# Preliminary Construction Management Plan

# **TOGA Central**

**Issue: A**

**1 August 2022**

**Prepared For: TOGA Central Developments Pty Ltd**

**Project No.: TBA**

**Document No.: TBA**

# Report Amendment Register

| Issue Ref | Amended Section(s) | Issue / Amendment Details | Author(s) | Reviewer | Date |
|---|---|---|---|---|---|
| A | All | Draft | Jody Cradock (RBG) & James Grljusich (TCN) | James Grljusich | 28/07/22 |

# Executive Summary

The purpose of the Construction Management Plan (CMP) is to document the proposed construction methodology and management systems to be adopted to complete the design and construction of the proposed development. This plan refers to works proposed at 8-10 Lee St, Sydney, NSW, to be known as TOGA Central.

This CMP provides the following information:

- The planned and forecast construction methods that will be used on site
- Details on the major items of construction equipment to be used during construction.
- Details how the delivery of the project will interface with key stakeholders inclusive of neighbours and the public
- Serve as an active plan on how the construction works will be undertaken

This document also aims to outline the planning aspects of the works which will be further refined during the early works phase. These aspects include:

- Continued development of construction methodology
- Details of the site establishment for the project
- Project logistics and explanations
- The sequence of works and construction methodologies that will be adopted on the project
- Areas of public interaction and the associated management process to be adopted, including traffic and pedestrian interface with adjacent neighbours, Atlassian Tower and Dexus Frasers.
- Health, safety, and environmental requirements of the development.

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# 1 Project Description

## 1.1 Introduction/Overview

The purpose of this Construction Management Plan (CMP) is to outline the proposed management strategies necessary to construct the proposed development, referred to as 'TOGA Central', located at 2-8 Lee Street, Haymarket. The development will be part of the state significant redevelopment called the Western Gateway Sub-Precinct.

The proposed development consists of:

- 45-plus storey tower inclusive of more than 30,000m2 of commercial, hotel and retail usage.
- Four basement levels (B1, B2, B3, B4).
- Retention of the existing Parcels Post Building façade and incorporation of the existing structure into the proposed development (currently Adina Apartments).

This plan addresses the responsibilities of TOGA Construction (TCN) to minimise the effect on the operation of existing adjacent facilities, and strategies to maintain frequent and clear consulting and communication with stakeholders at all times.

Consultation with neighbours will not be carried out until such time as Council has considered and responded to this CMP. Accordingly, it may be necessary to amend the CMP to take account of legitimate issues raised by neighbours and as the design develops.

## 1.2 Extent Of Work

The works are delineated by Block C, located at 2-8 Lee Street, Haymarket, shown below in green.

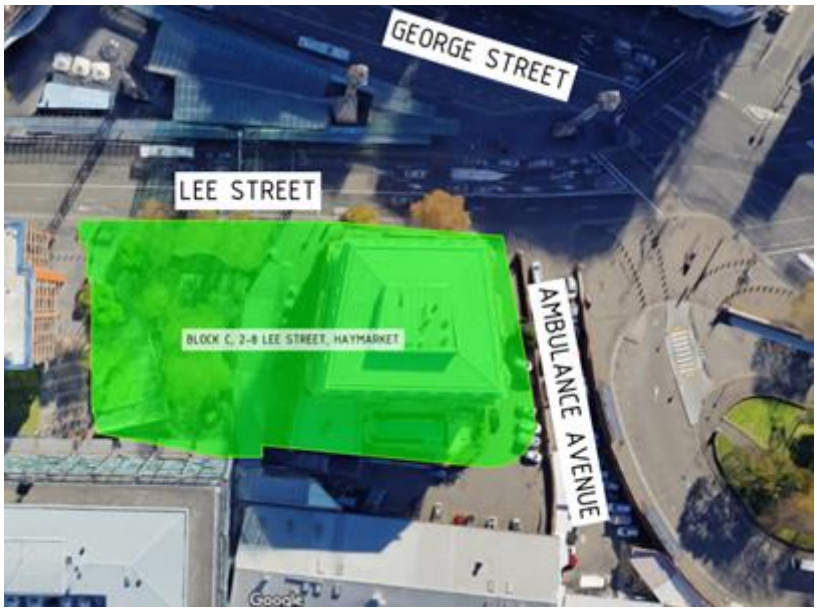



Figure 1a – General Site Location Plan


Figure 1b – Site location plan illustrating adjoining block boundaries and proposed future developments

## 1.3 Existing Site/Construction Site

The site is located in Haymarket just south of the Sydney CBD and is part of three blocks located at 2-8 Lee Street, Haymarket. The area surrounding the site consists of residential and commercial high-density buildings and railway infrastructure with Central Station in close proximity to the existing site. There is a high level of pedestrian activity with Henry Deane Plaza running through the proposed construction site.

# 2 Construction Management

## 2.1 Preliminary Site Investigations

During the Early Contractor Involvement (ECI) period and prior to the construction works commencing, a key aspect of setting up a site is to validate the design documentation and site conditions. This will be actioned via physical on-site surveys and investigations to enable the commencement of works. Due to access constraints and neighbour interfaces, wider stakeholder engagement is currently underway.

Prior to the Development application, TOGA has undertaken site investigations to gather an understanding of the site and broad constraints that will inform construction methodologies, to the maximum extent that is practical within the existing operation use of the site. Generally, these investigations are limited to minimally invasive and non-destructive works. Examples include:

- Site Survey & As-Built Documentation to the extent that can be observed prior to strip out
- Site Geotechnical Information
- Hazardous Materials & Contamination Survey (In & Above Ground)
- Hydrogeology, Soil Resistivity, and Electrolysis Reports
- Rail Infrastructure Impact Report
- Heritage and Archaeological Impact Statements
- Acoustic Noise and Vibration Assessment

Prior to Construction, TCN, in conjunction with TOGA Development, will undertake further site investigations. The above reports may be updated, and the following reports may be prepared, as further site information is gathered prior to the development of the final CMP:

- Detailed Site Surveys
- Completion of any data gaps in geological and contamination reports
- Dilapidation Survey
- Fire Life Safety Reports & Fire Engineering Scenario Modelling

## 2.2 Management Plans

This is a live document which, throughout construction works, will be continually updated to address Project Risks & High-Risk Construction Works. The following management plans will be managed and developed as additional information is provided and generated prior to start on site.

- Construction Management Plan
- Noise and Vibration Management Plan
- Construction Traffic & Pedestrian Management Plan
- Community Consultation Plan
- Stakeholder Management Plan
- Health, safety & environmental management plan
  - Fire Safety Plan
  - Site Security Plan
  - Emergency evacuation plan
  - Pandemic Response Plan
  - Dust & Air Quality Plan
- Emergency Response Plan
- Waste Management Plan

- Conservation Management Plan

### 2.2.1 Detailed Construction Management Plan

Prior to the commencement of works on site, this Construction Management Plan (CMP) will be revised for the delivery of the project, inclusive of key reports and management plans as appendices.

After the commencement of construction works, TOGA will be responsible to manage the implementation and maintenance of the procedures outlined within the CMP. Implementation strategies include but are not limited to the following:

- Ensuring Subcontractors are aware of the obligations outlined within the CMP
- Ensuring Subcontractors are made aware of their safety and environmental obligations before commencing works on-site; and
- Overseeing day-to-day activities required by the CMP
- Several reports outlined above will be appendixes to the CMP acting as an overarching plan.

### 2.2.2 Noise and Vibration Levels

Works will be undertaken only within noise and vibration levels permitted under the development approval and other relevant authority requirements such as the acoustic assessment by Renzo Tonin. A noise and vibration management plan will be implemented to ensure ongoing compliance with these requirements.

When planning for construction work that will include vibration, all reasonably practical efforts will be considered to protect vibration sensitive buildings and the amenities of adjoining stakeholders. A practical and economical combination of vibration control measures to manage vibration impacts such as: substitution by an alternative process; restricting times when work is carried out; screening or enclosures; and consultation with affected residents, will be undertaken.

Noise generated during the construction works will be primarily associated with vehicle movements, generators, heavy plant and machinery, and handheld machinery and tools. The management of noise and vibration generating activities will be defined in the Construction Noise and Vibration Management Plan which is in development and will be made available prior to start on site.

Noise complaints will be registered and managed by the nominated Community Liaison Officer.

### 2.2.3 Construction Traffic & Pedestrian Management Plan

TCN shall further develop the Construction Traffic Management Plan (CTMP) prior to Construction in consultation with our Traffic Management Consultant, Stantec. Our CTMP will consider and successfully manage the maintenance of pedestrian and vehicle traffic flow to the surrounding buildings, footpaths and roads as a result of the necessary amendments required to facilitate the safe and efficient construction of the project works. The review & consideration of existing traffic & pedestrian management plans currently implemented by surrounding developments will be incorporated into our CPTMP (i.e. the coordination of construction traffic and pedestrian traffic management plans within the wider Western Gateway Precinct).

TOGA Construction and Stantec will continue to consult with key stakeholders when finalising the CTMP (i.e, Sydney Coordination Office, TfNSW, CPS & TOGA).

### 2.2.4 TOGA Health, Safety & Environmental Management Plan

A site-specific Health, Safety and Environment (HSE) Plan will be developed by TOGA Construction to demonstrate how Workplace Health & Safety (WHS) will be managed on the project. The plan is

required to identify the scope of work to be undertaken, the hazards associated with the work and the risk assessment processes and risk control measures to be used in the execution of the plan. This is a live document which is continually updated throughout the construction works to address Project Risks & High-Risk Construction Works SWMS.

All site personnel, without exception, will be required to undergo a site-specific site induction that will encompass, primarily, safety, but also the general site rules and requirements. The identification of HSE hazards and assessment of risk, leading to the selection of the most appropriate control measures to be implemented is conducted using the following processes:

- Safety in Design
- Project Health & Safety Risk Assessment
- Purchasing of Goods, Equipment, Materials and Substances
- Procurement of subcontractors and labour-hire (Risk management)

All controls for 'High-Risk Construction Work' are to be signed off by the Project Manager, Senior Project Engineer, Site Manager, General Foreman, Foreman and specific subcontractor. Elimination of risk to health and safety, so far as is reasonably practicable, is the first priority for risks.

### 2.2.5 Fire Safety

TOGA Construction have developed an Emergency Response Plan (ERP) which includes a project fire plan to ensure that robust methods of assessment and control are implemented throughout each stage of the project. The Emergency Response Plan is initiated at design stage (SIDD requirement) and developed in line with the relevant Standards.

TOGA Construction will set up and maintain firefighting equipment across the project and induct all staff to ensure that they are aware of the location and procedures around their use. TOGA will also ensure that any contractors working on the project have firefighting equipment in place for all Plant and Equipment that is to be brought onto and used on site. A Hot Works permit system is also in place to ensure that fire safety measures and controls are implemented on the project.

### 2.2.6 Site Security

Providing a safe & secure workplace for TOGA Constructions staff & contractors is a key consideration when establishing our CMP. TOGA Constructions will implement the following security control:

- Site access control system: this is a web-based access control system that manages and controls access to the site. This system provides us with LIVE reporting on headcount & assistance with evacuation management. At site entry & exit points, turnstiles are utilised where workers will scan on & off with custom photo ID passes.

Out of hours security patrols will be utilised strategically during the project. The focus will be on the back end of the project, as the potential for theft and vandalism increases. Shutdown periods (Christmas and Easter) will also be monitored full time by external security services.

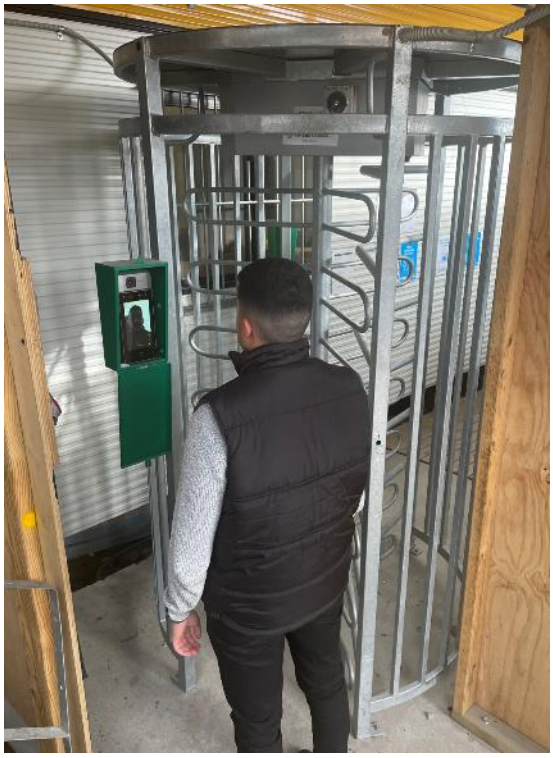


*Figure 2.2.6a – Site Security and Turnstiles*

The Principal's Representative personnel, TfNSW Contractors personnel, and any other person nominated by the Principal's Representative will be provided access after completing the necessary form of induction. Due to the changing nature of the works on the construction site and a level of unfamiliarity with the progress of the works, the induction provided in these cases will require that the identified personnel are always escorted whilst on-site by TOGA Construction representatives.

For the duration of the project, the access for both employees and workers to the site will be via Lee Street.

### 2.2.7 Emergency Evacuation

Prior to construction works commencing, the emergency evacuation procedures will be outlined within the Site Safety Management Plan (SMP), containing an appendix addressing our Project Emergency Response Plan. This appendix will further detail the response plans to emergencies on-site.

Emergency egress to the construction site will differ depending on the construction stage of the project. During the site establishment predominantly though this will be from covered walkways within the project onto Lee Street and subsequently travelling up to the park adjacent to Railway Colonnade Drive.

TOGA are committed to coordinating with all relevant parties to develop a shared mustering point to ensure a precinct-wide solution is accommodated for the emergency assembly point of workers.

### 2.2.8 COVID/Pandemic Response

TOGA Construction will prepare a project-specific Pandemic Response Plan ensuring TOGA Development comply with the current regulations outlined by SafeWork Australia. The plan will cover the four basic principles outlined by SafeWork Australia (SWA):

- Prevention and preparedness
- Response (Initial action)

- Response (Targeted action)
- Recovery

### 2.2.9 Dust and Air Quality Control

Appropriate mitigation and suppression techniques will be applied to ensure dust levels are compliant with relevant authority requirements, these will also consider the actions recorded within RWDI's air quality report.

### 2.2.10 Waste Management Plan

SLR's Construction Waste Management Plan will be further developed by TOGA Construction. Its primary function is to minimise the disposal of waste created by the construction works. The plan will be prepared prior to commencement of the main works on site. The plan will outline the effective disposal of such waste in accordance with all legislated requirements and to reach the re-use targets nominated in the project reports.

Bins will be placed at all works areas and will regularly be removed to the central skip bin location by the subcontractors for collection and transport from the site to the waste recycling facility.

Rubbish will be separated at an approved waste management center. Auditable records will be kept of quantities of all materials both recycled and disposed to landfill. Records will be monitored as required.

### 2.2.11 Conservation Management Plan

A Conservation Management Plan is currently under development by TOGA Development to manage the significance and required protection where necessary of the former Parcel Post building. The purpose of the Conservation Management Plan is to guide the conservation and management of the significant elements of the site. It is also intended to assist the property owners and occupiers to manage maintenance and new works to the site. The CMP provides a careful analysis of the site in terms of heritage significance and context. It also includes policies and conservation strategies to ensure its long-term viability as well as defining construction requirements needed and suggested to preserve the buildings condition during construction activities.

## 2.3 Construction Timeline

A preliminary Construction Programme has been prepared by TOGA Construction based on the current design documentation. The Construction Programme is continually evolving with the design & will continue to do so to reflect the updated design submissions. A summary has been provided to outline the current forecast construction programme dates:

| Activity / Milestone | Current Forecasted Programme (Months) |
|---|---|
| Site establishment / fPPb stripout and PP Demolition | Month 1 - 7 |
| sfPPb demolition / pedestrain access to HDP / Northern core area excavation | Month 4 - 10 |
| HDP piling / excavation and supercolumns | Month 4 - 12 |
| North core superstructure start date | Month 10 / 11 |
| fPPB slab infills and leisure deck structure | Month 15 - 20 |
| Tower superstructure Lv7 - Roof | Month 22 - 38 |
| Tower façade and fitout | Month 28 - 42 |
| Hoist removals and façade closure | Month 37 - 39<br>&<br>40 - 41 |
| T&C hotel | Month 36 - 38 |
| T&C All works | Month 42 - 44 |
| External works and landscaping | Month 40 - 44 |
| Weather & Construction Contingency | 6 Months |
| **OVERALL PROJECT DURATION** | **50 MONTHS** |

## 2.4 Hours of Work

General demolition and construction works will be undertaken only within hours permitted under the development approval. In some cases, after-hours permits will be sought from the relevant authorities where special requirements exist.

## 2.5 Authorities Approvals/Assets

The appropriate approvals will be required to be obtained from authorities (incl. RMS, Sydney Trains, TfNSW, Ausgrid, Sydney Water) and Councils (City of Sydney or Department of Planning and Environment), prior to the commencement of construction works. To ensure adequate planning, communication and monitoring is undertaken relative to authority approvals, the following processes will be implemented:

- Preparation, approval, and submission of Management Plans.
- Regular consultation with stakeholders and authorities.
- Obtaining approvals and permits in advance of construction works commencing
- Submission of material to the relevant authorities as required by the conditions of consent

## 2.6 Design Management

Design Packages will be developed in line with the construction phases of the project and presented to interested parties at specific design milestones as described in detail within the Design Management Plan.

## 2.7 Community & Stakeholder Management

A Stakeholder Management Plan will be developed prior to the onsite commencement of main works. This will address the implementation of project-specific mitigation and management strategies to minimise impacts on the community in and around the site. The direct neighbouring property stakeholders include:

- TfNSW, TAHE, Sydney Trains, and NSW Trains, operators and owners of Ambulance Ave, Devonshire St tunnel and Central Station.
- CPS, their tenants of Henry Deane Plaza & Devonshire St tunnel retail areas.

TCN will work closely with these stakeholders, Deeds and Agreements at an appropriate time will be provided to TfNSW.

TCN and TOGA Development will establish a procedure which will be in place prior to the issuance of the first construction certificate. Management of the site works to minimise disruption and inconvenience to neighbouring buildings and their occupants is of high importance. TCN will provide a Community Liaison Officer to work with our neighbours, understand their needs and requirements, and, where possible, adjust construction works methodologies accordingly.

## 2.8 Complaint/Enquiry Management

Any complaints received are to be recorded and responded to by the Liaison Officer in line with the requirements set out within the consent conditions. Complaints are directed to be made via either phone call or email in all the material distributed and meetings held.

All complaints and enquiries are to be logged in the Complaint Register. At minimum the following is to be logged within the complaint register:

- A description of the complaint
- Who made the complaint
- Date and time of the complaint
- Format of the complaint received and referenced if applicable
- Works occurring on site that resulted in the complaint
- The response to the complaint
- Any further actions to prevent reoccurrence
- Stakeholder follow up if necessary

## 2.9 Life safety & pedestrian modelling

Any construction works that will impact pedestrian flows or fire egress pathways of the surrounding properties will be addressed through the design. Stantec are currently engaged to provide specialist advice on these impacts, and upon receipt, TOGA Construction will review against current methodologies. In addition, Stantec has been engaged to review existing data to understand historic demands and movements around the Devonshire Street Tunnel. As part of this assessment pedestrian movements during the pedestrian diversion stages of demolition and construction works will be quantified. The impacts to pedestrian movements will be understood via a static assessment and will be demonstrated visually using dynamic pedestrian modelling.

Stantec are currently reviewing the various pedestrian diversion scenarios throughout the demolition works, following which the effects and plans of this Construction Management Plan will be amended accordingly.

# 3 Pre-Construction

## 3.1 Overview

## 3.2 Site investigations

Following the initial concept design phase, TCN and TOGA Developments consultant team have identified various site investigations that are required to clarify design assumptions and verify existing as-built information issued by the client. The site investigations have been classified into non-invasive and invasive works. The investigation activities within these classifications are the following:

- Existing services surveys (non-invasive)
- Hazmat condition surveys (non-invasive)
- Structural assessments (invasive)

To date, the non-invasive investigations are mostly complete, and the invasive works are targeted to be completed in October 2022. Once the investigation works are complete, the consultants undertaking the works will develop reports outlining their findings and propose any additional investigations to close out outstanding items.

## 3.3 Dilapidation Report

A site-specific dilapidation report will be prepared prior to construction works commencing on-site, providing a detailed photographic report of surrounding structures. Any consent conditions relative to dilapidation reports will be addressed as required.

## 3.4 Geotechnical and Water Conditions

TOGA Development have already undertaken multiple site-specific geotechnical investigations. The latest Douglas and Partners geotechnical, ground water and site investigation reports have been made available to TCN and proposed construction methodology and programme take the results into consideration.

## 3.5 Services (Power, Water, Sewerage, Communications)

### 3.5.1 Services

Inground services will be completed which will consist of hydraulic, fire and electrical services. TCN have completed non-invasive and pothole surveying on site and to the surrounding areas as required.

### 3.5.2 Power

We will be providing 2 x CBD new Chamber substations and cable ducts which we intend to locate between the Belmore Park substation and the project site. The cable ducts utilised from Belmore Park to the development will be a shared asset between Frasers/Dexus, Atlassian and the TOGA development. Refer to the below drawing for information.

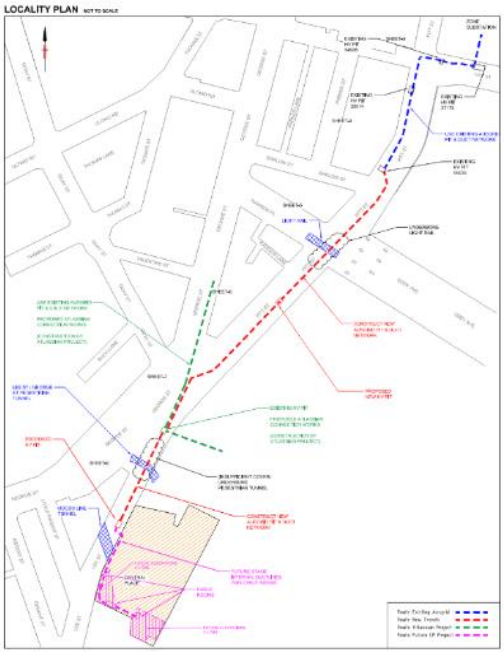



*Figure 3.5.2a – Power Cable Locations*

Allowance has been made for the decommissioning and removal of existing substations S6260 & S7563. TOGA will be providing a temporary substation with a minimum of 1200 amps to the project - location TBC

### 3.5.3 Communication

At this stage we have an initial sketch as per the below for possible cable routes where we could connect to the Lee St frontage with a chosen communications provider:

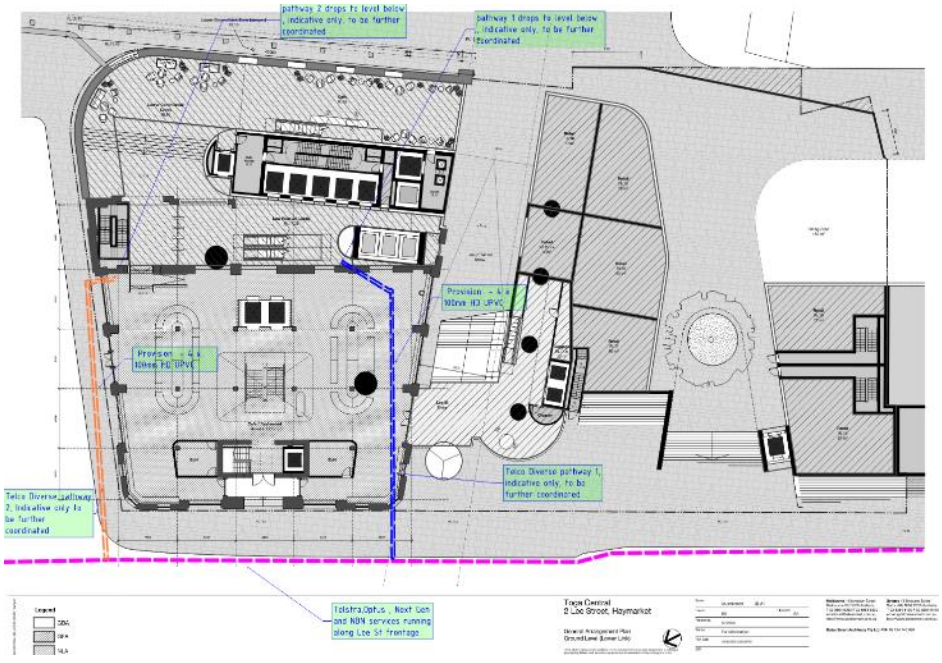



*Figure 3.5.3a – Communication Cable Locations*

### 3.5.4 Water

We have submitted and received a feasibility letter back from Sydney Water which states we need to upgrade the DN150 existing main to DN250 as per the figure below along Lee Street.

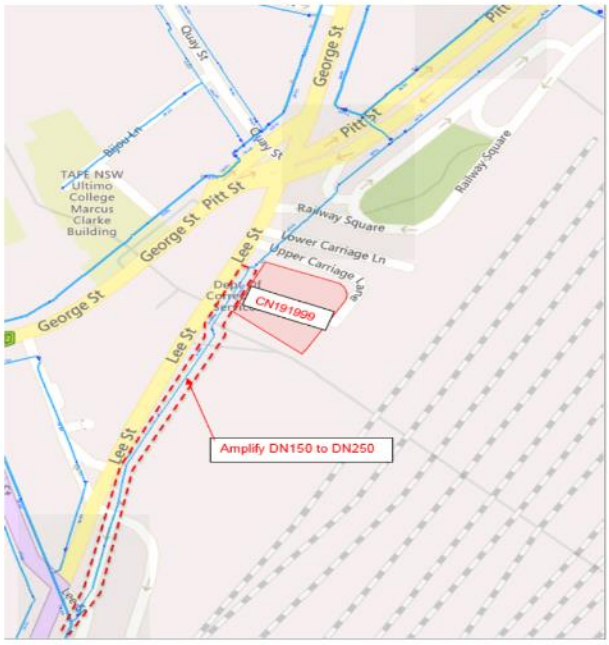



*Figure 3.5.4a – Water Services Locations*

Due to the constraints of the tunnels this is not ideal or feasible. TCN have been in discussions with Sydney Water to utilise and share an incoming water infrastructure with the Atlassian development. These meetings are ongoing, and TOGA have submitted initial documents for Sydney Water review.

