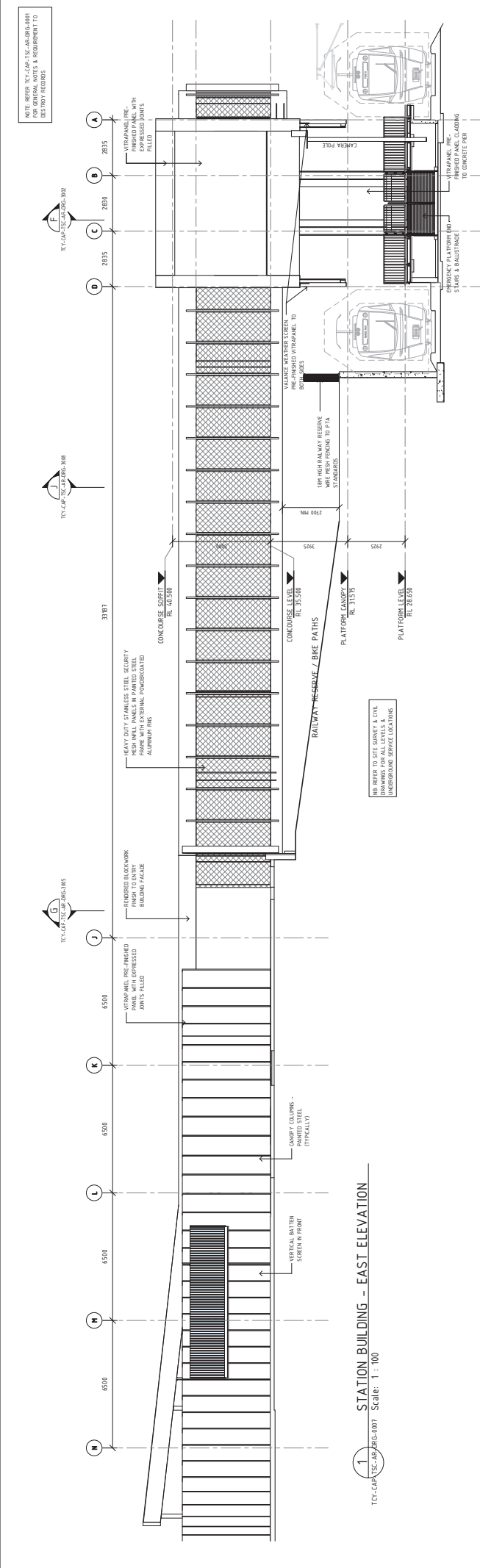
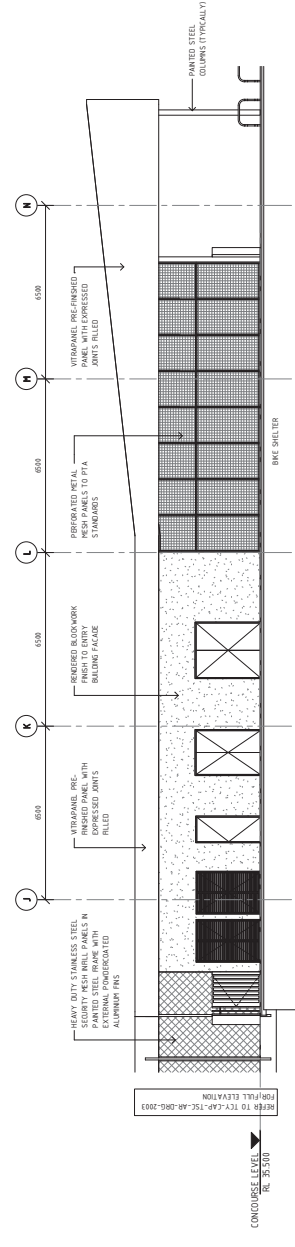
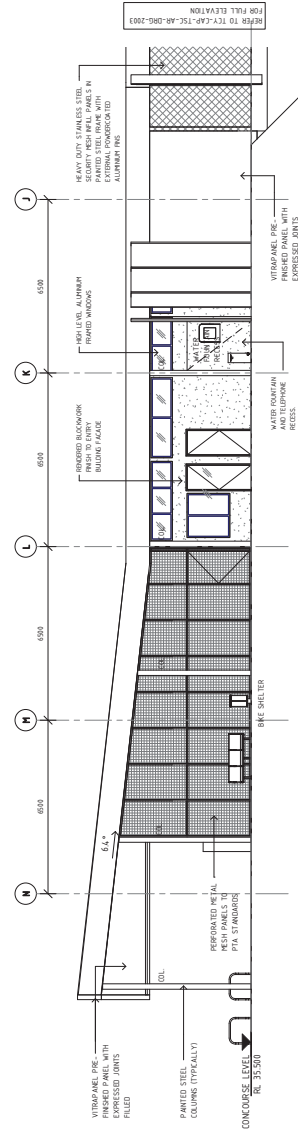
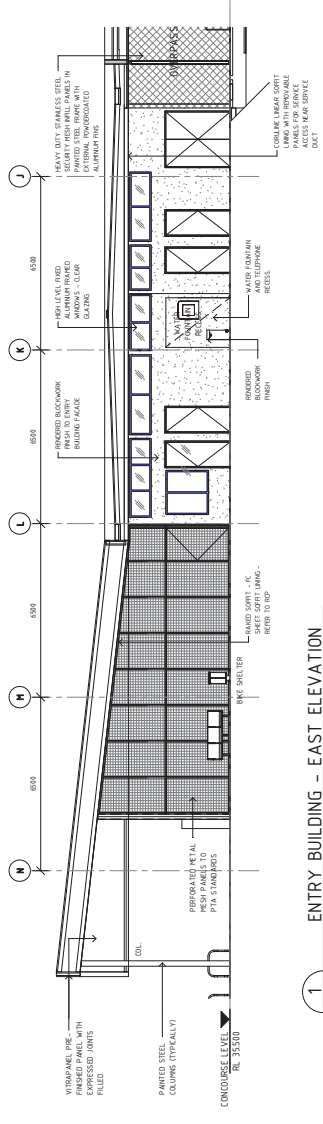
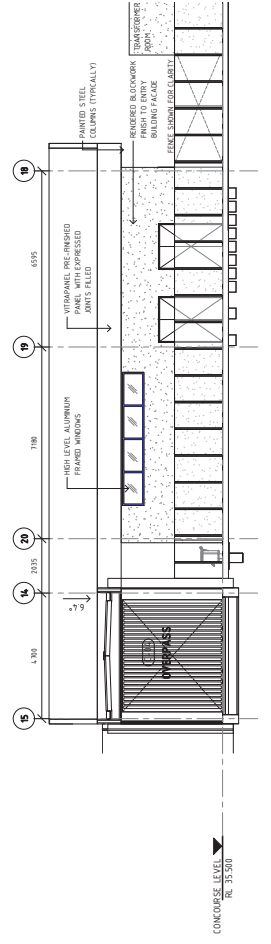
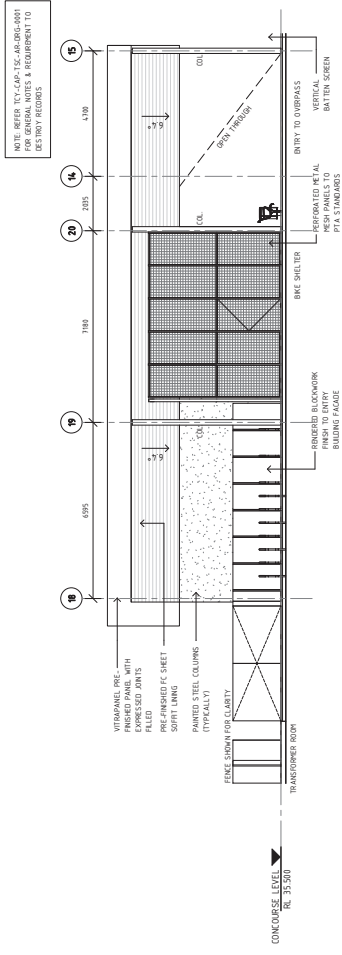
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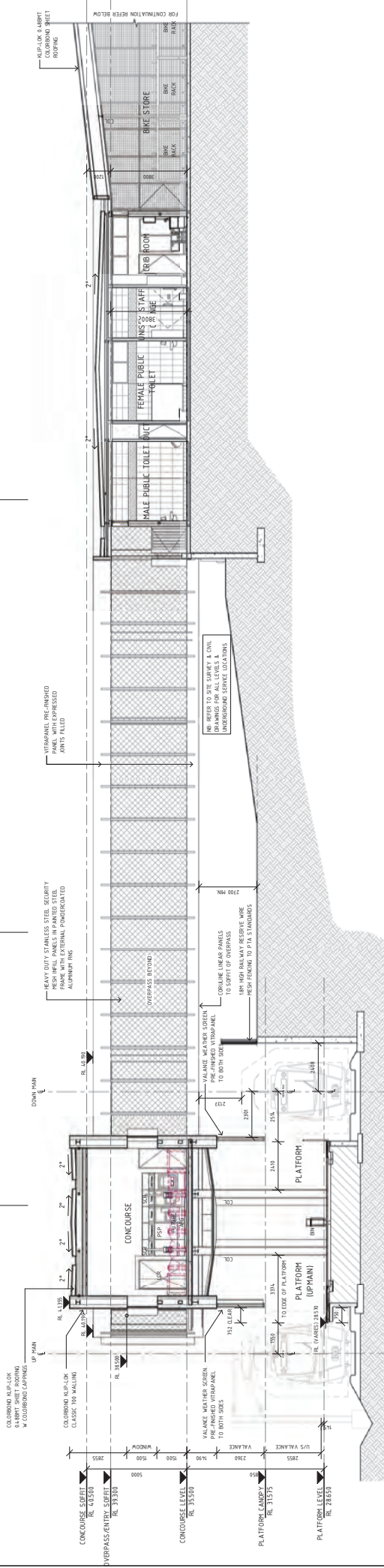




