Appendix M

Constructability environmental management plan

Sydney Metro West

Parramatta Over and Adjacent Station Development Construction Management Statement

Appendix M

October 2022

NSW GOVERNMENT

sydney METRO

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Glossary

Term	Definition
ASD	Adjacent site development
CBD	Central business district
CMS	Construction management statement
Concept SSDA	A concept development application as defined in Section 4.22 the EP&A Act, as a development application that sets out concept proposals for the development of a site, and for which detailed proposals for the site or for separate parts of the site are to be the subject of a subsequent development application or applications.
Council	City of Parramatta
CSSI approval	Critical state significant infrastructure approval
CTMF	Construction traffic management framework
CTMP	Construction traffic management plan
DPE	NSW Department of Planning and Environment
EIS	Environmental impact statement
EP&A Act	*Environmental Planning and Assessment Act 1979*
EPA	NSW Environment Protection Authority
GFA	Gross floor area
LGA	Local government area
OSD	Over Station Development
RMS	Roads and Maritime Services
SEARs	Secretary's environmental assessment requirements
SEPP	State environmental planning policy
SSDA	State significant development application
Stage 1 CSSI Approval	SSI-10038 approved 11 March 2021 all major civil construction works between Westmead and The Bays, including station excavation and tunnelling, associated with the Sydney Metro West railway line
Stage 2 CSSI Application	(SSI- 19238057) – All major civil construction works between The Bays and Sydney CBD (approved 24 August 2022)

Term	Definition
Stage 3 CSSI Application	(SSI- 22765520) – Tunnel fit-out, construction of stations, ancillary facilities and station precincts between Westmead and the Sydney CBD, and operation and maintenance of the Sydney Metro West line (under assessment, lodged).
Sydney Metro West	Construction and operation of a metro rail line and associated stations between Westmead and the Sydney CBD as described in section 1.1
The site	The site which is the subject of the proposed development
TfNSW	Transport for New South Wales

Executive summary

This Construction Management Statement supports a Concept State Significant Development Application (Concept SSDA) submitted to the Department of Planning and Environment (DPE) pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The Concept SSDA is made under Section 4.22 of the EP&A Act.

Sydney Metro is seeking to secure concept approval for an over station development (OSD) and adjacent station development (ASD) on the Parramatta metro station site (referred to as the 'proposed development'). The proposed development will comprise three new commercial office buildings (Buildings A, C, D), and one new residential building (Building B)

The Concept SSDA seeks consent for a building envelope and mixed-use purposes, maximum building height, a maximum gross floor area (GFA), pedestrian and vehicular access, circulation arrangements and associated car parking and the strategies and design parameters for the future detailed design of the proposed development.

This report outlines delivery scenarios the project could follow to complete the works, how construction activities could be staged, and the key safety and environmental requirements to be adhered to. It highlights the key principles of constructability and the key mitigation measures to be taken to ensure the community are considered and impacts are kept to a minimum.

The buildings that comprise the proposed development are located on separate sites and could potentially be developed at different times over an extended period subject to market requirements for commercial space. The future developer will determine the timeframe of the proposed development construction and communicate these in a Construction Traffic Management Plan (CTMP).

Key project constraints

The delivery of large multi-use developments is complex. The following project constraints will shape the preferred method of delivering this development and the likely timing and staging for construction activities:

- Civic Link would be operational at the time of station opening in accordance with conditions of the CSSI approval. The future developer of Building C would have to either maintain public access via Civic Link or negotiate a suitable alternate arrangement with the City of Parramatta Council. The future developer would need to ensure pedestrians and public use of this thoroughfare is safely managed whilst construction is in progressed on Building C
- George Street would be the main access for construction haulage and deliveries. This sites access point will need to be maximised, by taking possession of the parked lane directly adjacent to the site lot and converted to a loading and materials handling zone for cranage of material, plant and equipment onto the site
- Site access to Building C will be constrained as there is no unobstructed street frontage available to deliver this development once the metro station opens. Direct access for contractor deliveries and materials handling will either be via a shared lane or off street cranage over an existing commercial complex
- Vehicle access for loading and deliveries would need to be maintained to the existing properties adjacent to Building A on Church and George Street during the construction of Building A.

Mitigation measures

Construction of the proposed development will have impacts on local traffic, pedestrian movements and light rail including increased construction traffic on local streets, noise and dust from construction works, construction works occurring overhead. The CTMP would be prepared by the future developer and would confirm the construction methodology and timeframe and the associated impact assessment and mitigation measures to manage these impacts.

Construction of the proposed development would occur generally in accordance with the following:

- Sydney Metro contract requirements and relevant standards
- Construction traffic haulage routes as provided for in this Environmental Impact Statement (EIS) and Critical State Significant Infrastructure (CSSI) approval
- Sydney Metro's Construction Traffic Management Framework (CTMF) which provides the overall strategy and approach for construction traffic management for the Sydney Metro West project, and outlines traffic management requirements and processes that would apply to the proposed development
- Relevant traffic management methodologies and procedures approved previously for the site under the CSSI approval
- Future CTMPs prepared for the Detailed SSD Applications.

1 Introduction

1.1 Sydney Metro West

Sydney Metro West will double rail capacity between Greater Parramatta and the Sydney Central Business District (CBD), transforming Sydney for generations to come. The once in a century infrastructure investment will have a target travel time of about 20 minutes between Parramatta and the Sydney CBD, link new communities to rail services and support employment growth and housing supply.