### 3.5.5 Stormwater

Sydney water have indicated within their feasibility letter that the TOGA development does not satisfy the Sydney Water guidelines for building over or adjacent to a Stormwater asset. TOGA have begun initial discussions with Sydney Water in this regard. It must be noted that the existing building / asset has already been built over the Sydney Water assets in question and that the final building form will provide an equivalent access to the existing conditions.

The new space over the Sydney water pipes will be a publicly accessible pedestrian walkway connecting the Devonshire Street Tunnel to the Lee St Tunnel. This shall be a continuation of the pedestrian walkway that will be delivered by Atlassian to the east of our development site. While the proposal does require building over the existing assets, it will not reduce Sydney Water's access to the services from the current as-built condition on site.

We will need to seek approval like Atlassian, in which Sydney Water has granted approval to build over the assets on the basis that the suspended slab over encumbers their access to no greater extent than existing.

Refer to the below figure for the Sydney Water options.

## 3.6 Archaeological & Heritage investigations

An Aboriginal Cultural Heritage Assessment (ACHA) has been prepared by Urbis in accordance with the National Parks and Wildlife Act 1974 Part 5. The ACHA found that due to the high level of disturbance on the site as a result of European land use, the subject area has low likelihood for artefacts of Aboriginal cultural heritage to be found. The report recommended that no further archaeological works were required but the report recommended the implementation of the following processes to address the unlikely event that significant artefacts were discovered within the subject site

- Archaeological Chance Find procedure
- Human Remain Procedure

- Consultation with RAPs (Registered Aboriginal Parties)

Similarly, a Historical Archaeological Impact Assessment (HAIA) prepared by Urbis found the extensive site disturbance would result in low likelihood of archaeological relics of early occupation to be found with the subject site. The HAIA recommended that no further investigation were required by none-the-less recommended the implementation of

- Chance Find Procedure
- Archaeological Induction

The recommendations of the ACHA and the HAIA report shall be incorporated into the detailed Construction Management Plan.

# 4 Construction Delivery – Staging and Methodology

## 4.1 Staging plans

Staging plans outline the proposed sequencing of the demolition, excavation, piling and structural works that are to be undertaken. The sequencing will allow TOGA to deliver the construction in an efficient and safe manner with considerations for public access and safety as well as the most efficient method to deliver the project. Detailed staging plans can be found in Appendix A.

## 4.2 Demolition

### 4.2.1 HDP retail

Demolition works of existing tenancies and structures. All demolished materials are to be removed and the site cleared in preparation for the piling and excavation works required.

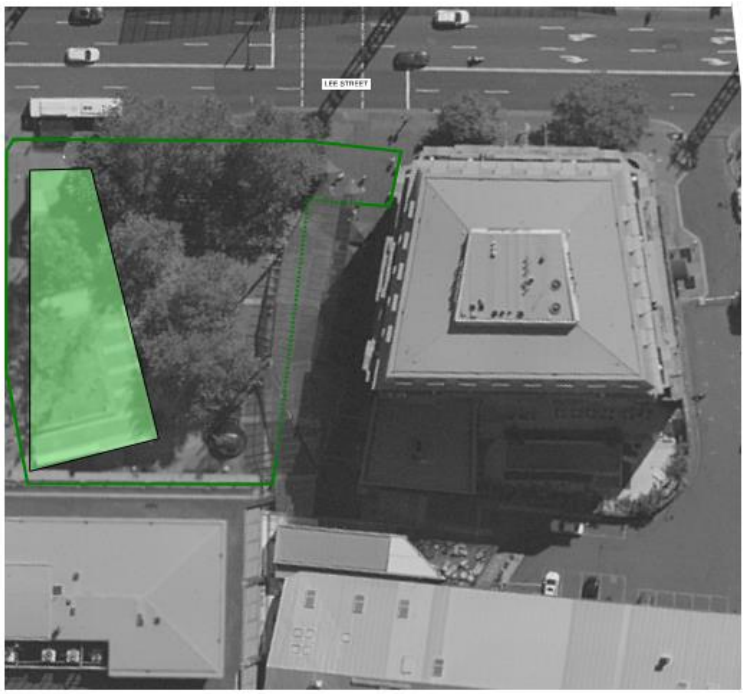



*Figure 4.2.1a – Site plan showing location of HDP retail demolition in Green.*


*Figure 4.2.1b – Elevation view of existing tenancy demolition*

### 4.2.2 HDP awning

The existing HDP awning structure will be demolished, and a temporary platform will be installed to allow for an access way for the general public. TOGA to construct an alternative access way for the general public during the demolition of the awning and reinstatement of the final Devonshire Street tunnel public access way.

*Figure 4.2.2a – Plan view of awning and south retail demolition works shown in purple.*

*Figure 4.2.2b – Elevation view of awning and south retail demolition works shown in purple.*

### 4.2.3 Federal parcel post building

Soft demolition internally of the heritage fPPb will be undertaken to allow for reinstatement for final structure. Further demolition works to be undertaken to enable local demolition of the fPPb to allow the construction of the mega column located through the existing fPPb structure.

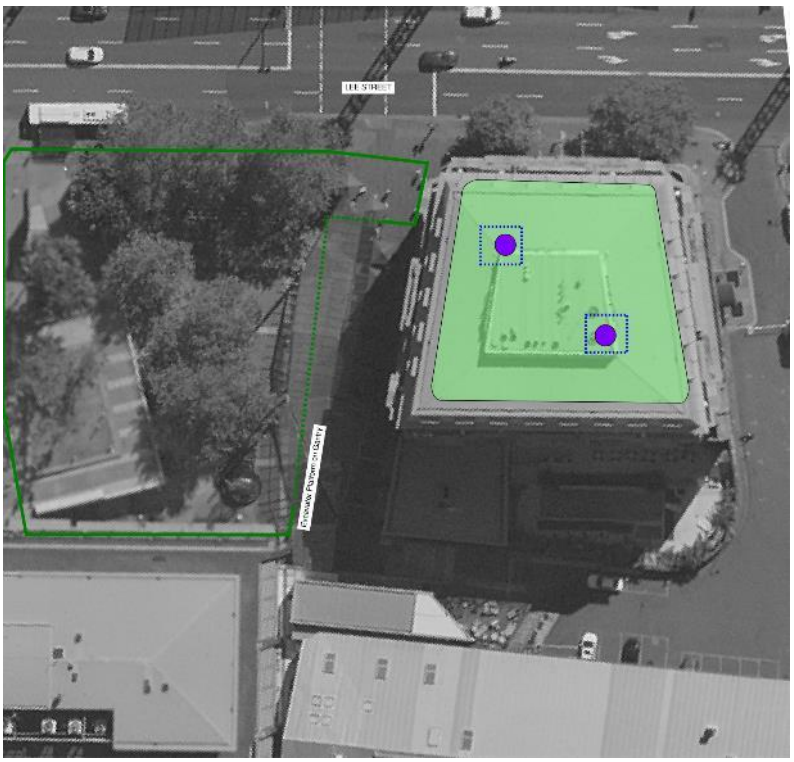


*Figure 4.2.3a – Plan view of fPPb soft internal demolition works shown in green and the socket demolition works shown in purple.*

Following the soft demolition and strip out of the fPPb, the façade retention steelworks will be installed and the leisure deck superstructure will be demolished.

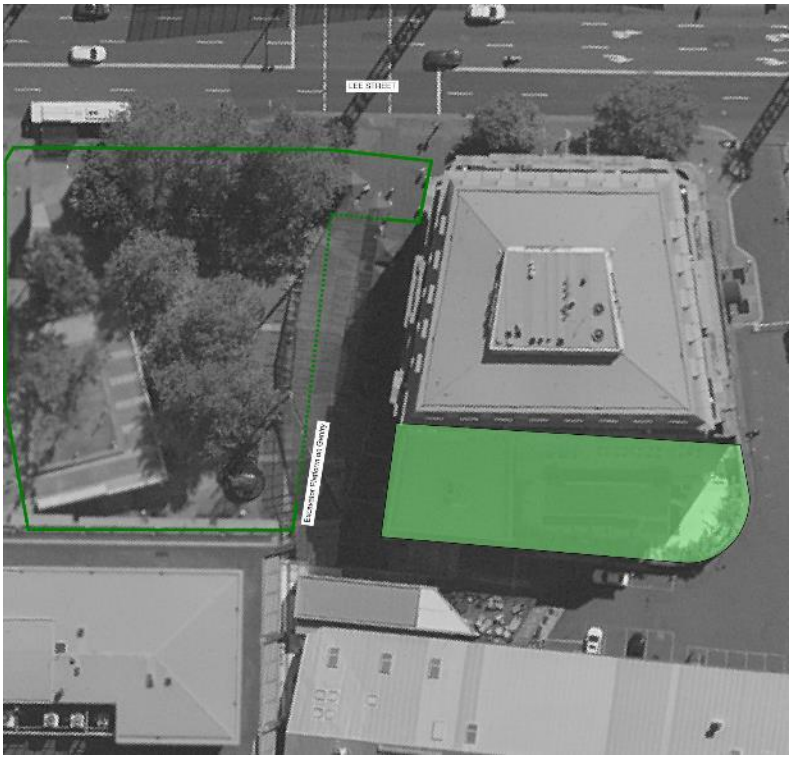


*Figure 4.2.3b – Plan view of leisure deck demolition works shown in green.*

Façade demolition works will continue after the leisure deck is demolished providing an area for this material to be placed.

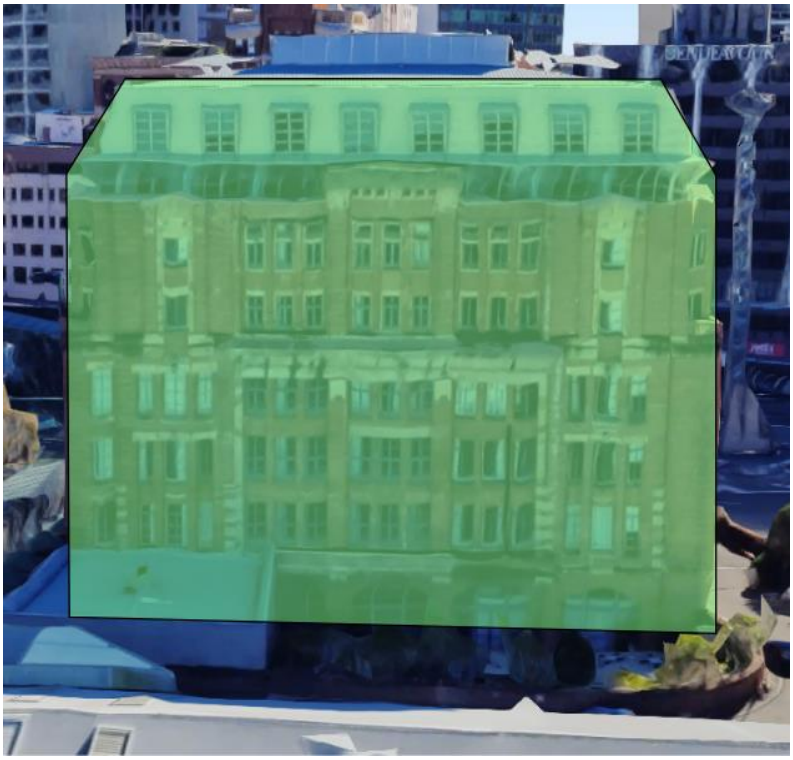


*Figure 4.2.3c – Elevation view of Eastern façade and partial internal demolition works conceptually annotated in green.*

Demolition works of the fPPb façade will be undertaken to allow for the installation of the permanent works structure. Demolition of the heritage structure will only be undertaken where necessary to allow for the construction of the main superstructure and finishes. When demolishing the heritage façade and the associated superstructure, materials will be managed and handled to minimise damage and to allow for their use during reinstatement where required.

### 4.2.4 Devonshire St Tunnel Works Methodology

Directly following the sites establishment ofawning and southern retail demolition works, a pedestrian access from the existing Lee Street tunnel to the Devonshire tunnel will begin. It is currently planned for public pedestrians to be redirected whilst the existing superstructure between the HDP awning and the fPPb is demolished to B1 level. Demolishing this structure will allow for the reinstatement of a pedestrian accessway and subsequently for the excavation canopy tube and main works to continue.


*Figure 4.2.4a – Plan view of the excavator platform location*

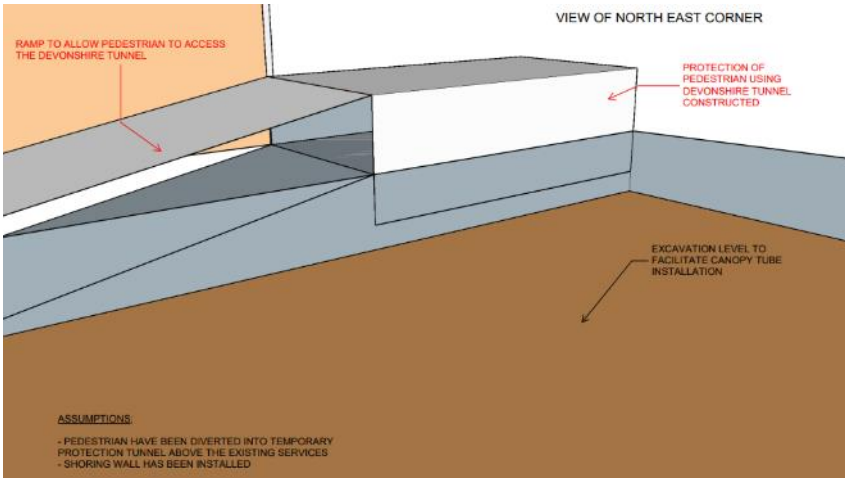



*Figure 4.2.4b – View of north east corner excavation*

### 4.2.5 Leisure deck with loading platform

Existing fPPb leisure deck area is to be demolished. Demolition of this area will mostly comprise of concrete rubble and will be suitably disposed of. Demolition of this area will facilitate the shoring works to allow for safe excavation without undermining adjoining property foundations and public accessways. During these works an excavator and breaker will be positioned on top of the pedestrian access to clear the materials from site.

### 4.2.6 Heritage eastern wall

If the heritage eastern wall is to be removed, materials stored for future reinstatement demolition works are to be contained within the construction site and will not effect the adjoining structure and public spaces. Temporary bracing of the heritage wall may be required for such works.

*Figure 4.2.6a – Plan view heritage wall location shown in blue*

## 4.3 Excavation

### 4.3.1 HDP excavation and piling

Piles, as required along the south and eastern boundaries of the site are to be installed to allow for safe excavation of the HDP. Piles will support the soil and footings of adjoining properties and pedestrian walkways while the excavation of HDP is undertaken to allow for the construction of the basement levels.

### 4.3.2 Access link with tunnelling solution HDP to the Leisure deck

Following the construction of the pedestrian accessway between the Lee Street and Devonshire tunnels, the demolition of the leisure deck and heritage façade of the fPPb excavation works to the required levels of both the HDP and leisure deck areas can begin. Once completed this will allow for start the canopy tube installation works to begin. Canopy tubes are to be installed to the underside of the existing service zone and pedestrian access way. Once the canopy tubes are installed, the piling cap is to be poured to allow excavation to the underside of the canopy tubes which will enable heavy vehicle access between the two basements locations.

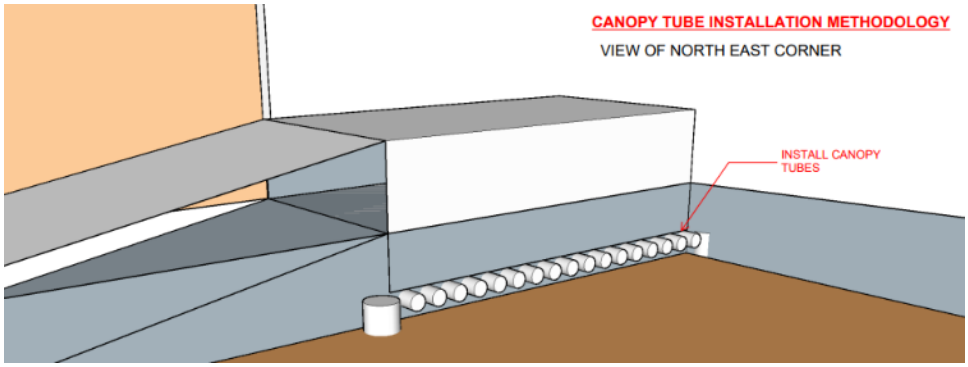



*Figure 4.3.2a - Canopy Tube Installation*

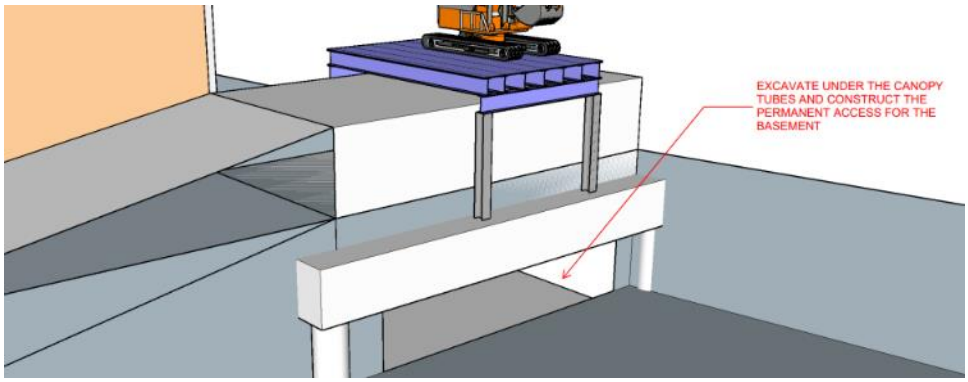



*Figure 4.3.2b - Excavation to connect basements after canopy piling tube capping beam has been poured*

### 4.3.3 Leisure deck excavation & piling

All demolished materials of the leisure deck area are to be removed from site via the use of the excavator which is positioned on top of the pedestrian access way. Once complete piles, where required, are to be installed around the perimeter of the proposed leisure deck basement and to the northern core superstructure. This will allow for the safe excavation of soil for the northern core to jump start from the B1 level, and subsequent top-down construction of the leisure deck basement areas to the B3 level. Refer to figure 4.4.2a for indicative top-down construction method.

## 4.4 Structure

### 4.4.1 Federal parcel post building temporary works & façade retention

TOGA will provide a number of temporary structures to allow for the construction of the TOGA Tower and to provide support to the existing façade of the fPPb. B-Class hoardings will be installed on Lee Street with 10kPa overhead protection and site facilities located over. fPPb is heritage listed and TOGA will provide temporary works to support the existing façade throughout the duration of the project.

### 4.4.2 Leisure deck - Top-down construction

The basement structure being constructed below the current leisure deck is currently being investigated to adopt a top-down construction methodology. If possible, the jumpform for the northern core will be established from the B1 level. It will be supported by permanent piled walls. Once the core is set up and progressed to approximately 4 levels above its starting level (i.e. B1) the excavation works under the core will continue. Materials will be moved via the tunnel between the HDP and leisure deck areas (i.e. through the canopy tube tunnel). Once excavation is complete the podium superstructure concrete slabs will be poured.

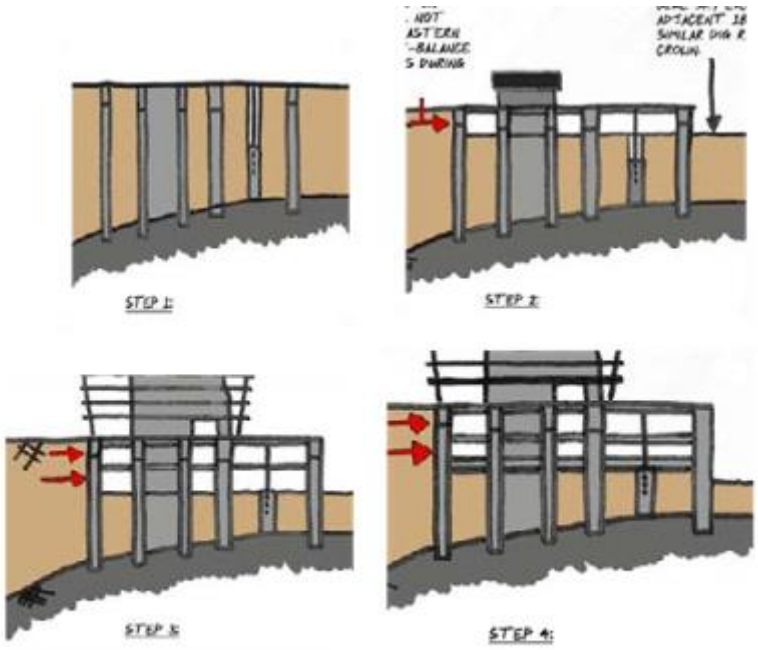



*Figure 4.4.2a – Leisure deck – Top-down construction*

### 4.4.3 Jumpform & Core FRP

Jumpforms will be used onsite for the northern core formworks system, this will allow for the stair/lift core superstructure to be constructed. The jumpform will use previously poured core levels to support the subsequent core levels.


*Figure 4.4.3a – Typical jumpform arrangment*

### 4.4.4 HDP Mega Columns

The HDP Mega Columns will be fabricated offsite and installed using a composite steel tube and concrete filled formwork. These steel megacolumns will also have the internal reinforcement prefabricated. Each column will be transported to site in the largest possible length to minimise the number of lifts required via mobile and tower cranes. Each megacolumn will require significant temporary steel secondary support to restrain them in their temporary condition. The temporary supports will be restrained until the level 6 & 9 transfer slabs are completed. Once the level 6 and 9 transfer slabs have been installed the temporary supports can be removed as the columns will be restrained in their permanent position.


*Figure 4.4.4a – Plan view of HDP megacolumn locations shown in red.*

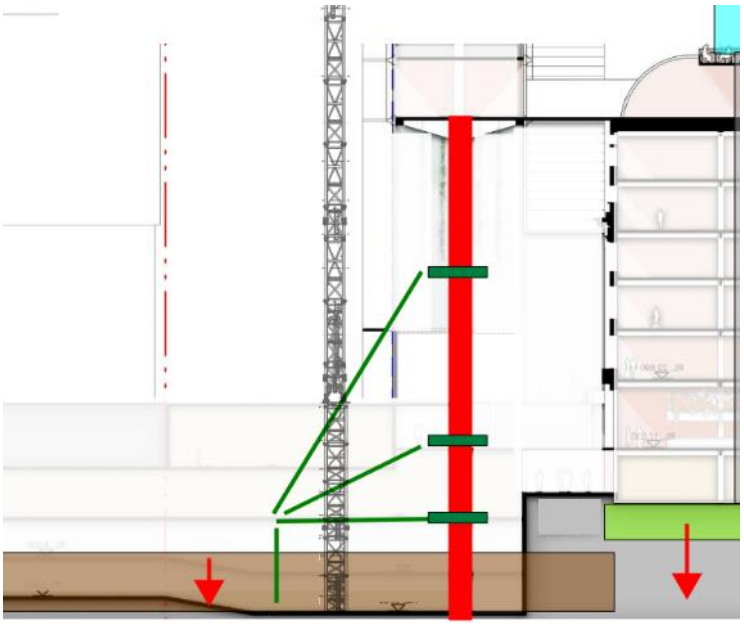


*Figure 4.4.4b – Elevation view of HDP megacolumn installation*

### 4.4.5 fPPB Mega Columns

fPPb prefabricated megacolumns will be placed through the locally demolished sections of the fPPb building. Temporary supports will be installed to tie the megacolumns back to the existing structure. These will provide support during their temporary condition. These temporary supports will also restrain the column once it has been poured until the level 9 transfer slab has been poured as referenced within the above section of the HDP.

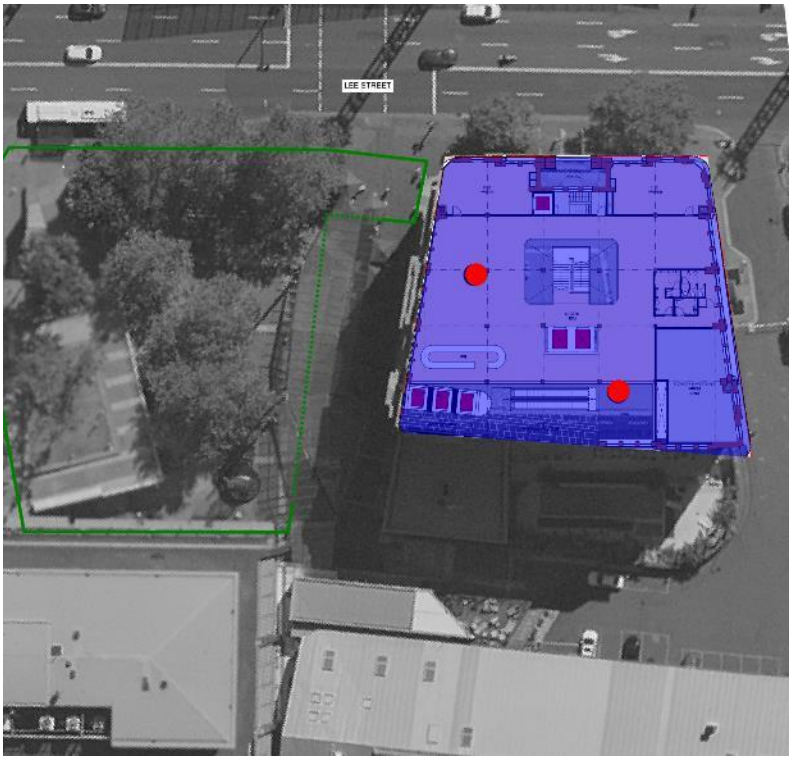



*Figure 4.4.5a – Elevation view of fPPb megacolumn installation shown in red*

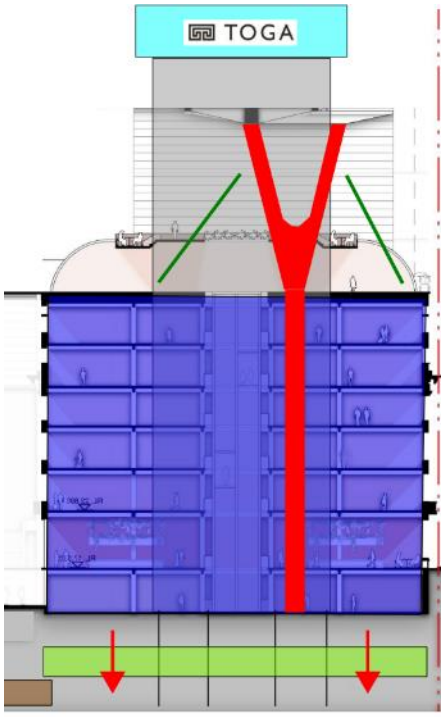



*Figure 4.4.5b – Elevation view of fPPb megacolumn installation*

### 4.4.6 Level 6 & level 9 transfer decks

A temporary work platform (A) will be constructed via scaffold and formwork to the underside of the Level 6 and 9 superstructure transfer decks. This work platform this will allow construction workers to gain access to the composite steel superstructural works. Edge protection scaffolds (B) will be installed to the perimeter of the slab areas providing a barrier to protect the people below from potential falling objects. The superstructure is currently being designed as a composite steel and concrete structure whereby the architectural finish below is prefabricated offsite and also installed from the work platform for efficiency and safety reasoning.

