

# TRANSPORT IMPACT STATEMENT

36 Marlinspike Boulevard

Jindalee

August 2019

Rev A



**HISTORY AND STATUS OF THE DOCUMENT**

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<b>Author of the Report</b>	Nemanja Marijanovic
<b>Project Team</b>	Ana Nikolic
<b>Project Director / Project Manager</b>	Marina Kleyweg
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Prepared by: **KCTT (Trading as KC Traffic and Transport Pty Ltd)**  
 ABN 35 148 970 727 |  
 Postal address: **PERTH:** Unit 7, No 10 Whipple Street Balcatta WA 6021 | **BELGRADE:** 23 Hilandarska, Beograd 11000  
 Phone: 08 9441 2700 |  
 Website: www.kctt.com.au |

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**Appendix 1** - The layout of the proposed development

**Appendix 2** - Transport Planning and Traffic Plans

**Appendix 3** - Vehicle Turning Circle Plans

## 1. Executive Summary

### Site Context

- The project location is 36 Marlinspike Boulevard, Jindalee.
- The subject site is currently vacant. It is fronting Marlinspike Boulevard to the east, Reflection Boulevard to the south, Nicobar Way to the north and Tonna Lane to the west.
- The proposed development is a childcare centre with a capacity for 87 children and 12 staff members.
- The surrounding area is mostly residential.

### Technical Findings

- The proposed development is expected to generate up to 372 vehicle trips per day, 42 vehicle trips per hour in the AM peak hour and 37 vehicle trips per hour in the PM peak hour.
- KCTT believe that the surrounding road network will successfully absorb the additional traffic.
- Six main routes are expected to be utilised for accessing / egressing the site:
  - Access / Egress from the site via Nicobar Way > Marlinspike Boulevard > Reflection Boulevard to the east
  - Access / Egress from the site via Nicobar Way > Marlinspike Boulevard to the north
  - Access / Egress from the site via Nicobar Way > Marlinspike Boulevard to the south
  - Access / Egress from the site via Nicobar Way > Marlinspike Boulevard > Reflection Boulevard to the west
  - Access / Egress from the site via Tonna Lane > Reflection Boulevard to the east
  - Access / Egress from the site via Tonna Lane > Reflection Boulevard to the west

### Relationship with Policies

- According to the City of Wanneroo's Local Planning Policy 2.3 - Child Care Centre, the proposed development requires 25 parking bays.
- The layout plans show 24 parking bays proposed.
- KCTT believe that the 1 parking bay shortfall will not have a negative impact on the operations of the proposed development. Child centres, in general, rarely operate at full capacity, for which the parking calculations are conducted. Furthermore, the proponent has advised that no more than 9 staff members are expected on-site at the same time.
- The proposed parking is expected to successfully cater for all parking requirements of the proposed development.
- Building Code of Australia ACROD Provision – the proposed development meets the requirement for 1 ACROD parking bay.



## 2. Transport Impact Statement

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### 2.1 Location

Lot Number	Lot 516 (Lot 9029 according to the City of Wanneroo Intramaps)
Street Number	36 (201K according to the City of Wanneroo Intramaps)
Road Name	Marlinspike Boulevard (Reflection Boulevard)
Suburb	Jindalee
Description of Site	The subject site is currently vacant. It is fronting Marlinspike Boulevard to the east, Reflection Boulevard to the south, Nicobar Way to the north and Tonna Lane to the west. The proposed development is a childcare centre with a capacity for 87 children and 12 staff members.

### 2.2 Technical Literature Used

Local Government Authority	City of Wanneroo
Type of Development	Individual Development - Childcare Centre
Is the NSW RTA Guide to Traffic Generating Developments Version 2.2 October 2002 (referenced to determine trip generation / attraction rates for various land uses) referenced?	YES
Which WAPC Transport Impact Assessment Guideline should be referenced?	Volume 4 - Individual Developments
Are there applicable LGA schemes for this type of development?	YES
<i>If YES, Nominate:</i>	
Name and Number of Scheme	District Planning Scheme No. 2
Are Austroads documents referenced?	YES
Is the Perth Transport Plan for 3.5 million and Beyond referenced?	NO

## 2.3 Land Uses

Are there any existing Land Uses NO

*If YES, Nominate:*

### Proposed Land Uses

How many types of land uses are proposed?	One (1)
Nominate land use type and yield	Childcare centre: <ul style="list-style-type: none"> <li>- 87 children</li> <li>- 12 staff members</li> </ul>

Are the proposed land uses complimentary with the surrounding land-uses? YES

## 2.4 Local Road Network Information

How many roads front the subject site? Four (4)

*Name of Roads Fronting Subject Site / Road Classification and Description:*

### Road 1

<b>Road Name</b>	Marlinspike Boulevard
Number of Lanes	two way, one lane (no linemarking), undivided
Road Reservation Width	Approximately 22.5m
Road Pavement Width	Approximately 9m
Classification	Urban Local Road / Access Road
Speed Limit	50kph or State Limit
Bus Route	NO
<i>If YES Nominate Bus Routes</i>	
On-street parking	NO

### Road 2

<b>Road Name</b>	Nicobar Way
Number of Lanes	two way, one lane (no linemarking), undivided
Road Reservation Width	Approximately 16m
Road Pavement Width	Approximately 6m
Classification	Urban Local Road / Access Road
Speed Limit	50kph or State Limit
Bus Route	NO
<i>If YES Nominate Bus Routes</i>	
On-street parking	NO

### Road 3

<b>Road Name</b>	Reflection Boulevard
Number of Lanes	two way, one lane (no linemarking), undivided
Road Reservation Width	Approximately 25m

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Road Pavement Width	Approximately 10m
Classification	Significant Urban Local Road / Local Distributor
Speed Limit	50kph or State Limit
Bus Route	NO
<i>If YES Nominate Bus Routes</i>	
On-street parking	YES

**Road 4**

<b>Road Name</b>	Tonna Lane
Number of Lanes	two way, one lane (no linemarking), undivided
Road Reservation Width	6m
Road Pavement Width	6m
Classification	Urban Local Road / Access Road
Speed Limit	50kph or State Limit
Bus Route	NO
<i>If YES Nominate Bus Routes</i>	
On-street parking	NO

**2.5 Traffic Volumes**

Road Name	Location of Traffic Count	Vehicles Per Day (VPD)	Vehicles per Peak Hour (VPH)				Heavy Vehicle % <i>If HV count is Not Available, are HV likely to be in higher volumes than generally expected?</i>	Date of Traffic Count	<i>If older than 3 years multiply with a growth rate</i>
			AM Peak Time	AM Peak - Peak VPH	PM Peak Time	PM Peak - Peak VPH			
Marmion Avenue	North of Reflection Boulevard*	22,670	08:00 – 1,843		15:00 – 1,835		N/A	May 2019	–
	South of Reflection Boulevard*	23,465	08:00 – 1,836		15:00 – 1,941		N/A	May 2019	–
Reflection Boulevard	West of Marmion Avenue*	4,329	08:00 – 338		15:00 – 379		N/A	May 2019	–
Camborne Parkway	East of Marmion Avenue*	3,532	08:00 – 334		15:00 – 303		N/A	May 2019	–

*Note\* - These traffic volumes have been derived from SCATS data obtained through Main Roads Traffic Map. Although SCATS should not be used as a sole source of data it is a good tool to verify fluctuations in flow.*

## 2.6 Vehicular Crash Information

Is Crash Data Available on Main Roads WA website?	NO
Period of crash data collection	01/01/2014 - 31/12/2018
Comments	<p>KCTT have accessed the Main Roads WA reporting centre on 05.08.2019. No crash data was available in the above period for the following locations:</p> <ul style="list-style-type: none"> <li>- Marlinspike Boulevard, Reflection Boulevard, Nicobar Way and Tonna Lane in the vicinity of the development.</li> <li>- Intersections of Marlinspike Boulevard with Reflection Boulevard and Nicobar Way</li> <li>- Intersection of Reflection Boulevard and Tonna Lane</li> </ul>

## 2.7 Vehicular Parking

Local Government	City of Wanneroo
Local Government Document Utilised	Local Planning Policy 2.3 - Child Care Centres

### Description of Parking Requirements in accordance with Scheme:

*1 bay for every staff member,  
 9 bays for 54 children plus 1 per 8 children in excess of 54.*

### Calculation of Parking

Land Use	Requirements	Yield	Total Parking
	1 bay for every staff member	12 staff members	12
Childcare	9 bays for 54 children plus 1 per 8 children in excess of 54	87 children	13.1
<b>Total Car Parking Requirement</b>			<b>25.1 ~ 25</b>
<b>Total Volume of Parking Provided by Proponent</b>			<b>24</b>

### Justification

According to the City of Wanneroo's Local Planning Policy 2.3, the proposed development requires 25 parking bays. The plans show 24 parking bays proposed (11 parking bays for parents on-site and 12 parking bays for staff members with access from Tonna Lane) which is a shortfall of 1 parking bay. KCTT believe that this shortfall will not have a negative impact on the operation of the development. It should be noted that childcare centres rarely operate at full capacity. Furthermore, the proponent has provided KCTT with information that no more than 9 staff members will be at the same time at the development.

Having all the above in mind, KCTT believe that all parking requirements will be satisfied at the proposed childcare centre.

**Have Vehicle Swept Paths been checked for Parking?** YES

*If YES, provide description of performance:*

KCTT have checked the proposed internal parking area and on-street staff parking bays with the B99 passenger vehicles. No navigability issues were found.

## 2.8 Bicycle Parking

Local Government City of Wanneroo  
 Reference Document Utilised N/A

### Justification

The City of Wanneroo does not provide any bicycle parking requirements for this type of development. The plans do not show any bicycle parking proposed.

## 2.9 ACROD Parking

Class of Building Class 9b  
 Does this building class require specific provision of ACROD Parking? YES  
 Reference Document Utilised Building Code of Australia

### Description of Parking Requirements:

Class 9b — (b) Other assembly building — (i) up to 1000 carparking spaces; - 1 space for every 50 carparking spaces or part thereof

### Parking Requirement in accordance with regulatory documents

Land Use	Requirements	Yield	Total Parking
Childcare	1 space for every 50 carparking spaces or part thereof	24	1
<b>Total Volume of ACROD Parking Required</b>			<b>1</b>
<b>Total Volume of ACROD Parking Provided by Proponent</b>			<b>1</b>

### Justification

The proposed development meets the requirement for 1 ACROD bay.

