



# CONSTRUCTION MANAGEMENT PLAN

**FOR 401-403 Parnell Road**

**Auckland**

**Prepared for**

Andra Trading Ltd

**Job Number**

PARN 401

**Date**

1/06/2020

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## Background:

Building Innovation Group Ltd has been engaged by Andra Trading Ltd to prepare a preliminary construction Management plan for the site located at 401 - 403 Parnell Road, Auckland.

This construction management plan is preliminary by nature, its purpose is to prove a pathway forward for Land Use Consent and has not investigated all structural methodologies or safety protocols that will be required at building consent and construction stages.

It is strongly recommended that a construction management plan for construction be undertaken by a suitably experienced person in line with the Good practice Guidelines published by Worksafe New Zealand prior to any construction works.

The following have been highlighted as potential hazards under the RMA:

1. Excavation in close proximity to the foundations of the neighbouring building on the Northern boundary.
2. Damage from heavy traffic to carriageway inclusive of footpaths, kerbing and vehicle crossings on Parnell Road.
3. Parking provision for construction vehicles (labourers), heavy machinery and trucks.
4. Hazards to Pedestrians
5. Location of on-site plant
6. Dust control and mitigation.
7. Noise control and mitigation

Further considerations include:

8. Constructability on site, and
9. The protection of the existing façade, veranda and parapet wall.

The above list is for preliminary consideration for the Project at Land Use Consent stage.

The construction management plan involves a pathway for construction of a 6-level mixed use apartment building and considers the above factors.

Careful consideration was given to the construction systems, but no in-depth engineering or program planning has been undertaken at his time.

## The site:

The construction site is rectangular in shape of approximately 300m<sup>2</sup> with a width of 10.0m. As part of the collaboration with Auckland Council it was agreed that the circa 1920's parapet wall and shop façade will need to be maintained in situ and currently stands at 6.0m tall for 9.0m of the available 10.0m construction site.

The site has some challenges due to the limited width of the road frontage (10m), the location on a main arterial route, the protection and requirement for pedestrian access and the requirement to leave the front façade and parapet wall in place during construction.

The maintaining of the parapet wall will require that all building materials must be bought in either through one of the two openings at ground level. These openings consist of a 3.0m high x 4.0m wide and a 3.0m high x 3.5m wide opening at the street frontage along with a 0.9m wide opening to the North of the project site (see photo below).



There is currently a 15.0m long loading zone located outside of the project site building with approximately 6.5m located directly in front of the project site. It is likely that the 6.5m portion of the loading zone will be required for the loading and unloading of project related vehicles for much of the construction duration. This 6.5m wide portion will be referred to as the 'Loading zone' in this report.

The topography of the site is by and large flat with a fall of approximately 500mm over the project site.

The soil geology consists of the following make up:

- To a depth of approx. 0.8m Granular fill for the driveway and uncompacted clay
- To a depth of approx. 5.0m Volcanic tuff (silty clay and sand mix) Loose soil.
- To a depth of approx. 9.0m medium strength soil Puketoka Formation (silty clay and sand mix)
- To a depth of approx. 11.7m soil. Waitemata Group soils (silty clay and sand mix) firm
- Below 11.7m Waitemata Group rock (sandstone) weak rock but very good ground bearing.

The water table was discovered at approximately 6.4m below current FGL in March (summer).

Parnell Road, Auckland is a 20m wide main arterial route with a 15m road width containing 1 lane in each direction and with parking on both sides of the road along most of its length. There is a footpath either side of the road with an approximate width of 2.5m.



### Existing infrastructure:

All Council services are available at the site. The property already has a LUC for a higher density development than is currently proposed. Detailed Infrastructure engineering will need to be developed and presented for approval at Building Consent.

## Construction methodology:

The construction of the 6-level mixed use apartment complex will need to be undertaken in carefully managed stages. The project will be undertaken wherever possible without the use of heavy machinery post the demolition and excavation phase.

### Construction times:

Due to the specific conditions set by the location of the property, the protection of the façade and the potential effect on the traffic and pedestrian movements on Parnell Road. The unloading and loading of materials onto and from the site will need to take place at very specific planned timeframes.

It is anticipated therefore that the following construction times will be required:

#### Monday to Saturday

- 5.45am rubbish collection
- 6.00am to 7.00am: Deliveries to the project site involving the use of the loading zone portion.
- 9.30am to 2.30pm: Concrete deliveries involving concrete trucks using the loading zone portion
- 7.00am to 6pm: General construction work
- 6pm to 8pm: work can continue, but no noisy work (e.g. hammering, excavation).
- To avoid working at heights over and in close proximity to the road and pedestrian carriageway during the establishment and disestablishment of the façade protection works will be undertaken in the evening up to 10.00pm. This works will be to undertake the erection and disestablishment of the elevated platform and façade protection that will be required during the construction works. These works should be able to be completed over a total of six(6) nights. Three(3) to erect the protection tower and three(3) to disassemble the tower.

