METROTUNNEL

CBD COMMUNITY REFERENCE GROUP

MEETING NO. 7

FRIDAY 16 MARCH 2018

MELBOURNE METRO RAIL AUTHORITY

VICTORIA State Government

TRAFFIC AND TRANSPORT WORKING GROUP

TRAFFIC AND TRANSPORT WORKING GROUP (TTWG)

Lachlan Lee-Archer, Operations Manager Surface
Transport and Modelling
Melbourne Metro Rail Authority

TRAFFIC & TRANSPORT WORKING GROUP (TTWG) EXPLAINED

- What is the Traffic and Transport Working Group (TTWG)
- Who is on the TTWG
- What are the TTWG's Environmental Performance Requirements
- How do other parties have a say on transport management issues
- Assessment of St Kilda Road to one lane

WHAT IS THE TRAFFIC & TRANSPORT WORKING GROUP (TTWG)

- TTWG is a technical working group of transport agencies and emergency services
  - authorities under legislation for elements of the transport network
  - unique and high priority road users (emergency services)

- Established in 2015 to help guide development of station precincts and the Environment Effects Statement traffic documentation

- Provides centralised discussion and agreement on key transport issues (NB: most transport issues have multiple approval authorities)

- Provides opportunities for third party collaboration and input

- TTWG does not get into the detail of individual sign placement on traffic management schemes

WHO IS ON TTWG

- MMRA (Chair)
- MMRA contractors
- Transport for Victoria supported by PTV where required
- VicRoads
- Yarra Trams
- City of Melbourne
- City of Port Phillip
- City of Stonnington
- Victoria Police
- Ambulance Victoria
- Melbourne Fire Brigade

ENVIRONMENTAL PERFORMANCE REQUIREMENTS (EPRS)

- TTWG was formalised through the Environment Management Framework as part of the project EES in 2016
- The Environment Management Framework established the Environmental Performance Requirements

- Key Transport Issues identified in the EPRs which reference TTWG include:
  - T2: Transport Management Plans including monitoring methodologies
  - T3: Network Enhancement Projects (NEPs)
  - T4: Public Transport access during construction
  - T5: Active transport access during construction
  - T7: Legacy road functional layouts and other road design matters
  - T9: Legacy active transport outcomes

- The above EPRs are managed “in consultation” with TTWG. (NB: TTWG as a body has no approval powers)

THIRD PARTY INPUT

- EPR T2 – Transport Management Plans, provides for third party input from additional key stakeholders, to ensure that appropriate consultation is achieved

- TTWG often receives third party input from key stakeholders through:
  - Direct consultation with related stakeholders regarding a specific transport matter (eg. building access, site safety, major event planning etc)

  - Precinct Reference Groups established by MMRA in accordance with EPR SC11 and SC12

  - Key Stakeholder invites to attend a TTWG meeting where required

COMMUNITY CONSULTATION

- EES process included extensive public consultation and set the baseline for community input on key transport issues
- CRG provides an opportunity for community and other stakeholder representatives to comment on transport matters to MMRA and its contractors
- Development plans, including transport matters were publicly advertised for comment, these may need to be revised with further public exhibition periods
- MMRA and its contractors are committed to open lines of communication with the public and maintain Metro Tunnel Project information Line and Contact Us

ST KILDA ROAD ONE LANE ASSESSMENT

- The network is operating as predicted with minor journey times increases in the area. The expected delays of up to 15 minutes remains applicable to the precinct
- St Kilda Road is experiencing journey times comparable to six-month averages in both directions (+/- 2 minutes)
- Delays experienced on approach to the single lane section are at times being offset by gains on the egress from the single lane section
- Motorists are diverting from St Kilda Road to adjacent routes including Kings Way and Canterbury Rd / Ferrars St in the peak periods

ST KILDA ROAD ONE LANE ASSESSMENT

- Some significant increases in journey times have been observed on Kings Way / Queens Road, however on some days the delays could be attributed to other factors such as on-road incidents
- Trams on St Kilda Road are operating without delay. Some minor conflicts around Domain Interchange are being worked through with Yarra Trams (eg; Pedestrian waiting area near Park Street)
- Local traffic access issues continue as a result of closures on Bowen Crescent, Albert Road access to St Kilda Road and Park Street tram works
- MMRA, John Holland and CYP are aware of significant delays for some users and are working together to manage these impacts

QUESTIONS?

JOHN HOLLAND EARLY WORKS PROGRAM UPDATE

METROTUNNEL

METRO TUNNEL EARLY WORKS CBD

Bec Rowe- Community Stakeholder Lead
Fran Woodruff- Community Stakeholder Lead

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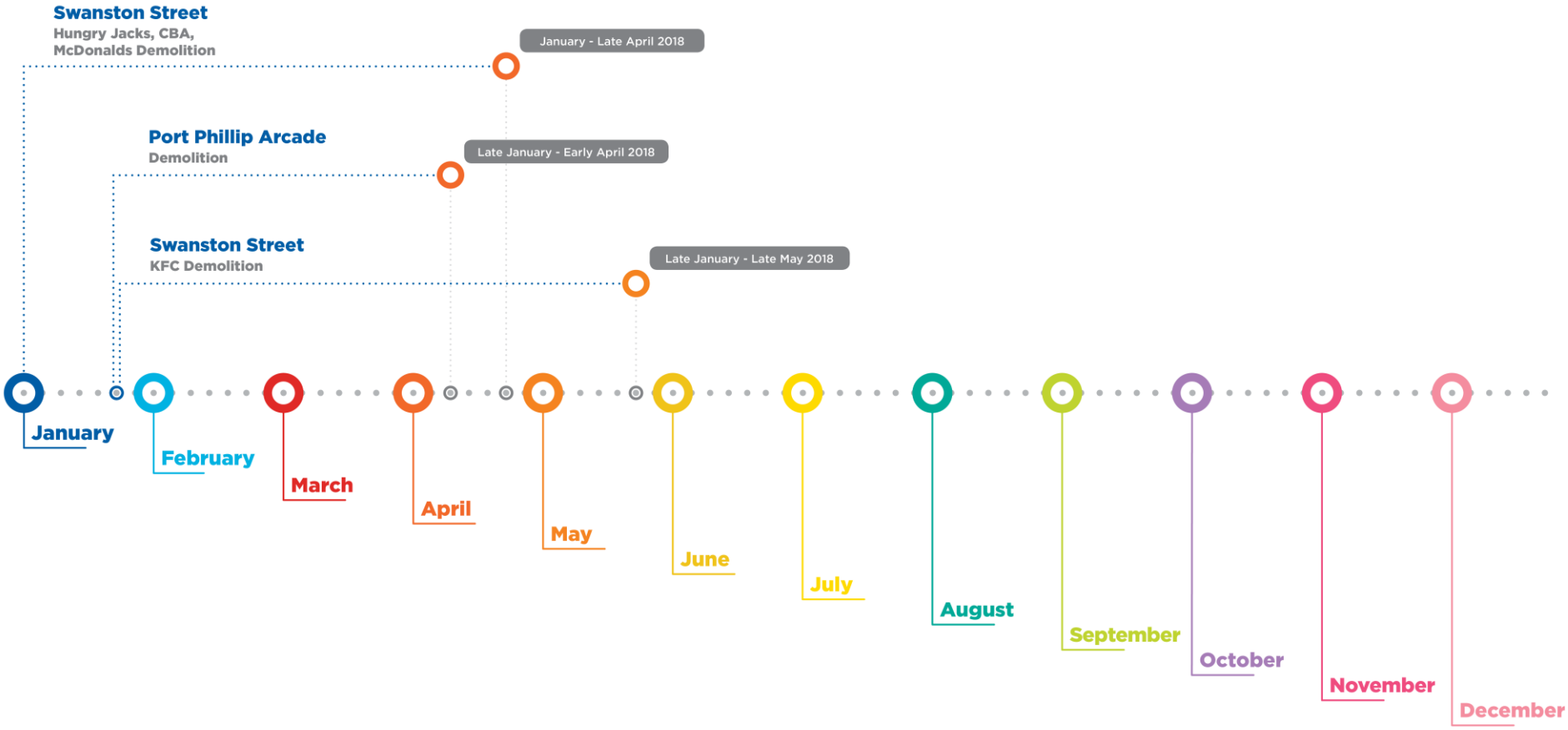
METRO TUNNEL EARLY WORKS

TOWN HALL STATION UPDATE

TOWN HALL STATION TIMELINE – EARLY WORKS



Indicative timeline only

METROTUNNEL

SWANSTON STREET BUILDING DEMOLITION

METROTUNNEL

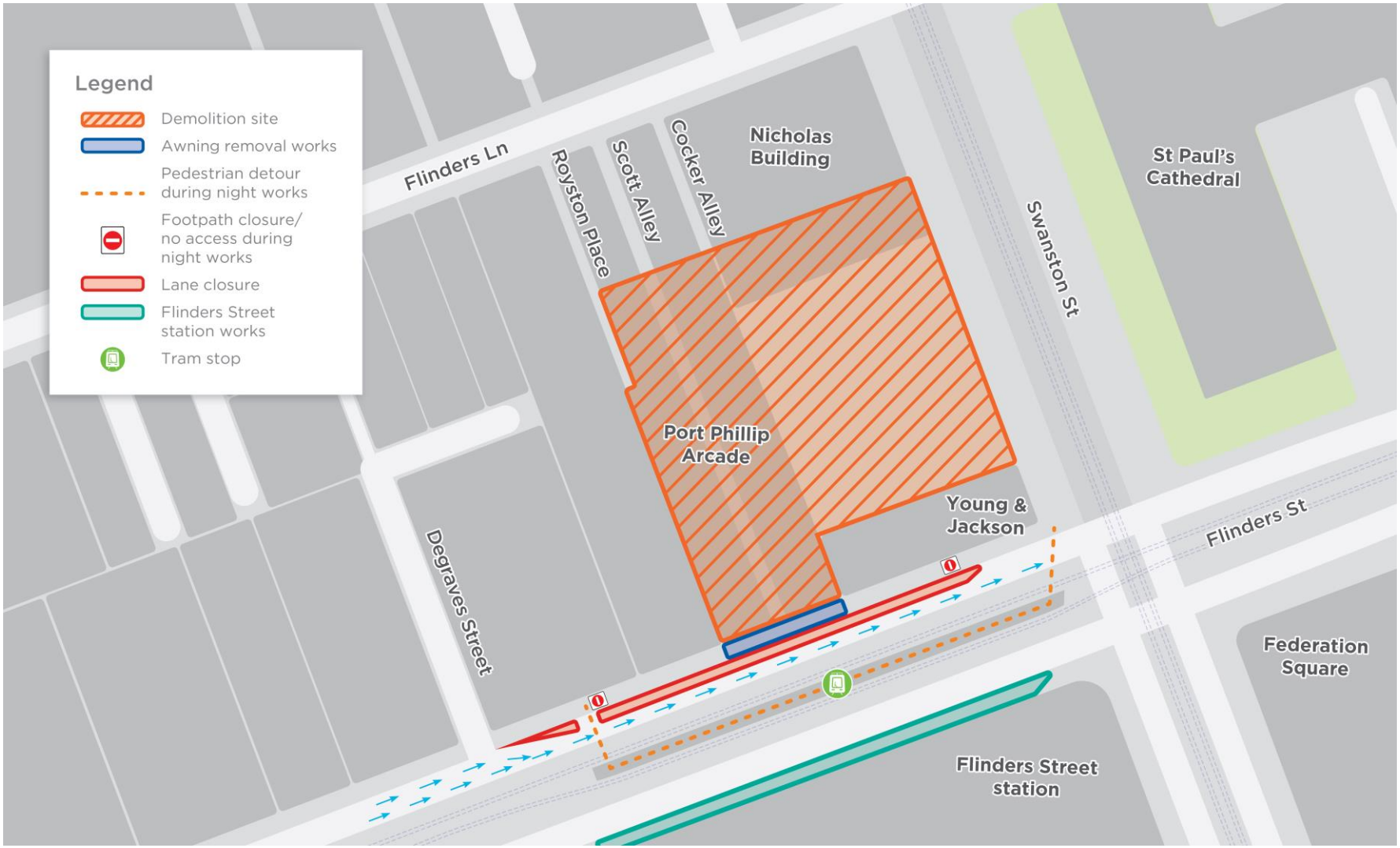
PORT PHILLIP ARCADE DEMOLITION

UPDATED PROGRAM FOR PORT PHILLIP ARCADE DEMOLITION

- Install public protection:
  - Flinders Street awning removal and protective scaffolding assembly (night works): **18 March to 22 March 2018**
  - Scott Alley canopy demolition and protective scaffolding assembly: **8 March to 19 March 2018**
  - Royston Place scaffold: **TBC awaiting design**
- Main demolition (Roof, east and west wings): **19 February to 28 March 2018**

