CONSTRUCTION MANAGEMENT PLAN
FOR
83-123 Eveleigh St, Redfern, Precinct 3 Pemulwuy

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1 Introduction

This report has been prepared as an indicative outline of the proposed construction methodologies for Precinct 3 Pemulwuy Project, Redfern NSW

Site address: 83-123 Eveleigh St Redfern

1.1 Development Description

Design and Construct of:

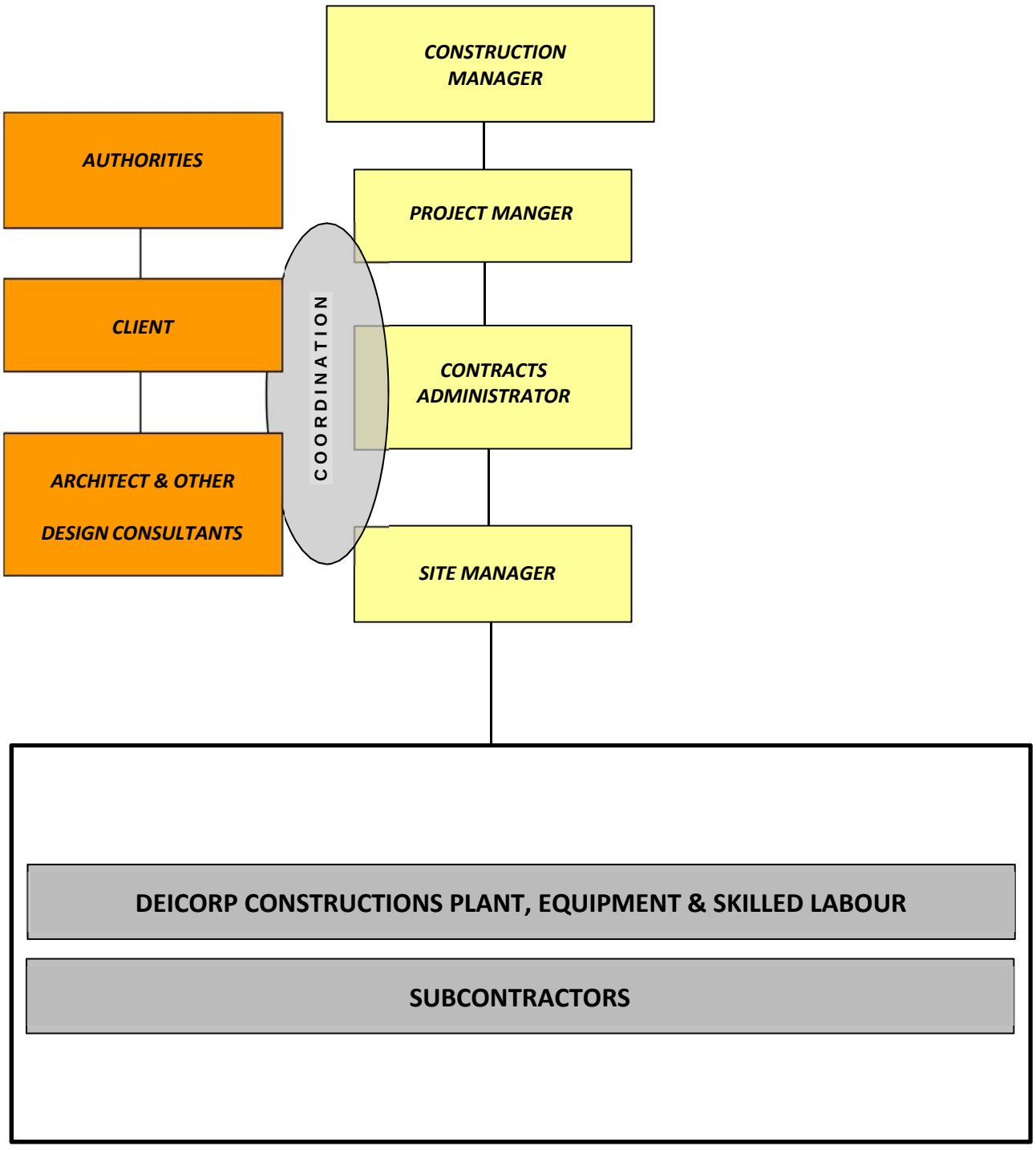
- Total Site Area
    - 2380 sqm

- 1 tower consisting of 522 rooms and a total of 596 beds
    - Tower consisting of 23 stories to a height of RL96.570m
    - Note no provision of carparking no underground basements
    - Level Lower Ground common area facilities
    - Level Ground to level 21 student accommodation
    - Level 22 Plant room
    - Level 23 Roof level

Figure 1.1.1 Structural Impression of 83-123 Eveleigh St

2 Project Organisational Chart

Project Organisation Chart



3 Site Context

Precinct 3 is one of the three Precinct which form the Pemulwuy Project for the Aboriginal Housing Company. Precinct 3 is located between the addresses of 83-123 Eveleigh St, Redfern NSW. Figure 3.1.1 “Site Location” shows the site location

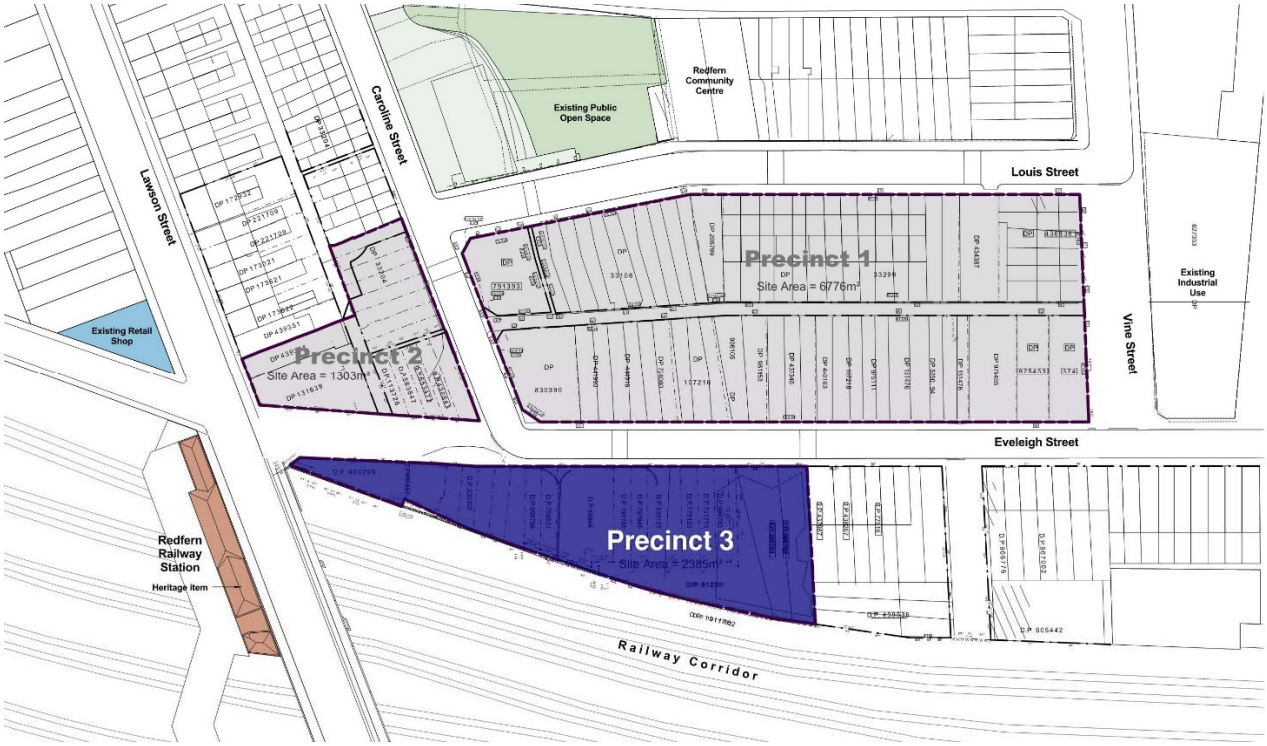


Figure 3.1.1 Site Location

Precinct 3 is bounded by Eveleigh St on the West, the city rail corridor on the East, Residential housing to the North and Lawson St to the South.

The existing site does not have any above ground structures with the exception of a disused 2 story concrete structure which was once a childcare centre. This building has been stripped back to its concrete structure. The rest of the site is covered by grass or asphalt and has a disused playground on the site. Figure 3.1.2 is an aerial photo showing the condition of the existing site.

Figure 3.1.2 Aerial Photo of the Existing site

4 COMPANY

4.1 Environmental Overview

Deicorp Constructions is concerned with the Environmental Protection of all projects. Regardless of their role within the Company structure, all employees will be made aware & responsible for safe environmental work practices. In order to achieve adequate “environmental protection”. The below principles shall be adopted by all parties.

Prior to commencement, Deicorp Constructions will develop and implement a comprehensive Project Environmental Plan which will include as a minimum the following (the implementation of this plan will be audited by an audit and inspection plan):

- Deicorp Constructions require that all employees actively work towards achieving Work Procedures which achieve Environmental Protection;
- All work will be carried out in a manner which will cause the least possible disturbance to the environment;
- An awareness of surrounding businesses and the general public has been taken into consideration in relation to noise, dust and water pollution ensuring minimal disruption to the day to day uses of the development surroundings and residents.
- A site-specific Erosion and Drainage plan will be devised with adequate drainage and erosion control measures put in place to prevent damage to the environment and compliance to authorities;
- Constant monitoring of all Environmental Controls will be made with ongoing improvements phased into work procedures;
- Where fitting, signs and barricades will be established to isolate specific areas which do not require demolition activity and/or possess environmental significance;
- It is the responsibility of every person on site to ensure the safe work practices are carried out on site in achieving environmental protection. Company management will ensure that adequate supervision and support are given to the Site Manager and Foreman and all employees; and
- Deicorp Constructions acknowledges and actively encourages the right of any employee to report situations with which concerns are raised as to protection of the environment.

4.2 Statutory Requirements

The following legislation will be complied with during the demolition, excavation and construction processes:

- Occupational Health and Safety Act 2000
- Occupational Health and Safety Regulation 2001
- Construction Safety 1912 and Regulations
- Environmental Planning and Assessment Act 1979
- Environmental Hazardous Chemicals Act 1985
- Waste Disposal Act 1970
- Roads Act 1993
- Heritage Act 1977
- Noise Control Act 1975
- Clean Waters Act 1970
- Clean Air Act 1961
- Code of Practice: Safe Removal of Asbestos 2002
- Code of Practice: Demolition

4.3 Permits, Approvals and Licences

The following is applicable:

- Workcover notification to commence work, to be developed at the appropriate time
- “Notice of Intention to Commence Construction Work”
- Any applicable local License / Permit that maybe required.

4.4 Erosion & Sediment Control Strategy

Erosion onsite will be controlled incrementally as the ground level is reduced by excavation. This system will ensure erosion is mitigated and controlled through tested methods and procedures. **Refer to annexure E for full details of the Erosion & Sediment control plan**

Sediment will be controlled through use of Geotextile fabrics (sediment fence) to site perimeters.

Mitigation of soil contamination to public roads will be undertaken through the use of a shaker grid to the site entry.

