

APPLICATION ON NOTIFICATION – CROWN DEVELOPMENT

Type of development:	SECTION 49 - STATE AGENCY DEVELOPMENT
Development Number:	100/V075/18
Applicant:	Department of Planning, Transport and Infrastructure
Nature of Development:	Flinders Link Project: extension of the Tonsley Rail line and new train station
Subject Land:	Several allotments within the rail corridor and adjacent land (Sturt Road, Mitchell Park, Tonsley and Bedford Park); Laffers Triangle (Laffer Drive and Sturt Road, Bedford Park); and Flinders University (Flinders Drive and Main South Road, Bedford Park).
Development Plan:	Mitcham (City) Development Plan Marion Council Development Plan
Zone / Policy Area:	Mitcham (City) Development Plan: Regional Activity Zone Marion Council Development Plan: Regional Activity Zone and Residential Zone (PA12: Medium Density and PA16: Regeneration)
Contact Officer:	Laura Kerber
Phone Number:	7109 7073
Consultation Start Date:	19 September 2018
Consultation Close Date:	5:00 PM Friday 19 October 2018
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).	

Written representations must be received by the close date (indicated above) and can either be posted, hand-delivered, faxed or emailed to the State Commission Assessment Panel (SCAP). A representation form is provided as part of this document.

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 Street
ADELAIDE

Email Address: scapreps@sa.gov.au

Fax Number: (08) 8303 0753

**DEVELOPMENT ACT, 1993
S49/S49A – CROWN DEVELOPMENT
REPRESENTATION ON APPLICATION**

Applicant: Department of Planning, Transport and Infrastructure
Development Number: 100/V075/18
Nature of Development: Flinders Link Project: extension of the Tonsley Rail line and new train station
Zone / Policy Area: Mitcham (City) Development Plan: Regional Activity Zone
Marion Council Development Plan: Regional Activity Zone and Residential Zone (PA12: Medium Density and PA16: Regeneration)
Subject Land: Several allotments within the rail corridor and adjacent land (Sturt Road, Mitchell Park, Tonsley and Bedford Park); Laffers Triangle (Laffer Drive and Sturt Road, Bedford Park); and Flinders University (Flinders Drive and Main South Road, Bedford Park).
Contact Officer: Laura Kerber
Phone Number: 7109 7073
Close Date: 5:00 PM Friday 19 October 2018

My Name: _____ My phone number: _____

Primary method(s) of contact: _____ Email: _____
Postal Address: _____ Postcode: _____

You may be contacted via your nominated PRIMARY METHOD(s) OF CONTACT if you indicate below that you wish to be heard by the State Commission Assessment Panel in support of your submission.

- My interests are:
- ☐ owner of local property
 - ☐ occupier of local property
 - ☐ a representative of a company/other organisation affected by the proposal
 - ☐ a private citizen

The address of the property affected is: _____

Postcode _____

The specific aspects of the application to which I make comment on are: _____

- I:**
- ☐ wish to be heard in support of my submission
 - ☐ do not wish to be heard in support of my submission

- By:**
- ☐ appearing personally
 - ☐ being represented by the following person

Signature: _____

Date: _____

Return Address: The Secretary, State Commission Assessment Panel, GPO Box 1815, Adelaide, SA 5001 or
scapadmin@sa.gov.au



DEVELOPMENT ACT 1993

NOTICE OF APPLICATION FOR CONSENT TO DEVELOPMENT

SECTION 49 – STATE AGENCY DEVELOPMENT

Notice is hereby given that an application has been made by the **Department of Planning, Transport and Infrastructure** for consent to construct the Flinders Link Project: extension of the Tonsley Rail line and new train station. **(Development Number: 100/V075/18).**

The land comprises several allotments within the current and proposed rail corridor and adjacent land (Sturt Road, Mitchell Park, Tonsley and Bedford Park); Laffers Triangle (Laffer Drive and Sturt Road, Bedford Park); and Flinders University (Flinders Drive and Main South Road, Bedford Park).

The development site (comprising various land parcels) is identified as A1, DP113164 [CT 6180/973]; A201, DP40215 [CT 5215/474]; A202, DP40215 [CT 5215/475]; A203, DP40215 [CT 5215/476]; A204, DP40215 [CT 5215/477]; A1001, DP55884 [CT 5835/144]; A66, DP28859 [CT 5201/547]; A4, DP71485 [CT 6148/67]; and A71, DP117100 [CR 6204/829].

The subject land is located within the Regional Activity Zone of the Mitcham (City) Development Plan (Consolidated on 20 February 2018) and the Regional Activity Zone and Residential Zone (Policy Area 12: Medium Density and Policy Area 16: Regeneration) of the Marion Council Development Plan (Consolidated on 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 at the offices of the City of Marion (245 Sturt Road, Sturt) and City of Mitcham (131 Belair Road, Torrens Park) councils.

Application documentation may also be viewed on the SCAP website
http://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 SA 5001

NOT LATER THAN 5PM FRIDAY 19 OCTOBER 2018. Submissions may also be emailed to: scapreps@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 **Laura Kerber** on **7109 7073** or laura.kerber@sa.gov.au.

Alison Gill
SECRETARY
STATE COMMISSION ASSESSMENT PANEL

PN3218

www.sa.gov.au

PN3218

25x2 (63mm)

Adelaide Advertiser, Coast City Weekly

19 September 2018

APPROVAL REQUIRED BY 11AM FRI 14.09

SECTION 49 & 49A – CROWN DEVELOPMENT DEVELOPMENT APPLICATION FORM

PLEASE USE BLOCK LETTERS

COUNCIL: Mitcham and Marion Council
APPLICANT: Department of Planning, Transport & Infrastructure (DPTI)
C/- MasterPlan
ADDRESS: 33 Carrington St, Adelaide SA 5000
CROWN AGENCY: DPTI

FOR OFFICE USE

DEVELOPMENT No: _____
PREVIOUS DEVELOPMENT No: _____
DATE RECEIVED: / /

CONTACT PERSON FOR FURTHER INFORMATION

Name: Simon Tonkin - MasterPlan
Telephone: 0413 832 600 [work] 8193 5600 [Ah]
Fax: _____ [work] _____ [Ah]
Email: simont@masterplan.com.au

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 public notification and advertising fees.
 (2) Three copies of the application should also be provided.

☐ Complying ☐ Merit ☐ Public Notification ☐ Referrals	Decision: _____ Type: _____ Finalised: / /
--	--

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

EXISTING USE: Mixed uses, including residential, commercial, educational, health and law enforcement.

DESCRIPTION OF PROPOSED DEVELOPMENT:

Extension of the Tonsley Rail Line to Flinders Precinct, including the construction of a new railway station, pedestrian link and associated infrastructure, and landscaping.

LOCATION OF PROPOSED DEVELOPMENT:

Tonsley Rail Line and the Flinders Precinct
 House No: _____ Lot No: 71 Street: Sturt and South Road Town/Suburb: Mitchell Park and Bedford Park
 Section No [full/part] Multiple Hundred: Adelaide Volume: Multiple Folio: Multiple
 Section No [full/part] refer OTR & report Hundred: _____ Volume: refer to OTR Folio: refer to OTR

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]: \$ \$29.85 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 the DPLG website (www.dac.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*.

SIGNATURE: _____

Dated: 10 / 09 / 2018

DEVELOPMENT REGULATIONS 2008

Form of Declaration

(Schedule 5, Clause 2A)

To: State Planning Commission

From: The Department of Planning, Transport and Infrastructure (DPTI)

Date of Application: 10 September 2018

Location of Proposed Development:

House Number:	Multiple addresses	Lot Number:	1, 3-4, 7, 66, 71, 201-204 and 1001
Street:	Sturt Road and South Road	Town/Suburb:	Mitchell Park and Bedford Park
Section No (full/part):	117100, 112362, 40215, 71485, 55884, 28859, 113164	Hundred:	Adelaide
Volume:	6204, 6180, 5215, 5201, 5835, 6148, 6021, 6200	Folio:	829, 973, 477, 474, 475, 476, 547, 144, 67, 441, 228

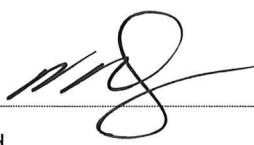
Nature of Proposed Development:

Extension of the Tonsley Rail Line to the Flinders Medical Centre, with works to include the construction of a new railway station, pedestrian link bridge and supporting infrastructure including a shared use viaduct, lifts, control building and landscaping.

I, Neil Welsh being the applicant 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*.

10 Sep 2018

Date



Signed

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:

- an internal alteration of a building; or
- 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 fence that is less than 2.0 m in height; or
- 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 comply.

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

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

Note 5

Information brochures 'Powerline Clearance Guide' and 'Building Safely Near Powerlines' have been prepared by the Technical Regulator to assist applicants and other interested persons. Copies of these brochures are available from Council and the Office of the Technical Regulator. The brochures and other relevant information can also be found at www.technicalregulator.sa.gov.au

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.

Section 49 Crown Development and Public Infrastructure

DEVELOPMENT APPLICATION

FLINDERS LINK PROJECT

Extension of the Tonsley Rail Line

September 2018



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1

PROPOSAL

1.0 PROJECT OBJECTIVES AND STRATEGIC CONTEXT

1.1 PURPOSE

The purpose of this report is to seek the approval of the Minister for Planning under Section 49 of the Development Act 1993 - Crown Development and Public Infrastructure, to extend the Tonsley rail line, linking the Flinders Medical Centre and Flinders University to the existing passenger network.

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

1.2 BACKGROUND

The Flinders Link Project was first proposed publicly on 20 December 2015 at the same time as announcing the award of contract and the extension of scope by 1km of the Darlington Upgrade Project.

On the 13th May 2016 the Australian and South Australian Government announced funding commitments for \$85.5 million for the Flinders Link Project, which will be delivered by DPTI, and is expected to be completed by early 2020. The Flinders Link Project is a stand-alone project.

The Flinders Link Project will provide a much-needed rail extension, with an integrated shared pedestrian/cycle path, that will serve the Flinders precinct.

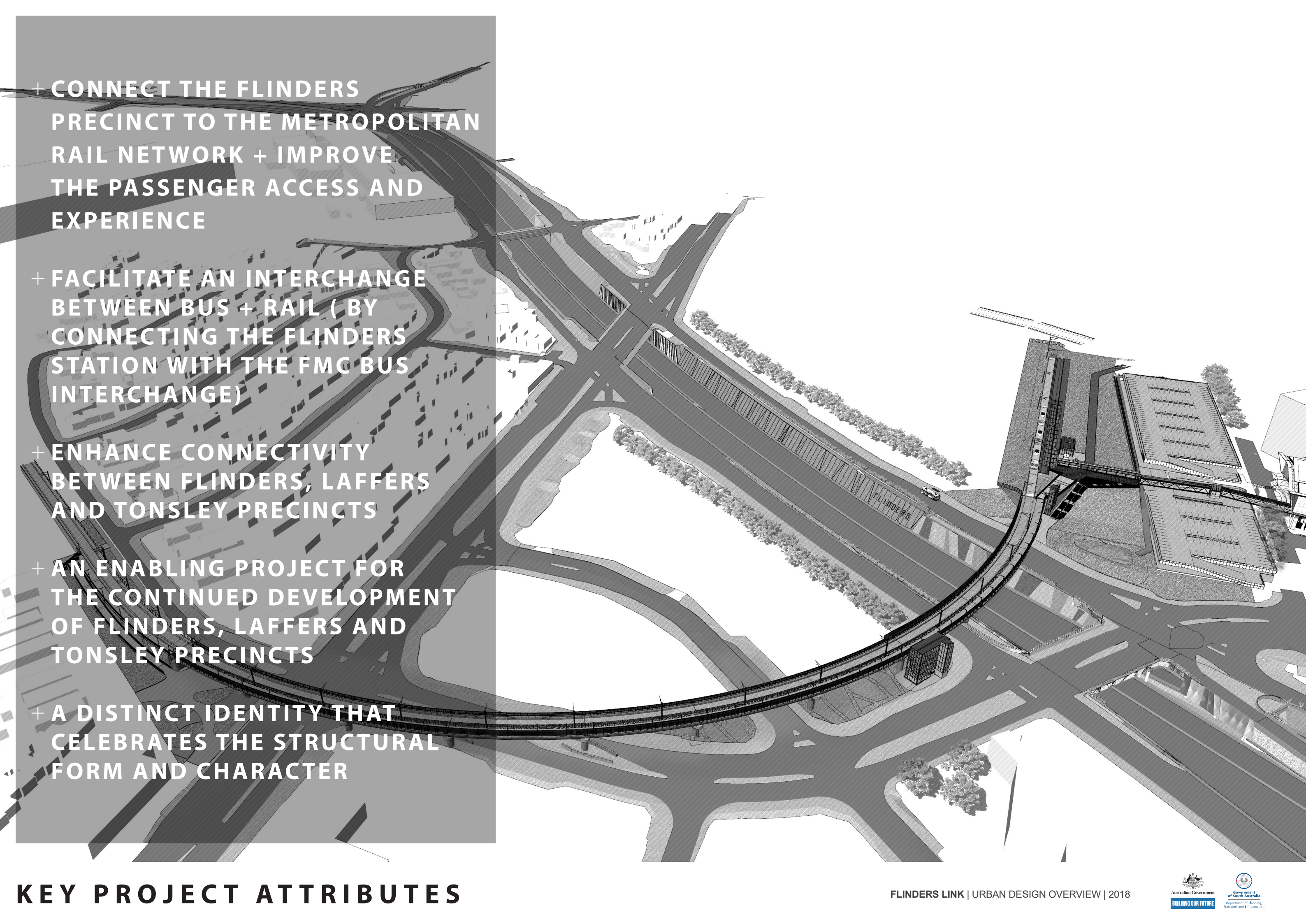
The Flinders Link Project aims to:

- enhance connectivity between the Flinders precinct and the Tonsley Innovation Precinct and improve public transport from the Flinders precinct to the intermediary suburbs and the city.
- The extension will complement the Transforming Health Redevelopment at Flinders Medical Centre by providing a direct connection to rail services;
- reduce travel time for public transport users from the Flinders precinct to the city;
- increase patronage on the currently underutilised Tonsley rail corridor (i.e. make better use of existing rail infrastructure);
- improve pedestrian and cycle access and safety;
- provide environmental benefits associated with a reduction in private vehicle travel;

- improve amenity, place making and improving access from the southern suburbs to the central business district (CBD);
- support economic activity and enhance connectivity between local centres and business precincts, including the Flinders precinct and the Tonsley Innovation Precinct, by providing improved customer access through a more convenient public transport system; and
- improve safety and provide quality public transport options in the local area.

The following key issues identified during the initial planning phase have influenced the preliminary design:

- **Design integration with Darlington Upgrade Project:** the Flinders Link Project will be managed and coordinated as part of the associated works by DPTI's Darlington Upgrade Project team. The design integration of the railway infrastructure with the Darlington Upgrade Project and the Flinders precinct Master Plan is an important outcome for both projects, particularly the complementary urban design of the new Flinders Railway Station, and the rail, bus and shared pedestrian/cycle linkages adjacent to the rail corridor.
- **Level crossing safety:** level crossings present safety risks due to the potential for collisions between trains, vehicles, pedestrians and cyclists. The overpass design negates the need for level crossings.



+ CONNECT THE FLINDERS
PRECINCT TO THE METROPOLITAN
RAIL NETWORK + IMPROVE
THE PASSENGER ACCESS AND
EXPERIENCE

+ FACILITATE AN INTERCHANGE
BETWEEN BUS + RAIL (BY
CONNECTING THE FLINDERS
STATION WITH THE FMC BUS
INTERCHANGE)

+ ENHANCE CONNECTIVITY
BETWEEN FLINDERS, LAFFERS
AND TONSLEY PRECINCTS

+ AN ENABLING PROJECT FOR
THE CONTINUED DEVELOPMENT
OF FLINDERS, LAFFERS AND
TONSLEY PRECINCTS

+ A DISTINCT IDENTITY THAT
CELEBRATES THE STRUCTURAL
FORM AND CHARACTER

KEY PROJECT ATTRIBUTES

1.3 PROJECT STATUS

A concept design has been developed, and approval under Section 49 of the Development Act 1993 - Crown Development and Public Infrastructure for the Flinders Link Project is being sought.

The Flinders Link Project has been progressing through a planning and design phase.

It is proposed that construction works for the Flinders Link Project be undertaken by a private contractor (or contractors). Construction of the rail extension is expected to commence in early 2019 and is estimated to be completed by early 2020.

1.4 DEFINING DEVELOPMENT

The Flinders Link Project is Crown Development as defined by Section 49 of the Development Act 1993. Under the Regulations to the Development Act, there are schedules that set out those elements of rail infrastructure and related acts and activities that are not development.

Further, the provisions of the Rail Commissioners Act in Section 9(3) states that The Development Act does not apply to land acquired under the Rail Commissioners Act.

Accordingly, the first consideration in determining that which requires approval, is to review the tenure of the land affected by the Flinders Link project. Following this analysis, the remaining elements of the works should be examined as to the application of the Development Regulations and the schedules thereto.

The plan titled **Subject Land** in **Section 1.6** depicts the land relevant to the proposal including Rail Commissioners Land, on which the Development Act does not apply.

The Development Regulations in its schedules provide guidance as to those aspects of rail infrastructure that is Not Development and which therefore does not need approval. An assessment has been made of the works and the application of the schedules to those works. A summary may be found in the table in **Volume 1 Attachment 1 Status of Works as Development**.

In summary, the following works require Development Approval:

- Rail Track extension greater than 300 metres and viaduct supports (except on railways land);
- Toilet block, bike enclosure, shelter, driver amenity structures
- Stair and elevated access to Flinders Drive from viaduct structure;

- Elevated pedestrian walkway to Flinders Medical Centre;
- Removal of regulated and significant trees (not on Commissioner of Highways land or road under Commissioner of Highways care and control);
- Earthworks associated with the filling or modification of the land (not essential to railway operations); and
- Landscaping (which form public realm works for Flinders Station).

The following works do not require Development Approval:

- Rail track and bridge supports (on railways land) – i.e. replacing Tonsley line to Sturt Road);
- Substructure/Superstructure works associated with the South Road/Darlington road project;
- Demolition of existing Tonsley Station;
- Earthworks essential and ancillary to railway works;
- Stairs/Lift connection to new Station from railways land;
- Electrical, signalling, mechanical other service infrastructure;
- Drainage, underground services and cabling;
- Signage and advertising displays;
- Fencing to 2.1 metres; and
- Retaining walls <1.0 metre.

For completeness, the whole of the Flinders Link Project has been incorporated into this report to provide a comprehensive overview and context for those aspects requiring Development Approval.

1.5 PLANNING APPLICATION OVERVIEW

The Flinders Link Project is Crown Development as defined by Section 49 of the Development Act 1993. The provisions of the Rail Commissioners Act also influences the works requiring approval under the Development Act.

The application report comprises two volumes:

- Volume 1 – This Planning Report and relevant attachments; and
- Volume 2 – Attachments including technical reports.

As identified, the components of the Flinders Link Project identified below require Planning Approval and are included in this development application for consideration by the State Commission Assessment Panel (SCAP):

- Rail Track extension greater than 300 metres (except on railways land);
- Stair and elevated access to Flinders Drive from viaduct structure;
- Elevated pedestrian walkway to Flinders Medical Centre;
- Removal of regulated and significant trees (not on Comm. Highways land or road under care & control);
- Earthworks associated with the filling or modification of the land (not essential to railway operations); and
- Landscaping (which form public realm works for Flinders Station).

A copy of the Flinders Link Project Urban Design Overview drawings is included in this **Volume 1** as **Attachment 2**. Those graphics have been used throughout this Planning report and include the following titled sheets:

1. Flinders Link Urban Design Overview.
2. Project Locality.
3. Key Project Attributes.
4. Concept Diagram.
5. Concept Diagram – Reference images.
6. Connectivity Map.
7. Adelaide Metro Map.
8. Viaduct 3D.
9. Viaduct.
10. Western Ramp.
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12. Stair and Lift West 3D.
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15. Stair and Lift East.
16. Batter Vegetation.
17. Planting Palette.
18. Flinders Station.
19. Flinders Station.
20. Flinders Station.
21. Elevated Walkway 3D.
22. Elevated Walkway.

1.6 SUBJECT LAND

The Flinders Link Project area extends into three suburbs within the City of Marion and the City of Mitcham, with Main South Road being the border between the two Councils. North of Sturt Road is Clovelly Park to the east of the rail line, and Mitchell Park to the west of the rail line. South of Sturt Road is Bedford Park

The subject land is depicted on **Land Tenure Plan** on page 7 this plan provides broad local context.