FLINDERS STREET AWNING REMOVAL AND SCAFFOLD INSTALLATION NIGHT WORKS

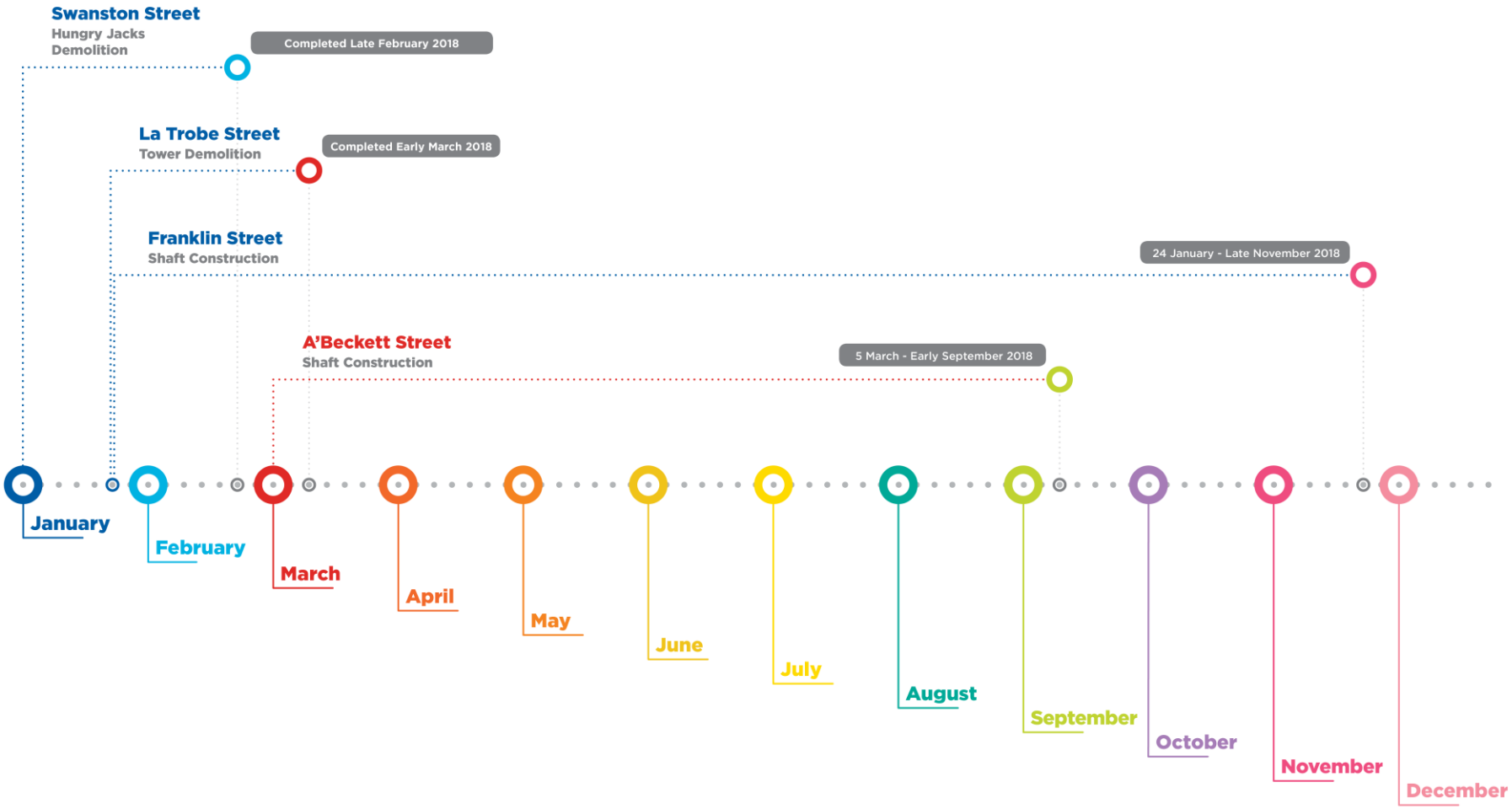
11pm- 6am, Sunday 18 to Thursday 22 March 2018



METRO TUNNEL EARLY WORKS

STATE LIBRARY STATION UPDATE

STATE LIBRARY STATION TIMELINE – EARLY WORKS

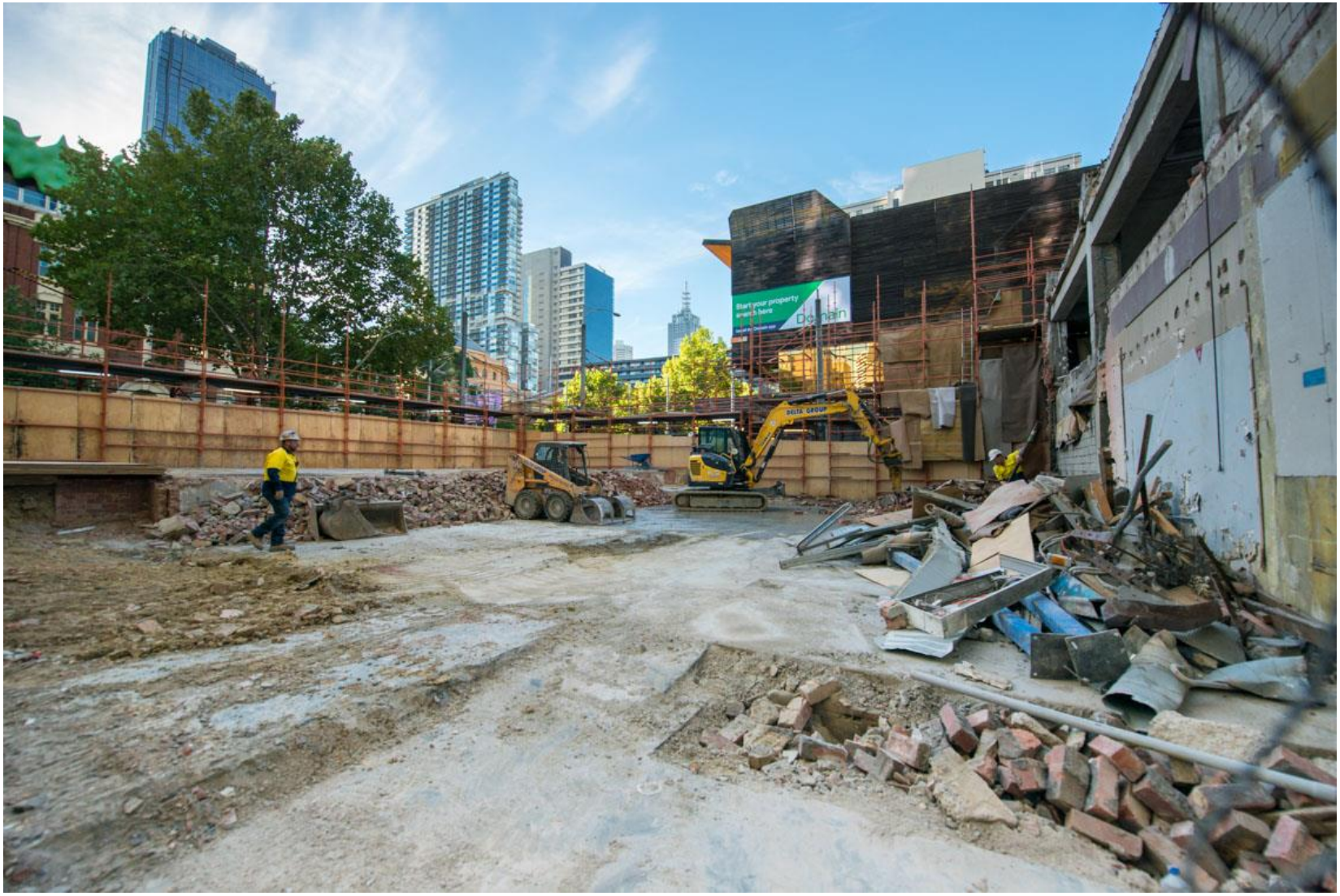


Indicative timeline only

FRANKLIN STREET ACOUSTIC SHED

A’BECKETT STREET ACOUSTIC SHED

SWANSTON STREET AND LA TROBE STREET DEMOLITION



FRANKLIN STREET
SERVICE RELOCATION UPDATE

- Franklin Street, between Swanston Street and Stewart Street, fully closed **6pm – 6am, Sunday to Thursdays** to relocate gas, drainage, telecommunication and water services

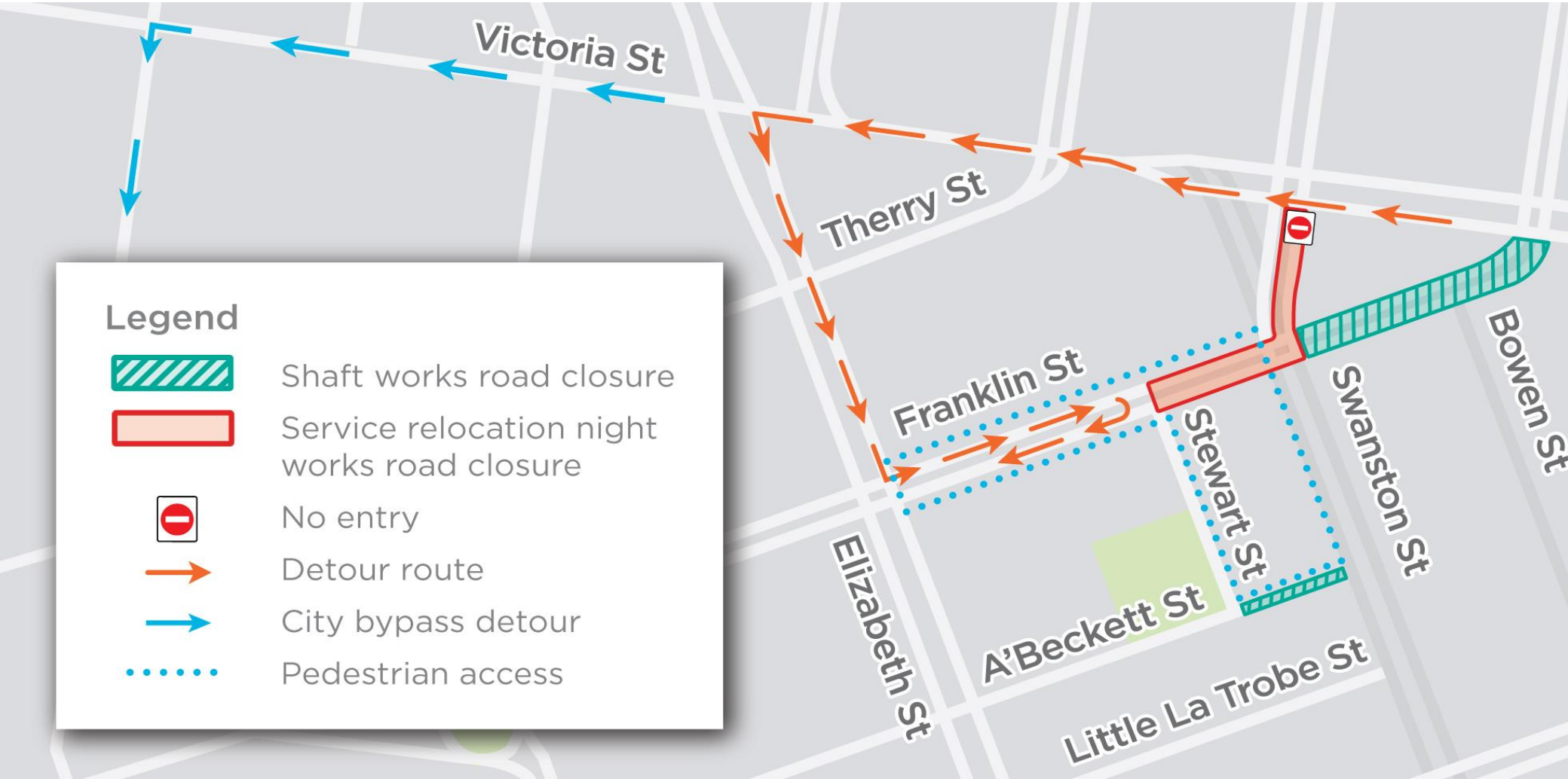
- Following completion of power works in mid April, Franklin Street south side footpath will be re-opened

- Gas night works requiring the closure of the eastbound lane and north side footpath will be completed by end of March 2018

- Local access into buildings is maintained

- Franklin Street, between Swanston Street and Stewart Street, westbound closure remains in place.