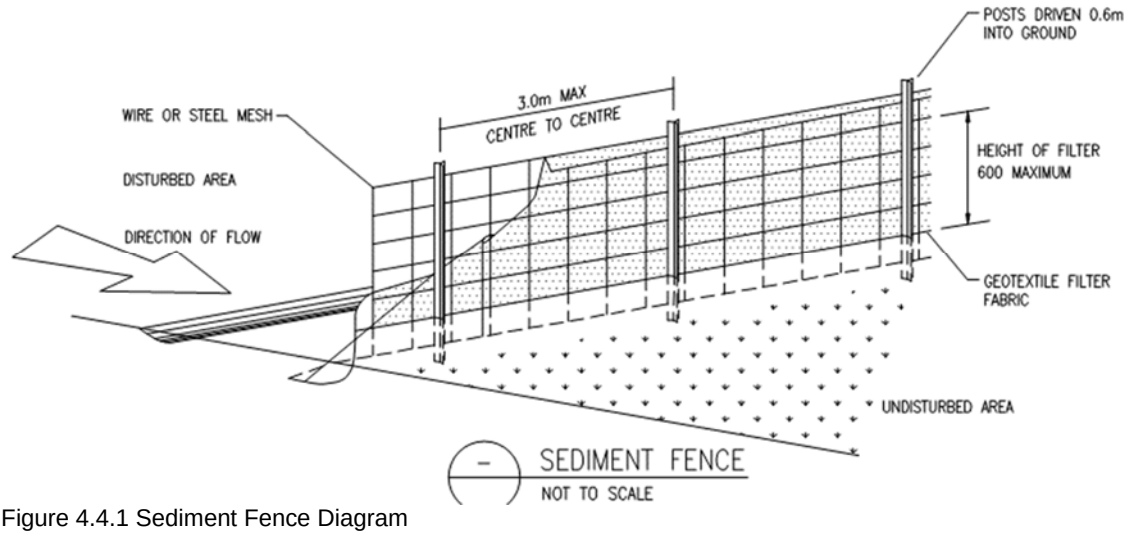


Figure 4.4.1 Sediment Fence Diagram

Sediment Fence to Site Boundary

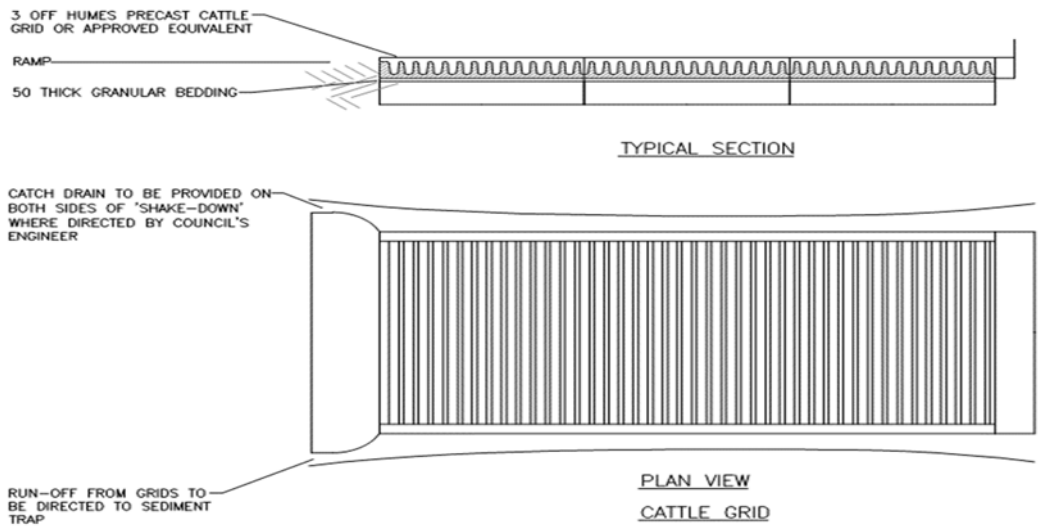


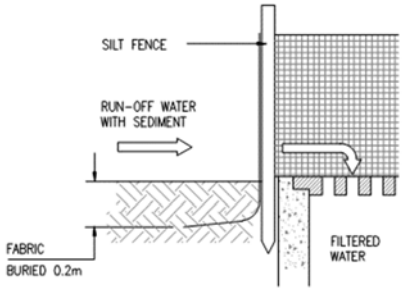
Figure 4.4.2 Shaker Grid to site entry/exit

4.5 Drainage Strategy

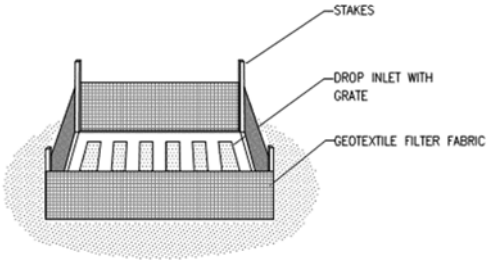
All run-off generated on-site during excavation and demolition will fall to a temporary pump out pit situated at the lowest area on site until final levels are achieved. When the basement level is reached the water will then be re- directed into the stormwater sump pit, which will act as a sediment pond where if necessary flocculation of the contaminated water will take place. The pits will be continually tested prior to pumping out the sediment free water into the stormwater system. The site will be continually cleaned of rubble and excavated materials to minimise possible sediment flow during high rainfalls periods.

Given the nature of the excavation material (effectively OTR) we do anticipate the majority of the water will not contain sediments. Deicorp Constructions will ensure that the water being pumped off site (if any) will be sediment free and within the parameters set by the EPA.

All drainage outlets at Street level will be covered in geotextile fabric and drainage socks with blue metal will be placed in the kerb and gutters.
However, close monitoring of the site will be according to our EMP



TYPICAL SECTION



SILT TRAP TO STORMWATER SUMP
NOT TO SCALE

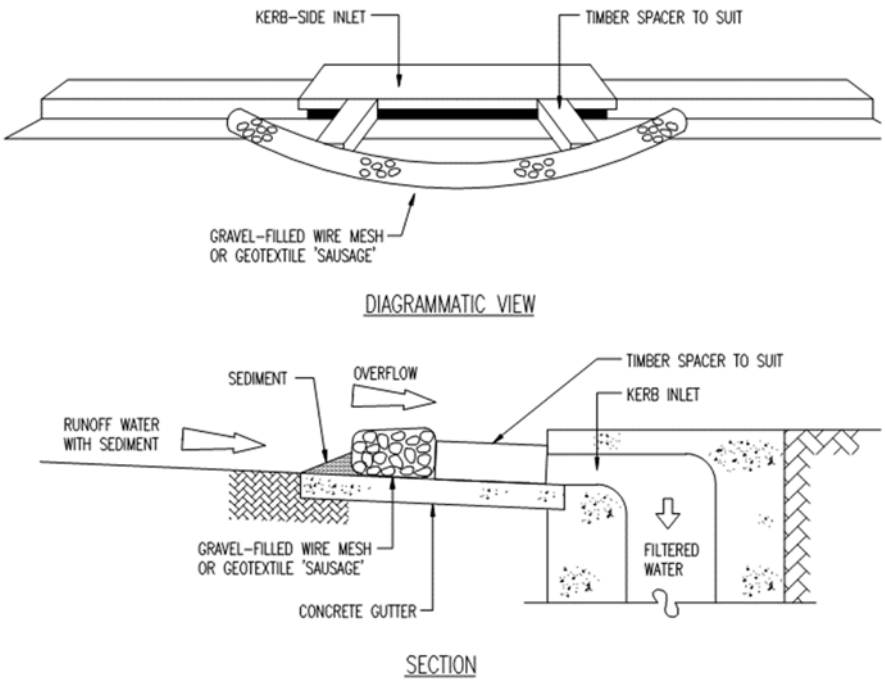


Figure 4.5.1 Kerb and gutter drainage control

4.6 Archaeological Discovery

The discovery of historical artefacts is not expected. However, if any historical artefacts are discovered, works will cease to the vicinity of the area. Deicorp Constructions will contact the Archaeological consultant as described in Archaeological Assessment.

5 Construction Processes

5.1 Demolition

The demolition of the existing 2 story Childcare centre will be carried out in accordance with the existing approved DA, MP11_0093 as issued by the Department of Planning & Infrastructure which will involve the following

1) Site survey of existing rail infrastructure within the proximity of the to be demolished building
2) Dilapidation Survey of the condition of existing rail infrastructure within the proximity of the Precinct 3 **(Refer to Annexure F for Detailed Rail Dilapidation Survey**)
3) Specific demolition methodology to be reviewed and accepted by RailCorp/Sydney Trains (**refer to annexure H for proposed demolition methodology**)
4) Entering into a formal access agreement between Deicorp Construction and RailCorp/Sydney Trains

Figure 5.1.1 and Figure 5.1.2 shows the relationship of the existing 2 storey concrete structure and the rail infrastructure

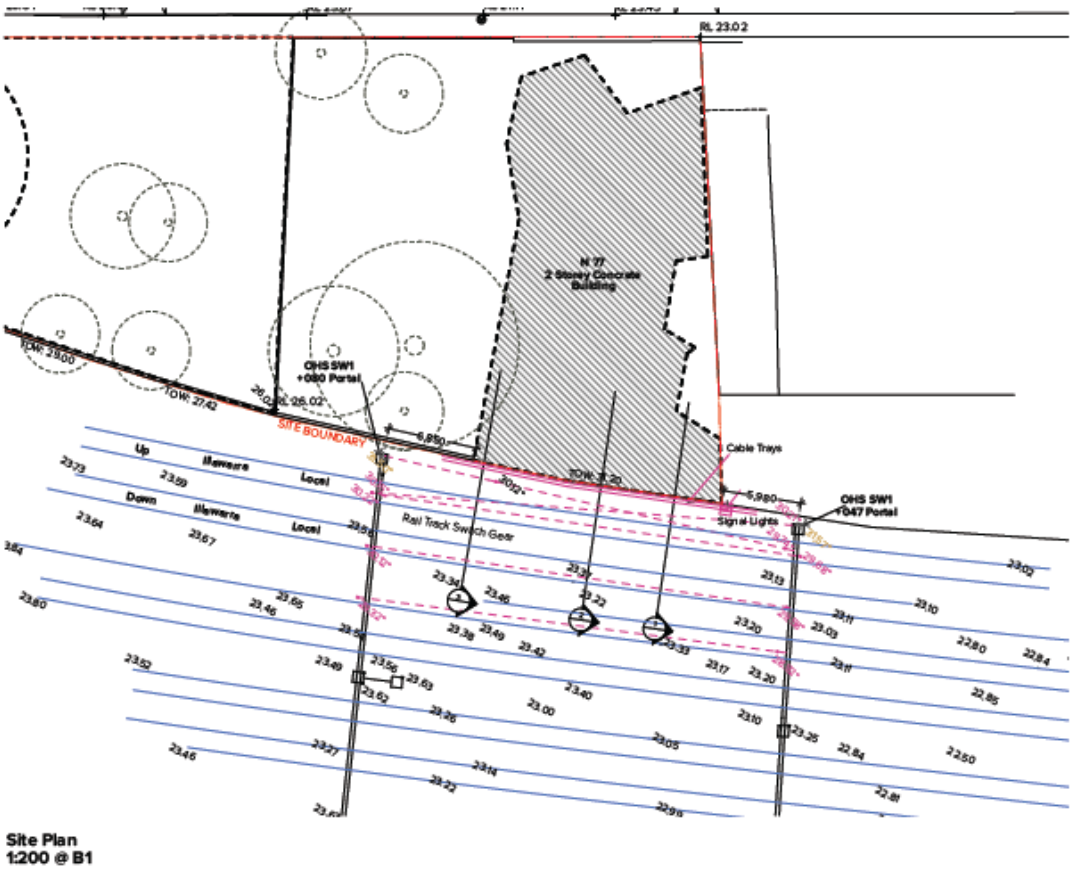


Figure 5.1.1 Plan of relationship of existing building to be demolished and existing rail infrastructure

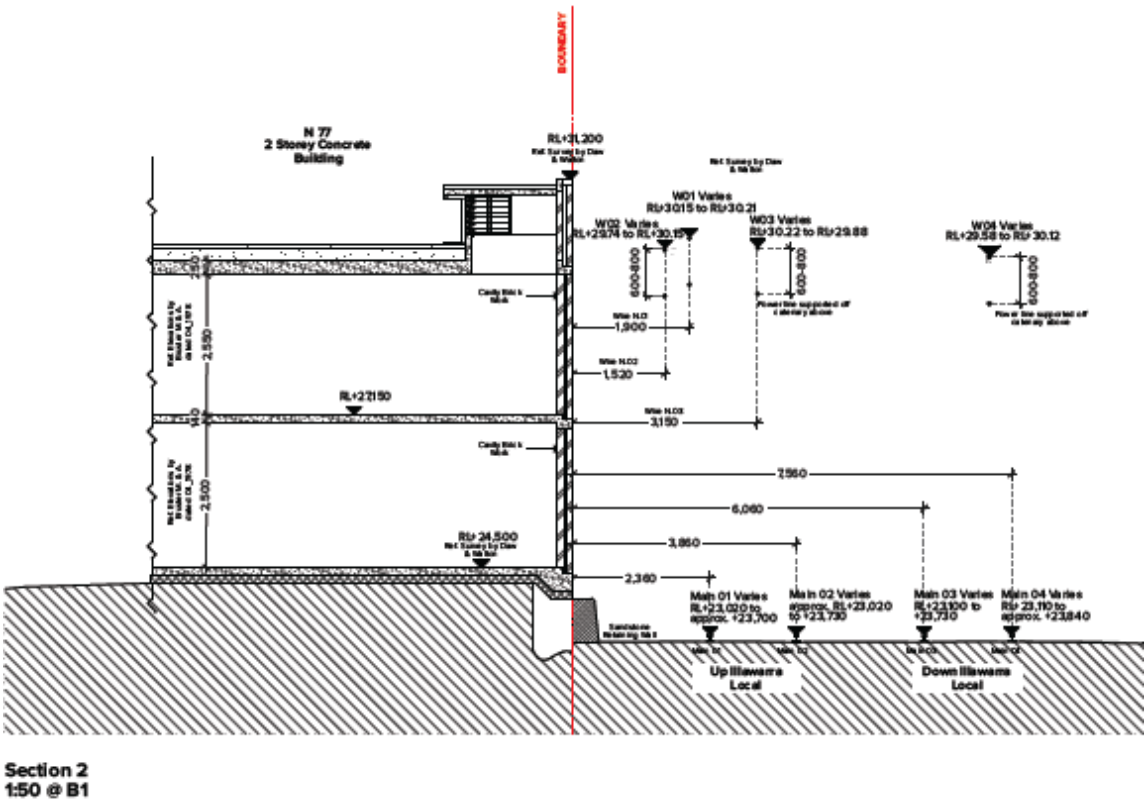


Figure 5.1.2 Section showing relationship of existing building to be demolished and existing rail infrastructure