Stations have been confirmed at Westmead, Parramatta, Sydney Olympic Park, North Strathfield, Burwood North, Five Dock, The Bays, Pyrmont and Hunter Street (Sydney CBD).

Sydney Metro West station locations are shown in Figure 1-1.

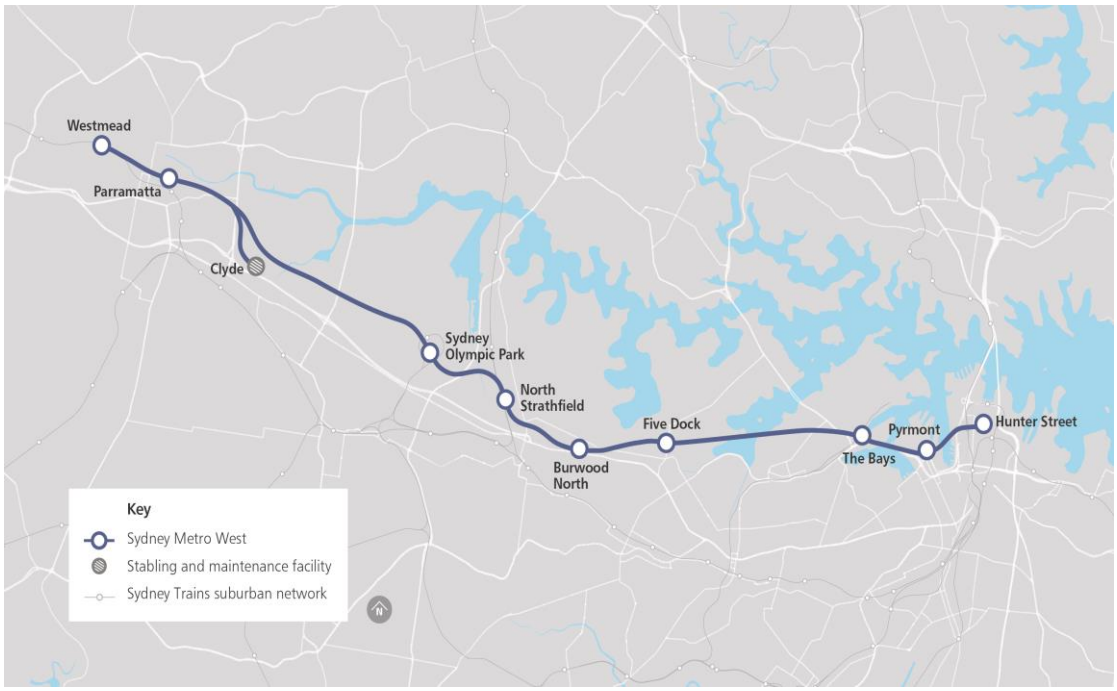


Figure 1-1 Sydney Metro West

1.2 Background and planning context

Sydney Metro is seeking to deliver Parramatta Station under a two-part planning approval process. The station infrastructure is to be delivered under a Critical State Significant Infrastructure (CSSI) application subject to provisions under division 5.2 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). While the over and adjacent station developments are to be delivered under a State Significant Development (SSD) subject to the provisions of part 4 of the EP&A Act.

1.2.1 Critical State Significant Infrastructure

The State Significant Infrastructure (SSI) planning approval process for the Sydney Metro West metro line, including delivery of station infrastructure, has been broken down into a number of planning application stages, comprising the following:

- Stage 1 CSSI Approval (SSI-10038) – All major civil construction works between Westmead and The Bays including station excavation, tunnelling and demolition of existing buildings (approved 11 March 2021)

- Stage 2 CSSI Application (SSI- 19238057) – All major civil construction works between The Bays and Sydney CBD (approved 24 August 2022)
- Stage 3 CSSI Application (SSI- 22765520) – Tunnel fit-out, construction of stations, ancillary facilities and station precincts between Westmead and the Sydney CBD, and operation and maintenance of the Sydney Metro West line (under assessment, lodged).

1.2.2 State Significant Development Application

The SSDA will be undertaken as a staged development with the subject Concept SSDA being consistent with the meaning under section 4.22 of the EP&A Act and seeking conceptual approval for a building envelope, land uses, maximum building heights, a maximum gross floor area, pedestrian and vehicle access, vertical circulation arrangements and associated car parking. A subsequent Detailed SSD/s is to be prepared by a future development partner which will seek consent for detailed design and construction of the development.

1.3 Purpose and scope

This Construction Management Statement (CMS) supports a Concept State Significant Development Application (Concept SSDA) submitted to the Department of Planning and Environment (DPE) pursuant to Part 4 of the EP&A Act. The Concept SSDA is made under section 4.22 of the EP&A Act.

This report has been prepared to specifically respond to the Secretary's Environmental Assessment Requirements (SEARs) issued for the Concept SSDA on 22 February 2022 which states that the environmental impact statement is to address the following requirements:

Table 1-1 SEARs and where this is addressed in this report

Key issue	SEARs	Addressed in
9. Traffic, Transport and Accessibility	Provide a Construction Traffic Management Plan detailed predicted construction vehicle movements, routes, access and parking arrangements, coordination with other construction occurring in the area and how impacts on existing traffic, pedestrian and bicycle networks would be managed and mitigated	Section 4
22. Construction, Operation and Staging	If staging is proposed, provide details of how construction and operation would be managed and any impacts mitigated.	Section 5

2 The site and proposal

2.1 Site location and description

The subject application is in the Parramatta CBD, in the City of Parramatta Local Government Area (LGA). It is within the city block bounded by George Street, Church Street, Smith Street, and Macquarie Street.