FRANKLIN STREET CLOSURE DETOURS (NIGHT WORKS)

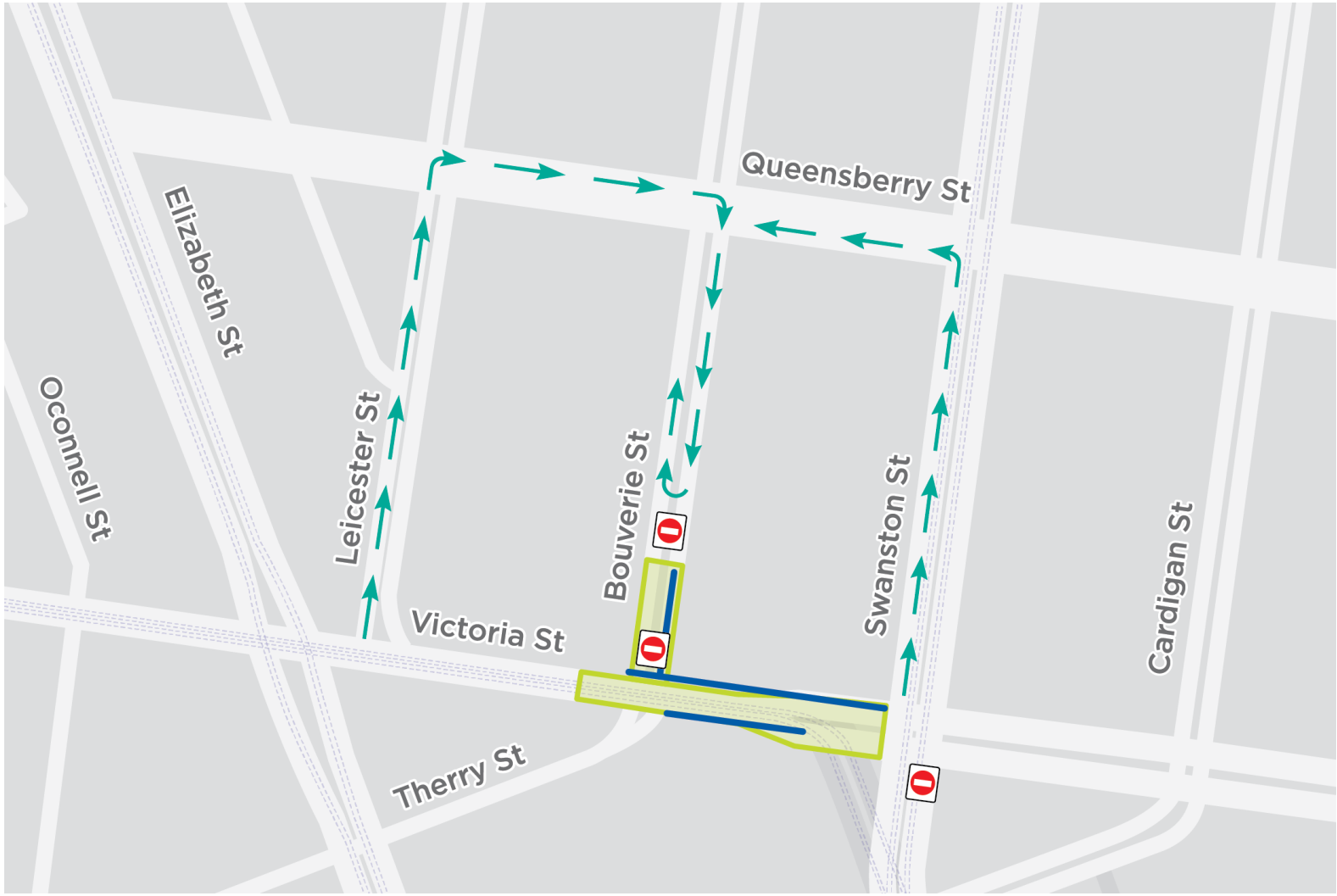


METROTUNNEL

FRANKLIN STREET

GROUNDWATER MONITORING UPDATE

Ongoing works on Victoria Street requiring a combination of both day and night works



QUESTIONS?

CROSS YARRA PARTNERSHIP UPDATE

Agenda

1. Project Structure
2. Proposed changes to Project Land Planning Scheme Amendment
3. Environmental Modelling and Monitoring
4. Waste collection strategy update
5. Archaeological investigation update

Project Structure

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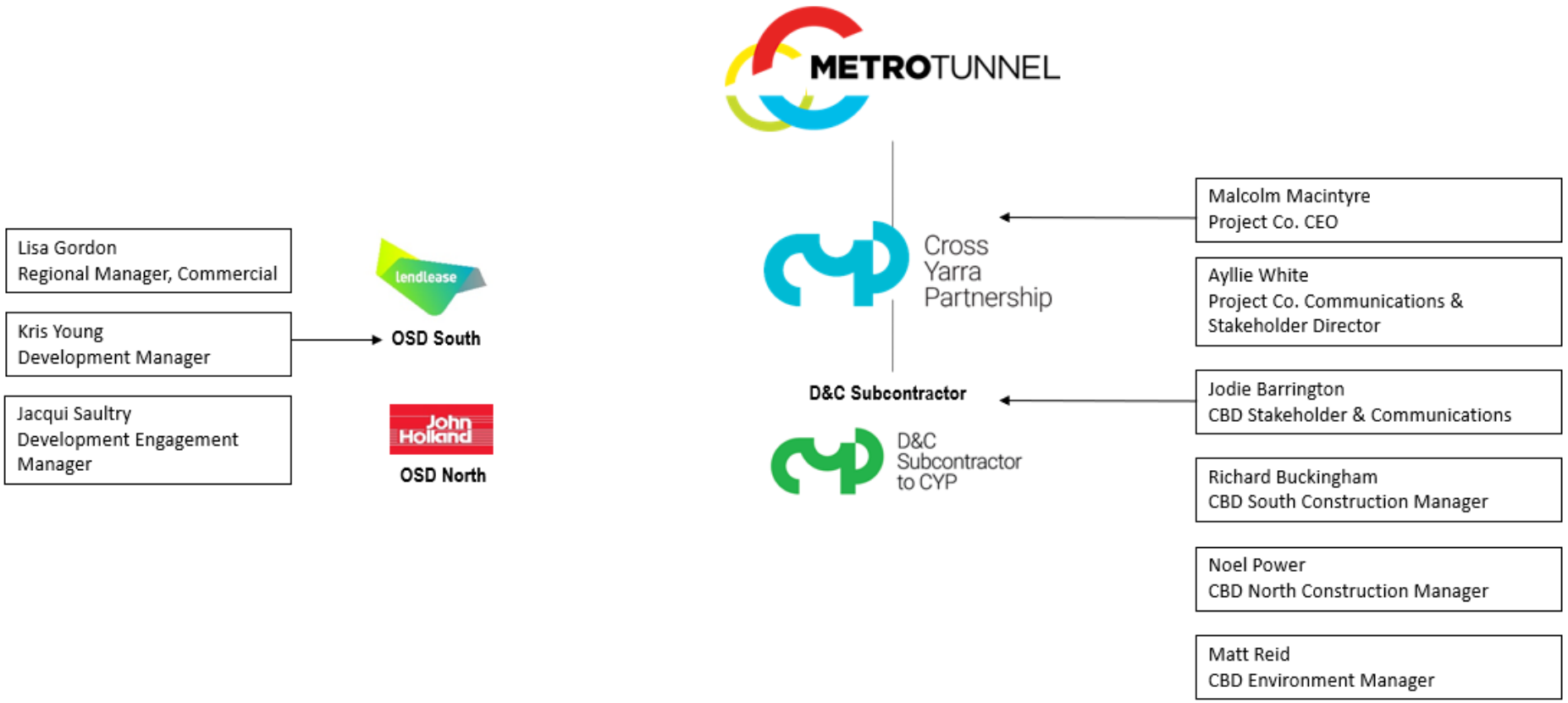
CBD Project Organisation Chart



Station Development and Oversite Development

Station Development

- **Cross Yarra Partnership D&C JV delivering:**
  - Tunnels and Stations PPP contract
  - Includes station build, public realm, and precinct waste management
  - EES approval 2017
  - Currently in Development Plan and planning approval process.

CBD South Oversite Development

- **CYP Lendlease Development delivering:**
  - Oversite development contract
  - Design and construction
  - Handover of site from CYP team to Lendlease
  - Separate Development Plan and planning approval process.

CBD North Oversite Development

- **CYP John Holland delivering:**
  - Oversite development contract
  - Design and construction
  - Handover of site from CYP team to John Holland
  - Separate Development Plan and planning approval process.

Proposed changes to Project Land Planning Scheme Amendment

22/02/2018

Cross Yarra Partnership

AGENDA

Planning Scheme Amendment Overview

Proposed changes to Project Land

Environmental Risk and Impact Assessment

Next steps

Proposed Planning Scheme Amendment

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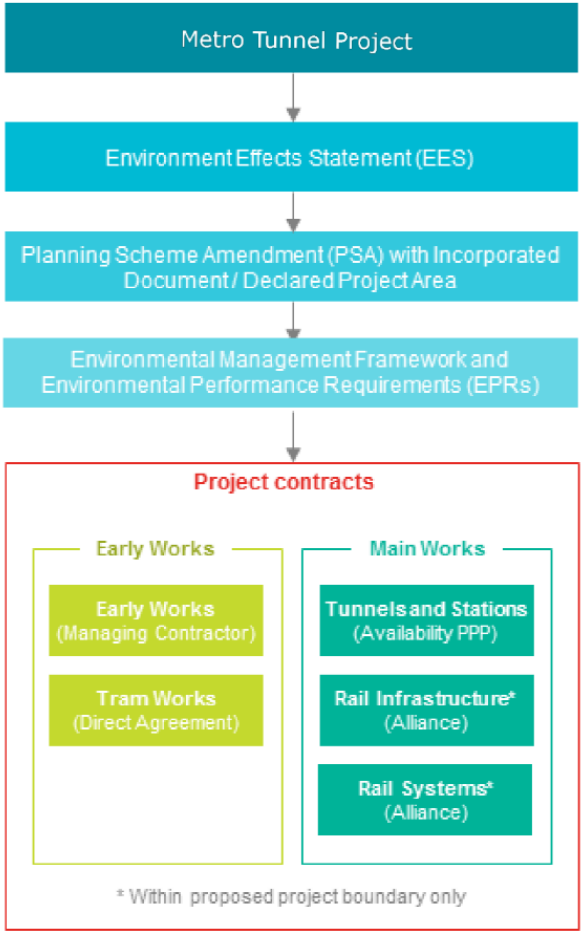
OVERVIEW AND APPROVED EMF

Existing Planning Scheme Amendment

EMF provides a transparent and integrated governance framework to manage the environmental aspects of the Project identified in the EES

Environmental Performance Requirements (EPRs) are part of Framework

EPRs define the project-wide environmental outcomes that must be achieved during design, construction and operation of Metro Tunnel Project



Proposed changes to Project Land

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PROPOSED CHANGES TO PROJECT LAND

- Changes to Project Land:
  - Rail tunnel alignment
  - Additional underground support structures
  - Pedestrian adit
  - Construction adit
  - Flinders Street Station platform works
  - Additional road works – construction management and legacy
- Affected Design and Development Overlay
- Changes by precinct:
  - Parkville to State Library
  - State Library Station
  - Town Hall Station
  - Roads

