

APPLICATION ON NOTIFICATION – CROWN DEVELOPMENT

Applicant:	Department of Planning, Transport and Infrastructure (Public Transport Projects Alliance)
Development Number:	100/V053/18
Nature of Development:	Oaklands Rail Crossing Project: Preliminary Works Package (Stage 1) – tree damaging activities and permanent / temporary carparking.
Type of development:	Merit
Zone / Policy Area:	Residential Zone and Neighbourhood Centre Zone
Subject Land:	Oaklands Park Railway Station and rail corridor at Diagonal Road, Addison Road and Railway Terrace, Warradale; and Morphett Road, Crozier Terrace, Diagonal Way and Murray Terrace, Oaklands Park
Contact Officer:	Simon Neldner
Phone Number:	08 7109 7058
Start Date:	5 April 2018
Close Date:	27 April 2018
<p>During the notification period, hard copies of the application documentation can be viewed at the Department of Planning, Transport and Infrastructure, Level 5, 50 Flinders St, Adelaide, during normal business hours. Application documentation may also be viewed during normal business hours at the local Council office (if identified on the public notice).</p>	

Written representations must be received by the close date (indicated above) and can either be posted, hand-delivered or emailed to the State Commission Assessment Panel.

Any representations received after the close date will not be considered.

Postal Address:

The Secretary
State Commission Assessment Panel
GPO Box 1815
ADELAIDE SA 5001

Street Address:

Development Division
Department of Planning, Transport and Infrastructure
Level 5, 50 Flinders St
ADELAIDE SA 5000

Email Address: scapadmin@sa.gov.au



DEVELOPMENT ACT 1993

NOTICE OF APPLICATION FOR CONSENT TO DEVELOPMENT

SECTION 49 – PUBLIC INFRASTRUCTURE

Notice is hereby given that an application has been made by the **Department of Planning, Transport and Infrastructure** (Public Transport Projects Alliance) for the Oaklands Rail Crossing Project: Preliminary Works Package (Stage 1).
Development Application No: 100/V053/18

The proposed works will comprise: (a) tree damaging activities involving the removal of 33 regulated and significant trees, and impact to an additional 28 regulated and significant trees (e.g. pruning, intrusion into tree protection zone) within the rail corridor; and (b) the establishment of both permanent and temporary on and off-street carparking areas to service the development.

Associated works* will also involve (but not be limited to) the clearance of non-regulated vegetation, earthworks, temporary signage and service relocation (*not development).

The development site comprises the Oaklands Park Railway Station and rail corridor at Diagonal Road, Addison Road and Railway Terrace, Warradale; and Morphett Road, Crozier Terrace, Diagonal Way and Murray Terrace, Oaklands Park: identified as A150, FP218080 [CT6171/660]; A2, DP12512 [CT6149/961]; A91, FP208467 [CT5787/701]; A3, DP36909 [CT6168/475]; A22, FP146150 [ct5824/77]; A16, DP77101 [CT6008/494]; A14, DP77101 [CT6008/492]; A15, DP77101 [CT6008/493]; A23, FP146151 [CT6204/567] and A94, FP147328 [CT5854/339].

A temporary commuter carpark will also be established on land at 416 Morphett Road, Warradale during construction works.: identified as A510, DP33064 [CT5062/304] and A507, DP33064 [CT6021/139].

The subject land is located within the Residential Zone [PA12: Medium Density & PA16: Regeneration] and Neighbourhood Centre Zone of the Marion Council Development Plan (Consolidated – 20 February 2018).

The application may be examined during normal office hours at the office of the State Commission Assessment Panel (SCAP), Level 5, 50 Flinders Street, Adelaide, and the City of Marion, 245 Sturt Road, Sturt. Application documentation may also be viewed on the SCAP website:
https://www.saplanningcommission.sa.gov.au/scap/public_notices

Any person or body who desires to do so may make representations concerning the application by notice in writing delivered to the Secretary, State Commission Assessment Panel, GPO Box 1815, Adelaide 5001 NOT LATER THAN **FRIDAY 27 APRIL 2018**. Submissions may also be made via email to scapadmin@sa.gov.au

Each person or body making a representation should state the reason for the representation and whether that person or body wishes to be given the opportunity to appear before the SCAP to further explain the representation.

Submissions may be made available for public inspection.

Should you wish to discuss the application and the public notification procedure please contact Simon Neldner on (08) 7109 7058.

Alison Gill
SECRETARY
STATE COMMISSION ASSESSMENT PANEL
scapadmin@sa.gov.au

SECTION 49 & 49A – CROWN DEVELOPMENT DEVELOPMENT APPLICATION FORM

PLEASE USE BLOCK LETTERS

FOR OFFICE USE

COUNCIL: MARION COUNCIL
 DEPARTMENT OF PLANNING / TRANSPORT DEVELOPMENT No: _____
 APPLICANT: X INFRASTRUCTURE (DPTI)
 OAKLANDS PARK RAILWAY PREVIOUS DEVELOPMENT No: _____
 ADDRESS: STATION AND SURROUNDS
 DEPARTMENT OF PLANNING / DATE RECEIVED: / /
 CROWN AGENCY: TRANSPORT & INFRASTRUCTURE
 (DPTI)

CONTACT PERSON FOR FURTHER INFORMATION

Name: HELEN DYER
 Telephone: 08 7231 1889 [work] 0447 004 707 [Ah]
 Fax: _____ [work] _____ [Ah]
 Email: helen@holmesdyer.com.au

<input type="checkbox"/> Complying <input type="checkbox"/> Merit <input type="checkbox"/> Public Notification <input type="checkbox"/> Referrals	Decision: _____ Type: _____ Finalised: / /
--	--

NOTE TO APPLICANTS:

(1) All sections of this form must be completed. The site of the development must be accurately identified and the nature of the proposal adequately described. If the expected development cost of this Section 49 or Section 49A application exceeds \$100,000 (excl. fit-out) or the development involves the division of land (with the creation of additional allotments) it will be subject to those fees as outlined in Item 1 of Schedule 6 of the *Development Regulations 2008*. Proposals over \$4 million (excl. fit-out) will be subject to an advertising fee. (2) Three copies of the application should also be provided.

	Decision required	Fees	Receipt No	Date
Planning:	_____	_____	_____	_____
Land Division:	_____	_____	_____	_____
Additional:	_____	_____	_____	_____
Minister's Approval				

RAILWAY AND ASSOCIATED FACILITIES, ROADS, VACANT LAND & OPEN SPACE
 EXISTING USE: X COMMUNITY AND COMMERCIAL LAND USES.

DESCRIPTION OF PROPOSED DEVELOPMENT: _____
APPLICATION FOR TREE REMOVAL AND NEW CAR PARKING.

LOCATION OF PROPOSED DEVELOPMENT: SEE ATTACHED FOR LIST OF CT'S.

House No: _____ Lot No: _____ Street: _____ Town/Suburb: _____
 Section No [full/part] _____ Hundred: _____ Volume: _____ Folio: _____
 Section No [full/part] _____ Hundred: _____ Volume: _____ Folio: _____

LAND DIVISION:

Site Area [m²] _____ Reserve Area [m²] _____ No of existing allotments _____
 Number of additional allotments [excluding road and reserve]: _____ Lease: YES NO

DEVELOPMENT COST [do not include any fit-out costs]: \$ 174 MILLION

POWERLINE SETBACKS: Pursuant to Schedule 5 (2a)(1) of the *Development Regulations 2008*, if this application is for a building it will be forwarded to the Office of the Technical Regulator for comment unless the applicant provides a declaration to confirm that the building meets the required setback distances from existing powerlines. The declaration form and further information on electricity infrastructure and clearance distances can be downloaded from sa.gov.au.

I acknowledge that copies of this application and supporting documentation may be provided to interested persons in accordance with the *Development Act 1993* and meet the requirements for lodgement under s.49 of the *Development Act 1993*.

SIGNATURE: Helen E. Dyer Dated: 19 / 03 / 2018



Government
of South Australia

DEVELOPMENT REGULATIONS 2008
Form of Declaration (Schedule 5 clause 2A)

To: STATE COMMISSION ASSESSMENT PANEL.
GPO Box 1815, ADELAIDE SA 5001

From: DEPARTMENT OF PLANNING, TRANSPORT & INFRASTRUCTURE
77 GRENFELL STREET, ADELAIDE, SA 5001

Date of Application: 19/03/2018

Location of Proposed Development: OAKLANDS PARK RAILWAY STATION & SURROUNDS

House No: _____ Lot No: _____ Street: _____

Town/Suburb: _____

Section No (full/part): _____ Hundred: _____

Volume: _____ Folio: _____

Nature of Proposed Development:

- APPLICATION FOR TREE DAMAGING ACTIVITIES (INCLUDING REMOVAL) AND NEW CAR PARKING.

I HELEN DYER being the applicant/ a person acting on behalf of the applicant (delete the inapplicable statement) for the development described above declare that the proposed development will involve the construction of a building which would, if constructed in accordance with the plans submitted, not be contrary to the regulations prescribed for the purposes of section 86 of the Electricity Act 1996. I make this declaration under clause 2A(1) of Schedule 5 of the Development Regulations 2008.

Signed: Helen E. Dyer

Date: 19/03/2018



**Government
of South Australia**

Note 1

This declaration is only relevant to those development applications seeking authorisation for a form of development that involves the construction of a building (there is a definition of 'building' contained in section 4(1) of the Development Act 1993), other than where the development is limited to –

- a) an internal alteration of a building; or
- b) an alteration to the walls of a building but not so as to alter the shape of the building.

Note 2

The requirements of section 86 of the Electricity Act 1996 do not apply in relation to:

- a) an aerial line and a fence, sign or notice that is less than 2.0 m in height and is not designed for a person to stand on; or
- b) a service line installed specifically to supply electricity to the building or structure by the operator of the transmission or distribution network from which the electricity is being supplied.

Note 3

Section 86 of the Electricity Act 1996 refers to the erection of buildings in proximity to powerlines. The regulations under this Act prescribe minimum safe clearance distances that must be complied with.

Note 4

The majority of applications will not have any powerline issues, as normal residential setbacks often cause the building to comply with the prescribed powerline clearance distances. Buildings/renovations located far away from powerlines, for example towards the back of properties, will usually also comply.

Particular care needs to be taken where high voltage powerlines exist; or where the development:

- is on a major road;
- commercial/industrial in nature; or
- built to the property boundary.

Note 5

An information brochure: 'Building Safely Near Powerlines' has been prepared by the Technical Regulator to assist applicants and other interested persons.

This brochure is available from council and the Office of the Technical Regulator. The brochure and other relevant information can also be found at sa.gov.au/energy/powerlinesafety

Note 6

In cases where applicants have obtained a written approval from the Technical Regulator to build the development specified above in its current form within the prescribed clearance distances, the applicant is able to sign the form.

List of CTS

1.	5854/339,
2.	6204/567,
3.	6021/139,
4.	6008/492,
5.	5533/208,
6.	5446/803,
7.	6008/493,
8.	6008/494,
9.	6055/210,
10.	5824/77,
11.	6129/327,
12.	6168/475,
13.	5062/304,
14.	5787/701,
15.	5710/177,
16.	6150/113,
17.	6068/859,
18.	6149/961,
19.	5935/791,
20.	6171/660,
21.	5935/790



PUBLIC TRANSPORT PROJECTS ALLIANCE – OAKLANDS RAIL CROSSING

Alliance Management System

Planning Report – Application for tree damaging activities (including removal) and new car parking (application no 1)

Doc No: PTPA-OAKL-10810-REP-0000-PLN-0001
Client: The Department of Planning, Transport and Infrastructure (DPTI)
Program: Public Transport Projects Alliance – Oaklands Rail Crossing
Location: Adelaide, South Australia
Project No: 2827

Revision History

Rev	Date	Description	Prepared by	Reviewed by	Endorsed by
A	05.03.2018	Issued for Review	Helen Dyer	Leigh Dalwood	Leigh Dalwood
B	15.03.2018	Final for Review	Helen Dyer	Leigh Dalwood	Leigh Dalwood
C	20.03.2018	Final for Issue	Helen Dyer	Leigh Dalwood	Leigh Dalwood

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Table of Contents

1. Overview	5
1.1. Application Summary	5
1.2. Introduction	5
2. THE APPLICANT	7
3. PROPOSAL OVERVIEW	8
3.1. Project Objectives	8
3.2. Overall Project	8
3.2.1. Rail Infrastructure	8
3.2.2. Bus & Interchange Infrastructure	9
3.2.3. Road & Pedestrian Infrastructure	9
3.2.4. Utilities	9
3.2.5. Structures	10
3.2.6. Tree Damaging Activities	10
3.3. Components of the Project that are the subject of application and stages	10
Rail Infrastructure	11
Bus & Interchange Infrastructure	12
Road & Pedestrian Infrastructure	13
Road & Pedestrian Infrastructure	14
Structures	14
Tree Damaging Activities (Significant and Regulated Trees)	14
3.4. Project Development Process	15
3.5. This Application	16
3.6. Strategic Context	16
3.6.1. South Australia’s Strategic Plan	16
3.6.2. 30 Year Plan for Greater Adelaide	18
3.6.3. Integrated Transport and Land Use Plan	18
3.6.4. City of Marion	19
3.7. Procedural Matters	19
3.7.1. Planning Pathway	19
3.7.2. Authority	19
3.7.3. Nature of Development	19
3.7.4. Public Notification	20
4. SUBJECT SITE AND LOCALITY	21
5. PROPOSAL DETAIL	35
5.1. Total Project	35
5.1.1. Options investigated in determining the preferred lowered rail underpass of Morphett Road	35
5.2. This application	38
5.2.1. Tree Removal	38

Earthworks and Excavation of lower track.....	39
Car Parks and Pathways	39
Pedestrian Bridge	39
Services 39	
Drainage 39	
5.2.2. Car Parking	40
6. PLANNING ASSESSMENT	45
6.1. Provisions	45
6.1.1. Residential Zone	48
6.1.2. Neighbourhood Centre Zone	48
6.1.3. Infrastructure.....	52
6.1.4. Interface between land uses.....	52
6.1.5. Landscaping fences and walls.....	52
6.1.6. Natural Resources	52
6.1.7. Orderly and Sustainable Development.....	53
6.1.8. Regulated Trees	53
6.1.9. Significant Trees	53
6.1.10. Siting and visibility.....	54
6.1.11. Transportation and Access	54
6.2. Assessment	55
6.2.1. Tree Damaging Activities.....	55
Sustainability in landscape design.....	68
Proposed Offset for Removal of Regulated and Significant Trees.....	69
Connected Communities- Green Space	69
Amenity value	69
6.2.2. Car Parking	70
7. CONCLUSION	73
APPENDIX A: CONCEPT PROPOSAL PLANS.....	74
APPENDIX B: URBAN DESIGN STATEMENT	76
APPENDIX C – CERTIFICATES OF TITLE	78
APPENDIX D – REGULATED AND SIGNIFICANT TREE RETENTION AND IMPACT PLAN).....	79
APPENDIX E – OAKLANDS CROSSING TREE DAMAGING ACTIVITIES – REGULATED AND SIGNIFICANT TREES REPORT	80
APPENDIX F – CAR PARKING PLAN	81
APPENDIX G – ACCESS ARRANGMENTS.....	82
APPENDIX H – LANDSCAPING PLAN.....	83
APPENDIX I – RELEVANT DEVELOPMENT PLAN PROVISIONS	84
APPENDIX J – TREE RETENTION RATINGS	85
APPENDIX K– ARBORMAN REPORT	86
APPENDIX L– NON-REGULATED VEGETATION IMPACT PLAN.....	87

1. Overview

1.1. Application Summary

Table 1-1: Application Summary

Application Summary	
Address	Oaklands Park Railway Station and Surrounds
Proposal	Oaklands Crossing Project
Certificate of Title	5854/339,6204/567, 6021/139, 6008/493, 6008/492, 5533/208, 5446/803, 6008/494, 6055/210, 5824/77, 6129/327, 6168/475, 5062/304, 5787/701, 5710/177, 6150/113, 6068/859, 6149/961, 5935/791, 6171/660, 5935/790
Owner	Government of South Australia
Site Area	Approximately 150,000m ²
Local Government Authority	City of Marion
Planning Authority	Minister for Planning (Section 49 – Crown Development)
Planning Scheme	Development Plan – City of Marion (Consolidated 20 February 2018)
Zone	Residential Zone and Neighbourhood Centre Zone
Current Use	Railway and associated facilities, roads, vacant land and open space, and community and commercial land uses.
Notification	Section 49 (7d) – 15 business days
Applicant	Department of Planning, Transport and Infrastructure (DPTI)
Contact Person	Helen Dyer, Holmes Dyer Pty Ltd, 0447 004 707

1.2. Introduction

The South Australian Government is working with partners to seek to improve public transport in South Australia to:

1. Provide for improved access (and thus quality of life) for all South Australian's by improving transport services and providing better connectivity between modes of transport and localities
2. Reduce travel times and thus enhance economic productivity of the workforce
3. Reduce South Australia's travel related carbon footprint
4. Improve safety associated with rail crossings both for pedestrians and people in vehicles

The Oaklands Crossing rail project is a discrete project to be undertaken by the Public Transport Project Alliance which is a partnership including the owner, DPTI, and industry partners Arup and Mott McDonald working in conjunction with constructor participant McConnell Dowell.

Oaklands Crossing is located within the City of Marion and the Council is an active and supportive stakeholder.

The Federal Government will contribute \$95 million, the State Government \$74.3 million and Council \$5 million, with construction expected to begin in the first half of 2018.

The project has been designed to deliver an integrated 'Oaklands Crossing' that will directly contribute to the Government's broader objectives listed above by:

1. Separating road and rail traffic (the rail line will be lowered at this location to allow for a rail underpass) thus reducing congestion on Morphett and Diagonal Roads, improving travel times and improving safety by reducing potential conflicts variously between trains, road vehicles, bicycles and pedestrians
2. Enabling the use of longer electric trains (by constructing a new Oaklands Station to the south of the existing station) providing greater passenger capacity and reducing South Australia's travel related carbon footprint

3. Providing for enhanced connectivity between trains and buses at Oaklands Park resulting in improved transport networks and thus convenience for patrons moving between destinations, and making public transport a more attractive alternative to private vehicles
4. Providing pedestrian and cycling connections through this precinct via a widened shared path under Morphett Road adjacent to the rail underpass
5. Providing an improved attractive, safe and inviting public realm; around, through and along the corridor
6. Delivering a plaza type space that will provide an opportunity for increased activation of the locality; and
7. Providing a node that will present a future opportunity(ies) for a more diverse range of housing options and urban renewal.

The delivery of this project has been designed in a manner that seeks to minimize short term disruption and disturbance whilst maximizing the resultant social, economic and environmental benefits.

This application is made in respect specifically to tree damaging activities and new off-street car parking. This is the first of two applications¹ that will be submitted in respect to this project.

¹ Table 3.1 in Section 3 of this report outlines the elements of the projects requiring approval and the application that will cover each of the elements.

2. THE APPLICANT

The applicant for this project is the Department of Planning, Transport and Infrastructure (DPTI).

The applicant is supported by the Public Transport Projects Alliance (PTPA). The PTPA was formed by the Minister for Transport and Infrastructure. The PTPA Alliance team is underpinned by a legal agreement and is made up of the owner partner DPTI, and non-owner partners Arup, Mott McDonald and McConnell Dowell.

3. PROPOSAL OVERVIEW

3.1. Project Objectives

The specific project objectives are to:

- Improve the operation and safety of both the traffic and rail network around the Oaklands railway station by grade separating the rail and road level crossing at the intersection of Morphett and Diagonal Roads
- Provide a positive experience for pedestrians, cyclists and public transport passengers
- Increase reliability of the arterial road network
- Improve public transport operations and passenger access including:
 - Bus-train interchange
 - Access to the Marion Regional Centre precinct
- Improve accessibility for pedestrians and cyclists along and across the rail corridor, including the Adelaide – Marino Rocks Greenway
- Improve the potential for land use uplift of the surrounding area
- Integrate and enable future commercial development within the Marion Precinct
- Increase road capacity for the future
- Minimise disruption during construction

3.2. Overall Project

The Oaklands Grade Separation Project involves the grade separation of the road and rail networks at the intersection of Morphett and Diagonal Roads by a lowered rail underpass of Morphett Road, construction of a new Oaklands Park Railway Station, and the grade separation of the Marino Rocks Greenway pedestrian and cycling shared path at Morphett Road. The project consists of:

- Rail infrastructure
- Bus and interchange infrastructure
- Road and pedestrian infrastructure
- Utility service infrastructure
- Structures integral to the rail lines operation, and
- Tree damaging activity

Appendix A contains some images of the early concept.

3.2.1. Rail Infrastructure

The alignment of the rail tracks moves to the south east to enable the complete track and underpass to be constructed of the existing line to keep interruptions to train services to a minimum. The rail infrastructure includes the following:

- Track
 - New double track rail for the Seaford Line to the south east of the existing rail alignment within the existing and purchased rail corridor area
- Train Station
 - New enhanced amenity (premium) station on both sides of the railway line
 - Train station platform is to enable operation of a 6 car EMU, or 2 x 3 car EMU (with an additional 5m)
 - Station Canopy providing approximately 68% cover on the 'up' to City platform and 48% cover on the down (to Seaford) platform. This is subject to detailed design but will be of this magnitude.
 - platform infrastructure (furniture) based on 150m operational train length
 - Public toilet and driver facilities (separate toilet)
 - Bicycle storage enclosure and bicycle racks
 - Passenger information displays, CCTV and lighting
 - Demolition of the existing Oaklands Train Station

- Signalling
 - Modification of signalling for the new station
- Overhead wiring
 - New overhead wiring in the existing rail alignment, to the new station
 - Modification to existing overhead wiring and poles on both ends of the underpass resulting from the modifications
- Traction power
 - Earthing and bonding
- Drainage
 - Track and station drainage, including connection to discharge point outside rail corridor
 - Modification to existing track drainage resulting from the track modifications on the existing Seaford Line
- Public Realm
 - Provide infrastructure that uses aesthetics that are sympathetic and complementary to the urban environment in which it is placed
 - Architectural elements to the rail underpass and passenger access bridge
 - Piers and headstocks to have a high quality architectural finish, with architectural panel cladding to achieved desired finish
 - Landscaping adjacent to the train station (nominally 20m either side);
 - Landscaping of the underpass
 - Landscaping of land between the train line & adjacent roads
- Noise Mitigation
 - The project must mitigate the noise impact to the environment, as required
- Fencing
 - Fencing between rail and shared path
 - Emergency and maintenance egress gates in fencing between rail and shared path
 - Fencing of the existing rail corridor

3.2.2. Bus & Interchange Infrastructure

- Shelters
 - Bus shelters for bus stops as required
 - Passenger information displays (one per side of Road)
- Formed Pathways to provide for convenient passenger movements
 - Paved interchange pathways to the train station for passenger interchange and access from car parking areas (temporary and long term)
 - Passenger pathway connecting the indented bus stops & shelters to the station
 - Lighting for all passenger pathways
 - CCTV coverage of shared elevated covered passenger interchange pathway
- Public Realm
 - Landscaping adjacent the bus stops (nominally 20m either side)
 - Landscaping adjacent to the passenger pathways (nominally 20m either side)

3.2.3. Road & Pedestrian Infrastructure

- Improved pedestrian and cyclist connectivity along the Marino Rocks Greenway and across Morphett Road, to renewed public transport facilities at Oaklands Park
- Shared pathway on the southern side of the rail line (over the rail line)
- Lighting for shared pathways
- Landscaped pedestrian and cycle access pathway under the Morphett Road bridge
- Car parking areas

3.2.4. Utilities

- The utility services work includes the relocation, protection and/or modification of all utility services to enable construction and the safe operation of the completed project

3.2.5. Structures

- Bridge structure supporting elevated road and pathways over Seaford line
- Bridge structure supporting elevated walkway over Seaford line and connecting to carpark and station plaza
- Reinforced soil walls abutments at either end of bridge structure
- Station structure and shelters
- Temporary builders' office

3.2.6. Tree Damaging Activities

- the removal of 33 regulated and significant trees (18 regulated and 15 significant), comprising:
 - 25 trees (15 regulated and 10 significant) due to **direct impact** of the tree trunk and structural root zone within the excavation zone associated with the new lowered rail – requiring **SCAP approval**
 - 2 trees (1 regulated and 1 significant) due to **direct impact** of the tree trunk and structural root zone associated with the installation of new services – requiring **SCAP approval**
 - 6 trees (2 regulated and 4 significant) due to **direct impact** of the structural root zone associated with retaining wall structures associated with the new lowered rail – requiring **SCAP approval**.
- the impact to 28 regulated and significant trees (12 regulated and 16 significant) associated with pruning or impact to more than 10% of tree protection zones (TPZ) associated with the development, which will be managed by implementation of design and construction methodologies that are considerate of tree health.

For information purposes only, in addition to the 33 trees noted for removal above, there is one additional significant tree that will need to be removed also due to direct impact of the tree trunk and structural root zone within the excavation zone associated with the new lowered rail. This tree however, is located within the Road Reserve and thus does not require SCAP approval. Removal of this tree will require the approval of DPTI.

3.3. Components of the Project that are the subject of application and stages

This application is made pursuant to Section 49 of the *Development Act 1993*. This section defines projects typically of a public infrastructure nature that are to be considered for approval pursuant the *Development Act 1993* and *Development Regulations 2008*.

The Regulations apply variously to make a number of elements of the overall project exempt for various reasons. For clarity the following table sets out each component of this project noting whether or not a planning approval is required.

Furthermore, planning approval will be sought via two separate applications. These are identified in the following table, Table 3-1, as Stage 1 and Stage 2. Stage 1 the first application (i.e. this application) is made in respect to tree damaging activities and new car parking. This is to facilitate the clearing and preparation of the site and early site works. The Stage 2 application will cover the balance of the elements requiring a planning approval.

Table 3-1: Components of project requiring planning approval

Project Element	Planning Approval ²³	Application Stage
Rail Infrastructure		
<ul style="list-style-type: none"> • Track <ul style="list-style-type: none"> ○ New double track rail of the Seaford Line south of the existing rail alignment 	Not Required <i>Schedule 3 13(1)(a)</i>	
<ul style="list-style-type: none"> • Train Station <ul style="list-style-type: none"> ○ Train station platform on both sides to enable operation of a 6 car EMU, or 2 x 3 car EMU (with an additional 5m) 	Not Required <i>Schedule 3 13(1)(b), 13(5)(g)</i> <i>Yes – Station Canopy</i>	Stage 2 Application
<ul style="list-style-type: none"> ○ Platform infrastructure (furniture) based on 150m operational train length 	Not Required - Station infrastructure <i>Schedule 3 13(1)(b), 13(5)(f)</i>	
<ul style="list-style-type: none"> ○ Public toilet and driver facilities (separate toilet) 	Not Required - Driver facilities <i>Schedule 3 13(1)(b), 13(5)(g)</i> <i>Required – Public Toilet</i>	Stage 2 Application
<ul style="list-style-type: none"> ○ Bicycle storage enclosure and bicycle racks 	<i>Required</i>	Stage 2 Application
<ul style="list-style-type: none"> ○ Passenger information displays, CCTV and lighting 	Not Required <i>Schedule 3 13(1)(b), 13(5)(d), 13(5)(e), 13(5)(f)</i>	
<ul style="list-style-type: none"> ○ Demolition of the existing Oaklands Train Station 	Not Required <i>Schedule 1A 12(1)</i>	
<ul style="list-style-type: none"> • Signalling <ul style="list-style-type: none"> ○ Modification of signalling for the new station 	Not Required <i>Schedule 3 13(1)(b), 13(5)(c)</i>	
<ul style="list-style-type: none"> • Overhead wiring <ul style="list-style-type: none"> ○ New overhead wiring in the existing rail alignment, to the new station 	Not Required <i>Schedule 13(1)(b), 13(5)(c)</i>	

² All references are to the Development Regulations 2008 unless otherwise indicated.

³ This only relates to planning approvals. Other approvals may be required.

<ul style="list-style-type: none"> ○ Modification to existing overhead wiring and poles on both ends of the underpass resulting from the modifications 	Not Required <i>Schedule 13(1)(b), 13(5)(c)</i>	
<ul style="list-style-type: none"> ● Traction power <ul style="list-style-type: none"> ○ Earthing and bonding 	Not Required <i>Schedule 13(1)(b), 13(5)(g)</i>	
<ul style="list-style-type: none"> ● Drainage <ul style="list-style-type: none"> ○ Track and station drainage, including connection to discharge point outside rail corridor 	Not Required <i>Schedule 13(1)(b), 13(5)(g)</i>	
<ul style="list-style-type: none"> ○ Modification to existing track drainage resulting from the track modifications on the existing Seaford Line 	Not Required <i>Schedule 13(1)(b), 13(5)(g)</i>	
<ul style="list-style-type: none"> ● Public Realm <ul style="list-style-type: none"> ○ Provide infrastructure that uses aesthetics that are sympathetic and complementary to the urban environment in which it is placed 	Required – for finishes to be used, (ie throw screens and landscaping)	Stage 2 Application
<ul style="list-style-type: none"> ○ Architectural elements to the rail underpass and passenger access bridge 	Required – for finishes to be used, (ie throw screens and landscaping)	Stage 2 Application
<ul style="list-style-type: none"> ○ Piers and headstocks to have a high quality architectural finish, with architectural panel cladding to achieved desired finish 	Required – for finishes to be used	Stage 2 Application
<ul style="list-style-type: none"> ○ Landscaping adjacent to the train station (nominally 20m either side) 	Required	Stage 2 Application
<ul style="list-style-type: none"> ○ Landscaping of the underpass 	Required	Stage 2 Application
<ul style="list-style-type: none"> ○ Landscaping of land between the train line & adjacent roads 	Required	Stage 2 Application
<ul style="list-style-type: none"> ● Noise Mitigation <ul style="list-style-type: none"> ○ The project must mitigate the noise impact to the environment, as required 	Not Required - <i>Schedule 3 13(1)(b), 13(5)(g)</i>	
<ul style="list-style-type: none"> ● Fencing <ul style="list-style-type: none"> ○ Fencing between rail and shared path 	Not Required - <i>Schedule 3 13(1)(b), 13(5)(g)</i>	
<ul style="list-style-type: none"> ○ Emergency and maintenance egress gates in fencing between rail and shared path 	Not Required - <i>Schedule 3 13(1)(b), 13 (5)(g)</i>	
<ul style="list-style-type: none"> ○ Fencing of the existing rail corridor 	Not Required - <i>Schedule 3 13(1)(b) and 13(5)(g)</i>	
Bus & Interchange Infrastructure		
<ul style="list-style-type: none"> ● Shelters <ul style="list-style-type: none"> ○ Bus shelters for bus stops as required 	Not Required - <i>Section 20(5) and Schedule 14 Part</i>	

	1(1)(a)(l) Highways Act 1926	
<ul style="list-style-type: none"> ○ Passenger information displays (one per side of Road) 	Not Required - <i>Section 20(5) and Schedule 14 Part 1(1)(a)(i) Highways Act 1926</i>	
<ul style="list-style-type: none"> ● Passenger Interchange Pathways <ul style="list-style-type: none"> ○ Elevated covered paved interchange pathways to the train station for passenger interchange 	Not Required - <i>Schedule 3 13(1)(b), 13(5)(g)</i> Yes Finishes	Stage 2
<ul style="list-style-type: none"> ○ Passenger pathway connecting the indented bus stops & shelters to interchange 	Not Required - <i>Schedule 3 13(1)(b), 13(5)(g)</i> Required - Finishes	Stage 2
<ul style="list-style-type: none"> ○ Lighting for all passenger pathways 	Not Required - <i>Schedule 3 13(1)(b), 13(5)(d),</i>	
<ul style="list-style-type: none"> ○ CCTV coverage of shared elevated covered passenger interchange pathway 	Not Required - <i>Schedule 3, 13(1)(b), 13(5)(g),</i>	
<ul style="list-style-type: none"> ● Public Realm <ul style="list-style-type: none"> ○ Landscaping adjacent the bus stops (nominally 20m either side) 	Required	Stage 2 Application
<ul style="list-style-type: none"> ○ Landscaping adjacent to the passenger pathways (nominally 20m either side) 	Required	Stage 2 Application
Road & Pedestrian Infrastructure		
<ul style="list-style-type: none"> ● Improved pedestrian and cyclist connectivity along the Marino Rocks Greenway and across Morphett Road, to renewed public transport facilities at Oaklands Park 	Not Required - Recreation paths <i>Schedule 3, 19(1), 19(2)</i>	
<ul style="list-style-type: none"> ● Lighting for shared pathways 	Not Required - Recreation paths <i>Schedule 3, 19(1), 19(2)</i>	
<ul style="list-style-type: none"> ● Landscaping pedestrian and cycling access pathway under the Morphett Road bridge 	Not Required – Recreation paths <i>Schedule 3, 19(1), 19(2)</i>	
<ul style="list-style-type: none"> ● Car Parking areas 	Required for new on-site carparks where they	Stage 1 Application

	constitute a change in land use and impacts on regulated and significant trees it must be considered.	
Road & Pedestrian Infrastructure		
<ul style="list-style-type: none"> The utility services work includes the relocation, protection and/or modification of all utility services to enable construction and the safe operation of the completed project 	Not Required - <i>Section 20(5) and Schedule 14 Part 1(1)(a)(i) Highways Act 1926</i>	
Structures		
<ul style="list-style-type: none"> Bridge structure supporting elevated road and pathways over Seaford line 	Not Required - Road <i>Section 20(5) and Schedule 14 Part 1(1)(a)(i) Highways Act 1926</i>	Stage 2 Application
<ul style="list-style-type: none"> Bridge structure supporting elevated walkway over Seaford line and connecting to carpark and station plaza 	Not Required – Station Infrastructure <i>Schedule 3 13(1)(b), 13(5)(g)</i>	Stage 2 Application
<ul style="list-style-type: none"> Reinforced soil walls abutments at either end of bridge structure 	Not Required – Station infrastructure <i>Schedule 3 13(1)(b), 13(5)(g)</i>	Stage 2 Application
<ul style="list-style-type: none"> Station structure and shelters 	No – Station infrastructure <i>Schedule 3 13(1)(b), 13(5)(g)</i>	Stage 2 Application
<ul style="list-style-type: none"> Temporary builders’ office (site office) 	Not Required – <i>Schedule 3 4(k)</i>	
Tree Damaging Activities (Significant and Regulated Trees)	No – within Road Reserve <i>Schedule 14, 4(vii)(B)</i>	

3.4. Project Development Process

This project delivers infrastructure improvements as per the Government’s various Strategic Plans. (See section 3.6 below).

Notwithstanding that, this is a project for the delivery of improved public transport infrastructure, the public realm, and additional facilities are considered to be of high importance. To this end the design process is seeking to fully integrate the infrastructure design solutions with the overall public realm. The design process therefore has and continues to include meetings with the Office of Design and Architecture SA (ODASA) ensuring that the engineering solution marries with a high quality urban design outcome.

An urban design statement has been prepared for this project. This statement is included as Appendix B.

This statement is prefaced by the following vision for the public realm as set out by ODASA:

“To provide a safe, accessible and comfortable public realm consisting of well-designed infrastructure that increases public transport patronage, supports connectivity, within the station precinct and the surrounding destinations, and provide a distinctive identity and quality-built environment to encourage future development and renewal.” (ODASA 2017)

The design therefore has been considered in the context of Connected Communities, Station Design, Pedestrian and Cycle connectivity and Car parking.

Connected Communities – The Ground Plane

- The ground plane is imagined as a ‘green’ place with a combination of landscaped strips and an extended urban plaza situated both north and south of the rail corridor adjacent to Morphett Road and connected via a wide pedestrian promenade hinged off Morphett Road. The Plaza provides clear sightlines to the station and adjacent properties and allows for maximum pedestrian circulation and navigation to the platforms and Greenway. A deliberate decision to narrow the station precinct cutting allows for maximising green space at ground level both north and south of the station with limited risk of ongoing maintenance issues.
- With a focus on providing shade and amenity, the ground plane will be designed to allow for and complement future development opportunities in the surrounding urban precinct. The Alliance will work closely with the City of Marion to realise their long-term plans of a revitalised Warradale Centre Precinct and improved connections to Marion Civic Heart and the future Diagonal Road Main Street in line with their Oaklands Hub Vision Document.

Station Design

- The overarching design approach for the Oaklands Station shelter seeks to achieve a high performing piece of public infrastructure for patrons. The urban design approach also focuses strongly on the Oaklands Station having an identity and presence not only in the lowered corridor but also at-grade. Through connecting and elevating the shelters at each end of the station, an expressive piece of architecture rises from the rail corridor and announces itself to its surroundings.

Pedestrian and Cycle Connectivity

- A key focus of the urban design approach is centred on maximising pedestrian and bike connectivity within the precinct. Through a process of assessment of current and future precinct analysis and the local pedestrian network, considered and meaningful connections have been proposed for this important site.

Car Parking

- Car Parking has been distributed along the corridor via a modification of the current on street parking and smaller clusters of off street parking where appropriately sized land parcels exist. This complies with the aim to provide like for like parking to that which is currently provided plus an additional 50 spaces to alleviate some of the on-street parking in residential streets surrounding the station. This will also result in substantial tracts of land surplus to requirements is available for future development to assist in the urban uplift of the precinct.

The application for structures such as the station canopy, public toilet facilities, and bicycle storage will be made as part of the Stage 2 application.

For the purposes of the Stage 1 application, design and public realm considerations have largely centred on the existing trees and the proposed final landscaping solution. To this end, car parking areas have been modified and tree sensitive treatments have been included to maximise the retention of existing vegetation.

3.5. This Application

This application is made in respect specifically to tree damaging activities and new car parking areas.

3.6. Strategic Context

3.6.1. South Australia’s Strategic Plan

South Australia’s Strategic Plan outlines a medium to long-term vision for the whole of South Australia. It has two important, complementary roles. Firstly, it provides a framework for the activities of the South Australian Government, business and the entire South Australian community. Secondly, it is a means for tracking progress state-wide, with the targets acting as points of reference that can be assessed periodically.

The plan contains Seven Strategic Priorities and 10 Economic Priorities as are set out below.

Seven Strategic Priorities

1. Giving our children every chance to achieve their potential in life
2. Keeping our communities safe and our citizens healthy
3. Building our reputation for premium food and wine
4. Growing advanced manufacturing as the way for the future
5. Realising the benefits of the mining boom for all
6. Creating a vibrant city that energises and excites
7. Keeping our high quality of life affordable for everyone.

10 Economic Priorities

1. The knowledge State
2. Premium Food and Wine
3. A Destination of Choice
4. Unlocking our resources
5. A global leader in health and ageing
6. Best place to do business
7. Growth through innovation
8. International connections
9. Vibrant Adelaide
10. Opening doors for small business

This project supports strategic priorities 6 and 7 and economic priorities 6, and 9.

This project supports the South Australia Strategic Plan targets as per Table 3-2 below.

Table 3-2 - State Strategic Plan Targets

SASP Target	How project contributes
Target 1 - Urban Spaces <i>Increase the use of public spaces by the community</i>	The project will provide a public plaza space
Target 2 – Cycling <i>Double the number of people cycling in South Australia by 2020.</i>	The project will provide a bike store designed to encourage people to use bikes to commute to the train station. The project will also enhance the connectivity for cyclists along the Marino Rocks Greenway.

SASP Target	How project contributes
<p>Target 13 – work- life balance <i>Improve the quality of life for all South Australians through maintenance of a healthy work life balance.</i></p> <p>Target 38 – Business investment <i>Exceed Australia’s rate of business investment as a percentage of the economy by 2014 and maintain thereafter.</i></p> <p>Target 39 – Competitive Business climate <i>Maintain Adelaide’s rating as the least costly place to set up and do business in Australia and continue to improve on position nationally.</i></p> <p>Target 16 – Economic Disadvantage <i>By 2020 increase by 2 percentage points the share of total income earned by low income South Australians.</i></p> <p>Target 35 – Economic Growth <i>Exceed the national economic growth rate over the period to 2020.</i></p> <p>Target 36 Labour Productivity <i>Exceed Australia’s average labour productivity growth rate through to 2020.</i></p>	<p>The project will assist with these targets by providing a more efficient public transport system. A good public transport system will open opportunities for business location and provide transportation for employees and should underpin some economic improvement and growth.</p> <p>Employees should also find public transport a more cost-effective form of transport to and from work.</p> <p>Furthermore, efficient public transport will enable employees to spend less time commuting and this will contribute to a better work-life balance.</p>
<p>Target 22 – Road Safety <i>Reduce road fatalities and serious injury by at least 30% by 2020.</i></p>	<p>The grade separation of the road and rail is specifically designed to improve safety of road users, but also pedestrians and cyclists.</p>
<p>Target 32 – Customer and client satisfaction with Government Services <i>Increase the satisfaction of South Australian’s with Government Services by 10% by 2014 and maintaining thereafter.</i></p>	<p>Providing improved public transport should lead to improved customer satisfaction in this area.</p>
<p>Target 47 Jobs <i>Increase employment by 2% each year from 2010 - 2016</i></p>	<p>This project is expected to create direct 160 direct jobs in construction during the life of the project.</p>
<p>Target 56 – Strategic Infrastructure <i>Ensure that provision of key economic and social infrastructure accommodates populations growth</i></p>	<p>A good public transport network provides opportunities for increased residential densities accommodation future population. The platform will be designed to accommodate 6 carriage trains.</p>
<p>Target 63 – Use of public Transport <i>Increase the use of public transport to 10% of metropolitan weekday</i></p>	<p>Improved transport infrastructure that provides for an enhanced amenity and that is more convenient should encourage people to swap the private car for rail.</p>

SASP Target	How project contributes
<i>passenger vehicle kilometres travelled by 2018.</i>	

Overall therefore this project is in accord with South Australia’s Strategic Plan and will contribute to the attainment of stated targets and strategic and economic priorities.

3.6.2. 30 Year Plan for Greater Adelaide

The 30 Year Plan for Greater Adelaide is the high-level strategy that sets out the planning priorities for the State. This is not statutory but should be reflected within the Development Plans.

The plan has three key objectives:

1. Maintain and improve liveability
2. Increase competitiveness
3. Drive sustainability and resilience to climate change

These Objectives are supported by 14 Principles and 6 targets.

The principles and targets of relevance are set out in table 3-3 below:

Table 3-3: - 30 Year Plan for Greater Adelaide

30 Year Plan Reference	How the project contributes
Key Principle 3 - Accessibility	This project will assist in accessibility by providing a node for transport mode change and access to reliable rail. The station and surrounds will be accessible for all.
Key Principle 4 – A transit focussed and connected city	This project is part of DPTI’s programme of public transport improvements that will underpin a transit focussed and connected city. This is proposed to be supported by a rezoning process (DPA). The DPA including draft policy, has just undergone public consultation and is awaiting final authorisation. This proposed rezoning will enable a greater mix of land uses at efficient densities.
Key Principle 8 - Healthy, safe and connected communities	This project connects rail and bus and thus provides for enhanced connectivity for residents in the area.
Key Principle 10 – Economic Growth and competitiveness	This project will enhance the public transport system which is beneficial to supporting the economy.
Key Principle – 11 – Climate change resilience	By providing reliable alternative modes of mass transport, vehicle emissions should be reduced.
Target – More way to get around <i>60% of all new housing in metropolitan Adelaide will be built within close proximity to current and proposed fixed line transport and high frequency bus routes.</i>	This upgrade enabling greater transport capacity will be able to underpin additional residential development in proximity to the Station.
Target – Getting Active <i>Increase share of work trips made by active transport modes by residents of inner, middle and outer Adelaide by 2045</i>	This station with bicycle storage facilities will encourage the use of bike as a primary mode of transport for a portion of a journey.

3.6.3. Integrated Transport and Land Use Plan

The Integrated Transport and Land Use Plan contains the following vision:

Our vision is that South Australia is globally competitive, vibrant and connected

- *We focus our efforts on building on South Australia’s strengths – advanced manufacturing and defence, mining and resources, premium food and wine, tourism, liveability and a unique environment.*

- *Adelaide is recognised as one of the world's most liveable cities and a great place to live and work – with strong and cohesive communities, successful industries and a growing services sector.*
- *In a fiercely competitive global economy, boosting and continually improving Adelaide's liveability is a critical economic strategy for South Australia's long-term prosperity.*
- *Adelaide's liveability is built on a more compact city with a high-quality transport system, healthy and safe communities and a strong commitment to environmental sustainability*

The Plan includes a number of initiatives. In relation to Greater Adelaide these are:

- *An increasing focus on major urban centres and accessibility to these centres – building upon the electrification of the north-south backbone of the public transport system, a modernised and redesigned bus network with a focus on major activity centres and supporting a more active city through better connected walking and cycling networks and walkable environments.*
- *Giving businesses the efficient, reliable transport connections they need to deliver goods and services around the city and to interstate and international markets – a well-targeted package of investment in the North-South Corridor, Inner and Outer Ring Routes and intersection and road upgrades.*

This project is consistent with and will specifically support both initiatives by:

- *Improving the Oaklands station and environs and thus will support access to the Marion centre which services the region*
- *Providing an enhanced environment for cyclists and pedestrians, as well as providing a plaza space that will be activated to support community activities and engagement*
- *Facilitating a more efficient north-south rail service*
- *Providing reliable transport by rail*
- *Providing an improved and safer road network by improving the intersection of Morphett and Diagonal Roads.*

3.6.4. City of Marion

The City of Marion has developed a community vision towards 2040 to guide the future development of the City with a focus on people.

This vision has six themes, *liveable, prosperous, valuing nature, innovative, engaged and connected*. The vision expands on the connected theme as follows:

By 2040 our city will be linked by a quality road, footpath and public transport network that brings people together socially, and harnesses technology to enable them to access services and facilities.

The Strategic Plan 2017 – 2040 expands on this and further advocates for desirable public transport and specifically notes the Oaklands Crossing as a key challenge/opportunity.

The City of Marion is a key supporter of this project and has made an in-principle commitment to contribute \$5 million in land, roadworks and green space while undertaking a rezoning to allow higher density development.

This project therefore is supported by the Council and in turn supports Council's aspirations for the area through the provision of upgraded and improved public transport and connectivity to areas outside the Council, improved public safety, better pedestrian connectivity to and around the station, activation, and aesthetic improvements generally and the provision of a public plaza space.

3.7. Procedural Matters

3.7.1. Planning Pathway

Section 49 Crown development.

3.7.2. Authority

The Minister is the Planning Authority pursuant to Section 49. The State Commission Assessment Panel is required to provide advice to the Minister.

3.7.3. Nature of Development

The nature of this application is tree damaging activities and car parking. Both uses are listed neither as complying nor non-complying development.

3.7.4. Public Notification

The project is over \$4 million and therefore will be notified to the community pursuant to Section 49(7d).

In addition to the statutory consultation, Gould Thorpe Planning has been engaged by the PTP Alliance to undertake consultation with all identified key stakeholders. This has commenced and is on-going and includes direct communication with all adjoining residents and broad notification to enable anyone with an interest to engage.

4. SUBJECT SITE AND LOCALITY

The Oaklands rail station and crossing is located 12.8km south of Adelaide on the Seaford train line, at the intersection of Morphett and Diagonal Roads.

The site is irregular in shape taking in the rail corridor extending to northern side of Railway Terrace from just west of Fourth Avenue to just east of Carlton Road. To the south of the corridor the site takes in Addison Road from west of Morphett Road to just east of Moyle Ave, and to the east of Morphett Road, Crozier Terrace to just west of Parsons Street.

The site also includes the road corridors, including along both sides of Morphett Road to just north of Prunus Street and just south of the aquatics centre, and Diagonal Road between Walkley Avenue in the north west and just beyond Trott Grove to the south east; around this latter section the site widens to the east to follow the alignment of Diagonal Road and Diagonal Way.

The site comprises all of parts of the following Certificates of Title.

CT 5854/339,
CT 6204/567,
CT 6021/139,
CT 6008/492,
CT 5533/208,
CT 5446/803,
CT 6008/493,
CT 6008/494,
CT 6055/210,
CT 5824/77,
CT 6129/327,
CT 6168/475,
CT 5062/304,
CT 5787/701,
CT 5710/177,
CT 6150/113,
CT 6068/859,
CT 6149/961,
CT 5935/791,
CT 6171/660, and
CT 5935/790

Copies of the Certificates of Title are included in Appendix C.

On average, almost 42,000 vehicles use Morphett Road each day south of the Oaklands Crossing. North of the crossing an average of 33,200 vehicles use Diagonal Road and 8,700 use Morphett Road.

Portions of Dunrobin Road, Ailsa Ave, Third Ave and Selway Street are also included. Dunrobin is included on the basis that this intersection is proposed to be signalised. The others have been included as they are in areas where there is considered to be existing vegetation and thus to ensure continuity for the purposes of future landscaping.

The current rail line runs roughly at ground level and the station comprises a platform on either side of the track. This is accessed via a ramp and sits slightly above natural ground at the height of the train doors. Each side of the station is currently partially sheltered via a canopy, and station furniture in the form of seating, bins and bike racks are provided. The station also is equipped with CCTV security cameras, information signs and boards and lighting.

Toilets are provided for patrons and staff on the northern side of the station.

Safety fencing is provided to the track and platform areas.

The rail/road crossing is signalled with boom gates.

Figure 3-1 below show the subject site.



PTPA Oaklands Rail Crossing
ASPECT Studios™

Subject Site and Locality Plan | Date: 19.03.2018
Scale: 1:1000 @ A1 | Diag no.: SK-013 - 04
Rev: -

Figure 3-1: Subject site

There is currently a car parking area comprising 243 spaces provided to the south of the station and this is accessed via Crozier Terrace. A further 22 off road car parking spaces are also currently provided to the north in an area accessed from Murray Terrace. Ninety-degree parking is currently available off Railway Terrace west of Diagonal Road

Figure 3-2 below shows the current car parking arrangements.

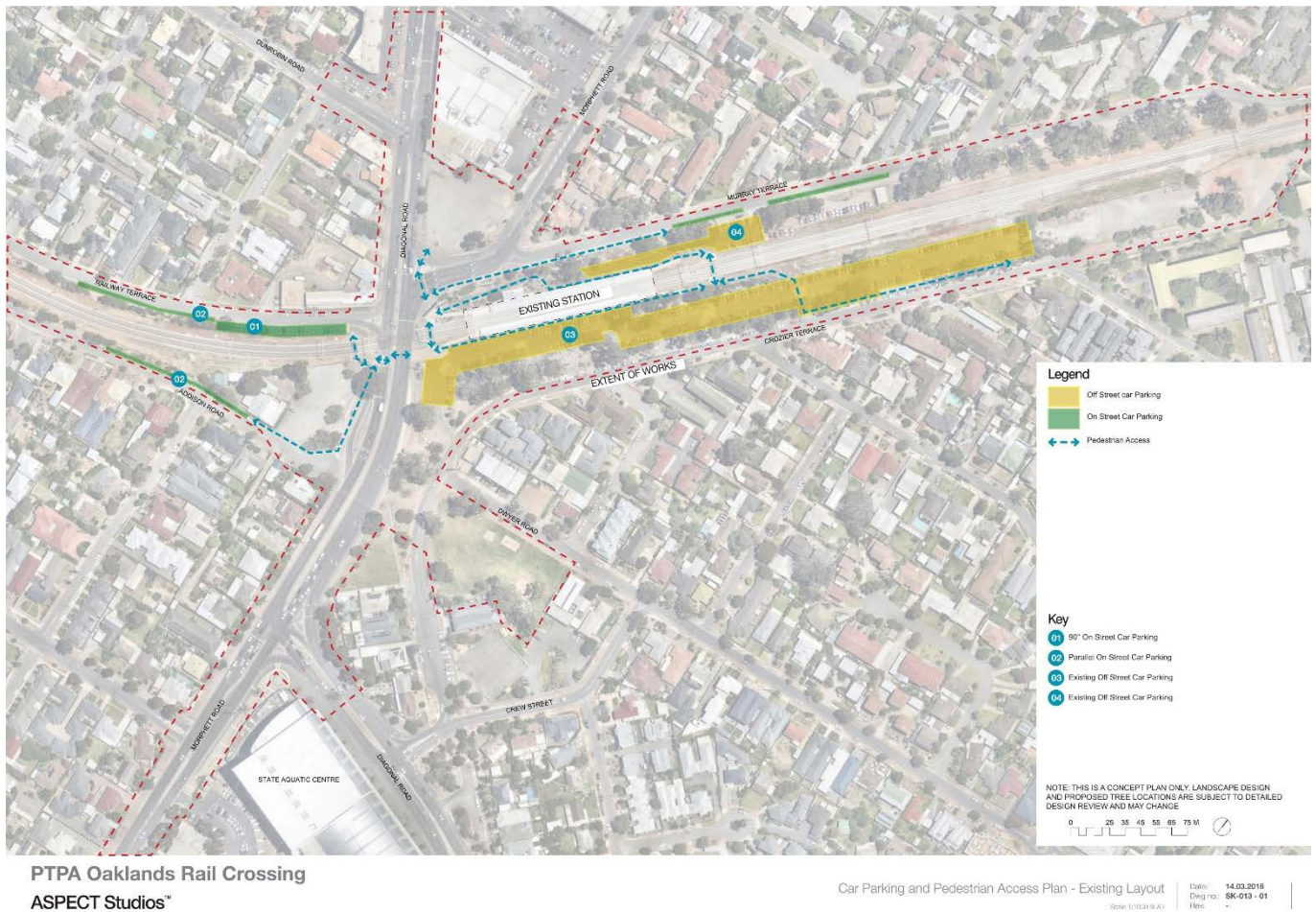


Figure 3-2: Existing station parking areas

The area contains a moderate amount of vegetation. The current rail corridor and car parks contain linear plantings that contribute to the visual amenity of the locality.

