18 Environmental Performance Requirements

This section provides a comprehensive list of the recommended Environmental Performance Requirements and proposed mitigation measures identified as a result of this impact assessment. Table 18-1 provides the Environmental Performance Requirements, which apply across the project and on a precinct basis, linked to the EES evaluation objective.

Table 18-1 Environmental Performance Requirements

Draft EES evaluation objective	Impact	Environmental Performance Requirements	Proposed mitigation measure	Precinct	Timing	Risk no.
Built environment: **– To protect and enhance the character, form and function of the public realm and buildings within and adjacent to the project alignment, and particularly in the vicinity of project surface structures, having regard to the existing and evolving urban context.**	Possible construction activities inhibit future development above and below ground.		Undertake strata and, where required, full acquisition of titles where conflict exists. Use the proposed DDO to protect Melbourne Metro infrastructure and trigger discussions with third party developers regarding future development. Preparation and exhibition of the planning scheme amendment at the same time as the EES. Facilitation of the planning scheme amendment by the Minister for Planning.	Tunnels	Construction and Operation	LU004 LU008
	Potential for construction activities to inhibit future development on and below the West Melbourne Terminal Station site.	Develop and implement measures for construction and operation of Melbourne Metro that aim to minimise impacts to the development and / or operation of existing land uses, including: • Limiting the permanent change of use within existing public open space • Minimising footprints of construction sites and permanent infrastructure on public land • Minimising impacts to existing public open spaces and recreational facilities and the users of these facilities, including but not limited, to JJ Holland Park, University Square, City Baths, City Square, Federation Square, the Shrine of Remembrance Reserve, Domain Parklands, Edmund Herring Oval, Fawkner Park and the Albert Road Reserve. Such measures shall be developed in consultation with affected land managers for public land.	Ensure proposed works are appropriately located to limit impact on the site. Undertake strata and, where required, full acquisition of titles where conflict exists Minimise the construction footprint where possible. Use the proposed DDO to protect Melbourne Metro infrastructure and trigger discussions with third party developers regarding future development.	Tunnels	Construction and Operation	LU004
	Construction activities impact on the future	In consultation with key stakeholders and in accordance with the Urban Design Strategy, relevant statutory approvals and other relevant requirements, re-establish sites impacted by	Have regard to the Melbourne Metro Urban Design Strategy to guide future development. Undertake strata and, where required, full	Eastern portal	Construction	LU003 LU007 LU008

Draft EES evaluation objective	Impact	Environmental Performance Requirements	Proposed mitigation measure	Precinct	Timing	Risk no.
	development of land.	construction works, including but not limited to: • Childers Street, Kensington • JJ Holland Park • Royal Parade and Grattan Street, Parkville • The south western entrance of the proposed CBD South station • St Kilda Road boulevard • Edmund Herring Oval • Fawkner Park and Fawkner Park Tennis Facility • Osborne Street Reserve • South Yarra Siding Reserve • Lovers Walk • The South African Soldiers War Memorial Develop and implement a plan in consultation with the Office of Victorian Government Architect, local councils and other land managers to comply with the Melbourne Metro Urban Design Strategy to re-establish public open space, recreation reserves and other valued places disturbed by temporary works. The plan must include, but not be limited to a methodology for storage, reinstatement or replacement of existing public art, monuments and public infrastructure such as poles, bins, and other street furniture.	acquisition of titles where conflict exists. Use the proposed DDO to protect Melbourne Metro infrastructure and trigger discussions with third party developers regarding future development.			
	Construction activities and permanent structures minimise land to be used for public open	Develop and implement measures for construction and operation of Melbourne Metro that aim to minimise impacts to the development and / or operation of existing land uses, including: • Limiting the permanent change of use within existing public open space	Demonstrate that construction work sites have been optimised to reduce their footprint on the parklands. Avoid the use of the Shrine of Remembrance Reserve for construction activities unrelated to the station entrance.	Tunnels	Construction and Operation	LU002 LU005 LU006

Draft EES evaluation objective	Impact	Environmental Performance Requirements	Proposed mitigation measure	Precinct	Timing	Risk no.
	space and reduce quality of open space within the Domain Parklands and Fawkner Park.	• Minimising footprints of construction sites and permanent infrastructure on public land • Minimising impacts to existing public open spaces and recreational facilities and the users of these facilities, including but not limited, to JJ Holland Park, University Square, City Baths, City Square, Federation Square, the Shrine of Remembrance Reserve, Domain Parklands, Edmund Herring Oval, Fawkner Park and the Albert Road Reserve. Such measures shall be developed in consultation with affected land managers for public land. Development of the project is to have regard to the relevant Open Space Master Plans (including but not limited to, the Domain Parklands and Fawkner Park Master Plans) in designing and constructing above-ground infrastructure for the tunnels. Consultation must occur with land managers and / or agencies responsible for the implementation of the relevant Open Space Master Plans. Develop and implement a plan in consultation with the Office of Victorian Government Architect, local councils and other land managers to comply with the Melbourne Metro Urban Design Strategy to re-establish public open space, recreation reserves and other valued places disturbed by temporary works. The plan must include, but not be limited to a methodology for storage, reinstatement or replacement of existing public art, monuments and public infrastructure such as poles, bins, and other street furniture.	Ensure open space and associated facilities are reinstated post construction.			
	Partial land acquisition of land owned by the University	Develop and implement measures for construction and operation of Melbourne Metro that aim to minimise impacts to the development and / or	Undertake strata and, where required, full acquisition of titles where conflict exists. Incorporate proposed works with the	Parkville station	Construction	LU003

Draft EES evaluation objective	Impact	Environmental Performance Requirements	Proposed mitigation measure	Precinct	Timing	Risk no.
	of Melbourne for station entrances.	operation of existing land uses, including: • Limiting the permanent change of use within existing public open space • Minimising footprints of construction sites and permanent infrastructure on public land • Minimising impacts to existing public open spaces and recreational facilities and the users of these facilities, including but not limited, to JJ Holland Park, University Square, City Baths, City Square, Federation Square, the Shrine of Remembrance Reserve, Domain Parklands, Edmund Herring Oval, Fawkner Park and the Albert Road Reserve. Such measures shall be developed in consultation with affected land managers for public land. Prior to main works or shaft construction, develop and implement a community and business involvement plan to engage potentially affected stakeholders and advise them of the planned construction activities and progress against the schedule. The plan must include: • Measures to minimise impacts to the development and/or operation of existing facilities • Measures for providing advance notice of significant milestones, changed traffic conditions, periods of predicted high noise and vibration activities • Process for registering and management of complaints • Measures to address any other matters which are of concern or interest to them. The plan would consider each precinct and station	planned future development of University of Melbourne. Use the proposed DDO to protect Melbourne Metro infrastructure and trigger discussions with third party developers regarding future development.			

Draft EES evaluation objective	Impact	Environmental Performance Requirements	Proposed mitigation measure	Precinct	Timing	Risk no.
		location in detail. Stakeholders to be considered in the plan include (but not limited to): • Municipalities • Potentially affected residents • Potentially affected businesses • Recreation, sporting and community groups and facilities • Royal Melbourne Hospital, Victorian Comprehensive Cancer Centre, Peter Doherty Institute and other health and medical facilities • The University of Melbourne • RMIT • Fawkner Park Children's Centre and Kindergarten • South Yarra Senior Citizens Centre • Other public facilities in proximity.				
	Construction activities inhibit access to residences. Construction activities require property acquisition. Possible construction activities inhibit future development.	Develop and implement measures for construction and operation of Melbourne Metro that aim to minimise impacts to the development and / or operation of existing land uses, including: • Limiting the permanent change of use within existing public open space • Minimising footprints of construction sites and permanent infrastructure on public land • Minimising impacts to existing public open spaces and recreational facilities and the users of these facilities, including but not limited, to JJ Holland Park, University Square, City Baths, City Square, Federation Square, the Shrine of Remembrance Reserve, Domain Parklands, Edmund Herring Oval, Fawkner	Provide for temporary relocation of households in proximity to construction zones with restricted access or / and amenity impacts. Use hotels / motels or other temporary accommodation for short term disruptions. Where relocation is longer term use service apartments or provide for alternative rental properties. Undertake strata and, where required, full acquisition of titles where conflict exists. Communicate construction timeframes with potential developers. Use the proposed DDO to protect Melbourne Metro infrastructure and trigger discussions with third party developers	Western portal CBD North station	Construction	LU001 LU002 LU008

Draft EES evaluation objective	Impact	Environmental Performance Requirements	Proposed mitigation measure	Precinct	Timing	Risk no.
		Park and the Albert Road Reserve. Such measures shall be developed in consultation with affected land managers for public land. Prior to main works or shaft construction, develop and implement a community and business involvement plan to engage potentially affected stakeholders and advise them of the planned construction activities and progress against the schedule. The plan must include: • Measures to minimise impacts to the development and/or operation of existing facilities • Measures for providing advance notice of significant milestones, changed traffic conditions, periods of predicted high noise and vibration activities • Process for registering and management of complaints • Measures to address any other matters which are of concern or interest to them. The plan would consider each precinct and station location in detail. Stakeholders to be considered in the plan include (but not limited to): • Municipalities • Potentially affected residents • Potentially affected businesses • Recreation, sporting and community groups and facilities • Royal Melbourne Hospital, Victorian Comprehensive Cancer Centre, Peter Doherty Institute and other health and medical facilities • The University of Melbourne	regarding future development.			

Draft EES evaluation objective	Impact	Environmental Performance Requirements	Proposed mitigation measure	Precinct	Timing	Risk no.
		• RMIT • Fawkner Park Children's Centre and Kindergarten • South Yarra Senior Citizens Centre • Other public facilities in proximity.				
	Construction activities inhibit access through the precinct. Construction activities require property acquisition.	Prior to main works or shaft construction, develop and implement a community and business involvement plan to engage potentially affected stakeholders and advise them of the planned construction activities and progress against the schedule. The plan must include: • Measures to minimise impacts to the development and/or operation of existing facilities • Measures for providing advance notice of significant milestones, changed traffic conditions, periods of predicted high noise and vibration activities • Process for registering and management of complaints • Measures to address any other matters which are of concern or interest to them. The plan would consider each precinct and station location in detail. Stakeholders to be considered in the plan include (but not limited to): • Municipalities • Potentially affected residents • Potentially affected businesses • Recreation, sporting and community groups and facilities • Royal Melbourne Hospital, Victorian	Preparation of a Traffic Management Plan to limit congestion and impact on residential streets (Technical Appendix D *Transport* provides more detail on this).	Western portal	Construction	LU002 LU007 LU009

Draft EES evaluation objective	Impact	Environmental Performance Requirements	Proposed mitigation measure	Precinct	Timing	Risk no.
		Comprehensive Cancer Centre, Peter Doherty Institute and other health and medical facilities • The University of Melbourne • RMIT • Fawkner Park Children's Centre and Kindergarten • South Yarra Senior Citizens Centre • Other public facilities in proximity. In consultation with key stakeholders and in accordance with the Urban Design Strategy, relevant statutory approvals and other relevant requirements, re-establish sites impacted by construction works, including but not limited to: • Childers Street, Kensington • JJ Holland Park • Royal Parade and Grattan Street, Parkville • The south western entrance of the proposed CBD South station • St Kilda Road boulevard • Edmund Herring Oval • Fawkner Park and Fawkner Park Tennis Facility • Osborne Street Reserve • South Yarra Siding Reserve • Lovers Walk • The South African Soldiers War Memorial				
	The proposed station would assist in the revitalisation	Design and construction of Arden station must consider the ongoing strategic planning of the Arden-Macaulay Urban Renewal Area, and include consultation with the Metropolitan Planning	Preparation of a Master Plan having regard to the Melbourne Metro Urban Design Strategy to guide future	Arden station	Construction	LU008

Draft EES evaluation objective	Impact	Environmental Performance Requirements	Proposed mitigation measure	Precinct	Timing	Risk no.
	of the area.	Authority, City of Melbourne and any other relevant agencies.	development in Arden Macaulay.			
	Provision of the station in this location supports the identification of the precinct as a National Employment Cluster. Possible construction activities inhibit future development above and below ground.	Develop and implement measures for construction and operation of Melbourne Metro that aim to minimise impacts to the development and / or operation of existing land uses, including: • Limiting the permanent change of use within existing public open space • Minimising footprints of construction sites and permanent infrastructure on public land • Minimising impacts to existing public open spaces and recreational facilities and the users of these facilities, including but not limited, to JJ Holland Park, University Square, City Baths, City Square, Federation Square, the Shrine of Remembrance Reserve, Domain Parklands, Edmund Herring Oval, Fawkner Park and the Albert Road Reserve. Such measures shall be developed in consultation with affected land managers for public land.	Selection of construction equipment /construction methodology. Consultation with affected institutes. Undertake strata and, where required, full acquisition of titles where conflict exists. Use the proposed DDO to protect Melbourne Metro infrastructure and trigger discussions with third party developers regarding future development. Potential redevelopment of the precinct to have regard to the City North Structure Plan, *Plan Melbourne* and the Capital City Zone Schedule 5 (City North Area).	Parkville station	Construction	LU003 LU008
	Possible construction activities inhibit future development above and below ground.	Prior to main works or shaft construction, develop and implement a community and business involvement plan to engage potentially affected stakeholders and advise them of the planned construction activities and progress against the schedule. The plan must include: • Measures to minimise impacts to the development and/or operation of existing facilities • Measures for providing advance notice of significant milestones, changed traffic conditions, periods of predicted high noise and vibration activities • Process for registering and management of	Selection of construction equipment / construction methodology. Consultation with affected institutes. Use the proposed DDO to protect Melbourne Metro infrastructure and trigger discussions with third party developers regarding future development. Preparation and exhibition of the planning scheme amendment at the same time as the EES. Facilitation of the planning scheme amendment by the Minister for Planning.	Parkville station CBD North station Domain station	Construction	LU002 LU003 LU008

Draft EES evaluation objective	Impact	Environmental Performance Requirements	Proposed mitigation measure	Precinct	Timing	Risk no.
		complaints • Measures to address any other matters which are of concern or interest to them. The plan would consider each precinct and station location in detail. Stakeholders to be considered in the plan include (but not limited to): • Municipalities • Potentially affected residents • Potentially affected businesses • Recreation, sporting and community groups and facilities • Royal Melbourne Hospital, Victorian Comprehensive Cancer Centre, Peter Doherty Institute and other health and medical facilities • The University of Melbourne • RMIT • Fawkner Park Children's Centre and Kindergarten • South Yarra Senior Citizens Centre • Other public facilities in proximity.				
	The proposed station would assist in the redevelopment and revitalisation of the area.	Develop and implement measures for construction and operation of Melbourne Metro that aim to minimise impacts to the development and / or operation of existing land uses, including: • Limiting the permanent change of use within existing public open space • Minimising footprints of construction sites and permanent infrastructure on public land • Minimising impacts to existing public open spaces and recreational facilities and the	Compliance with the Melbourne Planning Scheme and implementation of the DDO to identify and protect Melbourne Metro from future development impacts.	CBD North station	Construction	LU001 LU008

Draft EES evaluation objective	Impact	Environmental Performance Requirements	Proposed mitigation measure	Precinct	Timing	Risk no.
		users of these facilities, including but not limited, to JJ Holland Park, University Square, City Baths, City Square, Federation Square, the Shrine of Remembrance Reserve, Domain Parklands, Edmund Herring Oval, Fawkner Park and the Albert Road Reserve. Such measures shall be developed in consultation with affected land managers for public land.				
	Possible construction activities inhibit future development above and below ground.	Develop and implement measures for construction and operation of Melbourne Metro that aim to minimise impacts to the development and / or operation of existing land uses, including: • Limiting the permanent change of use within existing public open space • Minimising footprints of construction sites and permanent infrastructure on public land • Minimising impacts to existing public open spaces and recreational facilities and the users of these facilities, including but not limited, to JJ Holland Park, University Square, City Baths, City Square, Federation Square, the Shrine of Remembrance Reserve, Domain Parklands, Edmund Herring Oval, Fawkner Park and the Albert Road Reserve. Such measures shall be developed in consultation with affected land managers for public land.	Undertake strata and, where required, full acquisition of titles where conflict exists. Selection of construction equipment/construction methodology. Consultation with affected landowners and tenants. Use the proposed DDO to protect Melbourne Metro infrastructure and trigger discussions with third party developers regarding future development.	CBD North station	Construction	LU001 LU008
Social, community, land use and business - To manage the effects on the social fabric of the community	Construction activities and permanent structures minimise land to be used for public open space and reduce quality	Develop and implement measures for construction and operation of Melbourne Metro that aim to minimise impacts to the development and / or operation of existing land uses, including: • Limiting the permanent change of use within existing public open space • Minimising footprints of construction sites and	Demonstrate that construction work sites have been optimised to reduce their footprint on the parklands. Avoid the use of the Shrine of Remembrance reserve for construction activities unrelated to the station entrance. Ensure the park and its facilities are reinstated and improved post construction.	Tunnel, Eastern portal and Domain station	Construction	LU002 LU003 LU004 LU006 LU007 LU009

Draft EES evaluation objective	Impact	Environmental Performance Requirements	Proposed mitigation measure	Precinct	Timing	Risk no.
in the area of the project, including with regard to land use changes, community cohesion, business functionality and access to services and facilities, especially during the construction phase.	of open space.	permanent infrastructure on public land • Minimising impacts to existing public open spaces and recreational facilities and the users of these facilities, including but not limited, to JJ Holland Park, University Square, City Baths, City Square, Federation Square, the Shrine of Remembrance Reserve, Domain Parklands, Edmund Herring Oval, Fawkner Park and the Albert Road Reserve. Such measures shall be developed in consultation with affected land managers for public land. Prior to main works or shaft construction, develop and implement a community and business involvement plan to engage potentially affected stakeholders and advise them of the planned construction activities and progress against the schedule. The plan must include: • Measures to minimise impacts to the development and/or operation of existing facilities • Measures for providing advance notice of significant milestones, changed traffic conditions, periods of predicted high noise and vibration activities • Process for registering and management of complaints • Measures to address any other matters which are of concern or interest to them. The plan would consider each precinct and station location in detail. Stakeholders to be considered in the plan include (but not limited to): • Municipalities • Potentially affected residents				

Draft EES evaluation objective	Impact	Environmental Performance Requirements	Proposed mitigation measure	Precinct	Timing	Risk no.
		• Potentially affected businesses • Recreation, sporting and community groups and facilities • Royal Melbourne Hospital, Victorian Comprehensive Cancer Centre, Peter Doherty Institute and other health and medical facilities • The University of Melbourne • RMIT • Fawkner Park Children's Centre and Kindergarten • South Yarra Senior Citizens Centre • Other public facilities in proximity. Development of the project is to have regard to the relevant Open Space Master Plans (including but not limited to, the Domain Parklands and Fawkner Park Master Plans) in designing and constructing above-ground infrastructure for the tunnels. Consultation must occur with land managers and / or agencies responsible for the implementation of the relevant Open Space Master Plans. In consultation with key stakeholders and in accordance with the Urban Design Strategy, relevant statutory approvals and other relevant requirements, re-establish sites impacted by construction works, including but not limited to: • Childers Street, Kensington • JJ Holland Park • Royal Parade and Grattan Street, Parkville • The south western entrance of the proposed CBD South station • St Kilda Road boulevard				

Draft EES evaluation objective	Impact	Environmental Performance Requirements	Proposed mitigation measure	Precinct	Timing	Risk no.
		• Edmund Herring Oval • Fawkner Park and Fawkner Park Tennis Facility • Osborne Street Reserve • South Yarra Siding Reserve • Lovers Walk • The South African Soldiers War Memorial Develop and implement a plan in consultation with the Office of Victorian Government Architect, local councils and other land managers to comply with the Melbourne Metro Urban Design Strategy to re-establish public open space, recreation reserves and other valued places disturbed by temporary works. The plan must include, but not be limited to a methodology for storage, reinstatement or replacement of existing public art, monuments and public infrastructure such as poles, bins, and other street furniture.				
	Construction activities result in a loss of amenity for shoppers and inhibit future development.		Minimise the construction footprint where possible. Undertaken consultation with community and relevant Councils.	Tunnels	Construction	LU002
	Construction activities result in the loss of amenity for health, educational, commercial, recreational and other	Prior to main works or shaft construction, develop and implement a community and business involvement plan to engage potentially affected stakeholders and advise them of the planned construction activities and progress against the schedule. The plan must include: • Measures to minimise impacts to the development and/or operation of existing	Consult with key facilities when developing the construction methodology and seek to reduce impacts on key social infrastructure. Further discussion on this is included in Technical Appendix F *Social and Community*.	Western portal	Construction	LU002 LU007 LU008 LU009

Draft EES evaluation objective	Impact	Environmental Performance Requirements	Proposed mitigation measure	Precinct	Timing	Risk no.
	facilities in JJ Holland Park.	facilities • Measures for providing advance notice of significant milestones, changed traffic conditions, periods of predicted high noise and vibration activities • Process for registering and management of complaints • Measures to address any other matters which are of concern or interest to them. The plan would consider each precinct and station location in detail. Stakeholders to be considered in the plan include (but not limited to): • Municipalities • Potentially affected residents • Potentially affected businesses • Recreation, sporting and community groups and facilities • Royal Melbourne Hospital, Victorian Comprehensive Cancer Centre, Peter Doherty Institute and other health and medical facilities • The University of Melbourne • RMIT • Fawkner Park Children's Centre and Kindergarten • South Yarra Senior Citizens Centre • Other public facilities in proximity.				
	Potential loss of industrial land in close proximity to	Design and construction of Arden station must consider the ongoing strategic planning of the Arden-Macaulay Urban Renewal Area, and include consultation with the Metropolitan Planning	Preparation of a Master Plan having regard to the Melbourne Metro Urban Design Strategy to guide future development in Arden Macaulay.	Arden station	Construction	LU007 LU008

Draft EES evaluation objective	Impact	Environmental Performance Requirements	Proposed mitigation measure	Precinct	Timing	Risk no.
	the CBD.	Authority, City of Melbourne and any other relevant agencies.				
	Temporary loss of City Square during construction and the inclusion of station entrances in both City Square and Federation Square. Temporary occupation of public open space reduce quality of surrounding open space Improvement of access to both sites through the inclusion of station entrances.	Develop and implement measures for construction and operation of Melbourne Metro that aim to minimise impacts to the development and / or operation of existing land uses, including: • Limiting the permanent change of use within existing public open space • Minimising footprints of construction sites and permanent infrastructure on public land • Minimising impacts to existing public open spaces and recreational facilities and the users of these facilities, including but not limited, to JJ Holland Park, University Square, City Baths, City Square, Federation Square, the Shrine of Remembrance Reserve, Domain Parklands, Edmund Herring Oval, Fawkner Park and the Albert Road Reserve. Such measures shall be developed in consultation with affected land managers for public land. Prior to main works or shaft construction, develop and implement a community and business involvement plan to engage potentially affected stakeholders and advise them of the planned construction activities and progress against the schedule. The plan must include: • Measures to minimise impacts to the development and/or operation of existing facilities • Measures for providing advance notice of significant milestones, changed traffic conditions, periods of predicted high noise and vibration activities • Process for registering and management of	Demonstrate that construction work sites have been optimised to reduce their footprint on the landmarks and public open space. Ensure the open space and its facilities are reinstated post construction (where possible).	CBD South station	Construction	LU002 LU006 LU007

Draft EES evaluation objective	Impact	Environmental Performance Requirements	Proposed mitigation measure	Precinct	Timing	Risk no.
		complaints • Measures to address any other matters which are of concern or interest to them. The plan would consider each precinct and station location in detail. Stakeholders to be considered in the plan include (but not limited to): • Municipalities • Potentially affected residents • Potentially affected businesses • Recreation, sporting and community groups and facilities • Royal Melbourne Hospital, Victorian Comprehensive Cancer Centre, Peter Doherty Institute and other health and medical facilities • The University of Melbourne • RMIT • Fawkner Park Children's Centre and Kindergarten • South Yarra Senior Citizens Centre • Other public facilities in proximity. In consultation with key stakeholders and in accordance with the Urban Design Strategy, relevant statutory approvals and other relevant requirements, re-establish sites impacted by construction works, including but not limited to: • Childers Street, Kensington • JJ Holland Park • Royal Parade and Grattan Street, Parkville • The south western entrance of the proposed CBD South station				

Draft EES evaluation objective	Impact	Environmental Performance Requirements	Proposed mitigation measure	Precinct	Timing	Risk no.
		• St Kilda Road boulevard • Edmund Herring Oval • Fawkner Park and Fawkner Park Tennis Facility • Osborne Street Reserve • South Yarra Siding Reserve • Lovers Walk • The South African Soldiers War Memorial Develop and implement a plan in consultation with the Office of Victorian Government Architect, local councils and other land managers to comply with the Melbourne Metro Urban Design Strategy to re-establish public open space, recreation reserves and other valued places disturbed by temporary works. The plan must include, but not be limited to a methodology for storage, reinstatement or replacement of existing public art, monuments and public infrastructure such as poles, bins, and other street furniture.				
	Temporary occupation of public open space reducing quality of surrounding open space.	In consultation with key stakeholders and in accordance with the Urban Design Strategy, relevant statutory approvals and other relevant requirements, re-establish sites impacted by construction works, including but not limited to: • Childers Street, Kensington • JJ Holland Park • Royal Parade and Grattan Street, Parkville • The south western entrance of the proposed CBD South station • St Kilda Road boulevard	Demonstrate that construction work sites have been optimised to reduce their footprint on the parklands	Parkville station, Domain station	Construction	LU006 LU007 LU009

Draft EES evaluation objective	Impact	Environmental Performance Requirements	Proposed mitigation measure	Precinct	Timing	Risk no.
		• Edmund Herring Oval • Fawkner Park and Fawkner Park Tennis Facility • Osborne Street Reserve • South Yarra Siding Reserve • Lovers Walk • The South African Soldiers War Memorial Develop and implement a plan in consultation with the Office of Victorian Government Architect, local councils and other land managers to comply with the Melbourne Metro Urban Design Strategy to re-establish public open space, recreation reserves and other valued places disturbed by temporary works. The plan must include, but not be limited to a methodology for storage, reinstatement or replacement of existing public art, monuments and public infrastructure such as poles, bins, and other street furniture.				
	Private leases within the Flinders Street station building require acquisition	Prior to main works or shaft construction, develop and implement a community and business involvement plan to engage potentially affected stakeholders and advise them of the planned construction activities and progress against the schedule. The plan must include: • Measures to minimise impacts to the development and/or operation of existing facilities • Measures for providing advance notice of significant milestones, changed traffic conditions, periods of predicted high noise and vibration activities	Assist in the relocation of impacted businesses (Refer to the Technical Appendix G *Business*)	CBD South station	Construction	LU002 LU008

Draft EES evaluation objective	Impact	Environmental Performance Requirements	Proposed mitigation measure	Precinct	Timing	Risk no.
		• Process for registering and management of complaints • Measures to address any other matters which are of concern or interest to them. The plan would consider each precinct and station location in detail. Stakeholders to be considered in the plan include (but not limited to): • Municipalities • Potentially affected residents • Potentially affected businesses • Recreation, sporting and community groups and facilities • Royal Melbourne Hospital, Victorian Comprehensive Cancer Centre, Peter Doherty Institute and other health and medical facilities • The University of Melbourne • RMIT • Fawkner Park Children's Centre and Kindergarten • South Yarra Senior Citizens Centre • Other public facilities in proximity.				
	Construction activities and permanent structures within the Domain Parklands require the loss of land to be used for public open	Develop and implement measures for construction and operation of Melbourne Metro that aim to minimise impacts to the development and / or operation of existing land uses, including: • Limiting the permanent change of use within existing public open space • Minimising footprints of construction sites and permanent infrastructure on public land • Minimising impacts to existing public open	Demonstrate that construction work sites have been optimised to reduce their footprint on the parklands Avoid the use of the Shrine of Remembrance reserve for construction activities unrelated to the station entrance. Ensure the park and its facilities are reinstated post construction.	Domain station	Construction	LU002 LU006 LU007 LU009

Draft EES evaluation objective	Impact	Environmental Performance Requirements	Proposed mitigation measure	Precinct	Timing	Risk no.
	space resulting in a change of land use.	spaces and recreational facilities and the users of these facilities, including but not limited, to JJ Holland Park, University Square, City Baths, City Square, Federation Square, the Shrine of Remembrance Reserve, Domain Parklands, Edmund Herring Oval, Fawkner Park and the Albert Road Reserve. Such measures shall be developed in consultation with affected land managers for public land. Development of the project is to have regard to the relevant Open Space Master Plans (including but not limited to, the Domain Parklands and Fawkner Park Master Plans) in designing and constructing above-ground infrastructure for the tunnels. Consultation must occur with land managers and / or agencies responsible for the implementation of the relevant Open Space Master Plans. In consultation with key stakeholders and in accordance with the Urban Design Strategy, relevant statutory approvals and other relevant requirements, re-establish sites impacted by construction works, including but not limited to: • Childers Street, Kensington • JJ Holland Park • Royal Parade and Grattan Street, Parkville • The south western entrance of the proposed CBD South station • St Kilda Road boulevard • Edmund Herring Oval • Fawkner Park and Fawkner Park Tennis Facility • Osborne Street Reserve • South Yarra Siding Reserve				

Draft EES evaluation objective	Impact	Environmental Performance Requirements	Proposed mitigation measure	Precinct	Timing	Risk no.
		• Lovers Walk • The South African Soldiers War Memorial Develop and implement a plan in consultation with the Office of Victorian Government Architect, local councils and other land managers to comply with the Melbourne Metro Urban Design Strategy to re-establish public open space, recreation reserves and other valued places disturbed by temporary works. The plan must include, but not be limited to a methodology for storage, reinstatement or replacement of existing public art, monuments and public infrastructure such as poles, bins, and other street furniture.				
	Construction activities and permanent structures within South Yarra Siding Reserve, Osborne Street Reserve and Lovers Walk require the loss of public open space and reduce quality of open space.	In consultation with key stakeholders and in accordance with the Urban Design Strategy, relevant statutory approvals and other relevant requirements, re-establish sites impacted by construction works, including but not limited to: • Childers Street, Kensington • JJ Holland Park • Royal Parade and Grattan Street, Parkville • The south western entrance of the proposed CBD South station • St Kilda Road boulevard • Edmund Herring Oval • Fawkner Park and Fawkner Park Tennis Facility • Osborne Street Reserve • South Yarra Siding Reserve • Lovers Walk • The South African Soldiers War Memorial Development of the project is to have regard to the	Ensure the open space and its facilities are reinstated and improved post construction.	Tunnels and Eastern portal	Construction	LU003 LU005 LU006 LU007 LU009

Draft EES evaluation objective	Impact	Environmental Performance Requirements	Proposed mitigation measure	Precinct	Timing	Risk no.
		relevant Open Space Master Plans (including but not limited to, the Domain Parklands and Fawkner Park Master Plans) in designing and constructing above-ground infrastructure for the tunnels. Consultation must occur with land managers and / or agencies responsible for the implementation of the relevant Open Space Master Plans. Develop and implement a plan in consultation with the Office of Victorian Government Architect, local councils and other land managers to comply with the Melbourne Metro Urban Design Strategy to re-establish public open space, recreation reserves and other valued places disturbed by temporary works. The plan must include, but not be limited to a methodology for storage, reinstatement or replacement of existing public art, monuments and public infrastructure such as poles, bins, and other street furniture.				

19 Conclusion

This report has assessed the potential land use and planning issues and opportunities associated with the proposed Melbourne Metro Concept Design against the built form and land use evaluation objectives of the EES Scoping Requirements. The draft objective for built environment is:

> *'To protect and enhance the character, form and function of the public realm and buildings within and adjacent to the project alignment, and particularly in the vicinity of project surface structures, having regard to the existing and evolving urban context'.*

The draft objective for land use is:

> *'To manage effects on the social fabric of the community in the area of the project, including with regard to land use changes, community cohesion, business functionality and access to services and facilities, especially during the construction phase'.*

In order to fully assess the built environment and land use impacts of the project the following key risks and themes were considered:

- The impact of land acquisition on the land use character of the area and potential change to built form
- The change of built environment and land use and its compliance with relevant legislative guidelines and state and local planning policy including strategic planning studies
- Access implications and the potential impact to existing land use
- The presence of any encumbrances, including depth limitations, on Certificates of Title as well as existing planning approvals
- Opportunities for the project to improve the built environment.

These risks were built into the risk assessment and through the identification of a number of key performance requirements the majority of residual risk ratings were 'low' with two risks identified as 'medium'. The medium risks are identified as:

- Acquisition of residential, commercial and retail titles for the project, resulting in some changes in land use. This includes the strata acquisition of numerous titles across the study area.
- The use of the South Yarra Siding Reserve, City Square, University Square, Domain Parklands and Fawkner Park for the project is inconsistent with the intended use of the land for public parks.

Overall, the project provides a built environment and land use benefit as it would act as a catalyst for change at station locations, improving access and providing potential for revitalisation of land use within the study area and across Melbourne. Other key benefits of the project include:

- Delivery of a significant project with relatively limited impact on land use and built form across Melbourne, especially given the scale of the project
- The proposed tunnels limit the permanent impact to land use and the built environment as the majority of permanent works are below ground
- Opportunities for improvement of public open space at the completion of the project through legacy works at City Square, University Square, Fawkner Park, Albert Road Reserve, Domain station and the South Yarra Siding Reserve
- The use of public land (VicTrack) at Arden for a station and a major construction work site limits private land acquisition and would act to invigorate extensive urban renewal in the area, ensuring future residential development in the area is integrated with the transport network
- Opportunities to incorporate the proposed works with future planned development of land including at Arden and at the University of Melbourne

- Enhanced connections through precincts and to valued places such as the Parkville National Employment Cluster and Federation Square with opportunities for improved train, tram, and bus interchanges at Parkville, CBD North, CBD South and Domain stations
- Potential opportunities for over-site development at station entrances at CBD North and CBD South to allow for future replacement of land uses removed as part of the project, therefore lessening the impact on existing land use and built form.

The main land use impacts that need to be addressed to ensure consistency with the relevant draft EES evaluation objectives are:

- Major land acquisition within the CBD North station precinct, and the resulting potential for some land use change. The future land use and built form would need to be undertaken in accordance with the relevant planning policy and strategic planning guidance, as well as consideration of Technical Appendix M *Urban Design Strategy*. Strata acquisition would not result in any land use change, however the development potential of the site would be determined by the provisions of the relevant Planning Scheme.
- Potential for access issues to impact on the existing land uses within the study area. These are generally considered temporary issues and where impacts are long term the properties have been identified for acquisition.
- The loss of public open space through land reservation. However, the permanent use of public open space is minor and it is considered that the proposed Melbourne Metro generally contributes to the main function of the land for public purposes and would not change the ultimate use of the land in the future.
- Potential constraints on future development potential of land within the study area due to the presence of the underground infrastructure. It is proposed to apply a Design and Development Overlay over a 'zone of influence' to trigger referral of particular types of planning permit applications which may have the potential to impact on the assets.

These impacts can be managed through the implementation of the recommended Environmental Performance Requirements and associated proposed mitigation measures, and the project would deliver the identified benefits to land use and the built environment across Melbourne.

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Appendices

Appendix A

Relevant Legislation

The section below expands on the summary information provided in Table 3-1. In addition, it describes secondary legislation relevant to the project. This section also articulates the relevance of the legislation and policies for the project (as shown in bold).

Commonwealth

Commonwealth legislation relevant to the planning and appraisal of the proposed Melbourne Metro is summarised in the following section.

Environment Protection and Biodiversity Act 1999

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) protects assets of national environmental significance including species and ecological communities, and internationally recognised wetlands. The Federal Minister for Environment is responsible for administering this Act.

Referral / Approval Requirements

The Act requires that an environmental approval be obtained from the Minister before taking any action[12] that would have, or is likely to have, a significant negative impact on any matters of national environmental significance (NES). The following matters of national significance are relevant to this project:

- Wetlands of international importance
- Listed threatened species and communities
- Listed migratory species

A referral and assessment process determines the application of the Act. This involves submitting preliminary project information, which assesses the project's implications for matters of national environmental significance in accordance with the prescribed referral form. The referral is posted on the Department of Environment (DoE) website (www.environment.gov.au) and public comment is invited over a 10 day period. ***MMRA referred Melbourne Metro to the Australian Government Minister for the Environment pursuant to this Act.***

Approval Process

The Minister may make 1 of 3 decisions if a referral under the EPBC Act is submitted:

- That the action is not a 'controlled action' and that no further assessment is required;
- That the action is not a 'controlled action', subject to conditions; or
- That the action is a 'controlled action' and that further assessment is required.

[12] An 'action' includes a project, development, undertaking, activity, or series of activities. When a person proposes to take an 'action' that they believe may need approval under the EPBC Act, they must refer the proposal to the Minister for Environment.

On 22 September 2015, the Minister determined that the proposed Melbourne Metro is 'not a controlled action if undertaken in a particular manner' to avoid significant vibrational impacts to the Commonwealth Heritage listed structures within the Victoria Barracks site in St Kilda Road.

State of Australian Cities 2014-2015, Progress in Australian Regions

The State of Australian Cities 2014-15 report (Department of Infrastructure and Regional Development, 2015) builds on the Progress in Australian Regions – Yearbook 2014, and provides evidence regarding progress in Australia's cities. The report provides information on how Australia's cities are changing. The report makes the following conclusions on the importance of urban public transport to the national economy:

> *'As explored in the Economy chapter, agglomeration economics mean that across Australia's cities a high proportion of jobs are clustered in the central city CBD locations and other employment clusters.*
>
> *As economies increasingly become more knowledge intensive, this clustering intensifies, driving intense patterns of demand for travel into inner cities and the city CBDs.*
>
> *With such inward-focused travel demand and with space in the city centres at a premium, leaving less for parking or for roads, the travel needs of many city centre workers can only be met by mass public transport. As Australia's urban economies have transitioned and more jobs are located in city centres, patronage on public transport has grown significantly. In the past decade, the rate of average annual growth of public transport patronage (2.4 per cent) surpassed the rate of population growth in capital cities (1.8 per cent).'*

Further, the State of Australian Cities 2014-15 report makes the following conclusions on public transport:

> *'As observed in the settlement chapter … rail passenger journeys have seen a sharp growth in Melbourne and Sydney. But in Melbourne and Sydney, the increase in passenger kilometres has come about despite investment in the network remaining largely static, with patronage growing significantly and overcrowding beginning to occur.*
>
> *In these cities the rail networks are designed in a hub and spoke fashion, optimised for serving the city centre, and the increase is a result of job growth in the high productivity city centres and rising road congestion that results from travel to those centres''*

The proposed Melbourne Metro would provide a quality public transport system that provides a viable alternative to the private car and accessibility to a range of employment opportunities and higher order facilities and services.

State

Victorian legislation relevant to the planning and appraisal of the proposed Melbourne Metro is summarised in the following section.

Environment Effects Act 1978

This Act provides for the State's assessment of proposed projects or works that are capable of having a significant effect on the Victorian environment. The Act does this by enabling the Minister for Planning to direct that a proponent who is carrying out or proposing to carry out certain works prepare an EES.

The purpose of an EES is to provide an analysis of potential effects on environmental assets and the means of avoiding, minimising and managing adverse effects. An EES may typically be required where:

- There is a likelihood of regionally or State significant adverse effects on the environment
- There is a demand for integrated assessment of potential environmental effects (including economic and social effects) of a project and relevant alternatives
- Normal statutory processes outlined by the *Planning and Environment Act 1987* would not provide a sufficiently comprehensive, integrated and transparent assessment.

The *'Ministerial Guidelines for Assessment of Environmental Effects under the Environment Effects Act 1978'* outline the general objectives of the assessment processes, with a specific emphasis to ensure that proponents are accountable for investigating and mitigating against potential environmental and related effects of a project.

For public works, an EES must be prepared if the works have been designated by the Minister for Planning pursuant to Section 3(1) of the Act. An EES is not required unless the Minister is satisfied that the works could have a significant effect on the environment and publishes an Order to that effect in the *Government Gazette* (Section 3(2)).

The Minister for Planning has made a declaration under Section 3 (1) of this Act that the Melbourne Metro is 'public works' and that the construction of the proposed Melbourne Metro is capable of having a significant effect on the environment. As such, an EES under the* Environment Effects Act 1978 *has been prepared.

Aboriginal Heritage Act 2006

The *Aboriginal Heritage Act* 2006 is principal legislation providing Aboriginal cultural heritage management in Victoria. The Act provides for the protection and management of Victoria's Aboriginal heritage with processes linked to the Victorian planning system. It also establishes the Aboriginal Heritage Regulations 2007, of which the main objectives are to specify:

- When a cultural heritage management plan is required
- Standards and fees for the preparation of Cultural Heritage Management Plans (CHMP)
- Protocols and fees for the issuing of Cultural Heritage Permits.

Breaches of the Act, such as harming Aboriginal cultural heritage without an appropriate Cultural Heritage Permit or not in line with a CHMP, carry significant penalties. Both the Act and the Regulations are administered by OAAV, Department of Premier and Cabinet (DPC).

A CHMP is defined as:

> *'a written report, prepared by a Cultural Heritage Advisor, containing the results of an assessment of the potential impact of the proposed activity on Aboriginal cultural heritage. It outlines measures to be taken before, during and after an activity in order to manage and protect Aboriginal cultural heritage in the activity area' (AH Act 2006 s.42).*

CHMP's are generally required for the project is within an area of cultural heritage sensitivity (CHS); and is a high impact activity.

A CHMP is required because an EES is required to be prepared.

A CHMP would be completed for the proposed Melbourne Metro.

Heritage Act 1995

The *Heritage Act 1995* establishes the legislative framework for heritage protection in Victoria and provides protection for a wide range of cultural heritage places and objects, including historic archaeological sites, buildings, gardens, trees and cemeteries. Identified places of heritage significance are registered on the Victorian Heritage Register and the Victorian Heritage Inventory. Such places are legally protected under the Act.

The Minister for Planning is responsible for administering the *Heritage Act 1995*.

A consent (Consent to Damage) is required to carry out works or activities in relation to any place listed on the Victorian Heritage Inventory or a permit is required to carry out works or activities to a heritage place or heritage object (on the Victorian Heritage Register) within the proposed Melbourne Metro area.

Local Government Act 1989

The *Local Government Act 1989* grants Local Government the power to make and enforce local laws and establishes the status of a municipal Council as a decision making body. Under the Preamble of the Act, a Local Council is granted the *'functions and powers that the Parliament considers necessary'* in order to ensure the peace, order and good government of each municipal district is carried out. Pursuant to Section 111 (Power to make local laws), local laws may be created for or with respect to *'any act, matter or thing in respect of which the Council has a function or power under this or any other Act'*.

Approval under the relevant local laws may be required for the proposed Melbourne Metro on land that the relevant Council owns or manages relating to issues including works on Council managed roads, and tree removal. Works proposed by the local laws have to be consistent with the overarching legislation regarding these issues. The *Major Transport Projects Facilitation Act 2009* provides powers to override the requirements of this Act.

Major Transport Projects Facilitation Act 2009

The purpose of the *Major Transport Projects Facilitation Act 2009* is to facilitate the development of major transport projects.

The Act enables the Premier to declare a project to be a 'major' transport project if it is of economic, social or environmental significance to the State or a region of the State. Under this Act, the proponent can be authorised to acquire land for transport purposes and the Minister for Planning can grant most of the statutory approvals required for such a project.

The purpose of a declaration in these circumstances is that these projects would benefit from the project delivery powers in the Act, but would have to obtain planning, environment and heritage approvals through the usual assessment processes.

The *Major Transport Projects Facilitation Act 2009* provides the ability to temporarily and permanently revoke reserves on Crown land for the purpose of a major transport project.

The project delivery powers in this Act would be available to the project authority if the project is approved.

Plan Melbourne

Amendment VC106, which came into effect on 30 May 2014, requires all Victorian planning schemes to recognise *Plan Melbourne*.

Plan Melbourne is the Victorian Government's metropolitan planning strategy that would guide the city's growth to 2050. It seeks to integrate long-term land use, infrastructure and transport planning to

meet Melbourne's future population, housing and employment needs – and to identify the infrastructure, services and major projects needed to meet these needs. The Plan sets out a vision for the future and provides a blueprint that would shape how people in greater Melbourne would live and work over the next 40 years.

The Plan contains policies and strategies that address transport, housing, economic development, and the environment across Melbourne. Upon its appointment in November 2014, the Victorian state government committed to refreshing *Plan Melbourne* to ensure it accurately reflects community and stakeholder priorities and advice received through submissions to the Draft Plan.

The refresh of *Plan Melbourne* would remove reference to the Melbourne Rail Link and would include the current Melbourne Metro alignment. The renewed *Plan Melbourne* would provide the long term vision for Victoria's growing population and would include policies to integrate public transport and support infrastructure investment.

The *Plan Melbourne Refresh discussion paper* (released in October 2015) acknowledges the 'big challenges' facing Melbourne as a result of projected population growth and the need to upgrade the city's transport system to respond to growth pressures. The discussion paper notes that "as the city grows, Melbourne's transport network will be under increasing pressure which will impact on productivity and the city's liveability. Building new transport infrastructure will be a key part of responding to increased demand, particularly in the fast growing parts of the city". Melbourne Metro is clearly aligned with the directions outlined in the discussion paper.

The following Directions and Initiatives of the current version of *Plan Melbourne* are relevant to the proposed Melbourne Metro.

Table A-1 : Plan Melbourne objectives relevant to the proposed Melbourne Metro

Initiative	Objective	Implications for this project
Direction 1.1 - Define a new city structure to deliver an integrated land use and transport strategy for Melbourne's changing economy.		
Initiative 1.1.1	Establish a new Metropolitan Melbourne Structure Plan	This Initiative provides for the Metropolitan Melbourne Structure Plan which is a spatial categorisation of commercial and industrial areas in Melbourne and helps to optimise planning for major infrastructure provision. It is recommended that the SPPF be amended to include both the Structure Plan.
Initiative 1.1.2	Recognise and depict the evolution of an integrated economic triangle in the State Planning Policy Framework	This initiative seeks to recognise the Integrated Economic Triangle that would connect the Hastings – Dandenong corridor with the Hume corridor in the north and the Wyndham – Geelong corridor to the south-west. This Triangle would encompass the proposed Melbourne Metro.
Direction 1.4 - Plan for the expanded central city to become Australia's largest commercial and residential centre by 2040.		
Initiative 1.4.1	Expand the central city to retail competitive advantages and attract diverse value-adding businesses	The development of a rail link through Melbourne is identified as supporting the development of inner city precincts.
Direction 1.5 - Plan for jobs closer to where people live.		
Initiative 1.5.1	Facilitate the development of National	Parkville employment cluster is identified as a National Employment Cluster and is within

Initiative	Objective	Implications for this project
	Employment Clusters	the proposed Melbourne Metro area.
Initiative 1.5.4	Accelerate investment in Melbourne's outer areas to increase local access to employment	Improved access to Parkville would increase jobs for residents in outer Melbourne.
Direction 1.6 - Enable an Investment pipeline of transit-orientated development and urban renewal.		
Initiative 1.6.1	Identify new urban-renewal precincts and sites around the existing rail network, based on transit-orientated development principles.	Rail land and land surrounding rail corridors can provide valuable development opportunities with good access to public transport. New railway stations should be integrated with land development and not preclude urban renewal opportunities.
Initiative 1.6.2	Identify new development and investment opportunities on the planned transport network.	The benefits of new infrastructure should be maximised by identifying related land development and investment opportunities.
Direction 2.1 - Understand and plan for expected housing needs		
Initiative 2.1.2	Prepare a metropolitan housing map.	A housing map would identify residential change across Melbourne. In inner Melbourne, residential growth is encouraged in areas of high-frequency public transport.
Direction 2.2 - Reduce the cost of living by increasing housing supply near services and public transport		
Initiative 2.2.1	Deliver world's best urban renewal.	Arden-Macaulay and the Forrest Hill Precinct in South Yarra have been identified as an area of urban renewal.
Initiative 2.2.3	Deliver housing close to jobs and transport.	The provision of housing close to job promotes affordable living. New housing in established suburbs should be within walking distance of public transport.
Initiative 2.2.5	Facilitate the remediation of contaminated land, particularly on sites in developed areas of Melbourne with potential for residential development.	Land use planning and site assessment should be integrated to improve access to remediated sites.
Direction 3.1 - Transform the transport system to support a more productive central city		
Initiative 3.1.2	Move towards a Metro-Style Rail System, starting with the Melbourne Rail Link	The Plan identifies the short term strategy of construction of the Melbourne Rail Link (including the Airport Rail Link) to provide a public transport upgrade package to support the Parkville Employment Cluster.
Direction 3.2 - Improve access to job-rich areas across Melbourne and strengthen transport networks in existing suburbs		
Initiative 3.2.2	Harmonise and improve public transport services across trains, trams and buses to provide access to job-rich areas in the	Improved connectivity and frequency of public transport services across Melbourne would encourage greater usage.

Initiative	Objective	Implications for this project
	suburbs.	
Initiative 3.2.3	Facilitate development and drive investment through strategic removal of level crossings.	The removal of level crossings would enable more frequent train services and improve the efficiency of the proposed Melbourne Metro.
Direction 4.5 - Make our City greener		
Initiative 4.5.1	Develop a new metropolitan open space strategy.	The strategy should include measures to improve the provision and protection of open space, and determine the need for new open space.
Initiative 4.5.2	Provide new neighbourhood parks and open space.	The strategy seeks to explore innovative ways of increasing local open space at the neighbourhood level and improving existing public open space at the completion of construction works (i.e. at South Yarra Siding Reserve).
Initiative 4.5.3	Extend the landscape and vegetation cover of Metropolitan Melbourne.	The greening of Melbourne through planting of trees is actively sought as part of this strategy.
Direction 4.6 - Create more great public places throughout Melbourne		
Initiative 4.6.2	Develop Melbourne's network of boulevards.	St Kilda Road, Victoria Parade and Royal Parade are considered a distinctive feature of the city's urban fabric and should be protected and enhanced. The strategy recommends the preparation of a long-term metropolitan boulevard strategy and implementation plan for new boulevards.
Direction 4.7 - Respect our heritage as we build for the future		
Initiative 4.7.1	Value heritage when managing growth and change.	Heritage values are to be protected through consistent decision making through the planning system and through a review of the *Heritage Act 1995.*
Initiative 4.7.2	Respect and protect our city's aboriginal heritage.	This strategy reinforces the need to respect and improve Aboriginal cultural heritage values as part of the planning process.
Direction 4.8 - Achieve and promote design excellence		
Initiative 4.8.1	Promote urban design excellence.	Enhance Melbourne's built environment through high design standards.
Direction 5.1 - Use the city structure to drive sustainable outcomes in managing growth		
Initiative 5.1.1	Accommodate the majority of new dwellings in established areas within walking distance of the public transport network.	This strategy seeks to ensure new dwellings in established areas are located near existing and planning transport networks.

Initiative	Objective	Implications for this project
Direction 5.2 - Protect and restore natural habitats in urban and non-urban areas		
Initiative 5.2.1	Increase the protection and restoration of biodiversity areas.	This strategy identifies the need to protect vegetation across Melbourne.
Initiative 5.2.2	Protect the values of our waterways.	This strategy seeks to ensure that stormwater in new developments is managed in a cost-effective manner that protects the health and amenity of downstream waterways and our bays.
Direction 5.4 - Improve noise and air quality to improve human and environmental health		
Initiative 5.4.1	Integrate noise and air quality guidelines into land-use and transport planning provisions.	It is recommended in this strategy to update relevant guidelines to inform the location of and separation distances for sensitive uses.
Direction 5.6 - Protect our significant water and sewerage assets		
Initiative 5.6.2	Protect our open space waterway corridors from inappropriate development.	This strategy seeks to protect waterways in metropolitan Melbourne, extending protection from just the Yarra and Maribyrnong across Melbourne.
Direction 5.7 - Reduce energy consumption and transition to clean energy		
Initiative 5.7.1	Support local governments and the private sector in their efforts to promote energy efficiency.	Investigate ways to facilitate the private sector to voluntarily undertake energy-efficient building upgrades.
Direction 6.4 - Improve connections between cities		
Initiative 6.4.1	Improve transport connections between Melbourne and regional cities.	This strategy seeks to improve connectivity between regional cities and to Melbourne.
Direction 7.4 - Open up new funding sources		
Initiative 7.4.2	Use value capture to change the way city-shaping infrastructure is funded	Aims to capture the value of the project to indirect beneficiaries to find an alternative funding source for infrastructure projects.

Melbourne Metro is consistent with strategic objectives relating to mobility and accessibility and is a key Government initiative, which would be incorporated into the plan.

Planning and Environment Act 1987

The *Planning and Environment Act 1987* governs the use and development of land in Victoria and provides the statutory framework to ensure planning decisions are fair, orderly, economic and sustainable. The Act requires that every Council have a planning scheme to implement the objectives of planning in Victoria and provide sound, strategic and coordinated planning decisions. The relevant controls in the Melbourne, Port Phillip, Stonnington and Maribyrnong Planning Schemes are discussed in Appendix E and Appendix F of this impact assessment.

The main functions of the Act are to:

- 'Set the broad objectives for planning in Victoria

- Set the main rules and principles for how the Victorian planning system works
- Set up the key planning procedures and statutory instruments in the Victorian planning system
- Define the roles and responsibilities of the Minister, councils, government departments, the community and other stakeholders in the planning system'.

The objectives of planning as provided in the *Planning and Environment Act 1987* and relevant to this project are:

- 'To provide for the fair, orderly, economic and sustainable use and development of land
- To provide for the protection of natural and man-made resources and the maintenance of ecological processes and genetic diversity
- To secure a pleasant, efficient and safe working, living and recreational environment for all Victorians and visitors to Victoria
- To conserve and enhance those buildings, areas or other places which are of scientific, aesthetic, architectural or historical interest, or otherwise of special cultural value
- To protect public utilities and other assets and enable the orderly provision and coordination of public utilities and other facilities for the benefit of the community
- To facilitate development in accordance with the objectives set out in the points above
- To balance the present and future interests of all Victorians'.

The Act sets out procedures for preparing and amending the Victorian Planning Provisions and planning schemes, obtaining permits under schemes, settling disputes, enforcing compliance with planning schemes, and other administrative procedures. The Victorian Planning Provisions set out the template for the construction and layout of planning schemes and the procedures for preparing and amending planning schemes including the State Planning Policy Framework and Local Planning Policy Framework.

Melbourne Metro is located within the municipalities of Melbourne, Port Phillip, Stonnington and Maribyrnong, and is governed by the Melbourne, Port Phillip, Stonnington and Maribyrnong Planning Schemes.

A planning scheme is a statutory document which sets out objectives, policies and provisions for the use, development and protection of land in the area to which it applies. Planning schemes are given effect by the *Planning and Environment Act 1987*. A planning scheme regulates the use and development of land in each municipality through planning provisions to achieve those objectives and policies.

Road Management Act 2004

The *Road Management Act 2004* provides the statutory framework for VicRoads and local government to manage the Victorian road network and the coordination of road reserves for roadways, pathways, infrastructure and similar purposes. The Minister for Roads and Ports is responsible for administering the Act.

The Act stipulates that approval or 'consent' is required from the coordinating road authority to undertake works on, in, or under any road. VicRoads manages the construction, maintenance and repair of freeway and arterial road infrastructure and the use and development of associated road reserves.

A road includes the reserve from boundary line to boundary line and may extend to the centre of the earth. Titles need to be checked to confirm whether the road was ever given a depth limitation when alienated from the original Crown Allotment.

Roads managed by VicRoads within the proposed Melbourne Metro area include Dryburgh Street, Curzon Street, Flemington Road, Royal Parade, Elizabeth Street, Victoria Street, St Kilda Road, Alexandra Avenue, Toorak Road and Punt Road.

Councils are responsible for the remaining roads within the proposed Melbourne Metro area.

Transport Integration Act 2010

The *Transport Integration Act 2010* requires that all decisions affecting the transport system be made within the same integrated decision-making framework and objectives. The vision statement for transport in Victoria is outlined in Section 6 of the Act as aspiring to have:

'an integrated and sustainable transport system that contributes to an inclusive, prosperous and environmentally responsible State'

Section 11 (Integration of transport and land use) of the Act states that:

'The transport system should provide for the effective integration of transport and land use and facilitate access to social and economic opportunities'

The *Act* recognises that land use planning and transport planning are interdependent. Section 11 also states that the *'transport system and land use should be aligned, complementary and supportive and ensure that –*

(a) transport decisions are made having regard to the current and future impact on land use;

(b) land use decisions are made having regard for the current and future development and operation of the transport system'

Section 63 requires that the Department of Economic Development, Jobs, Transport and Resources undertakes integrated transport planning to guide the development of the transport network in Victoria. The Department is developing a network development strategy, which would align with both a refresh of *Plan Melbourne* (anticipated to be finalised in mid-2016) and the Regional Statement, to provide integrated guidance on land use and transport planning for Victoria."

Under the Act, the assessment of projects must also consider a range of decision-making principles including the transport system user perspective, equity, the precautionary principle and the 'triple bottom line' that take into account costs and benefits and value for money, as well as sustainability. Transport agencies and interface agencies listed under the Act must also have regard to the objectives and principles when exercising their powers and performing their functions.

MMRA has had regard to these principles in developing the Melbourne Metro Concept Design.

Melbourne Metro would deliver a range of benefits that align with the Transport Integration Act's objectives, including:

- ***Social and economic inclusion as more people are able to use the public transport system to access jobs and services***
- ***Greater accessibility to jobs, improved freight efficiency and employment growth in the CBD, leading to economic prosperity***
- ***Promotion of environmental sustainability by accommodating growing public transport use and alleviating vehicle traffic***
- ***Integrated transport and land use, particularly at stations where there are station oversite and other development opportunities***
- ***Improved transport efficiency and reliability.***

Water Act 1989

The *Water Act 1989* provides for the establishment of water corporations empowered to carry out functions in relation to floodplain management, irrigation, regional drainage, sewerage, waterway management and/or water supply in Victoria. The Minister for Water is responsible for administering this Act.

To protect and rehabilitate rivers and creeks, catchment management authorities seek to ensure that any works undertaken on designated waterways do not adversely affect the health of those waterways. As the proposed Melbourne Metro passes beneath the Moonee Ponds Creek and the Yarra River and extends to the Maribyrnong River, permits are likely to be required from Melbourne Water.

The types of works that require approval include, but are limited to:

- waterway crossings – bridges, fords, culverts and repairs to existing crossings
- stabilisation – erosion management
- vegetation – vegetation removal including removal of weed species and clearing of fallen timber
- works – stormwater outlets and pipeline crossings
- other structures – jetty, boat launching ramp and fishing platform
- extractions – sand, rock or other material
- waterway clearing – in stream vegetation, silt and sediment build up.

The need for a permit under the *Water Act 1989* would be triggered if works are proposed within a known flood zone or within 50 m of a designated waterway. A designated waterway is generally defined as a river, creek, stream or watercourse; a natural channel in which water regularly flows; a lake, lagoon, swamp or marsh.

The *Water Act 1989* also requires approval for construction of groundwater bores and for extraction of groundwater.

Appendix B

Relevant Provisions of the Melbourne, Port Phillip, Stonnington and Maribyrnong Planning Schemes

State Planning Policy Framework

The State Planning Policy Framework is planning policy taken from the Victoria Planning Provisions, which guides the operation of every planning scheme in Victoria. The Victoria Planning Provisions are provided for in the *Planning and Environment Act 1987* (Section 4A Victoria Planning Provisions) and are a state-wide reference, used as required, to construct consistent and coordinated planning schemes.

The State Planning Policy Framework comprises general principles for land use and development in Victoria and details the State's policies for key land use and development activities including settlement, environment, heritage, housing, economic development, infrastructure, and particular uses and development. The State Planning Policy Framework policies relevant to Melbourne Metro are listed in Figure B-1, with summaries of the policy content provided in Appendix C of this impact assessment.

- **Clause 9 – Plan Melbourne**
- **Clause 11 – Settlement**
  - Clause 11.01 – Activity Centres
  - Clause 11.02 – Urban growth
    - Clause 11.02-1 Supply of urban land
    - Clause 11.02-3 Structure planning
  - Clause 11.03 – Open space
    - Clause 11.03-1 Open space planning
    - Clause 11.03-2 Open space management
  - Clause 11.04 – Metropolitan Melbourne
    - Clause 11.04-1 Delivering jobs and investment
    - Clause 11.04-3 A more connected Melbourne
    - Clause 11.04-4 Liveable communities and neighbourhoods
    - Clause 11.04-5 Environment and water
    - Clause 11.04-6 A State of cities
    - Clause 11.04-8 Open space network in Metropolitan Melbourne
- **Clause 12 – Environment and Landscape Values**
  - Clause 12.01 – Biodiversity
    - Clause 12.01-1 Protection of biodiversity
    - Clause 12.01-2 Native vegetation management
  - Clause 12.02 – Coastal areas
    - Clause 12.02-5 Bays
  - Clause 12.04 – Significant environments and landscapes
    - Clause 12.04-1 Environmentally sensitive areas
    - Clause 12.04-2 Landscapes
  - Clause 12.05 – Rivers
    - Clause 12.05-1 River Corridors
    - Clause 12.05-2 Yarra River Protection
- **Clause 13 – Environmental Risks**
  - Clause 13.02 – Floodplains
    - Clause 13.02-1 Floodplain management
  - Clause 13.03 – Soil Degradation
    - Clause 13.03-1 Use of contaminated and potentially contaminated land
  - Clause 13.04 – Noise and air
    - Clause 13.04-1 Noise abatement
    - Clause 13.04-2 Air quality
- **Clause 14 – Natural Resource Management**
  - Clause 14.02 – Water
    - Clause 14.02-1 Catchment planning and management
    - Clause 14.02-2 Water quality
- **Clause 15 – Built Environment and Heritage**
  - Clause 15.01 – Urban environment
    - Clause 15.01-2 Urban Design Principles
    - Clause 15.01-4 Design for safety
    - Clause 15.01-5 Cultural identity and neighbourhood character
  - Clause 15.02 – Sustainable development
    - Clause 15.02-1 Energy and resource efficiency
  - Clause 15.03 – Heritage
    - Clause 15.03-1 Heritage Conservation
    - Clause 15.03-2 Aboriginal cultural heritage
- **Clause 16 – Housing**
  - Clause 16.01 – Residential development
    - Clause 16.01-3 Strategic Redevelopment sites
- **Clause 17 – Economic Development**
  - Clause 17.01 – Commercial
  - Clause 17.02 – Industry
    - Clause 17.02-1 Industrial land development
  - Clause 17.03 – Tourism
    - Clause 17.03-2 Tourism in Metropolitan Melbourne
- **Clause 18 – Transport**
  - Clause 18.01 – Integrated Transport
    - Clause 18.01-1 Land use and transport planning
    - Clause 18.01-2 Transport system
  - Clause 18.02 – Movement networks
    - Clause 18.02-1 Sustainable personal transport
    - Clause 18.02-2 Cycling
    - Clause 18.02-3 Principal Public Transport network
    - Clause 18.02-4 Management of the road system
    - Clause 18.02-5 Car parking
  - Clause 18.04 – Airports
    - Clause 18.04-3 Planning for airfields
- **Clause 19 – Infrastructure**
  - Clause 19.02 – Community Infrastructure
    - Clause 19.02-1 Health facilities
    - Clause 19.02-2 Education facilities

Figure B-1 : SPPF policies

The Local Planning Policy Framework is made up of each municipality's Municipal Strategic Statement and Local Planning Policies.

The Municipal Strategic Statement is unique to each planning scheme and is the statement of the key strategic planning, land use and development objectives for the municipality and the strategies and actions for achieving those objectives. It furthers the local context of the State Planning Policy Framework and provides a strategic basis for the application of zones, overlays and particular provisions in the planning scheme and decision making by the responsible authority.

Local Planning Policies are also unique to each planning scheme and are the tools used to implement the objectives and strategies of the Municipal Strategic Statement. A Local Planning Policy is a policy statement of intent or expectation.

Figure B-2 identifies the clauses in the Municipal Strategic Statement and Local Planning Policies in each planning scheme which are relevant to an assessment of the proposed Melbourne Metro.

Table B-1 lists the number of policies in each municipality relevant to the proposed Melbourne Metro and Figure B-2 includes the names of each of these policies.

Table B-1 : Number of relevant LPPF policies per municipality

Municipality	Number of relevant policies in the Municipal Strategic Statement	Number of relevant policies in the LPPs
Melbourne	13	7
Port Phillip	5	3
Stonnington	5	5
Maribyrnong	3	0

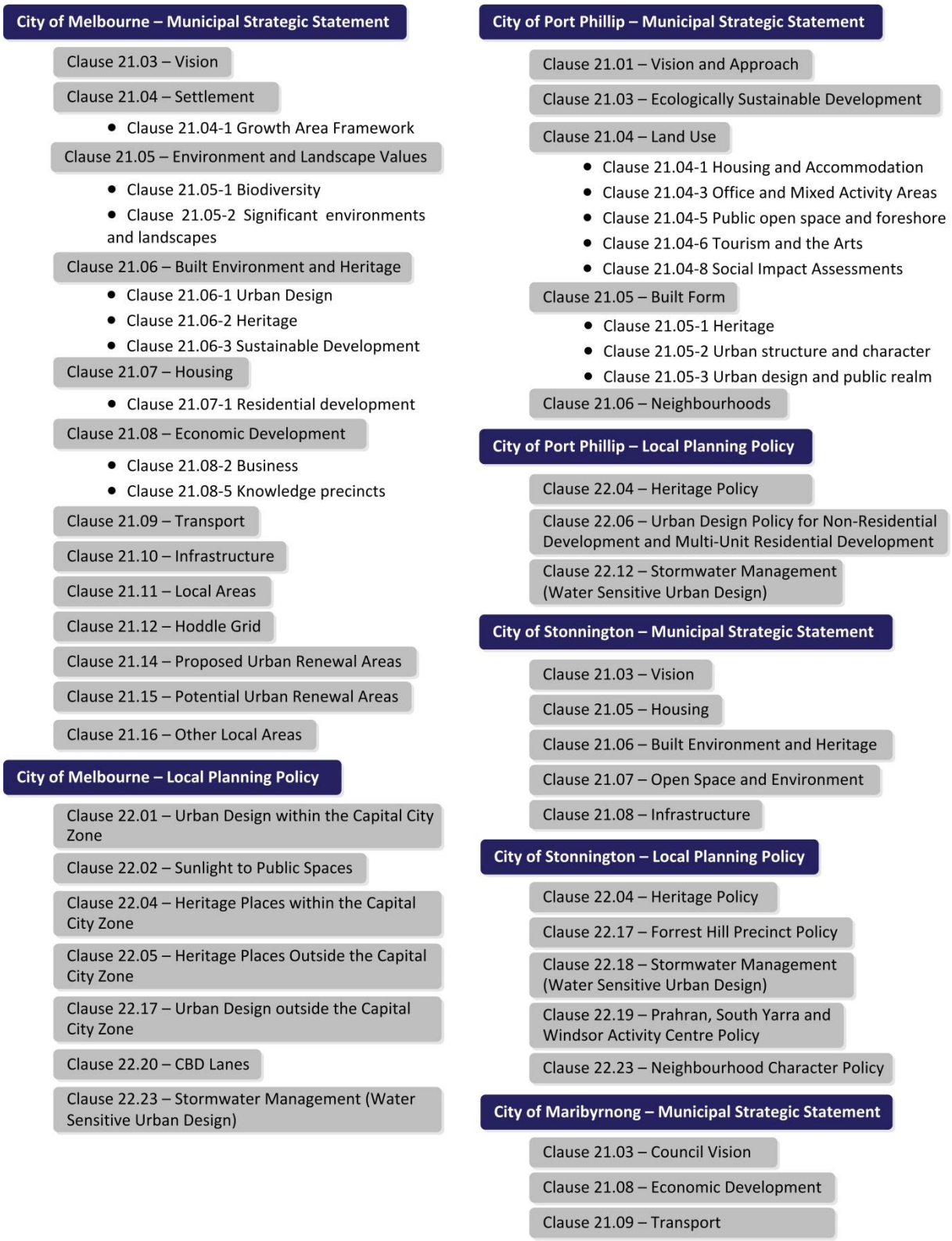


Figure B-2 : LPPF policies

Summaries of the relevant clauses of the State Planning Policy Framework and Local Planning Policies for each Council area are provided in Appendix C and Appendix D of this impact assessment.

Zones, Overlays, Definitions and Particular Provisions

Planning Schemes set out the planning controls that determine whether planning approval is required for the use and/or development of land. These controls include zones, overlays and particular and general provisions. Planning schemes are given effect through the *Planning and Environment Act 1987*.

Zones

In each zone there are planning permit triggers based on land use definitions and buildings and works triggers. Appendix E of this impact assessment details where planning approval is required for use, buildings and works and subdivision associated with the proposed railway and railway stations.

Overlays

Appendix F of this impact assessment provides detail on the overlays within the proposed Melbourne Metro area and whether planning approval is required for activities associated with the railway and railway stations.

Particular Provisions

The following Particular Provisions have been identified as of relevance to the project and apply across the whole study area.

Table B-2 : Particular Provisions affecting the proposed Melbourne Metro alignment

Planning control	Purposes	Land affected	Approval trigger
Clause 52.02 (Easements, Restrictions and Reserves)	To enable the removal and variation of an easement or restrictions to enable a use or development that complies with the planning scheme after the interests of affected people are considered.	All land within the study area	Subdivision and the removal or creation of easements or restrictions.
Clause 52.06 (Car Parking)	To ensure the provision of an appropriate number of car parking spaces having regard to the demand likely to be generated, the activities on the land and the nature of the locality. To support sustainable transport alternatives to the motor car. To promote the efficient use of car parking spaces through the consolidation of car parking facilities. To ensure that car parking does not adversely affect the amenity of the locality. To ensure that the design and location of car parking is of a high standard, creates a safe environment for users and enables easy and efficient use.	Any new use must consider this policy. An increase in floor area, or increase in the number of patrons, seats, practitioners, residents or staff of an existing use.	Where the new stations are proposed, the requirements of this clause need to be considered.
Clause 52.07 (Loading and unloading of vehicles)	To set aside land for loading and unloading commercial vehicles to prevent loss of amenity and adverse effect on traffic flow and road safety.	All land within the study area	Works for the manufacturing, servicing, sale or storage of goods.
Clause 52.17 (Native Vegetation)	To protect and conserve native vegetation, reduce the impact of land and water degradation, provide habitat	All land greater than 0.04ha where native	Planning approval is required to remove, destroy or lop native

Planning control	Purposes	Land affected	Approval trigger
	for native flora and fauna and achieve the three step approach of *Victoria Native Vegetation Management – A Framework for Action* (DNRE, 2002) for the avoidance, minimisation and offsetting of native vegetation loss.	vegetation is present.	vegetation (including dead vegetation)[13]. Native vegetation should be avoided through design where possible.
Clause 52.19 (Telecommunications Facility)	To ensure that telecommunications infrastructure and services are provided in an efficient and cost effective manner to meet community needs. To ensure the application of consistent provisions for telecommunications facilities. To encourage an effective statewide telecommunications network in a manner consistent with the economic, environmental and social objectives of planning in Victoria as set out in Section 4 of the *Planning and Environment Act 1987*. To encourage the provision of telecommunications facilities with minimal impact on the amenity of the area	All land within the study area	Planning approval is required for the construction of a building or the construction or carrying out of works associated with the use of land for a Telecommunications facility.
Clause 52.29 (Land Adjacent to a Road Zone, Category 1, or a Public Acquisition Overlay for a Category 1 Road)	To ensure appropriate access to identified roads. To ensure appropriate subdivision of land adjacent to identified roads.	Land within the Road Zone – Category 1 (Dryburgh Street, Curzon Street, Flemington Road, Elizabeth Street, Victoria Street, St Kilda Road, Alexandra Avenue, Toorak Road, Punt Road)	Planning approval is required to create or alter access to a road in a Road Zone, Category 1. An application pursuant to this control must be referred to VicRoads as a determining referral authority.
Clause 52.34 (Bicycle Facilities)	To encourage cycling as a mode of transport. To provide secure, accessible and convenient bicycle parking spaces and associated shower and change facilities.	All land within the study area	Approval for a new use or the extension of floor area of an existing use must consider this policy.
Clause 52.36 (Integrated Public Transport Planning)	To ensure development supports public transport usage. To ensure that easily accessible public transport networks, which are appropriate to the scale of the	All land within the study area	Any alteration or development of public transport infrastructure or stops. An application

[13] It should be noted that there are Memorandum of Understanding's (MOUs) between the Secretary of the DELWP and, the Secretary of the DEDJTR. One which relates to native vegetation offsetting arrangements and the other which provides exemptions for native vegetation removal associated with maintenance of a railway and/or minor works. The MOUs are currently being reviewed. However, there is no timeline as to when an updated MOU may take effect.

Planning control	Purposes	Land affected	Approval trigger
	development, and high quality public transport infrastructure are provided as part of new development. To ensure that development incorporates safe, attractive and convenient pedestrian access to public transport stops. To ensure that development does not adversely affect the efficient, equitable and accessible operation of public transport.		pursuant to this control must be referred to Public Transport Victoria as a determining referral authority.

General Provisions

The following referrals and notification requirements outlined in Clause 60 General Provisions are of relevance to the proposed Melbourne Metro.