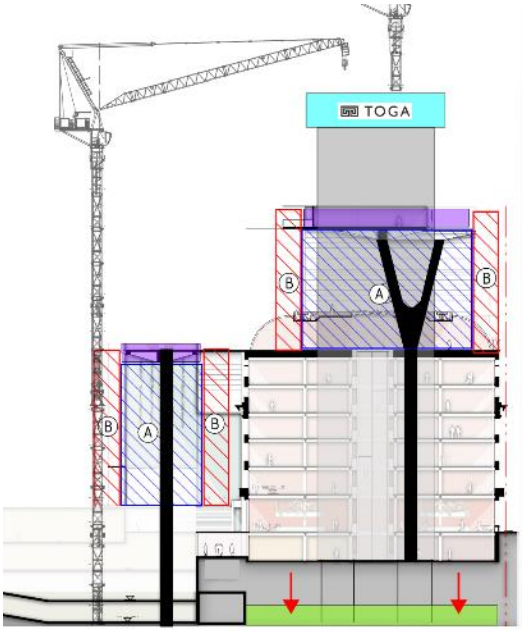



*Figure 4.4.6a – Section temporary works for transfer deck levels*

### 4.4.7 Hotel typical levels

The typical hotel levels to consist of concrete slabs supported on in situ concrete column and wall support structures. Perimeter safety screens will be installed to provide protection to the general public and construction personnel below from potential falling objects.

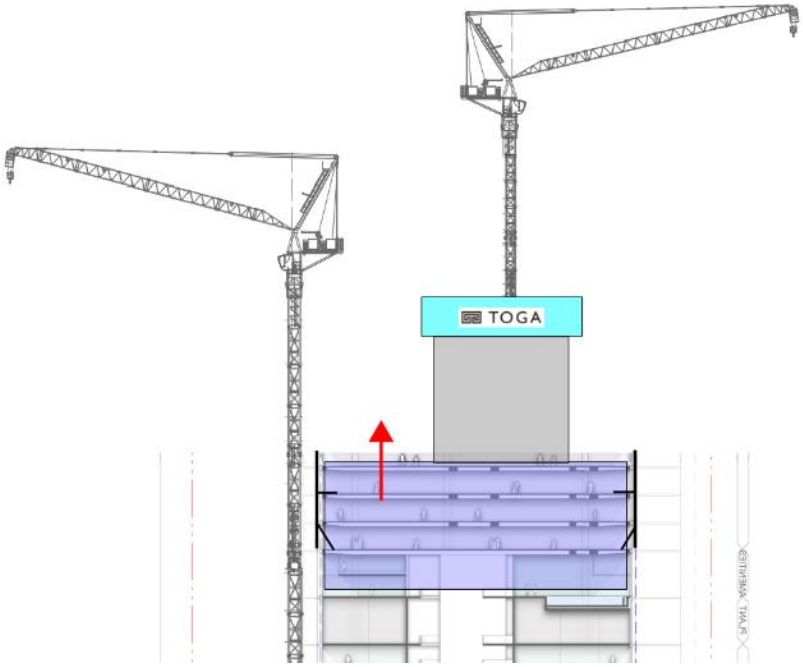



*Figure 4.4.7a – Section of typical hotel level construction*

### 4.4.8 Tower Lateral Restraint Levels: 39 & 40

At the 39th and 40th levels of the tower are large volumes of steel bracing. This is required to restrain the towers horizontal movement. For these areas the steel members will be prefabricated offsite and installed in position via the use of the tower cranes. Immediately after being placed into position the formwork and superstructural works will continue. Once this area is stripped the steel workers will come back for the final welding and QA closeout processes.

### 4.4.9 Structural Certification Temporary Structures

TOGA will obtain certification on all temporary engineering works throughout the construction process by a suitably qualified engineer. All temporary structures will have certification prior to construction of individual temporary works.

## 4.5 Façade

### 4.5.1 Typical Tower Facade

The towers façade is a curtain wall system. This façade will be manufactured offsite in panels' spanning a full floor height. These panels will arrive in crates that will be lifted onto floors via either the builders hoist or tower crane to areas that have been stripped of all formwork. The panels will be erected as soon as practical to commence waterproofing the floors so that services, finishes and fitout works can commence. The façade panels will be installed into position with either the use of an internal spider crane (floor lifting device) or via a bespoke crane system which is incorporated into the external screen edge protection. This second option which is less typical will be further investigated as the CMP further develops. *Figure 4.5.1a* details the sequence of a typical curtain wall façade system (i.e., option 1 referenced above).

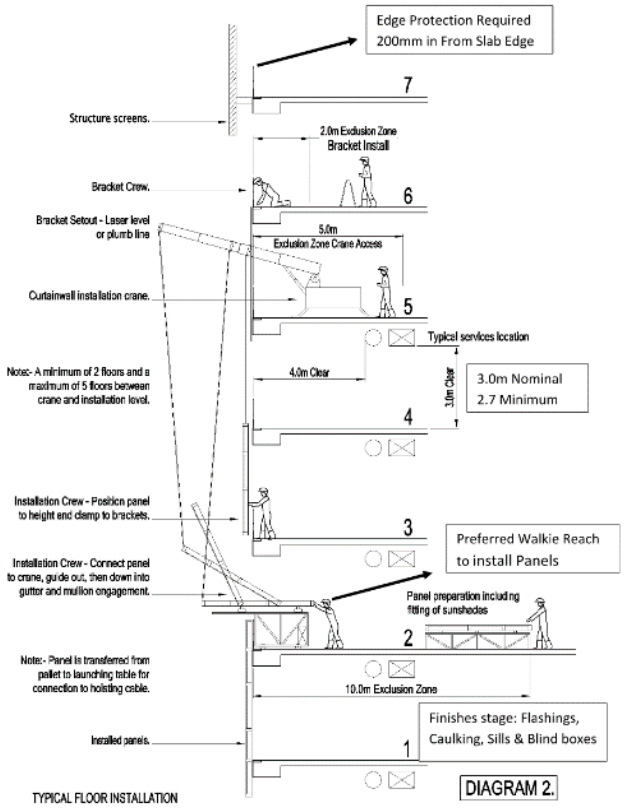



*Figure 4.5.1a – Typical level façade installation methodology*

### 4.5.2 Tower Roof Facade

The final roof façade panels will only commence when the structure is complete. These works will be installed via the use of one of the tower cranes

### 4.5.3 Tower podium to level 6 & 9 Works

The lower levels of the tower present a unique and specialised façade system. Currently this façade system is located under the level 6 and 9 transfer slabs.

Soffit cladding to transfer slabs: The soffit of the transfer slabs is exposed. This will be a prefabricated panel made offsite and installed from the access platform following the structural works being completed.

Southern Pod (Under level 6 transfer Slab): The façade to this area is thought to be hanging from the upper levels to the ground floor. This will enable a slim line mullion system and elegant finish.

## 4.6 Fit-out & Building Services

When slabs are cast and the formwork is stripped, the services will commence to be installed. These works will commence within the building but will not be completed until the façade to that level is complete. The façade provides edge protection for the men working near to the buildings edge and provides weatherproofing for equipment that is water sensitive.

The finishes works will be organised in several passes, the first pass being “rough in of services” which is where all the services to the walls are installed. General finishes are commenced in full following the completion of the facade to a particular floor. The services will be scheduled to be completed enough to allow finishes to commence in our programming.

Plant, equipment and materials will be lifted to the floors via several means depending on what stage the building is at. The means will be tower cranes, builders’ hoists or builders’ lifts. The builders’ lifts will be used for “clean trades” such as services fit off, carpets, ceiling tiles and fit out, to minimise damage to the lifts. Materials that will be hoisted via the builders’ hoists will be unloaded in the loading dock to save congestion to the material handling areas. A typical service and finishes cycle has been included in our Construction Program.

## 4.7 Public Domain and handover

When the façade and high levels works of the tower are complete, the tower cranes and hoists will be removed which will pave the way for the infill works and public domain to commence.

As some of the public domain works will be to footpaths and roads, the appropriate footpath and lane closures will be applied for, all of which will be coordinated with relevant authorities.

# 5 Logistics, Plant & Equipment and Site Establishment

## 5.1 Overview

Following the award of the Main works package and an agreed start on site date, TCN will commence its site mobilisation. Listed in the following sections of this report are several site logistic plans detailing the works to be undertaken throughout the project. TCN acknowledge that there are design and approval processes to work through for a number of these items prior to works being undertaken on site. TCN is committed to working through these processes and has commenced discussions with key stakeholders.

## 5.2 Hoardings

The hoardings & fencing on the proposed development consist of both A-Class and B-Class hoardings, with gates for vehicle and pedestrian access. The aim is to delineate the work front from public areas to reduce the risk of unauthorized site access. Modifications to these hoardings may be undertaken throughout the project to ensure the project is delivered in the safest manner.

All B Class hoardings will be 10 kPa rated & provide overhead protection to footpath & public areas. All hoardings will be painted & signed as per City of Sydney & or TfNSW requirements. The final details of the B-Class hoardings will be shared with the relevant stakeholders once designed and engineered and will be worked through with the interested parties during the approval process. Below is an example of how the B Class and A-Class hoarding combine to provide overhead protection as well as securing the area.


*Figure 5.2a – Typical hoarding overview*

## 5.3 Site Access, Accommodation & Amenities

### 5.3.1 Loading / Work & Hoist zones

The primary loading & hoisting zones have been identified for the most efficient and safe delivery of the materials to the Central Adina site for both the general public and construction workers. The detailed proposals are a work in progress and the necessary permits, deeds, and/or authority approvals will be sought from stakeholders prior to on-site establishment. These areas can be seen within the Figures below:

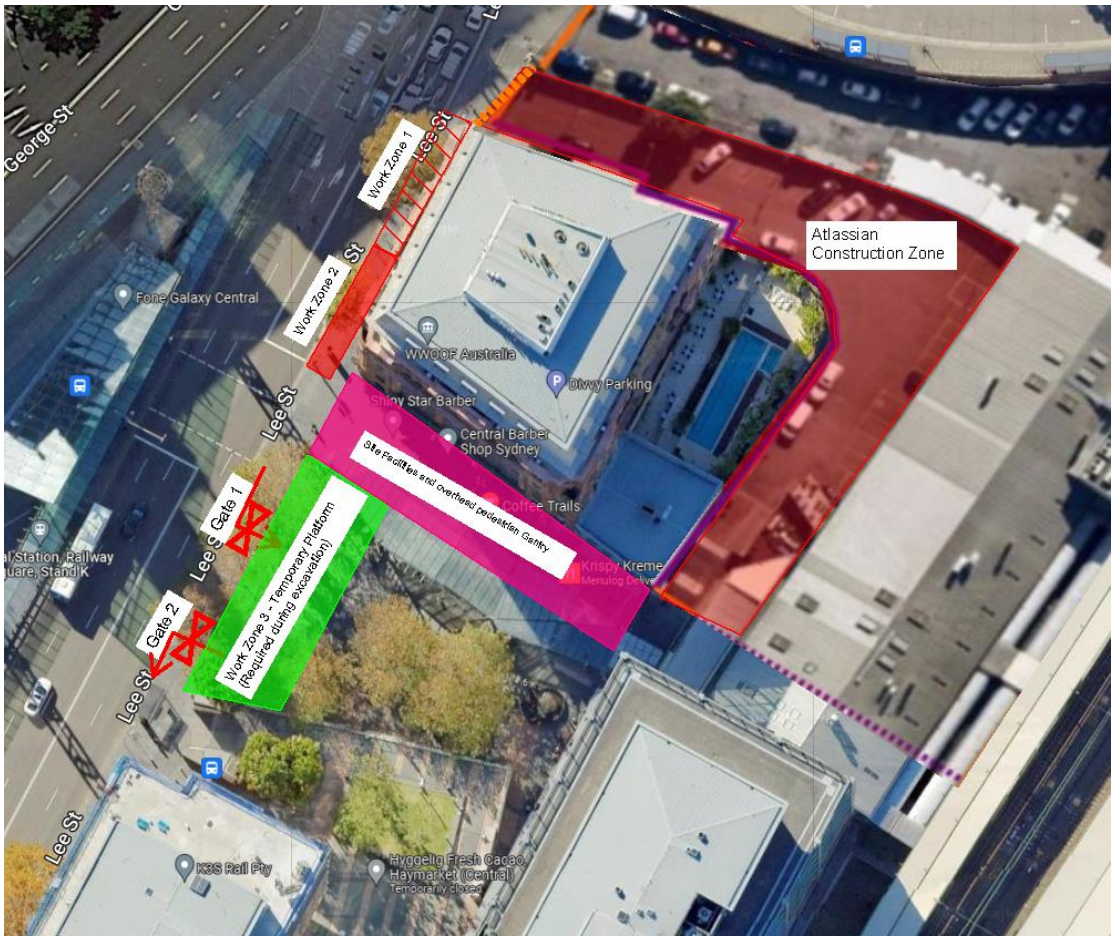



*Figure 5.3.1a – Workzones 1 - 3*

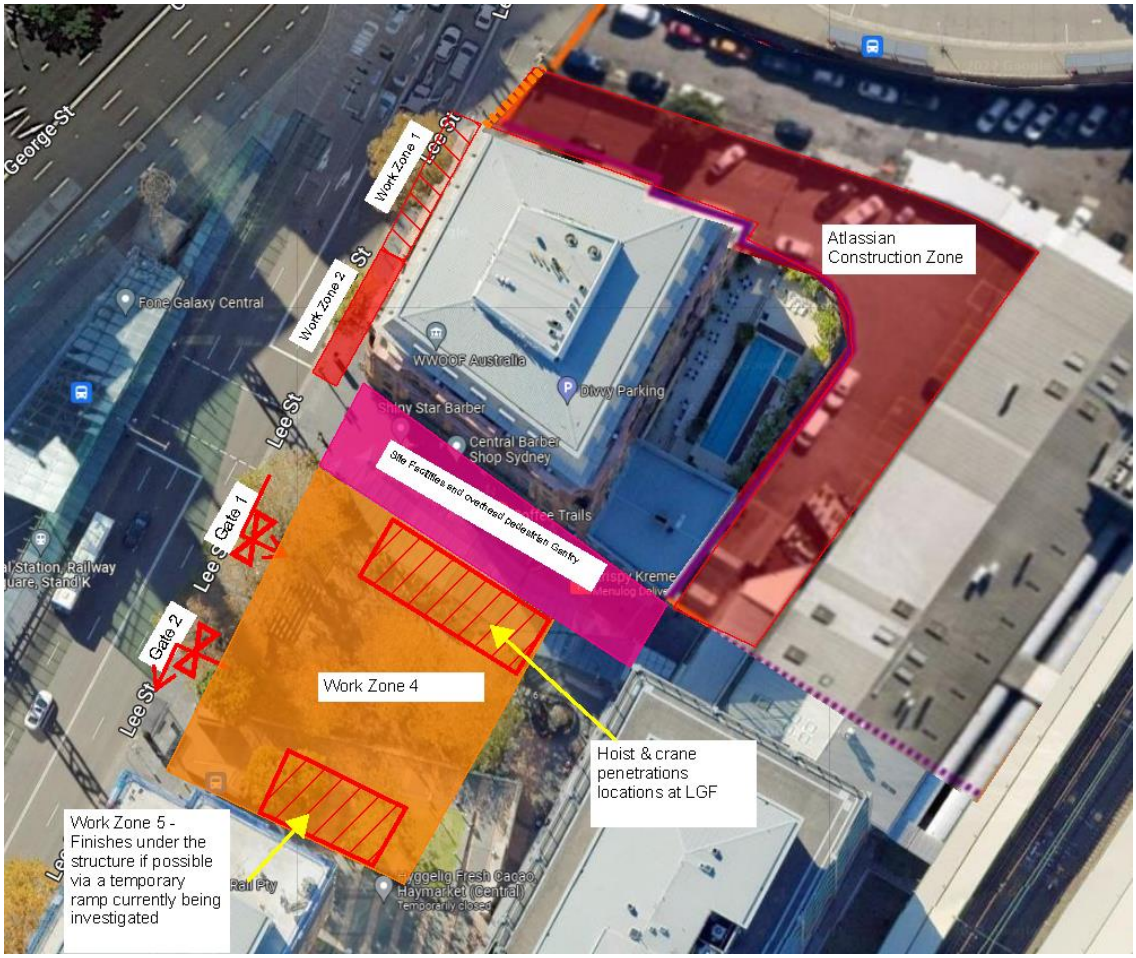



*Figure 5.3.1b – Workzones 3 – 5*

- Workzone 1: Road workzone on Lee Street – This workzone will be utilised for the duration of the project for Superstructure, façade and finishes deliveries. Appropriate traffic signage and controllers will be utilised for the duration of this workzone.
- Workzone 2: Road workzone on Lee Street - This workzone will be utilised for the duration of the project for Superstructure deliveries. Appropriate traffic signage and controllers will be utilised for the duration of this workzone.
- Workzone 3: Temporary loading platform within Henry Deane Plaza. This workzone will be utilised during the period of the podium excavation whereby tower superstructural works are also to continue. By constructing a temporary platform as seen Figure 5.3.1a & b, the excavation plant & equipment and concrete placement equipment can be rediverted from Lee Street to within the site. This strategy takes these construction activities away from the public.
- Workzones 4: Henry Deane Plaza (above ground). It is currently being investigated to utilise the Lower Ground Floor level of the Henry Deane Plaza as a material laydown and workzone for Façade and structural steel works once available within the construction timeline.
- Workzone 5: Henry Deane Plaza (below ground). It is currently being investigated whether it is possible to construct a ramp from the road level of Lee Street through the projects basements to allow access the finishes trade deliveries within the podium superstructure (Once these are made available during the construction timeline). Traditionally, a project would have an accessible loading dock and podium from the outset. As the access to the Central Adina project is only possible following the construction of either the Atlassian and Dexus Frazer projects, this alternative large scale temporary access strategy is being investigated.

### 5.3.2 Amenities and Site Access

Phase 1:

TCN will establish a project administration office and amenity space within double height portable buildings supported on gantries on the Lee Street sidewalk. It is planned that these facilities will be capable of housing an estimated 150No. site personnel (both male and female - 100No. labour, circa 50No. staff). Site entry will be via Lee St where workers will be weather protected to and from these facilities. This office space will include a workstation style office space with a fully serviceable kitchen, meeting rooms, reception areas, and team building spaces. There will be first aid and induction facilities provided within the site accommodation, the subcontractors will be required to provide their own offsite office space for their durations on site. Please note that there is a need to remove the two existing trees located to the West of the existing fPPb within the Phase 1 strategy detailed above. The aforementioned details the requirement whereby the construction site facilities occupy the area above the pavement which does not interfere with the required Lee Street workzones. These workzones are paramount and are the only access to and from the project as it is bordered by the BOJV Atlassian site to the north and east and the Dexus Fraser site to the south.

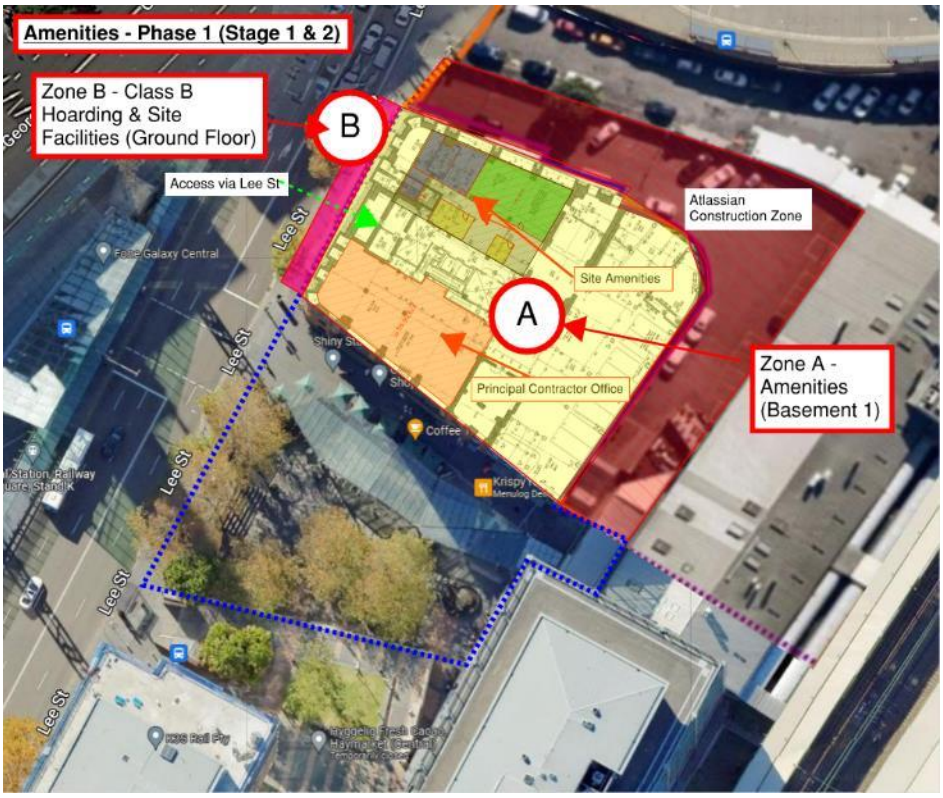



*Figure5.3.2a – Phase 1 (Stage 1 & 2): Site establishment and early works*

As the demand for workers increases during the civil and superstructure works, additional site accommodation and amenities will be required to supplement the Phase 1 amenity setup.

Phase 2:

Following the temporary pedestrian accessways construction which will allow pedestrian and workers to safely traverse between the Lee Street tunnel and Devonshire tunnel a triple-height portable building to facilitate 300 workers (both male and female) will be installed on top of the overhead gantry. Dedicated paths will be constructed between all sheds, and overhead roofing and will ensure access to and from the sites entry and between sheds is weather protected.

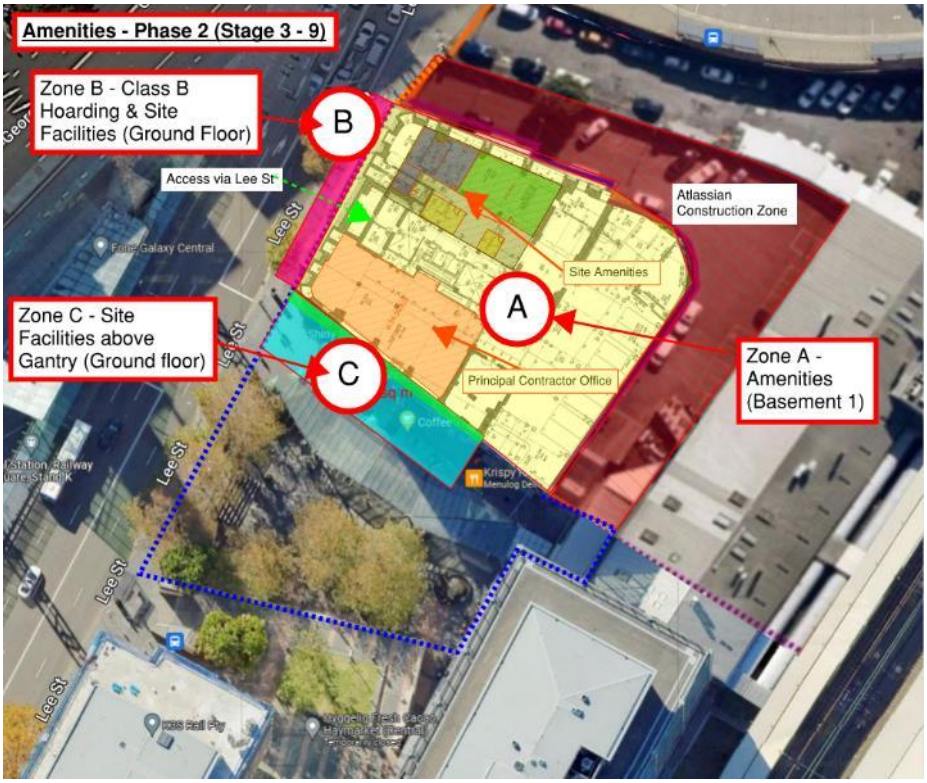



*Figure 5.3.2b – Phase 2 (Stage 3-9): Early works and structure*

Phase 3:

Upon completion of the Henry Deane Plaza's structure and as the towers superstructure and finishes begin there will be a requirement to accommodate the increased site personnel of circa 250-300No. (i.e. circa 600No. total peak). As such, additional worker accommodation and facilities will be provided on the Basement 2 / 3 level. The main worker access will be located to the north-west corner of the Henry Deane Plaza podium with dedicated access paths to be constructed between all gantry and podium amenities for full weather protection to and from the site.