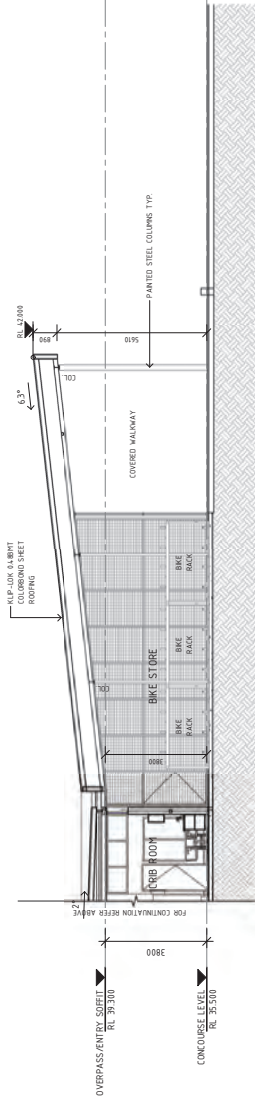
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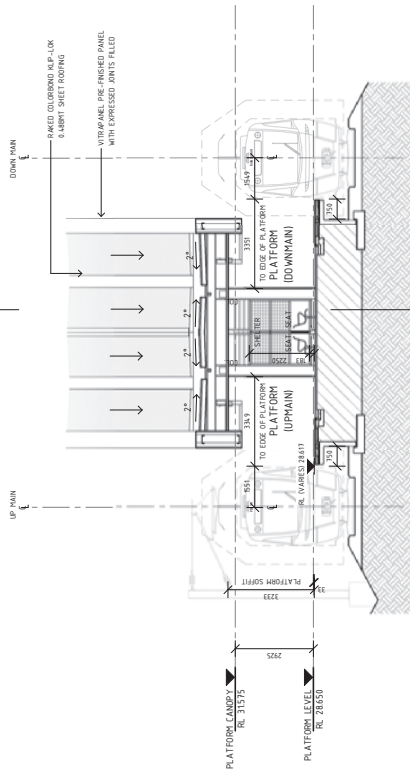
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SECTION BB-1  
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SECTION BB-2  
Scale: 1 : 100

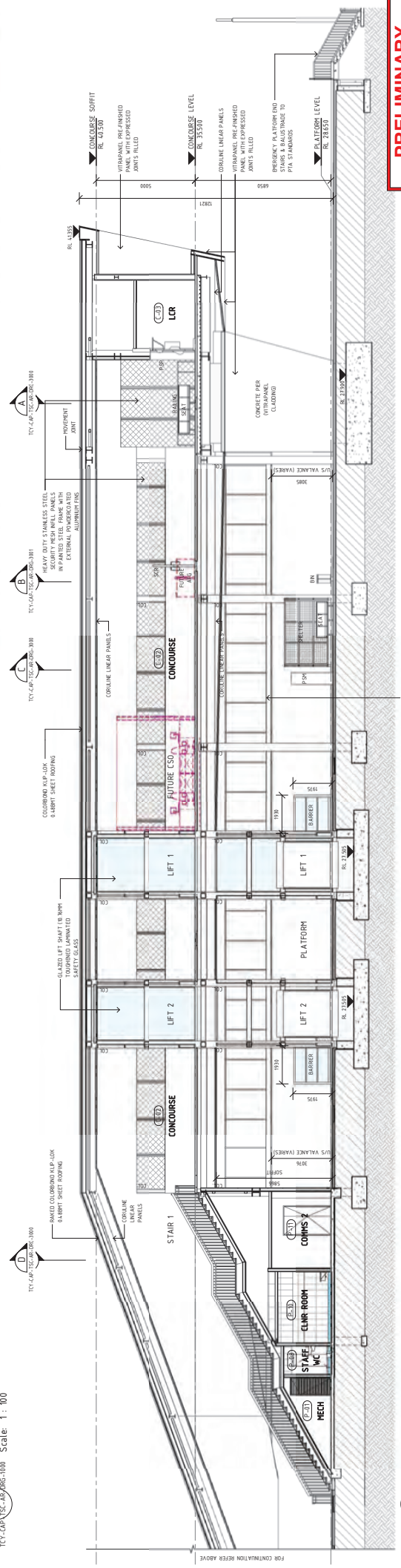
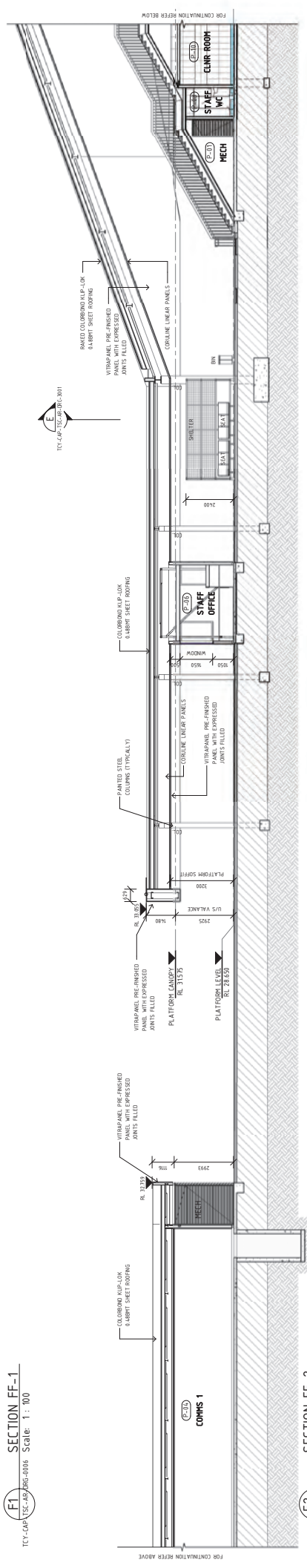
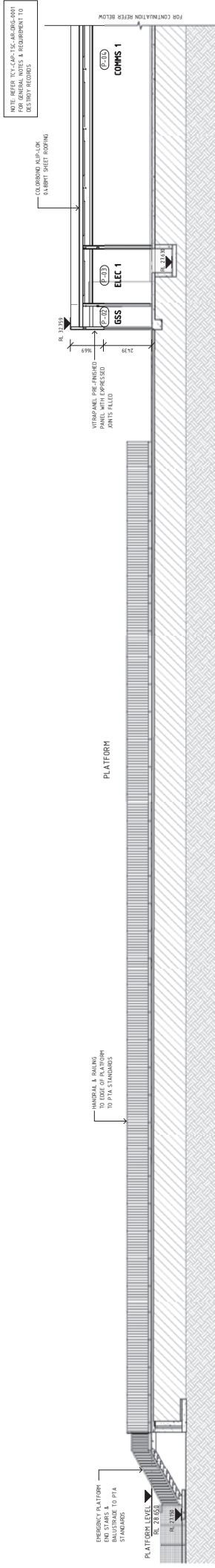