#### Sunday and public holidays

No noisy construction is planned with the exception of two(2) Sundays during the demolition and excavation phases. In order to remove the existing building and excavation material from the site whilst maintaining the integrity of the façade we will need to use 4-wheeler 5 tonne trucks for the removal of the existing concrete structure and for the excavated material for the machine room. As these trucks will have to exit the building almost entirely before beginning their turn onto Parnell Road it has been recommended that this work is undertaken under traffic management when Parnell Road is at its least busy. It is proposed that the trucks can remove all the material in one Sunday and that we reserve the following Sunday should removal take longer than expected.

There is no immediate intention to work on Public Holidays.

### **Site office and tradesman vehicles:**

There is no room on site for a construction office or tradesman vehicles. It is planned that the site office would be established in any one of the many vacant commercial buildings in the vicinity of the project until such time as the first level floor structure is in place. At this stage the site office can be relocated into the building and accessed through the Northernmost opening in the existing façade.

Initial communications have been undertaken with the office of the cathedral and it is possible to hire multiple vehicle parks from the cathedral for the duration of the project for tradesman vehicles to be located during the construction workday.

All tradesman equipment will be able to be safely stored in the site office to avoid tradespersons from needing to work from their vehicles during the superstructure and exterior envelope construction phases. During the internal fit out phase construction vehicles will have access to the ground floor garage.

### **Construction system:**

In consultation with the engineers for the project the ground floor will be constructed using one continuous concrete portal. This is to minimise the width of a standard portal leg to maximise the internal space within the building for vehicle manoeuvring. The continuous portal walls will enable the structural engineers to design a system to transfer lateral forces to the ground with a minimum number of continuous shear walls.

One key component of portal construction is the junction of the walls and roof (knee). The knee requires increased depth and reinforcing. As the lower level is for commercial and vehicle parking along with having an increased ceiling height, the structure can accommodate the thickening of the knee and deliver a very strong cave like structure to the ground floor.

Due to the limited width of the project site every step will be undertaken to maximise the available area. Due to requirements for the building to stay entirely within the property boundaries during an earthquake or severe wind loading event and the minimal footprint of the building requiring a structure that has flexibility under lateral loads the building will be designed to step in as the height increases in direct proportion with the designed lateral movement in the building. The total movement over the 6 floors will be minimised by the increased rigidity of the cave structure at ground level and the reduction in size of the 6<sup>th</sup> floor. This will effectively limit the lateral movement to be accommodated to just 4 of the 6 floors.

It is understood that an allowance will need to be made to alter the location and thickness of some of the internal walls to ensure the engineers can adequately create a structure to transfer forces to the foundations.

To limit the number of shear walls in the building and maximise the flexibility of the floor spaces for current and future occupants a reinforced concrete floor systems will be required for all levels in order to create an effective enough diaphragm for resisting rotational forces and the transferring of lateral forces to the ground.

Except for the ground and 6<sup>th</sup> floor walls it is anticipated that the Dincel formwork system will be utilised. The Dincel system will enable the majority of the construction works to be undertaken predominately by human labour as opposed to overhead crane work. This will greatly reduce the traffic impact and the construction noise during the project. An additional benefit of the Dincel

formwork is the ability to construct exterior walls from within the building envelope mitigating the need for external scaffolding for most if not all of the construction phase.

It is planned to construct the 6<sup>th</sup> floor from AAC blocks (a lightweight material) to reduce the weight at the top of the building and therefore minimise the structural requirements for lateral support.

#### **Mid floor construction:**

The mid floor construction system will involve an accessible floor plenum space and a very limited ceiling space that is not accessible.

All lighting systems will be wall mounted and reflected off a level 5 ceiling finish. This will mean the only system that will run above the ceiling linings would be a domestic sprinkler system.

The Mid floor construction system will be constructed using profiled steel formwork with a 150mm total structural thickness. Steel I beams will be fitted directly to the steel formwork but above the formwork so that the formwork will in effect be hanging from the steel beams. The I beams will be partially encapsulated within the concrete topping and project into the floor plenum space. The I beams will be designed to have intermittent penetrations cut through them to ensure the services can be run as required.

The plenum floor space will house all services including sanitary plumbing, water reticulation, telecommunications and electrical systems. This will enable the mid floor structural system to be free from all penetrations enabling superior acoustic attenuation and passive fire protection between floors. The plenum floors will be supported on sound attenuating floor systems to supply superior impact sound resistance.