5.2 Excavation

Once the demolition has been completed Deicorp will install the balance of the sediment and erosion controls and will excavate the site to the RL's as shown on Figure 5.2.1 "Extract of Bulk Excavation & Shoring Plan S0100 P1"

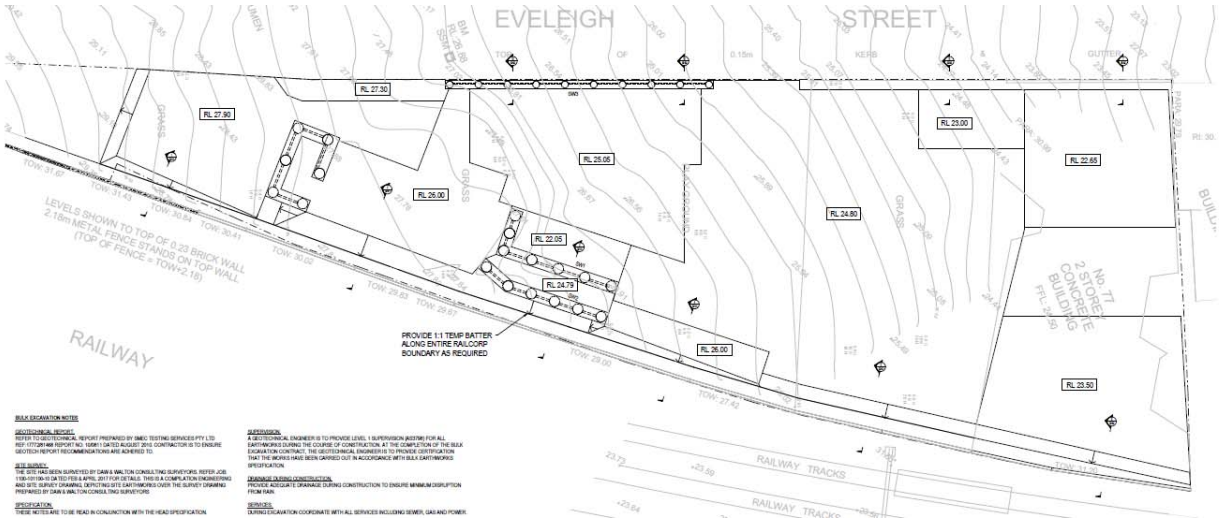


Figure 5.2.1 "Extract of Bulk Excavation & Shoring Plan S0100 P1"

There is a pile and shotcrete wall along a section of Eveleigh St. In this area the site will be excavated to a level below the capping beam of the retaining wall. Refer to Figure 5.2.2 "Section of Piled shotcrete wall retaining wall along Eveleigh St"

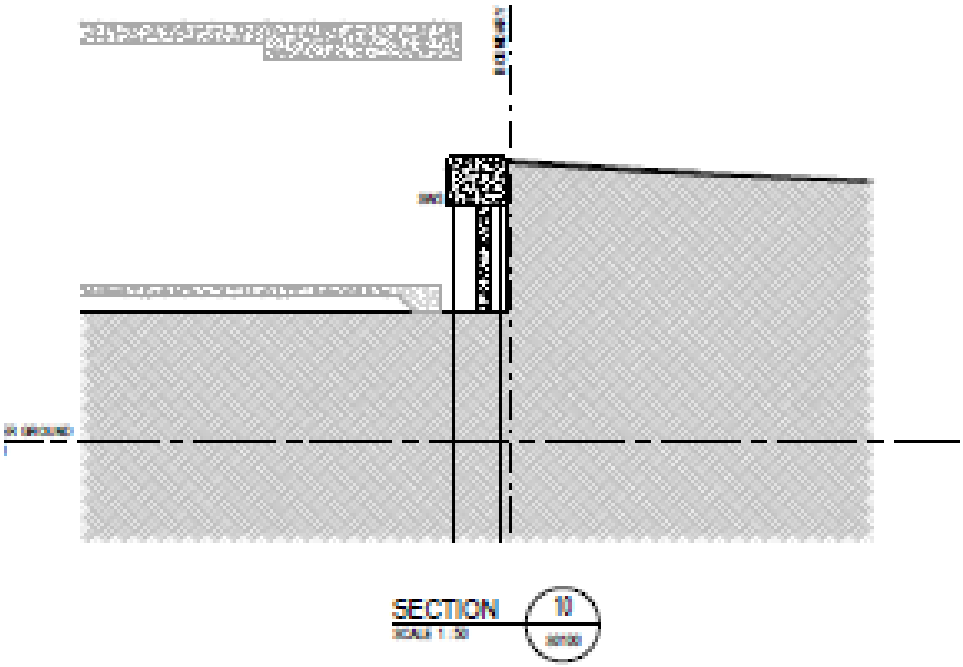


Figure 5.2.2 “Section of Piled shotcrete wall retaining wall along Eveleigh St” Extract from drawing S0101 P1

Once the areas which have pile retaining walls have been excavated to a level underside of capping beam the retention piling will be installed to allow further excavation of these areas.

All other areas of the site will be excavated to the required bulk excavation levels of the site. As the project does not have any basement carparks the bulk excavation across the site is shallow and ranges from 0.5m to 1.8m respectively.

With regards to excavating along the RailCorp eastern boundary Deicorp Constructions has undertaken preliminary investigation along this boundary by way of test pits. Using this information Deicorp’s consultants have designed a temporary batter along this boundary which is summarized in Figure 5.2.3 “Section of excavation and piling in close proximity of Eastern RailCorp retaining wall” which shows the prescribed batter being undertaken as part of the excavation phase. Due to the use of the temporary batter there is no requirement to rock anchor along the eastern RailCorp boundary.

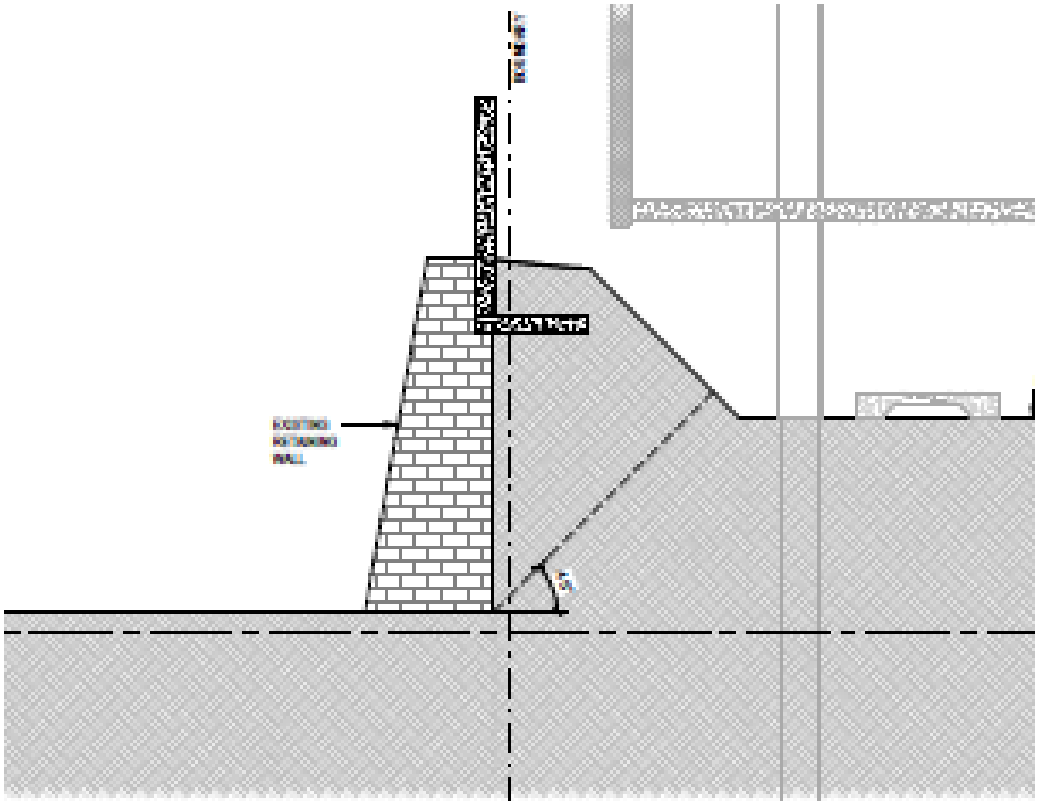
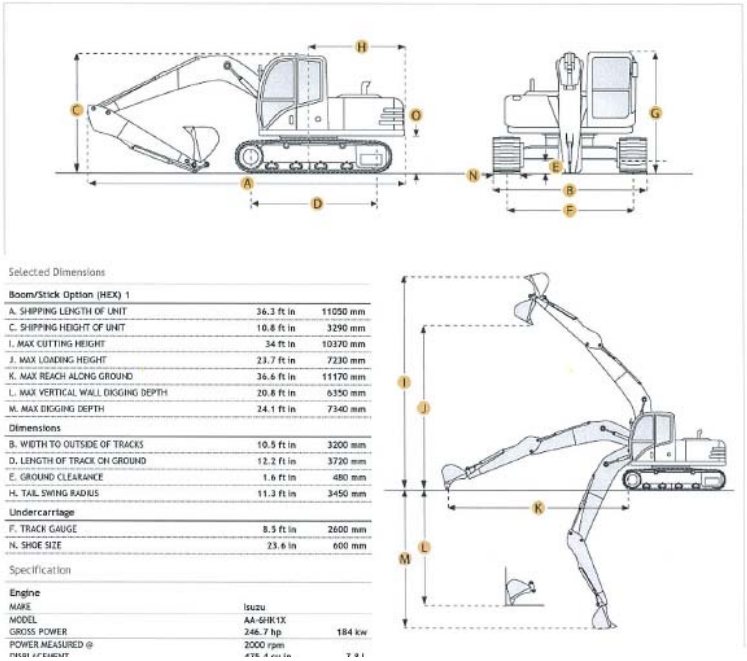


Figure 5.2.3 “Section of excavation and piling in close proximity of Eastern RailCorp retaining wall” Extract from drawing S0101 P1

Due to the shallow nature of the excavation, rock will not be encountered during the excavation phase. As such excavation will be carried using a 35 tonne excavator with bucket. Refer to Figure 5.2.4 showing the typical specifications of a 35 ton excavator.



Selected Dimensions

Boom/Stick Option (HEX) 1		
A. SHIPPING LENGTH OF UNIT	36.3 ft in	11050 mm
C. SHIPPING HEIGHT OF UNIT	10.8 ft in	3290 mm
I. MAX CUTTING HEIGHT	34 ft in	10370 mm
J. MAX LOADING HEIGHT	23.7 ft in	7230 mm
K. MAX REACH ALONG GROUND	36.6 ft in	11170 mm
L. MAX VERTICAL WALL DIGGING DEPTH	20.8 ft in	6350 mm
M. MAX DIGGING DEPTH	24.1 ft in	7340 mm
Dimensions		
B. WIDTH TO OUTSIDE OF TRACKS	10.5 ft in	3200 mm
D. LENGTH OF TRACK ON GROUND	12.2 ft in	3720 mm
E. GROUND CLEARANCE	1.6 ft in	480 mm
H. TAIL SWING RADIUS	11.3 ft in	3450 mm
Undercarriage		
F. TRACK GAUGE	8.5 ft in	2600 mm
N. SHOE SIZE	23.6 in	600 mm

Specification

Engine		
MAKE	Isuzu	
MODEL	AA-6HK1X	
GROSS POWER	246.7 hp	184 kw
POWER MEASURED @	2000 rpm	

Figure 5.2.4 Specification of 35 tonne Excavator

5.3 Piling

Once the bulk excavation levels and the underside of capping beam levels have been achieved Deicorp will commence the piling. The piling will be undertaken using a Soilmech SR30 piling rig. Refer to figure 5.3.1 “Soilmech SR30 Piling Rig”