The site presents a 164m long frontage to Macquarie Street, 125m frontage to George Street, 48m frontage to Church Street, and 15.5m frontage to Smith Street (in the form of Macquarie Lane).

The site location is shown in Figure 2-1 and Table 2-1.

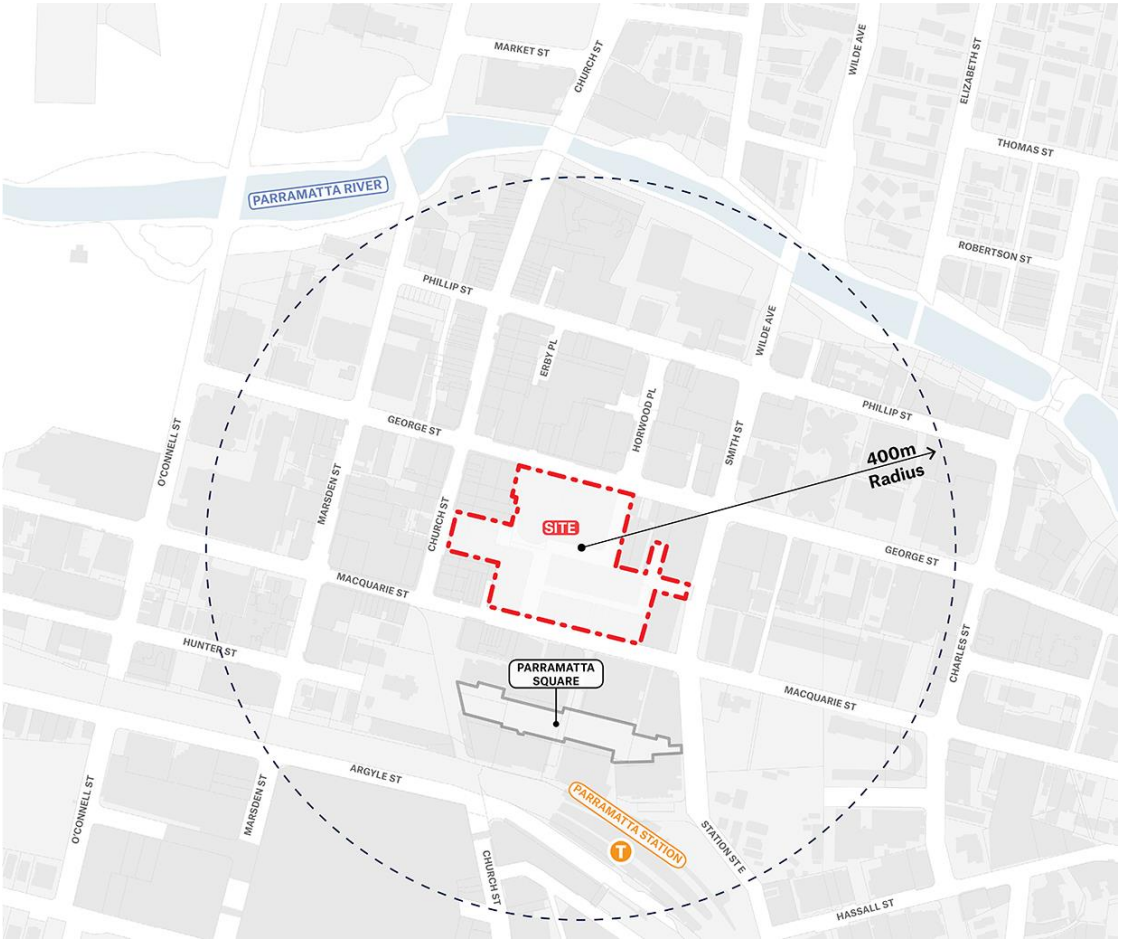


Figure 2-1 Parramatta Metro Station precinct location

As described in Table 2-1, the site comprises sixteen (16) different allotments of varying sizes. It is irregular in shape, with a total area of approximately 24,899m^2.