This construction system will create a superior internal environment for the occupants, ensure that all critical services are located within the designated boundary of the units themselves (reducing the complexity of the unit title documents) and allows for maximum flexibility for the internal layout of the apartments to be individualised in the initial design and remodelled in the future without having to strictly adhere to the location of bathrooms, kitchens and service areas. This will allow for the apartments to be altered in the future for the society driven changes that will no doubt be discovered over the next 50-100years.

#### **Vertical transportation:**

We have contacted several lift companies and are still finalising the finer details.

The lifts will be hydraulic to keep the noise levels down in the penthouse and to restrict the maximum height of the building. Hydraulic lifts offer a slightly slower ride time but come with the added benefit of lower travel noise.

Hydraulic lifts do require a subterranean plant room. The plant room only needs to be will serve the lift mechanism and all cater for all other plant required in the building.

The plant room only requires a minimum head room of 1.9m so will only require rock excavation of approximately 30m<sup>3</sup>. The plant room will also act as an anchor into the rock base to assist with the foundations in distributing lateral forces not unlike the keel of a boat.

#### **Implications of keeping the facade:**

Maintaining the existing façade presents some construction difficulties. For the main part this is due to limiting the site access to a maximum 3.8m wide by x 3.2m opening.



The protection of the façade from damage during construction is a significant consideration as is the implication on material delivery and traffic management.

We have confirmed with our engineers that we can construct a 7.0m high steel platform that encapsulate the entire façade for the 10.0m length of the property's front boundary.

The platform will be constructed prior to any significant structural demolition being undertaken so that it can be used to temporarily support the façade until the new building in behind is built and connected to the existing façade.

The platform will shield the building façade and the pedestrian access beneath the existing canopy.

This platform will be designed to have a small crane mounted with a 3-4 tonne capacity for the moving of materials from a flat deck truck parked in the existing loading zone portion into the project site.

### **Delivery of materials:**

Permission will be sought from Auckland Transport for the exclusive use of the 6.5m length of loading zone located directly outside the construction site during construction. Auckland Transport have currently consented to the removal of the entire 15.0m loading as a condition of the existing approved LUC.

The ROW is 15.0m long in total with 6.5m located directly in front of the project site (2.5m is to ensure continued access from the existing neighbouring Row to the South of the project site).

Negotiations will be undertaken with the shop owners at Loco Pizza and Hilltop superette with the aim of facilitating parking for their staff at the cathedral and the use of the ROW for the initial stage of construction. This would enable the ROW to be discontinued for vehicle use, for a short period of time (approximately 1 month). This period of closure will be during the construction of the second level South wall (directly adjacent the ROW) and will be to ensure the safety of the occupants. Once the second level wall structure is completed safety protection will be able to be put in place over the ROW to ensure the occupants safety.

Access for workers will by way of gated entry through the existing façade, all materials that can be managed by hand or in a wheelbarrow will access the building through these gates.

A small capacity crane will be installed on top of the façade protection platform. This crane will lift all larger materials (excluding concrete) onto the building site.

Material delivery requirements (other than small elements that can be carried or concrete) will need to be limited to the following;

- Less than 8.0m in length
- Less than 2500kg maximum weight
- Be palletised and delivered on a flat deck truck

All materials that do not fit the above criteria will need to be discussed during construction documentation with the aim of reducing the size or weight or to be integrated in the construction traffic management plan that will be undertaken prior to demolition or construction works commencing.

Concrete will be pumped from a sealed tractor unit that will be parked directly outside of the project site with the concrete trucks parking temporarily in the loading zone outside of the building located at 393 Parnell Road.

The pump used will be a small truck unit and will not require a boom or stabilisation arms as it will be pumping to a fixed riser within the building.

**Waste management:**

Consultation was undertaken with refuse management and earthmoving contractors to ensure that demolition could be undertaken safely and efficiently along with effective and safe disposal of construction waste.

During light demolition of the existing building (excluding excavation and concrete demolition) all construction waste will be removed and recycled using waste bins that will be trailer mounted and towed to the kerb side through the Southernmost façade opening by utility for a 5.45am pick up from the existing loading zone portion.

During the demolition and excavation phases, all earthworks and structural demolition will be undertaken by an 8-tonne excavator and exported from site through the front façade with the use of 4-wheeler 5 tonne trucks. These will be able to exit and enter the building through the Southernmost façade opening once the shop front has been demolished.

During construction phases a trailer mounted waste bin will be in the South Western corner of the building site and towed to the kerb side through the Southernmost façade opening by utility for a 5.45am pick up from the existing loading zone portion. Once construction has moved to the first floor and above a rubbish chute will be mounted at the rear of the structure to safely drop construction waste into the trailer mounted bin.

Concrete spoil from the pumps will be deposited into a specially designed concrete spoil bin located in the Northernmost opening of the façade. This bin will be emptied dragged on rails to the street kerb and removed by a specialist contractor vehicle.