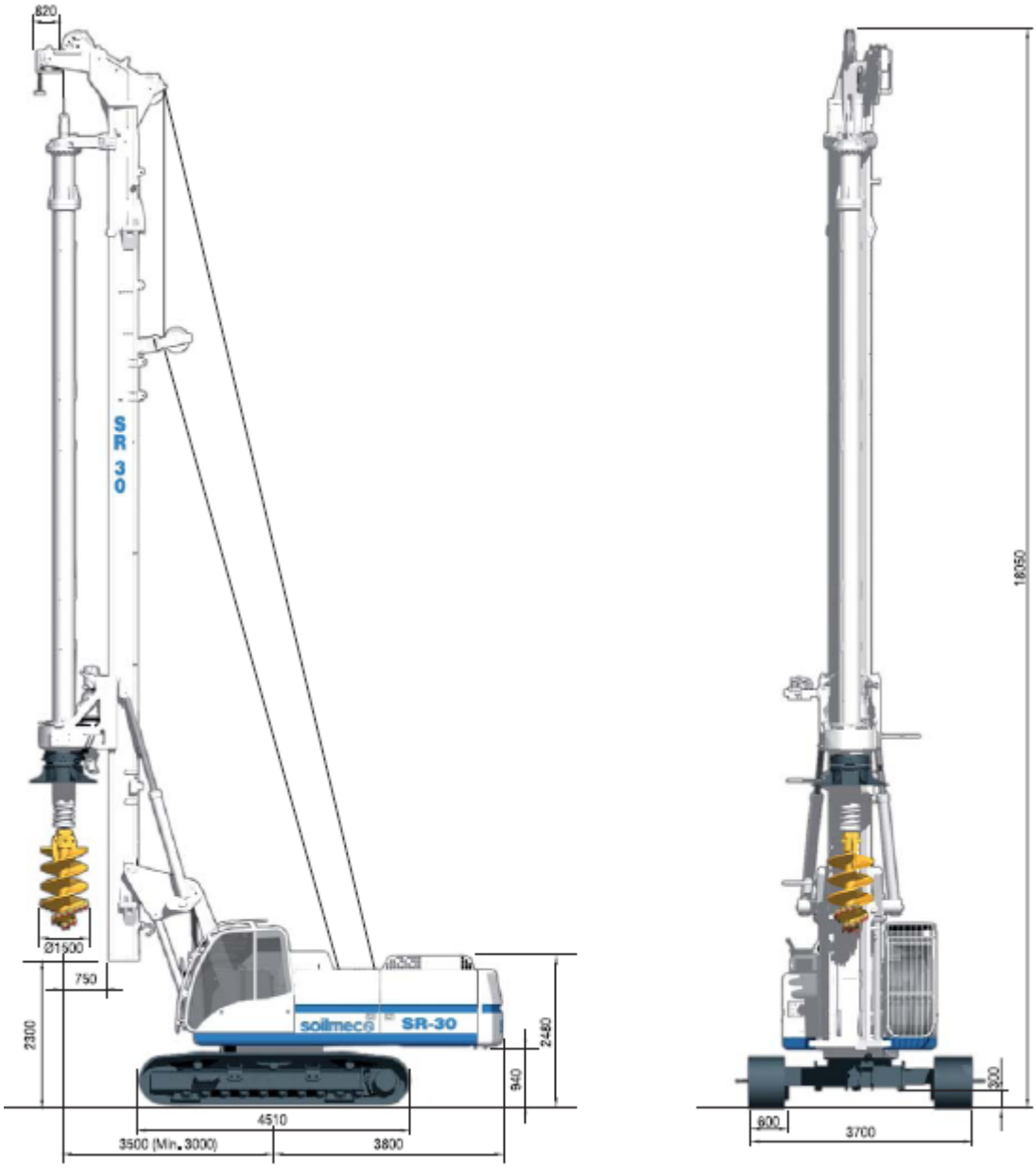


Figure 5.3.1 “Soilmech SR30 Piling Rig”

The Soilmech SR30 will install bored piles to the extent as shown of figure 5.3.2 “Extent of piling Extract from drawing S0105 P1”

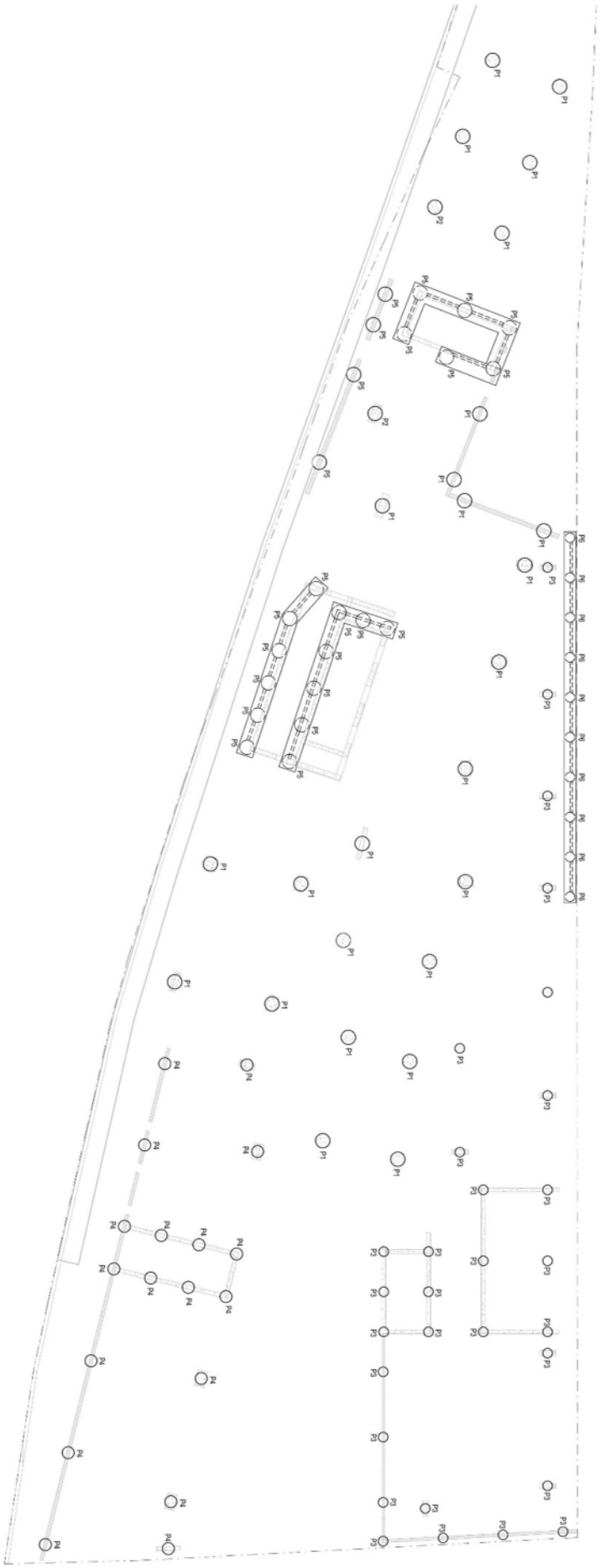


Figure 5.3.2 “Extent of piling Extract from drawing S0105 P1”

The Geotechnical Consultant Environmental Investigations Australia has advised that there is no issue with any of the piles providing any lateral load to the existing Eastern RailCorp retaining wall. As such there is no requirement to sleeve the piles with in the zone of influence of the existing RailCorp Retaining wall.

All piles to be drilled down to below the zone of influence of the Railcorp eastern retaining wall and will be socketed into class 2 sand stone with all bearing capacities being certified by a Geotechnical engineer.

The size of the bored piles range from 600mm to 900mm in diameter.

5.4 Vibration Minimisation

Due to the shallow nature of the excavation It is expected that the excavation and piling works will create very small vibrations. Deicorp will undertake spot vibration testing the machinery on site to ensure that equipment employed does not create any harmful vibrations. In the event that hydraulic rock breakers are required for part of the excavation then a vibration monitoring plan is required to be adopted. .

5.5 General Building Envelope

Overview

The building structure and envelope of 83-123 Eveleigh St is as follows.

Retaining walls
Piled retaining walls with shotcrete infill required at the a section of Eveleigh St and at the detailed excavation levels for the lift pits and bottom level of the fire stairs

Building Foundations
Bored piles ranging from 600 to 900mm in diameter with pile caps. All piles to be socketed into class 2 sand stone below the zone of influence of the existing Railcorp Eastern retaining wall

Building Structure
Building structure to be a concrete reinforced/post tensioned structure to a building height of 23 levels to be conventionally formed with the exception of the lift core and fire stair cores which is to be formed using a jump form

Building façade
The building façade will comprise of external precast panels, curtain wall and floor to soffit glazing and feature screen. Figure 5.5.1 shows the extent of precast for a typical level

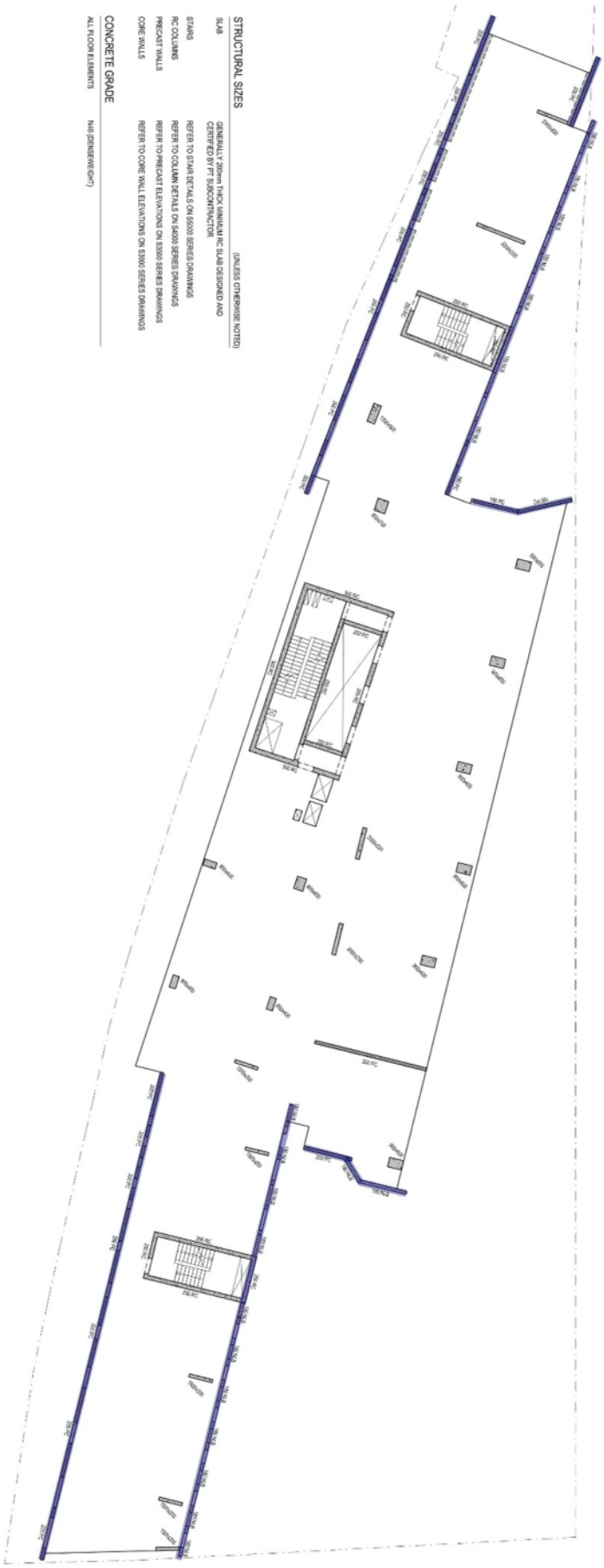


Figure 5.5.1 Extract of drawing S1080 rev P1 showing extent of precast on typical floor level 5

5.6 Site establishment and Amenities

Deicorp Constructions will establish the 1st stage of site amenities at the southern end of the site. Once the lower ground level as been constructed and is free of formwork. The site amenities will be extended to include the 2nd Stage of site amenities. It is expected that stage 1 will be able to accommodate a work force of 60 men and once stage 2 has been added the site accommodate will accommodate 180 men.

Please refer to Figure 5.6.1 “Areas for Site Amenities” for the areas allocated for stage 1 and stage 2 site accommodation.

