum information has been added to the front page of the City's website, for easier access.
A big thank you to those who have already contributed to the discussion.

Action: The Committee notes the information and members contribute to the All Abilities Online Community Forum.

6.4 Changing Places Report

Staff delivered a report on Changing Places. (See attached)

Changing Places are secure, clean facilities for people with disability who need space and assistance to use the bathroom when out and about in the community. Changing Places are locked using the Master Locksmith Access Key (MLAK) key system. Using this system helps keep the Changing Places network secure, safe and reserved for people who need them, while still allowing people with disability 24/7 access.

Changing Places facilities may be used by:

- People with disability who require assistance with personal care tasks such as toileting showering or changing continence products or clothing
- Family, friends and carers of the person/s with disability who assist the person/s with personal care tasks
- Paid support workers who have a client who requires assistance with personal care tasks
- Disability services organisations whose staff accompany clients that require assistance with personal care tasks in the community
- The unpaid carers, family or friends of people who require assistance with personal care tasks
- Others approved on a case by case basis by the Local Government or owner of the facility

Justin advised that NDS in Northbridge has a Changing Place which is accessible during business hours.

The committee suggested that the City of Kalamunda liaise with Department of Transport to consider including a Changing Place in the train station design at Forrestfield North.

Action: The Committee notes the information.

Action: Staff to liaise with Department of Transport to consider inclusion of a Changing Place at Forrestfield North.

7.0 URGENT BUSINESS WITH THE APPROVAL OF THE PRESIDING MEMBER**7.1 Appreciation**

- Members of the DACAC extended appreciation to staff for the work undertaken to improve access in the City of Kalamunda.
- DACAC also thanked the Public Relations team for their great improvement in community engagement through the online engagement portal and Facebook.

No further action

7.2 Kalamunda Heritage Trail – sale for residential development

- The WA Planning Commission has agreed to put the sale of lots on Schmitt Road in Kalamunda on hold while it negotiates the alignment of the Kalamunda Heritage Trail with the City of Kalamunda.
- Justin O'Meara Smith enquired whether the DACAC should write to the WA Planning Commission requesting that the portion of the Kalamunda Heritage Trail adjacent to Schmitt Road be retained and not sold for housing development.

Action: City staff will establish whether it would be desirable for the DACAC to write to the WA Planning Commission

8.0 DATE OF NEXT MEETING

The next DACAC meeting will be held at 3.30pm on 11 February 2019 in Committee Room 1 at the City's Administration Building, 2 Railway Road, Kalamunda.

9.0 CLOSURE

The Presiding Member closed the meeting at 5.00pm

I confirm these Minutes to be a true and accurate record of the proceedings of this meeting.

Signed: Presiding Member

Dated this Day of2019



A G E N D A

Aged Care Advisory Committee 5:00pm, 13 February 2019 Function Room, Administration Centre, 2 Railway Road, Kalamunda

1 Opening

In the absence of the Presiding Member the deputy Presiding Member opened the meeting at 5.03pm.

2 Attendance and Apologies

Members

Ian Tarling - Kalamunda Community Learning Centre (Presiding Member)
Cr John Giardina - Mayor, City of Kalamunda
Cr Lesley Boyd- City of Kalamunda
Ray Maher - Community Representative
Helen Dymond - Divisional Manager Aged Care, RISE
Beverley Love - Aged Care Today Kalamunda
Geof Irvin - Community Representative
Beverley Guimelle - Community Representative

Deputy Members

Cr Michael Fernie - City of Kalamunda

Ex officio Members

Rhonda Hardy - **Chief Executive Officer**

City of Kalamunda Staff

Peter Varelis - Director Development Services
Andrew Fowler-Tutt - Manager Approval Services
Donna McPherson - Executive Research Officer to Chief Executive Officer

Observers

Ms Linda McIntosh - Office of Ken Wyatt MP

Apologies

Malcolm Roberts - Aged Care Today Kalamunda
Cr Margaret Thomas - City of Kalamunda

3 Questions or Deputations

Beverley Love asked some questions in relation to the report to be presented to Council – Cambridge Reserve Community Enhancement Project – Consideration of Submissions and Modifications for Final Adoption. The Director Development Services provided clarification on the matters raised.

4 Confirmation of Minutes

That the Minutes of the Aged Care Advisory Committee Meeting held on 28 November 2018, as published and circulated, are confirmed as a true and accurate record of the proceedings.