**Construction safety:**

Consultation has been undertaken with Total height safety to ensure that adequate safety measures can be built into the building during construction to maximise safety for construction crews both during construction and post construction for maintenance of the building. The Site and phase specific safety plan must be completed and approved prior to demolition/construction commencing on the site.

**Construction noise protection:**

A full acoustic construction management plan will need to be undertaken prior to construction being undertaken on the site. The following construction methodologies will be implemented to mitigate noise creation.

- The concrete floor systems will be created using the profiled traydek system in order for formwork and beam systems to be constructed with the use of small hoisting cranes and people power as opposed to noisy machinery.
- Dintel concrete formwork will be used for wall construction from level 1 upwards as these can also be erected using people power and cordless tools very quickly and can be filled with

concrete to a height of 3.0m above the building platform to create an efficient sound and dust barrier very early in the contract.

- Concrete walls will be erected as above as soon as practicable for all areas where the surrounding residential properties have direct line of sight to the construction site.

### **Building in close proximity to the Ridge apartments:**

It has been discovered that when the ridge apartments were reclad in the past and the addition of a cavity cladding system has resulted in the projection of The Ridge's cladding system across the property boundary onto the project site. The cladding on The Ridge, although low maintenance is not a no maintenance cladding. Consultation was undertaken with the Body Corporates of the Ridge apartments and the proposed pathway for dealing with their ongoing issues is for our building to flash onto the South Boundary wall of the ridge apartments to encapsulate the existing cladding, removing the ongoing weathering effects of the environment on The Ridge's cladding and effectively removing the requirement of the cladding to perform to the performance clauses within NZBC E2 – External moisture and NZBC B2-Durability.

There is no deep foundations or excavations being undertaken that would influence or be influenced by the foundations of the ridge apartments.

The excavation for the services pit will be into Volcanic tuff soils and it is anticipated that the excavations will be undertaken with an 8 ton excavator.

The drilling for ground bearing piles will be undertaken to a depth of approximately 11.5m through volcanic tuff, Puketoka formation and Waitemata group soils. Piles will be approximately 500mm Ø and although going through compacted soils will be a undertaken using the 8 ton digger.

To minimise vibration to surrounding buildings the lower floor foundations and structure will be constructed using deep piles (drilled) and suspended concrete slab on ground. This will limit the compaction to that of a hand held plate compactor.

### **Protection of pedestrians and the carriageway:**

Pedestrians will be able to walk under the existing canopy as this will be protected by gated hoardings at the boundary of the existing façade and the elevated building platform.

The concrete pump will pull the concrete through a sealed connection on the back of the concrete truck to mitigate any chance of concrete spoil being deposited on the carriageway.

The portion of concrete pump hose that is exposed to construction crews or pedestrians (other than the delivery section) will be steel to prevent any chance of rupture. A steel section of concrete pump hose will be installed above the pedestrians and will be left in place for the duration of the concrete pour.

On the very few occasions where it is necessary for vehicles to enter and exit the site, stop go measures will be utilised for vehicle and pedestrian traffic.

Pedestrians must be protected by hoardings fitted to the platform structure when materials are being lifted from a delivery truck in the loading zone portion onto the elevated platform.

Traffic will be protected from the unlikely situation where materials that are being lifted from the rear of the truck in the loading zone portion come loose and fall into traffic by either temporary stop go signage for traffic on Parnell road while loading and unloading is being undertaken. Or alternatively a mechanical cage being lowered over the flat deck truck to ensure the safety of the traffic whilst the load is being lifted into the project site.

**Traffic and pedestrian Management:**

A site-specific construction traffic management plan (CTMP) will be required prior to starting demolition or construction works. The plan will cover all aspects of traffic management during construction and will specifically address the following phases.

1. Site Establishment –footpath protection and ramp over kerb to be installed, change signs in loading bay.
2. Platform Installation – Footpath closure or diversion required. Depending on crane size to lift platform components traffic lane closures or relocation may also be required.
3. Demolition / Excavation – Stop / Go of Parnell Road traffic and pedestrian management
4. Long-term works operations - Trucks lifts from loading bay – possible stop/ go
5. Long-term works operations – Concrete trucks parked in loading zone portion, signage only.
6. Site disestablishment and platform removal– Footpath closure or diversion required. Depending on crane size to lift platform components traffic lane closures or relocation may also be required.

**Parking for contractor vehicles:**

Parking for contractor vehicles is being negotiated with the chapel and will encompass 5-10 car parks depending on what stage the project is at.

## Construction program:

### Demolition and excavation Stage:

This stage will see the demolition of the existing building in preparation for construction and the excavation and preparation for the foundations. The location of site offices and temporary ablutions as well as contractor vehicles.