## 2.10 Delivery and Service Vehicles

Guideline Document used as reference NSW RTA Guide to Traffic Generating Developments  
 Requirements  
 Other uses - 1 space per 2,000m<sup>2</sup>

### Parking Requirement in accordance with regulatory documents

Land Use	Minimum Requirements	Yield	Total Parking
Childcare Centre	1 space per 2,000m <sup>2</sup>	812m <sup>2</sup>	1
<b>Total Volume of Service and Delivery Parking Required</b>			<b>1</b>
<b>Total Volume of Service and Delivery Parking Provided by Proponent</b>			<b>N/A</b>

### Justification

The above requirements are only stated as a guide. KCTT believe that a childcare centre does not require a specific bay for service and delivery, since all deliveries can be conducted outside of peak hours of operation, when all drop-off parking bays are likely to be empty. Furthermore, the waste collection can be conducted safely within the road reserve.

## 2.11 Calculation of Development Generated / Attracted Trips

What are the likely hours of operation?	06:30 – 18:30
What are the likely peak hours of operation?	AM 08:00 – 09:00; PM 16:00 – 17:00
Do the development generated peaks coincide with existing road network peaks?	N/A
Guideline Document Used	NSW RTA Guide to Traffic Generating Developments
<i>Rates from above document:</i>	<b>Child Day Care</b> – 0.8 trips in AM Peak and 0.7 trips in PM Peak per child
	It should be noted that these rates are given for a 2-hour peak period. For the purposes of this report KCTT assumes that for no more than 60% of the two-hour traffic volume will be attracted to the development in an hour that will represent the peak for the subject site.

Given that the WAPC Transport Assessment Guidelines and NSW RTA Guide to Traffic Generating Developments do not offer daily vehicular trip generation rate for these land uses KCTT have assumed the following to apply:

**Childcare centres** vehicular daily trips can be assumed to be 4 VPD per child and 2 VPD per employee. Each parent will make 2 vehicular trips when dropping off the child to the day care centre and 2 vehicular trips when picking the child up. Employees will make 1 vehicular trip arriving to work, and another vehicular trip when leaving work.

In our experience, childcare centres tend to operate with an 85% utilisation rate of the licenced capacity over the year due to a number of days that children attend (this ranges from 2 to 5 days a week) and seasonal adjustments (end of year and when people return to work from maternity leave). Therefore, the expected average daily operative maximum of this childcare facility can be estimated as 74 children. However, in the calculations below, a conservative approach has been applied **showing the theoretical maximum number of children, under assumption that all children are driven to school and there are no siblings in the centre.**

Land Use Type	Rate above	Yield	Daily Traffic Generation	Peak Hour Traffic Generation	
				AM	PM
Childcare	4 VPD per child+2 VPD per employee 0.48 VPH AM Peak per child 0.42 VPH PM Peak per child	87 children 12 employees	372	42	37
<b>Total:</b>			<b>372</b>	<b>42</b>	<b>37</b>

Does the site have existing trip generation / attraction?	NO
What is the total impact of the new proposed development?	The proposed development is expected to generate up to 372 vehicular trips per day, 42 vehicular trips in the morning peak and 37 vehicular trips in the evening peak hour. According to the WAPC Guidelines this is a moderate impact to the surrounding network.  KCTT believe that the surrounding network will successfully absorb the generated traffic.

## 2.12 Traffic Flow Distribution

How many routes are available for access / egress to the site? 6 Main Routes

### Route 1

Provide details for Route No 1 Access / Egress from the site via Nicobar Way > Marlinspike Boulevard > Reflection Boulevard to the east

Percentage of Vehicular Movements via Route No 1 70% [260 VPD; AM 29 VPH; PM 26 VPH]

### Route 2

Provide details for Route No 2 Access / Egress from the site via Nicobar Way > Marlinspike Boulevard to the north

Percentage of Vehicular Movements via Route No 2 5% [19 VPD; AM 2 VPH; PM 2 VPH]

### Route 3

Provide details for Route No 3 Access / Egress from the site via Nicobar Way > Marlinspike Boulevard to the south

Percentage of Vehicular Movements via Route No 3 10% [37 VPD; AM 4 VPH; PM 3 VPH]

### Route 4

Provide details for Route No 4 Access / Egress from the site via Nicobar Way > Marlinspike Boulevard > Reflection Boulevard to the west

Percentage of Vehicular Movements via Route No 4 9% [33 VPD; AM 4 VPH; PM 3 VPH]

### Route 5

Provide details for Route No 4 Access / Egress from the site via Tonna Lane > Reflection Boulevard to the east

Percentage of Vehicular Movements via Route No 4 5% [19 VPD; AM 2 VPH; PM 2 VPH]

### Route 6

Provide details for Route No 4 Access / Egress from the site via Tonna Lane > Reflection Boulevard to the west

Percentage of Vehicular Movements via Route No 4 1% [4 VPD; AM 1 VPH; PM 1 VPH]

Note - For a more detailed plans of the estimated vehicular traffic volumes and distribution please refer to the plans provided in Appendix 2.

## 2.13 Vehicle Crossover Requirements

Are vehicle crossovers required onto existing road networks? YES

How many existing crossovers? None

How many proposed crossovers? One (1)

*If there are greater numbers of new crossovers, than existing, provide justification:*

As the subject site was not occupied previously, the proposed development will have to provide a new connection to the surrounding road network.

How close are proposed crossovers to existing intersections? Approximately 6.7m from the tangent point at the intersection of Nicobar Way and Marlinspike Boulevard.

Does this meet existing standards? YES

**Justification**

According to the AS2890.1:2004 Off-street Car Parking, access driveways are not to be located within the first 6m from the intersection's tangent points.

## 2.14 Public Transport Accessibility

How many bus routes are within 400 metres of the subject site?

None

The closest bus routes run on Marmion Avenue, which is within 800m of walking distance from the subject site.

How many rail routes are within 800 metres of the subject site?

None

Walk Score Rating for Accessibility to Public Transport

N/A |

Are there any planned routes within the subject development's catchment area?

YES

According to the Lot 9 Jindalee - Local Structure Plan 88 (Part 2 Explanatory Section) - 'PTA has advised that Route 482 is planned to run a service between future Alkimos and Clarkson train stations, passing through the LSP area by way of neighbouring Lot 12 and Lot 10 sites to the north and south respectively.

Route 480, like Route 482, will run a service between the future Alkimos and Clarkson train stations, but with a deviation to the Butler Station, via Marmion Avenue. The Lot 9 LSP will be served by this service through embayed bus stops along Marmion Avenue.' (January 2012, page 65).



## 2.15 Pedestrian Infrastructure

Describe existing local pedestrian infrastructure within a 400m radius of the site:

<b>Classification</b>	<b>Road Name</b>
<i>“ Other Shared Path (Shared by Pedestrians and Cyclists)”</i> Pedestrian Paths	Reflection Boulevard Pedestrian paths are available on almost every road within 400m radius.
Does the site have existing pedestrian facilities	YES
Does the site propose to improve pedestrian facilities?	NO
What is the Walk Score Rating?	
9	Car-Dependent. Almost all errands require a car.

## 2.16 Cyclist Infrastructure

Are there any PBN Routes within an 800m radius of the subject site? YES

If YES, describe:

<b>Classification</b>	<b>Road Name</b>
<i>“ Other Shared Path (Shared by Pedestrians and Cyclists)”</i>	Reflection Boulevard; Marmion Avenue; Camborne Parkway
<i>“ Good Road Riding Environment”</i>	Marlinspike Boulevard (south of Reflection Boulevard); Reflection Boulevard; Chambered Way; Midsummer Avenue; Faba Lane; Temptation Drive; Mansfield Avenue; Newmarket Parade; Romsey Glade
<i>“ Bicycle Lanes or Sealed Shoulder Either Side”</i>	Reflection Boulevard; Marmion Avenue; Camborne Parkway

Are there any PBN Routes within a 400m radius of the subject site? YES

If YES, describe:

<b>Classification</b>	<b>Road Name</b>
<i>“ Other Shared Path (Shared by Pedestrians and Cyclists)”</i>	Reflection Boulevard
<i>“ Good Road Riding Environment”</i>	Marlinspike Boulevard (south of Reflection Boulevard); Reflection Boulevard; Chambered Way; Midsummer Avenue; Faba Lane; Temptation Drive
<i>“ Bicycle Lanes or Sealed Shoulder Either Side”</i>	Reflection Boulevard
Does the site have existing cyclist facilities?	YES
Does the site propose to improve cyclist facilities?	NO

## 2.17 Site-Specific Issues and Proposed Remedial Measures

How many site-specific issues need to be discussed?

One (1)

**Site-Specific Issue No 1**

Parking Shortfall

Remedial Measure / Response

According to the City of Wanneroo's Local Planning Policy 2.3, the proposed development requires 25 parking bays. The plans show 24 parking bays proposed (11 parking bays for parents on-site and 12 parking bays for staff members with access from Tonna Lane) which is a shortfall of 1 parking bay. KCTT believe that this shortfall will not have a negative impact on the operation of the development. It should be noted that childcare centres rarely operate at full capacity. Furthermore, the proponent has provided KCTT with information that no more than 9 staff members will be at the same time at the development.

Having all the above in mind, KCTT believe that all parking requirements can be catered for at the proposed childcare centre.