Table B-3 : Referrals and notification requirements

Clause	Kind of application	Referral authority / notice	Type of referral authority
Clause 43.02 -1 (DDO1) of the Stonnington Planning Scheme	An application under the overlay.	The Director of the Royal Melbourne Botanic Gardens	Notified
Clause 43.02 -3 (DDO3) of the Port Phillip Planning Scheme	An application under the overlay where works exceed the preferred maximum height limits.	The Shrine of Remembrance Trustees	Notified
Clause 43.02 -13 (DDO13) of the Port Phillip Planning Scheme	An application under the overlay.	The Shrine of Remembrance Trustees	Notified
Clause 37.04- 7Schedule 1 (CCZ1) and Clause 37.04-6 Schedule 2 (CCZ2) of the Melbourne Planning Scheme	An application for development with a gross floor area exceeding 25,000 square metres.	City of Melbourne	Recommending referral authority
Clause 43.02 -27 (DDO27) of the Melbourne Planning Scheme	All applications for use, buildings and works under another provision.	EPA, Transurban CityLink Ltd and the Roads Corporation	Determining referral authority
Clause 43.02 -58 (DDO58) of the Melbourne Planning Scheme	An application under the overlay.	The Shrine of Remembrance Trustees	Notified
Clause 44.04-5 (LSIO)	An application under the overlay within the waterway management district of Melbourne Water Corporation.	Melbourne Water Corporation	Determining referral authority
Clause 44.05-5 (SBO)	An application under the overlay within the waterway management district of Melbourne Water Corporation.	Melbourne Water Corporation	Determining referral authority
Clause 45.01-3 (PAO)	An application under the overlay.	Acquiring authority specified in the schedule to the overlay	Determining referral authority

Clause	Kind of application	Referral authority / notice	Type of referral authority
Clause 45.07-6 (CLPO)	An application under the overlay.	Roads Corporation (VicRoads)	Determining referral authority
Clause 52.29 (Land Adjacent to a Road Zone, Category 1, or a Public Acquisition Overlay for a Category 1 Road)	An application to create or alter access to, or to subdivide land adjacent to, a road declared as a freeway or an arterial road under the Road Management Act 2004, land owned by the Roads Corporation for the purpose of a road, or land in a PAO if the Roads Corporation is the acquiring authority for the land, subject to exemptions specified in the clause.	Roads Corporation (VicRoads)	Determining referral authority
Clause 52.36 (Integrated Public Transport Planning)	An application under the overlay.	Public Transport Victoria	Determining referral authority

Planning permits for use and development are issued under the controls outlined above.

Definitions

The project is comprised of a number of components. Each of these components is defined in planning schemes as shown in Table B-4[14]. The definitions assist in determining whether a land use is as of right, permissible subject to a planning permit or prohibited under the planning scheme provisions.

Table B-4 : Land use definitions relating to Melbourne Metro

Land Use term	Definition	Comments
Railway	Not defined	*Rail Management Act 1996* provides the following definitions of relevance: - railway track includes heavy railway track and light railway track - rail infrastructure means a facility that is used to operate a railway and includes— (a) railway track, railway track sidings, associated track structures and works (such as cuttings, tunnels, bridges, stations, platforms, excavations, land fill, track support earthworks and drainage works), over-track structures, under-track structures, service roads, signalling systems, rolling stock control systems, communications systems, notices and signs, overhead electrical power supply systems and associated buildings, depots, yards, plant, machinery and equipment; and (b) a facility or infrastructure not referred to in paragraph (a) that is used to operate a railway that is

[14] It is noted that terms used in planning schemes have their ordinary meaning unless that term is defined in the planning scheme or in the *Planning and Environment Act* 1987 or the *Interpretation of Legislation Act* 1984, in which case the term has the meaning given to it in those Acts unless it is defined differently in this scheme.

Land Use term	Definition	Comments
		prescribed to be rail infrastructure
Railway Station	Land used to assemble and distribute goods and passengers and includes facilities to park and manoeuvre vehicles. It may include the selling of food, drinks and other convenience goods and services.	Falls within the planning scheme definition of a 'transport terminal'.
Road	Not defined	*Road Management Act 2004* (Section 3 - Definitions) provides the following definition of relevance: 'road' includes— (a) any public highway; (b) any ancillary area; (c) any land declared to be a road under section 11 or forming part of a public highway or ancillary area;
Subdivision	The Planning and Environment Act defines subdivision as the 'means the division of land into two or more parts which can be disposed of separately'.	The *Land Act 1958* (Section 3 – Definitions) provides the following definition of relevance: 'stratum of Crown land' means a 'part' of Crown land consisting of a space of any shape below, on or above the surface of the land or 'partly' below and 'partly above the surface of the land, all the dimensions of which are limited'
Native Vegetation	Plants that are indigenous to Victoria, including trees, shrubs, herbs, and grasses.	Technical Appendix T *Terrestrial Flora and Fauna* has identified some small areas of native vegetation that are modelled within the Western Portal, CBD North and CBD South precincts, however, it is evident from the aerial photography and from the site inspection that these areas have been cleared and now support buildings and pavement. The majority of the study area is modelled as supporting exotic tree cover.

Appendix C

Relevant Provisions of the State Planning Policy Framework

The relevant State Planning Policy Framework is described below.

Table C-1 : State Planning Policy Framework policies

Clause	Key policy objectives and strategies
Clause 9 – *Plan Melbourne*	• 'Any references in this scheme to Melbourne 2030 (Department of Sustainability and Environment, 2002) and Melbourne 2030: A planning update Melbourne @ 5 million (Department of Planning and Community Development, 2008) are to be disregarded. Where relevant, planning and responsible authorities must consider and apply the strategy *Plan Melbourne: Metropolitan Planning Strategy* (Department of Transport, Planning and Local Infrastructure, 2014)'.
Clause 10 – Operation of the State Planning Policy Framework	The purposes of this policy are: • 'to inform planning authorities and responsible authorities of those aspects of state planning policy which they are to take into account and give effect to in planning and administering their respective areas. The State Planning Policy Framework provides a context for spatial planning and decision making by planning and responsible authorities. • The State Planning Policy Framework is dynamic and would be built upon as the government develops and refines policy, and changed as the needs of the community change. • The planning policies are directed to land use and development, as circumscribed by the Planning and Environment Act 1987, a primary objective of which is to provide for the fair, orderly, economic and sustainable use and development of land'.
Clause 11 – Settlement	*Clause 11.01 Activity Centres* The objectives of this policy are • 'To build up activity centres as a focus for high-quality development, activity and living for the whole community by developing a network of activity centres'

Clause	Key policy objectives and strategies
	• 'To encourage the concentration of major retail, residential, commercial, administrative, entertainment and cultural developments into activity centres which provide a variety of land uses and are highly accessible to the community'. Strategies to achieve this include: • 'Support the role and function of the centre given its classification, the policies for housing intensification, and development of the public transport network'. • 'Undertake strategic planning for the use and development of land in and around the activity centres'. • 'Improve access by walking, cycling and public transport to services and facilities for local and regional populations'. • 'Encourage economic activity and business synergies. Locate significant new education, justice, community, administrative and health facilities that attract users from large geographic areas in or on the edge of Central Activities Districts, Principal or Major Activity Centres with good public transport'. *Clause 11.02 Urban growth* *Clause 11.02-1 Supply of urban land* The objective of this policy is 'to ensure a sufficient supply of land is available for residential, commercial, retail, industrial, recreational, institutional and other community uses'. Strategies to achieve this include: • 'Ensure the ongoing provision of land and supporting infrastructure to support sustainable urban development'. • 'Planning for urban growth should consider: – Opportunities for the consolidation, redevelopment and intensification of existing urban areas. – Neighbourhood character and landscape considerations. – The limits of land capability and natural hazards and environmental quality. – Service limitations and the costs of providing infrastructure'. *Clause 11.02-3 Structure planning* The objective of this policy is 'to facilitate the orderly development of urban areas'. A strategy to achieve this is: • 'Ensure effective planning and management of the land use and development of an area through the preparation of strategic plans, statutory plans, development and conservation plans, development contribution plans and other relevant plans'. *Clause 11.03 Open space* *Clause 11.03-1 Open space planning* The objective of this policy is 'to assist creation of a diverse and integrated network of public open space commensurate with the needs of the community'. Strategies to achieve this include: 'Ensure that land use and development adjoining regional open space networks, national parks and conservation reserves complements the open space in terms of visual and noise impacts, treatment of waste water to reduce turbidity or pollution and preservation of

Clause	Key policy objectives and strategies
	vegetation'. • 'Protect the overall network of open space by ensuring that where there is a change in land use or in the nature of occupation resulting in a reduction of open space, the overall network of open space is protected by the addition of replacement parkland of equal or greater size and quality'. *Clause 11.03-2 Open space management* The objective for this policy is 'to provide for the long term management of public open space'. To achieve this, the following strategies are provided: • 'Encourage management plans or explicit statements of management objectives for urban parks to be developed'. • 'Protect sites and features of high scientific, nature conservation, biodiversity, heritage, geological or landscape value'. *Clause 11.04 Metropolitan Melbourne* The vision for Metropolitan Melbourne is that 'Melbourne will be a global city of opportunity and choice'. *Clause 11.04-1 Delivering jobs and investment* The objective of this policy is 'to create a city structure that drives productivity, supports investment through certainty and creates more jobs'. Strategies to achieve this include: • 'Define a new city structure to deliver an integrated land use and transport strategy for Melbourne's changing economy'. • 'Improve decision making processes for State and regionally significant developments'. • 'Plan for the expanded central city to become Australia's largest commercial and residential centre by 2040'. • 'Enable an investment pipeline for transit-oriented development and urban renewal'. *Clause 11.04-3 A more connected Melbourne* The objective of this policy is 'to provide an integrated transport system connecting people to jobs and services, and goods to market'. To do this, the following strategies are relevant: • 'Transform the transport system to support a more productive central city • Improve access to job-rich areas across Melbourne and strengthen transport networks in existing suburbs • Improve transport infrastructure, services and affordability in Melbourne's newer suburbs • Improve local travel options to increase social and economic participation • Improve the efficiency of freight networks while protecting urban amenity'. *Clause 11.04-4 Liveable communities and neighbourhoods* The objective of this policy is 'to create healthy and active neighbourhoods and maintain Melbourne's identity as one of the world's most liveable cities'. Strategies to achieve this include: • 'Create a city of 20-minute neighbourhoods' • 'Create more great public places throughout Melbourne'

Clause	Key policy objectives and strategies
	• 'Respect heritage while building for the future' • 'Achieve and promote design excellence'. *Clause 11.04-5 Environment and water* The objective of this policy is to protect natural assets and better plan our water, energy and waste management systems to create a sustainable city'. Strategies to achieve this include: • 'Use the city structure to drive sustainable outcomes in managing growth' • 'Protect significant water and sewerage assets' • 'Reduce energy consumption and transition to clean energy'. *Clause 11.04-6 A State of cities* The objective of this policy is 'to maximise the growth potential of Victoria by developing a state of cities which delivers choice, opportunity and global competitiveness'. Relevant strategies include: • 'Integrate metropolitan, peri-urban and regional planning implementation' • 'Improve connections between cities'. *Clause 11.04-8 Open space network in Metropolitan Melbourne* The objective of this policy is 'to create a network of metropolitan open space by creating new parks'. To achieve this, it is identified that major open space corridors need to be protected and enhanced, in particular by 'ensuring development does not compromise the Yarra River and Maribyrnong River corridors and other waterways as significant open space, recreation, aesthetic, conservation and tourism assets'.
Clause 12 – Environment and Landscape Values	*Clause 12.01 Biodiversity* *Clause 12.01-1 Protection of biodiversity* The objective of this policy is 'to assist the protection and conservation of Victoria's biodiversity, including important habitat for Victoria's flora and fauna and other strategically valuable biodiversity sites'. To do this, planning authorities must 'use statewide biodiversity information to identify high value biodiversity and consider the impact of land use and development on these values'. *Clause 12.01-2 Native vegetation management* The objective of this policy is 'to ensure that permitted clearing of native vegetation results in no net loss in the contribution made by native vegetation to Victoria's biodiversity'. The following strategies are relevant to achieving this objective: • 'Avoid the removal of native vegetation that makes a significant contribution to Victoria's biodiversity. • Minimise impacts on Victoria's biodiversity. • Where native vegetation is permitted to be removed, ensure that an offset is provided in a manner that makes a contribution to Victoria's biodiversity that is equivalent to the contribution made by the native vegetation to be removed'. *Clause 12.02 Coastal areas* *Clause 12.02-5 Bays*

Clause	Key policy objectives and strategies
	The objective of this policy is 'to improve the environmental health of the bays and their catchments'. A relevant strategy is to 'improve waterway management arrangements for the whole of the Port Phillip Bay and Western Port catchments'. *Clause 12.04 Significant environments and landscapes* *Clause 12.04-1 Environmentally sensitive areas* The objective of this policy is 'to protect and conserve environmentally sensitive areas' including 'the Yarra and Maribyrnong Rivers… as well as … historic buildings and precincts from development which would diminish their environmental conservation or recreation values'. Clause 12.04-2 Landscapes The objective of this policy is 'to protect landscapes and significant open spaces that contribute to character, identity and sustainable environments'. *Clause 12.05 Rivers* *Clause 12.05-1 River Corridors* This policy aims to 'protect and enhance the significant river corridors of Metropolitan Melbourne'. Relevant strategies of this policy are: • 'Ensure development responds to and respects the significant environmental, conservation, cultural, aesthetic, open space, recreation and tourism assets of all river corridors'. 'Ensure new development is sensitively designed and sited to maintain and enhance environmental assets, significant views and the landscapes along all river corridors'.
Clause 13 – Environmental Risks	*Clause 13.02 Floodplains* *Clause 13.02-1 Floodplain management* An objective of this policy is 'to assist the protection of: • Life, property and community infrastructure from flood hazard. • The natural flood carrying capacity of rivers, streams and floodways. • The flood storage function of floodplains and waterways. • Floodplain areas of environmental significance or of importance to river health.' (13.02-1) *Clause 13.03 Soil Degradation* *Clause 13.03-1 Use of contaminated and potentially contaminated land* The objective of this policy is 'to ensure that potentially contaminated land is suitable for its intended future use and development, and that contaminated land is used safely'. *Clause 13.04 Noise and air* *Clause 13.04-1 Noise abatement* The objective of this policy is 'to assist the control of noise effects on sensitive land uses'. The strategy to achieve this is to 'ensure that development is not prejudiced and community amenity is not reduced by noise emissions, using a range of building design, urban design and land use separation techniques as appropriate to the land use functions and character of the area'. *Clause 13.04-2 Air quality*

Clause	Key policy objectives and strategies
	The objective of this policy is 'to assist the protection and improvement of air quality'. This is aimed to be achieved through 'ensuring that land use planning and transport infrastructure provision contribute to improved air quality by: • Integrating transport and land use planning to improve transport accessibility and connections. • Locating key developments that generate high volumes of trips in the Central Activity District, Principal and Major Activity Centres. • Providing infrastructure for public transport, walking and cycling.'
Clause 14 – Natural Resource Management	*Clause 14.02 Water* *Clause 14.02-1 Catchment planning and management* The objective of this policy is 'to assist the protection and, where possible, restoration of catchments, waterways, water bodies, groundwater, and the marine environment'. Strategies to achieve this include: • 'Ensure that works at or near waterways provide for the protection and enhancement of the environmental qualities of waterways and their instream uses'. • 'Ensure land use and development proposals minimise nutrient contributions to waterways and water bodies and the potential for the development of algal blooms'. • 'Ensure planning is coordinated with the activities of catchment management authorities'. *Clause 14.02-2 Water quality* The objective of this policy is 'to protect water quality'. A strategy to achieve this includes the protection of 'reservoirs, water mains and local storage facilities from potential contamination'.
Clause 15 – Built Environment and Heritage	*Clause 15.01 Urban environment* The objective of this policy is 'to create urban environments that are safe, functional and provide good quality environments with a sense of place and cultural identity'. Strategies to achieve this include: • 'Promote good urban design to make the environment more liveable and attractive'. • 'Ensure new development or redevelopment contributes to community and cultural life by improving safety, diversity and choice, the quality of living and working environments, accessibility and inclusiveness and environmental sustainability'. • 'Require development to respond to its context in terms of urban character, cultural heritage, natural features, surrounding landscape and climate' • 'Ensure transport corridors integrate land use planning, urban design and transport planning and are developed and managed with particular attention to urban design aspects'. *Clause 15.01-2 Urban Design Principles* The objective of this policy is 'to achieve architectural and urban design outcomes that contribute positively to local urban character and enhance the public realm while minimising detrimental impact on neighbouring properties'. This clause also provides the following relevant strategies to apply to new development: • 'The public realm, which includes main pedestrian spaces, streets, squares, parks and walkways, should be protected and enhanced'.

Clause	Key policy objectives and strategies
	• 'Landmarks, views and vistas should be protected and enhanced or, where appropriate, created by new additions to the built environment'. • 'New development should respect, but not simply copy, historic precedents and create a worthy legacy for future generations'. • 'New development should achieve high standards in architecture and urban design'. *Clause 15.01-4 Design for Safety* The objective of this policy is 'to improve community safety and encourage neighbourhood design that makes people feel safe'. Strategies to achieve this include to: • 'Ensure the design of buildings, public spaces and the mix of activities contribute to safety and perceptions of safety. • Support initiatives that provide safer walking and cycling routes and improved safety for people using public transport'. *Clause 15.01-5 Cultural identity and neighbourhood character* The objective of this policy is 'to recognise and protect cultural identity, neighbourhood character and sense of place'. Strategies to achieve this include to: • 'Ensure development responds and contributes to existing sense of place and cultural identity. • Ensure development recognises distinctive urban forms and layout and their relationship to landscape and vegetation. • Ensure development responds to its context and reinforces special characteristics of local environment and place by emphasising: The underlying natural landscape character. The heritage values and built form that reflect community identity. The values, needs and aspirations of the community'. *Clause 15.02 Sustainable Development* *Clause 15.02-1 Energy and Resource efficiency* The objective of this clause is 'to encourage land use and development that is consistent with the efficient use of energy and the minimisation of greenhouse gas emissions'. Strategies to achieve this are: • 'Ensure that buildings and subdivision design improves efficiency in energy use. • Promote consolidation of urban development and integration of land use and transport. • Improve efficiency in energy use through greater use of renewable energy. • Support low energy forms of transport such as walking and cycling'. *Clause 15.03 Heritage* *Clause 15.03-1 Heritage Conservation* The objective of this policy is '*to ensure the conservation of places of heritage significance'.* Strategies to achieve this include: • 'Provide for the conservation and enhancement of those places which are of, aesthetic, archaeological, architectural, cultural, scientific, or social significance, or otherwise of special cultural value'. • 'Encourage appropriate development that respects places with identified heritage values and creates a worthy legacy for future

Clause	Key policy objectives and strategies
	generations'. • 'Retain those elements that contribute to the importance of the heritage place'. • 'Encourage the conservation and restoration of contributory elements'. • 'Ensure an appropriate setting and context for heritage places is maintained or enhanced'. *Clause 15.03-2 Aboriginal cultural heritage* The objective of this policy is the *'protection and conservation of places of Aboriginal cultural heritage significance'*. Strategies to achieve this include: • 'Provide for the protection and conservation of pre- and post-contact Aboriginal cultural heritage places'. • 'Ensure that permit approvals align with recommendations of a Cultural Heritage Management Plan approved under the Aboriginal Heritage Act 2006'. (15.03-2) Planning decisions on heritage must consider the findings and recommendations of the Aboriginal Heritage Council and Victorian Heritage Council as relevant.
Clause 16 – Housing	This clause seeks to encourage housing diversity and the efficient provision of supporting infrastructure. *Clause 16.01 Residential development* *Clause 16.01-3 Strategic Redevelopment sites* The objective of this policy is 'to identify strategic redevelopment sites for large residential development in Metropolitan Melbourne'.
Clause 17 – Economic Development	The overarching objective of this policy is to 'contribute to the economic well-being of communities and the State as a whole by supporting and fostering economic growth and development by providing land, facilitating decisions, and resolving land use conflicts, so that each district may build on its strengths and achieve its economic potential'. *Clause 17.01 Commercial* The objective of this policy is 'to encourage development which meet the communities' needs for retail, entertainment, office and other commercial services and provides net community benefit in relation to accessibility, efficient infrastructure use and the aggregation and sustainability of commercial facilities'. Relevant strategies to achieve this are: • 'Locate commercial facilities in existing or planned activity centres. • Provide new convenience shopping facilities to provide for the needs of the local population in new residential areas and within, or immediately adjacent to, existing commercial centres. • Provide small scale shopping opportunities that meet the needs of local residents and workers in convenient locations'. *Clause 17.02 Industry* *Clause 17.02-1 Industrial land development* The objective of this policy is 'to ensure availability of land for industry'. Relevant strategies include: • 'Protect and carefully plan existing industrial areas to, where possible, facilitate further industrial development. • Provide an adequate supply of industrial land in appropriate locations including sufficient stocks of large sites for strategic investment.

Clause	Key policy objectives and strategies
	• Protect industrial activity in industrial zones from the encroachment of unplanned commercial, residential and other sensitive uses which would adversely affect industry viability. • Encourage industrial uses that meet appropriate standards of safety and amenity to locate within activity centres. • Avoid approving non-industrial land uses, which will prejudice the availability of land for future industrial requirements, in identified industrial areas'. *Clause 17.03 Tourism* The objective of this policy is 'to encourage tourism development to maximise the employment and long-term economic, social and cultural benefits of developing the State as a competitive domestic and international tourist destination. A relevant strategy to achieve this is to 'seek to ensure that tourism facilities have access to suitable transport and be compatible with and build upon the assets and qualities of surrounding urban or rural activities and cultural and natural attractions'. *Clause 17.03-2 Tourism in Metropolitan Melbourne* This policy aims to maintain Metropolitan Melbourne's position as a destination in a number of ways including: • 'Improving public facilities, amenities and access'. • 'Improving transport infrastructure'. • 'Protecting biodiversity'.
Clause 18 – Transport	The overarching aim of this policy is to 'ensure an integrated and sustainable transport system that provides access to social and economic opportunities, facilitates economic prosperity, contributes to environmental sustainability, coordinates reliable movements of people and goods, and is safe'. *Clause 18.01 Integrated Transport* *Clause 18.01-1 Land Use and Transport Planning* The objective of this policy is 'to create a safe and sustainable transport system by integrating land-use and transport'. To achieve this, the following strategies are relevant: • 'Develop transport networks to support employment corridors that allow circumferential and radial movements. • Plan urban development to make jobs and community services more accessible by: Ensuring access is provided to developments in accordance with forecast demand, taking advantage of all available modes of transport and to minimise adverse impacts on existing transport networks and the amenity of surrounding areas. Coordinating improvements to public transport, walking and cycling networks with the ongoing development and redevelopment of the urban area. Concentrating key trip generators such as higher density residential development in and around Central Activities Districts, Principal, Major and Specialised Activity Centres on the Principal Public Transport Network. Requiring integrated transport plans to be prepared for all new major residential, commercial and industrial developments. Requiring that substantial increases in activity in employment corridors are connected to the Principal Public Transport Network. Providing routing, bus stop and interchange arrangements for public transport services in new development areas. Providing safe, convenient and direct pedestrian and cycling access to activity centres, public transport interchanges and other

Clause	Key policy objectives and strategies
	strategic redevelopment sites. • Integrate public transport services and infrastructure into new development'. *Clause 18.01-2 Transport System* The objective of this policy is 'to coordinate development of all transport modes to provide a comprehensive transport system'. Relevant strategies to achieve this include to: • 'Require transport system management plans for key transport corridors and for major investment proposals. • Reserve land for strategic transport infrastructure. • Incorporate the provision of public transport and cycling infrastructure in all major new State and local government road projects. • Locate transport routes to achieve the greatest overall benefit to the community and with regard to making the best use of existing social, cultural and economic infrastructure, minimising impacts on the environment and optimising accessibility, safety, emergency access, service and amenity. • Locate and design new transport routes and adjoining land uses to minimise disruption of residential communities and their amenity. • Plan or regulate new uses or development of land near an existing or proposed transport route to avoid detriment to, and where possible enhance the service, safety and amenity desirable for that transport route in the short and long terms. • Encourage higher land use densities and mixed use developments near railway stations, major bus terminals, transport interchanges, tramways and principal bus routes. Pedestrian and cyclists access to public transport should be facilitated and safeguarded. • Ensure transport practices, including design, construction and management, reduce environmental impacts. • Ensure careful selection of sites for freight generating facilities to minimise associated operational and transport impacts to other urban development and transport networks. • Consider all modes of travel, including walking, cycling, public transport, taxis and private vehicles (passenger and freight) in providing for access to new developments'. *Clause 18.02 Movement networks* *Clause 18.02-1 Sustainable personal transport* The objective of this policy is 'to promote the use of sustainable personal transport'. Relevant strategies to achieve this policy are to: 'Ensure development provides opportunities to create more sustainable transport options such as walking, cycling and public transport. • Ensure cycling routes and infrastructure are constructed early in new developments'. *Clause 18.02-2 Cycling* The objective of this policy is 'to integrate planning for cycling with land use and development planning and encourage as alternative modes of travel'. Strategies to achieve this include: • 'Direct and connected bicycle infrastructure should be provided to and between key destinations including activity centres, public transport nodes and major attractions'. • 'Require the provision of adequate bicycle parking and related facilities to meet demand at education, recreation, shopping and

Clause	Key policy objectives and strategies
	community facilities and other major attractions when issuing planning approvals. • Provide improved facilities, particularly storage, for cyclists at public transport interchanges, rail stations and major attractions'. • 'Develop local cycling networks and new cycling facilities that link to and complement the metropolitan-wide network of bicycle routes – the Principal Bicycle Network'. *Clause 18.02-3 Principal Public Transport Network* The objective of this policy is 'to upgrade and develop the Principal Public Transport Network and local public transport services in Metropolitan Melbourne to connect activity centres, link activities in employment corridors and link Melbourne to the regional cities'. To achieve this, the relevant strategies include: • 'Improve connections to Central Activities Districts, Principal and Major Activity Centres that are not adequately serviced by the Principal Public Transport Network and public transport services and interchanges at stand alone shopping centres • Provide a Principal Public Transport Network that allows for circumferential, in addition to radial movements'. • 'Achieve greater use of public transport by increasing densities, maximising the use of existing infrastructure and improving the viability of the public transport operation'. • 'Improve the operation of the existing public transport network with faster, more reliable and efficient on-road and rail public transport by: Improving the movement, efficiency and reliability of the road-based public transport by road-space management measures including transit lanes, clearways, traffic-light prioritisation and stop design. Improving the rail network by identifying and treating rail 'red spots' and expanding rail corridor speed and loading capacities. • Improve access to the public transport network by: Ensuring integration with walking and cycling networks. Providing end of trip facilities for pedestrians and cyclists and public transport nodes'. *Clause 18.02-4 Management of the road system* The objective of this policy is 'to manage the road system to achieve integration, choice and balance by developing an efficient and safe network and making the most of existing infrastructure'. Relevant strategies to achieve this include: • 'Provide for grade separation at railway crossings except with the approval of the Minister for Transport'. • 'Improve road networks where public transport is not viable, and where the road development is compatible with the Neighbourhood Principles and urban design objectives. • Improve roads in developing outer-suburban areas to cater for car, bicycle, public transport, and freight, commercial and service users'.

Appendix D

Relevant Provisions of the Local Planning Policy Framework

Melbourne Planning Scheme

The relevant Municipal Strategic Statement and Local Planning Policies in the Melbourne Planning Scheme are described below.

Table D-1 : Melbourne Local Planning Policies

Clause	Key policy objectives and strategies
Municipal Strategic Statement	
Clause 21.03 – Vision	The vision as outlined in this policy is for Melbourne to be a 'bold, inspirational and sustainable city'. To achieve this vision this policy outlines the following six goals for Melbourne: • 'a city for people, • a creative city, • a prosperous city, • a city of knowledge, • an eco-city, and • a connected city'. Key issues identified by this policy are settlement, environment and landscape values, housing, economic development, transport and infrastructure. Of particular relevance to Melbourne Metro is the outlined priority of 'maximising the use of sustainable modes of transport, in particular public transport, and supporting improved cycling and walking connections'.

Clause	Key policy objectives and strategies
Clause 21.04 – Settlement	*Clause 21.04-1 Growth Area Framework* This policy identifies the focus of growth for the City Melbourne as 'promoting areas of growth and protecting areas of stability'. Specific areas within the City have been defined as follows: • 'The original city centre (the Hoddle Grid) • Urban renewal areas • Proposed urban renewal areas • Potential urban renewal areas • Stable residential areas' City North and the Arden-Macaulay areas are both identified as proposed urban renewal areas. Melbourne Metro plays a part in the identification of the City North area as a renewal area, along with its existing role as a specialized activity centre and its proximity to the Central City. The Arden-Macaulay area is identified as an area in transition as the profile of business activity in the area is changing due to its proximity to the Central City as well as the proposed Melbourne Metro station. E-Gate is another proposed urban renewal area, with Dynon, Racecourse Rail Corridor and Jolimont Rail Corridor identified as potential urban renewal areas and Southbank, Docklands and the Fishermans Bend Urban Renewal Area identified as existing urban renewal areas. All these areas require the preparation, approval and implementation of a Structure Plan to guide their development.
Clause 21.05 – Environment and Landscape Values	*Clause 21.05-1 Biodiversity* The objective of this policy is 'to protect and enhance the City's habitats and biodiversity" *Clause 21.05-2 Significant environments and landscapes* The objectives of this policy are 'to enhance the environmental value of Melbourne's parklands waterways and other open spaces' and 'to improve water quality in waterways and the bay'. A strategy to achieve this is to 'protect and enhance the vegetation, biodiversity, habitat, amenity and attractiveness of the city's parklands, the Yarra and Maribyrnong Rivers and the Moonee Ponds Creek'.
Clause 21.06 – Built Environment and Heritage	The policy seeks to enhance the character, attractiveness and safety of the city through built form. *Clause 21.06-1 Urban Design* Strategy 1.1 of this policy is to protect Melbourne's distinctive physical character and in particular maintain the importance of: • 'Identified places and precincts of heritage significance' • 'The Shrine of Remembrance' • 'The Yarra River Corridor, Victoria Harbour and waterways' • 'Boulevards' Objective 3 of this policy is *'to protect iconic views in the city*'. Of particular mention in this objective are the views of the Shrine of Remembrance along Swanston Street from the State Library. *Clause 21.06-2 Heritage*

Clause	Key policy objectives and strategies
	The objective of this policy is 'to conserve and enhance places and precincts of identified cultural heritage significance'. To do this, Strategy 1.7 is to 'protect the scale and visual prominence of important heritage buildings, landmarks and heritage places, including the Shrine of Remembrance…'. *Clause 21.06-3 Sustainable Development* An objective of this policy is 'to create an environmentally sustainable urban environment with reduced greenhouse emissions'.
Clause 21.07 – Housing	*Clause 21.07-1 Residential development* A goal of this policy is to encourage housing that is consistent with an approved structure plan, in areas of Proposed Urban Renewal whilst preserving the valued characteristics of existing neighbourhoods.
Clause 21.08 – Economic Development	*Clause 21.08 – 2 Business* Objective 1 To reinforce the City's role as Victoria's principal centre for commerce. Strategy 1.4 of this objective is to 'support improved links between City businesses, tertiary educational institutions, research and development organisations and training institutions'. *Clause 21.08-5 Knowledge precincts* Objective 1 To support education, medical and research activities. Strategy 1.2 of this objective is to 'support the increased integration of the tertiary education facilities into the public realm of the City through better access connections and the design of new development'.
Clause 21.09 – Transport	The proposed Melbourne Metro alignment and proposed station locations are illustrated in the transport map in this policy. The proposed Melbourne Metro is also listed as a planned major transport infrastructure initiative aimed to integrate the growth and development of the Urban Renewal Areas of the City. This policy also aims to ensure the landscape character of St Kilda Road (along with other prominent boulevards in the city) is protected from inappropriate development. The main objective of the Clause 21.09-4 Public Transport is 'to maximise the use of public transport through efficient urban structure'.
Clause 21.10 – Infrastructure	*Clause 21.10 – 2 Open Space* Strategy 1.6 aims to 'protect heritage significant trees and landscapes in parks and heritage areas'.
Clause 21.11 – Local Areas	City North and the Arden-Macaulay areas are both identified as proposed urban renewal areas. The Hoddle Grid is identified as its own local area, and the Sports and Entertainment Precinct and Flemington and Kensington are both identified as a 'potential urban renewal area'. St Kilda Road and South Yarra, North and West Melbourne and Carlton are amongst other locations identified as 'other local areas' impacted by the proposed Melbourne Metro.
Clause 21.12 – Hoddle Grid	This clause describes the planning principles for the Hoddle Grid local area in Melbourne relating to housing, economic development, built environment and heritage and transport. Relevant principles include: • 'Encourage the development of a range of complementary precincts within the Hoddle Grid that offer a diverse range of specialist retail, cultural and entertainment opportunities'. • 'Enhance Swanston Street as part of a boulevard axis which runs from Princes Park to St Kilda Road'.

Clause	Key policy objectives and strategies
	• 'Ensure the ground level design of shop fronts on Swanston Street contribute to its role as a pre-eminent retail and lifestyle avenue and entry axis to the Retail Core'.
Clause 21.14 – Proposed Urban Renewal Areas	This clause describes the values and planning principles for City North and Arden – Macaulay local areas. *Clause 21.14-1 City North* City North is identified as an area in transition and its potential for urban renewal is planned utilising the adopted City North Structure Plan 2012. *Clause 21.14-2 Arden-Macaulay* The Arden-Macaulay area is identified as an area in transition as the profile of business activity in the area is changing due to its proximity to the Central City as well as the proposed Melbourne Metro station.
Clause 21.15 – Potential Urban Renewal Areas	The principles in this clause relate to Flemington and Kensington (west) and the Sports and Entertainment area as they relate to the types of land uses to be encouraged, enhancement of the public realm and protection of environment and heritage values. Flemington and Kensington (west) are residential areas adjacent to the Flemington Racecourse, the Royal Agricultural Showgrounds and the Maribyrnong River. This policy identifies 1-39 Hobsons Road, Kensington as a potential urban renewal site and supports *'conversion of industrial uses on land bounded by Hobsons Road, Kensington Road and the Maribyrnong River to a mix of residential, commercial and recreational uses to ensure that they are more compatible with the adjoining Kensington Banks'*. This local policy also seeks to *'strengthen the recreational role of Holland Park'*. Melbourne Metro would not impact on the ongoing land use of JJ Holland Park.
Clause 21.16 – Other Local Areas	This clause provides the remaining neighbourhoods of the municipality local area plans to provide spatial and built form directions for the future. *Clause 21.16-1 St Kilda Road and South Yarra* St Kilda Road is identified as a premier boulevard supporting high density office and residential development. South Yarra is an area of stability with minimal potential for new development, preserving the area's historic character and features. Fawkner Park is identified as requiring preservation and enhancement. *Clause 21.16-3 Carlton* Melbourne Metro affects a portion of the Carlton local area and Victoria Street where there is a mix of retail, commercial, educational, institutional and residential uses of differing scales. *Clause 21.16-5 North and West Melbourne* North and West Melbourne has a strong residential base as well as commercial and industrial uses with Flemington Road acting as a key tree-lined boulevard entry into the City. (21.16-5)

Clause	Key policy objectives and strategies
Local Planning Policy	
Clause 22.01 – Urban Design within the Capital City Zone	This policy includes the following relevant objectives: • 'To ensure that new development responds to the underlying framework and fundamental characteristics of the Capital City Zone while establishing its own identity'. • 'To enhance the physical quality and character of Melbourne's streets, lanes and Capital City Zone form through sensitive and innovative design'. Policies in this clause cover building design, facades, city and roof profiles, projections, wind and weather protection, public spaces, access and safety and policy implementation.
Clause 22.02 – Sunlight to Public Spaces	Public places such as gardens, square, streets and lanes (including privately owned publicly accessible spaces to the public) should allow for good penetration of sunlight. Restrictions exist for developments that cast shadows across the south bank or the north bank of the Yarra River, St Paul's Square, parts of Federation Square, the City Square, Queensbridge Square or the State Library forecourt between 11.00 am and 2.00 pm on 22 June.
Clause 22.04 – Heritage Places within the Capital City Zone	This policy includes the following relevant objectives: • 'To conserve and enhance all heritage places, and ensure that any alterations or extensions to them are undertaken in accordance with accepted conservation standards'. • 'To promote the identification, protection and management of aboriginal cultural heritage values'. • 'To conserve and enhance the character and appearance of precincts identified as heritage places by ensuring that any new development complements their character, scale, form and appearance'. There are several heritage precincts that intersect with the proposed Melbourne Metro area, including Flinders Gate Precinct, Flinders Lane Precinct and the Block Precinct.
Clause 22.05 – Heritage Places Outside the Capital City Zone	This policy includes the following relevant objectives: • 'To conserve all parts of buildings of historic, social or architectural interest which contribute to the significance, character and appearance of the building, streetscape or area. • To ensure that new development, and the construction or external alteration of buildings, make a positive contribution to the built form and amenity of the area and are respectful to the architectural, social or historic character and appearance of the streetscape and the area. • To promote the identification, protection and management of aboriginal cultural heritage values'. This policy provides performance standards for assessing planning applications for heritage buildings outside the Capital City Zone.
Clause 22.17 Urban Design outside the Capital City Zone	This policy includes the following relevant objectives: • 'To ensure that the scale, siting, massing and bulk of development complements the scale, siting, massing and bulk of adjoining and nearby built form'. • 'To ensure that the height of buildings relates to the prevailing patterns of height and scale of existing development in the surrounding

Clause	Key policy objectives and strategies
	area'. • 'To ensure that buildings on prominent sites are designed to achieve a high standard of design which reflects the importance of their location and extent of their visibility'. • 'To ensure that building design including the use of materials and activities at the ground floor frontages of buildings creates and improves pedestrian interest and engagement'. Policies cover scale, context, building height, building bulk, large and prominent sites, street level frontages, fronts and backs of buildings, building tops, visible facades and blank walls, pedestrian connection and vehicle access, building projections, protection from wind and rain, landscape, and access and safety in public spaces.
Clause 22.20 - CBD Lanes	The purpose of this policy is to identify the important characteristics of the city's lanes and to indicate the preferred character and form of development along lanes. The Central City's laneway network is a 'valued and vital part of the city's urban form' and provides a human-scale built form and intimate environment in the centre of Melbourne. New development in and on a parcel of land abutting a lane should consider the core values of the city's lanes including connectivity, active frontages, articulation and key views. Level 1 laneways are the most significant, grading down to Levels 2 and 3. This policy has expired and will be removed from the Planning Scheme as part of a future planning scheme amendment.
Clause 22.23 – Stormwater Management (Water Sensitive Urban Design)	The policy basis for this clause is the awareness that 'increased development can result in greater hard surface area and changes to the volume, velocity and quality of stormwater drainage into natural waterways'. New buildings should incorporate water sensitive urban design.

Port Phillip Planning Scheme

The relevant Municipal Strategic Statement and Local Planning Policies in the Port Phillip Planning Scheme are included below.

Table D-2 : Port Phillip Local Planning Policies

Clause	Key policy objectives and strategies
Municipal Strategic Statement	
Clause 21.01 – Vision and Approach	This clause sets out Port Phillip's vision for the municipality, which includes providing a healthy and safe environment for residents, workers and visitors, maximising use of environmentally sustainable modes of travel and embracing the character and heritage values of local areas. (21.01-1) To achieve the vision outlined in the planning scheme, Council will make 'ecologically sustainable decisions' which: • 'Contribute to a more sustainable environment through increasing housing and employment densities in locations closest to public transport. • 'Create an integrated and sustainable transport network which supports the use of public transport, cycling and walking above private car

Clause	Key policy objectives and strategies
	travel'. Council will manage land uses to: • 'Create attractive residential areas which are desirable places to live, and where the impacts of new land uses on residential amenity are minimised'. • 'Provide significant opportunities for housing growth within designated strategic locations which offer greatest accessibility to shops, services and public transport'. Council will manage the built form to: • 'Offer a high level of amenity, good transport connections, and convenient access to services for residents, workers and visitors'. • 'Provide a high quality, safe public realm which encourages street-life and supports the cultural vitality of the city'. (21.01-2)
Clause 21.03 – Ecologically Sustainable Development	This clause has the following relevant objectives: • 'To promote sustainable design and development'.(21.03-1) Council's four principles of sustainable transport are to: • 'deliver priority (i.e. give preference to sustainable transport modes), • increase connections, • improve safety, and • raise the profile of sustainable transport'. To achieve these principles (and others) the following objectives are relevant: • 'To facilitate the use of sustainable transport modes in preference to private vehicle use. • 'To facilitate an increase in the use of public transport'. (21.03-2)
Clause 21.04 – Land Use	*Clause 21.04-1 Housing and Accommodation* This clause has the following relevant objective: • 'To provide significant opportunities for new residential development in designated locations which have the capacity for change, and which offer highest accessibility to public transport, shops, and social infrastructure'. To achieve this, new residential development should be directed to areas identified for substantial residential growth including strategic sites in close proximity to a Major Activity Centre. Moderate residential growth can be accommodated within the established strip of St Kilda Road. *Clause 21.04-3 Office and Mixed Activity Areas* St Kilda Road is considered a mix of office and residential uses and is identified as the premier employment node for the City of Port Phillip. This policy identifies St Kilda Road as a location for 'office and related commercial uses that support the capital city function, however this area is under increased pressure for housing'. *Clause 21.04-5 Public open space and foreshore* Public Open Spaces areas in the City of Port Phillip are under pressure. The following objectives are relevant to Melbourne Metro:

Clause	Key policy objectives and strategies
	• 'Identify and support the establishment of new open space linkages, and the improvement of existing linkages, to connect public open space areas throughout Port Phillip and to the regional open space network'. • 'Ensure that there is no loss of land currently used for public open space…' unless it can be demonstrated that it is of poor utility and an appropriate replacement can be created. • 'Enhance the landscape quality of Port Phillip's key boulevards including St Kilda Road… *Clause 21.04-6 Tourism and the Arts* Entertainment and tourist facilities play an important role in the economy of Port Phillip. As such, the objective to 'encourage the development of public transport links and alternatives to private motor vehicle transport to gain access to and around Port Phillip's major tourist nodes' is relevant for the proposed Melbourne Metro. *Clause 21.04-8 Social Impact Assessments* This policy recognises the relationship between land use, development and social quality. To achieve this, the objective 'to ensure major land use and development proposals deliver a positive social benefit to the community' is relevant to the proposed Melbourne Metro.
Clause 21.05 – Built Form	This clause details objectives and strategies for built form under the themes of heritage, urban structure and character, urban design and the public realm and physical infrastructure. *Clause 21.05-1 Heritage* The following objectives and strategies are relevant: • 'Protect, conserve and enhance all identified significant and contributory places, including buildings, trees and streetscapes'. • 'Ensure that development in public spaces is consistent with the identified heritage characteristics of Port Phillip's heritage places'. • 'To protect and sensitively manage the setting and backdrop of the Shrine of Remembrance'. *Clause 21.05-2 Urban structure and character* This policy aims to Protect Port Phillip's distinctive low-scale physical character, whilst encouraging intensive development in identified areas including the St Kilda Road boulevard. The Shrine of Remembrance and significant trees should also be protected and enhanced by development. *Clause 21.05-3 Urban design and public realm* New development should make a positive contribution to the overall character of Port Philip. The following objectives and strategies are relevant: • 'To ensure the design of new development is of a high quality and enhances the amenity, comfort, safety and visual amenity of the public realm'. • 'Ensure that the design of buildings and public spaces supports a safe and attractive public environment'. • 'Encourage active street frontages at ground floor level in retail and mixed use areas'. • 'Retain and increase street tree planting'.

Clause	Key policy objectives and strategies
Clause 21.06 – Neighbourhoods	This clause details the key planning challenges, vision and strategies that relate to particular neighbourhood areas within the municipality. *Clause 21.06-7 St Kilda Road and Queens Road* Key planning challenges for this neighbourhood are, as relevant: • 'Poorly designed new development that undermines the boulevard character of St Kilda Road and Queens Road, or causes amenity impacts such as wind tunnelling and overshadowing'. • 'Protecting the significance of the Shrine of Remembrance by managing the scale of buildings and maintaining a respectful urban setting'. • 'Protecting key vistas to the Shrine of Remembrance and adjacent parklands'. • 'Improving the provision of community meetings spaces'. To tackle these challenges, the following strategies are relevant to Melbourne Metro: • 'Support and enhance this area as a key location for major office and related commercial development'. • 'Encourage the development of this area as a preferred location for new housing at higher densities, subject to heritage and amenity considerations'. • 'Encourage the development of active frontages at street level, including convenience shops and restaurants that create a greater level of pedestrian activity and interest'. • 'Ensure new development is scaled to respect the significance of the Shrine of Remembrance'.

Clause	Key policy objectives and strategies
Local Planning Policy	
Clause 22.04 – Heritage Policy	The following objectives and strategies are relevant: • 'To retain and conserve all significant and contributory heritage places'. • 'To discourage the demolition of significant and contributory heritage places'. • 'Encourage new development to be respectful of the scale, form, siting and setbacks of nearby significant and contributory buildings'.
Clause 22.06 - Urban Design Policy for Non-Residential Development and Multi-Unit Residential Development	This policy seeks to ensure that new development (either non-residential or multi-unit residential) responds to site and context characteristics and positively contributes to valued elements of the municipality. The policy includes elements relating to public realm, street level frontages, landmarks, views and vistas, large sites, energy and resource efficiency, building design, urban art, landscape, public open spaces, private and communal open space, fences, residential amenity, Car Parking and Pedestrian Access, Loading Facilities, and site facilities.
Clause 22.12 – Stormwater Management (Water Sensitive Urban Design)	The policy basis for this clause is the awareness that 'increased development can result in greater hard surface area and changes to the volume, velocity and quality of stormwater drainage into natural waterways'. New buildings should incorporate water sensitive urban design.

The relevant Municipal Strategic Statement and Local Planning Policies in the Stonnington Planning Scheme are included below.

Table D-3: Stonnington Local Planning Policies

Clause	Key policy objectives and strategies
Municipal Strategic Statement	
Clause 21.03 – Vision	The vision for Stonnington is for to be a 'place of community, individuality and business where an environment is created that fosters the hopes, well-being and aspirations of all people'. The Framework Plan included in this policy identifies Toorak Road as a Neighbourhood Activity Centre (large) and the South Yarra Station (Forrest Hill) area as a Principal Activity Centre.
Clause 21.05 – Housing	A key objective of this policy is: 'To direct the majority of new housing development to locations with the highest level of accessibility to both an Activity Centre and the Principal Public Transport Network, and away from the residential hinterland'. To do this, the medium and high density housing is being directed to sites including, land with immediate abuttal to a main road which is a tram or priority bus route (such as Toorak Road), land beside or opposite a railway station which is also part of or in close proximity to an activity centre and land shown on the Strategic Framework Plan as a Principal, Major or Large Neighbourhood Activity Centre (identified as substantial change areas). High rise housing is promoted in the Forrest Hill precinct (around South Yarra Station) (21.05-2).
Clause 21.06 – Built Environment and Heritage	The key issues identified in this clause relate to overall urban structure, landscape character, amenity, built form character, public realm and pedestrian areas, solar access and wind protection, noise and air quality, energy, water and waste efficiency, designing for safety, universal access and social inclusion and heritage. The relevant objectives are: • 'To protect and reinforce the key elements of the City's overall urban structure and character'. • 'To repair and reinforce the high quality landscape character of the City'. • 'To achieve high standards of amenity within new developments, and with adjoining developments'. • 'To improve the quality of the public realm and the pedestrian experience'. • 'To minimise the impacts in relation to noise and air quality emissions from and on new development'. • 'To encourage environmentally sustainable design and innovative waste and recycling management practices'. • 'To encourage physical design that is safe and accessible and which facilitates social inclusion for all members of the community'. • 'To protect and enhance all places which are significant and contributory to the heritage values of the City of Stonnington'. Strategies to achieve this include: • 'Ensure new development does not unreasonably affect the amenity of any adjoining residential properties through overlooking, overshadowing or traffic and parking associated with the use'. • 'Confine higher density development to the substantial change areas identified in Clause 21.05-02'. • 'Ensure that higher built form directed to principal and major activity centres respects and does not dominate the heritage values and the

Clause	Key policy objectives and strategies
	human scale of the traditional retail strips'. • 'In the case of large developments which increase density, encourage developers to make a contribution towards streetscape/infrastructure improvements'. • 'Seek that noise barriers are introduced to protect residential properties where substantive changes are proposed to freeways and railways which result in increased levels of noise or extended hours of traffic'. • 'Promote design excellence that clearly and positively supports the ongoing significance of heritage places'.
Clause 21.07 – Open Space and Environment	A key issue for the City of Stonnington is the City's 'low ratio of public open space compared to the metropolitan average'. This policy aims to 'seek opportunities to increase regional open space links across the municipality and with adjoining municipalities, in particular along railway lines and waterways'. This policy also seeks to enhance the City's natural values and ensure new development responds appropriately to flood-prone areas.
Clause 21.08 - Infrastructure	The key issues identified in this clause relate to integrated infrastructure planning, sustainable transport, roads and parking, drainage and utility services, community infrastructure and social impact assessments. The relevant objectives and strategies are: • 'To integrate transport and land use planning and development to maximise accessibility, safety and sustainability of the transport network and the built environment'. • 'To facilitate the use of sustainable transport modes in preference to private vehicle use'. • 'To encourage reduced reliance on parking provision in the City and high levels of design and amenity associated with its provision' through a reduction of 'on-site parking and permit parking for developments close to public transport'. • 'To ensure major land use and development proposals deliver a positive social and physical benefit to the community'.

Clause	Key policy objectives and strategies
Local Planning Policy	
Clause 22.04 – Heritage Policy	This clause has the objective 'to recognise, conserve and enhance places in the City identified as having architectural, cultural or historic significance'. To achieve this, it is policy that 'before deciding on an application to use or develop land, the responsible authority will consider, as appropriate, the potential impact of a proposal on the heritage values of the site and/or its setting and area'. Land and buildings along Toorak Road and to railway land where the two existing rail corridors connect are identified as having heritage value through the use of the heritage overlay.
Clause 22.17 – Forrest Hill Precinct Policy	This policy applies to land in the Forrest Hill Precinct, which is the area bounded by Chapel Street, Toorak Road, the railway line and Alexandra Avenue. The Melbourne Metro area is likely to tie into the Dandenong Rail corridor at this point. The policy basis for this clause is the *Forrest Hill Structure Plan 2005*. The relevant objectives of this clause are: • 'To encourage a mix of higher density housing, employment and other compatible uses'. • 'To ensure new development contributes to a high quality, safe and distinctive public realm with an emphasis on walkability, active street

Clause	Key policy objectives and strategies
	frontages, sunlight access, creation of new public and private spaces, a new east west link and enhanced access to the rail and tram network'. • 'To provide for the regeneration of the Forrest Hill Precinct while protecting and conserving its existing heritage places'. To achieve these objectives, policy is outlined focused on land use, urban structure and character and public realm.
Clause 22.18 Stormwater Management (Water Sensitive Urban Design)	The policy basis for this clause is the awareness that 'increased development can result in greater hard surface area and changes to the volume, velocity and quality of stormwater drainage into natural waterways'. New buildings should incorporate water sensitive urban design.
Clause 22.19 Prahran, South Yarra and Windsor Activity Centre policy	This clause sets out the policy guidance for the Prahran, South Yarra and Windsor Activity Centres and is relevant to the Melbourne Metro area along Toorak Road (South Yarra Precinct) and Prahran Precinct (south of Toorak Road). The precinct vision for South Yarra is a 'transformed employment, living and tourism hub founded on high quality, integrated public transport and pedestrian links, convenient neighbourhood and distinctive shopping and attractive networks of streets and spaces'. The policy acknowledges that the redevelopment of the Forrest Hill precinct and nearby Cremorne and Church Street precincts will change the dynamics of South Yarra. The precinct vision for Prahran Precinct is a 'distinctive, community orientated, low rise, urban village that is energised by its low scale fine grain heritage forms and the interaction and diversity of creative, educational, residential and community uses, underpinned by a well integrated, pedestrian and public transport movement network'.
Clause 22.23 Neighbourhood Character Policy	This clause applies to all development within residential areas of Stonnington to reflect strategic work on neighbourhood character. The objectives of the policy are: • 'To ensure that development (including subdivision) and works contribute to the preferred character of the area'. • 'To ensure that development (including subdivision) and works reflect the intention of the statement of preferred neighbourhood character and design guidelines for each precinct'

The relevant clauses in the Municipal Strategic Statement in the Maribyrnong Planning Scheme are included below.

Table D-4 : Maribyrnong Local Planning Policies

Clause	Key policy objectives and strategies
Municipal Strategic Statement	
Clause 21.03 – Council Vision	The council vision for the City of Maribyrnong is for a 'popular inner city municipality with a vibrant and diverse community, a strong identity and a prosperous modern economy'. Council foresees more people being attracted to the area driven by its 'choice of housing, accessibility and employment opportunities'. Melbourne Metro would provide this improved accessibility to the City of Maribyrnong.
Clause 21.08 – Economic Development	Improved public transport accessibility to and within the City of Maribyrnong will encourage greater provision of retail and office space. This will ensure ongoing vitality and a stronger economic base for the City.
Clause 21.09 – Transport	Clause 21.09 identifies that the transport network within the City of Maribyrnong is under increasing pressure from residential and industrial growth as well as from expanding container trade at Melbourne Port. This has resulted in increased road and rail passenger and freight traffic through the city. The policy states that a number of significant transport initiatives have been proposed to improve east west connections and reduce the impact of freight and general traffic on the municipality. This list includes 'Linkages to the new underground rail line (Melbourne Metro) connecting Footscray to Parkville and the Melbourne CBD' as a high priority. The policy includes a number of objectives, the first, third and fourth of which are related to improving public transport in the locality. Melbourne Metro addresses these policy objectives directly.

Appendix E

Relevant Zone Table

The following table outlines all the applicable zones within the study area (as of 7 December 2015) and identifies planning approval triggers. The colours in the table illustrate where planning approval is required. Red is a planning approval trigger, Yellow is where planning approval may be required subject to conditions, or where an exemption may exist. Green is where planning approval is not required.

Planning approval is unlikely to be required for subdivision as the project would use the compulsory acquisition process as set out by the *Land Acquisition and Compensation Act 1986* or the *Major Transport Projects Facilitation Act 2009*.

It should be noted that as it has been determined that a planning scheme amendment would be used to seek approval for the proposed Melbourne Metro, each planning permit trigger would not need to be addressed individually, and a planning permit would not be sought for each of the identified permit triggers.

Table E-1 : Relevant Zone Table

Zone	Planning scheme	Impacted by current Concept Design and alternative design options	Is planning approval required for use?	Is planning approval required for buildings and works/demolition	Is a permit required for subdivision?[15]	Locality
Western Portal						
Public Use Zone 4 – Transport (PUZ4)	Melbourne	Yes	No – A permit is not required as a Railway is a Section 1 use.	No – A permit is not required for buildings and works associated with a Section 1 use.	Yes	Rail corridor
General Residential Zone (Schedule 2 – General Residential Areas – 8 metre height limit) (GRZ2)	Melbourne	Yes	No – Railway is a Section 1 use.	No – A permit is not required for buildings and works associated with a Section 1 use.	Yes	North Melbourne between Curzon Street and Flemington Road, Childers Street, Kensington (including Kensington Road)
Industrial 1 Zone (IN1Z)	Melbourne	Yes	No – Railway is a Section 1 use.	Yes - To construct a building or construct or carry out works.	Yes	50 Lloyd Street Business Estate, West Melbourne Terminal Station North and south of railway line
General Residential Zone (Schedule 1- General Residential Areas) (GRZ1)	Melbourne	Yes	No – Railway is a Section 1 use.	No – A permit is not required for buildings and works associated with a Section 1 use.	Yes	Kensington Road where rail bridge passes over
Mixed Use Zone (MUZ)	Melbourne	Yes	No – Railway is a Section 1 use.	No – A permit is not required for buildings and works associated with a Section 1 use.	Yes	Land abutting Kensington Road and Hobsons Road north of railway line
Public Park and Recreation Zone (PPRZ)	Melbourne	No	Yes – Railway is a Section 2 use.	Yes – To construct a building or construct or carry out works and for Section 2 uses.	Yes	JJ Holland Park

[15] Exemptions in Clause 62 may apply

Zone	Planning scheme	Impacted by current Concept Design and alternative design options	Is planning approval required for use?	Is planning approval required for buildings and works/demolition	Is a permit required for subdivision?[15]	Locality
Tunnel Precinct (between Western Portal and Arden Station)						
Public Use Zone 1 – Service and Utility (PUZ1)	Melbourne	No	No – A permit is not required as a Railway is a Section 1 use.	No – A permit is not required for buildings and works associated with a Section 1 use.	Yes	Moonee Ponds Creek
Public Use Zone 4 – Transport (PUZ4)	Melbourne	No	No – A permit is not required as a Railway is a Section 1 use.	No – A permit is not required for buildings and works associated with a Section 1 use	Yes	Rail corridor
Industrial 1 Zone (IN1Z)	Melbourne	No	No – Railway is a Section 1 use.	Yes – To construct a building or construct or carry out works.	Yes	50 Lloyd Street Business Estate, West Melbourne Terminal Station North and south of railway line
Arden Station Precinct						
Public Use Zone 1 – Service and Utility (PUZ1)	Melbourne	No	No – A permit is not required as a Railway and Railway Station are Section 1 uses.[16]	No – A permit is not required for buildings and works associated with a Section 1 use.	Yes	Moonee Ponds Creek
Public Use Zone 4 – Transport (PUZ4)	Melbourne	Yes	No – A permit is not required as a Railway and Railway Station are Section 1 uses.[17]	No – A permit is not required for buildings and works associated with a Section 1 use.	Yes	All land one parcel of land shy of Arden Street and all land west of Laurens Street
Industrial 1 Zone (IN1Z)	Melbourne	No	No – Railway is a Section 1 use.	Yes - To construct a building or construct or carry out works.	Yes	Between Lauren Street and Munster Terrace

[16] Railway Station is a section 1 use provided the total leasable floor area for the selling of food, drink and other convenience goods and services must not exceed 50 sqm

[17] ibid

Zone	Planning scheme	Impacted by current Concept Design and alternative design options	Is planning approval required for use?	Is planning approval required for buildings and works/demolition	Is a permit required for subdivision? [15]	Locality
			Yes – a permit is required as a Railway Station is a Section 2 Use.	Yes – A permit is required for buildings and works associated with a Section 2 use (Railway Station).		
Industrial 3 Zone (IN3Z)	Melbourne	No	No – Railway is a Section 1 use.	Yes - To construct a building or construct or carry out works.	Yes	North of Arden Street, alongside Langford Street and railway line
			Yes – A permit is required as a Railway Station is a Section 2 Use.	Yes – A permit is required for buildings and works associated with a Section 2 use (Railway Station).		
Mixed Use Zone (MUZ)	Melbourne	No	No – Railway is a Section 1 use.	No – A permit is not required for buildings and works associated with a Section 1 use.	Yes	Between Lauren Street and Errol Street, North Melbourne
			Yes – A permit is required as a Railway Station is a Section 2 Use	Yes – A permit is required for buildings and works associated with a Section 2 use (Railway Station).		
Tunnel Precinct (between Arden Station and Parkville Station)						
Mixed Use Zone (MUZ)	Melbourne	No	No – Railway is a Section 1 use.	No – A permit is not required for buildings and works associated with a Section 1 use.	Yes	Between Lauren Street and Errol Street, North Melbourne
Road Zone, Category 1 (RDZ1)	Melbourne	No	No – A permit is not required as a Railway is a Section 1 use.	No – A permit is not required for buildings and works associated with a Section 1 use.	Yes	Curzon and Dryburgh Streets and Flemington Road
General Residential Zone (Schedule 1-	Melbourne	No	No – Railway is a Section 1 use.	No – A permit is not required for buildings and works	Yes	North Melbourne between Curzon Street and

Zone	Planning scheme	Impacted by current Concept Design and alternative design options	Is planning approval required for use?	Is planning approval required for buildings and works/demolition	Is a permit required for subdivision?[15]	Locality
General Residential Areas) (GRZ1)				associated with a Section 1 use.		Flemington Road
Parkville Station Precinct						
Road Zone, Category 1 (RDZ1)	Melbourne	Yes	No – A permit is not required as a Railway is a Section 1 use.	No – A permit is not required for buildings and works associated with a Section 1 use.	Yes	Flemington Road, Elizabeth Street and Royal Parade
			Yes – A permit is required as a Railway Station is a Section 2 Use	Yes – A permit is required for buildings and works associated with a Section 2 use.		
Public Use Zone 2 – Education (PUZ2)	Melbourne	Yes	No – A permit is not required as a Railway and Railway Station are Section 1 uses.[18]	No – A permit is not required for buildings and works associated with a Section 1 use.	Yes	Royal Melbourne Hospital, Grattan Street, Victorian Cancer Centre
Public Use Zone 3 – Health and Community (PUZ3)	Melbourne	No	No – A permit is not required as a Railway and Railway Station are Section 1 uses.[19]	No – A permit is not required for buildings and works associated with a Section 1 use.	Yes	Royal Melbourne Hospital, Grattan Street, Victorian Cancer Centre
Public Park and Recreation Zone (PPRZ)	Melbourne	Yes	Yes – Railway is a Section 2 use[20].	Yes – To construct a building or construct or carry out works and for Section 2 uses.	Yes	University Square
			Railway Station (transport terminal) is **prohibited**.			
Capital City Zone (Schedule 5 – City	Melbourne	Yes	No – Railway and Railway Station is a Section 1 use.	Yes – A permit and prior approval for the redevelopment	Yes	Land south of Grattan Street and east of Elizabeth Street

[18] Railway Station is a section 1 use provided the total leasable floor area for the selling of food, drink and other convenience goods and services must not exceed 50 sqm and tramway is a Section 1 use

[19] ibid

[20] As these works are located underground and do not change the use of land, exemption from requiring planning approval may be available

Zone	Planning scheme	Impacted by current Concept Design and alternative design options	Is planning approval required for use?	Is planning approval required for buildings and works/demolition	Is a permit required for subdivision?[15]	Locality
North) (CCZ5)				of the site for a railway station is required to demolish or remove a building or works.		
Tunnel Precinct (between Parkville Station and CBD North Station)						
Public Use Zone 2 – Education (PUZ2)	Melbourne	No	No – A permit is not required as a Railway is a Section 1 use.	No – A permit is not required for buildings and works associated with a Section 1 use.	Yes	Royal Melbourne Hospital, Grattan Street, Victorian Cancer Centre
Capital City Zone (Schedule 5 – City North) (CCZ5)	Melbourne	No	No – Railway is a Section 1 use.	No – A permit is not required for buildings and works associated with a Section 1 use.	Yes	
Mixed Use Zone (MUZ)	Melbourne	No	No – Railway is a Section 1 use.	No – A permit is not required for buildings and works associated with a Section 1 use.	Yes	Between Royal Parade and Victoria Street
Public Park and Recreation Zone (PPRZ)	Melbourne	No	Yes – Railway is a Section 2 use.[21]	Yes – To construct a building or construct or carry out works and for Section 2 uses.	Yes	Lincoln Square
Comprehensive Development Zone (Schedule 2 – Carlton Brewery) (CDZ2)	Melbourne	No	Yes – Railway is a Section 2 use.[22]	Yes – To construct a building or construct or carry out works.	Yes	Land bound by Victoria, Queensberry, Bouverie and Swanston Streets
Road Zone, Category 1 (RDZ1)	Melbourne	No	No – A permit is not required as a Railway is a Section 1 use.	No – A permit is not required for buildings and works associated with a Section 1	Yes	Victoria Street

[21] As these works are located underground and do not change the use of land, exemption from requiring planning approval may be available

[22] ibid

Zone	Planning scheme	Impacted by current Concept Design and alternative design options	Is planning approval required for use?	Is planning approval required for buildings and works/demolition	Is a permit required for subdivision?[15]	Locality
				use.		
CBD North Station Precinct						
Mixed Use Zone (MUZ)	Melbourne	Yes	No – Railway is a Section 1 use.	No – A permit is not required for buildings and works associated with a Section 1 use.	Yes	Between Victoria Street and Franklin Street
			Yes – A permit is required as a Railway Station is a Section 2 Use	Yes – A permit is required for buildings and works associated with a Section 2 use.		
Public Use Zone 2 – Education (PUZ2)	Melbourne	No	No – A permit is not required as a Railway and Railway Station are Section 1 uses[23].	No – A permit is not required for buildings and works associated with a Section 1 use.	Yes	Melbourne – RMIT (CBD Station North)
Capital City Zone (Schedule 1 – Land outside the Retail Core) (CCZ1)	Melbourne	Yes	No – Railway and Railway Station are Section 1 uses.	No – A permit is not required for buildings or works for Railway purposes.	Yes	Land outside the Retail Core, north of Lonsdale Street, east of Swanson Street (south of Little Collins Street) and south of Flinders Street including Flinders Street Station, Federation Square, Princes Walk and Yarra River
				Yes – A permit and prior approval for the redevelopment of the site are required to demolish or remove a building or works.		
Capital City Zone (Schedule 2 – Land inside the Retail Core) (CCZ2)	Melbourne	No	No – Railway is a Section 1 use.	Yes – To construct a building or construct or carry out works.	Yes	Land inside the Retail Core (Swanston Street, between Victoria Street and the South Bank of the Yarra River)
			Yes – Railway Station is a Section 2 use.	Yes – A permit and prior approval for the redevelopment of the site are required to demolish or remove a building		

[23] Railway Station is a section 1 use provided the total leasable floor area for the selling of food, drink and other convenience goods and services must not exceed 50 sqm

Zone	Planning scheme	Impacted by current Concept Design and alternative design options	Is planning approval required for use?	Is planning approval required for buildings and works/demolition	Is a permit required for subdivision?[15]	Locality
				or works.		
Tunnel Precinct (between CBD North to CBD South Stations)						
Capital City Zone (Schedule 2 – Land inside the Retail Core) (CCZ2)	Melbourne	No	No – Railway is a Section 1 use.	Yes - To construct a building or construct or carry out works.	Yes	Land inside the Retail Core (Swanston Street, between Victoria Street and the South Bank of the Yarra River)
Public Park and Recreation Zone (PPRZ)	Melbourne	No	Yes – Railway is a Section 2 use.[24]	Yes – To construct a building or construct or carry out works and for Section 2 uses.	Yes	Corner of Little Collins and Swanston Streets
CBD South Station						
Capital City Zone (Schedule 2 – Land inside the Retail Core) (CCZ2)	Melbourne	Yes	No – Railway is a Section 1 use. Yes – Railway Station is a Section 2 use.	Yes – To construct a building or construct or carry out works. Approval is also required to demolish or remove a building or works.	Yes	Land inside the Retail Core (Swanston Street, between Victoria Street and the South Bank of the Yarra River)
Capital City Zone (Schedule 1 – Land outside the Retail Core) (CCZ1)	Melbourne	Yes	No – Railway and Railway Station is a Section 1 use.	No – A permit is not required for buildings or works for Railway purposes. Yes – A permit and prior approval for the redevelopment of the site are required to demolish or remove a building	Yes	Land outside the Retail Core, north of Lonsdale Street, east of Swanson Street (south of Little Collins Street) and south of Flinders Street including Flinders Street Station, Federation Square, Princes Walk and Yarra River

[24] As these works are located underground and do not change the use of land, exemption from requiring planning approval may be available

Zone	Planning scheme	Impacted by current Concept Design and alternative design options	Is planning approval required for use?	Is planning approval required for buildings and works/demolition	Is a permit required for subdivision?[15]	Locality
				or works.		
Public Park and Recreation Zone (PPRZ)	Melbourne	Yes	Yes – Railway is a Section 2 use.[25] Railway Station (transport terminal) is **prohibited**.	Yes – To construct a building or construct or carry out works and for Section 2 uses.	Yes	City Square
Tunnel Precinct (between CBD South Station and Domain Station)						
Capital City Zone (Schedule 1 – Land outside the Retail Core) (CCZ1)	Melbourne	No	No – Railway is a Section 1 use.	No – A permit is not required for buildings or works for Railway purposes.	Yes	Land outside the Retail Core south of Flinders Street including Flinders Street Station, Federation Square, Princes Walk and Yarra River
Public Park and Recreation Zone (PPRZ)	Melbourne	No	Yes – Railway is a Section 2 use.[26]	Yes - To construct a building or construct or carry out works for Section 2 uses.	Yes	Domain Parklands (Alexandra Gardens, Queen Victoria Gardens, Alexandra Park, Shrine of Remembrance Reserve)
Road Zone, Category 1 (RDZ1)	Melbourne, Port Phillip	No	No – A permit is not required as a Railway is a Section 1 use.	No – A permit is not required for buildings and works associated with a Section 1 use.	Yes	St Kilda Road
Mixed Use Zone (MUZ)	Melbourne	No	No – A permit is not required as a Railway is a Section 1 use.	No – A permit is not required for buildings and works associated with a Section 1	Yes	Between Coventry Street and Dorcas Streets (south side of St Kilda Road)

[25] As these works are located underground and do not change the use of land, exemption from requiring planning approval may be available

[26] ibid

Zone	Planning scheme	Impacted by current Concept Design and alternative design options	Is planning approval required for use?	Is planning approval required for buildings and works/demolition	Is a permit required for subdivision?[15]	Locality
				use.		
Commercial Zone (Schedule 1) (B5Z)	Port Phillip	No	No – A permit is not required as a Railway is a Section 1 use.	Yes – To construct a building or construct or carry out works	Yes	Between Dorcas Street and Kings Way (south side of St Kilda Road)
Domain Station						
Public Park and Recreation Zone (PPRZ)	Melbourne, Port Phillip	Yes	Yes – Railway is a Section 2 use.[27] Railway Station (transport terminal) is **prohibited**.	Yes – To construct a building or construct or carry out works and for Section 2 uses.	Yes	Shrine of Remembrance, Albert Road Reserve
Road Zone, Category 1 (RDZ1)	Melbourne, Port Phillip	Yes	No – A permit is not required as a Railway is a Section 1 use. Yes – a permit is required as a Railway Station is a Section 2 Use	No – A permit is not required for buildings and works associated with a Section 1 use. Yes – A permit is required for buildings and works associated with a Section 2 use.	Yes	St Kilda Road
Commercial Zone (Schedule 1) (B5Z)	Port Phillip	No	No – A permit is not required as a Railway is a Section 1 use. Yes – Railway station is a Section 2 use.	Yes – To construct a building or construct or carry out works	Yes	Between Dorcas Street and Kings Way (south side of St Kilda Road)
Special Use Zone (Schedule 3 – Private Sports Grounds and Religious and Educational Institutions)	Melbourne	No	Yes – A permit is required as a Railway and Railway Station are Section 2 uses.	Yes – To construct a building or construct or carry out works.	Yes	Melbourne Grammar

[27] As these works are located underground and do not change the use of land, exemption from requiring planning approval may be available

Zone	Planning scheme	Impacted by current Concept Design and alternative design options	Is planning approval required for use?	Is planning approval required for buildings and works/demolition	Is a permit required for subdivision?[15]	Locality
(SUZ)						
Commercial 1 Zone (C1Z)	Melbourne	No	No – A permit is not required as a Railway is a Section 1 use. Yes – A permit is required as a Railway Station is a Section 2 Use	Yes – To construct a building or construct or carry out works.	Yes	Land on east side of St Kilda Road, south of Bromby Street
Tunnel Precinct (between St Kilda Road and the Eastern Portal precinct)						
Commercial 1 Zone (C1Z)	Melbourne, Stonnington	No	No – A permit is not required as a Railway is a Section 1 use.	Yes – To construct a building or construct or carry out works.	Yes	Land on east side of St Kilda Road, south of Bromby Street, fronting Toorak Road and Chapel Street
Road Zone, Category 1 (RDZ1)	Melbourne, Port Phillip, Stonnington	No	No – A permit is not required as a Railway is a Section 1 use.	No – A permit is not required for buildings and works associated with a Section 1 use.	Yes	St Kilda Road, Toorak Road, Punt Road
Public Park and Recreation Zone (PPRZ)	Melbourne	Yes	Yes – Railway is a Section 2 use.[28]	Yes – To construct a building or construct or carry out works and for Section 2 uses.	Yes	Fawkner Park
General Residential Zone (Schedule 1- General Residential Areas) (GRZ1)	Melbourne	No	No – A permit is not required as a Railway is a Section 1 use.	No – A permit is not required for buildings and works associated with a Section 1 use.	Yes	East side of Toorak Road
General Residential Zone (Schedule 12 - Inner Urban Precincts) (GRZ12)	Stonnington	No	No – A permit is not required as a Railway is a Section 1 use.	No – A permit is not required for buildings and works associated with a Section 1 use.	Yes	Residential properties one parcel south of Toorak Road

[28] As these works are located underground and do not change the use of land, exemption from requiring planning approval may be available

Zone	Planning scheme	Impacted by current Concept Design and alternative design options	Is planning approval required for use?	Is planning approval required for buildings and works/demolition	Is a permit required for subdivision?[15]	Locality
Eastern Portal Precinct						
Road Zone, Category 1 (RDZ1)	Stonnington	No	No – A permit is not required as a Railway is a Section 1 use.	No – A permit is not required for buildings and works associated with a Section 1 use.	Yes	Toorak Road
Commercial 1 Zone (C1Z)	Stonnington	No	No – A permit is not required as a Railway is a Section 1 use.	Yes – To construct a building or construct or carry out works.	Yes	Fronting Toorak Road and Chapel Street
Public Park and Recreation Zone (PPRZ)	Stonnington	Yes	Yes – Railway is a Section 2 use.	Yes – To construct a building or construct or carry out works and for Section 2 uses.	Yes	South Yarra Siding Reserve and Osborne Street reserve
Public Use Zone 4 – Transport (PUZ4)	Stonnington	Yes	No – A permit is not required as a Railway is a Section 1 use.	No – A permit is not required for buildings and works associated with a Section 1 use.	Yes	Rail corridor, South Yarra Station
General Residential Zone (Schedule 1- General Residential Areas) (GRZ1)	Stonnington	No	No – A permit is not required as a Railway is a Section 1 use.	No – A permit is not required for buildings and works associated with a Section 1 use.	Yes	Land west of Toorak Road
General Residential Zone (Schedule 12 – Inner Urban Precincts) (GRZ12)	Stonnington	No	No – A permit is not required as a Railway is a Section 1 use.	No – A permit is not required for buildings and works associated with a Section 1 use.	Yes	Land south of South Yarra Siding Reserve (west of Toorak Road)

Zone	Planning scheme	Impacted by current Concept Design and alternative design options	Is planning approval required for use?	Is planning approval required for buildings and works/demolition	Is a permit required for subdivision?[15]	Locality
Western Turnback Precinct						
Public Use Zone 4 – Transport (PUZ4)	Maribyrnong	Yes	No – A permit is not required as a Railway is a Section 1 use.	No – A permit is not required for buildings and works associated with a Section 1 use.	Yes	Rail corridor, West Footscray Station
Road Zone, Category 1 (RDZ1)	Maribyrnong	No	No – A permit is not required as a Railway is a Section 1 use.	No – A permit is not required for buildings and works associated with a Section 1 use.	Yes	Geelong Road and Sunshine and Buckley Streets
Commercial 2 Zone (C2Z)	Maribyrnong	No	No – A permit is not required as a Railway is a Section 1 use.	Yes – To construct a building or construct or carry out works.	Yes	Commercial building on the corner of Cross and Hocking Street
General Residential Zone (Schedule 1 – General Residential Areas) (GRZ1)	Maribyrnong	No	No – A permit is not required as a Railway is a Section 1 use.	Yes – To construct a building or construct or carry out works.	Yes	Land abutting the rail line northwest and southeast of the precinct area
Mixed Use Zone (MUZ)	Maribyrnong	No	No – A permit is not required as a Railway is a Section 1 use.	Yes – To construct a building or construct or carry out works.	Yes	Land abutting rail line to the south east of precinct
Special Use Zone (Schedule 1 – Sportsgrounds And Religious Establishments) (SUZ1)	Maribyrnong	No	No – A permit is not required as a Railway is a Section 1 use.	Yes – To construct a building or construct or carry out works.	Yes	Land abutting railway and Geelong Road and Gordon Street intersection.