Moved: **Helen Dymond**

Seconded: **Beverley Love**

Vote: **Carried Unanimously (8/0)**

5 Correspondence

5.1 Correspondence In

5.2 Correspondence Out

6 Disclosure of Interests

6.1 Disclosure of Financial and Proximity Interest

- a. Members must disclose the nature of their interest in matter to be discussed at the meeting. (Section 5.56 of the *Local Government Act 1995*.)
- b. Employees must disclose the nature of their interest in reports or advice when giving the report or advice to the meeting. (Section 5.70 of the *Local Government Act 1995*.)

Nil.

6.2 Disclosure of Interest Affecting Impartiality

- a. Members and staff must disclose their interest in matters to be discussed at the meeting in respect of which the member or employee had given or will give advice.

Nil.

7 Presentations

7.1 Heidelberg Reserve – Director Development Services

The Director Development Services provided a confidential presentation on and update on discussion and actions which have occurred since the last briefing to the Committee.

7.1 Hale Road– Director Development Services

The Director Development Services provided a confidential presentation on a potential development and actions which may be required.

The meeting discussed the proposal and moved a confidential recommendation to council which is provided as Confidential Attachment 1.

Reason for Confidentiality: - Local Government Act 1995 (CW) Section 5.23 (2)(e) – "a matter that if disclosed, would reveal – (i) a trade secret; (ii) information that has a commercial value to a person; or (iii) information about the business, professional, commercial or financial affairs of a pers, where the trade secret or information is held by, or is about, a person other than the local government."

8 Reports from City of Kalamunda

8.1 Nil.

9 General Business

9.1 Site Matrix Update

The Chief Executive Officer provided an update on the Sites Matrix.

9.2 Actions 2019

The meeting discussed several actions. It was decided members should advise networks of the upcoming presentation of the Cambridge Reserve Community Enhancement Project – Consideration of Submissions and Modifications for Final Adoption to council.

10 Date of Next Meeting

Wednesday 22 May 2019

11 Closure

The meeting closed at 6.10pm



**KALAMUNDA ENVIRONMENTAL ADVISORY COMMITTEE
6PM THURSDAY 7 FEBRUARY 2019
OPERATIONS CENTRE, 10 RAYMOND ROAD, WALLISTON**

1.0	OPENING OF MEETING – Presiding Member The Presiding Member opened the meeting at 6:04pm
2.0	ATTENDANCE AND APOLOGIES - Presiding Member Attendance <u>Committee Members</u> Kevin Goss Presiding Member Alison McGilvray Community Representative Peter Forrest Community Representative Victoria Laurie Community Representative (arrived 6:18pm) Rupert Duckworth Community Representative Councillor Sara Lohmeyer Councillor Delegate Staff Dallas Lynch Coordinator Natural Areas Joanne Smith Manager Parks & Environmental Services Ian Toleman Environmental Projects Officer Guest Renata Zelinova WA Local Government Association Apologies Councillor Cameron Blair Councillor Delegate Councillor Brooke O'Donnell Councillor Delegate Mark Schilling Deputy Presiding Member
3.0	CONFIRMATION OF MINUTES <u>Committee Meeting 8 November 2018</u> That the Minutes of the Ordinary Meeting of KEAC held on the 8 November 2018, as published and circulated, are confirmed as a true and accurate record of the proceedings. Moved: Rupert Duckworth Seconded: Alison McGilvray Voted: Unanimous