#### Health and safety:

- a. *Install full height solid safety hoardings to the pedestrian footpath 1.0m from the front façade of the building to the underside of the existing Canopy to enable demolition of the façade joinery and entrance areas in preparation for vehicle axis. The hoardings are to contain lockable entrance portions with vehicle gales and pedestrian access to allow access to the construction site for later stages.*
- b. *Once the joinery for the facade has been demolished, relocate the solid hoarding to just outside the façade surface in order to free up the footpath for pedestrians for the remainder of the construction program.*
- c. *Construct safety fences to the Southern ROW boundary.*
- d. *Skip bins will be towed from the rear of the property to be picked up from the roadside in the early morning. During this activity cones and a barrier will be placed either side of the exit way and a staff member will be positioned to halt pedestrians.*

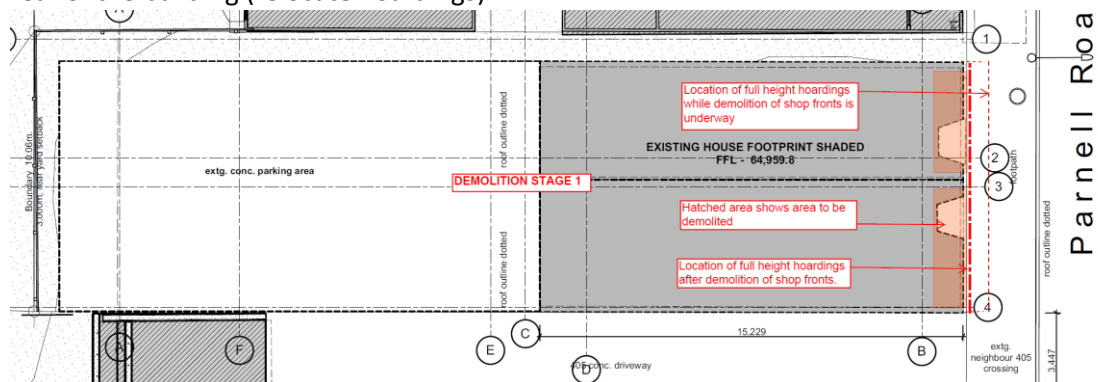
#### Construction works:

Take care to ensure that there is always a clear pathway for a vehicle to tow the skip bin to the loading zone portion for pick up as required.

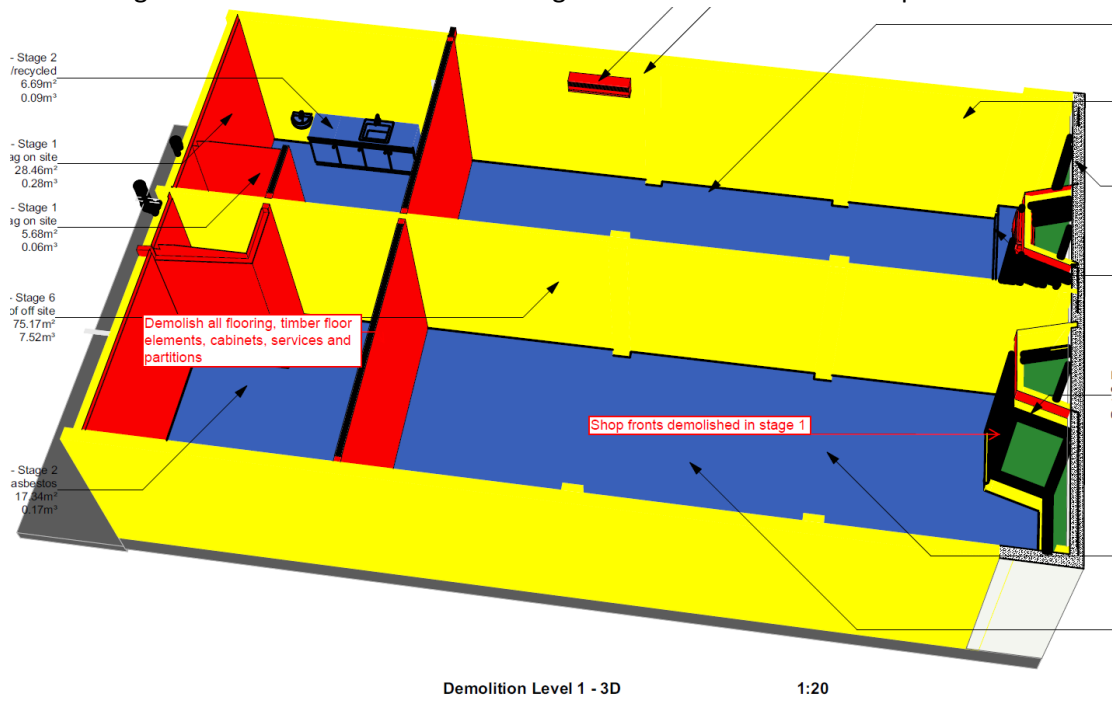
Ensure that all recycling protocols are adhered to.