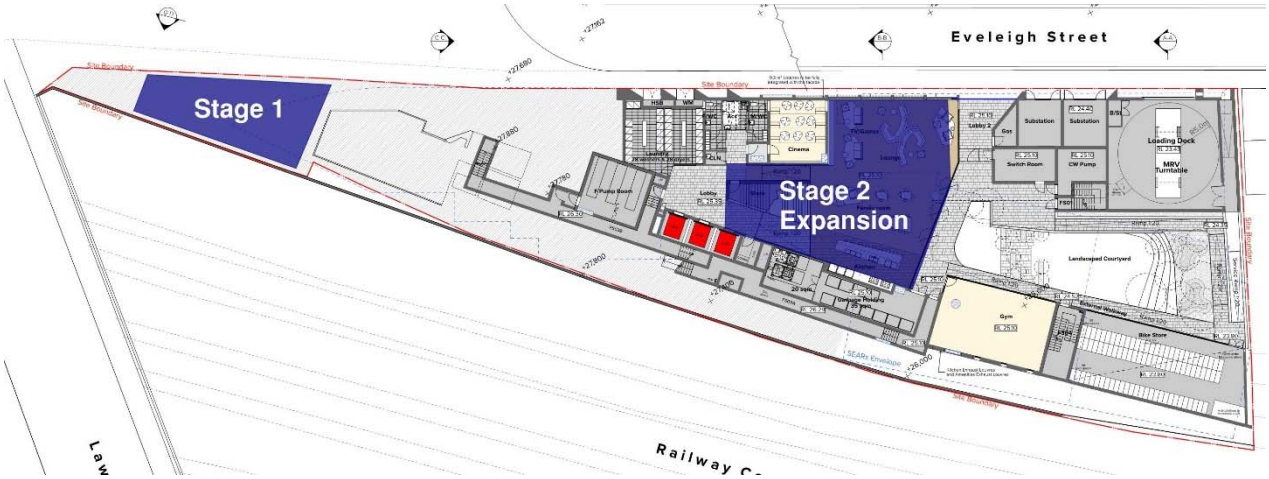


Figure 5.6.1 Areas for Site Amenities

5.6 Hoardings and Site Entries for Demolition and Excavation

Figure 5.6.1 “Extract from Traffic Management Plan rev 3” shows the site access to Precinct 3 during the demolition and excavation phase

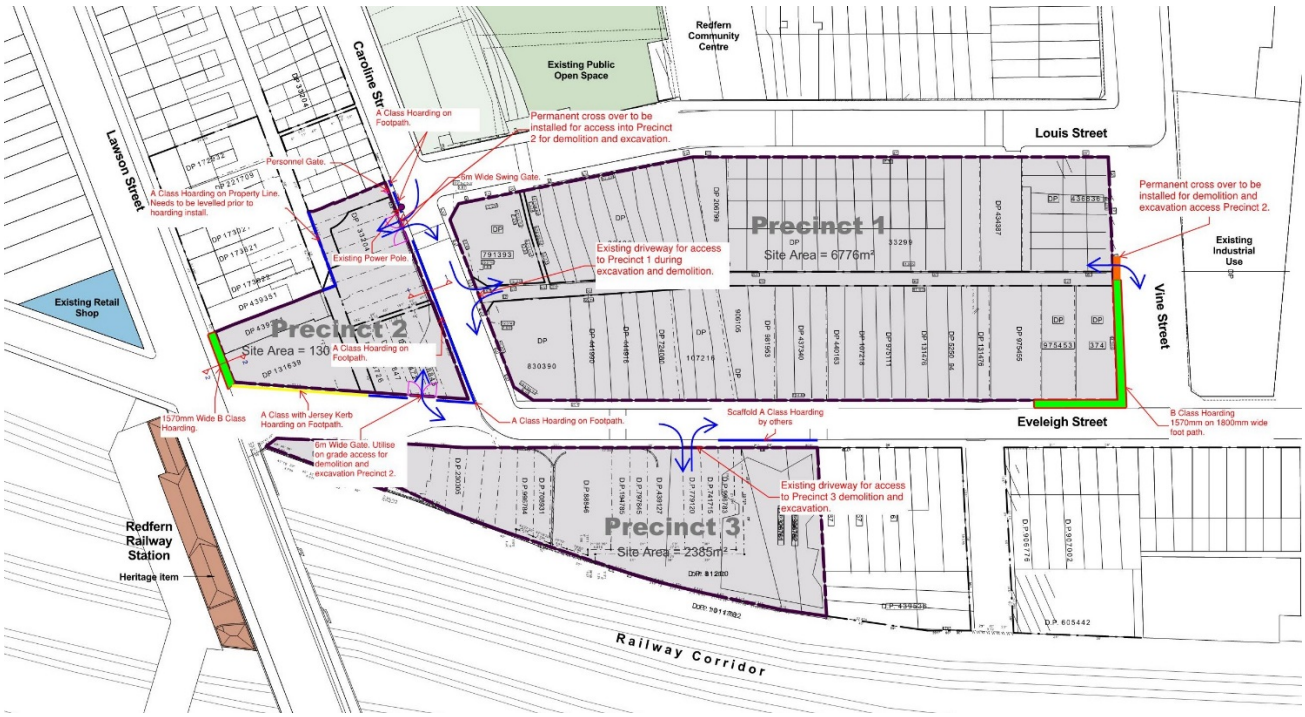


Figure 5.6.1 Extract from Traffic Management Plan Rev 3”

During the demolition and excavation phase site access will be from an existing driveway located off Eveleigh St. The existing chain wire and shade cloth fence will provide adequate site protection during the course of these works.

Figure 5.6.2 “Extract from Traffic Management Plan rev 3” shows the required hoardings, work zones and site access for Precinct 3 for the Construction Phase

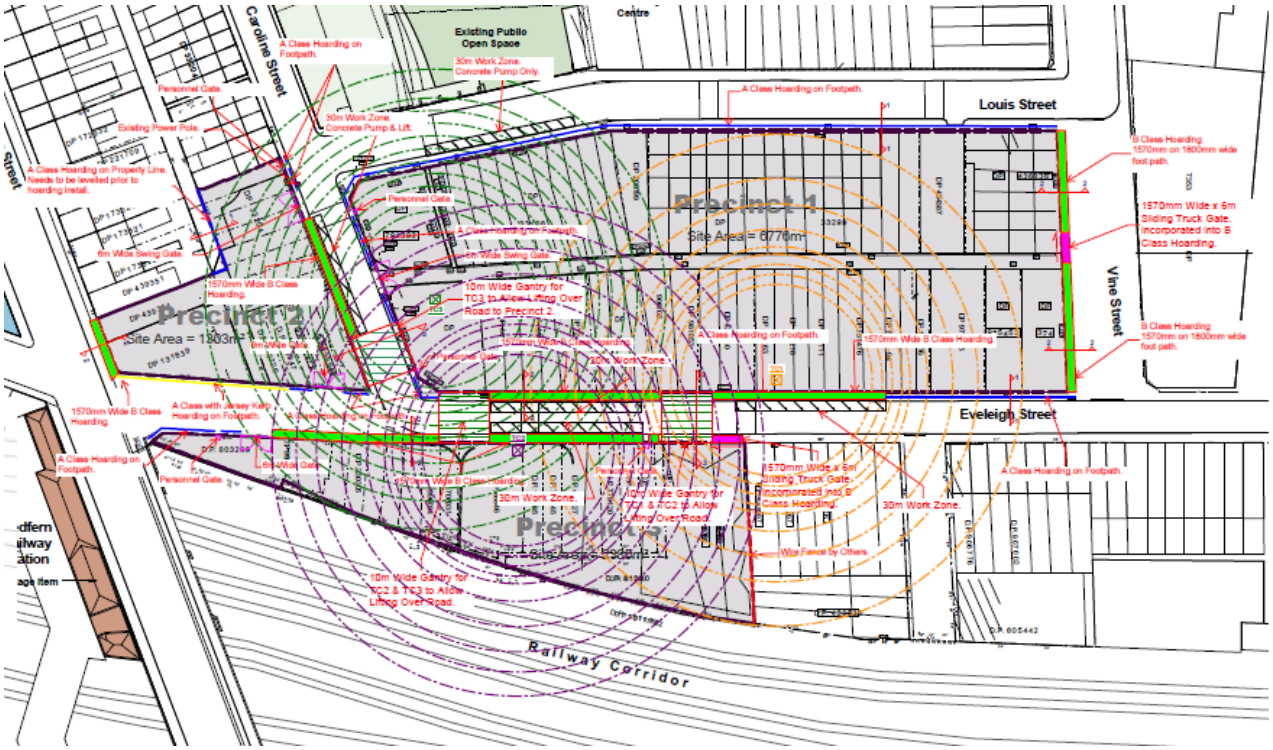


Figure 5.6.2 “Extract from Traffic Management Plan rev 3”

During the construction phase the following hoardings/workzones will be required

- 30m workzone to the eastern side of Eveleigh St to be used for concrete pumping for Precinct 3. Note that when this work zone is in operation the adjacent workzone on the western side of Eveleigh St is not to be used.
- 30 m workzone on the western side of Eveleigh St. This work zone will be used to unload deliveries coming to site. Note that semi trailers and HRV trucks can only travel in the northern direction of Eveleigh St due to turning circle restrictions
- A 10m wide overhead gantry is required to be installed which bridges over Eveleigh St to provide overhead protection to motorists abd pedestrians as the crane on Precinct 3 lifts from the western workzone to Precinct 3
- A, B class hoarding will be installed on the eastern side of Eveleigh St for overhead protection for pedestrians using the eastern footpath
- The eastern boundary of Precinct 3 will rely on the existing Railcorp boundary fence for site fencing.
- The balance of the perimeter of the site will be enclosed with A class hoarding.

For full details of the traffic management plan **Refer to Annexure A for detailed Traffic Management Plan**

5.8 Site Tower Cranes:

Precinct 3 will be constructed at the same time as Precinct 1 and 2. As such there will be some shared cranage between the precincts. Figure 5.8.1 shows the location and the lifting radius of the proposed site tower cranes. **Refer to annexure C for detailed crane radius plan**

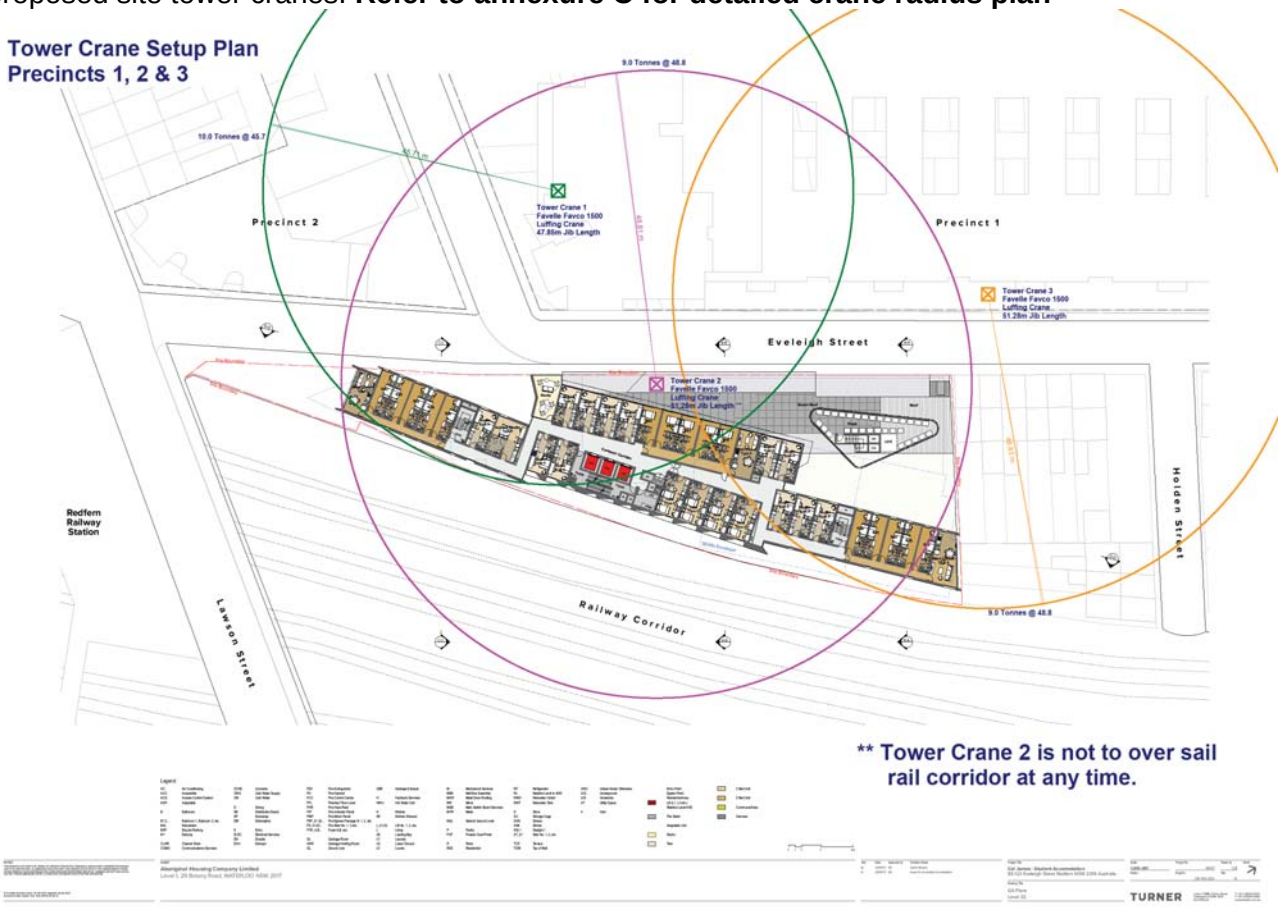


Figure 5.8.1 Proposed Site Tower Crane Locations

The tower crane located on Precinct is proposed to be a luffing Favelle 1500.

Deicorp is proposing to use a luffing crane at this location as it is deeded to comply with clause 7.4 of the NSW Transport Standard for External Developments THR-C1-12080-ST version 1 requirements for cranes for external developments. Figure 5.8.2 is an extract from the NSW Transport Standard THR-C1-12080-ST version 1

7.4. Crane and other aerial operations

When in operation, cranes and other construction equipment such as, concrete pumps and access equipment, shall not intrude into the rail corridor.