The electricity to the rail line is overhead and forms a notable visual element in the locality.

Parking restrictions are evident in some of the adjoining streets.

The site adjoins low/low-medium density residential development to most sides. Much of the residential development is in the form of either residential flat buildings of one to two storeys, or single detached dwellings. The area is experiencing an amount of infill redevelopment, but this is still at modest densities. The redevelopment sites include predominantly two storey townhouses.

In addition to the residential land uses there is some commercial/retail to the north between Diagonal Road and Morphett Road and close to the intersection of the roads and the rail line. This is a small centre anchored by a Coles supermarket and the hotel. There are a number of other commercial uses including a gym, laundry and some other businesses; a few with a leisure focus.

The Vietnam Veterans Federation is near Addison Road on the opposite side of the road crossing. This forms part of the site.

The broader locality includes the Marion Shopping Centre and community facilities including the Marion Library, Arts and Cultural Centre and State Aquatic centre. These facilities commence in the order of 200m as the crow flies from the site. This centre provides a regional level of services and thus these facilities and the railway station have a positive symbiotic relationship.

Figure 3-1 below shows the site that is the subject of this application and the general locality.

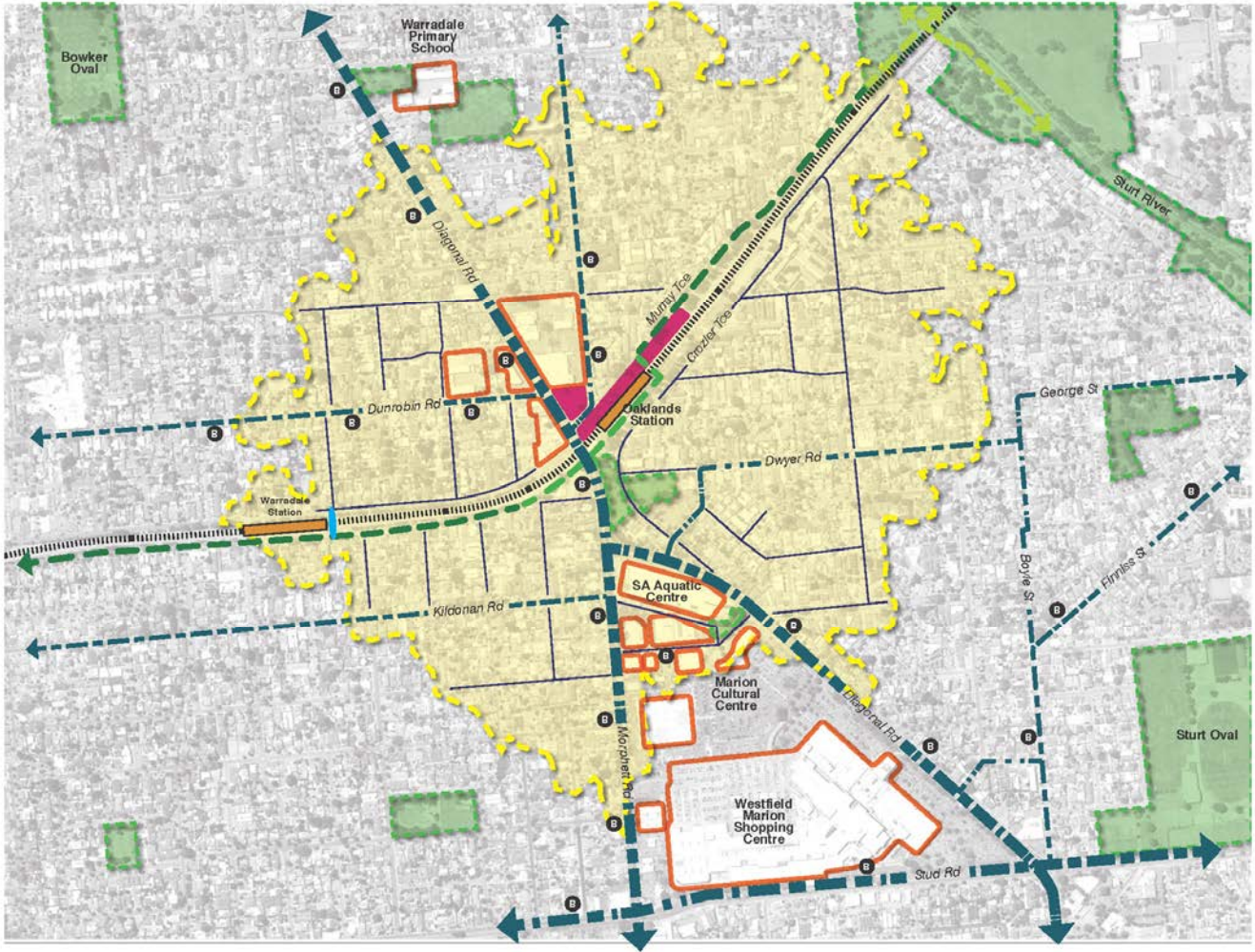


Figure 3-3: Locality

The general area has the amenity that would be expected of a locality dominated by two major roads, and a railway station.

The following images illustrate the site and surrounds.



Figure 1: Rail Corridor looking South West from Carlton Street Pedestrian Crossing



Figure 2: North West end of Oaklands Station from Pedestrian Crossing



Figure 2a: Oaklands Station from Murray Terrace (near Morphett Road Intersection)



Figure 2b: North East end of Oaklands Station from Murray Terrace



Figure 2c: Existing Car Park North East of Oaklands Station from Murray Terrace



Figure 2d: Entrance to existing Car Park North East of Oaklands Station from Murray Terrace



Figure 3: North East of existing Car Park from Murray Terrace



Figure 4: Railway Station looking South West from Murray Terrace Car Park



Figure 5: Pedestrian Crossing at Corner of Murray Terrace and Cotton Street

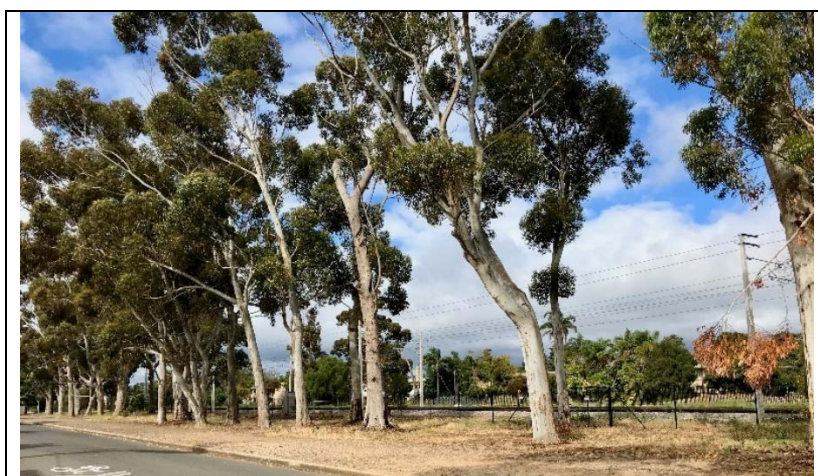


Figure 6: Rail Corridor from Murray Terrace North of Barry Road



Figure 7: Rail Corridor from Murray Terrace North of Barry Road



Figure 8: Rail Corridor from Murray Terrace near Barry Road



Figure 9: Rail Corridor near bend in Murray Terrace



Figure 10: Looking South West along Murray Terrace from South of Carlton Street



Figure 11: Looking North West of Station and Car Park off Crozier Terrace



Figure 12: Recent Housing off Crozier Terrace near Station



Figure 13: Looking North West of Station and Car Park off Crozier Terrace



Figure 14: Looking North West at Car Park off Crozier Terrace NW of Station



Figure 15: Looking North West of Car Park off Crozier Terrace North West of Station



Figure 16: Existing Railway Building North East of Station from Murry Terrace



Figure 17: Rail Corridor from Corner of Murray Terrace and Cotton Street



Figure 18: Looking North West on Diagonal Way



Figure 19: Townhouses on Dwyer Road



Figure 20: Rear of Coles Supermarket from Morphet Road/Murray Terrace Intersection



Figure 21: Warradale Hotel looking South from Prunus Street



Figure 22: Warradale Hotel looking South from Prunus Street



Figure 23: Oaklands Road looking North East from North East of Railway Terrace



Figure 24: Oaklands Road looking North East from Railway Terrace



Figure 25: SAHT Housing on Crozier Terrace



Figure 26: Looking North West along Railway Terrace near First Avenue

5. PROPOSAL DETAIL

5.1. Total Project

The Oaklands Crossing Project involves the grade separation of the road and rail networks at the intersection of Morphett and Diagonal Roads by:

- A rail underpass traversing underneath Morphett Road
- Construction of a new Oaklands Park Railway Station
- Grade separation of the Marino Rocks Greenway pedestrian and cycle shared path at Morphett Road.

These are described in more detail in the following section. The following section also describes the options investigated in determining the preferred option for the project.

5.1.1. Options investigated in determining the preferred lowered rail underpass of Morphett Road

The project will involve the lowering of the rail line under Morphett Road. To minimise disruption to passenger services while under construction the dual rail track is proposed to be realigned to the south of the existing alignment making use of existing rail corridor in doing so.

Prior to confirming this option as the preferred option many alternatives were investigated that included both under and overpass options. All of the options investigated are described below:

Option A – A road overpass from Morphett Road (north) to Diagonal Road (south). The at-grade level crossing was retained in this option for Diagonal Road (north) and Morphett Road (south) traffic. Prunus Street connection was upgraded to provide a signalised intersection at each end.

Option B – A road overpass from Diagonal Road (north) to Diagonal Road (south). An at-grade level crossing is retained to cater for Morphett Road traffic. The Prunus Street connection was upgraded to provide a signalised intersection at each end.

Option C – A road overpass from Diagonal Road (north) to Morphett Road (south). In this option the at-grade level crossing is removed. The Prunus Street connection was planned to be upgraded to provide a signalised intersection at each of its ends.

Option E – A road underpass from Diagonal Road (north) to Diagonal Road (south). The at-grade level crossing is retained to provide safe crossing for local traffic. The Prunus Street connection was planned to be upgraded to provide a signalised intersection at each of its ends.

Option F – A road overpass from Diagonal Road (north) to Morphett Road (south). The at-grade level crossing would be removed, and Morphett Street (north) and Diagonal Road (south) would be connected to the overpass.

Option G – A rail overpass with the existing road configuration retained and therefore level crossing removed. This option would require the current Oakland Station to be reconstructed.

Option H – A road overpass from Morphett Road (north) to Morphett (south). The at-grade level crossing is removed and Prunus Street connection is upgraded to provide signalised intersection at each end.

Option J – A road overpass option from Diagonal Road (north) to Diagonal Road (south). The at-grade level crossing is removed and the Prunus Street connection is upgraded to provide a signalised intersection at each end.

Option K – A rail underpass option with the existing road configuration retained and an upgrade to Prunus Street.

Option L – A rail overpass option based on Option G (above) with an alignment shifting the rail line to the south and the addition of pedestrian crossings.

Option M – A rail underpass based on Option K (above) and maintaining the existing road network connections.

Option N – A road overpass with Diagonal Road (north) to Diagonal Road (south) based on Option J (above) and local road connections as for the road underpass options above (three lanes in each direction).

Option O – A road underpass option based on Option E (above) and local road connections as per road underpass options.

Option P – A rail overpass option with the new track alignment to be positioned south of the existing track alignment so that train services are not affected by construction (except for short term closures) and the road network remaining with the same connections.

Option Q – A rail underpass option with the new track to be positioned south of the existing track alignment so that train services are not affected by construction (except for short term closures) and the road network remaining with the same connections.

Option R – A rail overpass with new tracks to be positioned south of the existing track alignment so that train services are not affected by construction (except for short term closures) and the road network remaining with the same connections. The road connections are altered to give priority for Morphett Road through movements.

Option S – A rail underpass with the new tracks to be positioned south of the existing track alignment so that train services are not affected by construction (except for short term closures) and the road network remaining with the same connections. The road connections are altered to give priority for Morphett Road through movements.

In addition to the long term grade separation option, shorter term interim options were also investigated as follows:

Short-term option 1 – Diagonal Road (southbound) linked to Morphett Road via an upgraded Prunus Street. Existing connection removed from Diagonal Road (southbound) to Morphett Road (southbound). This option was developed primarily based on a road overpass arrangement being implemented later.

Short-term option 2 – Morphett Road (southbound) linked to Diagonal Road via an upgraded Prunus Street. Existing connection removed for Morphett Road (southbound). This option was developed primarily based on a road overpass arrangement being implemented later.

Short-term option 3 – Widening of the rail crossing and providing two right turn lanes for northbound traffic on Morphett Road and removing the need to use Prunus Street. Additional Diagonal Road southbound capacity provided via a third southbound through lane at the Diagonal Road (north) / Morphett Road junction.

Short-term option 4 – Widen the rail crossing and provide three through north and south bound lanes on Diagonal Road at the Diagonal Road (north) / Morphett Road junction.

Short-term option 5 - Modification to crossing closure times. This option seeks to identify opportunities to reduce the time required to close the crossing for train movements through improved prediction of train movements and speeds.

Short-term option 6 – Conversion of the Morphett Road, Diagonal Road and Prunus Road triangle to a one-way clockwise arrangement. The option effectively converts the triangle into a large roundabout.

Short-term option 7 - Diagonal Road / Prunus Street roundabout. The driver of this option is to improve right turn access from Diagonal Road to Prunus Street and which in turn will assist with improving northbound traffic flows through the crossing.

The following table identifies the economic evaluation of the viable options as described above;

Table 5.1: Economic evaluation of options

Option	Benefit Cost Ratio
Option L	1.2
Option M	1.5
Option N	0.8
Option O	0.6
Option P	1.7
Option Q	1.7

A multi-criteria analysis of the options was undertaken taking into consideration such aspects as cost, traffic delays, safety, accessibility, environmental impacts, implications for urban development and constructability. This analysis identified that options that modified the rail alignment (under as in option Q or over as in option P) offered greater levels of positive outcomes than options that modified the road alignment under or over.

Option Q is considered to incur less social impact on the assumption that lowered infrastructure will have minimal visual and noise impact on the surrounding area resulting in higher amenity value of the surrounding area and likely to entice new development in the area. It is therefore the preferred option.

Project components in detail

The Oaklands Crossing Grade Separation project represents a significant opportunity to provide an enhanced station precinct with greatly improved pedestrian and bicycle connectivity and safety along with high quality amenities that support the State's mandate to increase public transport patronage.

Rail Infrastructure

The project consists of a realigned and lowered dual track electrified rail line that is located to the south of the existing rail line in the vicinity of the current Oaklands Park Station within existing rail corridor with the exception of a single parcel of land currently being purchased by the Rail Commissioner. The project also includes road works located in road reserve with the exception of two locations where minor partial land acquisition is required that will be purchased by the Commissioner for Highways.

As with all passenger rail lines the infrastructure also includes rail signalling equipment, overhead wires and gantries supporting these wires to provide traction power to the electric train fleet that use the line.

The track structure consists of ballast, sleepers and track in an excavated cutting that uses a combination of piles and retained earth embankments to stabilise the cutting walls.

The excavation also includes the relocated Oaklands Station platform and passenger boarding infrastructure that includes CCTV, seating, passenger information and access paths to enable safe movement from the surrounding network to the station.

The Rail Infrastructure described above is subject to approval pursuant to the *Development Act 1993*. This will be the subject of the Stage 2 application.

In addition, it is proposed that the station be provided with a shelter spanning the track infrastructure and platforms. This shelter will be submitted for development approval as part of the Stage 2 application. Finishes of the retaining walls as part of the excavation will be the subject of Stage 2 application.

Road Infrastructure

The project maintains the arterial road connectivity by installing a road bridge on Morphett Road spanning the excavated rail line. The bridge provides for the predicted traffic volumes on Morphett Road while providing wide pedestrian areas on both sides of Morphett Road and hence providing grade separated pedestrian access where currently this does not exist.

The project also includes new traffic signals at the intersection of Dunrobin Avenue and Diagonal Road, a pedestrian activated crossing on Diagonal Road and altered lane layouts at other intersections within the project scope area.

The bus stops closest to the Oaklands Park Station will be designed to have indented bays and upgraded shelters while improved pedestrian paths leading to and from the station will provide the most convenient and safe access route to the area without the need to divert the bus routes.

Pedestrian and cycle connections will be facilitated via a combination of on road and off-road networks.

The road infrastructure listed above does not require development approval.

The car parking proposed as part of the redevelopment forms part of this application and is dealt with below in section 5.2.2.

Walking and cycling infrastructure

A key focus of the urban design approach is centred on maximising pedestrian and cyclist connectivity within the precinct. Through a process of assessment of current and future precinct analysis and the local pedestrian network, considered and meaningful connections have been proposed for this important site.

The Marino Rocks Greenway (off road cycle path) will be grade separated from Morphett Road by utilising the lowered rail corridor. Other pedestrian paths will connect bus stops on Morphett Road and other pedestrian origins and destinations to the new station. DDA compliant ramps will provide safe access from surface level down onto the station platform. Bike storage facilities are to be provided at the station in the form of a bike cage.

A pedestrian footbridge is provided over the rail line to maintain current and future walking and cycling desire lines in the project area. The footbridge will have throw-screens for safety of the rail network.

The pathways associated with access from the car parking areas to the station (both the existing and proposed new) are shown on the plans in figures 5-2 and 6-1.

Urban Design and Landscape components

A high quality public realm (Station Plaza) and surrounding landscape area will complement the premium station requirements including extensive planting, high quality paved areas, urban ‘marker’ (public art), urban furniture and pathway connections.

The ground plane is imagined as a ‘green’ place with a combination of landscaped strips and an extended urban plaza situated both north and south of the rail corridor adjacent to Morphett Road and connected via a wide pedestrian promenade hinged off Morphett Road. The Plaza provides clear sightlines to the station and adjacent properties and allows for maximum pedestrian circulation and navigation to the platforms and Greenway. A deliberate decision to narrow the station precinct cutting allows for the maximising of green space at ground level both north and south of the station with limited risk of ongoing maintenance issues.

With a focus on providing shade and amenity, the ground plane will be designed to allow for and complement future development opportunities in the surrounding urban precinct. The Alliance will work closely with the City of Marion to realise its long-term plans of a revitalised Warradale Centre Precinct and improve connections to the Marion Civic Heart and the future Diagonal Road Main Street in line with Council’s Oaklands vision.

The overarching design approach for the Oaklands Station shelter seeks to achieve a high performing piece of public infrastructure for patrons. The urban design approach also focuses strongly on the Oaklands Station having an identity and presence not only in the lowered corridor but also at-grade. The plan is through connecting and elevating the shelters at each end of the station, an expressive piece of architecture will rise from the rail corridor and announce itself to its surroundings.

5.2. This application

This application is made to facilitate the clearing of the site and bulk earthworks to enable commencement of the construction of the realigned and lowered rail tracks (underpass). The realigned track will pass roughly parallel and to the south of the current alignment in an area of land between the current track and the northern side of Crozier Terrace. These initial works do not involved construction of any of the new elements however will result in the removal of vegetation some of which is Regulated and/or Significant as follows:

- the removal of 33 regulated and significant trees (18 regulated and 15 significant), comprising:
 - 25 trees (15 regulated and 10 significant) due to **direct impact** of the tree trunk and structural root zone within the excavation zone associated with the new lowered rail – requiring **SCAP approval**
 - 2 trees (1 regulated and 1 significant) due to **direct impact** of the tree trunk and structural root zone associated with the installation of new services – requiring **SCAP approval**
 - 6 trees (2 regulated and 4 significant) due to **direct impact** of the structural root zone associated with retaining wall structures associated with the new lowered rail – requiring **SCAP approval**.
- the impact to 28 regulated and significant trees (12 regulated and 16 significant) associated with pruning or impact to more than 10% of tree protection zones (TPZ) associated with the development, which will be managed by implementation of design and construction methodologies that are considerate of tree health.

5.2.1. Tree Removal

The Regulated and Significant Tree Removal and Impact Plan included at Appendix D identifies all the trees forming part of this application. It also shows those Regulated and Significant Trees to which there is no appreciable impact.

5.2.1.1. Vegetation Management

Consideration of the project requirements and the tree characteristics and status have been taken into account to determine which trees will be impacted or removed. Design and construction methodologies for the road and rail alignments, and associated services, have been developed to reduce impacts to Significant and Regulated Trees (under the *Development Act 1993*), and other high amenity vegetation.

5.2.1.2. Sustainability Considerations

The Public Transport Program Alliance is committed to achieving sustainable outcomes for the Oaklands Crossing Project, and will incorporate landscaping (including off-set plantings), water sensitive urban design principles and enhance connectivity for pedestrians, cyclists and public transport users. Selection of plants within the landscaped areas will be considerate of endemic and natural species, together with input from Marion City Council.

5.2.1.3. Permanent works

All the tree removal approvals are related to the permanent works for the project with the trees requiring removal due to the proposed excavation and retaining structures associated to the east and south of the existing railway line. Refer to Appendix E Oaklands Crossing Tree Damaging Activities Regulated and Significant Trees that show the encroachment of the proposed works with respect to tree protection zones.

Earthworks and Excavation of lower track

The proposed design, including excavation zone for the lowered track and station, was superimposed on the trees data (using GIS). This enabled an assessment of the impacts of the design on trees to be considered.

The lowered track will require retaining structures to ensure stability of embankments. These are likely to be a combination of vertical (eg, concrete slab) retaining walls, gabion retaining walls and battered slopes. The types of retaining walls will be determined based on geotechnical conditions, constructability, maintenance, urban design and existing site constraints (services, structures, vegetation).

Based on the design, 32 (of the 33) regulated and significant trees to be removed are within, or directly adjacent, the excavation area.

Car Parks and Pathways

Many trees are located near the existing and proposed, at-grade, car parks and pathways associated with the upgraded surround of Oaklands Station. The design of the new and upgraded, at-grade car parks and pathways has been conducted taking into account the location of Regulated and Significant trees, including their tree protection zones and structural root zones. Advice from the Arborist has also been sought during the design process in order to reduce impact to trees, where practicable. As a result of careful design (eg, by avoiding construction within structural root zones), no trees have been proposed to be removed as a result of the construction of car parking and associated pedestrian pathways.

Pedestrian Bridge

The pedestrian bridge has been designed as an elevated walkway over the railway line to connect to the carpark and station plaza. The proposed location of the pedestrian bridge extends over the excavation zone where the trees will have been removed as part of the excavation for the lowered rail.

Services

Proposed service realignment will aim to not impact upon the trees where practicable. A number of services are proposed to be installed using directional drilling between Barry Road and Selway Street (under Marry Terrace and Crozier Terrace). Given the trees (Sugar Gums) are expected to have structural roots deeper than the directional boring, there is a need to remove one tree on each side of the alignment (trees R-R15 and S-S18).

Drainage

Water Sensitive Urban Design (WSUD), including retention of water onsite, for the project will be focussed to the west of the intersection of Morphett and Diagonal roads to Fourth Ave. One tree was identified as Regulated along the north west of the rail corridor and will not be impacted by the proposed design. Vegetation patches may be impacted however do not require approval for removal. The design focuses on a location with the least impact to existing vegetation. The design of drainage locations will be cognisant of existing vegetation, and is likely to include detention basins and other water sensitive urban design considerations.

5.2.1.4. Temporary Works

The temporary works, including traffic switching to maintain road traffic flows have been designed so that they do not impact outside the permanent works area where regulated or significant trees exist. The remnant tree (S-S34, river red gum) has been identified as a tree with high amenity value to the community. This has been considered carefully due to the proximity of temporary (and permanent) works. Redesign of the temporary works has been conducted to limit the extent near this tree however, given the close proximity of the temporary (and permanent works) to the remnant tree (S-S34), there is a risk that compromising its health may be unavoidable and hence is marked for removal. This tree is in the road reserve and thus is not subject to approval pursuant to the *Development Act 1993*.

5.2.1.5. Operation and Maintenance

The urban landscape design has taken into consideration operational and maintenance requirements for road, rail and open space land uses.

Pruning of vegetation may be required for the safe operation and maintenance of the railway, including consideration of overhead power supply, in accordance with DPTI Vegetation Removal Policy, Standard Operating Procedure under the *Native Vegetation Act 1991* (2017). DPTI has developed a policy that defines a vegetation clearance envelope (see Zone 1 in Diagram 1 below) to be established as part of the rail electrification works, in order to:

- minimise the risk of tree limbs falling on the track or overhead wires, thus potentially sparking a fire and/or disrupting services;
- reduce the safety issues that maintenance workers face when working in an electrified environment; and
- reduce the extent and frequency of vegetation maintenance and any resultant service disruptions to undertake these activities.

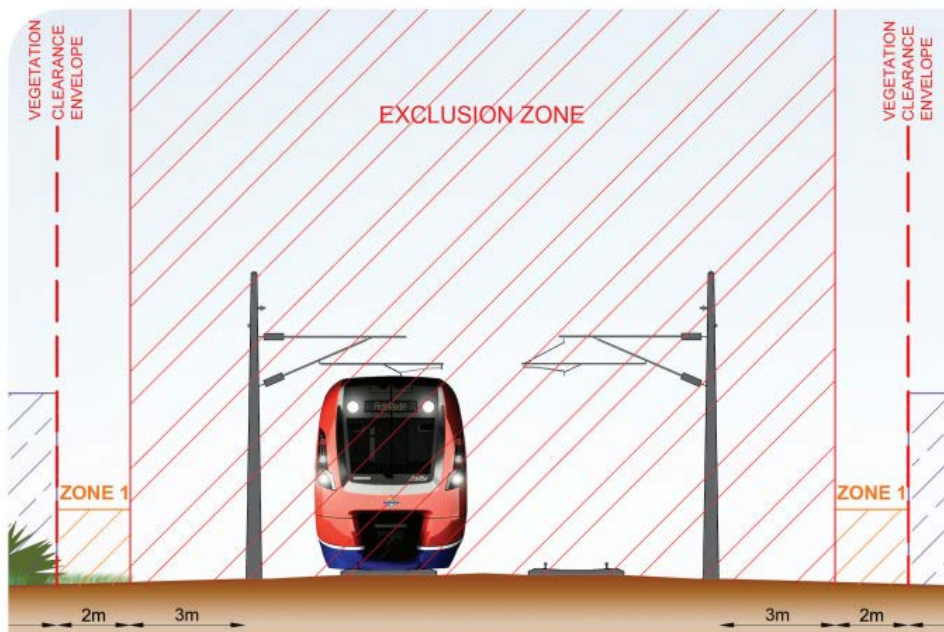


DIAGRAM 1: VEGETATION CLEARANCE ZONES FOR ELECTRIFIED RAIL CORRIDORS.

5.2.2. Car Parking

The existing Oaklands Park station has parking spaces for 286 public transport users directly adjacent to the station; spread across a number of locations. These parking spaces will be either modified or removed and relocated as part of the Oaklands Crossing project.

At present all parking at the station is unpriced and has no time restrictions to their use. Site observations indicate that parking space use is very high, resulting in a large number of commuters parking on the surrounding street network or in a number of informal unmarked and unpaved areas surrounding the station.

Through stakeholder and community engagement it has been identified that an increase in the overall number of parking spaces is desirable to limit the amount of parking in local residential streets in the vicinity of the station by public transport users. The impact of this on-street parking is to limit the parking spaces available to residents and visitors to those residential areas.

Oaklands Park Station is not identified in the State Government’s *‘Integrated Transport and Land Use Plan’* as the site for future ‘Park and Ride’ facilities.

Analysis of passenger rail patronage data at Oaklands Station indicates that boarding activity is predominantly in the inbound direction towards the Adelaide CDB, however, the twenty percent (20%) of boarding in the outbound direction is considered significant reflecting the somewhat bimodal character of the station. It is expected that alighting movements follow the same trend. Analysis of mode share data indicates the following splits between bus to train, car to train, walking, cycling and kiss and ride arrivals at the station.

Estimated station access mode share (weekday)

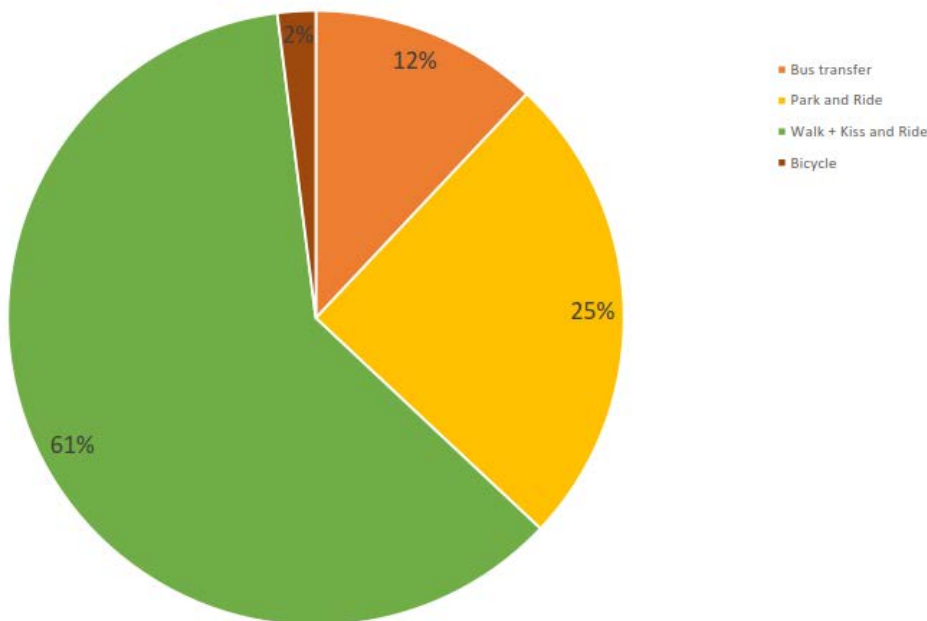


Diagram 2 - Estimated access mode share for Oaklands Station

Future changes in patronage to Oaklands station is expected to be driven by a combination of population growth and demographic changes within the station access catchment, service frequency improvements and the attractiveness of competing travel modes.

With an approximate daily boarding of 1350 passengers, 25% of which arrive via car it is expected that approximately 336 parking spaces would be required to cater for the station’s operation. The addition of 50 parking spaces over the current parking spaces (286) is an appropriate level of parking provision to cater for demand.

The City of Marion is proposing to rezone this area as part of its Housing Diversity DPA. This proposed rezoning is currently awaiting Authorisation. Whilst this proposed policy is not yet authorised and thus cannot be taken into consideration as part of this application it is worth noting that this rezoning proposes to introduce a Suburban Activity Node Zone that would cover most of the site (small portions would remain in the Neighbourhood Centre and Residential Zones (largely those areas of the site at the south western edge; west of Ulva Avenue)) linking the

Neighbourhood Centre Zone and the Regional Centre Zone. This new Zone proposes to link across the rail corridor and provides for increased residential density and commercial buildings. This is consistent with the 30-year Plan for Greater Adelaide’s proposed land use changes and increased densities adjacent to transport corridors and nodes (i.e. station).

Car Parking has been distributed along the corridor via a modification of the current on street parking (with some parallel parking being converted to right angle parking) and smaller clusters of off street parking where appropriately sized land parcels exist. This complies with the aim to provide like for like parking to that currently provided plus 50 spaces to seek to alleviate some on street parking in the locality by commuters while ensuring that substantial tracts of land surplus to requirements is available for future development to assist in the urban uplift of the precinct. All additional parking areas will have a sealed asphalt surface and will be line marked in accordance with AS2890. See figure 5-1 below that shows the proposed car parking

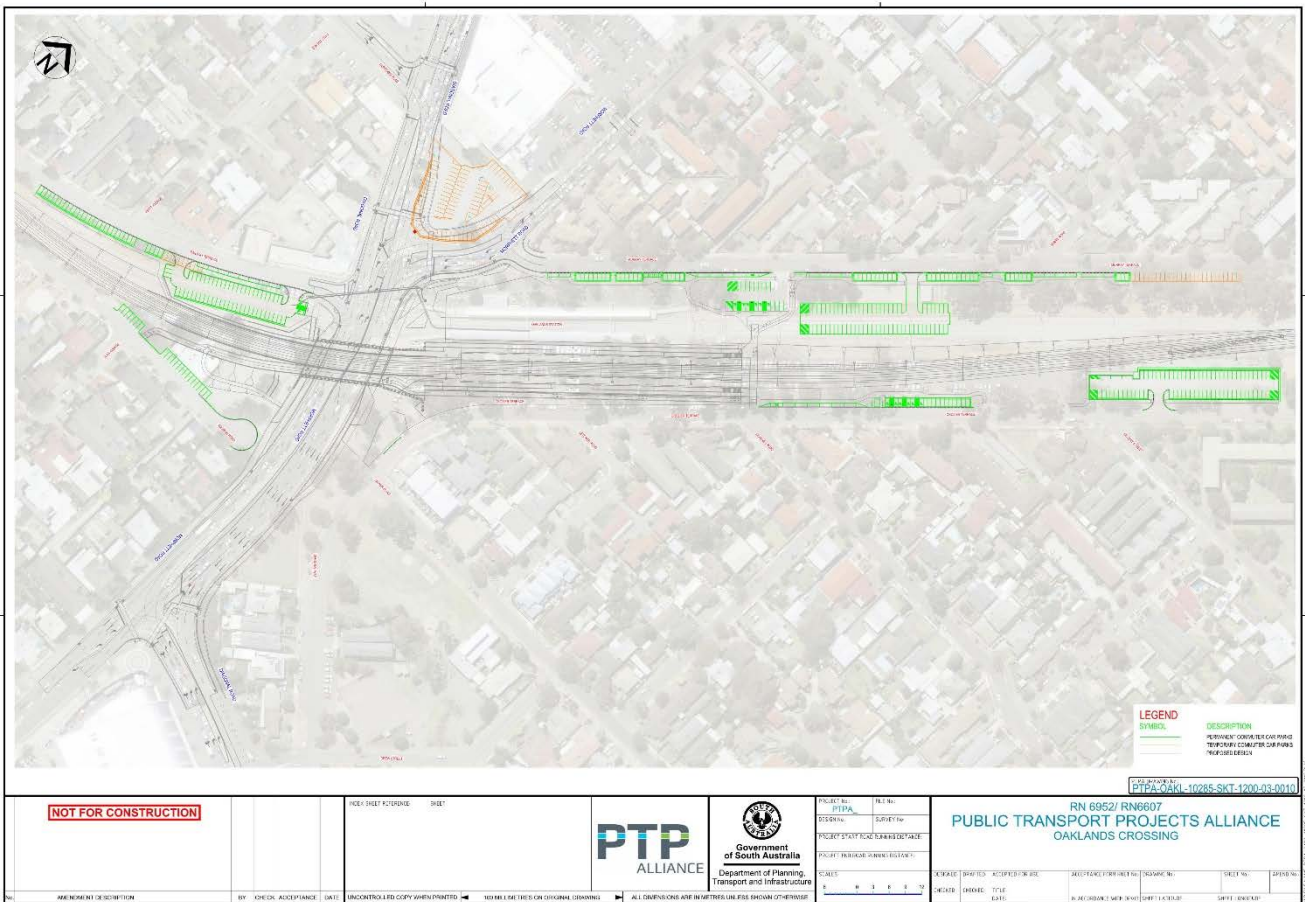


Figure 5-1: Detailed car parking layout



PTPA Oaklands Rail Crossing
ASPECT Studios™

Car Parking and Pedestrian Access Plan - Completed Works Layout
Scale: 1:1000 (A3)
Date: 14.03.2018
Drawn by: SK-013 - 03
File: A

Figure 5-2: Station car parking pedestrian connectivity

The car parking that will be provided as part of the Oaklands Crossing Project is described in the table below.

Table 5.1: Car Parking metrics

Parking type	Description
Public transport commuter parking	The existing number of parking bays will be retained and a further 72 additional parks will be provided. This will provide a total of 358 car parks to support the operation of the station.
Disabled Parking	The existing disabled parking at the station does not meet current design requirements. A total of 14 Disabled Parking spaces will be provided as close as possible to the platforms in accord with Australian Standards (AS2890.6). This is a ratio of 1 disabled space for every 26 total spaces, which exceeds the most stringent requirements under the Building Code of Australia.
Staff Carparking	Oaklands Park Station is not planned to be a staffed station and as such no dedicated staff carparking is proposed to be provided. An allowance for the future conversion of two commuter parking spaces will be made should the station become staffed in the future. This is not considered to unduly restrict commuter car parking.
Kiss and Ride spaces	The current station has six kiss and rides spaces for each of the two platforms at the station. The equivalent number of kiss and ride spaces will be provided for each platform in the Oaklands Crossing project.
Taxi and Ride-share spaces	The current station does not have a dedicated taxi waiting parking space.

Parking type	Description
	One taxi waiting bay will be provided adjacent the disabled parking spaces for each platform.
Motorcycle parking	The current station does not have dedicated motorcycle parking spaces. One parking space for each platform will be provided for motorcycle parking.
Dedicated car-share parking	The current station does not provide a dedicated car-share parking space. The Oaklands Crossing Project will not provide a dedicated car-share parking space. Should a car-share parking policy be developed by City of Marion in the future, the required number of car-share parks will be provided from the commuter parking spaces.
Electric vehicle charging spaces	The existing station does not provide electric vehicle charging infrastructure. The Oaklands Crossing Project will not include electric vehicle charging parks however should they be required in the future they will be provided from the commuter parking spaces.

Plans detailing this car parking are included in Appendix F.

Plans detailing access arrangements currently, during construction and at completion of the project are included as Appendix G.

Only the parking spaces defined as new parking off road spaces require approval.

A landscaping plan has been prepared by Aspect and is included at Appendix H.

6. PLANNING ASSESSMENT

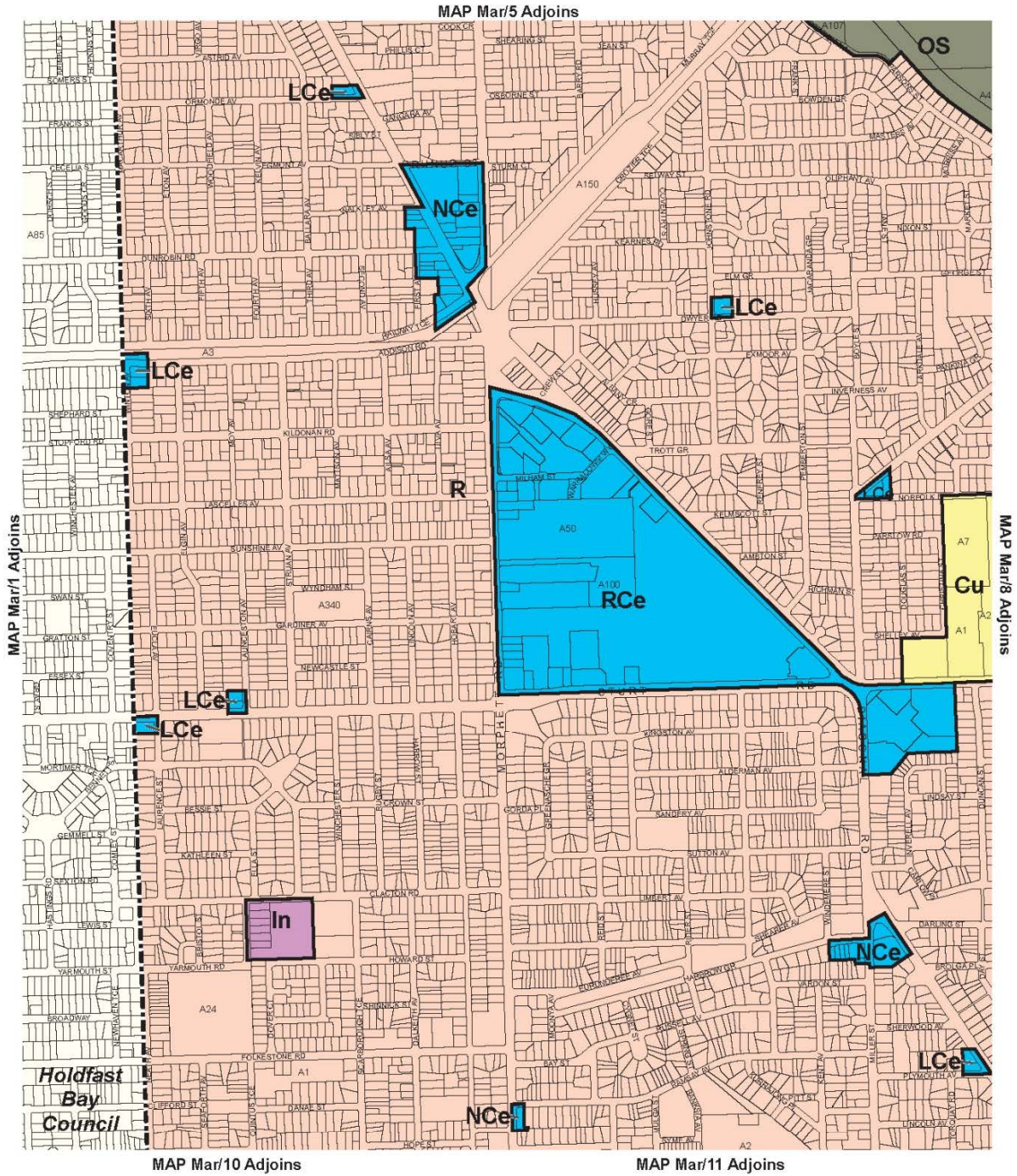
6.1. Provisions

The subject site is located within the Marion Development Plan and within this has portions located in the following zones:

- Residential Zone
- Neighbourhood Centre Zone

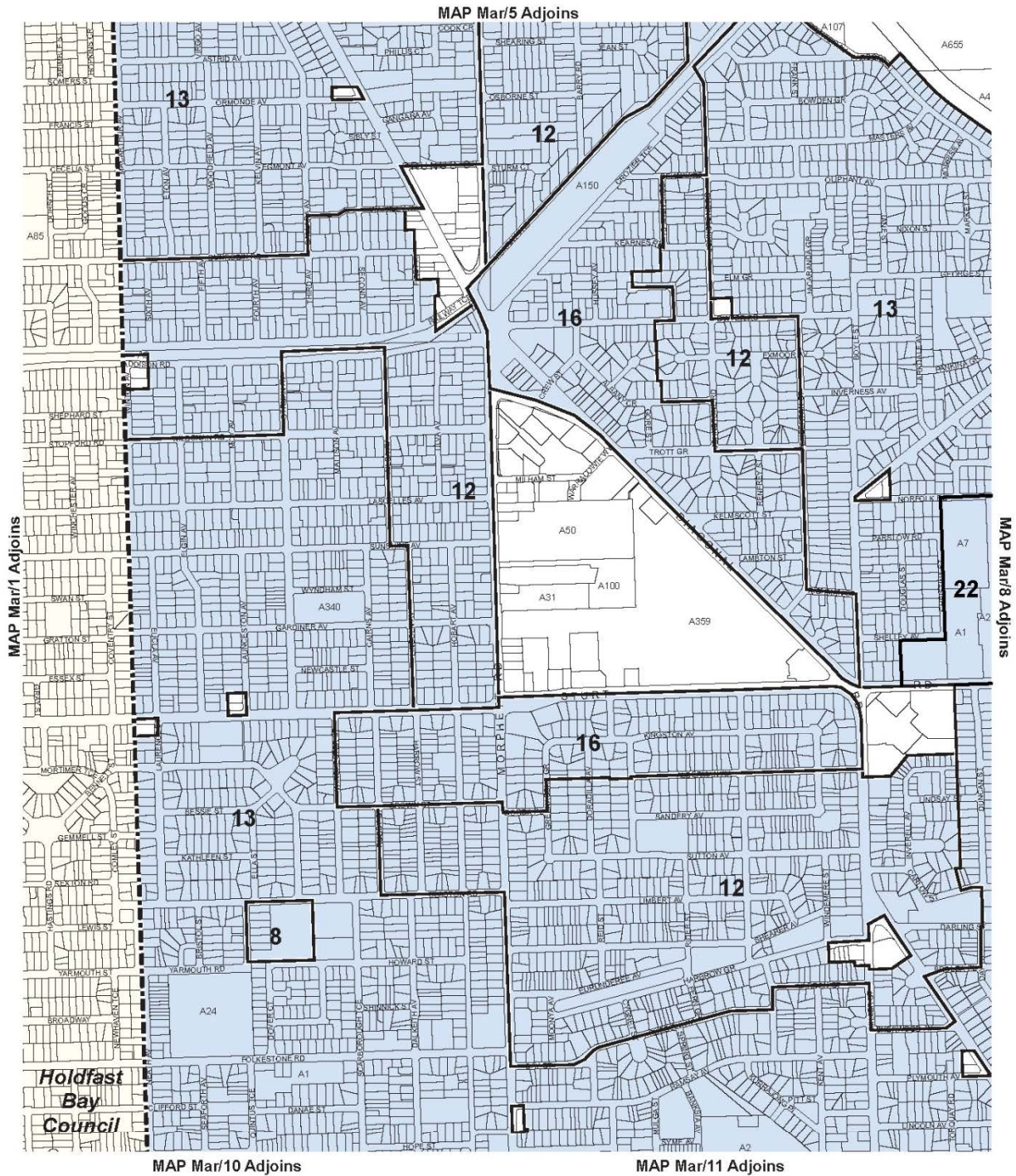
The majority of the site is located within the Residential Zone, with portions of largely the road corridor works to the north of the existing crossing located within the Neighbourhood Centre Zone.

Within the Residential Zone the site and works traverse a number of policy areas notably 16 – Regeneration that takes in the eastern portion of the site extending from Murray Terrace in the north to Diagonal Road in the west and the south-western side of Diagonal Road to the south, south east. To the north along the eastern edge of the Morphett Road corridor land, and to the west of Diagonal Road by one block land is within policy area 12 – Medium Density. A small portion of the site, that area along Addison Road between Alisa and Struan Roads is located within policy area 13 – Northern. See Zone Map Mar/7 and Policy Area Map/7 below.



Zone Map Mar/7

MARION COUNCIL
Consolidated - 20 February 2018



Lamberts Conformal Conic Projection, GDA94

- Policy Area**
- 12 Medium Density
 - 13 Northern
 - 16 Regeneration
 - 8 Winery
 - 22 Recreation



Policy Area Map Mar/7

- Policy Area Boundary
- Development Plan Boundary

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6.1.1. Residential Zone

The Residential Zone policy anticipates predominantly residential and uses and specifically notes that residential densities should increase in proximity to public transport routes.

The specific policy areas largely reflect the types and densities of residential development anticipated with the medium density and regeneration policy areas seeking medium to higher density housing in a range of formats, and the northern policy area anticipating low scale, low and medium density dwellings. The regeneration policy area is the only one that actually speaks to infrastructure with Objective 8 specifically anticipating improved community services and infrastructure and Objective 9 talking to higher density dwellings in close proximity to, among other items, public transport routes.

These policy areas typically speak to developments that provide cohesive streetscapes and that do not remove mature street trees in road reserves where that vegetation contributes to the landscape character of the locality (Desired Character). The regeneration and medium density policy areas also speak to parking areas (servicing dwellings) via common driveways and the like being landscaped, including trees.

The land use for the total project being a rail underpass and road improvements and associated public realm upgrades are listed as neither complying nor non-complying within this zone and would therefore be considered on merit. Tree damaging activities and car parking which are the two specific items forming this application equally are neither complying nor noncomplying and must be assessed on merit.

Car parking rates within the zone are listed in Table 2 and provide for carparking for interchange/transport station to be assessed on needs basis.

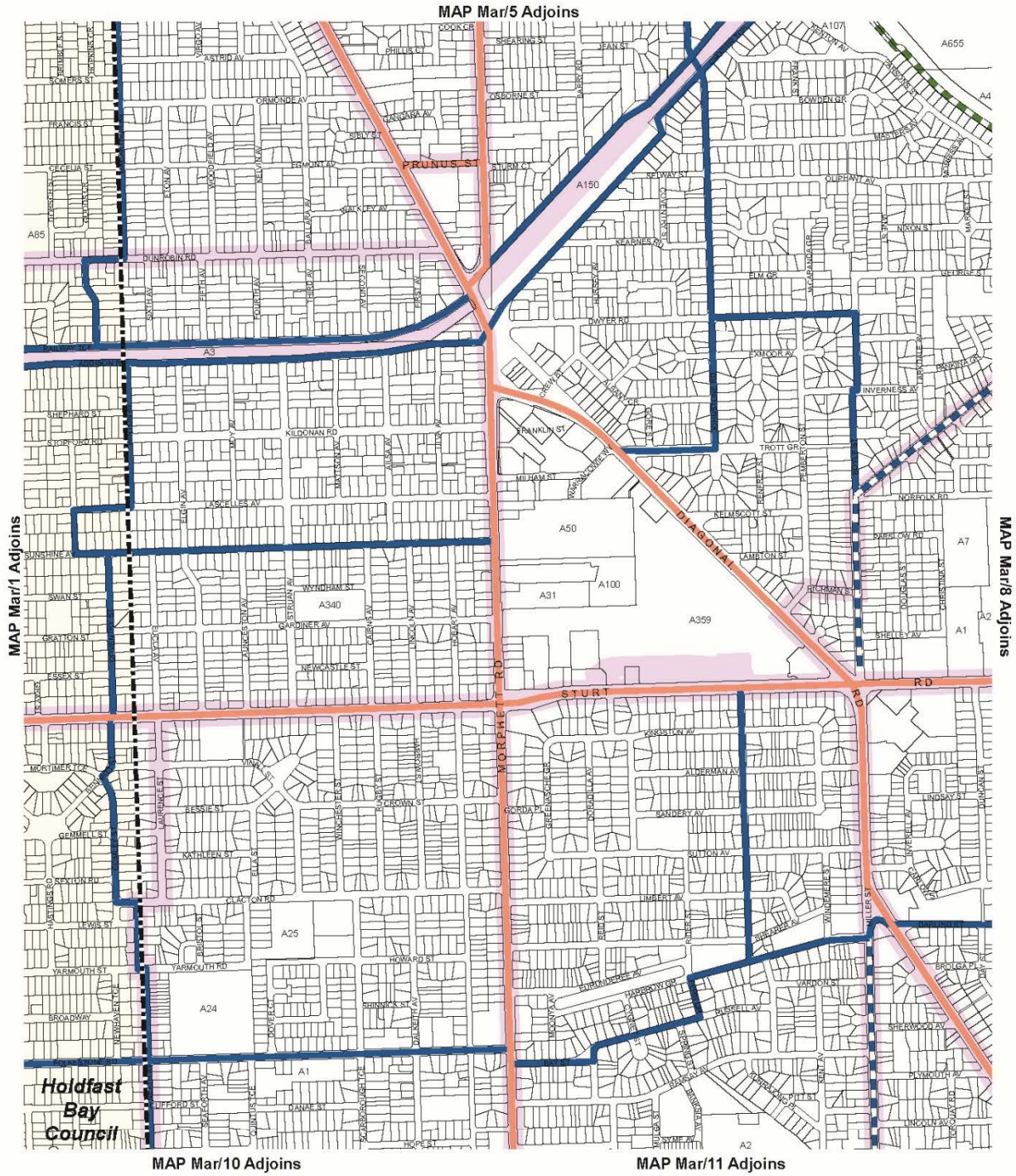
6.1.2. Neighbourhood Centre Zone

The Neighbourhood Centre zone policy anticipates the development of a centre including a range of facilities designed to meet the shopping, community and business need of the surrounding neighbourhood. It anticipates both residential and non-residential development.

The land use for the total project being a rail underpass and road improvements and associated public realm upgrades are listed as neither complying nor non-complying within this zone and would therefore be considered on merit. Tree damaging activities and car parking which are the two specific items forming this application equally are neither complying nor noncomplying and must be assessed on merit.