4.0	DISCLOSURE OF INTERESTS
4.1	<p>Disclosure of Financial and Proximity Interests:</p> <ul style="list-style-type: none"> a) Members must disclose the nature of their interest in matters to be discussed at the meeting. (Section 5.65 of the <i>Local Government Act 1995</i>) b) Employees must disclose the nature of their interest in reports or advice when giving the report or advice to the meeting. (Section 5.7 of the <i>Local Government Act 1995</i>) <p>Nil</p>
4.2	<p>Disclosure of Interest Affecting Impartiality</p> <ul style="list-style-type: none"> a) Members and staff must disclose their interests in matters to be discussed at the meeting in respect of which the member or employee has given or will give advice. <p>Nil</p>
5.0	<p>CORRESPONDENCE</p> <p>Clarified as correspondence from or to parties external to the committee.</p> <p>Nil</p>
6.0	<p>ITEMS FOR COMMITTEE CONSIDERATION – Presiding Member</p> <p>Nil</p>
6.1	<p>LOCAL BIODIVERSITY STRATEGY</p> <p><u>Background</u></p> <p>The City has commenced a review of the 2008 Local Biodiversity Strategy (LBS) including assessment of around 400 reserves to identify priority local natural areas. At the meeting of 8 November KEAC reviewed the LBS project scope and provided comment for progressing the project.</p> <p><u>Detail</u></p> <p>Renata Zelinova from the West Australian Local Government Association (WALGA) presented an overview of the State's Local Biodiversity Project initiated in 2001 with the Local Government Local Biodiversity Planning guide; and how local governments use their Local Biodiversity strategies to facilitate protection and enhancement of local and regional biodiversity. She also provided excellent case studies from other local governments where they have embedded and used their LBS as a tool for retaining biodiversity in close proximity to where people live.</p> <p>The key is to set specific targets for Local Natural Area (LNA) retention in addition to regional reserves, and when completed, the project should deliver an additional 17,430 hectares to Perth's local biodiversity. With the current local government reform agenda, all LGAs must develop a Local Planning Strategy and environmental values must be captured up front, so that their protection is prioritised in the Local Planning Scheme (TPS).</p>

The most complex and intensive part of the LBS project is in setting realistic retention targets. This is particularly important for the City of Kalamunda where representation is poorest on the Swan Coastal Plain and the land is subject to intensive urban development. Therefore, efforts should be to concentrate on the ecological services that LNAs provide to urban populations.

The natural area initial assessment (NAIA) templates have been tested as effective and relevant, and are currently being used by the City to re-evaluate all LNAs. Protection of the highest priority areas should be through vesting of the reserve with the City for public purposes, not freehold.

Case studies from the Shires of Mundaring, Chittering and Greater Geraldton demonstrated different approaches to biodiversity protection.

- Mundaring classified and mapped LNAs defining what was to be protected through the TPS and other processes to be applied. Goals were set for an additional 1,065 hectares to conservation category reserves, plus 5,630 hectares for protection category reserves. These mechanisms came into place with the current TPS and included provisions for private and public lands.
- Chittering enabled the purchase of land for the DBCA estate under the protection of the Carnaby Cockatoo. Achievable land acquisition targets were set.
- Greater Geraldton is to meet land restoration targets to achieve the 10% LNA retention across the LGA.
- The City of Wanneroo LBS 2011-2016 identified specific areas within the City's estate to meet the biodiversity targets and preventing the land from being developed for other community purposes.

All Perth projects demonstrated that success was more likely where the LGA project group included the City's planners and where the argument for an ecological community being represented elsewhere was refuted.

Officers provided an update on the project's progress.

While data continues to be collated regarding individual reserves, officers have detailed the project plan and considered key stakeholder advice for establishing a project steering group. This committee will include representation from key management agencies, the City and KEAC. The steering group will review the consultant's recommendations, the project progress and assist with technical and consultative issues that may arise. The following group representation is proposed:

- City Officers;
 - Parks and Environmental Services
 - Development Services
- Department Biodiversity Conservation and Attractions
- Department Water and Environmental Regulation
- Department Planning Lands Heritage
- KEAC (one x community, 1 x Councillor)

The steering group should be formed and operational prior to the engagement of the consultant.

Anticipated key project milestones:

- Form steering group and engage consultant by end February 2019 for monthly meetings through to project completion.
- Review 2008 LBS by end March.
- Review first draft LBS by end April.
- Final draft considered by group with recommendations June.
- Review and comment by end July.
- Final operational document adopted by the City in October.

Discussion

The presentation from Renata Zelinova regarding the Local Biodiversity Projects and case studies across with Perth provided excellent working examples of the approach KEAC and the City need to adopt for the LBS vision to be adapted into the Local Planning Policy, strategies and Scheme provisions.

Discussion raised concerns that resourcing and advocacy for the LBS to be prepared with achievable targets, adopted into the TPS and provided with accessible mapping for planning decision making would be adequate.

Meeting with the Mundaring Environmental Advisory Committee (MEAC) to consider the role of the steering group and how they can help drive this important agenda for protection of local biodiversity, is to be arranged prior to the next KEAC meeting in May.

The finalisation of the ELUPS, LES, *Vegetation Discussion Paper* and development of the LBS will complete a solid foundation for the City's consideration for mechanisms for protection of LNAs within the City.