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PRELIMINARY

DETAILED DESIGN

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TCY-CAP-TSC-AR-DRG-0007		DATE	
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TCY-CAP-TSC-AR-DRG-0009		APPROVED FOR ISSUE	
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TCY-CAP-TSC-AR-DRG-0011		DRAWN F. CHAN	
TCY-CAP-TSC-AR-DRG-0012		DESIGNED M. GIBBINS	
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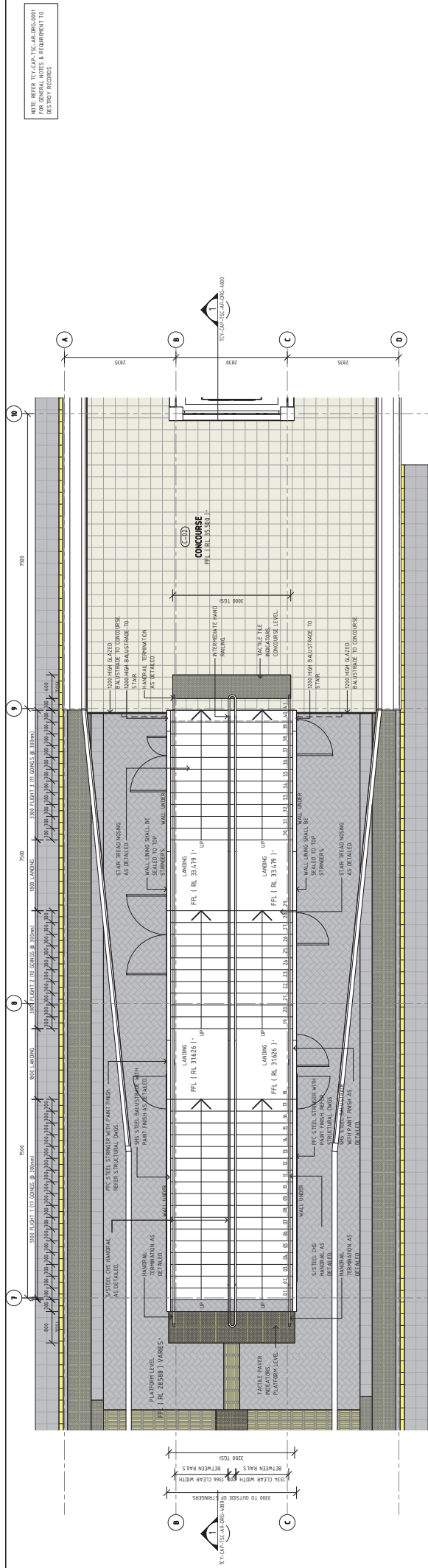
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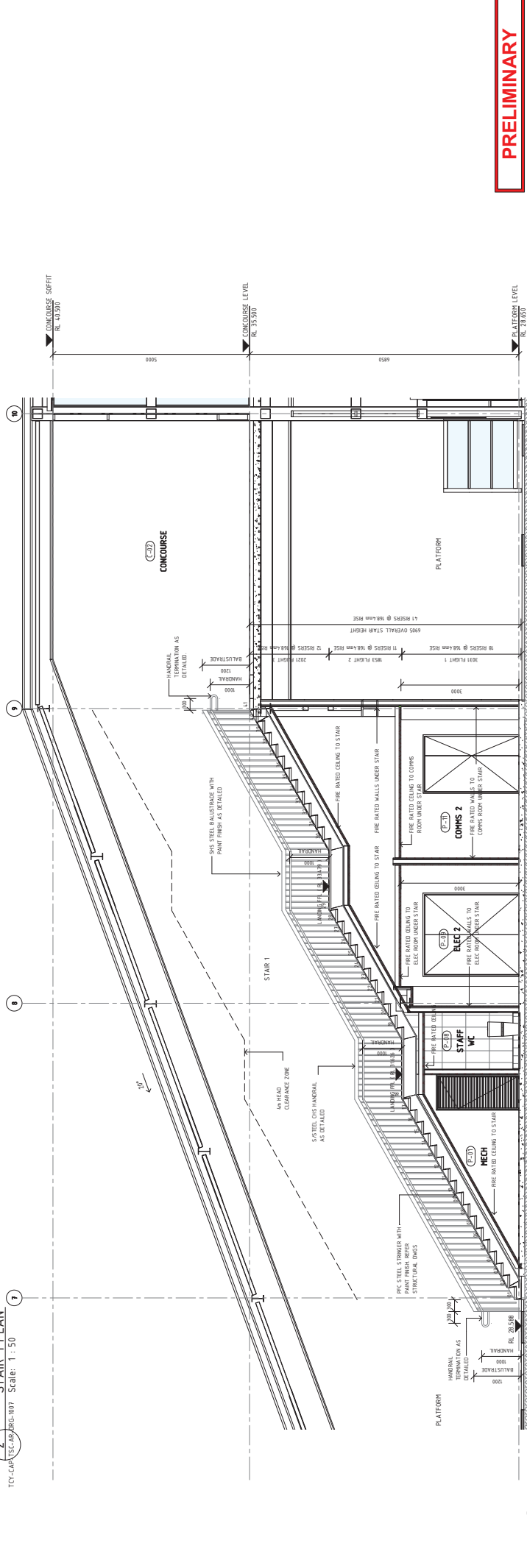