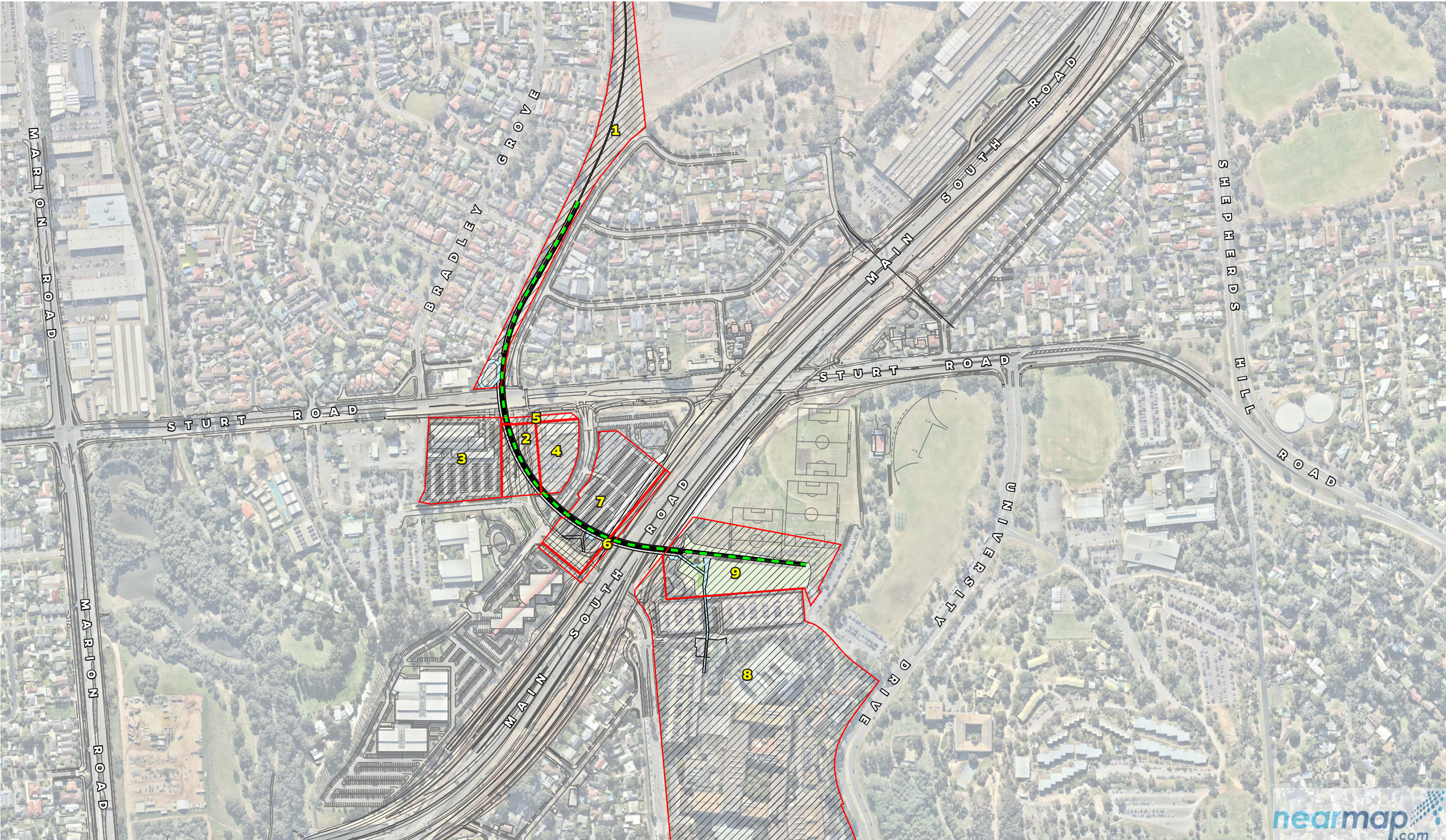
The total length of the rail extension is 650 metres. The site compound for the works will be located within the affected parcels D40215 A201 and D40215 A203. Allotment 71 has recently been created to receive the Flinders Station and associated works whilst only a small portion of parcel D71485 A4 is affected by an elevated walkway to create one of the links between the Flinders precinct and the new station. The **Land Tenure Plan** does not identify the road reserves as separate items or land parcels. The roads over which the viaduct traverses and any structures supporting the viaduct form part of the Flinders Link Project.

Copies of the Certificates of Titles for the subject land are included as part of this application in **Volume 2 Attachment 1**.

There are several easements over parts of the subject land for electrical supply purposes. Consultation will occur with SA Power Networks and the Flinders Link Project will be built in accordance with these easements.

The subject land is formally identified in the table below.

OWNER	COUNCIL	STREET ADDRESS	PLAN PARCEL	AREA NAMED	HUNDRED	TITLE REFERENCE
Minister for Transport & Infrastructure	Marion	Sturt Road, Mitchell Park	D113164 A1	Mitchell Park	Adelaide	CT6180/973
Commissioner of Highways	Marion	Laffer Drive, Bedford Park	D40215 A201	Bedford Park	Adelaide	CT5215/474
Minister for Emergency Services	Marion	Sturt Road, Bedford Park	D40215A202	Bedford Park	Adelaide	CT5215/475
Commissioner of Highways	Marion	Laffer Drive, Bedford Park	D40215 A203	Bedford Park	Adelaide	CT5215/476
Commissioner of Highways	Marion	Laffer Drive, Bedford Park	D40215 A204	Bedford Park	Adelaide	CT5215/477
Commissioner of Highways	Marion	Sturt Road, Bedford Park	D55884 A1001	Bedford Park	Adelaide	CT5835/144
Commissioner of Highways	Marion	3 Laffer Drive, Bedford Park	D28859 A66	Bedford Park	Adelaide	CT5201/547
Minister for Health	Mitcham	Flinders Drive, Bedford Park	D71485 A4	Bedford Park	Noarlunga	CT6148/67
The Crown	Mitcham	Sturt Road, Bedford Park	D117100 A71	Bedford Park	Noarlunga	CR6204/829

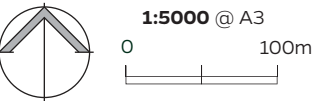


Proposed Rail Link			
1	CT6180/973	D113164 A1	Minister for Transport & Infrastructure
2	CT5215/474	D40215 A201	Commissioner of Highways
3	CT5215/475	D40215 A202	Minister for Emergency Services
4	CT5215/476	D40215 A203	Commissioner of Highways

5	CT5215/477	D40215 A204	Commissioner of Highways
6	CT5835/144	D55884 A1001	Commissioner of Highways
7	CT5201/547	D28859 A66	Commissioner of Highways
8	CT6148/67	D71485 A4	Minister for Health
9	CR6204/829	D117100 A71	The Crown

Land Tenure
FLINDERS LINK

for The Department of Planning, Transport and Infrastructure



1.7 LAND USE AND LOCALITY

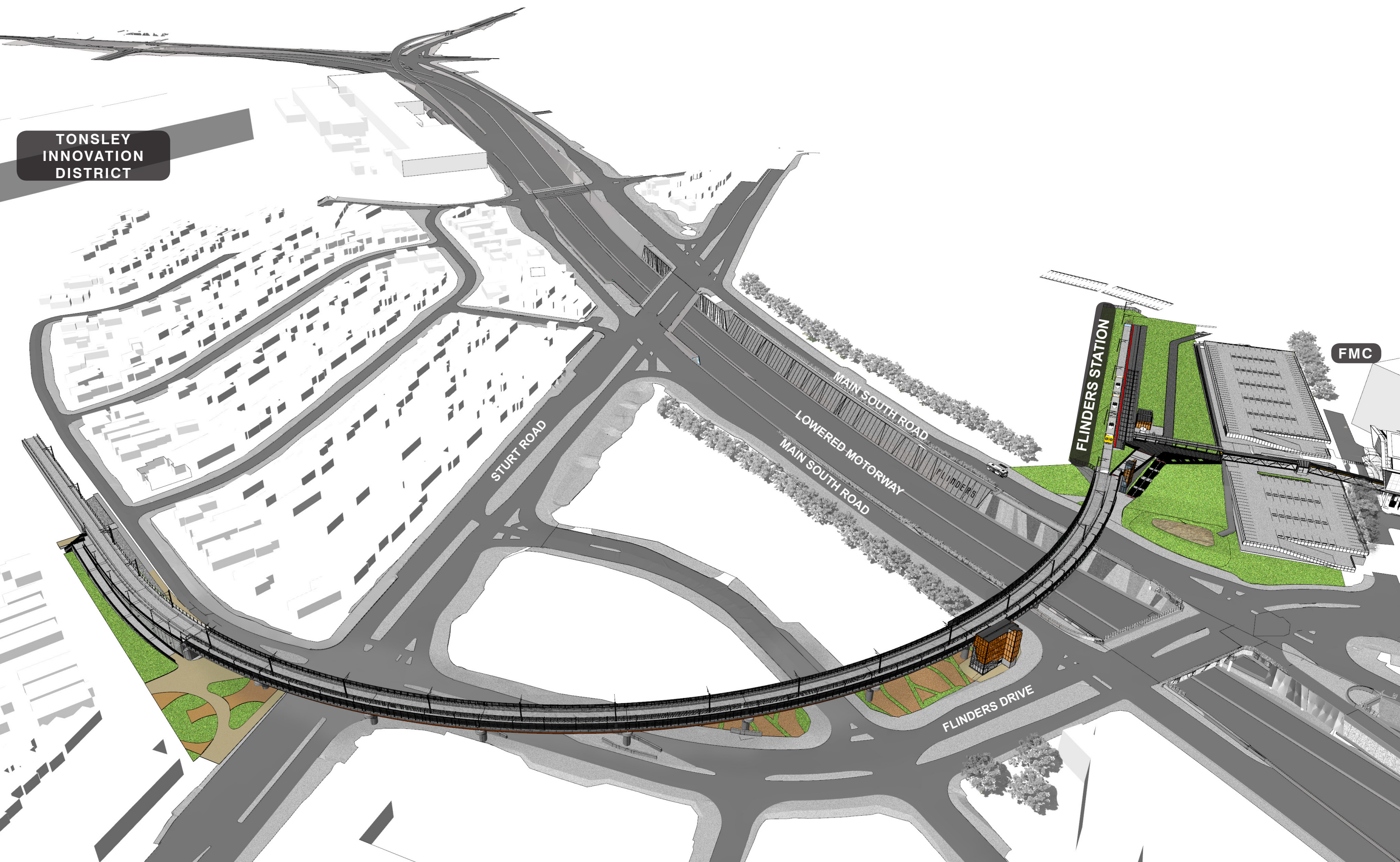
The primary existing land uses are separated by the Tonsley rail line, Sturt Road, Main South Road and Flinders Drive. The Tonsley rail line and corridor are a dominant feature in this locality. **Project Locality** on page 9 depicts the development in the locality of the rail extension.

Land use either side of the rail line in its northern extremity is predominately low-medium density, detached dwellings. The area is within a Residential Zone and further north of the Flinders Link Project area is the Tonsley Redevelopment site zoned Regional Activity. There is a small car park at the end of the current rail line adjacent to Sturt Road near the existing station and on-street parking used informally as park and ride facilities. Existing trees vary in size along the rail line.

The residential community to the east of the rail line is a low to medium density mix of new and old housing. There is a much newer, medium density residential community to the west of the rail line. South of Sturt Road is commonly referred to as the Sturt Triangle or Laffers Triangle. It contains large areas of vacant land, as well as car parking, commercial buildings, a child care centre, police station, transport depot, caravan park and open space. South of Main South Road there is a small group of shops, a low-density residential community and the Flinders precinct, with Flinders Medical Centre, Flinders Private Hospital and Flinders University.

The area between Sturt Road and Main South Road has been recently re zoned Regional Activity and comprises a variety of uses. On the western side of the Flinders Link Project site is the Sturt Police Station and commercial buildings. The Flinders Link Project touches on the eastern most part of the Police facilities by virtue of the elevated viaduct above the Police site. In the Flinders Link Project area and to the east of the Flinders Link Project area, the land has been more recently used for car parking.

Zoning on the southern side of Main South Road is Regional Activity and Residential (Foothills). In the Flinders Link Project area and to the south of the Flinders Link Project area is Flinders Medical Centre, Flinders Private Hospital and Flinders University. The Flinders Link Project area will occupy land that is currently vacant or used for occasional car parking albeit that the area is an open grassed space.



TONSLEY
INNOVATION
DISTRICT

FMC

STURT ROAD

MAIN SOUTH ROAD

LOWERED MOTORWAY
MAIN SOUTH ROAD

FLINDERS STATION

FLINDERS DRIVE

PROJECT LOCALITY



2

**PROJECT OBJECTIVES
& STRATEGIC CONTEXT**

2.0 PROJECT OBJECTIVES AND STRATEGIC CONTEXT

This section discusses the importance of extending the Tonsley rail line in this location and the key issues affecting the current access limitations.

2.1 PROJECT OBJECTIVES

The Flinders Link Project is expected to contribute toward the following overarching objectives of the public transport strategy in Adelaide's south:

Strategic/Planning Objectives and Benefits

- To support economic activity and enhance connectivity between local centres and business precincts, including the Flinders precinct and the Tonsley Innovation Precinct, by providing improved customer access through a more convenient public transport system.
- To improve accessibility for staff, students and visitors to key destinations within the Darlington precinct, including Flinders University, Flinders Medical Centre, Flinders Private Hospital and the Tonsley development, offering a choice of viable travel modes.
- To deliver a transit-connected metropolitan region as envisaged by the 30 Year Plan for Greater Adelaide (2014) and subsequently respond to the plan's projections for significant population growth through infill in the southern public transport catchment area, with a focus of this growth in transit corridors and re-generated areas.
- To enhance local amenity and improving access from the southern suburbs to the CBD.
- To provide a cost-effective strategy.
- To provide environmental benefits associated with a reduction in private vehicle travel.

Transport Objectives and Benefits

- To bring about a mode shift to public transport and allow for further increases in public transport mode share through more frequent future services on the Tonsley/Flinders rail line.
- To increase patronage on the Tonsley rail corridor (i.e. make better use of existing rail infrastructure).
- To reduce congestion on the road network, thereby helping achieve bus reliability and road freight transport outcomes.
- To improve general public transport accessibility and amenity in the Darlington precinct.
- To improve safety and provide quality public transport options in the local area.
- To improve transport efficiency through the area.
- To improve pedestrian and cycling access and safety, making sustainable and active transport options a more attractive mode choice.

2.2 CURRENT ISSUES

The current rail line stops short of the Flinders precinct, where the Flinders University, Flinders Medical Centre and Flinders Private Hospital attract large numbers of staff, students, patients and members of the public each day. Currently, the Tonsley station has no formal interchange between bus and rail and no formal legible pedestrian connectivity to the Flinders precinct. Passengers who want to travel from the rail network to the Flinders Medical Centre are required to walk over 650 metres from Tonsley Station through Laffer's crossing, Sturt Road and Main South Road. Several areas of conflict with at grade crossings are a deterrent to the use of public transport.

2.3 NEED FOR THE FLINDERS LINK PROJECT

The Flinders Link project is located within the Darlington precinct, approximately 12 kilometres south of the City of Adelaide. The broader Darlington precinct includes the Flinders precinct (incorporating Flinders University, Flinders Medical Centre and Flinders Private Hospital) and the Tonsley Innovation Precinct (incorporating the Tonsley development site). As a key destination and origin transport node within Adelaide, the Darlington precinct is the site of significant future road and public transport upgrade projects; this includes the Darlington Upgrade Project and the Flinders Link Project. The **Adelaide Metro Map** on page 12 identifies the new Flinders Station in the context of the metropolitan rail network.

The Tonsley rail line is a 3.1 kilometre spur line from the Seaford rail line servicing three stations, Mitchell Park, Clovelly Park (Tonsley Development) and Tonsley (Sturt Road). The line was originally constructed in the 1960s to service Mitsubishi. The line was electrified and upgraded during the Rail Revitalisation Works in 2014 including track and station upgrades to enable improved services to the Tonsley Innovation Precinct.

Train services on the Tonsley rail line experience low patronage and are limited to approximately 30 minute frequencies. Bus services are the alternative public transport option in the area, with an express bus service to the city varying from 32-40 minutes travel time. There is no dominant node for commuters to readily access services, with a lack of a formal interchange and pedestrian connectivity into the precinct.

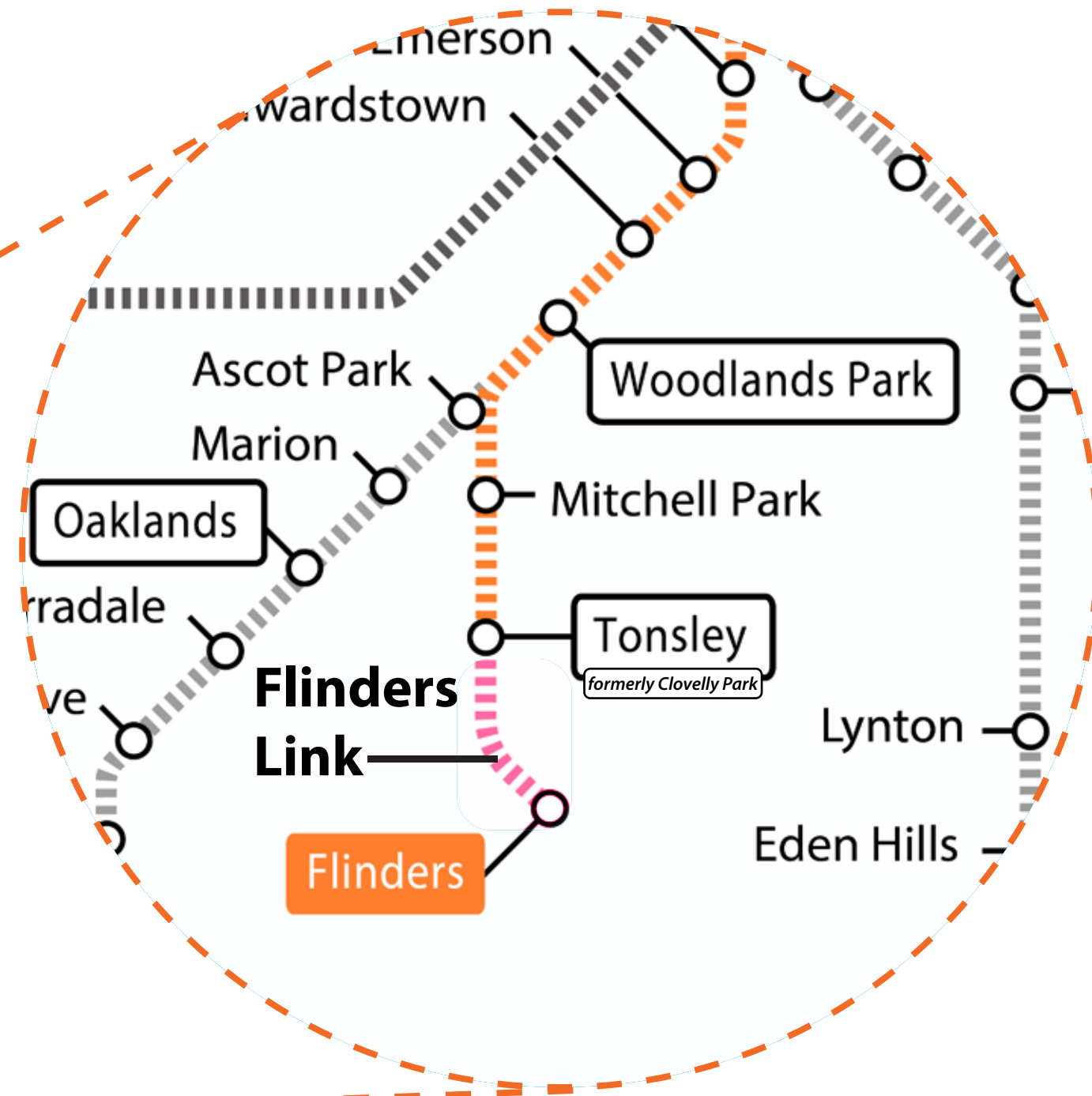
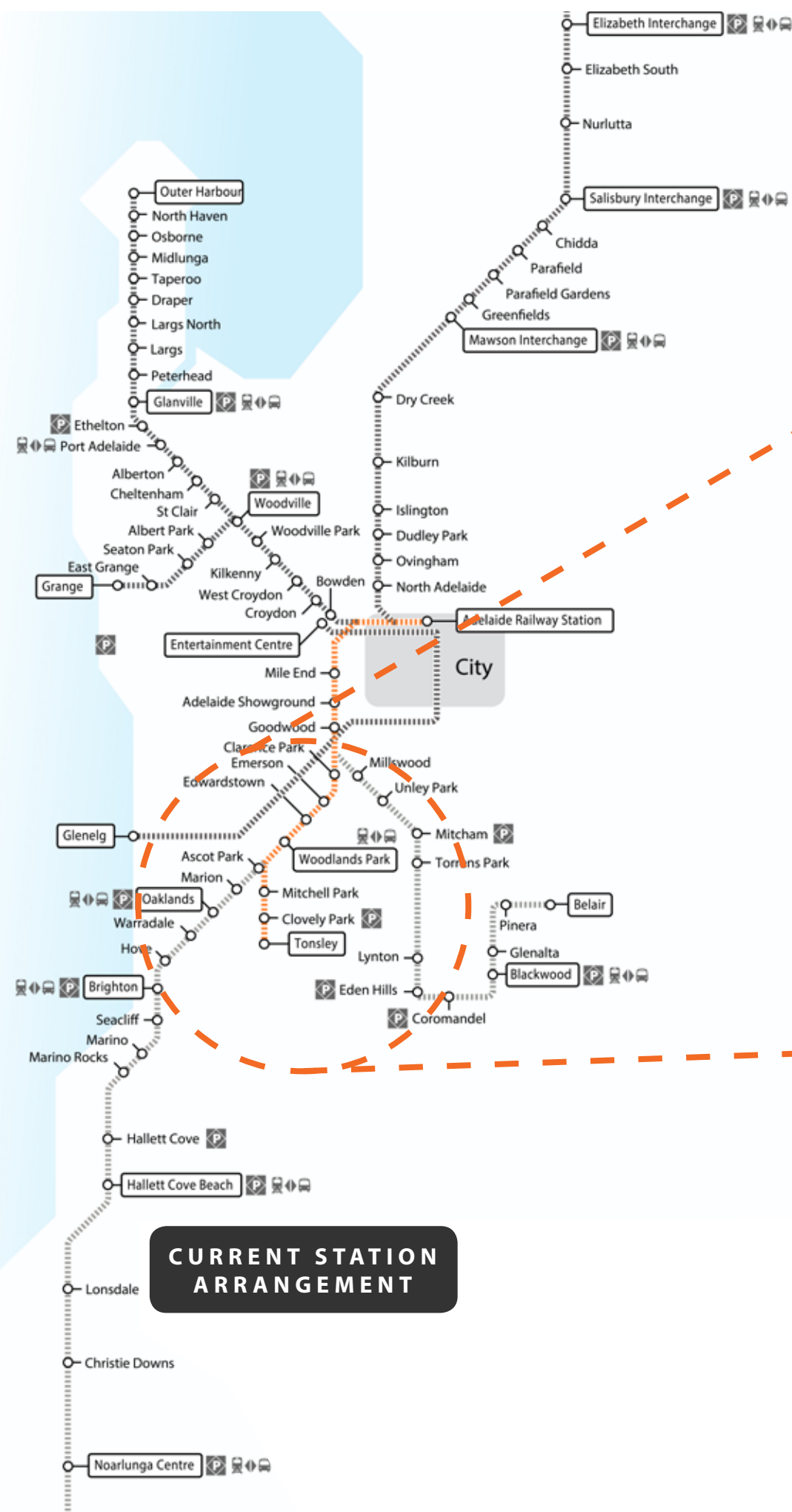
The graphic on page 13 titled **Connectivity Map** shows the links and connections made in this area that results from the Flinders Link project.

The current pedestrian and cycle access to public transport facilities in the Darlington precinct involves crossing major road corridors and using paths that are unlit. In addition, some crossings are uncontrolled, this does not encourage people to use public transport to access the residential, commercial, employment and education centres within the Flinders precinct.