# **Appendix 1**

## **The Layout of the Proposed Development**



# PROPOSED CHILDCARE CENTRE EDEN BEACH WESTERN AUSTRALIA

LOT 516, CORNERS OF REFLECTION BOULEVARD, MARLINSPIKE BOULEVARD, NICOBAR WAY & TONNA LANE. EDEN BEACH, WA

## ARCHITECTURAL DRAWINGS SCHEDULE

<u>DRAWINGS No</u>	<u>DRAWINGS NAME</u>	<u>SCALE</u>	<u>SHEET SIZE</u>
A.000	TITLE SHEET	N/A	A1
A.001	SITE PLANS	1 : 200	A1
A.002	FLOOR PLANS	1 : 100	A1
A.003	ELEVATION	1 : 100	A1
A.004	ELEVATION & SECTIONS	1 : 100	A1
A.005	3D PERSPECTIVES	N/A	A1

AREAS		
SITE		1760m <sup>2</sup>
GROUND FLOOR	(INC WALLS)	469m <sup>2</sup>
FIRST FLOOR	(INC WALLS)	203m <sup>2</sup>
FIRST FLOOR DECK	(PLAYGROUND 3)	140m <sup>2</sup>
TOTAL BUILT AREA		812m <sup>2</sup>

ROOM AREAS				
ROOMS	AGE RANGE	AREA	RATIO	CHILDREN
ROOM 1		55.6m <sup>2</sup>	1 : 3.25m <sup>2</sup>	17 CHILDREN
ROOM 2 - TODDLERS ROOM	24-36 MONTHS	55.6m <sup>2</sup>	1 : 3.25m <sup>2</sup>	17 CHILDREN
ROOM 3 - KINDY ROOM	3-4 YEARS	55.6m <sup>2</sup>	1 : 3.25m <sup>2</sup>	17 CHILDREN
ROOM 4 - SCHOOLIES ROOM	4+ YEARS	55.6m <sup>2</sup>	1 : 3.25m <sup>2</sup>	17 CHILDREN
<b>GROUND FLOOR SUB TOTAL</b>				<b>68 CHILDREN</b>
ROOM 5 - BABIES ROOM	0-24 MONTHS	63m <sup>2</sup>	1 : 3.25m <sup>2</sup>	19 CHILDREN
<b>TOTAL</b>		<b>285m<sup>2</sup></b>	<b>1 : 3.25m<sup>2</sup></b>	<b>87 CHILDREN</b>

PLAY YARD AREAS				
PLAYGROUNDS		AREA	RATIO	CHILDREN
PLAYGROUND 1 ( ROOM 1 to 2 )		255m <sup>2</sup>	1 : 7m <sup>2</sup>	36 CHILDREN
PLAYGROUND 2 ( ROOM 3 to 4 )		245m <sup>2</sup>	1 : 7m <sup>2</sup>	35 CHILDREN
<b>GROUND FLOOR SUB TOTAL</b>		<b>500m<sup>2</sup></b>	<b>1 : 7m<sup>2</sup></b>	<b>71 CHILDREN</b>
PLAYGROUND 3 ( ROOM 5 )		140m <sup>2</sup>	1 : 7m <sup>2</sup>	20 CHILDREN
<b>TOTAL</b>		<b>646m<sup>2</sup></b>	<b>1 : 7m<sup>2</sup></b>	<b>91 CHILDREN</b>

STAFF RATIO				
ROOMS		CHILDREN	RATIO	STAFF REQ
ROOM 1 - AFTER HOURS PICK UP & DROP OFF		17	-	-
ROOM 2 - TODDLERS ROOM	24-36 MONTHS	17	1 : 5	3.4 STAFF
ROOM 3 - KINDY ROOM	3-4 YEARS	17	1 : 10	1.7 STAFF
ROOM 4 - SCHOOLIES ROOM	4+ YEARS	17	1 : 10	1.7 STAFF
ROOM 5 - BABIES ROOM	0-24 MONTHS	19	1 : 4	4.8 STAFF
<b>TOTAL</b>				<b>11.6 STAFF</b>

PARKING REQUIREMENTS		
STAFF PARKING	1 BAY PER 1 STAFF MEMBER	11.7 BAYS
GENERAL PARKING	9 BAY PER 54 CHILDREN PLUS 1 PER 8 CHILDREN	13.1 BAYS
ACCESSIBLE PARKING	1 BAY PER 25 CAR BAYS	1.0 BAYS
<b>TOTAL PARKING REQUIRED</b>		<b>25.8 BAYS</b>

PARKING PROVIDED		
STAFF PARKING		12.0 BAYS
GENERAL PARKING		11.0 BAYS
ACCESSIBLE PARKING		1.0 BAYS
<b>TOTAL PARKING PROVIDED</b>		<b>24.0 BAYS</b>



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**JP**  
 J. Prestipino Building Designs PTY LTD  
 320 Lord Street, Perth, Western Australia 6000  
 Tel: (08) 9422 1888 Fax: (08) 9422 1818  
 www.JPBD.com.au info@jpbd.com.au

**PROJECT:**  
**PROPOSED CHILDCARE CENTRE**  
 LOT 516, CNR REFLECTION,  
 MARLINSPIKE BOULEVARD, NICOBAR  
 WAY & TONNA LANE. EDEN BEACH WA

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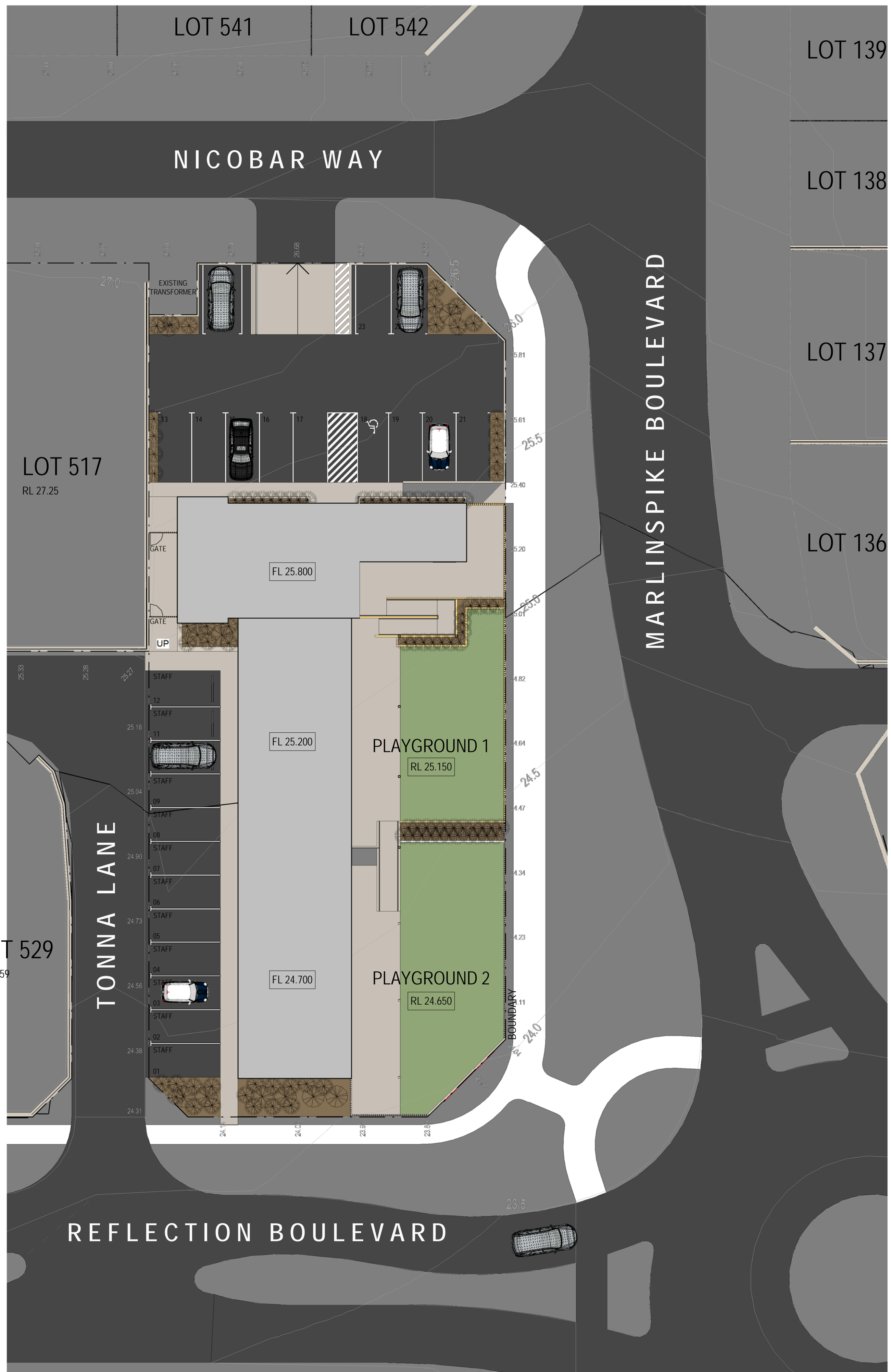
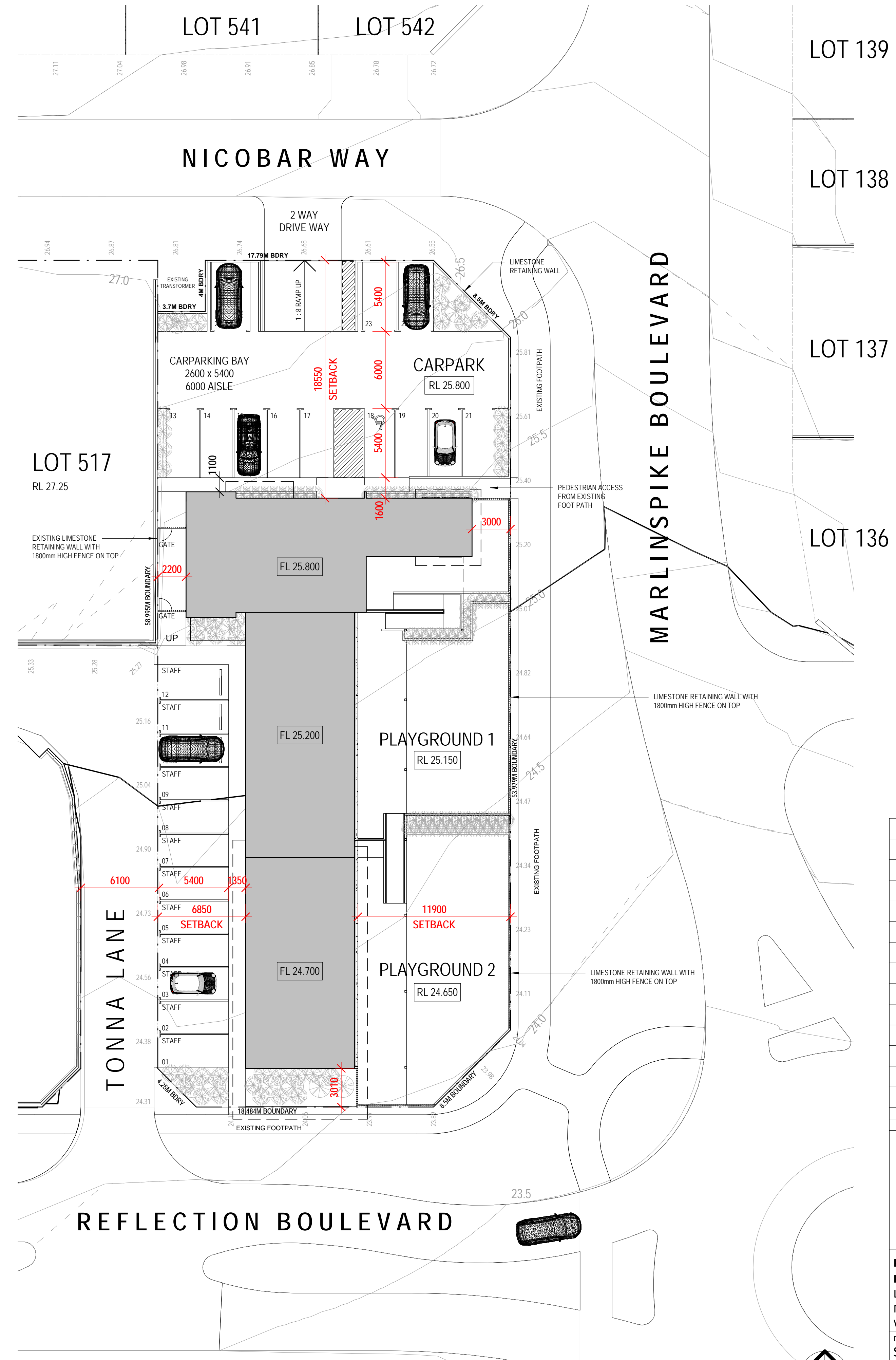