2 STAIR 1 PLAN  
TCY-CAPTSC-AR-ORG-1007 Scale: 1 : 50



1 SECTION 1 - STAIR 1  
TCY-CAP-ISC-AR-DRG-4000 Scale: 1 : 50

## PRELIMINARY

## DETAILED DESIGN

 Government of Western Australia Public Transport Authority	THORNLE COCKBURN LINK  RANFORD ROAD STATION STAIR 1 - STATION BUILDING	PTA Drawing No.: A REV: A
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SCALE : 1 : 50 (@ A1)	DESIGNED M GIBBINS
DATUM :	DRAWN F CHAN
HORIZONTAL: PCG20	CHECKED A AINSWORTH
VERTICAL: AHD71	APPROVED FOR ISSUE
PTA ACCEPTANCE STAMP	EXECUTIVE DIRECTOR PTA Division / External Company
	DATE

## REFERENCES



**NEWest Alliance**

TCY - CAP - TSC - AR - DRG - 4,000

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## **APPENDIX C    METRONET FACT SHEETS FOR TCL & RANFORD ROAD STATION**

# Thornlie-Cockburn Link

The 17.5 kilometre Thornlie-Cockburn Link is Perth's first east-west rail link and will serve the communities between the Mandurah and Armadale lines, address road congestion and influence land development to help deliver well planned, liveable communities.



## The project addresses three key local issues:



Current transport connections are insufficient to cope with expected population growth.



The radial design of the current passenger rail network creates service gaps and reduces system resilience, limiting passenger mobility.



Economic and population growth pressures are leading to increased congestion and crowding across the transport system, adversely impacting the productivity of the system.

## Project snapshot\*

**17,427** Total daily boardings (2031)

**1,400** Total parking bays

**26 min** Train journey from Perth to Nicholson Road

**29 min** Train journey from Perth to Ranford Road

**20** Total u-rails and

**4** Total bike shelters

**20** Total bus stands

**3 km** Track duplication between Beckenham and Thornlie stations

**14.5 km** Passenger rail between Thornlie and Cockburn Central stations



**11 km** Relocated freight railway

**x2**

New stations at Nicholson Road and Ranford Road

**x1**

Pedestrian overpass at Elliot and Cameron streets



Modifying Thornlie Station into a through station



New terminating platform at Cockburn Central



Canning Rail Bridge duplication



Ranford Road and Karel Ave bridge modifications

\*Final details are subject to detailed design and may change.



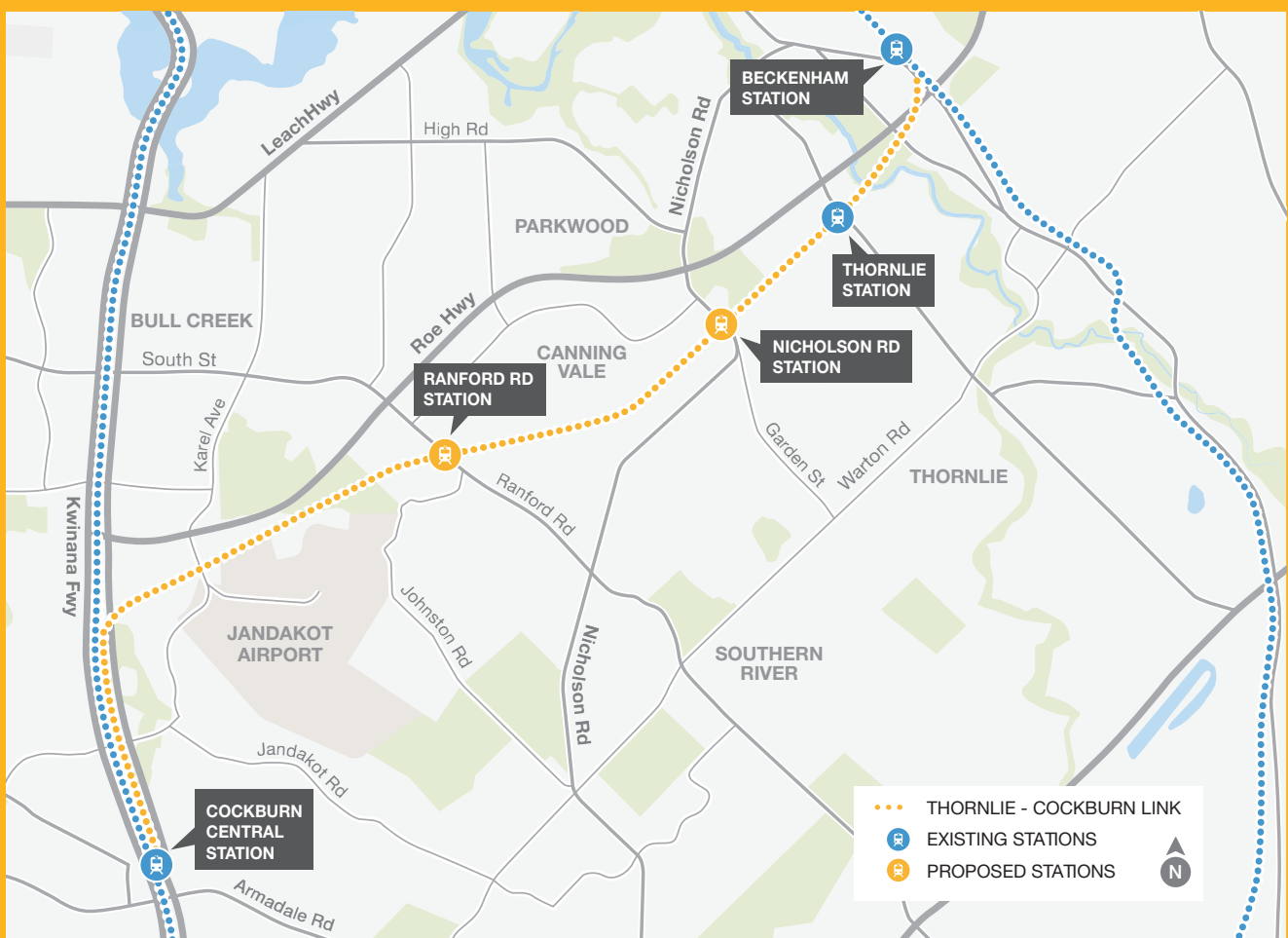
# Rail alignment

**The Thornlie-Cockburn Link will be located within existing rail corridors in Perth's south-east suburbs.**

Between Thornlie Station and the Kwinana Freeway, the passenger rail will be located within the rail freight corridor. To ensure minimal impact to freight operations, construction will be staged to first relocate the freight lines to the northern section of the corridor. This will free up room to build the passenger rail in the southern half.

Along this section of track, the pedestrian level crossing between Cameron Street and Elliot Place will be replaced with a pedestrian footbridge. With the railways travelling under the existing Ranford Road and Karel Avenue road bridges, modifications to the bridges will be required to accommodate the extra sets of tracks and meet safety requirements.

The Thornlie-Cockburn Link will travel through the Glen Iris Tunnel, which was constructed as part of upgrades to the Kwinana Freeway. The extension will come up between the Mandurah Line and become a single spur just to the north of Cockburn Central Station, where an additional platform will be provided to terminate the route.



# The stations



**The Thornlie-Cockburn Link station designs have been future-proofed for the longer-term development that will be possible in the areas around them.**

The METRONET Office will continue to work closely with stakeholders and landowners to ensure planning makes the most of the public transport infrastructure.



Nicholson Road Station will include parking, bus interchanges, passenger amenities, cycling facilities and standard station systems to cater for around 2,350 daily boardings (2031) and offer an approximately 26 minute journey to Perth.