Table 2-1 Site legal description

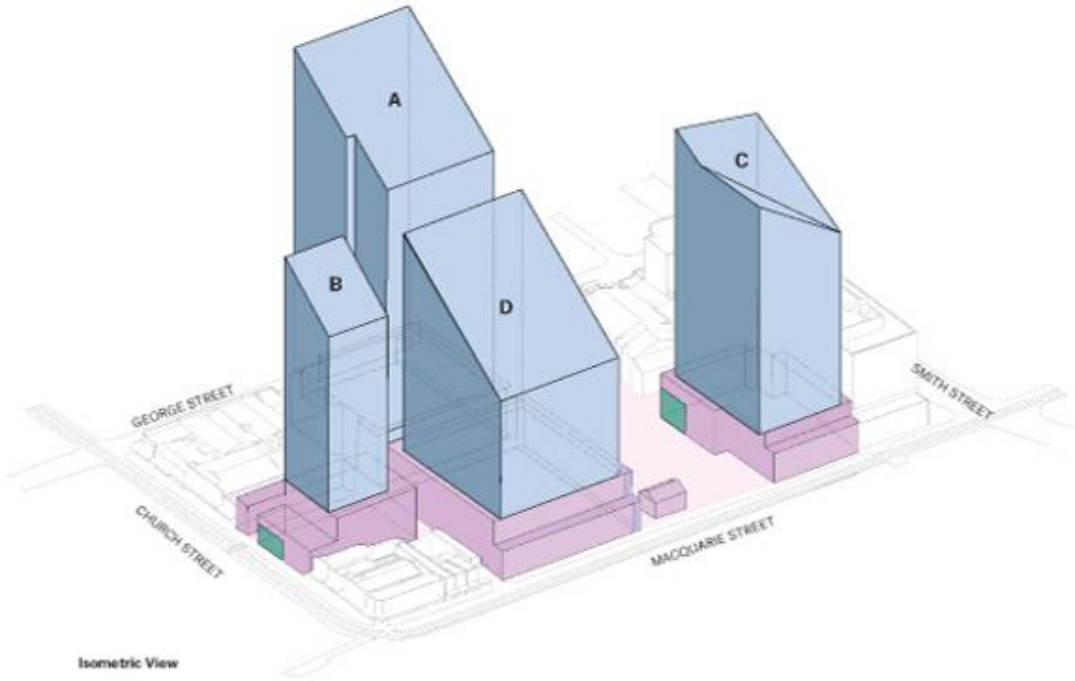
Street address	Legal description
41-59 George Street	Lot 10 in DP858392
45A George Street	Lot 2 in DP701456
61B George Street	Lot 1 in DP607181
71 George Street	Lot 100 in DP607789
220 Church Street	Lot 1 in DP1041242
222 Church Street	Lot 1 in DP702291
232 Church Street	Lot 1 in DP651992
236 Church Street	Lot 1 in DP128437
238 Church Street	Lot 2 in DP591454
48 Macquarie Street	Lot B in DP394050
58-60 Macquarie Street	Lot 1 in DP399104
62-64 Macquarie Street	Lot AY in DP400258
68 Macquarie Street	Lot 1 in DP711982
70 Macquarie Street	Lot E DP 402952
72 Macquarie Street	Lot 3 in DP218510
74 Macquarie Street	Lot H in DP405846

2.2 Overview of this proposal

The Concept SSDA will seek consent for four building envelopes as detailed in Table 2-2 and Figure 2-2.

Table 2-2 Parramatta proposed development overview

Item	Description
Building use	**Building A:** Commercial and retail **Building B:** Residential and retail **Building C:** Commercial **Building D:** Commercial and retail
Building Height (Number of storeys)	**Building A:** 38 storeys **Building B:** 33 storeys **Building C:** 26 storeys **Building D:** 25 storeys
Gross Floor Area (m²)	**Building A:** 78,700 **Building B:** 20,000 **Building C:** 35,950 **Building D:** 55,350 **TOTAL: 190,000**
Car parking spaces	455



Legend

- Parramatta Station CSSI Approval - Includes structure and building infrastructure and space for lift cores, access, parking, retail and building services for future OSD & ASD
- OSD & ASD Concept SSD Building Envelope - Includes OSD & ASD Areas inside the CSSI 'shell' below ground and in the podium levels
- Metro Station Entry and Box (Indicative)
- 3m Podium Articulation Zone - refer to Design Guidelines.
- Heritage Interface Zone - refer to Design Guidelines.

Figure 2-2 Proposed development

3 Staging and framework for managing environmental impacts

Sydney Metro proposes to procure the delivery of the Parramatta integrated station development in one single contract package, which would broadly entail the station structure, station fit-out, OSD structure and OSD fit-out.

The scope of works are planned and separated into two main components:

- station scope which includes station structure, entrance structures, OSD enabling works which includes podium level of OSDs and some parts of the basement for Buildings B, C and D, façade, architectural and services fit-out and commissioning of station services ready for operation
- development scope which includes structure, façade, architectural and services, fit-out works including mechanical and electrical for the OSD and ASD.

Separate delivery packages are also proposed by Sydney Metro to deliver the excavation of the station boxes/shafts ahead of the integrated station development delivery package, and line-wide systems and operational readiness works.

Four possible staging scenarios have been identified for the delivery of the integrated station development:

- Scenario 1 – the station, OSD and ASD are constructed concurrently by constructing the transfer slab first and then building in both directions. The station, OSD and ASD would be completed in 2030. This scenario is considered unlikely due to the amount of commercial floor space that will become available within the Parramatta CBD and market demand factors
- Scenario 2 – the station, the basements and the OSDs are constructed concurrently and substantially completed by 2030. Some construction works on the OSDs may be completed after the metro station opens, such as internal fit-out. The construction of the ASD (Building A) would commence after the metro station opens with the timing determined by a future developer
- Scenario 3 – the station, the southern basement and the OSDs are commenced concurrently. Building C would be substantially completed by 2030 to avoid using Smith Street and Macquarie Lane for construction access. Building B and D would only be partially completed when the metro opens, and construction of Building A and the northern basement would have yet to commence
- Scenario 4 – only the station and the OSD enabling works would be completed when the metro opens. Buildings A, B, C and D would be constructed at a later stage with the timing yet to be determined. This would create two distinct construction periods, one for the station and one for the OSD/ASD with a gap or period of demobilisation in between.

The final staging for the delivery of the OSD and ASD would be confirmed as part of the Detailed SSD Applications(s).

