Construction Environmental Management Plan

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1 Section 1 Introduction

This Construction Environmental Management Plan (CEMP) has been prepared by Brookfield Multiplex Pty Ltd for the 88 Walker St & 77-81 Berry St, North Sydney Project.

The development is on two parcels of land. The site is located at 88 Walker Street, North Sydney and 77 Berry Street, North Sydney. The 77 Berry Street site is bounded by Berry Street to the North, Little Spring Street to the East, Spring Street to the South and Denison Street to the West. The 88 Walker Street site is bounded by buildings to the North and South and Walker Street and Little Spring Street to the East and West respectively.

Both sites have existing buildings that need to be demolished. The Walker Street site will require 2 levels of excavation for basement car parking while the Berry Street site will require 4 levels of excavation.

The construction methodology and planning for the 30 level Hotel to be located at the 88 Walker Street site and 33 level mixed use commercial office and retail building at the 77-81 Berry Street site is detailed in this CEMP.

It is proposed that both buildings will be constructed concurrently.

This CEMP will form part of the Project Application and has been prepared to cover the construction management of the site during the demolition, bulk excavation and construction works. A more detailed CEMP will be prepared by the Building Contractor once appointed and prior to the Construction Certificate (CC) being issued.

2 Section 2 Objectives

The objectives of the CEMP is to:

- Ensure that the works are carried out in accordance with appropriate environmental statutory requirements
- Ensure that works are carried out in such a way as to minimize impact to the neighbouring areas
- Ensure that works are carried out in such a way as to minimize potential environmental degradation by the implementation of best environmental practice;
- Ensure that all personnel engaged in the works comply with the terms and conditions of the CEMP;
- Ensure that no change is made to the CEMP without written permission of the Project Manager
- Respond to changes in environmental and physical conditions during the proposed works through review and monitoring and control programmes in consultation with the Project Manager or their nominated representative(s);
- Ensure that corrective actions are completed in a timely manner.

3 Section 3 Building Description

The project involves the construction of two new buildings, one for commercial and the other for hotel use.

The commercial building will be positioned on the Berry Street site and the hotel building on the Walker Street site. The commercial building will be 33 storeys high and will comprise approximately 86630m2 GBA with a FSA of 60580m2. The building will be designed to provide A- Grade commercial floor space and will seek to achieve excellence in environmentally sustainable design principles.

The hotel building will be 30 storeys high and will accommodate approximately 200 hotel rooms with hotel facilities. The Proponent is seeking to achieve a 41/2 star rated hotel. The two buildings will be linked by a pedestrian sky bridge over Little Spring Street so as to provide a main street address for the commercial building (which only has lane access). The sky bridge will be approximately 4.5m above ground level.

4 Section 4 Description of Works

4.1 Early Works

The existing Berry St site contains essential services that are required to maintain the amenity for the occupants of the Beau Monde Apartments at 77 Berry St. Some of these services are:-

- Substation and switch rooms
- Fire Control Room and sprinkler booster pump /valve room
- Stormwater
- Sewer

To maintain the amenity of the Apartments, it is proposed to carry out these diversion works prior to the commencement of the main Development Works.

4.2 Demolition

The sites have existing buildings that need to be demolished to allow for the new Development. These buildings will be demolished by a suitably licensed demolition contractor. A specific CEMP will be created by the demolition contractor for these works.

***4.3** Excavation and Construction Scope*

The proposed excavation and construction works associated are summarized as follows:

- Bulk excavation of the basements
- Construction of basements
- Construction of 2 towers
- Public Domain works on Denison Street and adjacent footpaths

A specific CEMP will be created by the contractor for these works.

4.4 Site Establishment and Security

Site establishment will include the establishment of site contractor's offices, mess and toilet facilities, vehicle access, vehicle loading and unloading, lay down areas, establishment and maintenance of on-site work areas. Exclusion zones, including fenced exclusion zones to protect the heritage buildings, will be set up.

The Contractor will ensure the security of all active work areas, heritage buildings and vacant buildings to ensure the safety of the public and protection of the works.