Ranford Road Station will include parking, bus interchanges, passenger amenities, cycling facilities and standard station systems to cater for around 1,985 daily boardings (2031) and offer an approximately 29 minute journey to Perth.

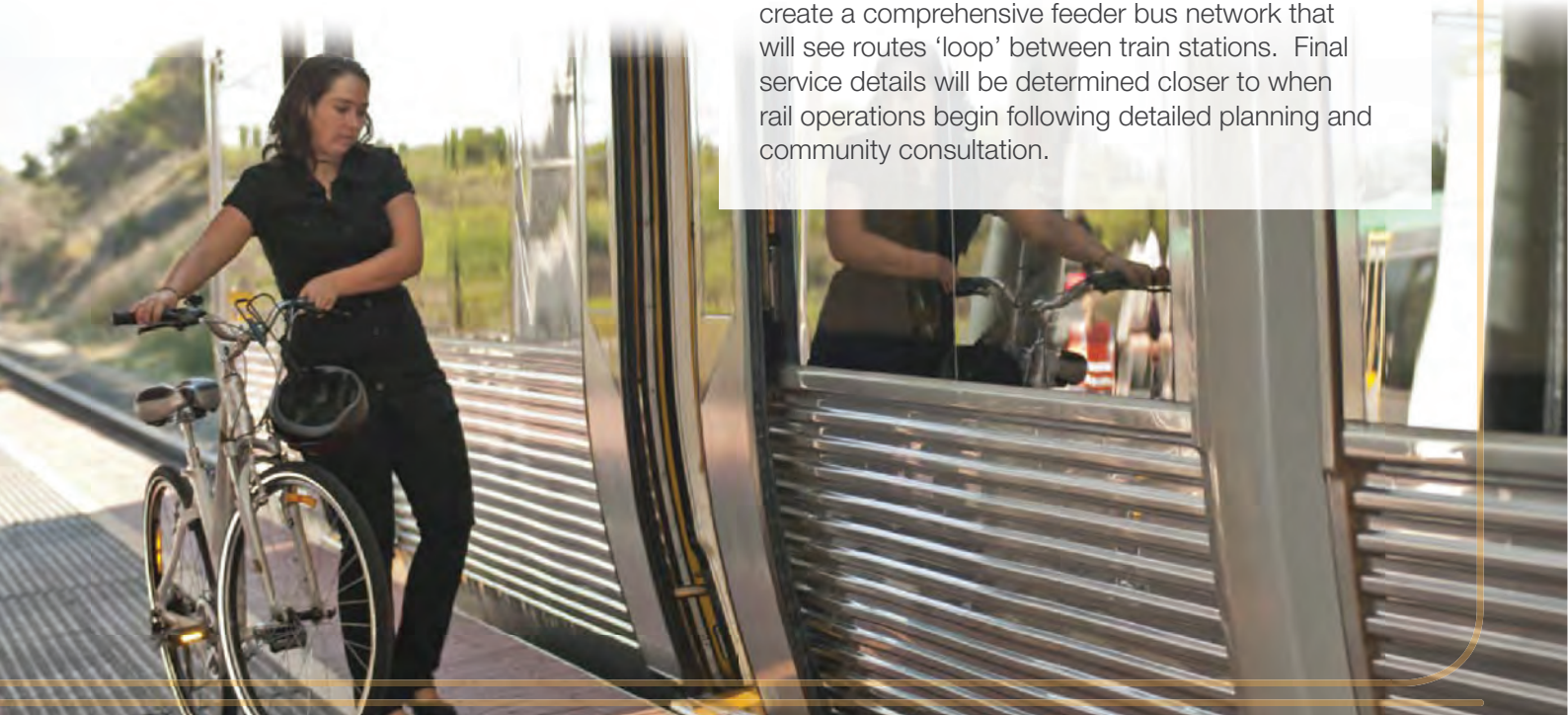


## Connection to the community

**While ample parking will be provided, the Thornlie-Cockburn Link will aim to encourage passengers to access the stations by walking, cycling, bus and drop-off.**

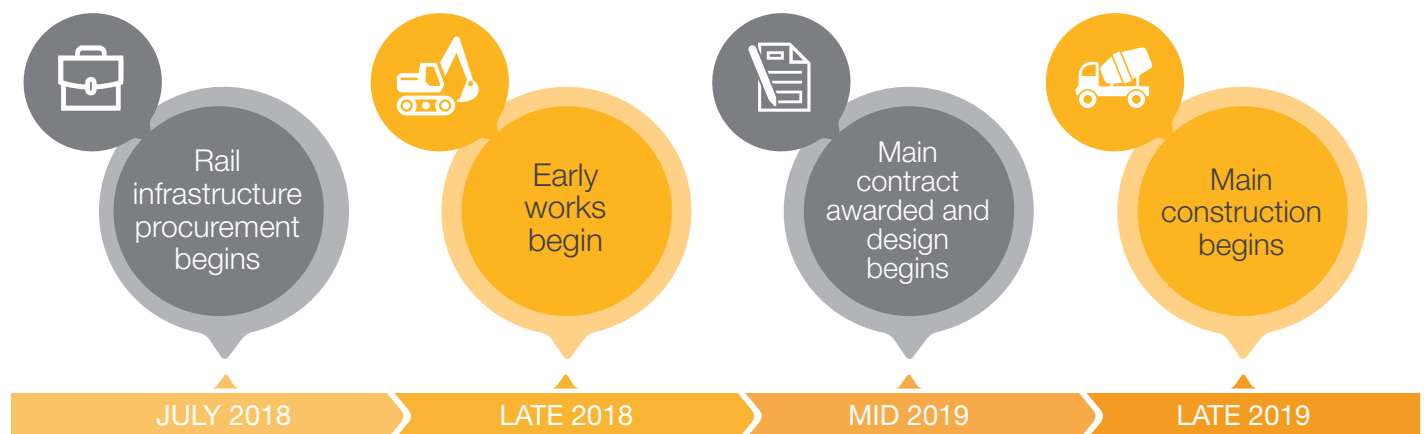
Each station area will be connected to the local shared path network, will have dedicated passenger drop-off areas, secure bicycle parking shelters, bike u-rails and the ability to add additional secure bicycle parking shelters in the future.

The area's existing bus services will be reviewed to create a comprehensive feeder bus network that will see routes 'loop' between train stations. Final service details will be determined closer to when rail operations begin following detailed planning and community consultation.



# TIMELINE

## Transport infrastructure delivery



## Minimising **noise** and **vibration**

**Investigation and planning is already underway to ensure introducing the passenger lines means noise and vibration levels are no worse, and where possible are better, than existing levels experienced within the community.**

Based on early designs, an initial operational noise and vibration assessment has recommended a combination of up to four-metre high noise walls in certain locations and anti-vibration ballast matting under both the freight and passenger lines.

This will continue to be reviewed and updated as the designs progress when the contractor is appointed.

## Land development delivery

**Transport projects can be planned and delivered in a relatively defined timeframe.**

However, the associated development around the station can take 30 to 40 years (or longer) to reach target densities and is largely not within the State Government's control. In addition, land uses are impacted by planning, investment and policy factors beyond the investment in transport infrastructure alone.

For the Thornlie-Cockburn Link, the METRONET Office will continue to work with state agencies, local governments and the private sector to help transition the areas around Nicholson Road, Ranford Road and Thornlie stations into mixed-use centres over time.