When not in operation, cranes are permitted to 'weathervane' into the rail corridor subject to the approval of the maintainer and operator and the Lead Electrical Engineer, ASA.

The requirements of SMS-06-GD-0268, Section 9 *Work above exposed electrical equipment,* shall be observed.

No loads are to pass over any overhead wiring or HV aerial lines located within the rail corridor.

Figure 5.8.2 Clause 7.4 from the NSW Transport Standard THR-C1-12080-ST version.

5.9 Builder' Hoist Locations

Deicorp is proposing to utilize 2 of External builders hoists at the locations as depicted on Figure 5.9.1 "Hoist Locations" for Precinct

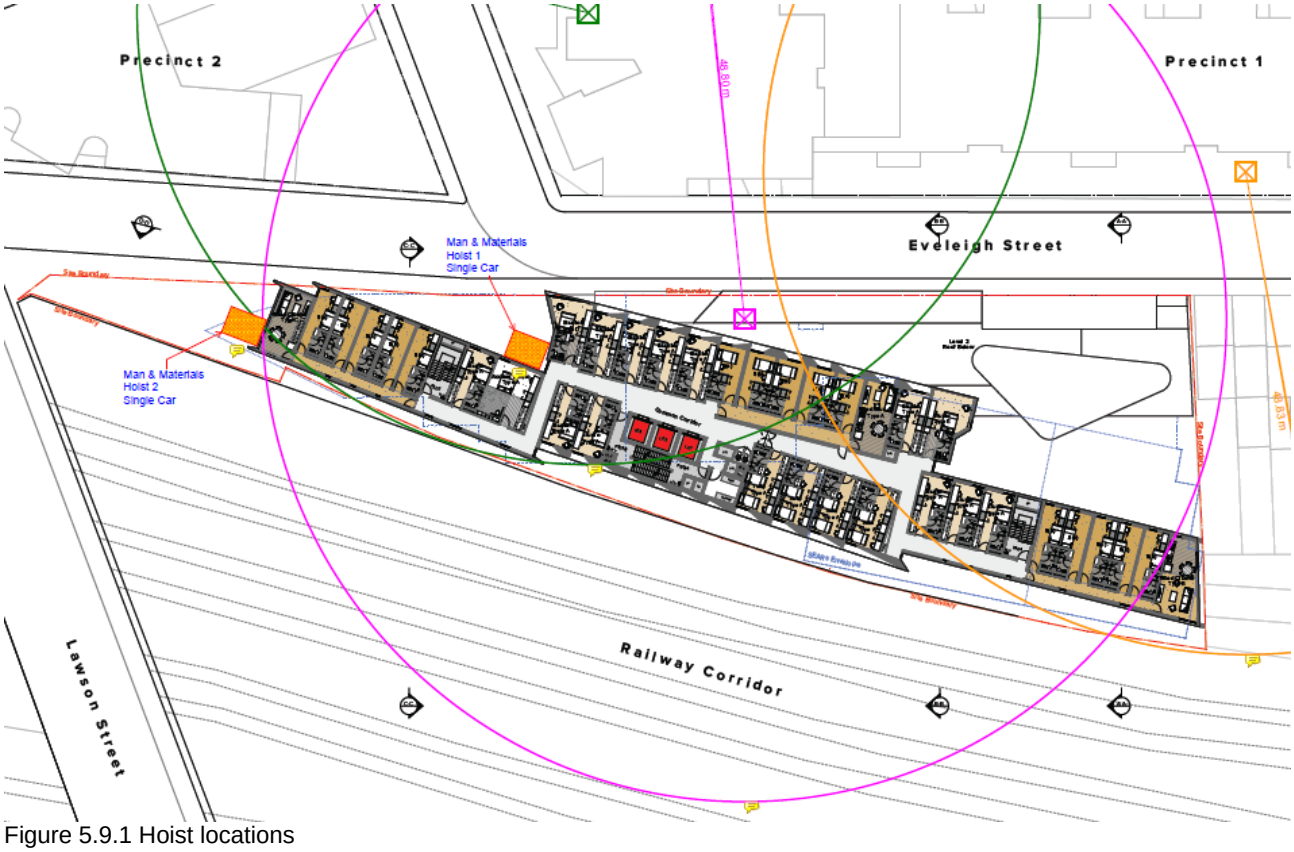


Figure 5.9.1 Hoist locations

The hoists will be the same or equal to a Alimak Scando 650 . Refer to figure 5.9.2 for a photo of of a Alimak Scando 650

Figure 5.9.2 Photo of Alimak Scando 650

5.10 Edge protection

The edge protection to the site will be a combination of the following

1) Scaffold
2) Precast
3) Formwork / Finishing screens

Figure 5.10.1 shows the extent of scaffold, precast and formwork finishing screens which is expected to be used on an upper ground level. **Refer to annexure B for full scaffold layout plans** identifying areas of scaffold, screens and precast

1) Scaffold
   The extent of scaffold proposed on the project is as per Scaffold drawings contained in annexure B Scaffold will be typically erected to areas of the façade where concrete precast panels are used, areas where curtaining wall is prescribed and where formwork screens cannot be utilized.

2) Precast
   As the precast is load bearing the precast panel will have to be installed on the slab first and then propped in position. The precast panel will extend 200mm higher than the finished floor level above thus provide a hob where to attached a handrail at the top of the precast panel prior to the panel being stood. Once the precast panel has been stood vertically and propped the handrail at the top of the panel will act as the required edge protection for when the formwork soffit is formed and the structural trades are working on the formed soffit. All precast panels will be craned into place

3) Formwork / Finishing screens figure 5.10.2 and 5.10.3 show the typical detail of the formwork / finishing screens. For further details regarding the use of screen refer to Annexure D for Natform standard screen details. To lift and lower the screens the site tower crane will be used.

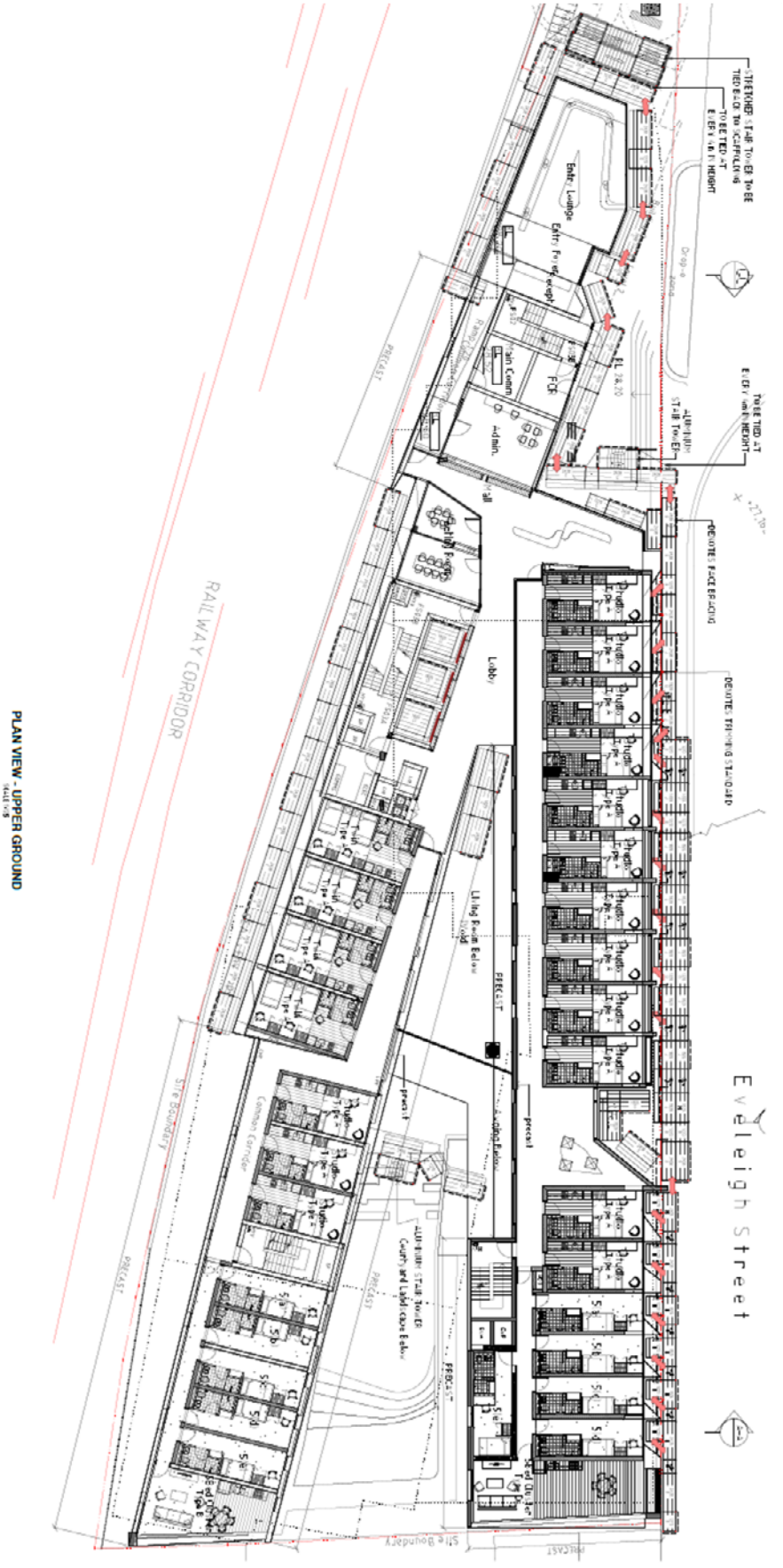


Figure 5.10.1 Plan showing scaffold layout to upper ground level

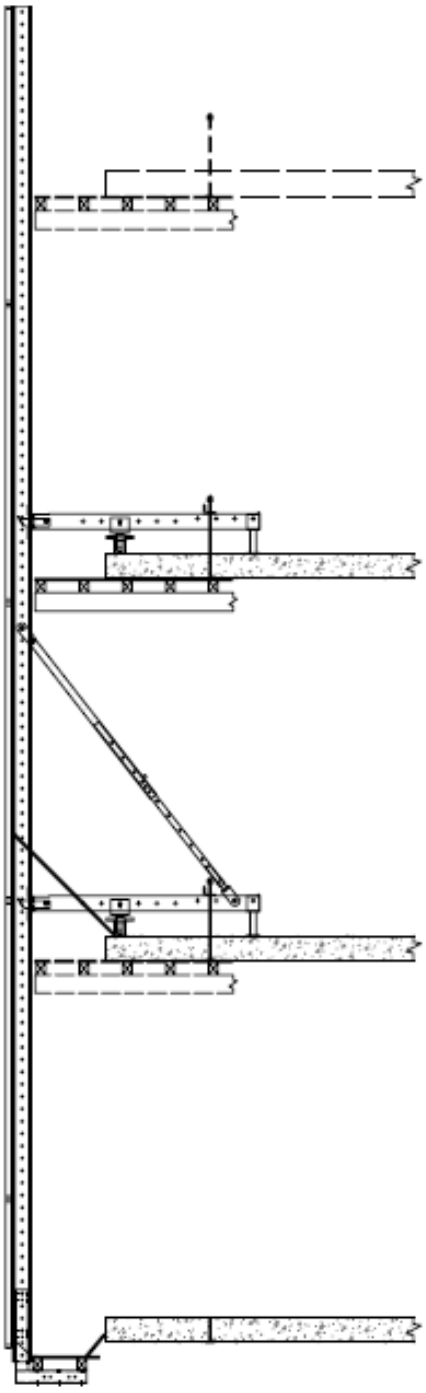


Figure 5.10.2 Formwork screen

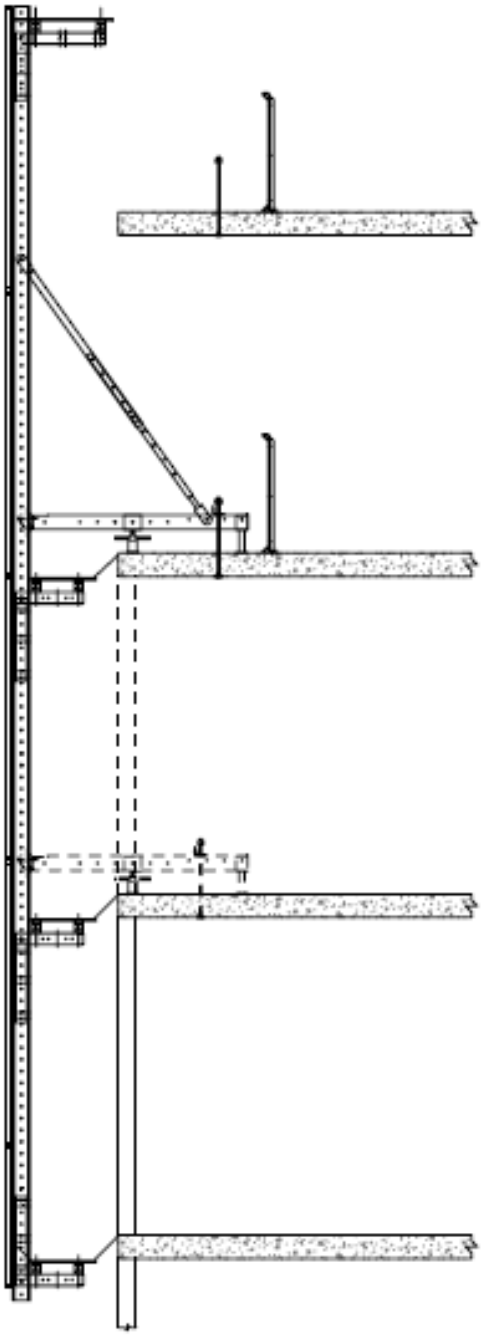


Figure 5.10.3 Finishing screen

5.12 Jumpform:

To expedite the construction process Jumpform will be used to construct the building cores, which consist of the lift shafts and fire stairs. Refer to Figure 5.12.1 which shows the extent of concrete core from Ground floor to level 23 which will be constructed using the Jumpform technique