4.5 Environmental and Safety Controls

Environmental and safety controls shall be installed by the Contractor prior to the commencement of the bulk excavation and construction works.

These will include but not be limited to:

- Security measures (fencing and gate access)
- Occupation health and safety measures (personal protective equipment, first aid supplies, signage and barriers if needed); and
- Environmental management measures (spill kits, booms, storm water control, dust control)

4.6 Protection of Heritage Buildings

Barriers/fencing are to be placed around and over heritage items to create protection and/or exclusion zones as required.

The location of the fencing will be submitted by the Contractor and approved by the Project Manager prior to the works commencing.

Site induction and tool box talks will be held by the Contractor to inform site personnel and visitors of the location and requirements for the protection of the heritage structures. Work Method Statements shall be developed by the contractor for works in close proximity to the heritage structures.

4.7 Disconnection and Blocking of Site Services

After consultation with the appropriate utility companies, services will be disconnected/made safe as necessary prior to the commencement of any demolition and recycling works; comprising:

- Disconnect gas supply and provide for future re-connection;
- Disconnect existing 'house services' sewers and protect existing sewer trunk main;
- Install new substation kiosk and re-connect existing feeds to residents and business external to the site;
- Disconnect energy services to all buildings to be demolished;
- Disconnect most existing stormwater connections and implement new temporary stormwater strategy, for management of stormwater run-off during the period of demolition and recycling, bulk excavation and construction; and
- Disconnect existing communications services and implement protection to existing services transiting the site.

4.8 Removal of Hazardous Materials from the Site Buildings

Prior to commencement of the works a Hazardous Materials Survey for the site will be completed by an appropriately qualified consultant to identify the presence and location of hazardous materials (asbestos, PCBs, lead-based paints and SMF).

Dismantling and removal of all hazardous materials from the site is to be completed prior to the demolition and recycling of buildings and will be in accordance with the Demolition Contractor's Work Plan and the Safe Work Method Statements (SWMS) for the identified hazardous materials.

The hazardous material removal work will be undertaken in accordance with relevant legislation and guidelines cited in Section 4.8.

4.8.1 Clearance Certificate

Following removal of the hazardous materials the buildings will be inspected by a qualified occupational hygienist. The occupational hygienist will issue a Clearance Certificate for each building once satisfied that all hazardous materials have been removed and appropriately disposed in accordance with relevant legislation. Demolition and recycling of a building will not commence until a Clearance Certificate has been issued.

4.8.2 Hazardous Materials Plan

A Hazardous Material Survey will be conducted at the site to identify hazardous materials located in the buildings on site. The Hazardous Materials Management Plan will identify the arrangements for the removal and disposal of potentially hazardous materials from the site, specifically asbestos. Suitably licensed disposal facilities will be used for disposal. The DCPM will track and record the disposal of hazardous materials of asbestos materials. This will be undertaken in accordance with the Protection of the Environment Operations (Waste) Regulation 2005.

4.8.2.1 Asbestos Containing Materials

Electrical backing boards will be removed whole, sealed in appropriately marked plastic bags and placed in sealed, plastic lined bins for disposal at an EPA approved waste facility. Fibro sheeting and asbestos roofing and other asbestos containing materials (gutters, flashing etc) will be removed whole and placed in plastic sealed lined bins for disposal to a NSW EPA approved waste facility. Water will be used to prevent generation of dust. The causing Bins will be labelled ‘Caution Asbestos’ in accordance with the requirements of the Protection of the Environment Operations (Waste) Regulation 2005. An accredited asbestos removal company will be used for the asbestos removal works.

4.8.2.2 Light Capacitors Containing PCBs

Light capacitors containing PCBs will be removed whole and placed in plastic bags and then placed in appropriately labelled and sealed 200 L drums. The drums will be transported for treatment and disposal to BCD Technologies in Queensland, or another approved facility.

4.8.2.3 Lead Paint Systems

Lead paint systems will be removed by manual scraping of the surfaces which will be wetted down during the works. Plastic will be placed on the ground around and under the work area. On completion of the scraping, the plastics will be rolled and placed in a sealed bin for disposal at a NSW EPA approved waste disposal facility.