### MORE INFORMATION

✉ [info@metronet.wa.gov.au](mailto:info@metronet.wa.gov.au)

☎ 9326 3666

🌐 [metronet.wa.gov.au](http://metronet.wa.gov.au)



# METRONET

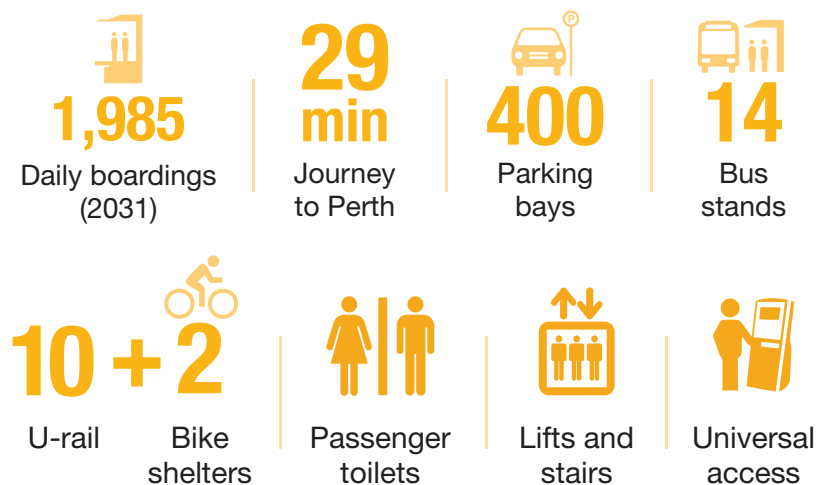


## Ranford Road Station

Approximately 29 minutes from Perth by train, the design of this station maximises its location along a high-frequency bus route and will serve the Canning Vale industrial area.



## Station snapshot\*



\*Final details are subject to detailed design and may change.



# Station design

The early station design work looked into the location, scale and general features of the future station. This work detailed how the station will maximise its location along a high frequency bus route.

Ranford Road Station will be accessed from a precinct entry road, off the proposed new Jandakot Airport Eastern Link Road to the south-east of the station.

Built in a cutting approximately 8.5 metres lower than Ranford Road, the station will include a station entry building and concourse connecting to the island platform.



## *Features of the universally accessible station:*



### **Passenger amenity**

Public toilets, public services (such as vending machines), kiosk, passenger ticketing/information, staff amenities, station administration offices, storage/cleaning and operational facilities.



### **Pedestrian/cycle access**

Well connected to a principal-shared path west of the station, with two secure bicycle parking shelters, bike u-rails and ability to add two additional secure bicycle parking shelters in the future.



### **Bus interchange**

14-stands with weather protection, seating and information facilities. The interchange includes six layover bays.



### **Vehicle access**

Dedicated passenger drop-off area and approximately 400 parking bays, which can be expanded in the future.

*The station architecture and final design will be developed when a contractor is appointed.*



# Precinct development

The METRONET Office will continue to work with state agencies, local governments and the private sector to help transition the areas around Ranford Road into mixed-use centres over time.

## Long term development opportunities around Ranford Road include:

Future development of the Canning Vale industrial area to increase employment intensity and introduce new land uses.

De-constraining the City of Canning's land through zoning changes and site remediation.

A faster rate of infill development in established surrounding suburban areas.





# TIMELINE

Transport infrastructure delivery



## Development planning phases

Developing the area around Ranford Road Station will need the following planning framework and approvals, which can take up to four years:



Planning scheme preparation and approval setting out planning outcomes, development control and development contribution arrangements



Precinct plans to identify opportunities for increased densities which could be later mandated through a town planning scheme amendment



Any required environmental approvals



Subdivision approval

Development approval



## About the project

METRONET's Thornlie-Cockburn Link duplicates three kilometres of track between Beckenham and Thornlie stations, relocates 11 kilometres of freight rail, builds 14.5 kilometres of new passenger rail between Thornlie and Cockburn stations and two new stations at Nicholson Road and Ranford Road. The project is the catalyst for medium to long term redevelopment in the area.

### MORE INFORMATION

✉ [info@metronet.wa.gov.au](mailto:info@metronet.wa.gov.au)

☎ 9326 3666

🌐 [metronet.wa.gov.au](http://metronet.wa.gov.au)



# METRONET

# **APPENDIX D    LANDSCAPE PLANS AND LANDSCAPE MANAGEMENT PLAN**

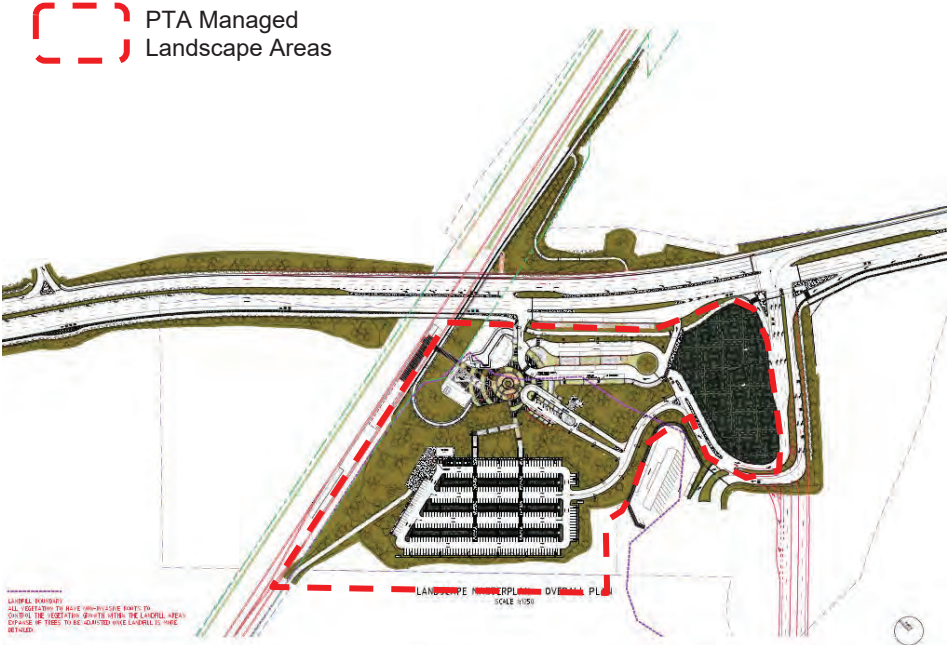
## Briefing Note

# Ranford Road Station – Landscape Management

<b>Subject</b>	Briefing Note: Ranford Road Station – Landscape Management
<b>Date</b>	31-Jul-2020
<b>Distribution list</b>	Thor Farnsworth, Chris Deshon