Car parking rates within the zone are listed in Table 2A and provide for carparking for non-residential land uses of between 3 per 100 sqm and 6 per 100sqm. No specific rates are provided for a railway station.

Morphett Road and Diagonal Road are both noted in the Development Plan as Secondary Arterial Roads and Addison Road, Crozier Terrace, Murray Terrace and Railway Terrace are all identified as Secondary Roads as per Overlay Map Mar/7 Transport below.



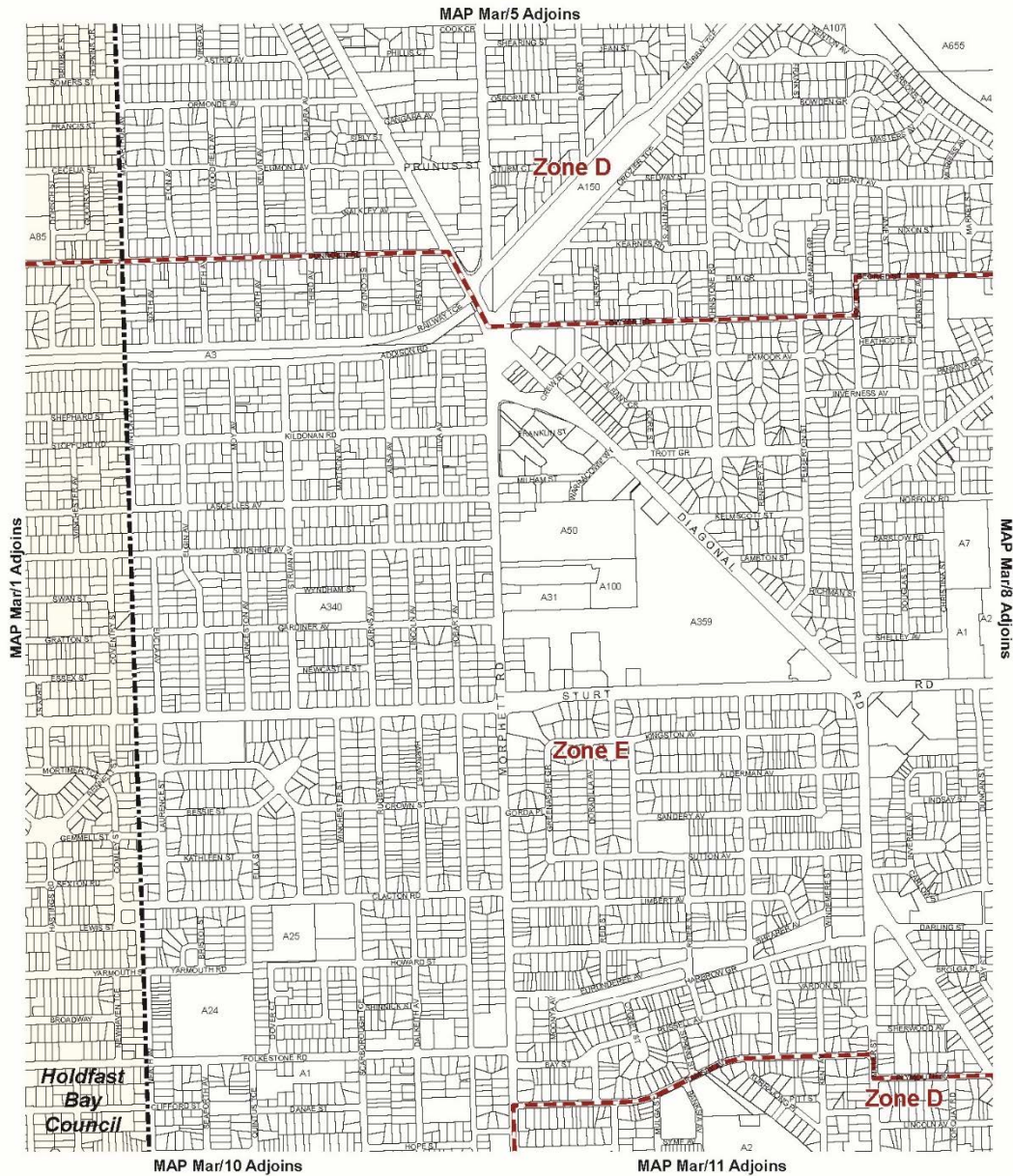
- Secondary Arterial Roads
- Bikedirect Network
- Secondary Road - Bike Lane
- Secondary Road
- Off Road Sealed Path
- Public Transport
- - - Development Plan Boundary

Overlay Map Mar/7

TRANSPORT

MARION COUNCIL
Consolidated - 20 February 2018

The site is located largely in Zone D (structures to be 45m tall for the purposes of Airport Building Heights) with a small section (largely the southern and western portions of the site falling within Zone E (structures to be 100m tall for the purposes of Airport Building Heights). If structures exceed these listed heights referral to the Federal Department is required as per Overlay Map Mar/7 Development Constraints below.



Airport Building Heights
Zone D All Structures Exceeding 45 metres above existing ground level
Zone E All Structures Exceeding 100 metres above existing ground level



Overlay Map Mar/7 DEVELOPMENT CONSTRAINTS

Airport Building Heights
 Development Plan Boundary

MARION COUNCIL
Consolidated - 20 February 2018

In addition to the Zone and Policy Area provisions the Development Plan contains the following general section policies that area considered to be of relevance to this application:

- Infrastructure
- Interface between land uses
- Landscaping fences and walls
- Natural Resources
- Orderly and Sustainable Development
- Regulated Trees
- Significant Trees
- Siting and visibility
- Transportation and Access

6.1.3. Infrastructure

The Infrastructure policies anticipate the economical provision of infrastructure (including the cost-effective re-use of infrastructure) in an environmentally sensitive manner. Such infrastructure is sought to be provided in advance of need with the visual impact of such facilities being minimised; Objectives 1, 2, 4 and 5.

Adequate services and utilities are required. Relevant Principles of Development Control (PDCs) are considered to include: PDCs 1, 2, 3, and 4.

6.1.4. Interface between land uses

The Development Plan seeks to ensure that conflicts between developments are minimised, there are no community health impacts, and land uses do not encroach on desired uses; Objectives 1, 2, and 3.

Emission of light, noise, and traffic should not cause detriment to the amenity of the locality, and negative impacts should be minimised; PDCs 1, 2 and 6.

6.1.5. Landscaping fences and walls

Landscaping, fences and walls policy provisions anticipate that the amenity of land and development will be enhanced with appropriate planting and landscaping works and that locally indigenous species should be used where possible; Objective 1. Fences and walls should be functional and enhance the attractiveness of the development; Objective 2.

Landscaping should be used to complement any built form, enhance road frontages, screen, minimise maintenance and watering (maximising water re-use, and promoting water and biodiversity conservation), enhance and define outdoor spaces (specifically noting car parks), provide shade and shelter, and contribute to the viability of ecosystems and species. It should not create damage to structures, introduce pests, or increase leaves in waterways; PDCs 1, 2 and 4.

It should also be oriented towards street frontages and use locally indigenous species where possible.

Landscaped areas to road frontages should have a width of 2m; PDC 3.

Landscaping should support Crime Prevention through Environmental Design; PDC 4.

Fences (and walls, including retaining walls) should not result in damage to neighbouring trees, be attractive, and enable some visibility of the street for safety, ensure sightlines are maintained, and be constructed of non-flammable materials; PDC 5.

6.1.6. Natural Resources

Development should seek to protect natural resources and include Water Sensitive Urban Design, achieve the sustainable use of water, manage stormwater flows, flooding and pollutants. Native flora, fauna and ecosystems are to be protected, retained, conserved and restored including linking native vegetation corridors; Objectives 1, 2, 3, 5, 6, 8, and 9.

These Objectives are supported by Principles that seek minimal environmental impacts, conservation of natural resources, Water Sensitive Urban Design, retention of native vegetation, minimise loss and disturbance of native flora and fauna, and does not spread pest plants; PDCs 1, 2, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 27.

Soil should be conserved; PDCs 38, 39 and 41.

6.1.7. Orderly and Sustainable Development

The Development Plan seeks for development to be orderly and sustainable and that creates a safe, convenient and pleasant living environment. Development should be in an orderly sequence that enables efficient provision of services; Objectives 1 and 2, and PDCs 2, and 7.

6.1.8. Regulated Trees

The Development Plan sets out quite specific tests for tree damaging activities in respect to Regulated Trees. These are all considered to be of relevance.

Objectives

- 1 The conservation of regulated trees that provide important aesthetic and/or environmental benefit.
- 2 Development in balance with preserving regulated trees that demonstrate one or more of the following attributes:
 - (a) significantly contributes to the character or visual amenity of the locality
 - (b) indigenous to the locality
 - (c) a rare or endangered species
 - (d) an important habitat for native fauna.

Principles of Development Control

- 1 Development should have minimum adverse effects on regulated trees.
- 2 A regulated tree should not be removed or damaged other than where it can be demonstrated that one or more of the following apply:
 - (a) the tree is diseased, and its life expectancy is short
 - (b) the tree represents a material risk to public or private safety
 - (c) the tree is causing damage to a building
 - (d) development that is reasonable and expected would not otherwise be possible
 - (e) the work is required for the removal of dead wood, treatment of disease, or is in the general interests of the health of the tree.
- 3 Tree damaging activity other than removal should seek to maintain the health, aesthetic appearance and structural integrity of the tree.

6.1.9. Significant Trees

The Development Plan sets out quite specific tests for tree damaging activities in respect to Significant Trees. These are all considered to be of relevance.

Objectives

- 1 The conservation of significant trees, in Metropolitan Adelaide, that provide important aesthetic and environmental benefit.
- 2 The conservation of significant trees in balance with achieving appropriate development.

Principles of Development Control

- 1 Development should preserve the following attributes where a significant tree demonstrates at least one of the following attributes:
 - (a) makes an important contribution to the character or amenity of the local area; or
 - (b) is indigenous to the local area and its species is listed under the National Parks and Wildlife Act 1972 as a rare or endangered native species
 - (c) represents an important habitat for native fauna
 - (d) is part of a wildlife corridor or a remnant area of native vegetation
 - (e) is important to the maintenance of biodiversity in the local environment
 - (f) forms a notable visual element to the landscape of the local area.

2 Development should be undertaken so that it has a minimum adverse effect on the health of a significant tree.

3 Significant trees should be preserved, and tree-damaging activity should not be undertaken, unless:

(a) in the case of tree removal:

(i) the tree is diseased, and its life expectancy is short

(ii) the tree represents an unacceptable risk to public or private safety

(iii) the tree is within 20 metres of a residential, tourist accommodation or habitable building and is a bushfire hazard within a Bushfire Prone Area (iv) the tree is shown to be causing or threatening to cause substantial damage to a substantial building or structure of value

(v) all other reasonable remedial treatments and measures have been determined to be ineffective

(vi) it is demonstrated that all reasonable alternative development options and design solutions have been considered to prevent substantial tree-damaging activity occurring.

(b) in any other case, any of the following circumstances apply:

(i) the work is required for the removal of dead wood, treatment of disease, or is in the general interests of the health of the tree

(ii) the work is required due to unacceptable risk to public or private safety

(iii) the tree is within 20 metres of a residential, tourist accommodation or habitable building and is a bushfire hazard within a Bushfire Prone Area (iv) the tree is shown to be causing or threatening to cause damage to a substantial building or structure of value

(v) the aesthetic appearance and structural integrity of the tree is maintained

(vi) it is demonstrated that all reasonable alternative development options and design solutions have been considered to prevent substantial tree-damaging activity occurring.

4 Development involving ground work activities such as excavation, filling, and sealing of surrounding surfaces (whether such work takes place on the site of a significant tree or otherwise) should only be undertaken where the aesthetic appearance, health and integrity of a significant tree, including its root system, will not be adversely affected.

5 Land should not be divided or developed where the division or development would be likely to result in a substantial tree-damaging activity occurring to a significant tree.

6.1.10. Siting and visibility

The Development Plan seeks for development to minimise visual impacts. PDC 8 in particular seeks for developments to be screened through landscaping using indigenous plant species, to provide not only a visual screen but also shade and wind protection and minimise erosion.

6.1.11. Transportation and Access

The Development Plan seeks to achieve an integrated and affordable transport (including pedestrian and cycle) system. Transport and access should be safe, support the economic development of the State and have minimal negative environmental or social impacts. Development should provide off-street car parking and the need for connections to public transport is identified. Objectives 1,2, and 4.

Movement systems should be integrated and the location of public transport set downs and pick up points should maximise safety and minimise the isolation and vulnerability of users; PDC 7. Convenient access by all users and modes of transport should be provided with an emphasis on cycling and walking and those with disabilities; PDC 8, 15, 16, 18, 20, 32. Near intersections development should be safe; PDC 9. Driveway crossovers should be minimised (to facilitate on-street parking) and levels (gradient differences) should be managed.

Access should be from all-weather public roads, safe and convenient; PDC 22. Access points to public roads should be minimized and accommodate the likely types and volumes of traffic, and reversing on to roads containing more than 6000 vehicle movements is not desirable; PDCs 23, 25, 26 and 28.

Vehicle parking should be provided in accord with the relevant tables, be constructed to recognised Australian Standards, should provide for safe and convenient pedestrian and traffic movements, and not dominate the

character and appearance of the site when viewed from public roads, incorporate landscaping, include lights if use is anticipated after dark, and be sealed and line marked; PDCs 34, 35, 36, 37, 38, 39, 40, 41 and 42.

All the sections of the Development Plan considered to be relevant to this application are included in Appendix I.

6.2. Assessment

Neither the development of car parks nor the undertaking of tree damaging activities are listed as complying or non-complying and thus both area considered to be appropriate on merit.

Neither land use is likely to compromise the attainment of the intent of either of the Zones.

6.2.1. Tree Damaging Activities

The existing vegetation located within the rail corridor is of varying quality and as such makes varying contributions to the aesthetics of the locality. The lower and smaller vegetation contributes to a lesser extent whilst the mature gums (in particular) contribute to the character of the locality.

A survey of 105 Regulated and Significant trees within the site area found all but one tree (S-S34 a Red Gum) are not remnant vegetation. S-S34 is located within the Road Reserve and thus is not the subject of this application.

6.2.1.1. Design Rationale

DPTI sought to release this project for tender with prospective parties undertaking an interactive design process. The objectives for the project were settled as being:

- To grade separated the rail and road level crossing at the intersection of Morphett and Diagonal Roads to improve operation and safety of both the traffic and rail network
- Provide a positive experience for pedestrians, cyclists and public transport passengers
- Increase reliability of the arterial road network
- Improve public transport operations
 - Bus-train interchange
 - Access to the Marion Shopping Centre Precinct
- Improve accessibility for pedestrians and cyclists along and across the rail corridor, including the Adelaide to Marino Rocks Greenway
- Improve the potential for land use uplift of the surrounding area
- Integrate and enable future commercial development within the Marion Precinct
- Increase road capacity for the future; and
- Minimise disruption to public transport passengers and road users during construction.

Three problems and a secondary problem were also identified for which solutions are required:

- Road traffic delays (Problem)
- Short station limiting capacity (Problem); and
- Walking and cycling accessibility, safety and mobility (Problem).
- Road crashes (Secondary Problem)

Assessing these matters the following performance objectives were identified:

Efficiency

- Improving travel times and reducing travel variability
- Reducing road congestion for north-south and east-west traffic flows
- Increasing the reliability of the rail network
- Providing continuous travel for cyclists on a shared use path

Safety

- Improving road safety by reducing the potential for crashes involving rail

Other

- Improving pedestrian and cycling accessibility and improving safety by removing conflicts
- Allowing for future growth in public transport by providing a longer station

- Maximise the value of the land involved in the project
- Ensure the project integrates with the operation of the surrounding arterial road network in a positive way
- Provide infrastructure that uses aesthetics that are sympathetic and complementary to the urban environment in which it is placed.

Considering all of these objectives and desired outcomes DPTI worked through 18 various options that considered a wide range of alternatives such as:

- Road over rail (with various options ie Morphett to Diagonal and vice versa) with level crossing being retained or removed in conjunction with various local road reconfigurations
- Road underpass with various options as above
- Additional signalised intersections
- Rail underpass with various options including rail realignment to the south to enable largely concurrent work and train operations except for short delays when tying in works at either end
- Rail overpass with various options including rail realignment to the south to enable largely concurrent work and train operations except for short delays when tying in works at either end
- Consideration of costings and benefits of each option

The current proposal with a rail underpass to the south of the existing track become the finally preferred option.

Any option that included keeping the line operative during construction (which was a key consideration) necessitated the use of land to the south-east of the current alignment due to the space provided on this side of the current line. This alignment whether rail over or under, results in the loss of existing vegetation, some of which is Regulated and/or Significant.

6.2.1.2. Ecological Assessment

The Oaklands Crossing Project is located in a highly modified rail corridor adjacent to a residential area with nearby recreational facilities and a large commercial shopping centre. Due to the residential development and general urban environment, minimal remnant vegetation exists except for one River Red Gum (this tree is not the subject of this application).

A large number of Sugar Gums “*Eucalyptus cladocalyx*” exist within the locality the majority located on the south side of Murray Terrace and the north side of Crozier Terrace. Hollows were found in the majority of the Sugar Gums and may provide potential habitat for fauna such as the Common Brush Tail Possum. Nest boxes were attached to some of the Sugar Gums, which may be used by fauna.

The majority of the vegetation to the west of the crossing outside of the rail corridor along Addison Road and Railway Terrace is comprised of planted exotic trees and shrubs, with scattered mature planted Red Gums.

Street trees within the survey area are predominantly planted trees of non-native species with the exception of some large scattered River Red Gums south of the shopping centre and along Morphett Road, south of the level crossing.

A large number of *Olea europaea* ssp. (Olive) were identified along the rail corridor fence on Crozier Terrace. Many of these trees are large and form a dense cover. A number of *Schinus molle* (Pepper trees) are also present along the railway corridor.

The project location has been assessed as low risk for *Phytophthora* due to the urban nature of the environment.

A search of NatureMaps did not provide any records for threatened species within 2km of the site. Records do exist for the State Rare Peregrine Falcon (*Falco peregrinus*) and Nationally Vulnerable Grey-headed Flying Fox (*Pteropus poliocephalus*) within 3km of the site.

The closest open space to the project is Dwyer Road Reserve located to the south-east of the project. This open space may provide an opportunity for re-vegetation and landscape design post construction.

6.2.1.3. Arboricultural Assessment

A total of 110 trees within or adjacent the project area were assessed by Arboriculturalists in accord with the *Development Act 1993*. A total of 105 trees were identified as Regulated (62) or Significant (43) Trees.

The list of species identified in the survey area is provided in Table 6.1.

Table 6.1 - Tree species identified during the assessment

Botanic Name	Common Name	Number of Trees	Origin
<i>Eucalyptus caladocalyx</i>	Sugar Gum	69	Native
<i>Eucalyptus camaldulensis</i>	River Red Gum	16	Indigenous
<i>Corymbia citriodora</i>	Lemon Scented Gum	4	Native
<i>Eucalyptus leucoxydon</i>	South Australian Blue Gum	3	Native
<i>Eucalyptus globulus ssp maidenii</i>	Maiden's Gum	3	Native
<i>Brachychiton acerifolius</i>	Illawarra Flame Tree	3	Native
<i>Agonis flexuosa</i>	Willow Myrtle	3	Native
<i>Phoenix canariensis</i>	Canary Island Date Palm	2	Exotic
<i>Eucalyptus saligna</i>	Sydney Blue Gum	2	Native
<i>Corymbia maculata</i>	Spotted Gum	2	Native
<i>Melaleuca armillaris</i>	Bracelet Honey Myrtle	1	Native
<i>Ficus macrophylla</i>	Moreton Bay Fig	1	Native
<i>Eucalyptus sideroxylon</i>	Mugga or Red Ironbark	1	Native
<i>Olea europaea ssp</i>	Olive	Amenity Groups	Weed
<i>Schinus molle</i>	Pepper Tree	Amenity Groups	Weed

The trees were also assessed for their important environmental and aesthetic contribution to the area. Trees with an Important or High Retention Rating are encouraged to be protected. Trees with a Low Retention rating indicate that alternative designs and construction methodologies are not warranted. The retention ratings for each of the regulated and significant trees are shown on the plans in Appendix J

Encroachment impacts of the proposed development into the Tree Protection Zone (TPZ) were calculated as per Australian Standard AS4970-2009 Protection of trees on development sites. The encroachment value can be used to assist in determining the impact on the trees which can contribute to the design process for tree management and protection. The following table (Table 6.2) summarises the encroachment impacts.

Table 6.2 – Tree Protection Zone (TPZ) Encroachment Impacts

Encroachment	Number of Trees
None	38
Minor	5
Major	11
Substantial	17
Conflicted	33

6.2.1.4. Vegetation impacts to be approved

The following tables list the significant and regulated trees that require approval for tree damaging activities. Table 6.3 lists the trees that require removal due to direct conflict with the proposed design and Table 6.4 lists the trees that will be impacted under Arboricultural supervision. Two trees earmarked for retention are noted by Arborman as being beyond their lifespan and thus may need to be replaced in the short term.

In essence the trees designated for removal are in the direct line of the rail corridor and despite the consideration of numerous alternative design options cannot be saved. Removal is therefore considered to accord with Regulated Trees PDC 2(d) or Significant Trees PDC 3(vi).

The trees to be retained will have TPZs as identified by Arborman and works within those zones will be undertaken under direction of Arborman staff.

Table 6.3 – Regulated and Significant Tree Removal requiring SCAP Approval

Tree No	Species	Regulation Status	TPZ	Useful Life expectancy (years)	Structure	Health	Number of Hollows	Development Impact Comments
R-R31	<i>Eucalyptus cladocalyx</i>	Regulated	10.8 metres	>10	Fair	Good	2	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
R-R32	<i>Eucalyptus cladocalyx</i>	Regulated	9.24 metres	>20	Good	Good	1	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
S-S25	<i>Eucalyptus cladocalyx</i>	Significant	14.64 metres	>10	Fair	Fair	3	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
R-R33	<i>Eucalyptus cladocalyx</i>	Regulated	11.4 metres	>10	Fair	Fair	4	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
R-R34	<i>Eucalyptus cladocalyx</i>	Regulated	9 metres	>20	Good	Good	3	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
R-R35	<i>Eucalyptus cladocalyx</i>	Regulated	9.24 metres	>10	Fair	Fair	2	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
R-R39	<i>Eucalyptus cladocalyx</i>	Regulated	10.32 metres	<10	Fair	Poor	1	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
R-R40	<i>Eucalyptus cladocalyx</i>	Regulated	10.32 metres	>10	Fair	Fair	1	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
S-S28	<i>Eucalyptus cladocalyx</i>	Significant	15.00 metres	>10	Fair	Fair	4	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
R-R38	<i>Eucalyptus cladocalyx</i>	Regulated	10.08 metres	>10	Fair	Good	0	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
R-R37	<i>Eucalyptus cladocalyx</i>	Regulated	9.84 metres	>10	Fair	Good	0	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.

Tree No	Species	Regulation Status	TPZ	Useful Life expectancy (years)	Structure	Health	Number of Hollows	Development Impact Comments
S-S27	<i>Eucalyptus cladocalyx</i>	Significant	11.88 metres	>10	Fair	Fair	2	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
S-S26	<i>Eucalyptus cladocalyx</i>	Significant	13.92 metres	>10	Fair	Good	5	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
R-R36	<i>Eucalyptus cladocalyx</i>	Regulated	10.2 metres	>20	Good	Good	2	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
S-S29	<i>Eucalyptus cladocalyx</i>	Significant	12.96 metres	>10	Fair	Good	2	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
S-S30	<i>Eucalyptus cladocalyx</i>	Significant	11.52 metres	>20	Good	Good	2	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
R-R41	<i>Eucalyptus cladocalyx</i>	Regulated	8.88 metres	>10	Fair	Good	3	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
S-S31	<i>Eucalyptus cladocalyx</i>	Significant	15.00 metres	>20	Good	Good	1	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
S-S32	<i>Eucalyptus cladocalyx</i>	Significant	15.00 metres	>10	Fair	Fair	1	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
S-S33	<i>Eucalyptus cladocalyx</i>	Significant	12.12 metres	>10	Fair	Good	4	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
R-R42	<i>Eucalyptus cladocalyx</i>	Regulated	8.64 metres	>10	Fair	Fair	1	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
R-R56	<i>Eucalyptus leucoxyton</i>	Regulated	8.88 metres	>20	Good	Good	1	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
S-S42	<i>Corymbia maculata</i>	Significant	12 metres	>10	Fair	Fair	0	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.

Tree No	Species	Regulation Status	TPZ	Useful Life expectancy (years)	Structure	Health	Number of Hollows	Development Impact Comments
R-R29	<i>Eucalyptus cladocalyx</i>	Regulated	9.36 metres	<10	Fair	Poor	3	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
S-S21	<i>Eucalyptus cladocalyx</i>	Significant	13.2 metres	>10	Fair	Fair	0	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
S-S22	<i>Eucalyptus cladocalyx</i>	Significant	11.64 metres	>10	Fair	Fair	2	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
S-S23	<i>Eucalyptus cladocalyx</i>	Significant	13.2 metres	<10	Poor	Fair	6	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
S-S24	<i>Eucalyptus cladocalyx</i>	Significant	15.00 metres	<10	Poor	Fair	5	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
R-R30	<i>Eucalyptus cladocalyx</i>	Regulated	10.32 metres	>10	Fair	Good	2	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
R-R57	<i>Eucalyptus saligna</i>	Regulated	6.6 metres	>10	Fair	Good	0	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
R-R58	<i>Eucalyptus globulus</i>	Regulated	7.2 metres	>10	Good	Fair	0	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
R-R15	<i>Eucalyptus cladocalyx</i>	Regulated	10.08 metres	>10	Fair	Good	1	The structural root zone and/or trunk of this tree is within the excavation zone for underground services and will require removal.
S-S18	<i>Eucalyptus globulus</i>	Significant	11.64 metres	<10	Poor	Fair	4	The structural root zone and/or trunk of this tree is within the excavation zone for underground services and will require removal.

Table 6.4 – Regulated and Significant Tree Impacts (including Pruning) Requiring SCAP Approval

Tree No	Species	Regulation Status	TPZ	Useful Life expectancy (years)	Structure	Health	Development Impact Comments
R-R11	<i>Eucalyptus cladocalyx</i>	Regulated	7.8 metres	>10	Fair	Fair	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
R-R59	<i>Ficus macrophylla</i>	Regulated	4.92 metres	>20	Good	Good	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
R-R61	<i>Eucalyptus camaldulensis</i>	Regulated	9.96 metres	>10	Fair	Fair	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
R-S47	<i>Eucalyptus camaldulensis</i>	Regulated	6.6 metres	>10	Fair	Good	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.

Tree No	Species	Regulation Status	TPZ	Useful Life expectancy (years)	Structure	Health	Development Impact Comments
R-R14	<i>Eucalyptus cladocalyx</i>	Regulated	7.8 metres	>20	Good	Good	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
R-R19	<i>Eucalyptus cladocalyx</i>	Regulated	9 metres	>10	Fair	Fair	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
R-R20	<i>Eucalyptus cladocalyx</i>	Regulated	8.28 metres	<10	Poor	Fair	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
R-R21	<i>Eucalyptus cladocalyx</i>	Regulated	10.68 metres	>20	Good	Good	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
R-R22	<i>Eucalyptus cladocalyx</i>	Regulated	10.44 metres	>20	Good	Good	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.

Tree No	Species	Regulation Status	TPZ	Useful Life expectancy (years)	Structure	Health	Development Impact Comments
R-R28	<i>Eucalyptus cladocalyx</i>	Regulated	7.92 metres	Surpassed	Poor	Poor	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
R-R43	<i>Eucalyptus camaldulensis</i>	Regulated	10.2 metres	<10	Poor	Fair	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
R-S35	<i>Eucalyptus camaldulensis</i>	Regulated	11.28 metres	>10	Fair	Fair	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
S-S10	<i>Eucalyptus cladocalyx</i>	Significant	13.2 metres	>10	Fair	Fair	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
S-S11	<i>Eucalyptus cladocalyx</i>	Significant	13.44 metres	>20	Good	Good	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.

Tree No	Species	Regulation Status	TPZ	Useful Life expectancy (years)	Structure	Health	Development Impact Comments
S-S12	<i>Eucalyptus cladocalyx</i>	Significant	12.84 metres	>10	Fair	Good	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
S-S13	<i>Eucalyptus cladocalyx</i>	Significant	12.24 metres	<10	Poor	Fair	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
S-S14	<i>Eucalyptus cladocalyx</i>	Significant	11.76 metres	>10	Fair	Fair	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
S-S16	<i>Eucalyptus cladocalyx</i>	Significant	11.28 metres	>10	Fair	Good	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
S-S17	<i>Eucalyptus cladocalyx</i>	Significant	15 metres	<10	Poor	Fair	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.

Tree No	Species	Regulation Status	TPZ	Useful Life expectancy (years)	Structure	Health	Development Impact Comments
S-S34	<i>Eucalyptus camaldulensis</i>	Significant	15 metres	>20	Good	Good	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
S-S36	<i>Eucalyptus camaldulensis</i>	Significant	12 metres	<10	Poor	Fair	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
S-S37	<i>Eucalyptus camaldulensis</i>	Significant	12.24 metres	>10	Fair	Fair	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
S-S4	<i>Eucalyptus cladocalyx</i>	Significant	11.52 metres	>20	Good	Good	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
S-S5	<i>Eucalyptus cladocalyx</i>	Significant	12.12 metres	>10	Fair	Fair	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.

Tree No	Species	Regulation Status	TPZ	Useful Life expectancy (years)	Structure	Health	Development Impact Comments
S-S6	<i>Eucalyptus cladocalyx</i>	Significant	14.28 metres	>10	Fair	Good	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
S-S7	<i>Eucalyptus cladocalyx</i>	Significant	13.8 metres	>10	Fair	Good	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
S-S8	<i>Eucalyptus cladocalyx</i>	Significant	12.96 metres	>20	Good	Good	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
S-S9	<i>Eucalyptus cladocalyx</i>	Significant	15.00 metres	>20	Good	Good	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.

Additional information is included in the vegetation assessment report that are included in the Arborman Tree Assessment report included in full at Appendix K.

6.2.1.5. Impacts to habitat

The removal of trees and associated hollows and nesting boxes will result in disturbance to fauna and reduce available habitat for local fauna. A fauna and flora management plan will form part of the project, including the capture and relocation of fauna living within the trees, and incorporation of hollows/nesting boxes within the development.

Cleared/removed vegetation will be reused within the project area or at another local location where possible to enhance habitat for local fauna or chipped for mulch and reused.

Trunks with hollows may be donated to the Council, or used onsite for use in habitat development through the Local Council Area to support the native fauna population. Consultation will be undertaken with the local community, including volunteer groups, with regards to any opportunities for their involvement in an ongoing capacity.

6.2.1.6. Impacts to Non-Regulated (Amenity) Vegetation

Removal of some non-native, non-Regulated/Significant trees will also be required as part of the temporary and permanent works. Appendix L shows non-regulated vegetation.

Other indirect impacts include reduction of amenity value due to the removal of street trees or vegetated areas, particularly for those trees located close to residential property. Any required pruning will be conducted in accordance with the Australian Standard for pruning of Amenity Vegetation AS 4373-2007.

6.2.1.7. Landscaping

The Oaklands Crossing Grade Separation project represents a significant opportunity to provide an enhanced station precinct with greatly improved pedestrian and bicycle connectivity and safety along with high quality amenities that supports the state's mandate to increase public transport patronage. A high quality public realm (Station Plaza) and surrounding landscape area will complement the premium station requirements.

In accordance with the Urban Design Principles our approach is led by the following public realm vision;

“To provide a safe, accessible and comfortable public realm consisting of well-designed infrastructure that increases public transport patronage, supports connectivity within the station precinct and the surrounding destinations, and provides a distinctive identity and quality built environment to encourage future development and renewal.” (ODASA, 2017)

The urban design statement for the project prepared by Aspect Studio is provided in Appendix B.

Sustainability in landscape design

The Public Transport Program Alliance is committed to achieving sustainable outcomes for the Oaklands Crossing Project.

The landscape design will include green infrastructure and improve biodiversity to the project by careful selection of trees and shrubs that are self-sustaining to avoid ongoing irrigation or regular replanting. The tree planting palette, Table 5, has been developed from a range of sources, including:

- City of Marion Street Tree Strategy
- DPTI operation Instruction Trees in Median and Roadsides in the Urban Environment
- In house experience and knowledge of successful and appropriate tree species

Table 6-5 – Proposed Landscaping Tree Planting Palette

Botanical Name	Common Name	Size at maturity (hwx)	Install size	Quantity (Approx)
Tree Planting Evergreen				
<i>Callistemon viminalis</i> 'Harkness'	Harkness Bottlebrush	4-5x3-4m	100Lt	5
<i>Corymbia citriodora</i> Scentuous'	Dwarf Lemon Scented Gum	20x8m	100Lt	8
<i>Cupaniopsis anacardioides</i>	Tuckeroo	8x5m	100Lt	15
<i>Eucalyptus camaldulensis</i>	River Red Gum	30x10m	100Lt	15
<i>Eucalyptus leucoxylon</i>	SA Blue Gum	20-30x10-25m	100Lt	10
<i>Eucalyptus leucoxylon</i> 'Euky Dwarf'	Euky Dwarf	6x5m	100Lt	7
<i>Eucalyptus macrocarpa</i>	Grey Box	10-25x10-15m	100Lt	5
<i>Tristaniopsis laurina</i>	Water Gum	12-15x5m	100Lt	30
Tree Planting -Deciduous				
<i>Fraxinus oxycarpa</i> 'Raywoodii'	Claret Ash	20x12m	100Lt	7
<i>Jacaranda mimosifolia</i>	Jacaranda	10-15x7-10m	100Lt	8
Total trees (approx.)				110

Refer to Appendix H for the proposed conceptual tree planting plan.

Proposed Offset for Removal of Regulated and Significant Trees

As per the *Development Act 1993* the required offset for Regulated Trees is 2:1 and Significant Trees 3:1, therefore a minimum of 100 trees are required to be planted. See Appendix H for the Proposed Conceptual Tree Planting Plan.

The vegetation offsets required for the removal of the regulatory and significant trees are proposed to be achieved within the project area.

Connected Communities- Green Space

The ground plane is imagined as a 'green' place with a combination of landscaped strips and an extended urban plaza situated both north and south of the rail corridor adjacent to Morphett Road and connected via a wide pedestrian promenade hinged off Morphett Road. The Plaza provides clear sightlines to the station and adjacent properties and allows for maximum pedestrian circulation and navigation to the platforms and Greenway. A deliberate decision to narrow the station precinct cutting allows for maximising green space at ground level both north and south of the station with limited risk of ongoing maintenance issues.

Amenity value

With a focus on providing shade and amenity, the ground plane will be designed to allow for and complement future development opportunities in the surrounding urban precinct. The Alliance will work closely with the City of Marion to realise its long-term plans of a revitalised Warradale Centre Precinct and improved connections to Marion Civic Heart and the future Diagonal Road Main Street in line with their Oaklands Hub Vision Document.

Refer to Appendix H for the proposed landscaping plan.

It is considered that the removal of trees has been limited to only those that are unable to be saved. In addition, a consulting arborist has been engaged to assist with tree management. It is considered that all tree damaging activities therefore meet PDC 3 (vi) in respect to Significant Trees or PDC 2(d) in respect to Regulated Trees. In addition, a high quality replacement landscaping is proposed to enhance the amenity of the area. This application proposes to provide the required replacement plantings.

6.2.2. Car Parking

6.2.2.1. Temporary

During the construction phase, temporary all day parking for commuters using the station will be provided on the vacant parcel of land to the south of the Coles supermarket and bound by Diagonal Road and Morphett Road and on an area off of Murray Terrace to the east of the station.

The temporary areas will provide a total of 108 additional spaces to offset the temporary loss of spaces from the Crozier Terrace parking area to facilitate construction of the new railway station.

The design of the temporary parking areas has been reworked a number of times to minimise impacts to Significant and/or Regulated trees.

Bicycle parking will remain unchanged whilst the current platform remains in operation.

The location and pedestrian connectivity of each temporary parking area is shown in Figure 6-1 below.



PTPA Oaklands Rail Crossing
ASPECT Studios™

Car Parking and Pedestrian Access Plan - Construction Layout
Scale: 1:1000 (A3)
Date: 14.03.2018
Drawn by: SK-013 - 02
File:

Figure 6-1: Temporary car parking areas

6.2.2.2. Permanent

A total of 358 permanent all day parking spaces will be provided for the use of station commuters. The detailed layout and pedestrian connectivity of each new parking area is shown in Figure 5-1 and Figure 5-2 in section 5 of this document. A detailed breakdown of parking supply is provided in Table 6-6 below.

Table 6.6 – Permanent car parking supply

Parking area	Total spaces on street	Total spaces off street	Accessible spaces
1. Railway Tce	30	0	0
2. Railway Tce	8	55	2
3. Addison Road	22	0	0
4. Murray Tce	63	80	6
5. Crozier Tce	18	82	6

In addition to all day commuter car parking, 8 motorcycle parking spaces will be provided on street on Murray Terrace as well as a kiss and ride area including one taxi waiting bay on both Murray Terrace and Crozier Terrace, either side of the station.

All parking areas will have a direct pedestrian connection to the station platforms, as shown in Figure in section 5 of this document. Direct pedestrian connectivity is facilitated by the provision of double end platform loading, pedestrian pathways beneath the Morphett Road bridge on both sides of the railway corridor and a pedestrian crossing of the railway at the eastern end of the station.

Bike parking for the new facility will be provided in a bike shed and this will form part of the second application.

Stormwater drainage for all new on-street parking spaces will generally be integrated into the existing roadway kerb and gutter drainage system through the use of trafficable concrete spoon drains aligned along the existing kerb invert. Stormwater drainage for new off-street parking areas will be provided by an underground pit and pipe system connecting to the wider project drainage system, providing appropriate detention of runoff, and limiting peak discharge flow rates to no more than existing.

All parking areas will be constructed with a sealed asphalt surface and concrete kerb and gutter. White line marking will be applied to the pavement in all parking areas to formally define each parking space, shared areas and dead end turnaround areas in accordance with AS2890.

New off-street parking areas will be landscaped with bordering 100l semi-advanced tree plantings. Due to the relatively small size of each discreet area, no internal landscaping will be applied. Existing trees have been retained wherever possible with multiple design iterations to ensure minimal impacts to Regulated or Significant trees.

The design of each parking area follows CPTED principles. All areas have been placed in locations with unobstructed public visibility and close to residential streets with reasonable evening activity. All car parks will be lit to provide good night time visibility, and CCTV coverage will be provided as part of the station security design.

The proposed car parking therefore is considered to have been designed having regard to the relevant provisions of the Development Plan and in particular the policies pertaining to Regulated and/or Significant trees and the arboriculturists report, landscaping, transport and access, and the parking requirements as established in Table 2A, noting that parking numbers have been provided in accord with the findings of work undertaken by Mott MacDonald.

7. CONCLUSION

In conclusion this application is seeking approval to remove 33 Regulated or Significant Trees and undertake tree damaging activities in the form of construction around trees to a further 28 Regulated or Significant Trees and construct new car parks to support the redevelopment of the Oaklands Train Station and crossing to provide improved public safety, improved traffic and rail efficiencies and reduced travel times, reduce South Australia's carbon footprint and generally improved access and connectivity for the community whilst providing value for money for tax payers and minimising service disruption.

In terms of the car parking, areas have been identified that are of a suitable size to accommodate the number of cars required to adequately cater for the station in locations that are convenient for patrons, whilst providing for sufficient public spaces to enhance the amenity of the locality and provide opportunities for increased activation and safety. The new car parking areas have been designed as far as is practicable around existing trees. The design is based around principles of CPTED and the areas will be developed with regard to the wider WSUD strategy for the development that will include detention, low water consuming plants and cleansing. Access points are logical and will minimise conflicts and maximise safety.

Bicycle parking will be retained during the construction phase and the second stage application will include a bike shed to provide enhanced bicycle storage.

In terms of the tree damaging activities, a total of 110 trees were surveyed. Of these 43 are Significant, 62 are Regulated (total 104 trees for which tree damaging activities constitute development), 3 are unregulated and 3 are exempt. All but one tree is non-remnant vegetation. To keep the rail operative during construction, the only land with sufficient characteristics available for the alternative alignment is to the south of the existing rail.

Unfortunately, this side of the rail corridor has a number of trees Regulated, Significant and simply amenity value that cannot be designed around. This results in this application for the removal of 33 trees in total. Various options of an underpass or overpass rail system make little difference to the number of trees to be removed.

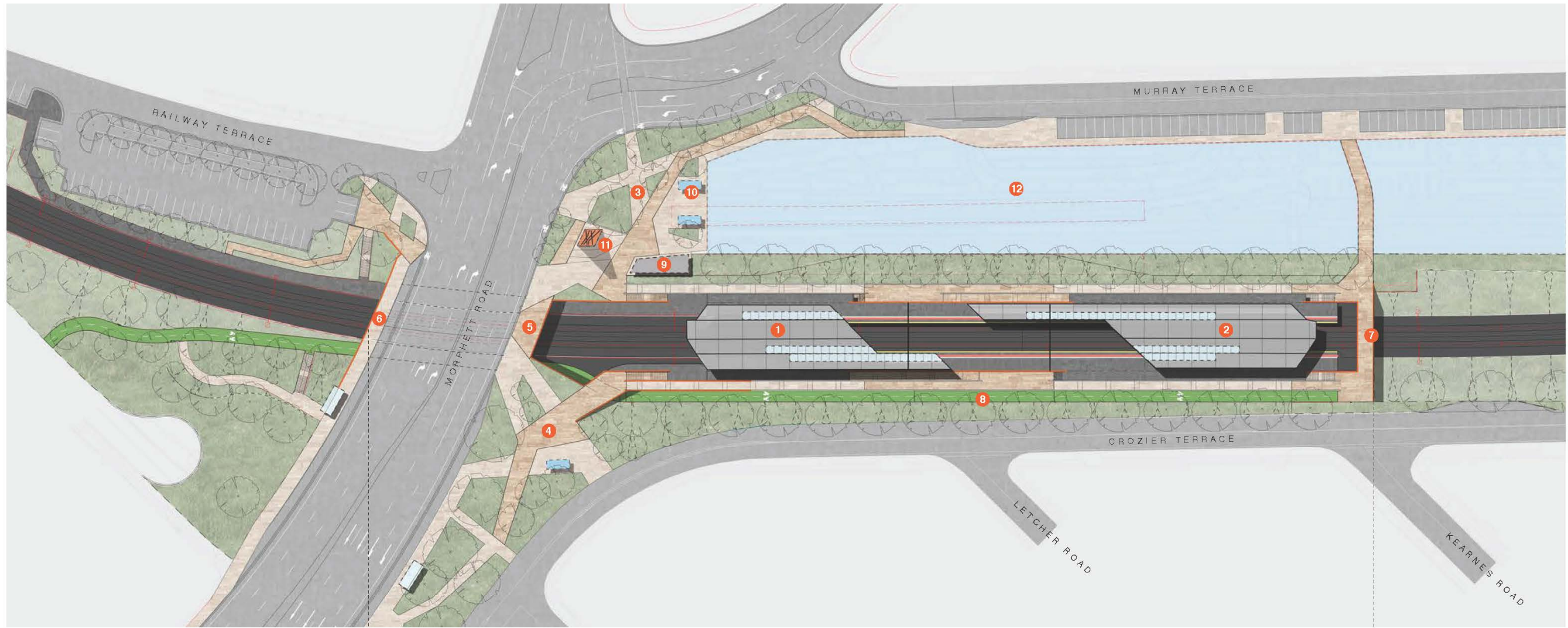
In areas to be used for car parking, design and construction methods will enable the retention of trees resulting in the minimal number being removed off site.

Replacement planting in accord with the requirements of the legislation is planned.

This proposal is therefore considered to accord on balance with the provisions of the Development Plan and is considered to warrant approval.

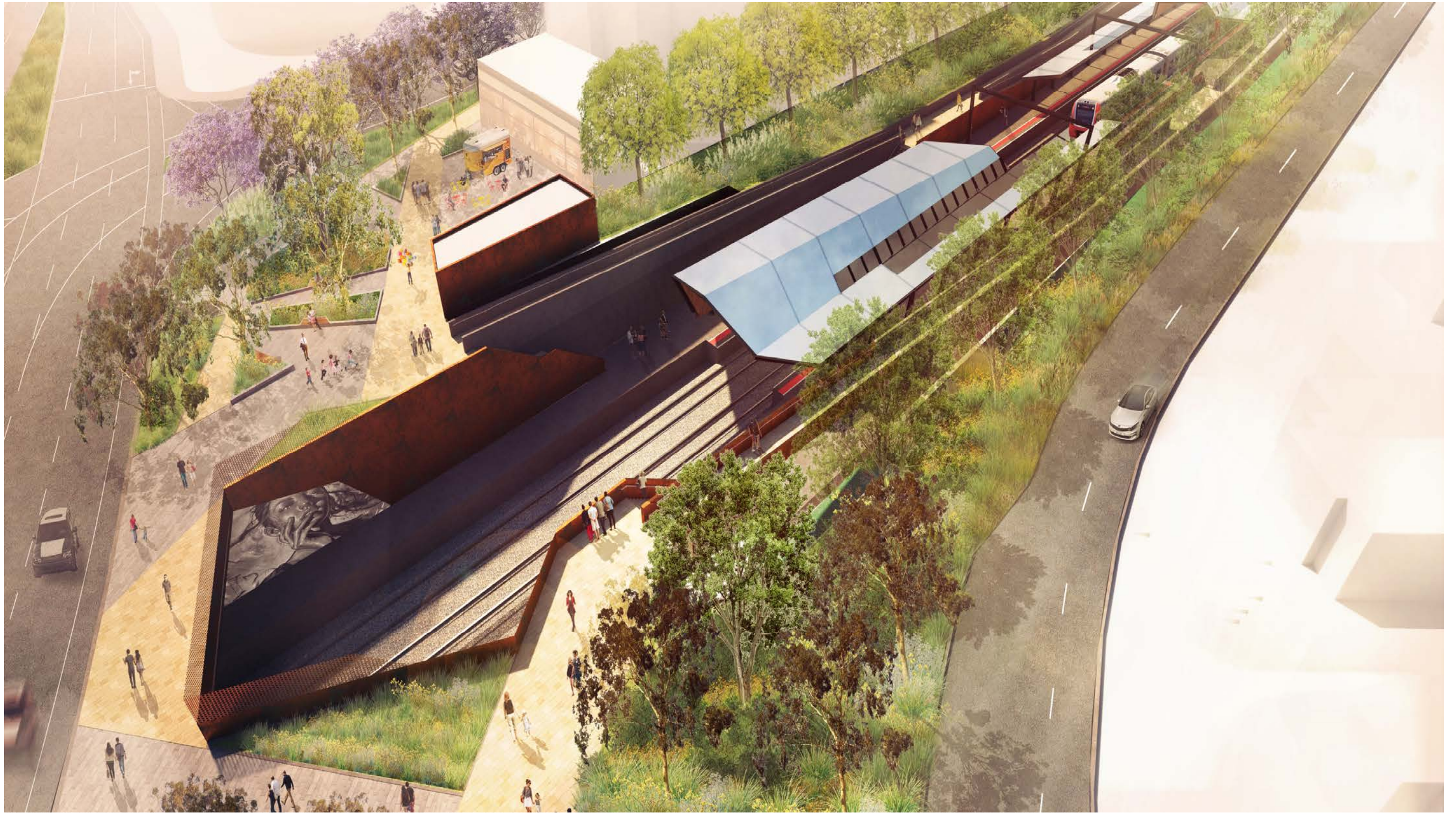
APPENDIX A: CONCEPT PROPOSAL PLANS





- 1 Oaklands Station West Canopy
- 2 Oaklands Station East Canopy
- 3 Northern Plaza
- 4 South Plaza
- 5 Morphett Road East Pedestrian Bridge
- 6 Morphett Road West Pedestrian Bridge
- 7 Oaklands Station Pedestrian Bridge
- 8 Marino Rocks Greenway
- 9 Oaklands Station Amenities
- 10 Retail Pop-ups
- 11 Urban Marker
- 12 Future Development Site







APPENDIX B: URBAN DESIGN STATEMENT

Urban Design Statement

The Oaklands Crossing Grade Separation project represents a significant opportunity to provide an enhanced station precinct with greatly improved pedestrian and bicycle connectivity and safety along with high quality amenities that supports the state's mandate to increase public transport patronage. A high quality public realm (Station Plaza) and surrounding landscape area will complement the premium station requirements including extensive planting, high quality paved areas, urban 'marker' (public art), urban furniture and pathway connections.

In accordance with the Urban Design Principles our approach is led by the following public realm vision;

'To provide a safe, accessible and comfortable public realm consisting of well-designed infrastructure that increases public transport patronage, supports connectivity within the station precinct and the surrounding destinations, and provides a distinctive identity and quality built environment to encourage future development and renewal.'
(ODASA, 2017)

Connected Communities – The Ground Plane

The ground plane is imagined as a 'green' place with a combination of landscaped strips and an extended urban plaza situated both north and south of the rail corridor adjacent to Morphet Road and connected via a wide pedestrian promenade hinged off Morphet Road. The Plaza provides clear sightlines to the station and adjacent properties and allows for maximum pedestrian circulation and navigation to the platforms and Greenway. A deliberate decision to narrow the station precinct cutting allows for maximising green space at ground level both north and south of the station with limited risk of ongoing maintenance issues.

With a focus on providing shade and amenity, the ground plane will be designed to allow for and compliment future development opportunities in the surrounding urban precinct. The Alliance will work closely with the City of Marion to realise their long-term plans of a revitalised Warradale Centre Precinct and improved connections to Marion Civic Heart and the future Diagonal Road Main Street in line with their Oaklands Hub Vision Document.

Station Design

The overarching design approach for the Oaklands Station shelter seeks to achieve a high performing piece of public infrastructure for patrons. The urban design approach also focuses strongly on the Oaklands Station having an identity and presence not only in the lowered corridor but also at-grade. Through connecting and elevating the shelters at each end of the station, an expressive piece of architecture rises from the rail corridor and announces itself to its surroundings.

Pedestrian and Cycle Connectivity

A key focus of the urban design approach is centred on maximising pedestrian and bike connectivity within the precinct. Through a process of assessment of current and future precinct analysis and the local pedestrian network, considered and meaningful connections have been proposed for this important site.

Car Parking

Car Parking has been distributed along the corridor via a modification of the current on street parking and smaller clusters of off street parking where appropriately sized land parcels exist. This complies with the aim to provide like for like parking to what is currently provided while ensuring that substantial tracts of land surplus to requirements is available for future development to assist in the urban uplift of the precinct.

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Adelaide SA 5000 Australia

Studios

Adelaide
Brisbane
Melbourne
Sydney
Shanghai

APPENDIX C – CERTIFICATES OF TITLE

REAL PROPERTY ACT, 1886



The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.