Appendix F

Relevant Overlay Table

The following table outlines all the applicable overlays within the study area (as of 7 December 2015) and identifies planning approval triggers. The colours in the table illustrate where planning approval is required. Red is a planning approval trigger, Yellow is where planning approval may be required subject to conditions, or where an exemption may exist. Green is where planning approval is not required.

Planning approval is unlikely to be required for subdivision as the project would use the compulsory acquisition process as set out by the *Land Acquisition and Compensation Act 1986* or the *Major Transport Projects Facilitation Act 2009*.

It should be noted that as it has been determined that a planning scheme amendment would be used to seek approval for the proposed Melbourne Metro, each planning permit trigger would not need to be addressed individually, and a planning permit would not be sought for each of the identified permit triggers.

Table F-1 : Relevant Overlay Table

Overlays	Planning scheme	Impacted by current Concept Design and alternative design options	Is planning approval required for buildings and works / demolition?	Is planning approval required for vegetation removal?	Is a permit required for subdivision?[29]	Locality
Western Portal Precinct						
Environmental Audit Overlay	Melbourne	Yes	No	No	No	Applies to land between Hobsons Road and rail corridor
Heritage Overlay (Schedule HO9 – Kensington Precinct and HO239 – 1-39 Hobsons Road, Kensington)	Melbourne	Yes	Yes – To demolish and remove a building, to construct a building or construct or carry out works and to remove or destroy or lop a tree if the Heritage Overlay contains tree controls.	No –The Heritage Overlay does not include tree controls	Yes	Applies to land between Hobsons Road and the rail corridor and generally bound by Ormond, Childers and Tennyson Streets (refer to Heritage Overlay maps).
Incorporated Plan Overlay (Schedule 2)	Melbourne	No	Yes – Unless the development is generally in accordance with the Hobsons Road Incorporated Plan-March 2008.	No	Yes	Applies to land between Hobsons Road and rail corridor
Land Subject to Inundation Overlay (Schedule 1)	Melbourne	Yes	Yes – To construct a building or construct or carry out works.	No	Yes	Applies to land to the north of the western tie in JJ Holland Park.
Tunnel Precinct (Western Portal to Arden Station)						
City Link Project Overlay	Melbourne	No	Yes – To construct a building or construct or carry out works. A permit is also required for use.	No	No	Applies to land beneath CityLink freeway at western end of precinct
Land Subject to Inundation Overlay (Schedule 1)	Melbourne	No	Yes – To construct a building or construct or carry out works.	No	Yes	Applies to land in the West Melbourne Terminal Station and Moonee Ponds Creek.

[29] Exemptions in Clause 62 may apply

Overlays	Planning scheme	Impacted by current Concept Design and alternative design options	Is planning approval required for buildings and works / demolition?	Is planning approval required for vegetation removal?	Is a permit required for subdivision?[29]	Locality
Arden Station Precinct						
Design and Development Overlay(Schedule 26 – North And West Melbourne Noise Attenuation Area)	Melbourne	No	No	No	No	Land generally bound by Arden Street, Lauren Street, Abbottsford Street and Ireland Street.
Design and Development Overlay (Schedule 32 – North Melbourne Peripheral)	Melbourne	No	Yes – To construct a building or construct or carry out works.	No	No	Land generally between Laurens Street and Abbotsford Street, including Queensberry Street
Environmental Audit Overlay	Melbourne	No	No	No	No	Applies to block bound by Arden Street, Laurens Street, Queensberry Street and Munster Terrace.
Land Subject to Inundation Overlay (Schedule 1)	Melbourne	Yes	Yes – To construct a building or construct or carry out works.	No	Yes	Applies to Moonee Pond Creek and land between creek and Laurens Street
Parking Overlay (Schedule 12 Residential Development in Specific Inner City Areas)	Melbourne	No	No	No	No	Whole Precinct
Tunnel Precinct (Arden Station to Parkville Station)						
Design and Development Overlay(Schedule 26 – North & West Melbourne Noise Attenuation Area)	Melbourne	No	No	No	No	Land generally bound by Arden Street, Lauren Street, Abbottsford Street and Ireland Street.

Overlays	Planning scheme	Impacted by current Concept Design and alternative design options	Is planning approval required for buildings and works / demolition?	Is planning approval required for vegetation removal?	Is a permit required for subdivision?[29]	Locality
Design and Development Overlay (Schedule 30 – Flemington Road South)	Melbourne	No	Yes – To construct a building or construct or carry out works.	No	No	Land generally between Little George and Vale Streets and Flemington Road
Design and Development Overlay (Schedule 31 – North Melbourne Central)	Melbourne	No	Yes – To construct a building or construct or carry out works.	No	No	Land bound by Queensberry, Stawell, Victoria and Drysburgh Streets Land generally between Abbottsford Street and Errol Street
Design and Development Overlay (Schedule 32 – North Melbourne Peripheral)	Melbourne	No	Yes – To construct a building or construct or carry out works.	No	No	Land generally between Laurens Street and Abbotsford Street, including Queensberry Street Land generally between Courtney Street and Little George and Vale Streets
Design and Development Overlay (Schedule 61A2 Buildings fronting Harcourt Street – City North)	Melbourne	No	Yes – To construct a building or construct or carry out works.	No	No	Buildings fronting Flemington Road between Harcourt and Bedford Streets
Design and Development Overlay (Schedule 61A3 Building facing all streets – City North)	Melbourne	No	Yes – To construct a building or construct or carry out works.	No	No	Generally buildings between Harcourt and Bedford Streets one parcel back from Flemington Road
Heritage Overlay[30] (Schedule HO3 – North & West Melbourne Precinct, HO306 – 48-50	Melbourne	No	Yes – to demolish and remove a building, to construct a building or construct or carry out works and to remove or destroy or lop	No –The Heritage Overlay does not include tree controls	Yes	North Melbourne (refer to Heritage Overlay maps)

[30] Where a site is listed on the Victorian Heritage Register, the requirements of the Heritage Act 1995 supersede the requirements of the Heritage Overlay in the planning scheme.

Overlays	Planning scheme	Impacted by current Concept Design and alternative design options	Is planning approval required for buildings and works / demolition?	Is planning approval required for vegetation removal?	Is a permit required for subdivision?[29]	Locality
Villiers St, North Melbourne, HO1123 – 14-42 Villiers Street, North Melbourne, HO1140 – 55 Flemington Road, North Melbourne and HO1142 – 65-67 Flemington Road, North Melbourne)			a tree if the Heritage Overlay contains tree controls.			
Parking Overlay (Schedule 12 Residential Development in Specific Inner City Areas)	Melbourne	No	No	No	No	Whole Precinct
Special Building Overlay	Melbourne	No	Yes - To construct a building or construct or carry out works.[31]	No	Yes	Generally following Harris Street and Falshaws Lane.
Parkville Station Precinct						
Design and Development Overlay (Schedule 61A4.1 Buildings fronting Grattan, Pelham, Queensberry, Bouverie, Leicester, Barry, Berkeley and Lincoln Square North and South streets)	Melbourne	Yes	Yes	No	No	Land generally bound by Grattan, Berkeley and Swanston Streets not including University or Lincoln Square
Design and Development Overlay (Schedule 61A5 Buildings fronting Pelham and Berkeley Street)	Melbourne	Yes	Yes	No	No	Land south Grattan Street and West of Berkeley Street

[31] As these works are located underground and do not change the use of land, exemption from requiring planning approval may be available

Overlays	Planning scheme	Impacted by current Concept Design and alternative design options	Is planning approval required for buildings and works / demolition?	Is planning approval required for vegetation removal?	Is a permit required for subdivision? [29]	Locality
Environmental Significance Overlay (Schedule 2 – Exceptional Trees)	Melbourne	No	Yes – To construct a building or construct or carry out works inside the Tree Protection Zone unless the exemptions are met	Yes – to remove or destroy or lop any vegetation not listed in the schedule and to destroy or lop any dead vegetation	No, unless alignment of the title impacts on a Tree Protection Zone	Applies to the University of Melbourne, north of Grattan Street
Heritage Overlay [32] (Schedule HO1 – Carlton Precinct, HO83 – 226 Pelham Street Carlton, HO338 – Gatekeepers Cottage, HO343 – Main Entrance Gates, HO346 – Old Engineering Building, HO821 – Vice Chancellors House, HO977 – Royale Parade, HO1120 – Former Ramsay Surgical Precinct, HO1121 – Little Pelham Street Precinct, HO1149 – Former Gladstone Motors Building and HO1159 – 228 Pelham Street) ***NB: HO338, HO343, HO821 and HO977 are listed on the VHR.**	Melbourne	No	Yes – to demolish and remove a building, to construct a building or construct or carry out works and to remove or destroy or lop a tree if the Heritage Overlay contains tree controls.	No –The Heritage Overlay does not include tree controls	Yes	Royal Parade, scattered buildings in Parkville (refer to Heritage Overlay maps)

[32] Where a site is listed on the Victorian Heritage Register, the requirements of the Heritage Act 1995 supersede the requirements of the Heritage Overlay in the planning scheme.

Overlays	Planning scheme	Impacted by current Concept Design and alternative design options	Is planning approval required for buildings and works / demolition?	Is planning approval required for vegetation removal?	Is a permit required for subdivision?[29]	Locality
Parking Overlay (Schedule 1 Capital City Zone – Outside The Retail Core)	Melbourne	No	No	No	No	Whole Precinct
Parking Overlay (Schedule 12 Residential Development in Specific Inner City Areas)	Melbourne	Yes	No	No	No	Whole Precinct
Tunnel Precinct (Parkville Station to CBD North Station)						
Design and Development Overlay (Schedule 45 – Swanston Street)	Melbourne	No	Yes – To construct a building or construct or carry out works.	No	No	Generally Swanston Street and land one block to the east between Victoria and Faraday Streets.
Design and Development Overlay (Schedule 47 – Central Carlton South)	Melbourne	No	No	No	No	Land generally bound by Grattan and Queensberry Streets between Cardigan and Lygon Streets.
Design and Development Overlay (Schedule 61A4.1 – City North Buildings fronting Grattan, Pelham, Queensberry, Bouverie, Leicester, Barry, Berkeley and Lincoln Square North and South streets)	Melbourne	No	Yes	No	No	Land generally bound between O'Connell and Swanston Street

Overlays	Planning scheme	Impacted by current Concept Design and alternative design options	Is planning approval required for buildings and works / demolition?	Is planning approval required for vegetation removal?	Is a permit required for subdivision?[29]	Locality
Heritage Overlay[33] **(Schedule HO1 – Carlton Precinct, HO67 – Holdsworth Buildings, HO82 – 96 Pelham Street, HO108 – Queensberry Hotel, HO110 – 625-629 Swanston Street, HO111 – 466 Swanston Street, HO112 – 508-512 Swanston Street, HO113 – 554-556 Swanston Street, HO115 – Former No 3 Carlton Fire Station, HO810 – 599 Swanston Street, HO811 – 630 Swanston Street, HO927 – Cast Iron Urinal, HO1128 – Former Pitman Books Building and HO1129 – 166-170 Bouverie Street** ***NB: HO67, HO115 and HO927 are listed on the VHR.**	Melbourne	No	Yes – To demolish and remove a building, to construct a building or construct or carry out works and to remove or destroy or lop a tree if the Heritage Overlay contains tree controls.	No –The Heritage Overlay does not include tree controls	Yes	North Melbourne, Carlton, Royal Parade, scattered buildings in across University of Melbourne Parkville campus (refer to Heritage Overlay maps)
Parking Overlay (Schedule 12 Residential Development in Specific Inner City Areas)	Melbourne	No	No	No	No	Whole Precinct

[33] Where a site is listed on the Victorian Heritage Register, the requirements of the Heritage Act 1995 supersede the requirements of the Heritage Overlay in the planning scheme.

Overlays	Planning scheme	Impacted by current Concept Design and alternative design options	Is planning approval required for buildings and works / demolition?	Is planning approval required for vegetation removal?	Is a permit required for subdivision?[29]	Locality
CBD North Station Precinct						
Design and Development Overlay (Schedule 1 – Active Street Frontages – Capital City Zone – Area 2 – Major Pedestrian Areas and Key Pedestrian Routes within CCZ1 and CCZ2)	Melbourne	Yes	Yes – For works at ground level	No	No	Area generally bound by Swanston Street between La Trobe Street and Flinders Street
Design and Development Overlay (Schedule 3 – Traffic Conflict Frontage – Capital City Zone)	Melbourne	Yes	Yes – If the works are to create a vehicle crossing	No	No	All frontages of Swanston Street between La Trobe Street and Flinders Street and the surrounding streets
Design and Development Overlay (Schedule 4 – Weather Protection – Capital City Zone)	Melbourne	Yes	Yes – Unless adequate weather protection is provided	No	No	All frontages of Swanston Street between La Trobe Street and Flinders Street and the surrounding streets
Design and Development Overlay (Schedule 10 – Built Form Controls)	Melbourne	Yes	Yes – this overlay introduces built form controls including height and site massing	No	No	CBD and part of Southbank
Heritage Overlay[34] (Schedule HO489 – Shrine of Remembrance, HO493 – City Baths, HO664 – Currie and Richards Warehouse, HO681 – Former Coops Shot Tower and Flanking Building, HO751 – State	Melbourne	Yes	Yes – To demolish and remove a building, to construct a building or construct or carry out works and to remove or destroy or lop a tree if the Heritage Overlay contains tree controls.	No –The Heritage Overlay does not include tree controls	Yes	CBD

[34] Where a site is listed on the Victorian Heritage Register, the requirements of the Heritage Act 1995 supersede the requirements of the Heritage Overlay in the planning scheme.

Overlays	Planning scheme	Impacted by current Concept Design and alternative design options	Is planning approval required for buildings and works / demolition?	Is planning approval required for vegetation removal?	Is a permit required for subdivision?[29]	Locality
Library of Victoria, HO752 – Church of Christ, HO911 – Tramway Signal Cabin, HO1042 – 63-67 Franklin Street, HO1059 – 194-196 Little Lonsdale Street, HO1060 – 198-200 Little Lonsdale Street, HO1084 – 411-423 Swanston Street and HO1085 – 427-433 Swanston Street). ***NB: HO489, HO493, HO664, HO681, HO751, HO752, HO911are listed on the VHR.**						
Parking Overlay (Schedule 1 - Capital City Zone – Outside The Retail Core)	Melbourne	Yes	No	No	No	Whole Precinct
Parking Overlay (Schedule 12 Residential Development in Specific Inner City Areas)	Melbourne	Yes	No	No	No	Whole Precinct
Tunnel Precinct (CBD North Station to CBD South Station)						
Design and Development Overlay (Schedule 1 – Active Street Frontages – Capital City Zone - Area 1 – Retail Core)	Melbourne	No	Yes – For works at ground level	No	No	Western side of Swanston Street between La Trobe and Flinders and Eastern side of Swanston between Little Collins and Little Lonsdale

Overlays	Planning scheme	Impacted by current Concept Design and alternative design options	Is planning approval required for buildings and works / demolition?	Is planning approval required for vegetation removal?	Is a permit required for subdivision? [29]	Locality
Design and Development Overlay (Schedule 2 – Height Controls – Capital City Zone - Areas A1, A2 and A9)	Melbourne	No	Yes – To construct a building or construct or carry out works.	No	No	Land in proximity to Swanston Street
Design and Development Overlay (Schedule 3 – Traffic Conflict Frontage – Capital City Zone)	Melbourne	No	Yes – If the works are to create a vehicle crossing	No	No	All frontages of Swanston Street between La Trobe Street and Flinders Street and the surrounding streets
Design and Development Overlay (Schedule 4 – Weather Protection – Capital City Zone)	Melbourne	No	Yes – If adequate weather protection is required	No	No	All frontages of Swanston Street between La Trobe Street and Flinders Street and the surrounding streets
Heritage Overlay [35] (Schedule HO507 – Little Bourke Street Precinct, HO509 – Post Office Precinct, HO541 – 271-281 Bourke Street, HO713 – Former Queen Victoria Hospital Tower & Perimeter fence, HO749 – Former ANZ Bank, HO750 – 226-238 Swanston Street, HO1079 – 135-137 Swanston Street, HO1080 – 163-165 Swanston Street and	Melbourne	No	Yes – To demolish and remove a building, to construct a building or construct or carry out works and to remove or destroy or lop a tree if the Heritage Overlay contains tree controls.	No –The Heritage Overlay does not include tree controls	Yes	Scattered buildings throughout CBD (refer to Heritage Overlay maps)

[35] Where a site is listed on the Victorian Heritage Register, the requirements of the Heritage Act 1995 supersede the requirements of the Heritage Overlay in the planning scheme.

Overlays	Planning scheme	Impacted by current Concept Design and alternative design options	Is planning approval required for buildings and works / demolition?	Is planning approval required for vegetation removal?	Is a permit required for subdivision? [29]	Locality
HO1081 – 309-325 Swanston Street) ***NB: HO713 and HO749 are listed on the VHR.**						
Parking Overlay (Schedule 2 - Capital City Zone – Retail Core)	Melbourne	No	No	No	No	Whole Precinct
CBD South Station Precinct						
Design and Development Overlay (Schedule 1 – Active Street Frontages – Capital City Zone - Area 1 – Retail Core)	Melbourne	Yes	Yes – If the works are at ground level	No	No	East and west side of Princess Bridge
Design and Development Overlay (Schedule 2 – Height Controls – Capital City Zone - Areas A1, A5, and A9)	Melbourne	Yes	Yes – To construct a building or construct or carry out works.	No	No	Land in proximity to Swanston Street
Design and Development Overlay (Schedule 3 – Traffic Conflict Frontage – Capital City Zone)	Melbourne	Yes	Yes – If the works are to create a vehicle crossing	No	No	All frontages of Swanston Street between La Trobe Street and Flinders Street and the surrounding streets
Heritage Overlay [36] (Schedule HO502 – The Block Precinct, HO504 – Collins East Precinct, HO505 – Flinders Gate	Melbourne	Yes	Yes – To demolish and remove a building, to construct a building or construct or carry out works and to remove or destroy or lop a tree if the Heritage	No –The Heritage Overlay does not include tree controls	Yes	Scattered buildings throughout CBD (refer to Heritage Overlay maps)

[36] Where a site is listed on the Victorian Heritage Register, the requirements of the Heritage Act 1995 supersede the requirements of the Heritage Overlay in the planning scheme.

Overlays	Planning scheme	Impacted by current Concept Design and alternative design options	Is planning approval required for buildings and works / demolition?	Is planning approval required for vegetation removal?	Is a permit required for subdivision? [29]	Locality
Precinct, HO506 – Flinders Lane Precinct, HO590 – Manchester Unity Building, HO591 – Former Fourth Victoria Building, HO593 – 250-252 Collins Street, HO641 – 234-236 Flinders Lane, HO642 – Ross House, HO643 – 253-265 Flinders Lane, HO654 – 194-196 Flinders Street, HO655 – St Pauls Cathedral Precinct, HO656 – 256-268 Flinders Street, HO702 281-283 Little Collins Street, HO744 – Young and Jackson's Princes Bridge Hotel, HO745 – Nicholas Building, HO746 – Melbourne Town Hall and Administration Building, HO747 – Capitol House and HO748 – Century Building) ***NB: HO590, HO591, HO642, HO655, HO744, HO745, HO746, HO747 and HO748 are listed on the VHR.**			Overlay contains tree controls.			

Overlays	Planning scheme	Impacted by current Concept Design and alternative design options	Is planning approval required for buildings and works / demolition?	Is planning approval required for vegetation removal?	Is a permit required for subdivision? [29]	Locality
Parking Overlay (Schedule 1 - Capital City Zone – Outside The Retail Core)	Melbourne	Yes	No	No	No	Whole Precinct
Parking Overlay (Schedule 2 - Capital City Zone – Retail Core)	Melbourne	Yes	No	No	No	Whole Precinct
Tunnel Precinct (CBD South Station to Domain Station)						
City Link Project Overlay	Melbourne	No	Yes – To construct a building or construct or carry out works. A permit is also required for use.	No	No	Applies to land above CityLink tunnel
Design and Development Overlay (Schedule 3 Albert Road, Kings Way North and St Kilda Road North (Area 3-8))	Port Phillip	No	Yes – To construct a building or construct or carry out works.	No	No	Land on the west side of St Kilda Road
Design and Development Overlay (Schedule 3 Albert Road, Kings Way North and St Kilda Road North (Area 3-10))	Port Phillip	No	Yes – To construct a building or construct or carry out works.	No	No	370 St Kilda Road Melbourne
Design and Development Overlay (Schedule 17 – Shrine Vista)	Melbourne	No	No – For buildings less than 33 m in height above AHD	No	No	Land to the east of St Kilda Road, including Melbourne Boys Grammar School

Overlays	Planning scheme	Impacted by current Concept Design and alternative design options	Is planning approval required for buildings and works / demolition?	Is planning approval required for vegetation removal?	Is a permit required for subdivision? [29]	Locality
Design and Development Overlay (Schedule 27 – City Link Exhaust Stack Environs)	Melbourne	Yes	No – If a permit is required under another provision of the scheme, notice must be given to the referral authority	No	No	Circular area to the south of the CD around the CityLink Exhaust Stacks
Design and Development Overlay (Schedule 58 – 312- 332 St Kilda Road)	Melbourne	No	No – For buildings less than 36 m in height above AHD and closer than 3 metres to St. Kilda Road	No	No	312- 332 St Kilda Road, Melbourne
Heritage Overlay [37] Melbourne: (Schedule HO5 – South Melbourne Precinct, HO398 – Domain Parklands, HO523 – Princes Walk Vaults and HO489 – Shrine of Remembrance. **Port Phillip: (Schedule HO252 – First Church of Christian Scientist and HO460 – Tram Shelter)** ***NB: HO393, HO489, HO523, HO252 and HO460 are listed on the VHR.**	Melbourne Port Philip	Yes	Yes – To demolish and remove a building, to construct a building or construct or carry out works and to remove or destroy or lop a tree if the Heritage Overlay contains tree controls.	No –The Heritage Overlay does not include tree controls	Yes	Kings Domain, Shrine of Remembrance
Land Subject to Inundation	Melbourne	No	Yes – To construct a building or construct or carry out works.	No	Yes	Yarra River crossing
Parking Overlay (Schedule 1 - Capital City Zone – Outside The Retail Core)	Melbourne	No	No	No	No	Whole Precinct

[37] Where a site is listed on the Victorian Heritage Register, the requirements of the Heritage Act 1995 supersede the requirements of the Heritage Overlay in the planning scheme.

Overlays	Planning scheme	Impacted by current Concept Design and alternative design options	Is planning approval required for buildings and works / demolition?	Is planning approval required for vegetation removal?	Is a permit required for subdivision? [29]	Locality
Parking Overlay (Schedule 12 Residential Development in Specific Inner City Areas)	Melbourne	No	No	No	No	Whole Precinct
Domain Station Precinct						
Design and Development Overlay (Schedule 3 Albert Road, Kings Way North and St Kilda Road North (Area 3-8))	Port Phillip	No	Yes – To construct a building or construct or carry out works.	No	No	Land on the west side of St Kilda Road
Design and Development Overlay (Schedule 3 Albert Road, Kings Way North and St Kilda Road North (Area 3-9))	Port Phillip	Yes	Yes – To construct a building or construct or carry out works.	No	No	370 St Kilda Road Melbourne
Design and Development Overlay (Schedule 4 – St Kilda Road, Queens Road, Kings Way And Queens Way (Area 4-1))	Port Phillip	Yes	Yes – To construct a building or construct or carry out works.	No	No	Land on the west side of St Kilda Road between Park Street and Kings Way
Design and Development Overlay (Schedule DD013 – Shrine Vista)	Port Phillip	Yes	Yes – To construct a building or construct or carry out works.	No	No	Land on the west side of St Kilda Road
Design and Development Overlay (Schedule 15 – Royal Botanic Gardens (Area A2))	Melbourne	No	Yes – To construct a building or construct or carry out works.	No	No	Melbourne Boys Grammar School
Design and Development Overlay (Schedule 17 – Shrine Vista)	Melbourne	No	No – For buildings less than 33 m in height above AHD	No	No	Land to the east of St Kilda Road, including Melbourne Boys Grammar School

Overlays	Planning scheme	Impacted by current Concept Design and alternative design options	Is planning approval required for buildings and works / demolition?	Is planning approval required for vegetation removal?	Is a permit required for subdivision? [29]	Locality
Design and Development Overlay (Schedule 19 – St Kilda Road Area (Area A40))	Melbourne	No	Yes – To construct a building or construct or carry out works.	No	No	Land fronting St Kilda Road, between Bromby Street and Toorak Road
Environmental Significance Overlay (Schedule 2 – Exceptional Trees)	Melbourne	No	Yes – To construct a building or construct or carry out works inside the Tree Protection Zone unless the exemptions are met	Yes – To remove or destroy or lop any vegetation not listed in the schedule and to destroy or lop any dead vegetation	No, unless alignment of the title intrudes on a Tree Protection Zone	Melbourne Boys Grammar, on the south south east corner of Toorak Road and St Kilda Road
Heritage Overlay [38] **Melbourne: (Schedule HO6 – South Yarra Precinct, HO400 – Melbourne Grammar School, HO489 – Shrine of Remembrance and HO490 – Former Kellow Falkiner Showrooms)** **Port Phillip: (Schedule HO12 – South African Soldiers Memorial, HO319 – Former BP House, HO320 – 31-33 Albert Road Offices and HO334 – 42 Albert Road).** ***NB: HO12, HO400, HO489 and HO490 are listed on the VHR**	Melbourne Port Philip	Yes	Yes – To demolish and remove a building, to construct a building or construct or carry out works and to remove or destroy or lop a tree if the Heritage Overlay contains tree controls.	Yes – HO6 (120W Toorak Rd: 2 Canary Island Date Palms & Row of 11 Italian Bhutan Cypress)	Yes	Shrine of Remembrance, Melbourne Grammar School, corner of Bromby Street and St Kilda Road and land generally east of St Kilda Road. Land within the Albert Road and St Kilda Road intersection and the two parcels of land immediately south. (Refer to Heritage Overlay maps)

[38] Where a site is listed on the Victorian Heritage Register, the requirements of the Heritage Act 1995 supersede the requirements of the Heritage Overlay in the planning scheme.

Overlays	Planning scheme	Impacted by current Concept Design and alternative design options	Is planning approval required for buildings and works / demolition?	Is planning approval required for vegetation removal?	Is a permit required for subdivision?[29]	Locality
Tunnels Precinct (Domain Station to Eastern Portal)						
Design and Development Overlay (Schedule 1 – Royal Botanic Gardens)	Stonnington	No	No – If works are less than 12 m in height	No	Yes	North side of Toorak Road
Design and Development Overlay (Schedule 7 – Prahran/South Yarra And Windsor Activity Centre)	Stonnington	No	No – If works are less than 19 m in height	No	No	Generally applies to properties 40 to 50 meters either side of Toorak Road between Punt Road and the Sandringham rail line.
Design and Development Overlay (Schedule 9 – Fawkner Park Area)	Melbourne	No	No – For buildings and works which do not exceed 9 metres	No	No	Applies to land along the eastern boarder of Fawkner Park
Design and Development Overlay (Schedule 15 – Royal Botanic Gardens (Area A1))	Melbourne	No	Yes – To construct a building or construct or carry out works.	No	No	Generally land east of St. Kilda Road and north of Toorak Road.
Design and Development Overlay (Schedule 17 – Shrine Vista)	Melbourne	No	No – For buildings less than 33 m in height above AHD	No	No	Land to the east of St Kilda Road, including Melbourne Boys Grammar School
Design and Development Overlay (Schedule 19 (Area A40)	Melbourne	No	Yes – To construct a building or construct or carry out works.	No	No	Land on the east of St. Kilda Road between Bromby Road and Arnold Street
Design and Development Overlay (Schedule 19 (Area A42)	Melbourne	Yes	Yes – To construct a building or construct or carry out works.	No	No	Land to the south of Toorak Road, between St Kilda Road and Fawkner Park
Heritage Overlay[39] Melbourne: (Schedule	Melbourne	No	Yes – To demolish and remove a building, to construct a	Yes – HO6 (120W Toorak Rd: 2 Canary Island Date Palms &	Yes	Land either side of Toorak Road, the corner of Punt and

[39] Where a site is listed on the Victorian Heritage Register, the requirements of the Heritage Act 1995 supersede the requirements of the Heritage Overlay in the planning scheme.

Overlays	Planning scheme	Impacted by current Concept Design and alternative design options	Is planning approval required for buildings and works / demolition?	Is planning approval required for vegetation removal?	Is a permit required for subdivision?[29]	Locality
HO6 – South Yarra Precinct and HO401 – Anglican Christ Church) **Stonnington: (Schedule HO150 – William and Claremont Streets Precinct)** ***NB: HO401 is listed on the VHR**	Stonnington		building or construct or carry out works and to remove or destroy or lop a tree if the Heritage Overlay contains tree controls.	Row of 11 Italian Bhutan Cypress)		Toorak Roads. All land south of Toorak Road and land between Macfarlane and Murphy Streets north of Toorak Road. (Refer to Heritage Overlay maps).
Public Acquisition Overlay – Schedule 1	Stonnington	No	Yes	Yes	Yes	In favour or VicRoads and applies to properties fronting the eastern side of Punt Road.
Special Building Overlay	Stonnington	No	Yes – To construct a building or construct or carry out works.[40]	No	Yes	All of Davis Avenue and Toorak Road from Avoca to Darling Street
Eastern Portal Precinct						
Design and Development Overlay (Schedule 1 – Royal Botanic Gardens)	Stonnington	No	No – If works are less than 12 m in height	No	Yes	North side of Toorak Road
Design and Development Overlay (Schedule 7 – Prahran/South Yarra and Windsor Activity Centre)	Stonnington	Yes	No – If works are less than 19 m in height	No	No	Generally applies to properties 40 to 50 meters either side of Toorak Road between Punt Road and the Sandringham rail line.
Design and Development Overlay (Schedule 8 – Forrest Hill Precinct)	Stonnington	No	No	No	No	Land east of Yarra Street and north of Toorak Road

[40] As these works are located underground a permit exemption may be available

Overlays	Planning scheme	Impacted by current Concept Design and alternative design options	Is planning approval required for buildings and works / demolition?	Is planning approval required for vegetation removal?	Is a permit required for subdivision?[29]	Locality
Environmental Audit Overlay	Stonnington	No	No	No	No	Adjacent to land to north of the Eastern Tie In
Heritage Overlay[41] (Schedule HO150 – William and Claremont Streets Precinct, HO107 – Former South Yarra Post Office, HO106 – Former South Yarra Railway Station, HO462 – 21 William Street, HO126 – Chapel Street Precinct, HO447 – Franklyn House Flats and HO457 – Medley Place Precinct). ***NB: HO107 and HO106 are listed on the VHR**	Stonnington	Yes	Yes – To demolish and remove a building, to construct a building or construct or carry out works and to remove or destroy or lop a tree if the Heritage Overlay contains tree controls.	No –The Heritage Overlay does not include tree controls	Yes	Land either side of Toorak Road, the corner of Punt and Toorak Roads. All land south of Toorak Road and land between Macfarlane and Murphy Streets north of Toorak Road. (Refer to Heritage Overlay maps).
Incorporated Plan Overlay (Schedule 3 Late Night Liquor Licence Trading)	Stonnington	No	No	No	No	Land generally between William and Clara Streets

[41] Where a site is listed on the Victorian Heritage Register, the requirements of the Heritage Act 1995 supersede the requirements of the Heritage Overlay in the planning scheme.

Appendix G

Planning Scheme Maps

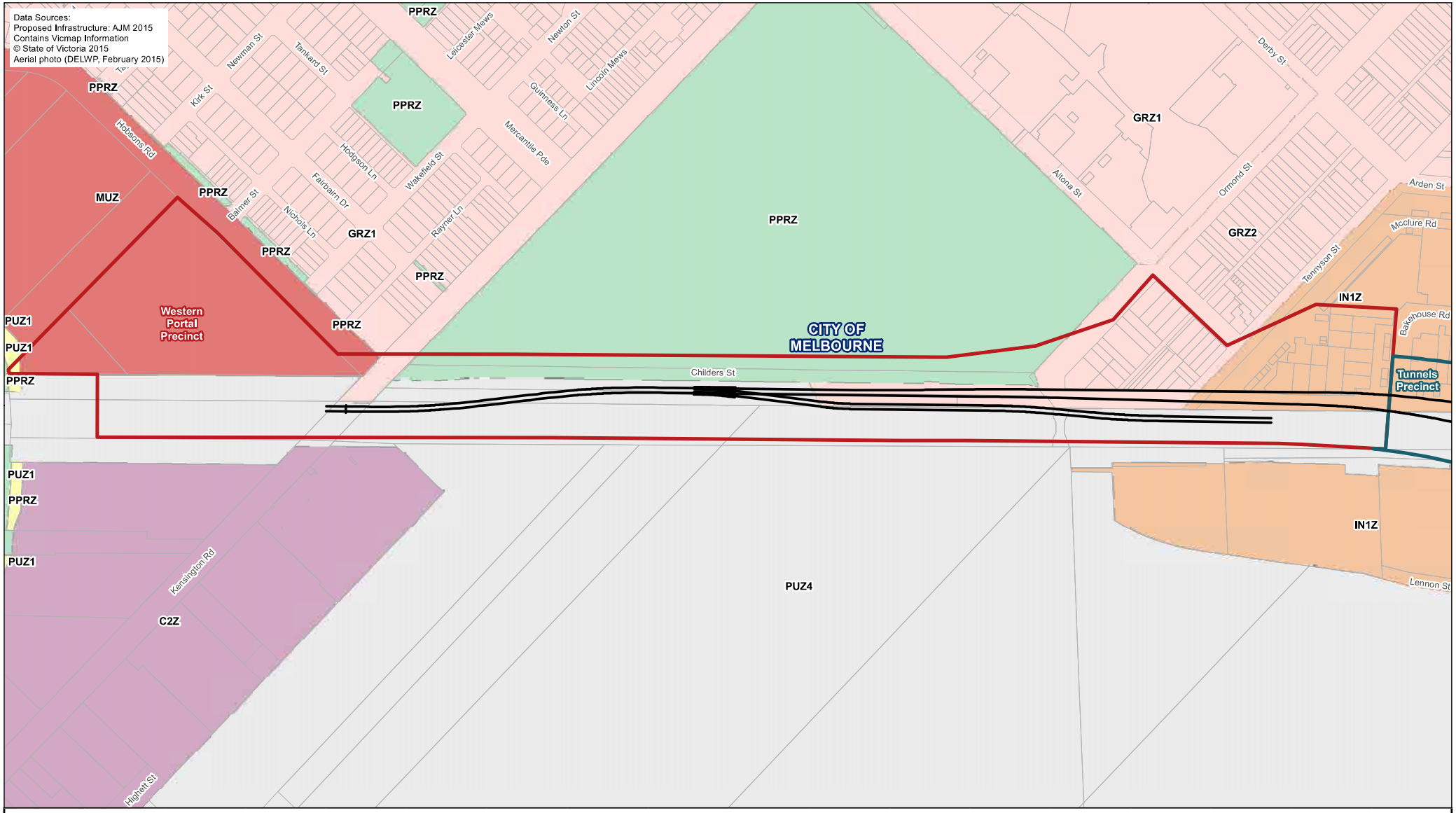
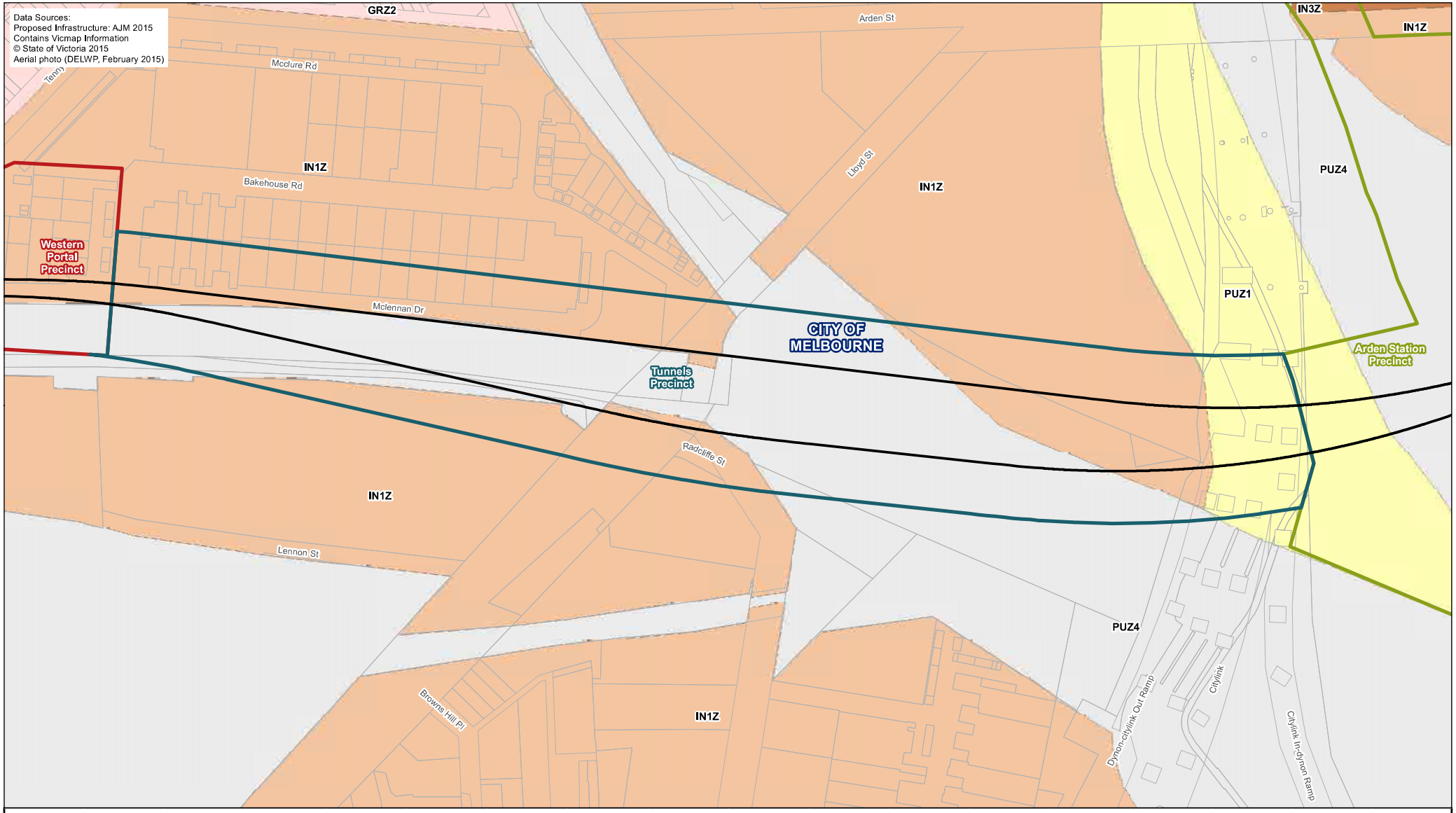


Figure G-1 Zones in the western portal precinct



Legend

Proposed Concept Design
- Proposed Alignment

Environmental and Planning Precincts
- Station Precinct
- Portal Precinct
- Tunnels Precinct

- Cadastre
- Local Government Area (LGA)

Planning Zones
- GRZ - General Residential Zone
- IN1Z - Industrial 1 Zone
- IN3Z - Industrial 3 Zone
- PUZ1 - Public Use Zone Service and Utility
- PUZ4 - Public Use Zone Transport

Map 2 of 14

MELBOURNE METRO RAIL AUTHORITY

AJM Joint Venture GRIMSHAW
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Melbourne Metro Rail Project

Title:
Planning Zones

Drawing Number:			Revision:
MMR-AJM-UGAA-MP-NN-500264			P1
Drawn By:	Approved By:	Date:	Map Size:
A. French	G. Thraves	13/04/2016	A4

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Metres

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Figure G-2 Zones in Sector 1 of the tunnels precinct

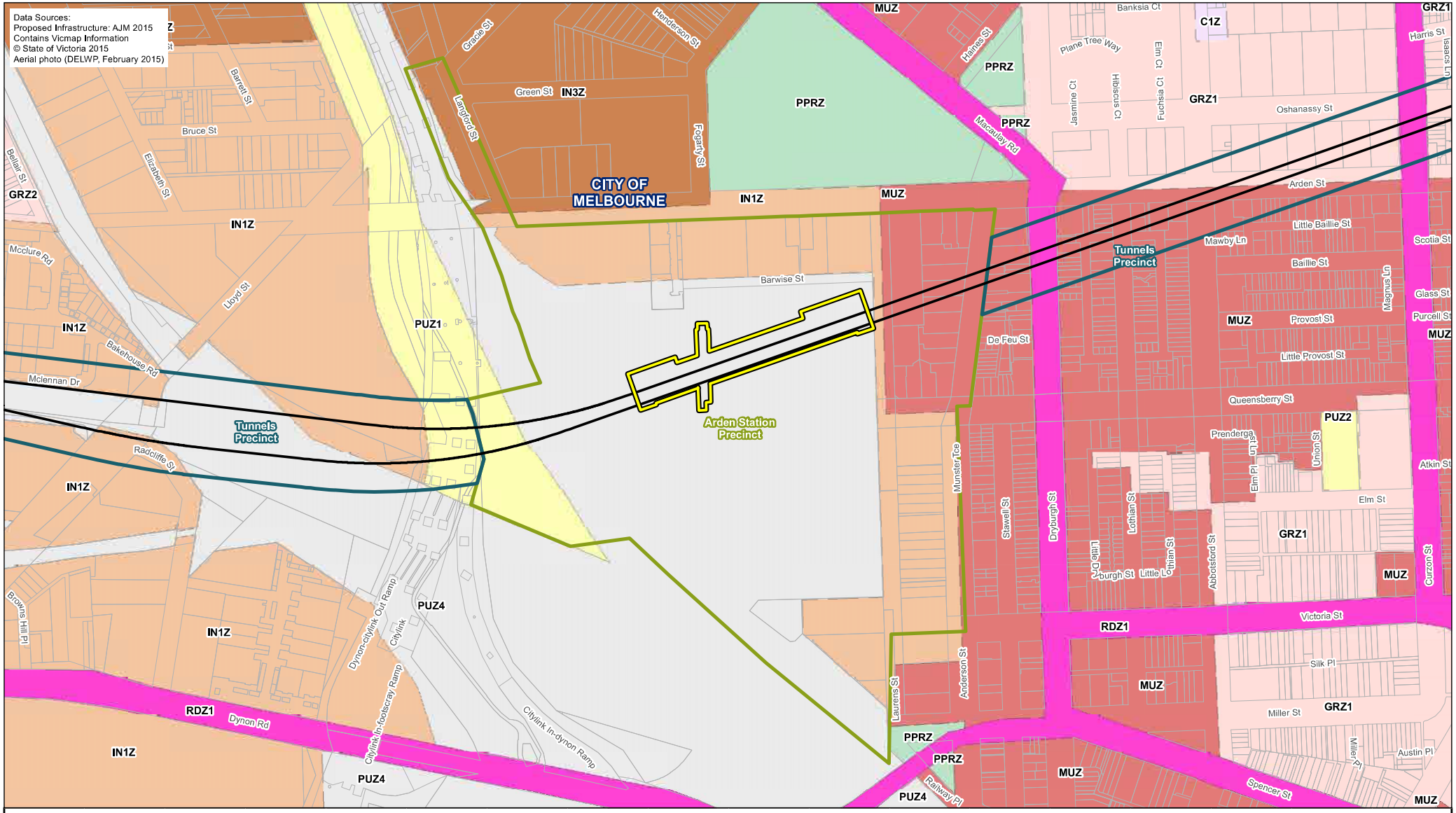


Figure G-3 Zones in the Arden station precinct

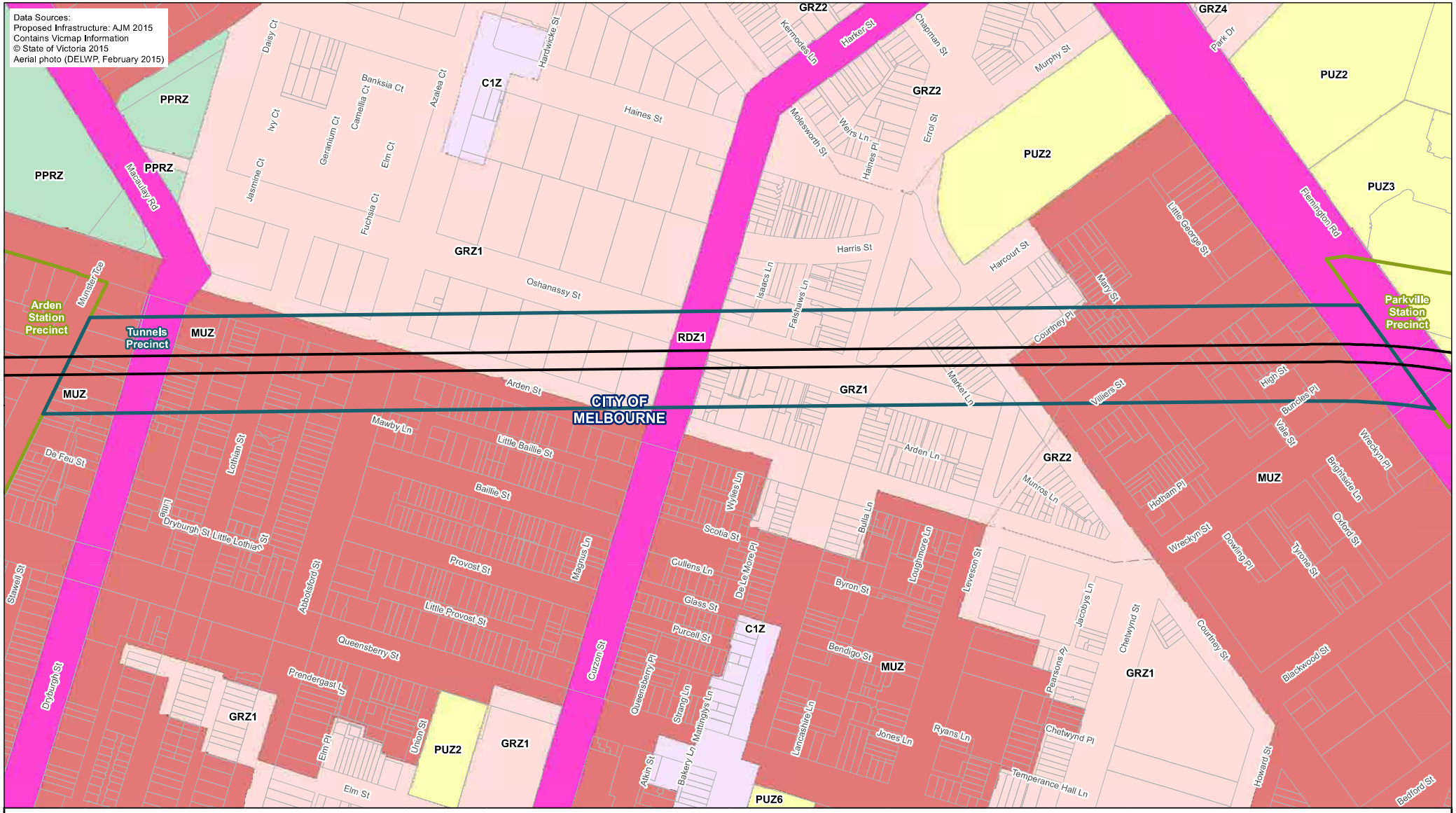


Figure G-4 Zones in Sector 2 of the tunnels precinct

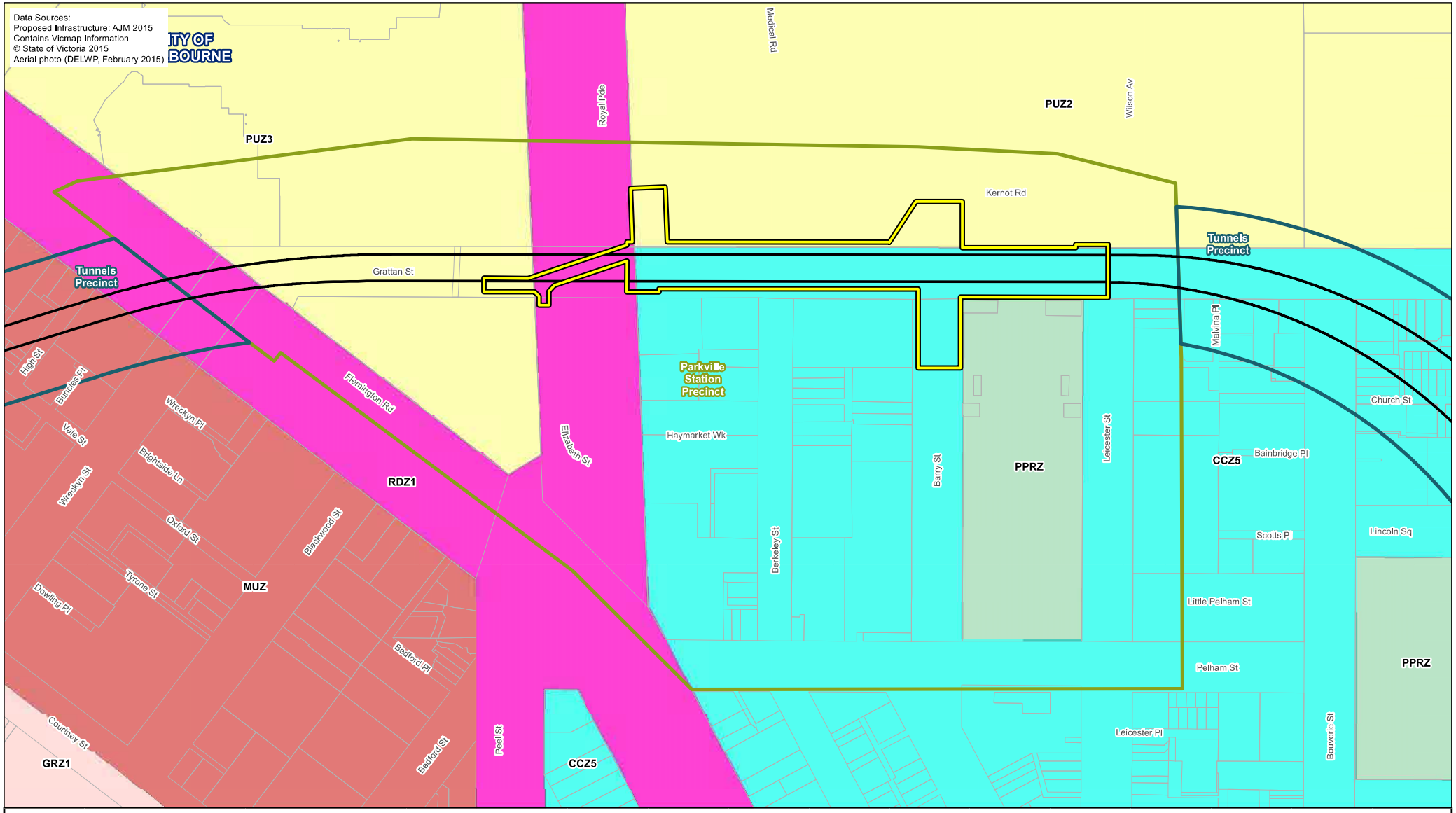


Figure G-5 Zones in the Parkville station precinct

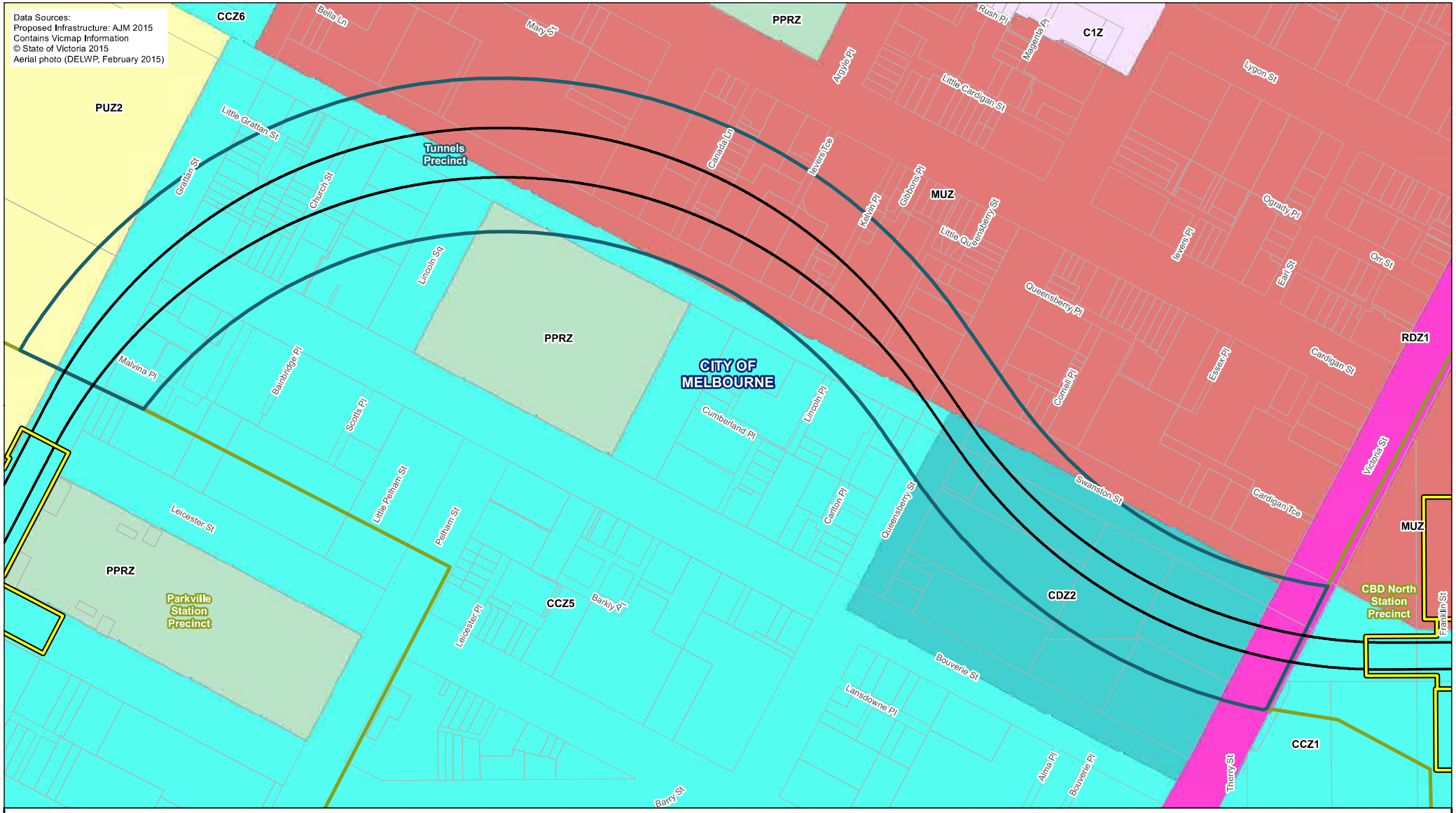


Figure G-6 Zones in Sector 3 of the tunnels precinct

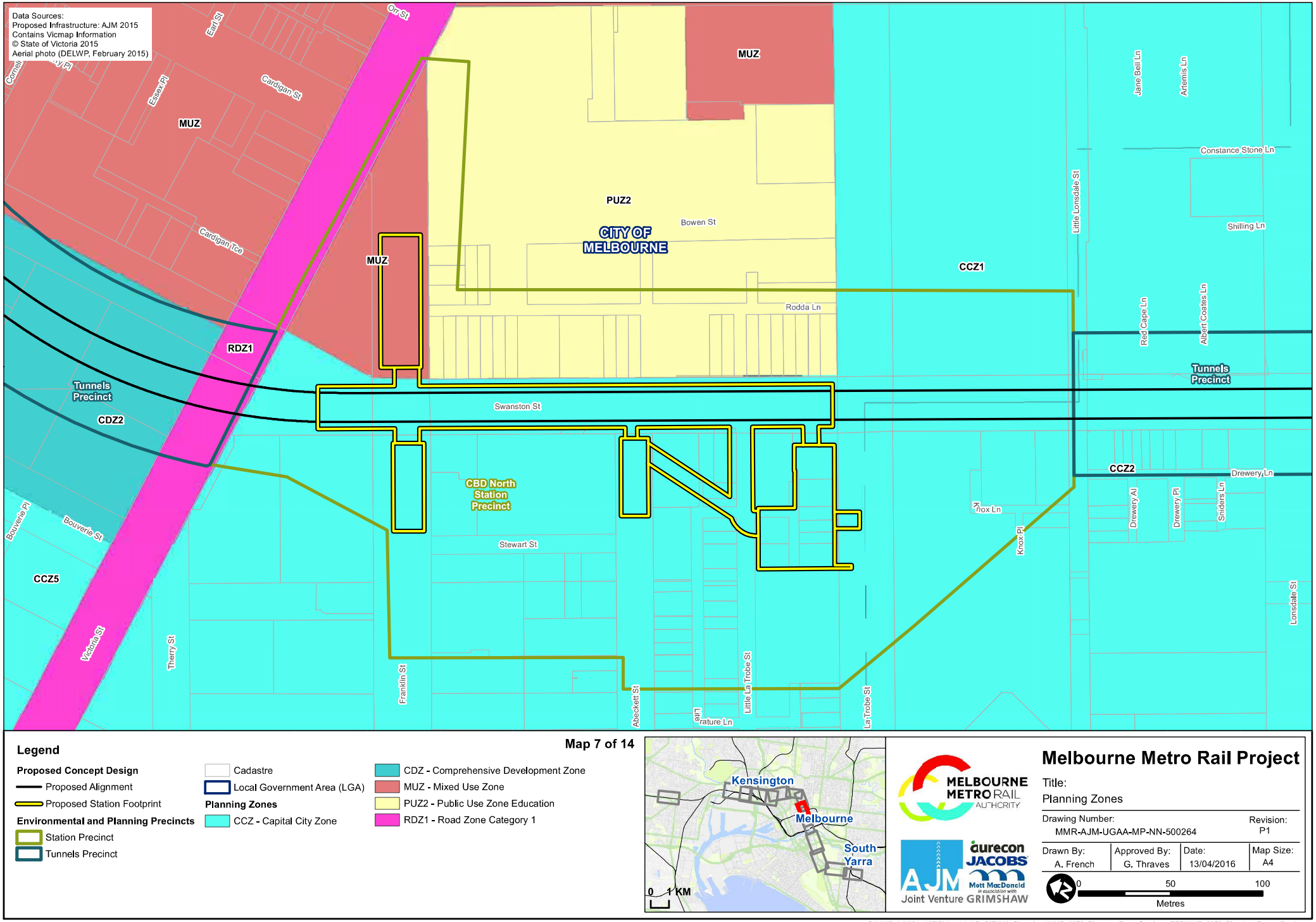


Figure G-7 Zones in the CBD North station precinct

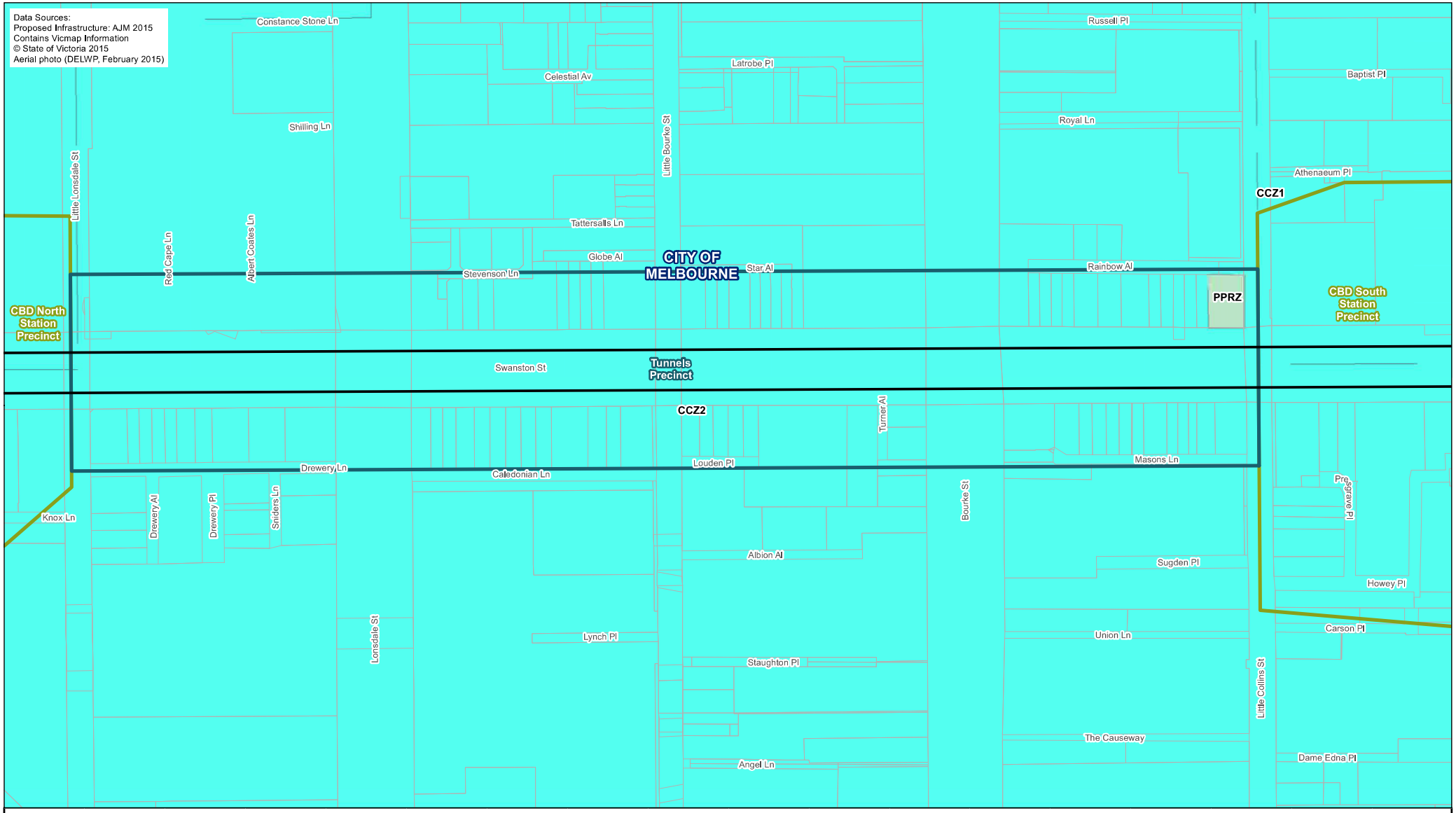


Figure G-8 Zones in Sector 4 of the tunnels precinct

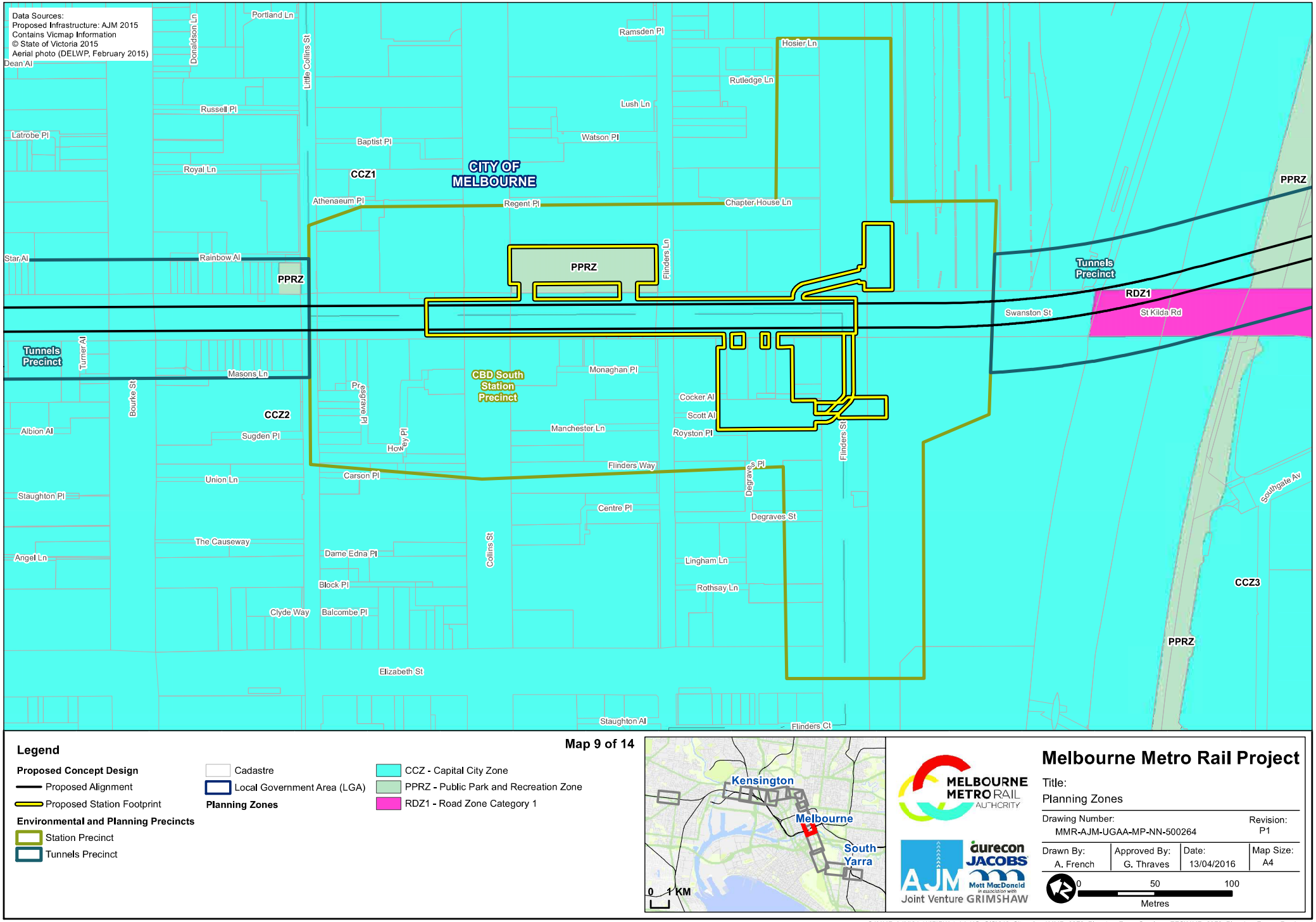


Figure G-9 Zones in the CBD South station precinct

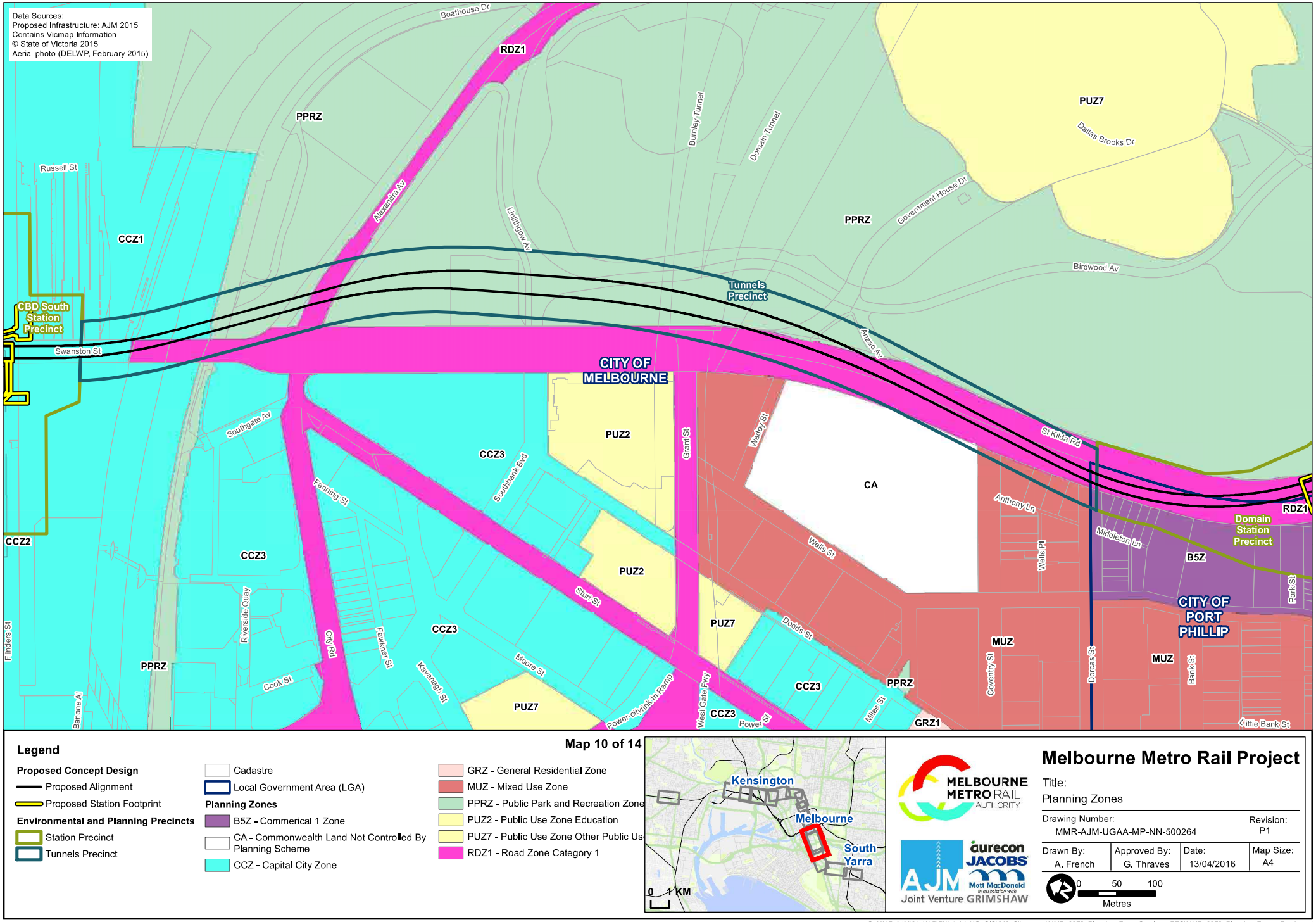


Figure G-10Zones in Sector 5 of the tunnels precinct

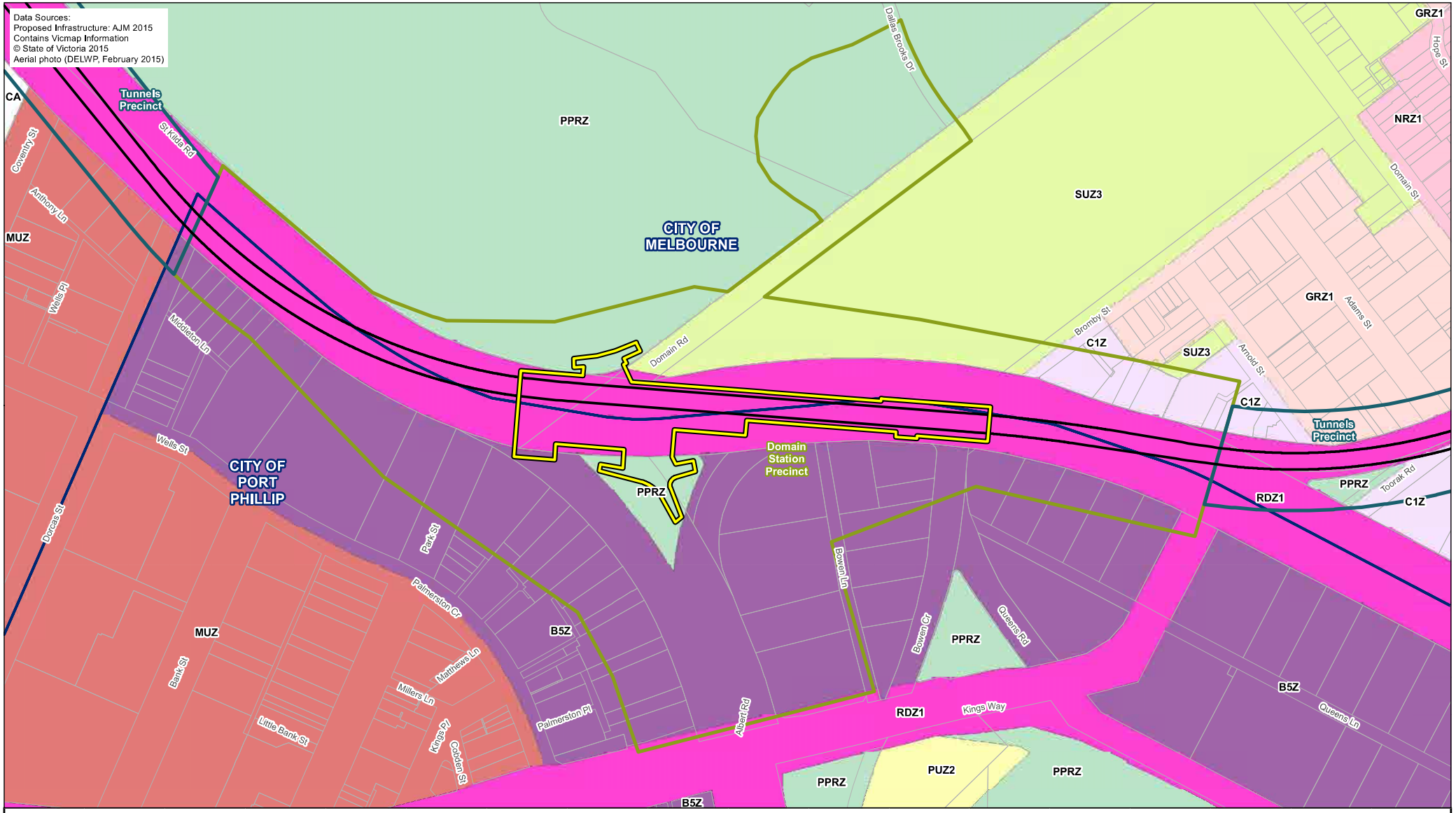
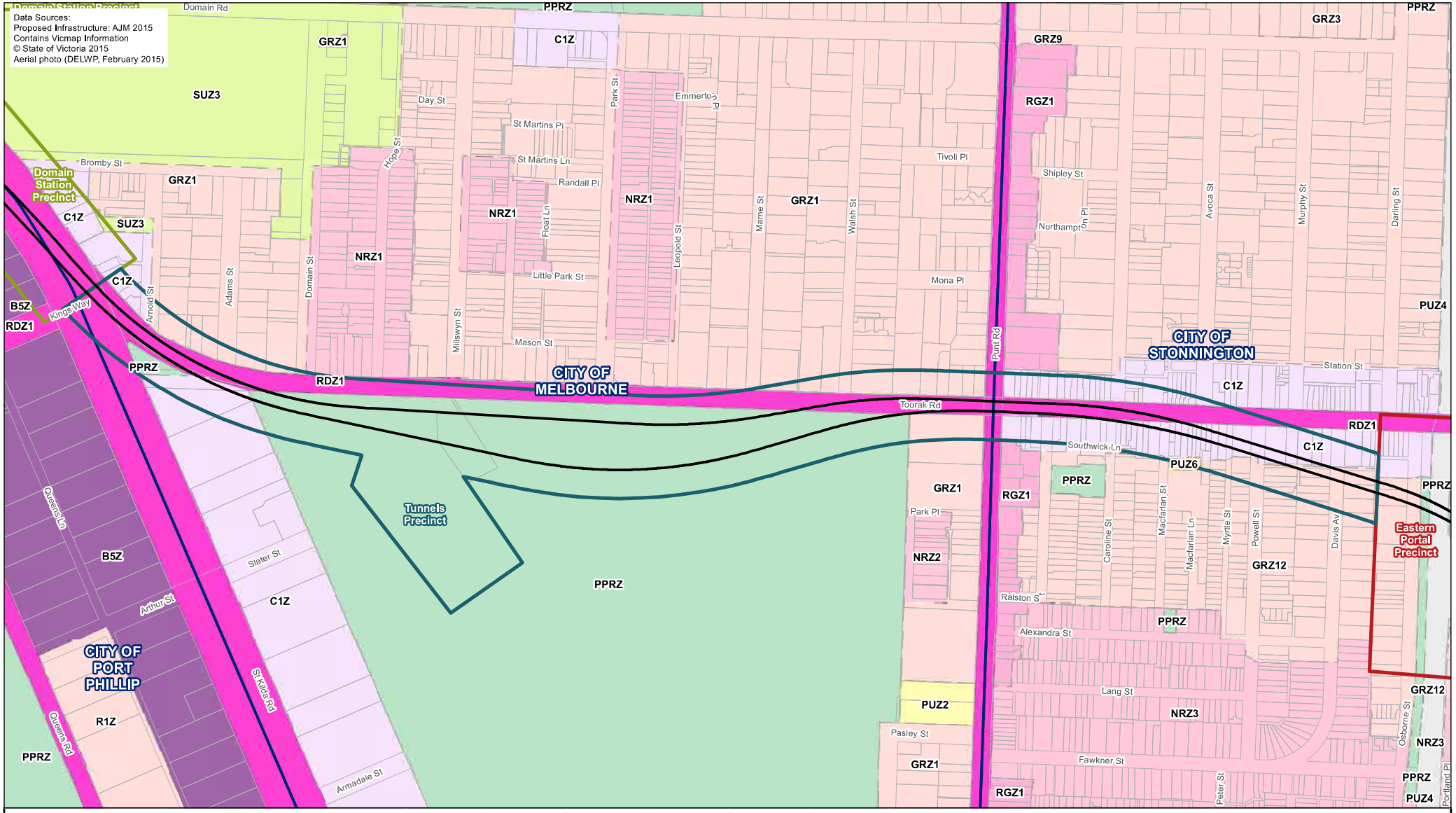