Item	Subject	Description
0.	Purpose	<b>To inform the Development Application (DA) for Ranford Road Station</b>
1.	Intent	<p>NEWest Alliance is delivering Landscape Works as part of the Stations Deliverables Package for the new station at Ranford Road, on the Thornlie Cockburn Link (TCL). The work is being delivered on behalf of the Public Transport Authority (PTA). This note outlines the broad Landscape Management Considerations and Responsibilities associated with the Landscape Works at the Station and surrounding Precinct. Plans showing the Landscape Design at 15% level of maturity are available (refer to documents TCY-DJV-TSC-LA-DRG-0001 through TCY-DJV-TSC-LA-DRG-0104).</p>
2.	Cultural Context and Place Theme	<p>All places in Australia have an Aboriginal history, with stories, people and ceremony linked to all. When we make places, we can learn from and tell the latent histories of sites and to embrace them in built form and landscape.</p> <p>With reference to the METRONET Noongar Cultural Context (Wadjup “the place of the emu”) Thornlie-Cockburn Link Project and the METRONET Gnarla Bidji reports, the cultural context of Ranford Station was identified as <b>“The Place of the Emu”</b>:</p> <p><i>The Thornlie-Cockburn Link Project is located on Noongar Boodjar (Country). Noongar people are the Traditonal Owners and Custodians of this area. At the time of the Swan River Colony, this area was Midgegooroo’s Beeliar territory known as Wadjup meaning ‘the place of the emu’. Munday’s Beeloo territory was in close proximity to the north.</i></p> <p>The place theme adopted in the landscape design for the station precinct is also <b>“The Place of the Emu”</b>. This theme is interpreted within feature banding in the paving areas that form a pattern symbolising the form of a footprint left by emu tracks. Branching pathways / pedestrian desire lines from the car park, kiss and ride, bus interchange and PShP meet at the centre point of the banding, guiding pedestrians towards the main entry of the station and forming a legible place to meet.</p>
3.	Landscape Works Areas	The station and station precincts’ landscape works includes all hard and soft landscaping generally outside the rail reserve. This involves:



Item	Subject	Description
0.	Purpose	<p><b>To inform the Development Application (DA) for Ranford Road Station</b></p> <ul style="list-style-type: none"> <li>• Station forecourts, entrances plazas and public domain areas.</li> <li>• Rail reserves within the station precinct and service facility areas.</li> <li>• Streetscapes adjoining the station precinct.</li> <li>• Principal Shared Path (PShP) and shared pathway access ways to the station.</li> <li>• Parking facilities.</li> <li>• Drainage basins and swales.</li> </ul>
4.	PTA's Permanently Managed Landscape Areas	<p><i>Figure 1 presents the extent of the PTA's Permanently Managed Landscape Areas around Ranford Road Station and Precinct. The remaining areas outside the PTA Managed Areas will be delivered by the PTA (to Project Handover) but then permanently managed by other agencies (once they are established and have achieved Project Handover).</i></p> <p></p> <p><i>Figure 1: Landscape Master Plan Showing PTA-Managed Landscape Areas</i></p>
5.	PTA's Landscape Design Style	<p>The Landscape Design Style has been developed to have a high level of aesthetics with pattern, texture and colour variation while also being a low-maintenance landscape requiring low amounts of water (apart from natural rainfall) once established.</p> <p>The Landscape Design solutions take into account the importance of retaining existing vegetation for visual amenity, ecological habitat and to minimise the urban heat island effect of the development.</p> <p>Species selected from the Site's remnant vegetation complexes are utilized both for revegetation of the rail reserve, as well as within the</p>

Item	Subject	Description
0.	Purpose	<b>To inform the Development Application (DA) for Ranford Road Station</b>
		<p>Station Precinct. This helps to ensure the suitability of vegetation to site. Turf is not used. Clear-stem trees and groundcovers are used in all situations to ensure sightlines are maximized and CPTED issues are managed. Bushy shrubs are only used (where they do not cause CPTED issues) for screening to mitigate visual impact issues.</p> <p>The plant species and soil nutrient requirements utilised in the design of garden beds and landscape areas are equivalent to those within endemic, local native plant ecosystems. The maintenance of the garden beds and landscape areas assumes that the following management and periodic maintenance activities will be carried out by the PTA.</p>
6.	Site Specific Considerations	Site specific considerations being addressed in the Landscape Works include the provision of suitable planting arrangements above areas of former landfill and the minimization of clearing of the native bushland.
7.	PTA's Landscape Management Activities	<p>All PTA's managed areas will be maintained using standard horticultural practices, including, the following items:</p> <ul style="list-style-type: none"> <li>• Maintenance of trees and groundcovers</li> <li>• Watering of trees and shrubs (during establishment only)</li> <li>• Fertilising of trees and shrubs</li> <li>• Weeding of garden beds</li> <li>• Slashing of non-irrigated dry grass areas</li> <li>• Topping up and making good of mulch to garden bed areas</li> <li>• Pruning</li> <li>• Pest and disease control of trees and shrubs</li> <li>• Removal of rubbish and debris in garden areas</li> <li>• Maintaining paving and other hard finishes free of leaves/litter</li> <li>• Preventative maintenance activities.</li> </ul>
8.	Irrigation	Irrigation is used for the establishment of the landscape within the Station Precinct area. The Rail Reserve and adjacent streetscapes are not irrigated and are designed to a Revegetation Style of finish.
9.	Water Sensitive Urban Design	Water Sensitive Urban Design (WSUD) treatments are being progressed to: maximise the absorption of rainfall and surface water flows on the site; to incorporate WSUD principles into the engineering; and to maximise flush kerbs and drainage swale areas.
10.	Tree Canopy	Trees within the car parks are designed to form a canopy, reducing the heat island effect. They are set at a minimum rate of three trees per 30 car bays where bays are in double rows (ie. where rows of parking bays face each other) and three trees per 15 bays where bays are in single rows.

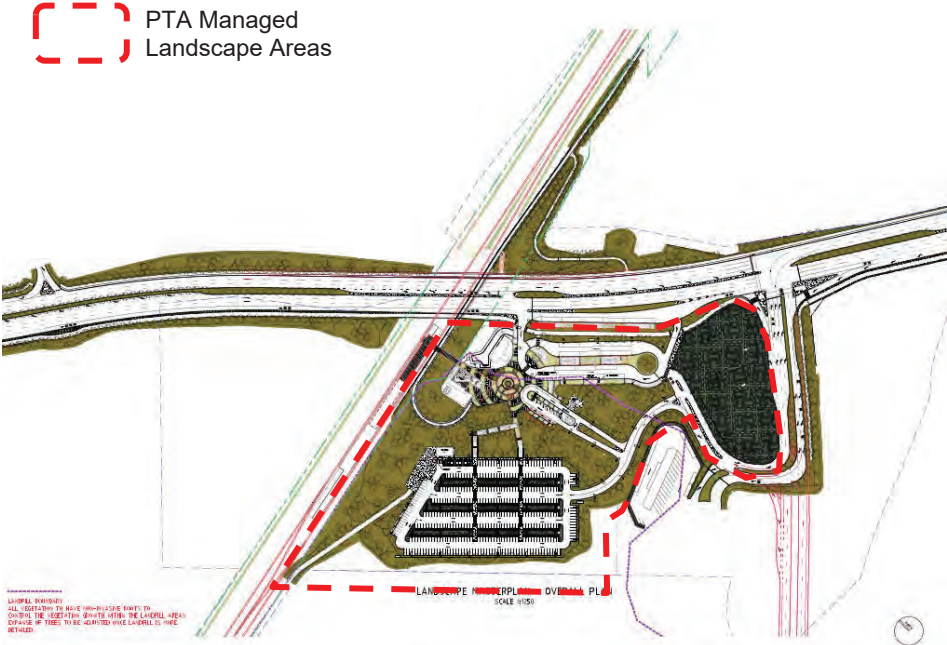
## Briefing Note

# Ranford Road Station – Landscape Management

<b>Subject</b>	Briefing Note: Ranford Road Station – Landscape Management
<b>Date</b>	31-Jul-2020
<b>Distribution list</b>	Thor Farnsworth, Chris Deshon



































