

August 2019

KEROSENE LANE LSP, BALDIVIS

Local Structure Plan - Landscape Strategy



KEROSENE LANE LSP, BALDIVIS

LANDSCAPE OVERVIEW

Emerge Associates were engaged by Spatial Property Group to provide landscape architectural consulting services to support the design and documentation of a Local Structure Plan (LSP) for Kerosene Lane, Baldivis.

The structure plan area is located approximately 11 kilometres east of the Rockingham Town Centre, and 40 kilometres south of the Perth Central Business District. The Kwinana Freeway lies approximately 1.5 kilometres east of the subject land and can be accessed via Mundijong Road. The subject land abuts Baldivis Road to the east, which is intersected by Kerosene Lane to the North. It is located east of 'The Chimes Estate', north of 'Baldivis Central' and south of the Leda Nature Reserve.

The Kerosene Lane LSP will create a framework for the future urban subdivision development of an anticipated 560+ dwellings, which will ultimately house a new community in the vicinity of 1500+ residents. The estate will provide a range of housing choices with lot sizes ranging from 350 m² to 544 m² and will include 5.16 ha of public open space (POS).

The general site overview slopes down towards the east. The proposed Nairn Drive to the west will separate the estate from the existing 'The Chimes Estate'. There are six public open space areas located in the estate of varying size, drainage is proposed to be integrated within POS areas incorporating a dual purpose of function and public amenity. There will be areas of retained vegetation in some of the POS.

The topography of the site is dominated by a high point occurring within the north west of the site at 42 m Australian height datum (AHD). The slope grades with a westerly and easterly aspect away from the high point and reaches a low point on the eastern boundary of 10 m AHD. The majority of the site is considered to be in a 'Completely Degraded' or 'Degraded' condition owing to clearing and extensive grazing that has resulted in the removal of most native flora species.

The public open space areas within the site pose different functions yet will provide the community with parklands predominantly designed for informal recreational activities for the local community. There will be opportunities for seating and picnic facilities as well as shelters and play areas that cater for a range of age groups. The parklands will contain pedestrian paths which will connect the open spaces with the broader residential development. The parklands will be characterised with local planting reflecting the historical flora.

The Landscape Strategy document is intended to be an overall guide to the proposed functions, amenities and landscape treatment within the Lot 55,56 & 294 Kerosene Lane and Lot 295 Baldivis Road, Baldivis.

The broad landscape approach has been defined into the following categories:

- Overall landscape masterplan (incl street tree masterplan)
- Public open spaces (POS) detail concepts
- Typical streetscape sections



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LANDSCAPE MASTER PLAN



POS A
(Eastern POS) includes:
Pedestrian network that connects into broader development.
Possible Internal fitness network with open turf area for passive recreation. Shade structures and picnic facilities. Tree planting to buffer noise from Baldivis Road.

POS C
(Western POS) includes:
Pedestrian network that connects into broader development. Large open turf space for passive recreation. Possible dog-agility course. Shelter and picnic facilities.
Boardwalk with viewing opportunities.

POS E
(Southern POS) includes:
Pedestrian network that connects into broader development. Younger children play ground. Shade structures with picnic facilities and BBQ. Open turf space for passive recreation.

POS B
(Northern POS) includes:
Pedestrian network that connects into broader development.
Possible Internal 'Adventure Trail/BMX Track'. Open turf space for passive recreation. Shade structures and picnic facilities.

POS D
(Central POS) includes:
Pedestrian network that connects into broader development. All-age playground. Shade structures with picnic facilities and BBQ. Terraced seating to turf area. Possible Community orchard and plaza space.

ESTIMATED IRRIGATION USAGE
Based on 7500kL per ha, per annum, including irrigation to drainage basins side slopes and a two (2) year establishment period

POS A:		
Permanent:	580kl	
POS B:		
Permanent:	1,380kl	
POS C:		
Permanent:	1,125kl	
POS D:		
Permanent:	3,690kl	
POS E:		
Permanent:	2,242kl	

LEGEND

- Extend of work
- Existing Trees (Surveyed)
- Existing Trees (Indicative)
- PLAYGROUND
- WALK TRAIL
- SHELTER
- PICNIC FACILITIES
- NEW SHADE TREES
- DRAINAGE BASIN
- FITNESS NODES



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STREET TREE MASTER PLAN



STREET TREE SPECIES



Agonis flexuosa



Common Name: **WA Peppermint**
 Height: 8-10m
 Width: 6-8m
 Colour: Dark Green/Burgandy,
 White flower
 Flower: September - February