The demand for efficient and accessible transport to the Flinders precinct and good connections between the Flinders precinct and Tonsley Innovation Precinct will continue to grow, and will become an increasingly important in the future, as development in these precincts is ongoing. The following initiatives are currently underway and highlight that the Darlington precinct is, and will continue to be, a key public transport origin and destination node within Greater Adelaide:

- The Transforming Health Plan - the State Government is investing \$170.5 million to improve and upgrade facilities at Flinders Medical Centre which will attract more people to the centre.
- Continued development at Tonsley Innovation Precinct - in 2014 approximately 10 000 TAFE students and staff were relocated here. Over the next 10+ years this precinct will experience approximately 6,000 Flinders University students and staff move to the site. This impacts the numbers of people accessing the area and also leads to significantly increased movements between the Tonsley and Flinders precincts.
- High density housing and an urban development zone in the Tonsley Innovation Precinct – where up to 6,300 people are projected to be employed and 1,000 dwellings constructed by 2026.
- The Main South Road/Darlington Area Development Plan Amendment (DPA) – Darlington precinct has recently been authorised to facilitate mixed-use development, higher density development and retail development.

The Flinders Link Project will provide a much-needed rail extension, with an integrated shared pedestrian/cycling path, that will improve public transport, cycling and walking connectivity between the Flinders precinct and the Tonsley Innovation Precinct. This will allow students, employees and visitors to travel to the Flinders precinct by rail. The siting of the proposed rail station adjacent to the university sports field will complement the Transforming Health Redevelopment at the Flinders Medical Centre and Flinders University's vision for an urban village (residential and retail) development in the immediate locality of the station. Further it will enhance opportunities for integrated development of the Flinders University.



ADELAIDE METRO MAP

LEGEND

- FOOTPATH
- SHARED PATH
- EXISTING FOOTPATH
- ON STREET SHARED PATH - BY OTHERS
- GREEN WAY - BY OTHERS
- FOOTPATH - BY OTHERS
- SHARED PATH - BY OTHERS
- FUTURE PRECINCT LINKS - BY OTHERS
- BICYCLE LINKAGE TO FLINDERS STATION/VIADUCT
- PEDESTRIAN LINKAGE TO FLINDERS STATION/VIADUCT
- PEDESTRIAN / WAYFINDING NODE (DARLINGTON UPGRADE PROJECT)
- BICYCLE FACILITIES
- PEDESTRIAN / WAYFINDING NODE
- BUS STOP
- RAIL PLATFORM
- TRAIN
- LIFT CORE
- STAIRS
- PEDESTRIAN UNDERPASS LINK



CONNECTIVITY MAP

2.4 STRATEGIC CONTEXT

The strategic documents that guide decision making in South Australia sit under South Australia's Strategic Plan, the overarching plan which guides the development and implementation of other planning strategies and policy initiatives including those specifically for land use and transport:

- Planning Strategy for South Australia (incorporating The 30-year plan for greater Adelaide and the 2016 Update http://www.dpti.sa.gov.au/planning/30_year_plan and <https://livingadelaide.sa.gov.au/>).
- Integrated transport and land use plan (www.transportplan.sa.gov.au).
- Safety in Numbers, A Cycling Strategy for South Australia (https://www.sa.gov.au/__data/assets/pdf_file/0018/20709/cycling_strategy.pdf).

These documents, along with Tackling Climate Change: South Australia's greenhouse strategy, (http://www.sa.gov.au/__data/assets/pdf_file/0005/19382/SA_Greenhouse_Strategy_2007.pdf) support the Seven Strategic Priorities identified by the South Australian Government to guide all other government initiatives to improve the lives of South Australians and ensure the future prosperity of the state:

- creating a vibrant city;
- safe communities, healthy neighbourhoods;
- an affordable place to live;
- realising the benefits of the mining boom for all;
- every chance for every child;
- growing advanced manufacturing; and
- premium food and wine from our clean environment.

2.4.1 NORTH-SOUTH CORRIDOR

The South Australian and Australian Governments are working together to develop a non-stop North-South Corridor for Adelaide. On 13 May 2014 an investment of \$620 million to upgrade Main South Road between the Ayliffes Road and Southern Expressway, as part of a shared plan to deliver a fully upgraded North-South Corridor, was announced. This project is known as the Darlington Upgrade Project.

Although it will be a separate project, the Flinders Link project forms part of the associated works for the Darlington Upgrade Project and all works will be coordinated and integrated to maximise opportunities.

2.4.2 BIKEDIRECT NETWORK

Bikedirect is a network of bicycle routes across the Adelaide metropolitan area that was developed to encourage cycling. The *Bikedirect* maps provide options for people with different needs and abilities and show main roads, bicycle lanes, local streets and off-road paths.

Based upon the *Bikedirect* network, DPTI provides a www.cycleinstead.com.au journey planner for people cycling. This interactive tool helps cyclists plan a cycling trip using a variety of options that take into consideration fitness and confidence levels, road conditions and speed of travel.

2.5 TIMING OF WORKS

The major works contract for the Darlington Upgrade Project was awarded on 20 December 2015 to Gateway South. Major construction works commenced early 2016, with the Darlington Upgrade Project scheduled for completion by the end of 2019.

Construction of the rail extension is expected to commence in early 2019 and is estimated for completion by early 2020. Timing is subject to the detailed construction program that is currently being developed during the procurement process.



3

**THE PROPOSED
DEVELOPMENT**

3.0 THE PROPOSED DEVELOPMENT

The proposed development is for the 650 metre extension of rail track, the creation of a rail bridge (approximately 520 metres long and 3.0 metres wide and an associated shared path) over Sturt Road and Main South Road and a new train station to allow public transport users to gain access to the Flinders precinct.

This section of the report describes the elements of the Flinders Link Project which are subject to approval pursuant to Section 49 of the Development Act 1993.

3.1 KEY ELEMENTS OF THE PROPOSAL FOR DEVELOPMENT APPROVAL

The elements requiring development approval identified in **Volume 1 Attachments 1 and 2** and incorporated in the diagrams in **Volume 2 Attachment 2** are:

- rail Track extension in excess of 300 metres (except on railways land);
- toilet block, bike enclosure, driver amenity structures;
- stair and vertical access to Flinders Drive from viaduct structure;
- elevated pedestrian walkway to Flinders Medical Centre;
- removal of regulated and significant trees (not on Comm. Highways land or road under care & control);
- earthworks associated with the filling or modification of the land (not essential to railway operations); and
- landscaping (which form public realm works for Flinders Station).

3.2 URBAN DESIGN

3.2.1 OVERVIEW

Flinders Link will provide an integrated and significantly improved transport outcome for the Flinders, and surrounding precincts. The urban design strategy provides articulation of structural form and legibility of connection of transport infrastructure for the public. This is provided in an integrated style and materiality.

Reference urban design techniques to be integrated into the proposed development are described on the following pages titled:

- Articulation of Form
- Ecologically Sustainable Development
- Crime Prevention Through Environmental Design (CPTED)
- Accessibility
- Landscaping
- Wayfinding and Signage
- Materials

3.2.2 ARTICULATION OF FORM

The elevated structure is defined as a single elegant structural ribbon form that spans between abutments. This form is depicted on page 18 **Concept Diagram**.

In response to the articulation of the viaduct as a structural ribbon, the fencing/throw screen along the pathway was further developed. The random pattern of horizontal orange structural members between the stanchions represents “digital information”, which serves as an analogy for the use of the structure for “plugging in” to the innovation precincts of Flinders and Tonsley and “plugging in” to the greater metropolitan area.

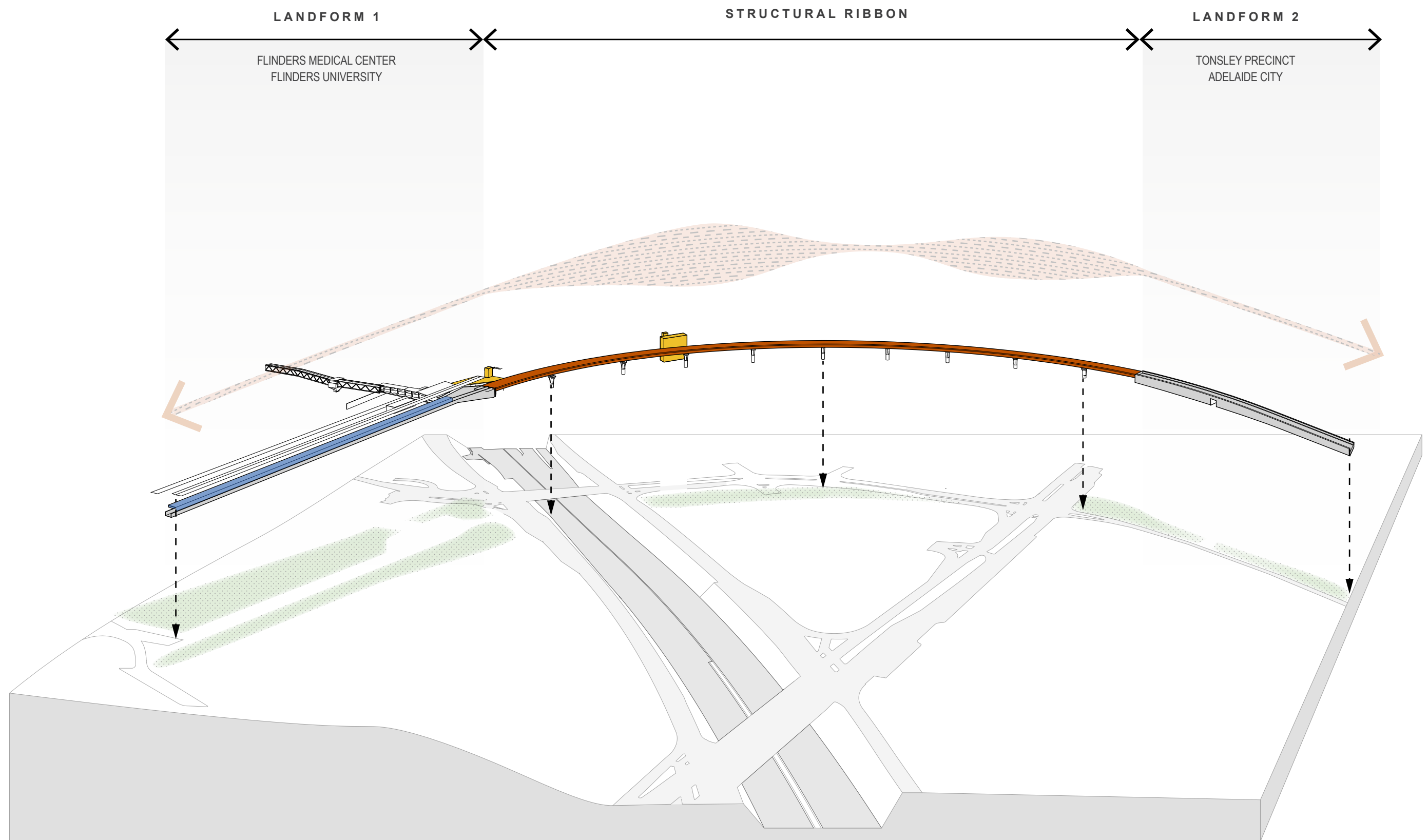
The proposed stanchion design integrates lighting and CCTV requirements. In order to maintain a consistent fixing point for each stanchion and provide a regular set out arrangement, stanchions are centred on bridge sections. At each bridge section there is a need to accommodate significant movement and as such, the throw screen panel has a different method of fixing. A double panel has been created to achieve this as well as housing and concealing essential services equipment. The accompanying diagram shows the extent of the throw screens and the stanchion layout.

The eastern stair core responds to the site and the “desire lines” formed between the bus stop on Main South Road and the station plaza. During development of the design concept for the lift and stair cladding, a more distinct and formal expression was required to tie in with the language of the Flinders Link Project. As a result, the lift and stair cladding features triangular shaped panels which wrap around the stair and lift core creating a “sculptural form”.

The viaduct as an urban marker has been resolved by the use of bold colour to tie the structure together visually thus creating a ribbon form over the major arterials and resting at each end. The colour is entirely consistent with the Seaford/Tonsley Line wayfinding colour code.

Barrier and screen elements are lightweight and transparent to maximise views out and increase legibility except adjacent the Sturt Police Station where for security reasons observation is limited.

Flinders Station will provide a new public transport identity to the Flinders precinct for health and university users, with a platform in a landscaped setting that can integrate with future mixed-use development to enhance placemaking opportunities.



3.2.3 ECOLOGICALLY SUSTAINABLE DEVELOPMENT

Flinders Link is an opportunity to provide an ecologically sustainable outcome including use of recycled and sustainable materials, water sensitive urban Design (WSUD), solar collection, passive design principles, low energy use services and construction management.

3.2.4 CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN (CPTED)

The station precinct and shared path connections have been orientated to maximise lines of sight and achieve a high degree of passive surveillance. Pedestrian routes are clear, legible and all screen treatments to the bridge are open and transparent except adjacent the Sturt Police Station where for security reasons observation is limited.

Major structural elements are generally located away from ground level pedestrian paths and connections, and landscape will allow for clear lines of sight.

An appropriate level of lighting will be used to provide a safe and usable area at night, and CCTV coverage of the station precinct and the elevated shared path is to be provided.

A CPTED report is in **Volume 2 Attachment 3**.

3.2.5 ACCESSIBILITY

Flinders Link has been considered in relation to access for all users, with stair, lift and ramp connections provided at areas of level change.

Significant improvements are made as part of this project by reducing the need for conflict and potential conflict arising from “at grade” crossings, thus enhancing accessibility and safety.

Visual treatment of elements will be provided to ensure ease of access and use by mobility and visually impaired users.

The shared path connectivity across the Darlington corridor has enhanced access provisions with the inclusion of lifts servicing both sides of South Road and adjacent bus stops.

3.2.6 LANDSCAPING

Flinders Station and its forecourt is an opportunity to provide a landscaped response to reinforce the existing character, projecting a green identity back to Main South Road.

A landscaped space is proposed on the southern side of the link at Laffers Triangle, adjacent Flinders Drive.

Landscaping at both abutments will soften the bridge landings and provide a local landscaped garden setting.

The landscape concept is provided in **Volume 2 Attachment 4**.

3.2.7 MINIMISING WHOLE OF LIFE COSTS

The selection of appropriate materials and fittings will assist in reducing whole of life costs for the Flinders Link Project.

Robust materials and finishes will reduce wear and tear and maintenance requirements, providing long term usability. Anti-graffiti measures will be employed to reduce vandalism including lighting and CCTV coverage.

All light fittings are to be long life, accessible and provide a high degree of output and value, including provision for feature lighting on key elements.

3.2.8 WAYFINDING AND SIGNAGE.

Appropriate signs and graphics will to be used on the Flinders Station platform and along all pedestrian and cycle routes.

Integration of precinct and statutory signs is to be considered, and signage will contribute to the overall precinct character and identity.

The scheme is presented graphically in the Concept Design Perspectives throughout this report.

3.2.9 MATERIALS

The design materials and language are described in part under the heading Articulation of Form 3.2.2 above and in **Volume 1 Attachment 2, Volume 2 Attachment 5** and **Concept Diagram – References** on page 20.