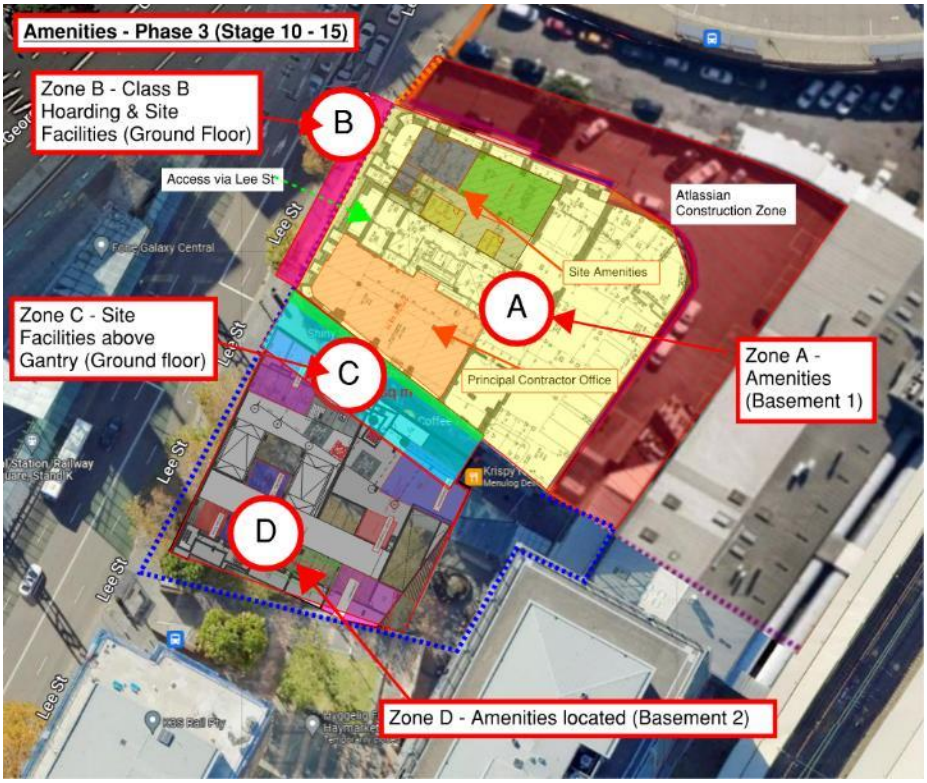



*Figure 5.3.2c – Phase 3 (Stage 10-15): Structure, finishes and handover*

### 5.3.3 Henry Deane Plaza Loading Dock

## 5.4 Pedestrian access

During the course of construction multiple pedestrian access diversions will be required to allow for the safe movement of the general public whilst maintaining the ability for the construction works of Toga Central. It is expected and required that a coordinated strategy and action plan will be instigated and maintained with Atlassian/BOJV and CPS for managing and maintaining the efficient pedestrian movements across the precinct during its construction. Below we detail the more significant amendments for pedestrian access for Toga's scope of works. As mentioned earlier Arup and Stantec will further detail and add as appropriate additional staging plans as our construction methodology continues to be refined.

### 5.4.1 Stage 1: Preconstruction access

Refer to Figure 5.4.1 for the existing pedestrian access prior to construction activities starting on site.

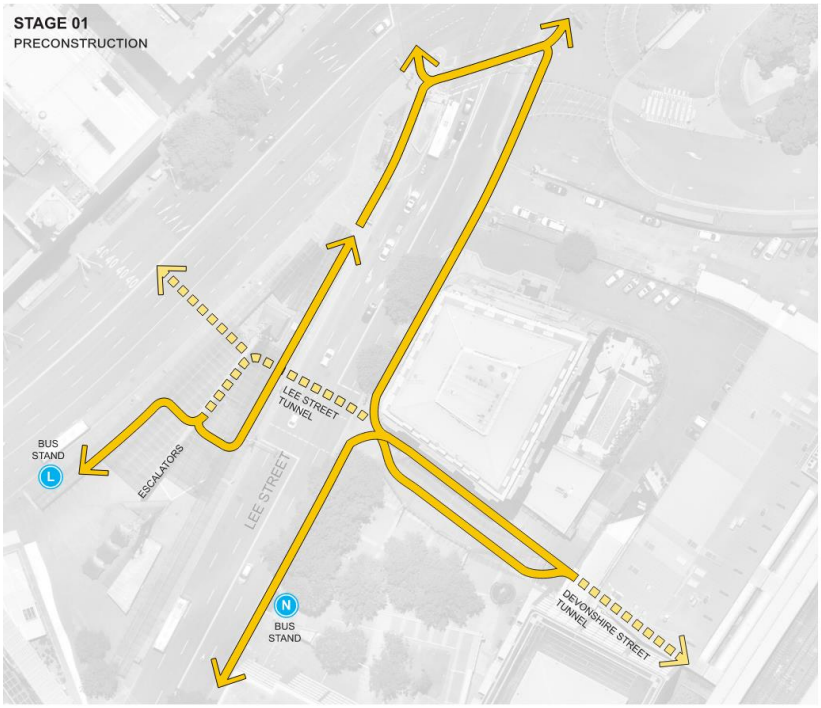



*Figure 5.4.1 – Stage 1: Pre-construction access*

### 5.4.2 Stage 2: Site Establishment & awning demolition access

During early stages of the site establishment and during the Henry Deane Plaza's awning demolition works the Lee Street tunnel will be required to be blocked and rediverted to the ground level for a few days. Refer to Figure 5.4.2 for visualisation.

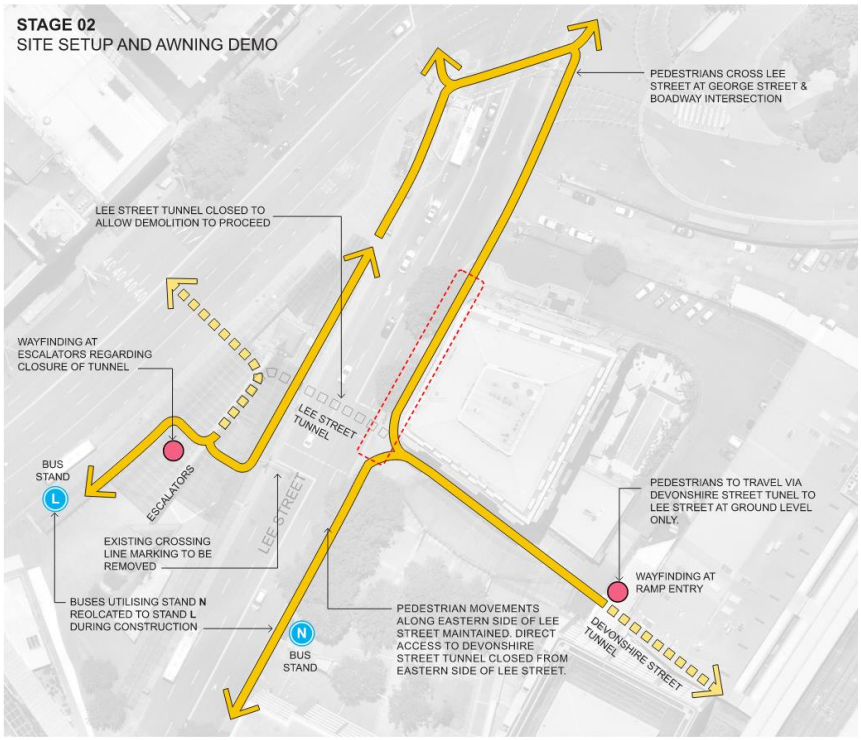



*Figure 5.4.2 – Stage 2: Site establishment and awning demolition*

### 5.4.3 Stage 3: Site setup and pedestrian access construction (Construction)

Following the Henry Deane Plaza's awning demolition the temporary pedestrian access which is preferred and required to be in place during construction works and located between the existing Lee Street tunnels Henry Deane Plaza exit and Devonshire tunnel will start to be demolished and reconstructed. Currently we are investigating (1) a permanent works and (2) a temporary construction access. From our preliminary investigations it is planned that during this stage all pedestrians using this tunnel access will be diverted through and around the site so that demolition and construction works can continue. If this pedestrian access strategy is not possible as a result of potential and significant safety restraints with the works in question then pedestrians may need to be rediverted around the Central Station site during critical activities as per the Figure 5.4.3b as coordinated and endorsed with tfNSW approvals.

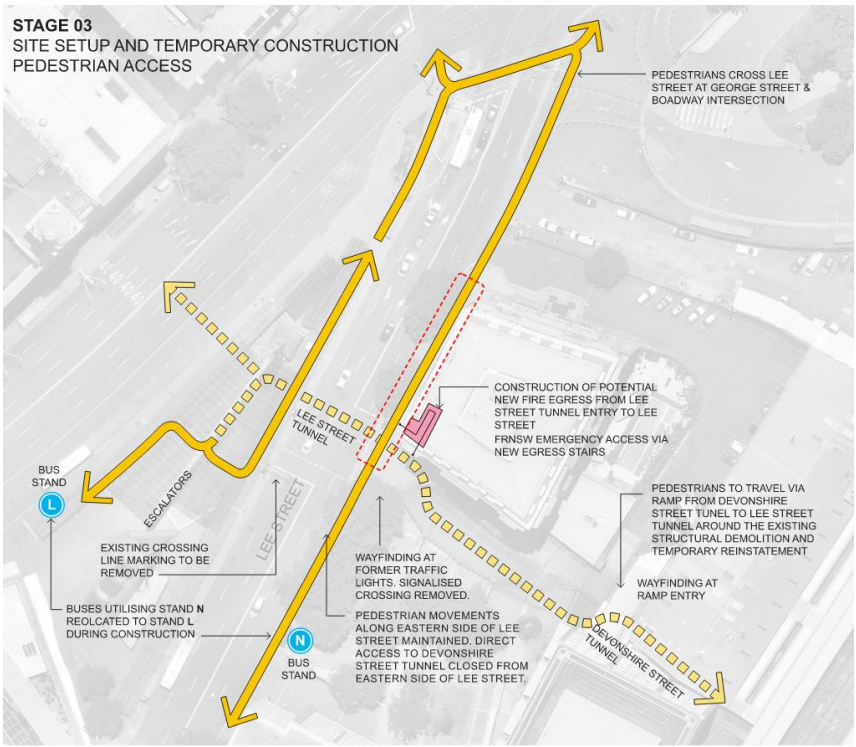



*Figure 5.4.2a – Stage* 3 : *Site setup and pedestrian access construction (Construction)*

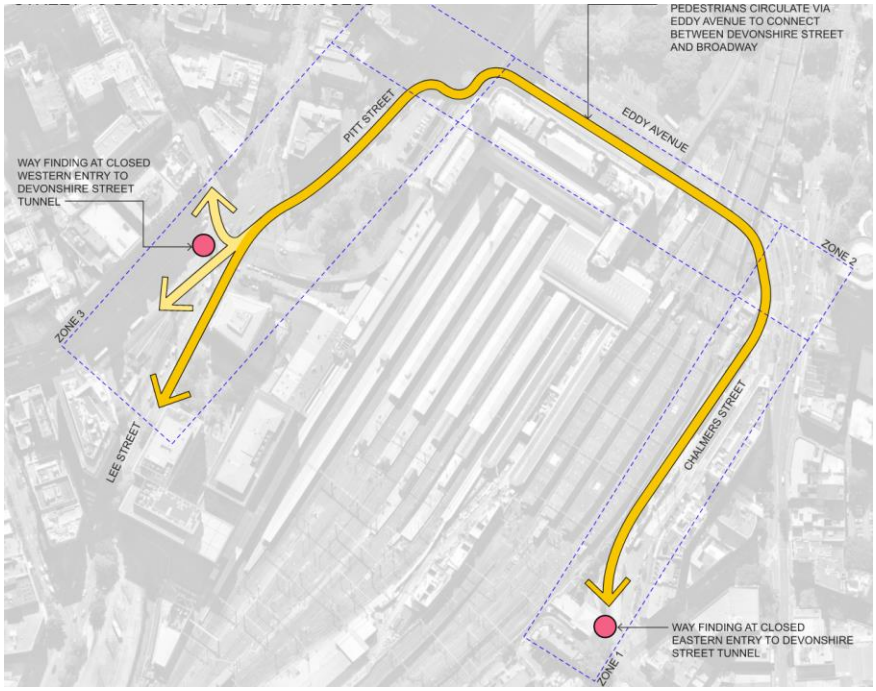


*Figure 5.4.2b – Option 2: Site setup and pedestrian access construction (Construction)*

### 5.4.4 Stage 4: Pedestrian Access during Construction (Operation)

Following the Henry Deane Plaza's temporary pedestrian access's construction (i.e. either permanent or temporary construction access) pedestrians will be free to utilise this accessway as required. This accessway will be protected by a 10KPa gantry and will have both the site amenities and excavation plant & equipment located over the top during the term of its operation. If this pedestrian access strategy is not possible as a result of certain activities that are deemed potential and significant safety risks then for the duration of these activities the pedestrians will be rediverted around the Central Station site during critical activities as per the Figure 5.4.3b as coordinated and endorsed with tfNSW approvals.

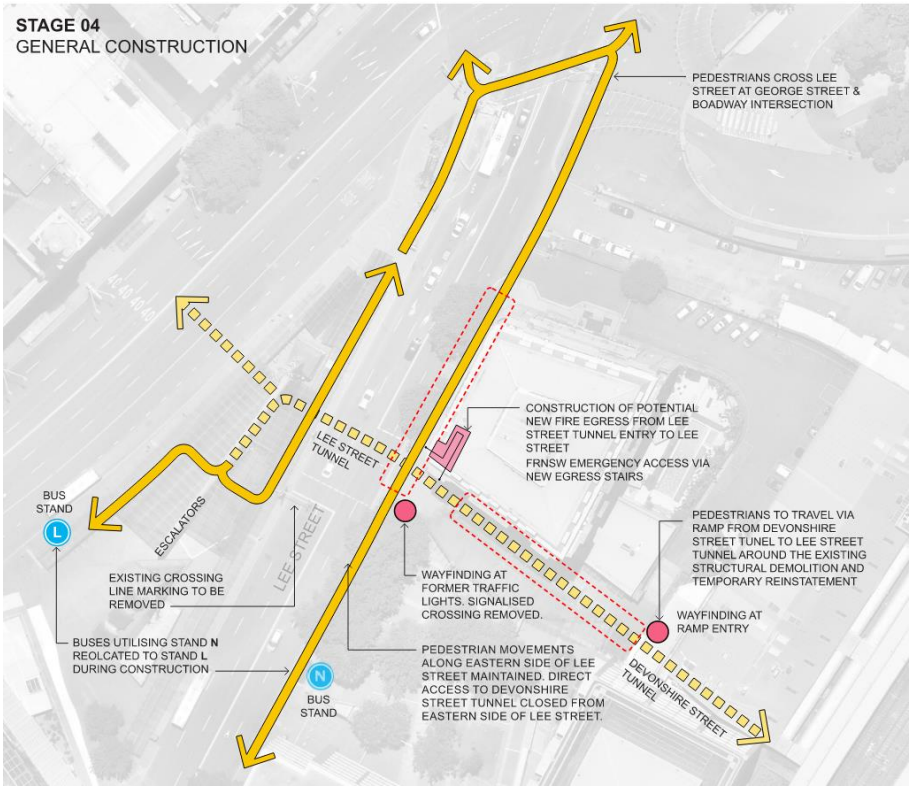



*Figure 5.4.4a – Stage 3: Pedestrian Access during Construction*

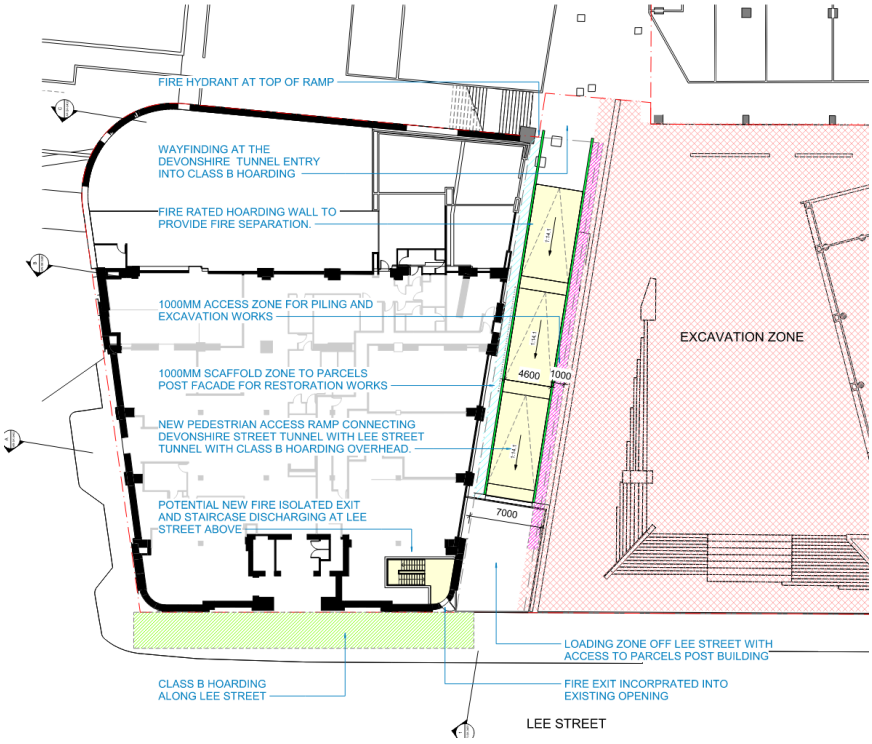



*Figure 5.4.4b – Stage 3 Pedestrian Access during Construction (Concept plan of temporary solution)*

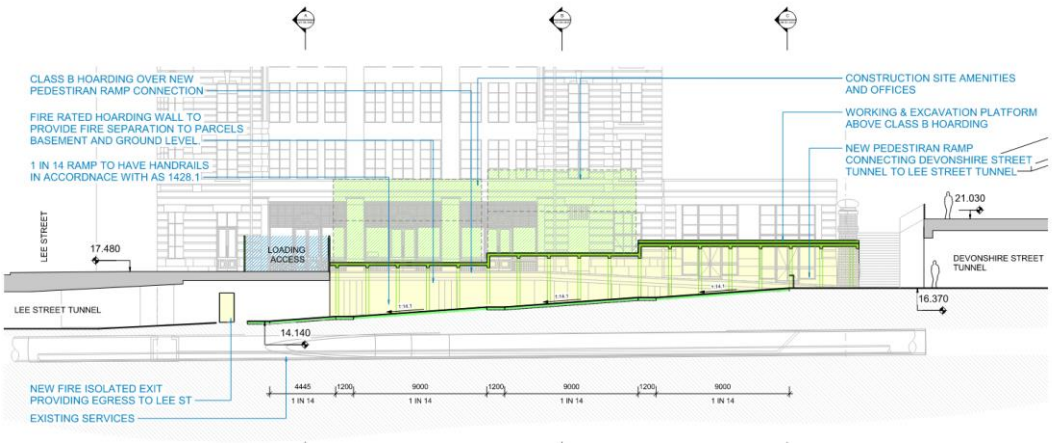



*Figure 5.4.4s – Stage 3 Pedestrian Access during Construction (Concept section of temporary solution)*

### 5.4.5 Stage 4: Henry Deane Plaza's and Public Domain Works

At a point in time when the superstructure and façade works are completed, and the finishes and testing & commissioning works are significantly progressed the Henry Deane Plaza's temporary pedestrian access will have to be decommissioned to allow for both the podium remaining works and public domain works to be actioned. At this point in time there is a possibility to redivert the pedestrians around the Toga Central site, through the Atlassian projects completed works and through to the Devonshire tunnel. If the Atlassian works are not completed at this point in time then these Pedestrians will be further diverted around Central Station as per 5.4.3b as necessary.

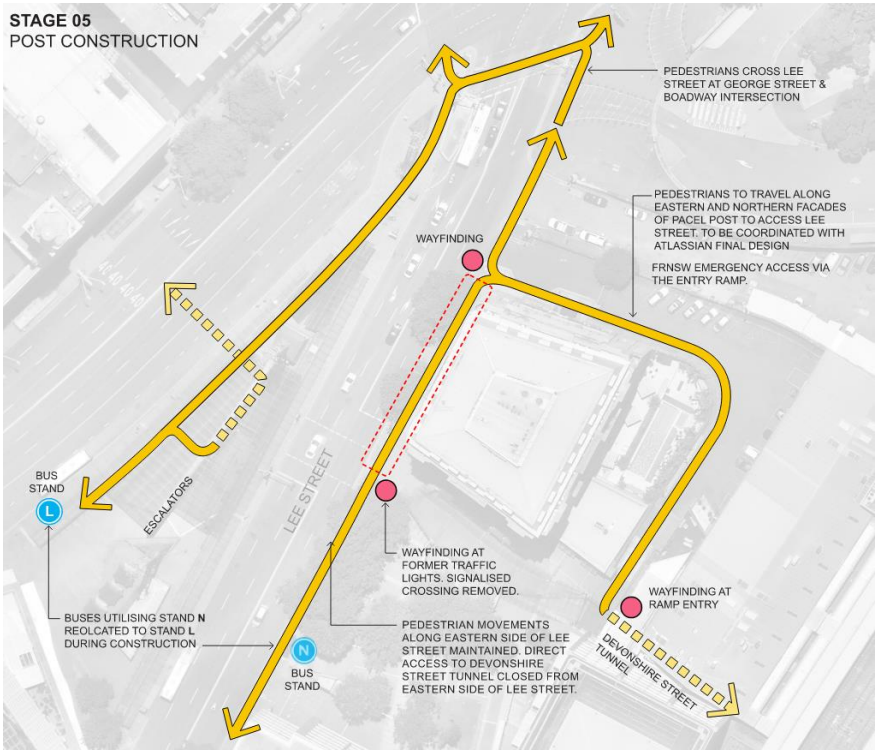



*Figure 5.4.5a – Stage 5:* Public Domain Works

## 5.5 CTMP

The staging plans contained within this CTMP are currently under review by our traffic consultant Stantec. Stantec, in conjunction with TCN will further develop our CTMP as detailed within section 2.2.3 of this report. Once completed and as referred to within section 2.2.3, TCN and Stantec will facilitate workshops with key council and government stakeholders to seek agreement and finalise the projects CTMP.

## 5.6 Jumpform to Northern Core

The northern core will be formed and poured via a bespoke jumpform system. Further investigations are being undertaken by TCN to ascertain whether it is beneficial and possible to implement a top-down methodology (i.e. from the existing B1 level of the fPPb).


*Figure 5.6a – Typical jumpform*

## 5.7 Tower Cranes

All tower cranes erected on TCN projects are to be designed by the tower cranes contractors structural engineer, peer-reviewed by the TCN's Temporary Works Project Engineer, and vetted by the project's Structural Engineer with specific analysis of the loads imposed on the building under construction.

### 5.7.1 Tower Crane No. 1

After demolition of the existing leisure deck, and construction of the north cores footings, a luffing style Tower Crane (TC1) will be erected inside the north core lift shaft. This Tower Crane will be set up from Lee Street with a circa 350-400T mobile crane, subject to consultation with local authorities. TC1 will be able to independently jump to the final building height within the core, without the need for additional mobile cranes. Following the roof being poured and other miscellaneous works, TC1 will be removed via TC2 which is to be located within the Henry Deane Plaza.

### 5.7.2 Tower Crane No. 2

Following the excavation and construction of the Henry Deane Plaza's megacolumn footings a second luffing style Tower Crane (TC2) will be erected on the southern side of the tower's structure. TC2 will be set up and installed from Lee Street with a circa 350T mobile crane, subject to consultation with local authorities. TC2 will be able to independently jump to the final building height without the need for additional mobile cranes. TC2 will be decommissioned from Lee Street with a circa 350T mobile crane, subject to consultation with local authorities.

Note that to allow the TC2 crane to free stand and access the level 6 and 9 superstructural works a grillage will have to be engineered and installed within the basement levels. This grillage will be removed once the crane is tied back into the upper structure.

*Figure 5.7.2a* below provides preliminary Tower Crane 1 and Tower Crane 2 locations including the maximum slewing radius and weathervaning. The Weathervane allows the jib of a tower crane to rotate in the direction of the wind like a weathervane, reducing loads on the cranes structure and associated footings. All tower cranes must be allowed to weathervane 360 degrees at all times. Cranes located in the proximity of the other's weathervane will be designed at different heights to allow for such a prerequisite.

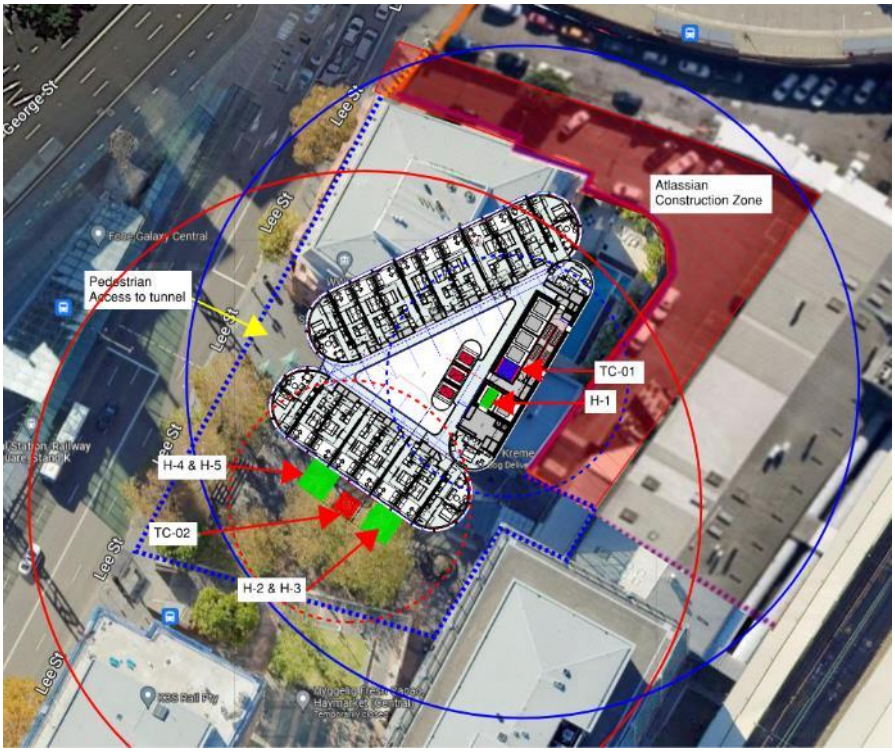



*Figure 5.7.2a – TC1 and TC2 max slewing and weathervaning. TC-01 is shown in blue and TC-02 is shown in red.* Deane

### 5.7.3 Mobile Cranes

Mobile cranes will be required prior to the tower cranes being available and after they have been removed. They may also be required to supplement the tower crane's work at peak periods. Prior to the mobilisation of a mobile crane, the relevant surface preparation and capacity checks will be undertaken by the site team.