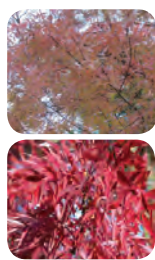
Melaleuca quinquervia



Common Name: **Broad-leaved
 Paperbark**
 Height: 15-20m
 Width: 4-6m
 Colour: Dark Green, White
 flower, White Bark
 Flower: March - July



Fraxinus raywoodii



Common Name: **Claret Ash**
 Height: 15-20m
 Width: 6-10m
 Colour: Dark Green - Dark Red
 in Autumn
 Flower: Deciduous



Prunus dulcis



Common Name: **Almond Tree**
 Height: 6-8m
 Width: 4-6m
 Colour: Dark Green - Pink
 Flower
 Flower: September - December



KEROSENE LANE LSP, BALDIVIS

POS A CONCEPT



POS TYPOLOGY

- Neighbourhood, Passive POS

SIZE (excluding easement)

- 16,687m² (+1,68.7m² verge)

CONCEPT

- Provide the residents with an open space which caters for the neighbourhood predominantly focused on those within the 400m walking catchment.
- The space is intended to provide passive recreation as well as informal seating and shade opportunities.
- Terraced walls with formal tree planting, potentially fruit trees.
- Informal turf open space to 1:6 slope for passive recreation and seating
- Provide a pedestrian link through estate
- Retained trees in POS areas are subject to feature survey, engineering and landscape detail design

ENVIRONMENTAL CONSIDERATIONS

- Water wise native planting and planting to minimise the threat and intensity for bush fire prone areas.
- Source local materials where possible to minimise transport requirements and provide local employment.
- Consider long term maintenance requirements.
- Adjacent gas easement limits opportunities in this space

FUNCTIONS

- Pedestrian connection through estate
- Passive recreation with fitness nodes

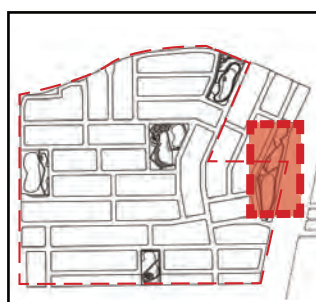
DRAINAGE LEGEND

Bio-Retention A (first 15mm)	Flood Storage A (1% AEP)
Depth (m)	-0.5
Design TWL (m2)	-880
Volume (m3)	-355
Slope	-1/6
Depth (m)	-1.2
Design TWL (m2)	-3405
Volume	-2410
Slope	-1/6

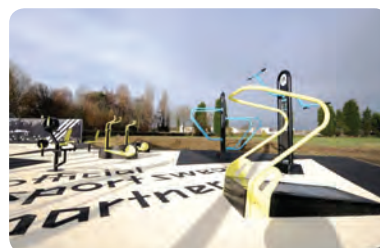
Native shrub planting

Fitness nodes

Plaza area with feature paving. Shelter and picnic facilities



KEY PLAN



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POS B CONCEPT



Shade trees
Native shrub
planting

Plaza area with
feature paving.
Shelter and picnic
facilities

POS TYPOLOGY

- Neighbourhood Passive POS

SIZE (excluding verges)

- 10,225m² (+1,025.5m² verge)

CONCEPT

- Provide the residents with an open space which caters for the neighbourhood, predominantly 400m walking distance.
- Shelter, picnic table and bbq provide options for family and community gatherings.
- A open turf kicking area, surrounded by trees provides active recreation with shade.
- Retained trees in POS areas are subject to feature survey, engineering and landscape detail design

ENVIRONMENTAL CONSIDERATIONS

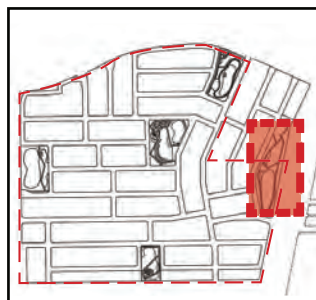
- Water wise native planting
- Source local materials where possible to minimise transport requirements and provide local employment.
- Consider long term maintenance requirements.

FUNCTION

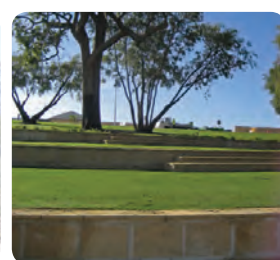
- Turf space for active recreation
- Playground 5 - 12 years
- Picnic facilities, including shelter and BBQ
- Connected path to open space perimeter, with connections to the broader path network.