KEY ELEMENTS

STATION PLATFORM



ELEVATED WALKWAY / PLAZA



EAST VIADUCT ACCESS



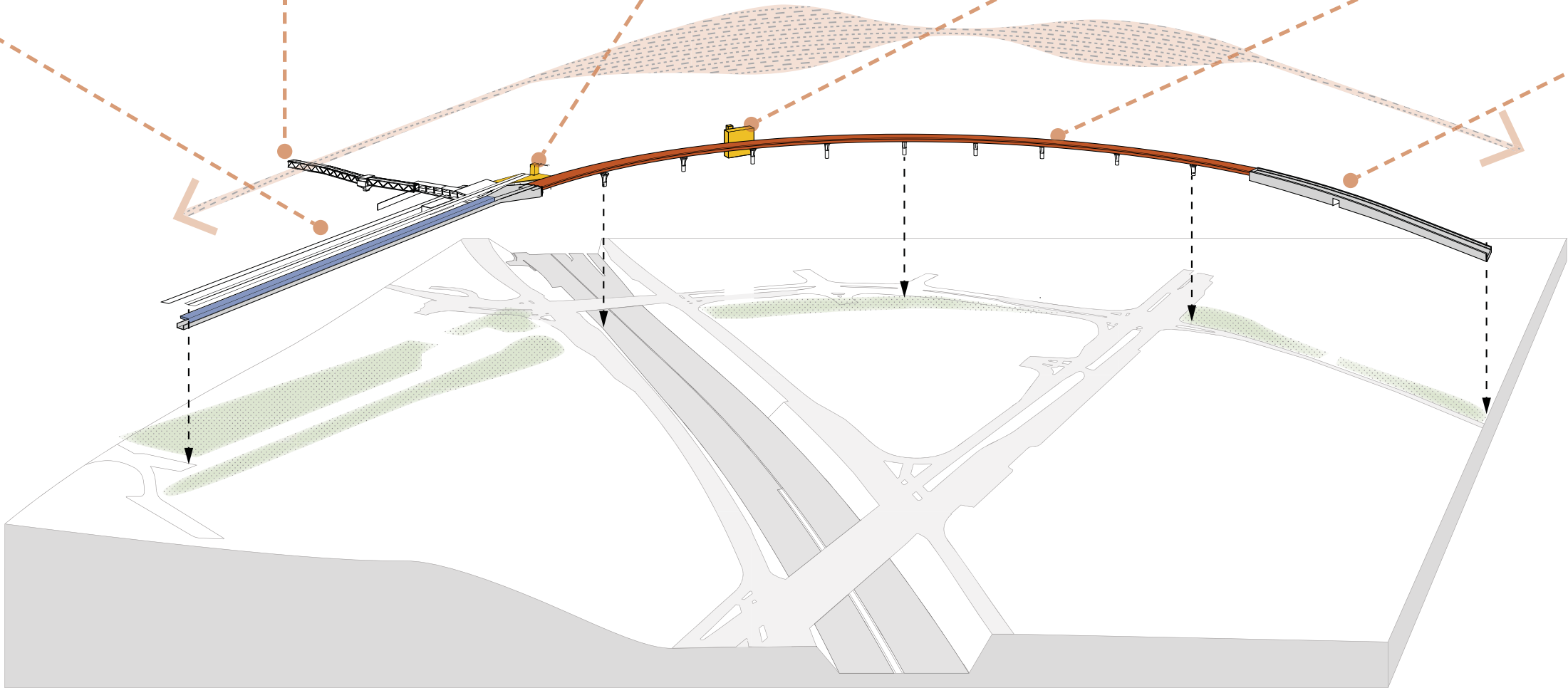
WEST VIADUCT ACCESS



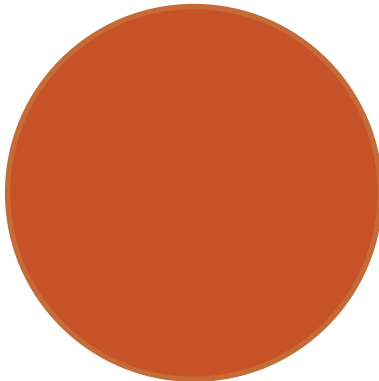
VIADUCT



ON RAMP AND UNDERPASS



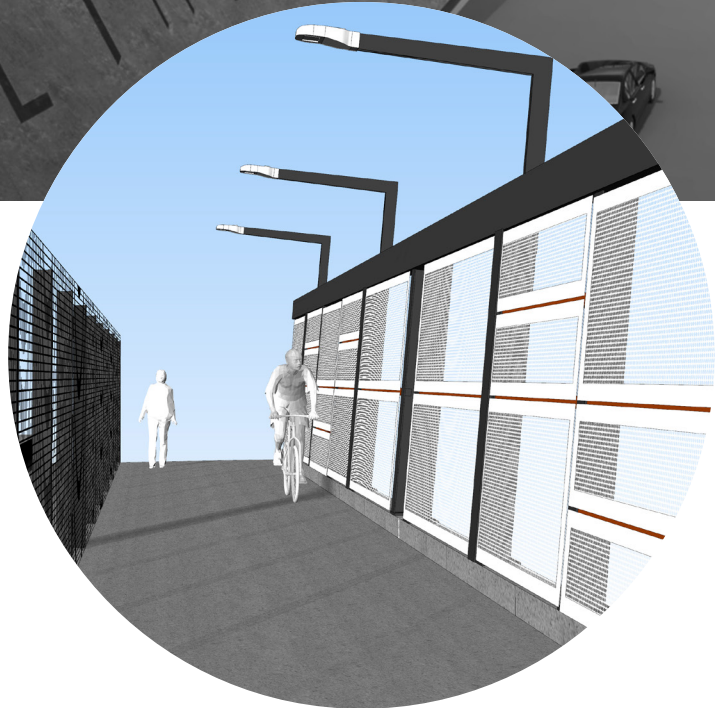
REFERENCE IMAGES



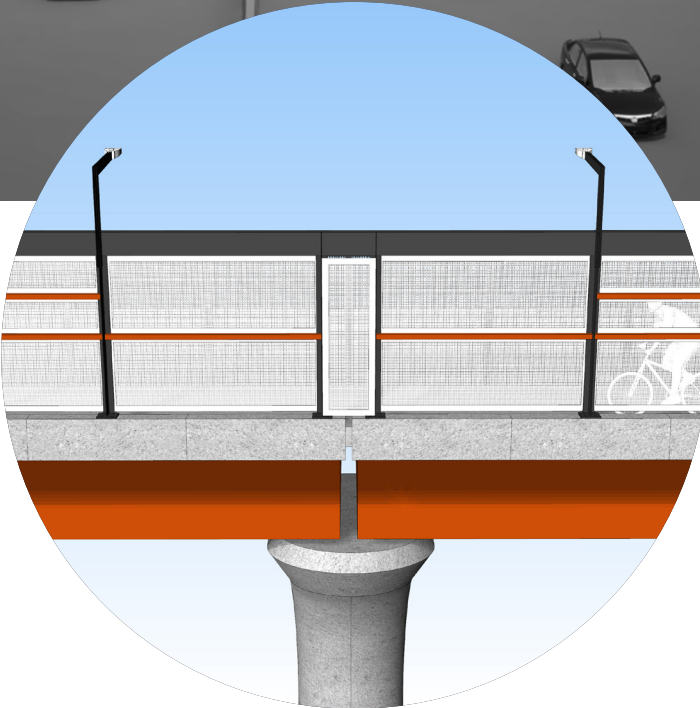
CONCEPT DIAGRAM-REFERENCES



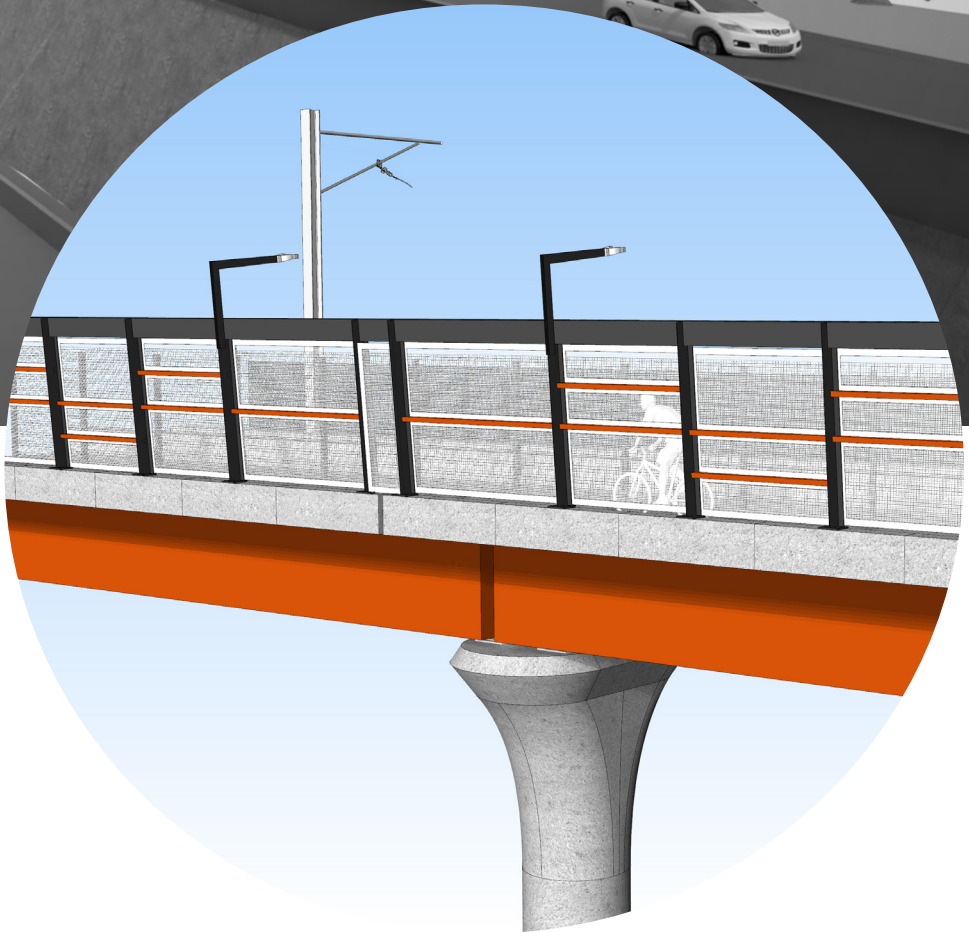
SOUTHBOUND PERSPECTIVE



VIADUCT PERSPECTIVE

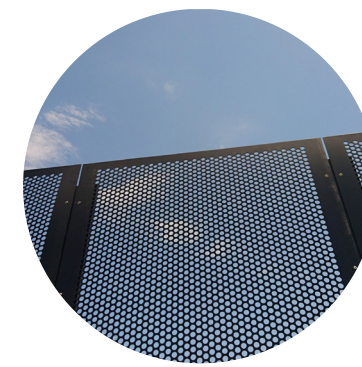
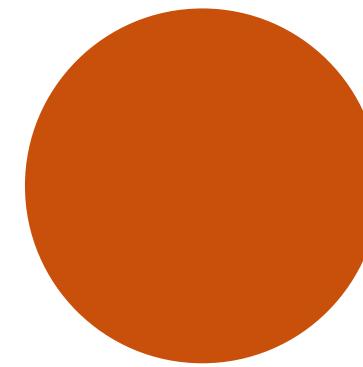
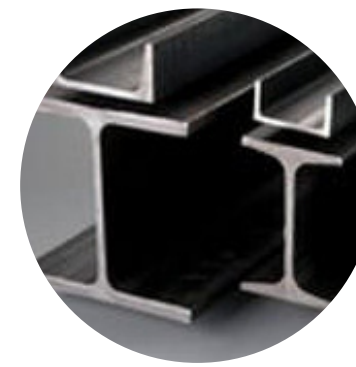
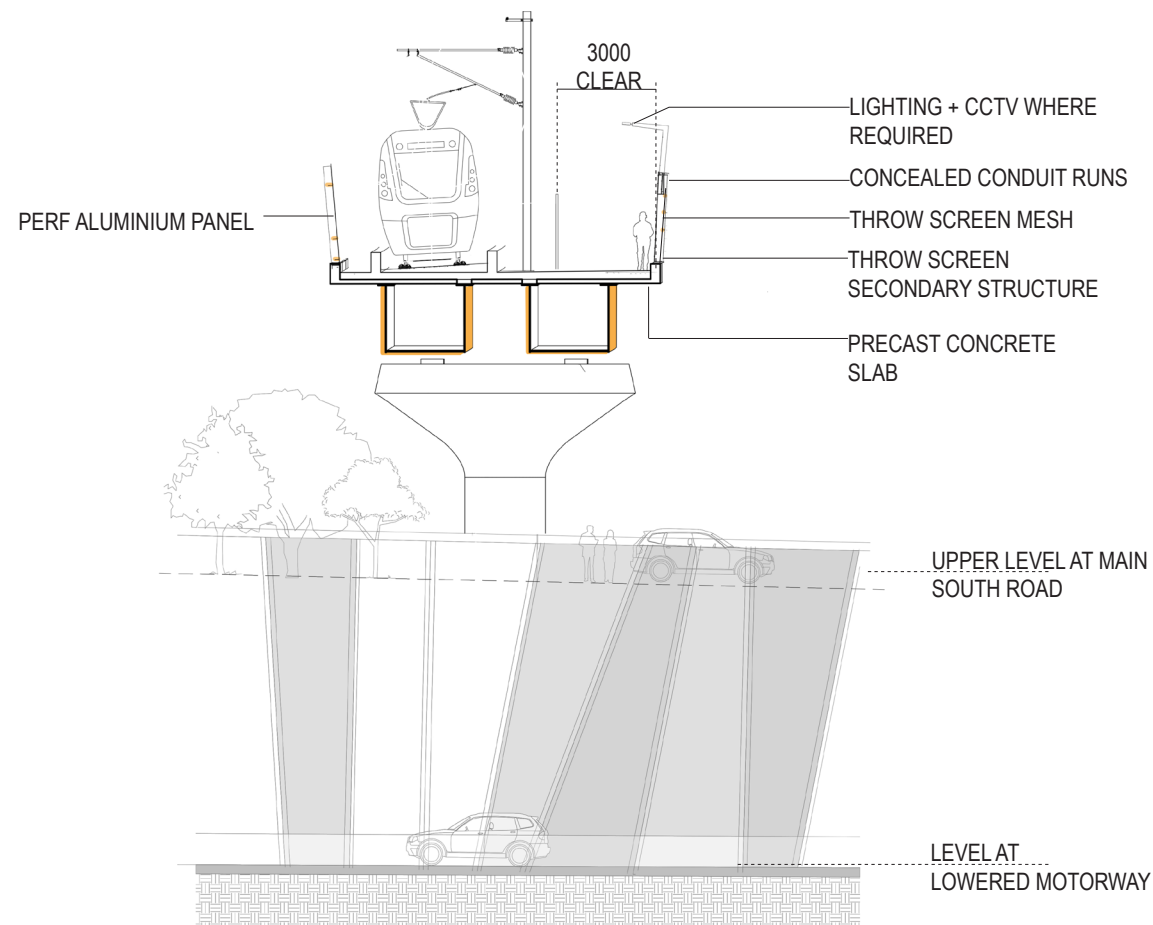


VIADUCT ELEVATION

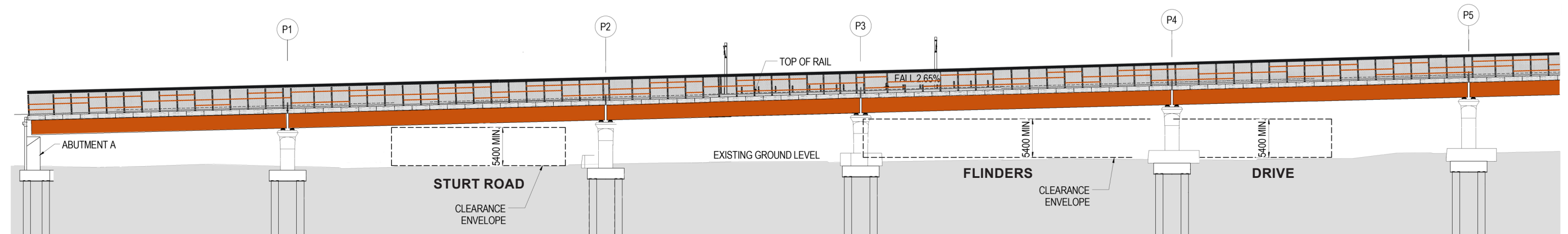


VIADUCT PERSPECTIVE

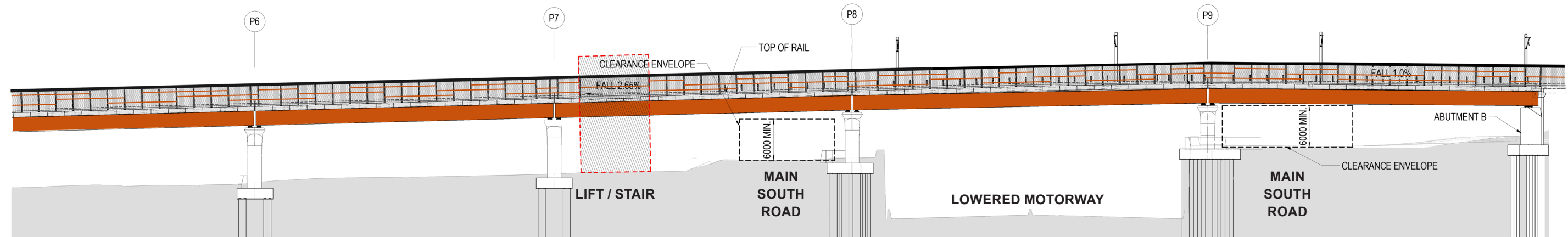
VIADUCT 3D



VIADUCT SECTION AT LOWERED MOTORWAY



VIADUCT ELEVATION 1



VIADUCT ELEVATION 2

3.3.2 SWITCHBACK RAMP AND STAIRS

At the northern end adjacent Lynton Avenue is a switchback ramp and stairs connecting this section of the rail corridor to street level.

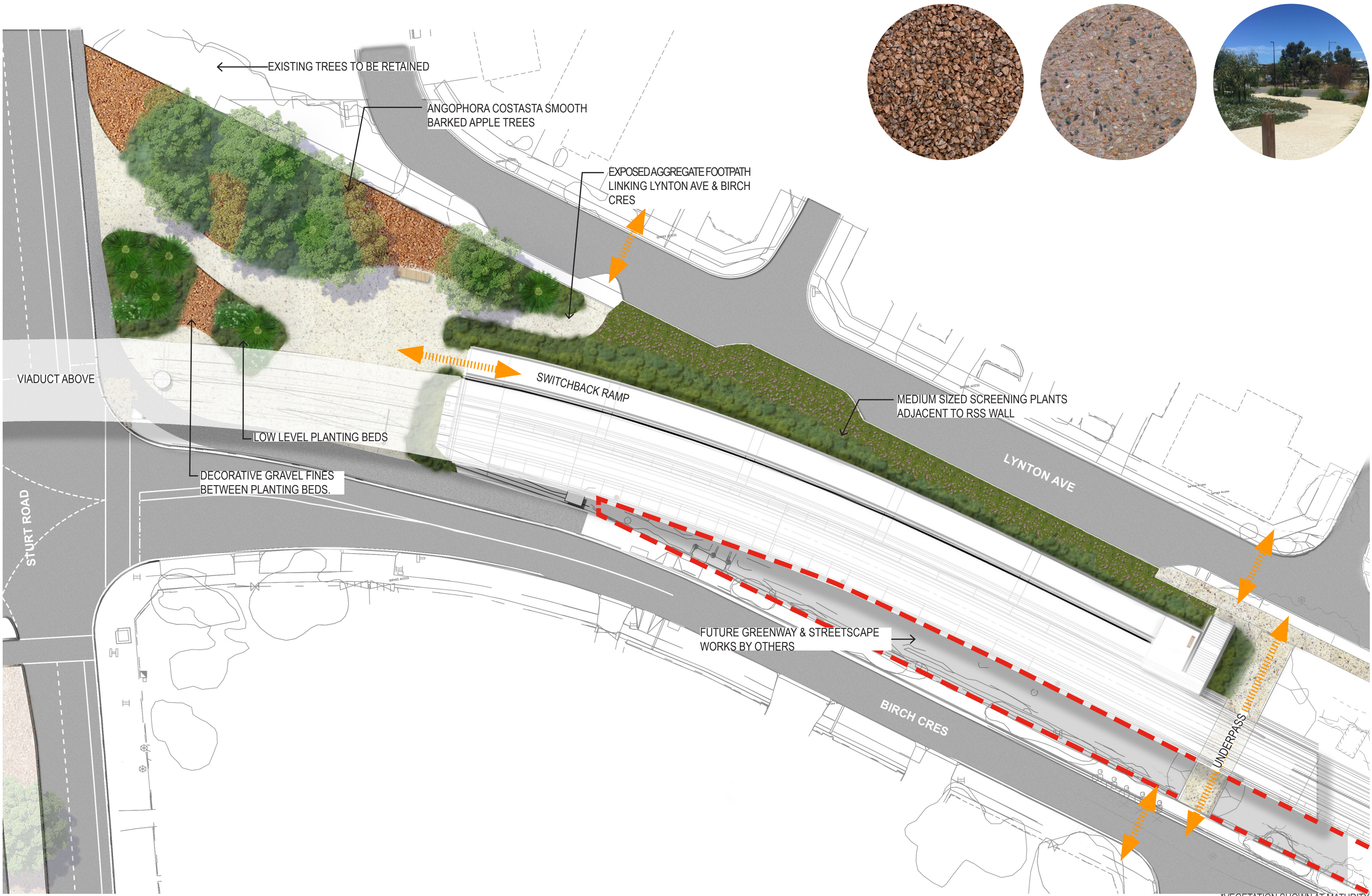
This section of the rail, switch back ramp and stairs are set on reinforced concrete wall abutments.

The switch back ramp and stairs have been incorporated on the western side of the rail corridor, the same side as the primary access arrangements to the existing Tonsley Station. The switchback better reflects the design theme and form of the viaduct being a sloping reinforced earth retaining structure in this section of the rail extension and better integrates and relates to the road grade and the shared path levels. This solution also provides a better and safer outcome for the public and more readily meets CPTED requirements. The earlier proposal for a spiral ramp created concealment opportunities and no stair access to the shared pathway. The switchback will have a balustrade to match the form of fencing elsewhere on the Flinders Link Project.

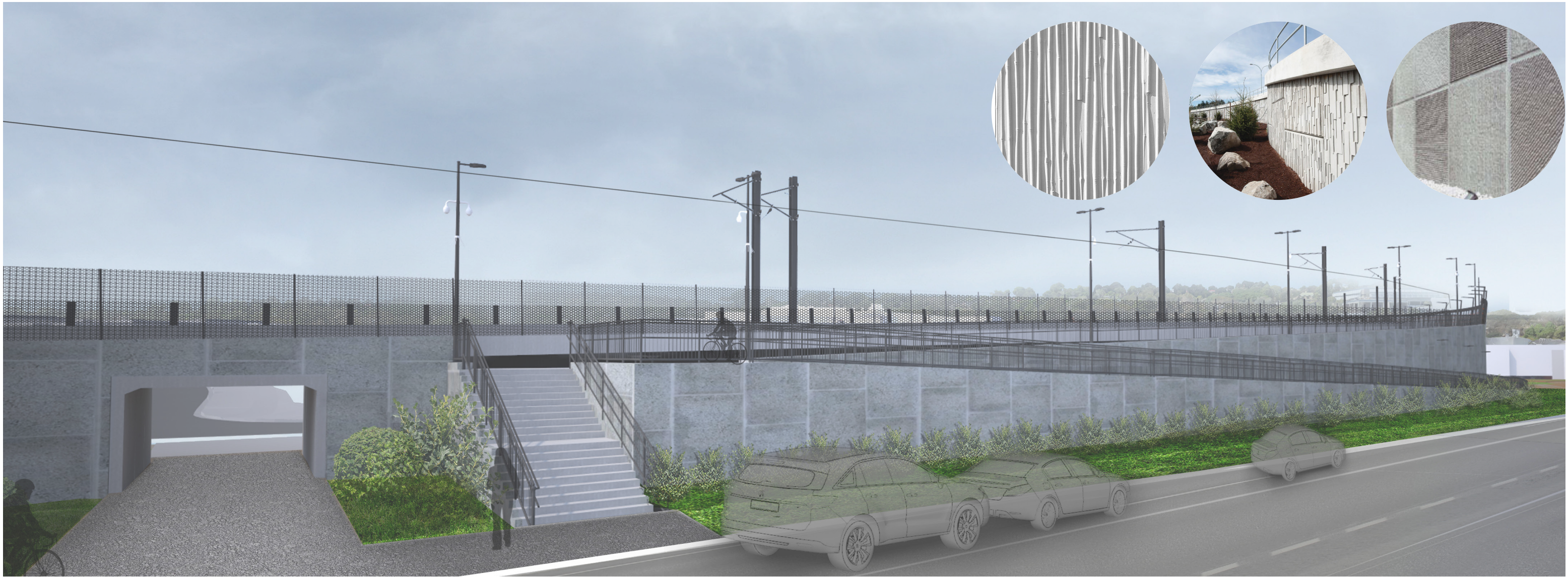
3.3.3 CROSS RAIL ACCESS - UNDERPASS

As a consequence of consultation with council an underpass has been incorporated to align with Oak Avenue and connecting to Lynton Avenue thus ensuring ready access to the switchback ramp and stairs and the new Flinders Station across the viaduct. A safety fence is located at each end of the underpass beyond the openings to provide safety for all users entering and leaving the underpass and to deny access to motor vehicles

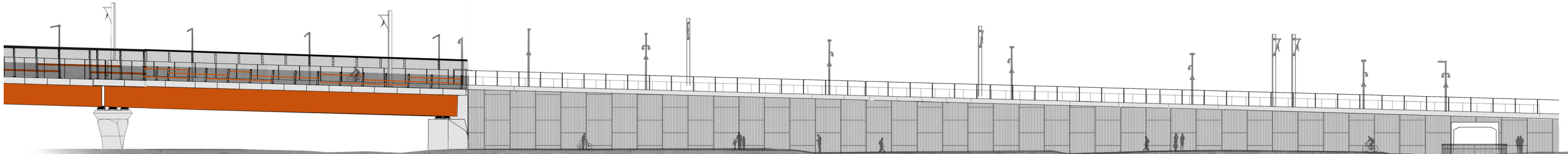
The underpass will meet all standards in terms of lighting and has been designed with clear views at the entrances.



WESTERN RAMP



WESTERN ON RAMP / VIADUCT ELEVATION



EASTERN ON RAMP / VIADUCT ELEVATION

WESTERN RAMP 3D

3.3.4 FLINDERS STATION AND AMENITIES

The station is designed to accommodate 6 rail cars in two sets of three cars or 6 car set, thus allowing for two sets to reside at the station at the same time.

The station platform and shelters include:

- The station building, comprising the CER (common equipment room) for signalling and related equipment and drivers amenities), bike parking facilities, public toilet (Exeloo) located visible and accessible from the station platform and plaza to maximise passive surveillance;
- cycle parking for approximately 30 cycles is available in the building and an additional 12 spaces in the open;
- Elevated walkway connecting the new station, to Flinders Medical Centre over the existing Flinders Medical Centre Northern Carpark; and
- Station furniture (lean rails, bins, seats) to be located within the 1,500 millimetre structural zone and not interfere with the 3,000 millimetre clear zone within the station platform.

Perforated high transparency aluminium cladding for maximum safety is used for a unified urban design response with all other associated station and viaduct structures.

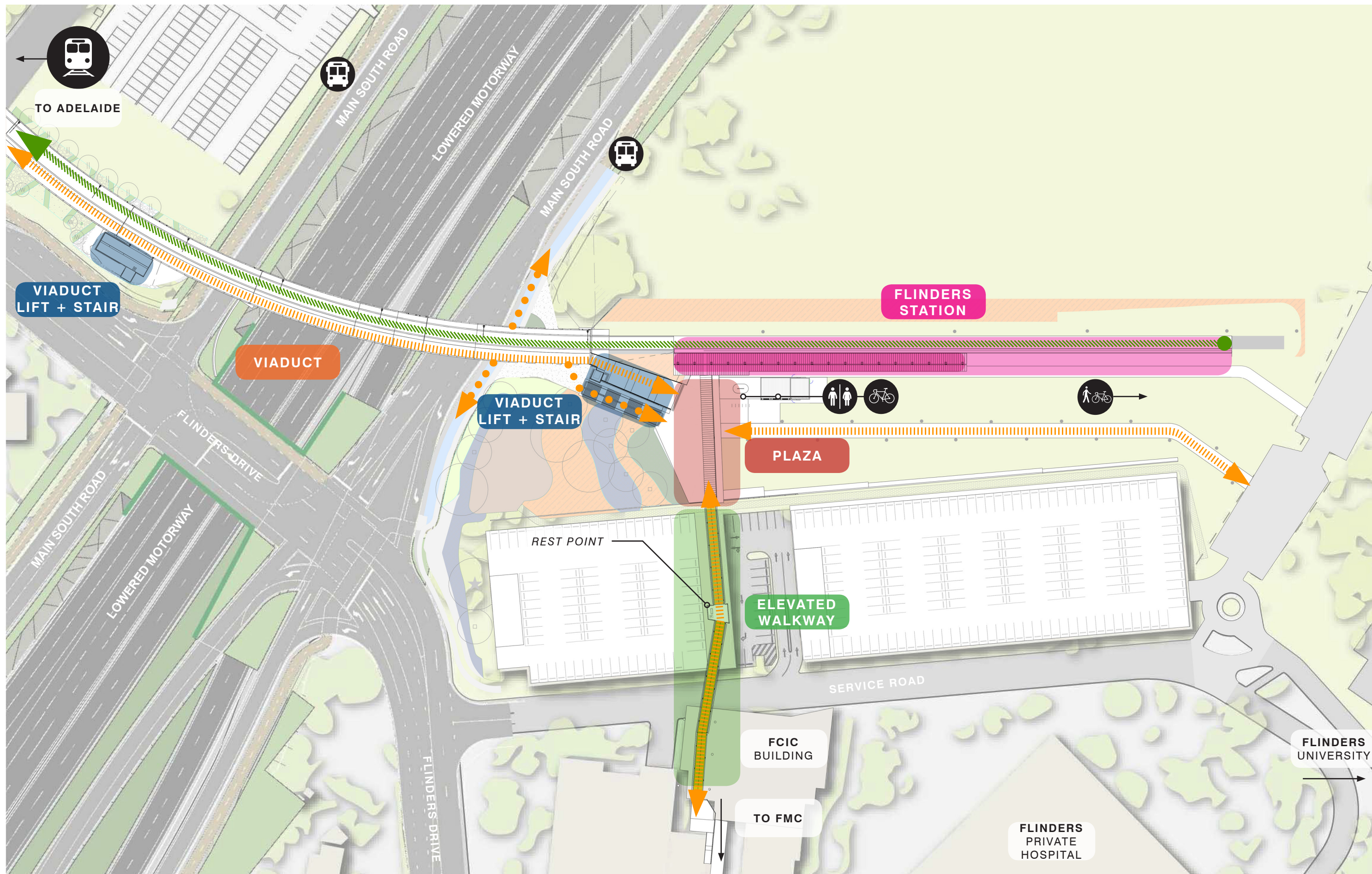
Other works and concept inclusions are:

- Stair & Lift core at the eastern end of the viaduct;
- Plaza works at the junction of the viaduct, station and elevated walkway to the Flinders Medical Centre;
- Cyclist dismount signs at the start and end of the Elevated Walkway for pedestrian and cyclist safety;
- No internal corners to provide hiding spots;
- Dedicated maintenance access path, separated from pedestrian/cyclist paths, provided to back of platform;
- Full height cladding to the entire extent of the Elevated Walkway to prevent anti-social behaviour and the safety of the public;
- CCTVs, PIDs, incorporating hearing induction loops, voice annunciator to ensure ready access to information. located at minimum 3.0 metres above surface level (apart from Elevated Walkway due to physical constraints) to reduce vandalism risk;
- Service pits located in dedicated zone behind station platform to maintain maximum clear zone for passengers; and
- Roof canopy to provide maximum coverage while complying with station standards for pantograph separation.

