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Demolition Management Plan
for
Downtown Shopping Centre

June 2015



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1.0 Project Particulars

Project Details

Job Name: Downtown Shopping Centre
Job address: Cnr Customs and Lower Albert Street, Auckland

Client Details

Client: Precinct Properties Ltd
Contact Person:
Position: Project Director
Mobile:
Email:

Contractor Details

Contractor: Ward Demolition
Contact Person: Randal Owles
Position: Operations Manager
Mobile: +64 21 905 758
Email: randal@ward-demolition.co.nz

2.0 Demolition Methodology

2.1 Job Scope Summary

Demolition of the buildings on the site to clear the site for the construction of a new office building and rail tunnel.

Lower Albert Street: Walk Bridge connection



1. Hours of Work

Hours of work are 7.30 am to 6pm Monday to Friday and 8.00 to 2.00pm Saturday with no work on Sunday.

Loading out will be within the site boundaries as per the requirements of the Traffic Management Plan. Hours for heavy vehicle movements in the inner city are restricted by council to 9:00 – 4:00 to maximize the number of truck movements in peak traffic.

2. Program

The anticipated program for this work is 20 weeks to hand over of the basement for piling work.

3. Site Contacts

Contractor: Ward Demolition +64 9 622 3111

Contact: Peter Ward (Manager) - +64 21 953 980

Contacts list to be on Site Hazard Identification Board on hoarding.

4. Plant & Equipment to be used

2 x High Reach excavators

2 x 50ton excavators

2 x 20 ton excavators

2 x 14.5 ton excavators

2 x 4.5 ton excavators for ground floor strip out

2 x 1.8 ton excavators for first and second floor strip.

4 x skid steer loaders.

Crane for removal of materials from heights.

2 x dust suppression fans.

Boom lift and EWP

2.2 Demolition Sequence

- a) Confirm isolation of services from structures to be demolished. Disconnect and cap drainage by drain layer when practical. Obtain Council plans of underground services in the vicinity of the building which may require protection.

- b) Dilapidation survey and visual inspection of the buildings and surrounding area to be carried out and document conditions of existing adjacent buildings, footpaths and roads.
- c) Survey the buildings for Asbestos and other hazardous materials. Asbestos survey supplied at time of tender is limited to the areas that were accessible without destructive testing and the asbestos removal priced will only cover what has been identified to date. Additional asbestos may be uncovered during the soft strip process prior to demolition, and these materials will be tested, removal managed and clearance obtained prior to the structural demolition proceeding in each area. If significant amounts of asbestos are discovered in this stage it will have significant impact on the demolition program. The sooner selective additional intrusive testing can be carried out the better you can get an understanding of the risk to the program and budget.
- d) Contact adjacent building owners and occupiers and notify them of the works and point of contact for the works.
- e) Temporary fence and solid hoardings installed to exclude public from the work area and install warning signs, and hazard notice board. Install gantry to Customs Street and Protection to footpath at vehicle crossings.
- f) Remove all identified asbestos and obtain required clearance in stages to enable demolition to proceed as quickly as possible in the cleared areas.
- g) Exterior works to QE2 Square, required for early access for piling contractor. Removal of deck and overhead canopies to the Zurich building, removal of lift from concourse pop up and then excavation alongside underground structures to enable their removal. Excavation to expose underground exit from the Zurich Building and break out and remove concrete structure. Backfill the pits formed by removal. Removal of concrete slabs from the area to be handed over to the piling contractor, slabs and concrete from this demolition to be used as temporary backfill to the planter pits so this area can be used for vehicle access.

Removal of the canopies from the HSBC building that will be in the way of the piling and removal of as much of the cladding from this area while there is still access to do so with the installation of temporary hoardings to these areas.