Certificate of Title - Volume 5854 Folio 339

Parent Title(s) CT 2383/75
Creating Dealing(s) CONVERTED TITLE
Title Issued 01/09/2001 **Edition** 1 **Edition Issued** 01/09/2001

Estate Type

FEE SIMPLE

Registered Proprietor

THE CORPORATION OF THE CITY OF MARION
OF PO BOX 21 OAKLANDS PARK SA 5046

Description of Land

ALLOTMENT 94 FILED PLAN 147328
IN THE AREA NAMED OAKLANDS PARK
HUNDRED OF NOARLUNGA

Easements

NIL

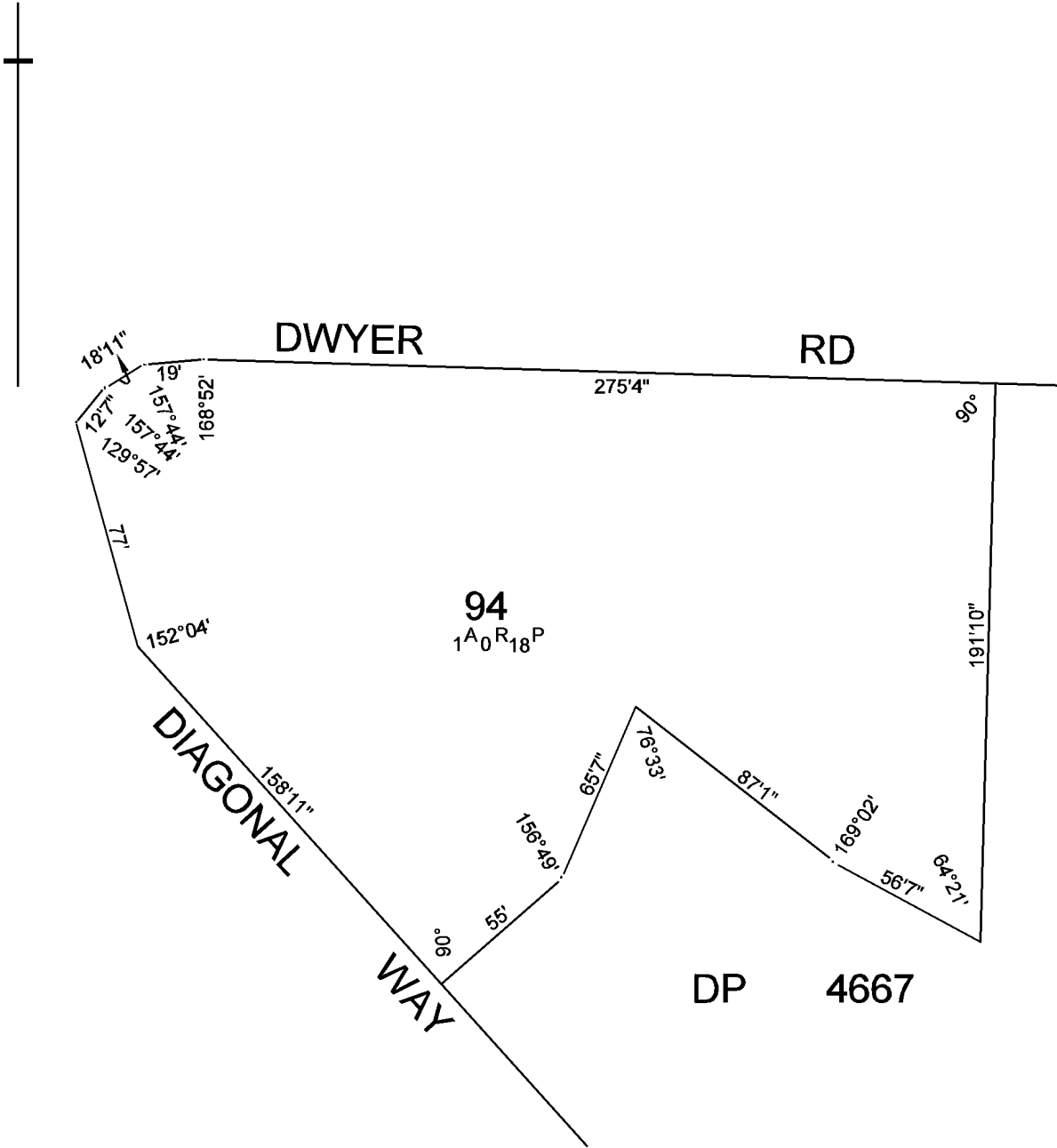
Schedule of Dealings

NIL

Notations

Dealings Affecting Title	NIL
Priority Notices	NIL
Notations on Plan	NIL
Registrar-General's Notes	NIL
Administrative Interests	NIL

THIS PLAN IS SCANNED FOR CERTIFICATE OF TITLE 2383/75 LAST PLAN REF: DP 4667



50 0 50 FEET

FOR METRIC CONVERSION	
1 FOOT	= 0.3048 METRES
1 INCH	= 0.0254 METRES
1 ACRE	= 0.404686 HECTARES
1 ROOD	= 1011.7 m ²
1 PERCH	= 25.29 m ²

NOTE: SUBJECT TO ALL LAWFULLY EXISTING PLANS OF DIVISION

REAL PROPERTY ACT, 1886



South Australia

The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.



Certificate of Title - Volume 6204 Folio 567

Parent Title(s) CT 5679/556
Creating Dealing(s) AQ 12884030
Title Issued 07/03/2018 **Edition** 1 **Edition Issued** 07/03/2018

Estate Type

FEE SIMPLE

Registered Proprietor

MINISTER FOR TRANSPORT AND INFRASTRUCTURE
OF ADELAIDE SA 5000

Description of Land

ALLOTMENT 23 FILED PLAN 146151
IN THE AREA NAMED WARRADALE
HUNDRED OF NOARLUNGA

Easements

NIL

Schedule of Dealings

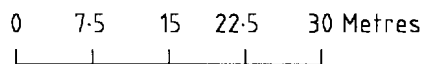
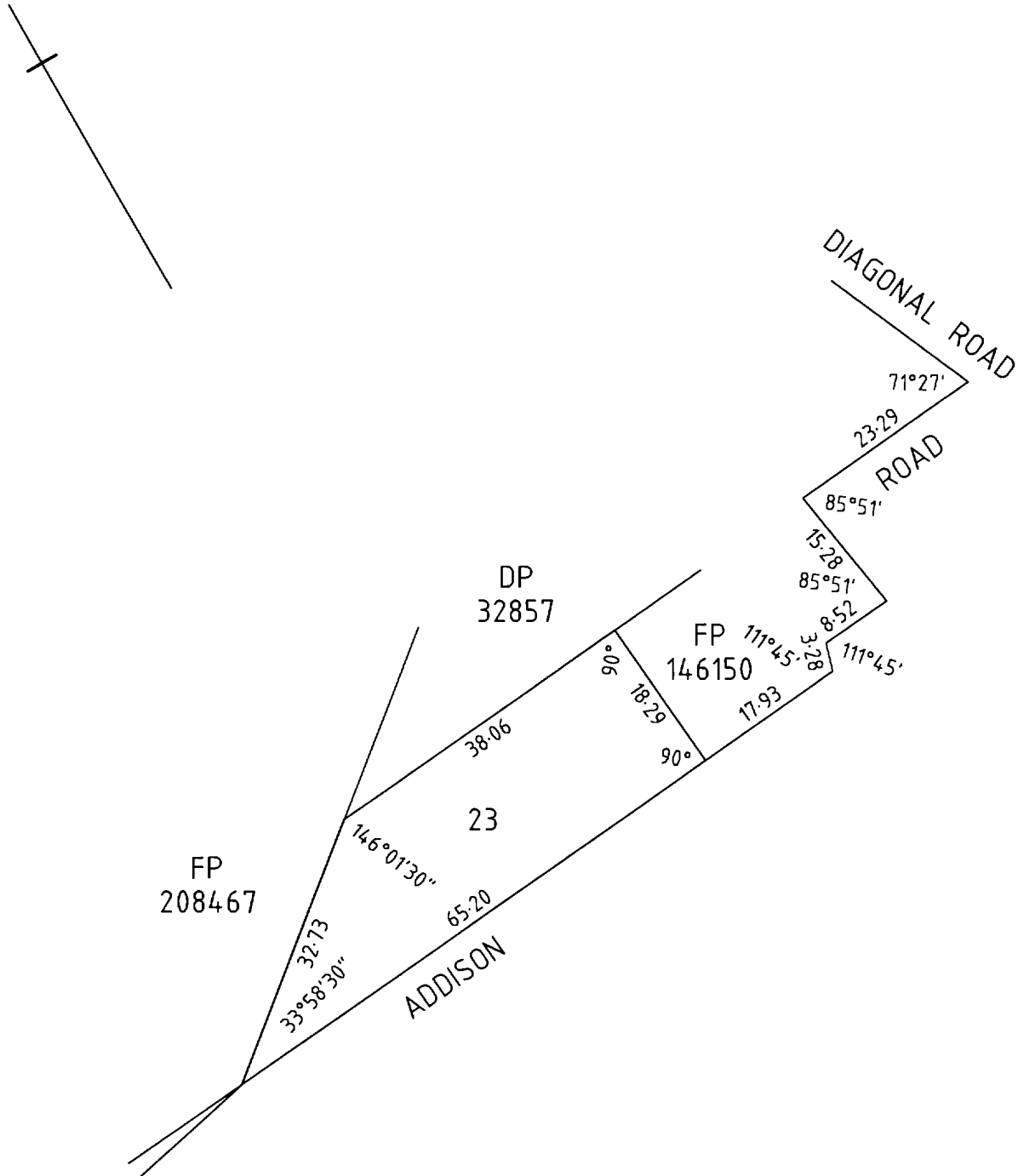
NIL

Notations

Dealings Affecting Title	NIL
Priority Notices	NIL
Notations on Plan	NIL
Registrar-General's Notes	NIL
Administrative Interests	NIL

THIS PLAN IS SCANNED FOR CERTIFICATE OF TITLE 1997/181

LAST PLAN REF: DP 2099



NOTE: SUBJECT TO ALL LAWFULLY EXISTING PLANS OF DIVISION

REAL PROPERTY ACT, 1886



The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.



Certificate of Title - Volume 6021 Folio 139

Parent Title(s) CT 5062/303

Creating Dealing(s) VE 10924400

Title Issued 21/10/2008 **Edition** 1 **Edition Issued** 21/10/2008

Estate Type

FEE SIMPLE

Registered Proprietor

COMMISSIONER OF HIGHWAYS
OF ADELAIDE SA 5000

Description of Land

ALLOTMENT 507 DEPOSITED PLAN 33064
IN THE AREA NAMED WARRADALE
HUNDRED OF NOARLUNGA

Easements

SUBJECT TO FREE AND UNRESTRICTED RIGHT(S) OF WAY OVER THE LAND MARKED B

Schedule of Dealings

NIL

Notations

Dealings Affecting Title NIL

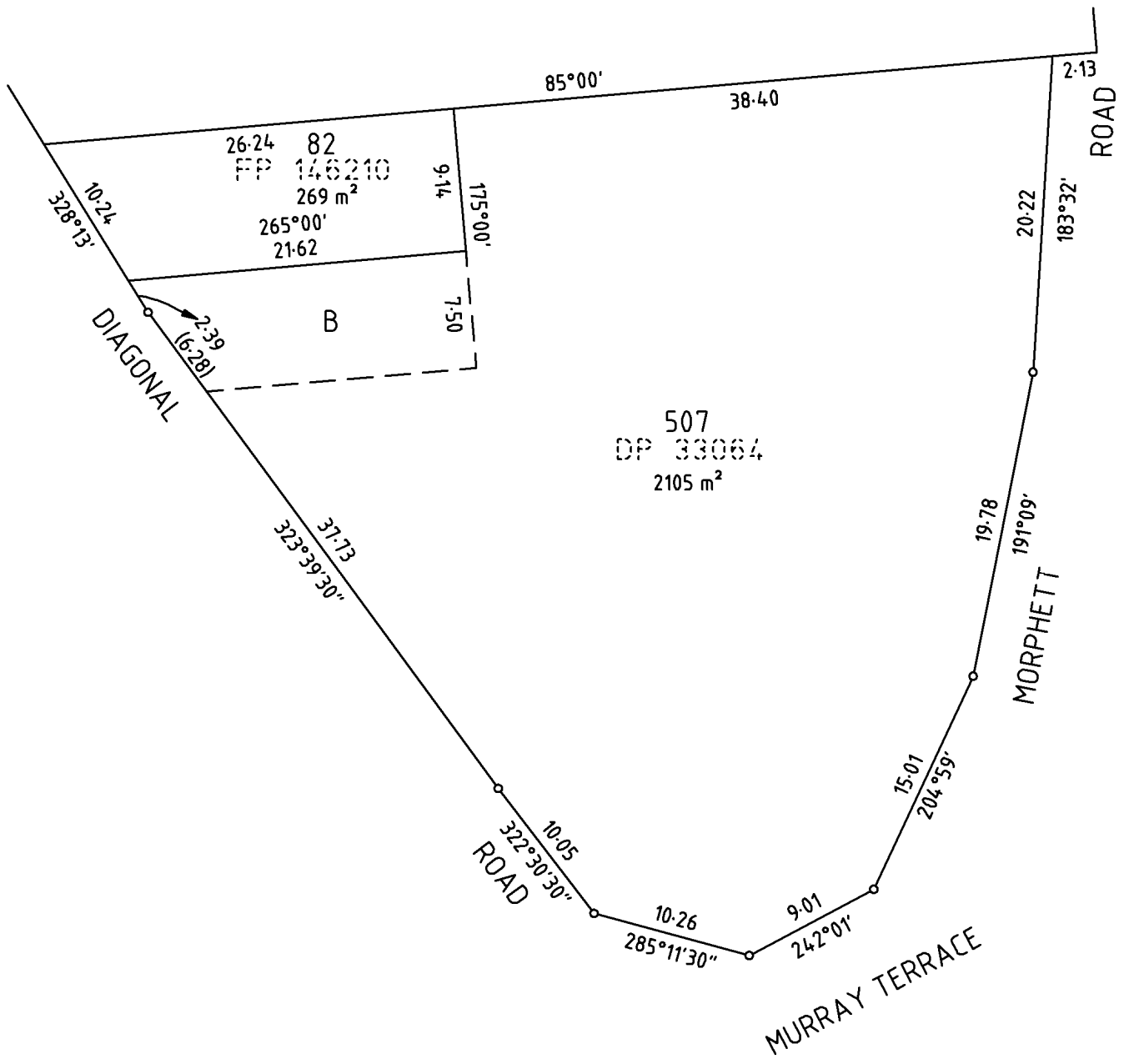
Priority Notices NIL

Notations on Plan NIL

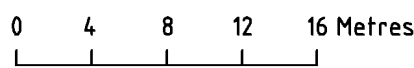
Registrar-General's Notes NIL

Administrative Interests NIL

FP 146211



507
 DP 33064
 2105 m²



REAL PROPERTY ACT, 1886



The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.



Certificate of Title - Volume 6008 Folio 492

Parent Title(s) CT 5064/333
Creating Dealing(s) RTU 10909627
Title Issued 29/04/2008 **Edition** 1 **Edition Issued** 29/04/2008

Estate Type

FEE SIMPLE

Registered Proprietor

COMMISSIONER OF HIGHWAYS
OF ADELAIDE SA 5000

Description of Land

ALLOTMENT 14 DEPOSITED PLAN 77101
IN THE AREA NAMED WARRADALE
HUNDRED OF NOARLUNGA

Easements

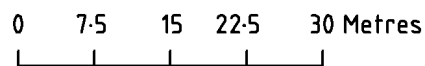
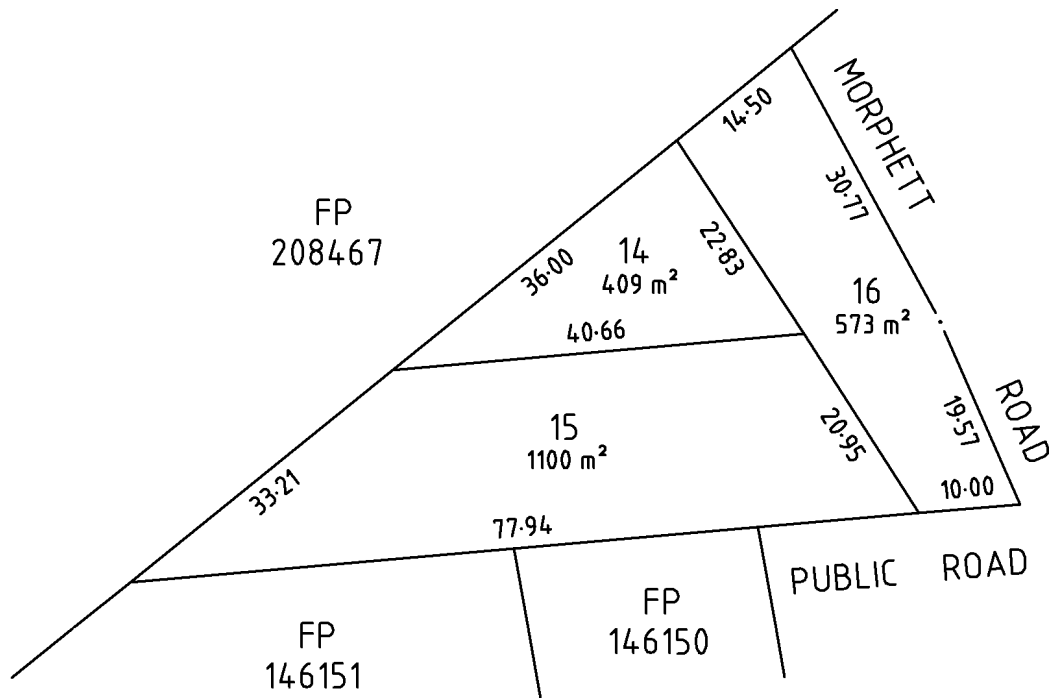
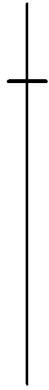
NIL

Schedule of Dealings

NIL

Notations

Dealings Affecting Title	NIL
Priority Notices	NIL
Notations on Plan	NIL
Registrar-General's Notes	NIL
Administrative Interests	NIL



REAL PROPERTY ACT, 1886



The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.



Certificate of Title - Volume 5533 Folio 208

Parent Title(s) CT 1017/69
Creating Dealing(s) CONVERTED TITLE
Title Issued 08/05/1998 **Edition** 6 **Edition Issued** 04/09/2013

Estate Type

FEE SIMPLE

Registered Proprietor

NGOC TAU VO
OF 6 DIAGONAL WAY OAKLANDS PARK SA 5046
1 / 100 SHARE

CUC THI NGUYEN
OF 6 DIAGONAL WAY OAKLANDS PARK SA 5046
99 / 100 SHARE

Description of Land

ALLOTMENT 5 DEPOSITED PLAN 2294
IN THE AREA NAMED OAKLANDS PARK
HUNDRED OF NOARLUNGA

Easements

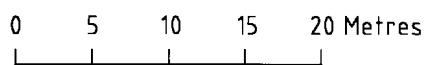
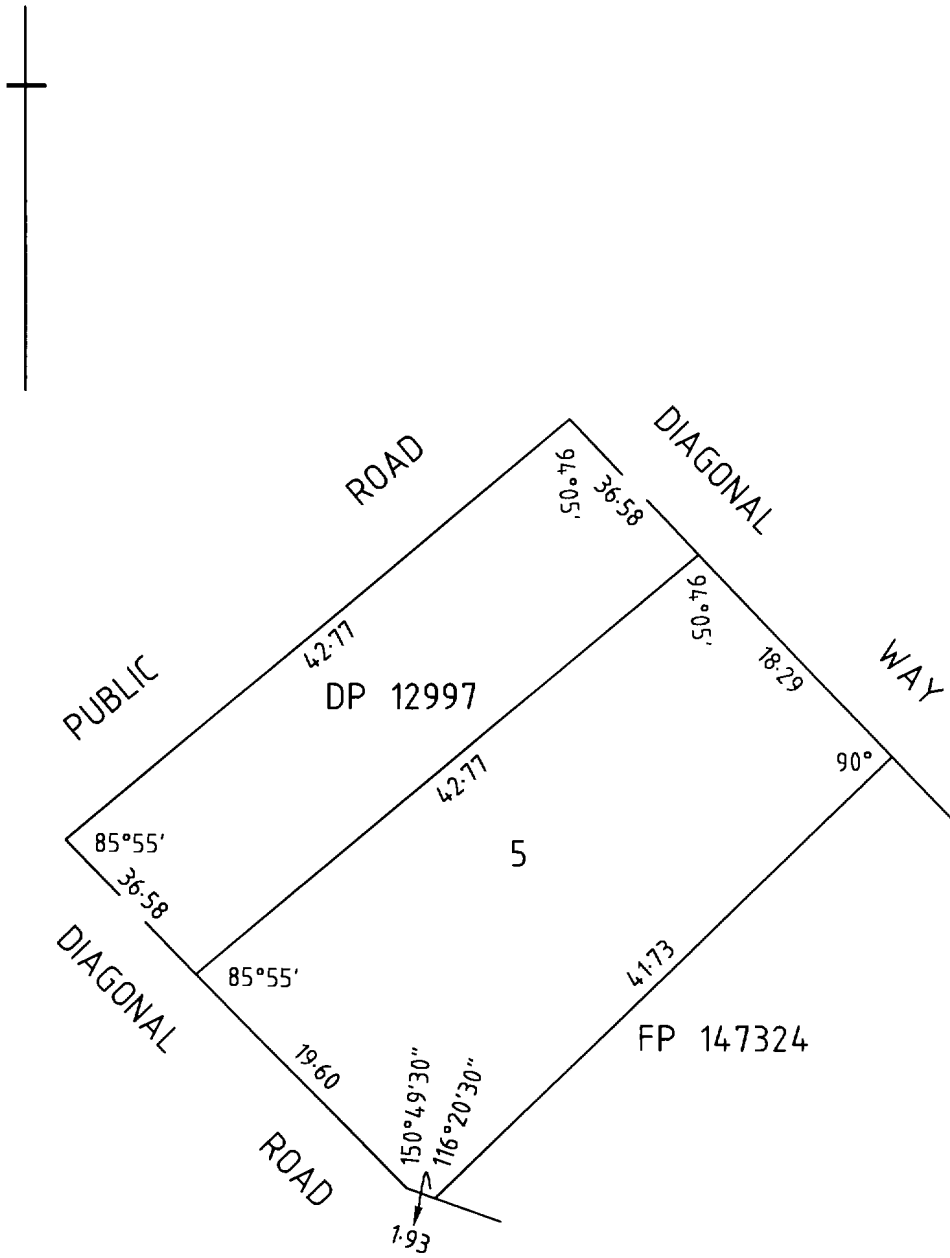
NIL

Schedule of Dealings

Dealing Number	Description
11992125	MORTGAGE TO COMMONWEALTH BANK OF AUSTRALIA

Notations

Dealings Affecting Title	NIL
Priority Notices	NIL
Notations on Plan	NIL
Registrar-General's Notes	NIL
Administrative Interests	NIL



REAL PROPERTY ACT, 1886



The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.



Certificate of Title - Volume 5446 Folio 803

Parent Title(s) CT 5330/700

Creating Dealing(s) T 8277575

Title Issued 03/09/1997 Edition 2 Edition Issued 14/07/2000

Estate Type

FEE SIMPLE

Registered Proprietor

ELLIOTT BROS. WHOLESALE PTY. LTD. (ACN: 007 520 523)
OF PO BOX 146 MITCHAM SA 5062

Description of Land

ALLOTMENT 101 DEPOSITED PLAN 13921
IN THE AREA NAMED WARRADALE
HUNDRED OF NOARLUNGA

Easements

TOGETHER WITH FREE AND UNRESTRICTED RIGHT(S) OF WAY OVER THE LAND MARKED B

Schedule of Dealings

Dealing Number	Description
8917822	MORTGAGE TO AUSTRALIA & NEW ZEALAND BANKING GROUP LTD.

Notations

Dealings Affecting Title NIL

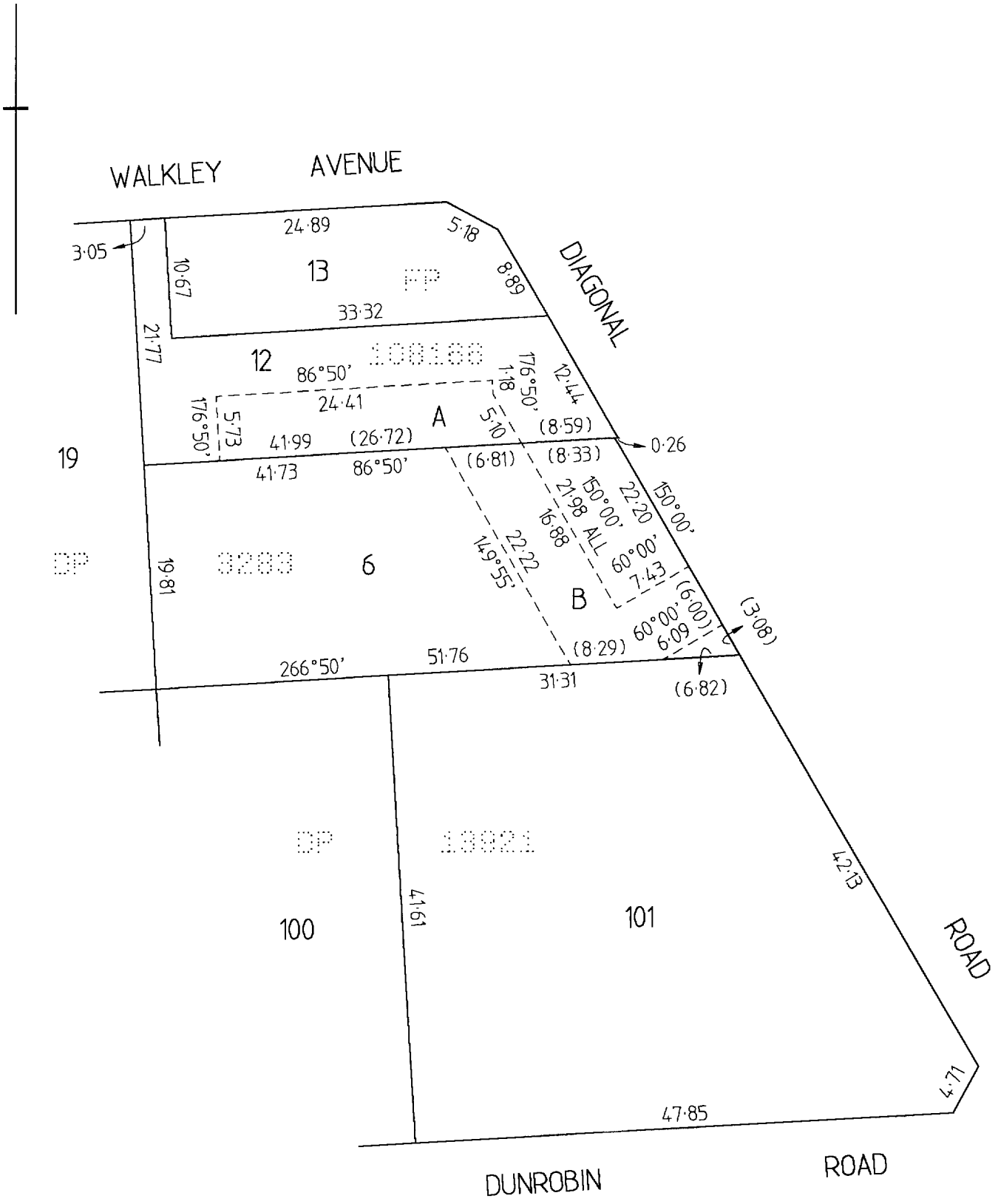
Priority Notices NIL

Notations on Plan NIL

Registrar-General's Notes

PLAN FOR LEASE PURPOSES VIDE G280/1990
PLAN FOR LEASE PURPOSES VIDE G339/1990

Administrative Interests NIL



REAL PROPERTY ACT, 1886



The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.



Certificate of Title - Volume 6008 Folio 493

Parent Title(s) CT 5064/332
Creating Dealing(s) RTU 10909627
Title Issued 29/04/2008 **Edition** 1 **Edition Issued** 29/04/2008

Estate Type

FEE SIMPLE

Registered Proprietor

COMMISSIONER OF HIGHWAYS
OF ADELAIDE SA 5000

Description of Land

ALLOTMENT 15 DEPOSITED PLAN 77101
IN THE AREA NAMED WARRADALE
HUNDRED OF NOARLUNGA

Easements

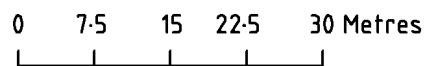
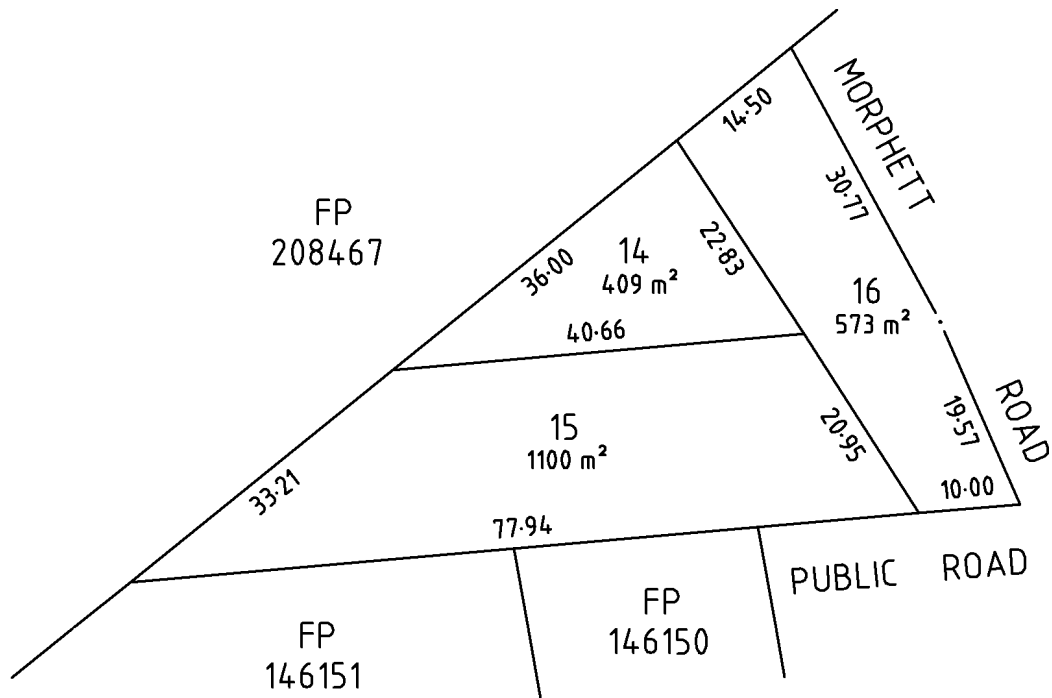
NIL

Schedule of Dealings

NIL

Notations

Dealings Affecting Title	NIL
Priority Notices	NIL
Notations on Plan	NIL
Registrar-General's Notes	NIL
Administrative Interests	NIL



REAL PROPERTY ACT, 1886



The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.



Certificate of Title - Volume 6008 Folio 494

Parent Title(s) CT 5064/332, CT 5064/333

Creating Dealing(s) RTU 10909627

Title Issued 29/04/2008 Edition 1 Edition Issued 29/04/2008

Estate Type

FEE SIMPLE

Registered Proprietor

COMMISSIONER OF HIGHWAYS
OF ADELAIDE SA 5000

Description of Land

ALLOTMENT 16 DEPOSITED PLAN 77101
IN THE AREA NAMED WARRADALE
HUNDRED OF NOARLUNGA

Easements

NIL

Schedule of Dealings

NIL

Notations

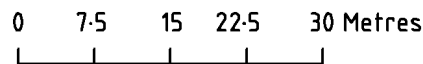
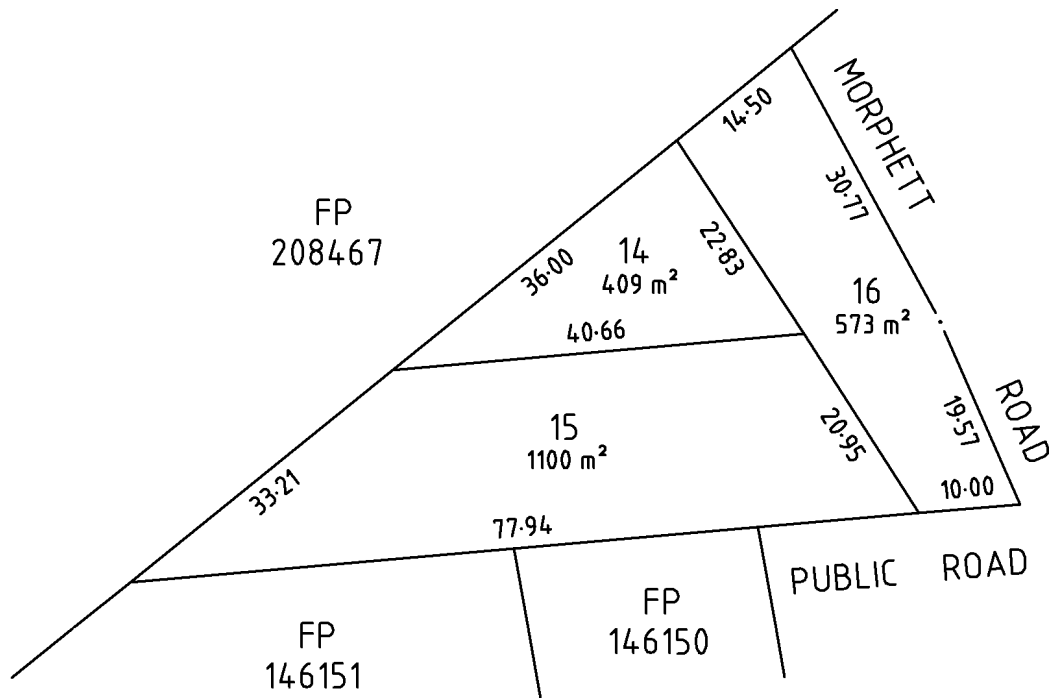
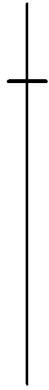
Dealings Affecting Title NIL

Priority Notices NIL

Notations on Plan NIL

Registrar-General's Notes NIL

Administrative Interests NIL



REAL PROPERTY ACT, 1886



The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.



Certificate of Title - Volume 6055 Folio 210

Parent Title(s) CT 5294/607
Creating Dealing(s) DDA 11359165
Title Issued 22/03/2010 **Edition** 3 **Edition Issued** 28/09/2017

Estate Type

FEE SIMPLE

Registered Proprietor

KARNBIR SINGH
SHIKHA SOOD
OF 4 DIAGONAL WAY OAKLANDS PARK SA 5046
AS JOINT TENANTS

Description of Land

ALLOTMENT 90 FILED PLAN 147324
IN THE AREA NAMED OAKLANDS PARK
HUNDRED OF NOARLUNGA

Easements

SUBJECT TO PARTY WALL RIGHT(S) OVER THE LAND MARKED A (T 2588329)
TOGETHER WITH PARTY WALL RIGHT(S) OVER THE LAND MARKED B (T 2588329)

Schedule of Dealings

Dealing Number	Description
12799785	MORTGAGE TO AUSTRALIA & NEW ZEALAND BANKING GROUP LTD. (ACN: 005 357 522)

Notations

Dealings Affecting Title	NIL
Priority Notices	NIL
Notations on Plan	NIL
Registrar-General's Notes	NIL
Administrative Interests	NIL

REAL PROPERTY ACT, 1886



The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.



Certificate of Title - Volume 5824 Folio 77

Parent Title(s) CT 1997/182
Creating Dealing(s) CONVERTED TITLE
Title Issued 15/11/2000 **Edition** 1 **Edition Issued** 15/11/2000

Estate Type

FEE SIMPLE

Registered Proprietor

COMMISSIONER OF HIGHWAYS
OF ADELAIDE SA 5000

Description of Land

ALLOTMENT 22 FILED PLAN 146150
IN THE AREA NAMED WARRADALE
HUNDRED OF NOARLUNGA

Easements

NIL

Schedule of Dealings

NIL

Notations

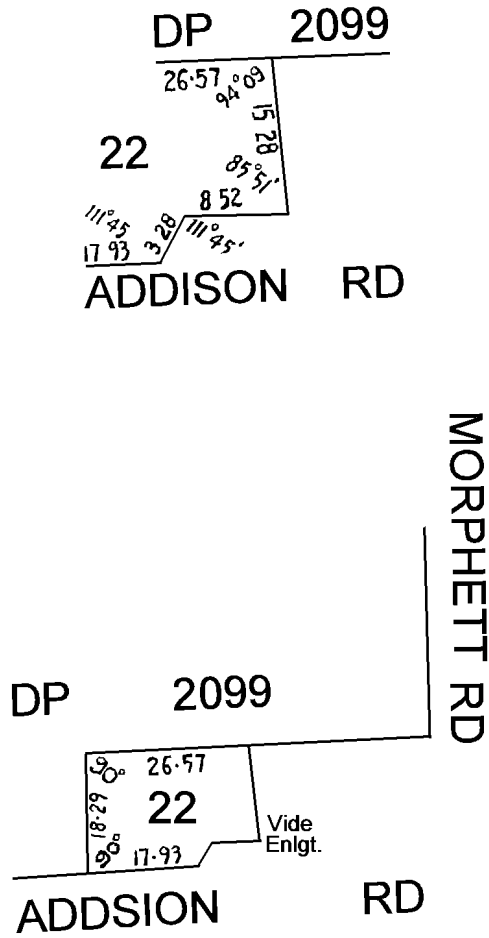
Dealings Affecting Title	NIL
Priority Notices	NIL
Notations on Plan	NIL
Registrar-General's Notes	NIL
Administrative Interests	NIL

THIS PLAN IS SCANNED FOR CERTIFICATE OF TITLE 1997/182
SEE TITLE TEXT FOR EASEMENT DETAILS

LAST PLAN REF: DP 2099

ENLARGEMENT

(Not to Scale)



NOTE: SUBJECT TO ALL LAWFULLY EXISTING PLANS OF DIVISION

REAL PROPERTY ACT, 1886



The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.



Certificate of Title - Volume 6129 Folio 327

Parent Title(s) CT 6021/138
Creating Dealing(s) DDA 12055238
Title Issued 30/01/2014 **Edition** 1 **Edition Issued** 30/01/2014

Estate Type

FEE SIMPLE

Registered Proprietor

JOHN ALLEN GRAETZ
JANE DOREEN GRAETZ
OF 12 HAMILTON COURT WARRADALE SA 5046
AS JOINT TENANTS

Description of Land

ALLOTMENT 82 FILED PLAN 146210
IN THE AREA NAMED WARRADALE
HUNDRED OF NOARLUNGA

Easements

TOGETHER WITH FREE AND UNRESTRICTED RIGHT(S) OF WAY OVER THE LAND MARKED B

Schedule of Dealings

Dealing Number	Description
8362513	MORTGAGE TO WESTPAC BANKING CORPORATION

Notations

Dealings Affecting Title NIL

Priority Notices NIL

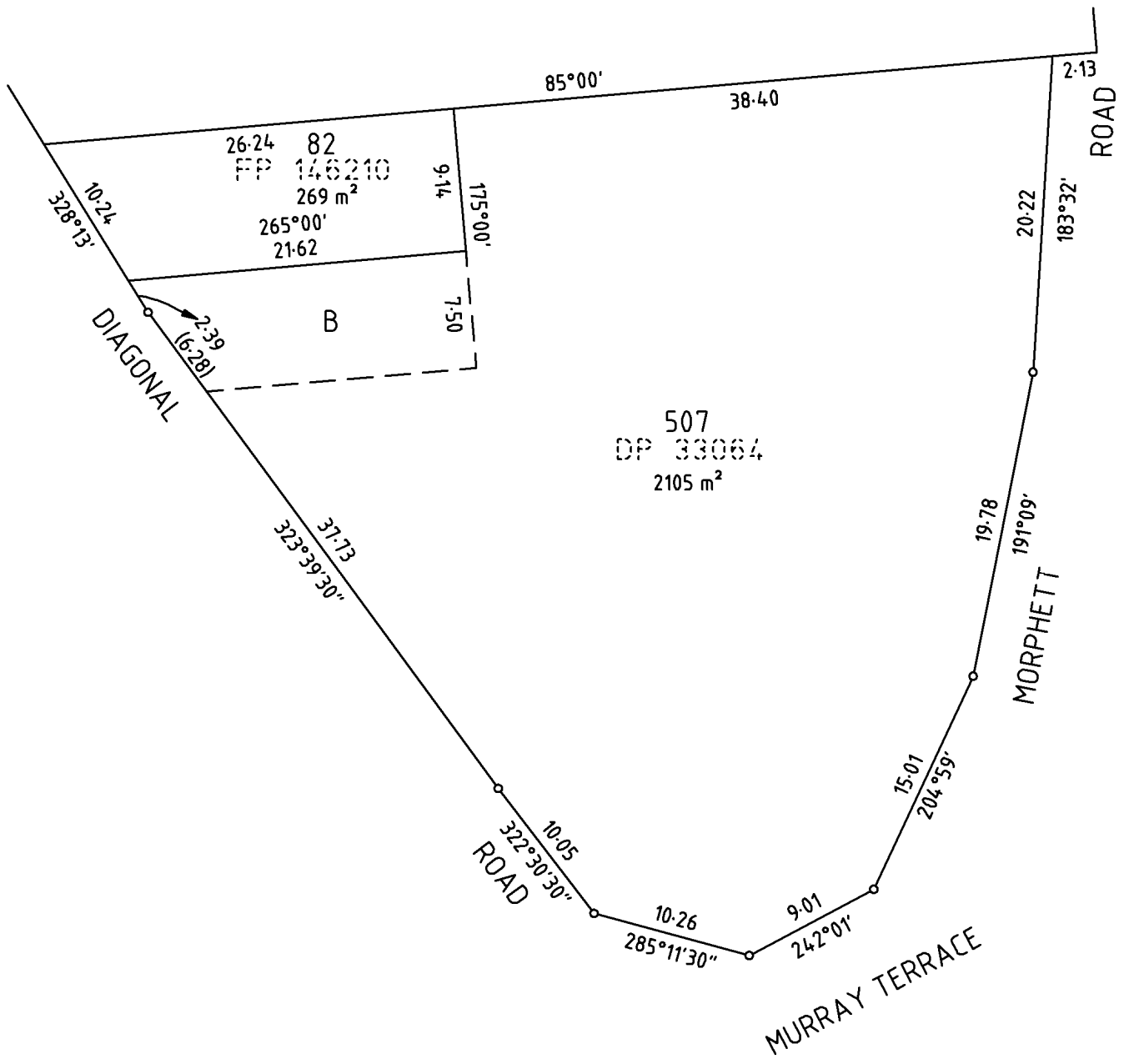
Notations on Plan NIL

Registrar-General's Notes

PLAN FOR LEASE PURPOSES VIDE G500/2003

Administrative Interests NIL

FP 146211



0 4 8 12 16 Metres

REAL PROPERTY ACT, 1886



The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.



Certificate of Title - Volume 6168 Folio 475

Parent Title(s) CT 6153/771

Creating Dealing(s) TG 12430289

Title Issued 20/01/2016 **Edition** 1 **Edition Issued** 20/01/2016

Estate Type

FEE SIMPLE

Registered Proprietor

MINISTER FOR TRANSPORT AND INFRASTRUCTURE
OF ADELAIDE SA 5000

Description of Land

ALLOTMENT 3 DEPOSITED PLAN 36909
IN THE AREAS NAMED HOVE AND WARRADALE
HUNDRED OF NOARLUNGA

Easements

SUBJECT TO EASEMENT(S) OVER THE LAND MARKED A ON F58140 TO DISTRIBUTION LESSOR CORPORATION (SUBJECT TO LEASE 8890000) (TG 12219967)

SUBJECT TO EASEMENT(S) OVER THE LAND MARKED B ON F58140 TO DISTRIBUTION LESSOR CORPORATION (SUBJECT TO LEASE 8890000) (TG 12430289)

Schedule of Dealings

NIL

Notations

Dealings Affecting Title NIL

Priority Notices NIL

Notations on Plan NIL

Registrar-General's Notes

LAND IN MORE THAN ONE COUNCIL AREA

Administrative Interests NIL

REAL PROPERTY ACT, 1886



The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.



Certificate of Title - Volume 5062 Folio 304

Parent Title(s) CT 3434/171
Creating Dealing(s) RTD 7195380
Title Issued 10/02/1992 **Edition** 1 **Edition Issued** 10/02/1992

Estate Type

FEE SIMPLE

Registered Proprietor

COMMISSIONER OF HIGHWAYS
OF ADELAIDE SA 5000

Description of Land

ALLOTMENT 510 DEPOSITED PLAN 33064
IN THE AREA NAMED WARRADALE
HUNDRED OF NOARLUNGA

Easements

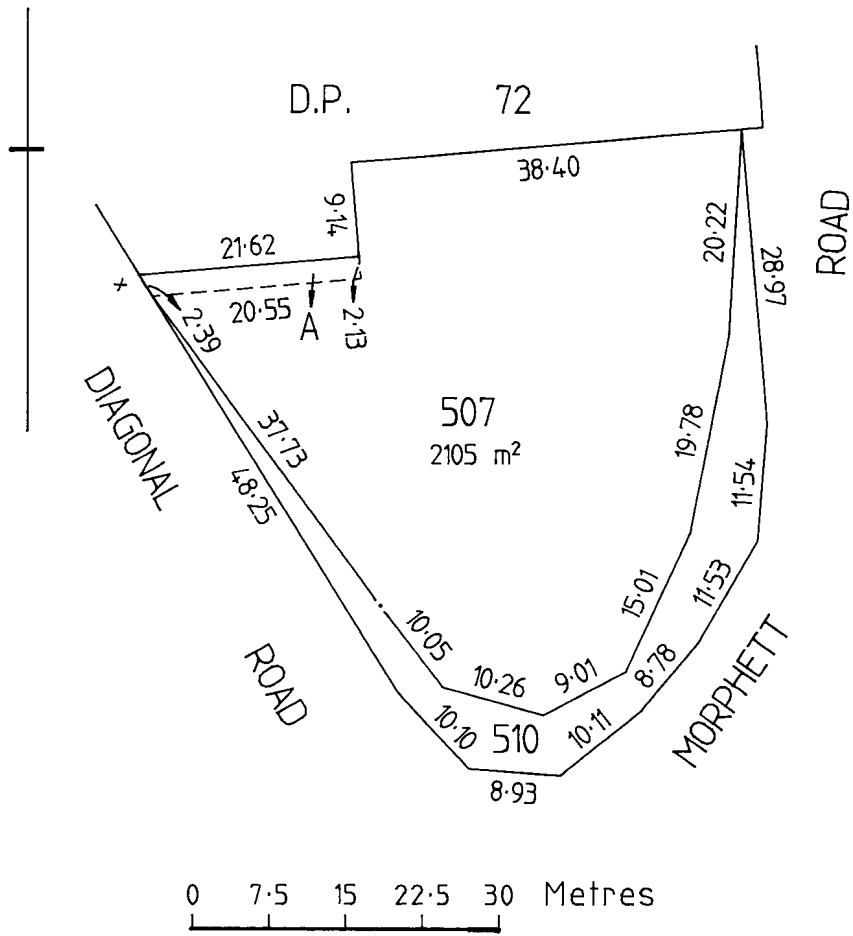
NIL

Schedule of Dealings

NIL

Notations

Dealings Affecting Title	NIL
Priority Notices	NIL
Notations on Plan	NIL
Registrar-General's Notes	NIL
Administrative Interests	NIL



REAL PROPERTY ACT, 1886



The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.



Certificate of Title - Volume 5787 Folio 701

Parent Title(s) CT 1000/127
Creating Dealing(s) CONVERTED TITLE
Title Issued 06/07/2000 **Edition** 3 **Edition Issued** 06/06/2012

Estate Type

FEE SIMPLE

Registered Proprietor

MINISTER FOR TRANSPORT AND INFRASTRUCTURE
OF ADELAIDE SA 5000

Description of Land

ALLOTMENT 91 FILED PLAN 208467
IN THE AREA NAMED WARRADALE
HUNDRED OF NOARLUNGA

Easements

NIL

Schedule of Dealings

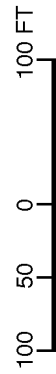
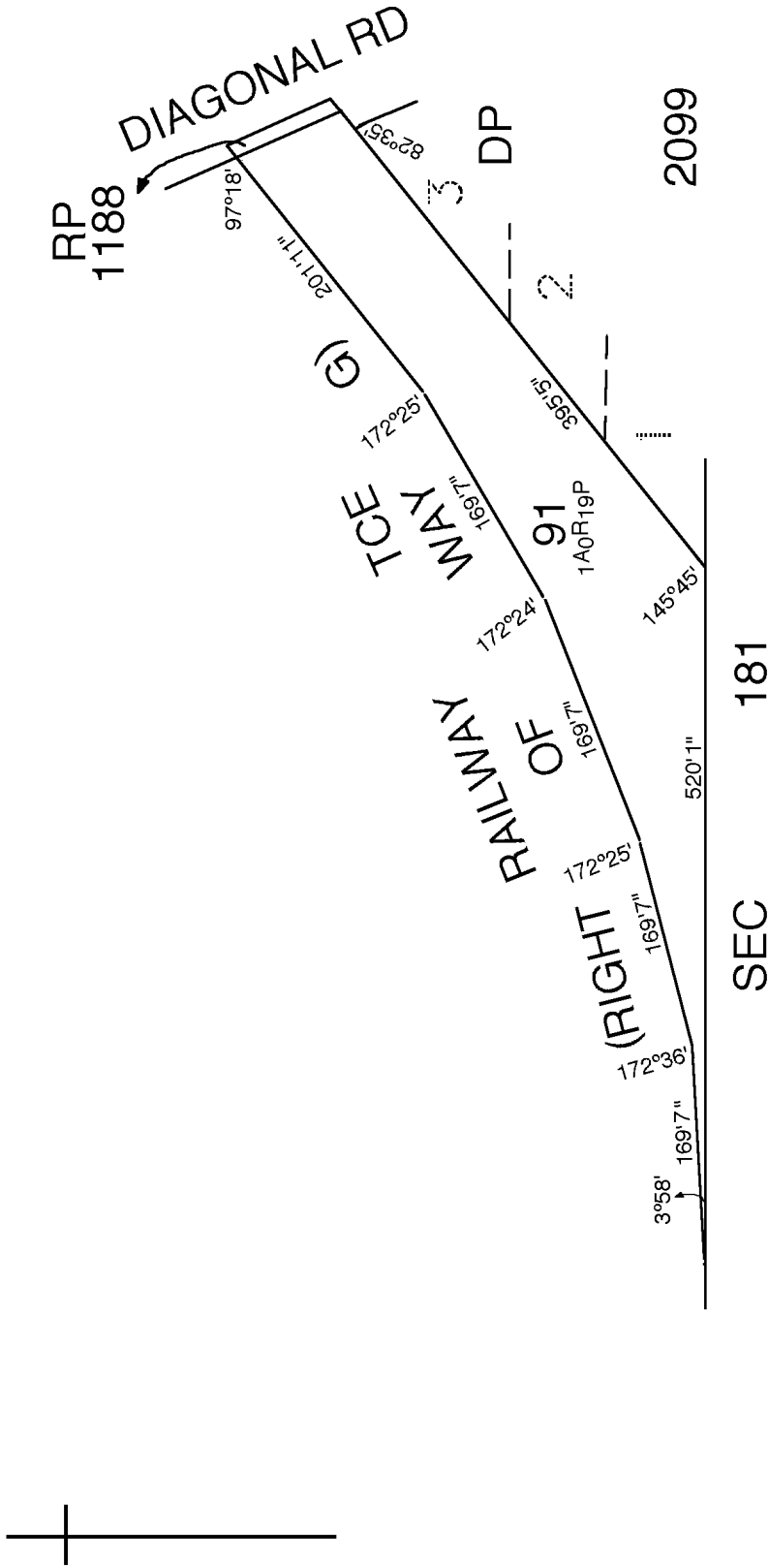
NIL

Notations

Dealings Affecting Title	NIL
Priority Notices	NIL
Notations on Plan	NIL
Registrar-General's Notes	NIL
Administrative Interests	NIL

THIS PLAN IS SCANNED FOR CERTIFICATE OF TITLE 1000/127

LAST PLAN REF: DP 72



FOR METRIC CONVERSION	
1 FOOT	= 0.3048 METRES
1 INCH	= 0.0254 METRES
1 ACRE	= 0.404686 HECTARES
1 ROOD	= 1011.7m ²
1 PERCH	= 25.29 m ²

NOTE: SUBJECT TO ALL LAWFULLY EXISTING PLANS OF DIVISION

REAL PROPERTY ACT, 1886



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Certificate of Title - Volume 5710 Folio 177

Parent Title(s) CT 4226/906
Creating Dealing(s) CONVERTED TITLE
Title Issued 15/11/1999 **Edition** 1 **Edition Issued** 15/11/1999

Estate Type

FEE SIMPLE

Registered Proprietor

ALLAN WILLIAM RYE
YVONNE RYE
OF 7 BEAUVALE PLACE HACKHAM WEST SA 5163
AS JOINT TENANTS

Description of Land

ALLOTMENT 11 DEPOSITED PLAN 12997
IN THE AREA NAMED OAKLANDS PARK
HUNDRED OF NOARLUNGA

Easements

NIL

Schedule of Dealings

Dealing Number	Description
7292439	MORTGAGE TO COMMONWEALTH BANK OF AUSTRALIA

Notations

Dealings Affecting Title NIL

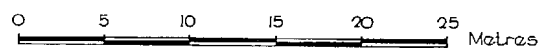
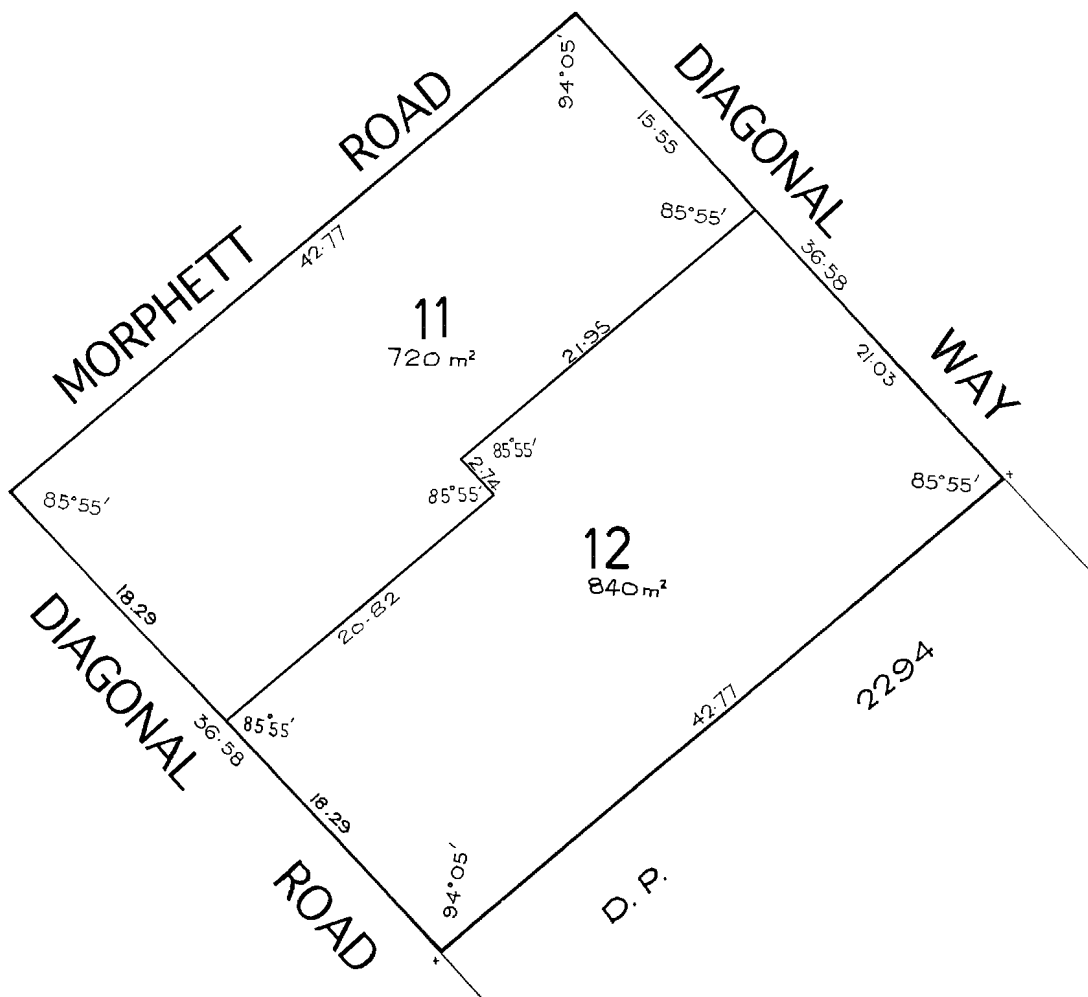
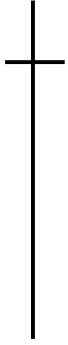
Priority Notices NIL

Notations on Plan NIL

Registrar-General's Notes

COMPARE ADDRESS FOR SERVICE OF NOTICE WITH 7292439

Administrative Interests NIL



REAL PROPERTY ACT, 1886



The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.