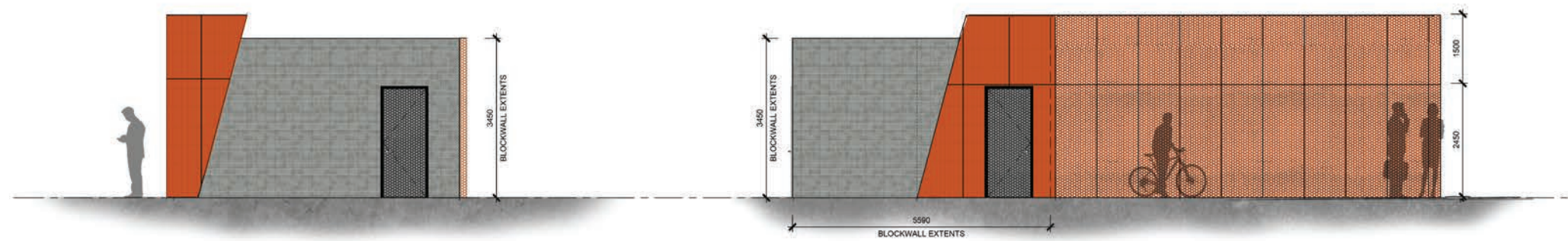
It is proposed that non-sacrificial anti-graffiti coatings be applied to vertical surfaces (including revetments).

The platform proper will be an earth filled construction with concrete walls. This is consistent with the form of the walls throughout the Flinders Link Project.

Power to serve the facility is to be distributed from a transformer located on the western side of the property at the lower part of the batter slope on the north eastern side of the alignment of the viaduct. Refer the accompanying plan on page 31.

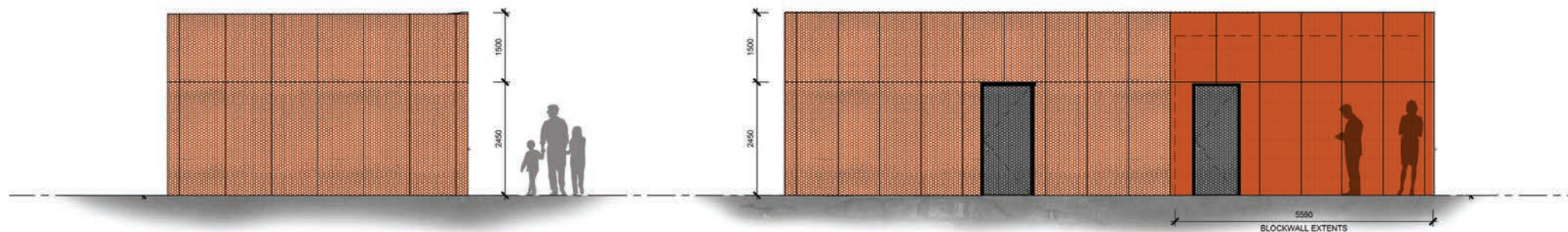


FLINDERS STATION



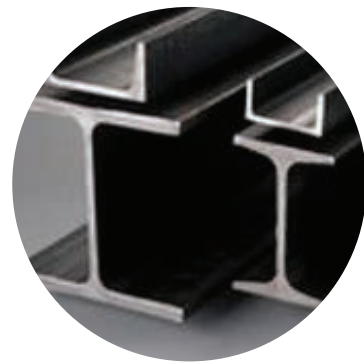
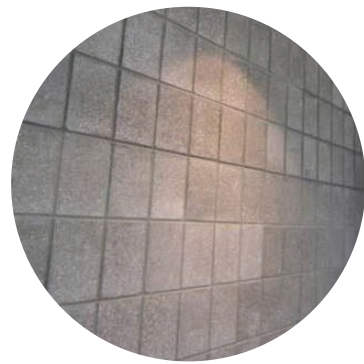
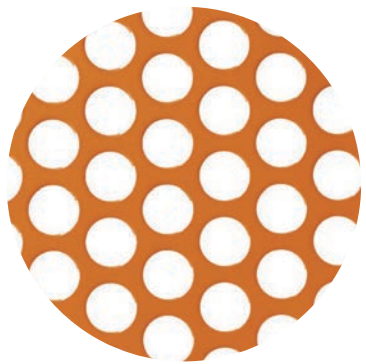
1 CER BUILDING EAST ELEVATION
SCALE 1:50

2 CER BUILDING NORTH ELEVATION
SCALE 1:50



3 CER BUILDING WEST ELEVATION
SCALE 1:50

4 CER BUILDING SOUTH ELEVATION
SCALE 1:50







MAIN SWITCH BOARD (MSB.EAST)
(NEW)
MAXIMUM DIMENSIONS: 700mm (W) x 350mm (D) x 2000mm (H).
PROVIDE 600mm CLEARANCE FROM DOOR SWING.
REFER DRAWING CS1-DRG-352160 FOR SCHEMATIC DETAILS.

ISOLATION TRANSFORMER
(NEW)
MAXIMUM DIMENSIONS: 1300mm (W) x 650mm (D) x 1150mm (H).
PROVIDE 600mm CLEARANCE FROM DOOR SWING.
REFER DRAWING CS1-DRG-352160 FOR SCHEMATIC DETAILS.

MAINTAIN MINIMUM CLEARANCE OF 2.5m BETWEEN
ISOLATED AND NON-ISOLATED SUPPLY.

TRACTION AREA WITHIN COMMON
BONDING EARTHING NETWORK (CBEN)

GENERAL AREA OUTSIDE OF THE
COMMON BONDING EARTHING
NETWORK (CBEN)

FOR CONTINUATION REFER TO DRAWING CS1-DRG-352156

THREE PHASE, 10A ISOLATOR FOR EVAPORATIVE COOLER.

LEGEND OF SYMBOLS

- P1
NEW 50W, 5550lm (111lm/W), LED LUMINAIRE MOUNTED TO 6m
INGAL EPS GALVANISED BOULEVARD "HINGE DOWN" POLE.
(SELECTION: VERSALUX "STARLED 32-350" COMPLETE WITH DALI
CONTROL GEAR)
- ISOLATION TRANSFORMER.
- MAIN DISTRIBUTION BOARD.
- THREE PHASE, WEATHERPROOF, ISOLATOR, RATING AS SHOWN.
- ELECTRICAL PIT

—E—E— INDICATIVE UNDERGROUND ELECTRICAL CONDUIT ROUTE.

STATION - PLAZA PRECINCT - ELECTRICAL LAYOUT - SHEET 1 OF 4
SCALE 1:100

REV	DESCRIPTION	DRN	DSGN	CHK	APRV	DATE
B	ISSUED FOR 70% REVIEW	-	-	-	-	17.05.18
A	ISSUED FOR 30% REVIEW	-	-	-	-	21.12.17

NOT FOR CONSTRUCTION

GATEWAY SOUTH

INDEX SHEET REF: CS1-DRG-352093

DESIGNED: FLD

DRAFTED: FLD

CHECKED: FLD

APPROVED:

FLINDERS LINE STATION

FLINDERS STATION - ELECTRICAL LAYOUT SHEET 1 OF 4

PLAN AND DETAILS

Government of South Australia
Department of Planning,
Transport and Infrastructure

CS1-DRG-352155

SCALE(S): 1:100
REVISION: B

SIZE: A1
SHEET:

DRN

DSGN

CHK

APRV

DATE

100 MILLIMETRES ON ORIGINAL DRAWING

TECHNICAL APPROVAL
V.PAPAGEORGIOU

PROJECT APPROVAL
D.ROCHTER

DATE
17.05.18

TITLE: -
DATE: -

3.3.5 STAIRS AND VERTICAL ACCESS

Two sets of stairs and lift vertical access are provided, one on each side of South Road. The Flinders Drive component requires Development Approval. The design incorporates an integrated stair and lift column as shown on the accompanying graphic.

This incorporates the same materials and finishes used throughout the Flinders Link Project.

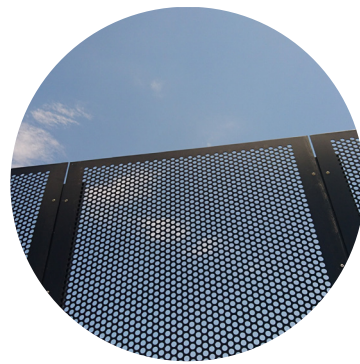
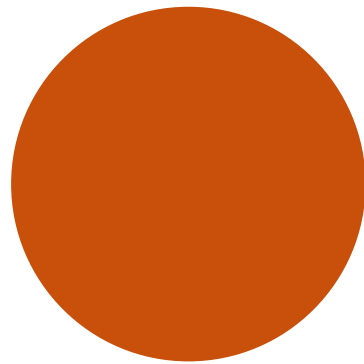
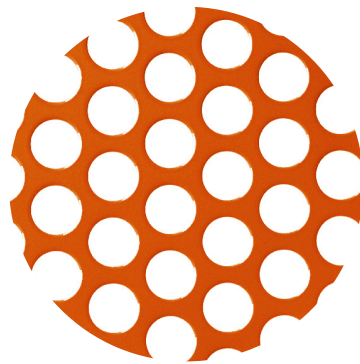
This provides direct connection to Flinders Drive and Main South Road.

3.3.6 ELEVATED WALKWAY

The connection between the station and the Flinders Medical Centre is via an elevated walkway traversing the existing car park and the northern service road. The walkways southern section passes under the existing Innovation Centre and arrives at the landing to the Flinders Medical Centre adjacent the service road.

Also Refer **Volume 2 Attachment 9**.

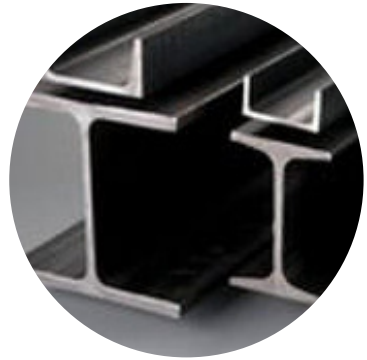
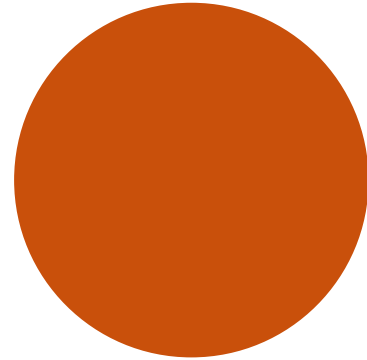
The structure comprises three spans of steel framed trusses with a concrete slab walkway of 3.6 metres width. The whole of the walkway is enclosed for safety and to minimise unacceptable behaviour. Incorporated within the walkway are CCTV cameras and lighting for public safety.



STAIR + LIFT WEST 3D

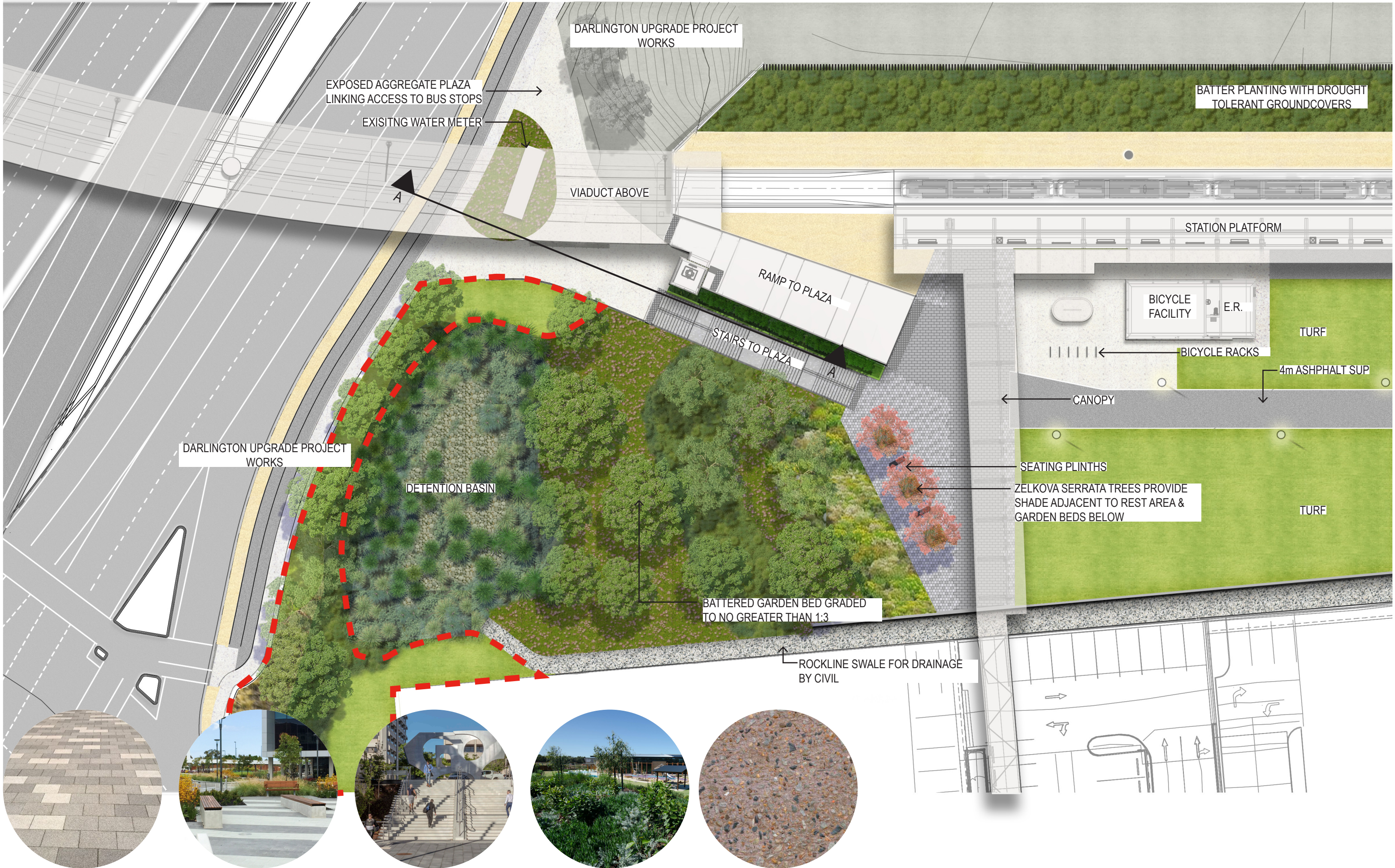


STAIR + LIFT WEST

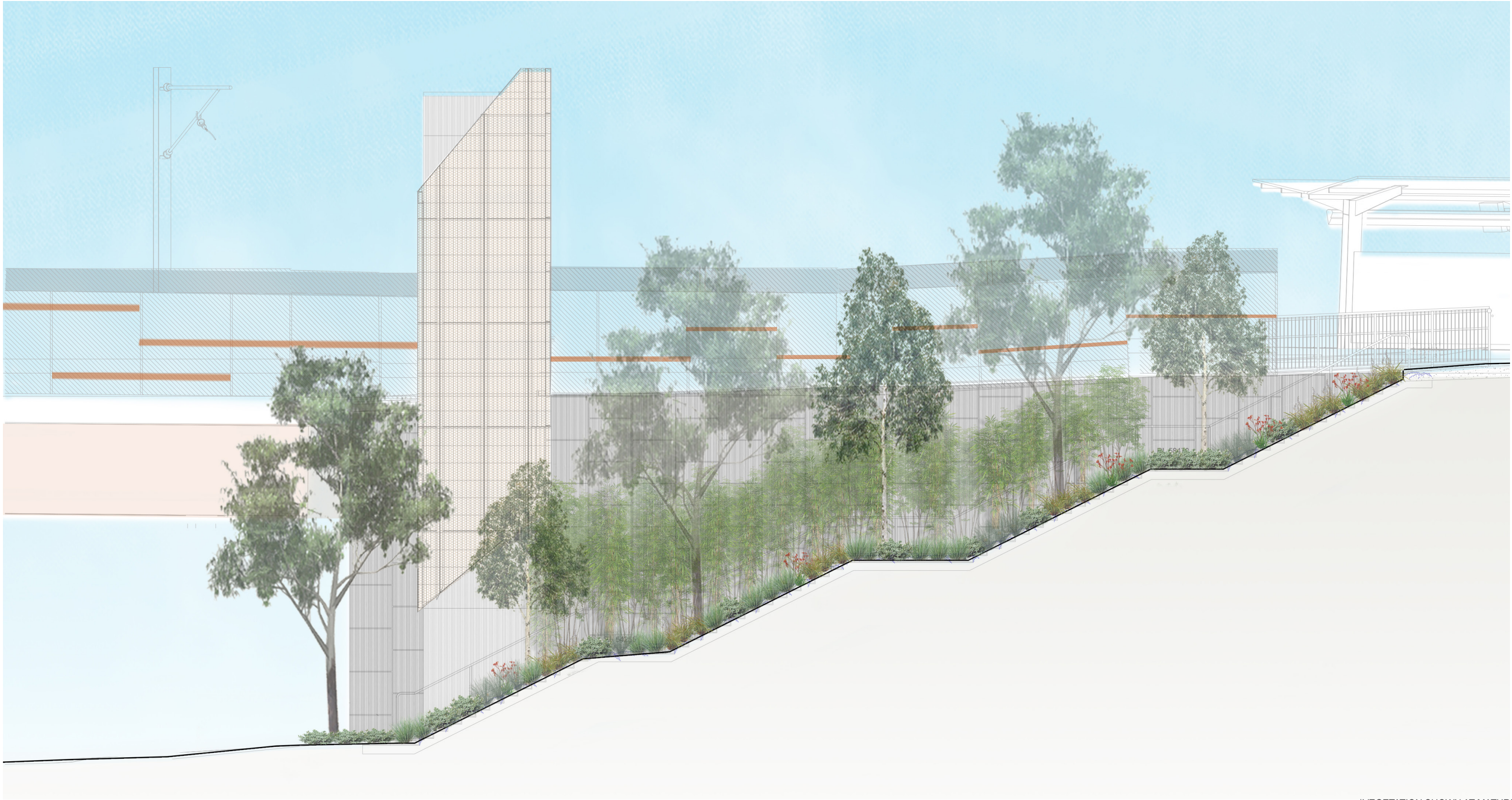
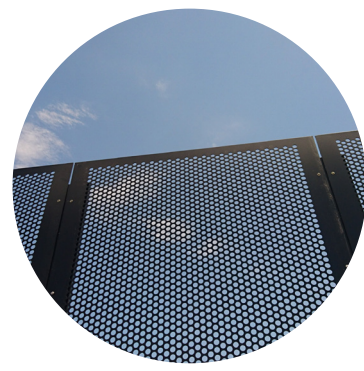
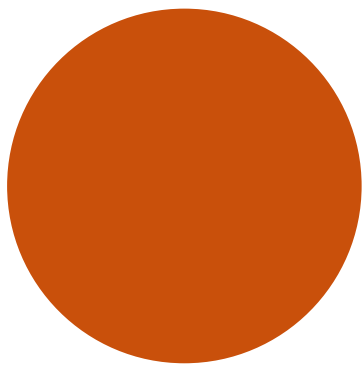
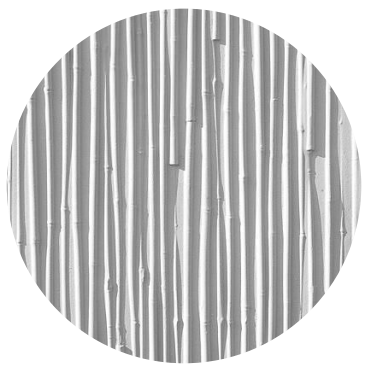