Figure G-11 Zones in the Domain station precinct



Legend

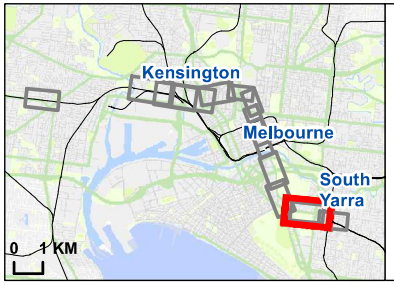
Proposed Concept Design
- Proposed Alignment

Environmental and Planning Precincts
- Station Precinct
- Portal Precinct
- Tunnels Precinct

- Cadastre
- Local Government Area (LGA)

Planning Zones
- B5Z - Commerical 1 Zone
- C1Z - Commercial 1 Zone
- GRZ - General Residential Zone
- NRZ - Neighbourhood Residential Zone
- PPRZ - Public Park and Recreation Zone
- PUZ2 - Public Use Zone Education
- PUZ4 - Public Use Zone Transport
- PUZ6 - Public Use Zone Local Government
- R1Z - Residential 1 Zone
- RDZ1 - Road Zone Category 1
- RGZ - Residential Growth Zone
- SUZ - Special Use Zone

Map 12 of 14



MELBOURNE METRO RAIL AUTHORITY

AJM Joint Venture GRIMSHAW

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Melbourne Metro Rail Project

Title:
Planning Zones

Drawing Number:	Revision:
MMR-AJM-UGAA-MP-NN-500264	P1

Drawn By:	Approved By:	Date:	Map Size:
A. French	G. Thraves	13/04/2016	A4

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Metres

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Figure G-12 Zones in Sector 6 of the tunnels precinct

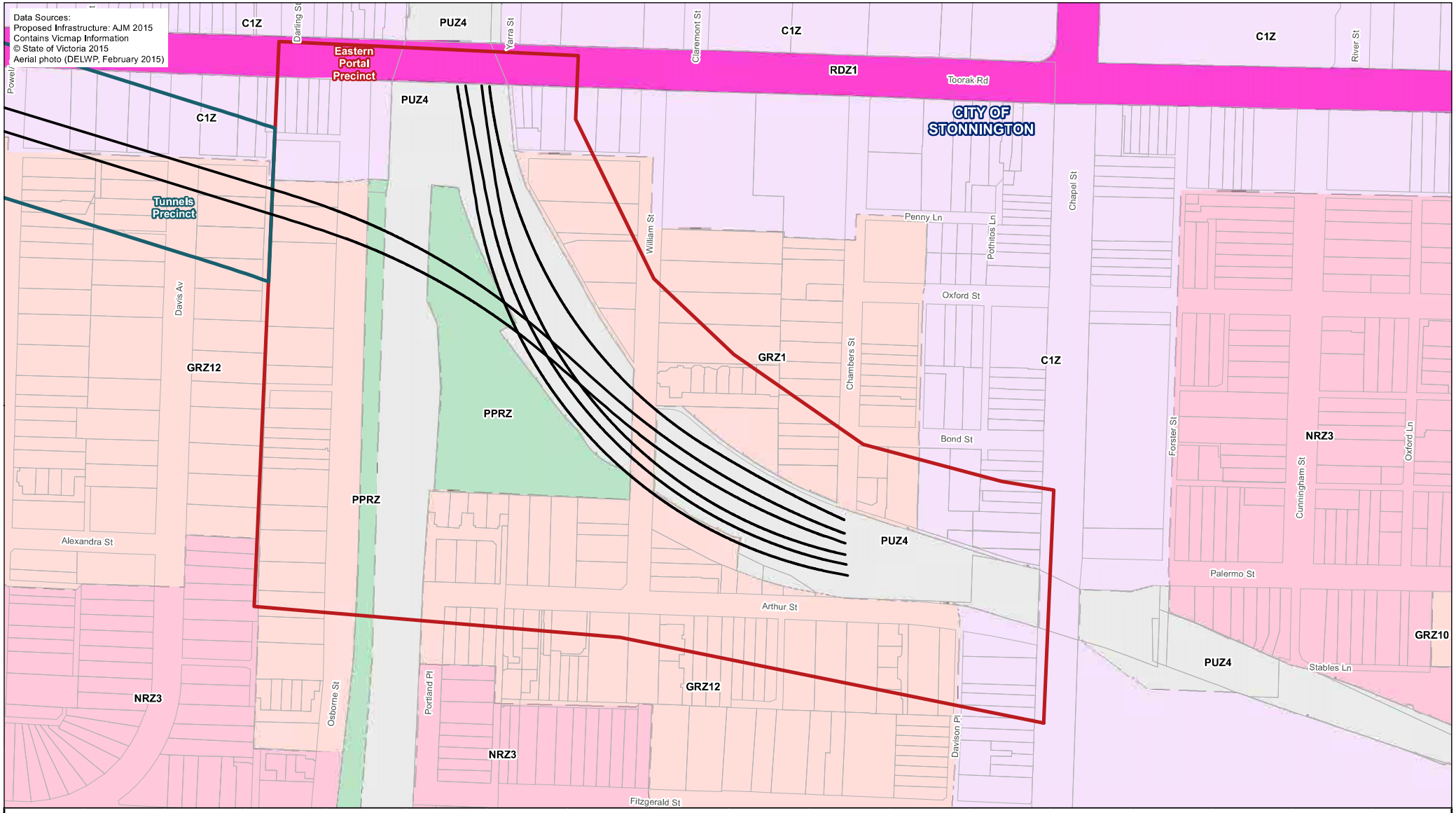
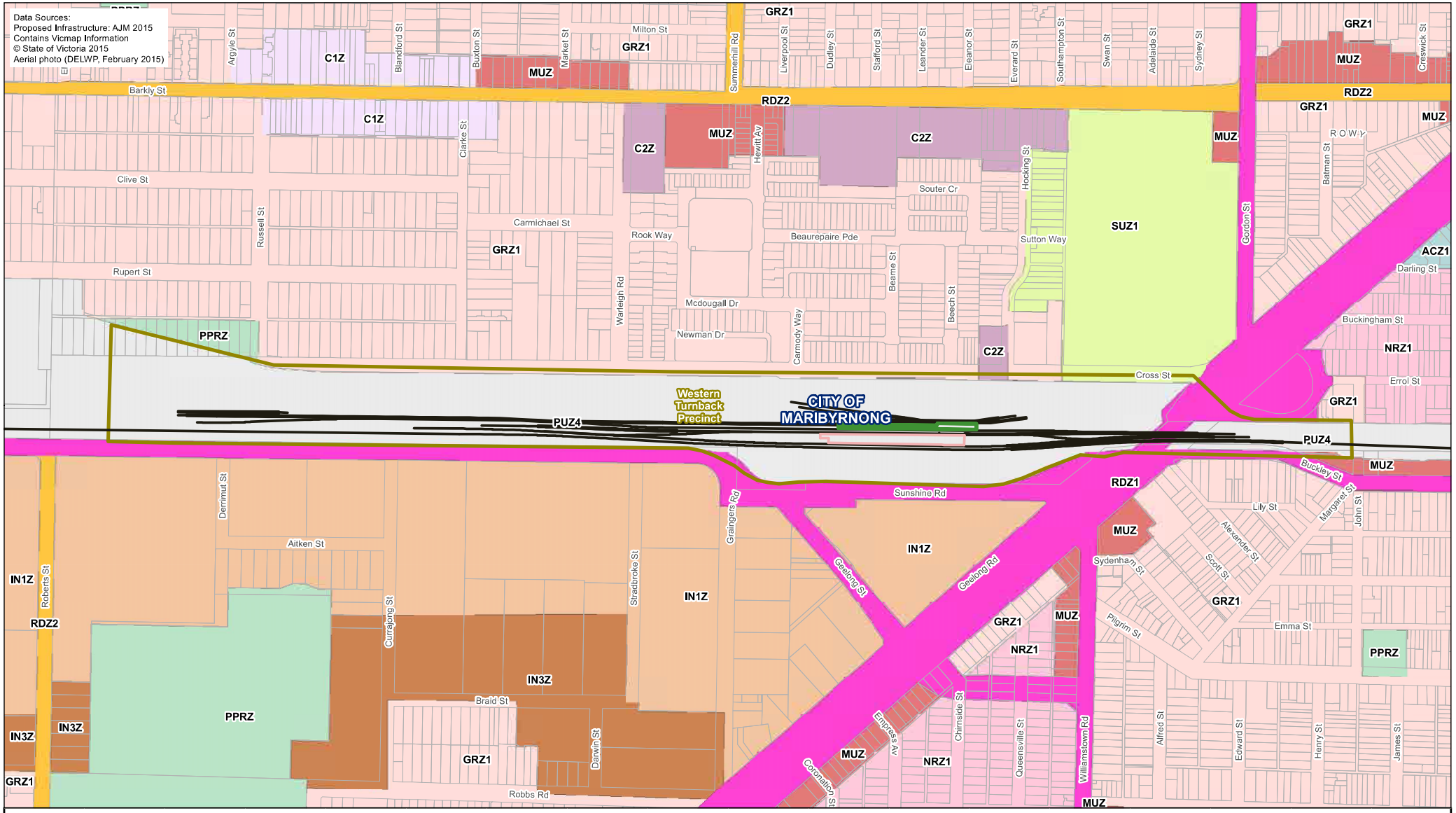


Figure G-13 Zones in the eastern portal precinct



Legend

Proposed Turnback Design - West Footscray
- Existing platform
- Proposed platform
- Proposed alignment

Environmental and Planning Precincts
- Western Turnback Precinct

- Cadastre
- Local Government Area (LGA)

Planning Zones
- ACZ - Activity Centre Zone
- C1Z - Commercial 1 Zone
- C2Z - Commercial 2 Zone
- GRZ - General Residential Zone
- IN1Z - Industrial 1 Zone
- IN3Z - Industrial 3 Zone
- MUZ - Mixed Use Zone
- NRZ - Neighbourhood Residential Zone
- PPRZ - Public Park and Recreation Zone
- PUZ4 - Public Use Zone Transport
- RDZ1 - Road Zone Category 1
- RDZ2 - Road Zone Category 2
- SUZ - Special Use Zone

Map 14 of 14

MELBOURNE METRO RAIL AUTHORITY

AJM Joint Venture GRIMSHAW — aurecon JACOBS Mott MacDonald in association with

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Title:
Planning Zones

Drawing Number:		Revision:
MMR-AJM-UGAA-MP-NN-500264		P1
Drawn By: A. French	Approved By: G. Thraves	Date: 13/04/2016	Map Size: A4

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Metres

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Figure G-14 Zones in the western turnback precinct

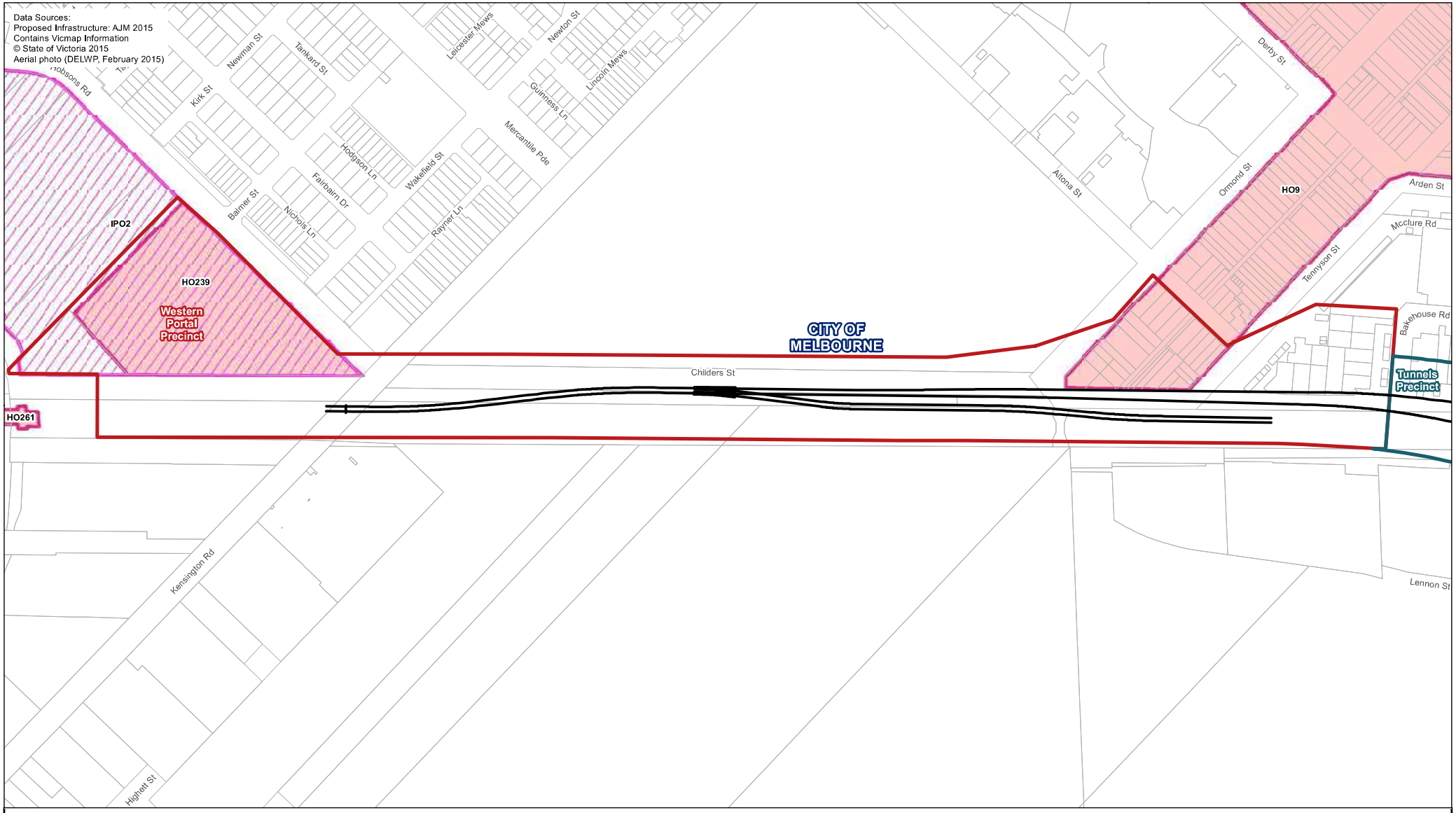
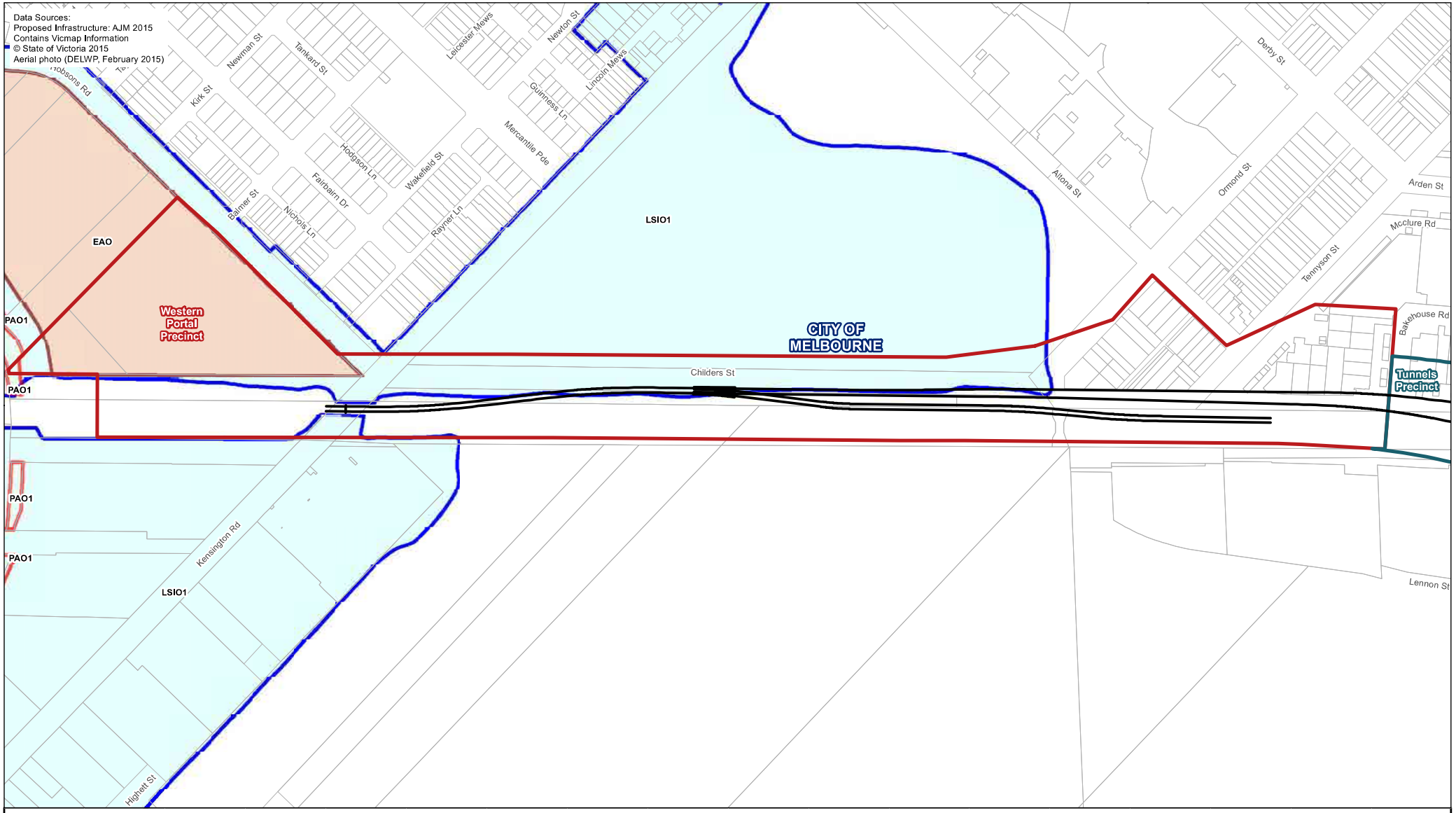


Figure G-15 Overlays in the western portal precinct



Legend

Proposed Concept Design
- Proposed Alignment

Environmental and Planning Precincts
- Portal Precinct
- Tunnels Precinct

- Cadastre
- Local Government Area (LGA)

Planning Overlay
- LSIO - Land Subject to Inundation
- EAO - Environmental Audit
- PAO - Public Acquisition

Map 1 of 14

MELBOURNE METRO RAIL AUTHORITY

AJM Joint Venture GRIMSHAW — aurecon JACOBS Mott MacDonald in association with

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Title: Planning Overlays - Environment and Land Management

Drawing Number:			Revision:
MMR-AJM-UGAA-MP-NN-500265			P1
Drawn By:	Approved By:	Date:	Map Size:
A. French	G. Thraves	13/04/2016	A4

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Metres

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Figure G-16 Overlays in the western portal precinct

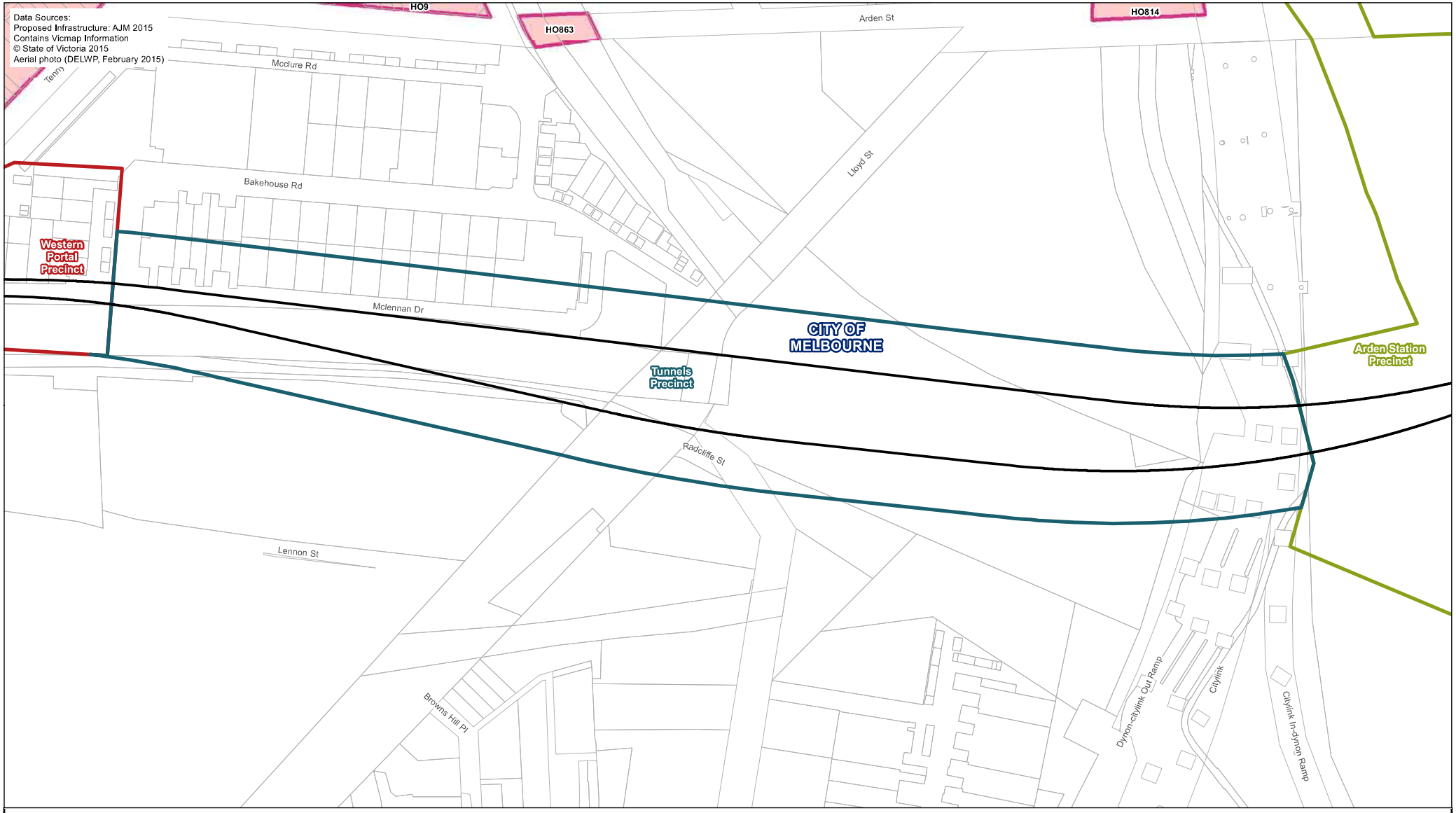


Figure G-17 Overlays in Sector 1 of the tunnels precinct

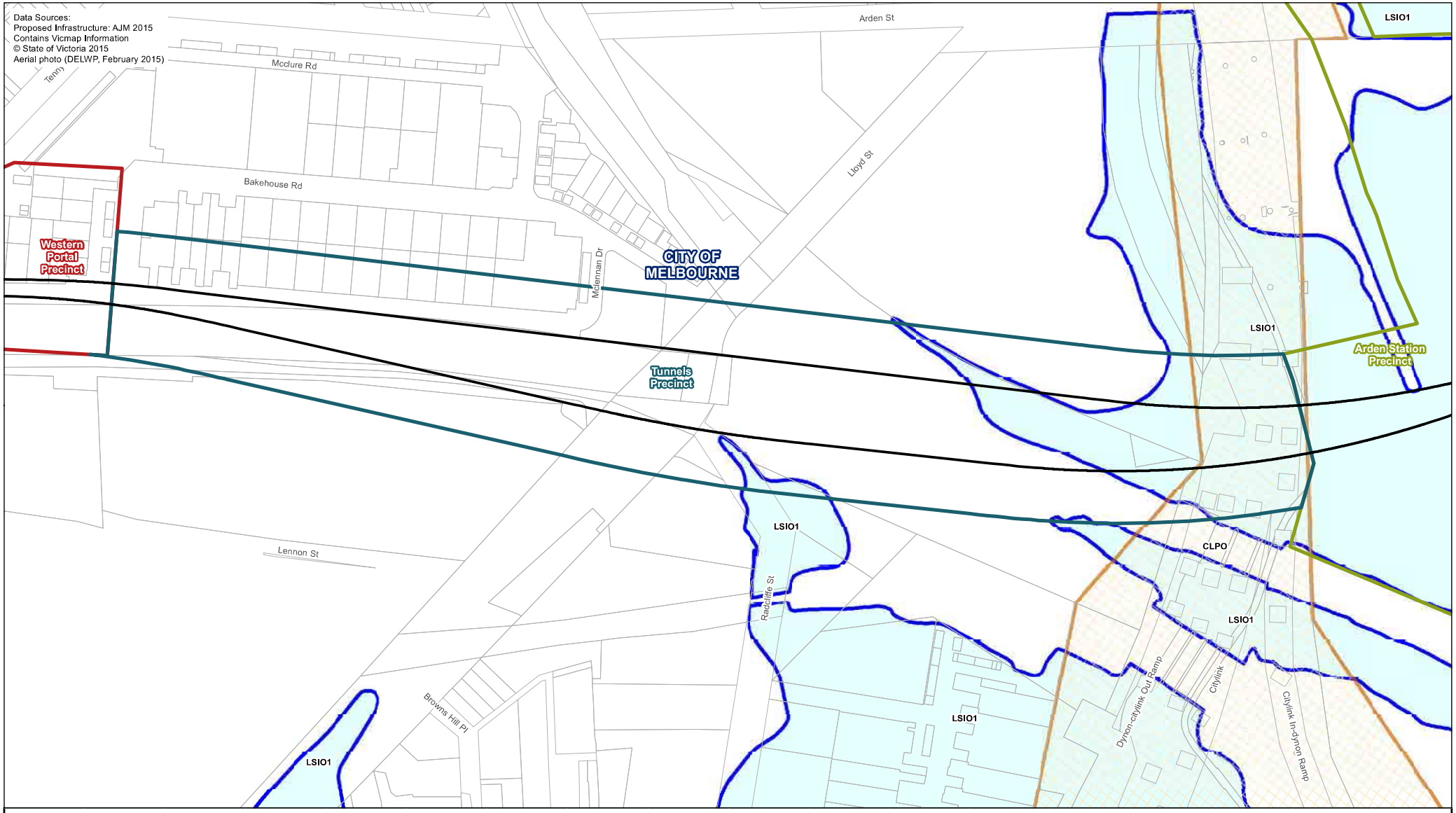


Figure G-18 Everlays in Sector 1 of the tunnels precinct

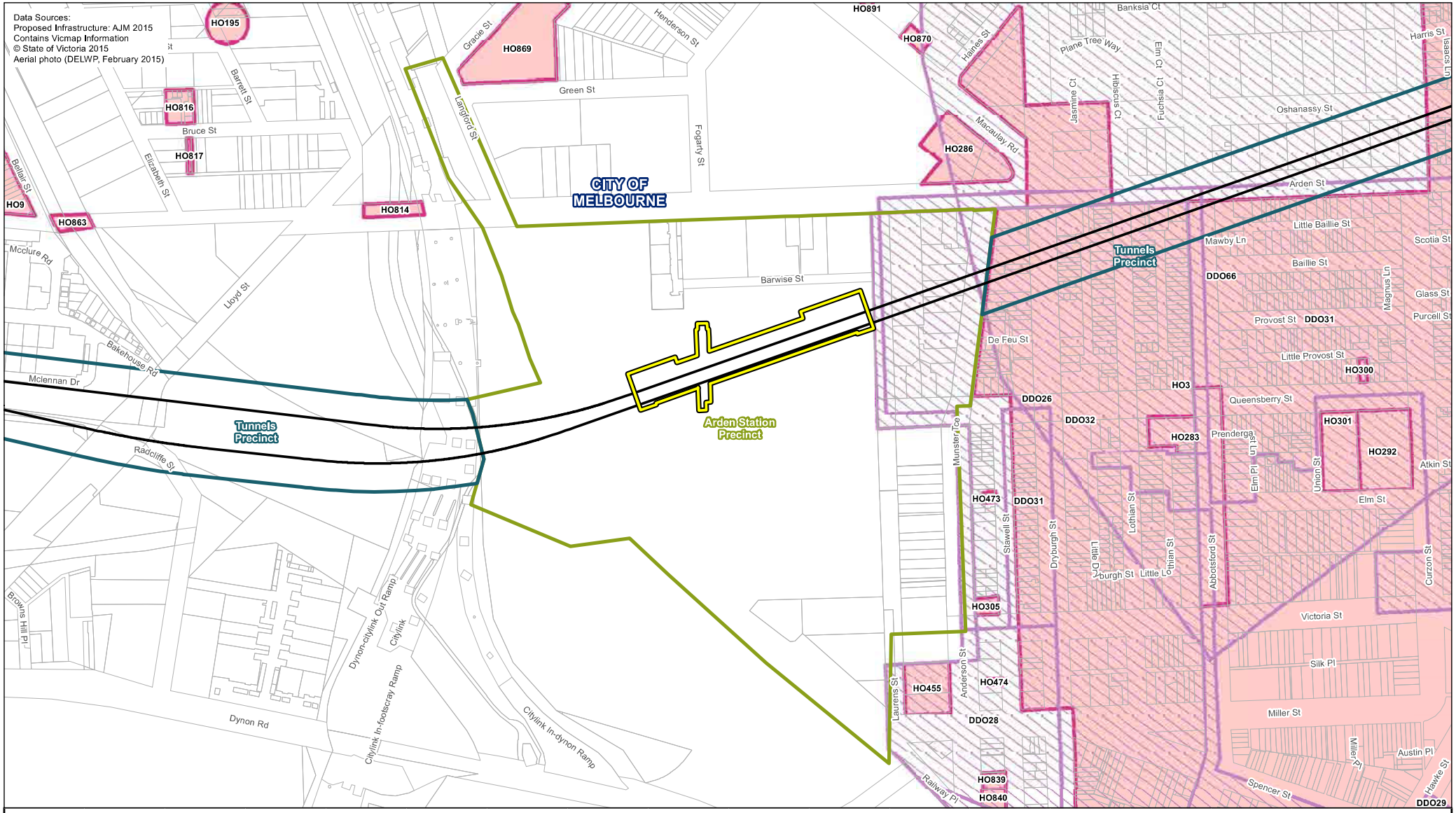
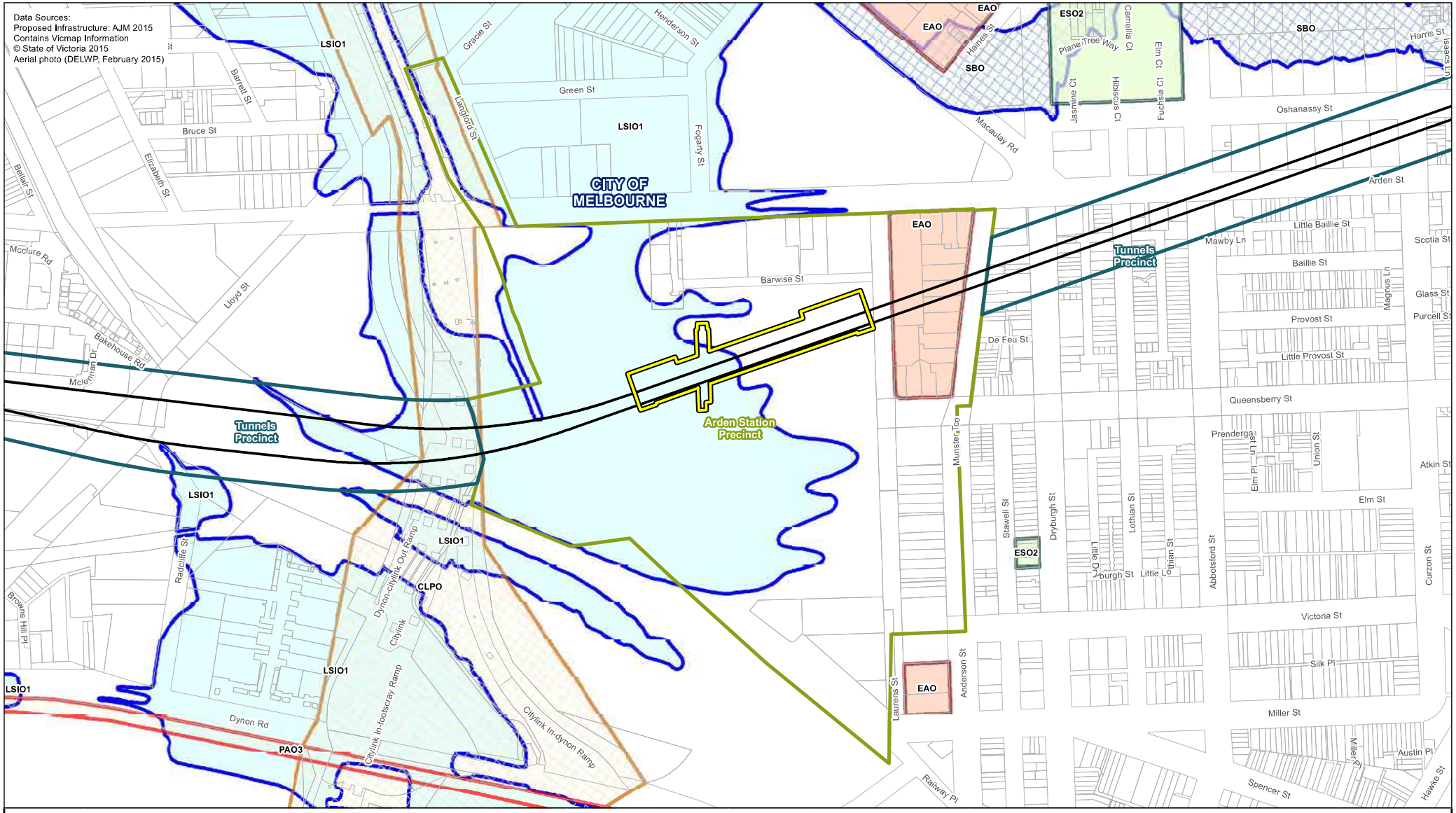


Figure G-19 Overlays in the Arden station precinct



Legend

Proposed Concept Design
- Proposed Alignment
- Proposed Station Footprint

Environmental and Planning Precincts
- Station Precinct
- Tunnels Precinct

- Cadastre
- Local Government Area (LGA)

Planning Overlay
- LSIO - Land Subject to Inundation
- SBO - Special Building
- CLPO - City Link Project
- EAO - Environmental Audit
- PAO - Public Acquisition
- ESO - Environmental Significance

Map 3 of 14

Melbourne Metro Rail Project

Title: Planning Overlays - Environment and Land Management

Drawing Number:			Revision:
MMR-AJM-UGAA-MP-NN-500265			P1
Drawn By:	Approved By:	Date:	Map Size:
A. French	G. Thraves	13/04/2016	A4

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Joint Venture GRIMSHAW

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Figure G-20 Overlays in the Arden station precinct

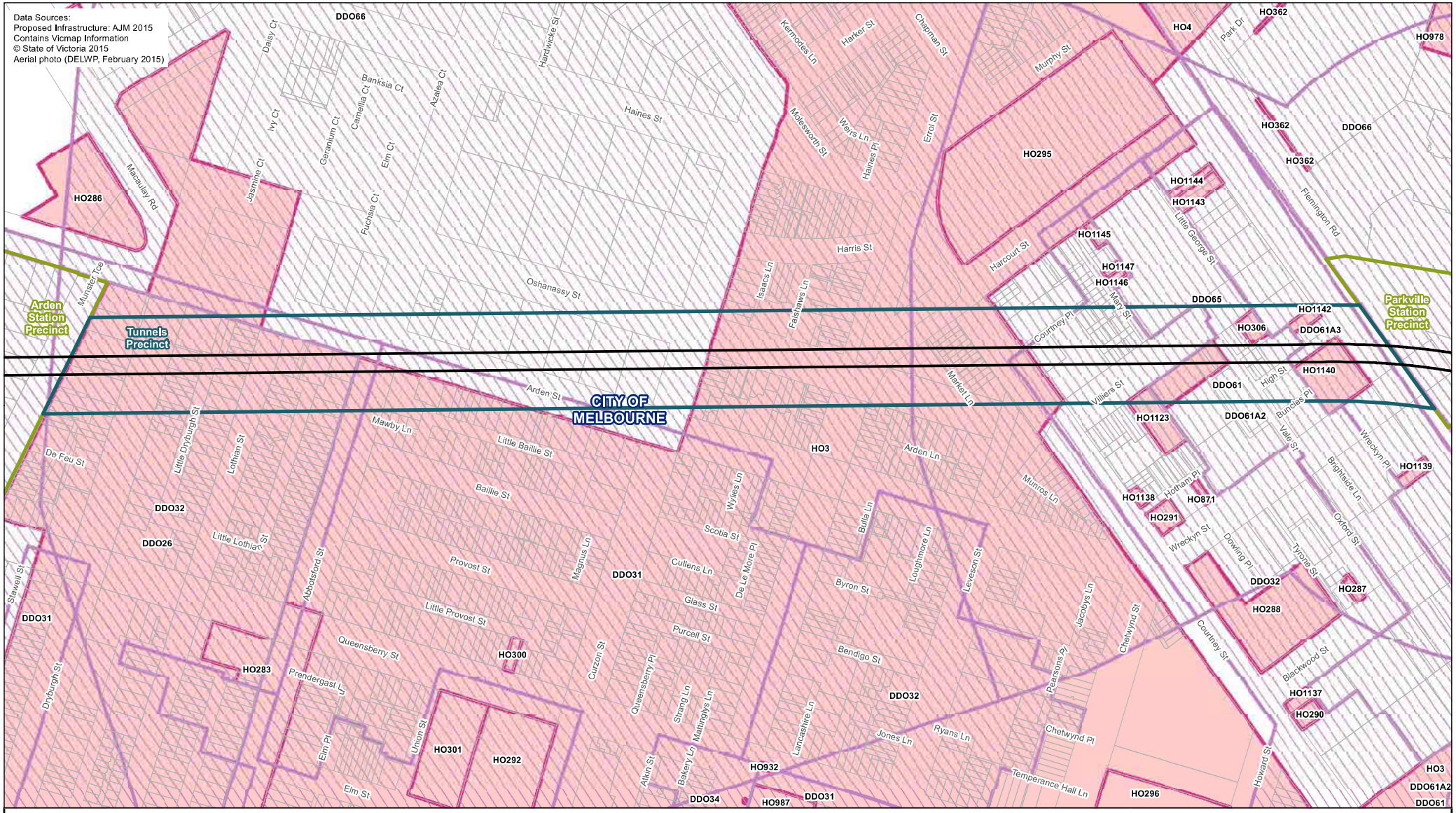


Figure G-21 Overlays in Sector 2 of the tunnels precinct

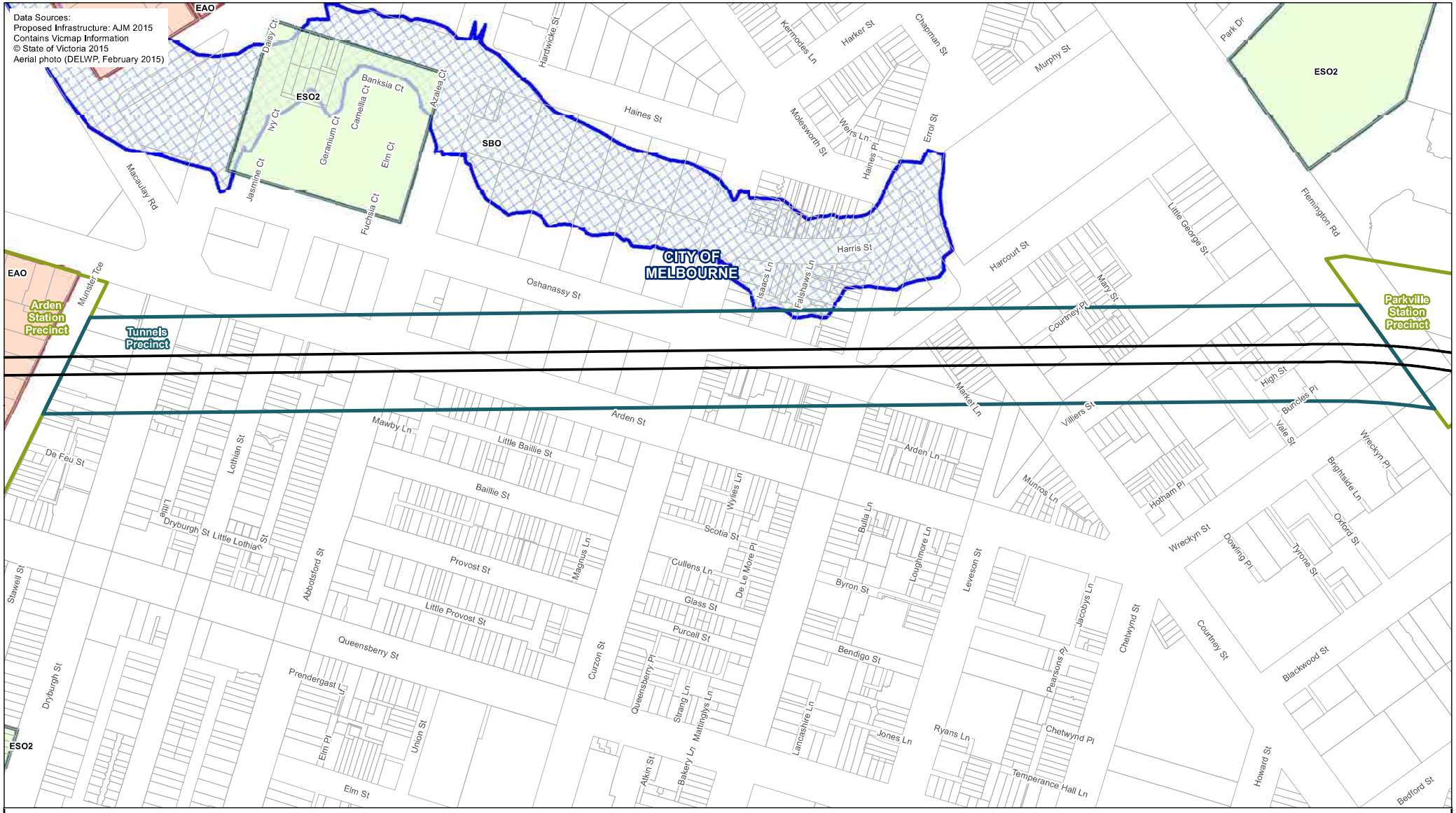
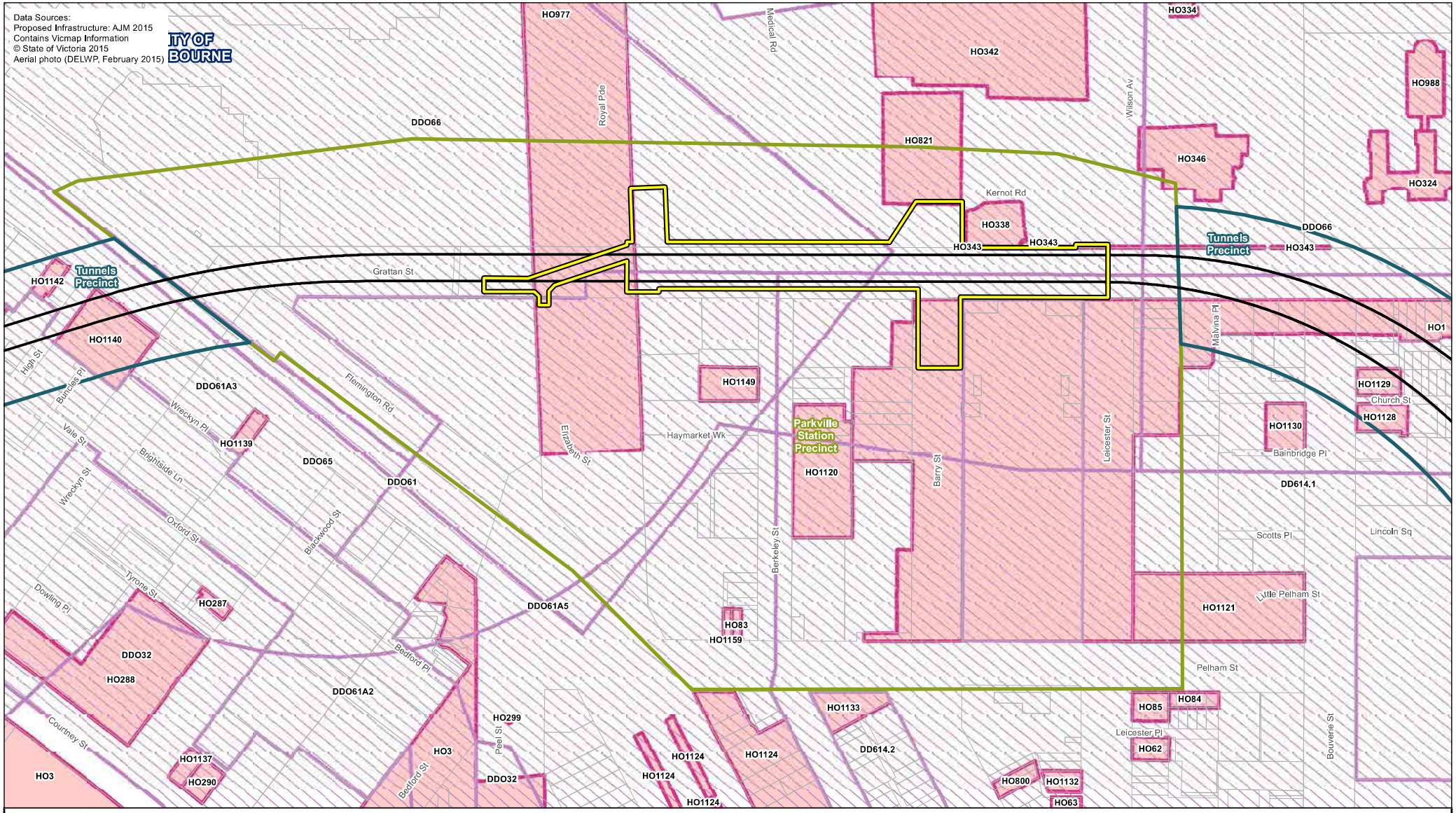


Figure G-22 Overlays in Sector 2 of the tunnels precinct



Legend

Proposed Concept Design
- Proposed Alignment
- Proposed Station Footprint

Planning Overlay
- DDO - Design and Development
- HO - Heritage

- Cadastre
- Local Government Area (LGA)

Environmental and Planning Precincts
- Station Precinct
- Tunnels Precinct

Map 5 of 14

MELBOURNE METRO RAIL AUTHORITY

AJM Joint Venture GRIMSHAW
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Melbourne Metro Rail Project

Title:
Planning Overlays - Heritage and Built Form

Drawing Number:		Revision:
MMR-AJM-PWAA-MP-NP-500318		P1
Drawn By:	Approved By:	Date:	Map Size:
A. French	G. Thraves	13/04/2016	A4

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Metres

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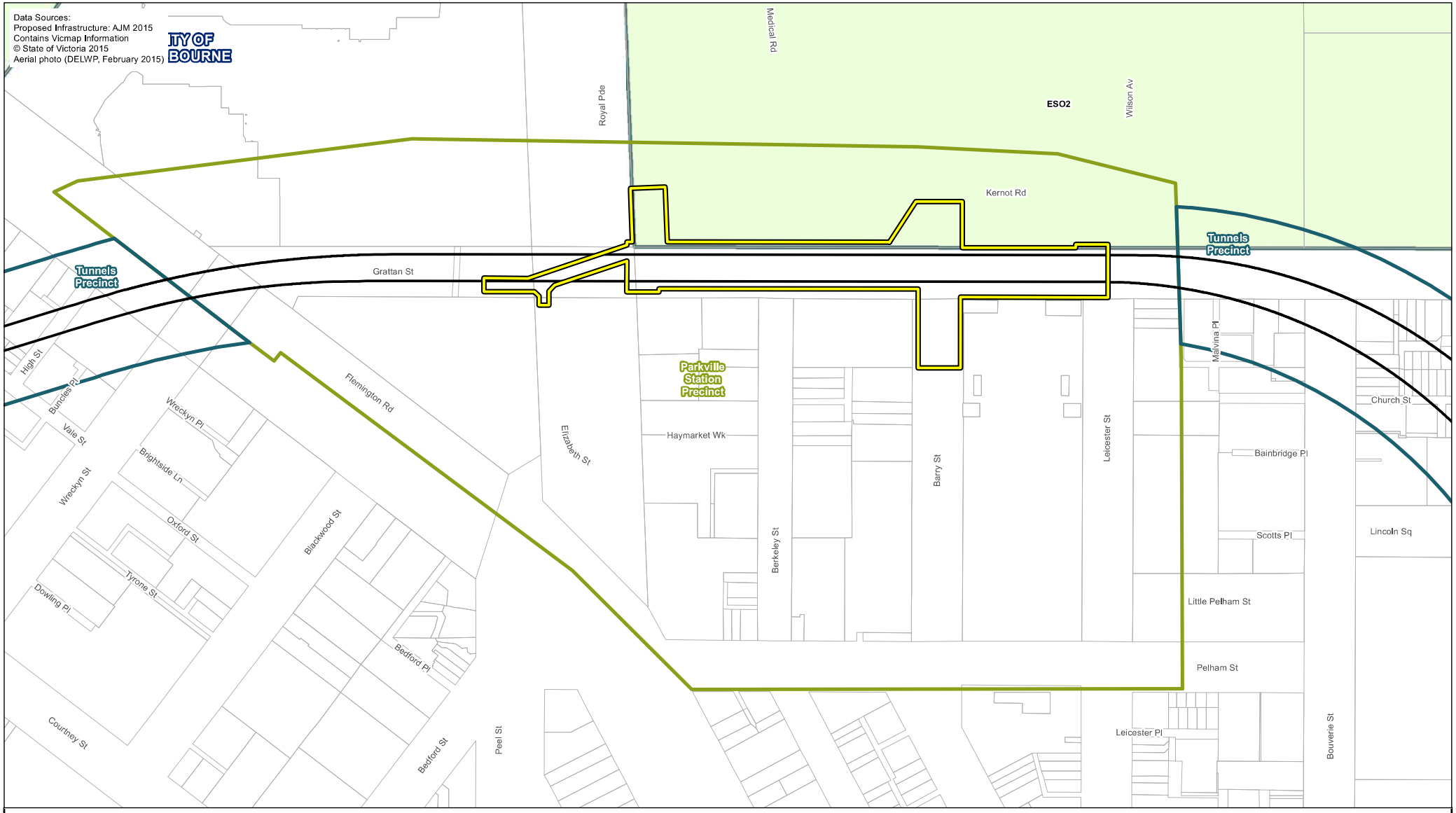
Figure G-23 Overlays in the Parkville station precinct



Legend

Proposed Concept Design
- Proposed Alignment
- Proposed Station Footprint

Environmental and Planning Precincts
- Station Precinct
- Tunnels Precinct

- Cadastre
- Local Government Area (LGA)
- ESO - Environmental Significance

Map 5 of 14

MELBOURNE METRO RAIL AUTHORITY

AJM Joint Venture GRIMSHAW
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Melbourne Metro Rail Project

Title: Planning Overlays - Environment and Land Management

Drawing Number:			Revision:
MMR-AJM-UGAA-MP-NN-500265			P1
Drawn By:	Approved By:	Date:	Map Size:
A. French	G. Thraves	13/04/2016	A4

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Metres

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Figure G-24 Overlays in the Parkville station precinct

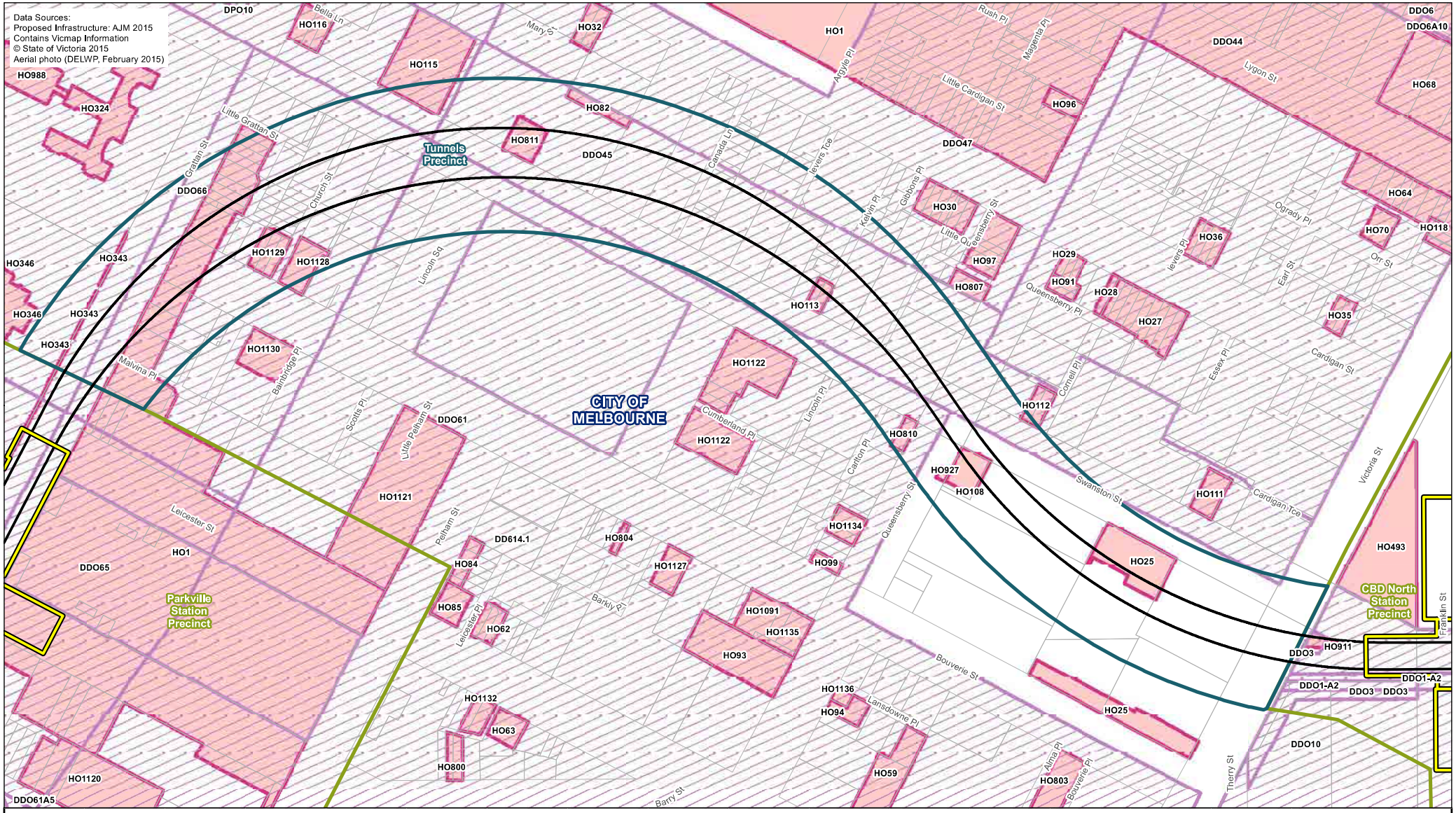

Figure G-25 Overlays in Sector 3 of the tunnels precinct

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Legend

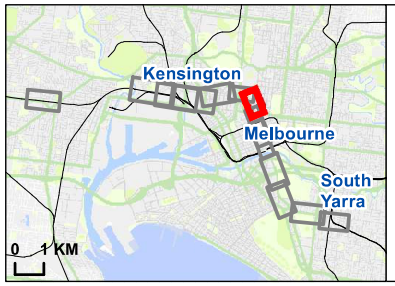
Proposed Concept Design
- Proposed Alignment
- Proposed Station Footprint

Environmental and Planning Precincts
- Station Precinct
- Tunnels Precinct

- Cadastre
- Local Government Area (LGA)

Planning Overlay
- SBO - Special Building
- ESO - Environmental Significance

Map 6 of 14



Melbourne Metro Rail Project

Title: Planning Overlays - Environment and Land Management

Drawing Number:			Revision:
MMR-AJM-UGAA-MP-NN-500265			P1
Drawn By:	Approved By:	Date:	Map Size:
A. French	G. Thraves	13/04/2016	A4

0 50 100
Metres

Joint Venture GRIMSHAW

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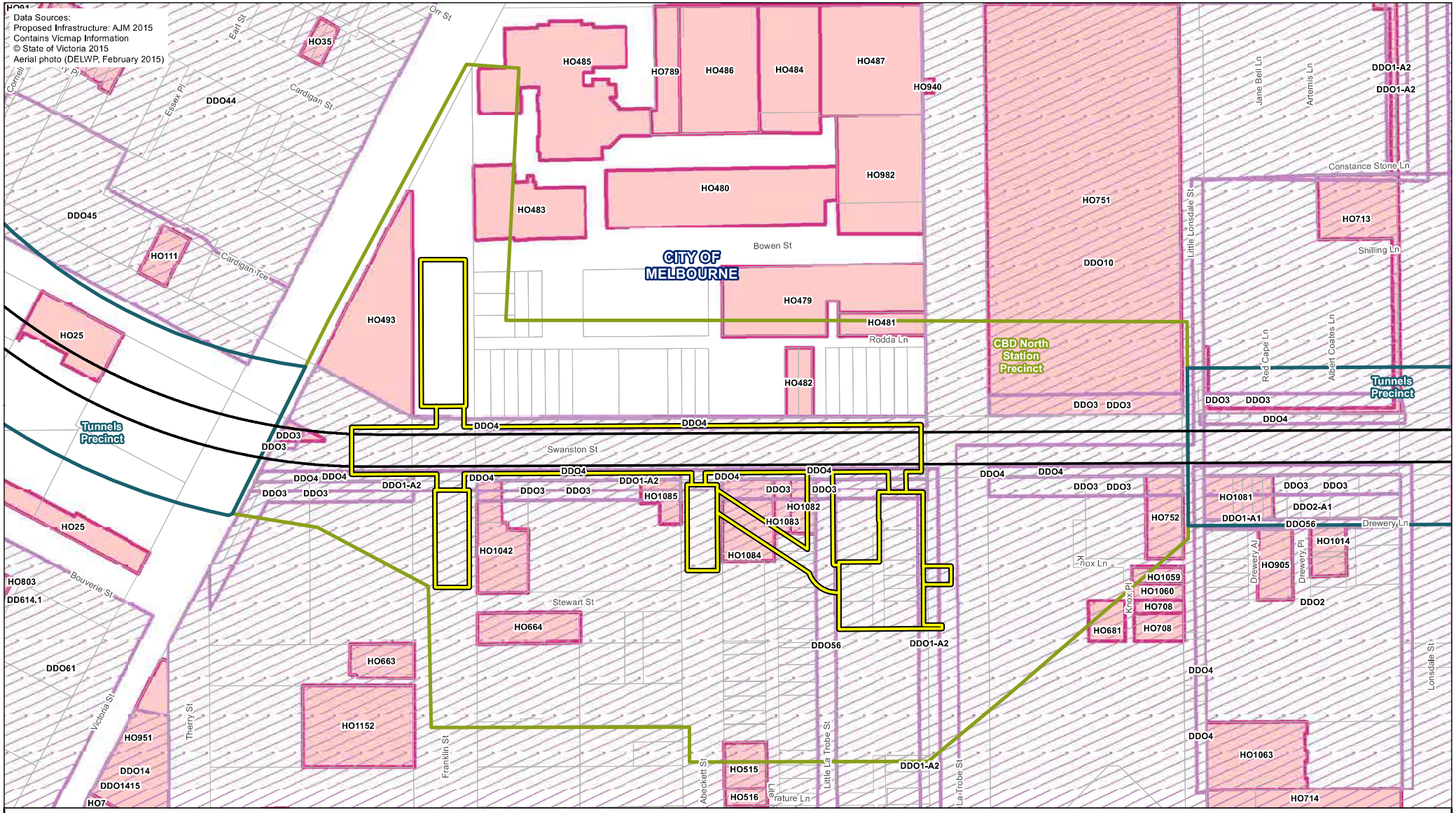
Figure G-26 Overlays in Sector 3 of the tunnels precinct



Map 7 of 14

Legend

Proposed Concept Design
- Proposed Alignment
- Proposed Station Footprint

Planning Overlay
- DDO - Design and Development
- HO - Heritage

- Cadastre
- Local Government Area (LGA)

Environmental and Planning Precincts
- Station Precinct
- Tunnels Precinct

MELBOURNE METRO RAIL AUTHORITY

AJM Joint Venture GRIMSHAW — aurecon JACOBS Mott MacDonald in association with

Melbourne Metro Rail Project

Title:
Planning Overlays - Heritage and Built Form

Drawing Number:			Revision:
MMR-AJM-PWAA-MP-NP-500318			P1
Drawn By:	Approved By:	Date:	Map Size:
A. French	G. Thraves	13/04/2016	A4

0 50 100
Metres

Figure G-27 Overlays in the CBD North station precinct

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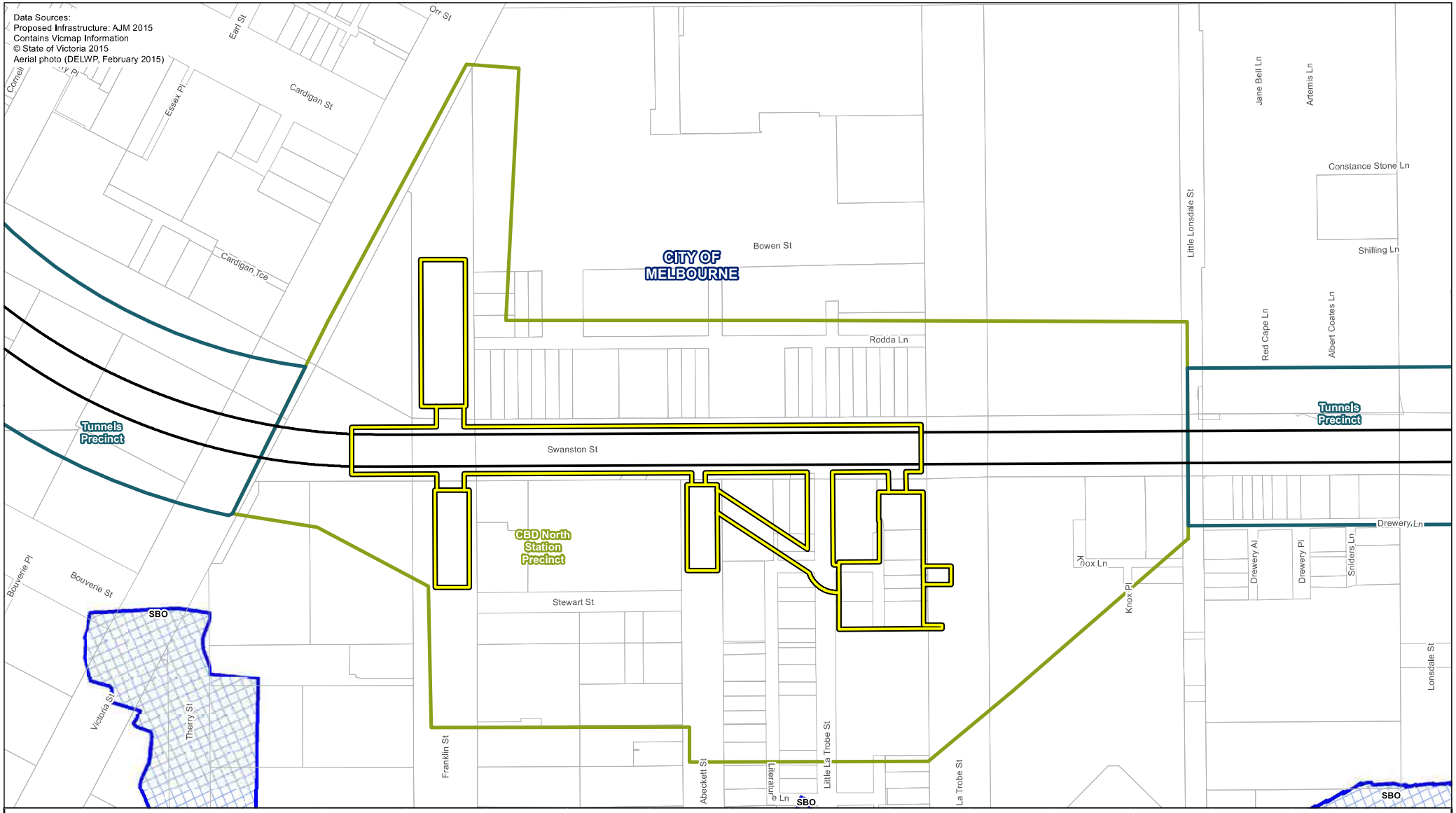
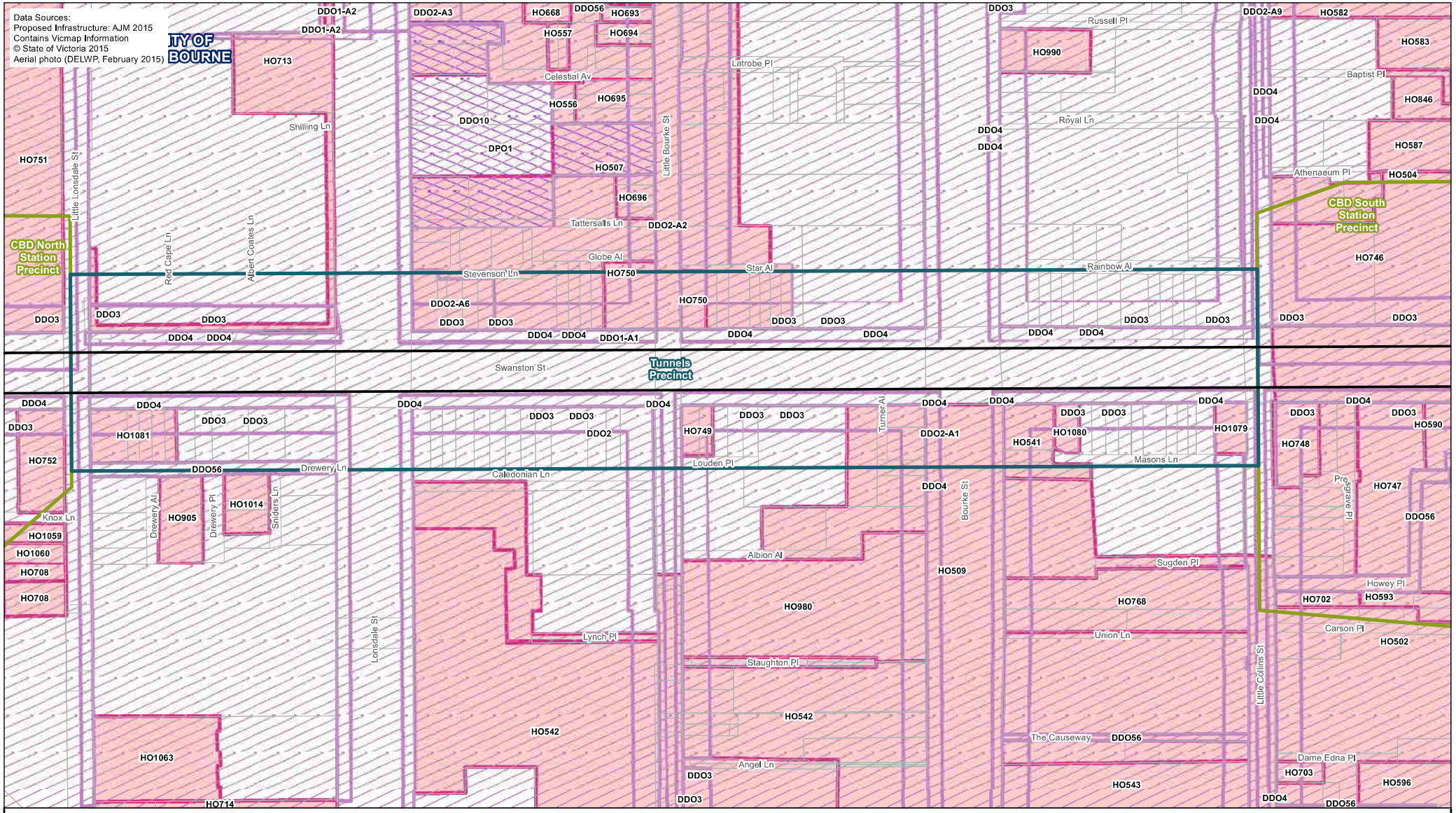


Figure G-28 Overlays in the CBD North station precinct



Legend

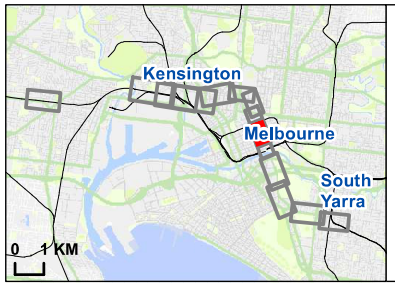
Proposed Concept Design
- Proposed Alignment