Ensure that all safety protocols for any hazardous materials are adhered to.

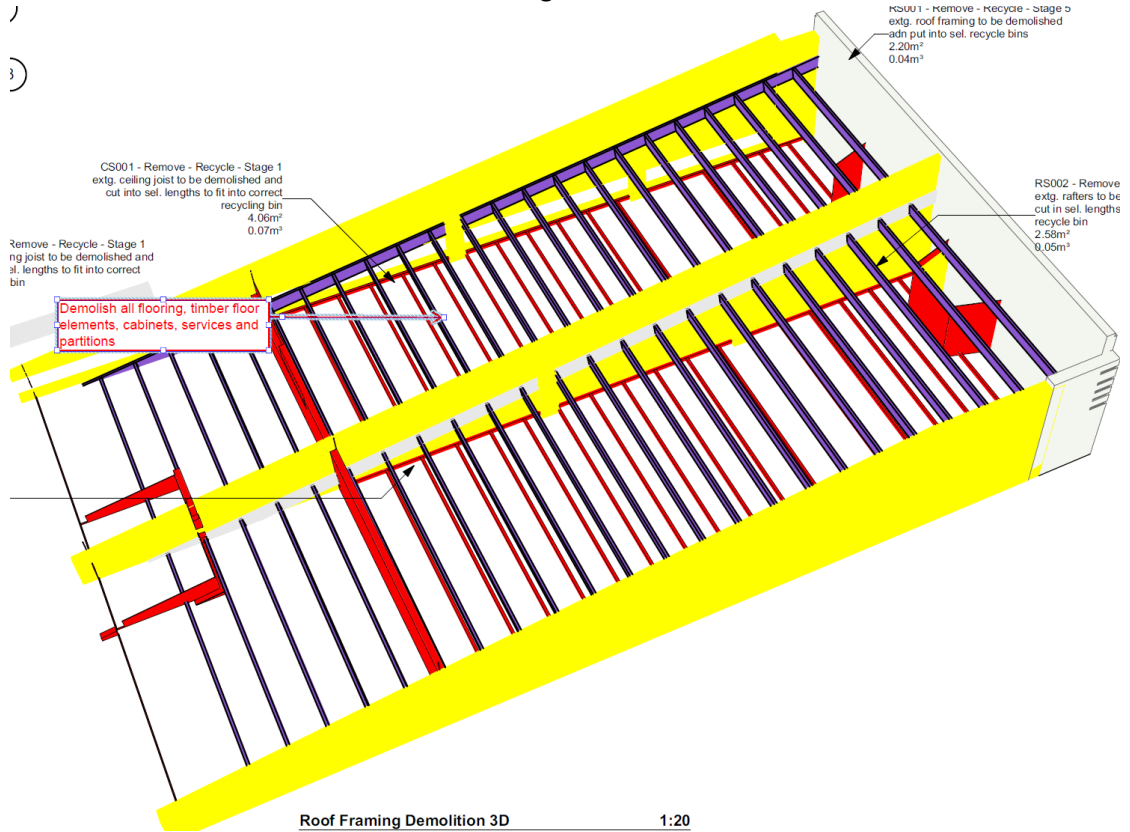
1. Demolish the existing shop front joinery and place material in the skip bins provided at the rear of the building (relocate hoardings).



- Demolish the rear wall and interior fitout of the existing London Salon and then the same for the existing B.I.G office area. Leave all existing concrete structural walls in place.



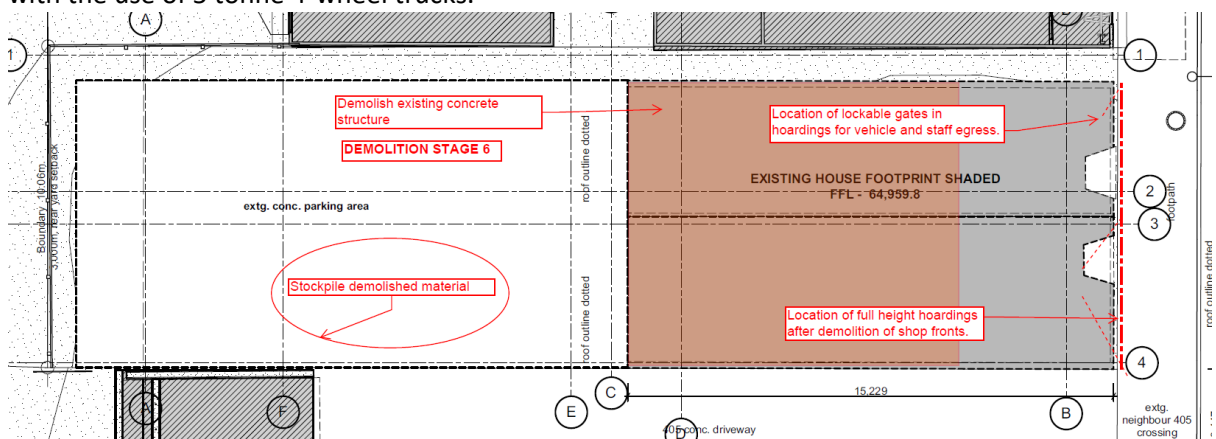
- Demolish the roof structure and all remaining non-concrete elements and remove from site.