For the purposes of providing a high-level assessment of the potential environmental impacts associated with construction, the following have been considered:

- impacts directly associated with the construction of the proposed development (subject of this SSDA)
- cumulative impacts of the construction of the OSD at the same time as the station works (subject of the CSSI Approval).

Potential impacts associated with the construction of the station works would be managed would be managed through the implementation of Sydney Metro management frameworks and standard mitigation measures including the Construction Environmental Management Framework (CEMF), Overarching Community Consultation Strategy (OCCS) and Construction Traffic Management Framework (CTMF). These frameworks form part of the CSSI Approval.

Sydney Metro proposes to implement a consistent environmental management framework where the integrated delivery of the station scope and the proposed development scope occurs concurrently (e.g., Scenarios 1, 2 and 3). This would ensure a consistent approach to management of design interface and construction-related issues.

The Sydney Metro environmental management frameworks apply to the proposed development until the completion of the station components (i.e., those works under the CSSI Approval). Should OSD be partially constructed at this time (e.g., Scenario 2 and 3), the developer may elect to continue implementing Sydney Metro's management plans and sub-plans until the completion of the building or alternatively they may implement their own environmental management frameworks.

Should the proposed development be constructed a later date after the practical completion and opening of the metro station (e.g., Scenario 4), standard practices for managing construction related environmental impacts would apply in accordance with the relevant guidelines and conditions of approval on the Detailed SSD Application(s).

4 Construction traffic management

4.1 Construction haulage routes

The construction haulage routes identified within the Stage 3 CSSI Application predominantly utilise George Street as the main access for construction haulage and deliveries. Similarly, George Street will be the main access and egress for construction haulage and deliveries for the proposed development construction where these works are undertaken concurrently with the station works approved by the CSSI. The proposed construction haulage routes are shown in Figure 4-1 below.

Figure 4-1 Proposed construction haulage routes

4.2 Construction Traffic Management Framework

The Sydney Metro Construction Traffic Management Framework (CTMF) should be taken into consideration when preparing the Detailed SSD Applications for the Future Detailed SSD Applications. The CTMF provides an overall strategy and approach for construction traffic management and establishes traffic management requirements, processes and acceptable criteria to be considered in managing roads and footpaths adjacent to the proposal. The principles and procedures outlined in the CTMF are proposed to apply to the proposed development where construction is occurring concurrently with the station and proposed development construction.

Construction and Traffic Management Plans (CTMP) would be prepared as part of the Detailed SSD Applications to address the potential construction impacts and provide appropriate mitigation measures, which may include:

- pedestrian activity on Macquarie Street, Church Street, George Street and Smith Street
- pedestrian and cyclist safety
- impact on bus interchange, stops and bus operations
- impact on light rail operations
- impact of heavy vehicle movements on sensitive receivers (residents, schools)
- business and residential access
- cumulative construction traffic from other developments.

4.3 Construction and Traffic Management Plans

CTMPs would be prepared by the future developer as part of the Detailed SSD Applications. The CTMP would need to address:

- the developer's approach to the management of active transport activities and the general public
- location and details of any site perimeter protection measures, including the installation and removal of Class 'B' hoardings
- vehicular access and egress to be used for the construction of the proposed development which are likely to use the same access and egress points approved under the CSSI Application
- methods of maintaining access for adjoining properties.

These approvals will need to be endorsed by TfNSW.

4.4 Other construction considerations

4.4.1 Approvals

Sydney Metro contractors would be required to obtain all required statutory approvals prior to the commencement of works. The CTMP would also need to consider any specific requirements of the station and line-wide works which are occurring at the same time as the proposed development works.

4.4.2 Crane operations

Consideration is to be made to neighbouring properties and the agreement will need to be reached with the relevant parties to utilise crane operations crossing over land lot air spaces. This item along with adjoining structure envelopes will need to be consulted with the relevant neighbouring properties. These items will need to be carried out in an appropriate cooperative manner.

4.4.3 Site perimeter protection

Hoardings will have been installed to the perimeter of site being George Street, Church Street, Macquarie Street and Smith Street. These hoardings will be adjusted subject to the staging of construction.

All hoardings will be designed, installed, and maintained to ensure segregation of pedestrians, construction works, vehicles and workers providing overhead protection in accordance with relevant standards and having regard to the Transport and Access Report (Appendix EE of the EIS). The location of hoardings would be considered in conjunction with the required footpath widths to allow for functional pedestrian movements and queuing at bus stops and crossings.

Detailed hoarding layouts would be included in the Future Detailed SSD Applications.

4.4.4 Vulnerable road users

The proposed primary construction haulage routes have been selected to ensure that existing cycle and pedestrian paths are maintained. The future developer would be required to adopt applicable vulnerable road user safety measures for situations including vehicle lane and footpath closures. This would be outlined in the CTMP as part of Detailed SSD Applications.