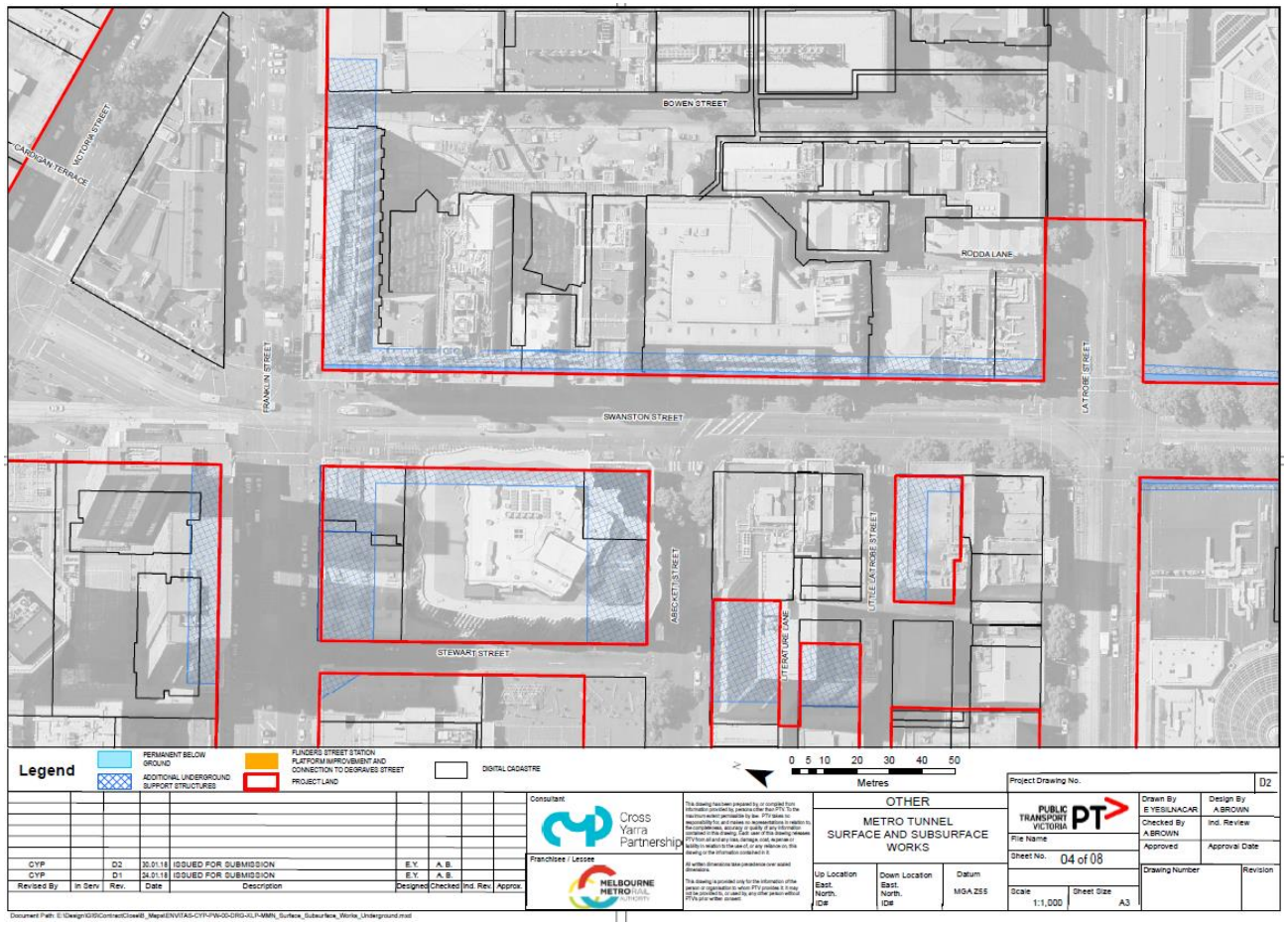
PARKVILLE TO STATE LIBRARY STATION

Element	Rationale
Rail tunnel alignment	The change to the rail tunnel alignment will reduce: • Tunnel maintenance thereby reducing exposure to safety risks • Traction power for trains thereby reducing greenhouse gas emissions and operational costs • Track degradation and therefore future maintenance expenditure
Additional underground support structures	The underground support structures that will extend outside the approved Project Land: • Provide safe and less restricted construction space for the excavation works due to the omission of struts throughout the whole cavern • Safely support the geological profile surrounding Parkville Station and shafts • Accommodate and support the design improvements to Parkville Station • Allow for more efficient construction techniques, particularly accelerated excavation, to be employed • Allow for the combined use of struts and rock anchors to control ground movement closer to the surface box with a combination of struts and underground support structures

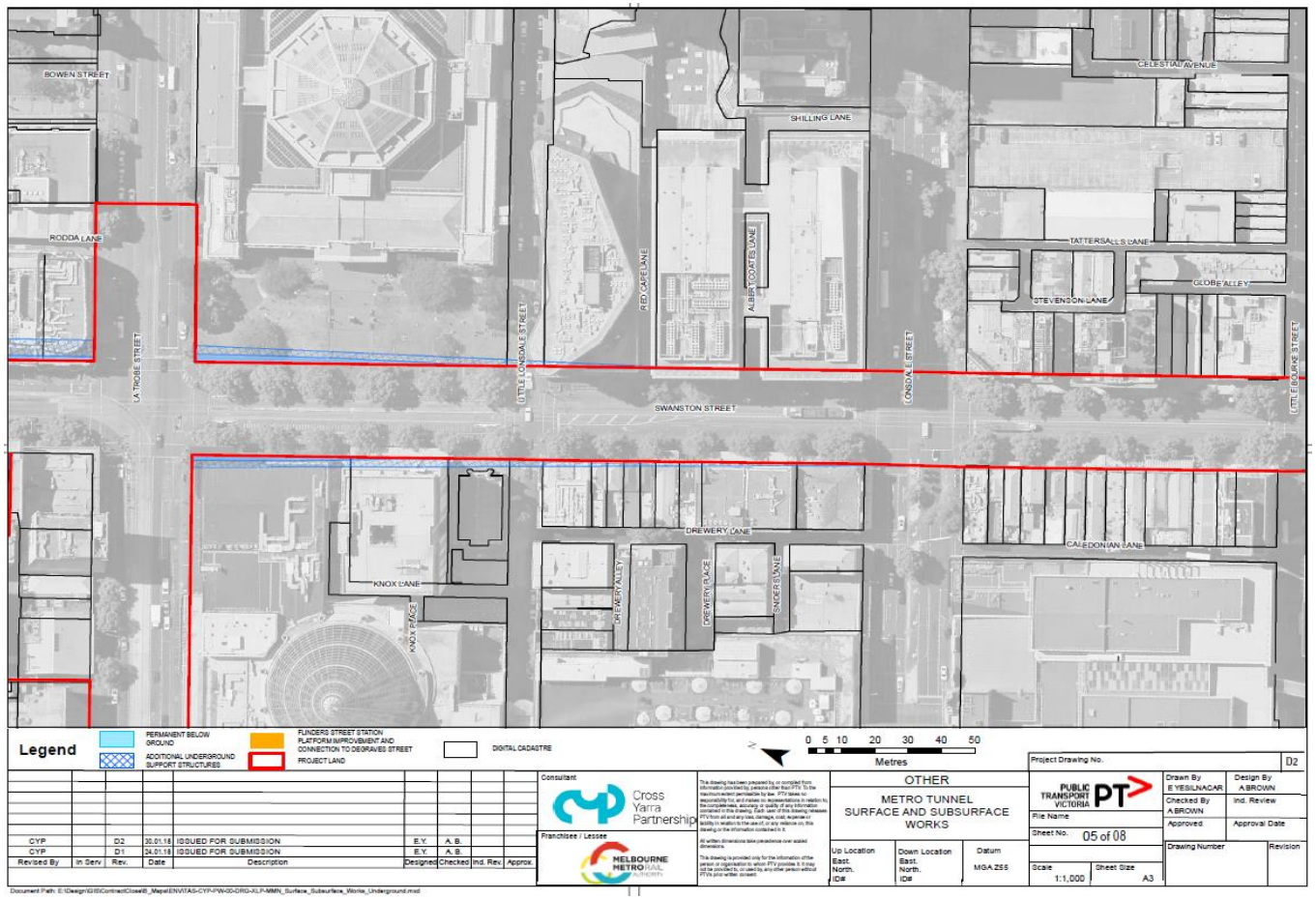
STATE LIBRARY STATION

Element	Rationale
Rail tunnel alignment	The change to rail alignment will reduce: • CYP's station design for State Library and Town Hall uses a trinocular design, responding to the ground conditions in those locations. The change to rail alignment will also support the trinocular design between stations to maintain the rail tunnels, platforms and concourse to a safe and well-designed standard. • Tunnel maintenance thereby reducing exposure to safety risks • Traction power for trains thereby reducing greenhouse gas emissions and operational costs • Track degradation and therefore future maintenance expenditure
Additional underground support structures	The additional underground support structures: • Stabilise the shafts at Franklin Street east, Franklin Street west, A'Beckett Street and the Swanston Street tunnels • Provide safe construction space for the excavation works as the omission of walers provides greater space within the cavern • Provide safe and less restricted construction space for the excavation works due to the omission of struts throughout the whole cavern • Allow for more efficient constructing techniques, particularly accelerated excavation, to be employed • Allow for the combined use of struts and rock bolts to control ground movement closer to the surface • Accommodate and support the design improvements to State Library Station.

UNDERGROUND SUPPORT STRUCTURES AND RAIL TUNNEL ALIGNMENT



UNDERGROUND SUPPORT STRUCTURES AND RAIL TUNNEL ALIGNMENT



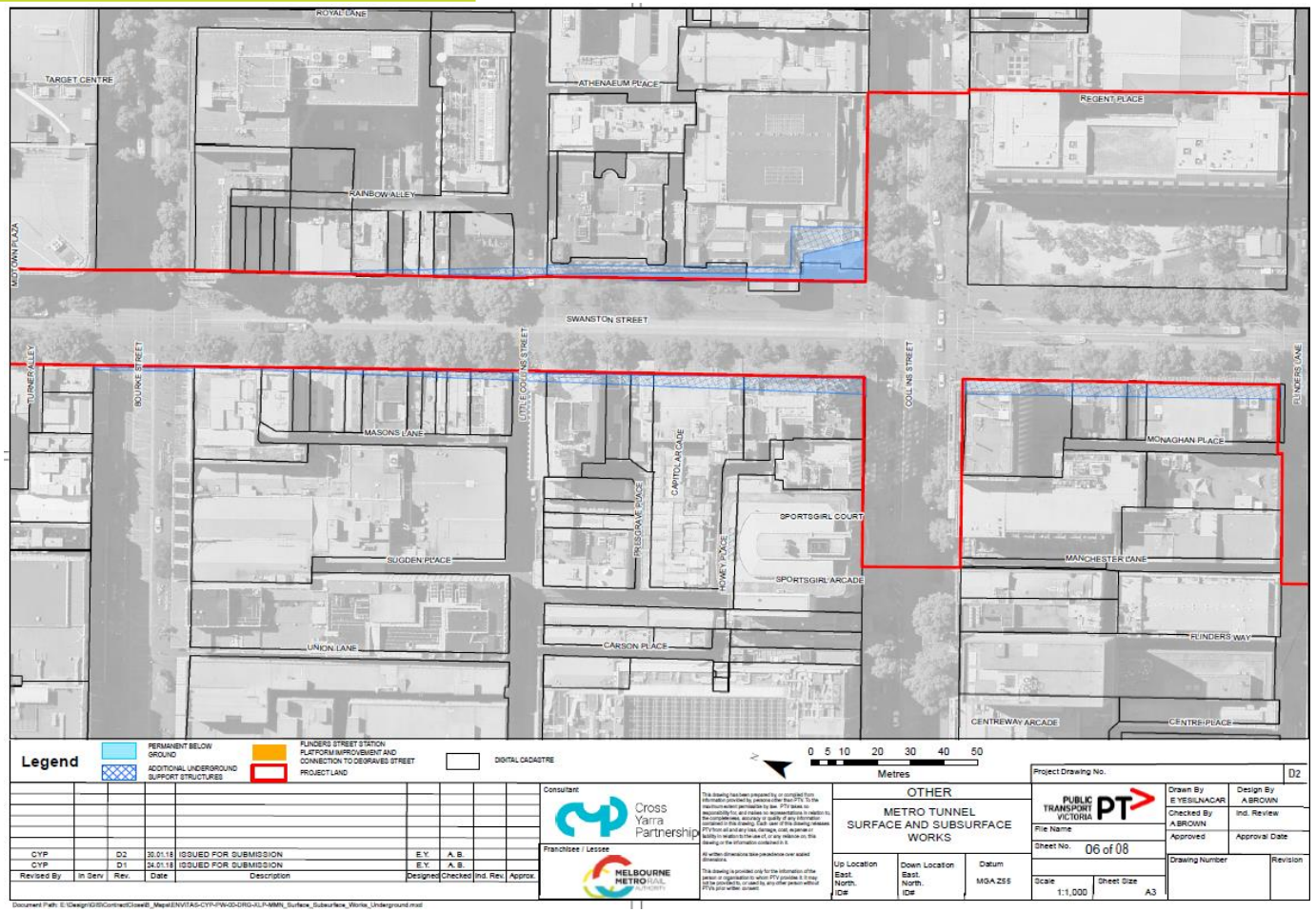
TOWN HALL STATION

Element	Rationale
Rail tunnel alignment	The change to rail alignment will reduce: • CYP's station design for State Library and Town Hall uses a trinocular design, responding to the ground conditions in those locations. The change to rail alignment will also support the support the trinocular design between stations to maintain the rail tunnels, platforms and concourse to a safe and well-designed standard • Tunnel maintenance thereby reducing exposure to safety risks • Track degradation and therefore future maintenance expenditure
Additional underground support structures	The additional underground support structures will: • Provide safe construction space for the mined excavation works • Provide safe access to the tunnels for contractors • Allow for more efficient constructing techniques to be employed • Maintain the lateral or tunnel integrity buffer
Pedestrian adits	The pedestrian adits will: • Provide commuters with seamless accessibility between Town Hall Station to Federation Square and Flinders Street Station • Create more entrance and exit points to reduce pedestrian congestion • Enable easier commuter circulation, particularly during peak hours • Be informed by rigorous modelling to minimise damage to surrounding buildings