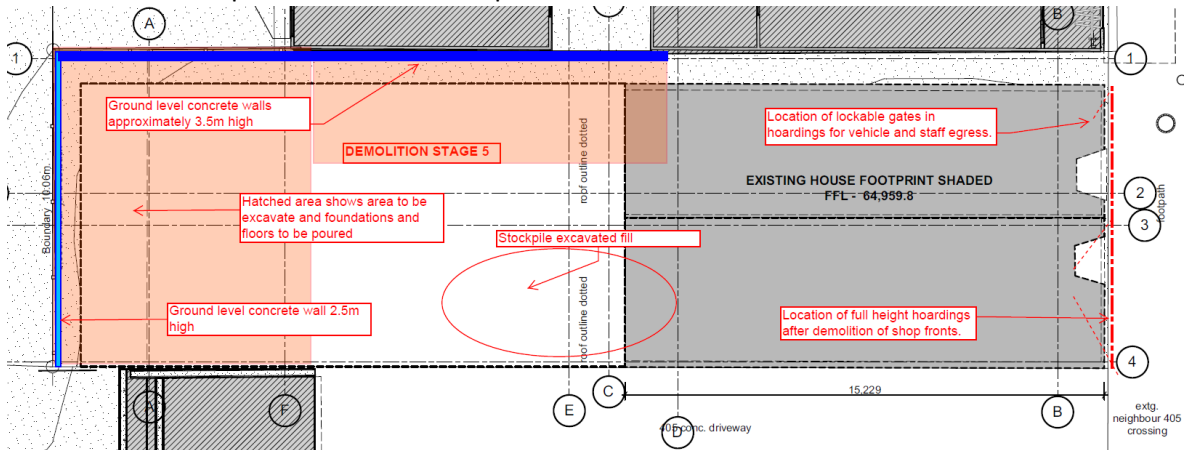
4. A crane will be used for the erection of a steel column and beam platform. The platform will be prefabricated off site and then lifted and assembled into place.
  - a. As the exact structural size of the platform elements cannot be known until engineering is undertaken during the contract documentation phase a specific Traffic management plan for the erecting of the platform will need to be undertaken and submitted for approval during the Building Consent process.
  - b. The platform will be erected and disassembled during off peak times. This will require early evening work on the project site for the 1-3s night duration of the erecting and disassembly of the platform.
  - c. The footpath will be closed to pedestrians during these phases and it must be considered that Parnell road will also be reduced to one lane or closed.
  - d. The structural legs of the building platform will need to be located to ensure that safe turning can be undertaken from the Existing ROW to the South of the project site.



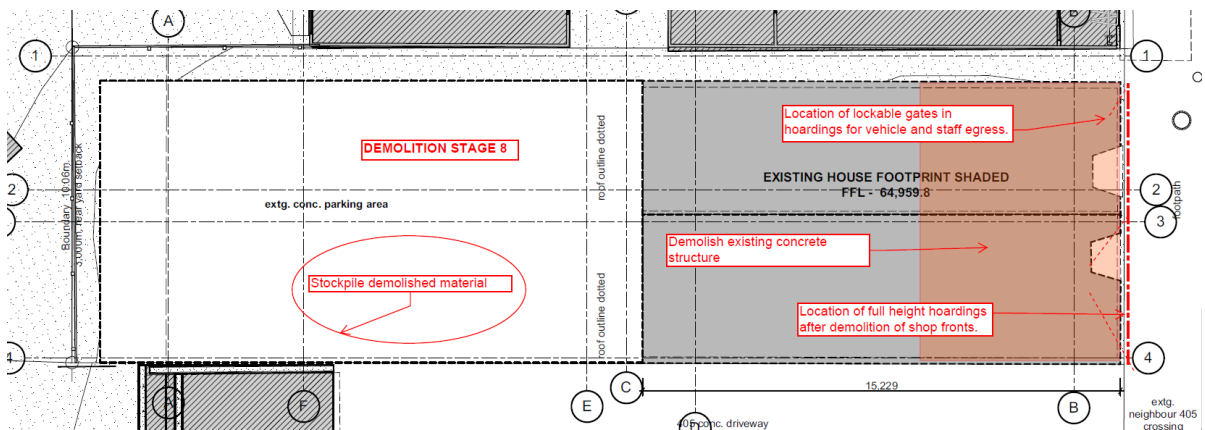
5. Undertake strengthening requirements for the existing parapet wall prior to any concrete structure demolition works.
6. Demolish the rear portion of the existing concrete wall structures and floor with a 8 ton excavator and stockpile as shown ready for disposal via the recently made entrance through the façade where the London Salon was situated (salon entrance). The disposal will occur with the use of 5 tonne 4-wheel trucks.