DRAINAGE LEGEND

Bio-Retention B (first 15mm)	Flood Storage B (1% AEP)	
Depth	-0.5	Depth -1.2
Design TWL (m2)	-1075	Design TWL (m2) -2710
Volume	-445	Volume -2050
Slope	-1/6	Slope -1/6



KEY PLAN



KEROSENE LANE LSP, BALDIVIS

POS C CONCEPT

POS TYPOLOGY

- Neighbourhood Passive POS

SIZE (Drainage surface area)

- 11,700m² (+1,170m² verge)

CONCEPT

- Provide the residents with an open space which caters for the neighbourhood, predominantly 400m walking distance.
- Shelter and picnic opportunities.
- A open turf kicking area, surrounded by trees provides active recreation with shade.
- Boardwalk and lookout.

ENVIRONMENTAL CONSIDERATIONS

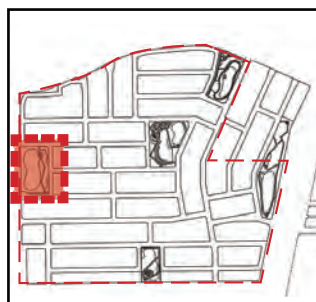
- Water wise native planting and planting to minimise the threat and intensity for bush fire prone areas.
- Planting that responds well to regular inundation at base
- Nutrient stripping sedges to base of bioretention area
- Filter media to base of bioretention area
- Low bush fire fuel loads
- Retained trees in POS areas are subject to feature survey, engineering and landscape detail design

ENVIRONMENTAL CONSIDERATIONS

- Turf space for active recreation
- Picnic facilities, including shelter
- Connected path to open space perimeter, with connections to the broader path network.
- Provide for water storage through a vegetated drainage basin

DRAINAGE LEGEND

Bio-Retention C (first 15mm)		Flood Storage C (1% AEP)	
Depth	-0.5	Depth	-1.2
Design TWL (m2)	-1295	Design TWL (m2)	-4410
Volume	-545	Volume	-3255
Slope	-1/6	Slope	-1/6



KEY PLAN



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POS D CONCEPT



Plaza area with feature paving & decking. Shelter & picnic facilities

Feature central playground

Terraced seating walls

Composite timber decking with seating

Native shrub planting

POS TYPOLOGY

- Neighbourhood Active POS

SIZE (Drainage surface area)

- 13,375m² (+1,337.5m² verge)



Existing Trees

CONCEPT

- Provide the residents with an active open space which caters for a variety of user groups
- Appropriately locate all functions to take into consideration noise and impact on adjacent residents.
- Create visual impact through landscape planting, earthworks and layout.
- A open turf kicking area, surrounded by trees provides active recreation with shade.
- Cater for abilities play area

ENVIRONMENTAL CONSIDERATIONS

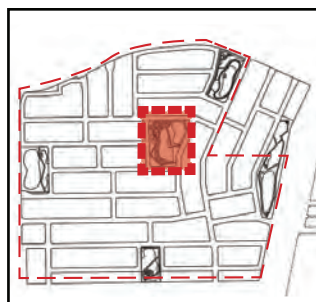
- Water wise native planting and planting to minimise the threat and intensity for bush fire prone areas.
- Planting that responds well to regular inundation at base
- Nutrient stripping sedges to base of bioretention area
- Filter media to base of bioretention area
- Low bush fire fuel loads

FUNCTION

- Turf space for active recreation and events
- Picnic facilities, shelters, BBQ and Plaza
- All ages play area including nature play elements.
- Possible community orchard

DRAINAGE LEGEND

Bio-Retention D (first 15mm)	Flood Storage D (1% AEP)	
Depth	-0.5	-1.2
Design TWL (m2)	-515	-1690
Volume	-195	-1150
Slope	-1/6	-1/6



KEY PLAN



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POS E CONCEPT



Plaza area with
feature paving,
Shelter & picnic
facilities

Central
playground

Kick about
turf area

Native shrub
planting

POS TYPOLOGY

- Neighbourhood Active POS

SIZE (Drainage surface area)

- 6,170m² (+617m² verge)

CONCEPT

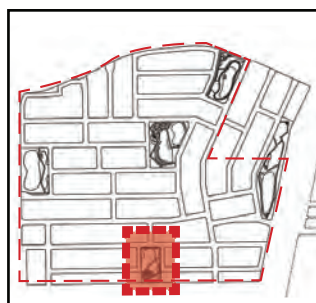
- Provide an active POS that links into broader pedestrian network
- Appropriately locate all functions to take into consideration noise and impact on adjacent residents.
- Provide clear sight and access lines
- A open turf kicking area, surrounded by trees provides active recreation with shade.
- Cater for families with young children
- Tie into existing POS to south
- Retained trees in POS areas are subject to feature survey, engineering and landscape detail design