Certificate of Title - Volume 6150 Folio 113

Parent Title(s) CT 5986/828
Creating Dealing(s) TG 12219965
Title Issued 18/12/2014 Edition 1 Edition Issued 18/12/2014

Estate Type

FEE SIMPLE

Registered Proprietor

MINISTER FOR TRANSPORT AND INFRASTRUCTURE
OF ADELAIDE SA 5000

Description of Land

ALLOTMENT 1 FILED PLAN 1558
IN THE AREA NAMED HALLETT COVE
HUNDRED OF NOARLUNGA

ALLOTMENT 644 FILED PLAN 11640
IN THE AREA NAMED MARION
HUNDRED OF ADELAIDE

ALLOTMENT 2 FILED PLAN 11734
IN THE AREAS NAMED ASCOT PARK AND MITCHELL PARK
HUNDRED OF ADELAIDE

CLOSED ROAD MARKED I ROAD PLAN 1188
IN THE AREA NAMED WARRADALE
HUNDRED OF ADELAIDE

CLOSED ROADS MARKED J AND M ROAD PLAN 1188
IN THE AREA NAMED MARINO
HUNDRED OF ADELAIDE

Easements

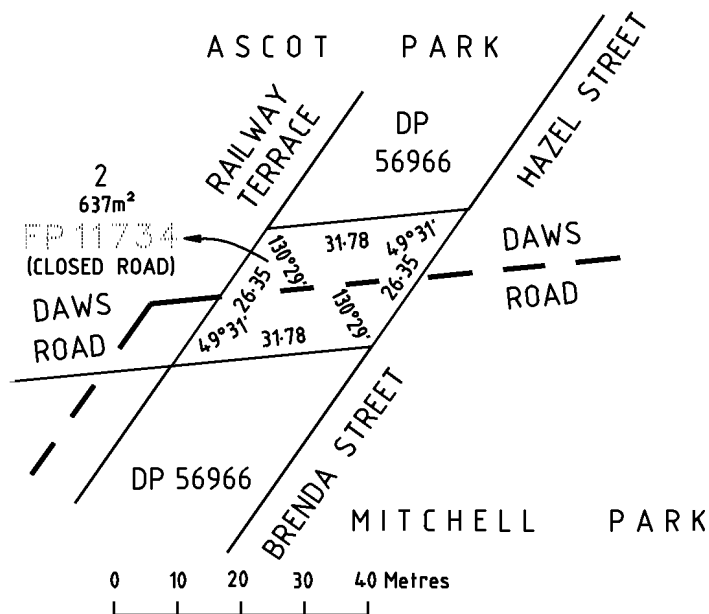
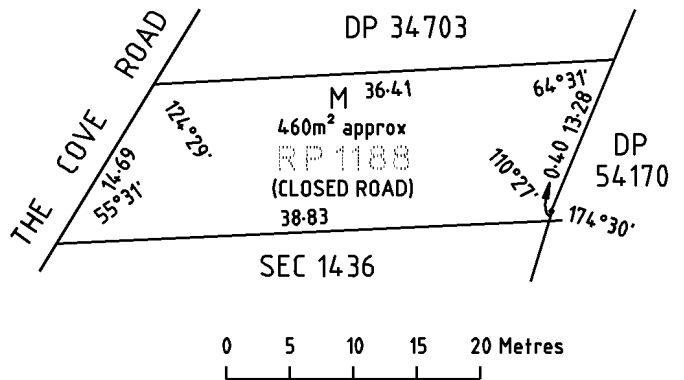
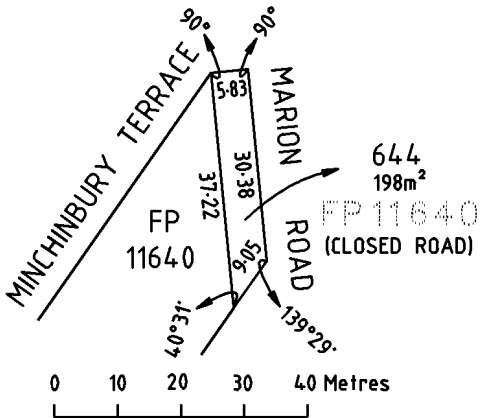
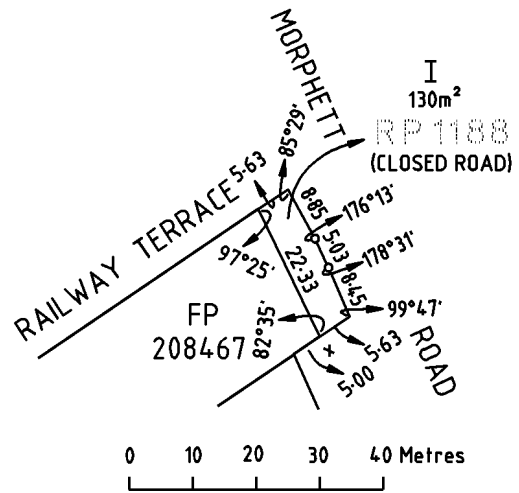
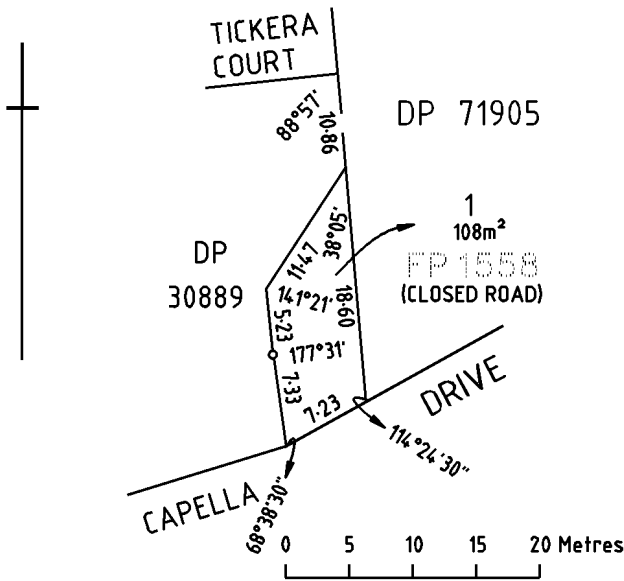
SUBJECT TO EASEMENT(S) OVER THE LAND MARKED G TO DISTRIBUTION LESSOR CORPORATION (SUBJECT TO LEASE 8890000) (TG 12219965)

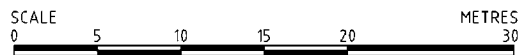
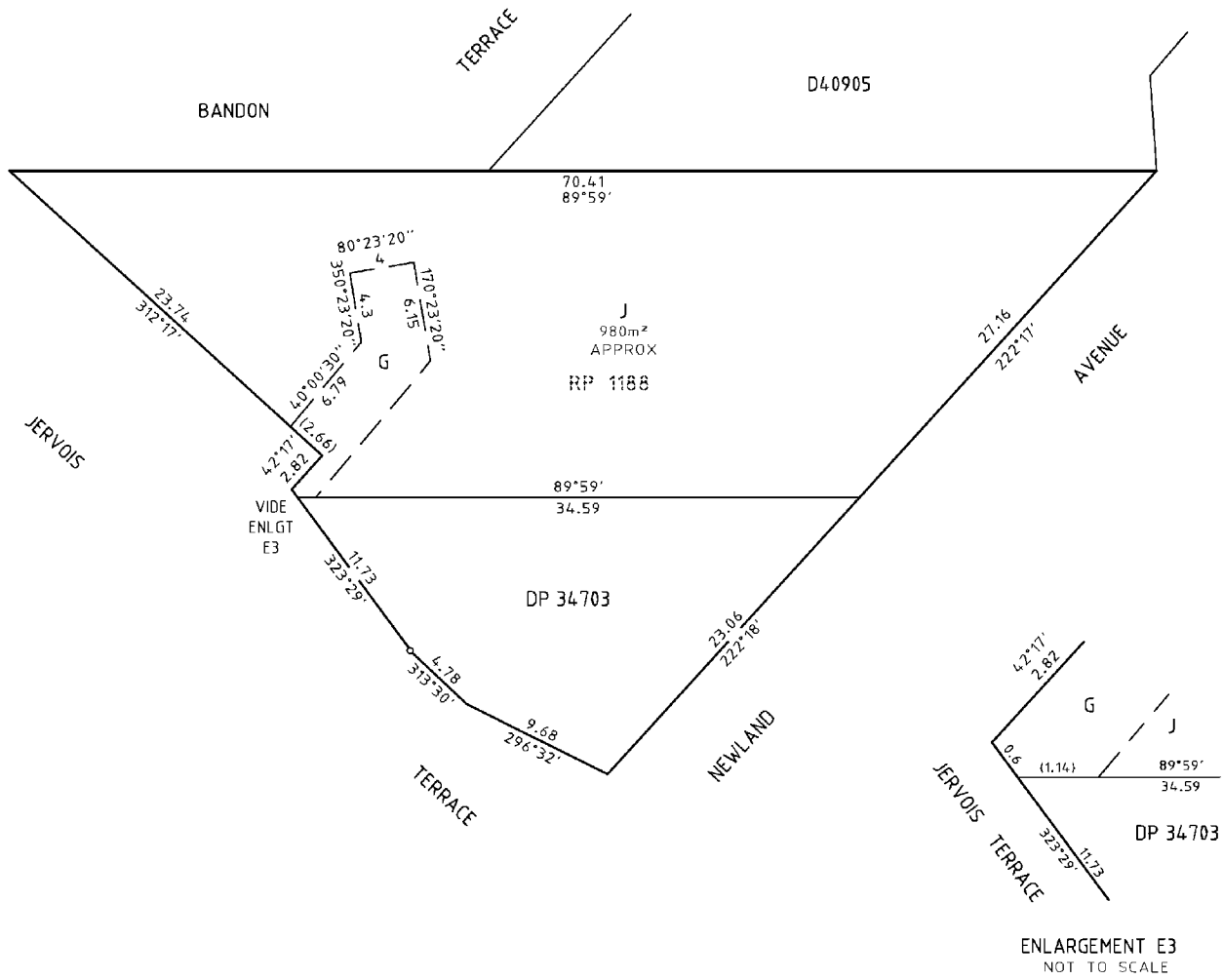
Schedule of Dealings

NIL

Notations

Dealings Affecting Title NIL
Priority Notices NIL
Notations on Plan NIL
Registrar-General's Notes NIL
Administrative Interests NIL





REAL PROPERTY ACT, 1886



The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.



Certificate of Title - Volume 6068 Folio 859

Parent Title(s) CT 5510/824
Creating Dealing(s) SC 11493229
Title Issued 03/12/2010 **Edition** 3 **Edition Issued** 21/11/2011

Estate Type

FEE SIMPLE

Registered Proprietor

LAURA JANE INGLIS
OF 7 TOMLINSON COURT LOXTON SA 5333

Description of Land

ALLOTMENT 21 FILED PLAN 1662
IN THE AREA NAMED OAKLANDS PARK
HUNDRED OF NOARLUNGA

Easements

SUBJECT TO PARTY WALL RIGHT(S) OVER THE LAND MARKED A (T 2588329)
TOGETHER WITH PARTY WALL RIGHT(S) OVER THE LAND MARKED B (T 2588329)

Schedule of Dealings

Dealing Number	Description
11669149	MORTGAGE TO AUSTRALIA & NEW ZEALAND BANKING GROUP LTD.

Notations

Dealings Affecting Title	NIL
Priority Notices	NIL
Notations on Plan	NIL
Registrar-General's Notes	NIL
Administrative Interests	NIL

REAL PROPERTY ACT, 1886



The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.



Certificate of Title - Volume 6149 Folio 961

Parent Title(s) CT 5675/853
Creating Dealing(s) TG 12220068
Title Issued 15/12/2014 **Edition** 1 **Edition Issued** 15/12/2014

Estate Type

FEE SIMPLE

Registered Proprietor

MINISTER FOR TRANSPORT AND INFRASTRUCTURE
OF ADELAIDE SA 5000

Description of Land

ALLOTMENT 2 DEPOSITED PLAN 12512
IN THE AREA NAMED OAKLANDS PARK
HUNDRED OF NOARLUNGA

Easements

SUBJECT TO EASEMENT(S) OVER THE LAND MARKED A ON FP 58137 TO DISTRIBUTION LESSOR CORPORATION (SUBJECT TO LEASE 8890000) (TG 12220068)

Schedule of Dealings

NIL

Notations

Dealings Affecting Title	NIL
Priority Notices	NIL
Notations on Plan	NIL
Registrar-General's Notes	NIL
Administrative Interests	NIL

REAL PROPERTY ACT, 1886



The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.



Certificate of Title - Volume 5935 Folio 791

Parent Title(s) CT 5710/178
Creating Dealing(s) RTU 10099211
Title Issued 17/02/2005 **Edition** 2 **Edition Issued** 03/11/2005

Estate Type

FEE SIMPLE

Registered Proprietor

PRISCILLA ANN D'ROZARIO
OF 8 DIAGONAL WAY OAKLANDS PARK SA 5046

Description of Land

ALLOTMENT 2 DEPOSITED PLAN 66400
IN THE AREA NAMED OAKLANDS PARK
HUNDRED OF NOARLUNGA

Easements

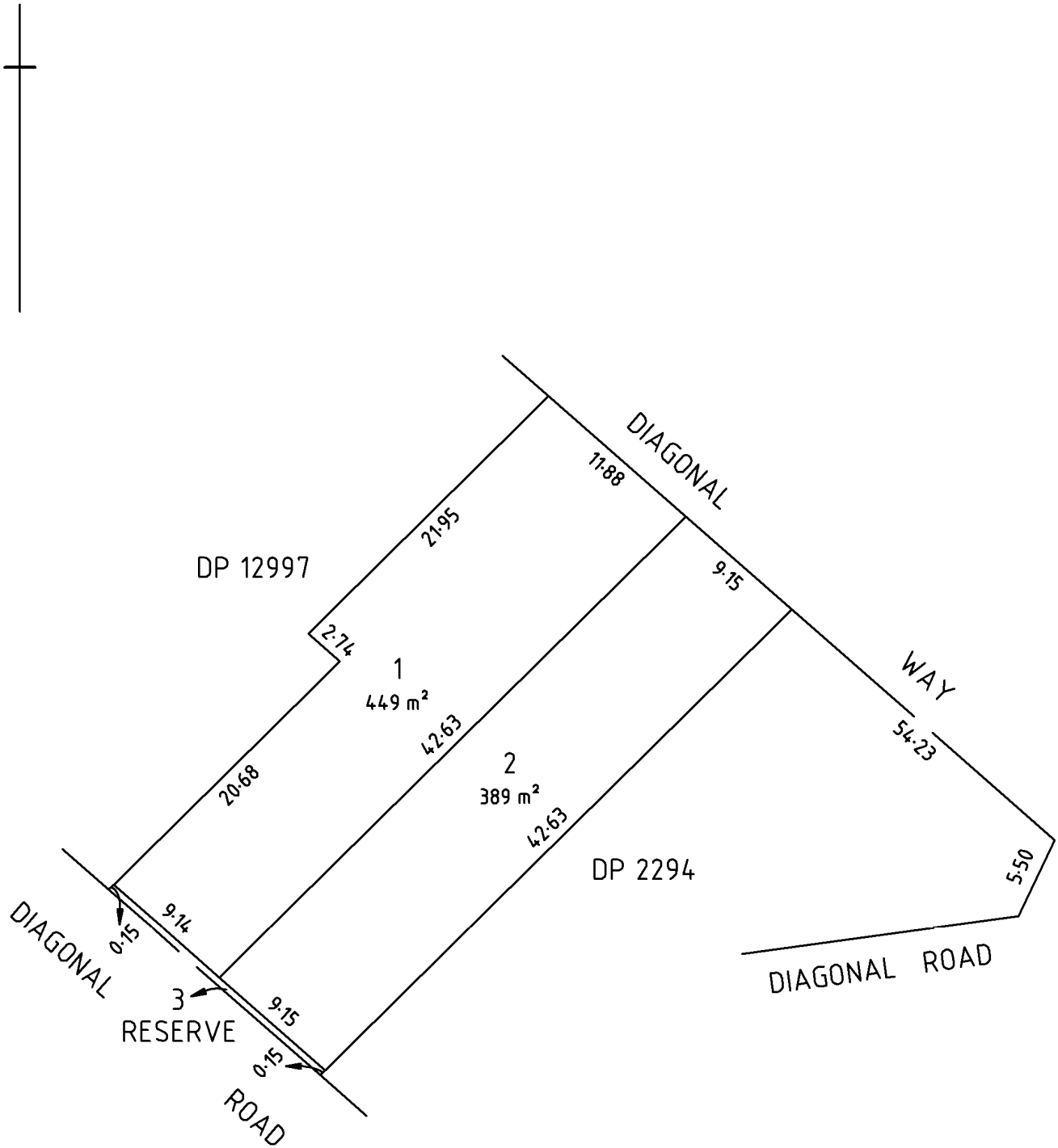
NIL

Schedule of Dealings

Dealing Number	Description
10331958	MORTGAGE TO COMMONWEALTH BANK OF AUSTRALIA

Notations

Dealings Affecting Title	NIL
Priority Notices	NIL
Notations on Plan	NIL
Registrar-General's Notes	NIL
Administrative Interests	NIL



REAL PROPERTY ACT, 1886



The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.



Certificate of Title - Volume 6171 Folio 660

Parent Title(s) CT 6149/962
Creating Dealing(s) TG 12479929
Title Issued 30/03/2016 Edition 1 Edition Issued 30/03/2016

Estate Type

FEE SIMPLE

Registered Proprietor

MINISTER FOR TRANSPORT AND INFRASTRUCTURE
OF ADELAIDE SA 5000

Description of Land

ALLOTMENT 641 FILED PLAN 11640
IN THE AREAS NAMED MARION AND OAKLANDS PARK
HUNDRED OF ADELAIDE

ALLOTMENT 150 FILED PLAN 218080
IN THE AREA NAMED OAKLANDS PARK
HUNDREDS OF ADELAIDE AND NOARLUNGA

Easements

SUBJECT TO THE EASEMENT(S) OVER PORTION OF ALLOTMENT 150 MARKED A ON F58052 TO THE COUNCIL FOR THE AREA (TG 12146764)

SUBJECT TO THE EASEMENT(S) OVER PORTION OF ALLOTMENT 150 MARKED B ON F58137 TO DISTRIBUTION LESSOR CORPORATION (SUBJECT TO LEASE 8890000) (TG 12220068)

SUBJECT TO THE EASEMENT(S) OVER PORTION OF ALLOTMENT 641 MARKED A ON F58794 TO THE COUNCIL FOR THE AREA (TG 12479929)

Schedule of Dealings

NIL

Notations

Dealings Affecting Title NIL

Priority Notices NIL

Notations on Plan NIL

Registrar-General's Notes

APPROVED FX251852

Administrative Interests NIL

REAL PROPERTY ACT, 1886



The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.



Certificate of Title - Volume 5935 Folio 790

Parent Title(s) CT 5710/178
Creating Dealing(s) RTU 10099211
Title Issued 17/02/2005 **Edition** 3 **Edition Issued** 24/02/2015

Estate Type

FEE SIMPLE

Registered Proprietor

PAMELA ANN BURGESS
OF 8A DIAGONAL WAY OAKLANDS PARK SA 5046
2 / 3 SHARE

VALENTINO GRGUROVIC
OF 8A DIAGONAL WAY OAKLANDS PARK SA 5046
1 / 3 SHARE

Description of Land

ALLOTMENT 1 DEPOSITED PLAN 66400
IN THE AREA NAMED OAKLANDS PARK
HUNDRED OF NOARLUNGA

Easements

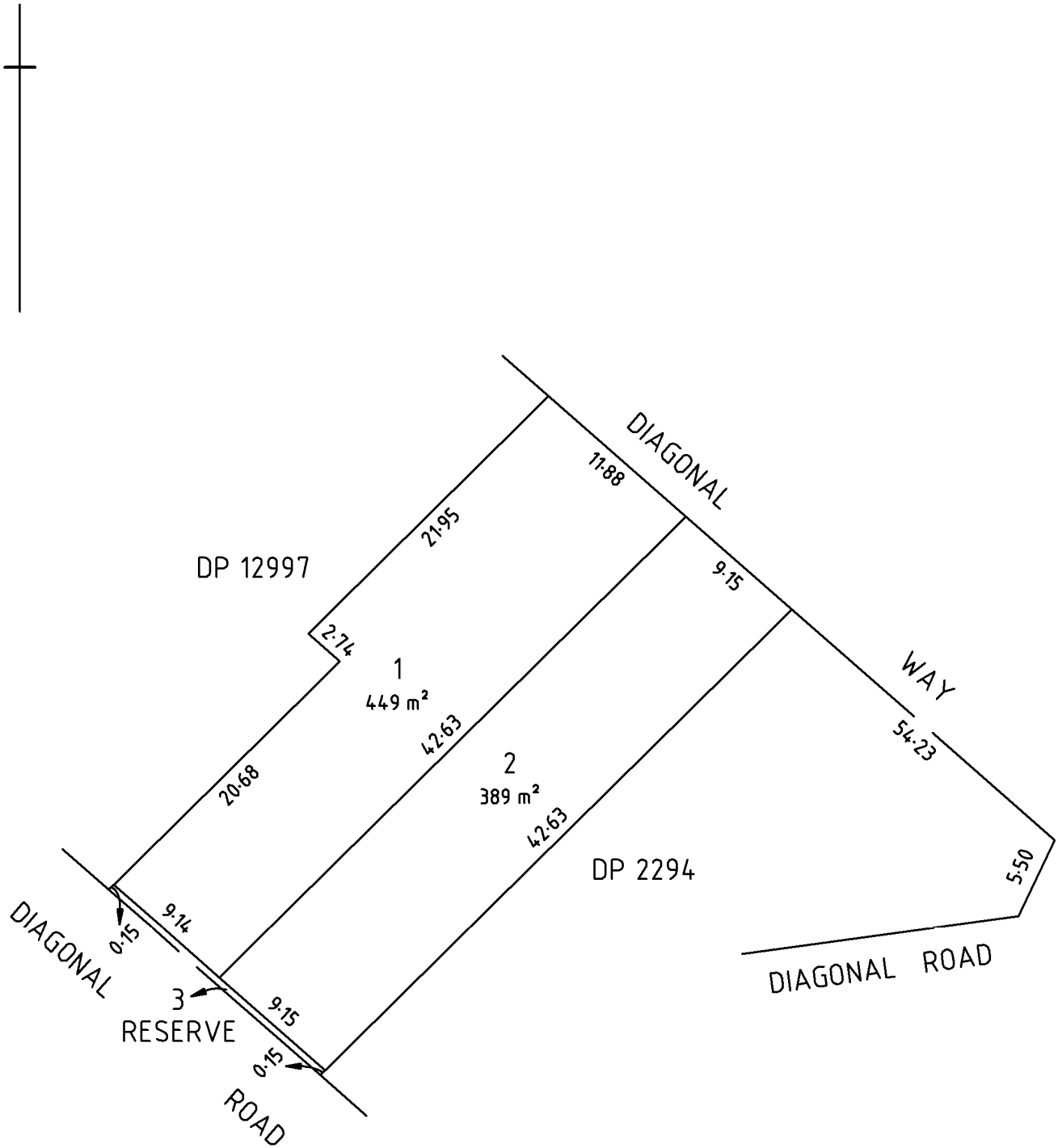
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Schedule of Dealings

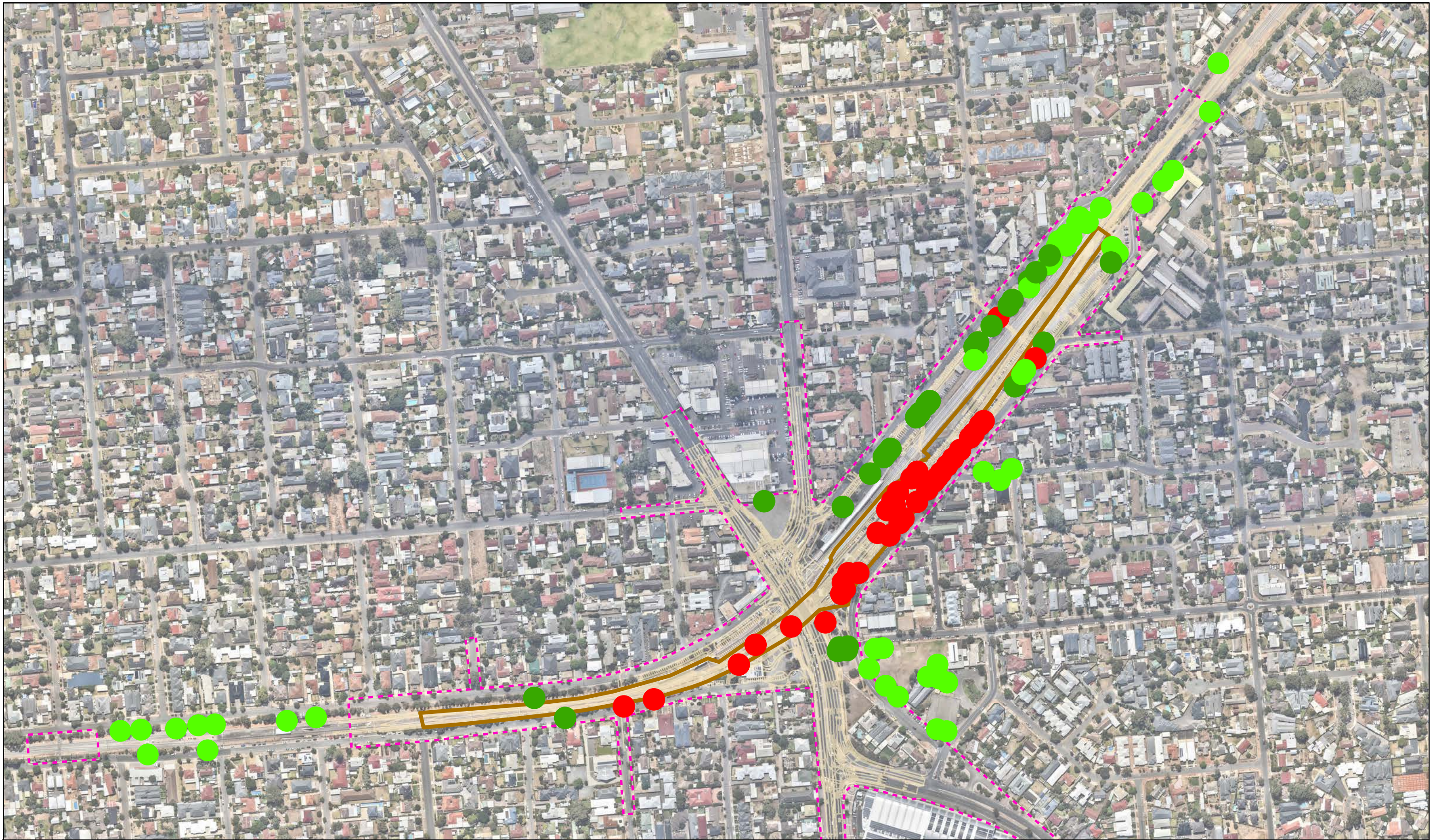
NIL

Notations

Dealings Affecting Title	NIL
Priority Notices	NIL
Notations on Plan	NIL
Registrar-General's Notes	NIL
Administrative Interests	NIL



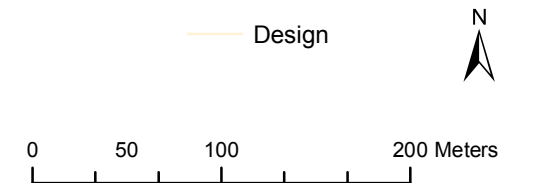
APPENDIX D – REGULATED AND SIGNIFICANT TREE RETENTION AND IMPACT PLAN)



Oaklands Grade Separation - Regulated & Significant Tree Removal & Impact Plan

Legend

- Regulated & Significant Trees to Remain-no impact (<10% TPZ)
- Regulated & Significant Trees to Remain- impacted (>10% TPZ)
- Regulated & Significant Trees to be removed
- Excavation Boundary
- Project Boundary
- Design



APPENDIX E – OAKLANDS CROSSING TREE DAMAGING ACTIVITIES – REGULATED AND SIGNIFICANT TREES REPORT



PUBLIC TRANSPORT PROJECTS ALLIANCE

Oaklands Crossing Tree Damaging Activities Regulated and Significant Trees

Doc No: PTPA-OAKL-10921-REP-0000-30-0001
Program: Public Transport Projects Alliance
Location: Oaklands Park, Adelaide, South Australia
Revision: C
Date: 19 March 2018

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Document Control

Document Description:

Project:	Oaklands Crossing
Document Title:	Tree Damaging Activities
Document No	PTPA-OAKL-10921-REP-0000-30-0001
General Description	Regulated and Significant Trees

Revision History:

		Prepared by	Reviewed by	Approved by
Revision	A	S Mathews	A Kilsby	A Kilsby
Date	01/03/2018			

		Prepared by	Reviewed by	Approved by
Revision	B	S Mathews	A Kilsby	A Kilsby
Date	14/03/2018			

		Prepared by	Reviewed by	Approved by
Revision	C	S Mathews	A Kilsby	A Kilsby
Date	14/03/2018			

Rev	Date	Description	Distribution
A	02/03/2018	Preliminary draft for Internal Review	Discipline leads
B	14/03/2018	Draft for Internal Review	Discipline leads
C	19/03/2018	Issued for SCAP submission	Discipline leads

Table of Contents

1. Introduction	1
1.1. Project Background	1
1.2. Project Description	1
1.3. Scope of this report	3
1.4. Summary of Findings.....	3
2. Significant and Regulated Tree Removal.....	4
3. Vegetation assessments	1
3.1. Scope of the ecological assessment.....	1
3.2. Summary of findings of the ecological assessment	1
3.3. Scope of arborist assessment.....	1
3.4. Summary of arborist assessment.....	2
4. Vegetation management	4
4.1. Sustainability Considerations.....	4
4.2. Permanent works.....	4
4.2.1. Earthworks and Excavation of lower track	4
4.2.2. Car Parks and Pathways.....	4
4.2.3. Pedestrian Bridge	4
4.2.4. Services.....	4
4.2.5. Drainage.....	5
4.3. Temporary Works.....	5
4.4. Operation and Maintenance.....	5
5. Impacts to Vegetation.....	6
5.1. Impacts to Regulated and Significant Trees	6
5.2. Impacts to Non-Regulated (Amenity) Vegetation.....	6
5.3. Impacts to habitat	6
6. Landscape Design	7
6.1. Sustainability in landscape design	7
6.2. Proposed Offset for Removal of Regulated and Significant Trees.....	8
6.3. Connected Communities- Green Space.....	8
6.4. Amenity value.....	8
7. Community.....	9
7.1. Volunteer Participation.....	9
7.2. Engagement Opportunities	9

Tables

Table 1 – Regulated and Significant Tree Removal requiring SCAP Approval	1
Table 2 – Regulated and Significant Tree Removal Requiring DPTI approval	5
Table 3 – Regulated and Significant Tree Impacts (including Pruning) Requiring SCAP Approval	6
Table 4 - Tree species identified during the assessment	2
Table 5 – Tree Protection Zone (TPZ) Encroachment Impacts	3
Table 6 – Proposed Landscaping Tree Planting Palette	7

Appendices

Appendix A - Regulated and Significant Tree Assessment Plans
Appendix B - Regulated and Significant Tree Removal and Impact Plan
Appendix C - Non-Regulated (Amenity) Vegetation Areas
Appendix D - Proposed Conceptual Tree Planting Plan
Appendix E - Arborist report

1. Introduction

1.1. Project Background

The Oaklands Crossing is located 12.8 km south of Adelaide on the Seaford rail line, at the intersection of Morphett and Diagonal Roads. The existing at-grade rail crossing results in congestion and traffic delays on Morphett and Diagonal Roads due to the operation of boom gates.

On average almost 42,000 vehicles use Morphett Road each day south of the Oaklands Crossing. North of the crossing an average of 33,200 vehicles use Diagonal Road and 8,700 use Morphett Road.

The Public Transport Projects Alliance (PTPA) was formed by the Minister for Transport and Infrastructure to grade separate the Oaklands Crossing and provide a solution that improves safety for all road users and eases traffic congestion at this intersection. As part of the crossing removal works, the rail line will be lowered at this location to allow for a rail underpass and a new Oaklands Station will be constructed south of the existing station. Pedestrian and cycling connections through this precinct will be improved through a widened shared path under Morphett Road adjacent to the rail underpass.

The PTPA team is made up of designer participants Arup and Mott McDonald, working in conjunction with constructor participant McConnell Dowell and owner participant Department of Planning, Transport and Infrastructure. PTPA has engaged specialist sub-consultants including Cox Architecture for architectural design, Aspect Studio for landscape design and Golder Associates for geotechnical services.

1.2. Project Description

The Oaklands Crossing Project involves the grade separation of the road and rail networks at the intersection of Morphett and Diagonal Roads by a lowered rail underpass of Morphett Road, construction of a new Oaklands Park Railway Station, and the grade separation of the Marino Rocks Greenway pedestrian and cycling shared path at Morphett Road.

- **Rail Infrastructure**

- The rail alignment for the proposed option is to be realigned to the south east to enable the complete track and underpass to be constructed offline without interrupting train services.
- Track
 - New double track rail of the Seaford Line south of the existing rail alignment;
- Train Station
 - New enhanced amenity station on both sides of the railway line;
 - Train station platform is to enable operation of a 6-car electric multiple unit (EMU), or 2 x 3 car EMU (with an additional 5m);
 - Platform infrastructure (furniture) based on 150m operational train length;
 - Public toilet and driver facilities (separate toilet);
 - Bicycle storage enclosure and bicycle racks;
 - Passenger information displays, CCTV and lighting;
 - Demolition of the existing Oaklands Train Station.
- Signalling
 - Modification of signalling for the new station
- Overhead wiring
 - New overhead wiring in the existing rail alignment, to the new station
 - Modification to existing overhead wiring and poles on both ends of the underpass resulting from the modifications.
- Traction power
 - Earthing and bonding
- Drainage
 - Track and station drainage, including connection to discharge point outside rail corridor;

- Modification to existing track drainage resulting from the track modifications on the existing Seaford Line;
 - Public Realm
 - Provide infrastructure that uses aesthetics that are sympathetic and complementary to the urban environment in which it is placed.
 - Architectural elements to the rail underpass and passenger access bridge;
 - Piers and headstocks to have a high quality architectural finish, with architectural panel cladding to achieved desired finish;
 - Landscaping adjacent to the train station (nominally 20m either side);
 - Landscaping of the underpass;
 - Landscaping of land between the train line & adjacent roads.
 - Noise Mitigation
 - The project will mitigate the noise impact to the environment, as required.
 - Fencing
 - Fencing between rail and shared path;
 - Emergency and maintenance egress gates in fencing between rail and shared path;
 - Fencing of the existing rail corridor.
- **Bus & Interchange Infrastructure**
 - Shelters
 - Bus shelters for bus stops as required;
 - Passenger information displays (one per side of Road).
 - Passenger Interchange Pathways
 - Elevated covered paved interchange pathways from the lift and stairs to the train station for passenger interchange;
 - Passenger pathway connecting the indented bus stops & shelters to the vertical access interchange connection;
 - Passenger pathways connecting the project to the local road access;
 - Lighting for all passenger pathways;
 - CCTV coverage of shared elevated covered passenger interchange pathway.
 - Public Realm
 - Landscaping adjacent the bus stops (nominally 20m either side);
 - Landscaping adjacent to the passenger pathways (nominally 20m either side);
- **Road & Pedestrian Infrastructure**
 - Improved pedestrian and cyclist connectivity along the Marino Rocks Greenway and across Morphett Road, to renewed public transport facilities at Oaklands Park.
 - Elevated shared pathway on the southern side of the rail line;
 - Lighting for shared pathways;
 - Landscaping pedestrian and cycling access pathway under the Morphett Road bridge;
- **Road & Pedestrian Infrastructure**
 - The utility services works includes the relocation, protection and/or modification of all utility services to enable construction and the safe operation of the completed project.
- **Structures**
 - Bridge structure supporting elevated road and pathways over Seaford line;
 - Bridge structure supporting elevated walkway over Seaford line and connecting to carpark and station plaza;
 - Reinforced soil walls abutments at either end of bridge structure;
 - Station structure and shelters.

1.3. Scope of this report

This report is a supporting document to the PTPA development application to the State Commission Assessment Panel (SCAP) in accordance with section 49 of the *Development Act 1993* for tree damaging activities.

This report is to be read in conjunction with the supporting report (Arborman Tree Solutions, “*Arboricultural Impact Assessment, Site: Oaklands Park Interchange*”, 14 March 2018, ATS4887-Oaklands RailDIR) from a qualified arborist provided in Appendix E of this report.

PTPA has undertaken a review of the construction requirements in conjunction with an assessment of the location, type and regulatory classification of existing trees. The assessment by the arborist included 110 trees, of which 2 were exempt (dead) and three were unregulated. Therefore, a total of 105 regulated and significant trees were identified within or adjacent the project area (refer Appendix A).

1.4. Summary of Findings

PTPA requires approval for the following tree damaging activities:

- the **removal of 35 regulated and significant trees** (18 regulated and 17 significant), as follows:
 - 25 trees (15 regulated and 10 significant) due to **direct impact** of the tree trunk and structural root zone within the excavation zone associated with the new lowered rail – requiring **SCAP approval**
 - 2 trees (1 regulated and 1 significant) due to **direct impact** of the tree trunk and structural root zone associated with the installation of new services – requiring **SCAP approval**
 - 6 trees (2 regulated and 4 significant) due to **direct impact** of the structural root zone associated with retaining wall structures associated with the new lowered rail – requiring **SCAP approval**.
 - 1 tree (1 significant) due to **direct impact** of the tree trunk and structural root zone within the excavation zone associated with the new lowered rail – requiring **DPTI approval** (within DPTI road reserve).
 - 1 tree (1 significant) due to **direct impact** of the structural root zone within the excavation zone associated with the upgraded road – requiring **DPTI approval** (within DPTI road reserve).
- the **impact to 27 regulated and significant trees** (12 regulated and 15 significant) associated with pruning or impact to more than 10% of tree protection zones (TPZ) associated with the development, which will be managed by implementation of design and construction methodologies that are considerate of tree health.

Tables 1 and 2 list the Regulated and Significant Trees that are proposed to be removed with additional information provided for each tree in the individual summary tables located in the arborist report (Appendix E).

This report describes the anticipated impacts to the regulated and significant trees in the project area and provides justification for the trees that require removal or will be impacted due to substantial encroachment into tree protection zones, for the purposes of obtaining approval for tree damaging activities for regulated and significant trees. The report also provides some information on unregulated (amenity) vegetation (refer Appendix C), and the proposed conceptual tree planting (refer Appendix D) to provide additional context. The vegetation offsets (new plantings) required for the removal of the regulatory and significant trees are expected to be achieved within the project area.

The management of amenity vegetation will be addressed in consultation with the City of Marion and other key stakeholder, including the community, separately.

2. Significant and Regulated Tree Removal

The following tables list the significant and regulated trees that require approval for removal. Table 1 lists the trees that require removal due to direct conflict with the proposed design. Table 2 lists the trees that will be significantly impacted due to the planned construction works and are proposed to be removed, however may be able to be retained dependent upon the final engineering solution for the geotechnical conditions in the area. Additional information is included in the vegetation assessment reports (refer to Appendix E).

Table 1 – Regulated and Significant Tree Removal requiring SCAP Approval

Tree ID	Species	Regulation Status	TPZ (m)	Useful Life expectancy (years)	Structure	Health	Number of Hollows	Retention Value	Development Impact Comments
R-R31	<i>Eucalyptus cladocalyx</i>	Regulated	10.8	>10	Fair	Good	2	Moderate	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
R-R32	<i>Eucalyptus cladocalyx</i>	Regulated	9.24	>20	Good	Good	1	Moderate	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
S-S25	<i>Eucalyptus cladocalyx</i>	Significant	14.64	>10	Fair	Fair	3	Moderate	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
R-R33	<i>Eucalyptus cladocalyx</i>	Regulated	11.4	>10	Fair	Fair	4	Moderate	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
R-R34	<i>Eucalyptus cladocalyx</i>	Regulated	9.0	>20	Good	Good	3	Moderate	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
R-R35	<i>Eucalyptus cladocalyx</i>	Regulated	9.24	>10	Fair	Fair	2	Moderate	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
R-R39	<i>Eucalyptus cladocalyx</i>	Regulated	10.32	<10	Fair	Poor	1	Low	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.

Tree ID	Species	Regulation Status	TPZ (m)	Useful Life expectancy (years)	Structure	Health	Number of Hollows	Retention Value	Development Impact Comments
R-R40	<i>Eucalyptus cladocalyx</i>	Regulated	10.32	>10	Fair	Fair	1	Moderate	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
S-S28	<i>Eucalyptus cladocalyx</i>	Significant	15.0	>10	Fair	Fair	4	Moderate	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
R-R38	<i>Eucalyptus cladocalyx</i>	Regulated	10.08	>10	Fair	Good	0	Moderate	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
R-R37	<i>Eucalyptus cladocalyx</i>	Regulated	9.84	>10	Fair	Good	0	Moderate	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
S-S27	<i>Eucalyptus cladocalyx</i>	Significant	11.88	>10	Fair	Fair	2	Moderate	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
S-S26	<i>Eucalyptus cladocalyx</i>	Significant	13.92	>10	Fair	Good	5	Moderate	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
R-R36	<i>Eucalyptus cladocalyx</i>	Regulated	10.2	>20	Good	Good	2	Moderate	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
S-S29	<i>Eucalyptus cladocalyx</i>	Significant	12.96	>10	Fair	Good	2	Moderate	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.

Tree ID	Species	Regulation Status	TPZ (m)	Useful Life expectancy (years)	Structure	Health	Number of Hollows	Retention Value	Development Impact Comments
S-S30	<i>Eucalyptus cladocalyx</i>	Significant	11.52	>20	Good	Good	2	High	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
R-R41	<i>Eucalyptus cladocalyx</i>	Regulated	8.88	>10	Fair	Good	3	Moderate	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
S-S31	<i>Eucalyptus cladocalyx</i>	Significant	15.00	>20	Good	Good	1	High	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
S-S32	<i>Eucalyptus cladocalyx</i>	Significant	15.00	>10	Fair	Fair	1	Moderate	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
S-S33	<i>Eucalyptus cladocalyx</i>	Significant	12.12	>10	Fair	Good	4	Moderate	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
R-R42	<i>Eucalyptus cladocalyx</i>	Regulated	8.64	>10	Fair	Fair	1	Low	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
R-R56	<i>Eucalyptus leucoxydon</i>	Regulated	8.88	>20	Good	Good	1	Moderate	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
S-S42	<i>Corymbia maculata</i>	Significant	12	>10	Fair	Fair	0	Moderate	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.

Tree ID	Species	Regulation Status	TPZ (m)	Useful Life expectancy (years)	Structure	Health	Number of Hollows	Retention Value	Development Impact Comments
R-R29	<i>Eucalyptus cladocalyx</i>	Regulated	9.36	<10	Fair	Poor	3	Low	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
S-S21	<i>Eucalyptus cladocalyx</i>	Significant	13.2	>10	Fair	Fair	0	Moderate	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
S-S22	<i>Eucalyptus cladocalyx</i>	Significant	11.64	>10	Fair	Fair	2	Low	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
S-S23	<i>Eucalyptus cladocalyx</i>	Significant	13.2	<10	Poor	Fair	6	Low	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
S-S24	<i>Eucalyptus cladocalyx</i>	Significant	15.0	<10	Poor	Fair	5	Low	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
R-R30	<i>Eucalyptus cladocalyx</i>	Regulated	10.32	>10	Fair	Good	2	Low	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
R-R57	<i>Eucalyptus saligna</i>	Regulated	6.6	>10	Fair	Good	0	Low	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.
R-R58	<i>Eucalyptus globulus</i>	Regulated	7.2	>10	Good	Fair	0	Low	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal.

Tree ID	Species	Regulation Status	TPZ (m)	Useful Life expectancy (years)	Structure	Health	Number of Hollows	Retention Value	Development Impact Comments
R-R15	<i>Eucalyptus cladocalyx</i>	Regulated	10.08	>10	Fair	Good	1	Moderate	The structural root zone and/or trunk of this tree is within the excavation zone for underground services and will require removal.
S-S18	<i>Eucalyptus globulus</i>	Significant	11.64	<10	Poor	Fair	4	Low	The structural root zone and/or trunk of this tree is within the excavation zone for underground services and will require removal.

Table 2 – Regulated and Significant Tree Removal Requiring DPTI approval

Tree ID	Species	Regulation Status	TPZ (m)	Useful Life expectancy (years)	Structure	Health	Number of Hollows	Retention Value	Development Impact Comments
S-S41	<i>Eucalyptus cladocalyx</i>	Significant	11.4	>10	Fair	Good	0	Moderate	The structural root zone and/or trunk of this tree is within the excavation zone for the lowered track and station works and will require removal. This tree is located within DPTI road reserve. Development Regulations exempt the tree from approval.
S-S34	<i>Eucalyptus cladocalyx</i>	Significant	15.0	>20	Good	Good	0	High	The structural root zone and/or trunk of this tree is within the excavation zone for the upgraded road works and will require removal. This tree is located within DPTI road reserve. Development Regulations exempt the tree from approval.

Table 3 – Regulated and Significant Tree Impacts (including Pruning) Requiring SCAP Approval

Tree ID	Species	Regulation Status	TPZ (m)	Useful Life expectancy (years)	Structure	Health	Retention Value	Development Impact Comments
R-S47	<i>Eucalyptus camaldulensis</i>	Regulated	6.6	>10	Fair	Good	Low	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
R-R59	<i>Ficus macrophylla</i>	Regulated	4.92	>20	Good	Good	Low	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
R-R61	<i>Eucalyptus camaldulensis</i>	Regulated	9.96	>10	Fair	Fair	Low	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
R-R11	<i>Eucalyptus cladocalyx</i>	Regulated	7.8	>10	Fair	Fair	Moderate	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
R-R14	<i>Eucalyptus cladocalyx</i>	Regulated	7.8	>20	Good	Good	Moderate	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
R-R19	<i>Eucalyptus cladocalyx</i>	Regulated	9.0	>10	Fair	Fair	Moderate	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
R-R20	<i>Eucalyptus cladocalyx</i>	Regulated	8.28	<10	Poor	Fair	Low	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.

Tree ID	Species	Regulation Status	TPZ (m)	Useful Life expectancy (years)	Structure	Health	Retention Value	Development Impact Comments
R-R21	<i>Eucalyptus cladocalyx</i>	Regulated	10.68	>20	Good	Good	Moderate	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
R-R22	<i>Eucalyptus cladocalyx</i>	Regulated	10.44	>20	Good	Good	Moderate	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
R-R28	<i>Eucalyptus cladocalyx</i>	Regulated	7.92	Surpassed	Poor	Poor	Low	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
R-R43	<i>Eucalyptus camaldulensis</i>	Regulated	10.2	<10	Poor	Fair	Low	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
R-S35	<i>Eucalyptus camaldulensis</i>	Regulated	11.28	>10	Fair	Fair	Moderate	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
S-S10	<i>Eucalyptus cladocalyx</i>	Significant	13.2	>10	Fair	Fair	Moderate	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
S-S11	<i>Eucalyptus cladocalyx</i>	Significant	13.44	>20	Good	Good	Moderate	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
S-S12	<i>Eucalyptus cladocalyx</i>	Significant	12.84	>10	Fair	Good	Moderate	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.

Tree ID	Species	Regulation Status	TPZ (m)	Useful Life expectancy (years)	Structure	Health	Retention Value	Development Impact Comments
S-S13	<i>Eucalyptus cladocalyx</i>	Significant	12.24	<10	Poor	Fair	Low	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
S-S14	<i>Eucalyptus cladocalyx</i>	Significant	11.76	>10	Fair	Fair	Moderate	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
S-S16	<i>Eucalyptus cladocalyx</i>	Significant	11.28	>10	Fair	Good	Moderate	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
S-S17	<i>Eucalyptus cladocalyx</i>	Significant	15.0	<10	Poor	Fair	Low	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
S-S36	<i>Eucalyptus camaldulensis</i>	Significant	12.0	<10	Poor	Fair	Low	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
S-S37	<i>Eucalyptus camaldulensis</i>	Significant	12.24	>10	Fair	Fair	Moderate	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
S-S4	<i>Eucalyptus cladocalyx</i>	Significant	11.52	>20	Good	Good	Moderate	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
S-S5	<i>Eucalyptus cladocalyx</i>	Significant	12.12	>10	Fair	Fair	Moderate	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.

Tree ID	Species	Regulation Status	TPZ (m)	Useful Life expectancy (years)	Structure	Health	Retention Value	Development Impact Comments
S-S6	<i>Eucalyptus cladocalyx</i>	Significant	14.28	>10	Fair	Good	Moderate	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
S-S7	<i>Eucalyptus cladocalyx</i>	Significant	13.8	>10	Fair	Good	Moderate	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
S-S8	<i>Eucalyptus cladocalyx</i>	Significant	12.96	>20	Good	Good	Moderate	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.
S-S9	<i>Eucalyptus cladocalyx</i>	Significant	15.0	>20	Good	Good	High	Works encroach on >10% of the Tree Protection Zone (TPZ), and branch pruning may be required. Structural root zone (SRZ) not impacted. Design and construction methodologies conducted in consultation with arborist.