7. Excavate and prepare the rear of the site for the ground level floor slab and walls.
  - a. Excavate the existing carpark area down to good ground and prepare all footings for the rear portion of the building in preparation for construction of the foundations and first floor walls with a 8 tonne excavator and stockpile as shown below.
  - b. Construct partial ground floor walls and floor slab as shown.
 This can be done in conjunction with the erection of the raised platform and is to erect the lower floor walls and floor pad for the following objectives:
  - a. to minimise the effect of construction noise on the neighbouring properties as early as possible, and
  - b. to provide a stable work platform for the construction crews on site.



8. Demolish the remaining existing concrete walls and floor systems not deemed necessary for the structural integrity of the front façade with and stockpile as shown ready for disposal via the recently made entrance through the façade where the London Salon was situated (salon entrance). The disposal will occur with the use of 5 tonne 4-wheel trucks in a continuous removal operation carried out on a Sunday to minimise the affects on Parnell trade and traffic.



9. Excavate remaining site and prepare for foundations as above.



## **Construction of ground level:**

Includes the erection of all ground floor walls and the completion of the ground floor concrete floor.

1. Prepare and construct Lift well
2. Install all in ground services
3. Prepare and construct ground floor concrete floor
4. Prepare and construct ground floor walls that form the super structure of the building.

## **Construction levels 1-4:**

Includes the erection of all concrete floors for levels 1-5 and the walls for levels 1-4. The sequencing below is to decrease the amount of airborne noise that can escape the building site to residential areas and increase the site safety for those working on the site by separating two work areas by one level and keeping lifting equipment below the main work area.

1. Prepare and construct traydec floors and Dintel superstructure walls.
  - a. Construct the concrete floor floors for the rear of the building (to the lift shaft) for level 1, then
  - b. construct boundary walls for level 1 whilst simultaneously constructing the front portion of the floor system for level 1
2. Install temporary insulated panels to Atrium opening as each level is completed to provide noise and dust mitigation for the ridge apartments courtyard. Panels are to project a minimum 1.0m higher than the wall structure at all times.
3. Repeat this sequencing to level 4, and then complete all of level 5 floor from the rear of the building to the front of the building.

### **Construction level 5:**

Includes the construction of the level 5 walls (AAC block) and roof structure

### **Glass block infill panels:**

Install glass blocks to Exterior walls at the completion of the floor structure above. The exception to this is the glass block in the atrium area on the North wall. The block in the atrium will be completed once all concrete structural concrete works are at an end.

### **Install all roofing and water proofing elements:**

1. Install roofing material to level 5 roof
2. Install waterproofing membrane to all false gardens and decks that are exposed to rainwater and immediately apply structural protection during the construction phase.

### **Install exterior joinery:**

Install all exterior joinery and protect from construction damage to encapsulate all construction fit out dust and noise pollution within the construction site.

### **Install exterior finishing and cladding:**

Exterior AAC panels will be fitted to the building from hanging platforms. The platform will be supported by integrated connection points in the buildings design to ensure that ongoing maintenance can be undertaken without the requirement of scaffolding.

## Conclusion:

In our opinion the construction methodologies shown above combined with accurate project management and site safety plans will enable the building to be constructed with minimal disruption to traffic, business or private residences in the Parnell area. It is understood that all construction projects create some inconvenience and that the larger the projects the more disruption occurs.

Preliminary consultation has been undertaken with all major contractors and suppliers to ensure that the above process can be instigated safely and economically. All suppliers and contractors have been informed of the site restrictions, the restricted hours and format for delivering materials and the inability to accept work vehicles on the construction site other than for the drop off materials in the loading zone portion outside the building and have indicated that this is feasible.

As a result we feel that the development can be completed with a less than minor effect on the environment providing that; the contractor takes all practical steps to implement the construction program. It must be noted that the programme is general and may vary as the construction progresses and any unforeseen constraints are met.

Additionally; the controls detailed in this document are not intended to be a complete construction management program for the project, but is intended to be a guideline setting down parameters for a comprehensive integrative construction management plan to be undertaken during the construction documentation preparation for building Consent and prior to construction commencing.