It is anticipated that mobile cranes will be utilised but not limited to the following activities:

- Demolition, basement & retention construction, tower crane establishments & demobilisation, steel erection & materials handling

## 5.8 Hoists/Builders Lifts

### 5.8.1 Hoists

Vertical movement of construction personnel, and materials, will be via the man & materials hoist. These are planned to be attached to the southern elevation of the tower, within the northern core which will provide access to the core jumpform and via the builders' lifts once these are commissioned. The man & materials hoists will be set up once the construction structure reaches 4 levels above street level and will be removed once the builder's lifts are commissioned, and all necessary large material and equipment loadout is completed. A materials only hoist will also be erected to the external screen formwork system, and will allow for the formwork materials to be recycled up the tower and minimise crane dependencies for such activities.

All man and materials hoists erected on TCN projects are to be designed by the Hoist contractors structural engineer, peer-reviewed by the TCN Temporary Works Project Engineer, and vetted by the project's consultant Structural Engineer with specific analysis of the loads imposed on the building under construction.

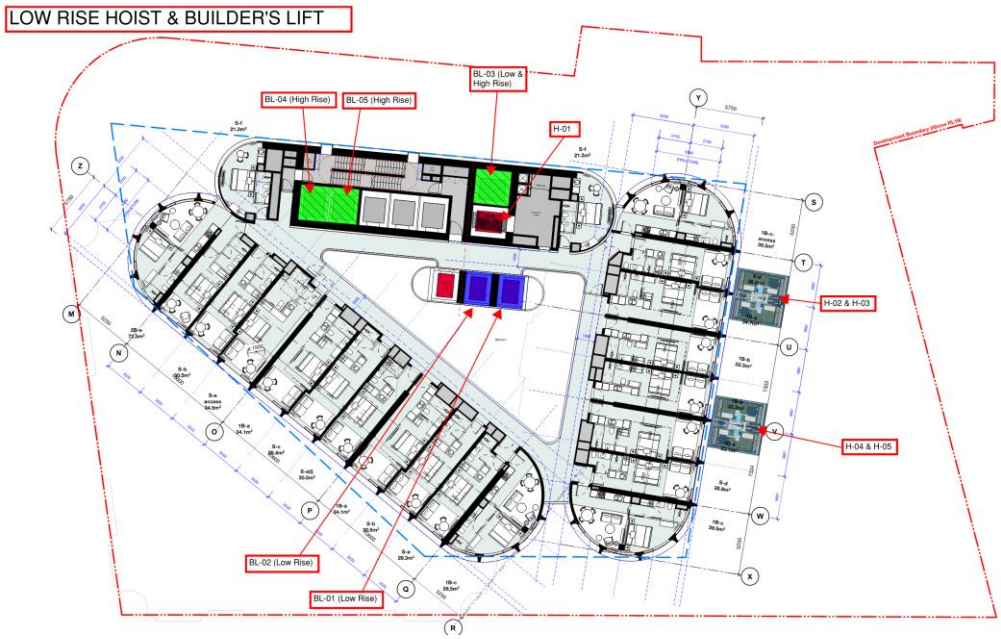



*Figure 5.8.1a – Hoist and Builders Lift Draft layout*

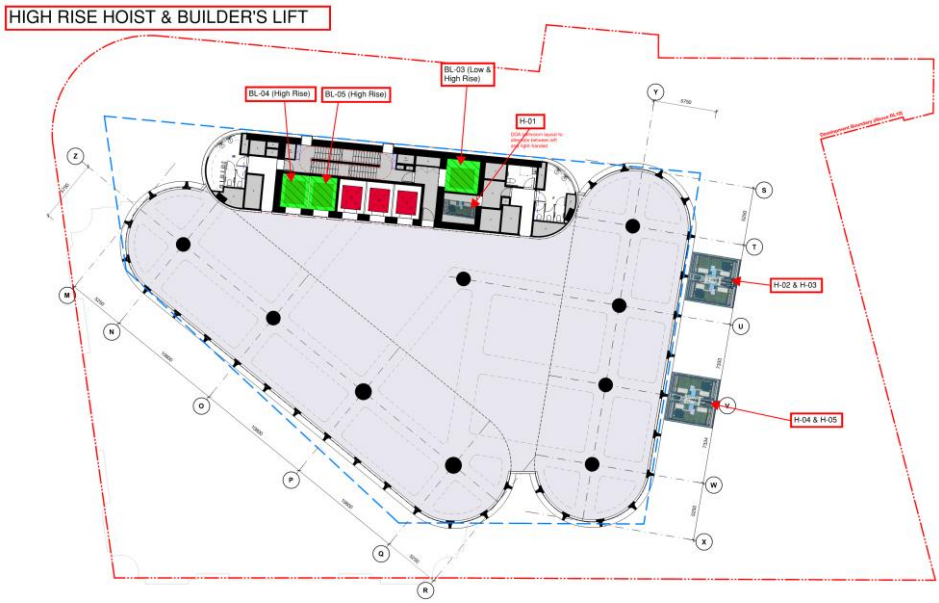



*Figure 5.8.1b – Hoist and Builders Lift Draft layout*

### 5.8.2 Builders Lifts

Upon the completion of the core (or part thereof for low & hi-rise), the lift contractor will commence inside the shaft installing the permanent lifts. The builders' lifts commissioning will be critical to ensure that the internal penetration left by the hoist to the external elevation of the building can be closed as quickly as possible. It is anticipated that 5 No. builders' lifts will be required during the construction duration as annotated within *Figure 5.8.1a*. 2 No. lifts for the low rise and 3 No. for the low and high rise.

## 5.9 Scaffolding, Edge & Overhead Protection

### 5.9.1 Scaffolding and Overhead Protection

During the construction of the tower's superstructure the following high risk scaffold access and support requirements have been identified:

- Heritage façade works

- A large scaffold system providing access for the façade rectification team will be constructed parallel to the external face of the existing fPPb. This area is located outside of our plot boundary and as such particular attention will be paid to the coordination of the general public access being maintained.

- Structural steel supercolumn and level 6 & 9 transfer slab installations to the HDP and fPPb

  - A large scaffold system providing access for the steel workers to install support bracing and weld the connection points of the steel circular columns will be installed from B4 to the level 6 transfer slab progressively. This area is located within the HDP workzone. Here particular attention will be paid to the coordination of the scaffold and the secondary steel. In addition to the aforementioned, a second, large scaffold system will be installed from the upper roof of the fPPb to the level 9 transfer slab. This scaffold will also provide access for the steel works to install the super columns

- Level 6 & 9 transfer slabs and screen setup

  - The scaffold systems previously detailed for the vertical elements of the towers structure will be extended past the level 6 and 9 transfer slabs. This will provide edge protection for steel composite slabs construction and the subsequent installation of the screen systems.

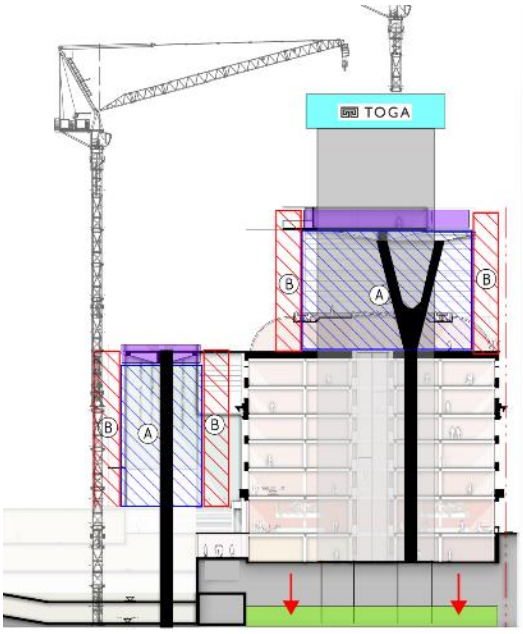



*Figure 5.9.1b – Scaffold level 6 & 9 transfers and supercolumns*

- Level 10 catch deck for the internal hotel penetration / void area

  - The scaffolding system providing access and edge protection for the level 6 & 9 transfer slabs will be designed to also act as 10KPa crash deck for the hotel voids potential falling objects between level 10-20. This will also act as the scaffolding system once adjusted for the transfer slab soffits cladding and lighting works prior to being dismantled in full.

### 5.9.2 Screens

Following the completion of the transfer slabs, external perimeter screens will be designed and installed on site. These screens will incorporate access for construction workers and formwork materials (Hoist) and are currently under further investigation as to whether they can incorporate a façade lifting system.

As this building vertically is not typical nor consistent in its profile the following screen transitions will need to be accounted for. The specifics of these transitions will further develop in terms of design and programme implications:

- Stage 1: Transfer slab screens level 6 & 9 (Hotel)
- Stage 2: Leisure deck and plant rooms
- Stage 3; Commercial Tower
- Stage 4: Roof transition

### 5.9.3 Loading Platforms

It is planned to have six (6) material roll-in/roll-out loading platforms located on floors for loading formwork, façade panels, services, finishes, and fit-off materials on the floors via the tower crane.

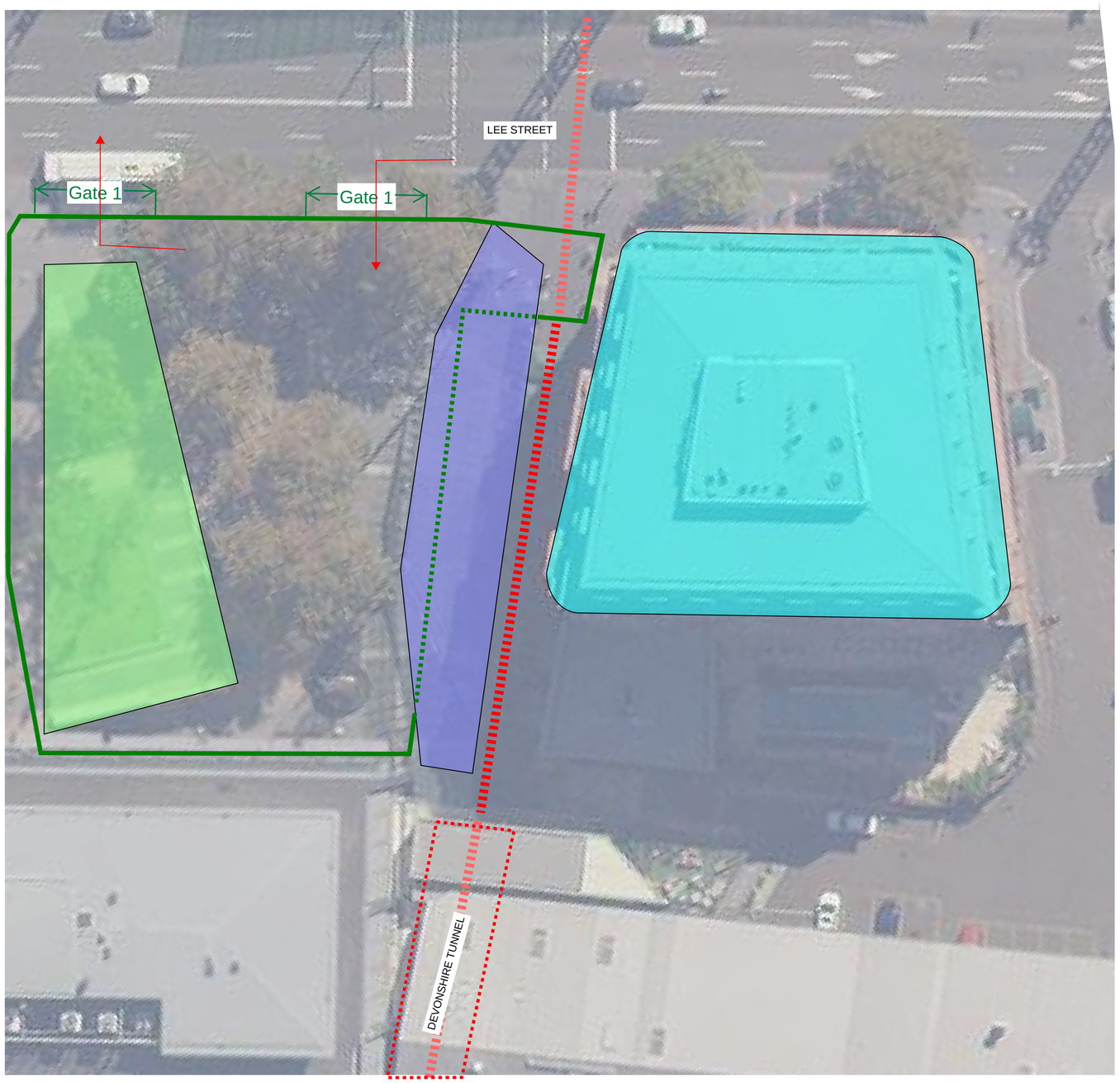
Retractable loading platforms will be provided to each floor where necessary and will be recycled up the building as required.

# **Appendix A** Construction Staging

# Stage 1

**Legend:**

- Soft Demo & Abatement of Existing Hotel
- Early Works: Awning Demo
- Demolition of Existing Tenancies
- A-Class Hoarding (Site Boundary)Pedestrian Access Required Throughout Construction
- Pedestrian Access Required Throughout Construction & to move to Accommodate the Sequencing on the Awning Demolition

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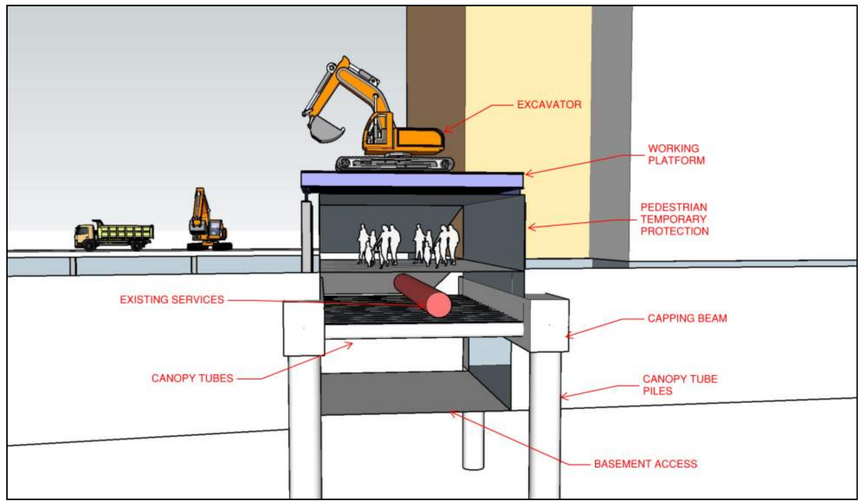
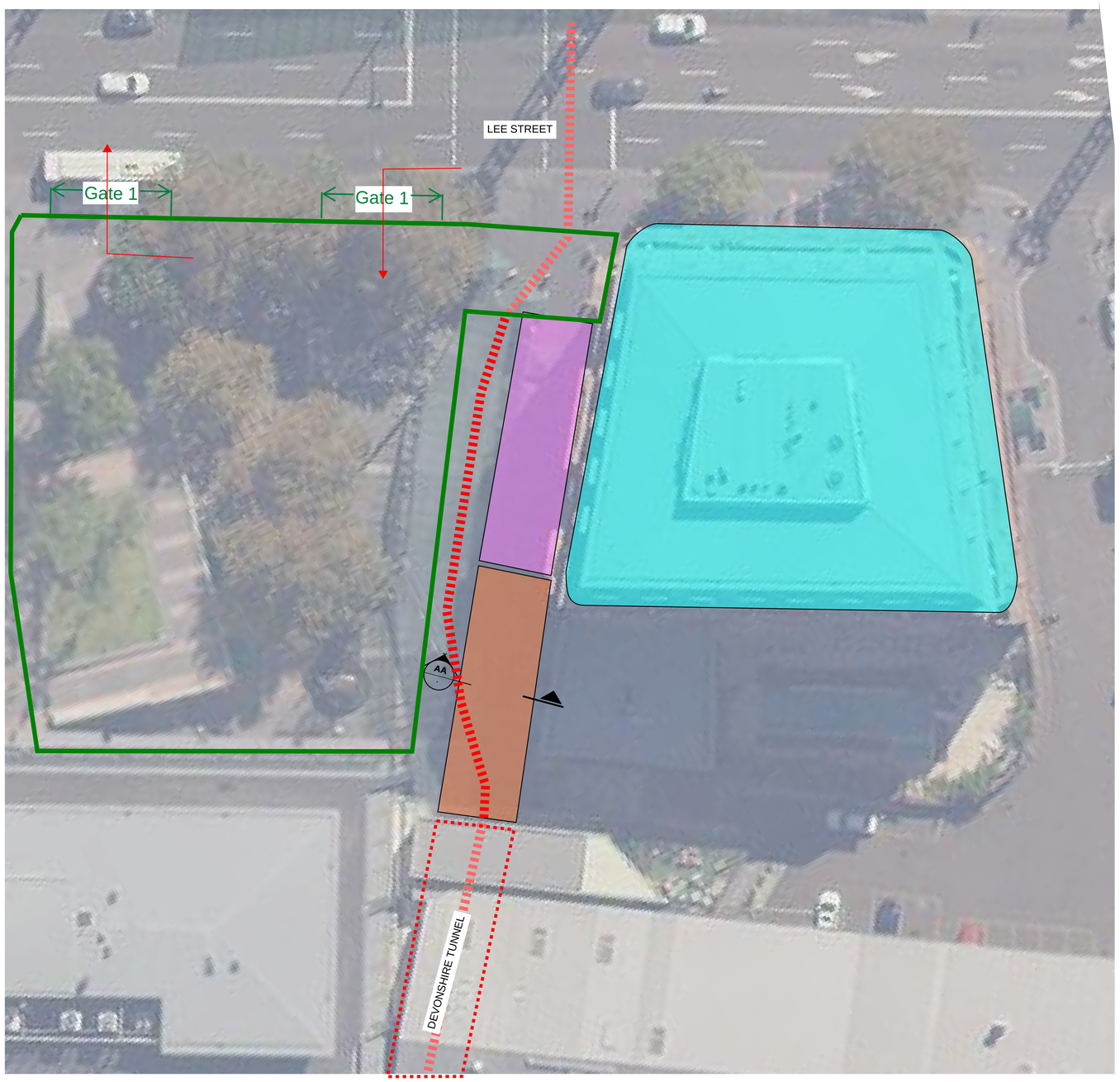
# Stage 2

**Legend:**

- Soft Demo & Abatement of fPPb
- Early Works: Construct Excavator Platform on Gantry
- Pedestrian Access: Penetrate into sub-ground level & build ramp and Stairs
- Pedestrian Access Required Throughout Construction (Refer Appendix C for details on pedestrian routes)




Pedestrian Access Cross section during Construction
(Refer Section A.A for details)

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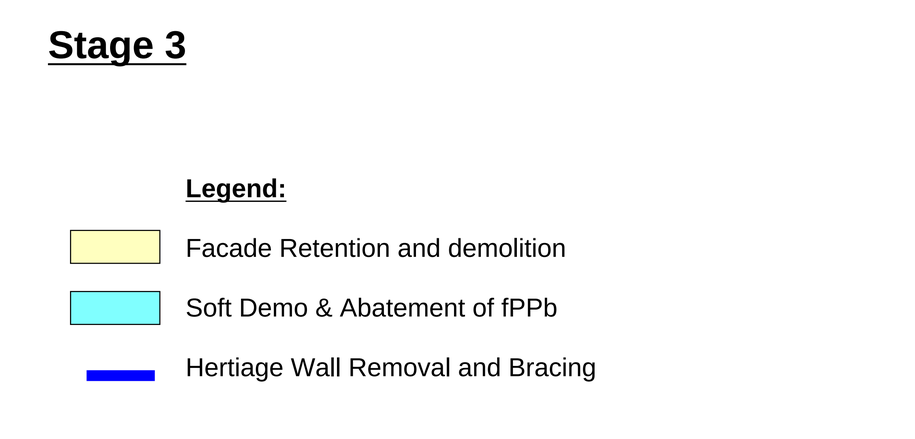
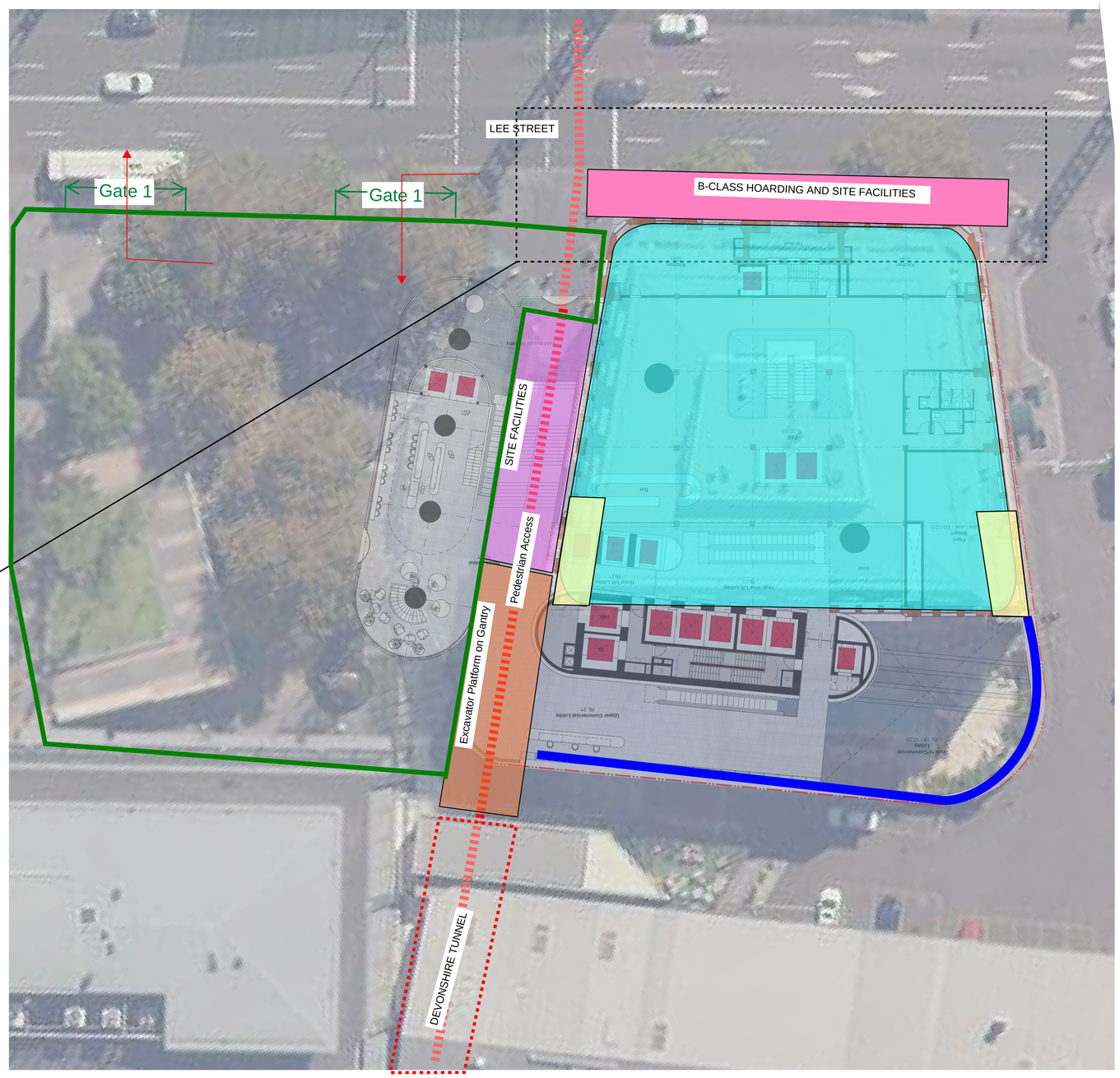
# Stage 3

**Legend:**

- Facade Retention and demolition
- Soft Demo & Abatement of fPPb
- Hertiage Wall Removal and Bracing




B-Class Hoarding and Site Access
(View from Lee Street)

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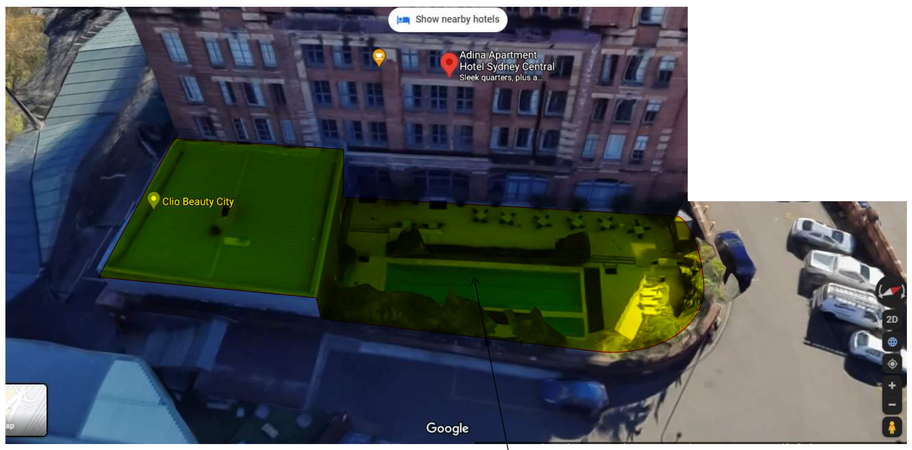
# Stage 4