ILLUSTRATION SITE PLAN : SCALE 1:200



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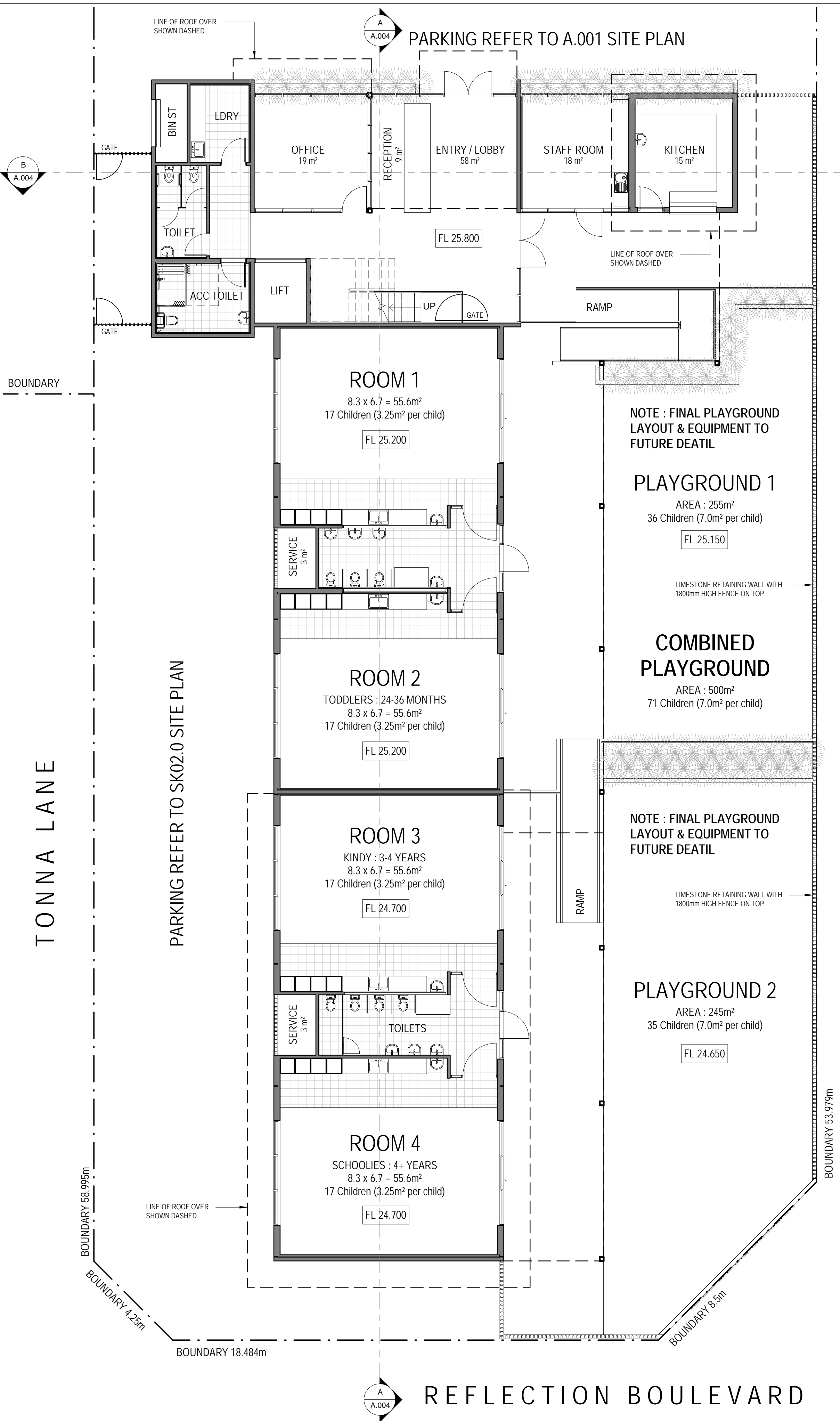
**J. Prestipino Building Designs PTY LTD**  
 320 Lord Street, Perth, Western Australia 6000  
 Tel: (08) 9422 1888 Fax: (08) 9422 1818  
 www.JPBD.com.au info@jpbd.com.au

**PROJECT:**  
**PROPOSED CHILDCARE CENTRE**  
 LOT 516, CNR REFLECTION,  
 MARLINSPIKE BOULEVARD, NICOBAR  
 WAY & TONNA LANE. EDEN BEACH WA  
**DRAWING**  
**SITE PLANS**

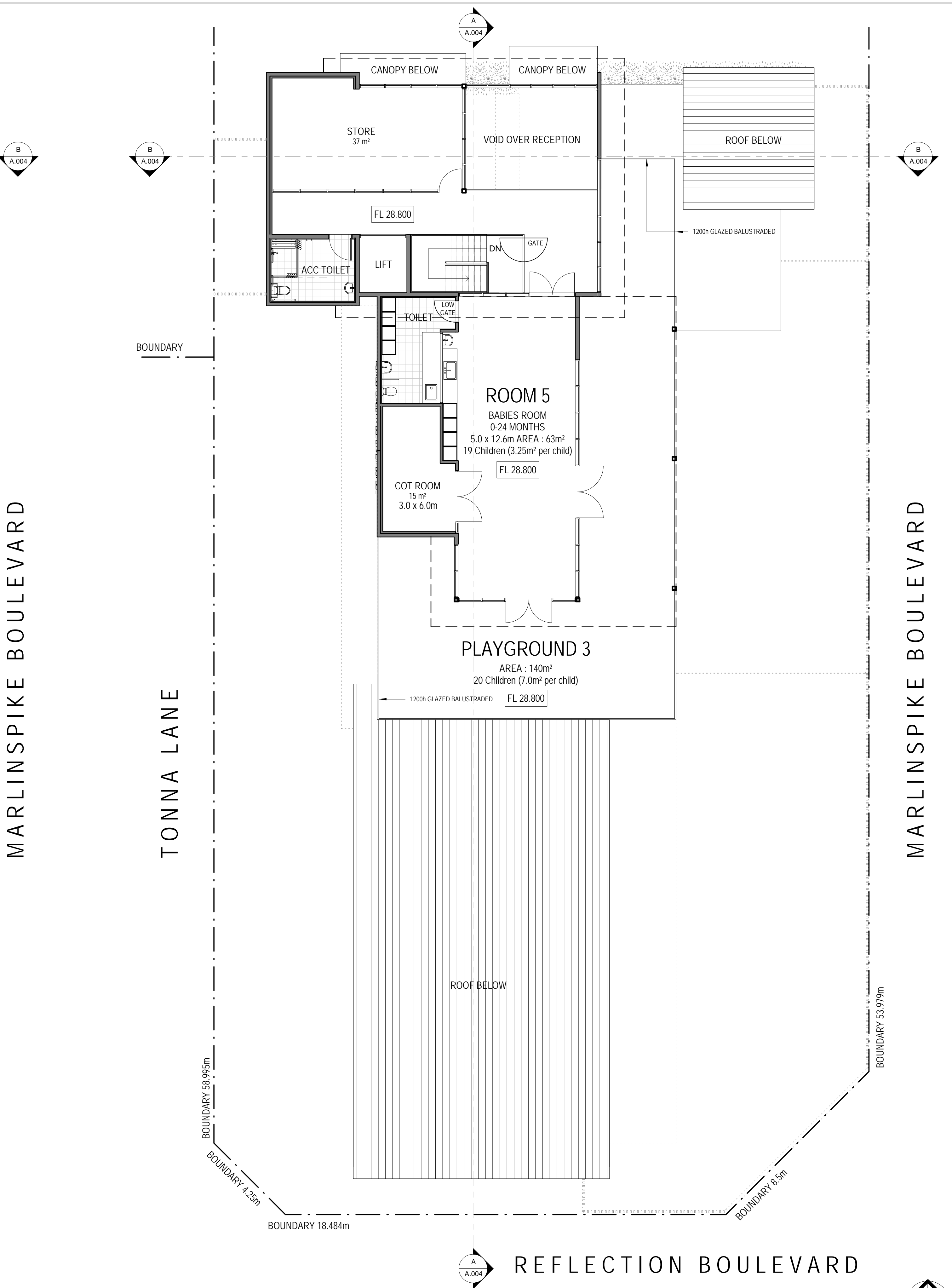
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SCALE 1:200	CHECKED JP PROJECT NO 189-006

**NORTH**



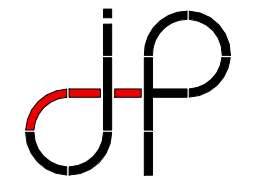


GROUND FLOOR PLAN : SCALE 1:100



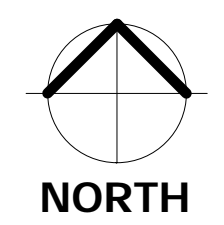
FIRST FLOOR PLAN : SCALE 1:100

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 Tel: (08) 9422 1888 Fax: (08) 9422 1818  
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**PROJECT:**  
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 MARLINSPIKE BOULEVARD, NICOBAR  
 WAY & TONNA LANE. EDEN BEACH WA  
**DRAWING**  
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1 North Elevation  
1 : 100