TOWN HALL STATION

Element	Rationale
Construction adit	The construction adit is required to: • Enable an efficient and safe construction sequence that will minimise ground stress • Provide an additional access points during construction, via Federation Square, to enable efficient construction sequence • Reduce the geotechnical stress near the corner of Flinders Lane and Swanston Street • Create safer turning points for vehicles at strata • Be informed by rigorous modelling to minimise damage to surrounding buildings
Flinders Street Station Platform Works	The full extent of the individual platforms at Flinders Street will not be affected as lifts and staircases are to be installed mid-platform to improve universal access between Flinders Street Station and the Degraves Street Underpass. Overall, these design changes will: • Provide commuters seamless accessibility from Town Hall Station to Flinders Street Station • Provide a superior station access design for commuters by connecting the middle of Flinders Street Station platforms, avoiding the already congested forecourt area of Flinders Street Station • Ensure improved access is provided mid-platform at Flinders Street Station • Avoid invasive works within the Flinders Street Station forecourt • Provide cosmetic improvements to Campbell Arcade that respects the heritage value

UNDERGROUND SUPPORT STRUCTURES AND RAIL TUNNEL ALIGNMENT



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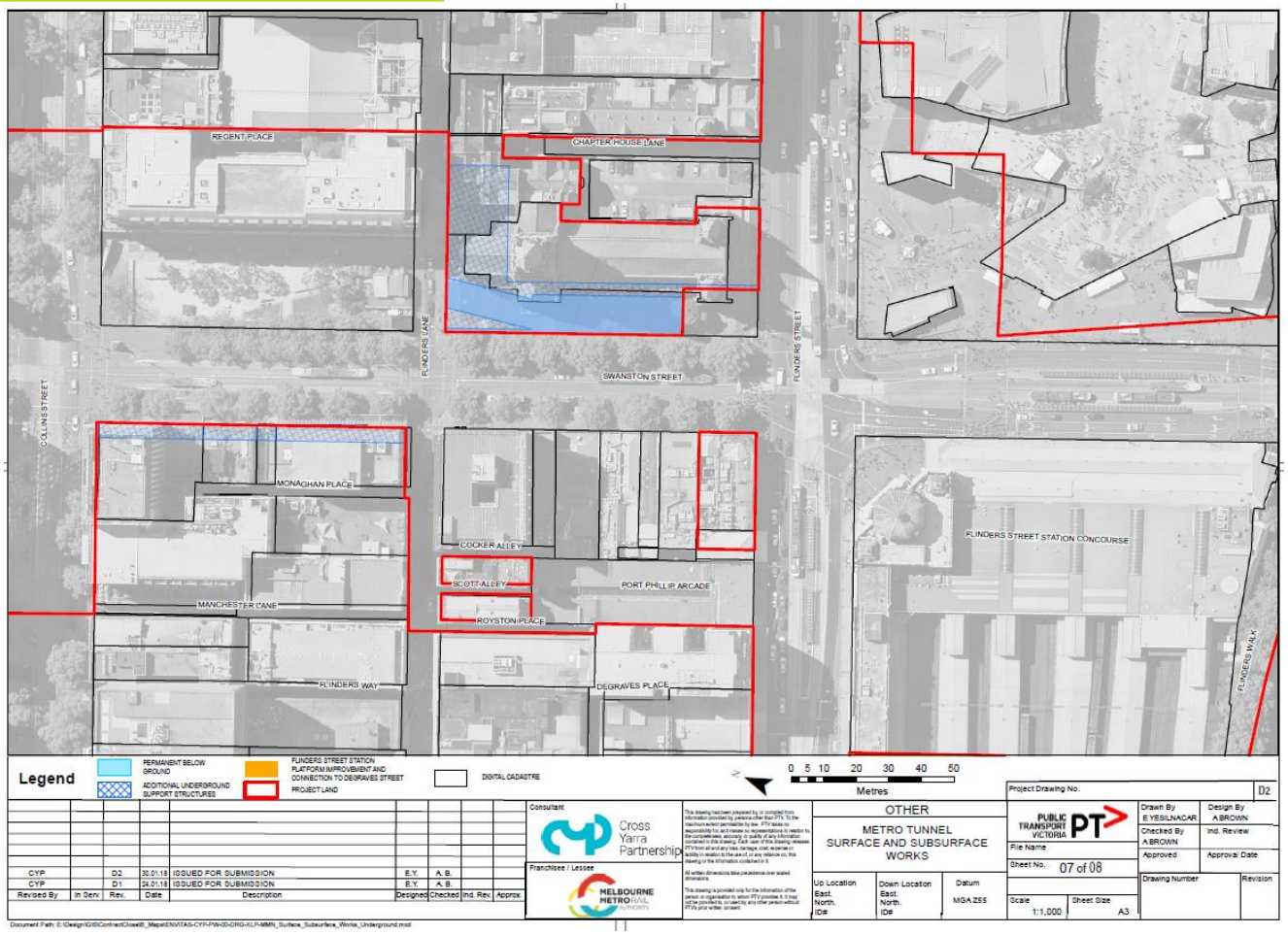
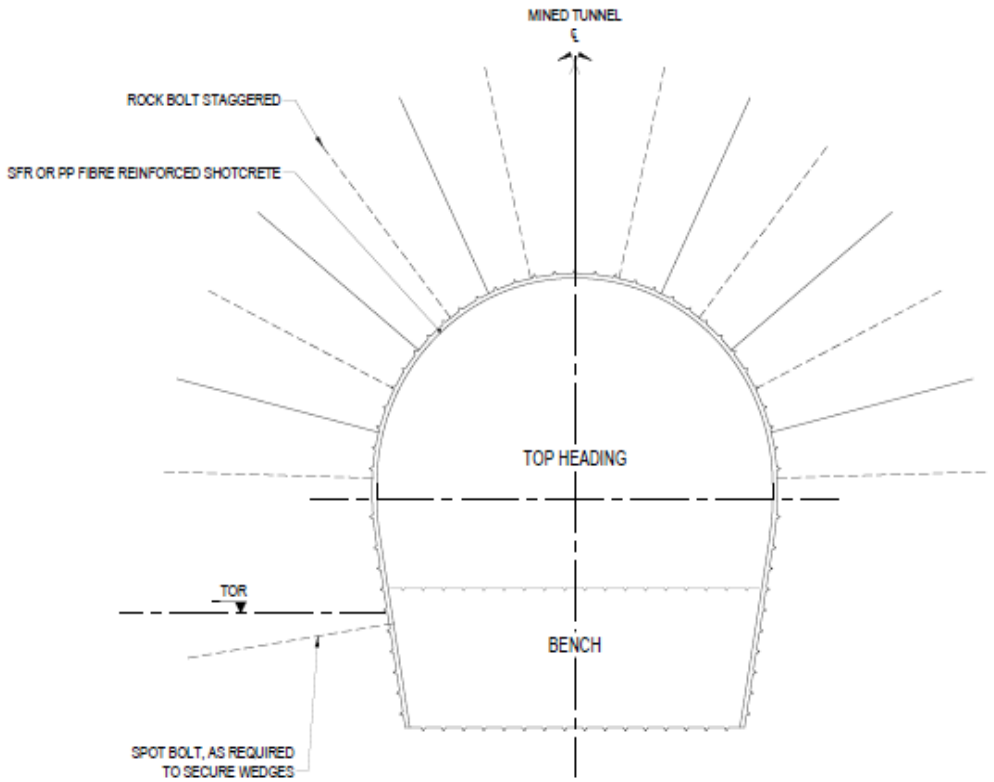
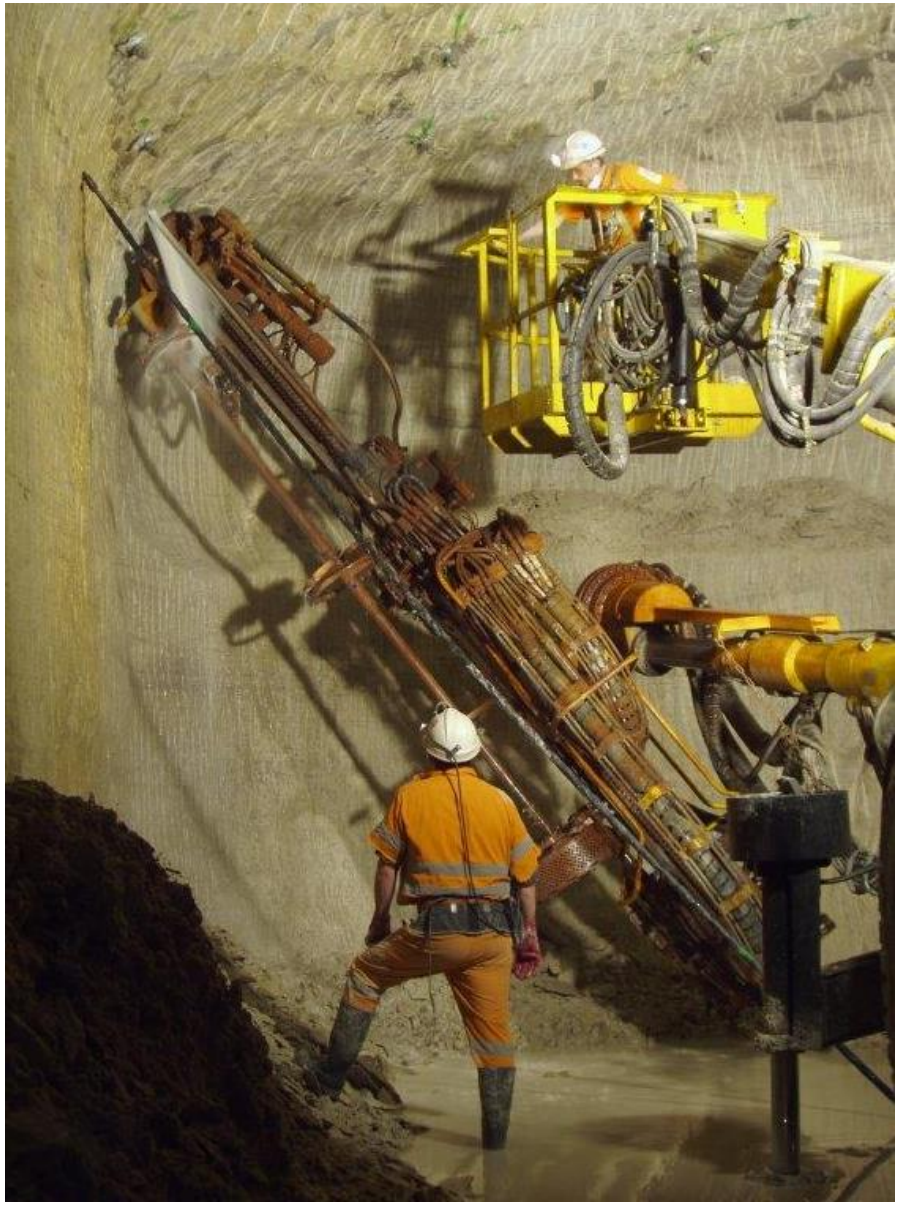