Planning Overlay
- DDO - Design and Development
- DPO - Development Plan
- HO - Heritage

- Cadastre
- Local Government Area (LGA)

Environmental and Planning Precincts
- Station Precinct
- Tunnels Precinct

Map 8 of 14



MELBOURNE METRO RAIL AUTHORITY

AJM Joint Venture GRIMSHAW
aurecon JACOBS Mott MacDonald in association with

Melbourne Metro Rail Project

Title:
Planning Overlays - Heritage and Built Form

Drawing Number:			Revision:
MMR-AJM-PWAA-MP-NP-500318			P1
Drawn By:	Approved By:	Date:	Map Size:
A. French	G. Thraves	13/04/2016	A4

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Metres

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Figure G-29 Overlays in Sector 4 of the tunnels precinct

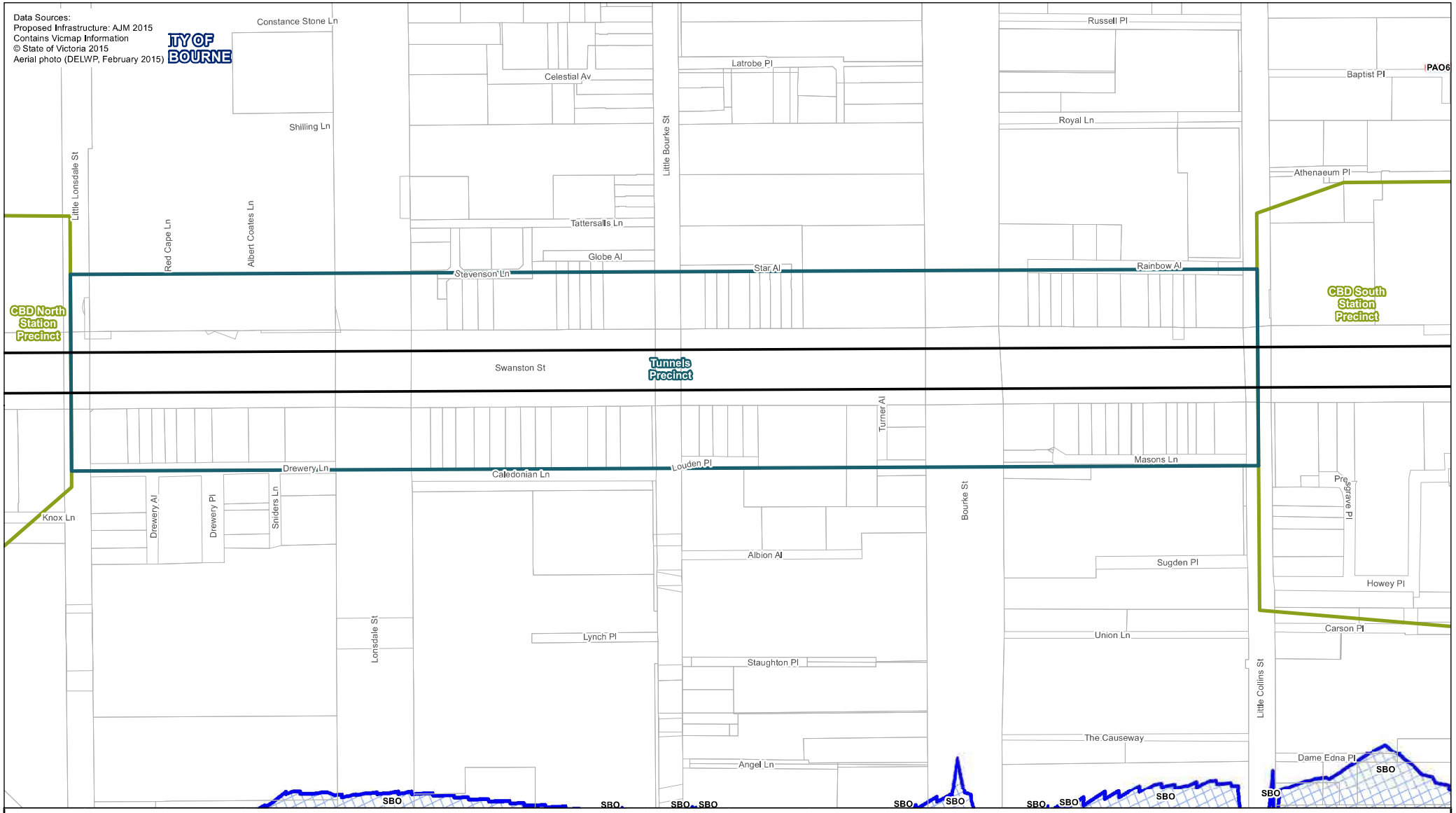


Figure G-30 Overlays in Sector 4 of the tunnels precinct

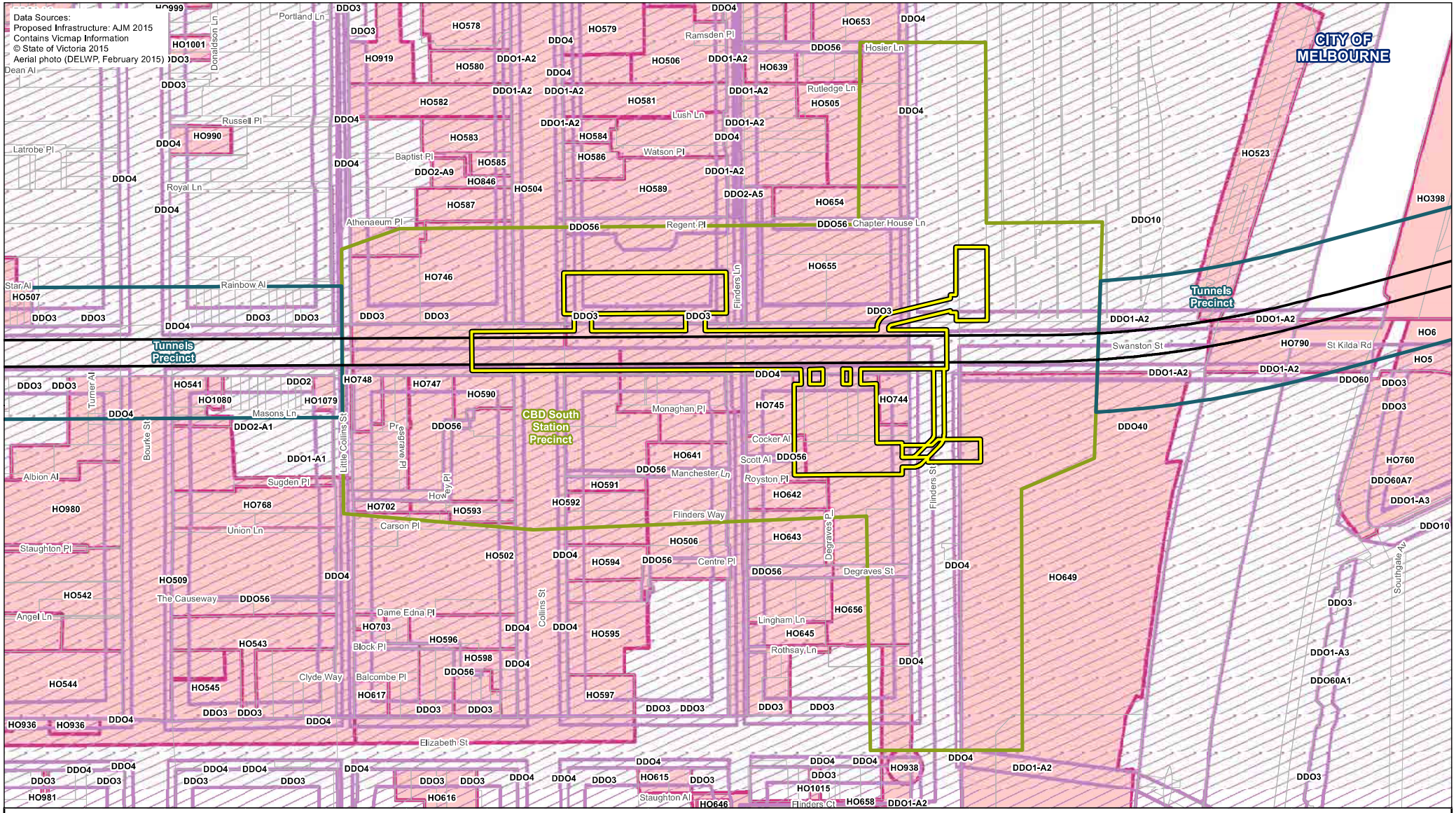


Figure G-31 Overlays in the CBD South station precinct

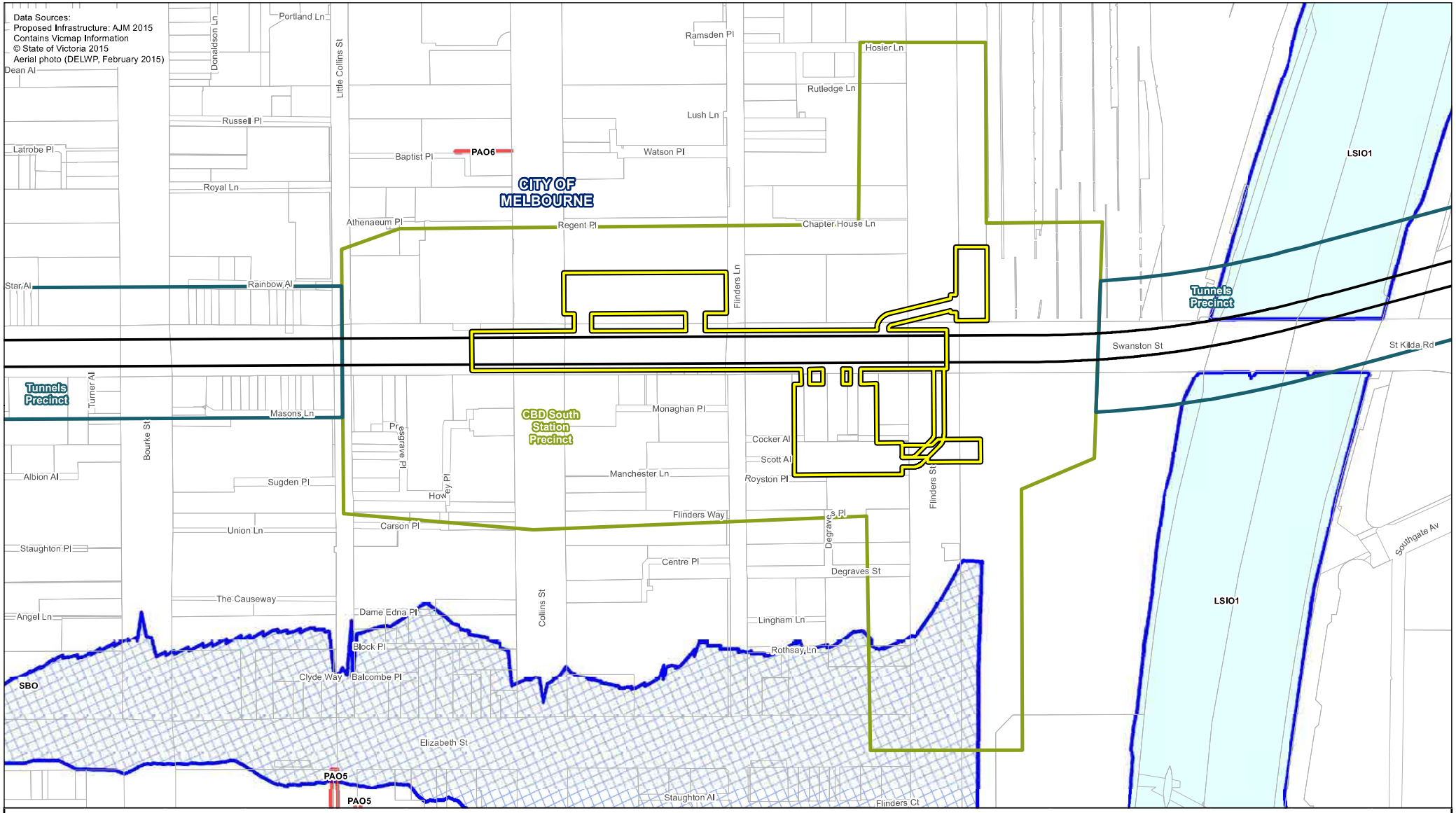


Figure G-32 Overlays in the CBD South station precinct

Map 10 of 14

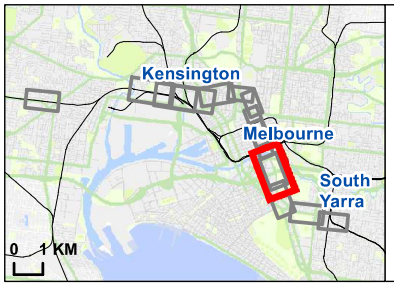
Legend

Proposed Concept Design
- Proposed Alignment
- Proposed Station Footprint

Planning Overlay
- DDO - Design and Development
- IPO - Incorporated Plan
- HO - Heritage

- Cadastre
- Local Government Area (LGA)

Environmental and Planning Precincts
- Station Precinct
- Tunnels Precinct



MELBOURNE METRO RAIL AUTHORITY

AJM Joint Venture GRIMSHAW
aurecon JACOBS Mott MacDonald in association with

Melbourne Metro Rail Project

Title:
Planning Overlays - Heritage and Built Form

Drawing Number:			Revision:
MMR-AJM-PWAA-MP-NP-500318			P1
Drawn By:	Approved By:	Date:	Map Size:
A. French	G. Thraves	13/04/2016	A4

0 130 260
Metres

Figure G-33 Overlays in Sector 5 of the tunnels precinct

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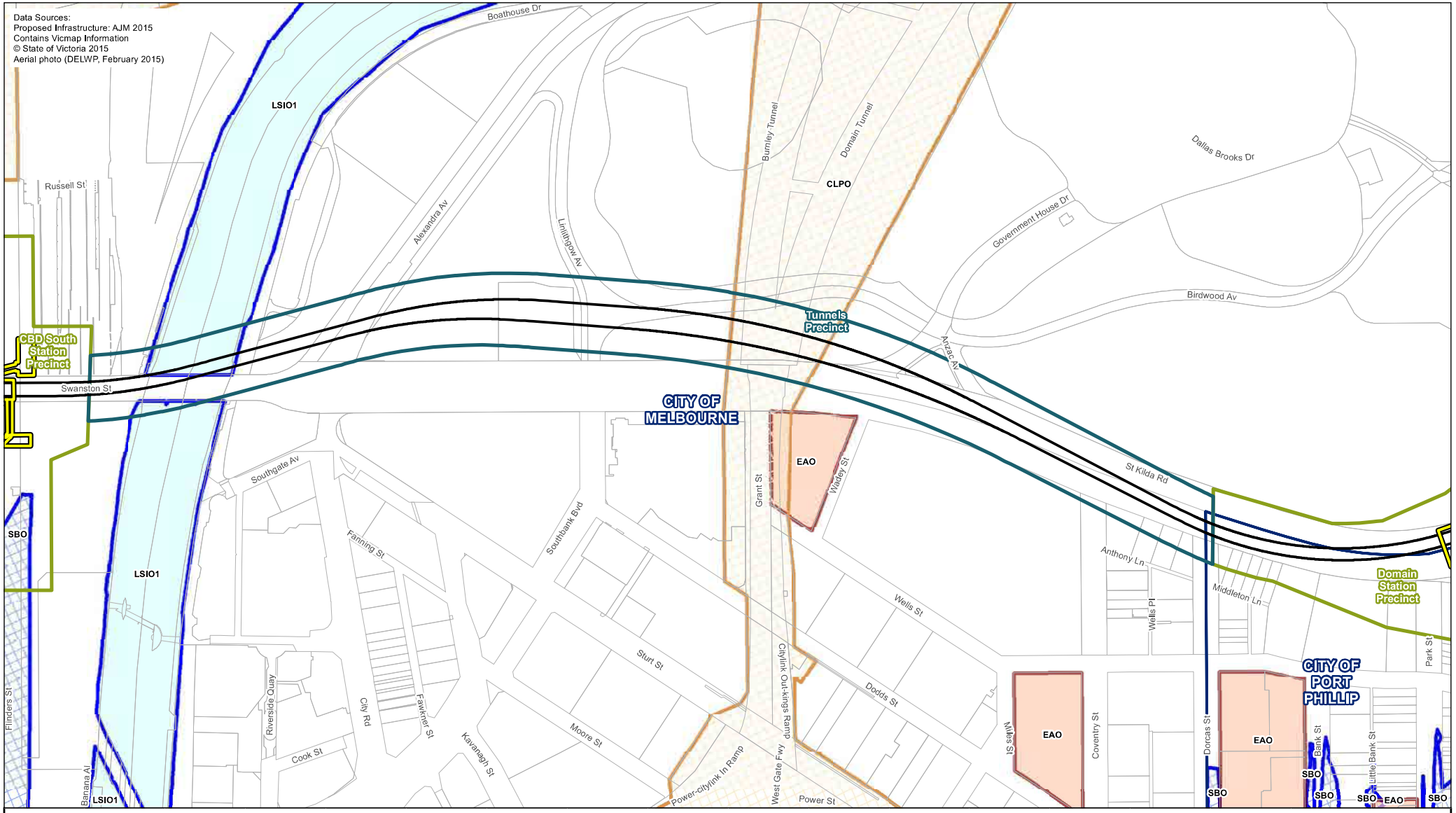


Legend

Proposed Concept Design
- Proposed Alignment
- Proposed Station Footprint

Environmental and Planning Precincts
- Station Precinct
- Tunnels Precinct

- Cadastre
- Local Government Area (LGA)

Planning Overlay
- LSIO - Land Subject to Inundation
- SBO - Special Building

- CLPO - City Link Project
- EAO - Environmental Audit

Map 10 of 14

Melbourne Metro Rail Project

Title: Planning Overlays - Environment and Land Management

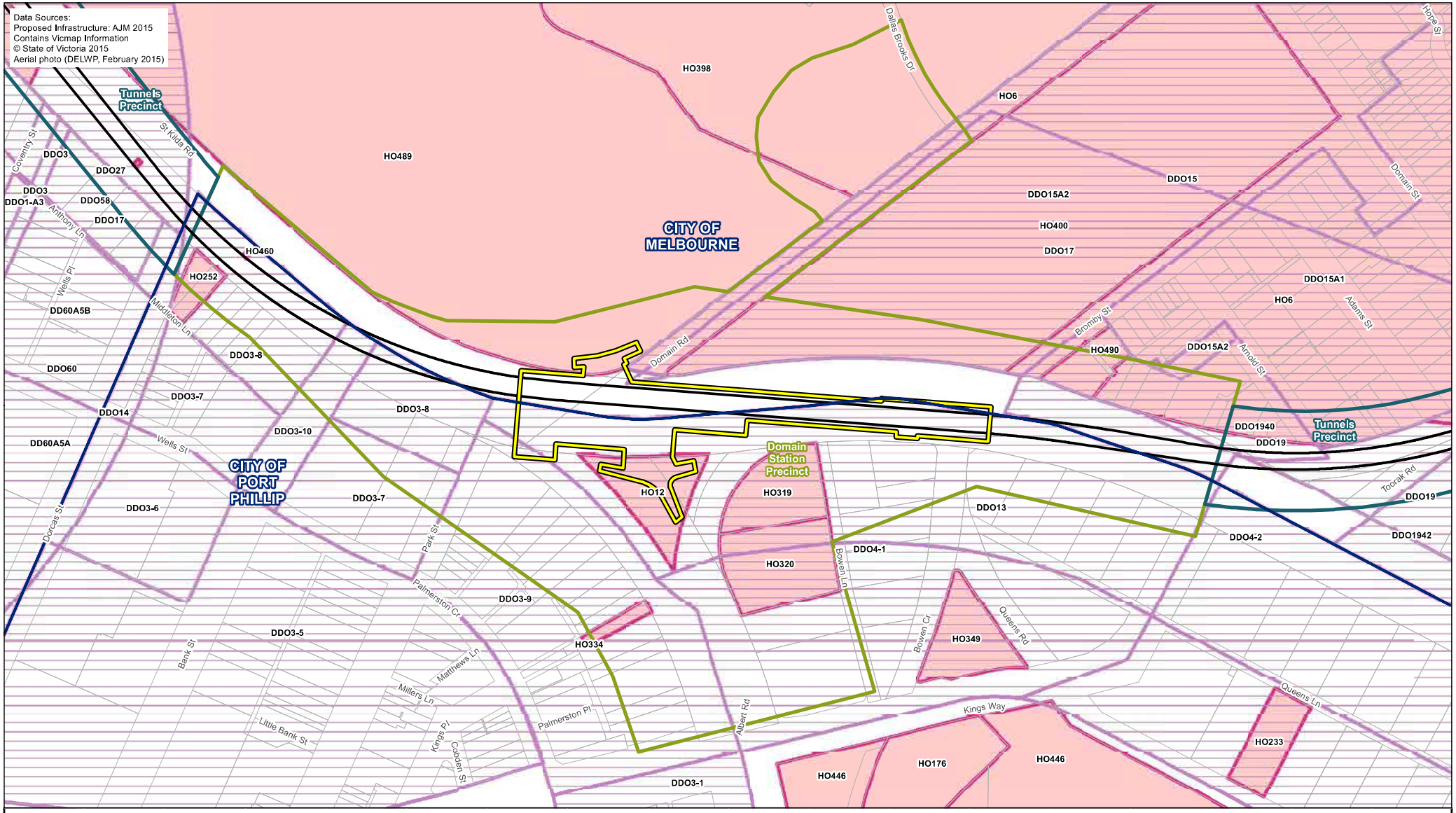
Drawing Number:			Revision:
MMR-AJM-UGAA-MP-NN-500265			P1
Drawn By:	Approved By:	Date:	Map Size:
A. French	G. Thraves	13/04/2016	A4

0 50 100 Metres

Joint Venture GRIMSHAW

G:\MMR-AJM\01_WIP\PW-1-AA-KG_GIS\640_Site_plans\MMR_0372_Planning_ZonesOverlays_EES\MMR_0372_Planning_Overlays_LM_EES.mxd

Figure G-34 Overlays in Sector 5 of the tunnels precinct



Legend

Proposed Concept Design
- Proposed Alignment
- Proposed Station Footprint

Planning Overlay
- DDO - Design and Development
- HO - Heritage

- Cadastre
- Local Government Area (LGA)

Environmental and Planning Precincts
- Station Precinct
- Tunnels Precinct

Map 11 of 14

MELBOURNE METRO RAIL AUTHORITY

AJM Joint Venture GRIMSHAW
aurecon JACOBS Mott MacDonald in association with

Melbourne Metro Rail Project

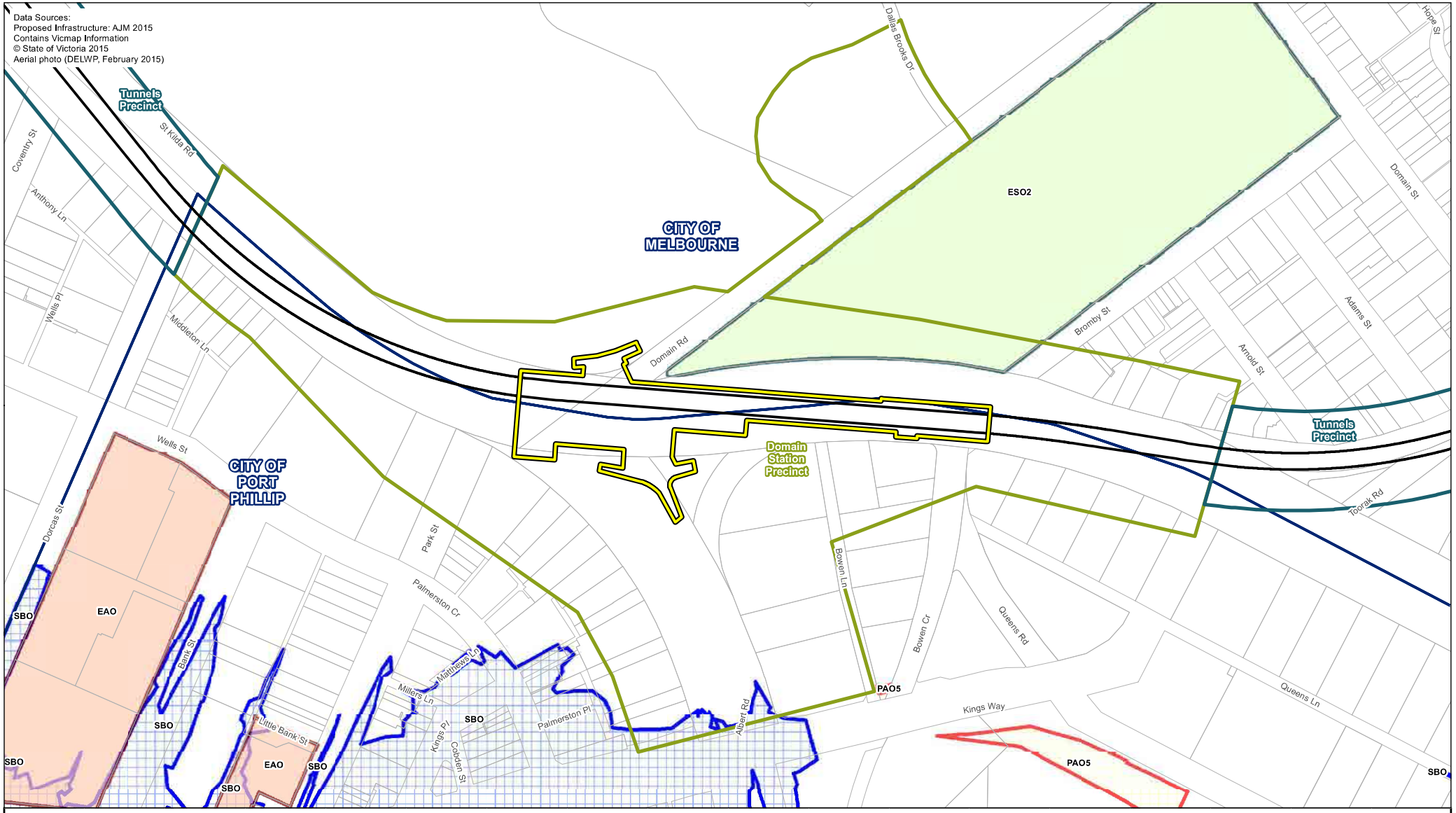
Title:
Planning Overlays - Heritage and Built Form

Drawing Number:			Revision:
MMR-AJM-PWAA-MP-NP-500318			P1
Drawn By:	Approved By:	Date:	Map Size:
A. French	G. Thraves	13/04/2016	A4

0 80 160
Metres

G:\MMR-AJM\01_WIP\PW-1-AA-KG_GIS\640_Site_plans\MMR_0372_Planning_ZonesOverlays_EES\MMR_0372_Planning_Overlays_HBF_EES.mxd

Figure G-35 Overlays in the Domain station precinct



Legend

Proposed Concept Design
- Proposed Alignment
- Proposed Station Footprint

Environmental and Planning Precincts
- Station Precinct
- Tunnels Precinct

- Cadastre
- Local Government Area (LGA)

Planning Overlay
- SBO - Special Building
- EAO - Environmental Audit
- PAO - Public Acquisition
- ESO - Environmental Significance

Map 11 of 14

MELBOURNE METRO RAIL AUTHORITY

AJM Joint Venture GRIMSHAW
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Melbourne Metro Rail Project

Title: Planning Overlays - Environment and Land Management

Drawing Number:			Revision:
MMR-AJM-UGAA-MP-NN-500265			P1
Drawn By:	Approved By:	Date:	Map Size:
A. French	G. Thraves	13/04/2016	A4

0 50 100
Metres

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Figure G-36 Overlays in the Domain station precinct

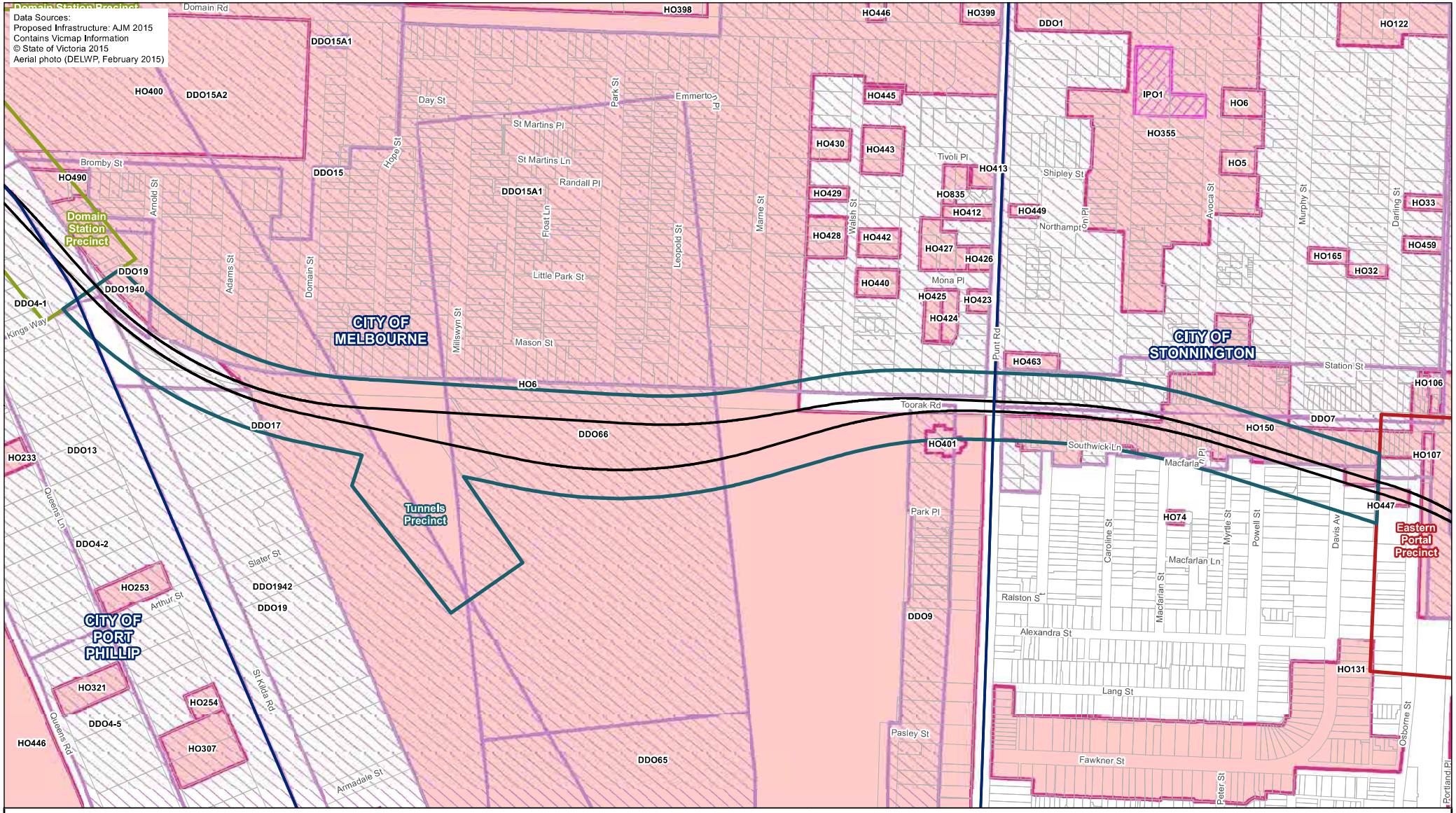


Figure G-37 Overlays in Sector 6 of the tunnels precinct

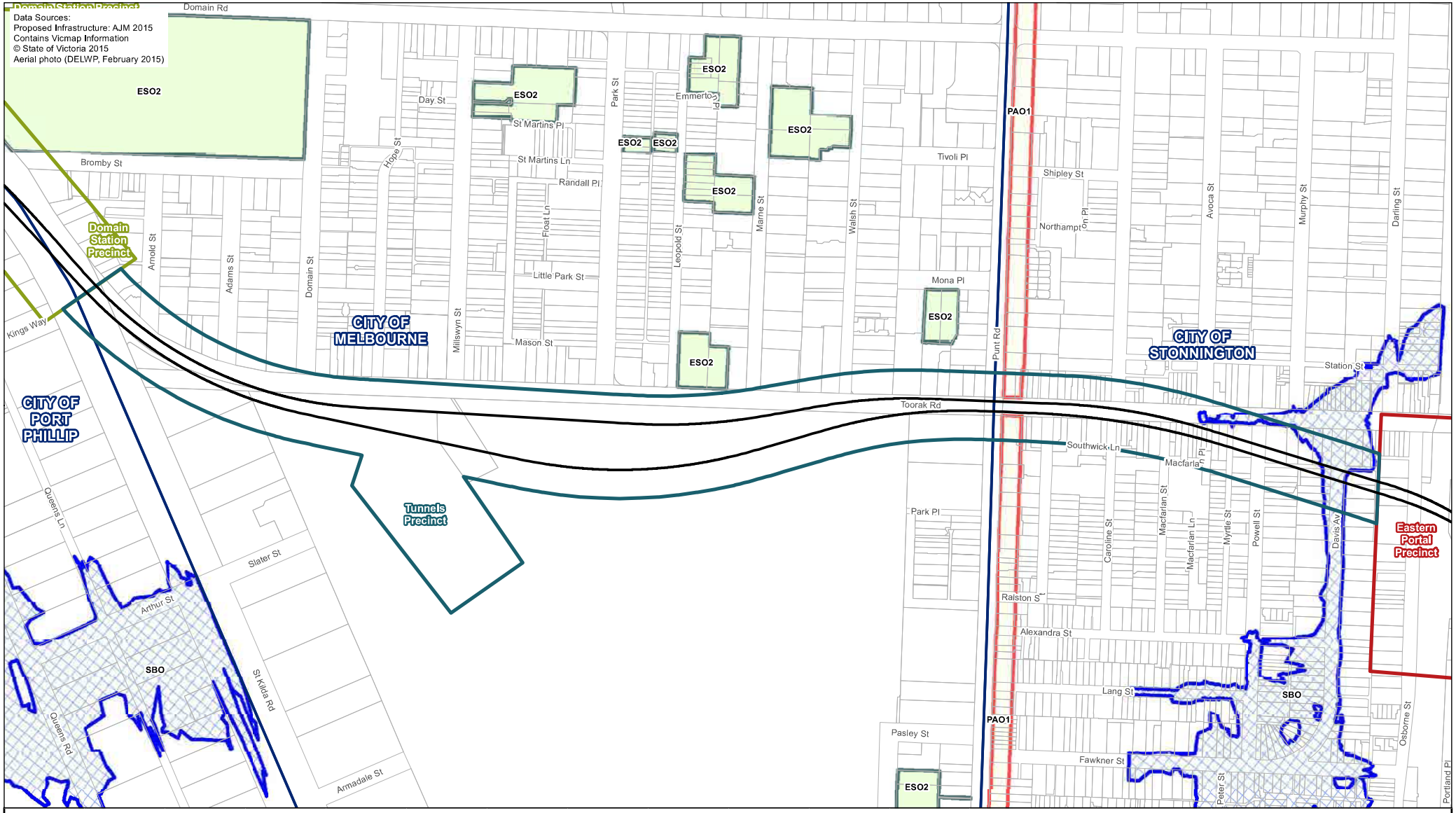
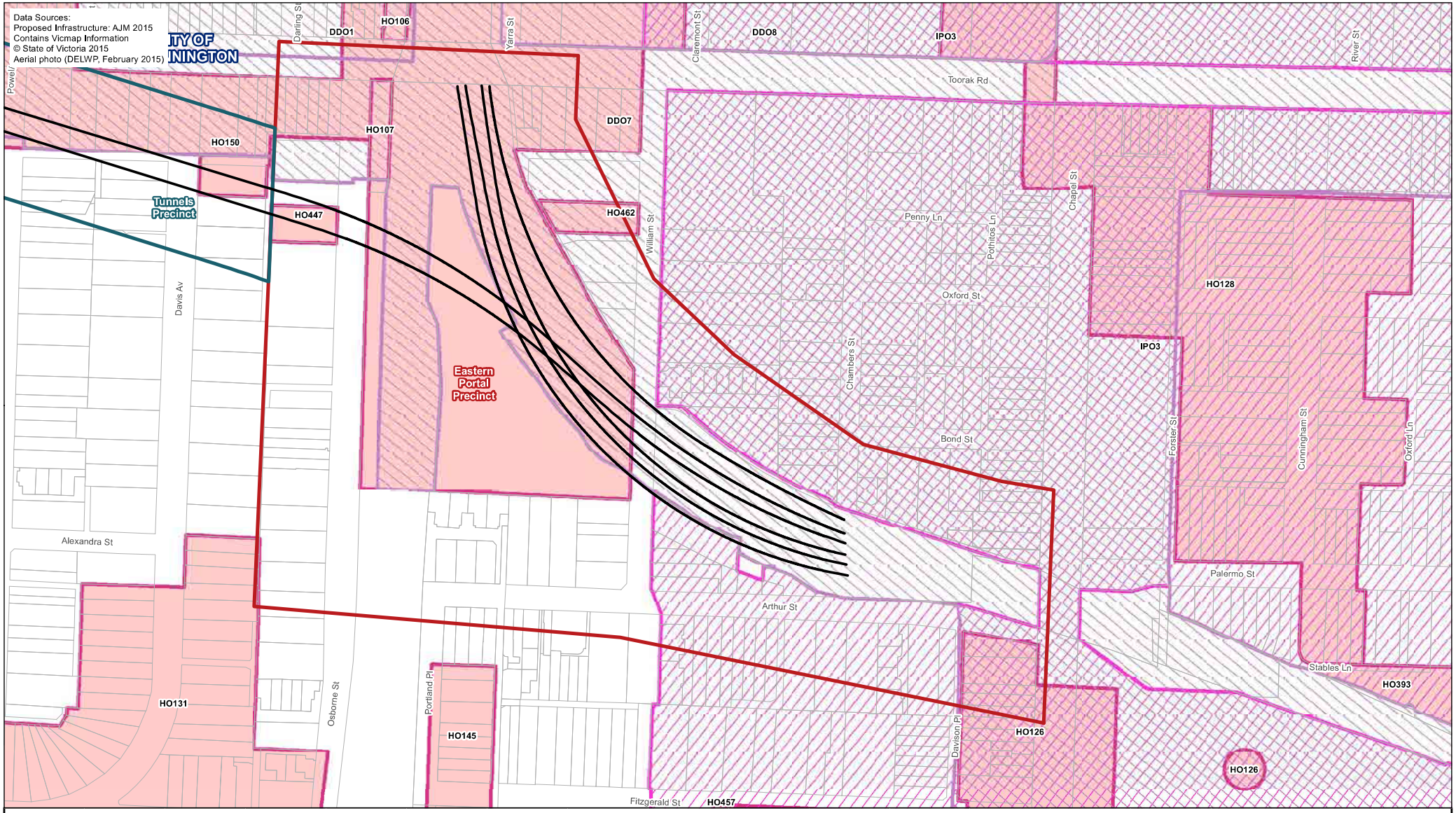


Figure G-38 Overlays in Sector 6 of the tunnels precinct



Legend

Proposed Concept Design
- Proposed Alignment

Planning Overlay
- DDO - Design and Development
- IPO - Incorporated Plan
- HO - Heritage

- Cadastre
- Local Government Area (LGA)

Environmental and Planning Precincts
- Portal Precinct
- Tunnels Precinct

Map 13 of 14

MELBOURNE METRO RAIL AUTHORITY

AJM Joint Venture GRIMSHAW
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Melbourne Metro Rail Project

Title:
Planning Overlays - Heritage and Built Form

Drawing Number:			Revision:
MMR-AJM-PWAA-MP-NP-500318			P1
Drawn By:	Approved By:	Date:	Map Size:
A. French	G. Thraves	13/04/2016	A4

0 50 100
Metres

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Figure G-39 Overlays in the eastern portal precinct

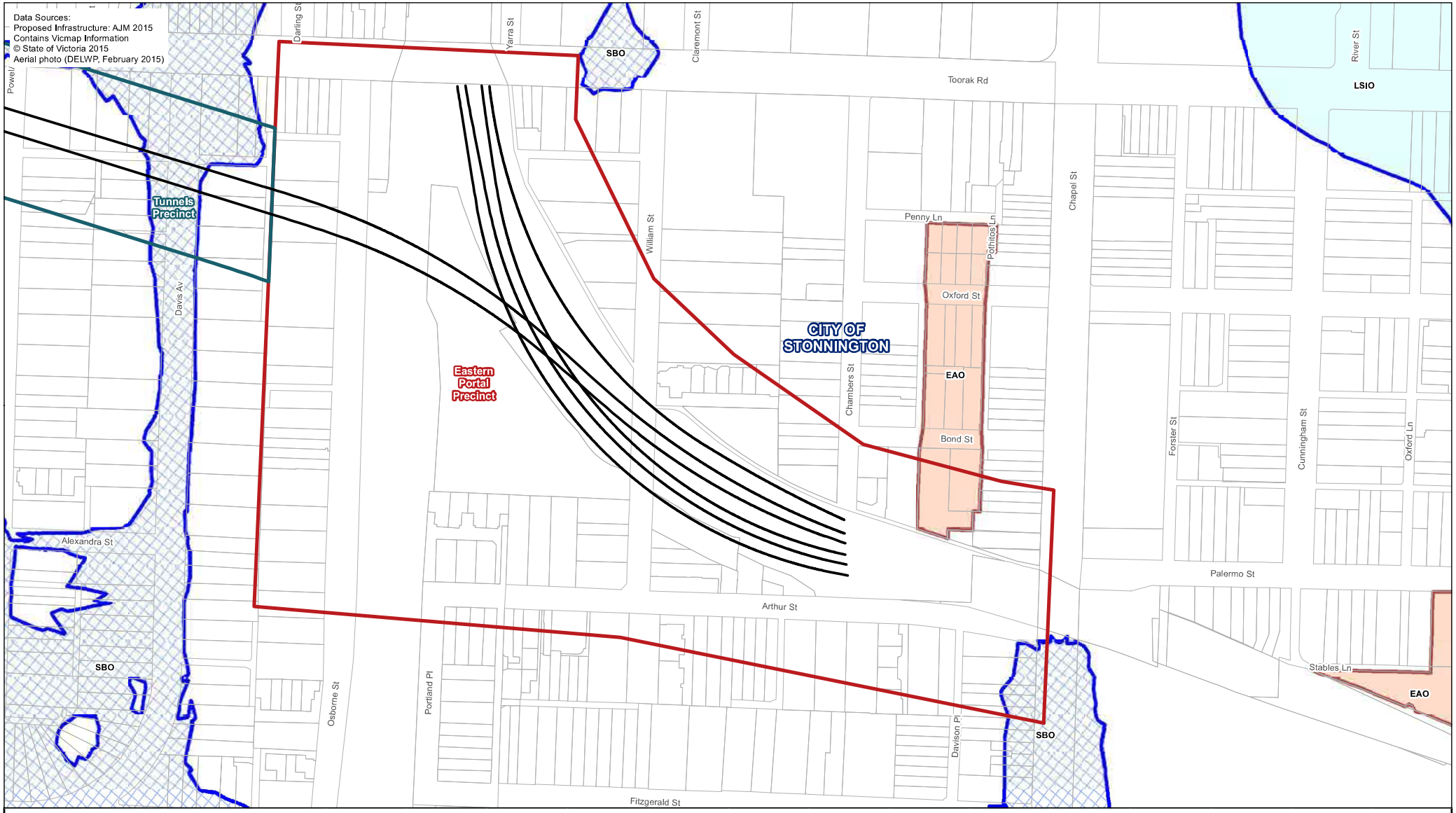
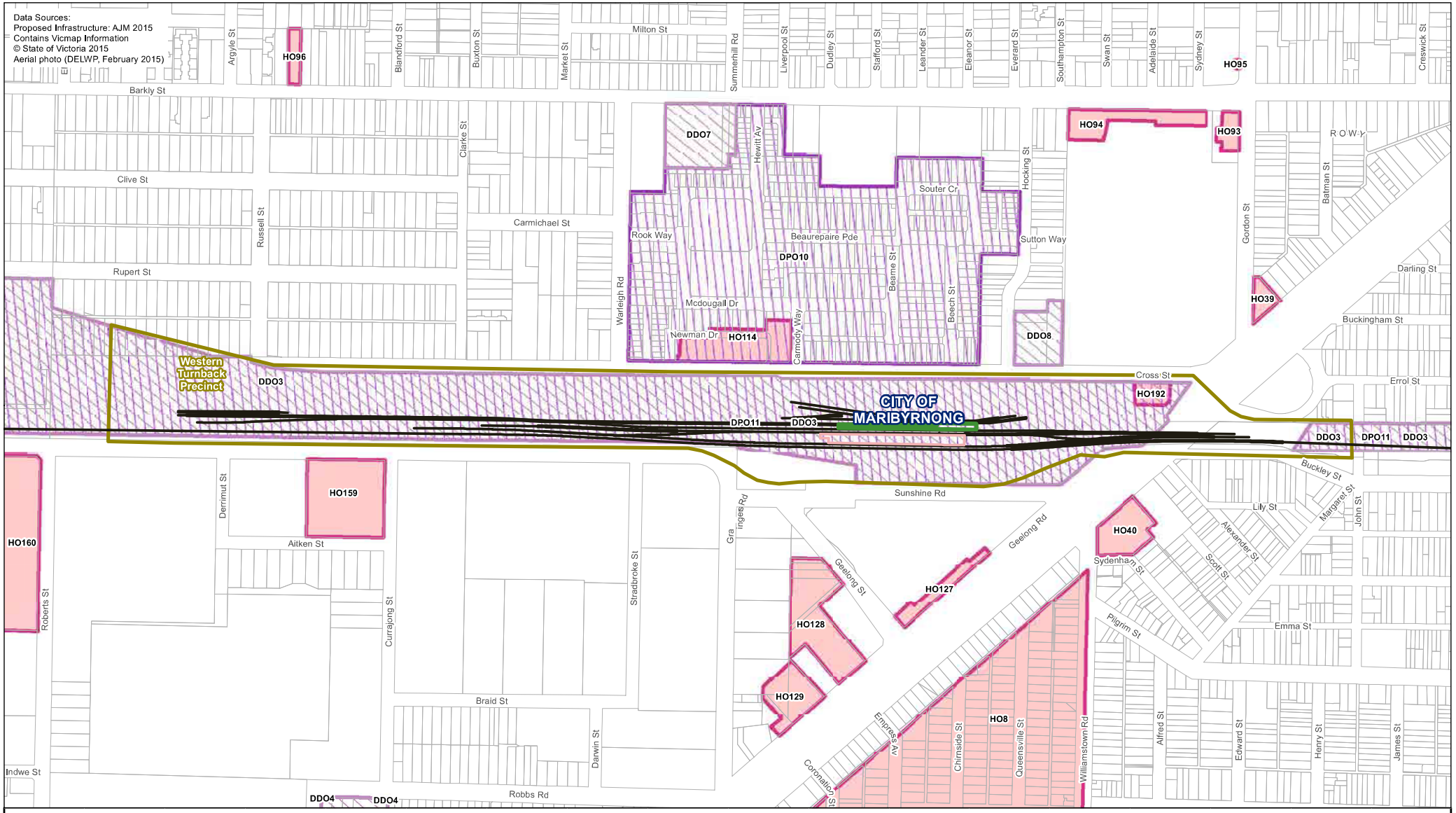


Figure G-40 Overlays in the eastern portal precinct

G:\MMR-AJM\01_WIP\PW-1-AA-KG_GIS\640_Site_plans\MMR_0372_Planning_ZonesOverlays_EES\MMR_0372_Planning_Overlays_LM_EES.mxd



Legend

Proposed Turnback Design - West Footscray
- Existing platform
- Proposed platform
- Proposed alignment

Environmental and Planning Precincts
- Western Turnback Precinct

Planning Overlay
- DDO - Design and Development
- DPO - Development Plan
- HO - Heritage
- Cadastre
- Local Government Area (LGA)

Map 14 of 14

MELBOURNE METRO RAIL AUTHORITY

AJM Joint Venture GRIMSHAW — aurecon JACOBS Mott MacDonald in association with

Melbourne Metro Rail Project

Title:
Planning Overlays - Heritage and Built Form

Drawing Number:		Revision:
MMR-AJM-PWAA-MP-NP-500318		P1
Drawn By: A. French	Approved By: G. Thraves	Date: 13/04/2016	Map Size: A4

0 130 260
Metres

G:\MMR-AJM\01_WIP\PW-1-AA-KG_GIS\640_Site_plans\MMR_0372_Planning_ZonesOverlays_EES\MMR_0372_Planning_Overlays_HBF_EES.mxd

Figure G-41 Overlays in the western turnback precinct

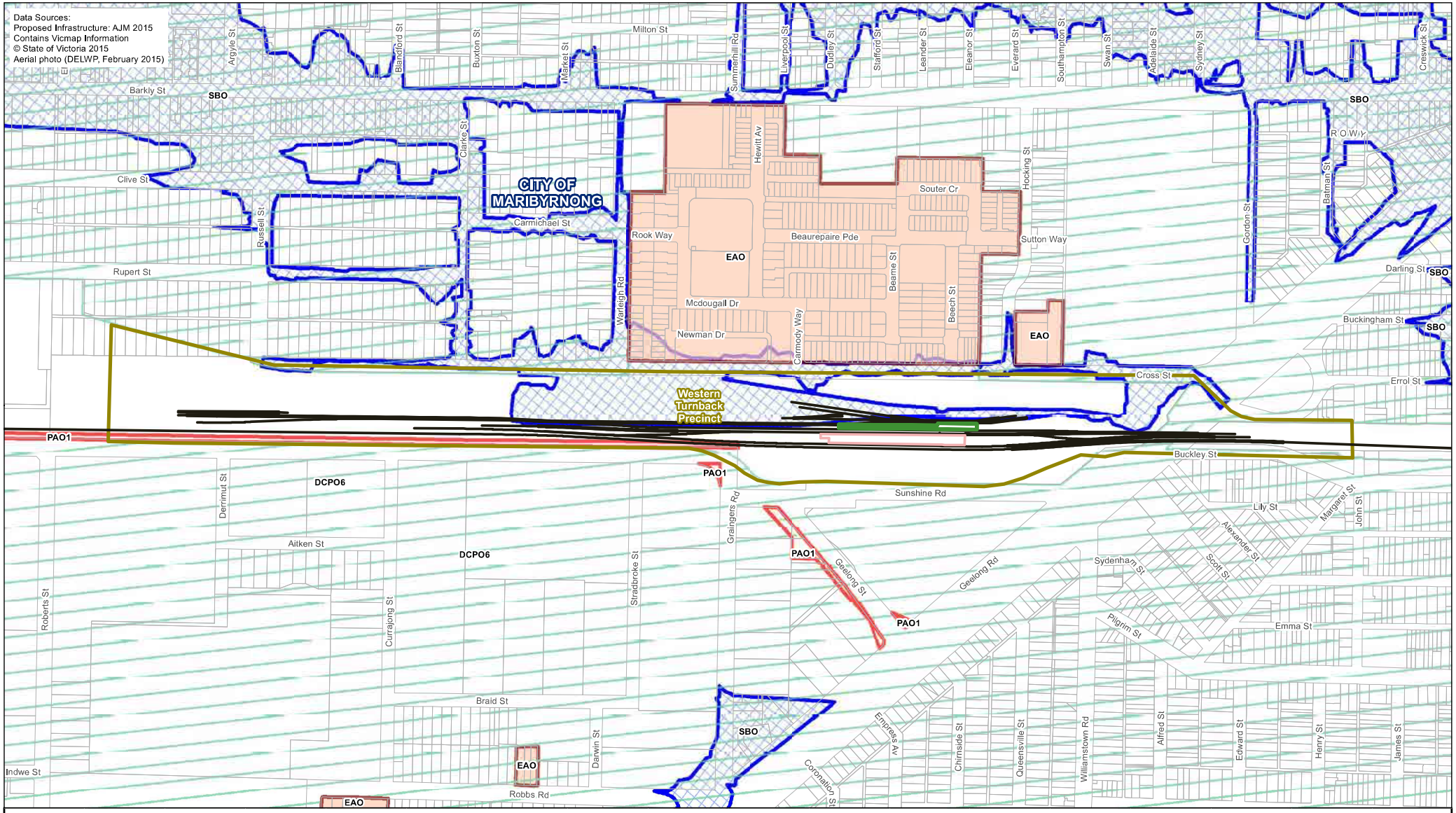


Figure G-42 Overlays in the western turnback precinct

Appendix H

Planning Permit Applications

The following table lists the current planning permit applications within the identified study area (as of 15 December 2015). The list include development that may impact on the proposed Melbourne Metro, or where the proposed Melbourne Metro may impact on the completion of the development as proposed.

Planning permits may never be activated or may change from what was approved, however this impact assessment has identified these proposed developments as potential conflicts.

Table H-1 : Planning Permit Applications

ID	Application number	Application description	Address	Permit status	Decision date
City of Melbourne					
Precinct 1 – Tunnel Precinct (Western Portal to Arden Station Precinct (Sector 1)					
1	TP-2015-767	Buildings and works to existing terminal station	297-307 Arden Street Kensington	Permit issued	10 November 2015
2	TP-2013-142/A	Upgrade of West Melbourne Terminal Station.	297-307 Arden Street, Kensington	Amended Permit Issued	10 October 2014
Precinct 3 - Arden Station					
3	TP-2015-860	Minor alterations to existing building, construct and carry out buildings and works on the land and reduce the car parking requirement to change the use of the site to a mail centre.	49-63 Laurens Street, North Melbourne	Permit issued	4 December 2015
Precinct 1 –Tunnel Precinct (Arden Station to Parkville Station Precincts (Sector 2))					
4	TP-2011-202/A	Amend plans which propose reducing floor heights and adding an additional storey (a total of eight storeys) totaling 11 apartments. No basement proposed.	20-24 Vale Street, North Melbourne	Amended Permit Issued	02- February 2015 (Expired 26 September 2015)
5	TP-2014-596	Demolition of the existing building and construction of a 15 level apartment building with a retail premises on the ground floor (excluding bottle shop and adult sex bookshop) and a reduction in the statutory car parking and loading and unloading requirements.	69-73 Flemington Road, North Melbourne	Permit Issued (awaiting endorsed plans)	25 August 2015
6	TP-2014-1124	Demolition of existing buildings and construction of a multi-storey apartment building above two levels of basement car parking including car spaces in excess of the maximum requirement.	135-139 Arden Street, 261-263 Abbotsford Street, 265-267	Permit Issued	24 September 2015

ID	Application number	Application description	Address	Permit status	Decision date
			Abbotsford Street, 269 - 275 Abbotsford Street, North Melbourne		
7	TP-2010-331	To construct a multi-storey apartment building and the waiver of car parking requirements	46 Villiers Street North Melbourne VIC 3051	Extension of time granted	Permit - 9/05/2011
Precinct 1 – Tunnel Precinct (Parkville Station to CBD North Station Tunnel Precinct (Sector 3))					
8	TPM-2013-20	Application for development of a multi storey apartment building with retail component and associated car parking.	557-591 Swanston Street, Carlton	Completed	18 October 2013
9	TP-2013-589	Construction of two dwellings on a lot.	Unit 6, 458-460 Swanston Street, Carlton	Permit Issued	3 March 2014
Precinct 5 - CBD North Station Precinct					
10	TP-2007-275/B	Development of a 17-storey residential hotel (serviced apartments) and 2 retail tenancies.	22-32 Little La Trobe Street, Melbourne	Amended Permit Issued	1 July 2014 (expired 28 April 2015)
11	TP-2013-817	Construction of a 33 storey mixed use building including accommodation (249 student apartments), restaurant, retail (net floor area 2,326 sqm) and reduction in loading / unloading requirements (existing Hungry Jacks site). The proposal includes two basement levels. A podium / tower is proposed from ground floor to level seven with a tower above.	377-391 Swanston Street, Melbourne	Permit Issued	15 September 2014
12	TPM-2012-2 TPM-2015-27	Construction of two multi storey towers (40 and 27 storeys) for the purpose of retail, office and residential apartments, construction of a building within 10m of a road frontage, reduction in the number of bicycle parking spaces and facilities and a waiver of the loading and unloading requirements.	212-222 La Trobe Street, Melbourne	Permit Issued – new application referred to Council from DELWP	22 April 2015
13	TP-2014-934	Demolition of existing building and construct a multi storey mixed use building (student accommodation and retail) and waiver of loading facilities.	Deakin House, 393 Swanston Street, Melbourne	Permit Issued	17 March 2015
14	2013/007225B	The proposal includes the development of a 21 storey building, with retail space at ground level connected with a walkthrough wintergarden, with a total of 224 apartments.	Building 10, Former Carlton Brewery Site, 28-78 Bouverie	Planning permit issued and conditions are being discharged	Plan endorsed September 2014

ID	Application number	Application description	Address	Permit status	Decision date
			Street, Carlton		
15	2010/022948 2012/004954A	Planning permit 2010 / 022948 provides for the development of Swanston Square (35 level apartment building above the height of RL35.00). Application 2012/004954 sought approval for three levels in the podium below RL35 for the approved Building 5 (Swanston Square Apartments) as part of the Carlton Brewery project. The permit application also includes alterations to the heritage registered Maltstore building on Swanston Street and a new opening in the heritage registered bluestone wall on Bouverie Street. A Heritage Victoria Application (No. P18529) was also sought.	Building 5, Former Carlton Brewery Site, 2-76 Bouverie Street, Carlton 551 Swanston Street, Carlton	2010/022948 has been granted Heritage Consent granted by Heritage Victoria 3 January 2012	2010/022948 was granted 18 May 2012 2012/004954A issued 2 August 2013
16	2014/000770	Demolition of the existing building, construction of an 84 storey building comprising of dwellings, serviced apartments, office and retail premises (other than adult sex bookshop, department store, hotel, supermarket and tavern).	224-252 La Trobe Street, Melbourne	Planning permit issued by the Minister for Planning on 29 September 2014. VCAT mediation granted a review of conditions	Consent Orders issued by VCAT on 4 March 2015 and an amended permit issued on 11 March 2015.
17	TP-2015-771	Buildings and works associated with the refurbishment of the tenancy and display of advertising signs.	Melbourne Central 183-265 La Trobe Street, Melbourne	Permit Issued	20 October 2015
Precinct 1 – Tunnel Precinct (CBD North Station to CBD South Station Tunnel Precinct (Sector 4))					
18	TP-2012-83	Partial demolition and construction of buildings and works including two additional levels and services. No basement proposed as part of works.	319-323 Swanston Street, Melbourne	Permit Issued	26 June 2012
Precinct 1 - Tunnel Precinct (CBD South Station to Domain Tunnel Precinct (Sector 5))					
	Nil				
Precinct 7 - Domain Station Precinct					
19	TP-2011-404/B	Amendments to endorsed plans to remove basement level 2 and for the construction of a new gym addition located at level 7.	Royce Hotel 375-385 and 387-389 St Kilda Road, Melbourne	Amended Permit Issued	12 November 2014
20	TP-2014-827	Partial demolition of the existing three storey building and the construction of a six storey building	403 St Kilda Road, Melbourne	Notice of refusal issued on	VCAT hearing set for 30 November

ID	Application number	Application description	Address	Permit status	Decision date
		(for nine dwellings) plus one level of underground basement carpark and a partial waiver of the car parking requirements of Clause 52.06.		26 May 2015. Appeal lodged at VCAT.	2015
21	TP-2014-780	Construction of new five level building at Melbourne Grammar School.	Melbourne Grammar School 321-369 St Kilda Road, Melbourne	Permit Issued	2 June 2015
Precinct 1 - Tunnel Precinct (Domain to South Yarra Tunnel Precinct (Sector 6))					
22	TP-2011-510	Partial demolition of existing building and the construction of a six storey mixed use building, a partial waiver of car parking requirements and associated works.	405 St Kilda Road, Melbourne	Plans Endorsed	7 May 2012
23	TP-2014-1061	Carry out development including construction of a four storey building (above basement and semi-basement levels) for 40 dwellings, and underground car park. Application includes the reduction of car parking requirements and create/alter access to a road in a Road Zone Category 1.	146W-150W Toorak Road, South Yarra	Permit Issued	11 December 2015
24	TP-2013-1046	Partial demolition and construction of a two storey addition to the existing building (no basement).	82W Toorak Road, South Yarra	Permit Issued	7 January 2015
25	TP-2013-1054	Use and development of the land for the purpose of a childcare centre (early learning centre) and primary school, including partial demolition of the existing building, alterations and additions to the existing building, vegetation removal and alter access to a road in Road Zone Category 1. The proposal includes basement carparking.	12GW-126W Toorak Road, South Yarra	VCAT determined to grant permit	9 September 2015
26	TP-2012-893	Demolition of the existing three-storey motel building, front fence, outbuilding and advertising signs; external alteration and painting of existing building; construction of a three storey building for multi-unit dwellings with basement, roof decks, pergolas, decks, domestic swimming pools with associated safety and mechanical equipment; fence and alterations to crossovers.	1-23 Millswyn Street, South Yarra	Permit Issued	15 July 2014
27	TP-2013-1051	Partial demolition, and alterations and additions to the existing building to construct a four storey building containing six dwellings with basement car parking.	37-41 Adams Street, South Yarra	Permit Issued	26 August 2014

ID	Application number	Application description	Address	Permit status	Decision date
28	TP-2015-518	Demolition of the existing building and construction of a four storey building containing six dwellings. This proposal includes the construction of a basement and the overall height of the building 11.58 m.	40 Adams Street, South Yarra	Permit issued	26 October 2015
City of Port Phillip					
Precinct 7 - Domain Station Precinct					
29	916/2014	Construction of 19 storey building containing food and drink premises, retail and gymnasium at ground level, with 196 apartments at upper levels, including two basement levels and a reduction in car parking requirements.	13-21 Palmerston Crescent, South Melbourne	VCAT determined to grant permit	31 December 2015
30	917/2014	The development and use of the land is for the construction of a 17 storey building containing food and drink premises at ground level, with 146 apartments at upper levels, including two basement levels; reduction in the car parking requirements and waiver of loading bay requirements and a variation of an easement.	28-32 Albert Road, South Melbourne	VCAT determined to refuse permit	23 April 2015
31	1011/2014	Alterations and additions to existing building for the purpose of 192 apartments and ground floor cafe, with associated carparking requirements and waiver of the loading & unloading bay requirements.	412 St Kilda Road, South Melbourne	Under assessment Section 57A Amendment Request lodged 28 October 2015	N/A
City of Stonnington					
Precinct 1 - Tunnel Precinct (Domain to South Yarra Tunnel Precinct (Sector 6))					
32	0975/13	Construction of a multi dwelling development, a reduction in car parking and alter access to a Road Zone Category 1.	420 - 424 Punt Road, South Yarra	Refused by Council and VCAT appeal lodged (P184/2015)	9 December 2014
Precinct 8 - Eastern Portal					
33	0349/15	Demolish the existing building and subsequently construct a six-storey building (five-storeys when viewed from Toorak Road) comprising of a shop and office at ground floor and six dwellings on the floors above (5 x 1-bedroom and 1 x 2-bedroom). There is one car parking space provided in the basement with access from Ralston Street. No	14 Toorak Road, South Yarra	On advertising	N/A

ID	Application number	Application description	Address	Permit status	Decision date
		loading/unloading bay is provided on site.			
34	0200/11	Partial demolition, construction of buildings and construction and carrying out of works (including multi-level building and basements); use of land in a Business 1 Zone for dwellings; reduction of the car parking requirement associated with the use of land for shops and dwellings and a waiver of the loading bay requirement.	22-32 Toorak Road and 37 Caroline Street South, South Yarra	Permit Issued	11 September 2012
35	0985/14	The application seeks to construct a four-storey apartment building with a roof terrace, comprising 11 dwellings (5 x one bedroom dwellings, 5 x two bedroom dwellings and 1 x three bedroom dwelling). A total of 11 car spaces (residents only) are to be provided within a basement accessed from William Street. The application seeks to reduce the parking requirements.	17 William Street, South Yarra	VCAT Appeal	Awaiting hearing
36	0939/12	Construction of a six storey building for 13 dwellings. 4 car spaces would be provided within the semi basement accessed from William Street via a new vehicle crossover	15 William Street, South Yarra	Granted	24 March 2014
37	0248/14	Construction of a multi-dwelling development (13 three storey townhouses above basement car parking) and a reduction in the car parking requirement.	2, 2A, 4 & 6 William Street, South Yarra	Appeal Complete	NOD issued 17 December 2015
38	0800/13	Construction of a multi-dwelling development (five storey buildings for four dwellings, each with two carparking spaces accessed from the rear lane).	6 Chambers Street, South Yarra	Appeal Complete	5 September 2014
39	0350/15	The construction of a multi-dwelling development (four storey building comprising seven dwellings (2 x 2 bedroom and 5 x 3 bedroom). A total of 14 car spaces are to be provided for residents in a basement and 1 car space is proposed to be provided for visitors at ground level.	17 & 19 Chamber Street, South Yarra	Advertising due to submission of revised plans	NOD issued 4 December 2015
40	0534/13	Construction of a multi dwelling development and a reduction in the car parking requirement.	6 & 6A Darling Street, South Yarra	Appeal Complete	23 June 2015
41	545/15	Construction of 49 apartments over four levels and associated basement car parking	3-5 Chambers Street	On Advertising	N/A

Appendix I

Relevant Planning Scheme Amendments and Strategic Planning Studies

This section identifies the planning scheme amendments and associated strategic planning studies and policies which apply across the proposed Melbourne Metro area and are identified as having a potential impact on land use.

Planning Scheme Amendments

When a planning scheme needs to be changed to reflect new circumstances or achieve new objectives, a planning scheme amendment is prepared. An amendment may involve a change to a planning scheme map (such as a rezoning), a change to the written part of the scheme, or both. Amendments can be prepared by Councils (if authorised by the Minister for Planning first) or by the Minister for Planning and are included into the relevant planning scheme once approved by the Minister for Planning and notice is given in the Victorian Government Gazette.

The planning scheme amendments and studies have varying status – some are at their inception stage, whilst others have been exhibited and assessed by an expert panel, awaiting adoption by Council, or are awaiting approval by the Minister for Planning.

Strategic Planning Studies

Many planning scheme amendments and studies apply to specific areas and have been described on a precinct basis in Table I-1.

Table I-1 : Relevant planning scheme amendments and Policy affecting the proposed Melbourne Metro alignment

Precinct	Amendment / study	Status	Points of relevance	Municipality
Whole study area	The Eddington Report - Investing in Transport	Reference document	The Investing in Transport report recommended construction of a new 17 km rail tunnel linking Melbourne's fast-growing western and south-eastern suburbs to deliver a 'generational step-up' in the city's rail capacity and Melbourne's first 'metro' style passenger line	Cities of Melbourne, Port Phillip, Stonnington and Maribyrnong,
Whole study area	Australian Infrastructure Plan	Reference document	The Plan is a 15 year rolling infrastructure plan. Melbourne Metro would assist in addressing the headline aspirations of the Australian Infrastructure Plan.	Cities of Melbourne, Port Phillip, Stonnington and Maribyrnong,
Whole study area	Inner Melbourne Action Plan	Adopted by Councils	This Plan is currently being updated to include reference to *Plan Melbourne*.	Cities of Melbourne, Port Phillip, Stonnington and Maribyrnong,
All precincts within the City of Melbourne	Places for People, 2004	Reference document	The proposed Melbourne Metro is within a number of public spaces within the City of Melbourne.	Melbourne
All precincts within the City of Melbourne	Future Melbourne, 2008	Reference document	One of the aims for the proposed Melbourne Metro is to provide a transport system suitable for a global city.	Melbourne
All precincts within the City of Melbourne	Towards a Better Public Melbourne: Draft Urban Design Strategy, 2006	Reference document	The proposed Melbourne Metro is located within a number of public spaces with the proposed station entrances at ground level within the City of Melbourne.	Melbourne
All precincts within the City of Melbourne	City of Melbourne Open Space Strategy, 2012	Reference document	The strategy explicitly outlines the role and future of the public open spaces within the proposed Melbourne Metro area.	Melbourne

Precinct	Amendment / study	Status	Points of relevance	Municipality
All precincts within the City of Melbourne	Melbourne Transport Strategy, 2012	Reference document	The proposed Melbourne Metro seeks to provide a 'metro style rail service' as outlined in this Strategy.	Melbourne
All precincts within the City of Melbourne	City of Melbourne Bicycle Plan 2012-16	Reference document	The proposed Melbourne Metro would pass through land affected by a number of initiatives outlined in this Plan.	Melbourne
All precincts within the City of Melbourne	Planning Scheme Amendment C212 (Exceptional Trees)	Gazetted April 2014	Land within the Melbourne Metro area at the Parkville Station location and Melbourne Grammar School is affected by this amendment.	Melbourne
All precincts within the City of Stonnington	Heritage Strategies	Reference document	Part of the Melbourne Metro area within the City of Stonnington has been identified as within an area of heritage precinct protection. Council's Heritage Policy is currently under review.	Stonnington
All precincts within the City of Stonnington	Planning Scheme Amendment C175	Gazetted 17 September 2015	Introduces a new Neighbourhood Character local planning policy at Clause 22.23 and updates the Municipal Strategic Statement at Clauses 21.05, 21.06 and 21.09 to reflect recent strategic work on neighbourhood character.	Stonnington
Precinct 1 – Tunnels	Fawkner Park Master Plan, 2006	Reference document	A portion of the proposed Melbourne Metro is located within Fawkner Park.	Melbourne
Precinct 1 – Tunnels	Open Spaces North and West Melbourne, 2001	Reference document	The study seeks to extend the North Melbourne Primary School site (Site 3) into surrounding streets. The proposed Melbourne Metro crosses beneath site 3.	Melbourne

Precinct	Amendment / study	Status	Points of relevance	Municipality
Precinct 1 – Tunnels **Precinct 4 – Parkville Station**	Planning Scheme Amendment GC36 (East-West Link)	Gazetted September 2015	The amendment removes the incorporated document titled 'East West Link (Eastern Section) Project June 2014 (Amended September 2014)' from the Melbourne, Moonee Valley, Moreland and Yarra Planning Schemes.	Melbourne
Precinct 2 - Western Portal	JJ Holland Park Concept Plan, 2008	Reference document (outdated)	A portion of the proposed Melbourne Metro is located adjacent JJ Holland Park.	Melbourne
Precinct 2 - Western Portal	Moonee Ponds Creek Strategic Plan, 2011	Reference document	The proposed Melbourne Metropasses under the Moonee Ponds Creek.	Melbourne
Precinct 3 – Arden Station	Planning Scheme Amendment C190 / Arden-Macaulay Structure Plan, 2012	Amendment C190 at Panel hearing	This Structure Plan applies to land within the Western Portal and Arden station precincts. The Structure Plan identifies the proposed Melbourne Metro station within public land (VicTrack).	Melbourne
Precinct 3 – Arden Station	Planning Scheme Amendment C207 / Arden – Macaulay Heritage Review, 2012	Awaiting consideration by the Minister for Planning (forwarded to the Minister for Planning for approval on 8 July 2014).	The proposed Melbourne Metro area includes sites identified within this study.	Melbourne
Precinct 3 – Arden Station	West Melbourne Structure Plan, 2005	Draft Plan in preparation to replace 2005 plan.	The proposed Arden station precinct is on land adjacent to the Structure Plan area.	Melbourne
Precinct 4 – Parkville Station	Parkville Precinct Strategic Plan and Parkville Structure Plan, 2006	Endorsed by State Government in 2006	The proposed Melbourne Metro would be constructed and operated on land within the identified Specialised Activity Centres in Parkville.	Melbourne

Precinct	Amendment / study	Status	Points of relevance	Municipality
Precinct 4 – Parkville Station	The University of Melbourne Parkville Master Plan, 2008	Reference document	The buildings at the intersection of Royal Parade and Grattan Street, within the proposed Melbourne Metro area, are generally identified to be reviewed for major refurbishment or new development in this Master Plan.	Melbourne
Precinct 4 – Parkville Station	Planning Scheme Amendment C261	Gazetted 4 September 2015	The amendment facilitates the development of Stage 2B of the Bio21 Project Parkville by updating the Incorporated Document which applies to the land.	Melbourne
Precinct 4 – Parkville Station	Planning Scheme Amendment C173	Gazetted 15 October 2015	Rezones 114-152 Grattan Street Carlton from Public Use Zone - Schedule 2 (PUZ2) to the Capital City Zone facilitate the Carlton Connect Initiative.	Melbourne
Precinct 4 - Parkville Station **Precinct 5 – CBD North Station**	Planning Scheme Amendment C196 / City North Structure Plan, 2012	Gazetted 15 October 2015	The Structure Plan identifies the previous Melbourne Metro project.	Melbourne
Precinct 4 - Parkville Station **Precinct 5 – CBD North Station**	Planning Scheme Amendment C198 / City North Heritage Review, 2013	Gazetted 15 October 2015	The proposed Melbourne Metro area is adjacent to a number of sites proposed to be included within (or deleted from) the schedule to Clause 42.01 Heritage Overlay.	Melbourne
CBD North and CBD South Station Precincts	Planning Scheme Amendment C262	Gazetted 4 September 2015	Introduces built form and height controls over land affected by the DDO10	Melbourne
Precinct 7 – Domain Station	Domain Parklands Masterplan, 1997	Currently being updated	The Domain station precinct and the tunnel precinct between CBD South and Domain are partly located within the Domain Parklands.	Melbourne

Precinct	Amendment / study	Status	Points of relevance	Municipality
Precinct 7 – Domain Station	Planning Scheme Amendment C107 / Draft St Kilda Road North Precinct Plan, 2015	Council adopted the amendment on 28 July 2015	The Domain station location would be affected by the revised DDO which would require consideration of the potential impact of the proposal on views to and from the Shrine and the St Kilda Road boulevard.	Port Phillip
Precinct 7 – Domain Station	Melbourne Planning Scheme – Amendment C220, Port Phillip Planning Scheme – Amendment C140 and Stonnington Planning Scheme – Amendment C200 (2014)	Gazetted May 2014	The amendment relates to the Shrine Vistas and the Domain station precinct is within the area identified in these amendments.	Melbourne Port Phillip Stonnington
Precinct 7 – Domain Station	City of Port Phillip Housing Strategy, 2007	Reference document	The housing strategy identified St Kilda Road as an area where substantial housing growth would be supported.	Port Phillip
Precinct 8 – Eastern Portal	Planning Scheme Amendment C172 / Chapel Street Activity Centre Permanent Planning Controls, 2015	Awaiting consideration by the Minister for Planning (forwarded to the Minister for Planning for approval on 10 September 2015).	The proposed Eastern Portal precinct is within land identified in the *Chapel reVision Structure Plan*. This amendment includes the rezoning of Lovers Walk to PPRZ.	Stonnington
Precinct 8 – Eastern Portal	*Chapel reVision Structure Plan* 2013-2031	To be implemented into Planning Scheme through Planning Scheme Amendment C172	The proposed Eastern Portal Precinct is within land identified in the Chapel reVision Structure Plan.	Stonnington
Precinct 8 – Eastern Portal	*Chapel Street Structure Plan* Documents, 2014	Prepared as part of the *Chapel reVision Structure Plan* 2013-2031 to be implemented into Planning Scheme through planning scheme amendment C172	The Eastern Portal Precinct extends as far east as Chapel Street and is relevant to on the ongoing strategic direction of the area. The Toorak Road Central Precinct Neighbourhood Framework Plan identifies opportunities for the study area.	Stonnington

Precinct	Amendment / study	Status	Points of relevance	Municipality
Precinct 8 – Eastern Portal	Forrest Hill Structure Plan, 2005	Reference document	The proposed Melbourne Metro area abuts the Structure Plan area and would be influenced by and influence development in the precinct.	Stonnington
Precinct 8 – Eastern Portal	Planning Scheme Amendment C206 / 420 – 424 Punt Road, 2015	Gazetted 17 September 2015	Apply a Heritage Overlay HO463 to the land at 420-424 Punt Road, South Yarra.	Stonnington
Precinct 8 – Eastern Portal	Public Realm Strategy, 2010	Reference document	The proposed Melbourne Metro may be constructed and operated on public land identified within this Strategy. The City of Stonnington considers their public open space as a scarce resource in this location and strategies for improvement are identified in 'Strategies for Creating Open Space'.	Stonnington

Strategies affecting the whole study area

The Eddington Report - Investing in Transport 2008

In 2006, the Victorian Government appointed Sir Rod Eddington to lead an independent investigation into the best transport solutions for connecting Melbourne's eastern and western suburbs. The investigation documented the investigation of east-west transport volumes and patterns, the existing capacity of transport infrastructure, options to address capacity constraints and future demand and funding issues.