3. Vegetation assessments

Two key vegetation assessments have been undertaken for the Oaklands Crossing Project to date, an ecological assessment, Vegetation Survey (2018/008) which assesses all vegetation across the Project site, and an arboriculture report which looks specifically at impacts to trees determined to be significant or regulated under the *Development Act, 1993*.

3.1. Scope of the ecological assessment

Vegetation Survey (2018/008) conducted by EBS Ecology assessed all existing vegetation across the project site for its landscape and ecological value in accordance with DPTI VE 101, Vegetation Survey Guidelines and has been summarised in this report.

3.2. Summary of findings of the ecological assessment

The Oaklands Crossing Project is located in a highly modified rail corridor adjacent to a residential area with nearby recreational facilities and a large commercial shopping centre. Due to the high density of residential development and general urban environment, minimal remnant vegetation exists except for one River Red Gum.

A large number of Sugar Gums "*Eucalyptus cladocalyx*" were identified with the majority located on the south side of Murray Terrace and the north side of Crozier Terrace. Hollows were found in the majority of the Sugar Gums and may provide potential habitat for fauna such as the Common Brush Tail Possum. Nest boxes were attached to some of the Sugar Gums, which may be used by fauna.

The majority of the vegetation to the west of the crossing outside of the rail corridor along Addison Road and Railway Terrace was comprised of planted exotic trees and shrubs, with scattered mature planted Red Gums.

Street trees within the survey area were predominantly planted trees of non-native species with the exception of some large scattered River Red Gums south of the shopping centre and along Morphett Road, south of the level crossing.

A large number of *Olea europaea* ssp. (Olive) were identified along the rail corridor fence on Crozier Terrace. Many of these trees were large and formed a dense cover. A number of *Schinus molle* (Pepper tree) were also present along the railway corridor.

The project location has been assessed as low risk for *Phytophthora* due to the urban nature of the environment. Therefore, the controls as stated in the DPTI Environment Instruction 21.3 will not be required.

A search of NatureMaps did not provide any records for threatened species within 2km of the site. Records do exist for the State Rare Peregrine Falcon (*Falco peregrinus*) and Nationally Vulnerable Grey-headed Flying Fox (*Pteropus poliocephalus*) within 3km of the site.

3.3. Scope of arborist assessment

An arborist was consulted to provide an Arboricultural Impact Assessment (included in Appendix E) of the trees within the project area and to provide information on the following-

- Assessment of the general condition and structure of the subject tree(s)
- Assessment of the tree/s and development against the current provisions of the *Development Act 1993*, relating to Regulated and/or Significant Trees where appropriate
- Determine the extent and long-term effect of the redevelopment of the site on the health and structure of the subject tree/s
- Identify and define the appropriate Tree Protection Zone (TPZ) for the tree/s to be retained

- Suggest appropriate treatments to be used within the TPZs that will assist in the longer-term preservation of the tree/s
- Recommend appropriate action for both the immediate and ongoing management of the tree/s. This may include canopy and root zone treatments and management principles

3.4. Summary of arborist assessment

A total of 110 trees within or adjacent the project area were assessed in accordance with the *Development Act 1993*. A total of 105 trees were identified as Regulated (62) or Significant (43) Trees. Three (3) unregulated and two (2) trees exempt (from requiring approval) were also assessed.

The list of species identified in the survey area is provided in Table 4.

Table 4 - Tree species identified during the assessment

Botanic Name	Common Name	Number of Trees	Origin
<i>Eucalyptus caladocalyx</i>	Sugar Gum	69	Australian Native
<i>Eucalyptus camaldulensis</i>	River Red Gum	16	Local Native
<i>Corymbia citriodora</i>	Lemon Scented Gum	4	Australian Native
<i>Eucalyptus leucoxylon</i>	South Australian Blue Gum	3	Australian Native
<i>Eucalyptus globulus ssp maidenii</i>	Maiden's Gum	3	Australian Native
<i>Brachychiton acerifolius</i>	Illawarra Flame Tree	3	Australian Native
<i>Agonis flexuosa</i>	Willow Myrtle	3	Australian Native
<i>Phoenix canariensis</i>	Canary Island Date Palm	2	Exotic
<i>Eucalyptus saligna</i>	Sydney Blue Gum	2	Australian Native
<i>Corymbia maculata</i>	Spotted Gum	2	Australian Native
<i>Melaleuca armillaris</i>	Bracelet Honey Myrtle	1	Australian Native
<i>Ficus macrophylla</i>	Moreton Bay Fig	1	Australian Native
<i>Eucalyptus sideroxylon</i>	Mugga or Red Ironbark	1	Australian Native
<i>Olea europaea ssp</i>	Olive	Amenity Groups	Weed
<i>Schinus molle</i>	Pepper Tree	Amenity Groups	Weed

The trees were also assessed on their important environmental and aesthetic contribution to the area. Trees with an Important or High Retention Rating are encouraged to be protected. Trees with a Low Retention rating indicate that alternative designs and construction methodologies are not warranted. The retention ratings for each of the regulated and significant trees are shown on the plans in Appendix A. One of the river red gums (S-S34) was assessed to be a remnant tree (ie, outdates European settlement of the area).

Encroachment impacts of the proposed development into the Tree Protection Zone (TPZ) were calculated as per Australian Standard AS4970-2009 *Protection of trees on development sites*. The encroachment value can be used to assist in determining the impact on the trees which can contribute to the design process for tree management and protection. The following table summarises the encroachment impacts.

Table 5 – Tree Protection Zone (TPZ) Encroachment Impacts

Encroachment*	Number of Trees
None	38
Minor (<10% TPZ area)	5
Major	11
Substantial (>40% TPZ area)	17
Conflicted (truck and/or structural roots impacted)	34

*Definitions for the levels of encroachment are available in the Arborist report located in Appendix E.
 Does not include unregulated or exempt trees.

4. Vegetation management

Consideration of the project requirements have been taken into account to assess the trees will be impacted or require removal. Design and construction methodologies for the road and rail alignments, and associated services, have been developed to reduce impacts to significant and regulated trees (as defined under the *Development Act 1993*), and other high amenity vegetation.

4.1. Sustainability Considerations

The Public Transport Program Alliance is committed to achieving sustainable outcomes for the Oaklands Crossing Project, and will incorporate landscaping (including off-set plantings), water sensitive urban design principles and enhance connectivity for pedestrians, cyclists and public transport users. Selection of plants within the landscaped areas will be considerate of endemic and natural species, together with input from Marion City Council.

4.2. Permanent works

All the tree removal approvals are related to the permanent works for the project with the trees requiring removal due to the proposed excavation and retaining structures associated to the east and south of the existing railway line. Refer to Appendix A for the Regulated and Significant Tree Assessment Plans that show the encroachment of the proposed works with respect to tree protection zones.

4.2.1. Earthworks and Excavation

The proposed design, including excavation zone for the lowered track and station, has been superimposed on the trees data (using GIS). Trees that are conflicted (ie, impact the trunk and/or structural roots) by the proposed earthwork and excavations will require approval for removal.

The lowered track will require retaining structures to ensure stability of embankments. These are likely to be a combination of vertical (eg, concrete slab) retaining walls, gabion retaining walls and battered slopes. The types of retaining walls will be determined based on geotechnical conditions, constructability, maintenance, urban design and existing site constraints (services, structures, vegetation).

Based on the design, 32 (of the 35) regulated and significant trees to be removed are within, or directly adjacent, the excavation area. Two of the trees to be removed are located in the location of new services, and one of the trees to be removed is located within the road reserve.

4.2.2. Car Parks and Pathways

Many trees are located near the existing and proposed, at-grade, car parks and pathways associated with the upgraded surround of Oaklands Station. The design of the new and upgraded, at-grade car parks and pathways has been conducted taking into account the location of regulated and significant trees, including their tree protection zones and structural root zones. Advice from the Arborist has also been sought during the design process in order to reduce impact to trees, where practicable. As a result of careful design (eg, by avoiding construction within structural root zones), no trees have been proposed to be removed as a result of the construction of car parking and associated pedestrian pathways.

4.2.3. Pedestrian Bridge

The pedestrian bridge has been designed as an elevated walkway over the railway line to connect to the carpark and station plaza. The proposed location of the pedestrian bridge extends over the excavation zone where the trees will have been removed as part of the excavation for the lowered rail.

4.2.4. Services

Proposed service realignment will aim to not impact upon the trees where practicable. A number of services are proposed to be installed using directional drilling between Barry Road and Selway Street (under Marry Terrace and Crozier Terrace). Given the trees (Sugar Gums) are expected to have structural roots deeper than the directional boring, there is a need to remove one tree on each side of the alignment (trees R-R15 and S-S18).

4.2.5. Drainage

Water Sensitive Urban Design (WSUD), including retention of water onsite, for the project will be focussed to the west of the intersection of Morphett and Diagonal roads to Fourth Ave. One tree was surveyed as regulated along the north west of the rail corridor and will not be impacted by the proposed design. Vegetation patches may be impacted however do not require approval for removal. The design will focus on a location with the least impact to existing vegetation. The design of drainage locations will be cognisant of existing vegetation, and is likely to include detention basins and other water sensitive urban design considerations.

4.3. Temporary Works

The temporary works, including traffic switching to maintain road traffic flows have been designed so that they minimise impact outside the permanent works area where regulated or significant trees exist.

Redesign of the temporary road works has been conducted to limit its extent near trees, where practicable, to the extent of permanent works. Given the close proximity of the temporary and permanent works to a significant red gum (S-S34), it is likely that this tree will need to be removed. The project team, including advice from the Arborist, is investigating if there are practicable designs that could retain this tree and its future health, but at this stage the likely outcome is that the tree will need to be removed.

4.4. Operation and Maintenance

The urban landscape design has taken into consideration operational and maintenance requirements for road, rail and open space land uses.

Pruning of vegetation may be required for the safe operation and maintenance of the railway, including consideration of overhead power supply, in accordance with DPTI Vegetation Removal Policy, Standard Operating Procedure under the *Native Vegetation Act 1991* (2017). DPTI has developed a policy that defines a vegetation clearance envelope (see Zone 1 in Diagram 1 below) to be established as part of the rail electrification works, in order to:

- minimise the risk of tree limbs falling on the track or overhead wires, thus potentially sparking a fire and/or disrupting services;
- reduce the safety issues that maintenance workers face when working in an electrified environment; and
- reduce the extent and frequency of vegetation maintenance and any resultant service disruptions to undertake these activities.

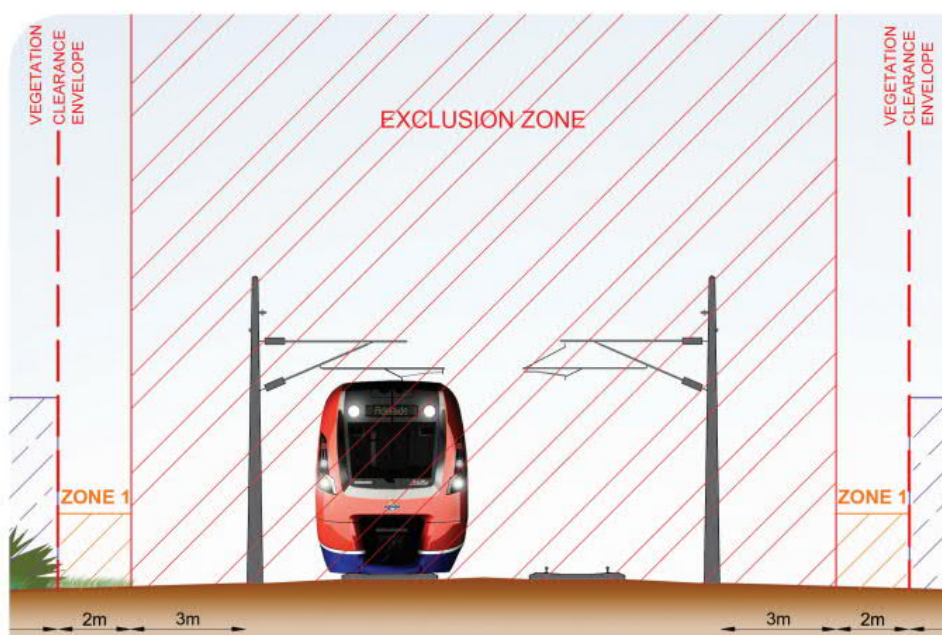


DIAGRAM 1: VEGETATION CLEARANCE ZONES FOR ELECTRIFIED RAIL CORRIDORS.

5. Impacts to Vegetation

5.1. Impacts to Regulated and Significant Trees

PTPA requires approval for the following tree damaging activities:

- the **removal of 35 regulated and significant trees** (18 regulated and 17 significant), as follows:
 - 25 trees (15 regulated and 10 significant) due to **direct impact** of the tree trunk and structural root zone within the excavation zone associated with the new lowered rail – requiring **SCAP approval**
 - 2 trees (1 regulated and 1 significant) due to **direct impact** of the tree trunk and structural root zone associated with the installation of new services – requiring **SCAP approval**
 - 6 trees (2 regulated and 4 significant) due to **direct impact** of the structural root zone associated with retaining wall structures associated with the new lowered rail – requiring **SCAP approval**.
 - 1 tree (1 significant) due to **direct impact** of the tree trunk and structural root zone within the excavation zone associated with the new lowered rail – requiring **DPTI approval** (within DPTI road reserve).
 - 1 tree (1 significant) due to **direct impact** of the structural root zone within the excavation zone associated with the upgraded road – requiring **DPTI approval** (within DPTI road reserve).
- the **impact to 27 regulated and significant trees** (12 regulated and 15 significant) associated with pruning or impact to more than 10% of tree protection zones (TPZ) associated with the development, which will be managed by implementation of design and construction methodologies that are considerate of tree health.

Tables 1 and 2 list the Regulated and Significant Trees that are proposed to be removed with additional information provided for each tree in the individual summary tables located in the arborist report (Appendix E).

5.2. Impacts to Non-Regulated (Amenity) Vegetation

Removal of some non-native, non-Regulated/Significant trees will also be required as part of the temporary and permanent works.

Other indirect impacts include reduction of amenity value due to the removal of street trees or vegetated areas, particularly for those trees located close to residential property. Any required pruning will be conducted in accordance with the Australian Standard for pruning of Amenity Vegetation AS 4373-2007.

5.3. Impacts to habitat

The removal of trees and associated hollows and nesting boxes will result in disturbance to fauna and reduce available habitat for local fauna. A fauna and flora management plan will form part of the project, including the capture and relocation of fauna living within the trees, and incorporation of hollows/nesting boxes within the development.

Cleared / removed vegetation will be reused within the project area or at another local location where possible to enhance habitat for local fauna or chipped for mulch and reused.

Trees with hollows that can be salvaged may be donated to the Council, or used onsite for use in habitat development through the Local Council Area to support the native fauna population. Consultation will be undertaken with the local community, including volunteer groups, with regards to any opportunities for their involvement in an ongoing capacity. Consideration of health and safety of workers will also be undertaken for the fauna collection activities.

6. Landscape Design

The Oaklands Crossing Grade Separation project represents a significant opportunity to provide an enhanced station precinct with greatly improved pedestrian and bicycle connectivity and safety along with high quality amenities that supports the state’s mandate to increase public transport patronage. A high quality public realm (Station Plaza) and surrounding landscape area will complement the premium station requirements.

In accordance with the Urban Design Principles our approach is led by the following public realm vision;

“To provide a safe, accessible and comfortable public realm consisting of well-designed infrastructure that increases public transport patronage, supports connectivity within the station precinct and the surrounding destinations, and provides a distinctive identity and quality built environment to encourage future development and renewal.” (ODASA, 2017)

The urban design statement for the project prepared by Aspect Studio is provided in Appendix D.

6.1. Sustainability in landscape design

The Public Transport Program Alliance is committed to achieving sustainable outcomes for the Oaklands Crossing Project.

The landscape design will include green infrastructure and improve biodiversity to the project by careful selection of trees and shrubs that are self-sustaining to avoid ongoing irrigation or regular replanting. The tree planting palette, Table 5, has been developed from a range of sources, including:

- City of Marion *Street Tree Strategy*
- DPTI operation Instruction *Trees in Median and Roadsides in the Urban Environment*
- In house experience and knowledge of successful and appropriate tree species

Table 6 – Proposed Landscaping Tree Planting Palette

Botanical Name	Common Name	Size at maturity (h x w)	Install size	Quantity (approx.)
Tree Planting Evergreen				
<i>Allocasuarina verticillata</i>	Drooping Sheoak		100Lt	12
<i>Callistemon viminalis</i> 'Harkness'	Harkness Bottlebrush	4-5x3-4m	100Lt	7
<i>Corymbia citriodora</i> 'Scentuous'	Dwarf Lemon Scented Gum	20x8m	100Lt	TBC
<i>Cupaniopsis anacardioides</i>	Tuckeroo	8x5m	100Lt	65
<i>Eucalyptus camaldulensis</i>	River Red Gum	30x10m	100Lt	7
<i>Eucalyptus leucoxylon</i>	SA Blue Gum	20-30x10-25m	100Lt	31
<i>Eucalyptus leucoxylon</i> 'Euky Dwarf'	Euky Dwarf	6x5m	100Lt	3

Botanical Name	Common Name	Size at maturity (h x w)	Install size	Quantity (approx.)
<i>Eucalyptus macrocarpa</i>	Grey Box	10-25x10-15m	100Lt	18
<i>Hymenosporum flavum</i>	Native Frangipani	10m	100Lt	18
<i>Tristaniopsis laurina</i>	Water Gum	12-15x5m	100Lt	48
Tree Planting -Deciduous				
<i>Pistachia chinensis</i>	Chinese Pistachio	20m	100Lt	9
<i>Jacaranda mimosifolia</i>	Jacaranda	10-15x7-10m	100Lt	18
Total trees (approx.)				>200

Refer to Appendix D for the proposed conceptual tree planting plan.

6.2. Proposed Offset for Removal of Regulated and Significant Trees

As per the *Development Act 1993* the required offset for Regulated Trees is 2:1 and Significant Trees 3:1, therefore a minimum of 87 replacement trees are required to be planted. See Appendix D for the Proposed Conceptual Tree Planting Plan, which includes over 200 proposed tree plantings.

The vegetation offsets required for the removal of the regulatory and significant trees are expected to be achieved within the project area.

6.3. Connected Communities- Green Space

The ground plane is imagined as a 'green' place with a combination of landscaped strips and an extended urban plaza situated both north and south of the rail corridor adjacent to Morphett Road and connected via a wide pedestrian promenade hinged off Morphett Road. The Plaza provides clear sightlines to the station and adjacent properties and allows for maximum pedestrian circulation and navigation to the platforms and Greenway. A deliberate decision to narrow the station precinct cutting allows for maximising green space at ground level both north and south of the station with limited risk of ongoing maintenance issues.

6.4. Amenity value

With a focus on providing shade and amenity, the ground plane will be designed to allow for and compliment future development opportunities in the surrounding urban precinct. The Alliance will work closely with the City of Marion to realise their long-term plans of a revitalised Warradale Centre Precinct and improved connections to Marion Civic Heart and the future Diagonal Road Main Street in line with their Oaklands Hub Vision Document.

7. Community

The community will be consulted in relation to the removal of regulated or significant under the *Development Act 1993*.

7.1. Volunteer Participation

The long-term contribution of volunteers within the area in relation to the beautification of the station and its periphery as well as the installation of bird and bat boxes in a number of the trees significantly adds to the likely sensitivity of their removal.

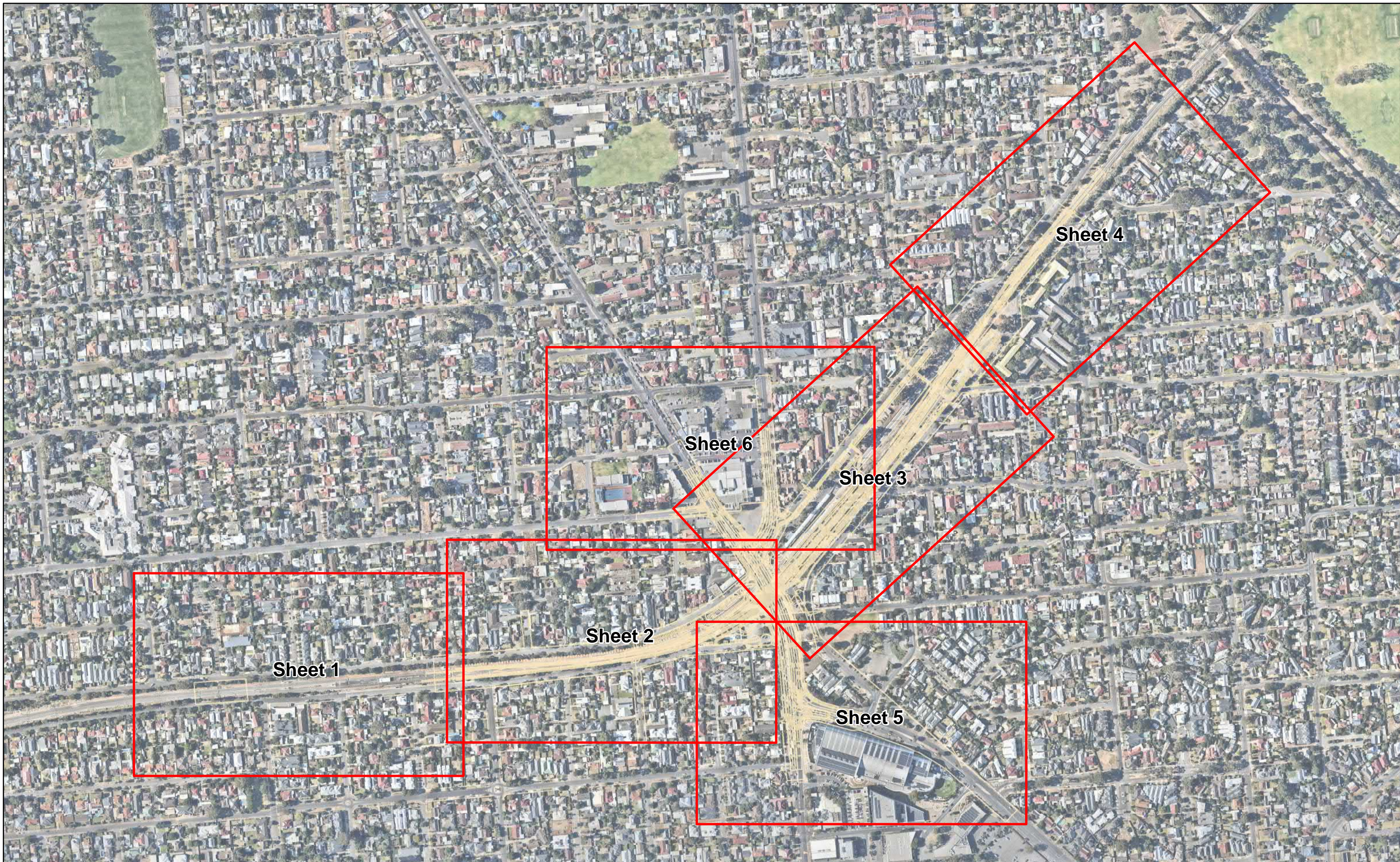
7.2. Engagement Opportunities

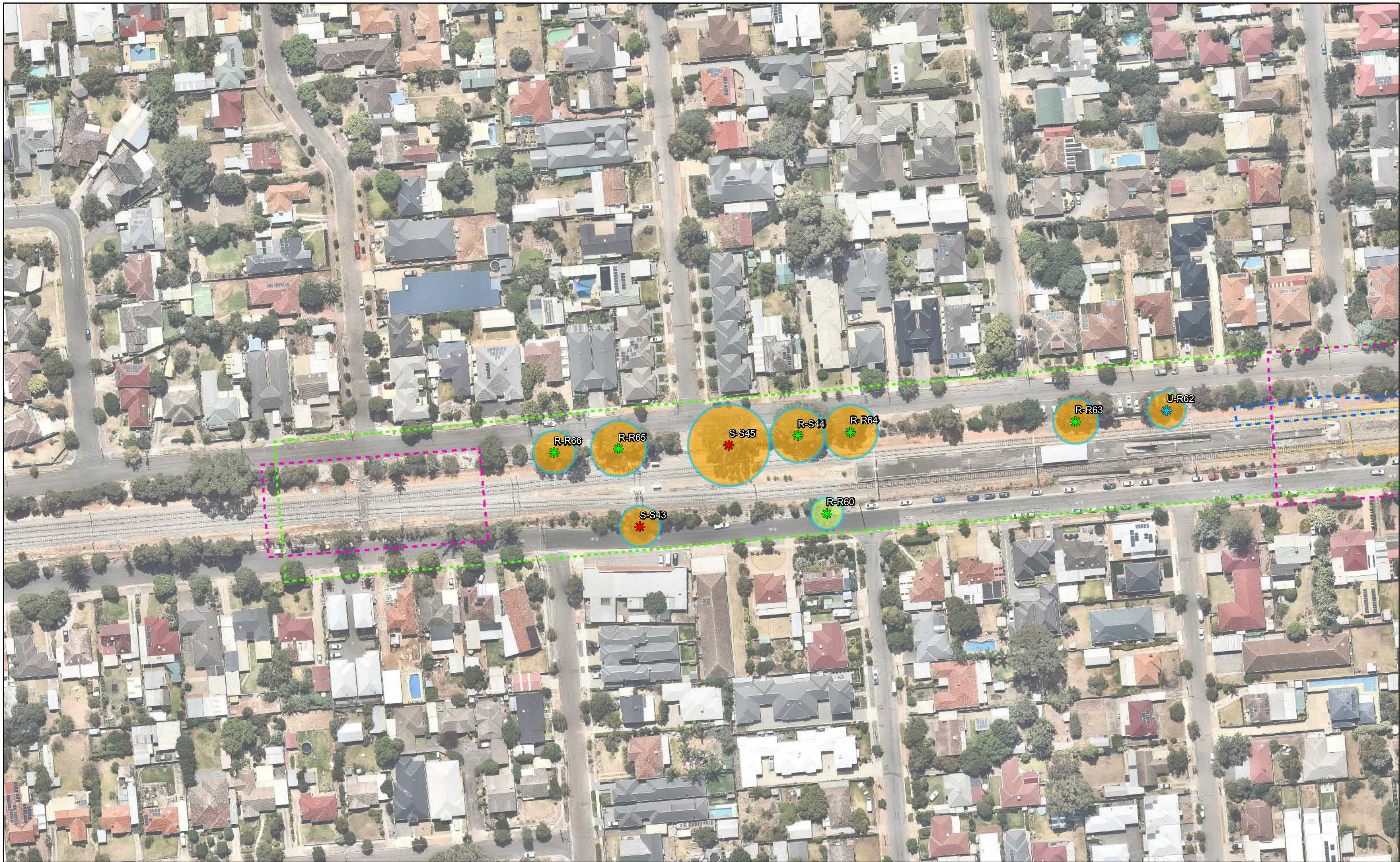
It is considered essential to engage the community during the design phase to clearly describe the extent of tree removal required to deliver the project, provide information about the project so that the community understand the justification and need for removals, and to provide details about how tree removal has been minimised either via design modification or construction methodology. Information about how tree removal will be managed specifically in relation to habitat impact and relocation of fauna will also be important.

In addition, opportunities to engage further with the community around mitigation actions will be explored, including:

- involvement of the community in the identification and implementation of offset planting within and external to the site;
- working closely with volunteer groups in relation to replacement landscaping;
- potential for the engagement of community groups and individuals in the design of landscaping outcomes for the new station and surrounding areas;
- implementation of the Community Wildlife Program, which engages the community in the (re)establishment of bird and bat boxes in surrounding areas;
- use of removed limbs and trunks for nature play and habitat enhancement in surrounding areas as an alternative to chipping; and
- use of mulched material on local reserves as a ground cover.

Appendix A: Regulated and Significant Tree Assessment Plans





Legend

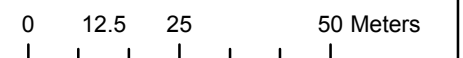
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Regulated	Substantial Impact (>40% TPZ)	Ret Rating - High	Detailed Design Boundary
Significant	Major Impact (>10% TPZ)	Ret Rating - Moderate	Temporary Works Boundary
Unregulated	Minor Impact (<10% TPZ)	Ret Rating - Low	Project Boundary
	No Impact		Tree Survey Boundary
			Design





Legend

Exempt	Conflicted Impact (remove)	Ret Rating - Important	Excavation Boundary
Regulated	Substantial Impact (>40% TPZ)	Ret Rating - High	Detailed Design Boundary
Significant	Major Impact (>10% TPZ)	Ret Rating - Moderate	Temporary Works Boundary
Unregulated	Minor Impact (<10% TPZ)	Ret Rating - Low	Project Boundary
	No Impact		Tree Survey Boundary
			Design





Legend

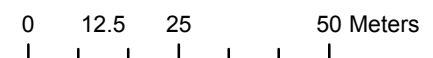
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| | Conflicted Impact (remove) | | Ret Rating - Important | | Excavation Boundary |
| | Substantial Impact (>40% TPZ) | | Ret Rating - High | | Detailed Design Boundary |
| | Major Impact (>10% TPZ) | | Ret Rating - Moderate | | Temporary Works Boundary |
| | Minor Impact (<10% TPZ) | | Ret Rating - Low | | Project Boundary |
| | No Impact | | | | Tree Survey Boundary |
| | Structural Root Zone | | | | Design |





Legend

Exempt	Conflicted Impact (remove)	Ret Rating - Important	Excavation Boundary
Regulated	Substantial Impact (>40% TPZ)	Ret Rating - High	Detailed Design Boundary
Significant	Major Impact (>10% TPZ)	Ret Rating - Moderate	Temporary Works Boundary
Unregulated	Minor Impact (<10% TPZ)	Ret Rating - Low	Project Boundary
	No Impact		Tree Survey Boundary
			Design

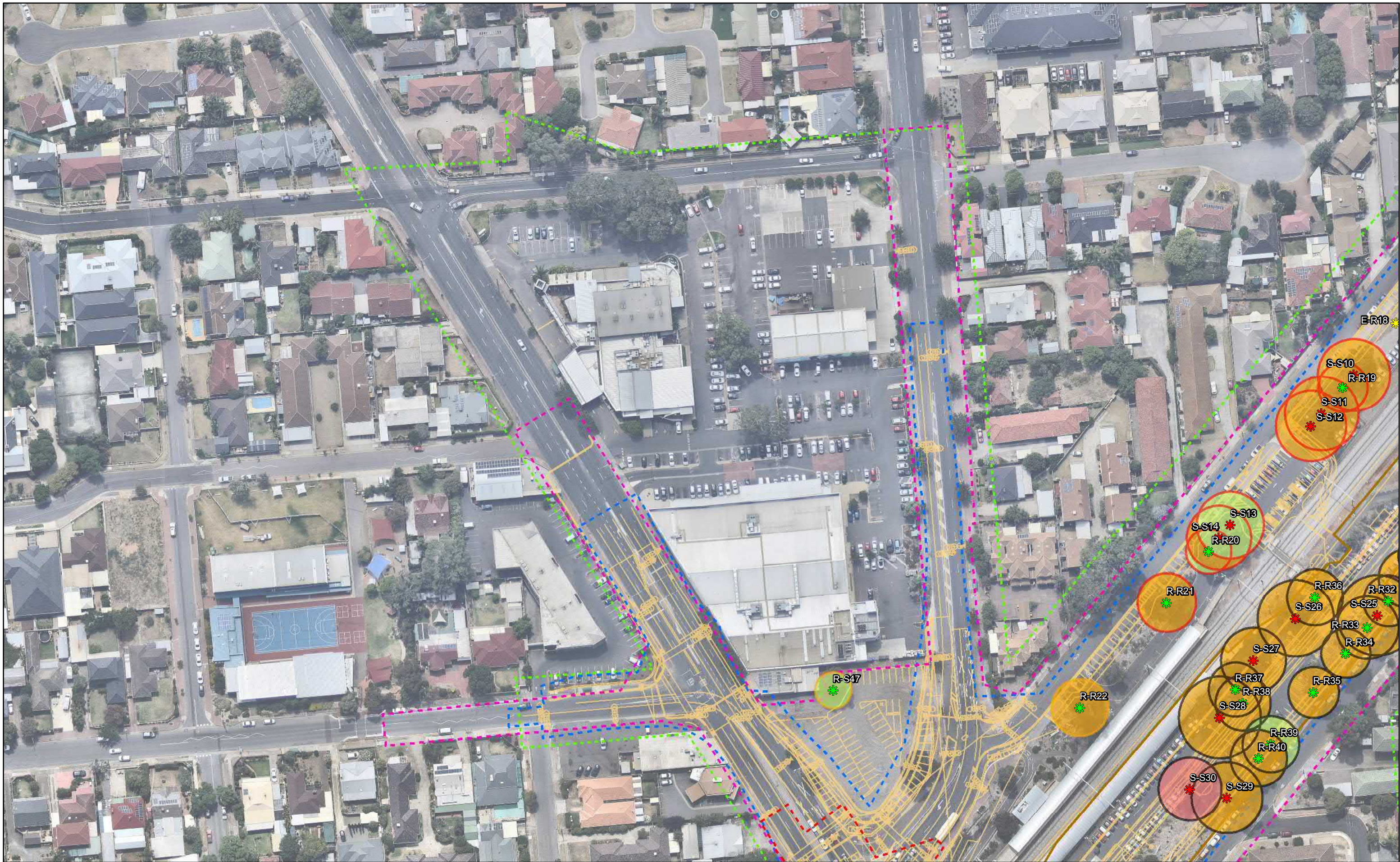




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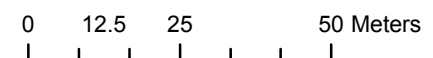
Exempt	Conflicted Impact (remove)	Ret Rating - Important	Excavation Boundary
Regulated	Substantial Impact (>40% TPZ)	Ret Rating - High	Detailed Design Boundary
Significant	Major Impact (>10% TPZ)	Ret Rating - Moderate	Temporary Works Boundary
Unregulated	Minor Impact (<10% TPZ)	Ret Rating - Low	Project Boundary
No Impact	Tree Survey Boundary	Design	0 12.5 25 50 Meters



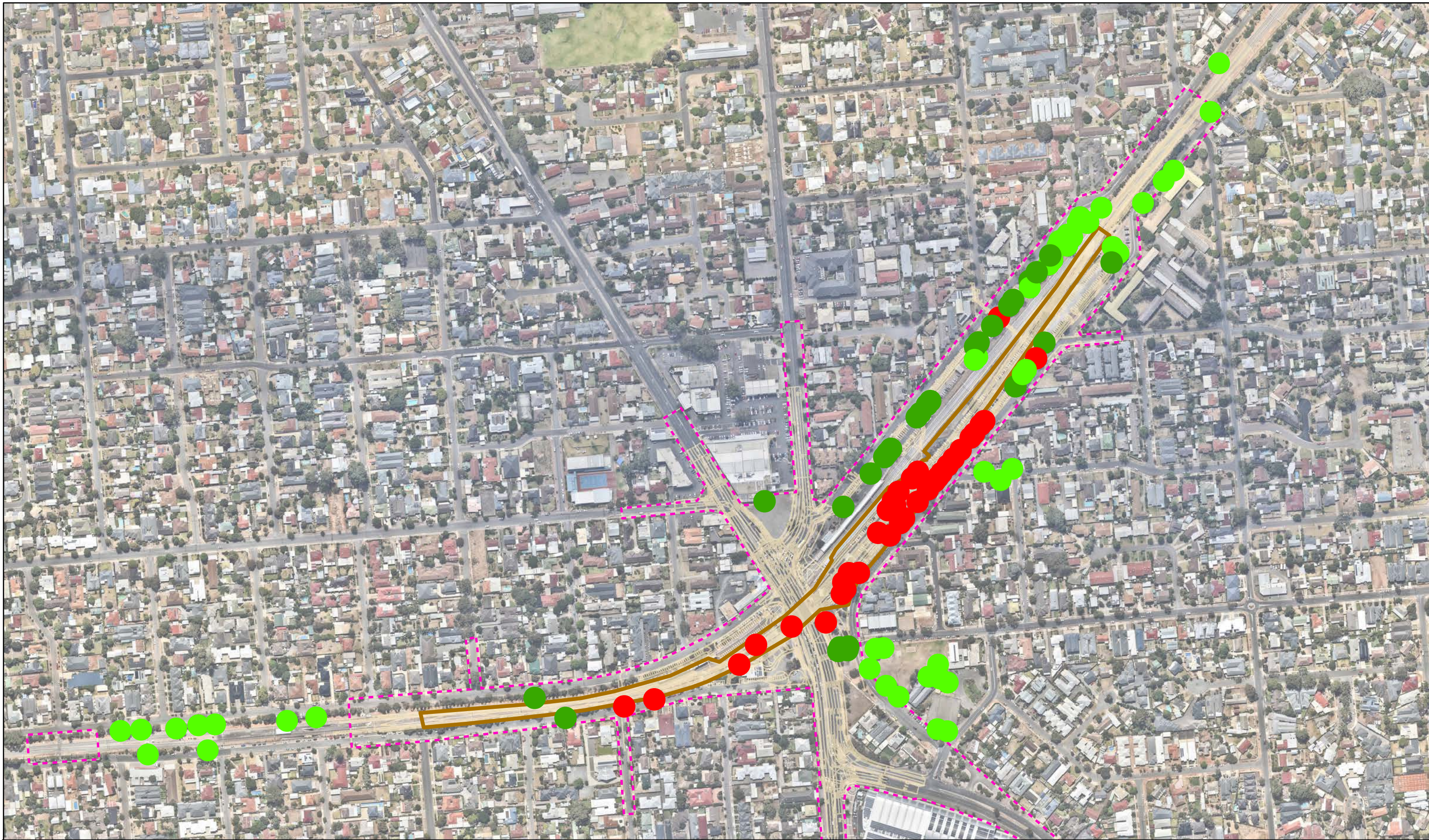


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Exempt	Conflicted Impact (remove)	Ret Rating - Important	Excavation Boundary
Regulated	Substantial Impact (>40% TPZ)	Ret Rating - High	Detailed Design Boundary
Significant	Major Impact (>10% TPZ)	Ret Rating - Moderate	Temporary Works Boundary
Unregulated	Minor Impact (<10% TPZ)	Ret Rating - Low	Project Boundary
No Impact			Tree Survey Boundary
			Design



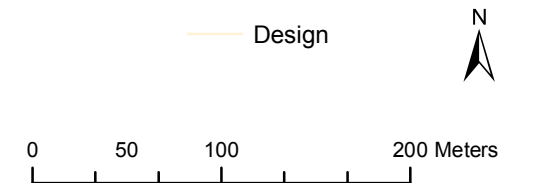
Appendix B: Regulated and Significant Tree Removal and Impact Plan



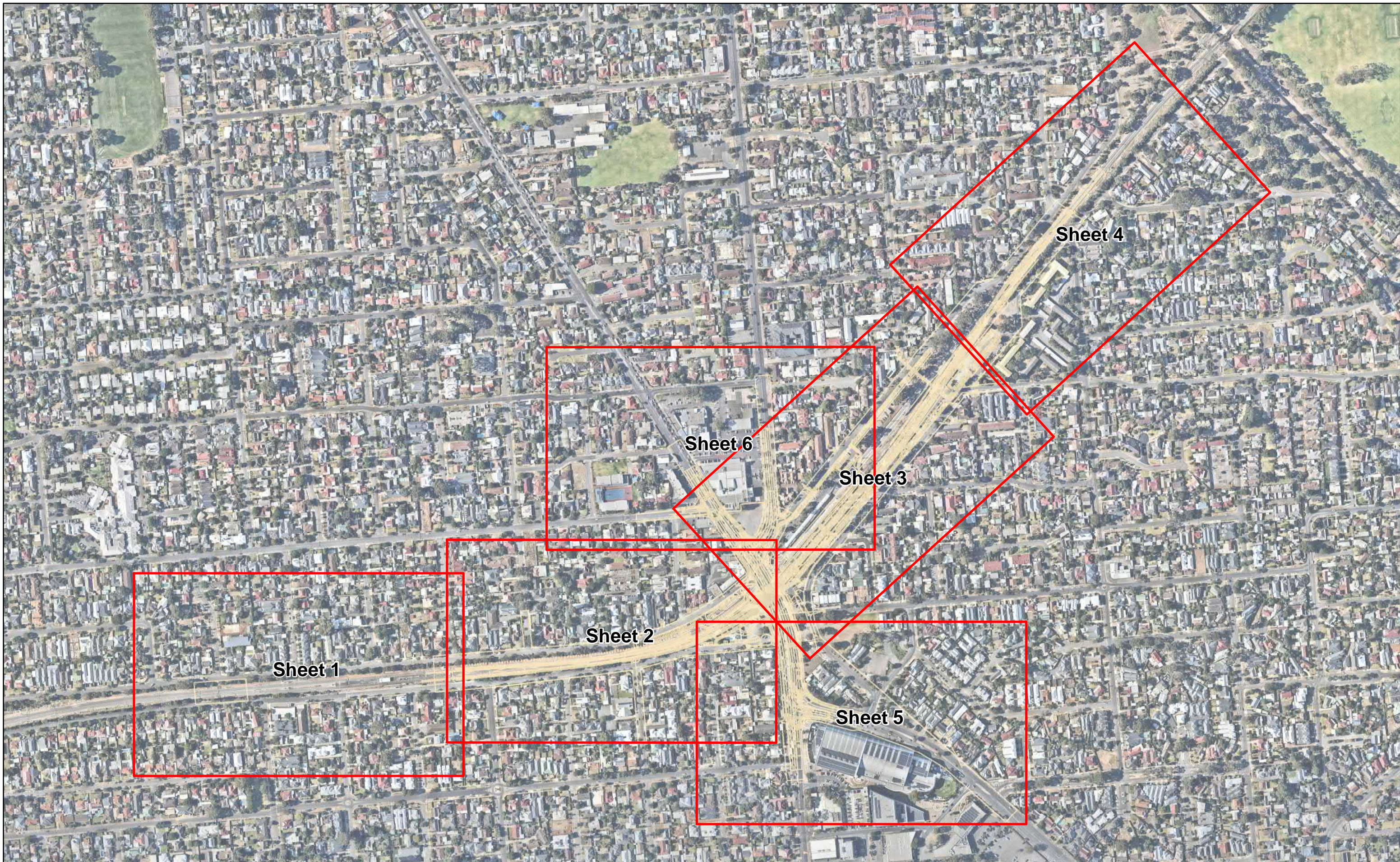
Oaklands Grade Separation - Regulated & Significant Tree Removal & Impact Plan

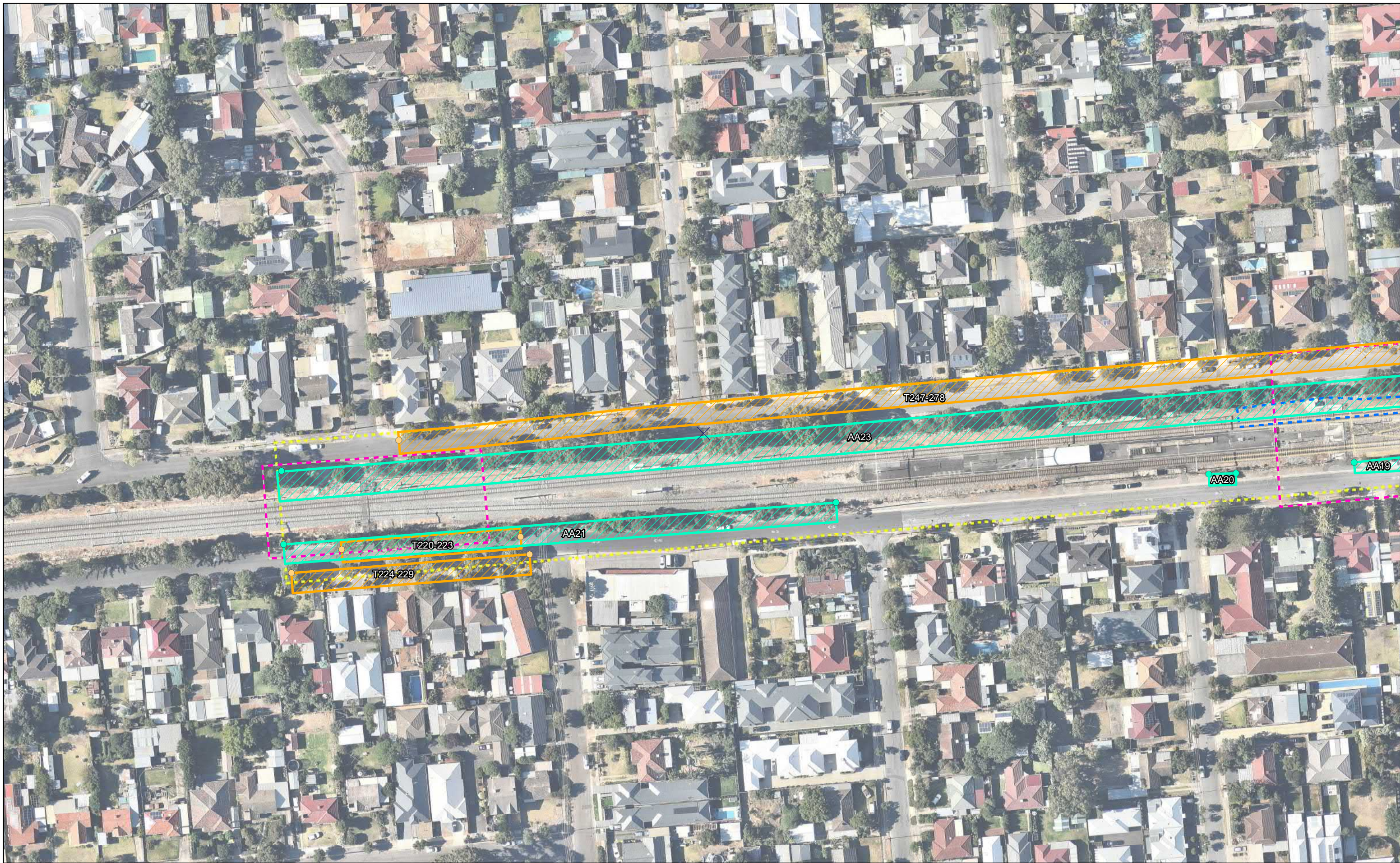
Legend

- Regulated & Significant Trees to Remain-no impact (<10% TPZ)
- Regulated & Significant Trees to Remain- impacted (>10% TPZ)
- Regulated & Significant Trees to be removed
- Excavation Boundary
- Project Boundary
- Design



Appendix C: Non-Regulated (Amenity) Vegetation Areas

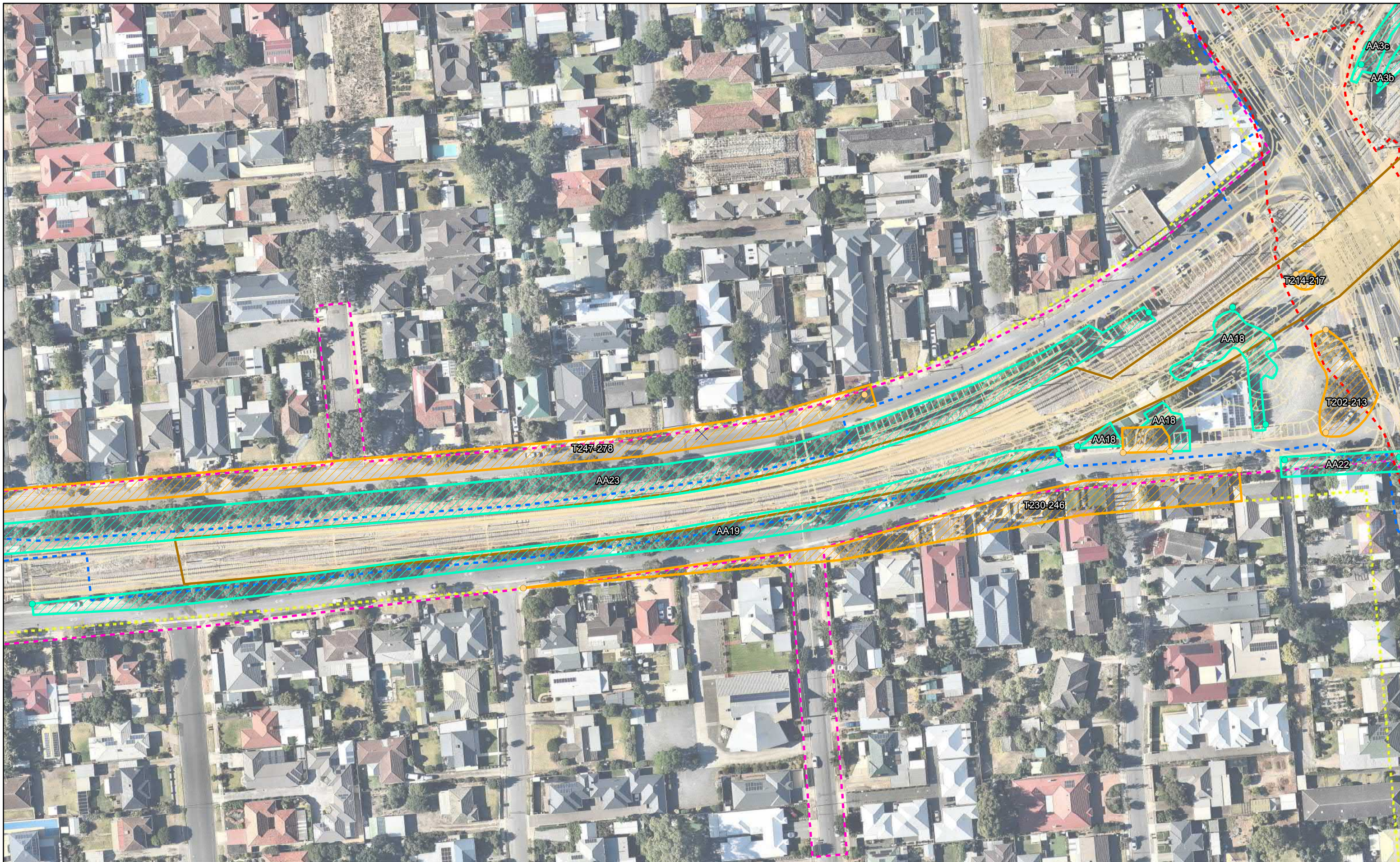






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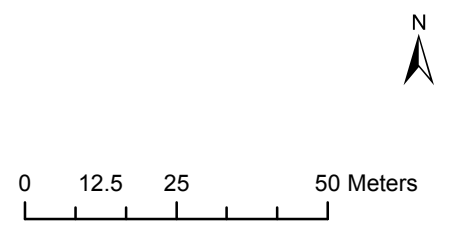
- Vegetation group
- Vegetation area
- Vegetation area start / end
- Vegetation group start / end
- Excavation Boundary
- Detailed Design Boundary
- Temporary Works Boundary
- Project Boundary
- Tree Survey area
- Design





Legend

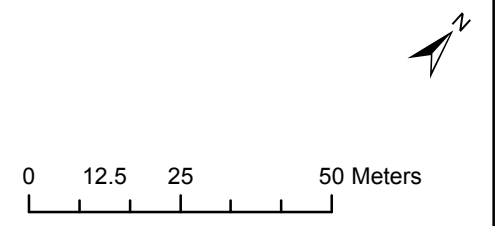
- | | | | |
|---|------------------------------|---|--------------------------|
|  | Vegetation group |  | Excavation Boundary |
|  | Vegetation area |  | Detailed Design Boundary |
|  | Vegetation area start / end |  | Temporary Works Boundary |
|  | Vegetation group start / end |  | Project Boundary |
| | |  | Tree Survey area |
| | |  | Design |





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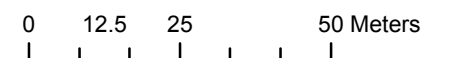
- Vegetation group
- Vegetation area
- Vegetation area start / end
- Vegetation group start / end
- Excavation Boundary
- Detailed Design Boundary
- Temporary Works Boundary
- Project Boundary
- Tree Survey area
- Design





Legend

- Vegetation group
- Vegetation area
- Vegetation area start / end
- Vegetation group start / end
- Excavation Boundary
- Detailed Design Boundary
- Temporary Works Boundary
- Project Boundary
- Tree Survey area
- Design





Legend

- Vegetation group
- Vegetation area
- Vegetation area start / end
- Vegetation group start / end
- Excavation Boundary
- Detailed Design Boundary
- Temporary Works Boundary
- Project Boundary
- Tree Survey area
- Design





Legend

- Vegetation group
- Vegetation area
- Vegetation area start / end
- Vegetation group start / end
- Excavation Boundary
- Detailed Design Boundary
- Temporary Works Boundary
- Project Boundary
- Tree Survey area
- Design



Appendix D: Proposed Conceptual Tree Planting Plan



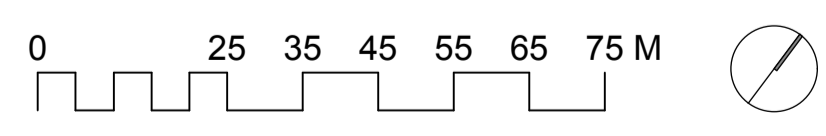
Tree Schedule

Botanical Name	Common Name	Number
Av <i>Allocasuarina verticillata</i>	Drooping Sheoak	12
CH <i>Callistemon viminalis 'Harkness'</i>	Harkness Bottlebrush	7
CS <i>Corymbia citriodora 'Scentuous'</i>	Dwarf Lemon Scented Gum	TBC
Ca <i>Cupaniopsis anacardioides</i>	Tuckeroo	65
Ec <i>Eucalyptus camaldulensis</i>	River Red Gum	7
EI <i>Eucalyptus leucoxylon</i>	SA Blue Gum	31
EID <i>Eucalyptus leucoxylon 'Euky Dwarf'</i>	Euky Dwarf	3
Em <i>Eucalyptus macrocarpa</i>	Grey Box	18
HF <i>Hymenosporum flavum</i>	Native Frangipani	18
Pc <i>Pistachia chinensis</i>	Chinese Pistachio	9
TI <i>Tristaniopsis laurina</i>	Water Gum	48
Jm <i>Jacaranda mimosifolia</i>	Jacaranda	18

Legend

- Existing Tree to be retained
- New 100L Semi-Advanced Tree
- Opportunity for New Street Tree
- Irrigated Landscape: 80% Turf / 20% Planting @ 2 Plants / m2
- Irrigated Planting @ 3 Plants / m2
- High Quality Pavement
- High Quality Pavement
- Greenway - Exposed Aggregate Concrete
- Concrete Pedestrian Paving to Council's Specificatio
- New Asphalt Car Parking
- Direct Seed Dryland Grass Planting (TBC)

NOTE: THIS IS A CONCEPT PLAN ONLY. LANDSCAPE DESIGN AND PROPOSED TREE LOCATIONS ARE SUBJECT TO DETAILED DESIGN REVIEW AND MAY CHANGE



Appendix E: Arborist Report



arborman®
tree solutions
PROFESSIONALS IN ARBORICULTURE

Arboricultural Impact Assessment

Site: Oaklands Park Interchange

Date: Wednesday, 14 March 2018
ATS4887-OaklandsRailDIR

Contents

Brief	1
Documents and Information Provided	1
Executive Summary	1
Site Location.....	2
Methodology.....	3
Findings.....	4
1. Tree Population	4
2. Legislation	4
3. Retention Rating.....	4
4. Development Encroachments.....	5
5. Tree Impacts	6
Discussion	7
Recommendation	8
Glossary	9
References	9

Appendix A - Tree Assessment Methodology

Appendix B - Tree Assessment Findings

Appendix C - Mapping

Appendix D - Tree Assessment Summary

Appendix E - Tree Protection Guidelines

Report Reference Number: ATS4887-OaklandsRailDIR

Report prepared for

Adam Kilsby, Environment Lead, Public Transport Projects Alliance

Author

Marcus Lodge, Consulting Arborist, Arborman Tree Solutions Pty Ltd

Brief

Arborman Tree Solutions was engaged to undertake an Arboricultural Impact Assessment and provide a Development Impact Report at the Oaklands Park Interchange. The purpose of a Development Impact Report is to identify potential impacts the proposed development will have on the trees to be retained within the site and to recommend impact mitigation strategies in accordance with *Australian Standard 4970-2009 Protection of trees on development sites*. This includes the demolition of the existing railway station, construction of a new station and supporting infrastructure.