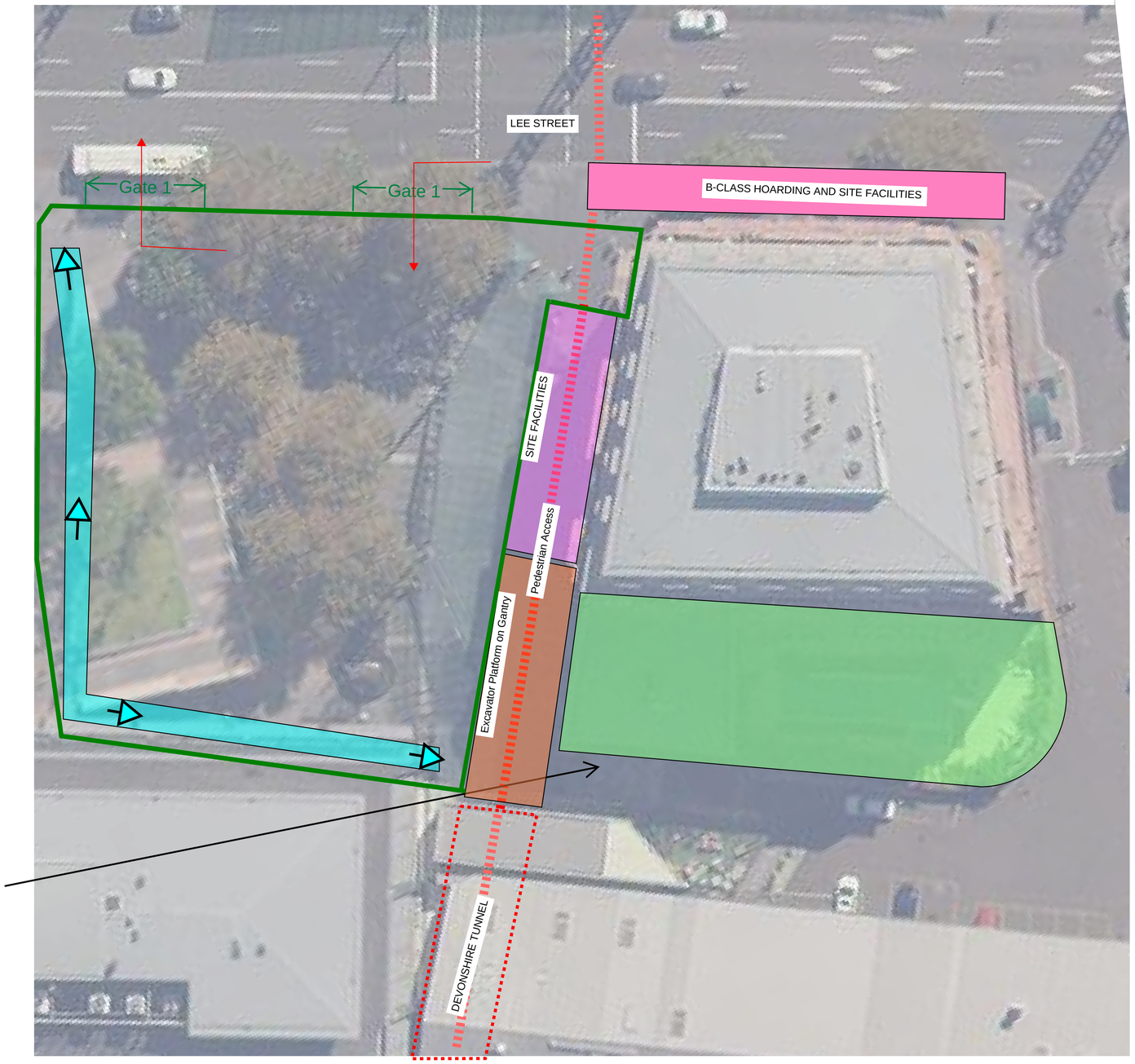
**Legend:**

Demolition of Leisure Deck

Henry Dean Plaza (HDP) Piling
(arrow indicates progress of piling)




Leisure Deck Area to be demolished

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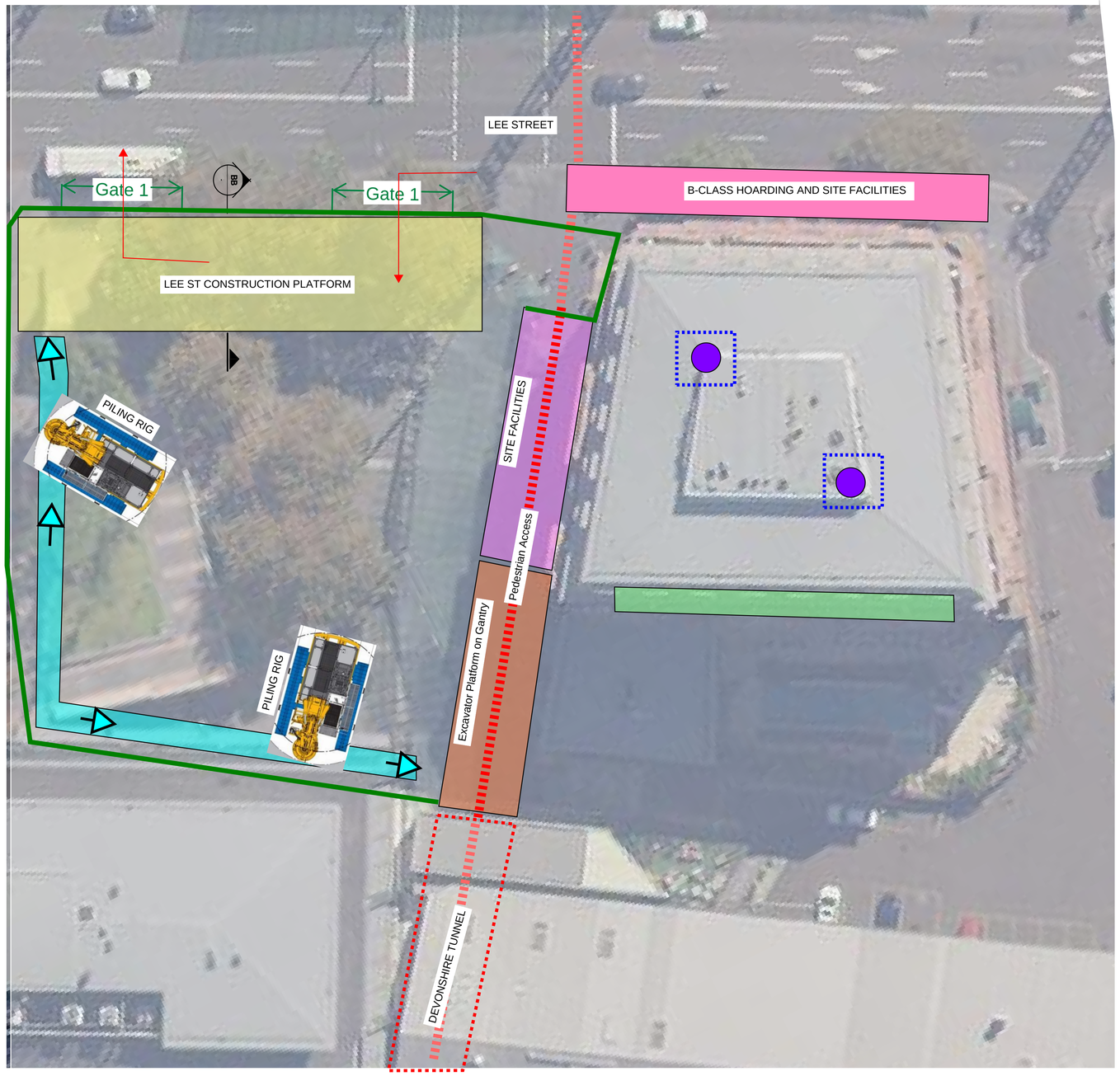
# Stage 5

**Legend:**

- Demolition of fPPB Eastern Facade and partial internal Demolition for new Superstructure
- Henry Dean Plaza (HDP) Piling
- Lee Street Construction Loading Platform
- Socket Demolition for Mega Columns


Lee Street Construction Loading Platform
(Refer to section B.B for details)

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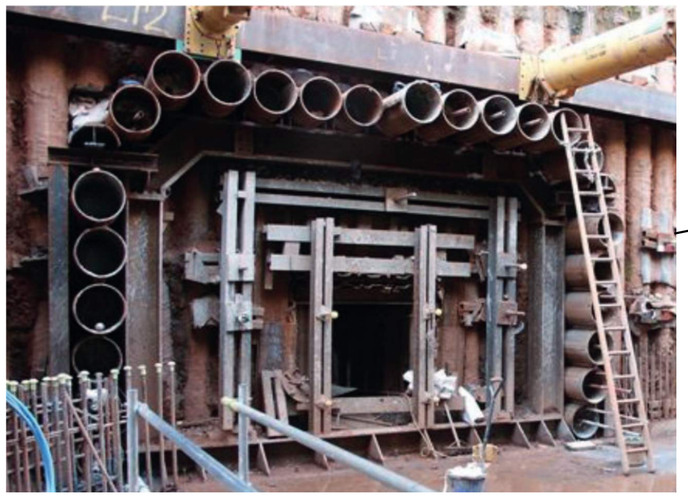
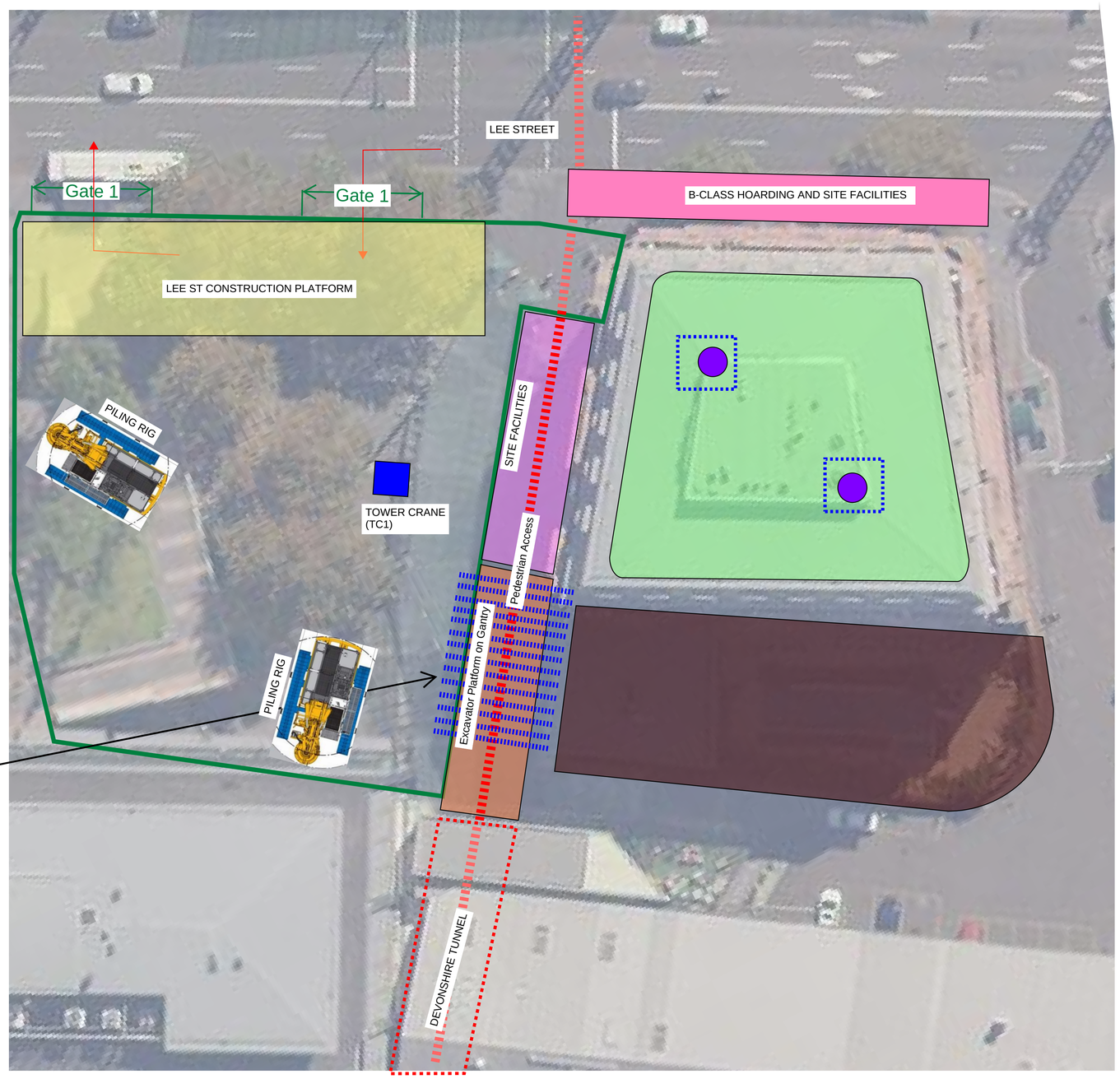
# Stage 6

**Legend:**

- Leisure Deck Excavation
- Demolition of fPPB internal
- Canopy Tube Installation



Indicative Canopy Tubes

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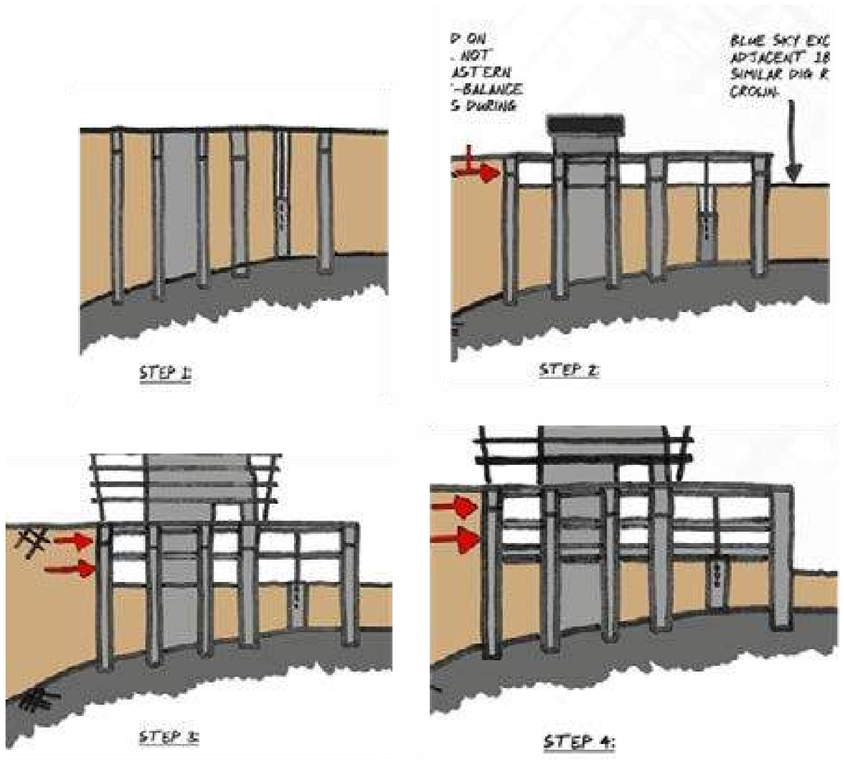
# Stage 7

**Legend:**

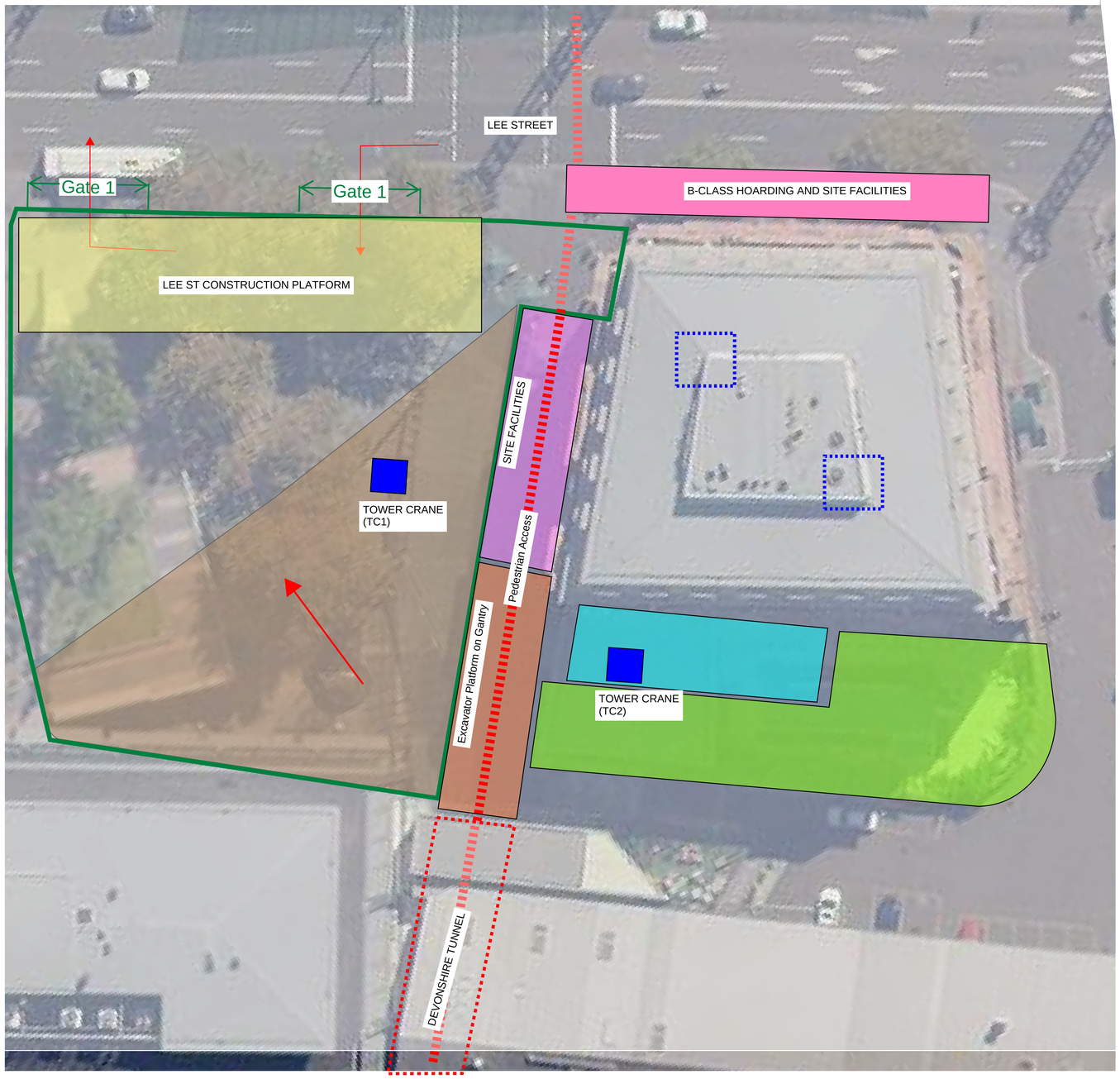
HDP Excavation

Leisure Deck (North Core) Piling and Core Formwork Setup

Prepare B1 slab for Top Down construction




Indicative Top Down Construction Sequence

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Designer
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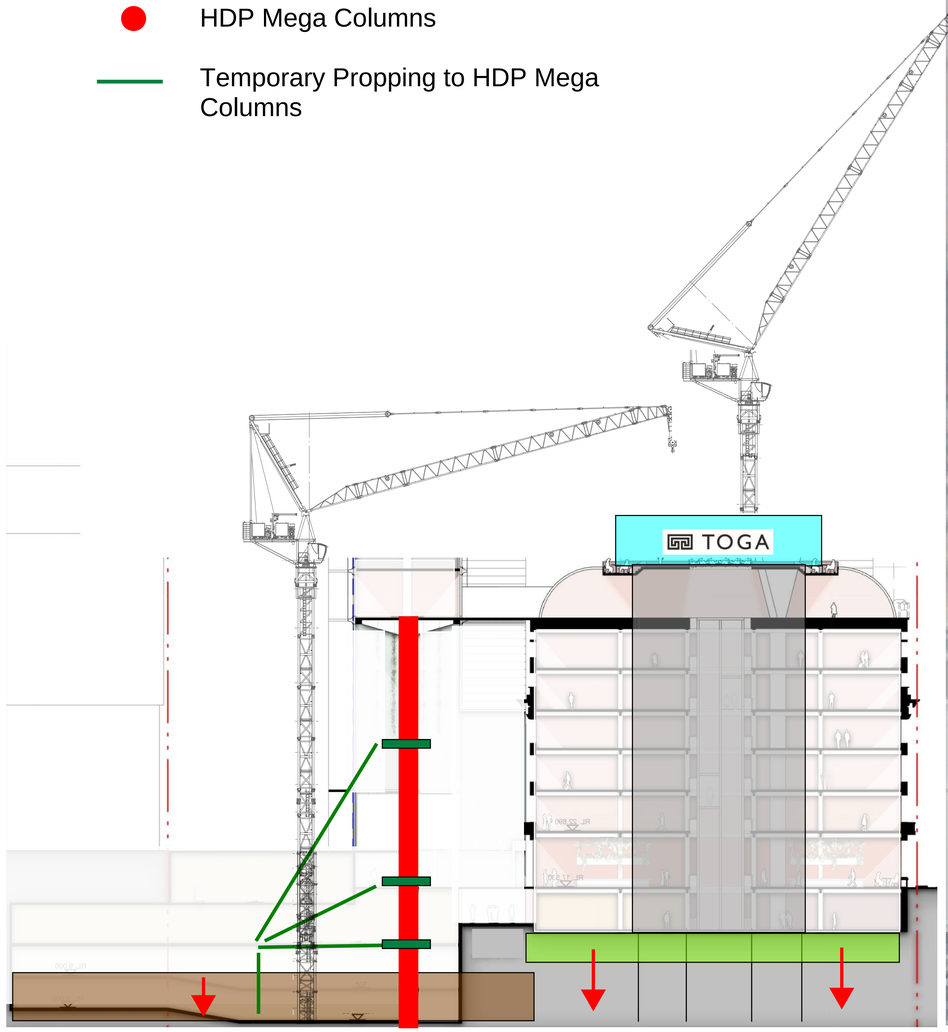
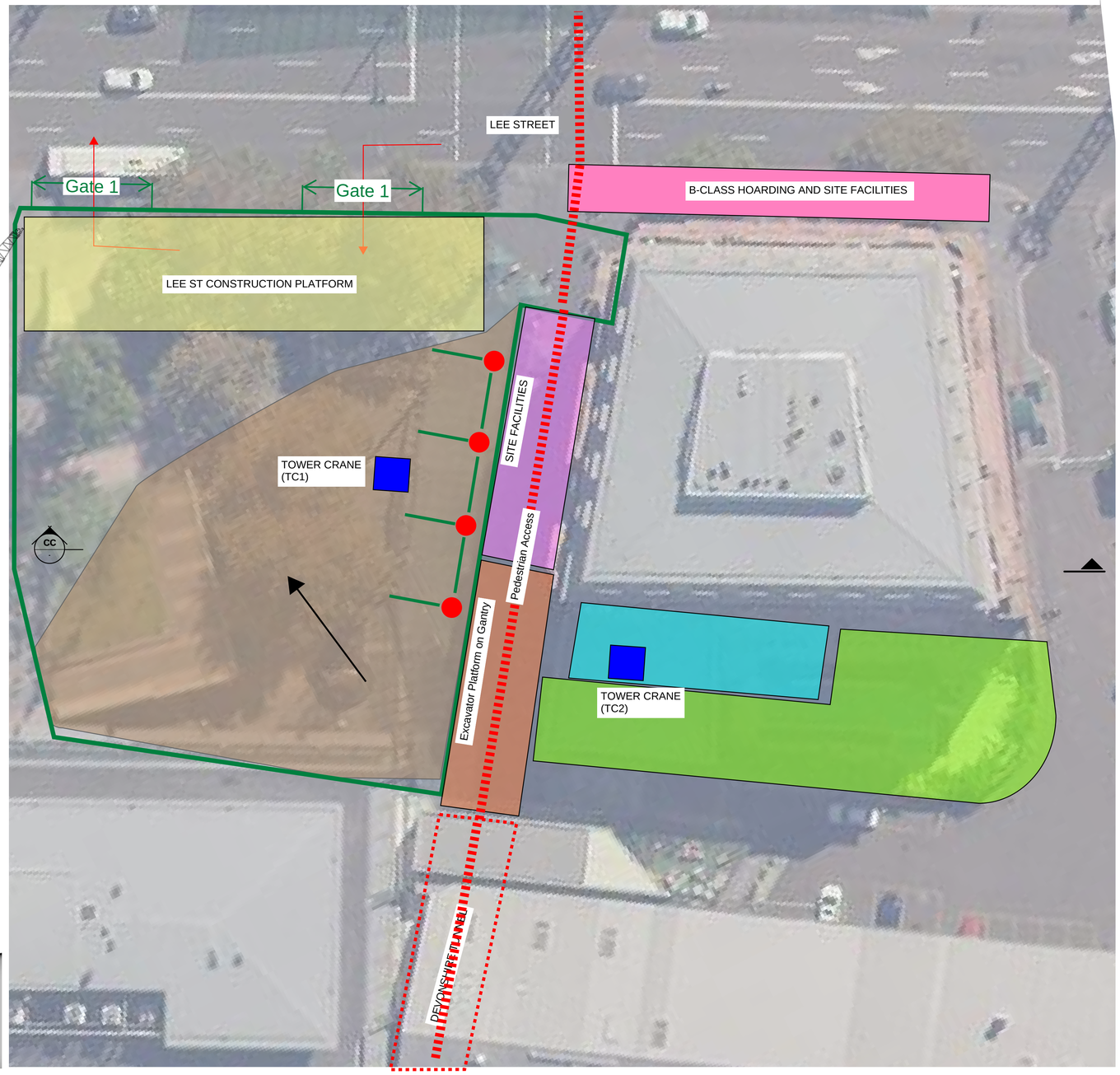
# Stage 8

**Legend:**

- HDP Excavation
- North Core Structural works (Jumpform progressing)
- Continue Top Down construction/excavation
- HDP Mega Columns
- Temporary Propping to HDP Mega Columns




Section C-C - Construction Sequence




Site Plan

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Client
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Title
CONSTRUCTION STAGING