Item	Subject	Description
0.	Purpose	<b>To inform the Development Application (DA) for Ranford Road Station</b>
1.	Intent	<p>NEWest Alliance is delivering Landscape Works as part of the Stations Deliverables Package for the new station at Ranford Road, on the Thornlie Cockburn Link (TCL). The work is being delivered on behalf of the Public Transport Authority (PTA). This note outlines the broad Landscape Management Considerations and Responsibilities associated with the Landscape Works at the Station and surrounding Precinct. Plans showing the Landscape Design at 15% level of maturity are available (refer to documents TCY-DJV-TSC-LA-DRG-0001 through TCY-DJV-TSC-LA-DRG-0104).</p>
2.	Cultural Context and Place Theme	<p>All places in Australia have an Aboriginal history, with stories, people and ceremony linked to all. When we make places, we can learn from and tell the latent histories of sites and to embrace them in built form and landscape.</p> <p>With reference to the METRONET Noongar Cultural Context (Wadjup “the place of the emu”) Thornlie-Cockburn Link Project and the METRONET Gnarla Bidji reports, the cultural context of Ranford Station was identified as <b>“The Place of the Emu”</b>:</p> <p><i>The Thornlie-Cockburn Link Project is located on Noongar Boodjar (Country). Noongar people are the Traditional Owners and Custodians of this area. At the time of the Swan River Colony, this area was Midgegooroo’s Beeliar territory known as Wadjup meaning ‘the place of the emu’. Munday’s Beeloo territory was in close proximity to the north.</i></p> <p>The place theme adopted in the landscape design for the station precinct is also <b>“The Place of the Emu”</b>. This theme is interpreted within feature banding in the paving areas that form a pattern symbolising the form of a footprint left by emu tracks. Branching pathways / pedestrian desire lines from the car park, kiss and ride, bus interchange and PShP meet at the centre point of the banding, guiding pedestrians towards the main entry of the station and forming a legible place to meet.</p>
3.	Landscape Works Areas	The station and station precincts’ landscape works includes all hard and soft landscaping generally outside the rail reserve. This involves:



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0.	Purpose	<p><b>To inform the Development Application (DA) for Ranford Road Station</b></p> <ul style="list-style-type: none"> <li>• Station forecourts, entrances plazas and public domain areas.</li> <li>• Rail reserves within the station precinct and service facility areas.</li> <li>• Streetscapes adjoining the station precinct.</li> <li>• Principal Shared Path (PShP) and shared pathway access ways to the station.</li> <li>• Parking facilities.</li> <li>• Drainage basins and swales.</li> </ul>
4.	PTA's Permanently Managed Landscape Areas	<p><i>Figure 1</i> presents the extent of the PTA's Permanently Managed Landscape Areas around Ranford Road Station and Precinct. The remaining areas outside the PTA Managed Areas will be delivered by the PTA (to Project Handover) but then permanently managed by other agencies (once they are established and have achieved Project Handover).</p> <p></p> <p><i>Figure 1: Landscape Master Plan Showing PTA-Managed Landscape Areas</i></p>
5.	PTA's Landscape Design Style	<p>The Landscape Design Style has been developed to have a high level of aesthetics with pattern, texture and colour variation while also being a low-maintenance landscape requiring low amounts of water (apart from natural rainfall) once established.</p> <p>The Landscape Design solutions take into account the importance of retaining existing vegetation for visual amenity, ecological habitat and to minimise the urban heat island effect of the development.</p> <p>Species selected from the Site's remnant vegetation complexes are utilized both for revegetation of the rail reserve, as well as within the</p>

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		<p>Station Precinct. This helps to ensure the suitability of vegetation to site. Turf is not used. Clear-stem trees and groundcovers are used in all situations to ensure sightlines are maximized and CPTED issues are managed. Bushy shrubs are only used (where they do not cause CPTED issues) for screening to mitigate visual impact issues.</p> <p>The plant species and soil nutrient requirements utilised in the design of garden beds and landscape areas are equivalent to those within endemic, local native plant ecosystems. The maintenance of the garden beds and landscape areas assumes that the following management and periodic maintenance activities will be carried out by the PTA.</p>
6.	Site Specific Considerations	Site specific considerations being addressed in the Landscape Works include the provision of suitable planting arrangements above areas of former landfill and the minimization of clearing of the native bushland.
7.	PTA's Landscape Management Activities	<p>All PTA's managed areas will be maintained using standard horticultural practices, including, the following items:</p> <ul style="list-style-type: none"> <li>• Maintenance of trees and groundcovers</li> <li>• Watering of trees and shrubs (during establishment only)</li> <li>• Fertilising of trees and shrubs</li> <li>• Weeding of garden beds</li> <li>• Slashing of non-irrigated dry grass areas</li> <li>• Topping up and making good of mulch to garden bed areas</li> <li>• Pruning</li> <li>• Pest and disease control of trees and shrubs</li> <li>• Removal of rubbish and debris in garden areas</li> <li>• Maintaining paving and other hard finishes free of leaves/litter</li> <li>• Preventative maintenance activities.</li> </ul>
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LANDSCAPE LEGEND	
	PV1 - MIDLAND BRICKS CLAY PAVERS 230mm x 114mm x 60mm
	PV2 - MIDLAND BRICKS CLAY PAVERS 2 COLOUR MIX - 85%/15%
	PV3 - MIDLAND BRICKS CLAY PAVERS 2 COLOUR MIX - 85%/15%
	PV4 - MIDLAND BRICKS CLAY PAVERS SINGLE COLOUR
	PV5 - MIDLAND BRICKS CLAY PAVERS 2 COLOUR MIX - 85%/15%
	PV6 - MIDLAND BRICKS CLAY PAVERS SINGLE COLOUR
	PV7 - Standard Grey Brushed in-situ Concrete
	MU - Mixed Only Areas
	CL - Crushed Limestone
	GB - Overall Garden Bed Areas
	SH - Basin / Swale Plant Mix
	New Trees
	Feature Landscape Seating Elements
	Potential Location for Artwork
	RW - Landscape Seating Walls
	RW - Landscape Retaining Walls up to 1.5m maximum height
	RANGEFORD ROAD STATION
	NEEDS TO BE ADJUSTED TO ACCOMMODATE FUTURE PROGRESS
	Architectural Details - Structures NEEDS TO BE ADJUSTED TO ACCOMMODATE FUTURE PROGRESS
	TCL Landscape Corridor
	NEEDS TO BE ADJUSTED TO ACCOMMODATE FUTURE PROGRESS
	DEVELOPMENT ENVELOPE BOUNDARY
	RAIL RESERVE BOUNDARY
	LIGHTING COLUMN WITH SINGLE OR DOUBLE OUTREACH ARM AND LED LIGHTS IN METRES UNLESS NOTED
	ALL DIMENSIONS IN METRES UNLESS NOTED
	OTHERWISE
	TCL LANDSCAPE ORIGINATOR ONLY
	STATION BOUNDARIES TO BE REVIEWED AS DESIGN PROGRESSES.
	DISCLAIMER:
	THESE DESIGN AND PLANS ARE OWNED BY NEWCAST
	AND WILL BE REPRODUCED WITHOUT
	WRITTEN PERMISSION.
	DO NOT SCALE OFF THESE DRAWINGS.
	SCALE 1:1000 (A1), 1:2500 (A3)

## DETAILED DESIGN

[illegible]

CAD DRAWING PATHNAME C:\Pedro Faustino Files\Working Files\METRONET Project\TCL Rail\TSC - Ranford Road Station\Detailed Design\TCY-DJV-TSC-LA-DRG-0011.dwg