Renata advised that LBS project resourcing needs could be complex, that the steering group was a worthwhile initiative and that the project could be undertaken within 18 months from initial data collection. She was thanked for her excellent presentation and responses to member questions regarding how the LBS could be more effective, what could be learned from the past and other LGAs. Renata left the meeting at 8:15pm.

Resolution

THAT KEAC recommends that Council:

1. Supports the City's Local Biodiversity Strategy vision and that it be adapted into the Local Planning Policy, strategies and Scheme provisions;
2. Establishes the Local Biodiversity Strategy steering group and accepts its nomination of KEAC members Cr Sara Lohmeyer and Rupert Duckworth, with Alison McGilvray as a proxy KEAC representative; and
3. Endorses the project key project milestones.

Moved: Vicki Laurie
Seconded: Peter Forrest
Voted: Unanimous

<p>6.2</p>	<p>ENVIRONMENTAL AND LAND USE PLANNING STRATEGY (ELUPS)</p> <p><u>Background</u></p> <p>At the KEAC meeting of the 8 November 2018:</p> <p><i>KEAC resolves that the KEAC Working Group re-convenes with Planning and Parks & Environmental staff and Peter Forrest to work through the Working Group's initial report, and Peter Forrest's submission tabled at KEAC, for consideration for the final version of ELUPS.</i></p> <p><u>Details</u></p> <p>Submissions from the City's business units, including Parks and Environmental Services, a submission from KEAC as detailed in the minutes of 8 November 2018 and a separate submission from Peter Forrest were received during the public comment period.</p> <p>The City's officers will provide an update to KEAC following the closure of the ELUPS advertising period, 28 February 2019.</p> <p><u>Resolution</u></p> <p>THAT KEAC:</p> <ol style="list-style-type: none"> 1. Working group members meet with Peter Forrest to complete a review of KEAC's submission. 2. Hold a special KEAC meeting Thursday 4 April to consider Planning Officers' summary of submissions and KEAC's finalised report with recommendations to Council.
<p>6.3</p>	<p>FOX TRAPPING</p> <p><u>Background</u></p> <p>It was resolved at the KEAC meeting of the 8 November 2018:</p> <p><i>The KEAC noted progress of the working group on fox trapping, with a recommended fox management program to be brought back to its next meeting.</i></p> <p>Officers presented an overview of the findings of the <i>Recommended Fox Control Program of the City of Kalamunda</i> working group paper and discussed the recommendations to Council within.</p> <p><u>Details</u></p> <p>A key outcome of KEAC's working group of Mark Schilling and Kevin Goss with environmental officers of the City, was meeting with Dr Peter Adams from the Department of Industry and Resource Development (DPIRD) to discuss a regional approach to fox control in the City of Kalamunda. As confirmed by other</p>

programs and research, a well-coordinated program involving landholders and the community, and building to a regional strategy, will have a greater impact on reducing and controlling fox numbers throughout the City than just a City based approach. Several other key elements were also recognised and discussed as detailed in the attached paper.

Discussion regarding the August 2018 survey feedback pointed to a sample of around 200 respondents as a valid representation for the City on the issue.

Members also agreed that all six (6) recommendations of the working group paper be presented for Council's consideration, to ensure the ongoing success of the City's fox control program.

Resolution

THAT KEAC recommends:

1. Control of foxes is important for the protection of local and regional biodiversity, agricultural and domestic livestock in the City of Kalamunda, and that continued development of a comprehensive integrated fox control program is essential.
2. Soft jawed leg hold traps are currently the most effective, efficient and least harmful method of trapping foxes in the Perth Metropolitan area and should not be excluded for use in the City of Kalamunda.
3. Other prescribed methods of control, such as den destruction and fumigation should be considered, where appropriate for the location.
4. Quality community communications and engagement is necessary for meeting community expectations and values.
5. The City of Kalamunda implement a long-term strategy for fox control comprising three phases of delivery:
 - a) Fox control for biodiversity conservation in priority local reserves with monitoring to measure success.
 - b) Development and implementation of a collaborative community fox control model, utilising a group of residents at Bickley Valley as a trial community.
 - c) Develop and implement a regional approach in partnerships with regional land holders.
6. Quantitative data gathered from rigorous monitoring methodology must form the basis for measuring, evaluating and reporting the effectiveness of the program for controlling foxes and meeting community expectations.