In accordance with section 2.2 of the *Australian Standard 4970-2009 Protection of trees on development sites (2.2)* the following information is provided:

- Assessment of the general condition and structure of the subject trees.
- Identification of the legislative status of trees on site as defined in the *Development Act 1993*, the City of Marion development plan.
- Identify and define the Tree Protection Zone and Structural Root Zone for each tree.
- Identify potential impacts the development may have on tree health and/or stability.
- Recommend impact mitigation strategies in accordance with *Australian Standard 4970-2009 Protection of trees on development sites* for trees to be retained.
- Provide information in relation to the management of trees.

Documents and Information Provided

The following information was provided for the preparation of this assessment

- PTPA GIS Tree Design Drawings 20180219 Sheet 1-7
- Original Survey Data

Executive Summary

Arborman Tree Solutions was engaged to undertake an Arboricultural Impact Assessment and provide a Development Impact Report for all Regulated or Significant trees within the site. The purpose of this assessment is to identify the impacts on the trees within the site and to determine if trees can be retained.

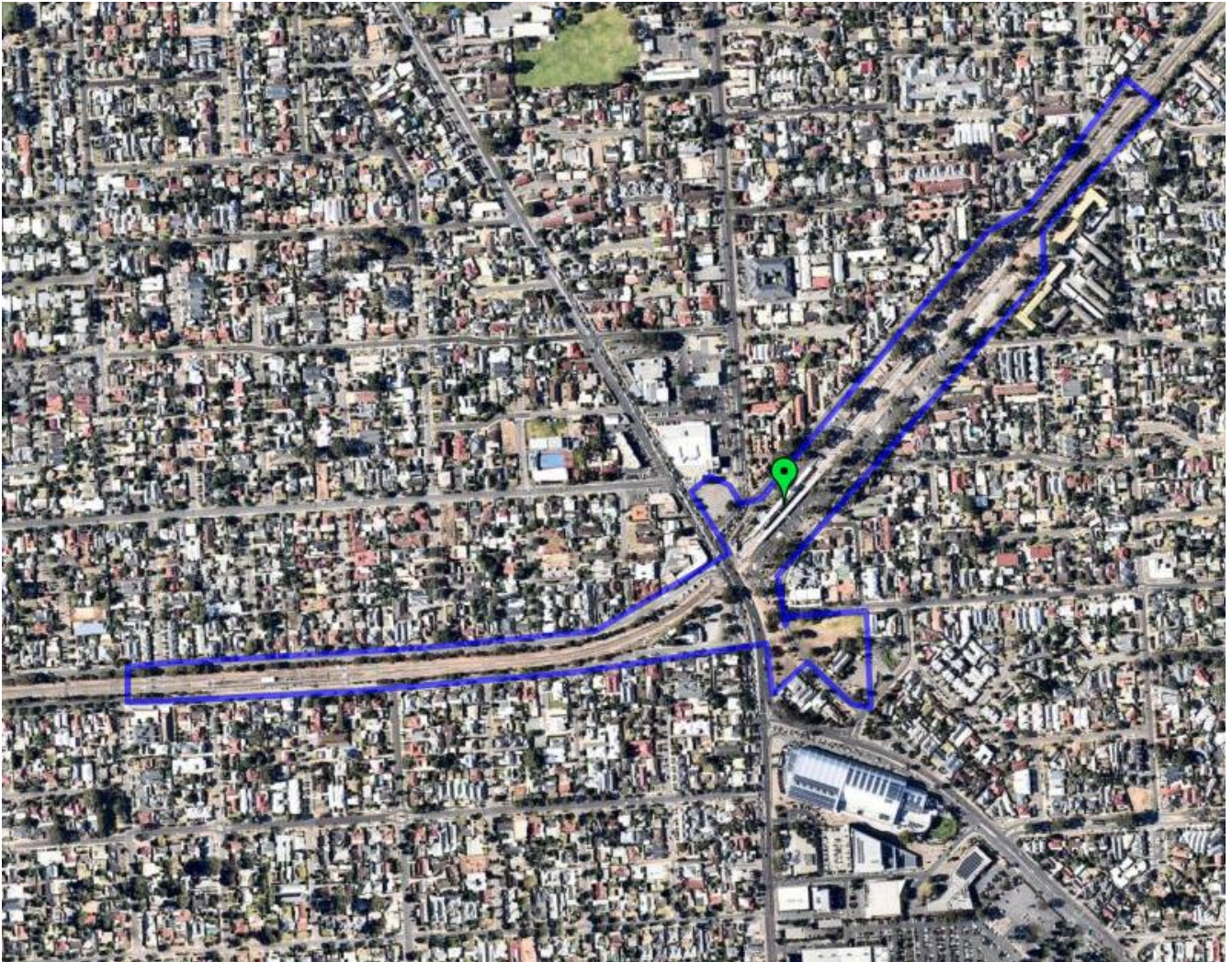
A total of 110 trees were assessed and 43 were identified as Significant Trees, 62 as Regulated Trees, three as unregulated trees and two as exempt trees under the *Development Act 1993*. Of the Regulated or Significant Trees total of 70 have been identified as suitable for retention and 34 trees are in direct conflict with the proposed development and will require removal.

The existing conditions and opportunities to incorporate tree friendly design and construction methodologies indicates that the impact of the proposal on the 70 trees to be retained can be minimised such that their condition will not be compromised.

This report recommends a Project Arborist be appointed to assist in the design around trees to be retained and the compilation of a Tree Protection Plan as identified in Australian Standard AS4970 2009 *Protection of trees on development sites*. The Tree Protection Plan should be included in all construction documents and in the induction program.

Site Location

Figure 1: Survey site location - Oaklands Park Interchange



Methodology

The proposed design was reviewed in association with the information supplied in the Design Drawings and CAD files as supplied by Client Name.

When determining potential impacts of encroachment in to the TPZ, the following should be considered as per AS4970-2009 section 3.3.4;

- a) Location of roots and root development.
- b) The potential loss of root mass from the encroachment.
- c) Tree species and tolerance to root disturbance.
- d) Age, vigour and size of the tree.
- e) Lean and stability of the tree.
- f) Soil characteristics and volume, topography and drainage.
- g) The presence of existing or past structures or obstacles affecting root growth.
- h) Design factors.

Potential development impacts were determined in accordance with Australian Standard 4970-2009 *Protection of trees on development sites*. Impacts were classified into the following categories;

- a) None - no encroachment into the TPZ has been identified.
- b) Minor - the identified encroachment is less than 10% of the TPZ area.
- c) Major - the identified encroachment is greater than 10% and less than 40% of the TPZ area.
- d) Substantial - the identified encroachment is greater than 40% of the TPZ area but does not impact the structural root zone or the trunk.
- e) Conflicted - the identified encroachment is greater than 40% of the TPZ area and impacts the structural root zone and the trunk.

Note: *the categories of Substantial and Conflicted are additional to the categories used in Australian Standard AS4970-2009 Protection of trees on development sites and have been used here to assist in identifying the actual level of a Major encroachment.*

Findings

Arborman Tree Solutions was engaged to undertake an Arboricultural Impact Assessment for all Regulated and Significant Trees within the Oaklands Rail Interchange development site.

1. Tree Population

The assessment included 110 trees that had previously been surveyed as part of a DPTI vegetation survey which included one indigenous species, eleven Australian native species and one exotic palm species.

Table 1 Tree Population

Botanic Name	Common Name	Number of Trees	Origin
<i>Eucalyptus cladocalyx</i>	Sugar Gum	69	Native
<i>Eucalyptus camaldulensis</i>	River Red Gum	16	Indigenous
<i>Corymbia citriodora</i>	Lemon Scented Gum	4	Native
<i>Eucalyptus leucoxylon</i>	South Australian Blue Gum	3	Native
<i>Eucalyptus globulus ssp maidenii</i>	Maiden's Gum	3	Native
<i>Brachychiton acerifolius</i>	Illawarra Flame Tree	3	Native
<i>Agonis flexuosa</i>	Willow Myrtle	3	Native
<i>Phoenix canariensis</i>	Canary Island Date Palm	2	Exotic
<i>Eucalyptus saligna</i>	Sydney Blue Gum	2	Native
<i>Corymbia maculata</i>	Spotted Gum	2	Native
<i>Melaleuca armillaris</i>	Bracelet Honey Myrtle	1	Native
<i>Ficus macrophylla</i>	Moreton Bay Fig	1	Native
<i>Eucalyptus sideroxylon</i>	Mugga or Red Ironbark	1	Native

Findings on individual tree health and structure are presented within Appendix B, Tree Assessment Findings.

2. Legislation

Of the 110 trees assessed, 43 are Significant Trees and 62 are Regulated Trees under the *Development Act 1993*. The remaining trees are Exempt from control or are unregulated. Significant and Regulated Trees should be protected if they meet the criteria under the local development plan or are listed as Significant Trees under the local development plan.

Table 2 Legislative Tree Status

Legislative Status	Number of Trees
Unregulated	3
Significant	43
Regulated	62
Exempt	2

3. Retention Rating

Trees that provide important environmental and/or aesthetic contribution to the area and are in good overall condition achieved an Important or High Retention Rating and their protection is encouraged. Trees that achieved a Moderate Retention Rating could be retained in a future development. Trees which achieved a Low Retention Rating indicate that development constraint, alternative designs or tree friendly construction methodologies are not warranted. Trees with a Low Retention Rating achieve one or more of the following attributes: -

- a) provide limited environmental/aesthetic benefits to the area,

- b) are a short lived species,
- c) represent a material risk to people or property,
- d) identified as causing or threatening to cause substantial damage to a structure of value,
- e) have a short Useful Life Expectancy.
- f) are young and easily replaced (less than five metres tall).

Of the 105 Regulated or Significant Trees 70 trees are suitable for retention as they achieved a High or Moderate Retention Rating. The Regulated and Significant Trees that achieved these ratings meet one or more criteria within the *Development Act 1993* that warrant retention.

Table 3 Retention Rating

Retention Rating	Number of Trees
High	5
Moderate	65
Low	25

The remaining 37 trees achieved a Low Retention Rating indicating that development constraint, alternative designs or tree-friendly construction methodologies are not warranted. As such, tree removal could be considered to achieve the proposed development (this includes Regulated/Significant Trees).

4. Development Encroachments

The encroachment of the development into the Tree Protection Zones of the 105 Regulated and Significant Trees has been calculated as per Australian Standard AS4970-2009 *Protection of trees on development sites*. The encroachment calculation is used to assist in determining impact on the trees and can inform design and construction regarding additional tree protection/management requirements.

The following categories are used to identify the level of encroachment:

- f) None - no encroachment into the TPZ has been identified.
- g) Minor - the identified encroachment is less than 10% of the TPZ area.
- h) Major - the identified encroachment is greater than 10% and less than 40% of the TPZ area.
- i) Substantial - the identified encroachment is greater than 40% of the TPZ area but does not impact the structural root zone or the trunk.
- j) Conflicted - the identified encroachment is greater than 40% of the TPZ area and impacts the structural root zone and the trunk.

Table 4 Development Encroachments

Encroachment	Number of Trees
None	38
Minor	5
Major	10
Substantial	18
Conflicted	34

Note: the categories of Substantial and Conflicted are additional to the categories used in Australian Standard AS4970-2009 *Protection of trees on development sites* and have been used here to assist in identifying the actual level of a Major encroachment.

5. Tree Impacts

The impact on the trees has been assessed as per the Australian Standard AS4970-2009 *Protection of trees on development sites* and considers factors such as:

- a) The potential loss of root mass resulting from the encroachment including the number and size of roots.
- b) Tree species and tolerance to root disturbance.
- c) Age, vigour and size of the tree.
- d) Lean and stability of the tree.
- e) Soil characteristics and volume, topography and drainage.
- f) The presence of existing or past structures or obstacles affecting root growth.
- g) Design factors.

Given the above it is unlikely that even the trees with major or substantial encroachments will be negatively impacted for the following reasons:

- a) The majority of the trees are in existing carparking, both formal and informal, areas or adjacent to existing infrastructure which already constitute a major or substantial encroachment.
- b) Where trees are in areas of proposed carparking this can be constructed using tree friendly methodologies to minimise impact.
- c) Trees S34-37 and R43 are identified as *Eucalyptus camaldulensis* (River Red Gum) which is a species that tolerates substantial change to its root zone.

Note: *the trees which are in direct conflict with the proposal cannot be retained without impact and as such they have been identified for removal.*

Discussion

The proposal seeks to construct a rail tunnel to replace the existing surface level rail crossing through this road junction. The construction of this tunnel requires the removal of sixteen Regulated and eighteen Significant trees and has the potential to impact on fourteen Regulated and nineteen Significant trees.

The area around the eighty trees to be retained is highly modified and in the most part the trees are already subject to major encroachment. The existing encroachment and ground conditions are not conducive to root growth at or near the surface and it is expected that the trees have adapted to the conditions and are exploiting soil at a greater depth.

Eucalyptus camaldulensis (River Red Gum) is the most wide spread and best known of the Australian eucalypts. As the common name would suggest it is generally found along waterways and on floodplains, despite this it is a very adaptable tree and will grow in a wide variety of soils and conditions. An advantage of this species heritage as a floodplain tree is that it can adapt to changes in soil levels and moisture content to a much greater extent than many other species being able to withstand changes in soil level, drought and water logging for extended periods. This is at least partially due to the species dimorphic root system that includes sinker roots that can extend considerable depths in to the soil to areas of permanent water. The presence of the naturally occurring *Eucalyptus camaldulensis* (River Red Gum) within the site and in the surrounding area indicates there is sub-surface water available.

The majority of the trees are in areas that are proposed to be used for carparking much of which is already existing either formally or informally as compacted ground. There is potential to alter the design of the new carparking to minimise the impact on the trees this can be through a number of methods including but not necessarily limited to the following:

1. Redesign of the carpark to create larger areas around the trees.
2. Reduce the number of carparks in the vicinity of trees.
3. Use alternate materials to reduce the compaction and allow water and oxygen to infiltrate the soil.

As a result of the above it is reasonable to suggest that even the trees with substantial and major encroachments can be successfully retained within the development without a substantial impact on their condition.

Recommendation

The following recommendations are presented based on the Arboricultural Impact Assessment:

1. Trees that are in direct conflict with the development require removal.
2. Alternative design and construction methodologies are to be investigated where encroachment is identified as substantial or major.
3. All trees to be retained onsite require protection as per Australian Standard AS4970 *Protection of trees on site* and should be included within the Tree Protection Plan.
4. A Project Arborist should be appointed to assist in the design around trees to be retained and the compilation of a Tree Protection Plan as identified in Australian Standard AS 4970 2009 *Protection of trees on development sites*.
5. The Tree Protection Plan should be included in all construction documents and in the induction program.

Thank you for the opportunity to provide this report. Should you require further information, please contact me and I will be happy to be of assistance.

Yours sincerely



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Diploma in Arboriculture
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Glossary

Size:	approximate height and width of tree in metres.
Age:	identification of the maturity of the tree.
Useful Life Expectancy:	expected number of the years that the tree will remain alive and sound in its current location and/or continues to achieve the relevant Principles of Development Control.
Health:	visual assessment of tree health.
Structure:	visual assessment of tree structure.
Circumference:	trunk circumference measured at one metre above ground level. This measurement is used to determine the status of the tree in relation to the <i>Development Act 1993</i> .
Diameter at Breast Height (DBH):	trunk diameter measured at 1.4 metres above ground level used to determine the Tree Protection Zone as described in Australian Standard AS4970-2009 <i>Protection of trees on development sites</i> .
Diameter at Root Buttress (DRB):	trunk diameter measured immediately above the root buttress as described in Australian Standard AS4970-2009 <i>Protection of trees on development sites</i> and is used to determine the Structural Root Zone.
Tree Damaging Activity	Tree damaging activity includes those activities described within the <i>Development Act 1993</i> such as removal, killing, lopping, ringbarking or topping or any other substantial damage such as mechanical or chemical damage, filling or cutting of soil within the TPZ. Can also include forms of pruning above and below the ground.
Tree Protection Zone:	area of root zone that should be protected to prevent substantial damage to the root system.
Structural Root Zone:	calculated area within the tree's root zone that is considered essential to maintain tree stability.
Project Arborist	A person with the responsibility for carrying out a tree assessment, report preparation, consultation with designers, specifying tree protection measures, monitoring and certification. The Project Arborist must be competent in arboriculture, having acquired through training, minimum Australian Qualification Framework (AQTF) Level 5, Diploma of Horticulture (Arboriculture) and/or equivalent experience, the knowledge and skills enabling that person to perform the tasks required by this standard.

References

Australian Standard AS4970–2009 *Protection of trees on development sites*: Standards Australia.

Matheny N. Clark J. 1998: *Trees and Development a Technical Guide to Preservation of Trees During Land Development*. International Society of Arboriculture, Champaign, Illinois, USA.

Appendix A - Tree Assessment Methodology

Tree Assessment Form (TAF©)

Record	Description
Tree	A perennial woody plant with a mature height of greater than 5 metres and life expectancy of more than 10 years.
Genus and Species	Trees are identified using normal field plant taxonomy techniques. Due to hybridisation and plant conditions available on the day of observation it may not always be possible to identify the tree to species level; where species cannot be ascertained <i>sp.</i> is used.
Height	Tree height is observed and recorded in the following ranges; <5m, 5-10m, 10-15m and >20m.
Spread	Crown width (projection) diameter is recorded by the following fields <5m, 5-10m, 10-15m, 15-20m, >20m.
Tree Health	Tree health was assessed using the Arborman Tree Solutions - Tree Health Assessment Method that is based on international best practice.
Tree Structure	Tree structure was assessed using Arborman Tree Solutions - Tree Structure Assessment Method that is based on international best practice.
Tree Risk Assessment	Trees were assessed using the International Society of Arboriculture Level 1 Tree Assessment method. The person conducting the assessment has acquired the International Society of Arboriculture Tree Risk Assessment Qualification (TRAQ).
Legislative Status	Legislation status was identified through the interpretation of the <i>Development Act 1993</i> , and the <i>Natural Resource Management Act 2004</i> as well as other relevant legislation, therefore determining regulatory status of the subject tree.
Mitigation	Measures to reduce tree risk may be recommended in the form of pruning and this listed in the Tree Assessment Findings (Appendix C). Tree pruning is recommended in accordance with AS4373-2007 <i>Pruning amenity trees</i> where practicable. Where measures to mitigate risk is not possible and the risk is unacceptable, then tree removal or further investigation is recommended.

Useful Life Expectancy (ULE)

ULE Rating	Definition
Surpassed	The tree has surpassed its Useful Life Expectancy.
<10 years	The tree displays either or both Poor Health and/or Structure and is considered to have a short Useful Life Expectancy of less than ten years.
>10 years	The tree displays Fair Health or Structure and Good Health and Structure and is considered to have a Useful Life Expectancy of more than ten years.
>20 years	The tree displays Good Health and Structure and is considered to have an extended Useful Life Expectancy of more than twenty years.

Maturity (Age)

Age Class	Definition
Senescent	The tree has surpassed its optimum growing period and is declining and/or reducing in size. May be considered as a veteran in relation to its ongoing management. Tree will have generally reached greater than 80% of its expected life expectancy.
Mature	A tree which has reached full maturity in terms of its predicted life expectancy and size, the tree is still active and experiencing cell division. Tree will have generally reached 20-80% of its expected life expectancy.
Semi Mature	A tree which has established, but has not yet reached maturity. Normally tree establishment practices such as watering will have ceased. Tree will generally not have reached 20% of its expected life expectancy.
Juvenile	A newly planted tree or one which is not yet established in the landscape. Tree establishment practices such as regular watering will still be in place. Tree will generally be a newly planted specimen up to five years old; this may be species dependant.

Tree Health Indication (THI©)

Category	Description
Good	Tree displays high vigour, uniform leaf colour, no or little dieback (<5%), crown density (>85%) and or healthy axillary buds and typical internode length. The tree has little to no pest and/or disease infestation.
Fair	Tree displays low vigour, dull leaf colour, little dieback (<15%), crown density (>70%) and/or reduced axillary buds and internode length. Minor pest and/or disease infestation potentially impacting on tree health.
Poor	Tree displays no vigour, chlorotic or dull leaf colour, moderate to high crown dieback (>15%), low crown density (<70%) and/or few or small axillary buds and shortened internode length. Pest and or disease infestation is evident and/or widespread.
Dead	The tree has died and has no opportunity for recovery.

Tree Structural Assessment (TSA©)

Category	Description
Good	Little to no branch failure observed within the crown, well-formed unions, no included bark, good branch and trunk taper present, root buttressing and root plate are typical.
Fair	History of minor branch failure observed in crown, well-formed unions, no included bark, acceptable branch and trunk taper present, root buttressing and root plate are typical.
Poor	History of significant branch failure observed in crown, poorly formed unions, included bark present, branch and trunk taper absent, root buttressing and root plate are atypical.
Failed	The structure of the tree has or is in the process of collapsing.

Tree Retention Rating (TRR)

The Tree Retention Rating is based on a number of factors that are identified as part of the standard tree assessment criteria including Condition, Size, Environmental, Amenity and Special Values. These factors are combined in a number of matrices to provide a Preliminary Tree Retention Rating and a Tree Retention Rating Modifier which combine to provide a Tree Retention Rating that is measurable, consistent and repeatable

Preliminary Tree Retention Rating

The Preliminary Tree Retention Rating is conducted assessing Tree Health and Structure to give an overall Condition Rating and Height and Spread to give an overall Size Rating. The following matrices identify how these are derived.

Condition Matrix				
Structure	Health			
	Good	Fair	Poor	Dead
Good	C1	C1	C3	C4
Fair	C1	C2	C3	C4
Poor	C3	C3	C4	C4
Failed	C4	C4	C4	C4

Size Matrix					
Spread	Height				
	>20	15-20	10-15	5-10	<5
>20	S1	S1	S1	S2	S3
15-20	S1	S1	S2	S3	S3
10-15	S1	S2	S2	S3	S4
5-10	S2	S3	S3	S4	S5
<5	S3	S3	S4	S5	S5

The results from the Condition and Size Matrices are then placed in the Preliminary Tree Retention Rating Matrix.

Preliminary Tree Retention Rating				
Size	Condition			
	C1	C2	C3	C4
S1	High	High	Low	Low
S2	High	Moderate	Low	Low
S3	Moderate	Moderate	Low	Low
S4	Moderate	Moderate	Low	Low
S5	Low	Low	Low	Low

The Preliminary Tree Retention Rating gives a base rating for all trees regardless of other environmental and/or amenity factors and any Special Value considerations. The Preliminary Tree Retention Rating can only be modified if these factors are considered to be of high or low enough importance to warrant increasing or, in a few cases, lowering the original rating.

Tree Retention Rating Modifier

The Preliminary Tree Retention Rating is then qualified against the recognised Environmental and Amenity benefits that trees present to the community thereby providing a quantitative measure to determine the overall Tree Retention Rating. Data is collected in relation to Environmental and Amenity attributes which are compared through a set of matrices to produce a Tree Retention Rating Modifier.

Environmental Matrix				
Origin	Habitat			
	Active	Inactive	Potential	No Habitat
Indigenous	E1	E1	E2	E3
Native	E1	E2	E3	E3
Exotic	E2	E3	E3	E4
Weed	E3	E3	E4	E4

Amenity Matrix				
Character	Aesthetics			
	High	Moderate	Low	None
Important	P1	P1	P2	P3
Moderate	P1	P2	P3	P3
Low	P2	P3	P3	P4
None	P3	P3	P4	P4

Tree Retention Rating Modifier				
Amenity	Environment			
	E1	E2	E3	E4
P1	High	High	Moderate	Moderate
P2	High	Moderate	Moderate	Moderate
P3	Moderate	Moderate	Moderate	Moderate
P4	Moderate	Moderate	Moderate	Low

Tree Retention Rating

The results of the Preliminary Tree Retention Rating and the Tree Retention Rating Modifier matrices are combined in a final matrix to give the actual Tree Retention Rating.

Tree Retention Rating Matrix			
Tree Retention Rating Modifier	Preliminary Tree Retention Rating		
	High	Moderate	Low
High	Important	High	Moderate
Moderate	High	Moderate	Low
Low	Moderate	Low	Low

Special Value Trees

There are potentially trees that have Special Value for reasons outside of normal Arboricultural assessment protocols and therefore would not have been considered in the assessment to this point; to allow for this a Special Value characteristic that can override the Tree Retention Rating can be selected. Special Value characteristics that could override the Tree Retention Rating would include factors such as the following:

Cultural Values

Memorial Trees, Avenue of Honour Trees, Aboriginal Heritage Trees, Trees planted by Dignitaries and various other potential categories.

Environmental Values

Rare or Endangered species, Remnant Vegetation, Important Habitat for rare or endangered wildlife, substantial habitat value in an important biodiversity area and various other potential categories.

Where a tree achieves one or more Special Value characteristics the Tree Retention Rating will automatically be overridden and assigned the value of Important.

Tree Retention Rating Definitions

- Important** These trees are considered to be important and will in almost all instances be required to be retained within any future development/redevelopment. It is highly unlikely that trees that achieve this rating would be approved for removal or any other tree damaging activity. Protection of these trees should as a minimum be consistent with Australian Standard AS4970-2009 *Protection of trees on development sites* however given the level of importance additional considerations may be required.
- High** These trees are considered to be important and will in most instances be required to be retained within any future development/redevelopment. It is unlikely that trees that achieve this rating would be approved for removal or any other tree damaging activity. Protection of these trees should be consistent with Australian Standard AS4970-2009 *Protection of trees on development sites*.
- Moderate** These trees are considered to be suitable for retention however they achieve less positive attributes than the trees rated as Important or High and as such their removal or other tree damaging activity is more likely to be considered to be acceptable in an otherwise reasonable and expected development. The design process should where possible look to retain trees with a Moderate Retention Rating. Protection of these trees, where they are identified to be retained, should be consistent with Australian Standard AS4970-2009 *Protection of trees on development sites*.
- Low** These trees are not considered to be suitable for retention in any future development/redevelopment; trees in this category do not warrant special works or design modifications to allow for their retention. Trees in this category are likely to be approved for removal and/or other tree damaging activity in an otherwise reasonable and expected development. Protection of these trees, where they are identified to be retained, should be consistent with Australian Standard AS4970-2009 *Protection of trees on development sites*.

Appendix B - Tree Assessment Findings

Eucalyptus camaldulensis

Tree No: U-R1

River Red Gum

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	10-15 metres	
Spread:	5-10 metres	Development Impact Comments
Health:	Good	This tree is not impacted by the proposed development.
Structure:	Good	Recommendation
Trunk Circumference:	1.25 metres	Apply tree protection as appropriate.
Useful Life Expectancy:	>20 years	
Tree Protection Zone (TPZ):	4.8 metres	

Legislative Status Comments

This tree is not regulated under the Development Act 1993.



Legislative Status

Unregulated

Encroachment Rating

No Encroachment

Eucalyptus sideroxylon

Tree No: R-R2

Mugga or Red Ironbark

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	10-15 metres	
Spread:	10-15 metres	Development Impact Comments
Health:	Good	The encroachment within the Tree Protection Zone of this tree is less than 10% and is not expected to impact on tree condition.
Structure:	Good	Recommendation
Trunk Circumference:	2.45 metres	Apply tree protection as appropriate.
Useful Life Expectancy:	>20 years	
Tree Protection Zone (TPZ):	9.12 metres	

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
Minor

Sugar Gum

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	15-20 metres	There is decay in the primary structure.
Spread:	15-20 metres	Development Impact Comments
Health:	Fair	The encroachment within the Tree Protection Zone of this tree is less than 10% and is not expected to impact on tree condition.
Structure:	Poor	Recommendation
Trunk Circumference:	3.15 metres	Apply tree protection as appropriate.
Useful Life Expectancy:	<10 years	
Tree Protection Zone (TPZ):	11.04 metres	

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status
Significant
Encroachment Rating
Minor

Sugar Gum

Inspected: Tuesday, 20 February 2018 General Observations
 Height: 10-15 metres
 Spread: 5-10 metres Development Impact Comments
 Health: Fair This tree is not impacted by the proposed development.
 Structure: Fair Recommendation
 Trunk Circumference: 2.13 metres Apply tree protection as appropriate.
 Useful Life Expectancy: >10 years
 Tree Protection Zone (TPZ): 5.52 metres

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
No Encroachment

Sugar Gum

Inspected: Tuesday, 20 February 2018 General Observations
 Height: 15-20 metres
 Spread: 10-15 metres Development Impact Comments
 Health: Fair This tree is not impacted by the proposed development.
 Structure: Fair Recommendation
 Trunk Circumference: 3.56 metres Apply tree protection as appropriate.
 Useful Life Expectancy: >10 years
 Tree Protection Zone (TPZ): 13.2 metres

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status
Significant
Encroachment Rating
No Encroachment

Sugar Gum

Inspected: Tuesday, 20 February 2018 General Observations
 Height: 15-20 metres
 Spread: 10-15 metres Development Impact Comments
 Health: Fair This tree is not impacted by the proposed development.
 Structure: Fair Recommendation
 Trunk Circumference: 2.45 metres Apply tree protection as appropriate.
 Useful Life Expectancy: >10 years
 Tree Protection Zone (TPZ): 9.36 metres

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
No Encroachment

Eucalyptus cladocalyx

Tree No: R-R5

Sugar Gum

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	15-20 metres	
Spread:	5-10 metres	Development Impact Comments
Health:	Fair	This tree is not impacted by the proposed development.
Structure:	Good	Recommendation
Trunk Circumference:	2.16 metres	Apply tree protection as appropriate.
Useful Life Expectancy:	>10 years	
Tree Protection Zone (TPZ):	8.16 metres	

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status

Regulated

Encroachment Rating

No Encroachment

Sugar Gum

Inspected: Tuesday, 20 February 2018 General Observations
 Height: 15-20 metres
 Spread: 10-15 metres Development Impact Comments
 Health: Fair This tree is not impacted by the proposed development.
 Structure: Fair Recommendation
 Trunk Circumference: 3.16 metres Apply tree protection as appropriate.
 Useful Life Expectancy: >10 years
 Tree Protection Zone (TPZ): 12 metres

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status
Significant
Encroachment Rating
No Encroachment

Sugar Gum

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	15-20 metres	
Spread:	5-10 metres	Development Impact Comments
Health:	Fair	This tree is not impacted by the proposed development.
Structure:	Good	Recommendation
Trunk Circumference:	2.1 metres	Apply tree protection as appropriate.
Useful Life Expectancy:	>10 years	
Tree Protection Zone (TPZ):	7.68 metres	

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



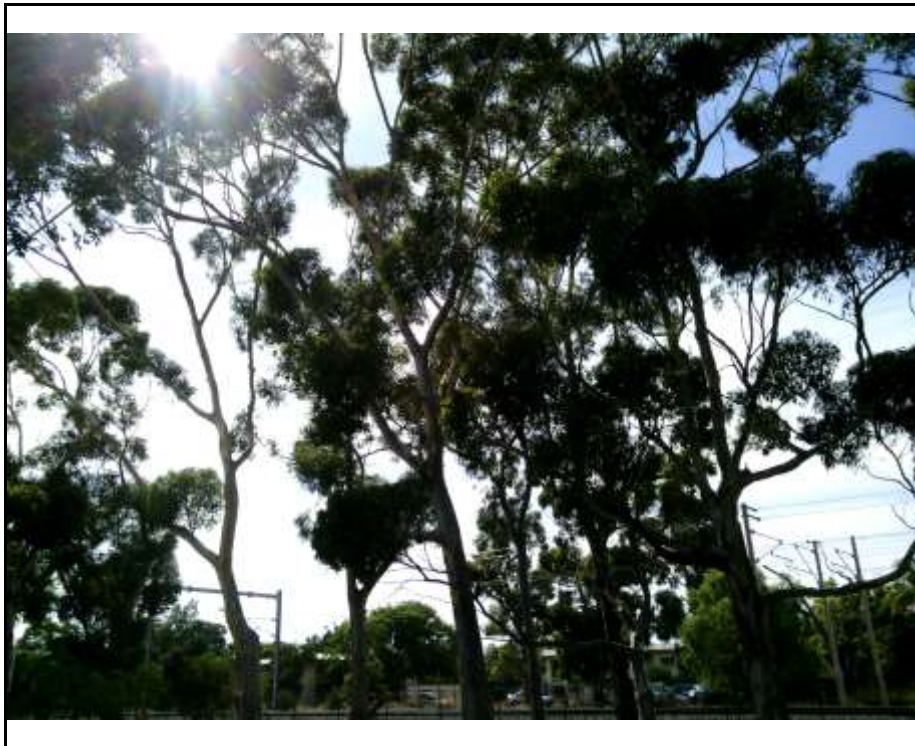
Legislative Status
Regulated
Encroachment Rating
No Encroachment

Sugar Gum

Inspected: Tuesday, 20 February 2018 General Observations
 Height: 15-20 metres
 Spread: 10-15 metres Development Impact Comments
 Health: Good This tree is not impacted by the proposed development.
 Structure: Good Recommendation
 Trunk Circumference: 2.2 metres Apply tree protection as appropriate.
 Useful Life Expectancy: >20 years
 Tree Protection Zone (TPZ): 8.4 metres

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
No Encroachment

Sugar Gum

Inspected: Tuesday, 20 February 2018 General Observations
 Height: 15-20 metres
 Spread: 10-15 metres Development Impact Comments
 Health: Fair The encroachment within the Tree Protection Zone of this tree is less than 10% and is not expected to impact on tree condition.
 Structure: Fair Recommendation
 Trunk Circumference: 2.26 metres Apply tree protection as appropriate.
 Useful Life Expectancy: >10 years
 Tree Protection Zone (TPZ): 8.64 metres

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
Minor

Sugar Gum

Inspected: Tuesday, 20 February 2018 General Observations

Height: 15-20 metres

Spread: 15-20 metres Development Impact Comments

Health: Good Whilst the encroachment on this tree is major there are tree friendly design and construction methodologies available to minimise the impact of the encroachment.

Structure: Good Recommendation

Trunk Circumference: 3.12 metres This tree will require the implementation of tree friendly design and construction methodologies.

Useful Life Expectancy: >20 years

Tree Protection Zone (TPZ): 11.52 metres

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status
Significant
Encroachment Rating
Major

Eucalyptus cladocalyx

Tree No: R-R9

Sugar Gum

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	15-20 metres	
Spread:	10-15 metres	Development Impact Comments
Health:	Good	This tree is not impacted by the proposed development.
Structure:	Good	Recommendation
Trunk Circumference:	2.2 metres	Apply tree protection as appropriate.
Useful Life Expectancy:	>20 years	
Tree Protection Zone (TPZ):	7.2 metres	

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
No Encroachment

Eucalyptus cladocalyx

Tree No: R-R10

Sugar Gum

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	15-20 metres	
Spread:	5-10 metres	Development Impact Comments
Health:	Fair	This tree is not impacted by the proposed development.
Structure:	Fair	Recommendation
Trunk Circumference:	2.14 metres	Apply tree protection as appropriate.
Useful Life Expectancy:	>10 years	
Tree Protection Zone (TPZ):	7.2 metres	

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status

Regulated

Encroachment Rating

No Encroachment

Sugar Gum

Inspected: Tuesday, 20 February 2018 General Observations
 Height: 15-20 metres
 Spread: 15-20 metres Development Impact Comments
 Health: Fair Whilst the encroachment on this tree is major there are tree friendly design and construction methodologies available to minimise the impact of the encroachment.
 Structure: Fair Recommendation
 Trunk Circumference: 3.18 metres This tree will require the implementation of tree friendly design and construction methodologies.
 Useful Life Expectancy: >10 years
 Tree Protection Zone (TPZ): 12.12 metres

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status
Significant
Encroachment Rating
Major

Sugar Gum

Inspected: Tuesday, 20 February 2018 General Observations

Height: 15-20 metres

Spread: 10-15 metres Development Impact Comments

Health: Fair Whilst the encroachment on this tree is major there are tree friendly design and construction methodologies available to minimise the impact of the encroachment.

Structure: Fair Recommendation

Trunk Circumference: 2.11 metres This tree will require the implementation of tree friendly design and construction methodologies.

Useful Life Expectancy: >10 years

Tree Protection Zone (TPZ): 7.8 metres

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
Major

Eucalyptus cladocalyx

Tree No: R-R12

Sugar Gum

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	15-20 metres	
Spread:	10-15 metres	Development Impact Comments
Health:	Fair	This tree is not impacted by the proposed development.
Structure:	Fair	Recommendation
Trunk Circumference:	2.17 metres	Apply tree protection as appropriate.
Useful Life Expectancy:	>10 years	
Tree Protection Zone (TPZ):	7.56 metres	

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status

Regulated

Encroachment Rating

No Encroachment

Sugar Gum

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	15-20 metres	
Spread:	10-15 metres	Development Impact Comments
Health:	Good	Whilst the encroachment on this tree is substantial there are tree friendly design and construction methodologies available to minimise the impact of the encroachment.
Structure:	Good	Recommendation
Trunk Circumference:	2.03 metres	This tree will require the implementation of tree friendly design and construction methodologies.
Useful Life Expectancy:	>20 years	
Tree Protection Zone (TPZ):	7.8 metres	

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
Substantial

Sugar Gum

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	15-20 metres	
Spread:	15-20 metres	Development Impact Comments
Health:	Good	Whilst the encroachment on this tree is substantial there are tree friendly design and construction methodologies available to minimise the impact of the encroachment.
Structure:	Fair	Recommendation
Trunk Circumference:	3.74 metres	This tree will require the implementation of tree friendly design and construction methodologies.
Useful Life Expectancy:	>10 years	
Tree Protection Zone (TPZ):	14.28 metres	

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status
Significant
Encroachment Rating
Substantial

Sugar Gum

Inspected: Tuesday, 20 February 2018 General Observations
 Height: 15-20 metres
 Spread: 15-20 metres Development Impact Comments
 Health: Good This tree is in direct conflict with the works and will require removal as part of this project.
 Structure: Fair Recommendation
 Trunk Circumference: 2.65 metres This tree will require removal.
 Useful Life Expectancy: >10 years
 Tree Protection Zone (TPZ): 10.08 metres

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
Direct Conflict

Sugar Gum

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	>20 metres	
Spread:	15-20 metres	Development Impact Comments
Health:	Good	Whilst the encroachment on this tree is substantial there are tree friendly design and construction methodologies available to minimise the impact of the encroachment.
Structure:	Fair	Recommendation
Trunk Circumference:	3.6 metres	This tree will require the implementation of tree friendly design and construction methodologies.
Useful Life Expectancy:	>10 years	
Tree Protection Zone (TPZ):	13.8 metres	

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status
Significant
Encroachment Rating
Substantial

Sugar Gum

Inspected: Tuesday, 20 February 2018 General Observations

Height: >20 metres

Spread: 10-15 metres Development Impact Comments

Health: Good Whilst the encroachment on this tree is substantial there are tree friendly design and construction methodologies available to minimise the impact of the encroachment.

Structure: Good Recommendation

Trunk Circumference: 3.3 metres This tree will require the implementation of tree friendly design and construction methodologies.

Useful Life Expectancy: >20 years

Tree Protection Zone (TPZ): 12.96 metres

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status
Significant
Encroachment Rating
Substantial

Sugar Gum

Inspected: Tuesday, 20 February 2018 General Observations

Height: >20 metres

Spread: 15-20 metres Development Impact Comments

Health: Good Whilst the encroachment on this tree is substantial there are tree friendly design and construction methodologies available to minimise the impact of the encroachment.

Structure: Good Recommendation

Trunk Circumference: 5.12 metres This tree will require the implementation of tree friendly design and construction methodologies.

Useful Life Expectancy: >20 years

Tree Protection Zone (TPZ): 15.00 metres

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status
Significant
Encroachment Rating
Substantial

Sugar Gum

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	15-20 metres	
Spread:	10-15 metres	Development Impact Comments
Health:	Good	This tree is not impacted by the proposed development.
Structure:	Good	Recommendation
Trunk Circumference:	2.1 metres	Apply tree protection as appropriate.
Useful Life Expectancy:	>20 years	
Tree Protection Zone (TPZ):	7.68 metres	

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
No Encroachment

Sugar Gum

Inspected: Tuesday, 20 February 2018 General Observations
 Height: 15-20 metres
 Spread: 10-15 metres Development Impact Comments
 Health: Good This tree is not impacted by the proposed development.
 Structure: Good Recommendation
 Trunk Circumference: 2.13 metres Apply tree protection as appropriate.
 Useful Life Expectancy: >20 years
 Tree Protection Zone (TPZ): 8.16 metres

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
No Encroachment

Sugar Gum

Inspected: Tuesday, 20 February 2018 General Observations

Height: >20 metres

Spread: 15-20 metres Development Impact Comments

Health: Fair Whilst the encroachment on this tree is substantial there are tree friendly design and construction methodologies available to minimise the impact of the encroachment.

Structure: Fair Recommendation

Trunk Circumference: 3.46 metres This tree will require the implementation of tree friendly design and construction methodologies.

Useful Life Expectancy: >10 years

Tree Protection Zone (TPZ): 13.2 metres

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status
Significant
Encroachment Rating
Substantial

Sugar Gum

Inspected: Tuesday, 20 February 2018 General Observations
 Height: >20 metres
 Spread: 10-15 metres Development Impact Comments
 Health: Fair Whilst the encroachment on this tree is substantial there are tree friendly design and construction methodologies available to minimise the impact of the encroachment.
 Structure: Fair Recommendation
 Trunk Circumference: 2.5 metres This tree will require the implementation of tree friendly design and construction methodologies.
 Useful Life Expectancy: >10 years
 Tree Protection Zone (TPZ): 9 metres

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
Substantial

Sugar Gum

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	15-20 metres	
Spread:	15-20 metres	Development Impact Comments
Health:	Good	Whilst the encroachment on this tree is substantial there are tree friendly design and construction methodologies available to minimise the impact of the encroachment.
Structure:	Good	Recommendation
Trunk Circumference:	3.52 metres	This tree will require the implementation of tree friendly design and construction methodologies.
Useful Life Expectancy:	>20 years	
Tree Protection Zone (TPZ):	13.44 metres	

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status
Significant
Encroachment Rating
Substantial

Sugar Gum

Inspected: Tuesday, 20 February 2018 General Observations
 Height: 15-20 metres
 Spread: 15-20 metres Development Impact Comments
 Health: Good Whilst the encroachment on this tree is substantial there are tree friendly design and construction methodologies available to minimise the impact of the encroachment.
 Structure: Fair Recommendation
 Trunk Circumference: 3.36 metres This tree will require the implementation of tree friendly design and construction methodologies.
 Useful Life Expectancy: >10 years
 Tree Protection Zone (TPZ): 12.84 metres

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status
Significant
Encroachment Rating
Substantial

Sugar Gum

Inspected: Tuesday, 20 February 2018 General Observations

Height: 15-20 metres

Spread: 15-20 metres Development Impact Comments

Health: Fair Whilst the encroachment on this tree is substantial there are tree friendly design and construction methodologies available to minimise the impact of the encroachment.

Structure: Poor Recommendation

Trunk Circumference: 3.25 metres This tree will require the implementation of tree friendly design and construction methodologies.

Useful Life Expectancy: <10 years

Tree Protection Zone (TPZ): 12.24 metres

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status
Significant
Encroachment Rating
Substantial

Sugar Gum

Inspected: Tuesday, 20 February 2018 General Observations

Height: 15-20 metres

Spread: 15-20 metres Development Impact Comments

Health: Fair Whilst the encroachment on this tree is substantial there are tree friendly design and construction methodologies available to minimise the impact of the encroachment.

Structure: Fair Recommendation

Trunk Circumference: 3.05 metres This tree will require the implementation of tree friendly design and construction methodologies.

Useful Life Expectancy: >10 years

Tree Protection Zone (TPZ): 11.76 metres

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status
Significant
Encroachment Rating
Substantial

Sugar Gum

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	15-20 metres	There is decay in the primary structure.
Spread:	15-20 metres	Development Impact Comments
Health:	Fair	Whilst the encroachment on this tree is substantial there are tree friendly design and construction methodologies available to minimise the impact of the encroachment.
Structure:	Poor	Recommendation
Trunk Circumference:	2.15 metres	This tree will require the implementation of tree friendly design and construction methodologies.
Useful Life Expectancy:	<10 years	
Tree Protection Zone (TPZ):	8.28 metres	

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
Substantial

Sugar Gum

Inspected: Tuesday, 20 February 2018 General Observations

Height: 15-20 metres

Spread: 15-20 metres Development Impact Comments

Health: Good Whilst the encroachment on this tree is substantial there are tree friendly design and construction methodologies available to minimise the impact of the encroachment.

Structure: Good Recommendation

Trunk Circumference: 2.8 metres This tree will require the implementation of tree friendly design and construction methodologies.

Useful Life Expectancy: >20 years

Tree Protection Zone (TPZ): 10.68 metres

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
Substantial



Sugar Gum

Inspected: Tuesday, 20 February 2018 General Observations

Height: 15-20 metres

Spread: 15-20 metres Development Impact Comments

Health: Good Whilst the encroachment on this tree is major there are tree friendly design and construction methodologies available to minimise the impact of the encroachment.

Structure: Good Recommendation

Trunk Circumference: 2.73 metres This tree will require the implementation of tree friendly design and construction methodologies.

Useful Life Expectancy: >20 years

Tree Protection Zone (TPZ): 10.44 metres

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
Major

Eucalyptus camaldulensis

Tree No: R-S47

River Red Gum

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	10-15 metres	This tree is epicormic regrowth from the stump of a previously removed tree.
Spread:	5-10 metres	Development Impact Comments
Health:	Good	Whilst the encroachment on this tree is major there are tree friendly design and construction methodologies available to minimise the impact of the encroachment.
Structure:	Fair	Recommendation
Trunk Circumference:	2.83 metres	This tree will require the implementation of tree friendly design and construction methodologies.
Useful Life Expectancy:	>10 years	
Tree Protection Zone (TPZ):	6.6 metres	

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
Major

Bracelet Honey Myrtle

Inspected: Tuesday, 20 February 2018 General Observations
 Height: <5 metres
 Spread: 5-10 metres Development Impact Comments
 Health: Fair The encroachment within the Tree Protection Zone of this tree is less than 10% and is not expected to impact on tree condition.
 Structure: Failed Recommendation
 Trunk Circumference: 2.37 metres Apply tree protection as appropriate.
 Useful Life Expectancy: Surpassed
 Tree Protection Zone (TPZ): 5.64 metres

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
Minor

Illawarra Flame Tree

Inspected: Tuesday, 20 February 2018 General Observations
 Height: 5-10 metres
 Spread: 5-10 metres Development Impact Comments
 Health: Fair This tree is not impacted by the proposed development.
 Structure: Fair Recommendation
 Trunk Circumference: 2.1 metres Apply tree protection as appropriate.
 Useful Life Expectancy: >10 years
 Tree Protection Zone (TPZ): 7.56 metres

Legislative Status Comments

This tree is exempt from control under the Development Act 1993.



Legislative Status
Exempt
Encroachment Rating
No Encroachment

Brachychiton acerifolius

Tree No: R-R25

Illawarra Flame Tree

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	10-15 metres	
Spread:	5-10 metres	Development Impact Comments
Health:	Fair	This tree is not impacted by the proposed development.
Structure:	Fair	Recommendation
Trunk Circumference:	2.83 metres	Apply tree protection as appropriate.
Useful Life Expectancy:	>10 years	
Tree Protection Zone (TPZ):	9.6 metres	

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
No Encroachment

Brachychiton acerifolius

Tree No: R-R26

Illawarra Flame Tree

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	10-15 metres	
Spread:	5-10 metres	Development Impact Comments
Health:	Fair	This tree is not impacted by the proposed development.
Structure:	Fair	Recommendation
Trunk Circumference:	2.1 metres	Apply tree protection as appropriate.
Useful Life Expectancy:	>10 years	
Tree Protection Zone (TPZ):	7.56 metres	

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
No Encroachment

Eucalyptus cladocalyx

Tree No: R-R27

Sugar Gum

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	15-20 metres	
Spread:	10-15 metres	Development Impact Comments
Health:	Poor	The encroachment within the Tree Protection Zone of this tree is less than 10% and is not expected to impact on tree condition.
Structure:	Poor	Recommendation
Trunk Circumference:	2.82 metres	Apply tree protection as appropriate.
Useful Life Expectancy:	Surpassed	
Tree Protection Zone (TPZ):	10.8 metres	

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
Minor

Sugar Gum

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	15-20 metres	Trunk measurements have been estimated due to an active beehive in the lower trunk.
Spread:	15-20 metres	Development Impact Comments
Health:	Good	This tree is not impacted by the proposed development.
Structure:	Fair	Recommendation
Trunk Circumference:	3 metres	Apply tree protection as appropriate.
Useful Life Expectancy:	>10 years	
Tree Protection Zone (TPZ):	12 metres	

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status
Significant
Encroachment Rating
No Encroachment

Sugar Gum

Inspected: Tuesday, 20 February 2018 General Observations

Height: 15-20 metres

Spread: 15-20 metres Development Impact Comments

Health: Good Whilst the encroachment on this tree is major there are tree friendly design and construction methodologies available to minimise the impact of the encroachment.