*VEGETATION SHOWN AT MATURITY
*FOREGROUND VEGETATION REMOVED FOR CLARITY

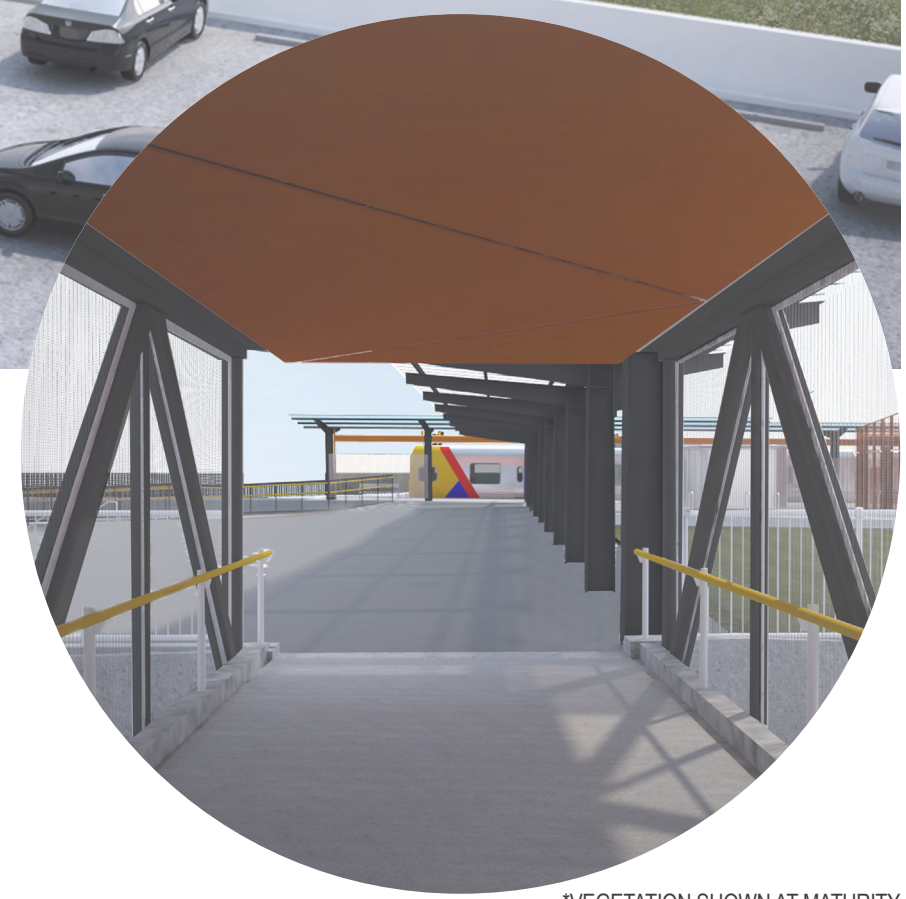
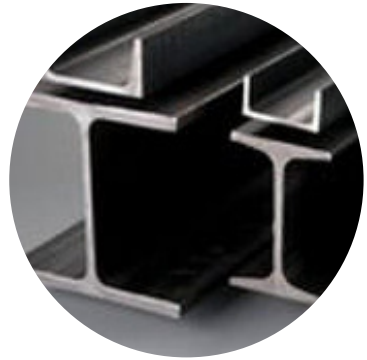
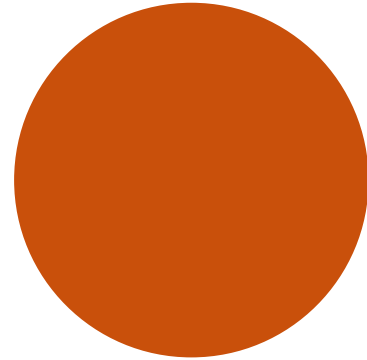
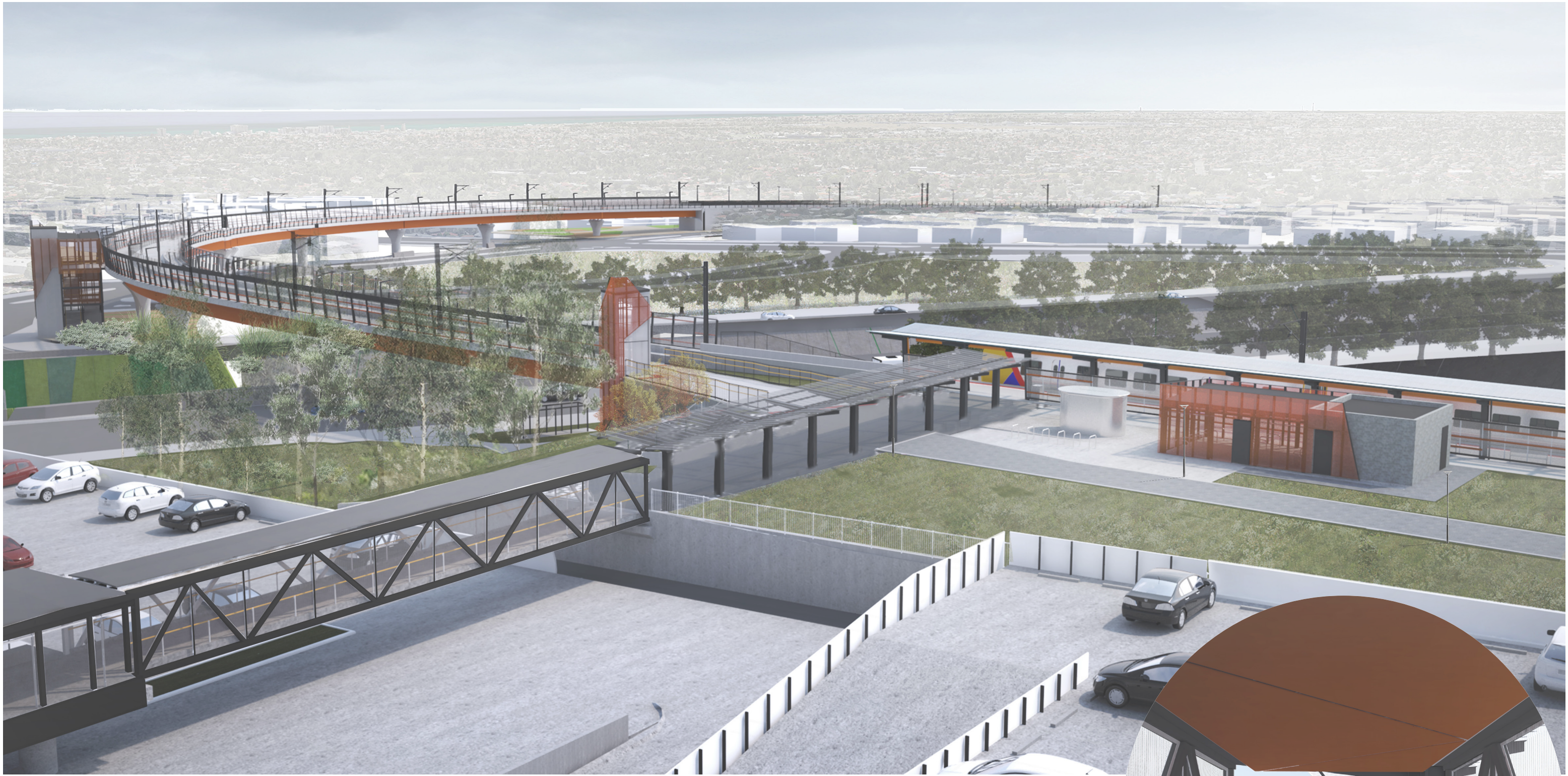
STAIR + LIFT EAST 3D



STAIR + LIFT EAST



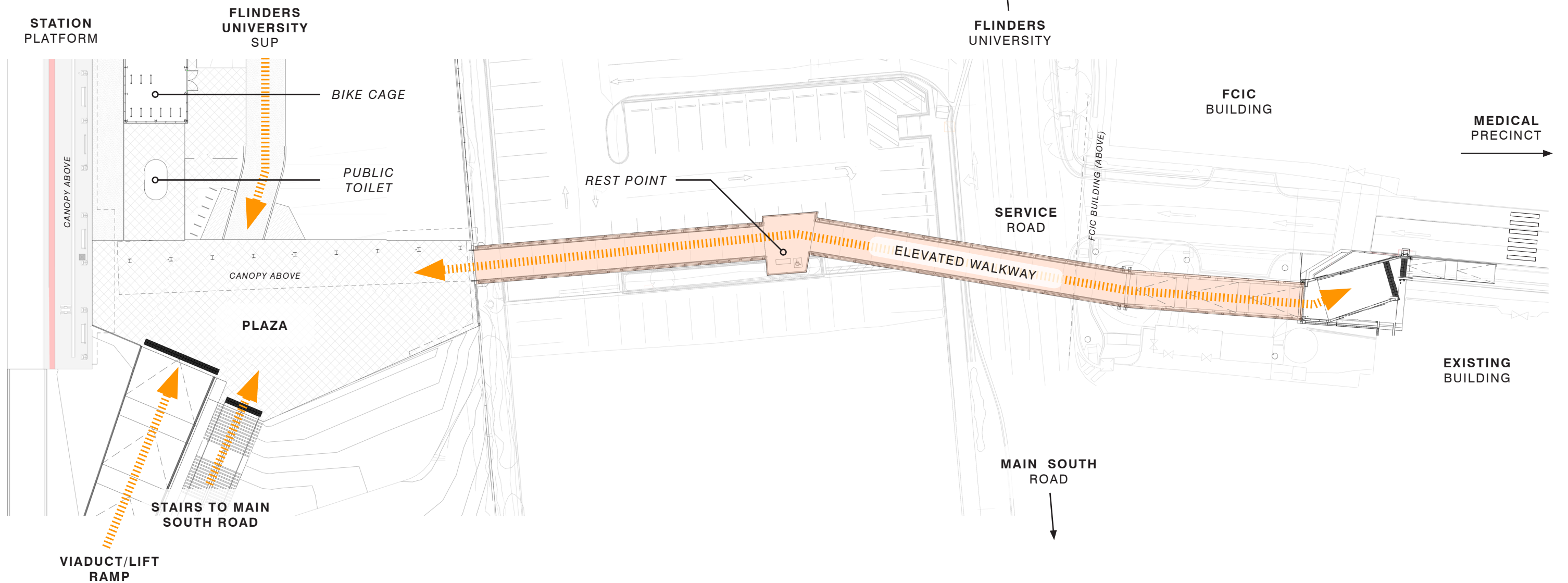
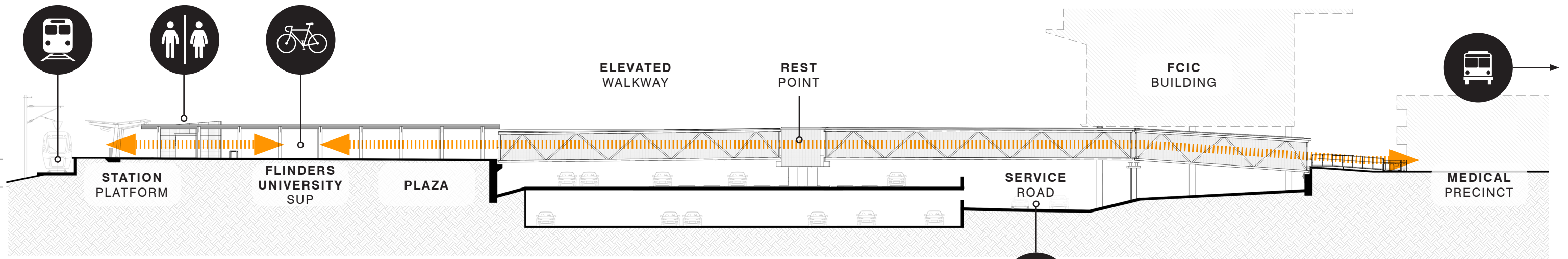
BATTER VEGETATION



ELEVATED WALKWAY 3D

FLINDERS LINK | URBAN DESIGN OVERVIEW | 2018

*VEGETATION SHOWN AT MATURITY



ELEVATED WALKWAY

3.3.7 TREE DAMAGING ACTIVITY

An environmental report in **Volume 2 Attachment 6** provides details on the vegetation type, form and nature along an extended corridor including the Clovelly Park Railway Station. The relevant plans for consideration in this proposal are, Vegetation Removal - Sheets 7, 8, 9 and 10 of that Environmental Report. Sheets 7 and 9 are most relevant.

There are two significant trees numbered 269 and 815 and one regulated tree numbered 819 to be removed as a consequence of the works. These trees are depicted on Sheets 7 and 9. These are located within the area under the control of the Commissioner of Railways and accordingly do not require Development authorisation for their removal.

With reference to the tables on Vegetation Removal - Sheets 5, 6, 7 and 9, item numbered 796 as significant and items numbered 794, 797, 833 as regulated, are not part of this application.

The Flinders Link Project also requires the removal of some amenity (planted) vegetation. This is also identified on the Vegetation Removal - Sheets. Trees with high ecological and/or amenity value will be identified and impacts will be minimised where possible, within the Flinders Link Project constraints.

3.3.8 LANDSCAPING

The landscaping concept proposed to enhance the areas around the Flinders Link project are discussed in the Section 3.2.6. Also refer **Volume 2 Attachment 4**.

In particular, the batter slope rising from Main South Road to the plaza area is to accommodate a stairway and landscaped terraces thus providing a soft green entry to the Flinders precinct for pedestrians and cyclists using pathways at the lower level.

The species palette for the Flinders Link Project identifies the selections for the batter slope, shade tolerant species, bio-detention basin compatible and trees. This palette is reproduced on the following page.

BATTER



Carpobrotus rossii
Native Pig Face



Correa pulchella
Salmon Correa



Senecio serpens
Blue Chalk Sticks



Eremophila glabra 'Kalbarri Carpet'
Compact Yellow Tar Bush



Dianella longifolia
Pale Flax Lily



Lomandra 'Tanika'
Fine-Leaf Lomandra



Atriplex semibaccata
Creeping Saltbush



Austrostipa flavescens
Spear-grass



Enchylaena tomentosa
Ruby Saltbush



Myoporum parvifolium
Creeping Boobialla



Dianella revoluta
Black Anther Flax Lily

SHADE TOLERANT (BELOW VIADUCT)



Arthropodium cirratum
New Zealand Rock Lily



Clivia miniata
Clivia



Liriope muscari
Lily Turf



Plectranthus argentatus
Silver Plectranthus



Raphiolepis indica
Dwarf Indian Hawthorn

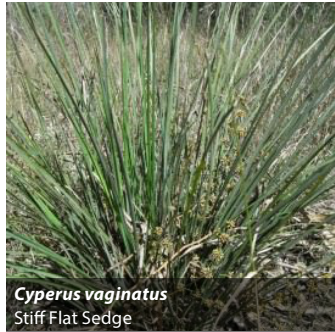


Bambusa textilis var. *gracilis*
Slender Weavers Bamboo

BIO-DETENTION BASIN



Carex tereticaulis
Tall Sedge



Cyperus vaginatus
Stiff Flat Sedge



Ficinia nodosa
Knobby Club Rus



Juncus krassii
Sea Rush

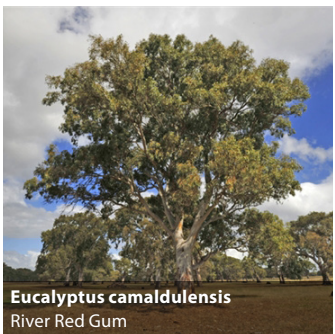


Lomandra dura
Stiff Mat-rush

TREES



Angophora costata
Smooth Barked Apple



Eucalyptus camaldulensis
River Red Gum



Eucalyptus leucoxylon
S.A. Blue Gum



Eucalyptus microcarpa
Grey Box



Lagerstroemia Indica 'Natchez'
Crepe Myrtle



Zelkova serrata 'Green Vase'
Japanese Zelkova

PLANTING PALETTE

3.3.9 EARTHWORKS

Earthworks not directly associated with the development or operation of the rail or rail extension is to be undertaken to the south of the railway station and to the west batter slope leading down to Main South Road adjacent the access stairs. These areas are within Rail Commissioners land.

The area behind the New Flinders Station is to be filled to establish a level elevated surface immediately behind the station. This area incorporates a service access way for rail maintenance purposes. This filling will require a retaining wall greater than 1.0 metre in height to separate this elevated area from the abutting decked car park to the south.

The area west of the station and the plaza slopes down toward Main South Road. This area will accommodate steps adjacent to the lift tower and viaduct thus providing alternate access routes and modes between Main South Road, the plaza and the station. This batter slope is to be landscaped and sculpted to create an attractive landscaped entry to the Flinders precinct.

3.3.10 DE-COMMISSIONING AND REMOVAL OF THE EXISTING TONSLEY STATION

The existing station pictured on this page comprises a paved elevated platform with a pedestrian shelter and a public lavatory. Access is afforded to the station and across the tracks from two at grade pathways to the north and south of the station between Birch Crescent and Lynton Avenue and a stairway from Lynton Avenue.

All of the existing infrastructure including the car parking areas are to be removed and replaced with a slab track on a reinforced soil retaining wall structure until the point of transition to the viaduct slightly north of Sturt Road.

Access from Birch Crescent to Lynton Avenue will be afforded via a 4.0 metre wide and 3.0-metre-high pedestrian and cycle underpass as shown on the diagram titled Western Ramp 3D in **Volume 2 Attachment 2**.

On the Birch Crescent side this underpass will also connect to the Marion Council's future Greenway. Safety fencing is strategically located at the underpass entry areas to direct and slow traffic to avoid cycle and pedestrian conflict.



3.4 COMMUNITY ENGAGEMENT

3.4.1 CONSULTATION

Key stakeholders have been involved in the development of the Flinders Link Project. Stakeholders have included Flinders Medical Centre, Flinders University, Flinders Private Hospital, the City of Marion, the City of Mitcham, Renewal SA and the local community. Regular updates about the Flinders Link Project have been provided as part of the Darlington Upgrade Project's well established Community Liaison Group meetings which meet every four to six weeks. On the Flinders Link Project's website, an email and phone number for the community to contact the Flinders Link Project team has also been established.

3.4.2 KEY COMMUNITY INTERESTS

A summary of recent matters raised by the community which this proposal has addressed include:

- Approximate Project commencement and completion dates;
- Reason for removal of existing Tonsley Station;
- How accessibility is being factored into the design;
- Cross over points at Oak/Brayden;
- Connection of the Marion Council and Renewal SA's Greenway to that of the Flinders Link Project; and
- Construction impacts.
- The proposal also addresses safety and convenience, together with improved services, continuous connection and improved integration with bus services.



4

**ENVIRONMENTAL
EFFECTS OVERVIEW**

4.0 ENVIRONMENTAL EFFECTS OVERVIEW

4.1 VEGETATION

The Flinders Link Project area is located within a heavily modified suburban environment with limited biodiversity. The majority of remnant native vegetation has been removed and exotic, indigenous and non-local native vegetation has been planted in a landscaped environment. Only scattered individuals remain. A more detailed description of that environment is provided in the Design Report – Environmental in **Volume 2 Attachment 6**.

Non-indigenous native and exotic plantings are dominant on side streets and major arterials intersecting Main South Road, as well as local reserves and private residences. Some of these non-indigenous native and exotic trees are regulated or significant trees in accordance with the Development Act 1993.

Removal of vegetation has been minimised as much as possible and remaining areas of important vegetation will be protected during construction. Where removals are unavoidable, planting within and adjacent to the upgraded corridor will be undertaken to offset the removals.

The Flinders Link Project will impact some amenity (planted) vegetation and also impacts one Regulated tree item 833 and two Significant trees 815 and 269 identified on Sheets 7 and 9 of **Attachment 6**.

No approvals are required given the location of these trees within land where such works are exempt.

4.2 NOISE AND VIBRATION

4.2.1 CONSTRUCTION NOISE

Construction noise levels will be determined once the outcome of the detailed design, construction methodology, construction staging, and timing is finalised.

Noise generated during construction will be managed in accordance with DPTI's Operational Instruction 21.7: Management of Noise and Vibration: Construction and Maintenance Activities (OI 21.7).

OI 21.7 provides the framework to meet DPTI's general environmental duty of care for noise in accordance with the Environment Protection Act 1993 and requires preparation and commitment to a Construction Noise and Vibration Management Plan (CNVMP). A CNVMP (to be prepared by the successful Contractor) will include a Night Works Management Plan where night works are required.

The CNVMP identifies target noise levels generally in accordance with OI 21.7, and specifies a range of actions to be implemented. These may include community notification, monitoring and the implementation of reasonable and practicable mitigation measures.

4.2.2 CONSTRUCTION VIBRATION

As with noise levels, vibration will be fully known once the outcome of the detailed design, construction methodology and construction staging is finalised.

Vibration generated during construction will be managed in accordance with DPTI's OI 21.7.

The vibration criteria for structural damage have historically been derived from the German Standard DIN 4150-3 Effects on vibration on structures, a common reference in the absence of a specific Australian Standard for structural damage.

Reasonable and practical measures to manage and mitigate vibration will be implemented including community notification, property condition assessment where required and monitoring. As already indicated, the tender documentation stipulates CFA piling must be used to minimise vibration (unless a better alternative is presented).

4.3 CONTAMINATION

4.3.1 SOIL AND GROUNDWATER

Based on past and present land uses in the Flinders Link Project area, a number of potentially contaminating activities, leading to potential site contamination, have been identified.

In addition to contamination caused by both current and historic rail operations on the existing Tonsley rail line, a major industrial manufacturing facility, Tenneco/Monroe, is located approximately 350m east, on the north-western side of Main South Road, between Mimosa Terrace and the Ayliffes/Shepherds Hill Road intersection.

The Clovelly Park – Mitchell Park TCE (trichloroethene) soil and groundwater contaminated area is located adjacent to the Flinders Link Project. The Environment Protection Authority (EPA) has provided details of in situ investigations and the extent of known contamination. The department has commenced project specific contamination and geotechnical investigations and will continue to liaise with the EPA about the potential future interface between the contaminated area and the Flinders Link Project site as well as mitigation and management requirements.

Soil within the Flinders Link Project area will be sampled and analysed in accordance with relevant Australian standards and the EPA Standard for the production and use of Waste Derived Fill, to determine if it is suitable for reuse on site or requires disposal to an EPA licensed waste/recycling facility. The soil will also be classified against the National Environment Protection (Assessment of Site Contamination) Measure 2014 to inform ecological and human health risks.

A Contamination Management Plan (CMP) will be implemented during construction works to minimise and manage risks to workers and the adjacent community. The CMP will include requirements for management of contaminated materials on site, transportation and off-site disposal as well as controls for impacted soils/groundwater, not previously identified, that are encountered during excavation works.

4.4 WATER QUALITY

The Flinders Link Project area is within the Sturt River catchment and whilst the upstream catchment is generally rural to semi-urbanised, the water quality in Sturt River is more typical of an urbanised catchment. Its high nutrient concentration indicates a high organic content and sediment influx from surrounding catchments and salinity levels are higher than expected for fresh water.

A preliminary Water Quality Risk Assessment has been undertaken to determine the potential nature, scale and likelihood of any impacts on water quality during construction and operation of the rail and to establish potential management measures to minimise and mitigate the identified impacts. Adverse impacts to water quality will be minimised and water sensitive urban design will be incorporated where possible.

During construction a Soil Erosion and Drainage Management Plan (SEDMP) will be developed and implemented to manage water flows, prevent erosion and control sediment on site.

Water Affecting Activities as defined by the Natural Resources Management Act 2004 will be assessed in accordance with DPTI's approved Water Affecting Activities Standard Operating Procedure and permits obtained where required.

4.5 HERITAGE

4.5.1 NON-ABORIGINAL HERITAGE

No places within the Flinders Link Project area are entered in the Commonwealth Heritage List established under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). No heritage related EPBC Act referrals to the Commonwealth Minister are required.

One non-Aboriginal heritage site listed in the South Australian Heritage Places Database is located adjacent to the Flinders Link Project site and is detailed in Table 2 below. This site will not be directly affected by the Flinders Link Project.