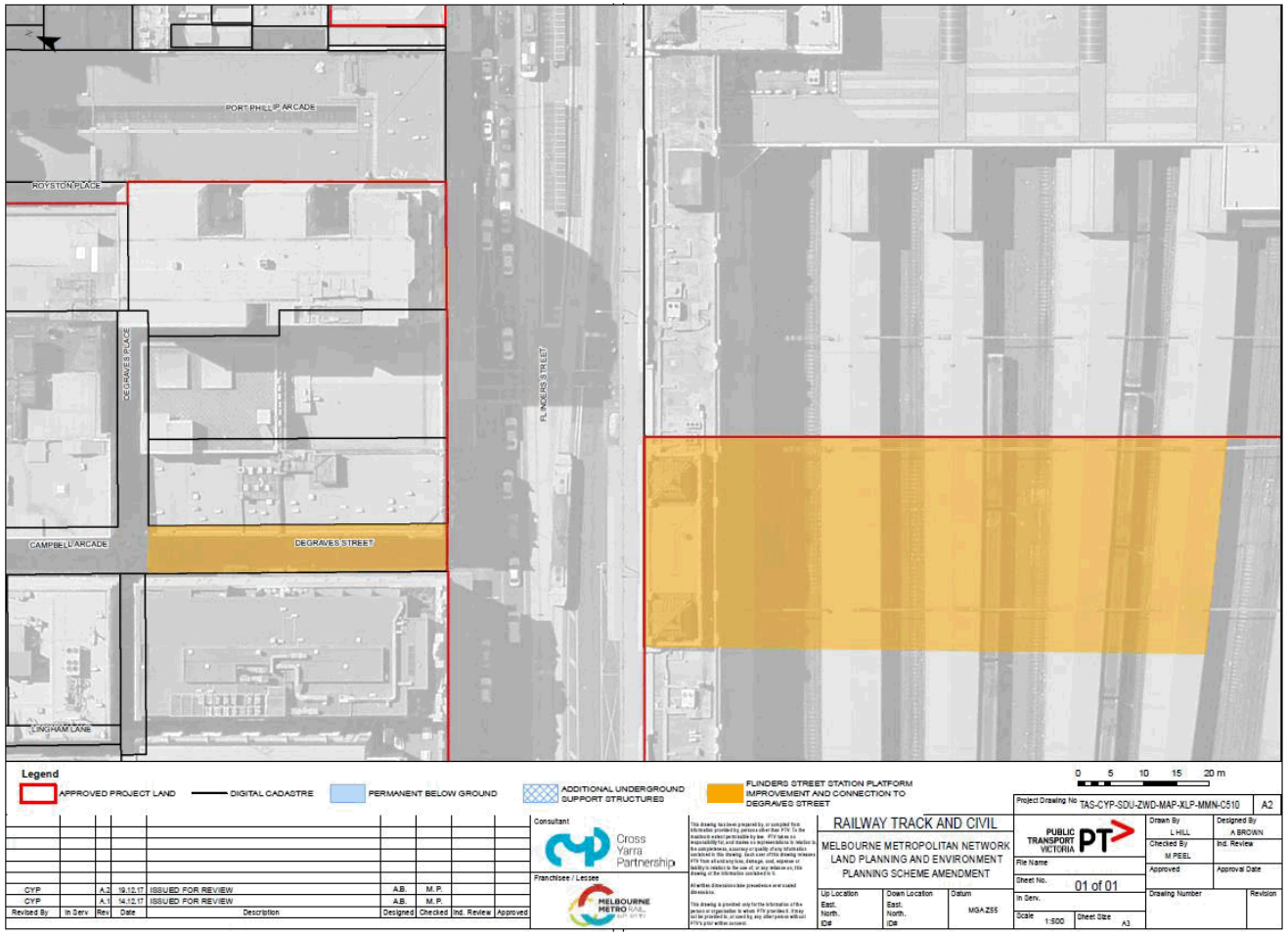
UNDERGROUND SUPPORT STRUCTURES



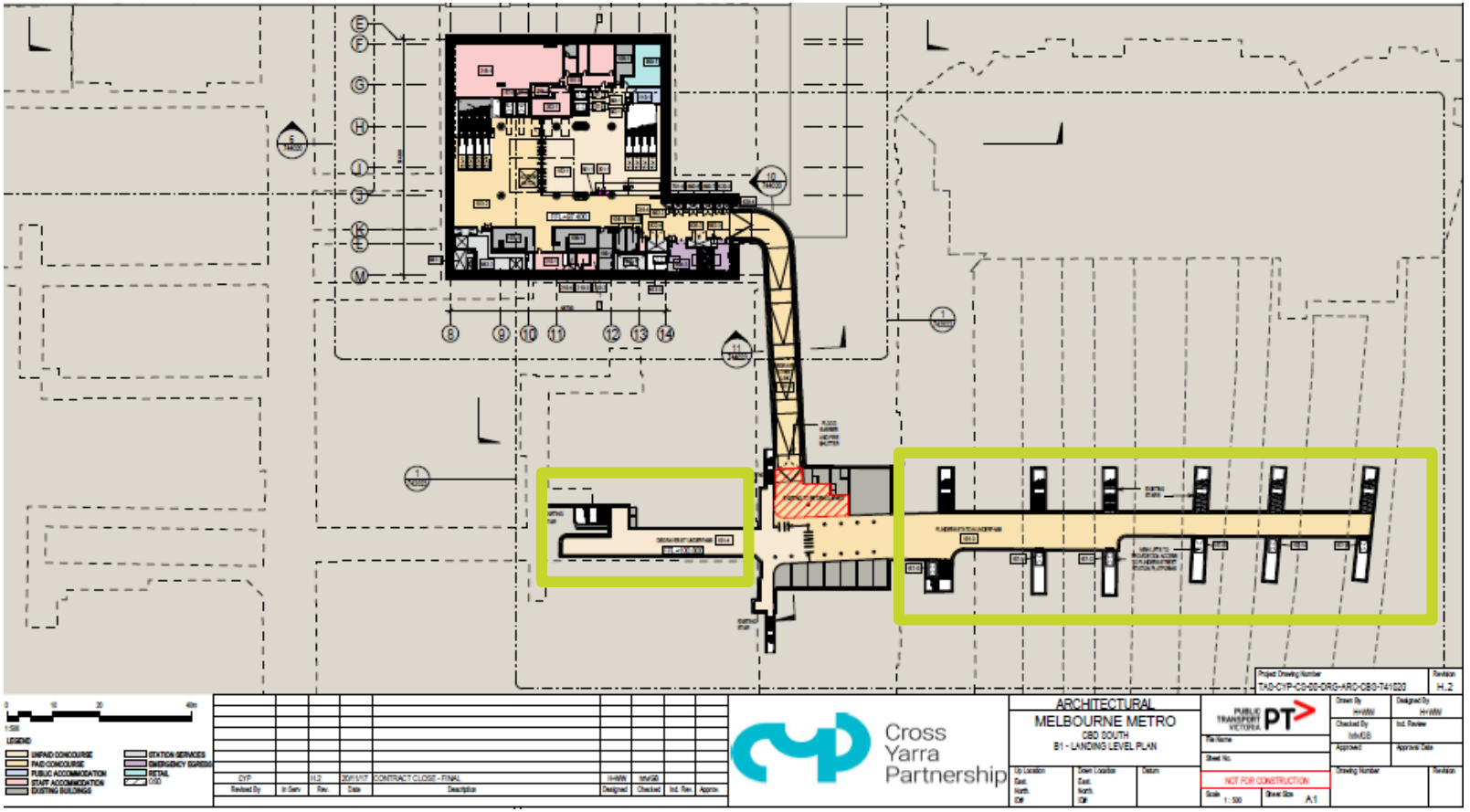
MINED TUNNEL
SUPPORT TYPE 1, 2 & 3
1 : 100