Structure: Fair Recommendation

Trunk Circumference: 3.08 metres This tree will require the implementation of tree friendly design and construction methodologies.

Useful Life Expectancy: >10 years

Tree Protection Zone (TPZ): 11.28 metres

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status
Significant
Encroachment Rating
Major

Sugar Gum

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	15-20 metres	
Spread:	15-20 metres	Development Impact Comments
Health:	Fair	Whilst the encroachment on this tree is major there are tree friendly design and construction methodologies available to minimise the impact of the encroachment.
Structure:	Poor	Recommendation
Trunk Circumference:	4 metres	This tree will require the implementation of tree friendly design and construction methodologies.
Useful Life Expectancy:	<10 years	
Tree Protection Zone (TPZ):	15 metres	

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status
Significant
Encroachment Rating
Major

Sugar Gum

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	15-20 metres	
Spread:	15-20 metres	Development Impact Comments
Health:	Fair	This tree is in direct conflict with the works and will require removal as part of this project.
Structure:	Poor	Recommendation
Trunk Circumference:	3.05 metres	This tree will require removal.
Useful Life Expectancy:	<10 years	
Tree Protection Zone (TPZ):	11.64 metres	

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status
Significant
Encroachment Rating
Direct Conflict



Sugar Gum

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	15-20 metres	Trunk measurements have been estimated due to an active beehive in the lower trunk.
Spread:	15-20 metres	Development Impact Comments
Health:	Fair	This tree is not impacted by the proposed development.
Structure:	Poor	Recommendation
Trunk Circumference:	3 metres	Apply tree protection as appropriate.
Useful Life Expectancy:	<10 years	
Tree Protection Zone (TPZ):	12 metres	

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status
Significant
Encroachment Rating
No Encroachment

Eucalyptus cladocalyx

Tree No: S-S20

Sugar Gum

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	15-20 metres	There is decay in the primary structure.
Spread:	15-20 metres	Development Impact Comments
Health:	Fair	This tree is not impacted by the proposed development.
Structure:	Poor	Recommendation
Trunk Circumference:	3.97 metres	Apply tree protection as appropriate.
Useful Life Expectancy:	<10 years	
Tree Protection Zone (TPZ):	15.00 metres	

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status
Significant
Encroachment Rating
No Encroachment

Sugar Gum

Inspected: Tuesday, 20 February 2018 General Observations

Height: 15-20 metres

Spread: 15-20 metres Development Impact Comments

Health: Poor Whilst the encroachment on this tree is major there are tree friendly design and construction methodologies available to minimise the impact of the encroachment.

Structure: Poor Recommendation

Trunk Circumference: 2.1 metres This tree will require the implementation of tree friendly design and construction methodologies.

Useful Life Expectancy: Surpassed

Tree Protection Zone (TPZ): 7.92 metres

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
Major

Sugar Gum

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	15-20 metres	
Spread:	15-20 metres	Development Impact Comments
Health:	Poor	This tree is in direct conflict with the works and will require removal as part of this project.
Structure:	Fair	Recommendation
Trunk Circumference:	2.45 metres	This tree will require removal.
Useful Life Expectancy:	<10 years	
Tree Protection Zone (TPZ):	9.36 metres	

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
Direct Conflict

Eucalyptus cladocalyx

Tree No: S-S21

Sugar Gum

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	>20 metres	
Spread:	15-20 metres	Development Impact Comments
Health:	Fair	This tree is in direct conflict with the works and will require removal as part of this project.
Structure:	Fair	Recommendation
Trunk Circumference:	3.45 metres	This tree will require removal.
Useful Life Expectancy:	>10 years	
Tree Protection Zone (TPZ):	13.2 metres	

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status

Significant

Encroachment Rating

Direct Conflict

Eucalyptus cladocalyx

Tree No: S-S22

Sugar Gum

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	15-20 metres	
Spread:	15-20 metres	Development Impact Comments
Health:	Fair	This tree is in direct conflict with the works and will require removal as part of this project.
Structure:	Fair	Recommendation
Trunk Circumference:	3.05 metres	This tree will require removal.
Useful Life Expectancy:	>10 years	
Tree Protection Zone (TPZ):	11.64 metres	

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status

Significant

Encroachment Rating

Direct Conflict

Sugar Gum

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	15-20 metres	There is decay in the primary structure.
Spread:	15-20 metres	Development Impact Comments
Health:	Fair	This tree is in direct conflict with the works and will require removal as part of this project.
Structure:	Poor	Recommendation
Trunk Circumference:	3.46 metres	This tree will require removal.
Useful Life Expectancy:	<10 years	
Tree Protection Zone (TPZ):	13.2 metres	

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status
Significant
Encroachment Rating
Direct Conflict

Sugar Gum

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	15-20 metres	
Spread:	15-20 metres	Development Impact Comments
Health:	Fair	This tree is in direct conflict with the works and will require removal as part of this project.
Structure:	Poor	Recommendation
Trunk Circumference:	4.78 metres	This tree will require removal.
Useful Life Expectancy:	<10 years	
Tree Protection Zone (TPZ):	15.00 metres	

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status
Significant
Encroachment Rating
Direct Conflict

Sugar Gum

Inspected: Tuesday, 20 February 2018 General Observations
 Height: 15-20 metres
 Spread: 15-20 metres Development Impact Comments
 Health: Good This tree is in direct conflict with the works and will require removal as part of this project.
 Structure: Fair Recommendation
 Trunk Circumference: 2.7 metres This tree will require removal.
 Useful Life Expectancy: >10 years
 Tree Protection Zone (TPZ): 10.32 metres

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
Direct Conflict

Eucalyptus cladocalyx

Tree No: R-R31

Sugar Gum

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	>20 metres	
Spread:	15-20 metres	Development Impact Comments
Health:	Good	This tree is in direct conflict with the works and will require removal as part of this project.
Structure:	Fair	Recommendation
Trunk Circumference:	2.83 metres	This tree will require removal.
Useful Life Expectancy:	>10 years	
Tree Protection Zone (TPZ):	10.8 metres	

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status

Regulated

Encroachment Rating

Direct Conflict

Sugar Gum

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	>20 metres	
Spread:	15-20 metres	Development Impact Comments
Health:	Good	This tree is in direct conflict with the works and will require removal as part of this project.
Structure:	Good	Recommendation
Trunk Circumference:	2.4 metres	This tree will require removal.
Useful Life Expectancy:	>20 years	
Tree Protection Zone (TPZ):	9.24 metres	

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
Direct Conflict

Sugar Gum

Inspected: Tuesday, 20 February 2018 General Observations
 Height: >20 metres
 Spread: 15-20 metres Development Impact Comments
 Health: Fair This tree is in direct conflict with the works and will require removal as part of this project.
 Structure: Fair Recommendation
 Trunk Circumference: 3.2 metres This tree will require removal.
 Useful Life Expectancy: >10 years
 Tree Protection Zone (TPZ): 14.64 metres

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status
Significant
Encroachment Rating
Direct Conflict

Sugar Gum

Inspected: Tuesday, 20 February 2018 General Observations
 Height: >20 metres
 Spread: 15-20 metres Development Impact Comments
 Health: Fair This tree is in direct conflict with the works and will require removal as part of this project.
 Structure: Fair Recommendation
 Trunk Circumference: 2.98 metres This tree will require removal.
 Useful Life Expectancy: >10 years
 Tree Protection Zone (TPZ): 11.4 metres

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
Direct Conflict



Eucalyptus cladocalyx

Tree No: R-R34

Sugar Gum

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	>20 metres	
Spread:	10-15 metres	Development Impact Comments
Health:	Good	This tree is in direct conflict with the works and will require removal as part of this project.
Structure:	Good	Recommendation
Trunk Circumference:	2.35 metres	This tree will require removal.
Useful Life Expectancy:	>20 years	
Tree Protection Zone (TPZ):	9 metres	

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status

Regulated

Encroachment Rating

Direct Conflict

Eucalyptus cladocalyx

Tree No: R-R35

Sugar Gum

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	>20 metres	
Spread:	10-15 metres	Development Impact Comments
Health:	Fair	This tree is in direct conflict with the works and will require removal as part of this project.
Structure:	Fair	Recommendation
Trunk Circumference:	2.43 metres	This tree will require removal.
Useful Life Expectancy:	>10 years	
Tree Protection Zone (TPZ):	9.24 metres	

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status

Regulated

Encroachment Rating

Direct Conflict

Sugar Gum

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	>20 metres	
Spread:	10-15 metres	Development Impact Comments
Health:	Poor	This tree is in direct conflict with the works and will require removal as part of this project.
Structure:	Fair	Recommendation
Trunk Circumference:	2.7 metres	This tree will require removal.
Useful Life Expectancy:	<10 years	
Tree Protection Zone (TPZ):	10.32 metres	

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
Direct Conflict

Sugar Gum

Inspected: Tuesday, 20 February 2018 General Observations
 Height: >20 metres
 Spread: 10-15 metres Development Impact Comments
 Health: Fair This tree is in direct conflict with the works and will require removal as part of this project.
 Structure: Fair Recommendation
 Trunk Circumference: 2.7 metres This tree will require removal.
 Useful Life Expectancy: >10 years
 Tree Protection Zone (TPZ): 10.32 metres

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
Direct Conflict

Sugar Gum

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	>20 metres	
Spread:	10-15 metres	Development Impact Comments
Health:	Fair	This tree is in direct conflict with the works and will require removal as part of this project.
Structure:	Fair	Recommendation
Trunk Circumference:	4.33 metres	This tree will require removal.
Useful Life Expectancy:	>10 years	
Tree Protection Zone (TPZ):	15.00 metres	

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status
Significant
Encroachment Rating
Direct Conflict

Sugar Gum

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	>20 metres	
Spread:	10-15 metres	Development Impact Comments
Health:	Good	This tree is in direct conflict with the works and will require removal as part of this project.
Structure:	Fair	Recommendation
Trunk Circumference:	2.64 metres	This tree will require removal.
Useful Life Expectancy:	>10 years	
Tree Protection Zone (TPZ):	10.08 metres	

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
Direct Conflict

Eucalyptus cladocalyx

Tree No: R-R37

Sugar Gum

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	>20 metres	
Spread:	10-15 metres	Development Impact Comments
Health:	Good	This tree is in direct conflict with the works and will require removal as part of this project.
Structure:	Fair	Recommendation
Trunk Circumference:	2.57 metres	This tree will require removal.
Useful Life Expectancy:	>10 years	
Tree Protection Zone (TPZ):	9.84 metres	

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
Direct Conflict

Eucalyptus cladocalyx

Tree No: S-S27

Sugar Gum

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	>20 metres	
Spread:	10-15 metres	Development Impact Comments
Health:	Fair	This tree is in direct conflict with the works and will require removal as part of this project.
Structure:	Fair	Recommendation
Trunk Circumference:	3.11 metres	This tree will require removal.
Useful Life Expectancy:	>10 years	
Tree Protection Zone (TPZ):	11.88 metres	

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status

Significant

Encroachment Rating

Direct Conflict

Eucalyptus cladocalyx

Tree No: S-S26

Sugar Gum

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	15-20 metres	
Spread:	10-15 metres	Development Impact Comments
Health:	Good	This tree is in direct conflict with the works and will require removal as part of this project.
Structure:	Fair	Recommendation
Trunk Circumference:	3.6 metres	This tree will require removal.
Useful Life Expectancy:	>10 years	
Tree Protection Zone (TPZ):	13.92 metres	

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status
Significant
Encroachment Rating
Direct Conflict

Eucalyptus cladocalyx

Tree No: R-R36

Sugar Gum

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	15-20 metres	
Spread:	10-15 metres	Development Impact Comments
Health:	Good	This tree is in direct conflict with the works and will require removal as part of this project.
Structure:	Good	Recommendation
Trunk Circumference:	2.68 metres	This tree will require removal.
Useful Life Expectancy:	>20 years	
Tree Protection Zone (TPZ):	10.2 metres	

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status

Regulated

Encroachment Rating

Direct Conflict

Agonis flexuosa

Tree No: R-R44

Willow Myrtle

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	5-10 metres	
Spread:	5-10 metres	Development Impact Comments
Health:	Good	This tree is not impacted by the proposed development.
Structure:	Good	Recommendation
Trunk Circumference:	2.05 metres	Apply tree protection as appropriate.
Useful Life Expectancy:	>20 years	
Tree Protection Zone (TPZ):	7.8 metres	

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
No Encroachment

Agonis flexuosa

Tree No: R-R45

Willow Myrtle

Inspected: Tuesday, 20 February 2018 General Observations
Height: 5-10 metres
Spread: 5-10 metres Development Impact Comments
Health: Good This tree is not impacted by the proposed development.
Structure: Good Recommendation
Trunk Circumference: 2.5 metres Apply tree protection as appropriate.
Useful Life Expectancy: >20 years
Tree Protection Zone (TPZ): 9.6 metres

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
No Encroachment

Agonis flexuosa

Tree No: R-R46

Willow Myrtle

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	5-10 metres	
Spread:	5-10 metres	Development Impact Comments
Health:	Good	This tree is not impacted by the proposed development.
Structure:	Good	Recommendation
Trunk Circumference:	2.4 metres	Apply tree protection as appropriate.
Useful Life Expectancy:	>20 years	
Tree Protection Zone (TPZ):	8.16 metres	

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
No Encroachment

Eucalyptus cladocalyx

Tree No: S-S29

Sugar Gum

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	>20 metres	
Spread:	15-20 metres	Development Impact Comments
Health:	Good	This tree is in direct conflict with the works and will require removal as part of this project.
Structure:	Fair	Recommendation
Trunk Circumference:	3.4 metres	This tree will require removal.
Useful Life Expectancy:	>10 years	
Tree Protection Zone (TPZ):	12.96 metres	

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status

Significant

Encroachment Rating

Direct Conflict

Eucalyptus cladocalyx

Tree No: S-S30

Sugar Gum

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	>20 metres	
Spread:	15-20 metres	Development Impact Comments
Health:	Good	This tree is in direct conflict with the works and will require removal as part of this project.
Structure:	Good	Recommendation
Trunk Circumference:	3.05 metres	This tree will require removal.
Useful Life Expectancy:	>20 years	
Tree Protection Zone (TPZ):	11.52 metres	

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status

Significant

Encroachment Rating

Direct Conflict

Eucalyptus cladocalyx

Tree No: R-R41

Sugar Gum

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	>20 metres	
Spread:	15-20 metres	Development Impact Comments
Health:	Good	This tree is in direct conflict with the works and will require removal as part of this project.
Structure:	Fair	Recommendation
Trunk Circumference:	2.3 metres	This tree will require removal.
Useful Life Expectancy:	>10 years	
Tree Protection Zone (TPZ):	8.88 metres	

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status

Regulated

Encroachment Rating

Direct Conflict

Sugar Gum

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	>20 metres	
Spread:	15-20 metres	Development Impact Comments
Health:	Good	This tree is in direct conflict with the works and will require removal as part of this project.
Structure:	Good	Recommendation
Trunk Circumference:	3.95 metres	This tree will require removal.
Useful Life Expectancy:	>20 years	
Tree Protection Zone (TPZ):	15.00 metres	

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status
Significant
Encroachment Rating
Direct Conflict

Sugar Gum

Inspected: Tuesday, 20 February 2018 General Observations
 Height: >20 metres
 Spread: 15-20 metres Development Impact Comments
 Health: Fair This tree is in direct conflict with the works and will require removal as part of this project.
 Structure: Fair Recommendation
 Trunk Circumference: 3.98 metres This tree will require removal.
 Useful Life Expectancy: >10 years
 Tree Protection Zone (TPZ): 15.00 metres

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status
Significant
Encroachment Rating
Direct Conflict

Eucalyptus cladocalyx

Tree No: S-S33

Sugar Gum

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	>20 metres	
Spread:	>20 metres	Development Impact Comments
Health:	Good	This tree is in direct conflict with the works and will require removal as part of this project.
Structure:	Fair	Recommendation
Trunk Circumference:	3.18 metres	This tree will require removal.
Useful Life Expectancy:	>10 years	
Tree Protection Zone (TPZ):	12.12 metres	

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status
Significant
Encroachment Rating
Direct Conflict

Sugar Gum

Inspected: Tuesday, 20 February 2018 General Observations

Height: 5-10 metres

Spread: 5-10 metres Development Impact Comments

Health: Fair This tree is in direct conflict with the works and will require removal as part of this project.

Structure: Fair Recommendation

Trunk Circumference: 2.25 metres This tree will require removal.

Useful Life Expectancy: >10 years

Tree Protection Zone (TPZ): 8.64 metres

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
Direct Conflict

River Red Gum

Inspected: Tuesday, 20 February 2018 General Observations

Height: >20 metres

Spread: 15-20 metres Development Impact Comments

Health: Good Whilst the encroachment on this tree is substantial the majority of the encroachment is existing and tree friendly design and construction methodologies are available to minimise any impact.

Structure: Good Recommendation

Trunk Circumference: 4 metres This tree will require the implementation of tree friendly design and construction methodologies. The existing carpark is to be removed resulting in an overall improvement in the root zone.

Useful Life Expectancy: >20 years

Tree Protection Zone (TPZ): 15 metres

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status
Significant
Encroachment Rating
Substantial

Eucalyptus camaldulensis

Tree No: R-R43

River Red Gum

Inspected:	Tuesday, 20 February 2018	General Observations
Height:	10-15 metres	
Spread:	5-10 metres	Development Impact Comments
Health:	Fair	Whilst the encroachment on this tree is substantial there are tree friendly design and construction methodologies available to minimise the impact of the encroachment.
Structure:	Poor	Recommendation
Trunk Circumference:	2.66 metres	This tree will require the implementation of tree friendly design and construction methodologies.
Useful Life Expectancy:	<10 years	
Tree Protection Zone (TPZ):	10.2 metres	

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
Substantial

River Red Gum

Inspected: Tuesday, 20 February 2018 General Observations

Height: >20 metres

Spread: 15-20 metres Development Impact Comments

Health: Fair Whilst the encroachment on this tree is substantial there are tree friendly design and construction methodologies available to minimise the impact of the encroachment.

Structure: Fair Recommendation

Trunk Circumference: 2.95 metres This tree will require the implementation of tree friendly design and construction methodologies.

Useful Life Expectancy: >10 years

Tree Protection Zone (TPZ): 11.28 metres

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
Substantial

River Red Gum

Inspected: Tuesday, 20 February 2018 General Observations

Height: 15-20 metres

Spread: 15-20 metres Development Impact Comments

Health: Fair Whilst the encroachment on this tree is substantial there are tree friendly design and construction methodologies available to minimise the impact of the encroachment.

Structure: Poor Recommendation

Trunk Circumference: 3.15 metres This tree will require the implementation of tree friendly design and construction methodologies.

Useful Life Expectancy: <10 years

Tree Protection Zone (TPZ): 12 metres

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status
Significant
Encroachment Rating
Substantial

River Red Gum

Inspected: Tuesday, 20 February 2018 General Observations

Height: 15-20 metres

Spread: 15-20 metres Development Impact Comments

Health: Fair Whilst the encroachment on this tree is substantial there are tree friendly design and construction methodologies available to minimise the impact of the encroachment.

Structure: Fair Recommendation

Trunk Circumference: 3.2 metres This tree will require the implementation of tree friendly design and construction methodologies.

Useful Life Expectancy: >10 years

Tree Protection Zone (TPZ): 12.24 metres

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status
Significant
Encroachment Rating
Substantial

Eucalyptus saligna

Tree No: R-R50

Sydney Blue Gum

Inspected:	Wednesday, 21 February 2018	General Observations
Height:	10-15 metres	
Spread:	10-15 metres	Development Impact Comments
Health:	Fair	This tree is not impacted by the proposed development.
Structure:	Poor	Recommendation
Trunk Circumference:	2.2 metres	Apply tree protection as appropriate.
Useful Life Expectancy:	<10 years	
Tree Protection Zone (TPZ):	8.4 metres	

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
No Encroachment

Corymbia citriodora

Tree No: R-R49

Lemon Scented Gum

Inspected: Wednesday, 21 February 2018 General Observations
Height: 10-15 metres
Spread: 10-15 metres Development Impact Comments
Health: Good This tree is not impacted by the proposed development.
Structure: Good Recommendation
Trunk Circumference: 2.33 metres Apply tree protection as appropriate.
Useful Life Expectancy: >20 years
Tree Protection Zone (TPZ): 8.88 metres

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
No Encroachment

Eucalyptus camaldulensis

Tree No: S-S39

River Red Gum

Inspected: Wednesday, 21 February 2018 General Observations
Height: 15-20 metres
Spread: 15-20 metres Development Impact Comments
Health: Fair This tree is not impacted by the proposed development.
Structure: Fair Recommendation
Trunk Circumference: 3.55 metres Apply tree protection as appropriate.
Useful Life Expectancy: >10 years
Tree Protection Zone (TPZ): 13.56 metres

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status
Significant
Encroachment Rating
No Encroachment

River Red Gum

Inspected: Wednesday, 21 February 2018 General Observations
 Height: 15-20 metres
 Spread: 15-20 metres Development Impact Comments
 Health: Fair This tree is not impacted by the proposed development.
 Structure: Fair Recommendation
 Trunk Circumference: 3.68 metres Apply tree protection as appropriate.
 Useful Life Expectancy: >10 years
 Tree Protection Zone (TPZ): 14.04 metres

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status
Significant
Encroachment Rating
No Encroachment

Corymbia maculata

Tree No: R-R48

Spotted Gum

Inspected:	Wednesday, 21 February 2018	General Observations
Height:	15-20 metres	
Spread:	15-20 metres	Development Impact Comments
Health:	Good	This tree is not impacted by the proposed development.
Structure:	Good	Recommendation
Trunk Circumference:	2.45 metres	Apply tree protection as appropriate.
Useful Life Expectancy:	>20 years	
Tree Protection Zone (TPZ):	9.36 metres	

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
No Encroachment

Lemon Scented Gum

Inspected: Wednesday, 21 February 2018 General Observations
 Height: 15-20 metres
 Spread: 15-20 metres Development Impact Comments
 Health: Good This tree is not impacted by the proposed development.
 Structure: Good Recommendation
 Trunk Circumference: 1.98 metres Apply tree protection as appropriate.
 Useful Life Expectancy: >20 years
 Tree Protection Zone (TPZ): 6.96 metres

Legislative Status Comments

This tree is not regulated under the Development Act 1993.



Legislative Status
Unregulated
Encroachment Rating
No Encroachment

Lemon Scented Gum

Inspected: Wednesday, 21 February 2018 General Observations
 Height: 15-20 metres
 Spread: 15-20 metres Development Impact Comments
 Health: Good This tree is not impacted by the proposed development.
 Structure: Good Recommendation
 Trunk Circumference: 2.01 metres Apply tree protection as appropriate.
 Useful Life Expectancy: >20 years
 Tree Protection Zone (TPZ): 7.68 metres

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
No Encroachment

Lemon Scented Gum

Inspected: Wednesday, 21 February 2018 General Observations
 Height: 15-20 metres
 Spread: 15-20 metres Development Impact Comments
 Health: Good This tree is not impacted by the proposed development.
 Structure: Good Recommendation
 Trunk Circumference: 2.05 metres Apply tree protection as appropriate.
 Useful Life Expectancy: >20 years
 Tree Protection Zone (TPZ): 7.8 metres

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
No Encroachment

Eucalyptus camaldulensis

Tree No: S-S40

River Red Gum

Inspected:	Wednesday, 21 February 2018	General Observations
Height:	15-20 metres	
Spread:	15-20 metres	Development Impact Comments
Health:	Fair	This tree is not impacted by the proposed development.
Structure:	Good	Recommendation
Trunk Circumference:	3.24 metres	Apply tree protection as appropriate.
Useful Life Expectancy:	>10 years	
Tree Protection Zone (TPZ):	12.36 metres	

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status
Significant
Encroachment Rating
No Encroachment

Eucalyptus cladocalyx

Tree No: S-S41

Sugar Gum

Inspected:	Wednesday, 21 February 2018	General Observations
Height:	15-20 metres	
Spread:	15-20 metres	Development Impact Comments
Health:	Good	This tree is in direct conflict with the works and will require removal as part of this project.
Structure:	Fair	Recommendation
Trunk Circumference:	3.03 metres	This tree will require removal.
Useful Life Expectancy:	>10 years	
Tree Protection Zone (TPZ):	11.4 metres	

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status

Significant

Encroachment Rating

Direct Conflict

Eucalyptus leucoxylon

Tree No: R-R56

South Australian Blue Gum

Inspected:	Wednesday, 21 February 2018	General Observations
Height:	15-20 metres	
Spread:	15-20 metres	Development Impact Comments
Health:	Good	This tree is in direct conflict with the works and will require removal as part of this project.
Structure:	Good	Recommendation
Trunk Circumference:	2.34 metres	This tree will require removal.
Useful Life Expectancy:	>20 years	
Tree Protection Zone (TPZ):	8.88 metres	

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status

Regulated

Encroachment Rating

Direct Conflict

Corymbia maculata

Tree No: S-S42

Spotted Gum

Inspected:	Wednesday, 21 February 2018	General Observations
Height:	15-20 metres	
Spread:	15-20 metres	Development Impact Comments
Health:	Fair	This tree is in direct conflict with the works and will require removal as part of this project.
Structure:	Fair	Recommendation
Trunk Circumference:	3.15 metres	This tree will require removal.
Useful Life Expectancy:	>10 years	
Tree Protection Zone (TPZ):	12 metres	

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status

Significant

Encroachment Rating

Direct Conflict

Eucalyptus saligna

Tree No: R-R57

Sydney Blue Gum

Inspected:	Wednesday, 21 February 2018	General Observations
Height:	10-15 metres	
Spread:	5-10 metres	Development Impact Comments
Health:	Good	This tree is in direct conflict with the works and will require removal as part of this project.
Structure:	Fair	Recommendation
Trunk Circumference:	2.42 metres	This tree will require removal.
Useful Life Expectancy:	>10 years	
Tree Protection Zone (TPZ):	6.6 metres	

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status

Regulated

Encroachment Rating

Direct Conflict

Eucalyptus globulus ssp. Maidenii

Tree No: R-R58

Maindens Gum

Inspected:	Wednesday, 21 February 2018	General Observations
Height:	10-15 metres	
Spread:	5-10 metres	Development Impact Comments
Health:	Fair	This tree is in direct conflict with the works and will require removal as part of this project.
Structure:	Good	Recommendation
Trunk Circumference:	2.08 metres	This tree will require removal.
Useful Life Expectancy:	>10 years	
Tree Protection Zone (TPZ):	7.2 metres	

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
Direct Conflict

Ficus macrophylla

Tree No: R-R59

Moreton Bay Fig

Inspected:	Wednesday, 21 February 2018	General Observations
Height:	5-10 metres	
Spread:	5-10 metres	Development Impact Comments
Health:	Good	Whilst the encroachment on this tree is major there are tree friendly design and construction methodologies available to minimise the impact of the encroachment.
Structure:	Good	Recommendation
Trunk Circumference:	2.15 metres	This tree will require the implementation of tree friendly design and construction methodologies.
Useful Life Expectancy:	>20 years	
Tree Protection Zone (TPZ):	4.92 metres	
Legislative Status Comments		
This tree is a Regulated Tree under the Development Act 1993.		



Legislative Status
Regulated
Encroachment Rating
Major

Eucalyptus globulus ssp. Maidenii

Tree No: R-R60

Maindens Gum

Inspected:	Wednesday, 21 February 2018	General Observations
Height:	10-15 metres	
Spread:	5-10 metres	Development Impact Comments
Health:	Fair	This tree is not impacted by the proposed development.
Structure:	Good	Recommendation
Trunk Circumference:	2.2 metres	Apply tree protection as appropriate.
Useful Life Expectancy:	>10 years	
Tree Protection Zone (TPZ):	5.88 metres	

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
No Encroachment

Eucalyptus globulus ssp. Maidenii

Tree No: S-S43

Maindens Gum

Inspected:	Wednesday, 21 February 2018	General Observations
Height:	10-15 metres	
Spread:	10-15 metres	Development Impact Comments
Health:	Good	This tree is not impacted by the proposed development.
Structure:	Good	Recommendation
Trunk Circumference:	3.89 metres	Apply tree protection as appropriate.
Useful Life Expectancy:	>20 years	
Tree Protection Zone (TPZ):	7.44 metres	

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status

Significant

Encroachment Rating

No Encroachment

Eucalyptus camaldulensis

Tree No: R-R61

River Red Gum

Inspected:	Wednesday, 21 February 2018	General Observations
Height:	10-15 metres	
Spread:	10-15 metres	Development Impact Comments
Health:	Fair	Whilst the encroachment on this tree is major there are tree friendly design and construction methodologies available to minimise the impact of the encroachment.
Structure:	Fair	Recommendation
Trunk Circumference:	2.6 metres	This tree will require the implementation of tree friendly design and construction methodologies.
Useful Life Expectancy:	>10 years	
Tree Protection Zone (TPZ):	9.96 metres	

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
Major

Eucalyptus leucoxylon

Tree No: R-R63

South Australian Blue Gum

Inspected:	Wednesday, 21 February 2018	General Observations
Height:	10-15 metres	
Spread:	10-15 metres	Development Impact Comments
Health:	Good	This tree is not impacted by the proposed development.
Structure:	Good	Recommendation
Trunk Circumference:	2.24 metres	Apply tree protection as appropriate.
Useful Life Expectancy:	>20 years	
Tree Protection Zone (TPZ):	8.28 metres	

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status

Regulated

Encroachment Rating

No Encroachment

Eucalyptus camaldulensis

Tree No: R-R64

River Red Gum

Inspected:	Wednesday, 21 February 2018	General Observations
Height:	15-20 metres	
Spread:	10-15 metres	Development Impact Comments
Health:	Good	This tree is not impacted by the proposed development.
Structure:	Good	Recommendation
Trunk Circumference:	2.6 metres	Apply tree protection as appropriate.
Useful Life Expectancy:	>20 years	
Tree Protection Zone (TPZ):	9.96 metres	

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status

Regulated

Encroachment Rating

No Encroachment

Eucalyptus camaldulensis

Tree No: R-S44

River Red Gum

Inspected:	Wednesday, 21 February 2018	General Observations
Height:	15-20 metres	
Spread:	15-20 metres	Development Impact Comments
Health:	Good	This tree is not impacted by the proposed development.
Structure:	Good	Recommendation
Trunk Circumference:	2.92 metres	Apply tree protection as appropriate.
Useful Life Expectancy:	>20 years	
Tree Protection Zone (TPZ):	9.96 metres	

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
No Encroachment

Eucalyptus camaldulensis

Tree No: S-S45

River Red Gum

Inspected:	Wednesday, 21 February 2018	General Observations
Height:	15-20 metres	
Spread:	15-20 metres	Development Impact Comments
Health:	Good	This tree is not impacted by the proposed development.
Structure:	Good	Recommendation
Trunk Circumference:	5.03 metres	Apply tree protection as appropriate.
Useful Life Expectancy:	>20 years	
Tree Protection Zone (TPZ):	15.00 metres	

Legislative Status Comments

This tree is a Significant Tree under the Development Act 1993.



Legislative Status
Significant
Encroachment Rating
No Encroachment

Eucalyptus camaldulensis

Tree No: R-R65

River Red Gum

Inspected:	Wednesday, 21 February 2018	General Observations
Height:	15-20 metres	
Spread:	15-20 metres	Development Impact Comments
Health:	Good	This tree is not impacted by the proposed development.
Structure:	Good	Recommendation
Trunk Circumference:	2.68 metres	Apply tree protection as appropriate.
Useful Life Expectancy:	>20 years	
Tree Protection Zone (TPZ):	10.2 metres	

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
No Encroachment

Eucalyptus camaldulensis

Tree No: R-R66

River Red Gum

Inspected:	Wednesday, 21 February 2018	General Observations
Height:	15-20 metres	
Spread:	15-20 metres	Development Impact Comments
Health:	Good	This tree is not impacted by the proposed development.
Structure:	Good	Recommendation
Trunk Circumference:	2.05 metres	Apply tree protection as appropriate.
Useful Life Expectancy:	>20 years	
Tree Protection Zone (TPZ):	7.8 metres	

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
No Encroachment

Eucalyptus leucoxylon

Tree No: U-R62

South Australian Blue Gum

Inspected:	Wednesday, 21 February 2018	General Observations
Height:	10-15 metres	
Spread:	10-15 metres	Development Impact Comments
Health:	Good	This tree is not impacted by the proposed development.
Structure:	Good	Recommendation
Trunk Circumference:	1.88 metres	Apply tree protection as appropriate.
Useful Life Expectancy:	>20 years	
Tree Protection Zone (TPZ):	6.96 metres	

Legislative Status Comments

This tree is not regulated under the Development Act 1993.



Legislative Status

Unregulated

Encroachment Rating

No Encroachment

Canary Island Date Palm

Inspected: Wednesday, 21 February 2018 General Observations
 Height: 5-10 metres
 Spread: 5-10 metres Development Impact Comments
 Health: Good This tree is not impacted by the proposed development.
 Structure: Good Recommendation
 Trunk Circumference: 2.6 metres Apply tree protection as appropriate.
 Useful Life Expectancy: >20 years
 Tree Protection Zone (TPZ): 10.2 metres

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
No Encroachment

Canary Island Date Palm

Inspected: Wednesday, 21 February 2018 General Observations

Height: 5-10 metres

Spread: 5-10 metres Development Impact Comments

Health: Good This tree is not impacted by the proposed development.

Structure: Good Recommendation

Trunk Circumference: 2.76 metres Apply tree protection as appropriate.

Useful Life Expectancy: >20 years

Tree Protection Zone (TPZ): 10.56 metres

Legislative Status Comments

This tree is a Regulated Tree under the Development Act 1993.



Legislative Status
Regulated
Encroachment Rating
No Encroachment

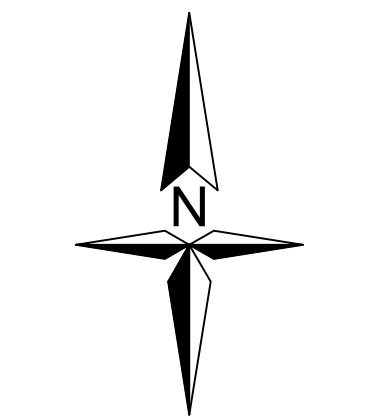
Sugar Gum

Inspected: Wednesday, 21 February 2018 General Observations
 Height: 5-10 metres This tree is absent of live foliage.
 Spread: <5 metres Development Impact Comments
 Health: Dead Whilst the encroachment on this tree is substantial there are tree friendly design and construction methodologies available to minimise the impact of the encroachment.
 Structure: Fair Recommendation
 Trunk Circumference: 2.2 metres This tree is dead and will require the implementation of design and construction methodologies that will not impact its structure.
 Useful Life Expectancy: Surpassed
 Tree Protection Zone (TPZ): 9 metres
 Legislative Status Comments
 This tree is exempt from control under the Development Act 1993.




Legislative Status
Exempt
Encroachment Rating
Substantial

Appendix C - Mapping



Encroachment Summary

- 34  Conflicted
- 18  Substantial
- 10  Major
- 5  Minor
- 38  None

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Sheet Locality and Encroachment Summary

(Not to Scale)





Legislative Status

- S Significant
- R Regulated
- U Unregulated
- E Exempt

TPZ Encroachment

- Conflicted
- Substantial
- Major
- Minor
- None

Retention Rating

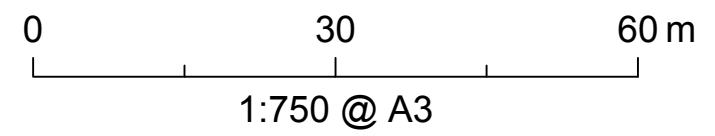
- Important
- High
- Moderate
- Low

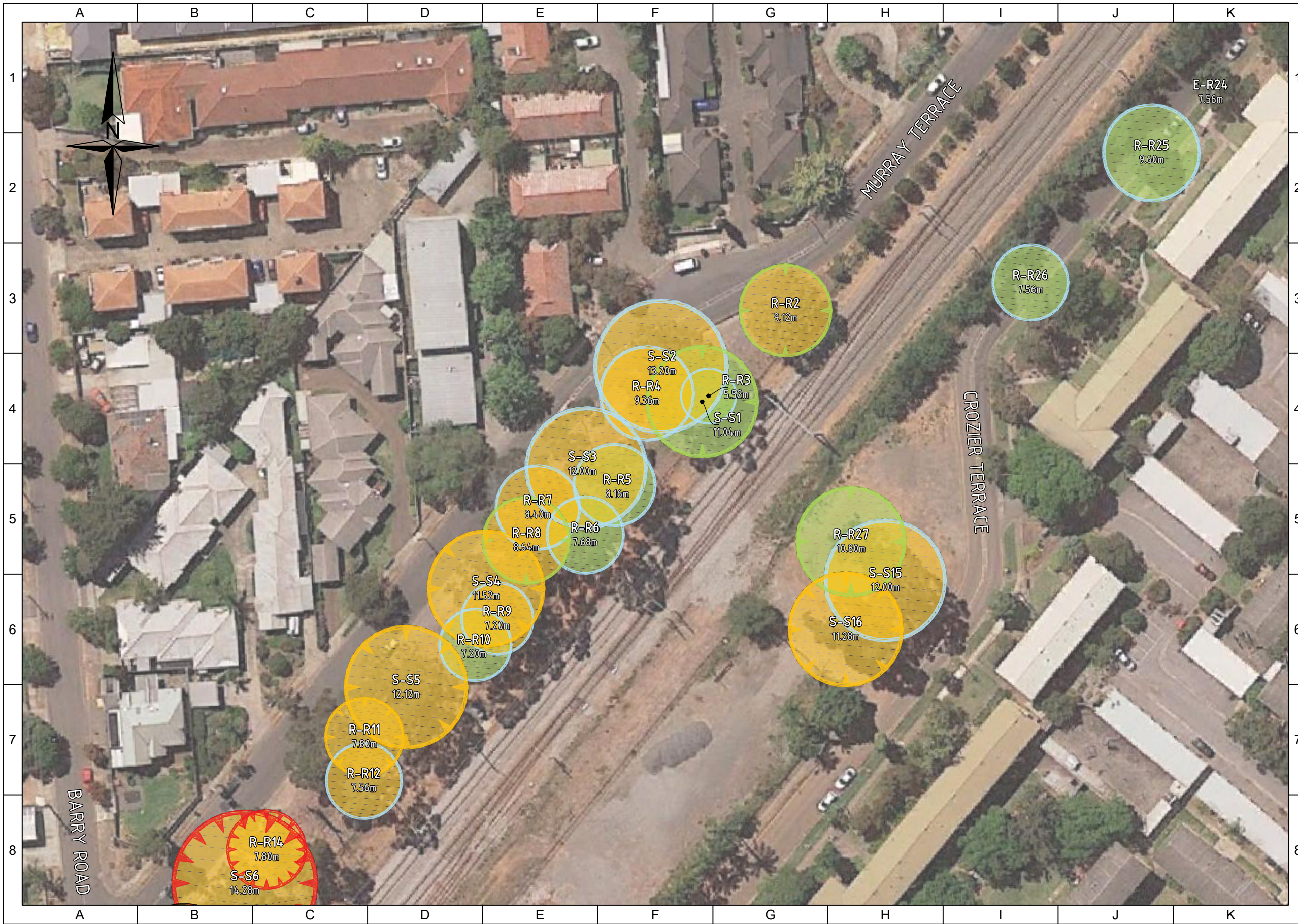
Labels denote legislative status, tree identifier and TPZ radius in metres unless otherwise shown.

Date: 13/03/2018 Rev: 4
 Ref: ATS4887-OaklandsRailDIR

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TPZ Encroachment - Sheet 1





Legislative Status

- S Significant
- R Regulated
- U Unregulated
- E Exempt

TPZ Encroachment

- Conflicted
- Substantial
- Major
- Minor
- None

Retention Rating

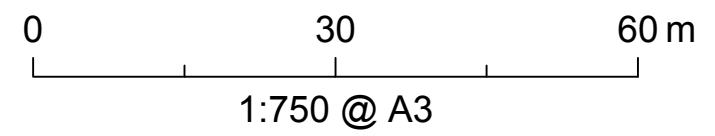
- Important
- High
- Moderate
- Low

Labels denote legislative status, tree identifier and TPZ radius in metres unless otherwise shown.

Date: 13/03/2018 Rev: 4
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TPZ Encroachment - Sheet 2





Legislative Status

- S Significant
- R Regulated
- U Unregulated
- E Exempt

TPZ Encroachment

- Conflicted
- Substantial
- Major
- Minor
- None

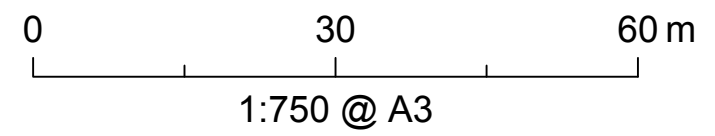
Retention Rating

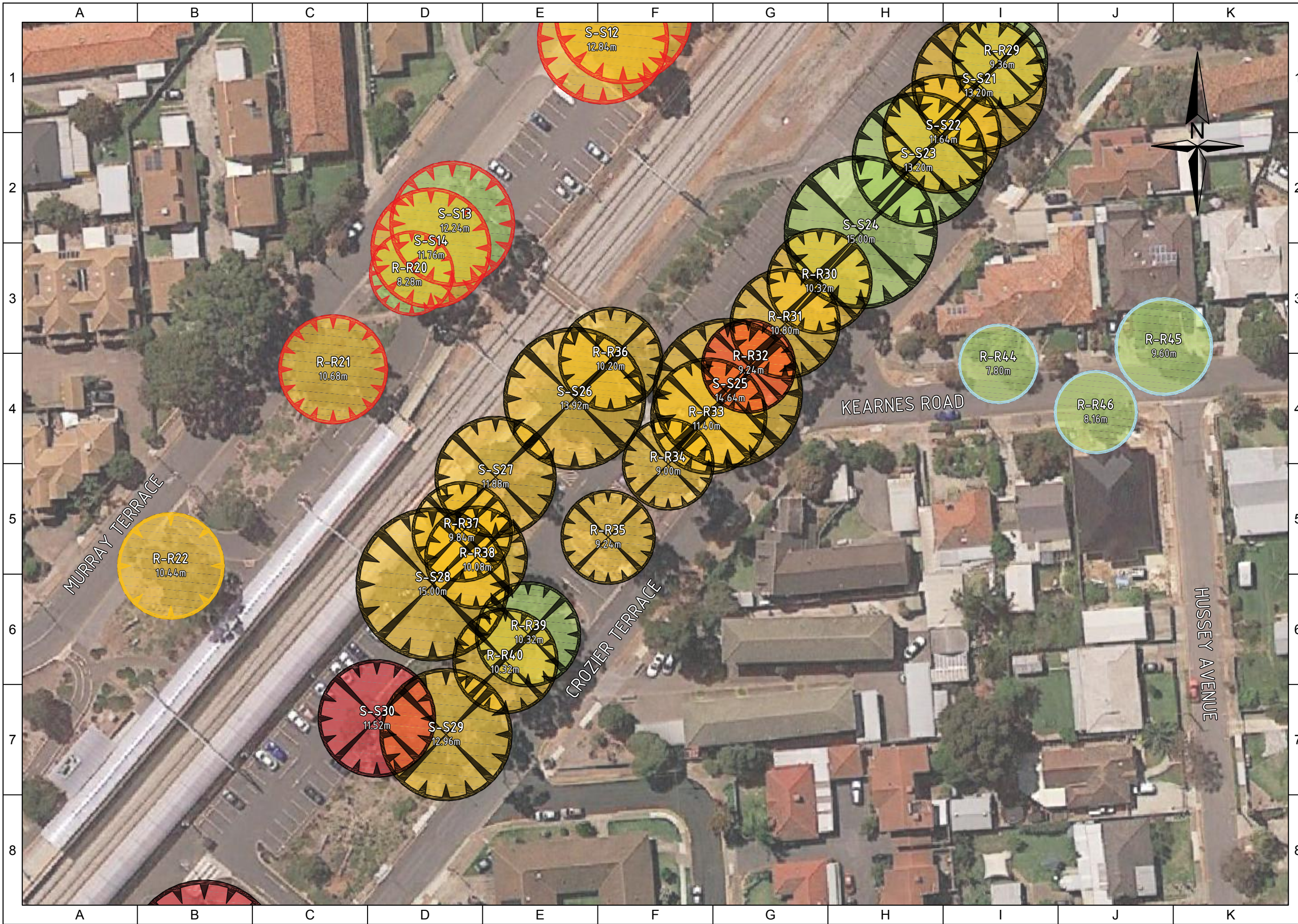
- Important
- High
- Moderate
- Low

Labels denote legislative status, tree identifier and TPZ radius in metres unless otherwise shown.

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TPZ Encroachment - Sheet 3





Legislative Status

- S Significant
- R Regulated
- U Unregulated
- E Exempt

TPZ Encroachment

- Conflicted
- Substantial
- Major
- Minor
- None

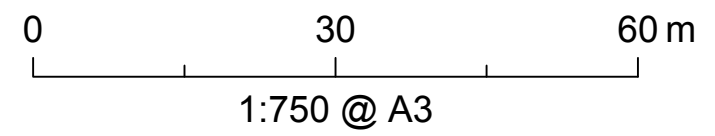
Retention Rating

- Important
- High
- Moderate
- Low

Labels denote legislative status, tree identifier and TPZ radius in metres unless otherwise shown.

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TPZ Encroachment - Sheet 4





Legislative Status

- S Significant
- R Regulated
- U Unregulated
- E Exempt

TPZ Encroachment

- Conflicted
- Substantial
- Major
- Minor
- None

Retention Rating

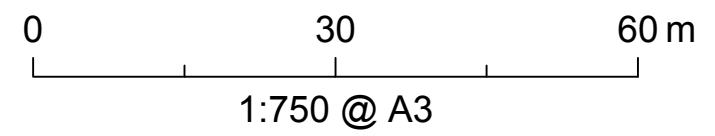
- Important
- High
- Moderate
- Low

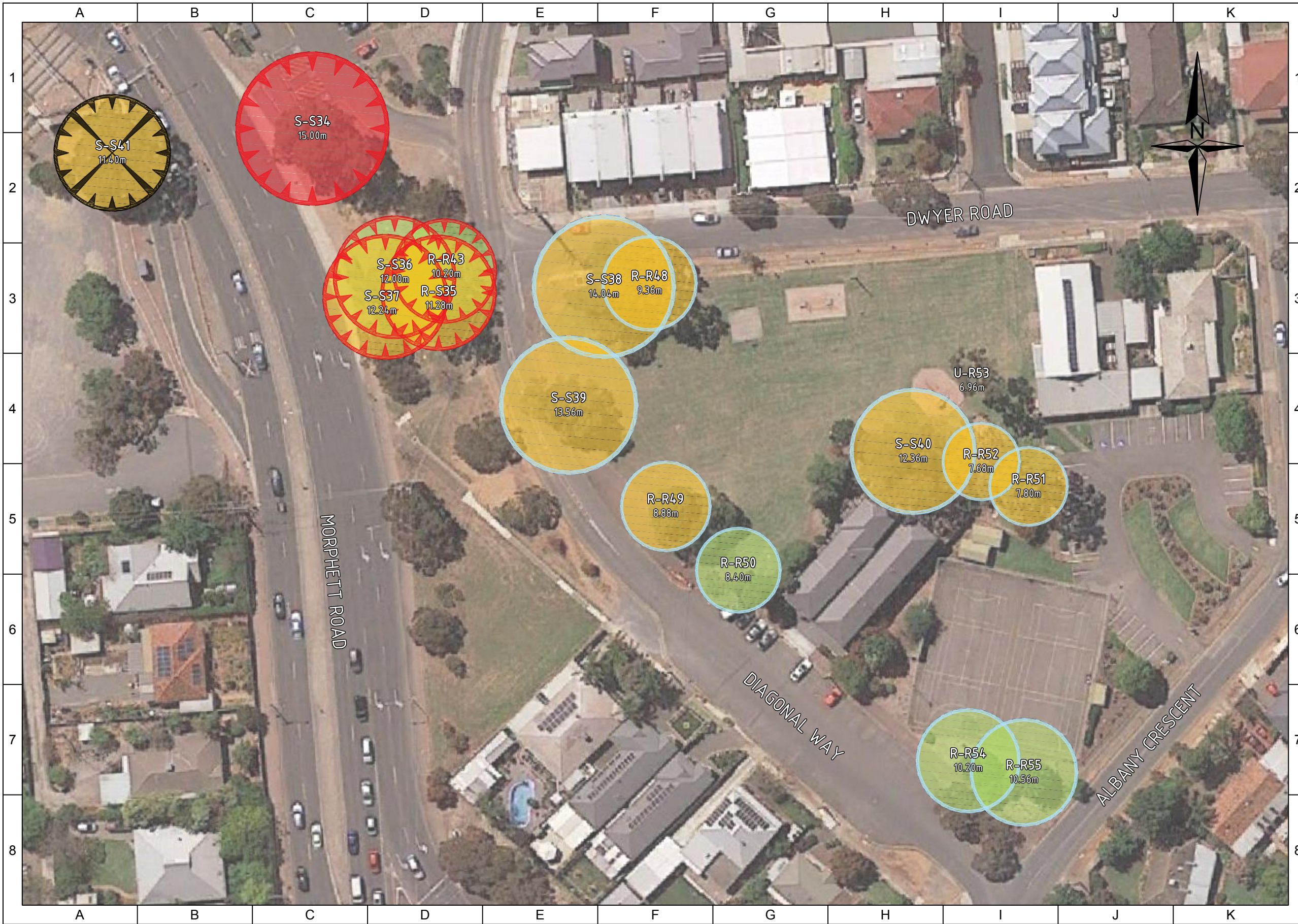
Labels denote legislative status, tree identifier and TPZ radius in metres unless otherwise shown.

Date: 13/03/2018 Rev: 4
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TPZ Encroachment - Sheet 5





Legislative Status

- S Significant
- R Regulated
- U Unregulated
- E Exempt

TPZ Encroachment

- Conflicted
- Substantial
- Major
- Minor
- None

Retention Rating

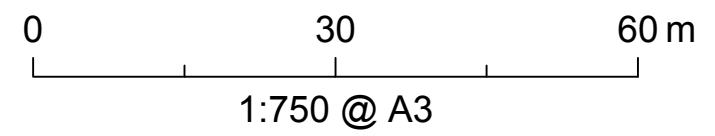
- Important
- High
- Moderate
- Low

Labels denote legislative status, tree identifier and TPZ radius in metres unless otherwise shown.

Date: 13/03/2018 Rev: 4
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TPZ Encroachment - Sheet 6





Legislative Status

- S Significant
- R Regulated
- U Unregulated
- E Exempt

TPZ Encroachment

- Conflicted
- Substantial
- Major
- Minor
- None

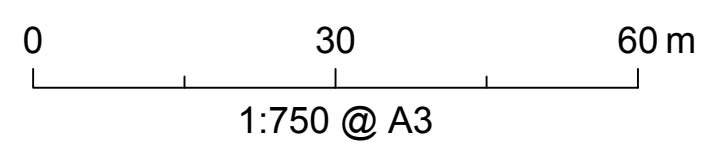
Retention Rating

- Important
- High
- Moderate
- Low

Labels denote legislative status, tree identifier and TPZ radius in metres unless otherwise shown.

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TPZ Encroachment - Sheet 7





Legislative Status

- S Significant
- R Regulated
- U Unregulated
- E Exempt

TPZ Encroachment

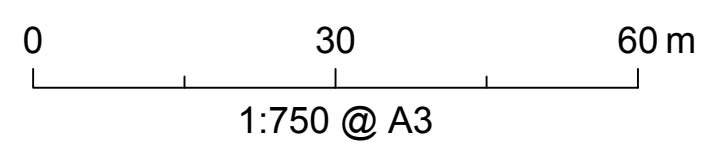
- Conflicted
- Substantial
- Major
- Minor
- None

Retention Rating

- Important
- High
- Moderate
- Low

Labels denote legislative status, tree identifier and TPZ radius in metres unless otherwise shown.

TPZ Encroachment - Sheet 8





Legislative Status

- S Significant
- R Regulated
- U Unregulated
- E Exempt

TPZ Encroachment

- Conflicted
- Substantial
- Major
- Minor
- None

Retention Rating

- Important
- High
- Moderate
- Low

Labels denote legislative status, tree identifier and TPZ radius in metres unless otherwise shown.

TPZ Encroachment - Sheet 9