4.8.3 SMF Insulation

SMF insulation will be removed and bagged in clearly marked and sealed plastic and placed in plastic lined sealed drums for disposal at a NSW EPA approved waste disposal facility.

4.9 Bulk Excavation

The bulk excavation will be undertaken using equipment in accordance with the contractor's work methods and safe work method statements and OHS Act 2000 and OHS Regulations 2001.

The rock will then be saw cut around the perimeter of the excavation using excavators fitted with rock saws. Bulldozers fitted with rippers will rip up the rock to the final level and excavators fitted with hydraulic hammers will break up the rock. Excavators will then load the material onto trucks for transporting off site.

4.10 Construction

Once the excavation works is complete, the contractor will set up the tower cranes and commence construction of the basement. It is envisaged that there will be three (3) tower cranes servicing the project. The tower cranes will be used to handle materials for the installation of the structure, services, façade, roofs. The crane location is shown in attached Proposed Material Handling Schematic.

Once the construction of the floor slabs is past the ground level, temporary perimeter screens and or scaffold will be installed around the perimeter of each of the buildings for safety as the suspended deck construction progresses.

4.11 Materials Handling

It is envisaged that the majority of materials unloading and loading during demolition and excavation will occur on site however a street construction zone on Little Spring Street and Walker Street will be required. Loading zones required to be established on existing roads, will require separate approval from the relevant Authorities.

For the buildings to be built, Construction Zones will be required for the majority of the construction building time.

The Construction Zones will be used to park trucks for the purpose of:-

- Unloading materials required for the Works.
- Load up surplus materials including waste, from the works.
- Standing a concrete pump and concrete trucks required for the Works.

To alleviate congestion to the Construction Zones and streets, once the permanent basements are constructed and stripped of formwork, trucks that can be marshaled into the basements will be directed there for unloading and or reloading of materials. Some of these activities will be:-

- Delivery of concrete trucks
- Pick up of rubbish bins
- Delivery of finishing materials such as bricks, blocks, gyprock, light fittings and generally anything else which can practically be hoisted by hoist or builders lifts rather than the tower crane to the designated floor.

Construction Zones will be required in Walker St, Little Spring St and if possible Denison St. The Denison St Construction Zone will be phased in use so as not to cause excessive traffic congestion to these surrounding streets.

Attached is the Proposed Materials Handling Schematic showing the likely locations of the required Construction Zones with associated tower crane positions.

Construction zones will take the kerb lane in all cases. The current use of the areas where the Construction Zones have been nominated is either a parking spot, or a No Stopping Zone due to driveways into the Berry Square Shopping Center which will have no purpose once construction works commence.

The need for maintaining smooth traffic flow and pedestrian safety is understood and so adequate, well informed and trained, traffic controllers will be used to ensure this occurs.

To assist the traffic flow and the traffic controllers, Site Management will ensure that all trucks are pre booked well in advance for a designated time to stop in the Construction Zones so that no unnecessary cueing occurs which will restrict traffic flow. The tower cranes will have a schedule for the anticipated truck deliveries so that they can schedule their work to minimize truck waiting time in the Construction Zones. This will be monitored by a dedicated member of the Site Management team who will be responsible for this element of works. All necessary assistance will be afforded to this member by the whole team as the smoothness of operation of these Construction Zones will benefit the Project, members of the public and surrounding business operation.

If trucks are required to cue, a designated area will be sought so as not to affect North Sydney CBD traffic.

We estimate that traffic flow generated by the construction of the development will be far less than what is currently generated by the operation of Berry Square Shopping Center loading docks and associated Secure Carpark (117 car spaces). Estimated truck movements for construction are noted in section 5.6.3 of this report.

It is understood that the Mount Street Development may also be under construction whilst the Walker Street Development is occurring. Co ordination will need to occur between the two building parties so that traffic could be managed to not adversely affect surrounding businesses and neighbors.