FLINDERS STREET STATION PLATFORM IMPROVEMENTS AND CONNECTION TO DEGRAVES STREET



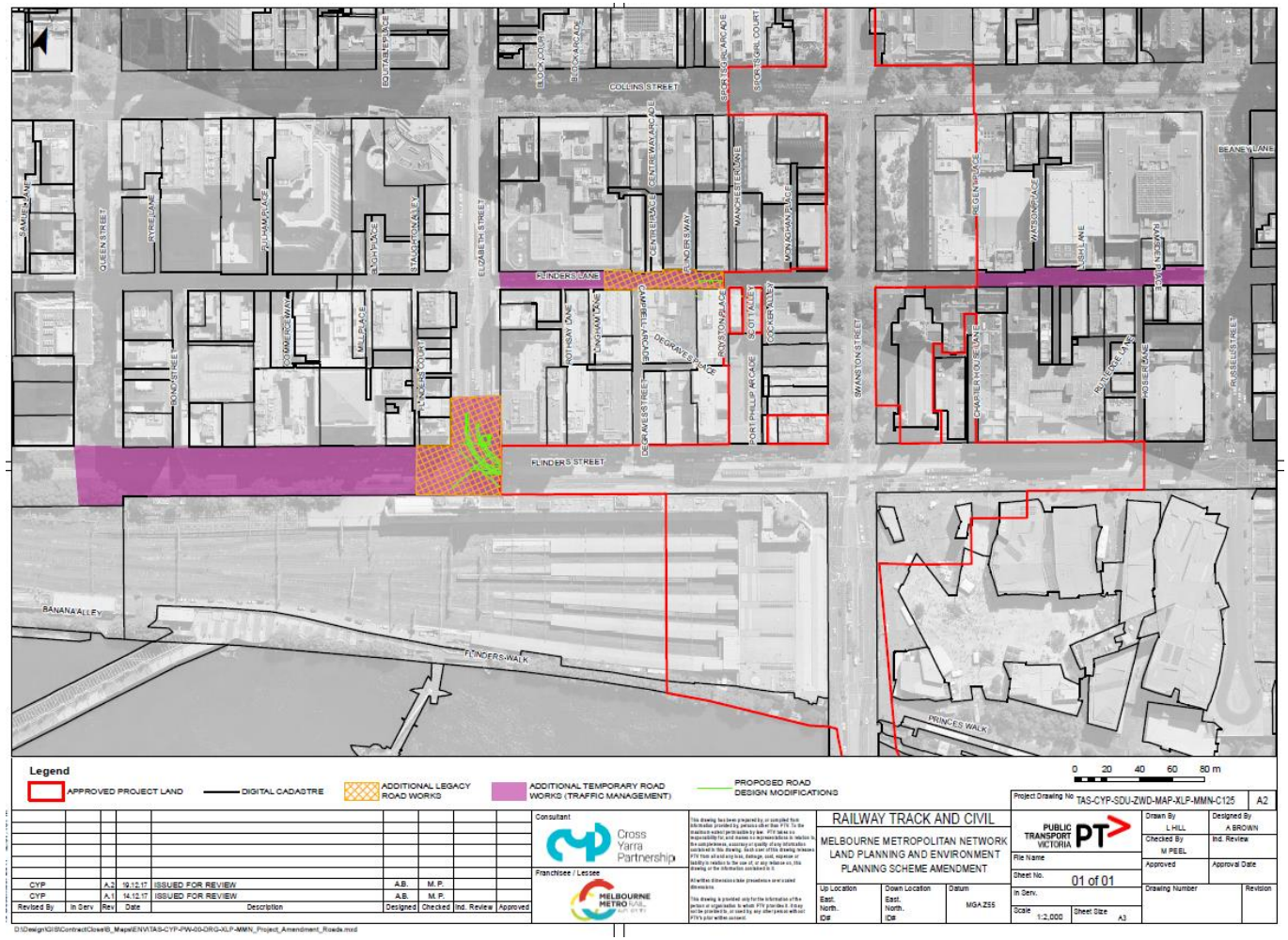
TOWN HALL STATION



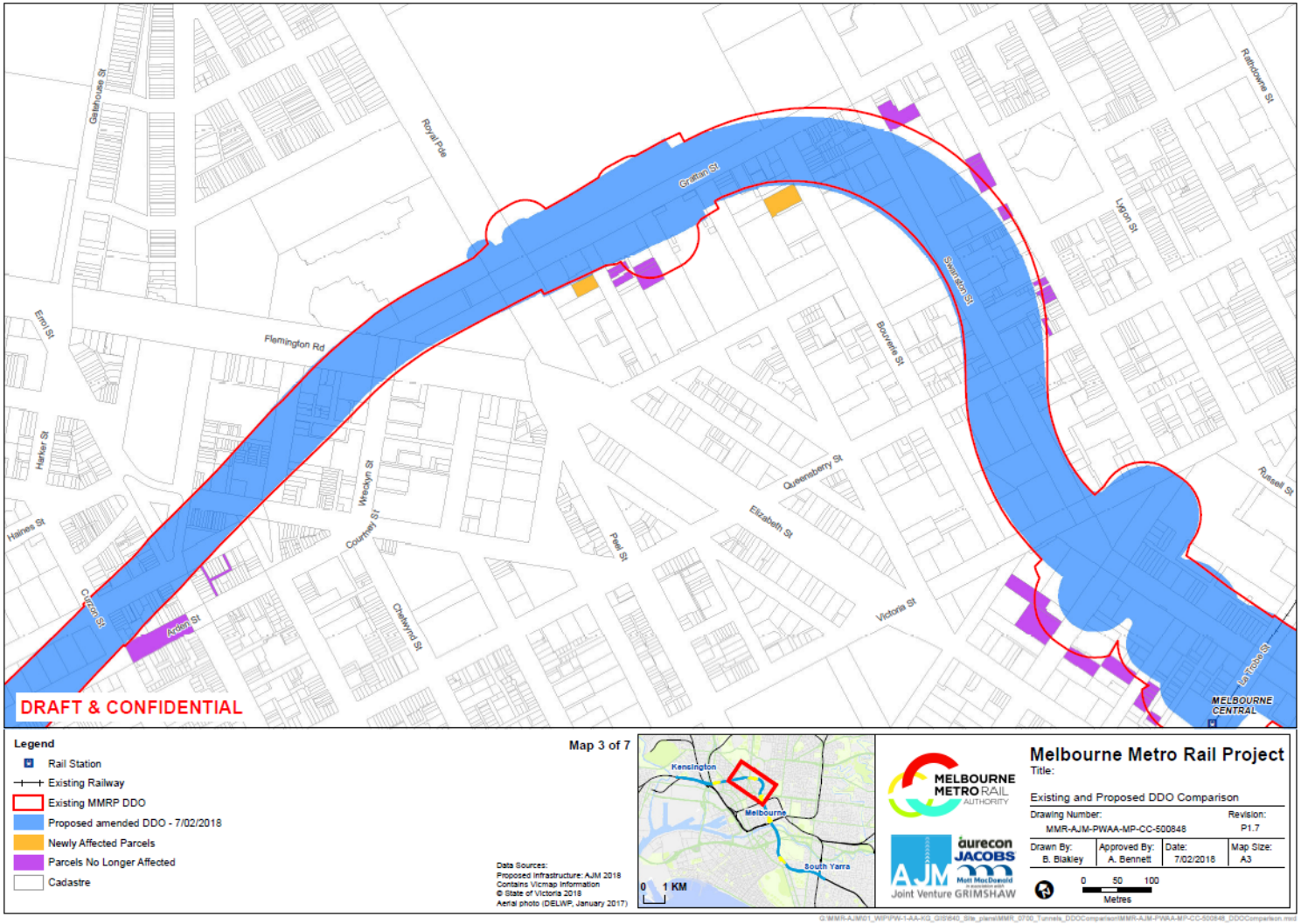
ADDITIONAL ROAD SURFACE WORKS

Element	Location of change to Project Land	Road mgmt	Legacy works
Arden Street	Between west of Fogarty Street, east of Dryburgh Street, south of North Melbourne Football Club and north of Laurens Street. Expected use of the road is 3 months	✓	✗
Royal Parade	South of Storey Street to Genetics Lane. The area is required for road management lanes 2, 3, 4 (west to east) and tram tracks. Expected use of the road is 3 months	✓	✓
Grattan Street	East of Bouverie Street and west of Swanston Street. Expected use of the road is 3 months	✓	✗
Cardigan Street	North of Victoria Street and south of Earl Street. Expected use of the road is 3 months	✓	✗
Flinders Street	East of Queen Street and west of Elizabeth Street. Expected use of the road is 3 to 6 months	✓	✓
Flinders Lane	West of Elizabeth Street and east of Swanston Street and west of Swanston Street and east of Russell Street. Expected use of the road is 3 to 6 months	✓	✓

ADDITIONAL ROAD WORKS



DESIGN AND DEVELOPMENT OVERLAY



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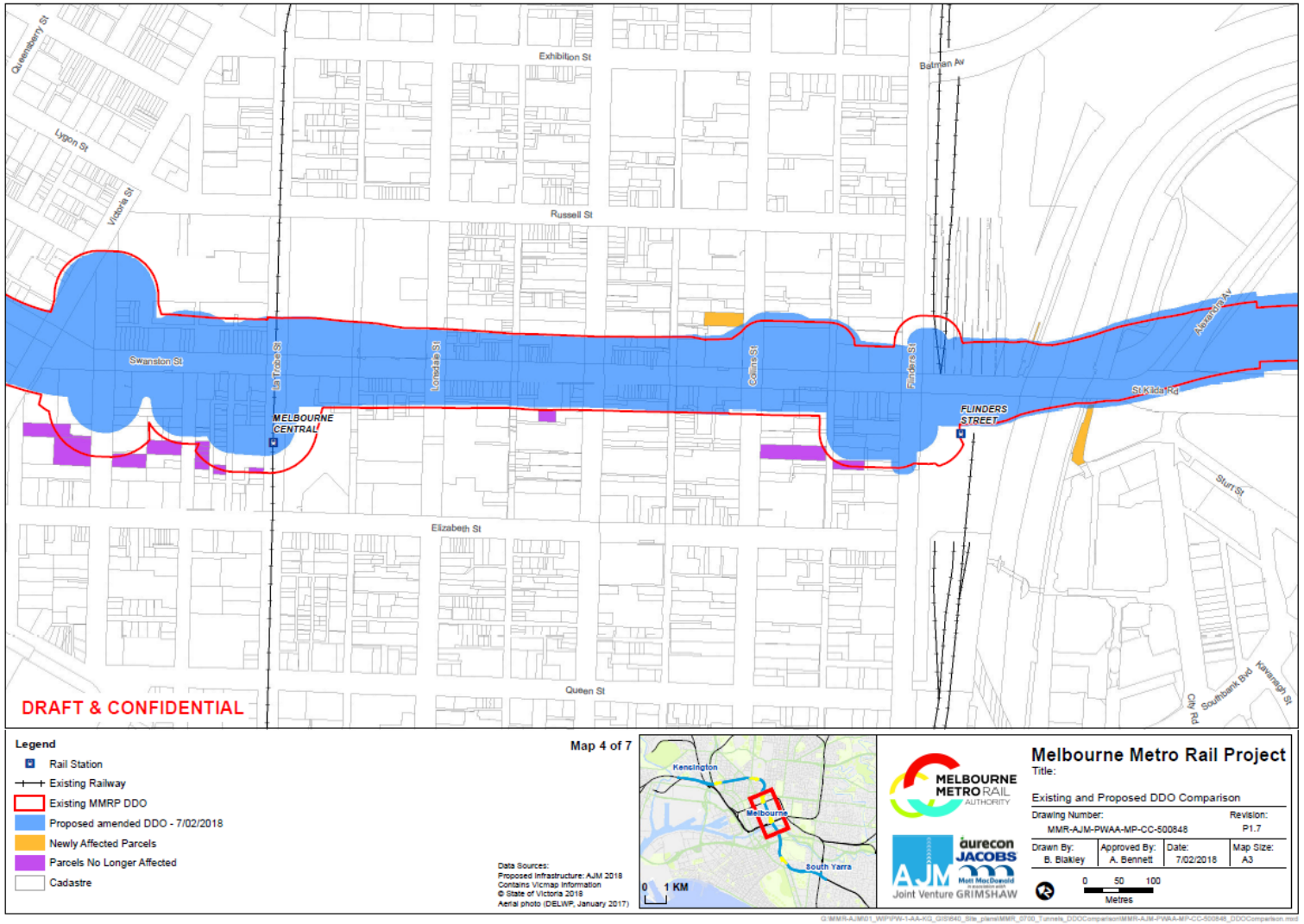

Environmental risk & impact assessment

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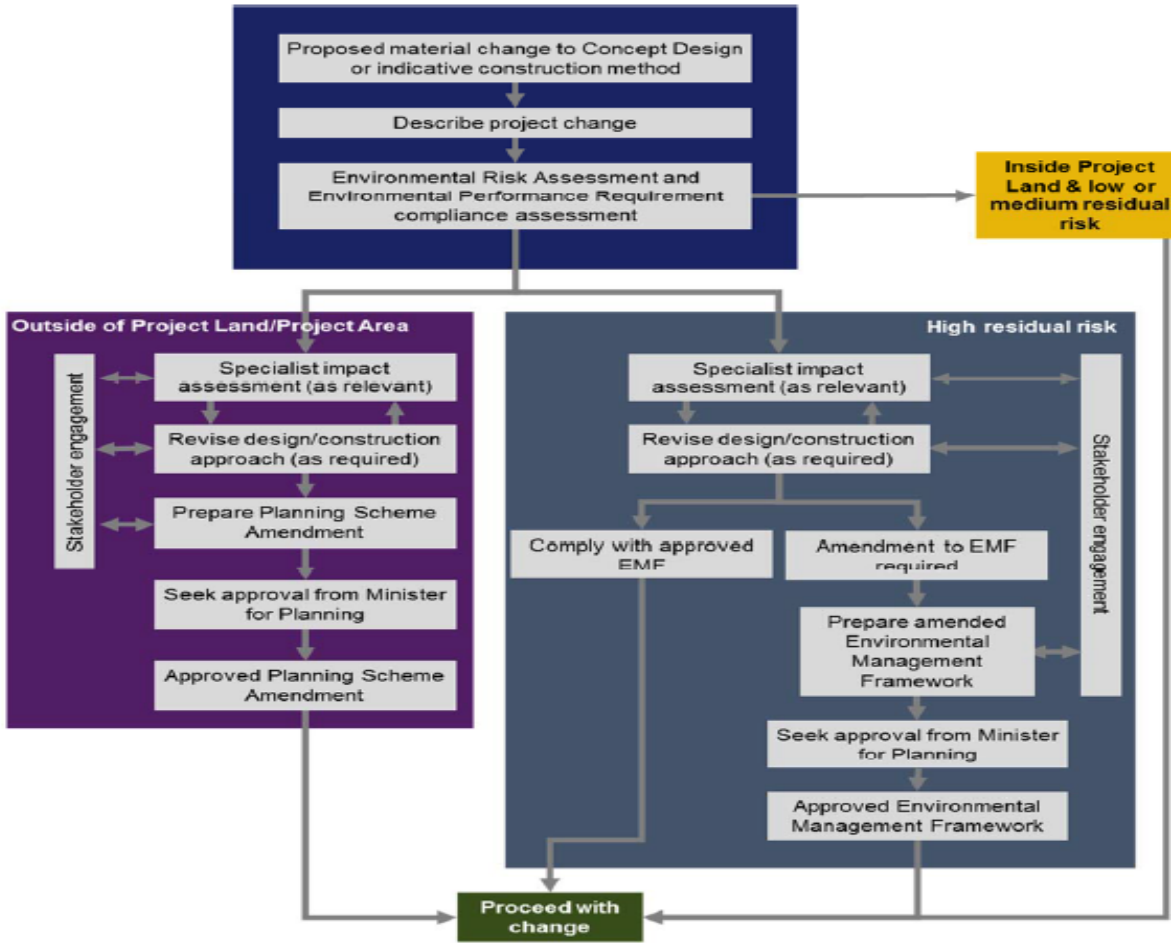
ASSESSING PROJECT CHANGES



ENVIRONMENTAL RISK ASSESSMENT PROCESS

Aboriginal cultural heritage

Historic heritage

Air quality

Urban ecology

Business and Social

Contaminated land and spoil management

Electromagnetic interface

Greenhouse gas emissions

Groundwater

Ground movement and land stability

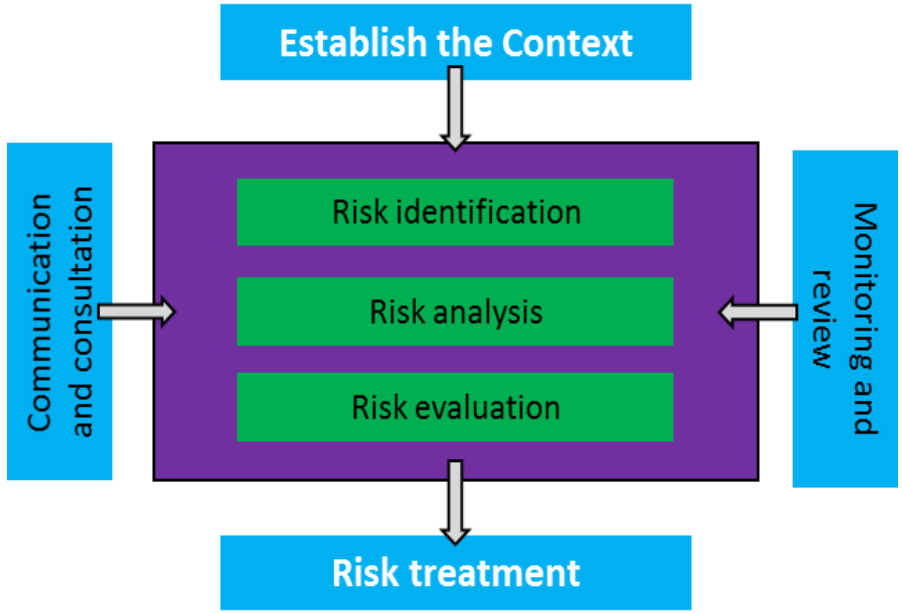
Landscape and visual

Land use and planning

Noise and vibration

Surface water

Transport



ENVIRONMENTAL IMPACT ASSESSMENT

- Environmental Risk Assessment required further assessment:
  - Business and Social
  - Ground Movement
  - Historic Cultural Heritage
  - Land Use and Planning
  - Noise and Vibration

BUSINESS AND SOCIAL FINDINGS

Business and social findings:

- Given the nature of the environments in which the proposed CYP design and construction changes are located, some level of community and business disruption is inevitable
- Disruption will predominantly involve temporary impediments in access to businesses and social infrastructure during the construction phase
- Existing EPRs will ensure affected parties are provided with timely information and are consulted with regard to implementation of appropriate mitigation measures

HISTORIC CULTURAL HERITAGE FINDINGS

Historic cultural heritage findings:

- Assessment determined no physical impact on the significant fabric
- Proposed changes to Project Land will not result in any direct physical impact on fabric or loss of visual amenity
- Potential impacts of construction and operational vibration and ground movement were assessed as part of the previous EES and determined that the potential for impacts was low
- Potential impacts can be addressed by the existing EPRs

LAND USE AND PLANNING FINDINGS

- Land use and planning findings:
  - Potential constraints on future strata development due to the presence of the underground infrastructure
  - Strata acquisition
  - Potential for access issues to impact on existing land uses
  - Temporary road closures
  - Those properties currently in the DDO need MMRA approval for certain works, regardless of the current proposed addition of the Project Land on a portion of their land

NOISE AND VIBRATION FINDINGS

Noise and vibration findings:

- Construction noise: excavation and underground support structures pose minor impacts, however no significant change from the EES
- Construction vibration: excavation and underground support structures pose minor impacts, however no significant change from the EES
- Operational noise: design changes are not expected to change airborne noise impacts
- Operational vibration: design changes are not expected to change operational vibration

Next steps

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NEXT STEPS

• Meeting with affected Councils:	Dec 2017 – April 2018
• Meeting with affected stakeholders:	Jan 2018 – April 2018
• Finalising documentation:	March 2018
• Notify affected landowners (mail out):	March 2018
• Public Exhibition:	April 2018
- PSA will be available online via the website	March 19, 2018
- Submissions open online via the website	March 19, 2018
- Submissions close	April 17, 2018
• CYP will provide a response and update the issues raised to prescribed stakeholders, key stakeholders, Reference Groups, and the community	April 2018
• Lodge amendment with Minister:	April 2018

NEXT STEPS

- Meeting with affected Councils: Dec 2017 – April 2018
- Meeting with affected stakeholders: Jan 2018 – April 2018
- Finalising documentation: February 2018
- Notify affected landowners (mail out): March 2018
- Response to submissions: March 2018
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Questions

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Environmental Modelling and Monitoring - CBD

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Key themes

1. Property Condition Surveys
2. Ground movement
3. Groundwater
4. Noise & Vibration
5. Air Quality
6. Real-time monitoring

Property Condition Surveys

- Identify properties within CYP works zone of influence:
  - may experience vibration
  - may experience minor ground settlement
- Identify and contact building and asset owners
- Completes a visual inspection. Identify and record any existing defects
- Resulting report will be sent to owner, detailed discussion with the owner if required → Final copy issued
- Heritage/significant buildings – further investigation may be required
- Feed investigations and site inspections into CYP modelling to inform our design process
- Dedicated full-time survey team for ongoing management and assistance during construction

Ground Movement

- EPRs: GM1-6
- Extensive modelling
  - Methodology
  - Plant & Equipment
  - Design changes
- Property condition surveys
- Mitigation prior to and during excavations
  - Extensive real-time monitoring
  - Plant and equipment methodology
  - Site controls
  - Design

Groundwater

- EPRs: GW1-5
- Modelling and baseline condition monitoring currently being undertaken across all sites.
- Mitigation immediately prior to and during significant tunnel, shaft and station excavations
  - Recharge and extraction
  - Dewatering
  - Construction methodology
  - Final design

Noise & Vibration

- EPRs Noise and Vibration (NV1-21)
- Planning and modelling currently being undertaken
- Detailed plant and equipment noise assessments for:
  - Airborne noise
  - Ground-borne noise
  - Vibration
- Real-time monitoring will be undertaken during early construction stages and beyond
- Mitigation measures include:
  - scheduling of activities,
  - plant and equipment selection,
  - source controls

Air Quality

- EPRs: AQ1-3
- Assessments currently being undertaken
  - Plant and equipment used
  - Work areas inc. materials and types of excavation
  - Small, localised areas of work
- Control measures include:
  - plant and equipment selection
  - air quality controls at the source
  - water suppression
  - Acoustic sheds designed for emission control

Real Time Monitoring

- Significant monitoring program
  - Air
  - Noise & Vibration
  - Groundwater
  - Ground Movement
- Real-time results
  - Fixed full-time locations
  - Spot measurements
  - Modelling program
- Full-time dedicated resources
- Real-time System for project

Questions

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Waste collection strategy update

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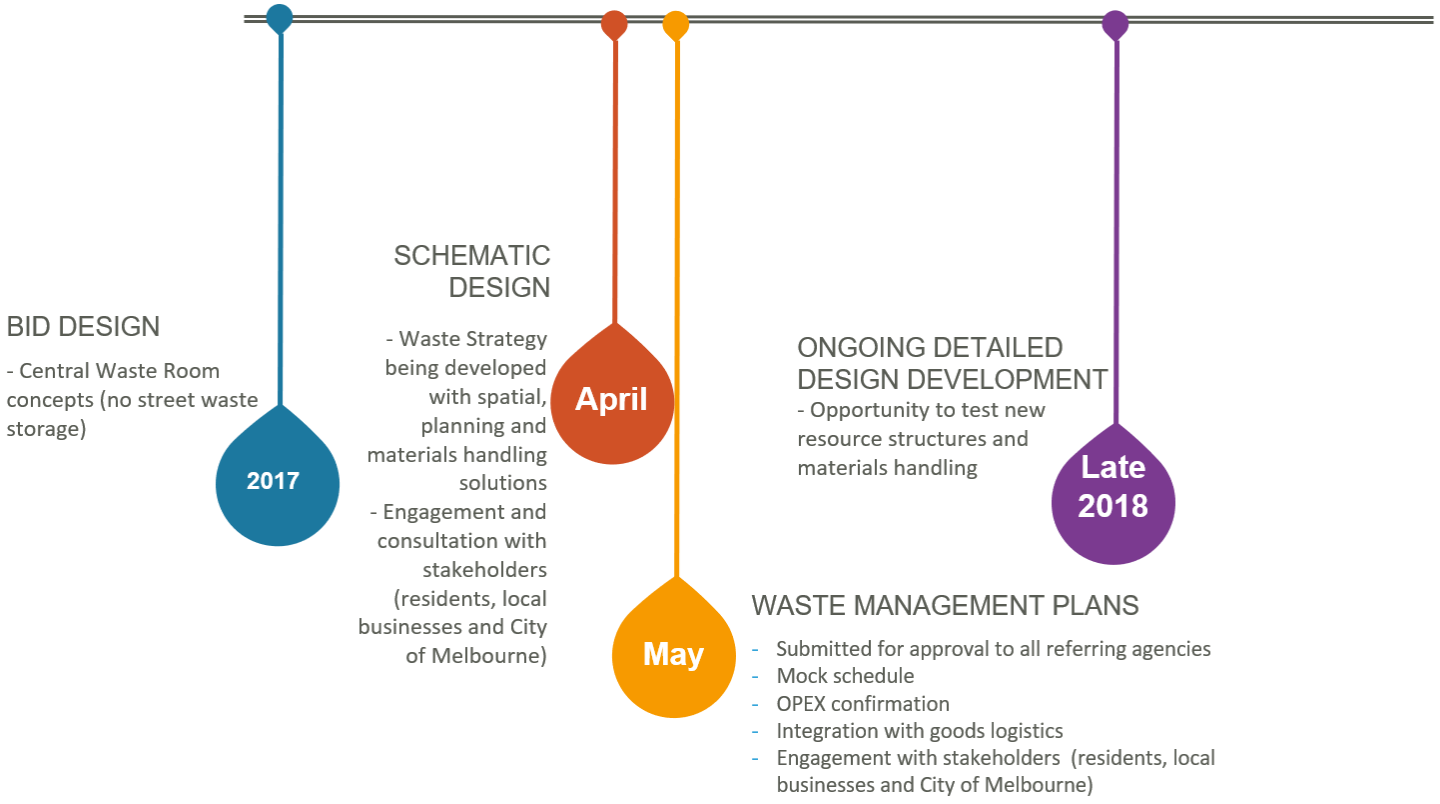
Roadmap – Developing a waste management solution



Critical areas and elements for ongoing design development

- Precinct waste level modelling and analysis is still ongoing
- Meeting with local residents and businesses to understand current waste needs, disposal arrangements and building logistics
- Innovative materials handling systems being reviewed
- Ongoing liaison with City of Melbourne for combined precinct wide solution
- Use of Royston Place being reviewed
- Flinders Street and Swanston Street access for goods and waste being reviewed for better logistics connectivity:
  - Goods delivery via Swanston/Flinders Lane will occur
  - Y&J logistics

Questions

Cross
Yarra
Partnership

Archaeological investigation update

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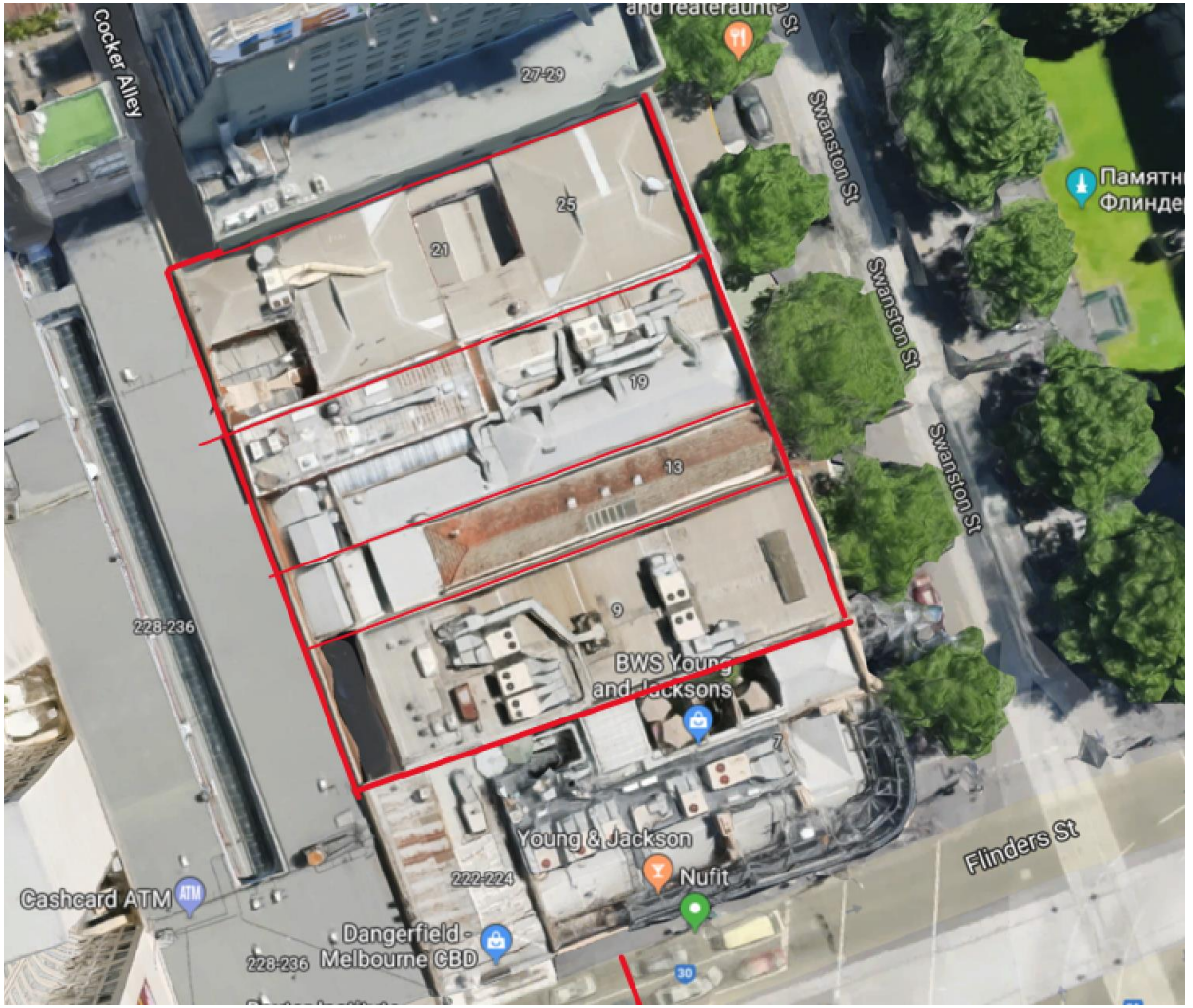
Archaeological investigation update

- CYP will complete archaeological investigations at both OSD sites at stations

- State Library site investigations
  - Stage 1 activity will start late March 2018

- Town Hall site investigations
  - Stage 1 activity is expected to start early April 2018

Town Hall station dig sites



State Library Station dig sites

Archaeological investigation update

- Stage one
  - Contractor will lift concrete slab on site
  - Archaeologist will investigate and dig trench
  - Heritage Victoria will approve location of trench
  - Archaeologist will prepare report to apply for stage two
  - Approximately two weeks

- Stage two
  - Archaeologist will conduct full investigation
  - Approximately 12 to 14 weeks

Questions

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