Key findings of the study included:

- Melbourne's strong economic and population growth means that there would be a very substantial increase in demand for travel.
- Melbourne's economic success is increasingly less dependent upon traditional industries such as manufacturing and more dependent upon 'knowledge' and 'business' services. This shift is generating different patterns of travel.
- In the future, Melbourne will need a flexible, fully connected transport network to reduce road and rail congestion and would support a modern economy.
- Many high income, highly sought after jobs would continue to be located in the CBD and inner urban region. This would place further pressure on peak period transport connections to the central city.
- Melbourne's long-term prosperity would require the city to find new ways to succeed and grow in a carbon-constrained world. Higher levels of investment in public transport are vital, as is the development of urban areas that are conducive to walking and cycling.
- Transport issues are more pressing in the west: Strong population growth is outstripping local employment growth in the city's west, creating significant travel pressures as more people travel to the city and to the inner- and middle-eastern suburbs for work or business.

To address these and other issues, the *Investing in Transport* report recommended construction of a new 17 km rail tunnel linking Melbourne's fast-growing western and south-eastern suburbs to deliver a 'generational step-up' in the city's rail capacity and Melbourne's first 'metro' style passenger line.

Australian Infrastructure Plan

Infrastructure Australia released the Australian Infrastructure Plan in February 2016. The Plan is a 15 year rolling infrastructure plan that identifies four headline aspirations of:

- Productive cities, productive regions
- Efficient infrastructure markets
- Sustainable and equitable infrastructure
- Better decisions and better delivery
- Accompanying the release of the Plan was the Infrastructure Priority List. The List highlights Melbourne Metro as a high priority initiative that responds to the problem of urban congestion.

Melbourne Metro would assist in addressing the headline aspirations of the Australian Infrastructure Plan. In particular, Melbourne Metro would be the centrepiece of the Victorian Government's response to address capacity constraints on the Melbourne metropolitan rail network and better connect Melbourne's growth areas in the west and south east to the expanding CBD.

Inner Melbourne Action Plan, 2005

The '*Inner Melbourne Action Plan – Making Melbourne More Liveable'* represents a program for partnering Councils (Cities of Melbourne, Port Phillip, Stonnington, Yarra and Maribyrnong) to provide an integrated response to the directions of Melbourne 2030 and a guide to future development in the Inner Melbourne Region. It forms a framework for the Councils to translate Melbourne 2030's planning policy directions into

local planning strategies, and to develop a collaborative vision and joint initiatives. It also enables the policies and strategies developed by the individual municipalities to complement each other and work towards agreed regional frameworks. The Plan aims to 'Make Melbourne More Liveable' by implementing a series of strategies and actions including:

- *'Linking and improving transport routes*
- *Minimising traffic congestion and increasing public transport use*
- *Supporting planned residential growth and housing choice*
- *Developing the distinctive activity centres, encouraging business investment and tourism*
- *Linking regional open space'.*

This Plan is currently being updated. The updates would include reference to *Plan Melbourne* and Maribyrnong City Council (since becoming a full member in 2013). The first draft of the updated Plan would be presented to the Inner Melbourne Action Plan Implementation Committee on 28 August 2015.

Strategies affecting all precincts within the City of Melbourne

Places for People, 2004

The study looks into the quality of public spaces and how people use the public spaces of the City of Melbourne on a daily basis. The long timeframes for this study provides an opportunity to analyse how the use of city has changed over time. The City of Melbourne is currently preparing the third iteration of the Places for People study which would build on the 2004 study.

The outcomes of this study are relevant as the proposed Melbourne Metro would be partly within a number of public spaces within the City of Melbourne.

Future Melbourne, 2008

Future Melbourne is the key strategic document for the City of Melbourne developed in conjunction with the community of Melbourne that contains a series of goals and outcomes to be achieved to 2020. The Future Melbourne plan was endorsed by Council in 2008 and is used by the Council in drafting Council plans.

Future Melbourne sets out goals which aim to grow Melbourne as a global city and to be one of the top ten most liveable and sustainable cities in the world. It seeks to make Melbourne a creative, prosperous, connected and sustainable city.

The Future Melbourne Committee is made up of Councillors from the City of Melbourne and it oversees the implementation of the Council Plan strategies and activities contributing to the goals of the Plan.

One of the aims for the proposed Melbourne Metro is to provide a transport system suitable for a global city.

Towards a Better Public Melbourne: Draft Urban Design Strategy, 2006

The draft *Urban Design Strategy* has been developed by the City of Melbourne to guide the development of public spaces in Melbourne over the next 10 to 15 years. It identifies values, directions and opportunities for improving the liveability and prosperity of Melbourne in social, environmental, cultural and economic terms.

The Strategy provides core concepts to use in future urban design projects and policies and encourages the development of greater connectivity between and within centres of activity (including more accessible public transport and support for pedestrians and bicycles). The Strategy emphasises the benefits of a walkable city and recognises how transport can impact on the quality of the streetscape environment.

The document is in a draft format with no indication when or if it would be finalised.

The outcomes of this study are relevant as the proposed Melbourne Metro would be located within a number of public spaces with the proposed station entrances at ground level within the City of Melbourne.

City of Melbourne Open Space Strategy, 2012

The *City of Melbourne Open Space Strategy* is a strategic document providing the overarching framework and considered direction for the planning of public open space in the City of Melbourne over a 15 year timeframe to 2027. The strategy explicitly discusses the role of a number of public open spaces within the proposed Melbourne Metro area. The Strategy classifies public open space within the municipality as Capital City and State (Federation Square and Domain Parklands), Regional (Fawkner Park), Municipal (JJ Holland), Neighbourhood or Local and Small Local public open spaces.

Taking into consideration forecast population change, the strategy proposes a number of overall directions for public open space in the City of Melbourne, notably focusing on the provision of open space within easy reach of homes and workplaces as well as in areas earmarked for urban renewal in Melbourne's west.

As such, the strategy proposes the provision of Capital City open space in the Arden Macaulay urban renewal area. This is to meet a variety of recreational needs for the future residential population and incorporate natural features to provide contrast to higher urban densities. Public open space of this scale would also contribute to the mitigation of urban heat build-up. The provision of Capital City open space in the proposed Arden station precinct would create a focus and meeting place, large enough to support a variety of informal recreational uses including festivals and events.

The provision of public open space would need to be incorporated into any master plan for the area and the provision of such space would be delayed until completion of the works in 2023.

The existing public open space along the alignment are considered to meet the requirements of the community, both now and into the future, and as such there are few major planning additions to the City's public open space portfolio.

The Open Space Strategy earmarks the development of a Capital City Public Open Space area in the Arden station precinct.

Melbourne Transport Strategy, 2012

The main aims of the Melbourne Transport Strategy 2012 are around coordination of transport initiatives, strategic land use development policy and integration of local plans with the strategic plans of the State. The Strategy was adopted by the City of Melbourne on 8 May 2012 updating the 2006 strategy *Moving People and Freight 2006 - 2030*.

The Strategy identifies the need for 'a metro style rail service' and to achieve this key direction, the strategy identifies a number of actions, including to 'work with the Department of Economic Development, Jobs, Transport and Resources (DEDJTR) to achieve the conversion of the suburban rail' network into a metro style system'. In addition, the Strategy aims to ensure Melbourne Metro 'is well integrated with the existing city' and linked to the municipality's urban renewal areas (including Southbank, Docklands, E-Gate, Arden Macaulay, and City North).

The proposed Melbourne Metro seeks to provide a 'metro style rail service' as outlined in this Strategy.

The Strategy would be reviewed again in 2016.

The City of Melbourne Bicycle Plan, 2012 - 2016

The City of Melbourne *Bicycle Plan 2012-16* is the Council's short to medium term plan to make the city safer and more attractive for current and future cyclists. The Plan focuses on creating a viable bicycle network by improving links between existing routes, and by encouraging people of all ages and abilities to take up cycling or cycle more frequently for local trips. The Plan outlines current cycling trends, outlines potential

strategies and actions for infrastructure, facilities, services and programs for investment by the City of Melbourne and partners.

The Plan identifies 50 large and small-scale projects to develop the City of Melbourne's bicycle network.

Some of the major projects outlined in the Plan and completed over the period were:

- La Trobe Street physically-separated bike lanes
- Swanston Street / Princes Bridge conversion of one lane of traffic to bicycle only lane
- Elizabeth Street physically-separated bike lanes from Haymarket Roundabout to Victoria Street (partly completed to Queensberry Street only)
- Part time bike lane (peak hours) on Exhibition Street
- St Kilda Road (southbound) physically-separated bicycle lane between Princes Bridge and Linlithgow Avenue
- Clarendon Street chevron-separated bicycle route between Victoria Parade and Wellington Parade.

Some projects in the planning/further investigation needed that relate to the location of the Melbourne Metro area are:

- St Kilda Road – plan to construct a physically-separated bicycle route in conjunction with the City of Port Phillip from Southbank Boulevard to Carlisle Street in St Kilda.

St Kilda Road passes directly through the Domain Station site and may also affect or be affected by construction vehicle access to Swanston Street

- Wreckyn Street – plan to upgrade the connection from Wreckyn Street to Arden Street
- Grattan Street – work with stakeholders to develop the best way to improve cycling conditions on Grattan Street.

Parkville Station site is proposed to be located under Grattan Street.

- Arden Street – plan to upgrade route and bridge over the Upfield railway line.

Considerations may need to be made relating to construction vehicles for Melbourne Metro at Arden including integration with the operational station.

The Plan is expected to be updated in 2016 to cover the period 2016-2020 and is expected to outline new projects and policy directions.

Amendments affecting all precincts within the City of Melbourne

Planning Scheme Amendment C212, 2014

Amendment C212 to the Melbourne Planning Scheme introduced Schedule 2 – Exceptional Trees to the Environmental Significance Overlay (ESO2). The aim of the ESO2 is to protect trees that have been identified in the City of Melbourne *Exceptional Tree Register 2012* as being highly valued and important to the municipality and is based on the recommendations from Council's Tree Retention and Removal Policy. The amendment applies across the whole municipality and was gazetted on 29 April 2014.

Amendment C211 applied interim controls to the exceptional trees until Amendment C212 was gazetted. C212 now replaces the interim measures outlined in Amendment C211.

The Exceptional Tree Register was developed as a result of the Tree Retention and Removal Policy, 2011 to ensure that the character and appearance of historic parks, gardens, landscaping, avenues and trees area protected. The Register includes 172 trees of 67 different species and cultivars from across the municipality. The register recognises and protects the exceptional trees that exist on private land in the city. A tree on the Exceptional Tree Register is identified through the application of the ESO2 and gives the City of Melbourne authority in its protection.

Figure I-1 and Figure I-2 show the general location of trees on the Exceptional Tree Register within proximity of the proposed Melbourne Metro. More detailed mapping is available on the City of Melbourne Interactive Map (CoMMaps).

Source: Exceptional Tree Register, 2012

Figure I-1 City of Melbourne exceptional tree register entries in and to the north of the Melbourne CBD

Source: Exceptional Tree Register, 2012

Figure I-2 City of Melbourne exceptional tree register entries south of the Melbourne CBD

The ESO2 was applied to 108 properties across the municipality, including land within the Melbourne Metro area at the Parkville Station location and Melbourne Grammar School.

The ESO2 applies to the whole parcel on which the exceptional tree is located. Consequently the Melbourne Metro area may not impact on the actual tree, or the tree may be within the study area.

Strategy affecting all precincts within the City of Stonnington

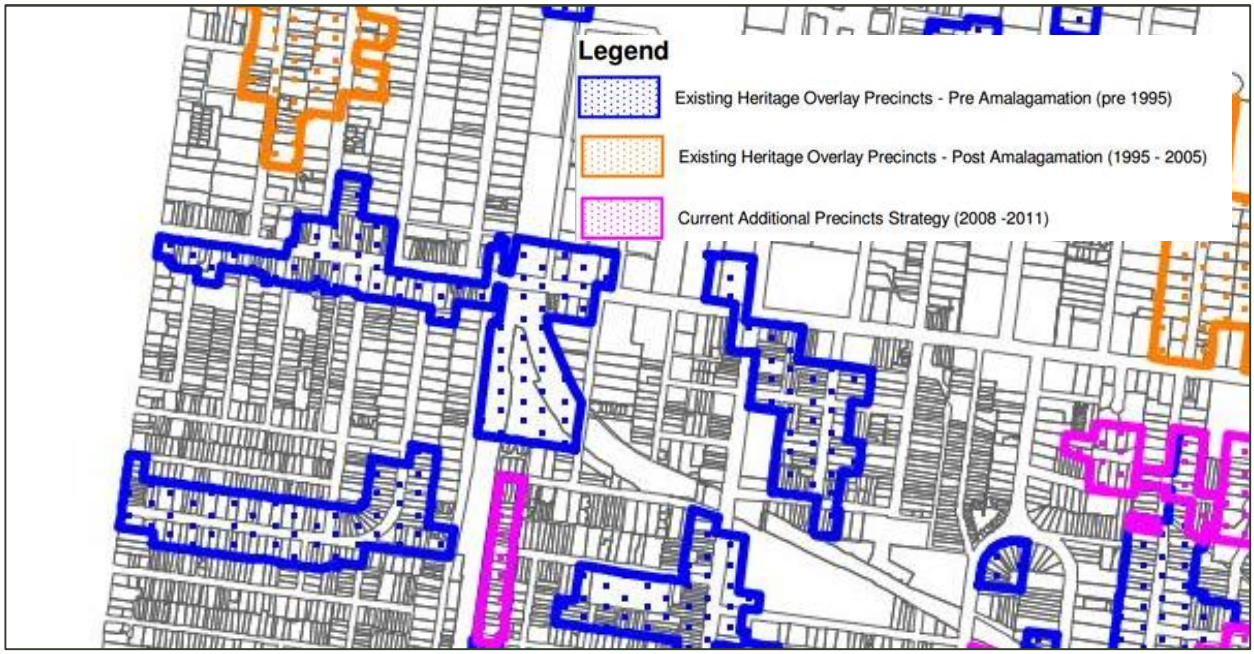
City of Stonnington Heritage Strategy

The City of Stonnington Heritage Strategy has been developed through a number of studies dating back to 1983. The current City of Stonnington *'Heritage Review Strategy'* was adopted by Council in July 2006. This Strategy aims to improve the overall heritage management framework used by Stonnington. The first Update Addendum to the Stonnington Thematic Environmental History was adopted in March 2009. In addition, Council also has the *'Heritage Review Action Plan'* which is an overall framework for managing heritage related issues in the City and includes a set of actions related to the following issues:

- Assessment methodology
- Data management
- Review of existing heritage citations
- Assessment of new places
- Planning scheme implementation
- Heritage management.

A *'Heritage Precinct Gap Study'* was prepared in 2009 to address any gaps in the identification and protection of areas with potential heritage significance. Council also has a set of Heritage Guidelines, which provide guidance to restoration and redevelopment. Council is currently revising its Clause 22.04 Heritage Policy in the Stonnington Planning Scheme and its Heritage Guidelines.

Part of the Melbourne Metro area within the City of Stonnington has been identified as within an area of heritage precinct protection dating from pre 1995.



Source: http://www.stonnington.vic.gov.au/residents-and-services/planning/strategic-planning-projects/heritage-strategy/heritage-precinct-gap-study-city-of-stonnington/ (Accessed 14 July 2015)

Figure I-3 History of Heritage Precinct Protection City of Stonnington (1989 - 2011)

Precinct 1 – Tunnel

This section comprises the area between the Western Portal at Kensington and Eastern Portal at South Yarra, with the exemption of the stations and the portals themselves.

Fawkner Park Master Plan, 2006

The *Fawkner Park Master Plan* was approved by the Melbourne City Council in May 2006. It was prepared in consultation with an Assessment Group including sporting and community groups. The purpose of the Plan is to guide the future development and management of the Park over 10 years As such, the plan would be updated in 2016.

The Plan includes proposals for future works at the Park, including to conserve the landscape characteristics of tree avenues, pathways and open grassy spaces and to manage the current tree population, including significant trees, to ensure their health and long life. It also included new passive recreation spaces, playgrounds and ongoing upgrades of sporting facilities. Many of these plans have now been implemented.

Planning Scheme Amendment GC36

Planning Scheme Amendment GC36 was published in the government gazette in September 2015 and formally removed the Incorporated Document entitled 'East West Link (Eastern Section)' from the Melbourne Planning Scheme.

The construction and operation of the proposed East West Link would have had impacts upon Precinct 1, Precinct 3 and Precinct 4.

Precinct 2 - Western Portal

The Western Portal is located east of the Maribyrnong River at the tie-in to the Sunbury Line, and includes the portals of the proposed Melbourne Metro tunnels in the Kensington area. The proposed Melbourne Metro precinct continues along the rail corridor to CityLink and Moonee Ponds Creek.

JJ Holland Park Concept Plan, 2008

The JJ Holland Park Concept Plan, 2008 was prepared by the City of Melbourne and guides its development until 2013. As such, this concept plan is passed its original used by date, however still applies.

Amongst other goals, this plan recommends the exploration of opportunities to reduce the use of potable water in irrigating the park, additional tree planting to define spaces within the park and good external path connections to improve park entrances.

The proposed Melbourne Metro area is located adjacent to JJ Holland Park to the south and would result in the temporary loss of carparking in the area. Despite the added pressure on parking in the area, the Melbourne Metro would not impact on the implementation of the concept plan.

Moonee Ponds Creek Strategic Plan, 2011

The *Moonee Ponds Creek Strategic Plan* 2011 was prepared by the Moonee Ponds Creek Co-ordination Committee, which comprises representative of all municipalities in the catchment: Moreland, Hume, Moonee Valley and Melbourne as well as the Friends of the Moonee Ponds Creek. The Plan provides guidance for the development and protection of the entire length of Moonee Ponds Creek.

The proposed Melbourne Metro passes under the Moonee Ponds Creek within this precinct but would not impact on the implementation of this Plan.

Precinct 3 - Arden Station Precinct

The Arden Station Precinct is located in an existing industrial area, bordered by CityLink and Moonee Ponds Creek to the west and Little Dryburgh Street to the east.

Planning Scheme Amendment C190 / Arden-Macaulay Structure Plan, 2012

The redevelopment opportunities at Arden and surrounding suburbs have been long understood by the City of Melbourne and state planning authorities. A significant body of strategic work underpinned the preparation of the *Arden-Macaulay Structure Plan 2012* that was adopted by Council in 2012. Planning Scheme

Amendment C190 proposes to implement the objectives and recommendation of Stage 1 of the *Arden-Macaulay Structure Plan 2012*.

At the request of the City of Melbourne, Planning Panels Victoria adjourned the hearing for Amendment C190 on 9 September 2014 to allow the City of Melbourne to assess the impact of the East West Link (Eastern Section) project on the Amendment. The East West Link (Eastern Section) was abandoned by the State Government with the election of the current state government. The Panel was reconvened on 8 July and was to be completed by the end of July 2015. The findings of the Panel had not been released at the time of writing.

The Structure Plan identified the broader precinct (also taking in part of Kensington and North Melbourne) as an urban renewal area that had capacity to accommodate significantly more residents and employment growth over the next 30 years.

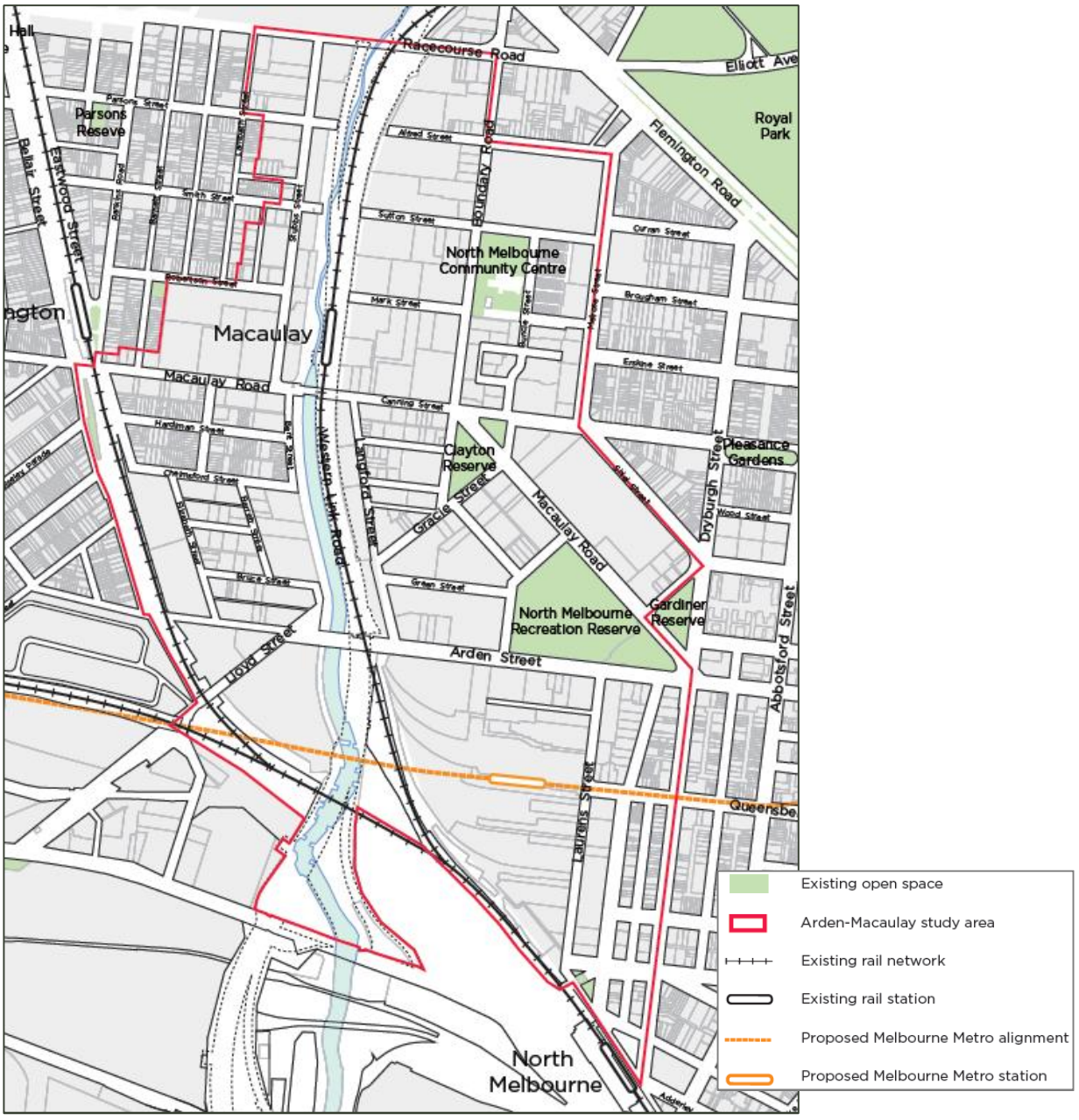
As a result of this strategic work the metropolitan importance of the Arden Macaulay precinct was formalised in *Plan Melbourne* and identified as a *'future emerging'* precinct to help to support the Expanded Central City initiatives of the metropolitan plan. The plan sees Arden Macaulay providing a critical link between planned and existing renewal precincts including Docklands, EGate and in the longer term Dynon. It is also expected to be a key commercial centre that would support the Parkville National Employment Precinct, the CBD and provide employment for existing communities in the north and west of Melbourne.

The key directions of the *Arden-Macaulay Structure Plan* provide the overarching future direction for development:

- *Develop Arden Central as a new extension of Melbourne's Central City*
- *Develop three new local centres within a mixed use neighbourhood*
- *Expand transport connectivity to and within Arden – Macaulay*
- *Upgrade the Moonee Ponds Creek parkland corridor and establish five new parks*
- *Make Arden-Macaulay energy, water and waste efficient.*

The Arden-Macaulay Structure Plan 2012 identified a two stage sequence of development. Stage 1 includes the area generally to the north of Macaulay Road and parts of the south west quadrant of the Structure Plan area. The area to the south of Macaulay Road and east of the Moonee Ponds Creek is known as Arden Central and has been identified as Stage 2 and includes the previous Melbourne Metro project. Where Assessment to the location of the Melbourne Metro is made, the proposed Melbourne Metro can also apply. Development for Stage 2 is planned for 2015+ and should be considered in conjunction with the delivery of the proposed Melbourne Metro. Stage 2 of the Structure Plan identifies the future use of Arden Central as high density residential, complemented by commercial activities, research jobs and tertiary education facilities. The proposed Melbourne Metro is anticipated to provide for intense employment in this immediate area of up to 14,000 jobs, 4,000 residents and 12,000 students. The Structure Plan designates Arden Central as a location for community facilities and open space but does not propose any rezoning at this stage. The Structure Plan calls for the preparation of a Master Plan to provide further guidance about the location of land use and design within the precinct.

Figure I-4 illustrates the Structure Plan area and the location of the proposed Melbourne Metro within that precinct.



Source: *Arden-Macaulay Structure Plan*

Figure I-4 Arden-Macaulay structure plan study area

The Structure Plan applies to the area identified in Figure I-4, including land within the Western Portal and Arden Station Precincts. The Structure Plan identifies the proposed Melbourne Metro station within public land (VicTrack).

Planning Scheme Amendment C207 / Arden – Macaulay Heritage Review, 2012

One of the recommendations of the *Arden-Macaulay Structure Plan* was to undertake a review of the local heritage significance. The amendment was forwarded to the Minister for Planning for approval on 8 July 2014 and is currently under consideration. Planning Scheme Amendment C207 seeks to implement the recommendations of the review by:

- *Introducing new individual heritage overlays and heritage precincts*
- *Removing individual places from the heritage overlay*
- *Modifying existing heritage overlays (such as adding or deleting properties from a precinct)*
- *Changing the existing heritage grading of places.*

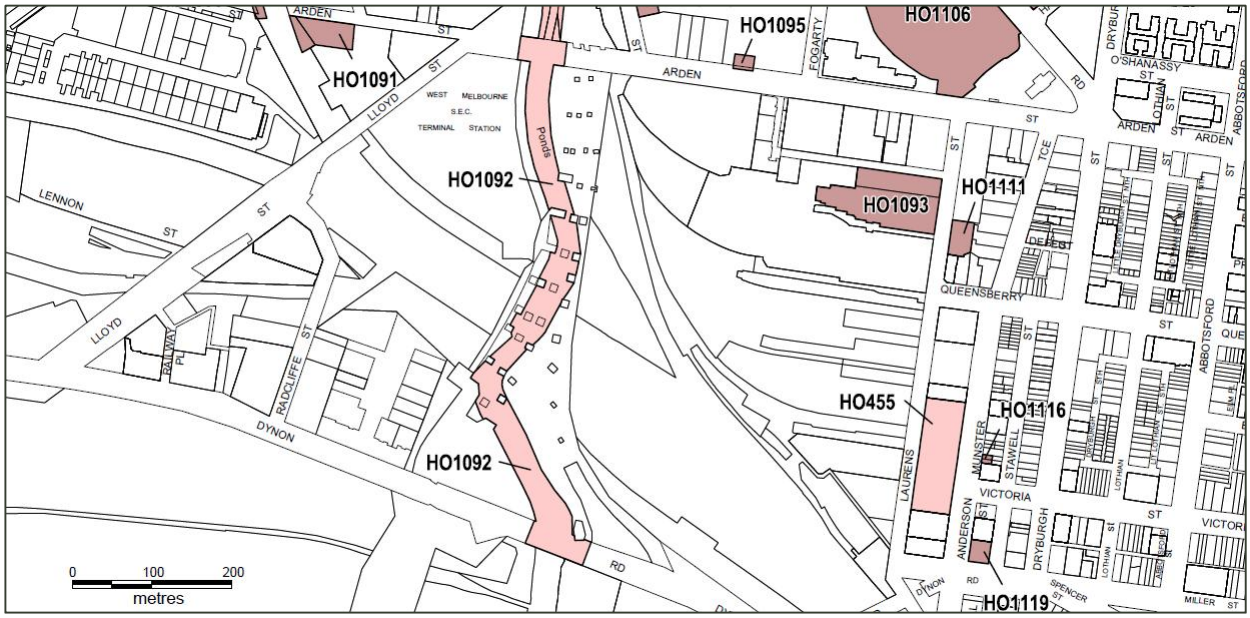
As part of the review, Statements of Significance and a Heritage Places Inventory have been prepared for properties identified within Amendment C207. Once approved, the documents would be incorporated into the Melbourne Planning Scheme.

Amendment C207 proposes the inclusion of three new places within the Arden Station Precinct. These are:

- HO1092 (Moonee Ponds Creek and Infrastructure Precinct)
- HO1093 (Railways Reserve Precinct)
- HO1111 (Melbourne City Council Electric Supply substation and coal yard, later CitiPower).

In addition, there are additional proposed sites in proximity to the study area including HO455 (North and West Melbourne Biscuit Making & Flour Milling Precinct) and HO1116 (Shandon & Moher cottages or maisonettes).

The proposed Melbourne Metro area includes the proposed sites above, as well as the Arden Street Bridge, Dynon Road Bridge and Racecourse Road Bridge over Moonee Ponds Creek, including the Moonee Ponds Creek and Infrastructure Precinct, identified in HO1092 as shown on Figure I-5.



Source: Planning Scheme Amendment C207

Figure I-5 Proposed Heritage Overlays

West Melbourne Structure Plan, 2005

The City of Melbourne is currently developing a new *West Melbourne Structure Plan*, which would replace the existing West Melbourne Structure Plan, 2005. Council held community workshops in April and May 2015 and is currently reviewing the community feedback to assist in the preparation of the draft plan.

The 2005 plan applied to land within the Mixed Use Zone shown in Appendix E and provides direction in relation to matters such as land use, built form, movement, civic improvements and community facilities. Additionally, the plan addresses the relationship of the Mixed Use Zone with surrounding areas and makes recommendations which extend beyond the Mixed Use Zone (including the Laurens Industrial Area).

The Structure Plan has broken the study area up according to existing land uses. The North Melbourne Mixed Use Area is bounded to the north by Arden Street, Laurens Street to the west, Curzon Street to the east and Spencer Street to the south. This area is identified as being mostly residential with small scale offices and home businesses. The Structure Plan recommends that additional residential properties in the area include sound attenuation to ensure a high standard of amenity for residents due to the mixed-use nature of the area.

The Structure Plan identifies West Melbourne as an 'intermediary' area that is influenced by activity nodes around it, one being the Laurens Street Industrial Area. This area is acknowledged as having a number of rail related leases but provides an opportunity to redevelop as an industrial park in the longer term. The Plan, shown in Figure I-6, identifies the need for a detailed Development Plan.

Source: West Melbourne Structure Plan Findings Report, 2005

Figure I-6 West Melbourne structure plan area

The Structure Plan area earmarks the intensification of land uses in West Melbourne, and the proposed Arden Station precinct is constructed on land adjacent to the Structure Plan area but would not impact on the implementation of the Plan.

Open Spaces North and West Melbourne, 2001

Open Spaces North and West Melbourne 2001 was prepared by the City of Melbourne and is an extension of Council's 'Greening Strategy'. It focuses on the irregular 'left over' spaces that occur between North and West Melbourne's street grids. Council analysed these sites and made recommendations as the future use of the nine most promising sites as shown in Figure I-7.

Source: Open Spaces North and West Melbourne, 2001

Figure I-7 Sites identified in the Open Spaces North and West Melbourne study

The study seeks to extend a number of reserves into surrounding streets, including the North Melbourne Primary School site (Site 3). The proposed Melbourne Metro crosses beneath site 3 but would not impact on the land use at ground level.

Site 3 has potential to make the largest and most dramatic single improvement to public open space within North and West Melbourne. The suggested improvements involve joining some of these 'islands' together to create a green pedestrian link between North Melbourne and Levers Reserve. Council sought community input and the proposed improvements received limited community support. As such, Council has ranked this site as having only 'medium' potential for development.

Precinct 4 - Parkville Station

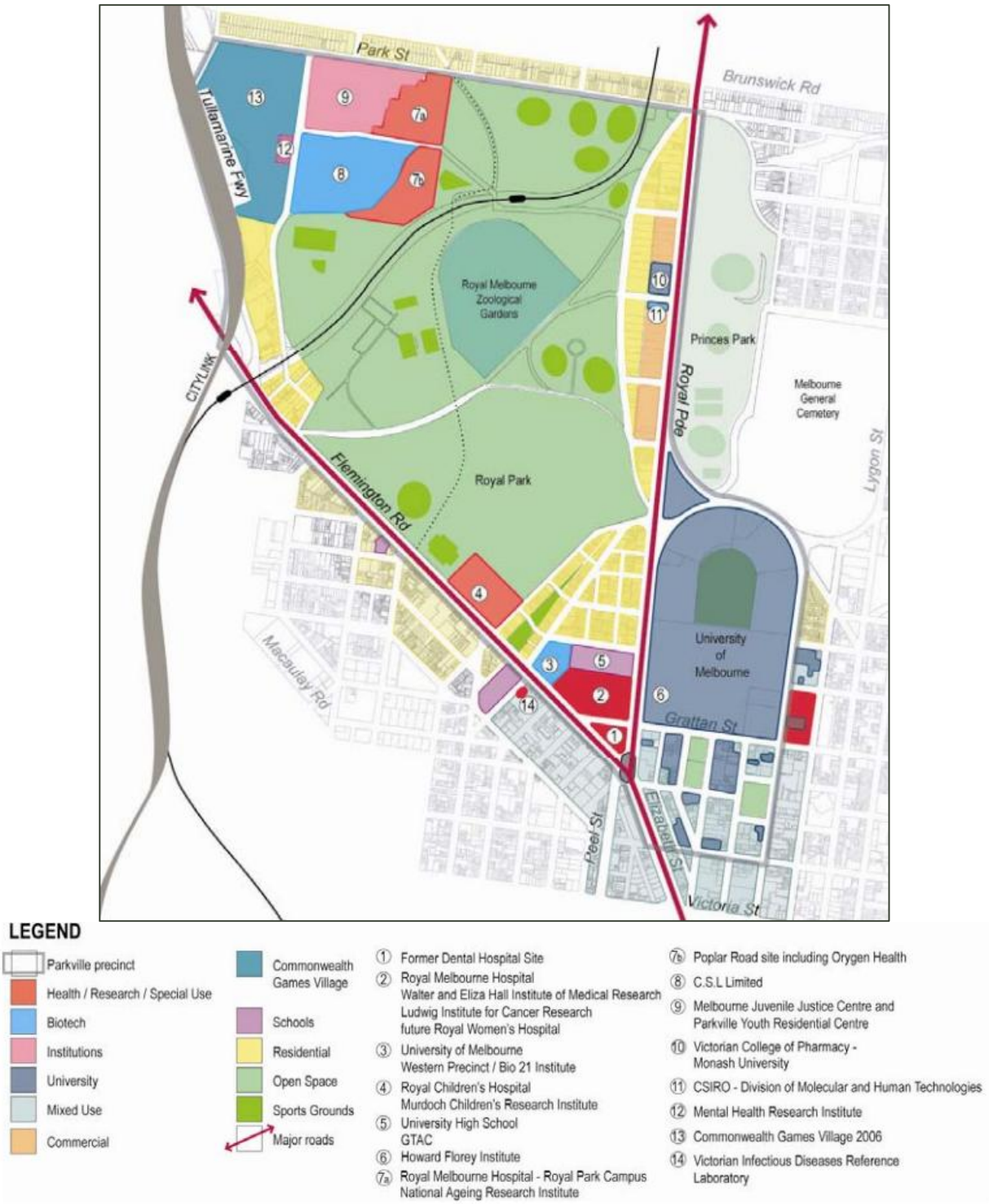
The Parkville station precinct includes buildings fronting both sides of Flemington Road between Villiers Street and Wreckyn Street and along Grattan Street, including buildings fronting both sides of Grattan Street, to Leicester Street.

Parkville Precinct Strategic Plan and Parkville Structure Plan, 2006

The Victorian Department of Innovation, Industry and Regional Development (now Department of Economic Development, Jobs, Transport and Resources), together with the Department of Health and Human Services, were responsible for coordinating development of the Strategic Plan in partnership with health service providers, universities, research organisations, industry, community groups and government agencies. The Plan was endorsed by State Government in March 2006 in conjunction with the draft Parkville Structure Plan. The plan is a ten-year strategy and is due to be updated in 2016.

The Strategic Plan identifies the Parkville Precinct as one of ten Specialised Activity Centres. *Plan Melbourne* (2014) now designates the area as a national employment cluster (see Appendix A of this impact assessment).

The Parkville Precinct includes the entire suburb of Parkville (including the main campus of the University of Melbourne) and also the portion of Carlton immediately south of the University, bounded by Elizabeth, Queensberry and Swanston Streets. The research and education precinct Plan guides the long term development of the Parkville Precinct, and describes the vision for the area as an integrated healthcare precinct. The area addressed in the plan is shown in Figure I-8.



Source: Parkville Precinct Strategic Plan, July 2005

Figure I-8 The Parkville precinct

The proposed Melbourne Metro would be constructed and operated on land within the identified Specialised Activity Centres in Parkville and would ultimately facilitate the intensification of land use in the precinct.

The University of Melbourne Parkville Master Plan, 2008

The *University of Melbourne Parkville Master Plan* was prepared on behalf of the University in 2008. The Master Plan highlights the redevelopment of buildings along Royal Parade and Grattan Street, improved pedestrian connections along Grattan Street, Barry Street, University Square and Leicester Street, and preferred entry points into the university. The intention is that the Master Plan provides annual context for progressing the University 10-year Infrastructure Plan.

The buildings at the intersection of Royal Parade and Grattan Street, within the proposed Melbourne Metro area, are generally identified to be reviewed for major refurbishment or new development in this Master Plan.

Further to this study is the 'University of Melbourne Urban Design Framework – Parkville campus' prepared in 2014 by Peter Elliot Architecture and Urban Design. This study builds on the Master Plan and projects forward to 2025 summarising the ideas for development as '*a central campus green and a network of connected walkways and a cluster of academic villages*'[42].

It is noted that the University of Melbourne are likely to produce a new master plan in 2016.

Planning Scheme Amendment C261

Planning Scheme Amendment C261 was gazetted in September 2015. The area bound by the amendment is in close proximity to Precinct 4 and allows for the use and development of a science and biotechnology education and development precinct.

Planning Scheme Amendment C173

Planning Scheme Amendment C173 was gazetted in October 2015. It rezones 114-152 Grattan Street Carlton from Public Use Zone – Schedule 2 (Education) to the Capital City Zone. This has been carried out to accommodate the Carlton Connect Initiative which aims to create Australia's first 'Innovation Hub' which is to include a mix of research and development, commercial, community and residential uses in close proximity to the CBD. The Capital City zoning, which is consistent with land uses on the southern side of Grattan Street, was considered the most appropriate land use to accommodate the mix of uses required by the innovation hub.

Planning Scheme Amendment C196 / City North Structure Plan, 2012

Planning Scheme Amendment C196 seeks to implement the *City North Structure Plan,* 2012 by amending the zoning and building development controls that apply to the structure plan area.

The *City North Structure Plan* 2012 was adopted by Council in February 2012. A Panel report, dated October 2013, supported the amendment. The amendment is currently with the Minister for Planning for consideration. The City of Melbourne adopted Amendment C196 in April 2014 and the Minister for Planning approved it on 15 October 2015.

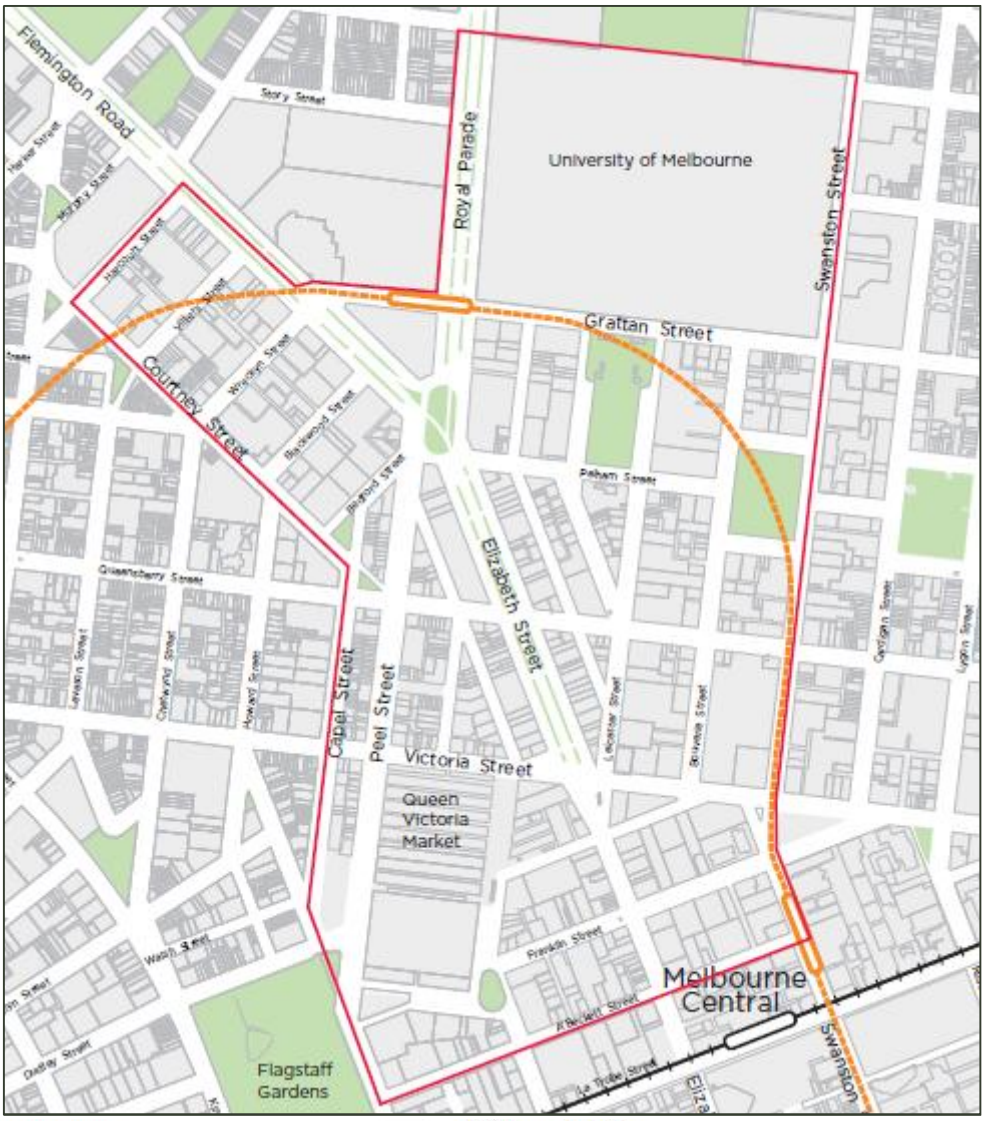
The Structure Plan covers an area of 130 hectares to the north of Victoria Street, bound by Peel, Grattan and Swanston Streets and provides a framework to guide the development of the area as an extension of the Central City and consolidate the State significant knowledge precinct with a range of commercial, residential and retail activities.

The key directions of the City North Structure Plan are:

- Integrate the knowledge cluster into the Central City;
- Boost transport infrastructure
- Create a compact, liveable precinct that builds on the existing urban heritage qualities
- Develop four new major civic places
- Make City North an energy, water and waste efficient precinct.

[42] *http://www.peterelliott.com.au/studies/urban-design/University-of-Melbourne*

The Structure Plan applies to land identified in Figure I-9 and identifies the Melbourne Metro project.



Source: City North Structure Plan

Figure I-9 City North Structure Plan Study Area

It recommends the preparation of a master plan to transform the roundabout area into an integrated public realm. Both of these sites are in proximity to the proposed Parkville and CBD North Melbourne Metro stations. As part of the development of this precinct, the Structure Plan acknowledges future plans for two proposed Melbourne Metro stations. It should be noted that the Carlton United Brewery site is currently under construction and incorporates mixed use development including student housing, and iconic high rise commercial developments.

It should be noted that Planning Scheme Amendment C208 sought to apply a Development Contributions Plan Overlay over the urban renewal areas of Southbank, and City North (as identified in the City North Structure Plan). The Panel report, dated November 2014, recommended abandonment of the amendment and a reconsideration of approach towards development contributions.

The amendment affects land in the North and West Melbourne, Carlton and Melbourne areas. It seeks to implement the findings of the 'City North Heritage Review, RBA Architects 2013' by proposing the following changes to the Schedule to Clause 42.01 Heritage Overlay:

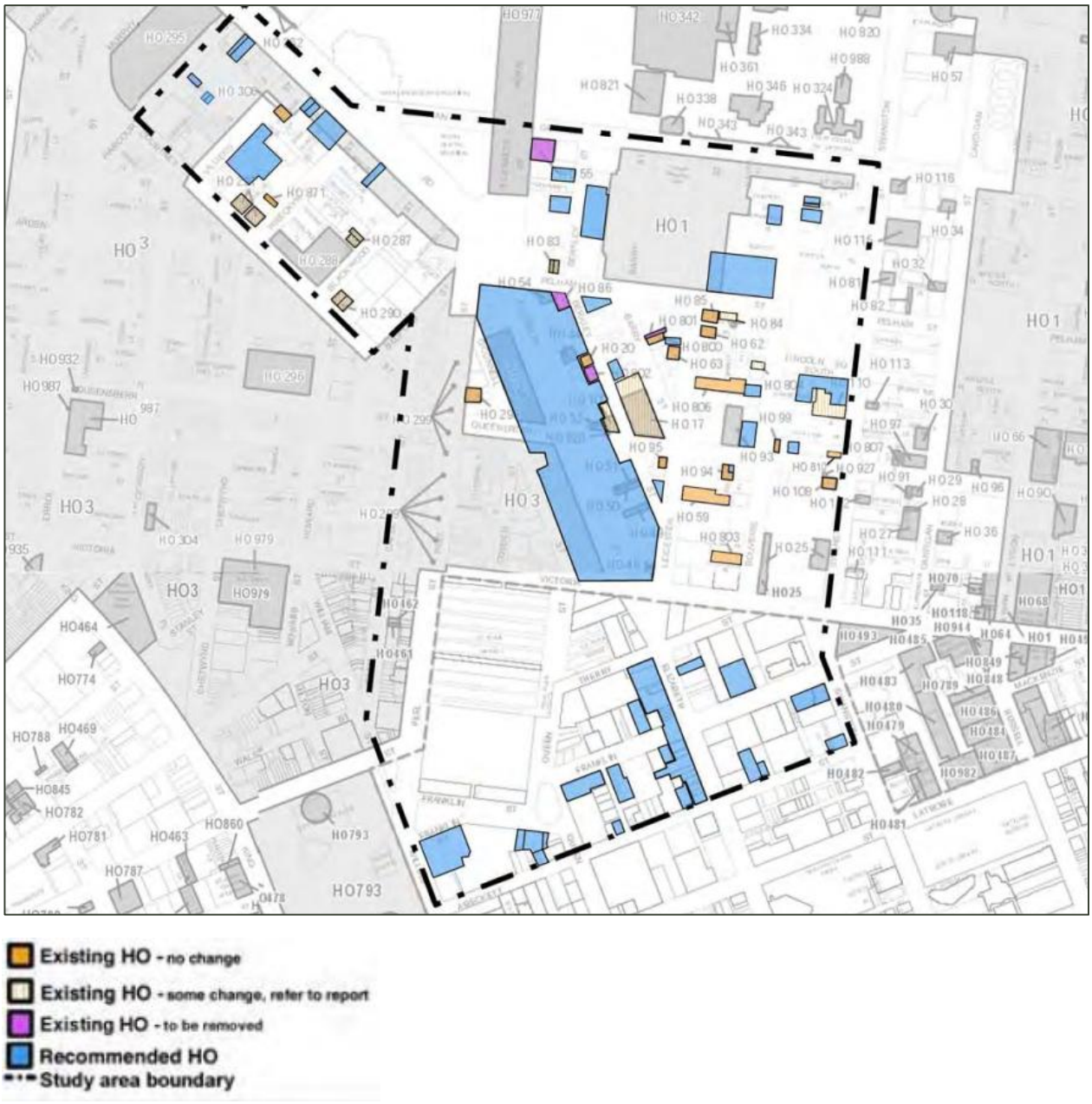
- Creating new individual heritage places
- Creating new heritage precincts
- Removing existing heritage overlays
- Altering a number of existing heritage overlays (i.e. adding to or deleting properties from a precinct, altering the description or property grading).

Additionally, the amendment proposes to:

- insert the 'City North Heritage Review, RBA Architects 2013' as an Assessment document within Clause 22.04 - Heritage Places within the Capital City Zone and Clause 22.05 Heritage Places outside the Capital City Zone, so that the document is considered when making decisions relating to any of the places and precincts which are the subject of this amendment
- insert the 'City North Heritage Review 2013: Statements of Significance' as an incorporated document, so that these statements are considered when making decisions relating to individually significant buildings and to precincts
- Update the Heritage Places Inventory (Incorporated Document), so that the individual building gradings proposed in the review are considered when making decisions relating to any of the places which are the subject of this amendment.

A Panel report, dated July 2014, and subsequent supplementary report, dated November 2014, supports the amendment. The City of Melbourne adopted Amendment C198 on 3 March 2015 and submitted the amendment to the Minister for Planning for approval on 15 May 2015.

The proposed Melbourne Metro area is adjacent to a number of sites proposed to be included within (or deleted from) the schedule to Clause 42.01 Heritage Overlay, as shown in Figure I-10 and described in Table I-2.



Source: City North Heritage Review, 2013

Figure I-10 City North heritage review

The following table (Table I-2) outlines the heritage places within the proposed Melbourne Metro area.

Table I-2 : Changes to the Heritage Overlay within the proposed Melbourne Metro alignment as part of Amendment C198

Schedule	Name/address
New	
HO1123	Villiers Street Precinct, 14-42 Villiers Street, North Melbourne
HO1130	Former Baptist Kindergarten Part 197-235 Bouverie Street, Carlton (alternate address 233-235 Bouverie Street, Carlton)
HO1128	Former Pitman Books Building 158-164 Bouverie Street, Carlton
HO1140	Chelsea House 55 Flemington Road, North Melbourne
HO1141	Former Factory 61-63 Flemington Road, North Melbourne
HO1142	Pair of Shops 65-67 Flemington Road, North Melbourne
HO1146	House 14 Mary Street, North Melbourne
HO1147	Unknown[43]
Deleted / Amended	
HO1	Carlton Precinct
HO3	North & West Melbourne Precinct
HO55	792 Elizabeth Street and 257 Grattan Street, Carlton

Precinct 5 – CBD North Station

Planning Scheme Amendments C196 (*City North Structure Plan*) and C198 (*City North Heritage Review*) as discussed in Precinct 4 are also relevant to the CBD North Station precinct.

Planning Scheme Amendment C262

The Design and Development Overlay – Schedule 10 (Built Form Controls) (DDO10) was introduced by Planning Scheme Amendment C262 to the Melbourne Planning Scheme on 4 September 2015. The DDO10 introduced interim built form and height controls until 4 September 2016. The amendment documents state that the City of Melbourne would use this time to review the existing controls and prepare permanent controls. The amendment introduced the controls shown in (Table I-2) on land shown in Figure I-11.

[43] HO1147 is not listed in schedule available on amendments online (http://dsewebapps.dse.vic.gov.au/Shared/ats.nsf/(attachmentopen)/40FEA762FFD9D129CA257BF20008BDBD/$File/Melbourne+C198+43_01s_melb+Exhibition+Gazetted.pdf?OpenElement)

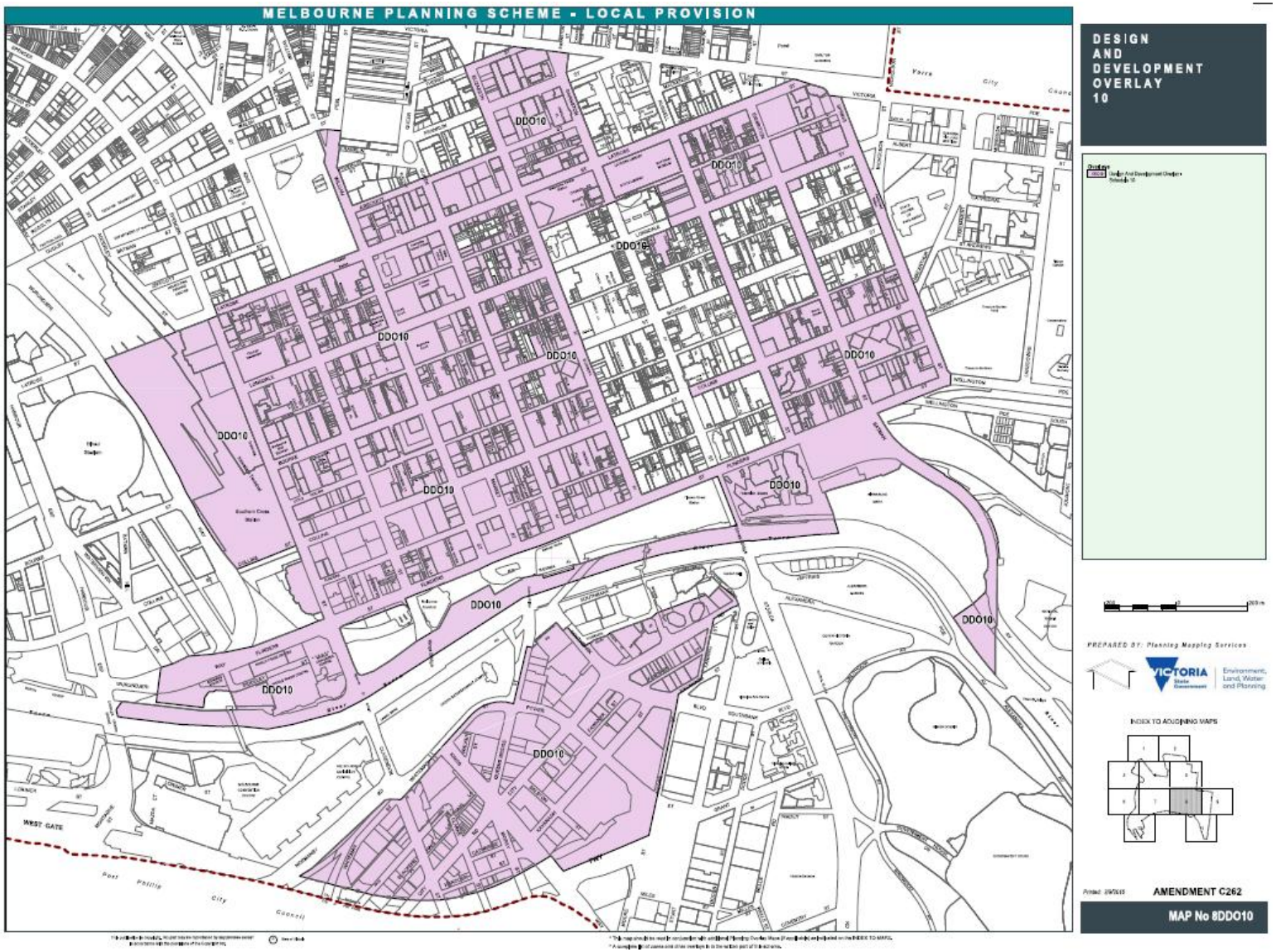


Figure I-11 Map showing the extent of the DDO10

Precinct 6 – CBD South Station

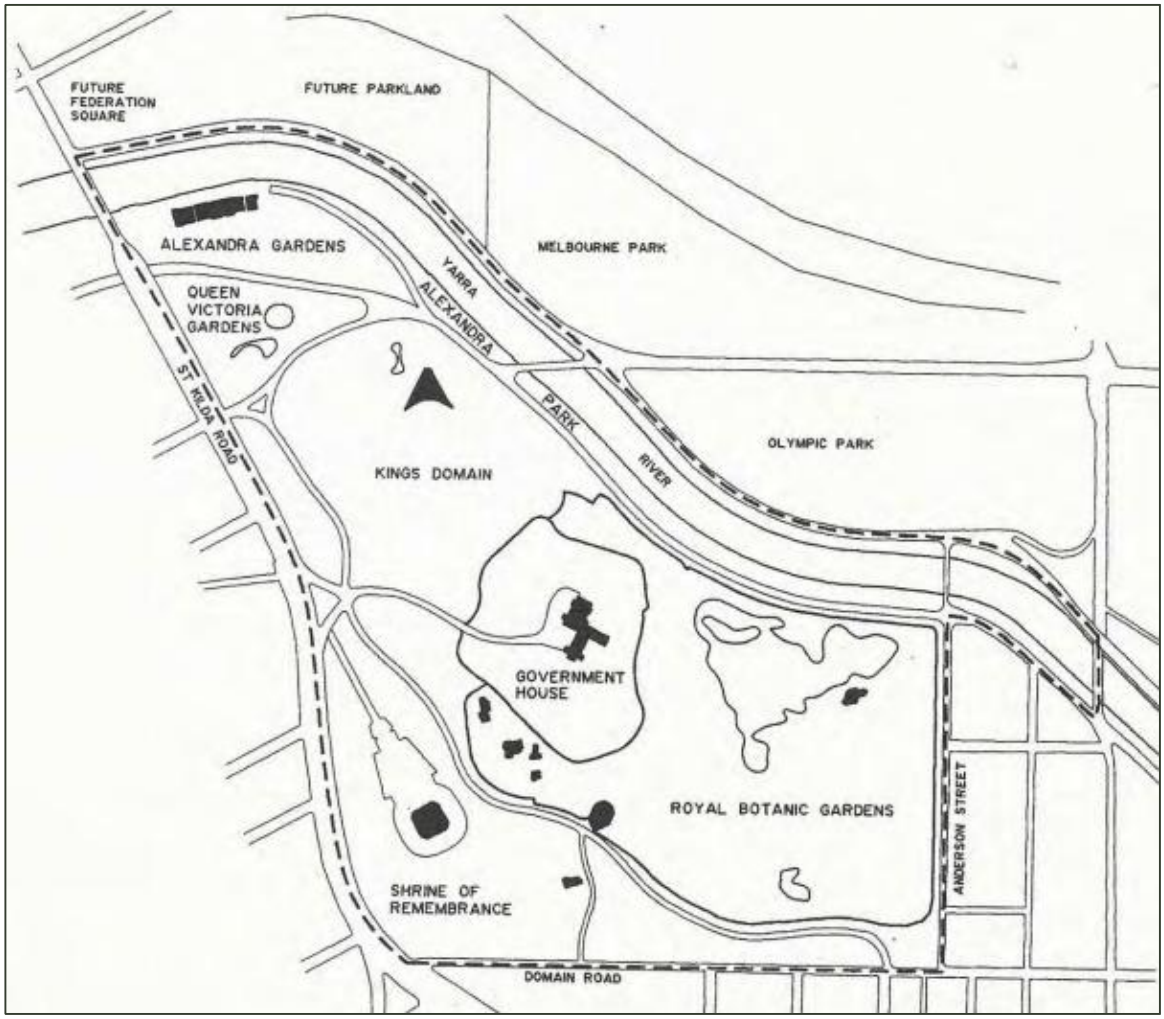
Planning Scheme Amendment C262 – Schedule 10 (Built Form Controls) (DDO10), discussed in Precinct 5: CBD North Station also applies to Precinct 6: CBD South Station.

Precinct 7 – Domain Station

The Domain station precinct is located within the Cities of Port Phillip and Melbourne.

The Domain Parklands Masterplan, 1997

The Domain Parklands Masterplan was intended to provide a broad strategic direction for the Domain as a whole and was prepared by the City Melbourne in 1997. The Masterplan is currently being updated. The study area is bounded by St. Kilda Road to the west, Domain Road to the south, Anderson Street to the east and the Yarra River to the north. Although Government House Reserve, the Observatory Reserve, the Royal Botanic Gardens, and Sidney Myer Music Bowl fall within these boundaries, they are not managed by the City of Melbourne and are excluded from the Masterplan, although their relationship to the adjoining parkland is addressed (Figure I-12). The reserves addressed are Alexandra Park and Gardens, Queen Victoria Gardens and the King's Domain and King's Domain South. The Shrine of Remembrance and the setting of Government House are also included within this master plan.



Source: Domain parklands masterplan

Figure I-12 Study area for the Domain parklands masterplan

The Domain Parklands are covered by a Heritage Overlay (HO398 Domain Parklands and LaTrobe's Cottage, St Kilda Road and Domain Road and Dallas Brooks Drive, Melbourne and HO489 Shrine of Remembrance, 2-42 Domain Road, Melbourne) and is listed on the Victorian Heritage Register (VHR H2304, H1076, H1447, H848).

The masterplan identifies the tenure and administration of the various parts of the Parklands. It states that the majority of the Domain is Crown Land permanently reserved as public park or gardens with committees of management appointed to improve, maintain and control the land according to the purposes of the reservation.

The masterplan recommends the preparation of precinct plans for the ongoing improvement of these significant parklands. The current update of the masterplan is underway.

The Domain station precinct and the tunnel precinct between CBD South and Domain are partly located within the Domain Parklands.

Planning Scheme Amendment C107 / Draft St Kilda Road North Precinct Plan, 2015

Planning Scheme Amendment C107 has been prepared by the City of Port Phillip. A Panel Report (following a Panel hearing) was provided to Council for its consideration on 6 May 2015. Council considered the Panel report, and resolved to adopt the amendment (with changes) at its meeting on 28 July 2015. The amendment has been submitted to the Minister for Planning for approval.

Amendment C107 proposes to give statutory effect to the vision, strategic directions, and built form (development) outcomes of the *Draft St Kilda Road North Precinct Plan 2013*. The amendment applies to land generally between St Kilda Road and Queens Road, Melbourne and Kings Way, South Melbourne, extending from Dorcas Street, South Melbourne, in the north to Punt Road and High Street, Windsor, in the south. The St Kilda Road North precinct includes land along Albert Road to Moray Street, South Melbourne, incorporating the Domain Station Precinct and part of Tunnel Precinct.

As part of the preparation of the precinct plan, Council commissioned five technical studies covering built form, transport and access, community infrastructure needs, public realm and physical infrastructure capacity.

Following the Minister for Planning's introduction of interim mandatory height controls for the area in 2011 (via Planning Scheme Amendment C86), Council prepared the *Draft St Kilda Road North Precinct Plan 2013* for inclusion in the Port Phillip Planning Scheme.

The interim mandatory height controls have been extended twice since their introduction in 2011, most recently in January 2015 for 12 months. Planning Scheme Amendment C116 was gazetted on 22 January 2015 which extended the interim mandatory heights until January 2016.

The Domain station location would be affected by the revised DDO, which requires consideration of the potential impact of the proposal on views to and from the Shrine and the St Kilda Road boulevard.

Melbourne Planning Scheme – Amendment C220, Port Phillip Planning Scheme – Amendment C140 and Stonnington Planning Scheme – Amendment C200 (2014)

On 8 May 2014, the following planning scheme amendments were gazetted:

- Melbourne Planning Scheme, Planning Scheme Amendment C220
- Port Phillip Planning Scheme, Planning Scheme Amendment C140
- Stonnington Planning Scheme, Planning Scheme Amendment C200.

The amendments implement the findings of 'The Shrine of Remembrance, Managing the significance of the Shrine, July 2013' planning study by strengthening the planning polices and controls applicable to land that forms the setting and background of the Shrine of Remembrance.

The amendments introduced 'The Shrine of Remembrance, Managing the Significance of the Shrine, July 2013' as a reference document and 'Melbourne and Metropolitan Board of Works, Shrine Vista Details and St Kilda Road Preservation of Shrine Vista (Plans)' as an incorporated document, and made changes to:

- Ensure consistent reference to the Shire of Remembrance
- Introduce permanent mandatory height controls (to land shown in Figure I-13)
- Require mandatory compliance with the Shire Vista Control

Figure I-13 shows the area impacted by the amendments, which included the following changes:

Melbourne Planning Scheme, Planning Scheme Amendment C220

The amendment updated the Municipal Strategic Statement and Local Planning Policy Framework, Design and Development Overlay – Schedule 17 (Shrine Vista), Design and Development Overlay – Schedule 19 (St Kilda Road Area), Design and Development Overlay – 58 (312 – 332 St Kilda Road) and Design and Development Overlay – Schedule 60 (Southbank).

Port Phillip Planning Scheme, Planning Scheme Amendment C140

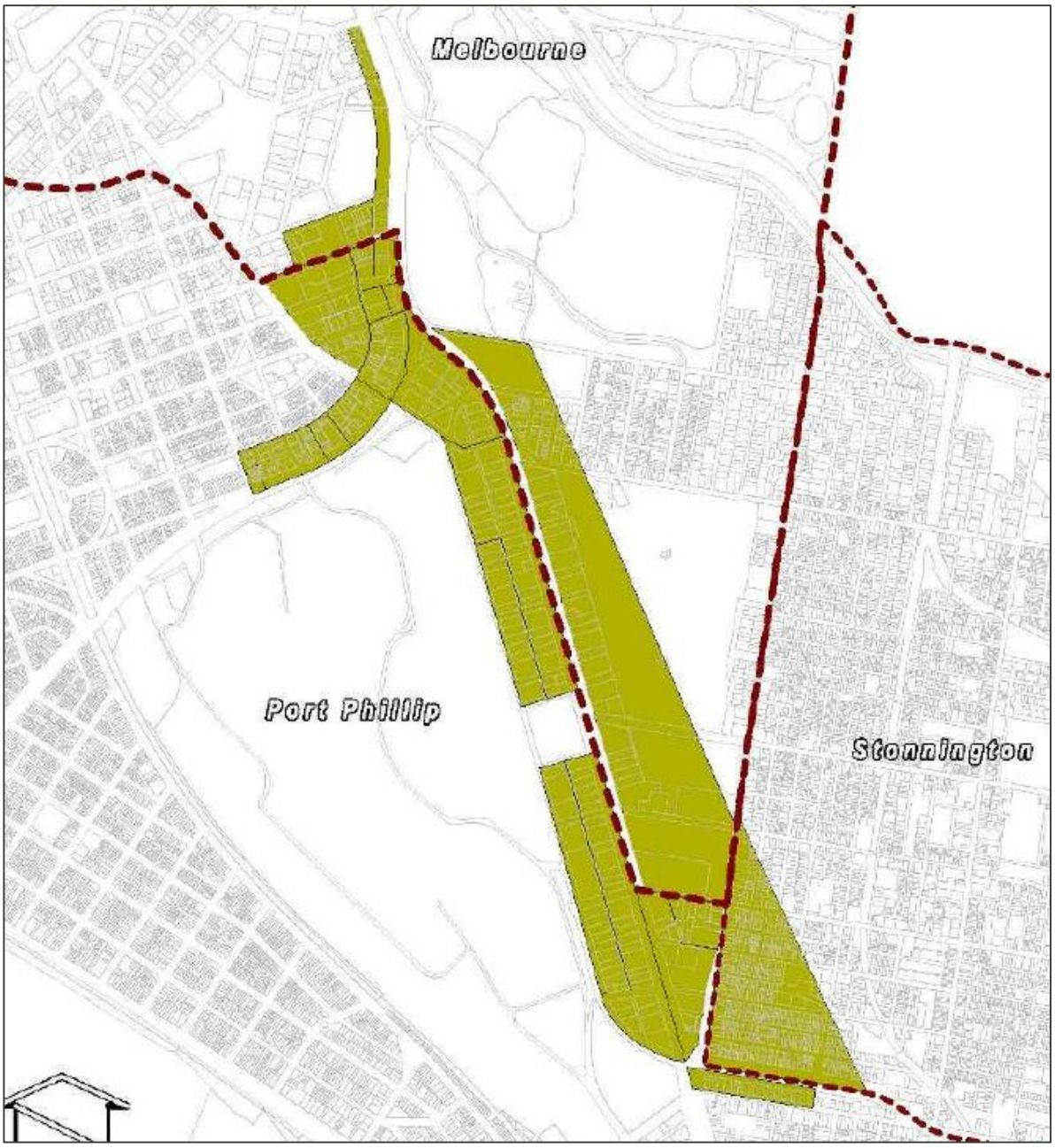
The changes to the Port Phillip Planning Scheme affected the existing built form controls (Design and Development Overlay – Schedule 3 (Albert Road, Kings Way North and St Kilda Road North), Design and Development Overlay – Schedule 4 (St Kilda Road, Queens Road, Kings Way and Queens Way) and Design and Development Overlay – Schedule 13 (Shrine Vista)), and introduced new mandatory height controls across much of the St Kilda Road North Precinct. The height controls are not exceeded by the changes implemented by Amendment C107.

The design objective of Design and Development Overlay – Schedule 13 (Shrine Vista) is 'to ensure that the Shrine of Remembrance and its outline as viewed from Swanston Street outside the State Library in the City of Melbourne is not fully or partially obscured by any building or works'.

Stonnington Planning Scheme, Planning Scheme Amendment C200

The amendment updates Stonnington Planning Scheme Municipal Strategic Statement to specifically reference the Shrine Vista; amends Design and Development Overlay – Schedule 2 (Shrine Vista) and requires mandatory compliance with the Shrine Vista Control.

The Domain station precinct location is within the area identified in this amendment.



Source: Melbourne Planning Scheme C220, Port Phillip Planning Scheme C140, Stonnington Planning Scheme C200 Explanatory Report

Figure I-13 Shrine vista protection area

City of Port Phillip Housing Strategy, 2007

The *Housing Strategy* 2007 provides an overview and assessment of the housing in the City of Port Phillip. Council's vision for housing in the municipality is:

> *'To direct residential growth to locations which offer the greatest access to shops, public transport and other services, and provide housing diversity by facilitating the development of affordable, accessible and suitable housing which meets the needs of all current and future residents, including the disadvantaged and those who are unable to access the private housing market.'*

The strategy sets out the framework to achieve a diverse range of housing in the municipality while maintaining the character and amenity of the city's residential areas.

The housing strategy identifies land within the proposed Melbourne Metro on St Kilda Road as an area where substantial housing growth would be supported. The proposed station at this location would support this strategy and provide better public transport access.

Precinct 8 - Eastern Portal (South Yarra)

This precinct is located in the City of Stonnington and is located within the existing rail corridor at South Yarra.

Planning Scheme Amendment C172 / Chapel Street Activity Centre Permanent Planning Controls, 2015

Planning Scheme Amendment C172 seeks to implement the directions of the *Chapel reVision Structure Plan 2013-2031* and applies to land known as the Chapel Street Activity Centre, including the Prahran/South Yarra Activity Centre and the Toorak Road and Windsor Neighbourhood Centres, as illustrated in Figure I-14.

The Panel supported the proposed amendment with the informal recommendation to review the provisions after five years to assess their effectiveness and operation.

The South Yarra Station and the majority of the rail corridor would remain PUZ4 as part of this amendment. However, the southern side of Toorak Road where it goes over the rail corridor is proposed to be rezoned to ACZ. The Panel report recommends including land south of Toorak Road, west of Chapel Street and north of the railway line within the *Chapel reVision Structure Plan 2013 – 2031.*

The Panel report for C172 was released on 17 June 2015 and recommended the adoption of the amendment as exhibited, subject to some changes. The report stated that the Structure Plan is 'a logical evolution of the original Chapel Vision strategy'. Council adopted the Amendment on 7 September 2015 and sent it to the Minister for Planning for approval 10 September 2015.

The proposed Eastern Portal Precinct is within land identified in the Chapel reVision Structure Plan.

Chapel reVision Structure Plan 2013-2031

Chapel reVision Structure Plan 2013-2031 reviews Council's long term strategic planning for the Chapel Street Activity Centre and updates the *Chapel Vision Structure Plan 2007-2031.* Chapel reVision aims to guide a range of aspects including development, land use, movement, public realm/open space, strategic opportunities and economic/social planning and sustainability.