Table 2: Non-Aboriginal Heritage-listed items adjacent to the Flinders Link Project area

STRUCTURE / BUILDINGS	ADDRESS	HERITAGE LISTING	DISTANCE FROM CLOSEST INFRASTRUCTURE COMPONENT
Fairford House, coach house (former winery) and grounds	Sturt Triangle, Sturt	State	Approximately 400 metres

There are no local heritage sites adjacent to the Flinders Link Project area.

4.5.2 ABORIGINAL HERITAGE AND NATIVE TITLE

The Flinders Link Project area is part of a highly modified and built-up urban environment dominated with commercial and residential buildings and recreational areas, with very few undisturbed areas remaining.

Before settlement the Flinders Link Project area was very different and home to the Kurna and Ramindjeri Aboriginal people. Their close connection to country and to the area continues today, in particular to the Warriparinga area, including Sturt River.

A search of the Central Archive Register of Aboriginal Sites and Objects administered by the Department of State Development - Aboriginal Affairs and Reconciliation identified a small number of reported Aboriginal sites located within close proximity to the Flinders Link Project area. In addition to registered sites, there is a risk of encountering subsurface Aboriginal archaeological deposits within the Flinders Link Project area, specifically in the vicinity of the Sturt River and Laffer Triangle area (which includes the Warriparinga reserve).

Consultation with the Kurna and Ramindjeri groups has been undertaken as part of the Darlington Upgrade Project and will continue throughout the planning, design and construction phases of the Flinders Link Project. An Aboriginal Cultural Heritage Impact Assessment including a heritage survey and risk assessment will be undertaken for the Flinders Link Project site.

An authorisation in accordance with Section 23 of the Aboriginal Heritage Act 1988 has been granted by the Minister for Aboriginal Affairs and Reconciliation to damage, disturb or interfere with Aboriginal sites, objects or remains that may exist within the Darlington Upgrade Project area.

Where the Darlington Upgrade Project Section 23 authorisation area does not cover the Flinders Link Project area (eg the Tonsley rail corridor or the area where the new Flinders station will be built) a risk assessment, including a field survey with the interested Aboriginal groups (if required), will be undertaken by an archaeologist to identify potential high risk zones. Additional Section 23 authorisation may be sought for high risk areas not covered by the Darlington Upgrade Project Section 23 authorisation area.

Awareness of potential Aboriginal heritage issues will be raised with all design and construction staff and measures in compliance with the Aboriginal Heritage Act 1988, implemented to minimise impacts to Aboriginal heritage should it be encountered during construction.

A Native Title search has been undertaken, as a part of the Darlington Upgrade Project, by the Crown Solicitor’s Office to establish if Native Title has been extinguished over the Flinders Link Project area. Native title within the Darlington Upgrade Project area and the Tonsley rail line has been extinguished and the proposed works are able to proceed without further consideration of the Native Title (South Australia) Act 1994.

4.6 MANAGING CONSTRUCTION IMPACTS

Once selected and prior to construction, the Contractor for the Flinders Link Project will be responsible for developing a Construction Environmental Management Plan (CEMP) for the works.

The CEMP will be developed in accordance with the DPTI's Environmental Code of Practice for Construction - Road, Rail, and Marine Facilities; Contractor's Environmental Management Plan Guidelines and the Contract Specification Environmental Requirements.

The CEMP details how the environmental management requirements, as identified in the DPTI construction contract specification will be implemented and managed on-site. The CEMP will also detail how the Contractor will mitigate construction impacts and must document the contractor's response to inspecting, monitoring, verifying, internal auditing, and correcting or improving environmental performance based on their design and construction methodology.

The main elements of the CEMP will be:

- air quality controls: including for dust and the management of stockpiles (sand, gravel etc) to ensure that materials are appropriately stored, handled and transported;
- hours of operation - including night work protocols (if applicable) - to minimise amenity loss/level of disturbance to residents;
- establishment and maintenance of temporary fencing and hoardings;
- waste minimisation and recovery;
- site servicing and security arrangements;
- storage of chemicals and fuel;
- protection of existing trees; and
- discovery of Aboriginal Heritage sites.

4.7 AIR QUALITY

The Flinders Link Project will encourage sustainable methods of travel including walking and cycling, therefore encouraging improved air quality as a result of people using these modes of travel over vehicle usage.



5

**DEVELOPMENT PLAN
ASSESSMENT**

5.0 DEVELOPMENT PLAN ASSESSMENT

The site of the proposed development is within the City of Marion and the City of Mitcham. The Development Plans relevant to the assessment of this application are the Marion Council Development Plan Consolidated 20 February 2018 and the Mitcham (City) Development Plan Consolidated 20 February 2018. The Flinders Link Project will traverse and affect two Zones and two Policy Areas within the Councils as shown on the maps on pages 50 - 53.

The relevant Zones and Policy Areas affecting the elements of the Flinders Link Project requiring approval are outlined below.

The bridge will be in or adjacent to the following Zones and Policy Areas as shown on the maps below:

- Marion Residential Zone, Policy Areas 12 and 16;
- Marion Regional Activity Zone; and
- Mitcham Regional Activity Zone.

The Marion and Mitcham Regional Activity Zones objectives and principles of development control are generally aligned.

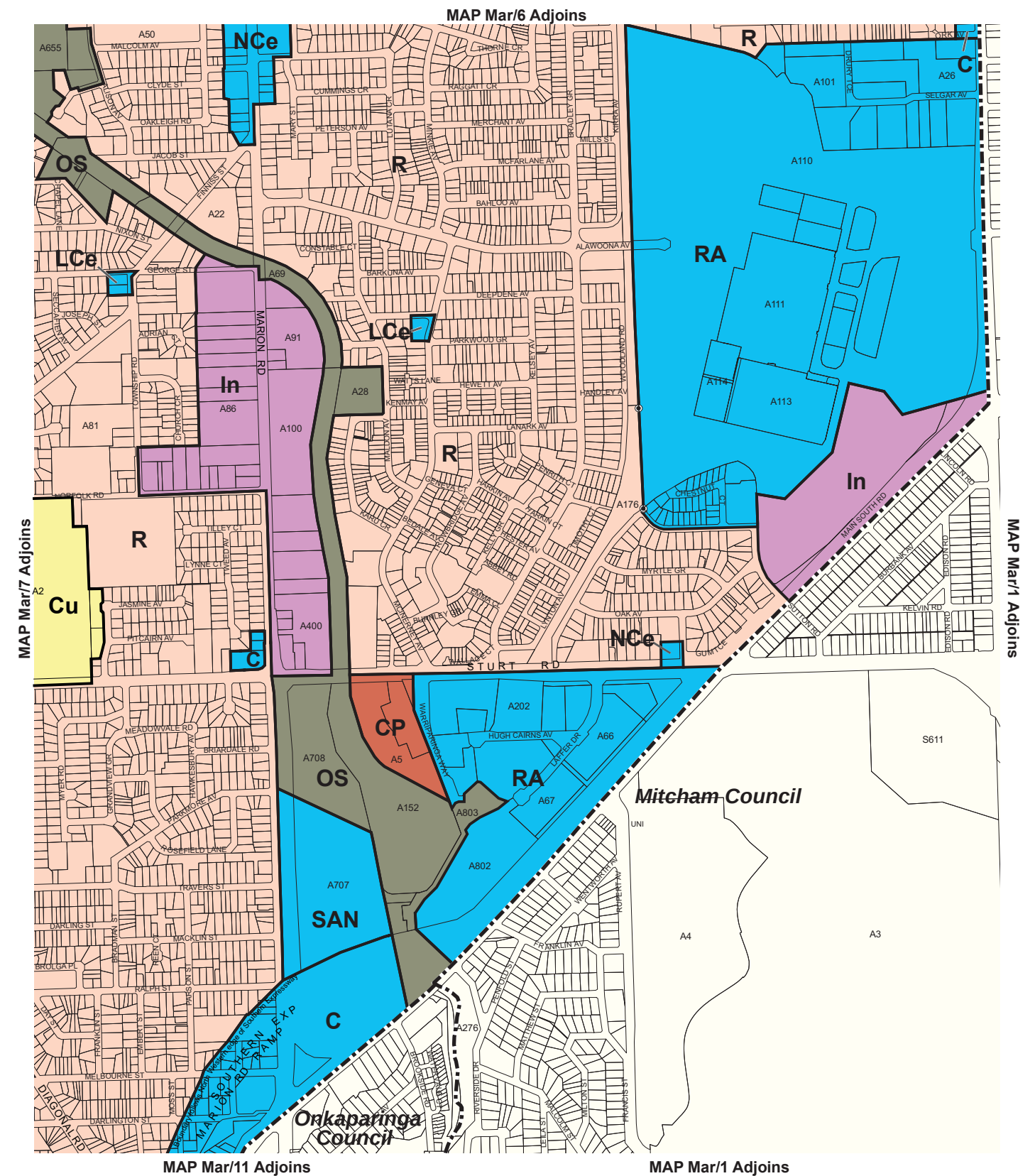
The Marion Council Development Plan on Overlay Map Mar/8 Noise and Air Emissions on page 54 identifies the area between Sturt Road and Main South Road over which the viaduct passes as a designated area, thus recognising likely impacts due to the transport network and infrastructure prevalent in the area.

The Tonsley train line is also identified together with Main South Road as a Type A road. The acoustic environment is therefore necessarily affected by the activities associated with these significant transport facilities. Similarly, Main South Road and the area bound by South Road, Sturt Road and Marion Road are identified as strategic transport routes which by their nature will have effects on the surrounding and interface activities.

The Mitcham (City) Development Plan provides a **Concept Plan Fig Mit/1** page 55 which specifically identifies the Flinders Link as a future rail line.

Both Development Plans have been amended recently to acknowledge the importance of Flinders precinct generally by its designation as a part of the wider Regional Activity area.

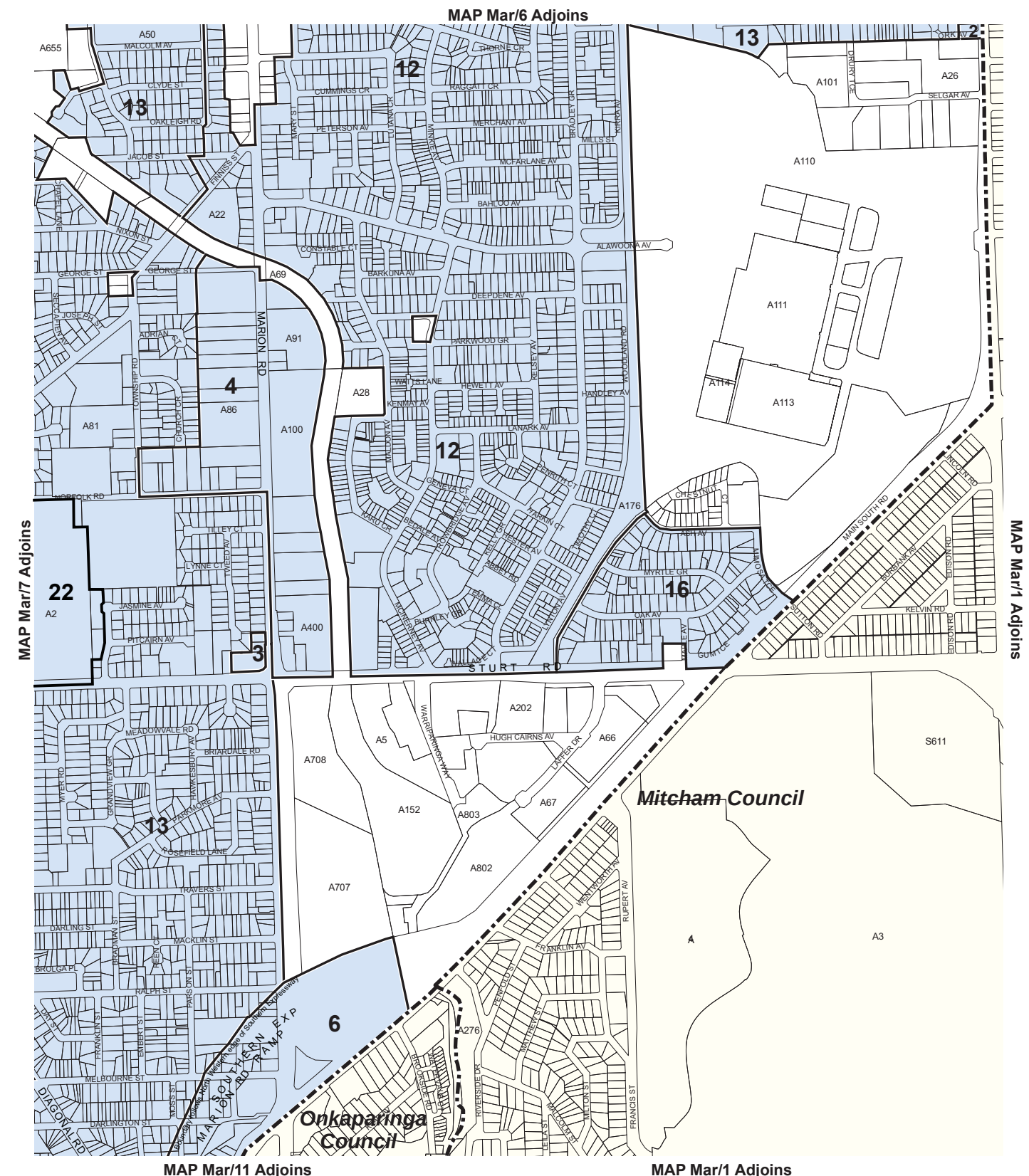
The provisions of the Development Plans do not provide detailed design parameters or guidance in relation to rail bridges, stations or similar infrastructure projects. Accordingly, the approach taken is to summarise the key intent of the Zone and Council Wide provisions and discussion on the most relevant elements with reference to the proposed development.



- Lamberts Conformal Conic Projection, GDA94
- Zones**
- CP Caravan and Tourist Park
 - C Commercial
 - Cu Community
 - In Industry
 - LCe Local Centre
 - NCe Neighbourhood Centre
 - OS Open Space
 - RA Regional Activity
 - R Residential
 - SAN Suburban Activity Node
 - Zone Boundary
 - Development Plan Boundary



Zone Map Mar/8



Lamberts Conformal Conic Projection, GDA94

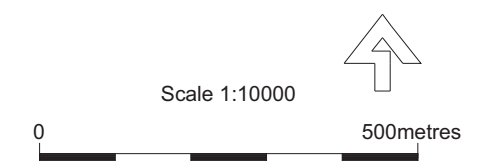
Policy Area

- 2 South Road
- 3 Sturt/Marion Road Corner
- 4 Industry/Commerce
- 6 Darlington
- 12 Medium Density
- 13 Northern
- 16 Regeneration
- 22 Recreation

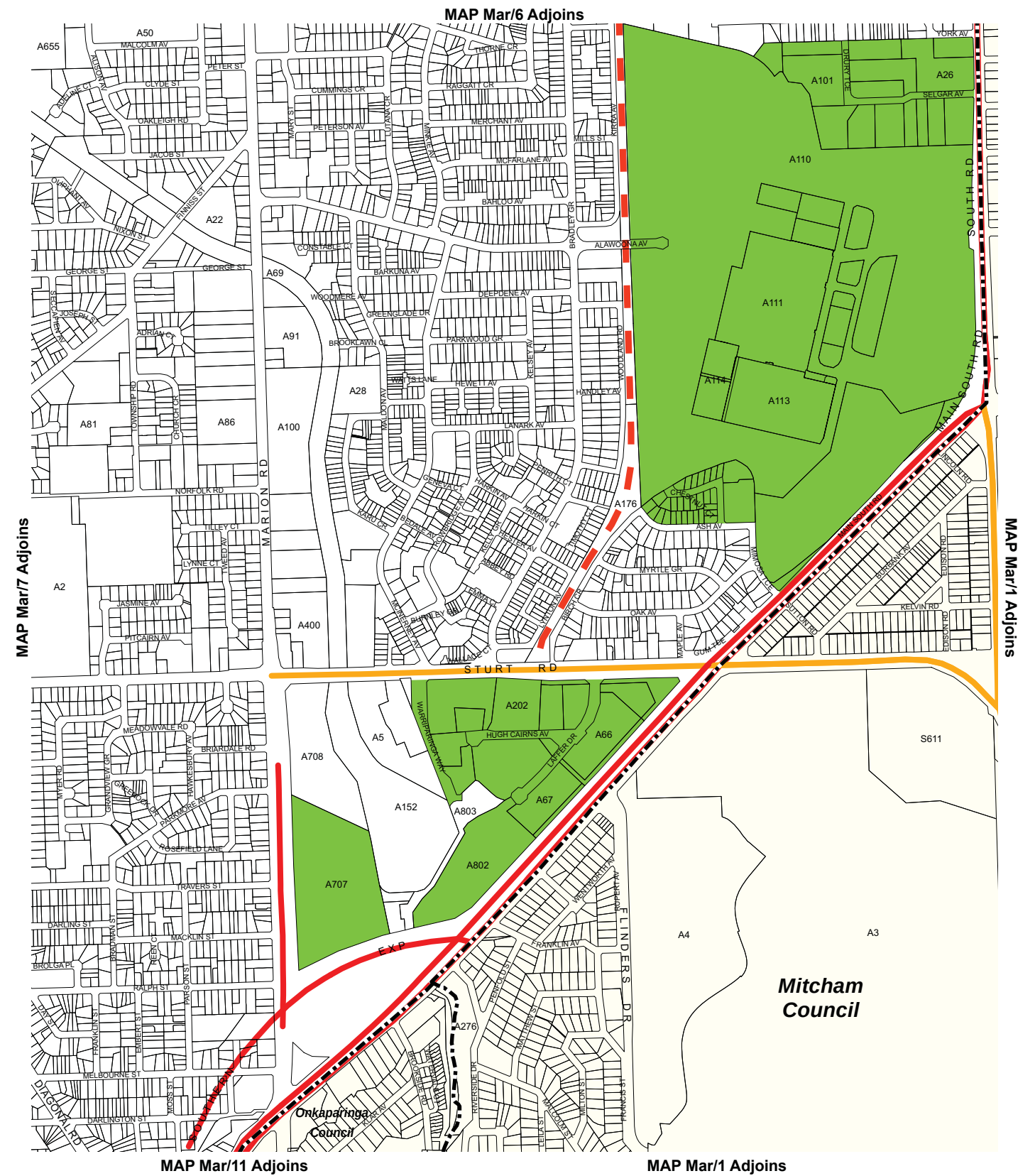


- Policy Area Boundary
- Development Plan Boundary

Policy Area Map Mar/8

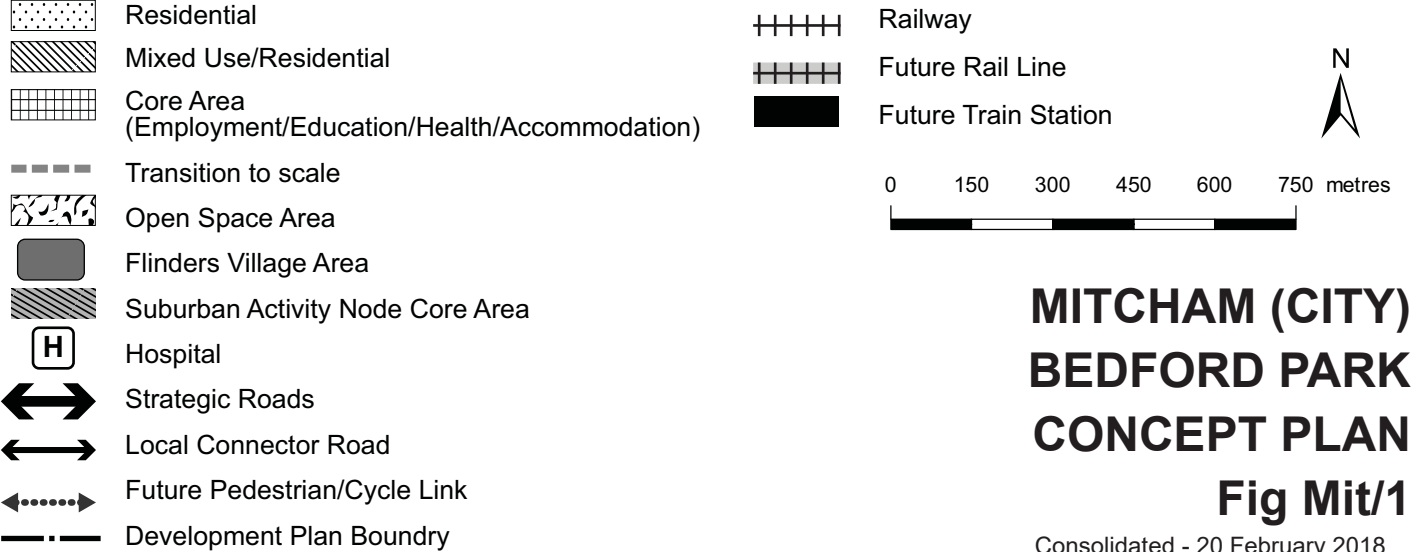
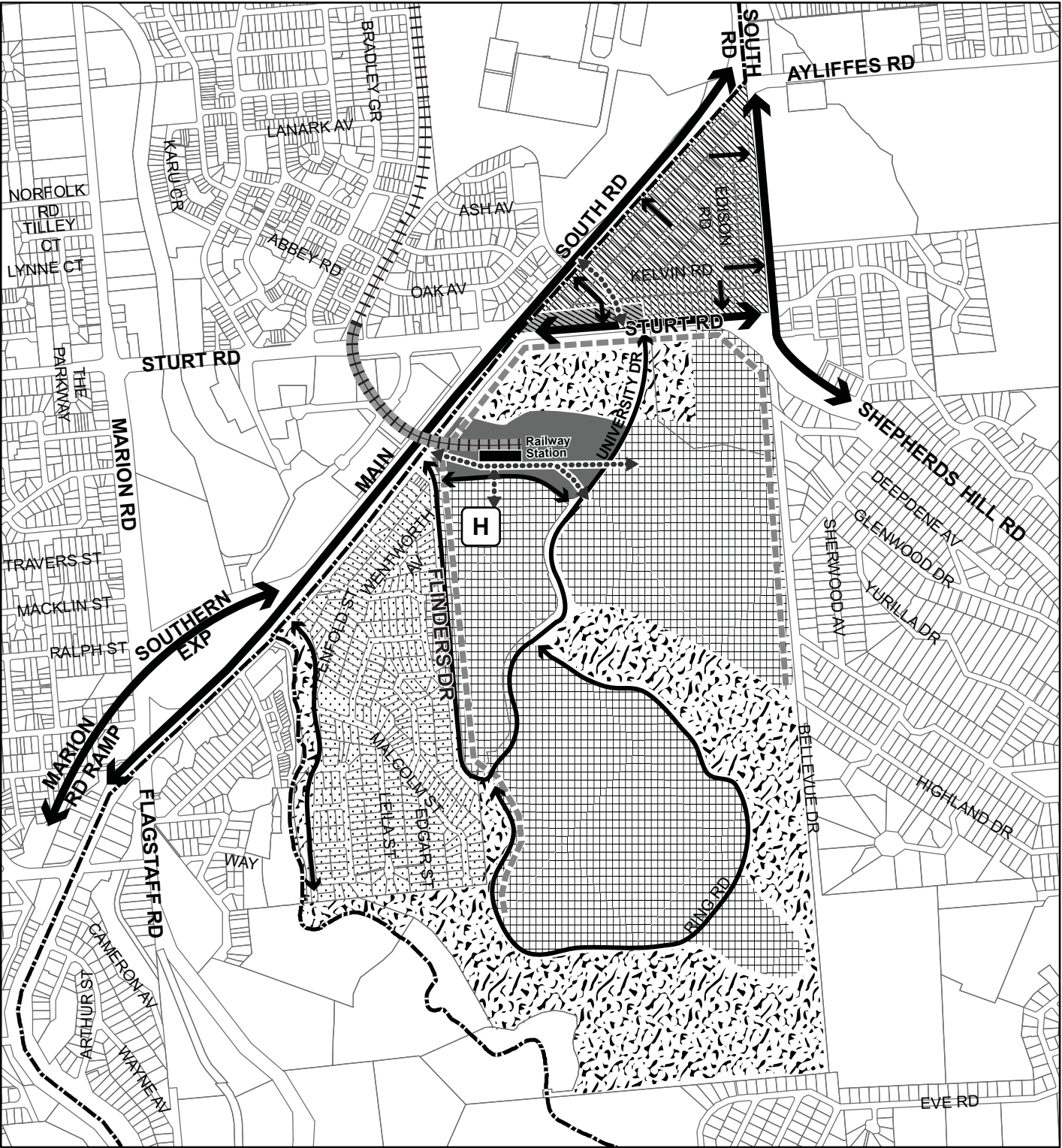


Consolidated - 20 February 2018



- Designated Road: type A road
- Designated Road: type B road
- - - Train Line
- Noise and Air Emissions Designated Area
- - - - - Development Plan Boundary

Overlay Map Mar/8 NOISE AND AIR EMISSIONS



5.1 ZONE AND POLICY AREA PROVISIONS

The primary intent of the Zones within and adjacent to the application are focussed on:

- Residential Zone – North of Sturt Road - Development comprising medium density housing; and
- Regional Activity Zone – from Sturt Road to Flinders precinct - A mixed use zone accommodating education, health, research, and employment opportunities of regional significance.