2 East Elevation  
1 : 100



3 South Elevation  
1 : 100

### COLOUR LEGEND

BASE COLOURS		PLAYGROUND FEATURE WALL COLOURS	
	BASE WALL COLOUR DULUX 'LEXICON'		PURPLE - DARK DULUX 'BRILLIANT PURPLE'
	ROOFING & FLASHING - DARK GRAY COLORBOND 'MONUMENT'		PURPLE - MID DULUX 'SILKEN PURPLE'
	ROOFING & FLASHING - DARK BLUE COLORBOND 'DEEP OCEAN'		PINK - DARK DULUX 'ELECTRIC PURPLE'
	ROOFING & FLASHING - LIGHT GREY COLORBOND 'SHALE GREY'		PINK - MID DULUX 'PINK STRIPE'
	GREY - DARK DULUX 'INDULGENT YELLOW'		RED - DARK DULUX 'TRUE HEART'
	GREY - LIGHT DULUX 'INDULGENT YELLOW'		RED - MID DULUX 'RED CROWN'
	RED - DARK DULUX 'INDULGENT YELLOW'		ORANGE - DARK DULUX 'TANGLE'
	RED - LIGHT DULUX 'INDULGENT YELLOW'		ORANGE - MID DULUX 'QUINCE PASTE'
	YELLOW - DARK DULUX 'INDULGENT YELLOW'		YELLOW - DARK DULUX 'INDULGENT YELLOW'
	YELLOW - LIGHT DULUX 'HARVEST GOLD'		YELLOW - MID DULUX 'STILL YELLOW'
	TURQUOISE - DARK DULUX 'GREEN SPOOL'		YELLOW - LIGHT DULUX 'HARVEST GOLD'
	TURQUOISE - LIGHT DULUX 'SPARKLING CAVE'		GREEN - DARK DULUX 'GREMLIN'
	BLUE - DARK DULUX 'BREAKAWAY BLUE'		GREEN - MID DULUX 'KERMIT GREEN'
			GREEN - LIGHT DULUX 'JAZZERCISE'
			TURQUOISE - DARK 1 DULUX 'SUBMARINE'
			TURQUOISE - DARK 2 DULUX 'TANGLE'
			TURQUOISE - MID DULUX 'PAINTED SEA'
			TURQUOISE - LIGHT DULUX 'SPARKLING CAVE'
			BLUE - DARK 1 DULUX 'BREAKAWAY BLUE'
			BLUE - DARK 2 DULUX 'BLUE BOTTOM BOAT'
			BLUE - MID DULUX 'HIDEOUT'
			BLUE - LIGHT DULUX 'COTTONWOOL BLUE'

EXTERNAL WALL COLOURS	
	GREY - DARK DULUX 'INDULGENT YELLOW'
	GREY - LIGHT DULUX 'INDULGENT YELLOW'
	RED - DARK DULUX 'INDULGENT YELLOW'
	RED - LIGHT DULUX 'INDULGENT YELLOW'
	YELLOW - DARK DULUX 'INDULGENT YELLOW'
	YELLOW - LIGHT DULUX 'HARVEST GOLD'
	TURQUOISE - DARK DULUX 'GREEN SPOOL'
	TURQUOISE - LIGHT DULUX 'SPARKLING CAVE'
	BLUE - DARK DULUX 'BREAKAWAY BLUE'

FEATURE STONE WALL CLADDING	
	DONNYBROOK SANDSTONE - SAMPLE IMAGE

LIMESTONE RETAINING WALLS	
	BOUNDARY LIMESTONE RETAINING WALLS

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WAY & TONNA LANE. EDEN BEACH WA

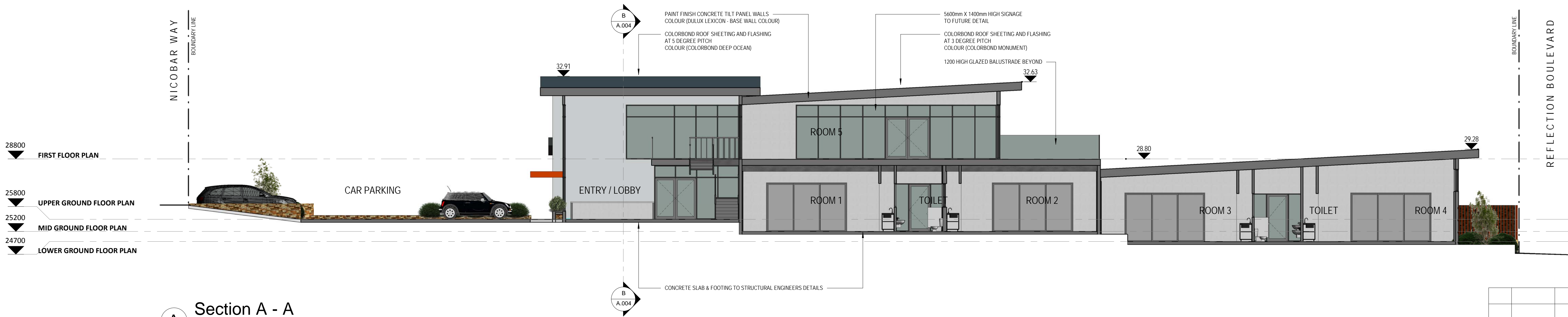
DRAWING  
**ELEVATION\_SHEET 1**

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DATE APRIL 2019	revision No.
SCALE 1 : 100	CHECKED JP PROJECT NO 189-006





4 West Elevation  
1 : 100



A Section A - A  
1 : 100



B Section B - B  
1 : 100

### COLOUR LEGEND

BASE COLOURS	PLAYGROUND FEATURE WALL COLOURS
<ul style="list-style-type: none"> <li>BASE WALL COLOUR: DULUX 'LEXICON'</li> </ul>	<ul style="list-style-type: none"> <li>PURPLE - DARK: DULUX 'BRILLIANT PURPLE'</li> <li>PURPLE - MID: DULUX 'SILKEN PURPLE'</li> <li>PINK - DARK: DULUX 'ELECTRIC PURPLE'</li> <li>PINK - MID: DULUX 'PINK STRIPE'</li> <li>RED - DARK: DULUX 'TRUE HEART'</li> <li>RED - MID: DULUX 'RED CROWN'</li> <li>ORANGE - DARK: DULUX 'TINGLE'</li> <li>ORANGE - MID: DULUX 'QUINCE PASTE'</li> <li>YELLOW - DARK: DULUX 'INDULGENT YELLOW'</li> <li>YELLOW - LIGHT: DULUX 'HARVEST GOLD'</li> <li>TURQUOISE - DARK: DULUX 'GREEN SPOOL'</li> <li>TURQUOISE - LIGHT: DULUX 'SPARKLING CAVE'</li> <li>BLUE - DARK: DULUX 'BREAKAWAY BLUE'</li> </ul>
EXTERNAL WALL COLOURS	FEATURE STONE WALL CLADDING
<ul style="list-style-type: none"> <li>ROOFING &amp; FLASHING - DARK GRAY: COLORBOND 'MONUMENT'</li> <li>ROOFING &amp; FLASHING - DARK BLUE: COLORBOND 'DEEP OCEAN'</li> <li>ROOFING &amp; FLASHING - LIGHT GREY: COLORBOND 'SHALE GREY'</li> <li>GREY - DARK: DULUX 'INDULGENT YELLOW'</li> <li>GREY - LIGHT: DULUX 'INDULGENT YELLOW'</li> <li>RED - DARK: DULUX 'INDULGENT YELLOW'</li> <li>RED - LIGHT: DULUX 'INDULGENT YELLOW'</li> <li>YELLOW - DARK: DULUX 'INDULGENT YELLOW'</li> <li>YELLOW - LIGHT: DULUX 'HARVEST GOLD'</li> <li>TURQUOISE - DARK: DULUX 'GREEN SPOOL'</li> <li>TURQUOISE - LIGHT: DULUX 'SPARKLING CAVE'</li> <li>BLUE - DARK: DULUX 'BREAKAWAY BLUE'</li> </ul>	<ul style="list-style-type: none"> <li>YELLOW - MID: DULUX 'STILL YELLOW'</li> <li>YELLOW - LIGHT: DULUX 'HARVEST GOLD'</li> <li>GREEN - DARK: DULUX 'GREMLIN'</li> <li>GREEN - MID: DULUX 'KERMIT GREEN'</li> <li>GREEN - LIGHT: DULUX 'JAZZERCISE'</li> <li>TURQUOISE - DARK 1: DULUX 'SUBMARINE'</li> <li>TURQUOISE - DARK 2: DULUX 'GREEN SPOOL'</li> <li>TURQUOISE - MID: DULUX 'PAINTED SEA'</li> <li>TURQUOISE - LIGHT: DULUX 'SPARKLING CAVE'</li> </ul>
	LIMESTONE RETAINING WALLS
	<ul style="list-style-type: none"> <li>BLUE - DARK 1: DULUX 'BREAKAWAY BLUE'</li> <li>BLUE - DARK 2: DULUX 'BLUE BOTTOM BOAT'</li> <li>BLUE - MID: DULUX 'HIDEOUT'</li> <li>BLUE - LIGHT: DULUX 'COTTONWOOL BLUE'</li> </ul>

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REV	DATE	DESCRIPTION

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**PROJECT:**  
**PROPOSED CHILDCARE CENTRE**  
 LOT 516, CNR REFLECTION,  
 MARLINSPIKE BOULEVARD, NICOBAR  
 WAY & TONNA LANE. EDEN BEACH WA

**DRAWING**  
**ELEVATION\_SHEET 2**

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**J.P**

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 WAY & TONNA LANE. EDEN BEACH WA  
 DRAWING  
**3D PERSPECTIVES**

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SCALE <b>1 : 1</b>	CHECKED <b>JP</b> PROJECT NO <b>189-006</b>










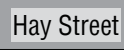
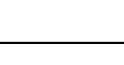
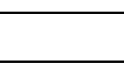
# **Appendix 2**


## **Transport Planning and Traffic Plans**





**CITY OF WANNEROO**

	PARKS AND RECREATION		LOCATION BOUNDARY
	WATERWAYS		DISTANCE FROM LOCATION
	PUBLIC PURPOSE		LOCAL GOVERNMENT NAME
	SHOPPING		SUBURB
			ROAD
			STREET NAME



**LEGEND**

Civil & Traffic Engineering Consultants  
Suite 7 No 10 Whipple Street Balcatta WA 6021