4.12 Street Closures

For the works to be completed safely, several temporary street closures will need to occur. These will affect Little Spring Street, Denison Street and Walker Street. These closures will be well planned and documented in advance, coordinated with Council and other statutory authorities. Public that may be affected by these closures will be notified and consulted with as to alternate arrangements.

Some of the activities that will require these closures are:-

- Erecting and dismantling tower cranes
- Removal of existing pedestrian bridge over Denison Street to the Berry Square Shopping Centre.
- Diversion of statutory authority services and utilities in various surrounding streets.
- Installation of a new bridge linking the Hotel to the Commercial building in Little Spring Street.
- Reconfiguring southern end of Denison Street and carrying out hard and soft landscaping works.

- Reconfiguring of western end of Spring Street to carry out hard landscaping works.
- Excavation and construction of under ground tunnel linking the basements of the Commercial building and the Hotel.

Most of these closures should occur at non peak traffic times. In regards to the last three items, these works will not be able to be carried out in non peak traffic times due to their nature and extent. To minimize the impact on traffic and maintain access to driveways, these works may be carried out when the new laneway connecting Little Spring Street and Denison Street through the Development is open to the public and traffic. This will resolve most of the traffic issues. Attached is a sketch showing the Proposed Traffic Flows with Laneway open and whilst these works are occurring.

4.13 Work Programme and Working Hours

The working hours granted is of fundamental importance to the timely completion of the development.
The anticipated working hours of construction and work on the development would be as per CoS standard conditions, and are quoted below for clarity:-

> *"The hours of construction and work on the development must be as follows:*
>
> > *(a) All work, including demolition, excavation and building work, and activities in the vicinity of the site generating noise associated with preparation for the commencement of work (e.g. loading and unloading of goods, transferring of tools, etc) in connection with the proposed development must only be carried out between the hours of 7.00am and 7.00pm on Monday to Fridays, inclusive, and 7.00am and 5.00pm on Saturdays, and no work must be carried out on Sundays or Public Holidays.*
> >
> > *(b) All work, including, demolition, excavation and building work must comply with the City of Sydney Code of Practice for Construction Hours/ Noise 1992 and Australian Standard 2436-1981 'Guide to Noise Control on Construction, Maintenance and Demolition Sites'."*

With these hours, the following is a summary of the Works Program:-

- Early Works - 6 months
- Decant 88 Walker St and Berry Square
- Demolish existing buildings – 4 months
- Excavate for Basements – 6 months
- Construct Structures 20 months
- Finishing works to buildings – 10 months
- Hard and soft landscapes – 4 months
- New Lane way open 5 months before Project Completion.

Some Work activities noted above will be occurring concurrently, and it is anticipated that the Construction period will be approximately 38 months

5 Section 5 Environmental Management Plans

The bulk excavation and construction works will be undertaken in accordance with the CEMP. The following EMPs are provided separately by other Consultants:

- Heritage Impact statement - Details to be provided by NBRS + Partners
- Stormwater and Sediment Control Plan – Details to be provided by Connell Wagner
- Traffic Management Plan – To be provided by Contractor prior to issue of the Construction Certificate.

Prior to the commencement of construction works, a site specific Health and Safety Plan will be prepared by the Contractor and implemented for the site

This document and the associated reports provide the generic conditions which will be augmented with more detail by the Contractor.

5.1 Heritage and Archaeology Plan

To ensure the adequate protection of the Fire Station Hotel, the following activities will be undertaken:

- Protection barriers are to be installed by the Contractor to strategic areas of the heritage buildings to ensure protection during the works
- Work method statements will be prepared by the Contractor to detail works in the immediate vicinity of the heritage buildings

5.2 Noise and Vibration Management Plan

The contractor shall provide a Noise and Vibration Management Plan prior to the commencement of the works.

All works will comply with The Environmental Protection Authority guidelines for noise emissions from construction/ demolition works and the provisions of the Protection of Environmental Operations Act 1997.