The works will be undertaken within the existing rail corridor and on Government owned land. Property acquisition is not required to accommodate the Flinders Link Project.

The proposed works will have physical and visual effects on the locality through the removal of the Tonsley Station and the introduction of the extended track, access pathways, viaduct structure and two sets of stairs and lifts adjacent Main South Road.

At its northern end, the ramp commences in the location of the current station which is to be removed. The result of this work is a reduction in visual intrusion of the train and the cessation of traffic to and from the station together with the cessation of the arrival, standing and departure of trains. The trains will continue to pass through this point and proceed to the new Flinders Station and on return, continue past toward the north.

This northern area is the most sensitive area affected by the proposal as it comprises residential or sensitive receivers. The remainder of the route is either transport corridor, commercial or institutional activities. The landscape will be altered by the introduction of the access pathway leading to the shared path on the viaduct. Plantings are proposed along the foot of the rising wall.

The objectives for the Marion Council Residential Zone read:

- 1 An attractive residential zone comprising a range of dwelling types including a minimum of 15 per cent affordable housing.**
- 2 Increased dwelling densities in close proximity to centres, public and community transport routes and public open spaces.**

Objective 2 promotes higher density development proximate to transport routes. There are two policy areas 12 and 16 relevant to this proposal. The Regeneration Policy Area 16 on the eastern side of the rail corridor in Objective 8 seeks “improved community services and infrastructure.” The proposal will provide improved regional services albeit that the station facilities will be relocated to the Flinders precinct to better serve the greater user population.

The Mitcham (City) and Marion Council Development Plans have highly aligned policy for the Regional Activity Zone that extends from Sturt Road across Main South Road and including the Flinders University and the Flinders Health precinct.

The objectives for this zone read:

Mitcham Objective 1: A zone that has a focus of land uses that are state wide, national and international attractors supported by a mix of compatible land uses.

Marion 1 A zone that has a focus of land uses that are state wide, national and international attractors supported by a mix of compatible land uses including shops, entertainment, medium and high density residential.

Mitcham and Marion Objective 2: Well designed and functional mixed use areas with a walkable urban form, pedestrian and cyclist friendly streetscapes, and active street frontages that facilitate personal interaction and promote public transport use.

Mitcham and Marion Objective 3: The design and layout of development to encourage walking and cycling and promote public transport use and healthy neighbourhoods.

Objective 4: A mixed use zone with a variety and concentration of activity close to key focal points such as education or health facilities, fixed transit stops, or high quality open space areas.

Marion 4 A mixed use zone with a variety and concentration of day-time and night-time activity close to key focal points such as an education or health facility, a fixed transit stop, an activity centre or high quality open space areas.

Mitcham Objective 5: Development that ensures the long-term operational, safety, and aviation requirements of helicopter landing sites continue to be met.

Marion 5 Development that minimises environmental health impacts upon human health, local amenity and the environment.

Marion and Mitcham Objective 6: Development that contributes to the desired character of the zone.

The desired character reinforces and supports the development of complementary uses and the creation of a vibrant environment. A strong focus of the policy is the encouragement of a friendly pedestrian and cycle environment and the extension of the Tonsley line to serve the Flinders precinct

Concept Plan Fig Mit/1 on page 55 depicts this extension.

The Desired Character Statement incorporates the following commentary on the Flinders Station and the desired outcome for its immediate surrounds:

“The Flinders Village Area will be focused around the Flinders Link rail station. It will cater for medium to high density, inter-generational residential developments including multi-storey dwellings, residential flats, student accommodation, aged care and affordable housing, as well as tourist accommodation. The Area will also be the focus for a variety of mixed uses that support the daily needs of on-site residents such as retail, entertainment and community facilities; together with offices and consulting rooms that complement the health, education and research activities of the Core Area. Ground level land uses such as entertainment and retail, which provide night and day activation will be concentrated around the Flinders Link station to promote interest, safe movement and convenient access to goods and services.....”

and

“The Flinders Link rail station will provide an important public transport link between the Flinders site, Tonsley and the Adelaide central business district. There will be a significant focus on safe and efficient movement for vehicles (including emergency vehicles and helicopters), pedestrians and cyclists throughout the Area as well as to adjacent areas and key sites. Building design will emphasise movement between the rail station and the Flinders Medical precinct, potentially via a pedestrian overpass, and the Flinders University.”

This is a significant recognition of the desire for the extension of the rail line and the relocation of the station facilities to the area adjacent the Flinders Medical Centre.

Accordingly, the proposal accords with the Development intent for the further improvement, extension and provision of public transport, pedestrian and cycle infrastructure in the area.

Flinders Link reinforces and supports the strategic direction for public transport services to this regional activity centre.

5.2 CITY WIDE PROVISIONS - MARION COUNCIL

5.2.1 CRIME PREVENTION

Objective 1 reads:

“1 A safe, secure, crime resistant environment where land uses are integrated and designed to facilitate community surveillance.”

The Flinders Link Project has been design taking account of the principles of crime prevention through environmental design. The detailed assessment is in **Volume 2 Attachment 3**. The conclusions of that report is that the proposal successfully integrates CPTED techniques and provides a highly transparent design.

5.2.2 DESIGN AND APPEARANCE

Objective 2 is most relevant as it seeks:

“2 Roads, open spaces, paths, buildings and land uses laid out and linked so that they are easy to understand and navigate.”

The pathways and links created in this proposal significantly enhance the accessibility and navigability for users.

In all other respects, the design of the infrastructure is integrated across all elements with a strong unifying theme of the connecting ribbon across the precinct. Materials and finishes are similarly consistent throughout and reflect the function of the infrastructure whilst providing suitable and desirable amenity for the users with protected spaces, covered walkways, amenities and wayfinding.

5.2.3 INFRASTRUCTURE

Objectives 4 and 5 are most relevant to this proposal.

“4 The visual impact of infrastructure facilities minimised.”

“5 The efficient and cost-effective use of existing infrastructure.”

The visibility of this rail link is unavoidable given its location and its need to traverse major road corridors. It is however a cost effective way to deliver to a significant regional node valuable and needed public transport facilities. Therefore notwithstanding its visibility, its function is of regional significance and its visibility an important part of informing the public as to its function and the role it plays for the community.

5.2.4 INTERFACE BETWEEN LAND USES

The objectives set out the need to minimise effects and conflicts between uses. These are reinforced in the principles. Of particular note are Principles of Development Control 1, 7 and 8 read:

“1 Development should not detrimentally affect the amenity of the locality or cause unreasonable interference through any of the following:

- (a) the emission of effluent, odour, smoke, fumes, dust or other airborne pollutants
- (b) noise
- (c) vibration
- (d) electrical interference
- (e) light spill
- (f) glare
- (g) hours of operation
- (h) traffic impacts.

7 Development that emits noise (other than music noise) should include noise attenuation measures that achieve the relevant Environment Protection (Noise) Policy criteria when assessed at the nearest existing noise sensitive premises.

8 Development with the potential to emit significant noise (e.g. industry) should incorporate noise attenuation measures that prevent noise from causing unreasonable interference with the amenity of noise sensitive premises.”

As earlier referenced, the acoustic environment will require further assessment to determine whether additional mitigation works will be necessary to meet the goals set in the relevant guidelines.

The sensitive area is the residential environment to the north of Sturt Road. It is noteworthy that this community experience the existing rail operations including the stopping and starting of trains and the coming and going of patrons.

The proposal will not be likely to result in unreasonable affects or interference.

5.2.5 REGULATED AND SIGNIFICANT TREES

The provisions for vegetation protection under each of these headings seek to protect valuable vegetation in our environment.

In this circumstance, the wider interest of the community by the provision of public transport to a significant population and its valuable integration with regional facilities is balanced against the very limited need to remove trees to enable this development. The Design Report – Environmental in **Volume 2 Attachment 6** in **Section 6** sets out the vegetation to be removed and that which is to be retained and pruned. One regulated and two significant trees are to be removed.

5.2.6 TRANSPORTATION (MOVEMENT OF PEOPLE AND GOODS)

Objectives 1, 2, 4 and 5 read:

- “1

A comprehensive, integrated, affordable and efficient air, rail, sea, road, cycle and pedestrian transport system that will:
- (a)

provide equitable access to a range of public, community and private transport services for all people
- (b)

ensure a high level of safety
- (c)

effectively support the economic development of the State
- (d)

have minimal negative environmental and social impacts
- (e)

maintain options for the introduction of suitable new transport technologies.
- 2

Development that:
- (a)

provides safe and efficient movement for all transport modes
- (b)

ensures access for vehicles including emergency services, public infrastructure maintenance and commercial vehicles
- (c)

provides off-street parking
- (d)

is appropriately located so that it supports and makes best use of existing transport facilities and networks
- (e)

provides convenient and safe access to public transport stops.
- 3

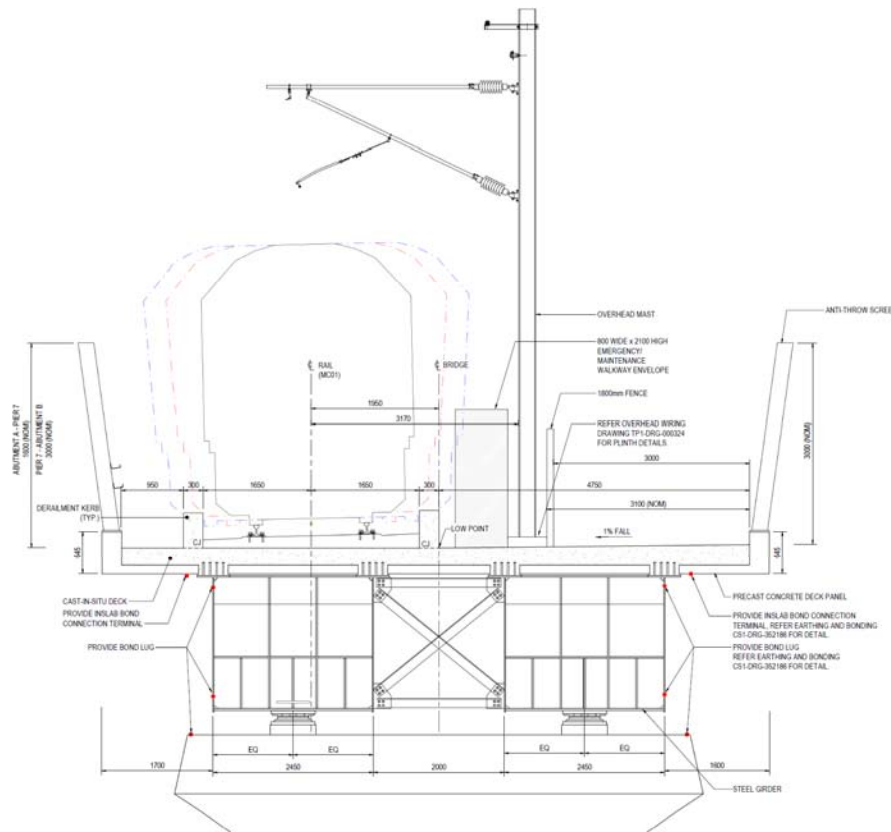
A road hierarchy that promotes safe and efficient transportation in an integrated manner throughout the State.
- 4

Provision of safe, pleasant, accessible, integrated and permeable pedestrian and cycling networks that are connected to the public transport network.
- 5

Safe and convenient freight and people movement throughout the State.”

The overarching theme is for the provision of an integrated transport network and connections that are safe and convenient whilst supporting equitable access and the economic development of the state. This project seeks to enhance the public transport and offering to a greater number of users and provide these services in a safe and convenient manner. The links to bus, pedestrian and cycle networks enhances the functionality, accessibility and operation of the precinct. This is further reinforced in Principle of Development Control 2.

Principle of Development Control 3 encourages the design to not unreasonably interfere with the health and amenity of adjacent sensitive receivers. The residential environment north of Sturt Road includes the existing rail corridor and activities associated with the terminal station at Tonsley. The proposal will result in trains passing through this area and no longer stopping to wait to return to Adelaide.



An assessment of the acoustic environment has been undertaken. **Refer Volume 2 Attachment 7** with reference to a separate report on Curve Squeal in **Attachment 8**. The findings of that assessment is that without mitigation measures, noise levels could exceed the design criteria for the upgraded rail line primarily due to curve squeal noise considering the penalties applied in the modelling. It is also noted that curve squeal may not be eliminated by track/wheel mitigation measures in which case an at source barrier may be employed as shown on the accompanying diagram.

The report also acknowledges that such treatments may not be visually attractive in which circumstances, treatment at the receiver may be considered. Nevertheless, the application of noise barriers as identified in the diagram above will enable the acoustic environment to be within the defined guidelines. Similarly, at receiver treatment is able to meet the relevant guidelines.

The actual acoustic environment will not be able to be precisely determined until operation. In all circumstances however it is intended to meet the prescribed criteria for the acoustic environment at sensitive receivers as an operational condition. We invite the authority to incorporate the guidelines as the basis of a condition for this acoustic environment.

5.2.7 CYCLE AND WALKING

Cycling and walking Principles 15, 16, 19 and 20 encourage integration of paths and networks, accessibility and end of trip facilities. This project incorporates integrated and connected pathways, appropriate wayfinding and end of trip parking and public conveniences at the new Flinders Station.

5.2.8 ACCESS

Principles of Development Control 23 and 32 seek safe and convenient access for all users. There are various means and routes available to access the shared path, the railway station and nearby facilities and modes of transport. These include the stairs and lifts on either side of Main South Road, the covered pathway between the Flinders Station and the Flinders Medical Centre, the switchback ramp and stairs on Lynton Avenue and the underpass between Lynton Avenue and Birch Crescent.

5.3 CITY WIDE PROVISIONS – MITCHAM (CITY)

5.3.1 INTERFACE BETWEEN USES

The objectives for Mitcham match those for Marion in intent.

Objective 19: Development located and designed to minimise adverse impact and conflict between land uses.

Objective 20: Protect community health and amenity from adverse impacts of development.

The rail corridor and existing rail operations sit between two residential areas and therefore the amenity incorporates those rail operations. These will continue albeit that the train operations will not terminate at this location but continue through to the new Flinders Station. It is acknowledged that the acoustic environment will require testing and measuring to ensure the application of the relevant mitigation measures to meet the relevant guidelines.

5.3.2 SIGNIFICANT TREES

Objective 39: The conservation of significant trees in Metropolitan Adelaide which provide important aesthetic and environmental benefit.

The proposal results in only one regulated tree and two significant trees being removed as the area has been significantly modified over time. The need to create the extension outweighs the retention of these trees.

5.3.3 INFRASTRUCTURE

The Tonsley development will result in a much greater need to travel between Tonsley Park and the Flinders precinct. This infrastructure will be provided prior to the Tonsley development completion. The Tonsley Park land has been set aside for development in this area for several years.

The rail extension and bridge will be a critical piece of infrastructure for the area, improving access for pedestrians and cyclists.

5.3.4 INTERFACE BETWEEN LAND USES

The development will have a positive impact on the community by providing a shared path over two arterial roads and linking the Tonsley and Flinders precincts. Community health, amenity and safety will be improved by providing a safe, accessible environment. The removal of the station and its end of line relocation to the Flinders precinct will reduce conflict between the rail operations and the residential environment.

5.3.5 LANDSCAPING, FENCES AND WALLS

Where possible, the surrounding trees and vegetation that exist will be retained. Further planting, landscaping generally and pathways are proposed at the northern end of the works where the bridge commences. A stormwater basin is proposed to be encompassed by a ramped connection to the shared pedestrian and cycle path. This path will provide direct connection to the landscaped greenway proposed by the City of Marion leading northwards parallel to the rail corridor.

South of the bridge between Laffers Road and Main South Road, a landscaped park is proposed incorporating paths leading to the stairs and lifts that afford safe and convenient access to and from the at grade transport network and the elevated pathway leading to the Flinders precinct. Safety fencing is provided along the bridge edge and to separate users from the rail infrastructure.

5.3.6 CRIME PREVENTION

Cyclist and pedestrian safety is important in encouraging the use of the shared path, particularly outside of daylight hours. The design provides clear sightlines and opportunities for concealment or entrapment have been minimised.

Bridge and approach path lighting will be provided to meet appropriate categories for safety and visibility.

CCTV will be installed at the station to provide surveillance and activity records. Refer **Volume 2 Attachment 3** CPTED report.

5.3.7 TRANSPORTATION AND ACCESS

Both Council Development Plans encourage “a comprehensive, integrated, affordable and efficient air, rail, sea, road, cycle and pedestrian transport system”.

The development will contribute to achieving this objective by providing a dedicated pedestrian and cycle path over Sturt Road and Main South Road and by extending the rail to better serve the Flinders precinct activity node.

Both Councils also encourage safe, convenient and attractive walking and cycling routes that connect public facilities, to encourage sustainable methods of transport. There is a direct connection between this objective and the development, as the development will significantly enhance accessibility, legibility and safety of access thus encouraging the use of the pathway and the rail.

5.3.8 REGULATED AND SIGNIFICANT TREES

The proposed works requires the following tree-damaging activity to be undertaken in order to accommodate the development:

- removal of one Regulated Tree; and
- removal of two Significant Trees.

These trees are located on Commissioner of Railways land and accordingly are exempt from approval.

Both Council Development Plans provisions refer to the following in regard to regulated tree removal:

“A regulated tree should not be removed or damaged other than where it can be demonstrated that the following applies:

- **development that is reasonable and expected would not otherwise be possible.**

In regard to pruning, tree damaging activity other than removal should seek to maintain the health, aesthetic appearance and structural integrity of the tree.

In consideration of the proposed development, it is deemed that ‘reasonable and expected’ development cannot occur without their removal. This tree-damaging activity is deemed necessary to accommodate the construction of the rail extension. The removal of these trees is seen to be outweighed by the benefits the rail extension will provide to the user community. Semi-mature trees have already been sourced early to ensure an optimal offset planting outcome.

DPTI propose to make arrangements for the planting of two trees per tree that is removed as part of this application, to be planted in consultation with Marion and Mitcham Councils. Refer to the Landscape Plan in **Volume 2 Attachment 4**.



6

SUMMARY

6.0 CONCLUSION

The proposed extension of the Tonsley line and the creation of a new station and associated links and facilities is comprehensive however, as a consequence of the regulatory framework only certain of the works require authorisation pursuant to the Development Act. These works are:

- Rail Track extension and viaduct supports (except on railways land);
- Toilet block, bike enclosure, shelter, driver amenity structures;
- Stair and elevated access to Flinders Drive from viaduct structure;
- Elevated pedestrian walkway to Flinders Medical Centre;
- Removal of regulated and significant trees (not on Comm. Highways land or road under care & control);
- Earthworks associated with the filling or modification of the land (not essential to railway operations); and
- Landscaping (which form public realm works for Flinders Station).

In summary, the proposed development meets the overall vision and policies of the Marion Council and Mitcham Council Development Plans and is not seriously at variance with Development Plan provisions.

The Development Plan specifically acknowledges the extension to the Tonsley line and the relocation of the station facilities at its new terminus in the Flinders precinct where the development of a hub centred on the station is anticipated.

Assessment of other overarching strategic planning documents at the Federal, State and Local level reveal that the rail extension will contribute to meeting many of the strategic priorities for the State and reinforce the regional capacity and function of the Activity Zone.

The current proposal is for development under section 49 of the Development Act 1993. This report identifies this application as strategic infrastructure that is to be provided by the Department of Planning, Transport and Infrastructure to support efficiency of the rail and BikeDirect networks.

The proposal meets the strategic, design and functional expectations set out in the Development Plan and is consistent with the expectations for the Regional Activity Zone.

The design creates and completes an integrated transport outcome linking critical elements of the urban environment to serve the Flinders precinct and make more efficient and effective the provision of public transport whilst enabling safer and more convenient interconnectivity for pedestrians and cyclists.

For these reasons as detailed in the report and supporting documents, the proposed development warrants Development Approval.

ATTACHMENTS VOLUME 1