6.4**LOCAL ENVIRONMENT STRATEGY**Background

It was resolved at the KEAC meeting of the 8 November 2018 that:

1. *The document should be released in its graphically complete draft form, with those graphics reflecting that it is a community contributed document.*
2. *KEAC members are ready to participate in the development of the graphical design.*
3. *The Chair and Deputy Chair will submit this recommendation to the CEO.*

Details

KEAC member Vicky Laurie volunteered her expert advice and time to assist officers with preparing the draft Local Environment Strategy graphic presentation document. This work was completed on 31 January.

Further to a meeting KEAC members Kevin Goss and Vicki Laurie held with the CEO on 1 February 2019, it was proposed that KEAC nominate a representative to present the draft Local Environment Strategy at the next public agenda briefing starting 6:30pm on 12 February. The document may then be considered at the 26 February Ordinary Council Meeting for release for public comment and feedback.

Discussion from members continued regarding the critical information that must be included in the final document, that it actually represents the information gathered and distilled, and that its presentation is engaging and compelling. On this reasoning there was concern that the document still retains some repetition, and that it may not yet be sufficiently appealing to the community as representing their views and aspirations. It should be a statement that gives the community a voice of how the City and community will work together to achieve the things that they have articulated. It would not therefore fit the conventional corporate document style. This community target audience drives the need for improvements in the document during the public comment period.

While community views and recommendations are being received, officers will also workshop the action planning and reporting with key internal and external stakeholders, to ensure that outcomes are achievable, measurable and included in forward plans and day to day activities.

Resolution

THAT KEAC Recommends:

1. KEAC members Kevin Goss and Vicki Laurie present the intent for the draft Local Environment Strategy to Council at the 12 February public briefing forum and 19 February Strategic session;
2. That the draft Local Environment Strategy be submitted to Council for release for public comment for a period no less than 30 days;
3. KEAC offers its advice on review and finalisation of the final Local Environment Strategy document, implementation and reporting on its success.

	<p>Moved: Rupert Duckworth Seconded: Vicki Laurie Vote: Unanimous</p>
6.5	<p>VEGETATION DISCUSSION PAPER</p> <p><u>Background</u></p> <p>The objective of the discussion paper is to outline decision making frameworks to address issues and priorities for the City of Kalamunda's vegetated environment; and make recommendations for further strategic enquiry to address community concerns.</p> <p><u>Detail</u></p> <p>KEAC Members were satisfied that the current draft Vegetation Discussion Paper could achieve its purpose of assisting Councillors to deal with the challenging area of vegetation protection and management, subject to some amendments. These are reviewing the summary statement on hectares of LNA to be preserved, to reflect the actual distribution of natural vegetation (in good condition), and to reinforce an urgency for protection and enhancement. Key points in the document could be supported by illustrative maps or diagrams.</p> <p><u>Resolution</u></p> <p>THAT KEAC Recommends:</p> <ol style="list-style-type: none"> 1. The City considers the discussion paper to assist Councillors' thinking on vegetation management and protection in the City of Kalamunda. 2. KEAC members Kevin Goss, Vicki Laurie and Rupert Duckworth present the paper at the Council strategic session of 19 February. <p>Moved: Alison McGilvray Seconded: Peter Forrest Vote: Unanimous</p>
6.6	<p>KEAC PERFORMANCE</p> <p><u>Member Comment</u></p> <p>KEAC members wish for feedback from Councillors with regard to meeting their needs for timely and relevant advice on environmental matters. It was discussed at the KEAC November meeting, whether KEAC are having any impact on Council's thinking and providing adequate support.</p> <p>At the 8 November meeting it was resolved to</p> <ol style="list-style-type: none"> 1. <i>To strengthen its involvement in providing advice to Council, KEAC will seek to brief Council at Public Briefing Sessions on items coming out of KEAC.</i> 2. <i>To have one session in the Council's Strategy Session to receive feedback on KEAC's role, and how it can best serve Council's needs.</i>

	<u>Discussion</u> Members were asked to review the Schedule of Tasks and provide feedback to officers for updating and, in this feedback, consider the effectiveness of KEAC's advice to Council.
7.0	URGENT BUSINESS WITH THE APPROVAL OF THE PRESIDING MEMBER
8.0	DATE OF NEXT MEETING 6:00pm Thursday 3 May 2019
9.0	CLOSURE 9:30pm