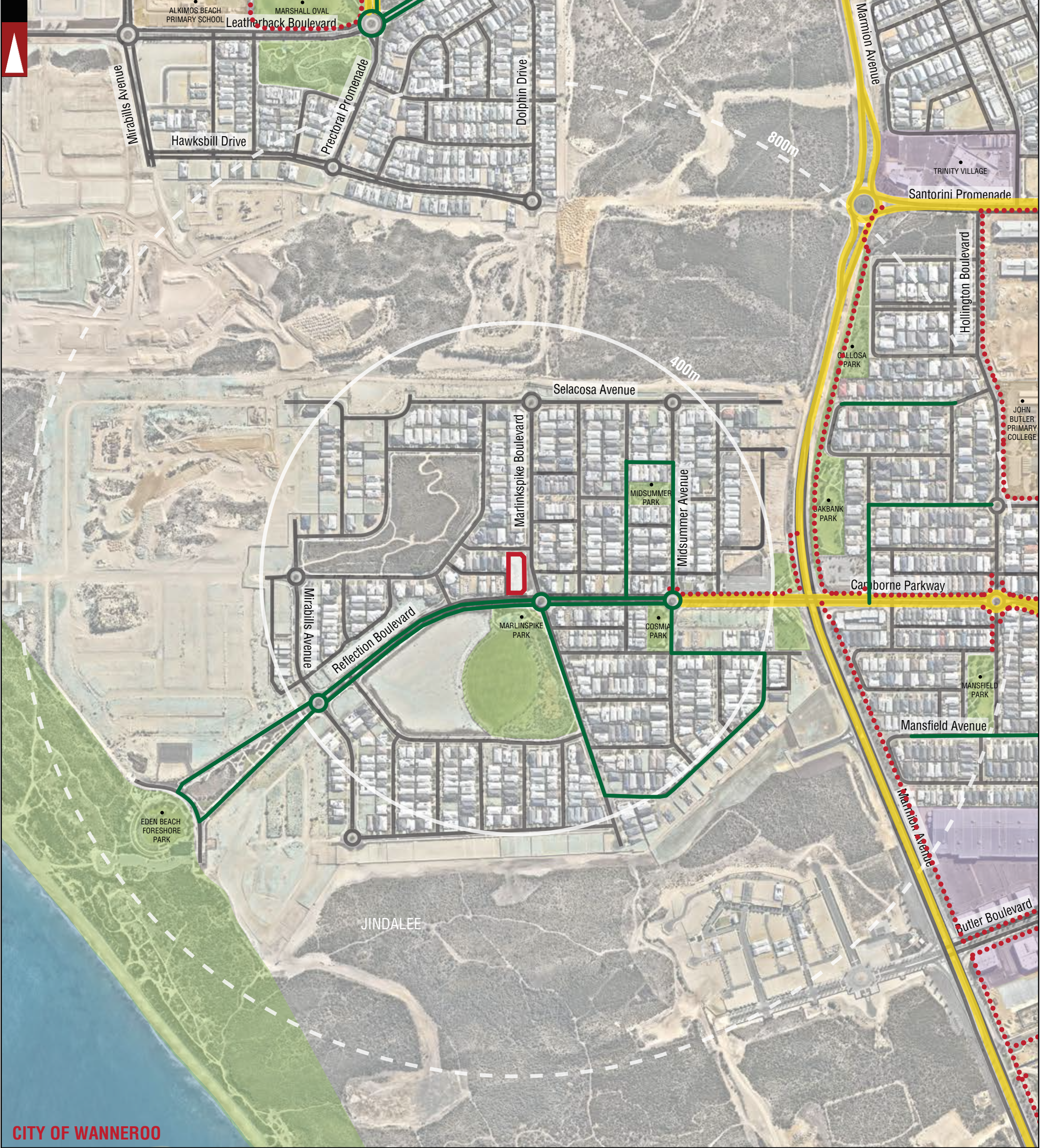
PH: 08 9441 2700  
WEB: www.kctt.com.au



			PROJECT: <b>36 MARLINSPIKE BOULEVARD</b>	DRAWN BY:
			TITLE: <b>LOCALITY PLAN - 800M RADIUS</b>	A.N.
A	05-08-2019	ISSUED FOR REVIEW	DRAWING NUMBER: <b>KC01047.000_S01</b>	
No	DATE	AMENDMENT		







	PARKS AND RECREATION		LOCATION BOUNDARY		BICYCLE LANES OR SEALED SHOULDER EITHER SIDE	 <b>Certified System</b> <b>Quality ISO 9001</b>
	WATERWAYS		DISTANCE FROM LOCATION		OTHER SHARED PATH (SHARED BY PEDESTRIANS & CYCLISTS)	
	PUBLIC PURPOSE		LOCAL GOVERNMENT NAME		GOOD ROAD RIDING ENVIRONMENT	
	SHOPPING		JINDALEE SUBURB			
			ROAD			
			STREET NAME			

**LEGEND**

Civil & Traffic Engineering Consultants  
 Suite 7 No 10 Whipple Street Balcatta WA 6021

PH: 08 9441 2700  
 WEB: www.kctt.com.au

			PROJECT: <b>36 MARLINSPIKE BOULEVARD</b>	DRAWN BY: A.N.
			TITLE: <b>BICYCLE NETWORK PLAN - 800M RADIUS</b>	
A	05-08-2019	ISSUED FOR REVIEW	DRAWING NUMBER: <b>KC01047.000_S02</b>	
No	DATE	AMENDMENT		





**CITY OF WANNEROO**

	PARKS AND RECREATION		LOCATION BOUNDARY		BUS ROUTE NUMBER	
	WATERWAYS		DISTANCE FROM LOCATION		BUS ROUTES	
	PUBLIC PURPOSE		LOCAL GOVERNMENT NAME			NOTE : FOR MORE INFORMATION REGARDING THE DESCRIPTION OF BUS ROUTES AND THEIR INDICATIVE PEAK AND OFF-PEAK FREQUENCIES REFER TO THE TIS REPORT
	SHOPPING		JINDALEE SUBURB			
			HAY STREET ROAD			

**LEGEND**

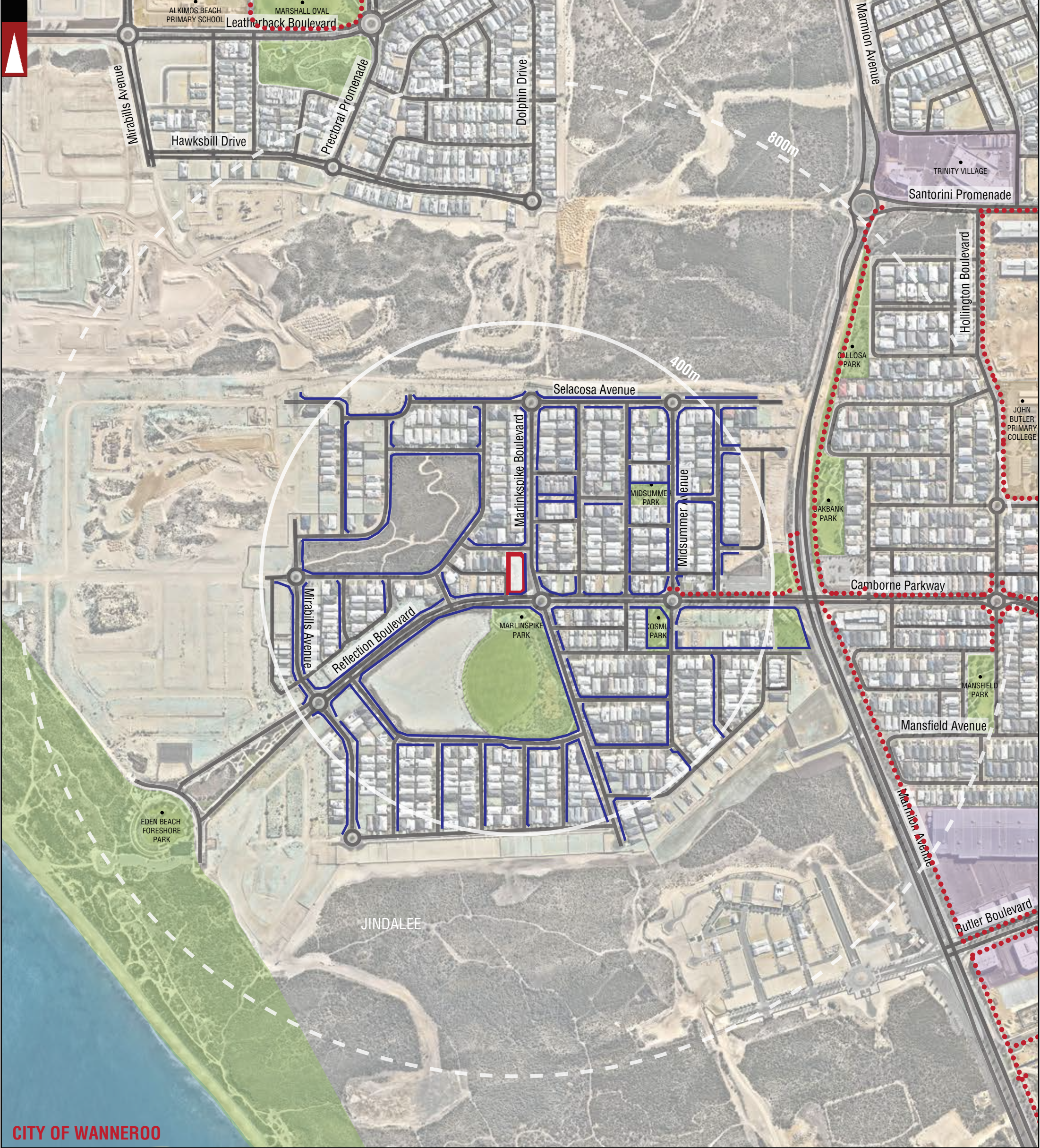
			PROJECT: <b>36 MARLINSPIKE BOULEVARD</b>	DRAWN BY: Civil & Traffic Engineering Consultants Suite 7 No 10 Whipple Street Balcatta WA 6021
			TITLE: <b>PUBLIC TRANSPORT PLAN - 800M RADIUS</b>	A.N.
A	05-08-2019	ISSUED FOR REVIEW	DRAWING NUMBER: <b>KC01047.000_S03</b>	
No	DATE	AMENDMENT		
















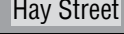
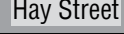
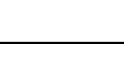
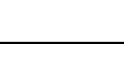
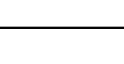
PH: 08 9441 2700  
WEB: www.kctt.com.au







**CITY OF WANNEROO**

	PARKS AND RECREATION		LOCATION BOUNDARY		OTHER SHARED PATH (SHARED BY PEDESTRIANS & CYCLISTS)	
	WATERWAYS		DISTANCE FROM LOCATION		PEDESTRIAN PATH	
	PUBLIC PURPOSE		CITY OF WANNEROO		LOCAL GOVERNMENT NAME	
	SHOPPING		JINDALEE		SUBURB	
			Hay Street		ROAD	
					STREET NAME	