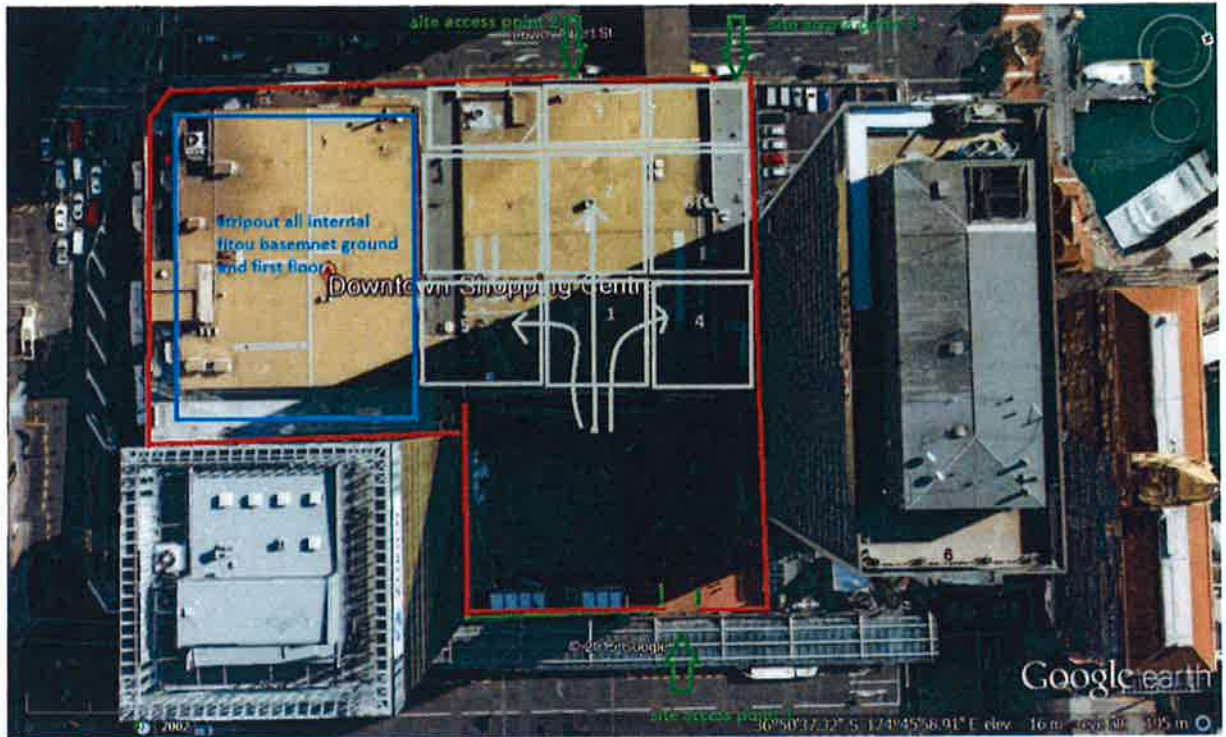
- h) Concurrent with the works in the square the ground floor and the first floor of the downtown north block will be stripped of all interior fit-out and non-structural elements. This will be carried out using bobcats and small excavators.

Asbestos removal in downtown north block concurrent with the strip-out, then straight into asbestos removal to the South Block in the accessible areas.

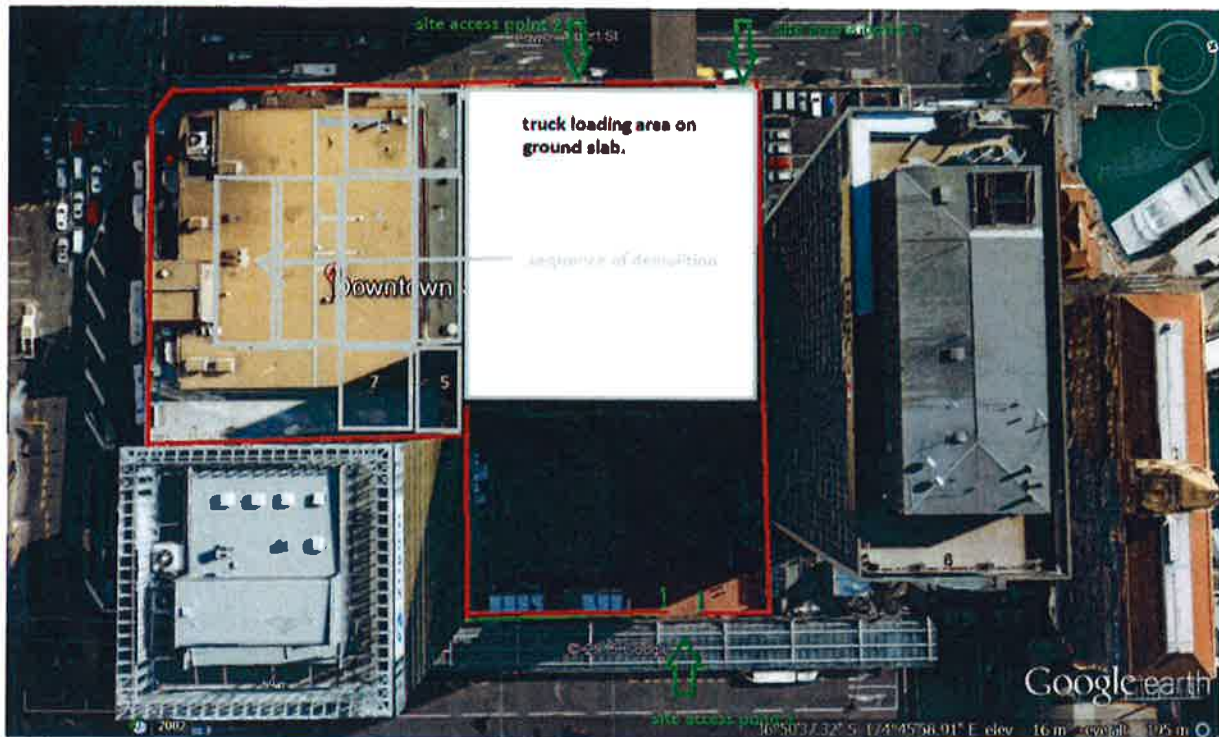
Removal of precast external panels from around the pedestrian walk bridge, by crane. Investigation at this stage to determine if asbestos rope or sealant has been used around panels, and integrity of existing panel fixings to determine if all precast panels need to be lifted off or if they can be demolished with the concrete structure. The precast panels adjacent to the Zurich building will also be lifted off with the crane for safety. It is probable that all the panels will need to be lifted off, to mitigate the risk of panel fixings breaking during demolition. Panel removal needs to be done in sequence with the structural demolition to contain noise and dust within the building for as long as possible.