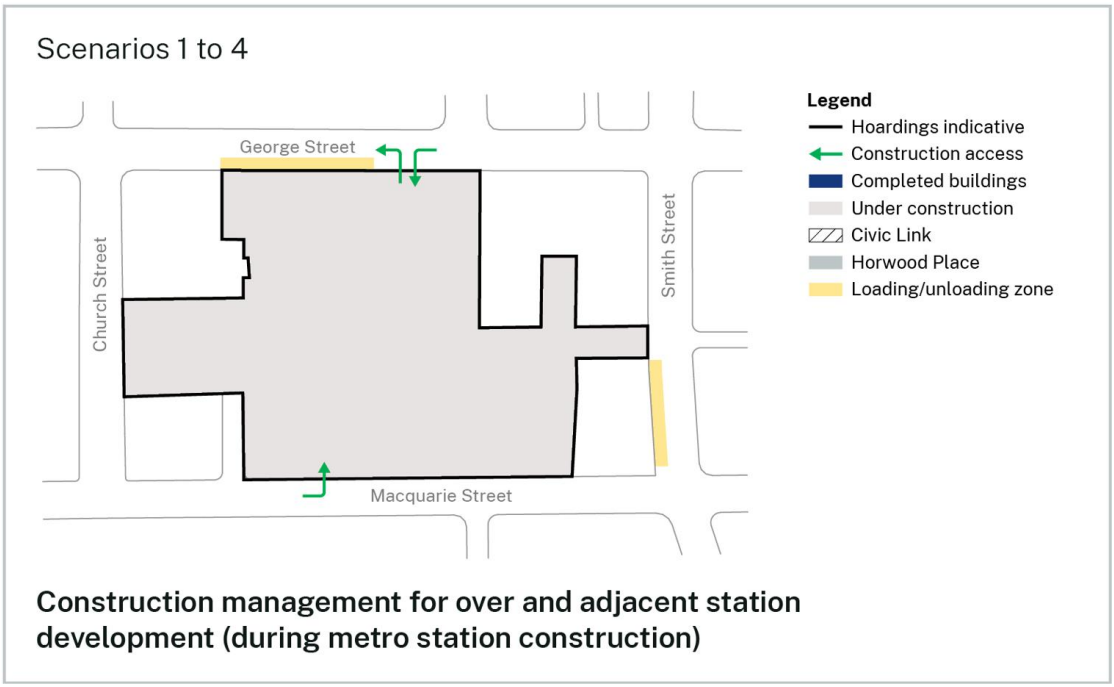
5 Construction methodologies

5.1 Construction methodology staging scenarios

Four possible construction staging scenarios have been identified:

- Scenario 1 – the station, OSD and ASD are constructed concurrently by constructing the transfer slab first and then building in both directions. The station, OSD and ASD would be completed in 2030. This scenario is considered unlikely due to the amount of commercial floor space that will become available within the Parramatta CBD and market demand factors
- Scenario 2 – the station, the basements and the OSDs are constructed concurrently and substantially completed by 2030. Some construction works on the OSDs may be completed after the metro station opens, such as internal fit-out. The construction of the ASD (Building A) would commence after the metro station opens with the timing determined by a future developer
- Scenario 3 – the station, the southern basement and the OSDs are commenced concurrently. Building C would be substantially completed by 2030 to avoid using Smith Street and Macquarie Lane for construction access. Buildings B and D would only be partially completed when the metro opens, and construction of Building A and the northern basement would have yet to commence
- Scenario 4 – only the station and the OSD enabling works would be completed when the metro opens. Buildings A, B, C and D would be constructed at a later stage with the timing yet to be determined. This would create two distinct construction periods, one for the station and one for the OSD/ASD with a gap or period of demobilisation in between.

These staging scenarios are illustrated in Figure 5-1, including indicative delivery routes, work zone locations and hoarding placements to safely manage construction impacts in each possible scenario.



Construction management for over and adjacent station development (during metro station construction)