The following noise management measures will be implemented during the construction works:

- The Contractor shall set up noise and vibration monitors around the site at locations identified by the Acoustic Consultant as sensitive areas and high risk areas.
- Works on site will only be carried during approved hours
- The Contractor will be responsible for scheduling activities that generate high noise to short term duration wherever possible and practical
- Establishment of site practices and strategic positioning of processes on site
- Establishment of direct communication with affected Parties

Vibration monitoring will be used:

- At the commencement of a new activity near a sensitive structure, establish and confirm safe working distances from the sensitive structure

- When activity identified as producing significant ground vibration is occurring within the safe working distance established, continuously record vibration levels at sensitive structures using unattended vibration loggers. These will also provide a visual/audible alarm when vibration limits are approached
- When operating very close to sensitive structures, attended monitoring is to ensure that any preventative action is taken immediately to prevent the targets from being exceeded.

Where a monitor alarm is activated, the following actions shall be undertaken:

- All vibration producing works in the vicinity of the alarm shall cease immediately
- Cause of the exceednce shall be investigated immediately
- If the cause of the event is likely to be caused again, or if another alarm is triggered, then the acoustic specialist should be advised and further action taken place before works recommence.
- One of two courses of action can then follow:
- If attended monitoring is established the activity can continue with the attended monitoring confirming that even if the alarm level is exceeded the works can proceed provided the vibration limits are not exceeded
- Work practices are modified and attended monitoring used to confirm the vibration limits are being achieved, before returning to unattended monitoring

The 2 stages of construction that will generate the most noise are:

- Demolition of the 2 buildings
- Excavation of the commercial and hotel basement car park

Demolition will be carried out with the use of heavy plant equipment. Where possible all plant will have necessary noise suppression equipment fitted. During demolition noise and vibration monitoring will be carried out by an Acoustic Consultant.

Excavation will be carried out with the use of heavy plant equipment. Where possible all external faces of the excavation will be saw cut to reduce excessive vibration for the amenity of adjoining neighbours. Where possible all plant will have necessary noise suppression equipment fitted. During excavation noise and vibration monitoring will be carried out by an Acoustic Consultant.

A register of noise complaints should be maintained by the Contractor.

5.3 Air Quality Management Plan

A detailed Air Quality Management Plan shall be prepared by the Contractor prior to the commencement of works.

The following air quality management measures will be adopted during the construction works:

- Dust emissions will be controlled by the use of water spraying when required;
- Concrete decks to be kept clean to reduce dust emissions
- All motorized equipment used on the site will be selected on the basis of its noise performance and will comply with regulatory standards for noise generation;
- High efficiency mufflers are to be installed for major plant items particularly those that would be used for long periods on the project to reduce construction noise;
- Equipment will be operated in a proper, efficient and correct manner which includes proper maintenance in order to control noise and associated exhaust emissions;

- Odour emissions from the site which could adversely affect air quality or the amenity of the local area to be monitored
- No materials will be burnt on site.

5.4 Soil and Water Management Plan

The Stormwater and Sediment Control plan is to be prepared by the Contractor prior to the commencement of the works and shall include measures to ensure compliance with the Protection of the Environment Operations Act (2000), as amended, and other relevant legislation. The SSC shall include a plan showing the location of the sediment controls to be implemented by the Contractor with the following measures to be adopted:

- Provide temporary drainage channels and detention pondage to appropriately manage stormwater
- Stormwater drain grates will be wrapped in filtration medium. The filtration medium will be periodically cleaned and changed as and when required;
- Diversion drains will be constructed to minimize runoff from rainfall flowing into the works area. Stormwater diversion drains are to be constructed in the vicinity of areas to be excavated to minimize water flow into excavations;
- Regular visual inspection of the site drainage system will be undertaken by the Contractor

5.5 Waste Management Plan

The Contractor shall prepare the Waste Management Plan (WMP) prior to the commencement of works.

The Contractor shall retain waste records and submit quarterly reports to the Project Manager. As a minimum, the Contractor shall reuse or recycle 80% (by mass) of the construction waste.