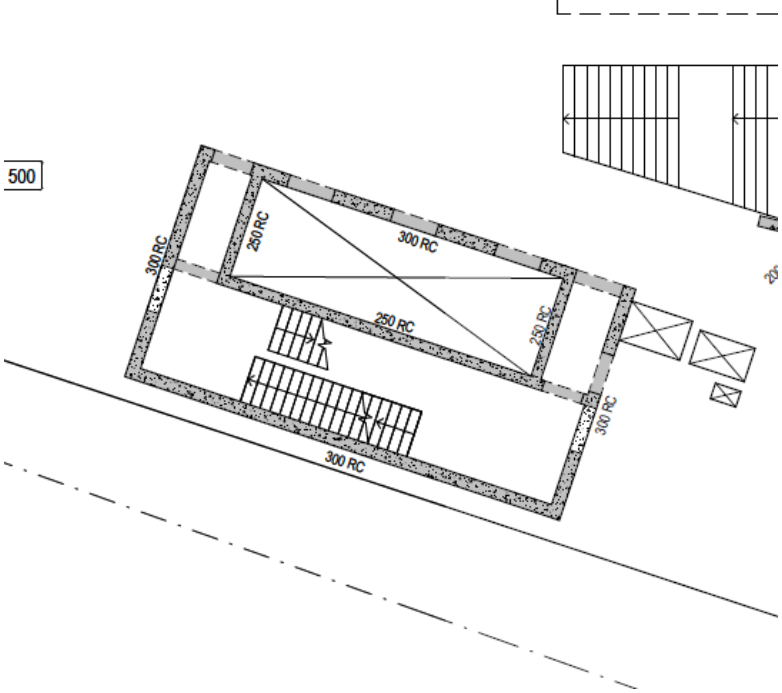


Figure 5.12.1 Showing the concrete lift and stair core to be formed with a Jumpform

The jumpform will consist of hydraulic self climbing equipment and prefabricated all form shutters and grid beams. Refer to attached Figure 5.12.2 which shows jumpforms being used on Deicorp's 7 to 9 Gibbons St, Refern Project.

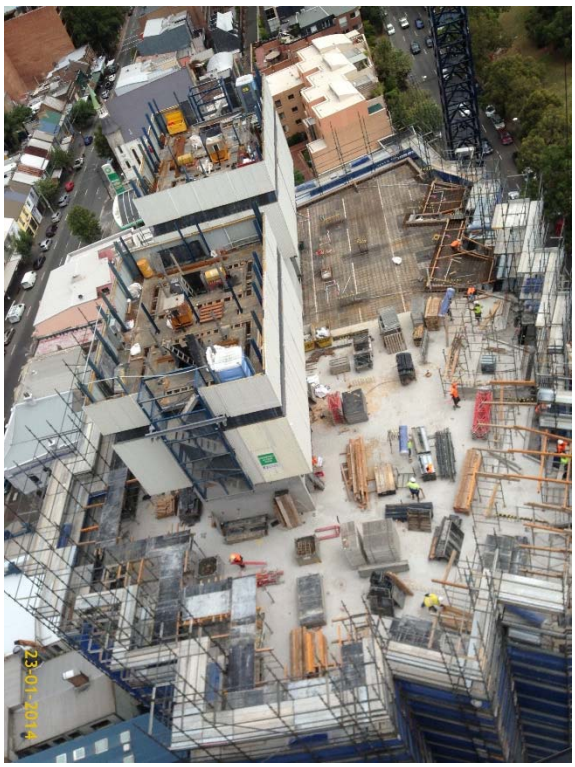


Figure5.12.1 Jumpforms being used on Deicorp's 7 to 9 Gibbons St project

5.13 Finishes and project completion

Following the completion of the façade and “lock up” being achieved, Deicorp Constructions will load the building (service gear) with all of the items required to complete the finishing works with an aim to significantly reduce the area hoarded off, thus reducing the visual impact of the construction works.

Currently the level of finishes within the completed structure are of a base building nature and are expected to be completed with a minimum of disruption to the surrounding users and are not expected to be of an extended nature.

Following the completion of the project Deicorp Constructions will remove all hoardings, then hand the site to the client.

5.14 Construction Hours

Worksite hours will specifically be in accordance with approved D.A. Hours. 7am to 7pm Monday to Friday and between 7am and 5pm on Saturday, with the operation of plant and high noise machinery restricted between the hours of 8am to 12pm and 2pm to 5pm. Works requiring work outside of these hours will be via permit issued from City of Sydney Council and will mainly be for works requiring mobile cranes

6 Environmental Safeguards

6.1 Noise Control

Noise from the site shall endeavour not to exceed the limits set out in the Development Consent Conditions and other applicable regulatory guidelines. No machine work will occur outside any approved hours or permits given by City of Sydney Council.

- All work shall comply with Councils Code for the Control and Regulation of Noise on Building sites and Australian Standard 2436-1981 “Guide to Noise Control on Construction, Maintenance and Demolition Sites”
- That noise and vibration from the use of any plant equipment and/or building services associated with the premises shall not give rise to an offensive noise as defined under the provisions of the Noise Control Act 1975
- As part of the noise mitigation treatment for the project, all trucks and machinery will be checked for defective exhaust systems and maintain regular servicing.
- No works shall be conducted outside normal working hours unless the superintendent’s representative has given approval to do so.
- An external consultant has been engaged to conduct noise monitoring during noisy works in accordance with the Noise Management Plan included under Annexure 9C.

6.2 Dust Control

The constant watering of the rock saw / breaker / ripper during detailed excavation will be carried out when required, to prevent airborne dust particles being generated. Additional precautions include the covering of haulage trucks with covers.

As a result of Construction Activities, any extraordinary affect to adjacent properties (dust, dirt) will be cleaned up by EQ Constructions.

6.3 Hazardous Material Disposal

Asbestos and other hazardous materials such as Hazardous Waste and Solid Waste (if any) will be disposed of at a landfill that is appropriately approved by the EPA.

6.4 Environmental Monitoring and Reporting

Erosion and Drainage Control devices will be monitored daily particularly during wet weather. Should the capacity of the control devices be insufficient they will be upgraded or replaced. During Demolition & Excavation activity dust generation will also be checked and monitored (if required extra measures will be adopted to minimise its generation).

6.5 Waste Management

Where possible and practicable, material generated from the Excavation & Demolition contract will be offered to be recycled. In past projects Deicorp Constructions has managed to recycle between 80-90% of its excavation material.

Waste generated from the Construction phase of the project will be sorted and recycled off site.
Refer to Annexure G for details of Waste Management Plan

7 Annexures

Annexure A Traffic Management Plan

Barker Ryan Stewart Traffic Management Plan , Pemulwuy Project Precincts 1,2 & 3 ref SY170002 rev 3 dated the 6/6/2017

BARKER RYAN STEWART
TOTAL PROJECT SOLUTIONS

PLANNING
PROJECT MANAGEMENT
ENGINEERING
CERTIFICATION

Deicorp Constructions (NSW) Pty Ltd

Construction Traffic Management Plan

Pemulwuy Project (Precincts 1, 2 and 3), Redfern

June 2017

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Project No.	SY170002
Author	EA
Checked	GB
Approved	GB

Rev No.	Status	Date	Comments
1	DRAFT	1/05/17	
2	DA submission	9/05/17	
3	DA submission	06/06/17	

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TOTAL PROJECT SOLUTIONS

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Appendix A – Site Management Plans
Appendix B – Traffic Control Plans
Appendix C – Vehicle Movement Plan
Appendix D – Swept Path Analysis Plans

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1 Introduction

Barker Ryan Stewart has been engaged by Deicorp Constructions (NSW) Pty Ltd to prepare a Construction Traffic Management Plan (CTMP) to detail traffic management procedures and systems for the demolition, excavation and building stages for the proposed mixed-use Pemulwuy development in Redfern, in accordance with the requirements of:

- Sydney City Council Development Control Plan;
- RMS's *"Traffic Control at Worksites"* document; and
- AS1742.3 2009 *"Manual of uniform traffic control devices"*

The purpose of this plan is to ensure the safe and controlled movement of traffic at the site during the demolition, excavation and building works to address potential traffic, access, car parking and pedestrian issues generated by the works.

In preparing this CTMP the following items have been considered/undertaken:

- An inspection of the site and surrounding road network to determine any constraints that may impact on the safe and controlled movement of traffic during demolition, excavation and building works.
- Determination of appropriate traffic/haul routes,
- Provision of a swept path analysis to ensure safe access/egress from the site,
- Traffic control plans (TCPs) and Vehicle Movement Plan (VMP), and
- A brief outline of the demolition, excavation and building works in relation to traffic management.

2 Project Overview

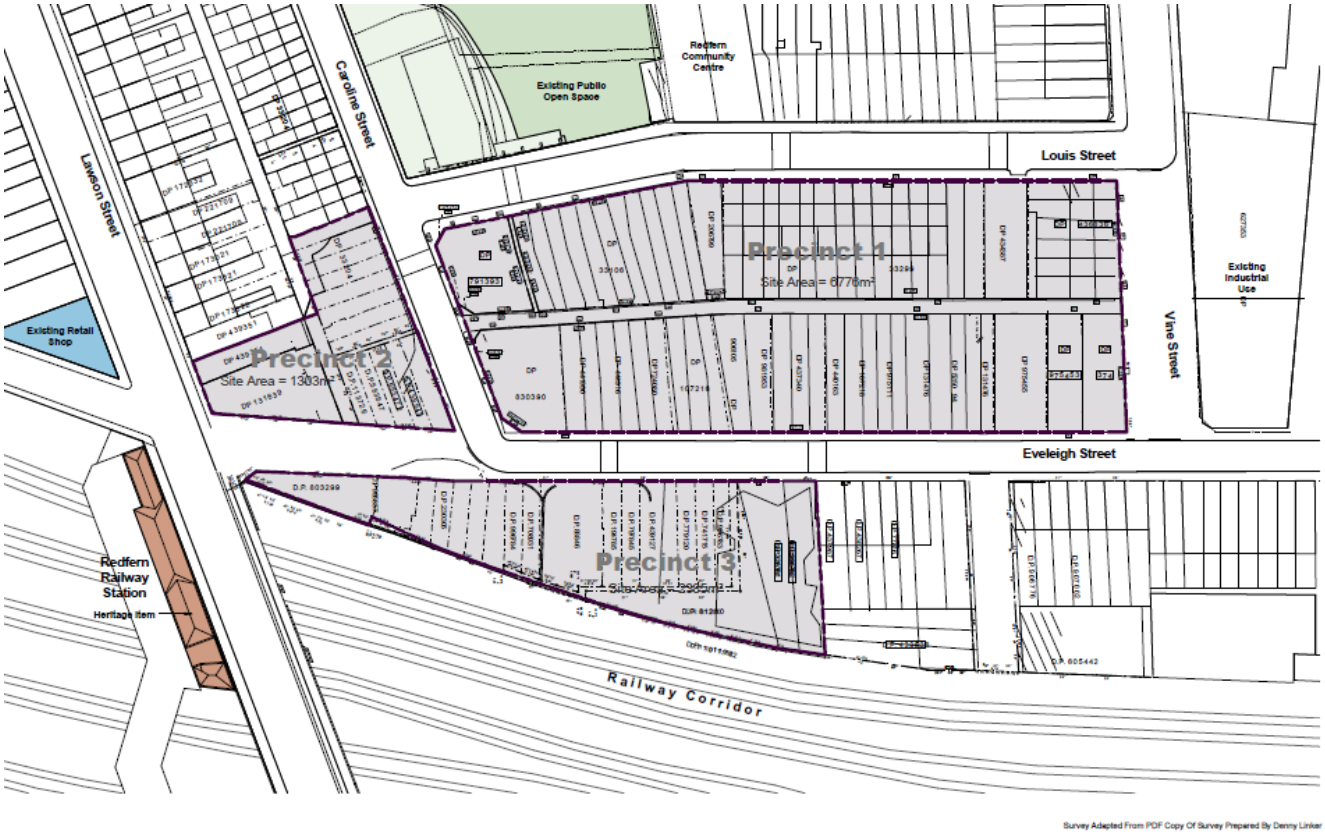
2.1 Proposed Development

The Pemulwuy project is as defined in Department of Planning Approval MP11-0093. The project consists of 3 Precincts:

- Precinct 1 comprises of 1 level of underground carpark basement, 36, 2 storey town houses, 26 apartments, gymnasium and retail within a 6 storey building
- Precinct 2 comprises of 4 storey childcare, retail and commercial building with no basement carpark
- Precinct 3 comprises of a student accommodation building with no basement carpark

The three precincts are bounded by the following roads within the suburb of Redfern:

- Precinct 1 – Eveleigh St, Vine St, Louis St & Caroline St
- Precinct 2 – Eveleigh St, Lawson St, Caroline St & adjoining houses
- Precinct 3 – Eveleigh St, Rail corridor and adjoining houses



2.2 Building and Construction Works

This CTMP covers the demolition of the existing buildings and the construction of the new buildings in the following stages:

- Stage 1 - Demolition of the existing buildings (1.5 months)
- Stage 2 - Excavation, shoring and piling (4.5 months)
- Stage 3 - Construction and Practical completion (21 months).