Project
ADINA CENTRAL

Scale at A1
1:100,25

Drawn
J.CRADOCK

Design Checker
-

Date
JUNE 2022

Designer
J.CRADOCK

Approved
-

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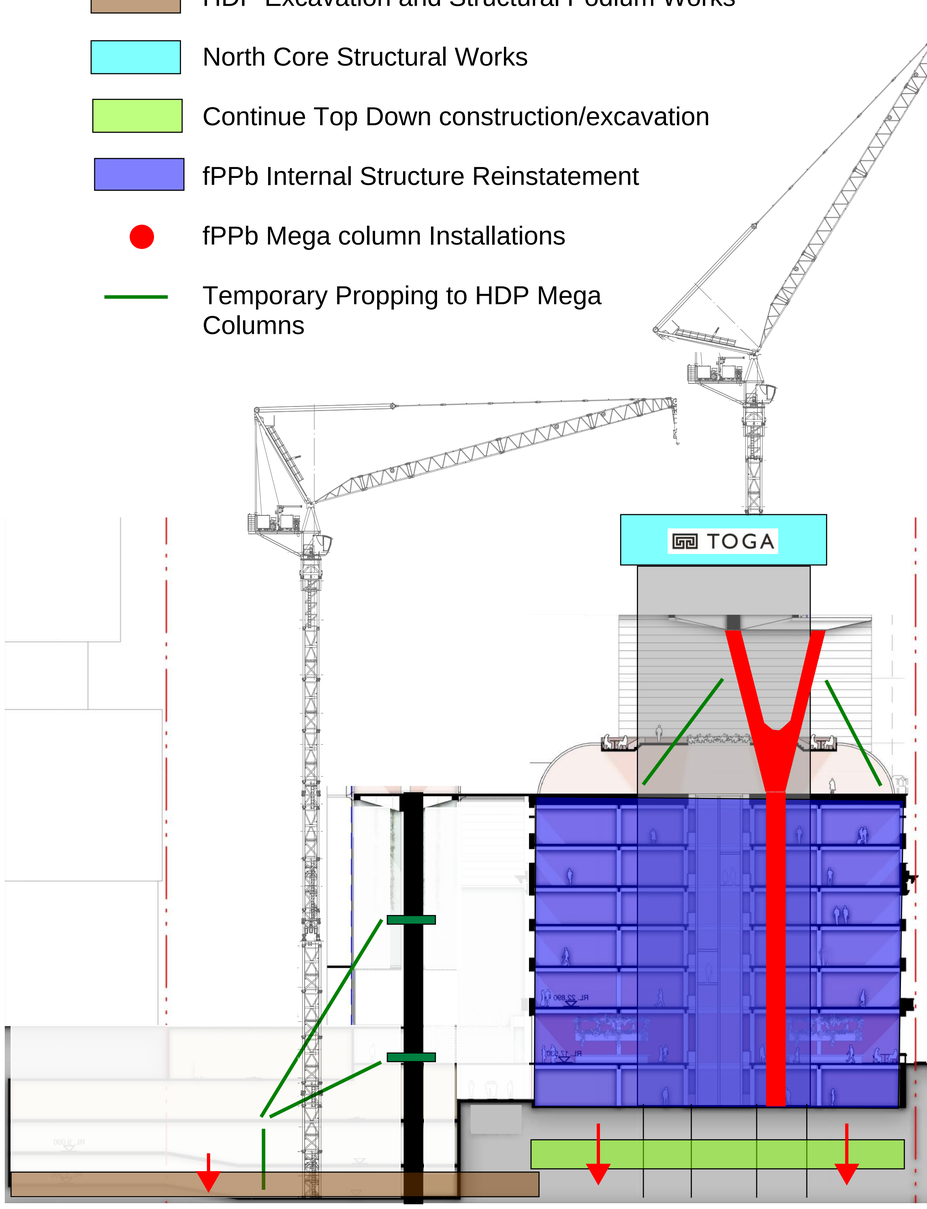
# Stage 9

**Legend:**

- HDP Excavation and Structural Podium Works
- North Core Structural Works
- Continue Top Down construction/excavation
- fPPb Internal Structure Reinstatement
- fPPb Mega column Installations
- Temporary Propping to HDP Mega Columns

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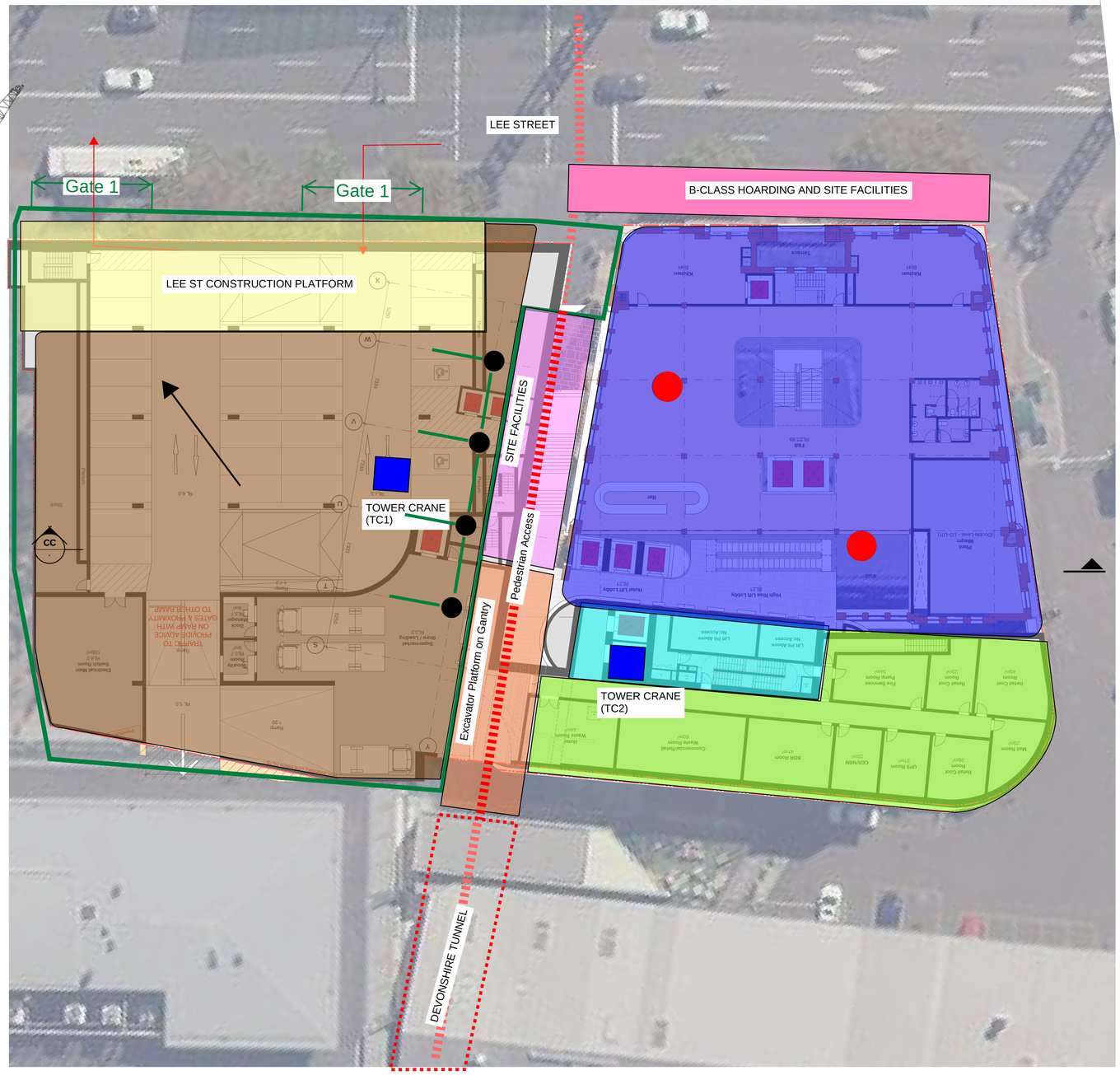


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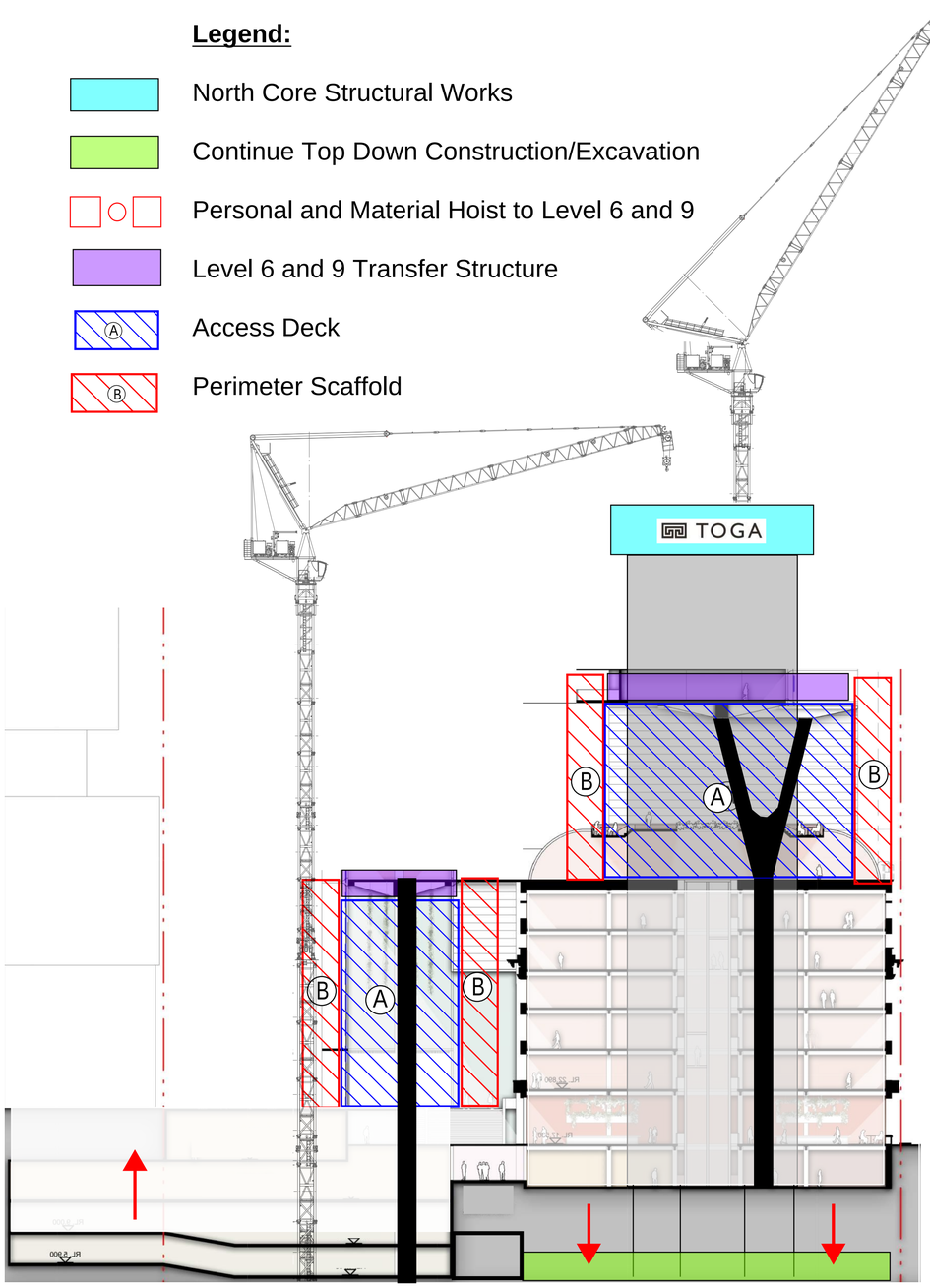
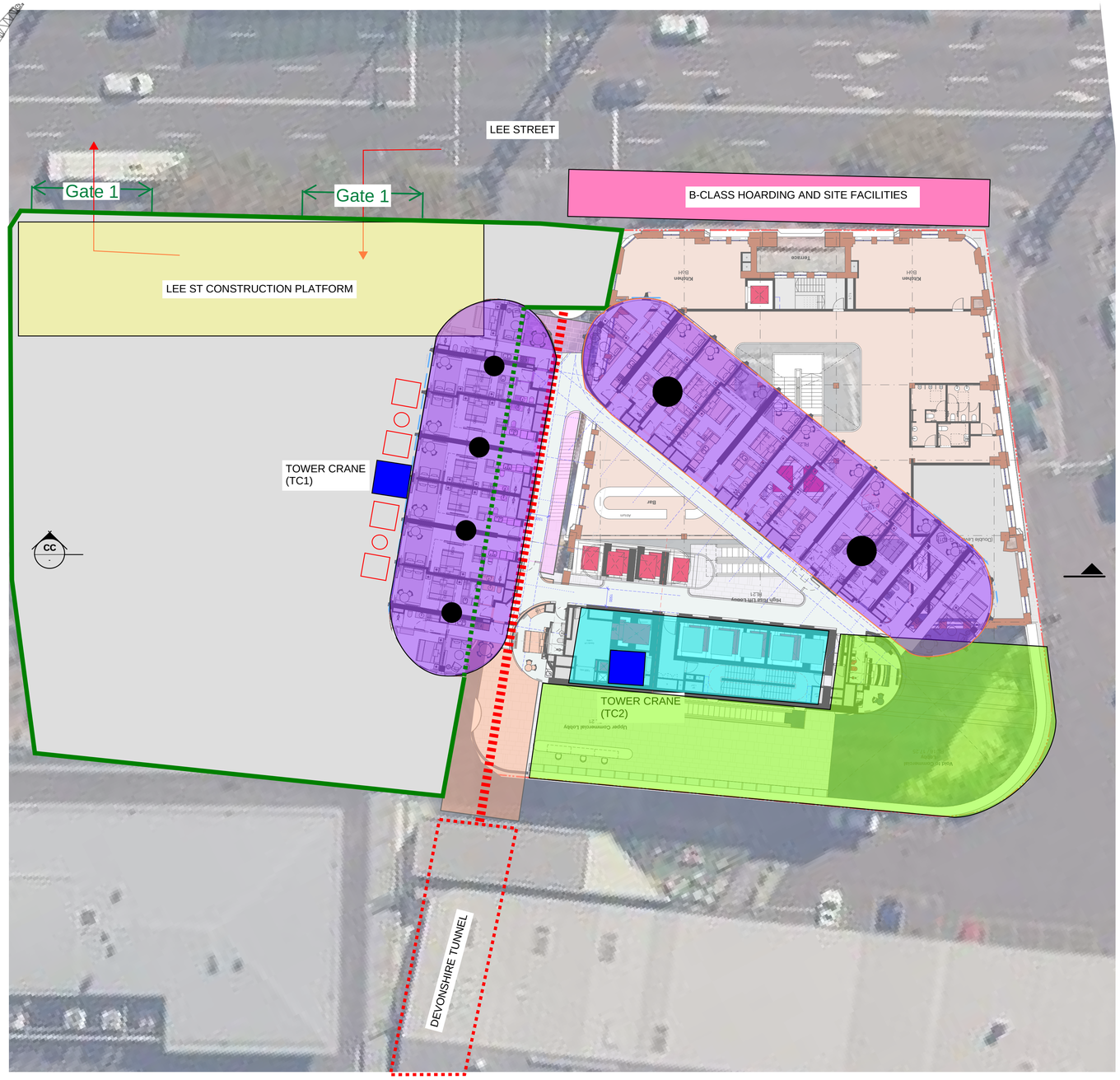
# Stage 10

**Legend:**

- North Core Structural Works
- Continue Top Down Construction/Excavation
- Personal and Material Hoist to Level 6 and 9
- Level 6 and 9 Transfer Structure
- Access Deck (A)
- Perimeter Scaffold (B)




Section C-C - Construction Sequence

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SCALE 1 2 3 4 5 6 7 8



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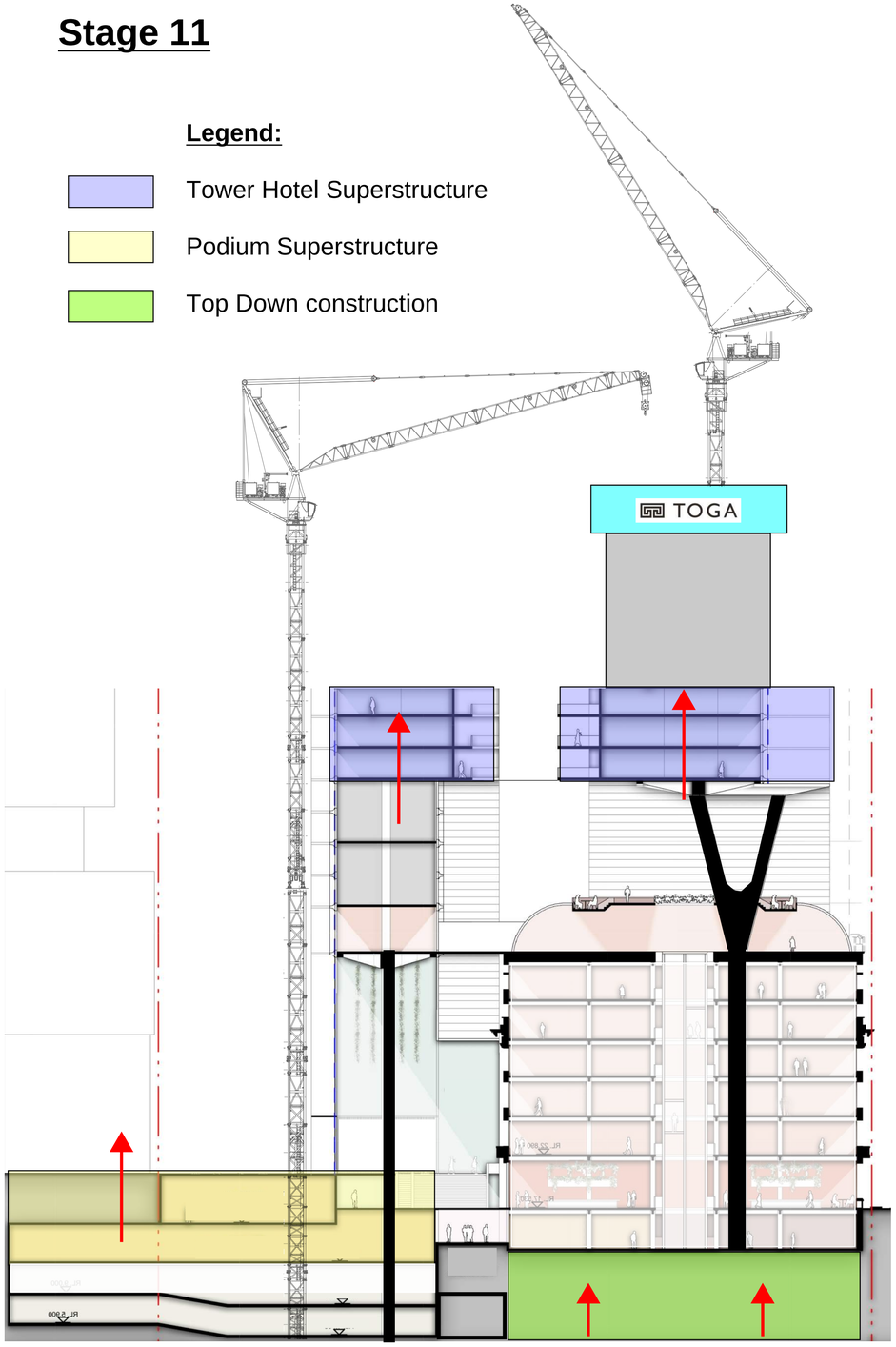
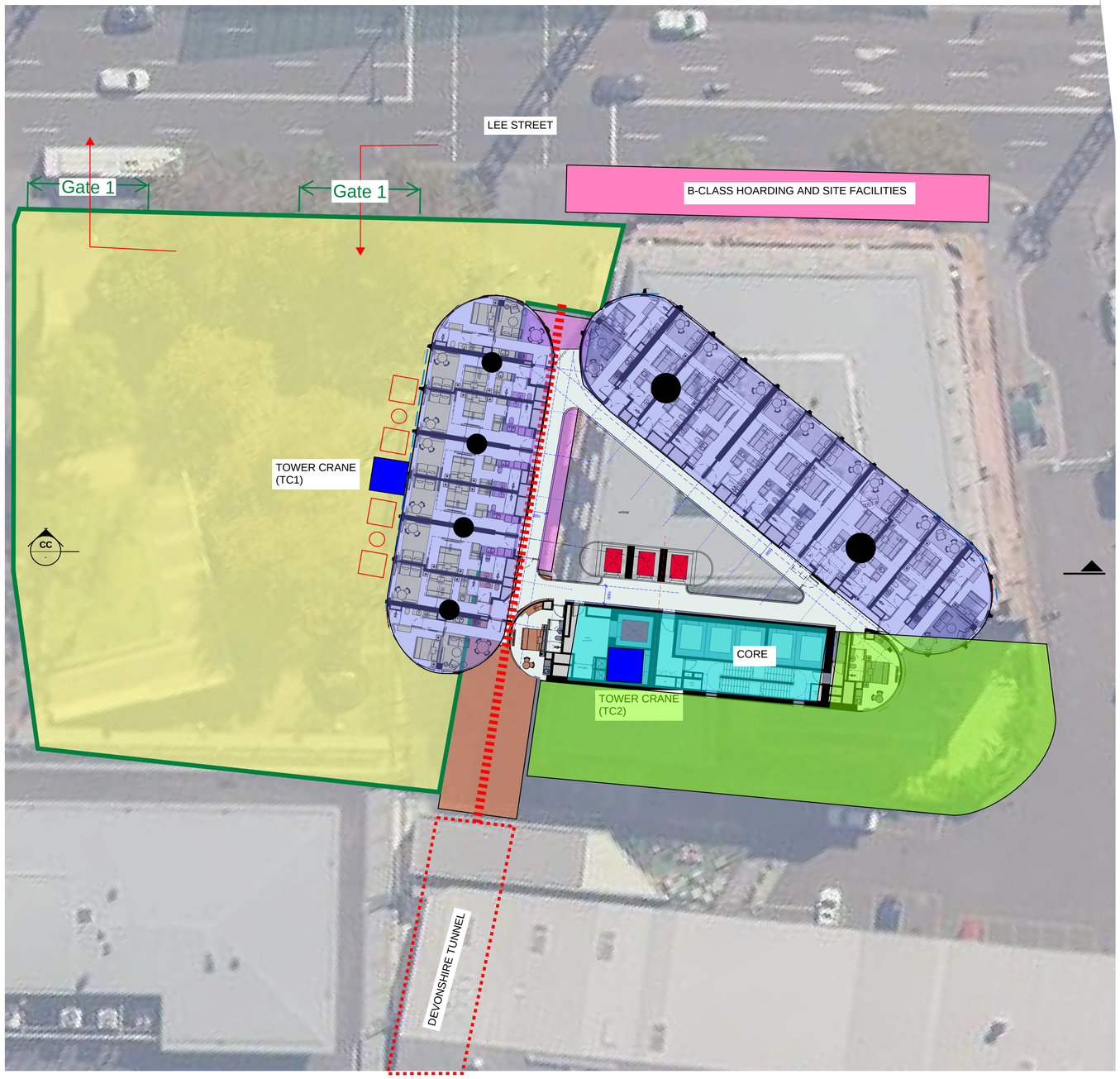
# Stage 11

**Legend:**

- Tower Hotel Superstructure
- Podium Superstructure
- Top Down construction




Section C-C - Construction Sequence

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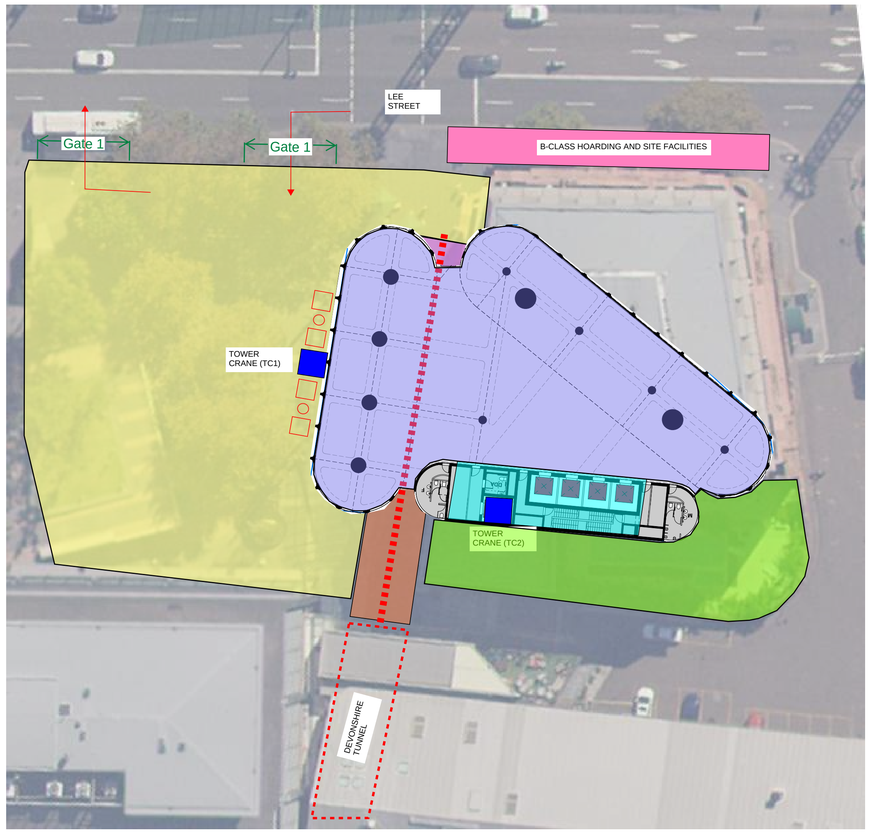
# Stage 12