Removal of the glazed pedestrian canopies to Lower Albert Street and Customs Street facades to clear area for gantry and hoarding construction.

- i) Upon completion of strip-out in first areas, 20 and 50 ton excavators will commence demolition of floors one and two using hydraulic jaws. The high reach excavators with their jaws will cut and pluck off the roofing from the top floor. Other excavators will be dedicated to sorting and loading out concrete steel and rubbish to ensure the constant movement of materials from the site.
- j) At the same time as the north block structure is being demolished the south block will be being stripped of all its interior fit-out and non-structural elements from the basement and each of its floors.



- k) Demolish building from the top down, in a systematic manner ensuring remaining structure maintains maximum integrity and stability. Do not leave large sections of wall or structure unsupported over more than two floors. Clear the rubble and debris off floors as work proceeds to reduce floor loading. Use water and mist sprays during demolition to suppress dust. Use hydraulic jaws on the excavator to rubble columns and beams to maintain control during demolition and to avoid large sections of building collapsing or falling to the ground.
- l) Sort the debris with excavators and by hand on the ground, as work proceeds, load out with 20 ton excavator into trucks in the site, no loading to take place outside the site boundaries. All debris to be wet down to suppress dust.
- m) In the initial demolition phase the slabs and foundations to the North Block remain for hard-standing, truck access to the next area of demolition and to help keep the site and surrounding roads clean. They are removed in the next phase of the site-works in conjunction with piling and excavation.
- n) Work proceeds with the structural demolition of the south block, eating in to the building one structural bay at a time and clearing that material to allow the excavators access to the next gridline. When the demolition approaches the exterior walls the faces are stepped for stability.



- o) The last grid of floor at ground level is left as support for the retaining wall which is remaining and is removed in sequence to allow the installation of propping.
- p) The basement slab to the south block is to be temporarily retained to allow a clear area for the piling contractor to work off and sections of slab and foundation removed locally for the new piles.
- q) The perimeter of the North block slab and foundation is removed to provide access for the secant wall piling. The remainder of the slab and foundations removed to the north block and QE2 square prior to commencing the excavation.
- r) The remainder of the South Block basement slabs removed as required to suit the new excavation.

2.3 Hazard Identification and Management

Significant hazards are detailed on the site hazard ID form and notice board.

1. Hazard assessment and control

Assessment is carried out daily as new hazards develop during the process of the work. Control measures and demolition methodology to minimize risk is developed and documented daily in the hazard and day-work register.

2. Health & Safety

- Precautions for the safety of employees on site:

All employees on site are to have full personal safety equipment; hardhat, glasses and earmuffs. Safe working methods for each part of the job are outlined at the start of each task and documented with task analysis.

- Precautions for the safety of others in the vicinity and members of the public:

Site to be fully secure and fenced to exclude the public from the work area.

Co-ordination with all other contractors on site to keep them informed of the areas in which we are working and possible risks associated with our work. Any work adjacent the footpath will have signage barriers and spotters in place for the duration of the task, with minimal disruption to the pedestrian traffic.

3. Emergency Procedures

To be coordinated and location of evacuation points to be posted on the site notice board. Emergency planning is site specific and is detailed in the site job folder. No member of staff is to work alone.

4. Fire

Smoking is only permitted in approved areas. Fire extinguishers or water hose to be kept on site in key locations and to be on hand when any hot work or grinding is being done in the vicinity of any combustible material. All combustible debris is to be progressively removed from the site.

5. Unsafe structures

Parts of the building, which are unsafe or may become unsafe during the process of demolition, are to be clearly marked and access restricted to these areas. Care is to be taken to avoid overloading any part of the structure. Materials are to be removed progressively and areas that could become unsafe under the weight of machinery to be clearly marked.

Machinery operating, clearance protocols to be in place and understood by all staff on site.

6. Truck Movements

Trucks reversing or maneuvering in to the site to be guided. Restrict public access and provide adequate warning signage.

7. Dust Control

Wet down during demolition to suppress dust. Debris may need to be wet when loading out also. Water mist cannon to be utilized to reduce water use. Filter cloth and bunds to be installed to all storm-water catch-pits in the street to reduce silt run off into storm-water system.

8. Noise Control



Demolition work falls within the standard construction noise levels set in the resource consent conditions.

9. Environmental Control

All truck movements will be on existing concrete slabs or asphalt driveways during demolition. Trucks to be cleaned before leaving site to ensure no material is dropped on the surrounding roads. The concrete slabs and foundations are to be removed last once all the building upper structures are removed. Remove in sequence and contour, backfill and roll the areas as work proceeds to reduce soil areas exposed and risk of silt run off. Place bunds and silt control at lower end of site to control rain water runoff from the site and prevent silt from entering the storm water system.