5.5.1 Demolition waste

All demolition and recycling works will be conducted in accordance with AS2601 – 2001 (The Demolition of Structures) and OHS Act 2000, OHS Regulation 2001. All personnel will be inducted in accordance with the approved Safe Work Method Statement before commencing works on site. The Site Manager for the project will be a Workcover Class 1 Demolition Supervisor. There will be an average of 15 to 20 personnel engaged in the demolition, recycling and hazardous materials removal related works at any one time. All waste will be kept with in the site confines.
Demolition will be phased so as to ensure that different types of materials are not contaminated to all as much recycling as possible.

Estimated quantities of demolition and recycling material are summarised in the following table.

Concrete/Brick	3600 tonnes
Rubbish	1000 tonnes
Steel	200 tonnes

5.5.2 Construction Waste

During excavation all trucks will be required to exit the site via a dedicated gate. This gate will have facilities such that loads are covered and wheels are free of sediment.

All construction waste will be separated as much as possible and waste will be minimised by ensuring that all construction waste packaging be returned to the suppliers of all manufactured items.

5.6 Traffic Management Plan

The Contractor shall prepare a Traffic Management Plan (TMP) prior to the commencement of works.

Traffic will generally be managed at the site in the following way:

- Designated transport routes shall be communicated to all personnel
- Strict scheduling of vehicle movements is to occur to minimize vehicles waiting off the site
- Site workers are to utilize local public transport and car sharing wherever possible

The initial part of the development involves the demolition of the existing buildings located at 88 Walker Street and the shopping centre at 77-81 Berry Street, which will involve the movement of construction vehicles and pedestrian management measures.

Daily construction activity on the site is scheduled to occur as detailed in the consent conditions. No work shall be conducted on the site during Sundays or Public Holidays. Vehicular movements associated with construction will only operate within these hours, which will be defined by the Conditions of Consent. All works will be undertaken within the site, other than the unloading of materials, which will require the provision Works Zone within the Walker Street and Little Spring Street frontages.

No tracked vehicles will be permitted or required on any paved roads. Public roads and access points will not be obstructed by any materials, vehicles, refuse skips or the like, under any circumstances. It is anticipated that all works will be carried out within the site and will require the provision of B-Class hoardings along all boundaries of the site.

If there is a requirement to operate any material handling machinery on public access roads, the contractor will be required to seek Council or police approval prior to the event occurring. All associated requirements and regulations relative to such work will be satisfied.

5.6.1 Road Network

The road network serving the site comprises:

- Walker Street, .
- Little Spring Street and,
- Spring Street.

Road network will be further detailed by the contractor.

5.6.2 General Requirements

There will be some heavy vehicles arriving and departing the site each day during the demolition and construction stages of the works. All vehicles transporting loose materials will ensure the entire load is covered by means of a tarpaulin or similar impervious material. The vehicle driver will take all precautions to prevent any excess dust or dirt particles depositing onto the roadway during travel to

and from the site. The respective trades will be inducted by the head contractor into the above procedures and will monitor their trucks entering and exiting the works zones to ensure the procedures are met.

The appointed contractors and suppliers within the site will ensure that the entry and exit points will be kept free from material that has been deposited by any site vehicles. The contractor will monitor the roadways leading to and from the site on a daily basis and take all necessary steps to have rectified any adversely impacted roads pavements caused by site vehicles. The roads will also be cleaned on a regular basis when required to minimize dirt particles depositing externally from the site.

Vehicles operating to, and from and within the site shall do so in a manner, which does not create unreasonable or unnecessary noise or vibration. No vehicle will cause interference to any adjoining property or business.

Truck movements associated with the demolition and construction processes will approach the site from Berry Street or Walker Street and will use Little Spring Street and Spring Street respectively so that a straight approach to the site frontages can be achieved. Exiting vehicles would use Denison Street and Walker Street in order to travel towards Berry Street.

Vehicle access routes are contained in attached Construction Traffic flow Schematic.