**LEGEND**

			PROJECT: <b>36 MARLINSPIKE BOULEVARD</b>	DRAWN BY: Civil & Traffic Engineering Consultants Suite 7 No 10 Whipple Street Balcatta WA 6021
			TITLE: <b>PEDESTRIAN PATHS PLAN - 800M RADIUS</b>	A.N.
A	05-08-2019	ISSUED FOR REVIEW	DRAWING NUMBER: <b>KC01047.000_S04</b>	
No	DATE	AMENDMENT		







**CITY OF WANNEROO**

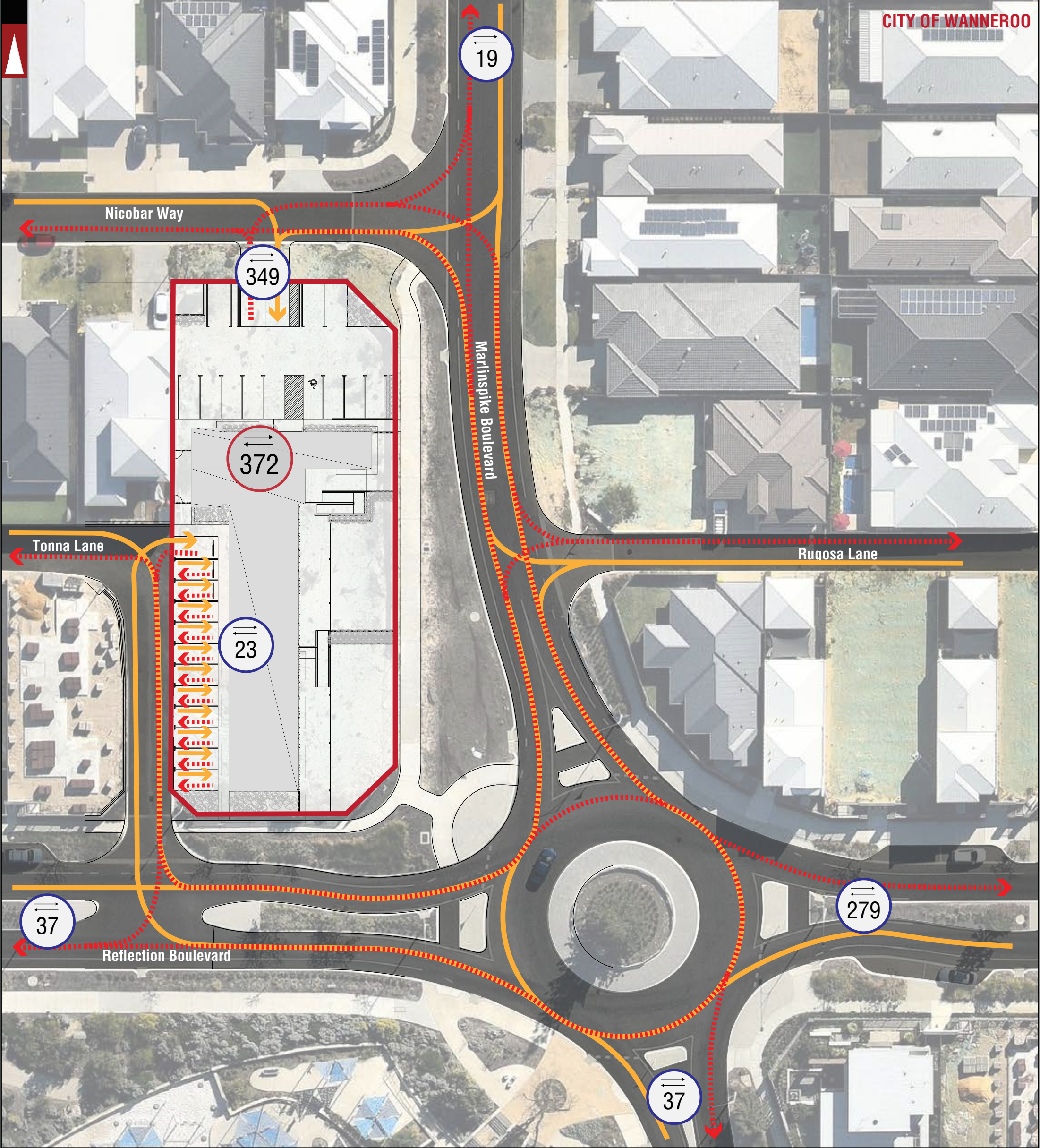
	PARKS AND RECREATION		LOCATION BOUNDARY	<b>5,512</b>	NUMBER OF VEHICLES PER DAY	
	WATERWAYS		DISTANCE FROM LOCATION	AM 1145 – 381 PM 1630 – 480	NUMBER OF VEHICLES PER AM PEAK HOUR NUMBER OF VEHICLES PER PM PEAK HOUR	
	PUBLIC PURPOSE	<b>CITY OF WANNEROO</b>	LOCAL GOVERNMENT NAME	<b>2014</b>	YEAR	
	SHOPPING	JINDALEE	SUBURB	<b>EAST OF HARLOW ROAD</b>	LOCATION	
		Hay Street	STREET NAME			







**LEGEND**

			PROJECT: <b>36 MARLINSPIKE BOULEVARD</b>	DRAWN BY: Civil & Traffic Engineering Consultants Suite 7 No 10 Whipple Street Balcatta WA 6021
			TITLE: <b>EXISTING TRAFFIC COUNTS - 800M RADIUS</b>	A.N.
A	07-08-2019	ISSUED FOR REVIEW	DRAWING NUMBER: <b>KC01047.000_S05</b>	PH: 08 9441 2700 WEB: www.kctt.com.au
No	DATE	AMENDMENT		








 LOCATION BOUNDARY	 Total Expected Traffic Generation from the proposed development	 Traffic Flow IN Direction
 ROAD (VARIED WITH ROAD WIDTH)	 Total Expected Traffic Generation from Subject Site on the specific section of road - IN and OUT direction	 Traffic Flow OUT Direction
<i>Lewis Road</i> ROAD NAME		

NOTE: THE PLAN IS COURTESY OF J. PRESTIPINO BUILDING DESIGNS



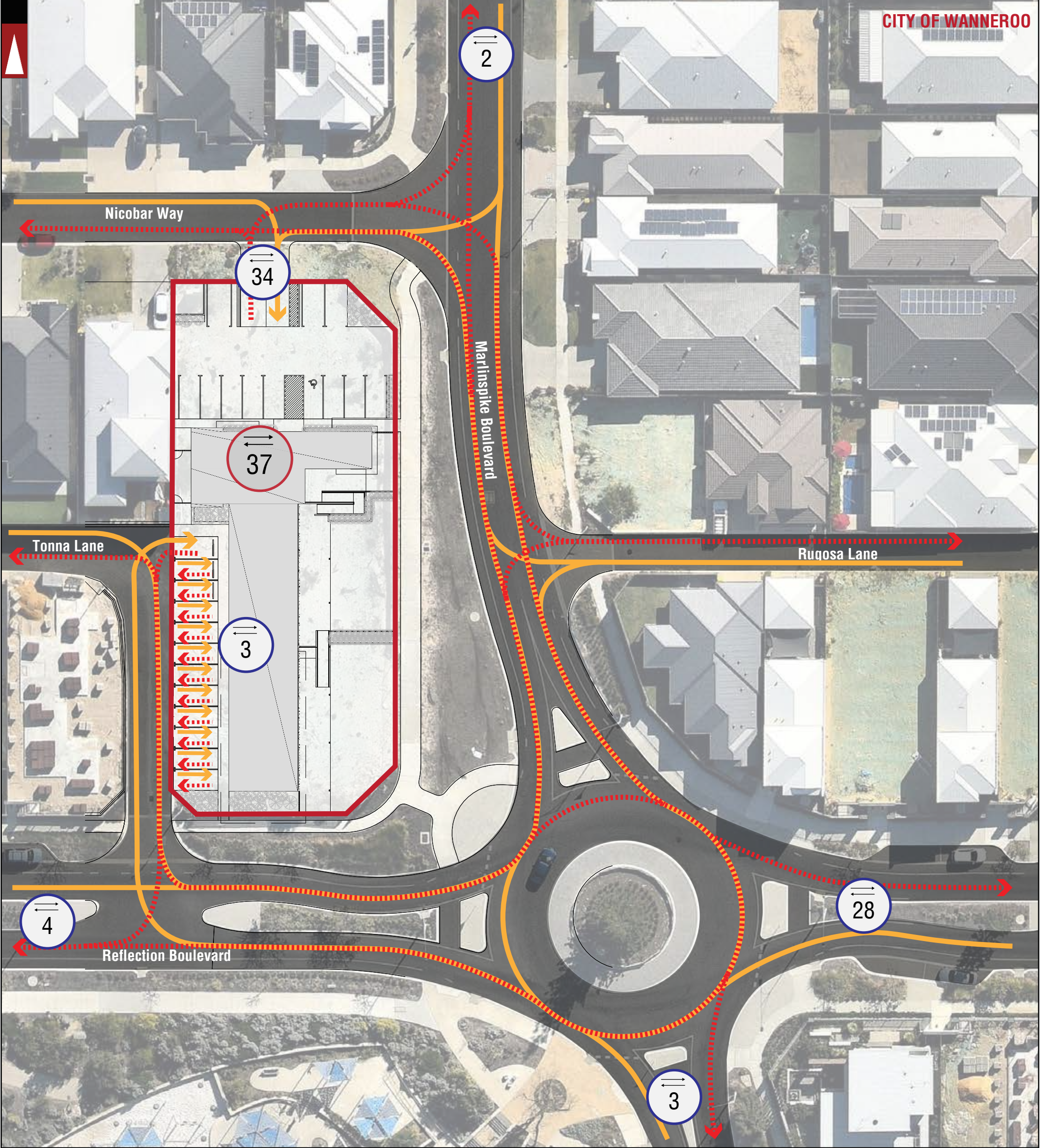
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			PROJECT: <b>36 MARLINSPIKE BOULEVARD, JINDALEE</b>	DRAWN BY: Civil & Traffic Engineering Consultants Suite 7 No 10 Whipple Street Balcatta WA 6021
			TITLE: <b>TRAFFIC FLOW DIAGRAM</b>	A.N.
A	09-08-2019	ISSUED FOR REVIEW	DRAWING NUMBER: <b>KC01047.000_ S06</b>	
No	DATE	AMENDMENT		

PH: 08 9441 2700  
 WEB: www.kctt.com.au









	LOCATION BOUNDARY		Total Expected Traffic Generation from the proposed development - PM Peak		Traffic Flow IN Direction
	ROAD (VARIED WITH ROAD WIDTH)		Total Expected Traffic Generation from Subject Site on the specific section of road - IN and OUT direction - PM Peak		Traffic Flow OUT Direction
<i>Lewis Road</i>	ROAD NAME				