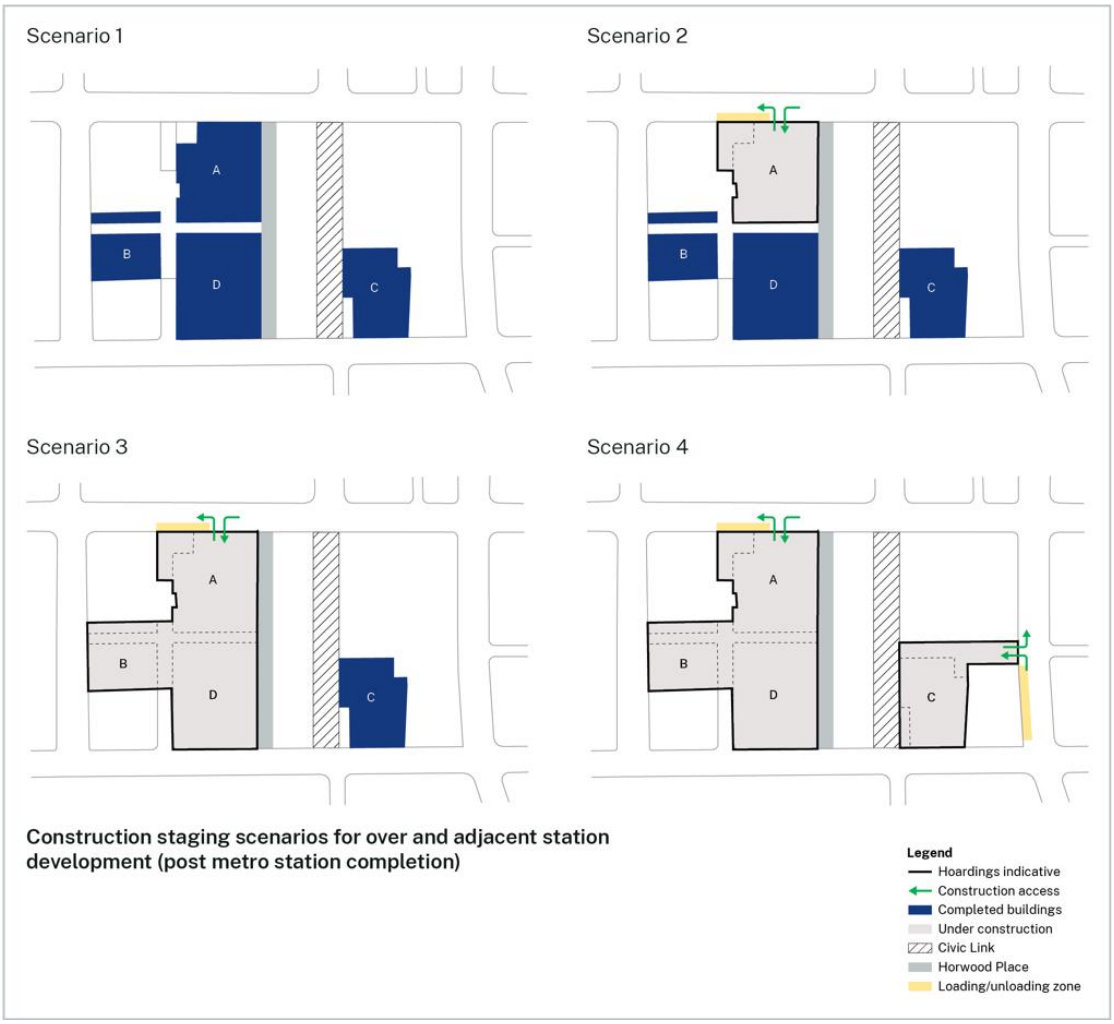


Figure 5-1 Possible development construction staging scenarios

The future developer will determine the timeframe of the proposed development construction and communicate these in a CTMP. Further details confirming the construction methodology and associated impact assessment and mitigation measures will be provided with the Future Detailed SSD Applications.

5.2 Scenario 1 – Station and proposed development occurs concurrently, Sydney Metro West not yet operational

Scenario 1 assumes that the metro station construction works and proposed OSD and ASD construction occurs concurrently and completed when the metro station opens. The Sydney Metro environmental management framework would apply to both station and development components to ensure a consistent approach to management of design interfaces and construction related issues.

This scenario would require substantial OSD enabling works to reach certain completion to ensure the future developer can commence the construction of the proposed developments whilst also the construction of the station is happening. The station and development contractors will need to closely manage shared construction access and project interface issues collaborative and proactively to mitigate any risks that may arise due to two different contractors sharing the same site.

5.3 Scenario 2 – Station and proposed development occurs concurrently, with some OSD works occurring after Sydney Metro West is operational and Building A not constructed)

This scenario is similar to Scenario 1 above with the exception that some OSD works will continue after the metro station opens and Building A is not yet commenced. Scenario 2 assumes that the metro station construction works and proposed OSD construction occurs concurrently. At the time of the metro station been operational, Buildings B, C and D would have substantially been completed however with some ongoing works to complete within these buildings. The construction methodology assumes that once the station and OSD podiums have been completed, the station contractor would finish while the developer would continue constructing the OSDs above whilst the timing of the construction of Building A will occur beyond the metro station opening which is to be determined by the future developer.

5.4 Scenario 3 – Continuity of construction works from station to proposed development with Sydney Metro West operational

Scenario 3 assumes that metro station construction works will have been completed and operation of the metro station will have commenced while the proposed OSD and ASD development(s) continue construction. This scenario will have Building C and the southern basement constructed at the same time as the station where it will be substantially completed to the point where construction access is no longer required on Smith Street when the metro station is operational. Building A would need to be staged after Buildings B and D to ensure construction access to Buildings B and D are maintained from George Street.

While shared construction access will need to be managed on site, the operational metro station will restrict construction vehicle access which may require the proposed development contractor(s) to seek approval for loading or work zones on the street frontages.

The construction methodology assumes vehicular access to basement levels for the shared loading dock facilities may be required at some points during construction of the proposed development. The operating metro station and other tenants will also require access to these shared dock facilities.

5.5 Scenario 4 – Gap between completion of station (with full de-mobilisation) and commencement of proposed development works

The assumption is that the proposed OSD and ASD development(s) begin construction after the station contractor have completed their scope and demobilised from site and with the metro station operational. The impacts and risks associated with the metro station and proposed development construction periods are similar to Scenarios 2 and 3 that is, proposed development construction activities occurring above and around an operating live metro station.

Depending on the delivery strategy of the proposed development, delivery of each of the four listed developments (Buildings A, B, C and D) will need to be carefully coordinated and collaborated between the different development contractors if the proposed developments are being delivered by separate development contractors. If however, the proposed development is being delivered under the same contractor then the risk of managing the interface of different development contractors would very much be mitigated.

Access to each of the development sites for construction haulage routes and material handling work zones will differ dependant on the time and coordination of each of the developments. Refer to **Error! Reference source not found.** which shows potential d elivery routes, work zones locations and indicative hoarding placements to safely manage each of the development sites delivered over an operation metro station. The left lane of George Street and Smith Street, on the frontage of Building A and C respectively, will need to be taken possession of and converted to loading and unloading zones for heavy vehicles (e.g. 18m and longer semi-trucks). Due to the confines of the sites, it may not be a safe manoeuvre for heavy vehicles to make a U-turn or perform a 3-point turn within the sites.

6 Indicative construction traffic generation

Indicative estimates of traffic generation associated with the proposed development works are provided below in Table 6-1.