Council adopted the Chapel Vision Structure Plan in December 2007, with interim planning controls reflecting the objectives of this Structure Plan introduced into the Stonnington Planning Scheme via Amendment C78 on 5 November 2010. These controls were set to expire in October 2014 but have been extended until 31 October 2015 through Planning Scheme Amendment C220 to allow for the consideration of permanent controls.

The ten elements that underpin the vision of the Structure Plan are *'a metropolitan role with a local flavour, a place to live and work for many, an intelligent and creative workforce, a wealth of functioning heritage places, managing new buildings and developments, a sustainable transport approach, public realm, community services and facilities, a more sustainable place and viable partnerships'*. Objectives and strategies are assigned to each element.

The plan identifies distinct neighbourhoods and Neighbourhood Framework Plans which identify Key Strategic Areas and Key Strategic Development Sites within each neighbourhood as well as specific recommendations and opportunities within each neighbourhood. The proposed Melbourne Metro area is partly included in on the Toorak Road West, Toorak Road Central / South Yarra Siding Reserve, Grosvenor Gardens and the Jam Factory districts as illustrated in Figure I-14.

The South Yarra station, rail corridor and South Yarra Siding Reserve are identified in a 'strategic area', with the station and reserve intended for further development. This is the location of the Eastern Portal for the proposed Melbourne Metro.

Lovers Walk is identified as requiring better surveillance with the potential for a 'laneway program' to activate and utilise the area. Planning Scheme Amendment C172 seeks to rezone Lovers Walk to the Public Park and Recreation Zone.

The proposed Eastern Portal Precinct is on land identified within the Chapel reVision Structure Plan.

Source: -*Chapel reVision Structure Plan 2013-2031*

Figure I-14 Chapel reVision structure plan study area

Chapel Street Structure Plan Documents, 2013

The City of Stonnington 'Chapel Street Palette & Guidelines 2013', the 'Re-discover Chapel Street Masterplan' and the 'Re-discover Chapel Street Public Domain Masterplan' were prepared in 2013 as part of the implementation strategy of Chapel reVision.

The Masterplan sits within the Chapel reVision Structure Plan 2013-2031 and presents the vision and the key directions for the future planning and development of the Chapel Street Activity Centre.

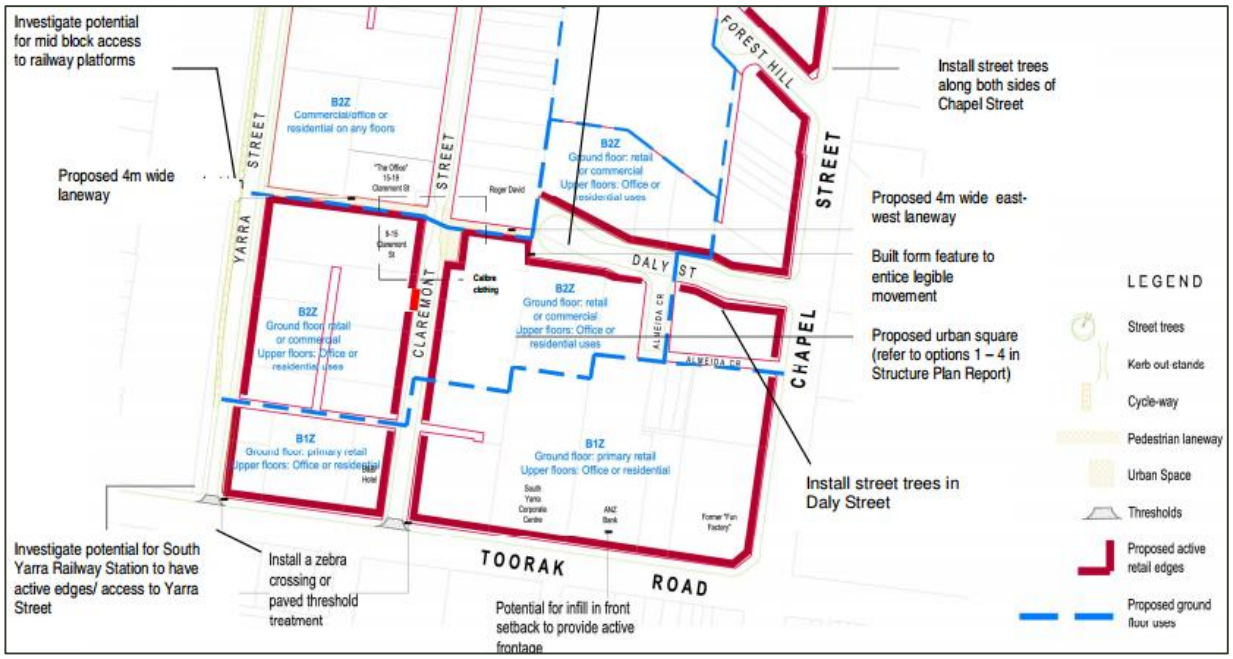
The Public Domain Masterplan provides direction in the upgrade of street furniture, pavement finishes and other aspects of the public domain with a focus on providing an adequate, attractive, accessible, 'safe' and green network of streets and public spaces.

The Chapel Street Palette and Guidelines provide design advice on short term projects for Chapel Street.

The Eastern Portal Precinct extends as far east as Chapel Street and is relevant to on the ongoing strategic direction of the area.

Forrest Hill Structure Plan, 2005

The Forrest Hill Precinct is located to the east of the South Yarra Station, generally boarded by Alexandra Avenue, Chapel Street, Toorak Road and Yarra Street (adjacent the rail corridor). It does not include the Melbourne High School site. The framework plan for the relevant area is illustrated in Figure I-15.



Source: *Forrest Hill Structure Plan*

Figure I-15 The Forrest Hill framework plan

The 'Forrest Hill Structure Plan' identifies the Forrest Hill Precinct as ideal for urban renewal and redevelopment, encouraging high density residential and commercial land uses. Key elements of the Forrest Hill Masterplan include:

- *'… current and future growth in the precinct with high quality urban open spaces'*
- *'Feature node points in Yarra, Claremont and Daly Streets to reinforce pedestrian priority along the east/west pedestrian link'*
- *'Provide entry threshold treatments into the precinct'*
- *'Develop pedestrian orientated spaces'.*

New built form character is proposed including:

- *'A low scale, well articulated street wall/podium with active ground level uses that maximise pedestrian and public realm amenity*
- *Upper levels of development that provide opportunities for higher density residential and/or commercial uses that contribute to the character and amenity of the street and overall precinct'*
- *'New development takes advantage of the relative lack of constraints to development (such as heritage places, valued character and low rise residential neighbours)'.*

As part of the structure planning process, a Streetscape Masterplan and Developer Contribution Plan was also prepared.

The Structure Plan was introduced as a reference document via Planning Scheme Amendment C58 in June 2009.

The proposed Melbourne Metro area abuts the precinct and would be influenced by and influence development in the precinct, but does not traverse the area identified in the Structure Plan.

Planning Scheme Amendment C206 / 420 – 424 Punt Road, 2015

Planning Scheme Amendment C206 seeks to update Clause 43.01 Heritage Overlay and Map 1HO of the Stonnington Planning Scheme to apply permanent heritage controls (HO463) to land at 420 – 424 Punt Road, South Yarra (known as Lot 1 TP 909415 and Lot 1 TP 948170).

The amendment was approved and gazetted on 17 September 2015.

The site specific control identified within this amendment is adjacent to the Tunnels Precinct between the Eastern Portal Precinct and the Domain Station Precinct.

City of Stonnington Public Realm Strategy, 2010

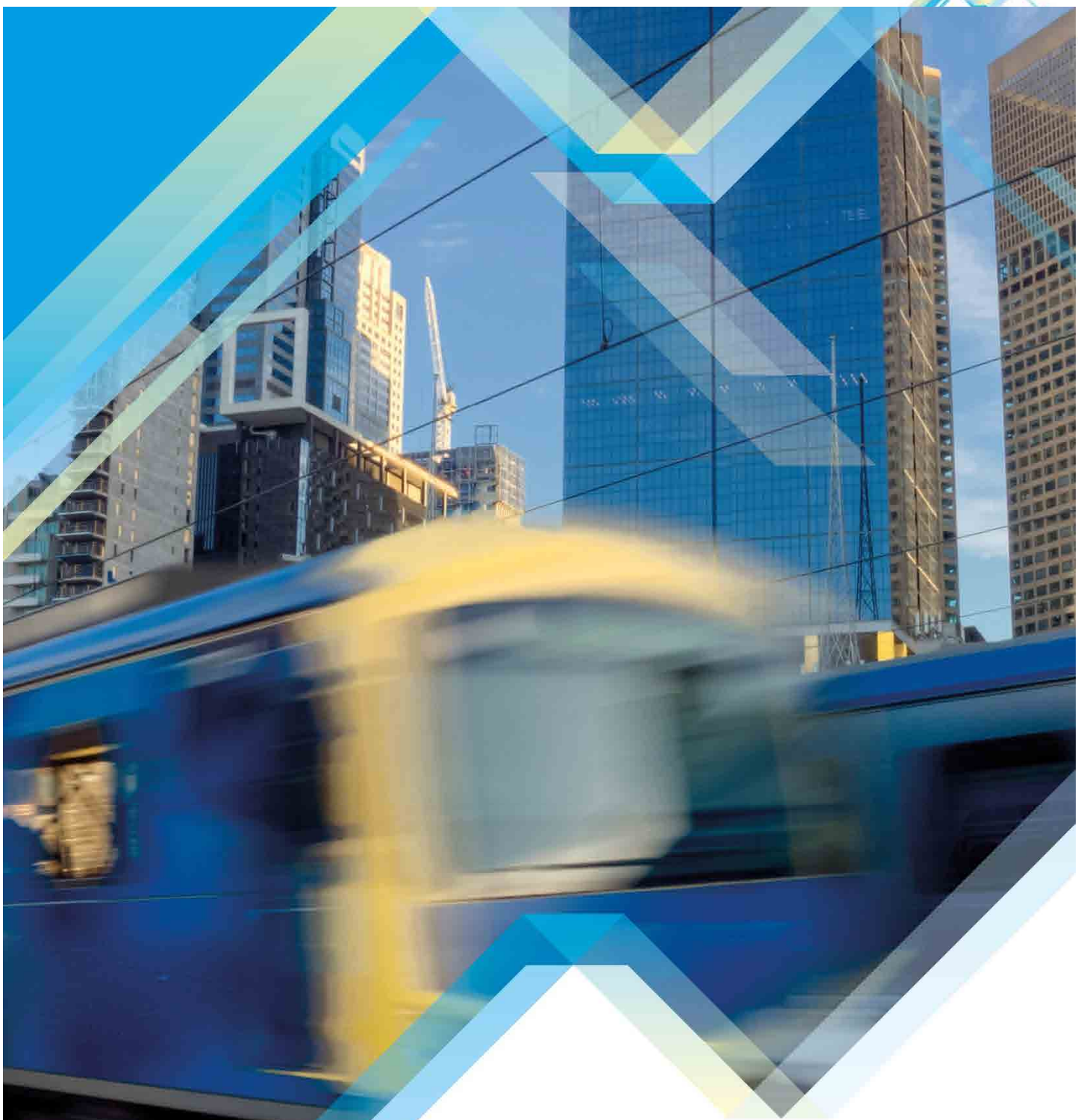
The *Public Realm Strategy 2010* provides vision and direction for Stonnington's public realm. The Strategy identifies that Stonnington is proficient in designing and maintaining high value commercial streetscapes such as Toorak Road but has the potential to increase quantity and quality of parks through developing railway land. The Strategy identifies the lack of public open space in the area and recommends the acquisition of land along rail corridors, in particular south of South Yarra Siding Reserve to contribute to public open space including a pedestrian link along the rail line.

A further document, 'Strategies for Creating Open Space' identifies opportunities to create open space and refers to the improvement of Lover's Walk and the South Yarra Siding Reserve.

The proposed Melbourne Metro may be constructed and operated on public land identified within this Strategy.

Appendix J

Future Development Loading Technical Paper



Melbourne Metro Rail Project

MMR-AJM-PWAA-RP-NN-001548 -
Appendix J - Future Development Loading

Melbourne Metro Rail Authority

20 April 2016
Revision: C1
Reference: CMS332569

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Approval			
Author signature		**Approver signature**	
Name	Anthony Bennett	**Name**	Lisa Ryan

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This report should be read in full and no excerpts are to be taken as representative of the findings.

Contents

List of Figures

Appendices

1 Introduction and Purpose

After completion of the Melbourne Metro Rail Project (Melbourne Metro), new buildings and infrastructure would be constructed in the vicinity of Melbourne Metro structures and infrastructure. The Melbourne Metro itself would be a catalyst for some of this development, as occurred around the Melbourne Underground Rail Loop (City Loop), but most of the new works would come from the natural growth and development of Melbourne.

As discussed in Section 5.3 of EES Technical Appendix E *Land Use and Planning*, various options have been considered and a Design and Development Overlay has been chosen as the preferred planning mechanism. The Design and Development Overlay will alert developers to the presence of the tunnels and other underground structures and formulated the referral process. These Design and Development Overlays would be applied to the Melbourne, Port Phillip and Stonnington Planning Schemes.

This assessment identifies the appropriate area of land to which the Design and Development Overlays should apply, to ensure that a proposed development which has the potential to impact adversely on Melbourne Metro infrastructure is referred to the relevant authority who would confirm whether it has been designed and constructed in a way that avoids such adverse impacts.

The presence of Melbourne Metro is unlikely to prevent future new developments, or future re-developments. However, in some cases, engineering measures would be required to stay clear of the Melbourne Metro assets or to keep the change of loading on Melbourne Metro assets to acceptable levels. With contemporary technology, there are many solutions available and it is possible that equally acceptable but different mitigation measures would be developed over the life of the Melbourne Metro structures.

This assessment also identifies the types of issues, potential limitations, and some potential mitigation measures that future developers might need to consider to protect both Melbourne Metro assets and the future developments.

This report is an appendix to EES Technical Appendix E *Land Use and Planning* and should be read in conjunction with EES Technical Appendix P *Ground Movement and Land Stability*.

1.1 Introduction

The constraints created by the proposed Melbourne Metro for future developments constructed in its vicinity fall into the following five broad types:

- Avoiding direct contact with and providing a safe working clearance around Melbourne Metro structures
- Avoiding loading onto Melbourne Metro structures that leads to structural damage with an associated reduction of structural capacity, damage detrimental to the serviceability of the structures (leading to effects such as increased leakage of groundwater into the underground structures), and displacement of Melbourne Metro assets to the detriment of operations
- Avoiding excavations or other unloading of the ground around Melbourne Metro underground assets that would generate unfavourable reduction in the stresses in the ground that leads to structural, serviceability, or operational damage of Melbourne Metro assets, analogous to the loading case discussed previously
- Avoiding construction methods or operations in the development that would generate unacceptable levels of vibration in Melbourne Metro structures and equipment
- Avoiding new development works that rely upon direct structural support from Melbourne Metro assets unless specifically envisaged in Melbourne Metro design.

A control is considered desirable to protect the tunnels, station and other infrastructure during the construction and operation of Melbourne Metro from inconsistent developments, thereby addressing these issues.

Given the scale of Melbourne Metro, the number of properties it passes under and its impact on multiple municipalities, MMRA's preference was to clearly identify the area in which tunnel protection considerations would arise in the planning schemes. This would ensure that proponents of future development that may affect Melbourne Metro assets would become aware of the potential issues through normal planning processes and vendor statements, and can plan development accordingly. It was also considered desirable to test and seek public comment on whether the existing suite of Victoria Planning Provision controls be adapted for this purpose. The rationale for this is discussed in Section 5.3 of the Land Use and Planning Impact Assessment. A draft Design and Development Overlay Schedule has been prepared and is included in Technical Appendix A of the EES. The Design and Development Overlay is proposed to work in conjunction with the establishment of easements, title acquisition and strata acquisition.

The Design and Development Overlay schedule would clearly identify the land to which it applies in the accompanying planning scheme maps. A Design and Development Overlay can be used to trigger planning approval for buildings and works within the Design and Development Overlay area and can require referrals of applications to the Secretary / VicTrack to ensure they have an opportunity to assess and advise on how a proposed development could impact on Melbourne Metro. The Cities of Melbourne, Port Phillip and Stonnington have all used this tool to manage design and built form within their municipalities and would be familiar with the Design and Development Overlay provisions and its implementation.

Any application for review to VCAT would be required to clearly demonstrate on strong engineering grounds why the application should be approved or any condition designed to protect the Melbourne Metro be varied. It is also noted that the Minister for Planning retains the power to call in and determine planning or review applications.

The schedules to the Design and Development Overlay are proposed to be introduced into the relevant planning schemes at clause 43.02. By including a referral requirement, the schedule to clause 66.04 of the relevant planning schemes also need to be amended.

In cases where a development has an existing approval when the Design and Development Overlay takes effect, and is likely to be built concurrently with or before Melbourne Metro, Melbourne Metro would be designed for the additional loading effects of that development. Resolution of any concerns arising around clearances or direct contact would need to be further discussed between Melbourne Metro Rail Authority (MMRA) and the developer.

The design requirements for Melbourne Metro infrastructure would include allowances for over-site development, or potential later development above some station structures, and station entrances. These particular allowances would be design requirements within the station design packages rather than allowances for future third party developments.

The future unloading allowances and excavation clearances would not be applied to cut and cover structures, such as the proposed Arden, Parkville and Domain stations, the entrance shafts and like structures, other than would be already included for the specific allowances for over-site development. In the case of future adjacent excavations, these Melbourne Metro structures would be assessed and protected similarly to current practice for the deep basements of buildings. While this does not preclude excavations adjacent to these structures, the future development would need to be constructed using methods that allow for the fact that lateral unloading from these future unknown developments has not been included in the design of these Melbourne Metro structures.

The derivation of clearances and loads described in Section 3 is based upon technical requirements for protecting the structural integrity of Melbourne Metro structures. The existence of strata titles and easements might lead to the imposition of additional constraints, as might the operational characteristics of Melbourne Metro, for example the generation of vibration.

1.2 Purpose

The purpose of this report is to:

- Identify the appropriate area of land to which the Design and Development Overlay should apply to provide for protection of Melbourne Metro infrastructure; and
- Identify the types of issues, potential limitations, and potential mitigation measures that future developers might need to consider.

It is expected that the referral authority under the Design and Development Overlay would develop technical guidelines based on the detailed design and as-built construction plans of Melbourne Metro to inform decision making under the Design and Development Overlay.

1.3 Peer Review

This assessment has been independently peer reviewed by Mr Sandy Bennet of Flagstaff Consulting. The peer reviewer reviewed and provided feedback on drafts of this report. The peer reviewer's methodology is set out in his report, but in general terms it included a review of the assumptions, methodology, assessment criteria and scope applied in this report. It also addressed whether there were any additional matters which should be considered as part of the impact assessment in order to address the EES Scoping Requirements that are relevant to future loading development impacts or management. The peer reviewer was also required to consider whether there are any gaps or matters where they disagreed with this assessment. The final peer review report is attached at Appendix A of this report, which sets out the peer reviewer's conclusions in relation to this report, and whether or not all of their recommendations were adopted.

2 Extent of the Design and Development Overlay

The assessment of proposed developments in the vicinity of Melbourne Metro assets would need to be triggered by a formal process that captures potential works and provides clarity on what needs to be considered. It is envisaged that a new schedule to the Design and Development Overlay would be established.

In order to ensure that appropriate developments which are a potential risk to the Melbourne Metro structures are referred, without adding unnecessary burden of referral and review, specified minor works would be exempt.

2.1 Background for Design and Development Overlay Boundaries

In defining the appropriate extent of the proposed Design and Development Overlay around Melbourne Metro underground assets, the objective is to select a distance within which proposed future developments that could potentially load the Melbourne Metro underground structures beyond their design limits are identified. These would be referred through the planning process to the relevant referral authority for assessment as to whether or not the development does in fact raise concerns. The question to be considered can be re-phrased as “At what distance is any development loading, no matter how large, unlikely to be of concern to Melbourne Metro assets?”.

As discussed in Section 3, the tunnels, caverns and other underground structures would include a design allowance for future development loading. The allowances do not represent a particular building and could be applied by many different configurations of development. This is illustrated in the schematic examples show in Figure 2-1, which shows a hypothetical area over a tunnel. The future development loading allowance at the tunnel of 50 kPa (a pressure equivalent to five tonnes per square metre) would result from a development of around five storeys extending well beyond the area directly over the point of the tunnel being considered. A similar peak level loading at the tunnel would be applied by a higher building, eight storeys, but with a limited footprint. Similar orders of stress at the tunnels would also be applied by even higher buildings but at increasing horizontal offsets from the tunnels, with the loading applied near the surface.

In developing the initial recommendations for the proposed Design and Development Overlay boundaries, a number of matters need to be included in the considerations.

The proposed Melbourne Metro is not yet designed in detail. An important decision that would be made by Melbourne Metro contractor is whether a single structural design, based upon the critical design section, would be used for the whole length of the project. This is unlikely for the caverns and the cut and cover stations, but could, conceivably, be the case for the segmentally lined TBM tunnels. This decision would affect the acceptable loadings from a development in a particular position where, for example, the existing loads were significantly less than Melbourne Metro design capacity adopted, or the ground conditions are more favourable. For the purposes of the current recommendations on the proposed Design and Development Overlay extent, it has been assumed that Melbourne Metro structures designs would be generally adapted to the immediate conditions and the design allowances for future developments are all the capacity that Melbourne Metro structures have to accommodate future additional loading.

In many of the areas through which Melbourne Metro tunnels are proposed to pass, there are existing limits on developments, particularly with respect to height. However, in the 110 year, or longer, time horizon of the construction and operation of this project, these limits might be changed. The height limits in existing planning schemes, therefore, do not indicate the total potential development over time. Furthermore, over the same period, technology might change, making structures lighter or heavier. Therefore, current planning limits do not indicate what future total development or construction techniques might lead to acceptable loading outcomes for the Melbourne Metro infrastructure, and the future loading limits to identify the appropriate Design and Development Overlay area have not been defined in terms of heights.

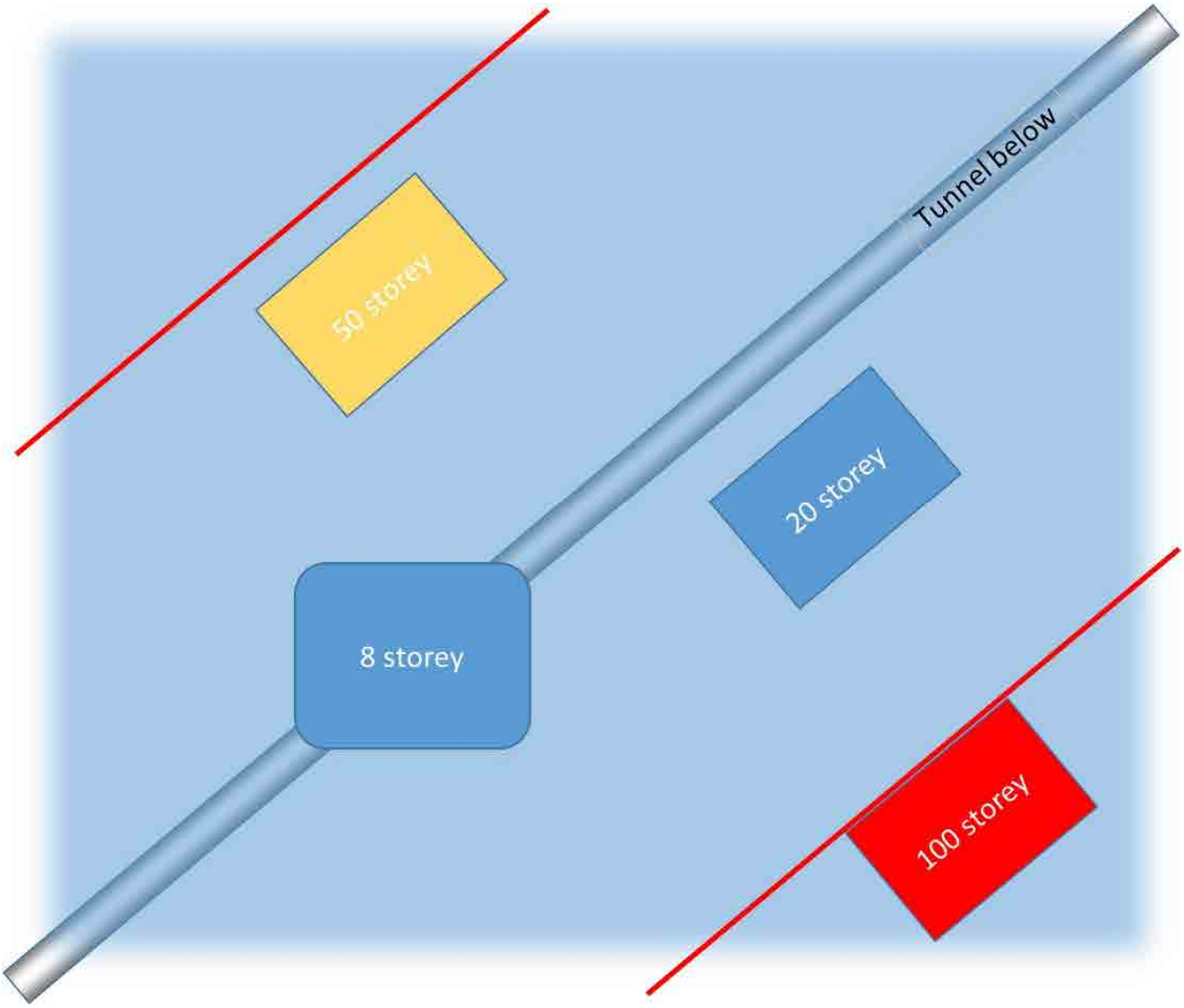

Figure 2-1 Structures with equivalent loading on a tunnel

The selection of the offsets for referral of developments would need to reflect the view of MMRA, or a successor authority, of the acceptable risk that some future development outside the proposed Design and Development Overlay boundary would create a concern for Melbourne Metro structures. This risk may be mitigated somewhat by the fact that, with sufficient extents drawn up for the proposed Design and Development Overlay boundary, any such development beyond the Design and Development Overlay boundary would be expected to be very large and well publicised. Furthermore, at least based on today's technology, such a structure would be expected to be founded at depth and, hence, to apply less loading on the relatively distant Melbourne Metro assets when compared with a load applied at the surface.

The ground conditions would affect the interaction between a future development and Melbourne Metro assets in a number of ways.

Stronger ground would provide stiffer support around the tunnel linings, giving them greater capacity to resist additional loading. However, such ground conditions could provide more favourable founding conditions for a proposed development, allowing it to be founded higher in the ground, with the associated greater loading effects on the proposed Melbourne Metro. For the current assessment, it has been assumed that the tunnel or cavern structures have been designed for the local ground conditions, and any loading above the design parameters based upon the existing or known future loads would take the structures above their design capacity.

At the same time, the way in which a loading pressure applied near the surface disperses through the ground is somewhat sensitive to differences in stiffness created, for example, where a soft layer overlies a harder layer. This has been considered by analysing different ground models.

2.2 Geology and Melbourne Metro Structures

For the purposes of the analyses of loading effects with different ground conditions, the geology along the Concept Design has been divided into a series of segments containing similar geotechnical conditions. These segments have been derived from Appendix A *Interpreted Geological Setting EES Summary Report* (Golder Associates) which is included in EES Appendix P *Ground Movement and Land Stability*. A summary is presented in Table **2-1** where the geological segments are listed under Melbourne Metro precincts.

Table 2-1 Summary of the Concept Design showing the geological segments with the associated construction type

Melbourne Metro Precinct	Project element and approximate extent	Geological segment	Key elements
1	Twin Tunnels – Western Portal to Lloyd Street.	4	Bored tunnels (TBM) through weak rock.
	Twin Tunnels – Lloyd Street to Essendon Flyover.	5	Bored tunnels (TBM) through dense clayey sand and sand with cross passage.
	Twin Tunnels – Essendon Flyover to Arden Station.	6	Bored tunnels (TBM) through soft to stiff cohesive soils, some gravel and sand.
	Twin Tunnels – Arden Station to Curzon Street.	8	Bored tunnels (TBM) through mixed face conditions comprising dense sands, clayey sands and weak rock.
	Twin Tunnels – Curzon Street to Parkville Station.	9	Bored tunnels (TBM) through weathered siltstone and sandstone.
	Twin Tunnels – Parkville Station to CBD North station.	11	Bored tunnels (TBM) through weathered to fresh siltstone and sandstone.
	Twin Tunnels – CBD North station to CBD South station.	13	Mined tunnels through weathered siltstone and sandstone.
	Twin Tunnels – CBD North station to Flinders Street.	15	Bored twin tunnels (TBM) through weathered siltstone and sandstone.
	Twin Tunnels – Flinders Street to Alexandra Avenue (under Yarra River).	16	Bored tunnels (TBM) through variable, mixed face conditions comprising high strength basalt rock, dense sand and soft to stiff clay.
	Twin Tunnels – Alexandra Avenue to CityLink tunnels.	17	Bored tunnels (TBM) through weathered siltstone and sandstone. Shaft at Linlithgow Avenue.
	Twin Tunnels -CityLink Tunnels to Victoria Barracks.	18	Bored tunnels (TBM) through mixed face conditions with dense sand, hard clay and weathered siltstone and sandstone. In close proximity to the existing CityLink tunnels.
	Twin Tunnels - Victoria Barracks to Domain	19	Bored tunnels (TBM) through weathered siltstone and sandstone.

Melbourne Metro Precinct	Project element and approximate extent	Geological segment	Key elements
	station.		
	Twin Tunnels - Domain station to Caroline Street.	21	Bored tunnels (TBM) through weathered siltstone and sandstone. One access shaft in Fawkner Park.
	Twin Tunnels – Caroline Street to Eastern Portal.	22	Bored tunnels (TBM) through mixed face conditions comprising weathered siltstone and sandstone, dense sand and hard clay.
2	Western Portal tie-ins.	1	Surface works and embankment widening on potentially soft soils.
	Western Portal approaches.	2	Decline structure including retained excavation through soft soils and weak rock.
	Western Portal and TBM shaft.	3	Cut and cover excavation for TBM shaft and portal within weak rock.
3	Arden station.	7	Cut and cover station excavation through soft to stiff cohesive soils, some gravel and sand.
4	Parkville station.	10	Cut and cover station excavation through weathered and jointed siltstone and sandstone.
5	CBD North station.	12	Underground cavern excavation in weathered to fresh siltstone and sandstone with deep access shafts.
6	CBD South station.	14	Underground cavern excavation in weathered to fresh siltstone and sandstone with deep access shafts. Deepening of existing City Square basement excavation.
7	Domain station.	20	Cut and cover station excavation through weathered and jointed siltstone and sandstone, dense sand and hard clay.
8	Eastern Portal tie-ins and TBM Shaft.	23	Cut and cover shaft and decline structure in dense sand and hard clay. Widening of existing rail corridor excavations in dense sand and hard clay.

2.3 Analytical Approach for Tunnels

The first step in the assessment of the effects of future loadings on Melbourne Metro tunnels was to consider what surface stress levels would be significant for the proposed Melbourne Metro, which would have a design allowance of loading of 50 kPa as, simplistically, the increase in the ground stress at the tunnels resulting from a future loading. This is analogous to knowing the answer to a problem and needing to formulate the question. The selection of the design allowance is discussed in more detail in Section 3.1.

There are already examples of buildings in Melbourne approaching 100 storeys. Therefore, this value was considered to be a reasonable and feasible structure to be viewed as a future development loading potential, irrespective of the current planning limits. The loading adopted for the assessments represents a row of such buildings running parallel with the tunnel. The loading of 1,000 kPa at the surface is somewhat conservative, as, in reality, a structure of this height would be expected, with current technology, to be founded below the surface.

The change in the stress in the ground at depth and offset from an additional loading at the surface decreases as the distance from the loaded area increases. This was determined for a number of cases in simplified 2D models. The ground was represented in the models using elastic parameters (simplified representations of the stiffness of the ground) and the ground was modelled as a layered material, with the stiffness set to match a typical geological section with the precinct. An example of the model is shown in Figure 2-2.

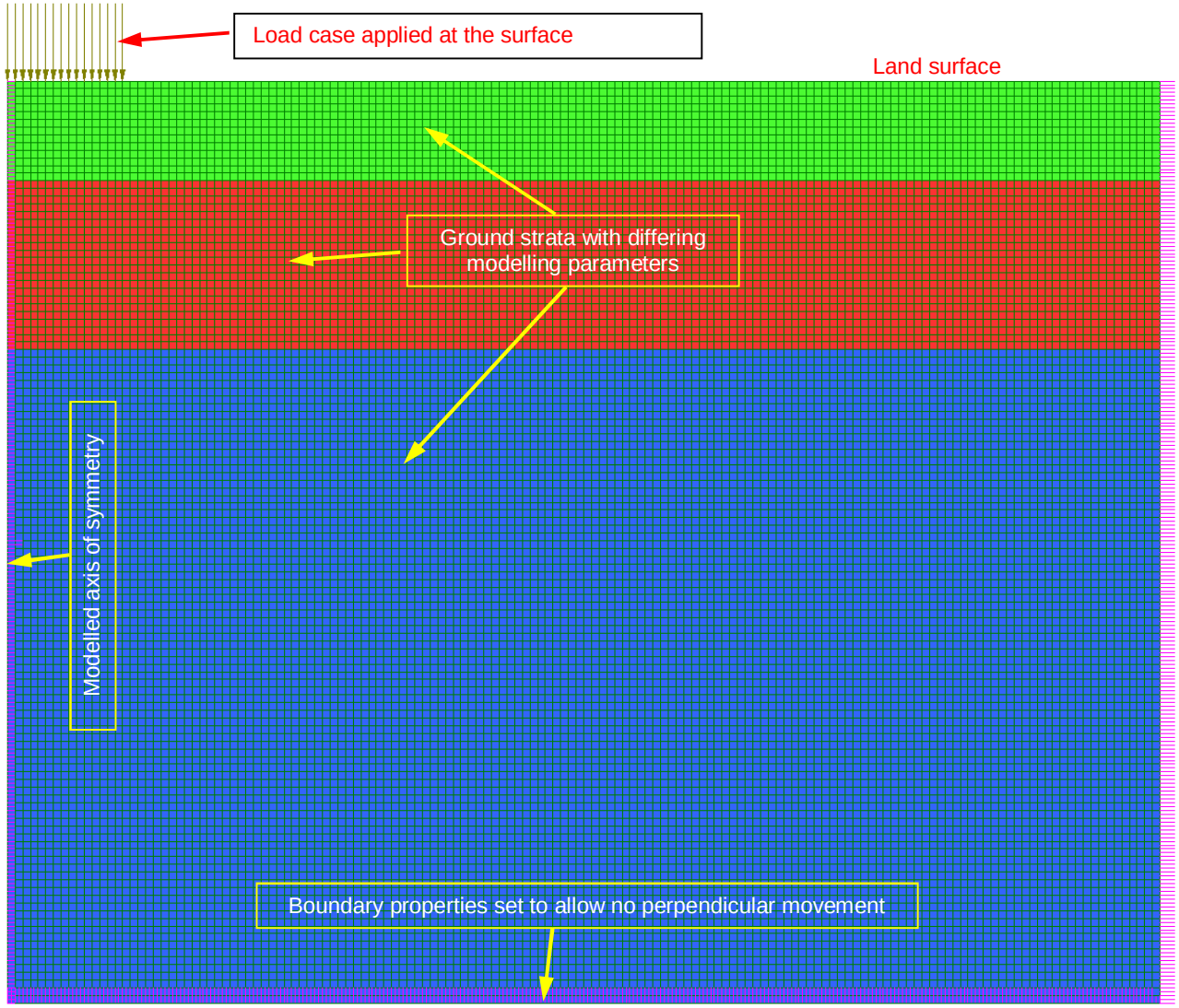

Figure 2-2 Example of the numerical modelling of a load on the surface

The ground models were 150 m wide and the loaded area was effectively 30 m wide, as the model is symmetrical about its left hand side as viewed in Figure 2-2. The model is 120 m deep to limit the influence of the bottom boundary of the model. The elastic properties of the layered models are discussed together with the ground models for the precincts.

Each model was run with a surface loading of 1000 kPa so that the increased ground pressures could be readily interpreted and compared with the design allowances discussed in Section 3.

An example of the output from a model is shown in Figure 2-3. The shaded areas are between contours of equal stress increase in the ground and are scaled to be in 50 kPa increments. The changes in ground stress on the upper right hand side of the part of the model shown are between 0 kPa and 50 kPa, and then increase through each zone to a maximum value immediately beneath the loading area.

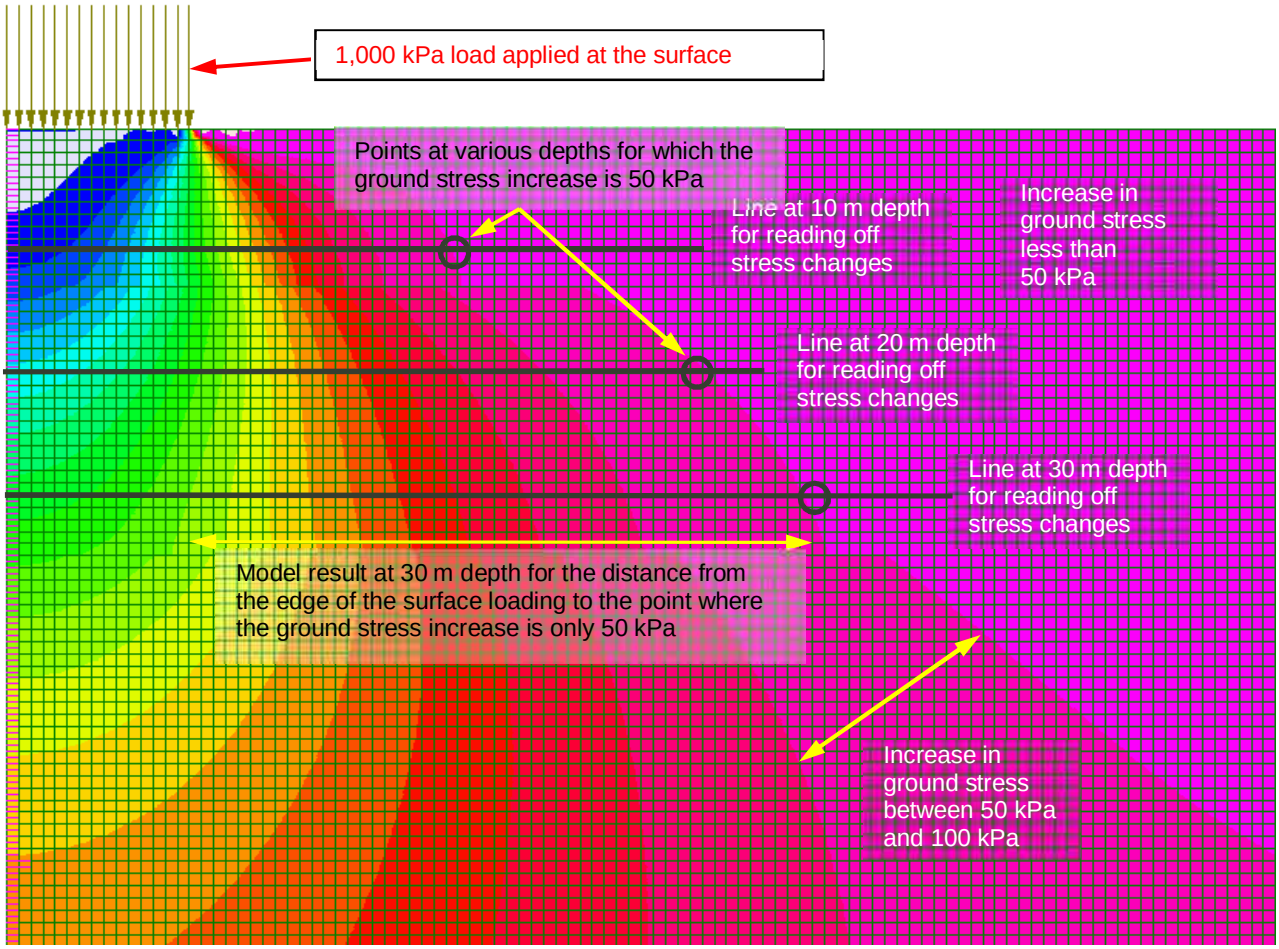

Figure 2-3 Detail of a typical stress distribution in a model showing contours of stress increase in 50 kPa steps

From each model, the increase in compressive stress was extracted at a series of depths covering the range of depths for the proposed Melbourne Metro tunnels. An example of the variation of the increase in ground pressure with offset from the centre of loading, as produced by the modelling, is shown in Figure 2-4.

The results of the analyses were then examined at varying depths below the surface to determine at what offset the ground loading increases were 50 kPa. An example of these plots of offsets with depth for a particular model is shown in Figure 2-5, with the offsets modified to be the distance from the edge of the loading.

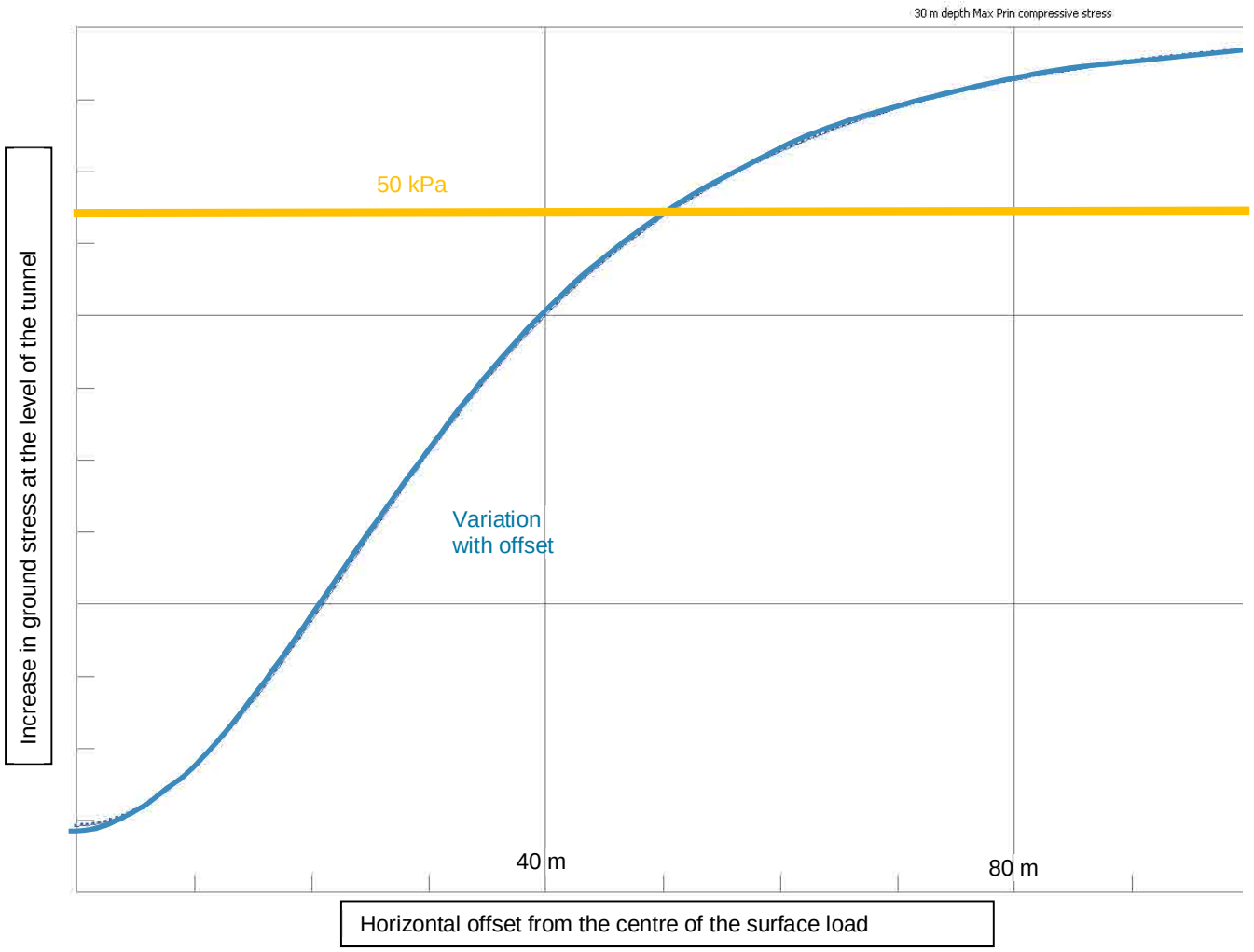

Figure 2-4 Variation (e.g.) in Max Compressions at 30 m depth from 30 m wide surface loading as offset increases

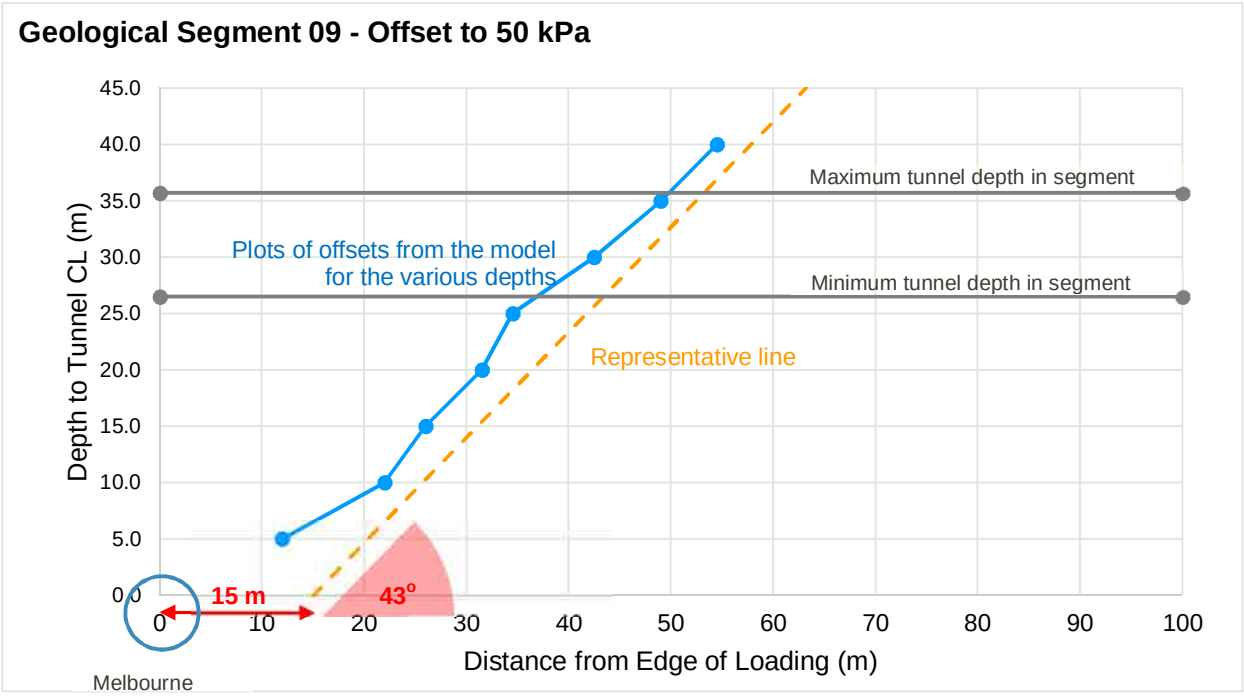

Figure 2-5 Example of distribution of depth versus offset to 50 kPa stress from edge of loading (Segment 09)

With the results plotted together, a representative straight line was developed to form an approximate bound on the analytical results. The best fits were found to be in the form of an offset from the centre of the tunnel, and then a line at an angle to horizontal. These were set to suit, preferentially, the range of depths of the tunnel that would occur within the respective geological segments.

The sets of lines were used in 3D geometric modelling software to determine where they intersected the surface as shown in Figure 2-6, as the definition of the proposed boundary of the Design and Development Overlay.

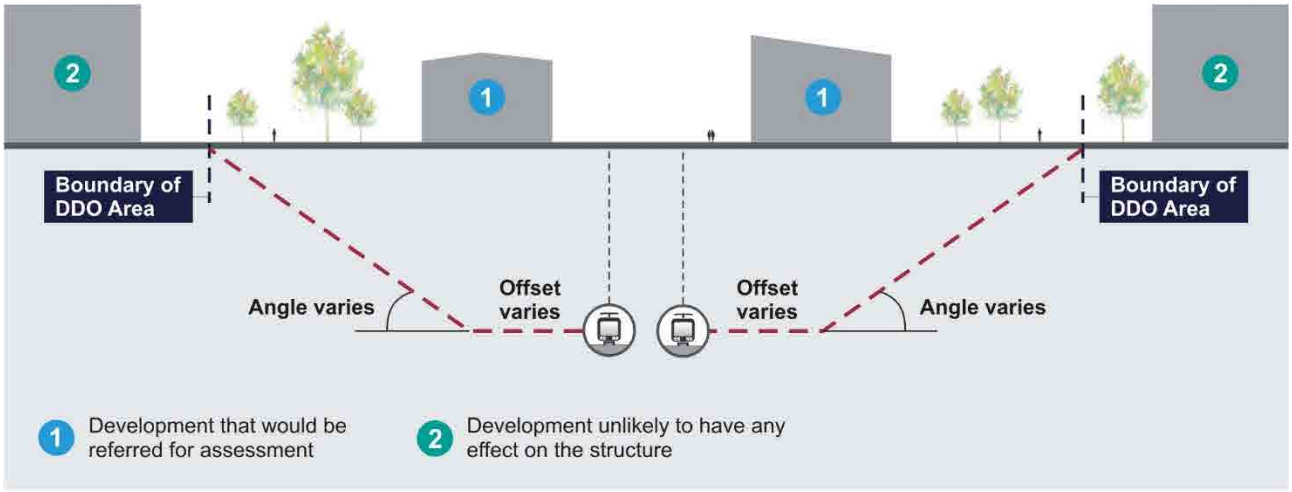

Figure 2-6 Derived lines defining the proposed extent of the Design and Development Overlay

The representative lines, shown as the dashed straight lines on Figure 2-6 for each geological segment are summarised in Table 2-4.

2.4 Analyses for Precinct 1 - Tunnels

As discussed in Section 2.2, Precinct 1 is divided into a series of geological segments based on the different ground that the tunnels would encounter. Stress from new surface loads disperses through the geological strata differently, depending on how the stiffness of the material varies with depth. This influences the distance that additional surface loading would be from the tunnels before the 50 kPa change in stress in the ground at the tunnels is reached. To account for these differences, twelve numerical models were established to represent the primary variances in geology along the tunnel alignment.

The ground descriptions including the rock mass classification (linked in part to the degree of weathering) are consistent with Appendix B *Ground Movement Assessment EES Summary Report* (Golder Associates) in EES Appendix P *Ground Movement and Land Stability*. The ground is represented in the modelling by the use of elastic parameters, which are a simplified representation of the stiffness of the ground. These are the elastic modulus and Poisson's ratio of the ground and the values used in the analyses are listed in Table **2-2**. These parameters have generally been adopted from the recommendations included in the Golder Associates EES Summary Report. The Melbourne Formation has been modelled using parameters, adopted from recommendations by Golder Associates, appropriate for the small strains that would be expected away from the Melbourne Metro construction where the ground movements would be minor.

Table 2-2 Geological units

Geological unit	Grade (including classification for rock)	Elastic modulus (MPa)	Poisson's ratio
Other than rock (OTR)			
Fill		10	0.3
Werribee Formation		95	0.3
Brighton Group	Cohesive (upper layer)	35	0.3
	Granular (lower layer)	80	0.3
Coode Island Silt		4.9	0.4
Fishermens Bend Silt		30	0.3
Pleistocene Alluvium		12	0.3
Early Pleistocene Alluvium		60	0.3
Rock			
Melbourne Formation	MF4 (extremely to highly weathered)	100	0.3
	MF3 (highly weathered)	500	0.25
	MF2 (moderately weathered)	1000	0.2
	MF1 (slightly weathered to fresh)	4000	0.2
Older Volcanics	OV (RS) (fully decomposed)	55	0.3
	OV4 (extremely to highly weathered)	300	0.3

Broadly speaking, the stiffness of the geological strata tends to increase from low stiffness at the surface to higher stiffness at depth. However, it is the differences in the stiffness of the upper layers near the surface and around the level of the proposed tunnels which have the most significant influence on the distribution of stress around the tunnels. Table **2-3** presents the geological segments modelled and shows the anticipated strata that was used in each model. For the purposes of modelling, some segments were combined because of the similarities in the modelling properties of the geological strata.

Table 2-3 Geological segments modelled for Precinct 1 - Tunnels

Geographic location	Geological segment	Geological unit (including classification for rock) and thickness		Key elements
Western Portal to Lloyd Street	4	Fill / Soil Older Volcanics (OV4) Older Volcanics (RS) Older Volcanics (OV4) Werribee Formation Melbourne Formation (MF3) Melbourne Formation (MF2) Melbourne Formation (MF1)	(2 m) (7 m) (6 m) (10 m) (8 m) (1 m) (1 m) to model base	Bored tunnels (TBM) through weak rock. Alternating stiff rock and soil layers.
Lloyd Street to Essendon Flyover	5	Fill / Soil Older Volcanics (OV4) Werribee Formation Melbourne Formation (MF3) Melbourne Formation (MF2) Melbourne Formation (MF1)	(7 m) (4 m) (17 m) (6 m) (4 m) to model base	Bored tunnels (TBM) through dense clayey sand and sand with cross passage. Thick soil layer between stiff rock.
Essendon Flyover to Upfield Line	6(a)	Fill / Soil Coode Island Silt (CIS) Fishermans Bend Silt (FBS) Melbourne Formation (MF3) Melbourne Formation (MF2) Melbourne Formation (MF1)	(1 m) (15 m) (7 m) (4 m) (4 m) to model base	Bored tunnels (TBM) through soft to stiff cohesive soils, some gravel and sand. Deep layers of soft sediments over stiff rock.
Upfield Line to Arden station	6(b)	Fill / Soil Coode Island Silt (CIS) Pleistocene Alluvium Fishermans Bend Silt (FBS) Early Pleistocene Alluvium Melbourne Formation (MF3) Melbourne Formation (MF2) Melbourne Formation (MF1)	(3 m) (5 m) (6 m) (7 m) (3 m) (3 m) (3 m) to model base	Bored tunnels (TBM) through soft to stiff cohesive soils, some gravel and sand. Soft sediments over stiff rock.

Geographic location	Geological segment	Geological unit (including classification for rock) and thickness		Key elements
Arden station to Curzon Street	8	Fill / Soil Older Volcanics (OV4) Werribee Formation Melbourne Formation (MF3) Melbourne Formation (MF2) Melbourne Formation (MF1)	(1 m) (7 m) (7 m) (2 m) (2 m) to model base	Bored tunnels (TBM) through mixed face conditions comprising dense sands, clayey sands and weak rock. Soil layer between stiff rock.
Curzon Street to Parkville station	9	Pleistocene Alluvium Melbourne Formation (MF4) Melbourne Formation (MF3) Melbourne Formation (MF2) Melbourne Formation (MF1)	(1 m) (8 m) (9 m) (8 m) to model base	Bored tunnels (TBM) through weathered siltstone and sandstone. Gradually increasing stiffness in rock.
Parkville station to CBD North station	11	Melbourne Formation (MF4) Melbourne Formation (MF3) Melbourne Formation (MF2) Melbourne Formation (MF1)	(2 m) (14 m) (14 m) to model base	Bored tunnels (TBM) through weathered to fresh siltstone and sandstone. Gradually increasing stiffness in rock.
CBD North station to CBD South station	13	Fill / Soil Melbourne Formation (MF3) Melbourne Formation (MF2) Melbourne Formation (MF1)	(2m) (14 m) (14 m) to model base	Mined tunnels through weathered siltstone and sandstone. Stiff rock.
CBD South station to Flinders Street	15 (segment 13 model adopted)	Fill / Soil Melbourne Formation (MF3) Melbourne Formation (MF2) Melbourne Formation (MF1)	(2m) (14 m) (14 m) to model base	Mined tunnels through weathered siltstone and sandstone. Stiff rock.
Flinders Street to Alexandra Avenue	16 (segment 6a model adopted)	Fill / Soil Coode Island Silt (CIS) Fishermans Bend Silt (FBS) Melbourne Formation (MF3) Melbourne Formation (MF2) Melbourne Formation (MF1)	(1 m) (15 m) (7 m) (4 m) (4 m) to model base	Bored tunnels (TBM) through soft to stiff cohesive soils, some gravel and sand. Deep layers of soft sediments over stiff rock.

Geographic location	Geological segment	Geological unit (including classification for rock) and thickness		Key elements
Alexandra Avenue to CityLink Tunnels	17 (segment 9 model adopted)	Pleistocene Alluvium Melbourne Formation (MF4) Melbourne Formation (MF3) Melbourne Formation (MF2) Melbourne Formation (MF1)	(1 m) (8 m) (9 m) (8 m) to model base	Bored tunnels (TBM) through weathered siltstone and sandstone. Gradually increasing stiffness in rock.
CityLink Tunnels to Victoria Barracks	18	Fill / Soil Brighton Group (cohesive) Brighton Group (granular) Melbourne Formation (MF3) Melbourne Formation (MF2) Melbourne Formation (MF1)	(2 m) (7 m) (8 m) (11 m) (12 m) to model base	Bored tunnels (TBM) through mixed face conditions with dense sand, hard clay and weathered siltstone and sandstone. In close proximity to the existing CityLink tunnels. Gradually increasing stiffness in soil over rock.
Victoria Barracks to Domain station	19	Fill / Soil Melbourne Formation (MF4) Melbourne Formation (MF3) Melbourne Formation (MF2) Melbourne Formation (MF1)	(2 m) (6 m) (8 m) (8 m) to model base	Bored tunnels (TBM) through weathered siltstone and sandstone. Gradually increasing stiffness in rock.
Domain station to Park Street	21(a)	Brighton Group (cohesive) Brighton Group (granular) Melbourne Formation (MF4) Melbourne Formation (MF3) Melbourne Formation (MF2) Melbourne Formation (MF1)	(6 m) (6 m) (3 m) (13 m) (12 m) to model base	Bored tunnels (TBM) through weathered siltstone and sandstone. One access shaft in Fawkner Park. Gradually increasing stiffness in soil over rock.
Park Street to Caroline Street	21(b) (segment 9 model adopted)	Pleistocene Alluvium Melbourne Formation (MF4) Melbourne Formation (MF3) Melbourne Formation (MF2) Melbourne Formation (MF1)	(1 m) (8 m) (9 m) (8 m) to model base	Bored tunnels (TBM) through weathered siltstone and sandstone. Gradually increasing stiffness in rock.
Caroline Street to Eastern Portal	22	Brighton Group (cohesive) Brighton Group (granular) Melbourne Formation (MF4) Melbourne Formation (MF3) Melbourne Formation (MF2) Melbourne Formation (MF1)	(7 m) (7 m) (3 m) (12 m) (12 m) to model base	Bored tunnels (TBM) through mixed face conditions comprising weathered siltstone and sandstone, dense sand and hard clay. Gradually increasing stiffness in soil over rock.

As shown in Figure 2-5, the required offsets from the tunnel to define the offset at which the ground stress increase matches the design allowance are defined by a representative inclined line and the horizontal distance from the centre of the tunnel to the base of the inclined line. These dimensions for each of the geological segments assessed in the Tunnels Precinct 1 are presented in Table 2-4.

Table 2-4 Definition of representative line for tunnels to achieve 50 kPa

Geographic location			Geological segment	Offset from centre of tunnel to base of the inclined line	Angle of line from the horizontal from base to surface (Design & Development Overlay Boundary)
Western Portal	**to**	**Lloyd Street**	4	15 m	50°
Lloyd Street	**to**	**Essendon Flyover**	5	20 m	50°
Essendon Flyover	**to**	**Upfield Line**	6(a)	25 m	45°
Upfield Line	**to**	**Arden station**	6(b)	18 m	40°
Arden station	**to**	**Curzon Street**	8	8 m	38°
Curzon Street	**to**	**Parkville station**	9	15 m	43°
Parkville station	**to**	**CBD North station**	11	15 m	45°
CBD North station	**to**	**CBD South station**	13	10 m	38°
CBD South station	**to**	**Flinders Street**	15 (segment 13 model adopted)	10 m	38°
Flinders Street	**to**	**Alexandra Avenue**	16 (segment 6a model adopted)	25 m	45°
Alexandra Avenue	**to**	**CityLink Tunnels**	17 (segment 9 model adopted)	15 m	43°
CityLink Tunnels	**to**	**Victoria Barracks**	18	17 m	45°
Victoria Barracks	**to**	**Domain station**	19	12 m	40°
Domain station	**to**	**Park Street**	21(a)	15 m	42°
Park Street	**to**	**Punt Road**	21(b) (segment 9 model adopted)	15 m	43°
Punt Road	**to**	**Eastern Portal**	22	15 m	40°

2.5 Analyses for Cut and Cover Structures

The structures of the three cut and cover stations, along with similar structures at the portals and entrance shafts, differ from the tunnels and cavern stations in several important ways in their response to future developments loadings. Firstly, these structures with vertical walls would be primarily sensitive to changes in the horizontal ground pressures, with much less effect from changes in adjacent vertical pressures. Furthermore, with the exception of the western portal, the cut and cover structures would be designed for less additional loading (25 kPa) than the mined or tunnel structures.

However, as the effects of the 1,000 kPa loadings applied at the surface in proximity to these structures are also affected by the different stiffness in the ground strata, a further set of models was run for the cut and cover structures to assess the distribution of the stress from additional loading. The models used the same properties for the ground strata as were adopted for the tunnel analyses, as listed in Table **2-2**. These were plotted and compared within lines that rise from the top level of the base slab at 30 degrees until they reach the ground surface. The line is analogous to the one developed for the tunnelled or mined structures. When these were plotted for each cut and cover station, they were found to align reasonably with the outer contours of loading effects. A summary of the offsets from the cut and cover structures to the proposed Design and Development Overlay boundaries is given in Section 2.5.6.

2.5.1 Analyses for Precinct 2 - Western Portal Cut and Cover Tunnel

The geological model adopted for the western portal structures is outlined in Table **2-5**, with the representative 30 degree line plotted against the stress change contours in Figure 2-7. The tunnels beneath Childers Street are the only cut and cover section that have been designed for an adjacent loading of 50 kPa from future development loading in the Concept Design.

Table 2-5 Geological segment modelled for Precinct 2 – Western Portal Cut and Cover Tunnel

Geographic location	Geological segment	Geological unit and thickness		Key elements
Western Portal **Cut and Cover Tunnel**	2-3 (segment 4 model adopted	Brighton Group (cohesive) Brighton Group (granular) Melbourne Formation (MF4) Melbourne Formation (MF3) Melbourne Formation (MF2) Melbourne Formation (MF1) base	(7 m) (7 m) (3 m) (12 m) (12 m) to model	Decline structure including retained excavation through soft soils and weak rock. Cut and cover excavation for TBM shaft and portal within weak rock. Gradually increasing stiffness in soil over rock.

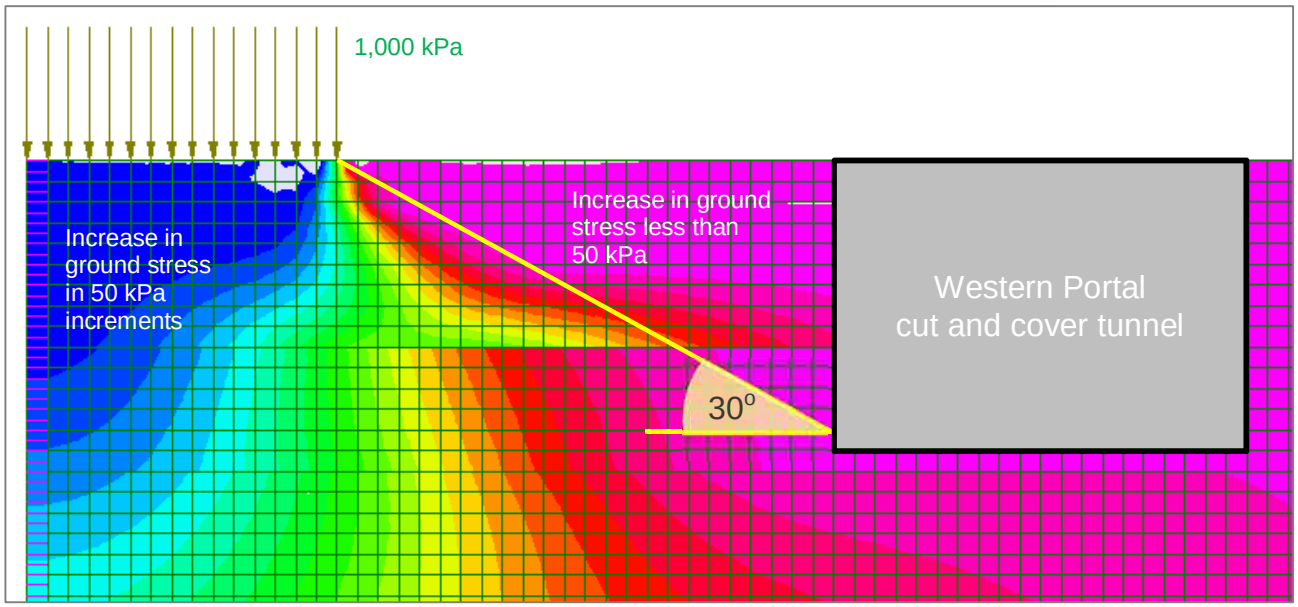

Figure 2-7 Western Portal 30 degree line

2.5.2 Analyses for Precinct 3 - Arden station

The geological model adopted for the Arden station structure is outlined in Table **2-6**, with the representative 30 degree line plotted with the stress change contours in Figure 2-8.

Table 2-6 Geological segment modelled for Precinct 3 – Arden station

Geographic location	Geological segment	Geological unit and thickness		Key elements
Upfield Line to Arden station	7 (segment 6b model adopted)	Fill / Soil	(3 m)	Cut and cover station excavation through soft to stiff cohesive soils, some gravel and sand.
		Coode Island Silt (CIS)	(5 m)	
		Pleistocene Alluvium	(6 m)	
		Fishermens Bend Silt (FBS)	(7 m)	
		Early Pleistocene Alluvium	(3 m)	
		Melbourne Formation (MF3)	(3 m)	Soft sediments over stiff rock.
		Melbourne Formation (MF2)	(3 m)	
		Melbourne Formation (MF1)	to model base	

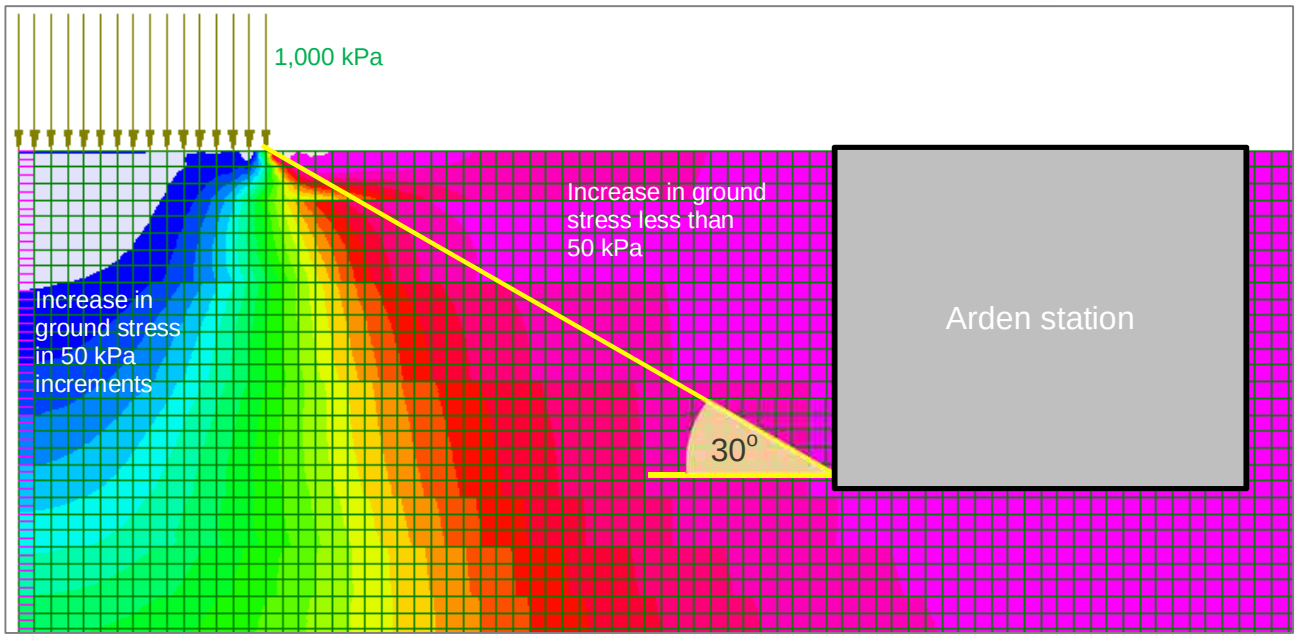

Figure 2-8 Arden station 30 degree line

2.5.3 Analyses for Precinct 4 - Parkville station

The geological model adopted for the Parkville station structure is outlined in Table **2-7**, with the representative 30 degree line plotted with the stress change contours in Figure 2-9.

Table 2-7 Geological segment modelled for Precinct 4 – Parkville station

Geographic location	Geological segment	Geological unit and thickness		Key elements
Parkville station	10 (segment 11 model adopted)	Melbourne Formation (MF4) Melbourne Formation (MF3) Melbourne Formation (MF2) Melbourne Formation (MF1) base	(2 m) (14 m) (14 m) to model	Cut and cover station excavation through weathered and jointed siltstone and sandstone. Soft sediments over stiff rock.

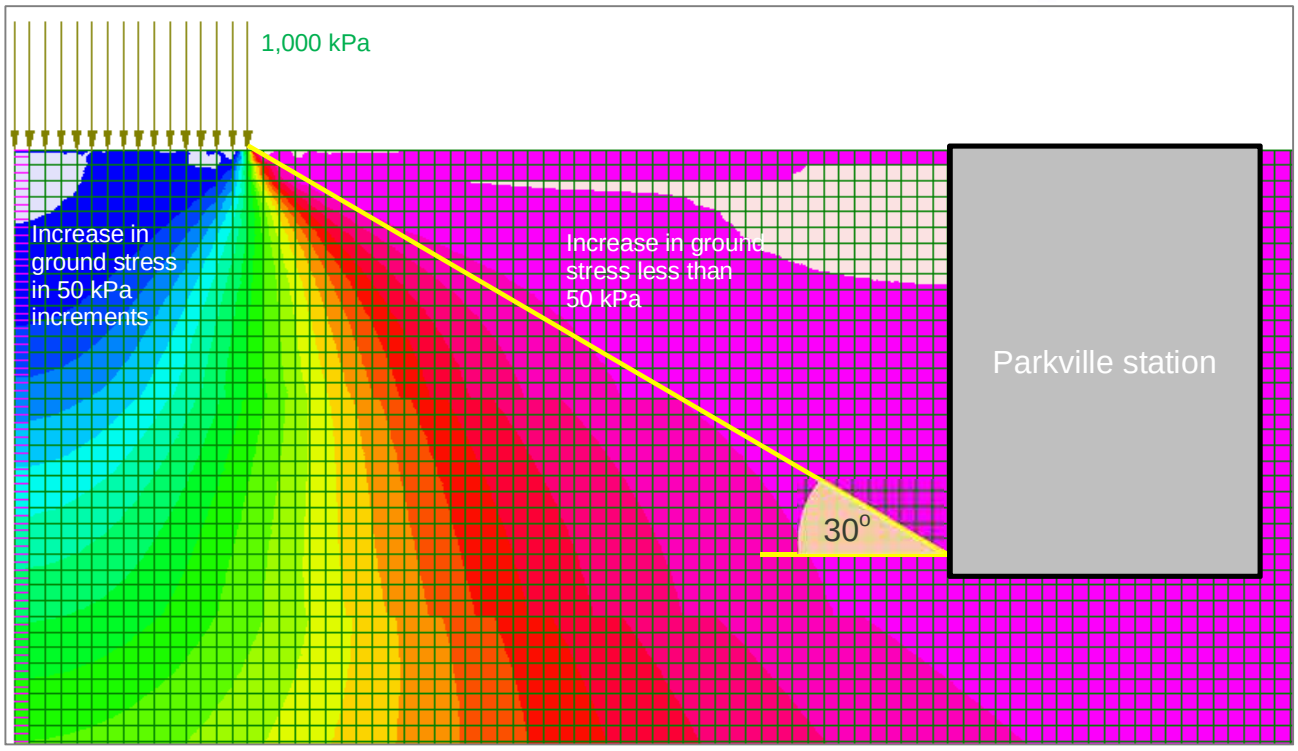

Figure 2-9 Parkville station 30 degree line

2.5.4 Analyses for Precinct 7 - Domain station

The geological model adopted for the Domain station structure is outlined in Table **2-8**, with the representative 30 degree line plotted with the stress change contours in Figure 2-10.

Table 2-8 Geological segment modelled for Precinct 7 – Domain station

Geographic location	Geological segment	Geological unit and thickness		Key elements
Domain station	20 (segment 22 model adopted)	Brighton Group (cohesive) Brighton Group (granular) Melbourne Formation (MF4) Melbourne Formation (MF3) Melbourne Formation (MF2) Melbourne Formation (MF1) base	(7 m) (7 m) (3 m) (12 m) (12 m) to model	Cut and cover station excavation through weathered and jointed siltstone and sandstone, dense sand and hard clay. Gradually increasing stiffness in soil over rock.