NOTE: THE PLAN IS COURTESY OF J. PRESTIPINO BUILDING DESIGNS

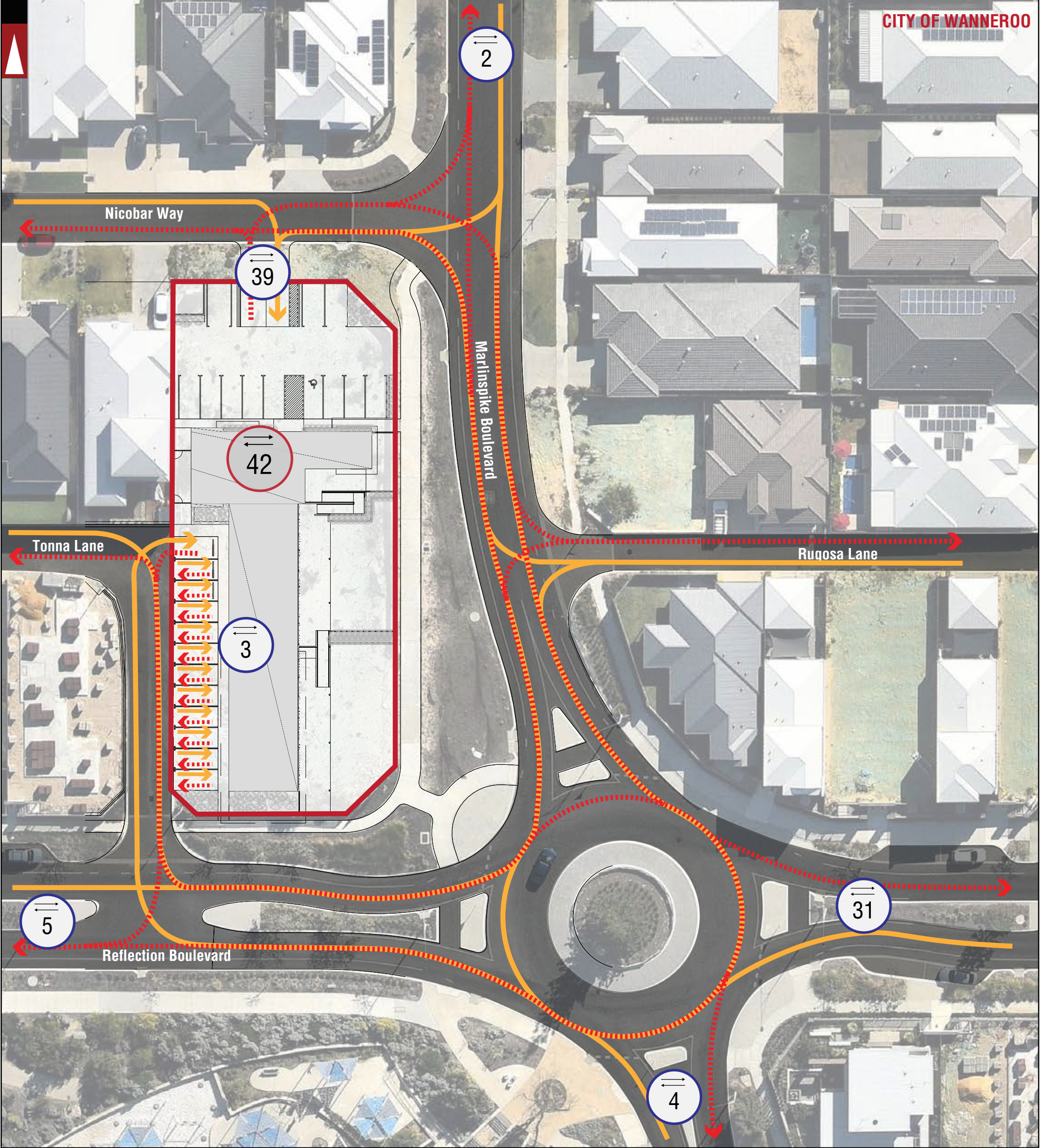








**LEGEND**

			PROJECT: <b>36 MARLINSPIKE BOULEVARD, JINDALEE</b>	DRAWN BY: A.N.	Civil & Traffic Engineering Consultants Suite 7 No 10 Whipple Street Balcatta WA 6021  PH: 08 9441 2700 WEB: www.kctt.com.au
A	09-08-2019	ISSUED FOR REVIEW	TITLE: <b>TRAFFIC FLOW DIAGRAM - PM PEAK</b>		
No	DATE	AMENDMENT	DRAWING NUMBER: <b>KC01047.000_ S07</b>		








 LOCATION BOUNDARY	 Total Expected Traffic Generation from the proposed development - AM Peak	 Traffic Flow IN Direction
 ROAD (VARIED WITH ROAD WIDTH)	 Total Expected Traffic Generation from Subject Site on the specific section of road - IN and OUT direction - AM Peak	 Traffic Flow OUT Direction
<i>Lewis Road</i> ROAD NAME		

NOTE: THE PLAN IS COURTESY OF J. PRESTIPINO BUILDING DESIGNS



**LEGEND**

			PROJECT: <b>36 MARLINSPIKE BOULEVARD, JINDALEE</b>	DRAWN BY: Civil & Traffic Engineering Consultants Suite 7 No 10 Whipple Street Balcatta WA 6021
			TITLE: <b>TRAFFIC FLOW DIAGRAM - AM PEAK</b>	A.N.
A	09-08-2019	ISSUED FOR REVIEW	DRAWING NUMBER: <b>KC01047.000_ S08</b>	
No	DATE	AMENDMENT		

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 WEB: www.kctt.com.au

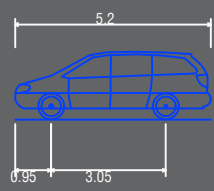




# **Appendix 3**

## **Vehicle Turning Circle Plan**





Passenger vehicle (5.2 m)  
 Overall Length 5.200m  
 Overall Width 1.940m  
 Overall Body Height 1.804m  
 Min Body Ground Clearance 0.295m  
 Track Width 1.840m  
 Lock to Lock Time 4.00s  
 Kerb to Kerb Turning Radius 6.300m

- Lot boundary
- Wheel Path (Forward Vehicle Motion)
- Vehicle Chassis Envelope (Forward Vehicle Motion)
- Wheel Path (Reverse Vehicle Motion)
- Vehicle Chassis Envelope (Reverse Vehicle Motion)



**LEGEND**

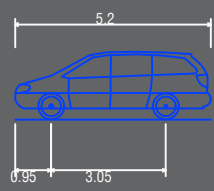
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PROJECT: 36 Marlinspike Boulevard, Jindalee	DRAWN BY: Civil & Traffic Engineering Consultants Suite 7 No 10 Whipple Street Balcatta WA 6021
TITLE: Vehicle Turning Circle Plan - B99 Passenger Vehicle (5.2m)	
DRAWING NUMBER: KC01047.000_S20a	

N.M.

PH: 08 9441 2700  
WEB: www.kctt.com.au





Passenger vehicle (5.2 m)  
 Overall Length 5.200m  
 Overall Width 1.940m  
 Overall Body Height 1.804m  
 Min Body Ground Clearance 0.295m  
 Track Width 1.840m  
 Lock to Lock Time 4.00s  
 Kerb to Kerb Turning Radius 6.300m

- Lot boundary
- Wheel Path (Forward Vehicle Motion)
- Vehicle Chasis Envelope (Forward Vehicle Motion)
- Wheel Path (Reverse Vehicle Motion)
- Vehicle Chasis Envelope (Reverse Vehicle Motion)



**LEGEND**

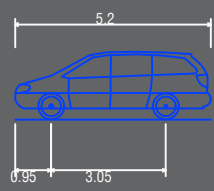
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A	09-08-2019	ISSUED FOR REVIEW

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TITLE: Vehicle Turning Circle Plan - B99 Passenger Vehicle (5.2m)	
DRAWING NUMBER: KC01047.000_S20b	

N.M.

PH: 08 9441 2700  
WEB: www.kctt.com.au





Passenger vehicle (5.2 m)  
 Overall Length 5.200m  
 Overall Width 1.940m  
 Overall Body Height 1.804m  
 Min Body Ground Clearance 0.295m  
 Track Width 1.840m  
 Lock to Lock Time 4.00s  
 Kerb to Kerb Turning Radius 6.300m

- Lot boundary
- Wheel Path (Forward Vehicle Motion)
- Vehicle Chasis Envelope (Forward Vehicle Motion)
- Wheel Path (Reverse Vehicle Motion)
- Vehicle Chasis Envelope (Reverse Vehicle Motion)



**LEGEND**

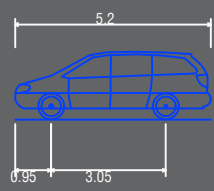
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A	09-08-2019	ISSUED FOR REVIEW

PROJECT: 36 Marlinspike Boulevard, Jindalee	DRAWN BY: Civil & Traffic Engineering Consultants Suite 7 No 10 Whipple Street Balcatta WA 6021
TITLE: Vehicle Turning Circle Plan - B99 Passenger Vehicle (5.2m)	
DRAWING NUMBER: KC01047.000_S21a	

N.M.

PH: 08 9441 2700  
 WEB: www.kctt.com.au





Passenger vehicle (5.2 m)  
 Overall Length 5.200m  
 Overall Width 1.940m  
 Overall Body Height 1.804m  
 Min Body Ground Clearance 0.295m  
 Track Width 1.840m  
 Lock to Lock Time 4.00s  
 Kerb to Kerb Turning Radius 6.300m

- Lot boundary
- Wheel Path (Forward Vehicle Motion)
- Vehicle Chassis Envelope (Forward Vehicle Motion)
- Wheel Path (Reverse Vehicle Motion)
- Vehicle Chassis Envelope (Reverse Vehicle Motion)



**LEGEND**

NO	DATE	AMENDMENT
A	09-08-2019	ISSUED FOR REVIEW

PROJECT: 36 Marlinspike Boulevard, Jindalee	DRAWN BY: Civil & Traffic Engineering Consultants Suite 7 No 10 Whipple Street Balcatta WA 6021
TITLE: Vehicle Turning Circle Plan - B99 Passenger Vehicle (5.2m)	
DRAWING NUMBER: KC01047.000_S21b	

N.M.

PH: 08 9441 2700  
WEB: www.kctt.com.au