5.6.3 Truck Movements

The envisaged truck arrivals to site will be:

Excavation –	25 - 40 per day
Demolition -	5 - 10 per day
Structure -	3 – 5 per day
Concrete Pour -	5 – 40 per day (on pour days only)
Fit out -	5 - 15 per day (mainly within loading dock)

5.6.4 Traffic Facilities Plan

The proposed works will involve the provision of an access driveway within the Spring Street frontage and works zones will be required along the part of the Walker Street frontage and Little Spring Street. The site access and Works Zone will require the use of accredited Traffic Controllers to monitor and control vehicle movements. Details of the access, Works Zone and crane location are illustrated on the Proposed Materials Handling Schematic.

5.7 Health and Safety Management Plan

A detailed Health and safety Management Plan (HASP), which will include a health and safety risk assessment for the planned construction works shall be prepared by the Contractor prior to the CC being issued

. The HASP shall include, but not be limited to:

- Name key personnel responsible for site safety;
- Emergency contact details and procedures;
- Identify and describe the risks associated with each operation conducted;
- Describe actions to be taken to mitigate risks and hazards;
- Confirm that on-site personnel are adequately trained to perform their job responsibilities;
- Describe personal protective clothing and equipment that will be worn by personnel;

5.8 Pedestrian Safety

Pedestrian and cyclist safety is of utmost importance to all stakeholders and the plan to safeguard their protection is detailed below.

Different stages of the Works will require different types of Hoardings. The scenario will be different for each building.

5.8.1 Commercial

During the demolition stage, a B Class Hoarding and a 5 board heavy duty scaffold to the perimeter of the existing building will be required to allow the works to be completed safely. The existing building is built to the boundaries of the property.

The footpath in Little Spring St and Dennison is about 1.2 to 1.6m wide. This width will not be sufficient for a safe B Class hoarding to be erected and allow for pedestrian access underneath. It is proposed that the footpath be closed to pedestrian access, an A Class hoarding be erected and the 5 board heavy duty scaffold be erected from the footpath to encapsulate the existing building for demolition.

To maximize public and pedestrian safety, we would propose a similar situation to the Spring St frontage of the building, that is close the footpath to pedestrian traffic and erect an A class Hoarding to 250mm in from the kerb line. This footpath area would also facilitate standing trucks to load them of the demolition rubble, hence minimizing the need to use streets to stand trucks for loading of rubble.

To facilitate pedestrians using the alternate side footpaths, we would suggest the installation of a raised pedestrian crossing in Little Spring St similar to the ones that exist in Dennison St. Adequate signage will be provided by the Contractor to inform pedestrians to this effect.

During the excavation stage, the hoardings as proposed for the demolition stage will remain. The A Class hoardings will facilitate the safer installation of shoring to maintain the integrity of the surrounding footpaths to allow the excavation to occur through the soft layers of material near the surface.

These hoarding layouts will also be needed for the structure stage of the works for the following reasons:-

- The new podium is built to the boundary alignment on two of the three frontages. For OH&S purposes the construction will require access from the footpath side. Given the narrow widths of the Little Spring St and Dennison St footpaths, the most practical and safe solution would be the A Class Hoarding at the kerb with the footpath closed.
- By maintaining the A Class in Little Spring St, it keeps pedestrians away from the construction site and truck access and egresses from site thus facilitating better public safety.

5.8.2 Hotel

The site for the Hotel has a reasonably wide footpath on Walker St and a 1.2m narrow footpath on Little Spring St.

It is proposed that a B Class Hoarding be erected on the Walker St and frontage and a modified B Class hoarding on the Little Spring St frontage for all construction stages of the works. Due to the varying nature of the works and width of the footpath at the site frontage, the Little Spring St hoarding will need to be realigned several times through the construction program.

Temporary cross over's will be required to both street frontages to allow truck and material access and egress into the site during some of the demolition and excavation stages.

With these measures we do not envisage that cyclists will be adversely affected.

Due to the narrow building frontages some existing tress will need to be removed during the construction phase of the development. This will also apply to the Commercial development. These will be reinstated to North Sydney Councils requirements post construction and whilst hard landscaping works are completed.