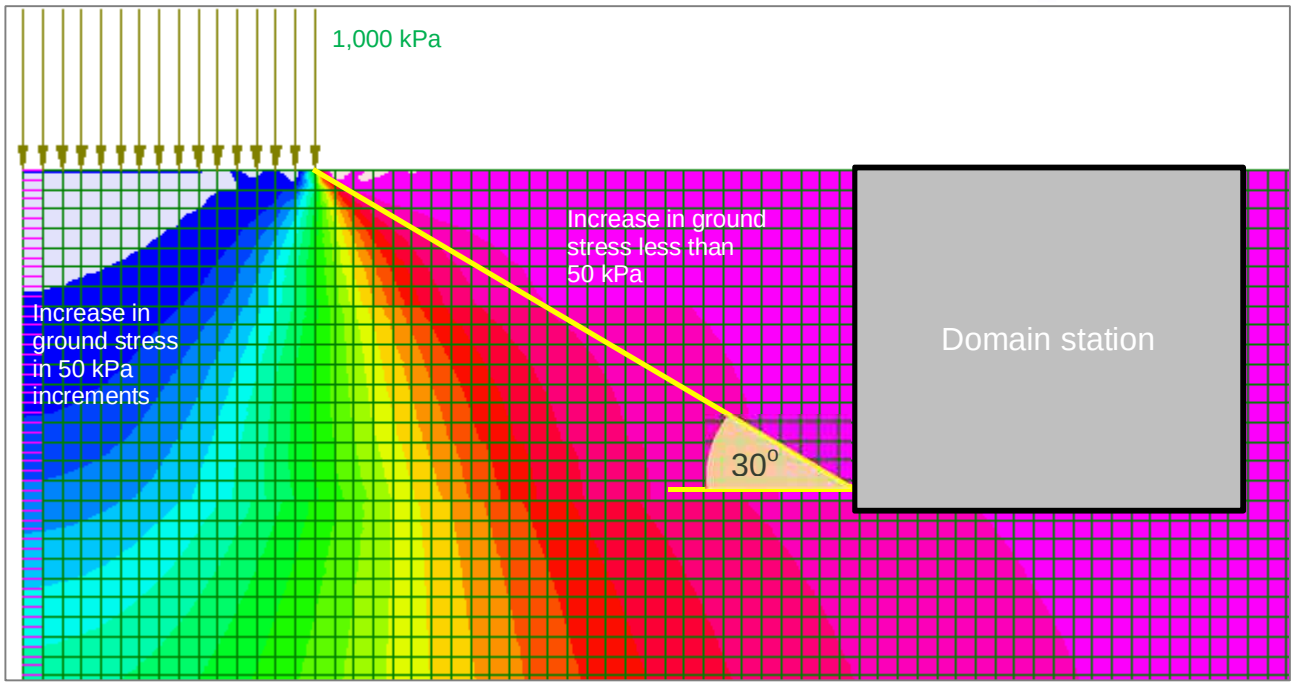

Figure 2-10 Domain station 30 degree line

2.5.5 Analyses for Precinct 8 - Eastern Portal Cut and Cover Tunnel

The geological model adopted for the Eastern Portal structures is outlined in Table **2-9**, with the representative 30 degree line plotted with the stress change contours in Figure 2-11.

Table 2-9 Geological segment modelled for Precinct 8 – Eastern Portal Cut and Cover Tunnel

Geographic location	Geological segment	Geological unit and thickness		Key elements
Eastern Portal **Cut and Cover Tunnel**	23 (segment 22 model adopted	Brighton Group (cohesive) Brighton Group (granular) Melbourne Formation (MF4) Melbourne Formation (MF3) Melbourne Formation (MF2) Melbourne Formation (MF1)	(7 m) (7 m) (3 m) (12 m) (12 m) to model base	Cut and cover shaft and decline structure in dense sand and hard clay. Widening of existing rail corridor excavations in dense sand and hard clay. Gradually increasing stiffness in soil over rock.

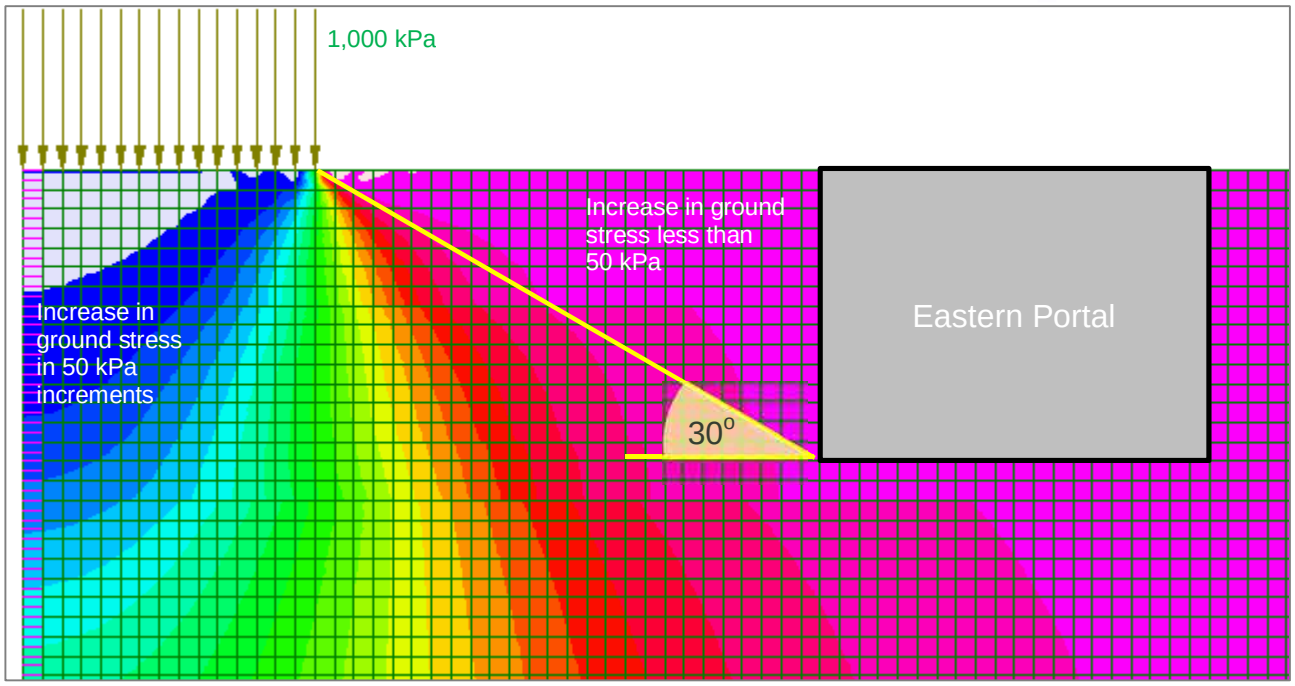

Figure 2-11 Eastern Portal 30 degree line

2.5.6 Adopted Offset for the Design and Development Overlay for the Cut and Cover Structures

In a similar manner as was done for the tunnels, the sets of lines at each cut and cover structure were used in 3D geometric modelling software to determine where they intersected the surface as shown in Figure 2-12, as the definition of the proposed boundary of the Design and Development Overlay.

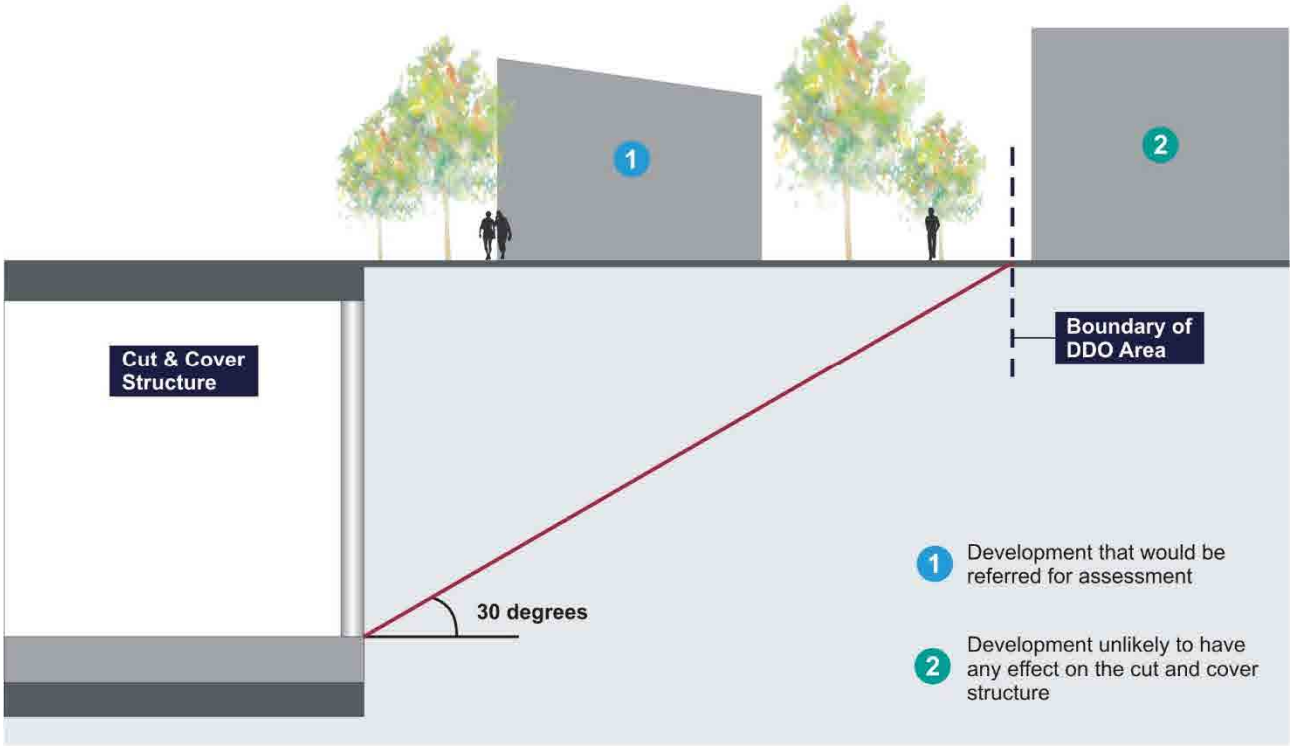

Figure 2-12 Proposed lines for cut and cover stations and similar structures

The derived offsets to the Design and Development Overlay boundaries for the cut and cover structures vary with the depth of the particular sections being considered, e.g., main station box or entrance, and the slope of the existing surface. The indicative range of offsets is provided in Table 2-10.

Table 2-10 Offsets to the Design and Development Overlay boundaries at cut and cover structures

Cut and cover structures	Indicative offset from Melbourne Metro structure to Design and Development Overlay boundary
Arden station	15 m to 35 m
Parkville station	30 m to 55 m
CBD North station	55 m to 70 m (includes offsets derived for the cavern)
CBD South station	40 m to 50 m (includes offsets derived for the cavern)
Domain station	20 m to 35 m

2.6 Analyses for Caverns

The approach adopted for the analyses of the change in loading on the caverns and thus, the derived offset for the proposed Design and Development Overlay boundary, followed the same general principles used for the analyses of the tunnels (refer to Section 2.3).

2.6.1 Analyses for Precinct 5 – CBD North station

CBD North station is the deeper of the two caverns to be constructed, and would be founded in good quality rock at depth. Table **2-11** summarises the geological model adopted for CBD North station.

Table 2-11 Geological segment modelled for Precinct 5 – CBD North station

Geographic location	Geological segment	Geological unit and thickness		Key elements
CBD North station	12 (segment 11 model adopted)	Melbourne Formation (MF4) Melbourne Formation (MF3) Melbourne Formation (MF2) Melbourne Formation (MF1)	(2 m) (14 m) (14 m) to model base	Underground cavern excavation in weathered to fresh siltstone and sandstone with deep access shafts. Gradually increasing stiffness in rock with depth.

Figure 2-13 and Table 2-12 show the representative inclined line and horizontal offset from the centre of tunnel which define the surface offset from the centre of the tracks within the cavern.

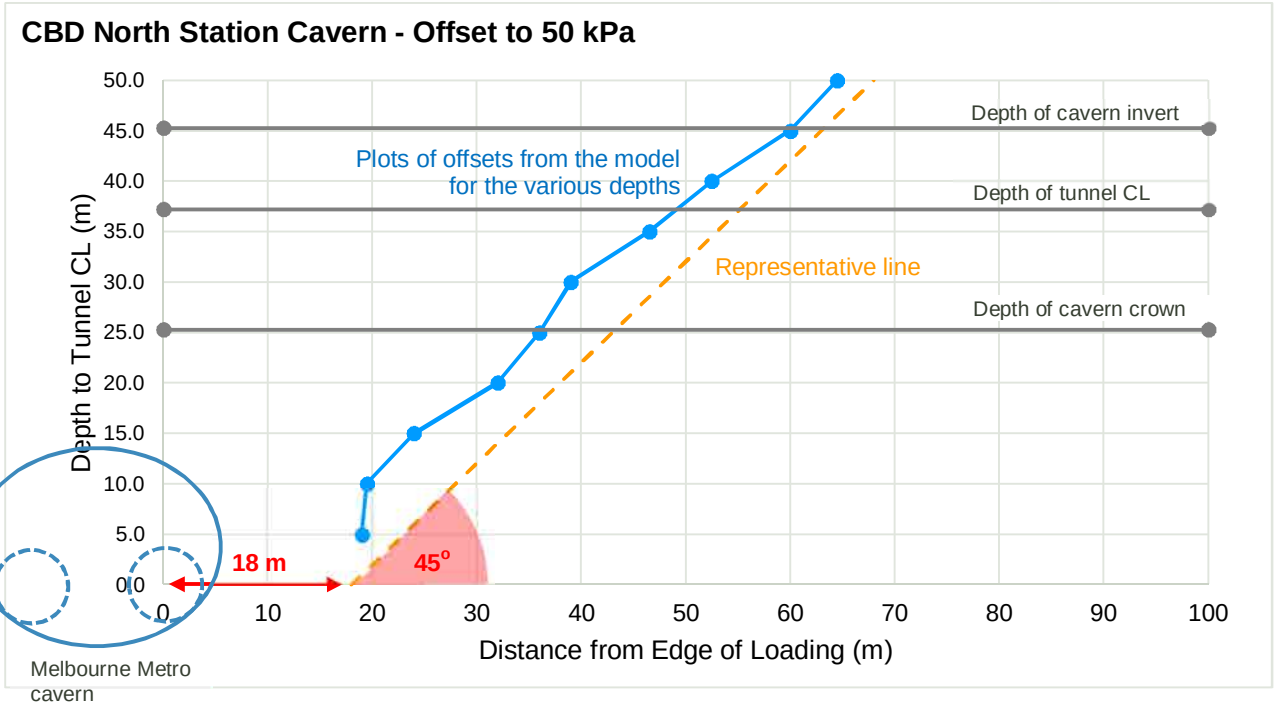

Figure 2-13 Distribution of depth versus offset to 50kPa stress from edge of loading at CBD North Cavern

Table 2-12 Dimensions defining the representative line for CBD North Cavern

Geographic location	Geological segment	Offset from centre of tunnel to start of line	Angle of line from the horizontal from base to surface
CBD North Cavern	12 (segment 11 model adopted)	18 m	45o

2.6.2 Analyses for Precinct 5 – CBD South station

CBD South station would be founded shallower than CBD North cavern, but would still be in good quality Melbourne formation. The geological model used for this cavern is outlined in Table **2-13**.

Table 2-13 Geological segment modelled for Precinct 6 – CBD South station

Geographic location	Geological segment	Geological unit and thickness		Key elements
CBD South station	14 (segment 11 model adopted	Melbourne Formation (MF4) Melbourne Formation (MF3) Melbourne Formation (MF2) Melbourne Formation (MF1)	(2 m) (14 m) (14 m) to model base	Underground cavern excavation in weathered to fresh siltstone and sandstone with deep access shafts. Deepening of existing City Square basement excavation. Gradually increasing stiffness in rock with depth.

The representative inclined line and horizontal offset required from the centre of track which define the surface offset from the cavern are presented in Figure 2-14 and Table 2-14.

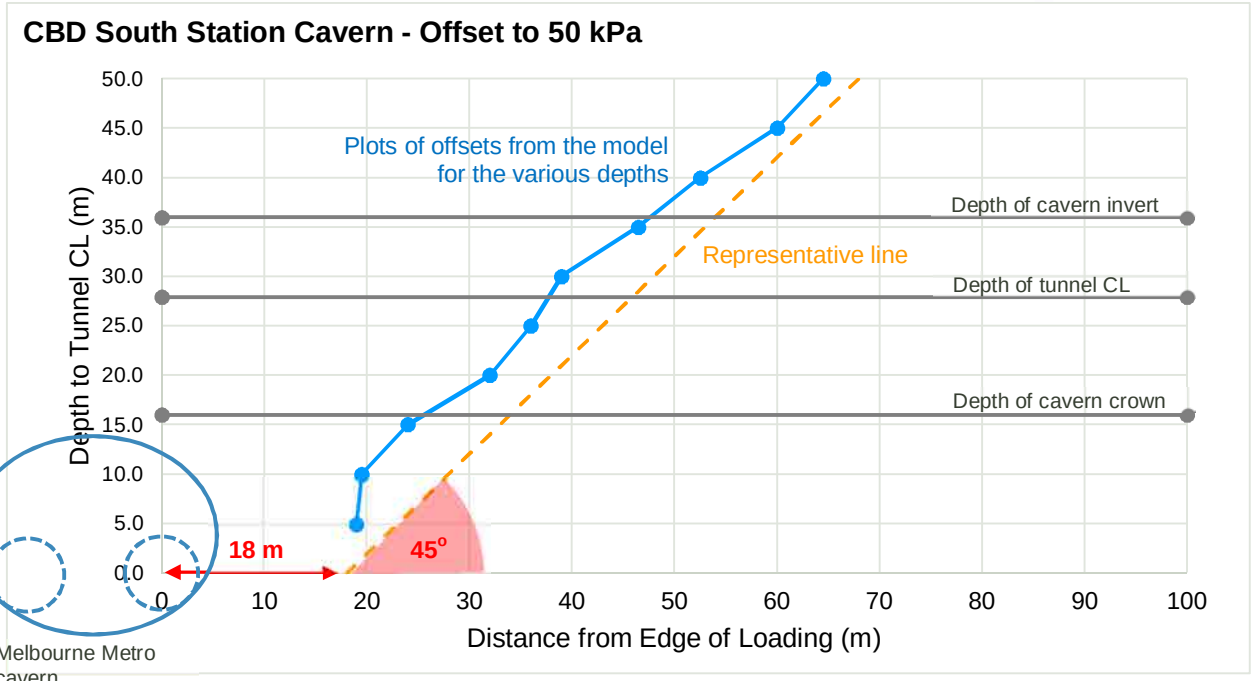

Figure 2-14 Distribution of depth versus offset to 50kPa stress from edge of loading at CBD South Cavern

Table 2-14 Dimensions defining the representative line for CBD South Cavern

Geographic location	Geological segment	Offset from centre of tunnel to start of line	Angle of line from the horizontal from base to surface
CBD South Cavern	14 (segment 11 model adopted)	18 m	45o

2.7 Recommendations for Extent of Design and Development Overlay

The objective of the assessments conducted was to select an area within which proposed future developments that could potentially affect Melbourne Metro assets to their detriment would be assessed by a referral authority before they are constructed. Theoretically, any change in near surface conditions, even at a considerable distance, has some effect upon an underground asset. However, such effects diminish with greater offset of the surface changes from the tunnels. The assessment provides a basis for identifying a distance from the tunnels beyond which a new development, built potentially considerably in the future, would have an acceptably low risk of having an adverse effect on Melbourne Metro assets.

The assessments have indicated that there are different offsets at which development loads of different magnitudes and loading areas would apply loads approaching the design allowances at Melbourne Metro's underground structures. These could be managed by applying a Design and Development Overlay around the Melbourne Metro assets for referral, capturing all construction other than minor works defined in a list of exemptions.

The extents of the Design and Development Overlay have been recommended on the basis of a conservative view of the maximum loading in the surface area influencing the tunnels and other underground structures, and matching this to the design allowances at the tunnels and other structures.

The recommended extents of the areas at the existing surface have been calculated by modelling the offsets and sloping planes from Melbourne Metro structures and determining where such planes intersect with the surface. The offsets and slopes have been derived from the assessments of the distributions of surface

loads through the ground. A terrain model using the Melbourne Metro alignment and current surface profile was used to calculate the offsets to the Design and Development Overlay boundary.

The resulting offsets of the proposed Design and Development Overlay boundaries become a function of the depth of Melbourne Metro tunnels or other Melbourne Metro structures below the surface. Some statistics of the calculated offsets are shown in Table 2-15.

Table 2-15 Summary of Design and Development Overlay extent

Value	Design and Development Overlay boundary – offset from centre line of tunnel
Approximate average value	40 m
Approximate maximum value	60 m

For comparison, while the existing Melbourne Underground Rail Loop (City Loop) does not have formal widths defined for initiating its review process, informally, VicTrack has used widths of approximately 40 m from the centre of tunnels and 80 m from the stations as indicative offsets of proposed developments that require review. Internationally, Singapore's Railway Protection Zone extends to 40 m outside the structure of the tunnel (as opposed to the centre). The associated Railway Safety Zone extends to 60 m outside the structure of the tunnel. The Land Transport Authority, the referral authority in Singapore for rail, retains the right to impose some restrictions on activities in this latter zone, but the submission of development details is less onerous.

3 Impact Assessment

3.1 Design Allowances for Future Development

The design of Melbourne Metro would incorporate allowances for the possibility of future development of the land above and adjacent to the proposed tunnels, caverns and other underground structures, by including specific but limited additional design loading cases. These would be in addition to the applicable design loads for the existing conditions. The Melbourne Metro structures are designed for a 100 year design life, i.e., to maintain their structural capacity for this period, and this sets the time frame being contemplated for the potential developments.

The development load allowances would be considered in the design phase for areas only where future development is expected to be feasible and only of the appropriate nature. Therefore loadings representing future buildings would not be applied in road reserves, but tunnels in park lands would include consideration of excavations, for example for buried water tanks.

Developments that have secured planning approval but are not yet built at the time that the Design and Development Overlay is applied to the land, can be considered specifically in the detailed design of the Melbourne Metro infrastructure. In contrast, the form and effects of developments over the later life of the tunnels could be of many different types and magnitudes. Therefore, additional loadings and unloading (beyond the existing conditions), based upon engineering experience, together with recent examples of developments and typical contemporary construction (both methods and form), would form technical design requirements for the project infrastructure. They would not accommodate all possible developments nor all aspects of potential construction. However, the design allowances would provide additional strength above the structural capacity required for the current conditions to offer some flexibility for future changes. Without these allowances, there would be, at least in theory, no structural capacity in Melbourne Metro structures to accommodate changes from future developments.

The design allowances would not define the restrictions on future developments, but would indicate what might be changed around the tunnel without special mitigation measures. Developments that might otherwise impose greater change in loadings on Melbourne Metro assets may be possible, but would require detailed technical and risk assessments and, potentially, physical mitigation measures to be incorporated in their design and construction to ensure that Melbourne Metro assets are not affected adversely. On the other hand, the allowances should not be treated as a criterion for acceptability at face value. Even developments appearing to fall within the design allowances would require review by experienced people to confirm that there is not something within the proposal that was not contemplated in the original Melbourne Metro design.

It would be necessary for the assessment of a particular development to be conducted with a knowledge of the other changes around the proposed tunnels that occur following their construction. Therefore, it would be important for the relevant referral authority to have access to information on all new material works in the vicinity after the date the Design and Development Overlay is applied to the land.

3.2 Envisaged Process for Review of Proposed Future Developments

The following sections indicate the types and extent of constraints that might apply to future developments above and adjacent to the underground structures of Melbourne Metro. They include two main components:

- Requirements for physical separation of the components of a development from Melbourne Metro assets
- Limits on both additional loading and excavation leading to ground relaxation resulting from the construction and use of a development.

Irrespective of whether or not a proposed development conforms with the guidance provided, there would need to be a general retained right of review by the relevant referral authority. It is anticipated that the review process would include:

- The right of the relevant referral authority to impose any other requirements that are deemed necessary for safeguarding of Melbourne Metro assets and the development
- Measures by the relevant referral authority to verify that the design and construction of the proposed development comply with the stipulated requirements or conditions.

The outcomes of the review by the referral authority might include:

1. Confirmation that the developer has conducted an appropriate risk assessment of construction in the vicinity of Melbourne Metro underground assets
2. Confirmation that the proposed development would not cause the assets of Melbourne Metro to be stressed beyond acceptable structural limits
3. Confirmation that deep foundations, secant pile walls, contiguous bored pile walls, sheet pile walls, diaphragm walls, ground anchors or similar are not within a zone that would create unacceptable risk for Melbourne Metro assets
4. Where applicable, information on how the proposed development might be affected by vibration and noise as a result of the operation of Melbourne Metro, noting whether the design of the development has taken these effects into consideration
5. Measures to verify that the developer undertakes its works to the satisfaction of the relevant referral authority and in accordance with the mitigation measures identified in its risk assessment.

It might be that the development would need to include mitigation measures to reduce the risk to Melbourne Metro assets and itself. These could include modifications such as changing the levels of its foundations, adopting stiffer supports for excavation works, changing the sequence of excavation and buildings, and including additional structural systems to limit the change of stress or displacement in the ground around Melbourne Metro assets. In some cases, the presence of Melbourne Metro assets might require the development to span over specified areas and to limit the extent of excavations over or adjacent to Melbourne Metro assets.

It would be important that all buildings or other works that have been completed after the construction of Melbourne Metro would be considered, rather than assessing the effects of an individual development in isolation.

It is anticipated that a technical guide would be developed by the referral authority to assist developers in identifying and addressing potential issues under the Design and Development Overlay, and to assist the referral authority in considering permit applications, referred under the Design and Development Overlay.

3.3 Approved Future Developments

The additional loadings from approved future developments which are immediately above or adjacent to Melbourne Metro, and for which there is a valid planning approval at the date that the Design and Development Overlay is applied to the land, would be assessed and the underground structures designed to minimise any impacts on the future developments. Where the loads from the approved future development are less than the general allowances for future developments discussed in Section 3.5, the higher or more severe loading cases would apply. Apart from this requirement, approved future developments would be considered in the same way as already existing infrastructure as described in Technical Appendix P *Ground Movement and Land Stability*.

3.4 Specific Over-site Development Allowances

Although over-site development (OSD) is not proposed as part of the Project itself, it is recognised that future OSD might be desirable in some locations. For this reason, detailed design must provide for future OSDs for certain areas of all stations except Domain. The different proposed OSD provisions at each station would be a set of specific design allowances.

At this stage of design of the Concept Design, the proposed form and type of occupancy of the OSDs have not been finalised. An assessment of the most likely use has been made in order to develop the design to date. For structural design purposes, the use of the proposed building has formed the basis of design

requirements for weight, loading, preferred column locations and lateral stability element extents (such as the building core). Other development options may exist, but these have not been pursued and a structural assessment would be made as input to the station design based on the current understanding of the OSDs.

The structural influence of the OSDs on station designs are imposed load, column locations, column sizes, piling requirements and lateral stability design.

Requirements imposed on the structure of the station designs as a result of OSDs would be as follows:

1. Provision for increased loads on substructure and foundations
2. Additional capacity in structural elements such as columns and walls, including perimeter retaining walls for the additional vertical load imposed by the OSD above
3. Consideration of the potential positions and loadings of future structural core and additional lateral elements of the development. The arrangement and size of structures within the OSD to transfer loads to the station have not been determined in the Concept Design, except where integrated into the station by necessity, as it would depend on the structural form of the OSD. It would be the responsibility of the OSD developer to provide a transfer structure to coordinate with the local bearing elements of the station structure
4. Settlement (short and long term) caused by the additional loads of the OSD would be limited so that there are no adverse consequences for the civil infrastructure and station structures
5. Provision for lateral unloading of station entrance shaft walls where the future OSD may require excavation behind the walls of the station entrance box
6. Provision of temporary waterproofed roof over the station entrance with falls and drainage points until such time as the OSD is constructed
7. Provision for exhaust vents, integrating riser locations with the structural elements of the station entrance and OSD structure.

3.5 Issues to be Considered for Future Developments

The detailed design of the Melbourne Metro would include some limited allowances for the construction of future developments in close proximity and the potential changes in load that might result from such developments.

3.5.1 Clearances Allowed for Around Melbourne Metro Structures

The physical clearance to be maintained between the constructed elements of new development and the Melbourne Metro assets depends upon the risks of damage, and therefore it depends as much upon the degree of control applied as the type of construction itself. Furthermore, the proximity of some elements such as shallow footings and deep piles could also be controlled by the limits of additional loading on Melbourne Metro structures. The loading limits types are described in Section 3.5.2.

A second consideration, particularly with respect to bulk excavations, is the amount of ground remaining adjacent to the tunnel or cavern to support the redistributed vertical loading (arching) over the structure. If this ground is overstressed, it could apply excessive loads onto both Melbourne Metro structure and the development, or lead to unacceptable settlements. At the same time, the ground movements associated with the adjacent development excavations would affect the stresses in the linings of the Melbourne Metro structures, and thus, the unloading effects described in Section 3.5.2 would need to be considered along with the physical clearances.

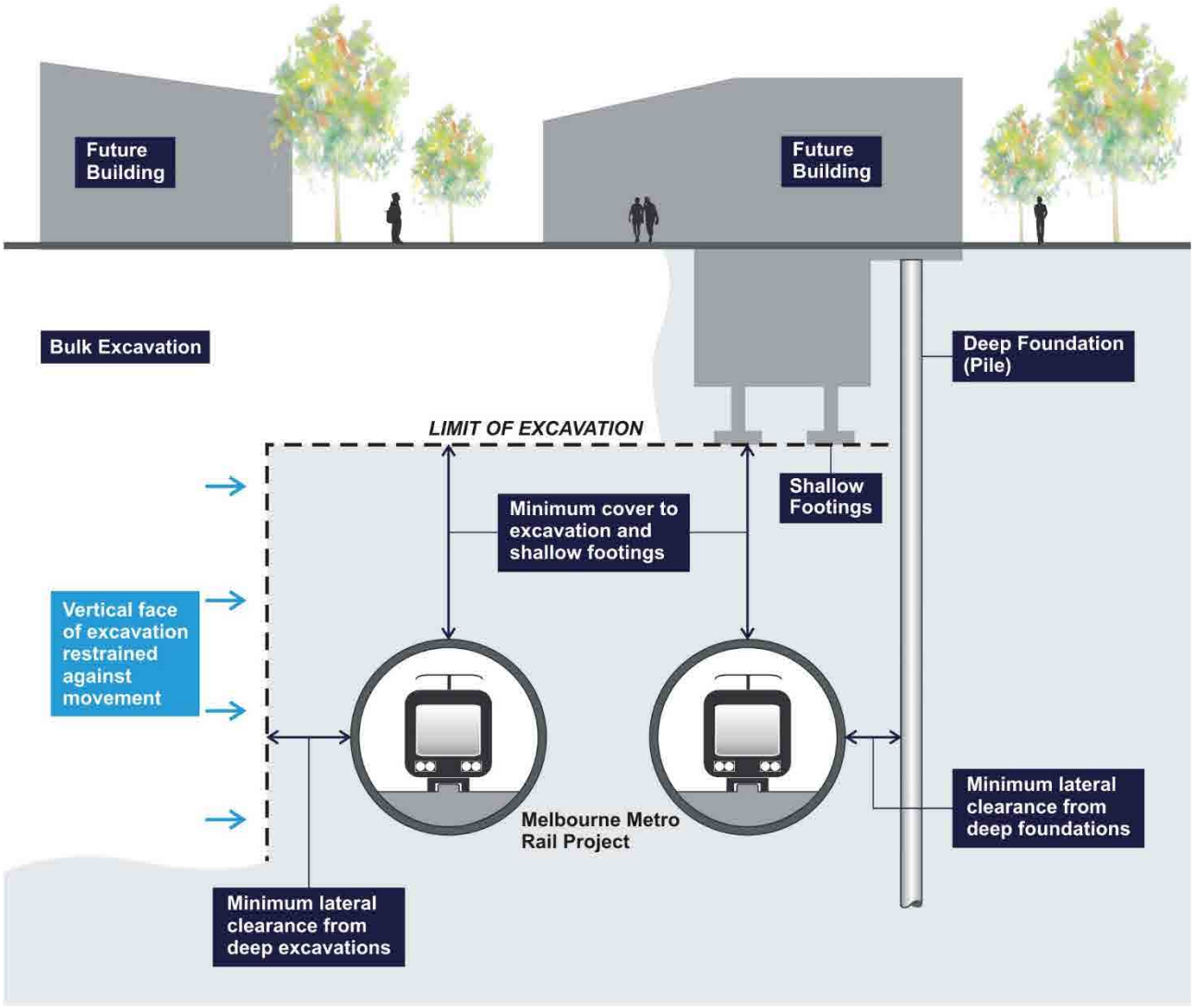

Figure 3-1 Types of clearances from future developments considered in Melbourne Metro design

The activities and structures of potential future developments that would be considered in the detailed design of the structures of the Melbourne Metro comprise:

- Individual piled foundations bored adjacent to Melbourne Metro
- Individual piled or spread footing excavated over Melbourne Metro
- Bulk excavation adjacent to Melbourne Metro, including retention systems comprising secant piles, diaphragm walls or similar.

The clearances that would be adopted for use in the detailed design of Melbourne Metro would be based on the following considerations:

- Typical construction methods for excavation
- Typical construction tolerances for the position of a piles down to the greatest depth of the Melbourne Metro structures together with a clearance of a diameter from a typical large pile
- Potential for clashes with redundant rock bolts or cables and their consequences for Melbourne Metro.

These clearances, adopted for detailed design of Melbourne Metro, would not necessarily define the minimum clearances that would be acceptable for future development within the DDO in all circumstances. Clearances less that the allowances included in the design might be agreed to, if the developer is able to demonstrate that the risk to Melbourne Metro, and the development can be maintained at acceptable levels. The developer's submissions to the referral authority would need to include details of how this would be

achieved. The following are general examples of what might need to be shown to gain acceptance of smaller clearances:

- Specific and more rigorous than usual construction controls would be applied effectively
- Local loadings on Melbourne Metro structures from footings in close proximity are acceptable
- Ground movement from excavations in close proximity to the Melbourne Metro would not have detrimental effects
- Acceptable measures would be applied if redundant rock bolts are encountered, both for the construction of the development and to avoid damage of the permanent Melbourne Metro lining, and particularly the waterproofing
- The stability of the narrower rock pillar between Melbourne Metro and the bulk excavation, carrying the loads from the structure and the loads arching through the rock above, is maintained.

3.5.2 General Loading Allowances for Future Development

Additional loading (e.g., due to future building foundation loads) and load relaxation (e.g., reduction of ground stress due to future building basement excavations) need to be considered at all locations where the Melbourne Metro underground structures pass under or are adjacent to developable properties or land. These loads might be applied at any time during the design life of the structure, and would rely upon Melbourne Metro structures retaining their design capacity, consistent with their 100 year design life.

The design requirements for Melbourne Metro underground structures, as shown in Figure 3-2, would include allowances for future developments, defined as:

- Two vertical loading cases, expressed in units of pressure, kPa, representing:
  - New building loads, and
  - An increase in ground level above Melbourne Metro asset
- A vertical unloading case (defined by depth and representing bulk excavation over the Melbourne Metro asset)
- A lateral release defined by the allowable ground movement at the face of the excavation (representing a deep excavation beside the Melbourne Metro asset).

As an indication, the increase in building load from future developments for underground structures such as tunnels or caverns would be generally 50 kPa, which is equivalent to the average loading from a typical five storey building. While this loading allowance is not a value defined in standards, it has been adopted for other Australasian projects, such as Legacy Way in Brisbane and City Rail Link in Auckland. For international comparison, in Hong Kong a value of 20 kPa has been adopted for specific projects and Singapore has allowances from 0 kPa to 75 kPa. Historically, the allowances have varied between projects, and in some cases, there has been no allowance made. Lower allowances reduce the flexibility of future developments and pass more of the onus and cost of mitigation works to the future developers.

The change in ground level represents the effect of lifting the whole area over the tunnels by 1 m.

The unloading case, again in isolation, would represent an excavation for two basement levels, provided that a minimum cover is maintained over the Melbourne Metro structure. Excavations of this depth have generally been accommodated by the Melbourne Underground Rail Loop (City Loop) tunnels in Melbourne, and the allowance is similar to that adopted, again, for the Legacy Way project in Brisbane. The unloading allowances have not been included for the cut and cover structures. While this does not preclude excavations adjacent to these structures, the future development would need to be constructed using methods that allow for the fact that any lateral unloading has not been included in the design of these Melbourne Metro structures.

These effects could be considered in combination, where compensating effects could allow additional loading of one aspect to be considered when determining likely acceptable values of another. For example, if there was to be no change in ground level, the allowance for increase of ground levels could be added to the

building load. Another case could be where basements were excavated, reducing the load on the Melbourne Metro asset and allowing additional building loading to be applied compared with a building with no basement before the same net loading is reached. However, the excavation staging and re-loading would have to be appropriately modelled to make sure that there were no problems associated with the interim stages.

The design would also include the combination of the allowance loadings that creates the most severe case for Melbourne Metro structures. This could mean applying the loadings over only part of the possible area, and is described as pattern loading in the following discussion.

At the same time, future developments must be assessed for their own effects together with any other cumulative effects that would have occurred following the completion of the Melbourne Metro structures, so that the changes in ground stress or deformation can be considered in comparison with conditions at the time that construction of Melbourne Metro structures has been completed.

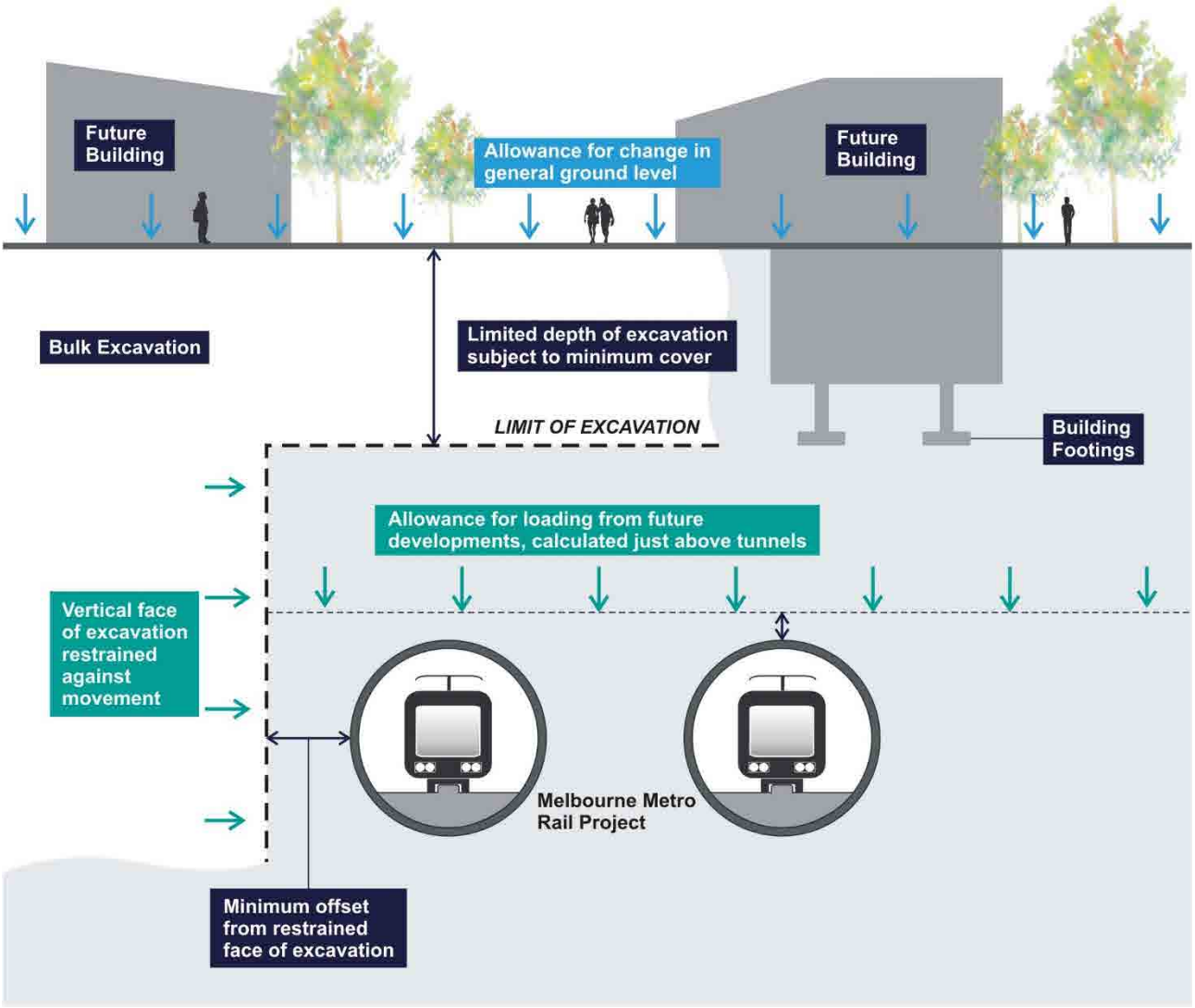

Figure 3-2 Types of loads from future developments considered in Melbourne Metro design

Submissions which might lead to agreement from the referral authority to increase the size of a proposed future development adjacent to Melbourne Metro tunnels or caverns could include:

- Development of structural options to divert ground loading away from Melbourne Metro structures

- Assessment of specific load changes on Melbourne Metro and demonstrated acceptability at the particular position based upon loading history and geological conditions. The assessment must consider both structural integrity and preservation of serviceability of Melbourne Metro
- Demonstration of the stability of a narrower rock pillar between the Melbourne Metro structures and the excavation carrying the loads from the Melbourne Metro structures and the loads arching through the rock above.

Cut and cover structures of Melbourne Metro would be designed for a similar set of future loadings (but with different values). However, these structures, typically station boxes or entrance shafts, would not include any specific design allowances for future excavations immediately adjacent to them. These structures would be assessed and protected similarly to current practice for the deep basements of existing buildings.

It is envisaged that the assessment of future proposed developments by the referral authority would be carried out under technical guidelines that would be developed based upon the final design and the as-constructed details of Melbourne Metro. As well as recording the design allowances for future development, the guidelines would include information on the fundamental structural criteria that would need to be applied, particularly when considering proposals that differ from the design allowances in size or configuration.

4 Conclusion

The underground structures of Melbourne Metro would be designed for the known surrounding conditions during the detailed design phase.

Potential future developments could be of many forms and, given the planned long life of Melbourne Metro, would be probably beyond the foreseeable future. Therefore, the design of the Melbourne Metro structures would include an allowance for future developments, but would not accommodate all possible future changes.

The assessment of proposed developments in the vicinity of Melbourne Metro assets would need to be instigated by a formal process that creates certainty in capturing potential works and clarity on what needs to be considered. The Design and Development Overlay is an important and appropriate mechanism to review and assess future development and impose appropriate conditions. It is envisaged that a new schedule to the Design and Development Overlay would be established with associated guidelines providing additional details on the review process. This assessment includes recommendations on the extent of the Design and Development Overlay area that would encompass developments that might have the potential to affect Melbourne Metro assets adversely, and trigger their referral for assessment.

In order to ensure that developments which are a potential risk to Melbourne Metro structures are referred, without adding unnecessary burden of referral and review, specified minor works would be exempt.

The design of future developments would be influenced by the presence of Melbourne Metro assets. In most cases, it is considered very unlikely that the existing Melbourne Metro would completely preclude an adjacent development, but there are likely to be circumstances where additional engineering solutions would be needed to protect Melbourne Metro assets.

As a minimum, it would need to be confirmed that the proposed works are not creating an unacceptable risk. It might be that the development would need to include mitigation measures, such as changing the levels of its foundations, adopting stiffer supports for excavation works, changing the sequence of excavation and buildings, and including additional structural systems to limit the changes in the ground conditions around assets. In some cases, the presence of Melbourne Metro assets would require the development to span over specified areas and to limit the extent of excavations over or adjacent to Melbourne Metro assets.

This assessment has identified the appropriate area to which the Design and Development Overlay should be applied to protect the Melbourne Metro infrastructure without unduly constraining development. This assessment has also identified the issues that future developers might need to consider in designing and proposing development in a way that would not adversely impact on the Melbourne Metro infrastructure and potential mitigation measures that future developers might use to achieve this result.Through the referral process proposed under the Design and Development Overlay, development that could potentially affect the Melbourne Metro infrastructure would be subject to a formal assessment process by experienced technical personnel.

Appendices

Appendix A.

Peer Review Report

Herbert Smith Freehills

MELBOURNE METRO RAIL PROJECT

ENVIRONMENTAL EFFECTS STATEMENT (EES)

Report by

Flagstaff Consulting Group Pty Ltd

Peer Review of:

- **AJM Ground Movement and Land Stability Impact Assessment Report**

  Rev. D1 April 2016

- **AJM Future Development Loading Report**

  Rev. D1 April 2016

May 2016

Privileged and Confidential

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Contents

1. Introduction

Following instruction on 23rd December 2015 by Herbert Smith Freehills (HSF), Dr Sandy Bennet of Flagstaff Consulting Group (FCG) has undertaken a peer review of the following reports:

- Ground Movement and Land Stability Impact Assessment, and
- Future Development Loading,

prepared by the Aurecon Jacobs Mott MacDonald Joint Venture (AJM JV) on behalf the Melbourne Metro Rail Authority for the Melbourne Metro Rail Project (MMRP).

The peer review process commenced with progressive review of preliminary drafts as information was assembled and continued periodically as reporting matured with the advent of additional information produced by further analysis and field investigation. This final peer review is based on documentation received from Herbert Smith Freehills on 2nd May 2016 and relates to the respective reports issued by AJM JV on 20th April 2016 (Revision: D1).

The two reports reviewed represent a snapshot of work completed at a particular point in time and it must be recognised that further investigation work will be undertaken leading up to detailed design.

1.1 Abbreviations

The following abbreviations have been used throughout this peer review:

AJM JV	Aurecon Jacobs Mott MacDonald Joint Venture
EES	Environmental Effects Statement
DDO	Design & Development Overlay
EPA	Environment Protection Authority Victoria
EPB	Earth Pressure Balance
FCG	Flagstaff Consulting Group Pty Ltd
FDL	Future Development Loading
GA	Golder Associates
GMA	Ground Movement Assessment

GM & LSI	Ground Movement & Land Stability Impact Assessment
HSF	Herbert Smith Freehills
IGS	Interpreted Geological Setting
MMRA	Melbourne Metro Rail Authority
MTPFA	Major Transport Projects Facilitation Act
NYM	North Yarra Main
RGNM	Regional Groundwater Numerical Modelling
TBM	Tunnel Boring Machine

2. Scope of peer review

The scope of this review was initially defined in the letter from Herbert Smith Freehills of 23rd December 2015:

> *a) Review and comment on the assumptions, methodology assessment criteria (standards and limits) and scope applied by AJM in their initial draft report which is expected to be received on 11 January 2016. Please advise whether there are any additional matters which should be considered in your view, as part of the impact assessment, in order to address the EES Scoping Requirements that are relevant to geotechnical, settlement and future development issues; and*
>
> *b) Provide a peer review of the report including advice as to whether there are any gaps or matters where you disagree with the assessment which in your view should be addressed.*

The instruction was supplemented by a further HSF letter of 19th April 2016 requesting preparation of a final peer review assessment of the respective final D1 report versions prepared by AJM.

3. Peer review process

This report is the final stage of a peer review process, which began in December 2015 with progressive review of the initial drafts of the Ground Movement and Land Stability Impact Assessment (GM & LS) and Future Development Loading (FDL) reports and also included consideration of the work performed by Golder Associates on Geotechnical and Hydrogeological investigations (Interpreted Geological Setting EES Summary Report and Ground Movement Assessment EES Summary Report) as sub-consultants to the Aurecon Jacobs Mott MacDonald Joint Venture (AJM JV). The hydrogeological investigations listed in Section 4 were referred to only insofar as they might impact on land stability issues.

The two supporting Golder Associates documents relating to the Interpreted Geological Setting and Ground Movement Assessment form Appendices A and B to the AJM JV Ground Movement and Land Stability Impact Assessment Report.

During the peer review process, I considered the drafts and annotated suggested changes to clarify aspects of the approach taken, relate the works to other benchmark projects in Australia and overseas and demonstrate the potential impacts of the intended construction methods to address the requirements of the Ministerial Order of 3 September 2015. The AJM JV have been responsive to the critique and the respective reports are sufficiently informative for public exhibition and comment, the independent inquiry and the subsequent EES Public Hearing scheduled to be conducted later this year.

The Peer Review in the following sections is structured in terms of the HSF scope.

4. Review of AJM Reports

4.1 Ground Movement and Land Stability Impact Assessment

The GM & LSI Assessment Report evolved as analysis has been completed and follows a path of identifying potential causes of ground movement, measures to mitigate responses and identifies the impact on buildings, utility services, pavements, rail and tram infrastructure and other major infrastructure. The impact assessments on buildings and other structures has been assessed in terms of likely maximum slope profiles of estimated settlement troughs and this is consistent with current tunnel engineering practice.

The face loss (volume loss) assumptions adopted in the head report and its Appendix B are reasonable in terms of the current intended construction methods. When detailed design and construction methodology have been finalised, these assumptions will have to be assessed to ensure that the EPR's can be met.

The Risk Assessment (Section 7) is part of the larger risk management framework of the Project and is appropriate for the Concept Design stage of the Project. It is understood work on managing the Risk Register is on-going as further design is proceeding and mitigating measures and Performance Requirements are structured.

The GM & LS Assessment Report emphasises the need for further work in this area by way of additional studies, stakeholder engagement, development of acceptability criteria, instrumentation and monitoring, and condition surveys. This approach is essential for any substantial project and must be implemented.

The level of stakeholder engagement described in Section 5.5 will need to be advanced in the immediate future in order to develop stakeholder acceptability criteria as a number of interfaces need to be more fully assessed and resolved as far as reasonably possible for this stage of the Project. There are major services and infrastructure which are of State importance in proximity to the Project and attention to this detail is essential.

The EPR's given in Section 12 of the Report are six (6) in number, of which three (3) (GM1, GM3 and GM4) are quite detailed. However, the potential mitigation measures given in the various Tables in Sections 8 to 10 earlier in this document, whilst directly related to the EPR's given in Table 12-1, are not clearly translated into this latter table. It must be recognised that clear enunciation of requirements is necessary to avoid ambiguity.

4.2 Future Development Loading

The FDL Report evolved as analysis has been completed and follows a path of identifying the extent of the DDO width by an analytical approach for tunnels, cut and cover structures and station caverns.

The Report then proceeds to identify:

- design allowances for future development

- an envisaged process for review of proposed future developments
- make provision for approved future developments

by way of design of underground structures to minimise impacts on these future developments, and allowances for future over-site developments (except Domain station).

The impact assessment on buildings and other structures is in accordance with Australian and international practice.

There are no ANZ or international standards in this field. It is accepted practice both nationally and internationally to consider and apply the lessons learned from other projects.

5. Review and comment on the assumptions, methodology assessment criteria (standards and limits) and scope applied by AJM.

5.1 Ground Movement and Land Stability Impact Assessment

The assumptions, methodology assessment criteria (standards and limits) and scope applied by AJM are consistent with practice employed on other major underground metro rail tunnel projects performed in other recent developments in Australia (Sydney Metro) and internationally (Hong Kong MTR, Singapore MRT, London Crossrail and New York Metro Upgrades).

The assumptions are governed by the extent of geotechnical investigation which had been completed by the time of issue of the Concept Design. Further investigations are on-going and will continue to inform the detailed design.

A geotechnical model has been developed to support the Concept Design development and is subject to augmentation as further investigation data is evaluated. The GM & LS Impact Assessment Report represents analyses performed at a point in time.

The empirical Gaussian error curve method of estimating ground settlement has been used extensively on tunnelling projects internationally after its genesis in the USA in the early 1970's. The empirical analyses have been supplemented by numerical model analyses at particular locations identified in the respective reports and the scope of each provider (AJM JV and Golder Associates) is clearly identified as to their contributions, either individually or collaboratively.

For ease of interpretation the particular impacts of:

- Tunnelling and station excavation induced settlement
- Dewatering induced settlement, and
- Consolidation/compression settlement of soils,

have been aggregated to provide an overall picture of the estimated settlement profile.

The output has been clearly demonstrated by the computer plots provided as appendices to the report and its appendices.

As well as addressing the construction phase of the MMRP, the reports also assess the potential impact in the operational phase of the project when particular internationally accepted water-tightness criteria (Haack Classes 2 & 3) have to be met. Those structures which are not constructed by modern TBM Earth Pressure Balance or Slurry Shield technology (e.g. stations, shafts and cross passages) are progressively sealed as final lining takes place. The TBM driven tunnels are intended to be lined progressively by pre-cast

concrete segments as the TBM's advance and are sealed by hydrophilic material at the radial and circumferential joints of the mating segments.

Based on the estimated settlement profiles the GM & LS Impact Assessment considers the impact on structures, utility services, road pavements, tram infrastructure, rail infrastructure and identifies other significant infrastructure such as the City Loop, CityLink, Telstra Cable tunnels, West Melbourne Terminal Station.

The methodology is typical of the approach required of a major project such as Melbourne Metro and has been accepted practice for decades both in Australia and internationally.

The Risk Based approach to assessing initial risk and residual risk after mitigation measures is adequate for the stage of the Project.

5.2 Future Development Loading

The assumptions, methodology assessment criteria (standards and limits) and scope applied by AJM are consistent with accepted practice employed to assess the impact of future development on the Project.

The Introduction and Purpose sets out the five broad types of constraint imposed on future development in proximity to the MMRP. Protection of the tunnels, stations and other structures is crucial for the functionality and longevity, considering the 100 year design life and the implausibility of predicting beyond the foreseeable future.

The assumptions are governed to an extent by the state of completion of geotechnical investigation which had been completed by the time of issue of the Concept Design. Further investigations are on-going and will continue to inform the detailed design.

The extent of the proposed Design and Development Overlay is formulated on the basis of model analysis of various load cases and is clearly enunciated in Section 2 of the FDL Report. The angle of the line from the horizontal from the base to surface is developed from analyses of various tunnel models in the Precinct 1, in accordance with the predicted geological conditions (23 segments). This gives sufficient coverage of the entire tunnelled portion of the project.

Cut and cover structures are similarly assessed, and similarly the two major cavern structures for the CBD North and South stations are analysed in a like manner.

The approach by AJM to adopt a DDO based on a conservative view of the maximum loading in the surface area influencing the tunnels and other underground structures to match to design allowances for the tunnels and other structures is reasonable.

It is also noted that Section 3.3 of the AJM report recognises that any future developments which hold a valid planning permit at the date an amended DDO is applied to the land

would require the MMRP underground structures be designed to minimise any impacts on the intended development.

The issues surrounding future development are particularly spelt out in Section 3.5 of the Report. The impacts are specifically covered in Section 3 and oversite development is discussed in Section 3.4 particularly areas of all stations except Domain.

Reference to other projects or systems is given in Section 3.5.2 (p.30), and whilst the MMRP is intended to be protected by a DDO, the intent is similar to the City Loop tunnels and stations which is covered by Legislation (as amended) and this precedent has functioned without detriment to the city development for over 30 years.

The protection of the two major station caverns will be a key issue.

It is also worth noting that specified minor works are intended to be exempt from the requirement for a planning permit and referral process.

6. Advise whether there are any additional matters which should be considered in your view, as part of the impact assessment, in order to address the EES Scoping Requirements that are relevant to geotechnical and settlement issues

6.1 Ground Movement and Land Stability Impact Assessment

The only additional matter which should be considered in relation to the GM & LSI Assessment Report is furthering the engagement with stakeholders. This principally applies to:

- CityLink – Tunnel interface and the elevated Western By-Pass Piers
- City Loop interface
- Telstra Cable Tunnels in CBD
- West Melbourne terminal Station and associated transmission towers
- Major utility services, viz high pressure gas main at J J Holland Park.

These will entail complex negotiations, management and approvals in principle, and need to be advanced prior to final design and construction detail known.

Other stakeholder issues may not be as critical but also need advancing, such as the interfaces with road, rail and tram infrastructure.

The other stakeholder which has a significant interest in protecting their assets is Melbourne Water, particularly the North Yarra Main (NYM) sewer and the South Yarra Main sewer.

Discussion on the NYM is limited (only passing reference in Table 9-6) in the report and interface with this aged sewer in the vicinity of Lloyd Street, Kensington will require further consultation with Melbourne Water, and the report would have benefitted from a more detailed consideration similar to the other major infrastructure as listed in the dot points above.

6.2 Future Development Loading

There are no additional matters which should be considered in relation to the FDL Report

7. Advise whether there are any gaps or matters where you disagree with the assessment which in your view should be addressed

7.1 Future Development Loading

The only matter where possible clarification should be given is in relation to the parameters adopted for settlement analysis as assigned in Table 2-2 of the FDL Report. The Elastic Modulus value for Rock (column 3 of the table) adopted implies a small strain condition. The case of future development loading is treated differently to the case of excavation induced stress changes and deformation of the rock mass during construction of the Project.

Discussion in Section 2.4 is relatively brief regarding the adopted model parameters. All of the following model analyses have apparently applied these values, but the small strain condition (<0.2%) is limited to cases where ground support can be applied almost immediately upon excavation. The situation of large caverns, shafts, cross passages and mined tunnels where development of the full profile is sequential and occurs over a considerable period of time, despite the best endeavours to provide support incrementally (refer Figure 4-4 of the GM & LSI Assessment Report p.21 as example of excavation sequence), should not be assumed to behave similarly to a TBM driven tunnel with segmental liners.

If lower values of Elastic Modulus are applied, taking into account the increased strain (Moderate strain (0.2% to 1%)) likely to be applicable for cavern construction, the settlement magnitude would be substantially increased in this scenario.

Reference to Appendix C of the Golder Associates Ground Movement Assessment – EES Summary Report (Report No.152532-219-R-Rev1) (pp. 10 & 11and Table 6 in particular)) included as Appendix C of the GM & LSI Assessment Report indicates use of lower values of Elastic Modulus have been adopted in their Plaxis finite element analysis of the caverns.

It would be beneficial if the description of Section 2.4 is augmented by further explanation why different parameters are adopted for the future development loading situation.

Dr A G Bennet

Principal

Flagstaff Consulting Group Pty Ltd

3 May 2016

8. Disclaimer

This Peer Review report has been prepared by Flagstaff Consulting Group (Flagstaff) for HSF's use and is only to be used in accordance with the limitations and conditions as outlined in this report.

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Appendix K

Relevant Practice Notes, Advisory Notes and Ministerial Directions

Practice Notes

Planning practice notes provide ongoing advice about the operation of the Victorian Planning Provisions and planning schemes as well as a range of planning processes and topics.

Incorporated and Reference Documents, Planning Practice Note 13, June 2015

An incorporated document is a document specifically listed in Clause 81.01 or the Schedule to Clause 81.01 of planning schemes, and must be taken into account by responsible authorities in decision making. The document carries the same weight as other parts of the schemes.

Reference documents provide background information to assist in understanding the context within which a particular policy or provision has been framed. Reference documents can be mentioned in a planning scheme in a State standard provision, or be introduced through a local provision.

The purpose of Practice Note No. 13 is to:

- Explain the role of external documents in planning schemes
- Explain the difference between incorporated documents and reference documents
- Provide guidelines on when a document should be incorporated or be a reference document.

Ministerial Powers of Intervention in Planning and Heritage Matters, General Practice Note, November 2004

The provisions of Section 20(4) of the *Planning and Environment Act 1987*, along with the Practice Note 'Ministerial Powers of Intervention in Planning and Heritage Matters', provide guidance as to the matters to be considered in requesting intervention from the Minister for Planning.

Section 20(4) of the *Planning and Environment Act 1987* states:

> *'The Minister may exempt himself or herself from any of the requirements of sections 17, 18 and 19 and the regulations in respect of an amendment which the Minister prepares, if the Minister considers that compliance with any of those requirements is not warranted or that the interests of Victoria or any part of Victoria make such an exemption appropriate'.*

Section 20(5) of the *Planning and Environment Act 1987* states:

> *'The Minister may consult with the responsible authority or any other person before exercising the powers under subsection (2) or (4)'.*

The Practice Notes states the following criteria (where relevant to this matter) would usually be relevant in considering whether:

'The matter will be one of genuine State or regional significance. Such situations may include, for example, those:

- Where the determination of the application may have a substantial effect on achievement or development of State or regional planning or heritage objectives
- Which raise a major issue of State or regional policy or public interest such as the implementation of Melbourne 2030 objectives
- Which could have significant effects beyond their immediate locality.

The matter will give effect to an outcome where the issues have been reasonably considered and the views of affected parties are known.

The matter will be the introduction of an interim provision or requirement and substantially the same provision or requirement is also subject to a separate process of review (such as the introduction of permanent controls in a planning scheme).

The matter will raise issues of fairness or public interest, where:

- The mechanisms of the planning process have created a situation that is unjust, unreasonably causes hardship or is clearly in error
- Anomalous provisions apply and the valid intent is clearly evident or simple inconsequential correction is required
- There is a need for urgency and the public interest would be served by immediate action
- The matter is unlikely to be reasonably resolved by the processes normally available.

The matter requires co-ordination to facilitate decision-making by more than one agency'.

Potentially Contaminated Land, General Practice Note, June 2005

The planning system is the primary means for regulating land use and approving development and is an important mechanism for triggering the consideration of potentially contaminated land.

Ministerial Direction No. 1 – Potentially Contaminated Land (Direction No. 1) requires planning authorities when preparing planning scheme amendments, to satisfy themselves that the environmental conditions of land proposed to be used for a sensitive use (defined as residential, child-care centre, pre-school centre or primary school), agriculture or public open space are, or will be, suitable for that use.

This General Practice Note is designed to provide guidance about:

- How to identify if land is potentially contaminated
- The appropriate level of assessment of contamination for a planning scheme amendment or planning permit application
- Appropriate conditions on planning permits
- Circumstances where the Environmental Audit Overlay should be applied or removed.

Strategic Assessment Guidelines for Preparing and Evaluating Planning Scheme Amendments, Planning Practice Note 46, June 2015

Practice Note. No. 46 sets out what should be considered as part of *Minister's Direction No. 11 Strategic Assessment Guidelines*. Under the Minister's Direction, not all amendments require an assessment against the strategic considerations. This practice note discusses:

- Amendments that do not require an assessment against the strategic considerations

- Amendments that only require a brief assessment against the strategic considerations
- Amendments that do require a full assessment against the strategic considerations
- The strategic considerations.

Advisory Notes

Advisory Notes provide 'point in time' information about new initiatives and changes to specific Victorian Planning Provisions and planning scheme provisions, processes and subjects.

Addressing the Transport Integration Act 2010 in a planning scheme amendment, Advisory Note 34, January 2011

The *Transport Integration Act 2010* came into effect on 1 July 2010 'to create a new framework for the provision of an integrated and sustainable transport system in Victoria' that recognises the inter-dependency of transport and land use. If a planning scheme amendment is likely to have a significant impact on the transport system, the planning authority must have regard to:

1. *the transport system objectives, as set out in Part 2, Division 2 of the Transport Integration Act 2010*
2. *the decision making principles, as set out in Part 2, Division 3 of the Transport Integration Act 2010.*
3. *any statement of policy principles*, as set out in Part 2, Division 4 of the Transport Integration Act 2010.*

In order to ensure that the requirements of the *Transport Integration Act 2010* are taken into consideration by planning authorities, Ministerial Direction No. 11 – Strategic Assessment of Amendments, Strategic Assessment Guidelines (and the associated checklists and explanatory report template) were updated to include the question:

'Does the amendment address relevant requirements of the Transport Integration Act 2010?'

If it is determined that the amendment would have a significant impact on the transport system, an assessment needs to be undertaken against the transport system objectives, the decision making principles and any relevant specified statement of policy principles as set out in the *Transport Integration Act 2010*.

Ministerial Directions

The Minister for Planning issues directions to planning authorities regarding the preparation of planning schemes and amendments to planning schemes.

Ministerial Direction No. 1 Potentially Contaminated Land

The purpose of Ministerial Direction No. 1 is to 'ensure that potentially contaminated land is suitable for a use which is proposed to be allowed under an amendment to a planning scheme and which could be significantly adversely affected by any contamination'.

The direction sets out that a planning authority, in preparing an amendment that would have the effect of allowing potentially contaminated land to be used for a sensitive use, agriculture or public open space, must satisfy itself that the environmental conditions of that land are or would be suitable for that use.

'Potentially contaminated land' means *land used or known to have been used for*:

a) Industry

b) Mining

c) The storage of chemicals, gas, wastes or liquid fuel (if not ancillary to another use of the land).

The Direction specifically sets out requirements for the planning authority satisfying itself in relation to a sensitive use, However the proposed Melbourne Metro would not constitute a sensitive use (which includes a residential use, a childcare centre, a pre-school centre or a primary school).

The Minister (or Executive Director of DELWP) may grant an exemption from the need to comply with this Direction in relation to a particular amendment. The Environment Protection Authority may be consulted before deciding to grant an exemption (with or without conditions).

Ministerial Direction No. 11 Strategic Assessment of Amendment

The purpose of the Ministerial Direction No. 11 is 'to ensure a comprehensive strategic evaluation of a planning scheme amendment and the outcomes it produces' and sets out the requirements to be met when preparing a planning scheme amendment. Direction No. 11 requires that an explanatory report prepared as part of the amendment documentation includes a discussion about how the amendment that addresses the following strategic considerations:

- 'Why is an amendment required?
- How does the amendment implement the objectives of planning in Victoria?
- How does the amendment address any environmental effects?
- How does the amendment address any relevant social and economic effects?
- How does the amendment address any relevant bushfire risk?
- Does the amendment comply with the requirements of any other Minister's Direction applicable to the amendment?
- How does the amendment support or implement the State Planning Policy Framework and any adopted State policy?
- How does the amendment support or implement the Local Planning Policy Framework, and specifically the Municipal Strategic Statement?
- Does the amendment make proper use of the Victoria Planning Provisions?
- How does the amendment address the views of any relevant agency?
- Does the amendment address the requirements of the Transport Integration Act 2010?'

Appendix L

Peer Review Report

MELBOURNE METROPOLITAN RAIL PROJECT

EES Land Use and Planning Impacts April 2016

Peer Review

PREPARED BY
ROBERT MILNER DIP T&CP LFPIA,FVPELA

Expert Evidence | Strategic Advice | Development Approvals

Expert Evidence | Strategic Advice | Development Approvals

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Contents

1 INTRODUCTION

1.1 Purpose

1 Herbert Smith Freehills (HSF), legal advisers to the Melbourne Metro Rail Authority (MMRA) and the Secretary to the Department of Economic Development, Jobs, Transport and Resources (DEDJTR) have retained me in regard to the Melbourne Metro Rail Project (Project).

2 I have been asked to undertake and report on my findings as a result of a peer review of the final draft of the *Land Use Planning Impact Assessment Report* (Report) prepared by Authority consultants Aurecon, Jacobs Macdonald (AJM).

3 The peer review is expected to comment upon the methodology adopted and the conclusions drawn in the Report, identifying matters upon which I hold a different opinion to that expressed in the Report.

1.2 Context

4 The Report forms part of the Environmental Effects Statement (EES) prepared for the project in accordance with the *Ministerial guidelines for assessment of environmental effects under the Environmental Effects Act 1978*.

5 It forms part of a suite of documents that collectively establish the strategic and statutory land use planning context for this major infrastructure project. That suite includes:

- *Melbourne Metro – Business Case*, February 2016 – Victorian Government / DEDJTR
- *Melbourne Metro Rail Project Land Use And Planning Impact Assessment*, March 2016 – AJM as a component of the EES
- *Planning Report to Support Planning Scheme Amendment request GC45*, February 2016 (Draft) MMRA.

- The draft planning scheme amendment documentation – March 2016

6 Over the last three months I have been asked to review various earlier drafts of some of these documents as preparation for settling upon the final suite of reports to be relied upon for the Project's approval process.

7 In providing this peer review I have been mindful that part of the relevant context that informs the subject matter of the land use planning component sits outside the Report.

1.3 Overview

8 Despite that limitation, the totality of the documentation, noted above, provides a complete, comprehensive and persuasive strategic justification and statutory implementation for the Project.

9 It moves from macro social, economic and environmental considerations of need at a State level to either local detail or a robust process that will ensure that final detail and appropriate checks and balances are applied post the approvals process.

10 The Report has been revised and amended in light of my earlier comments and addresses the basis of most of my earlier principal concerns.

11 The *Land Use and Planning Report* takes as its starting point that the need for the project has been established and the preferred location of stations and the alignment of the tunnel have been identified by a series of earlier investigations and assessments.

12 The Report is therefore confined to the construction and operational impacts and has, appropriately, taken a risk based approach and an impact based assessment, seeking to minimise the prospect of negative social, economic and environmental impacts.

13 The Report is to be read in conjunction with other impact assessments addressing transport, social, noise and vibration and heritage matters.

2 REPORT ASSESSMENT

2.1 Methodology

14 An appropriate methodology should:

- Ensure that the project will not conflict with gazetted legislation and prospective or adopted thematic and location specific planning strategies and policies.
- Be aware of property rights and commitments to enable future use and development and appreciate the prospect and degree of conflict.
- Have regard to the strategic and actual land use and development context of the site and establish how the project would integrate with that environment.
- Identify the fundamental parameters and features of the project that will impact upon land use and development.
- Evaluate the impacts on the construction process and the on going operation in so far as they interface with the above considerations and ensure that options to minimise negative outcomes have been fully identified.

15 Such an approach would ensure that the project would integrate and align with the broader planning context and minimise environmental impacts.

16 The methodology, risk assessment and documentation advanced in the revised Report covers each of the above bases and offers a robust approach to the land use and development assessment. I am satisfied the consultants have relied upon an appropriate and sound methodology.

17 I note that a number of temporal considerations such as land use surveys and issued permits had a December 2015 deadline. This point is identified as a limitation in the *Limitations* Section 4.6.

18 This was appropriate but I am mindful that with the elapse of time during the approvals processes there would be a need for a monitoring system and process to ensure that both records changes and draws to the attention of the authority planning permit applications that might be lodged during the intervening period.

2.2 Chapters 1-4 and 6

19 These chapters provide important contextual considerations regarding the subsequent assessment. The scope and content of these chapters is appropriate and accepted.

2.3 Chapter 5 - Strategic Justification

2.3.1 The Project and Plan Melbourne

20 The chapter, at page 35, appropriately notes that *Plan Melbourne* does not recognise the alignment of Melbourne Metro but does acknowledge the principal of the project through reference to the Melbourne Rail Link.

21 This is a matter that will need to be rectified through the approvals process and draws attention to the shortcoming of showing the detail of major projects in long term strategies when the alignment or the form of the project has not been approved.

22 There is a revised form of *Plan Melbourne* foreshadowed. An appropriate reference to the conceptual intent of the project would be appropriate and necessary to address this shortcoming.

2.3.2 Potential constraints to future development

23 Section 5.3 of the Report addresses this topic.

24 I have previously advised that I consider the Design and Development Overlay to be an appropriate tool to draw attention to the tunnel and the stations and as a means of regulating development in their environs.

25 The report notes

> "*Properties within the proposed Design and Development Overlay area have been the subject to further assessment as to the impact of Melbourne Metro on the development potential for each property.*"

26 Further it notes;

> *"The potential constraints to future land use and built form is discussed in the impact assessment section of this report.*

27 In the subsequent sections and appendices, I can find no assessment of the impact for each property and the discussion on the impact assessment tends to be confined to approved projects. I am concerned for the implications for parties seeking to develop land, post approval of the Project.

28 The inclusion of Appendix J – *Limits on Future Development – Technical Paper (version P5)* is a welcomed contribution to understanding this issue but does not include the property-by-property analysis.

29 I note that reference is made at Chapter 5 to the depth of the proposed tunnels as being between 8.4 metres and 36.2 metres below surface level.

30 While accepting that final tunnel designs have not been resolved and the form of future development is not known the reader remains unclear what the real constraints on future development may be.

31 This issue may have notable impacts upon the form and density of development that might be envisaged within the existing context of policy and planning provisions.

32 While it will be confined to properties covered by the DDO it will be a matter of reasonable concern for affected property owners.

33 The EES would be enhanced by an identification of if and where the depth of tunnels and soil conditions may constrain the manner of site development and the delivery of planning outcomes.

2.4 Chapters 8-16

34 These chapters systematically address the sections of the tunnel and the stations.

35 The information in each chapter is sensibly ordered, and enables an appreciation of the existing conditions and how the proposal and alternative design option would impact on those conditions. It also examines impacts upon planning strategy, property rights, planning permits and approved development, the properties to be acquired, environmental risks and impacts and associated mitigation strategies.

36 In the time available to prepare this review I have not been able to visit each site or review each statement of fact and assertion for accuracy or completeness.

37 For the purpose of exhibition of the documentation the reader is provided with what appears to be a carefully considered review of relevant considerations.

38 As a result of exhibition there may be some matters that warrant further and more detailed review. It would be appropriate that I review those submissions at that time and my observations and conclusions could be addressed through expert evidence.

39 It is evident through the analysis and commentary that the consultants have gone to some length to identify relevant considerations and evaluate their consequences.

2.5 Chapter 19 – Conclusions

40 The conclusions fairly summarise the construction and operational implications of the project as perceived.

41 A project of this scale and sweeping implications is bound to incur some long term costs which in this case are measured in relatively small incursions into some public spaces and parks and the acquisition of a number of properties.

42 There will be a considerable short term disturbance to property and access during the construction period but this is a necessary consequence of a construction period on a major project.

43 The strategic benefits of the overall project in moving a metropolitan population more effectively between the suburbs and city based jobs and other attractions cannot be over stated.

44 I am satisfied that this project marks a significant advance in a more sustainable city, sustainable transport and sustainable development.

45 The reliance upon a tunnel has avoided massive disturbance to land use and development. Where the project connects with above ground land use and development it offers real prospects in fostering the growth and consolidation in preferred locations identified in policy.

46 As noted earlier the only aspect that warrants greater clarification would be which areas and sites are likely to be particularly disadvantaged in the future by the limitations on redevelopment created by the presence of the tunnels.

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