ENVIRONMENTAL CONSIDERATIONS

- Water wise native planting and planting to minimise the threat and intensity for bush fire prone areas.
- Planting that responds well to regular inundation at base
- Nutrient stripping sedges to base of bioretention area
- Filter media to base of bioretention area
- Low bush fire fuel loads

FUNCTION

- Turf space for active recreation and events
- Picnic facilities, shelters, BBQ and Plaza
- Play area that caters you younger children
- Open turf spaces for active and passive recreation



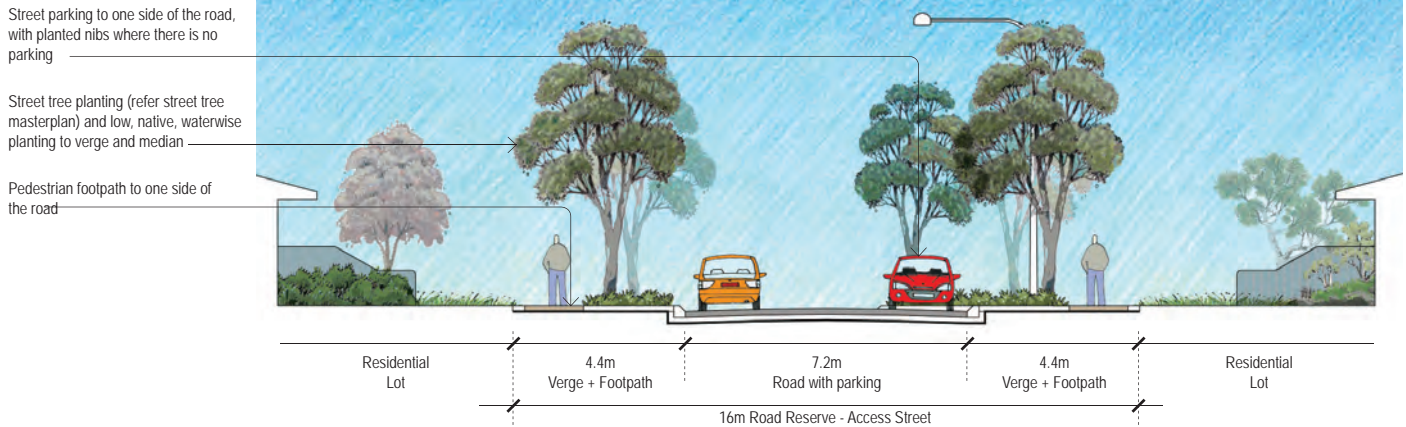
KEY PLAN



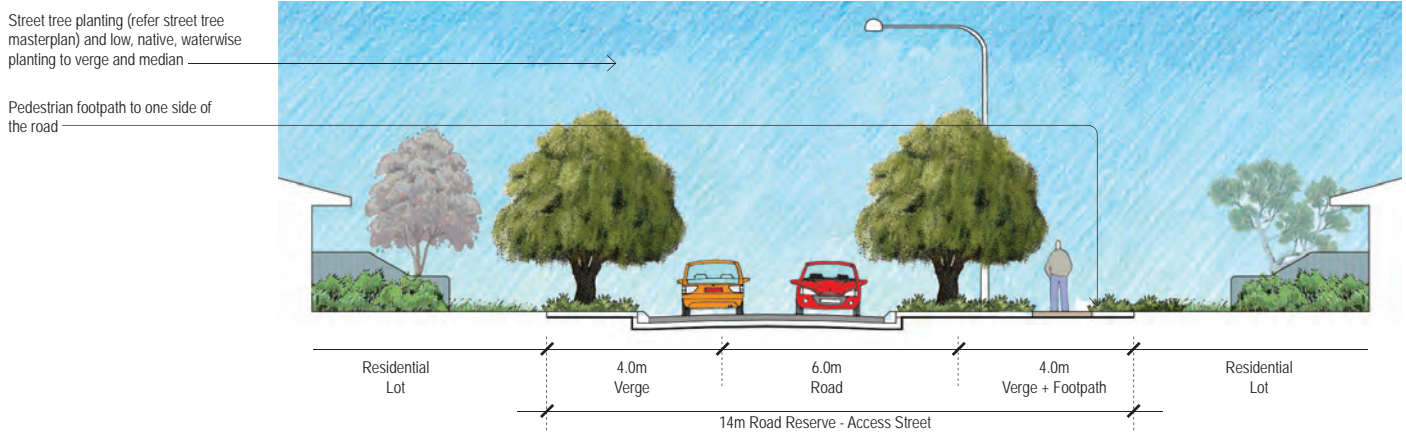
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TYPICAL SECTIONS

ACCESS STREET 16m ROAD RESERVE



ACCESS STREET 14m ROAD RESERVE



ACCESS STREET 12m ROAD RESERVE