Table 6-1 Indicative estimates of traffic generation

Period / Vehicle Type												
	Peak Hour[1]			Non-Peak Hour[2]			Evening[3]			Night[4]		
	Light	HV	Total	Light	HV	Total	Light	HV	Total	Light	HV	Total
Building A	3	3	6	6	6	12	2	3	6	-	-	-
Building B	3	3	6	6	6	12	2	3	6	-	-	-
Building C	3	3	6	6	6	12	2	3	6	-	-	-
Building D	3	3	6	6	6	12	2	3	6	-	-	-

Notes:

All figures are per hour; maximum condition
1. AM peak hour and PM peak hour (7-8am / 5-6pm)
2. 9-hour period (8-5pm)
3. 4-hour period (6-10pm)
4. 9-hour period (10pm-7am), subject to specific permits

7 Impacts and preliminary mitigation proposals

7.1 Construction traffic management

The primary construction haulage route is for trucks to travel westbound along George Street making a left hand turn into the site. Trucks then exit by a left hand turn back onto George Street and head west along George Street to O'Connell Street. George Street frontage directly in front of the site will need to be converted to a loading and materials handling zone for cranage of material, plant and equipment onto the site. This will mean taking possessions of some off-street parking spots on George Street.

Site access and deliveries to Building C will be constrained as there are no unobstructed street frontages available for loading/unloading and to handle materials if this is constructed after Metro opening. Direct access for contractor deliveries and materials handling will either be via Macquarie Lane or off street cranage over an existing commercial complex. The construction haulage route will be for trucks to travel north along Station Street East and Smith Street from Parkes Street. The trucks will exit by making either a left or right hand turn onto George Street where the Smith and George Street intersection is signalised.

Table 7-1 below shows the potential impacts and the preliminary mitigation proposals of the construction traffic at the Parramatta metro station site.

Table 7-1 Potential impacts and preliminary mitigation proposals.

Potential impacts	Preliminary mitigation proposals
Existing pedestrian and cycle routes maintained	Appropriate diversions would be established for pedestrian and cycle movements
Precinct works leading to short-term closures	Appropriate diversions would be established to safely guide pedestrians around work zones in accordance with CTMP
Maintain pedestrian access across the site via temporary civic link	Appropriate signage, hoardings, barriers, overhead protection would be established to safely guide pedestrians around work zones in accordance with CTMP
Construction deliveries to the site	Agreed construction traffic routes and CTMP
Potential minor increase in bus travel times; no impact to bus stops	Not required

7.2 Construction noise and vibration

The Sydney Metro Construction Noise and Vibration Standard (CNVS) would outline mitigation measures that would be implemented to minimise temporary construction noise and vibration impacts. These would be detailed in future Construction Environmental Management Plan (CEMP).

Table 7-2 below shows the key construction work and the potential out-of-hours work at the Parramatta metro station site to minimise temporary construction noise and vibration impacts.

Table 7-2 Construction noise and vibration impact assessment

Proposed development (SSDA) Key construction work	Description	Indicative duration (months)	Hours of work			
			Standard working hours	Out of hours works		
				Day	Evening	Night
Construction traffic access	Deliveries, hoarding, footpath adjustments, site security	4	Yes	Yes		
Enabling and site establishment	Utilities adjustments, site accommodation, tower cranes, hoists	4	Yes	Yes	Yes	Yes
Basement excavation	Soil and rock removal, truck movements	8	Yes			
Diaphragm Wall shoring, ground anchors	Soil and rock removal, truck movements, rock drilling, concreting	8	Yes			
Basement construction	Deliveries, waterproofing, steel reinforcement, formwork, concreting	8	Yes	Yes	Yes	
Building structure, facades and roof	Deliveries, steel reinforcement, formwork, concreting, glazing, waterproofing, detailing	10	Yes	Yes		
Fit-out including building services	Deliveries, internal works – floors, walls and ceiling, mechanical and electrical installation	18	Yes	Yes	Yes	

Proposed development (SSDA) Key construction work	Description	Indicative duration (months)	Hours of work			
			Standard working hours	Out of hours works		
				Day	Evening	Night
Finishing work and testing and commissioning	Internal works – cleaning, detailing, testing	6	Yes	Yes	Yes	Yes

8 Conclusion

This report has been prepared in accordance with the SEARs for the proposed development over and adjacent to Parramatta metro station. The SEARs require the preparation of a CTMP addressing impacts on existing traffic, pedestrian and bicycle networks and, if the development is staged, how construction and operation would be managed and any impacts mitigated.

Four possible construction staging scenarios have been identified. The development staging and timeframe will be confirmed as part of the Detailed SSDA.

In all scenarios, construction of the proposed development will have some impact on local traffic, pedestrian movements and light rail including increased construction traffic on local streets, noise and dust from construction works, construction works occurring overhead. The CTMP would be prepared by the future developer and would confirm the construction methodology and timeframe and the associated impact assessment and mitigation measures to manage these impacts.

Scenario 1 has the benefit of continuity in construction which would reduce the construction impacts and disruptions endured in the surrounding Parramatta city day to day operations in one time period instead of staggered impacts.

The construction traffic management principles will be outlined in the subsequent Detailed SSDA. The principles and mitigation strategies outlined in the CTMF and in this CMS will ensure that impacts on pedestrians, light rail users, bus services and taxis are manageable for the staging scenarios.