**Legend:**

- Tower Hotel Superstructure
- Podium Superstructure
- Top Down construction

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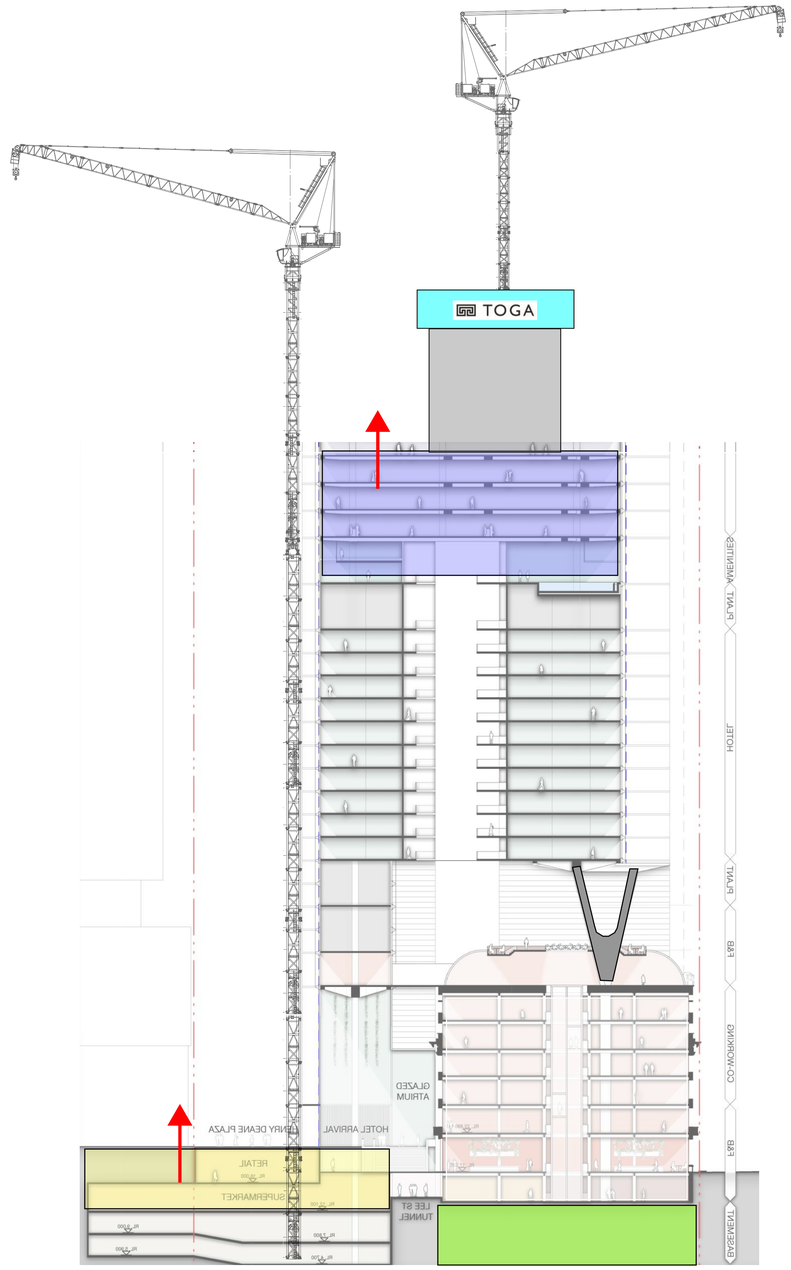


Cross Section of Construction Sequence

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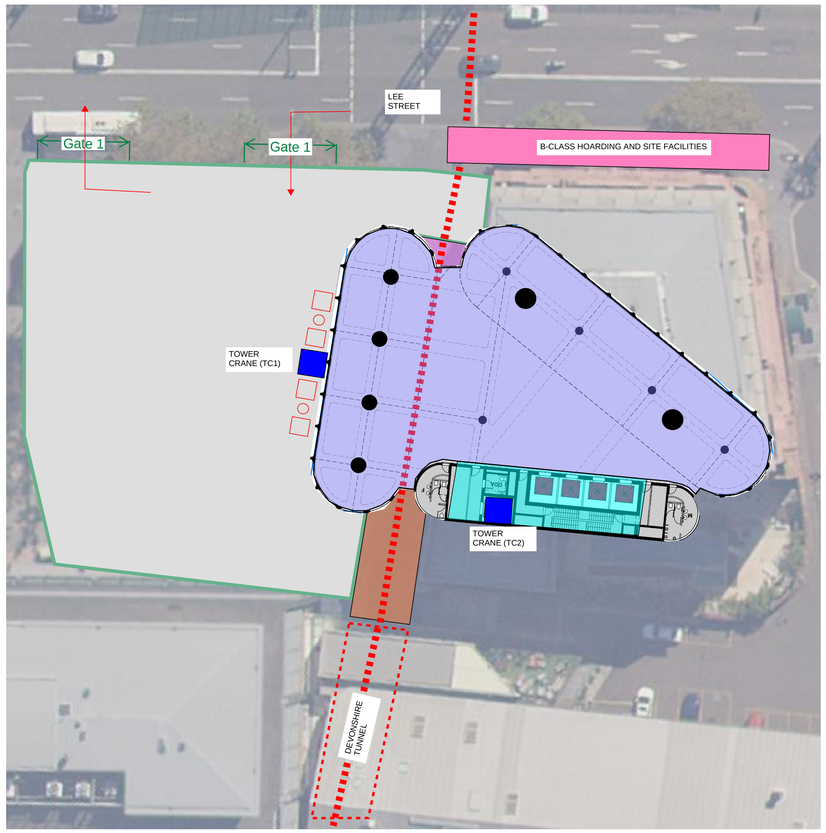
# Stage 13

**Legend:**

- Tower Commercial superstructure works
- Facade Installation
- Finishes

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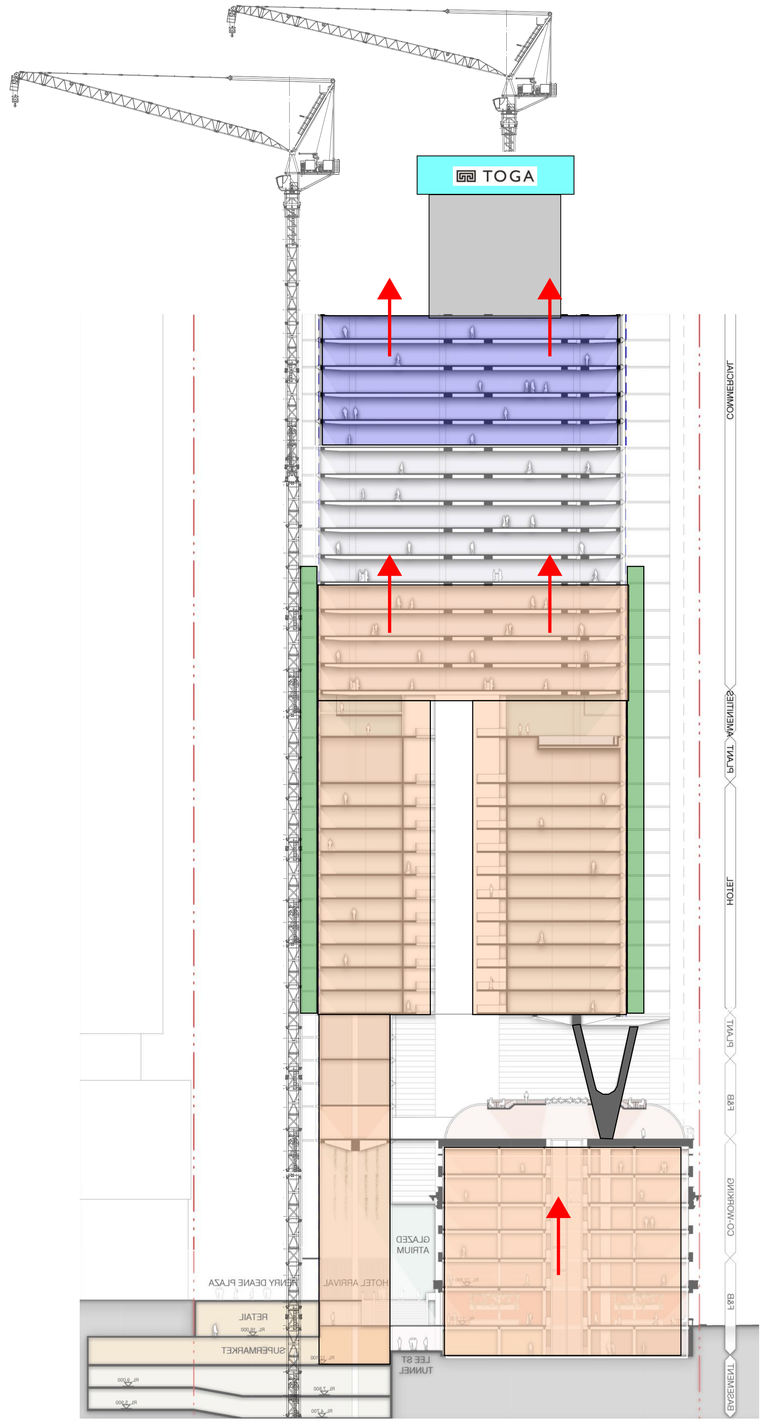


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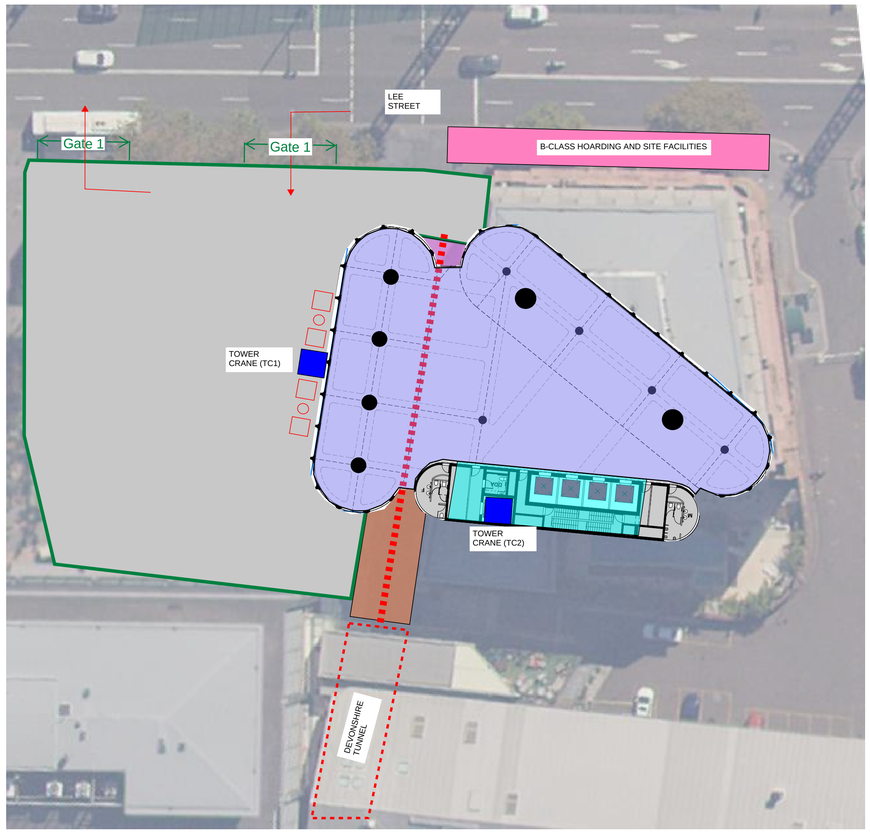
# Stage 14

**Legend:**

- Tower Roof superstructure works
- Facade Installation
- Finishes and Fit out

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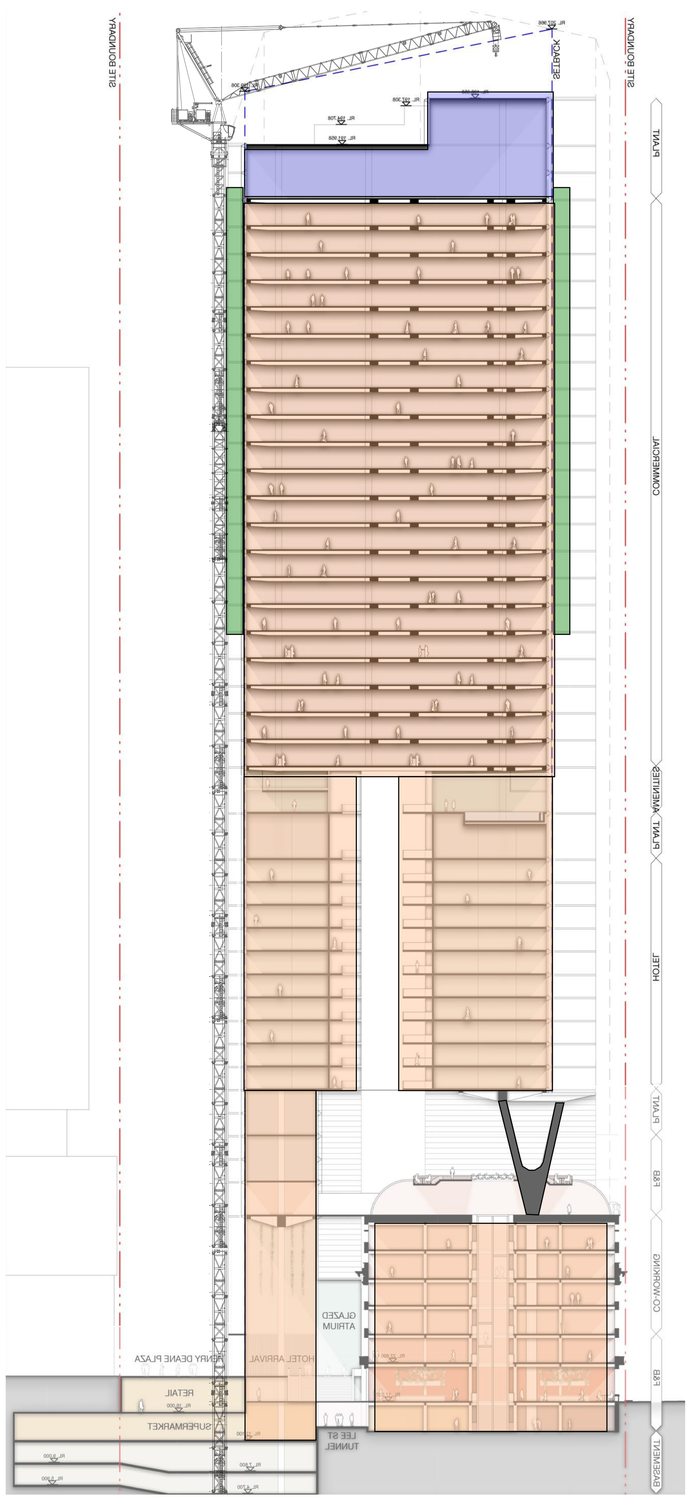


Cross Section of Construction Sequence

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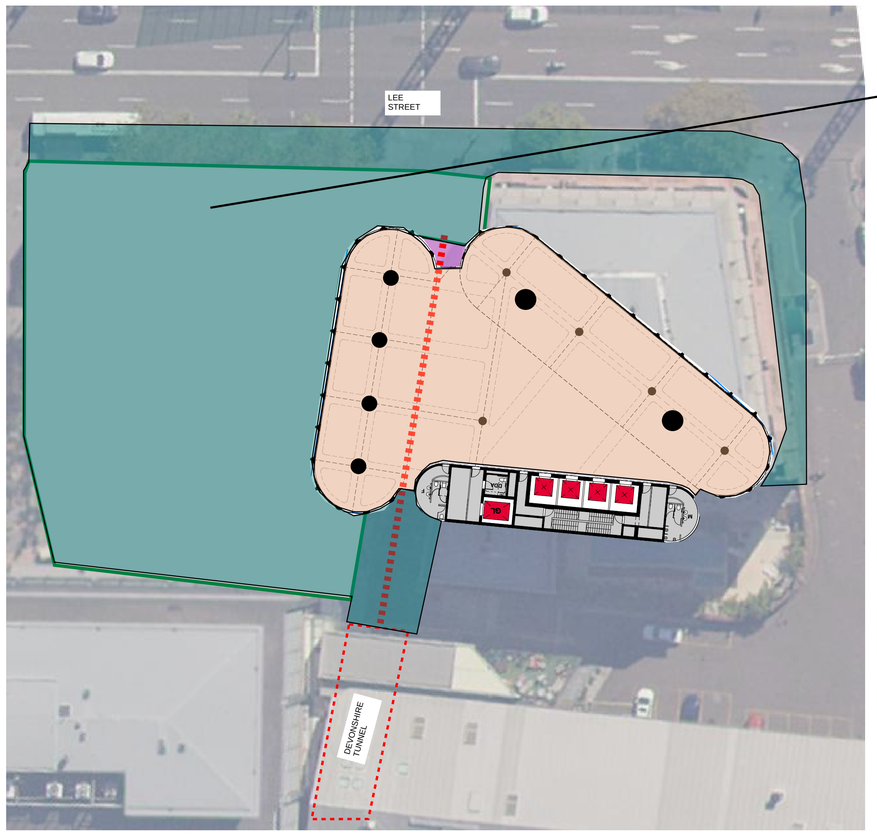
# Stage 15

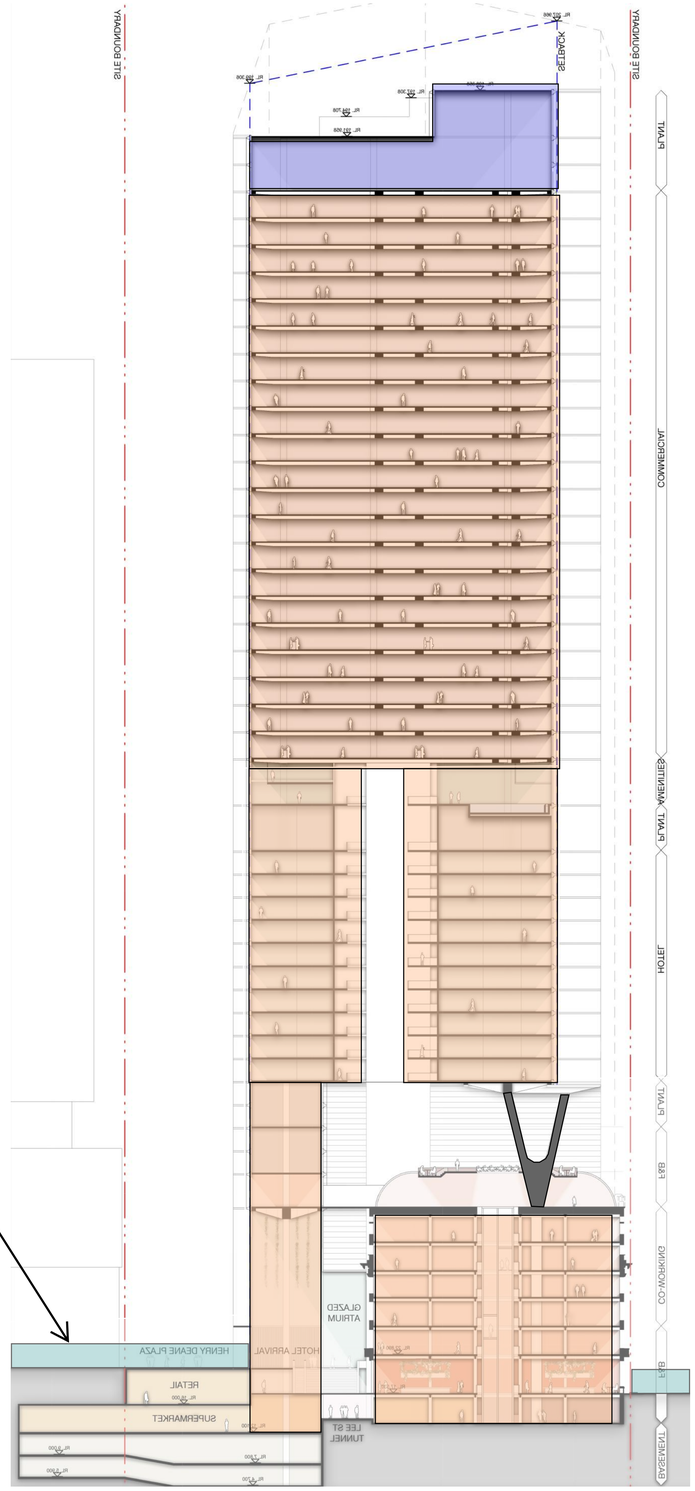
**Legend:**

Finishes and Fit out

Public Domain Works




Site Plan

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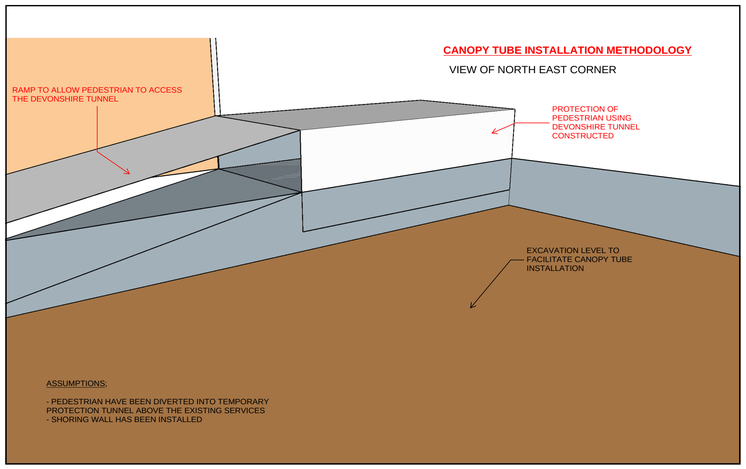
**Appendix B** Devonshire and Lee Street Tunnel Works

# CANOPY TUBE INSTALLATION METHODOLOGY

GENERAL NOTES

THIS INSTALLATION IS TO BE READ IN CONJUNCTION WITH THE OVERALL CONSTRUCTION STAGING DOCUMENTATION
ALL ELEMENTS ARE SHOWN INDICATIVELY

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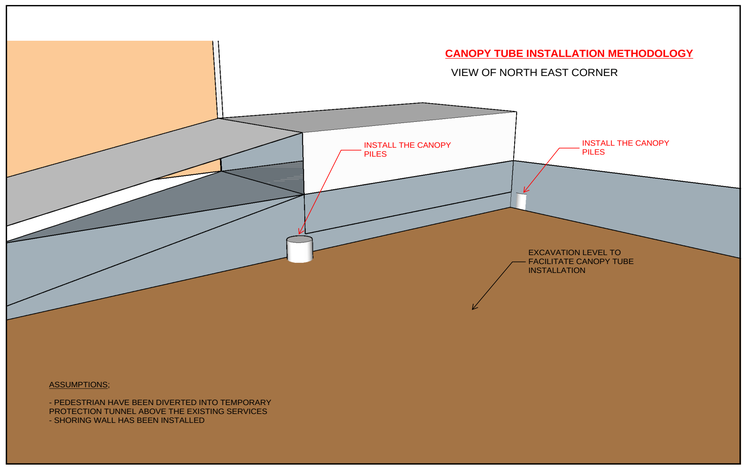


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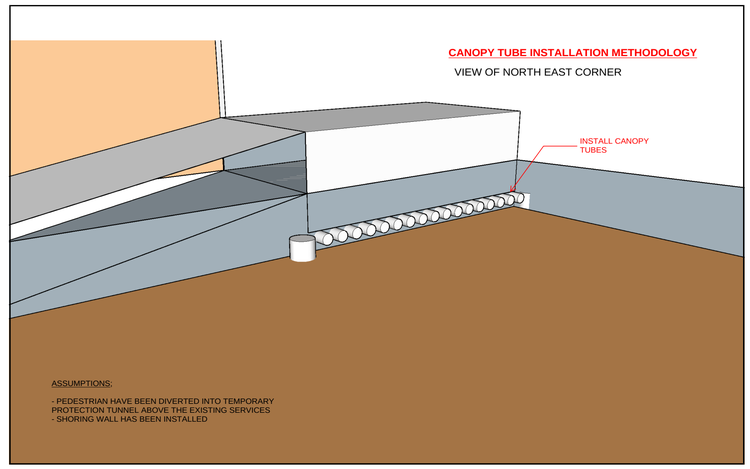


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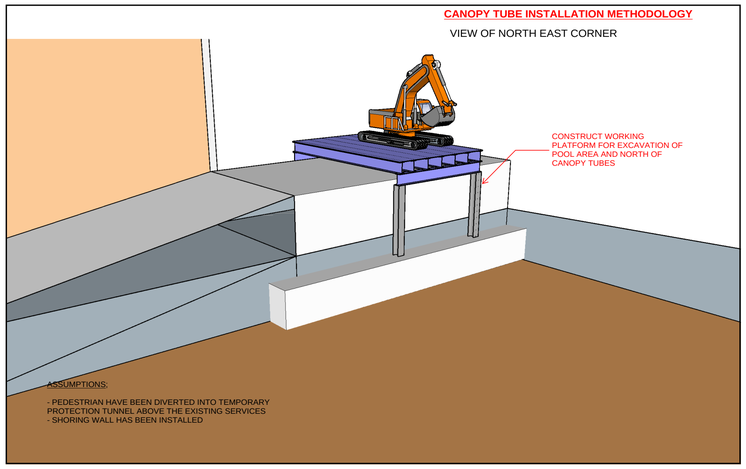


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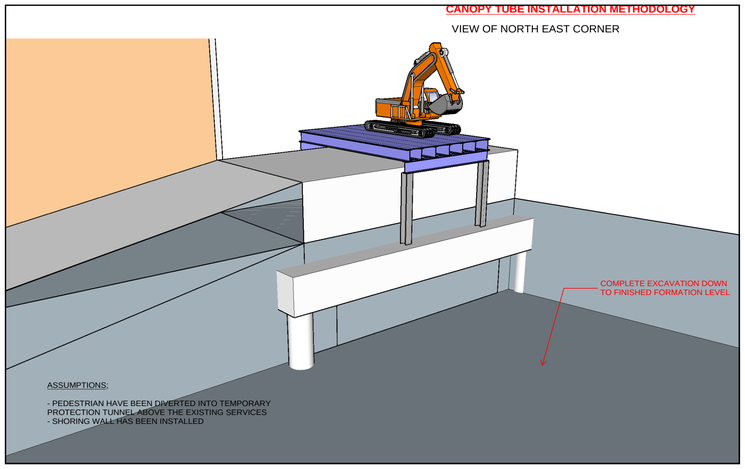


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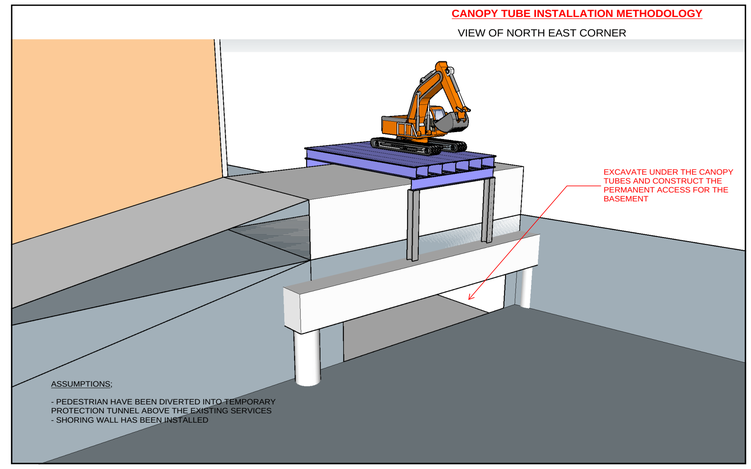


**Stage: 6**

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