2.3 Road Network

The VMP (vehicle movement plan) in Appendix C outlines the main routes of ingress and egress to the site. The main roads of interest are summarised below:

- Dowling Street/Eastern Distributor (M1): Dowling Street is an RMS road generally with 3 lanes each in the north/south direction. The Eastern Distributor is a motorway that runs in between, separating the north and south carriageways of Dowling Street.

- Cleveland Street: An RMS road that runs east/west with 2 lanes in both directions. There are generally parking restrictions for the most of the road.

- Regent Street: An RMS road that runs north/south generally with 3 lanes. South of Lawson Street, Regent Street is south bound only. Between Cleveland Street and Lawson Street, there are parking restrictions.

2.4 Construction Overview

2.4.1 Times of Operation

The expected total construction period is 26 months. The hours of operation will be as follows:

- Monday-Friday: 7am-7pm
- Saturday: 7am-5pm
- No work on Sunday or Public Holidays

2.4.2 Demolition/Excavation

This will occur over a 6 month period, commencing in August
2017 and will involve an average workforce of 20 people. Trucks utilised during this stage will be limited to rigid bogie trucks with a maximum length of 7.7 metres with all loading to occur on-site.

Demolition will have an average of 6 truck arrivals per day (6 in, 6 out) which equates to one truck movement every two hours. This stage will have an average of 55 truck arrivals per day (55 in, 55 out) which equates to five trucks per hour.

The arrival of trucks will be strictly managed and monitored throughout all stages of construction by an onsite manager who will only call trucks to the site (via CB radio or hands free mobile) when required and when there is capacity within the site. This management of deliveries will ensure that no trucks are required to queue or park on-street, with this arrangement considered acceptable.

The figure below shows the demolition, and excavation hoarding and loading plan.

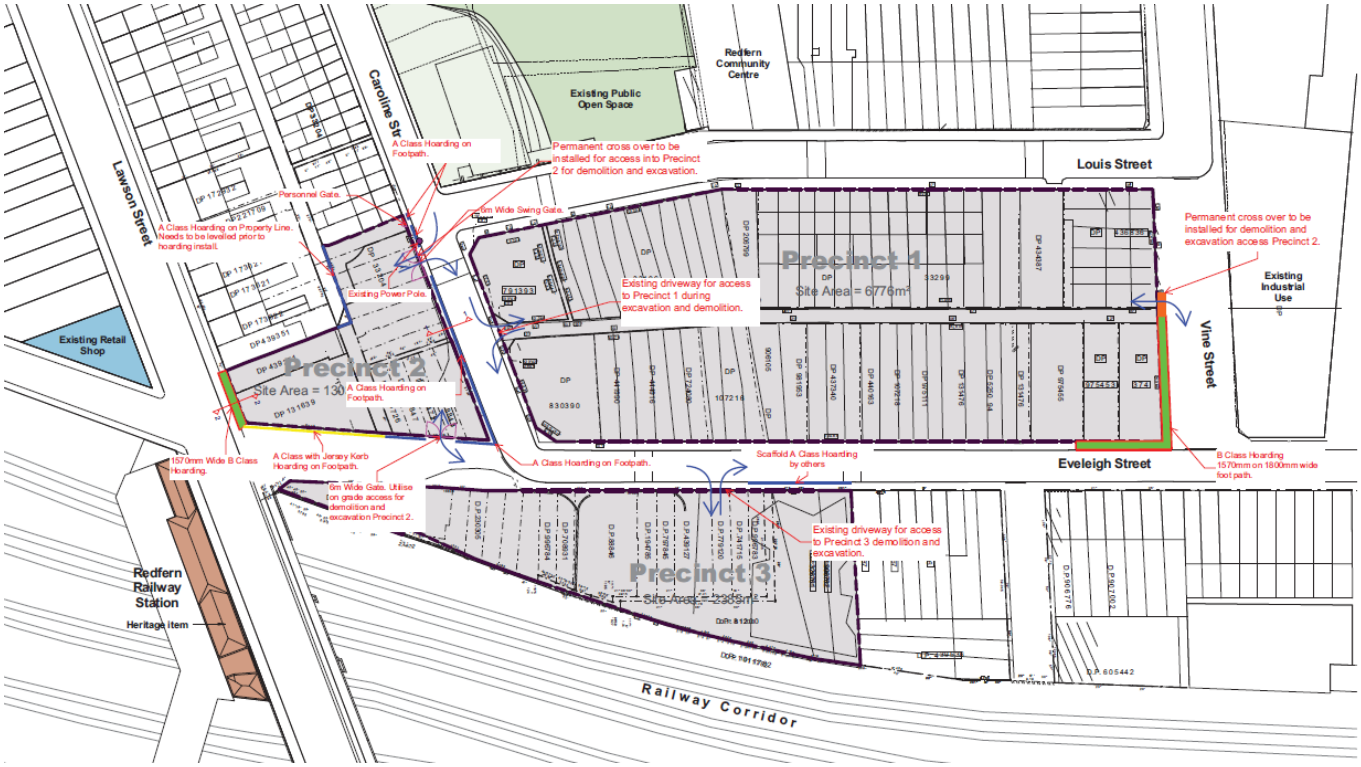


Figure 1: Demolition and excavation hoarding and loading plan (refer to Appendix A for larger version of plan)

2.4.3 Required Hoardings / Driveways / Workzones for Demolition & Excavation Phase (refer figure 1 for details)

2.4.3.1 Precinct 1

- B Class hoarding will be required at the corner of Vine and Eveleigh St to allow the demolition of 42 to 46 Eveleigh St
- The existing 1.8m high chain wire fence will be used to secure the balance of the site during demolition and excavation
- The existing driveways off Caroline St and Vine St will be used to access the site during demolition and excavation works

2.4.3.2 Precinct 2

- B Class hoarding along Lawson St footpath will be required along Lawson St to allow the demolition of 104-106 Lawson St
- A class hoarding on shared roadway will be required along Eveleigh St with scaffold inboard to allow the demolition of 104-106 Lawson St
- A Temporary driveway off Caroline St at the location of the proposed permanent driveway will provide 1 of the 2 access points into Precinct 2
- The existing road access off Eveleigh St will provide the 2 of 2 access points into Precinct 2
- A class hoarding on footpath to be erected to the balance of the site perimeter

2.4.3.3 Precinct 3

- Existing drive way off Eveleigh St will provide the access point into Precinct 3
- A class hoarding with Scaffold inboard along Eveleigh St footpath will be required for the demolition of 77 to 89 Eveleigh St
- A Class hoarding on footpath to be erected to the balance of the site perimeter

2.4.4 Construction and Practical Completion

This will occur over a 21 month period, commencing in October 2017 and will involve an average workforce of 90 people. Trucks utilised during this stage will be limited to rigid trucks and semi-trailers with a maximum length of 12.5 metres and 18m respectively, with all loading to occur via the proposed Works Zone onto Eveleigh Street with the use of an on-site tower crane. This Works Zone shall also be used for the standing of all concrete trucks and the concrete pump, during concrete pours. This stage will have an average of 20 truck arrivals per day (20 in, 20 out) which equates to approximately two trucks per hour. The arrival of trucks will again be strictly managed and monitored by an on-site manager who will only call trucks to the site (via CB radio or hands free mobile) when required and when there is capacity within the Works Zones. The location of the proposed Works Zones are shown in the figure below.

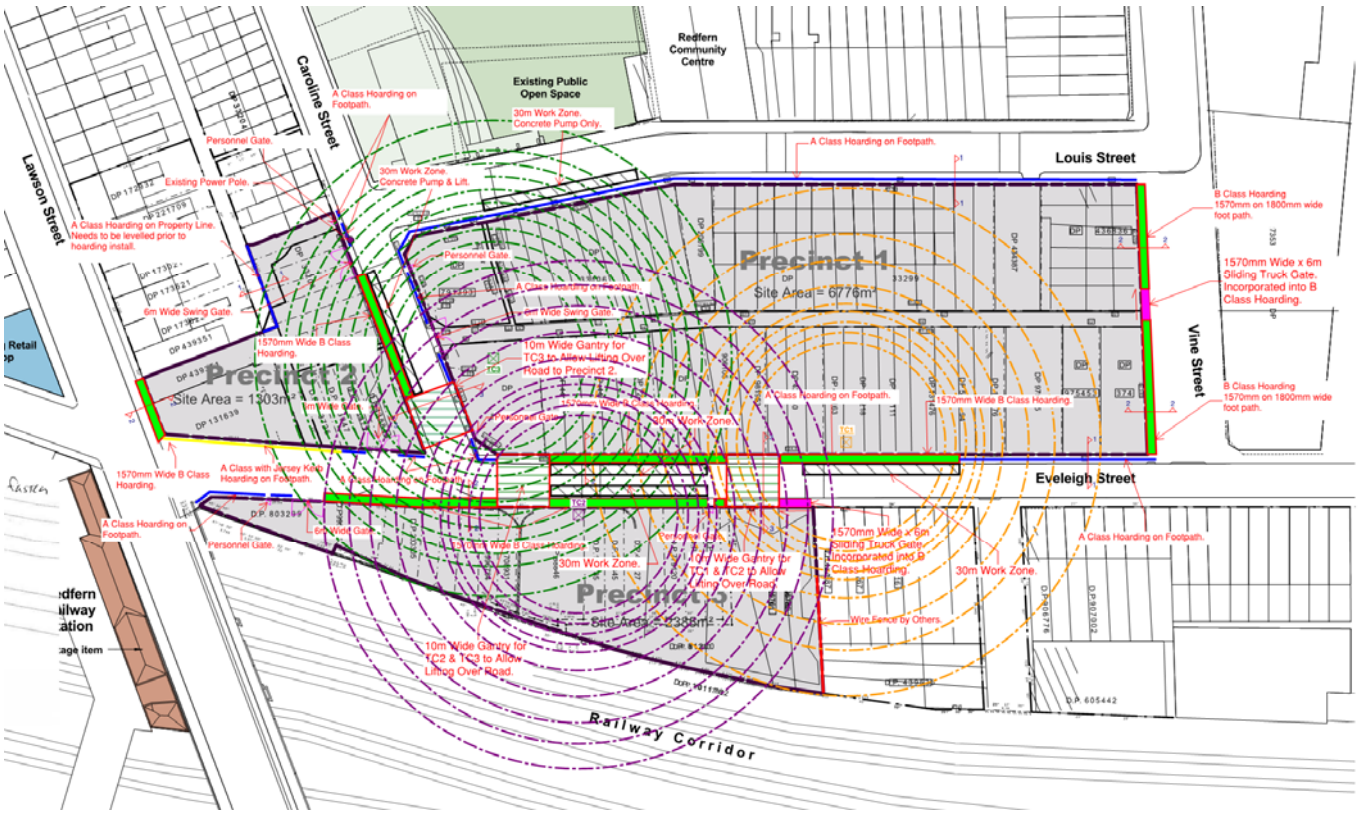


Figure 2: Construction hoarding and work zone plan (refer to appendix A for larger version of plan)

2.4.5 Required Hoardings / Driveways / Workzones for Construction Phase (refer figure 1 for details)

2.4.5.1 Precinct 1

- 30 m workzone required in Louis St to be used for concrete pumping to precinct , 6 storey building
- 1 of 2 , 30 m workzones required on the western side of Eveleigh St required for deliveries to be craned off using tower cranes TC3 and TC2 to feed Precincts 1 and 3
- 2 of 2, 30m workzones required on the western side of Eveleigh St for concrete pumping to Precinct 1 and to crane off deliveries for precinct 1 and 3 using tower crane TC1
- 1 of 2, 10m wide overhead gantries spanning across Eveleigh St to allow tower cranes TC3 and TC2 to lift from Eveleigh St western workzone over road to Precinct 3 .
- 2 of 2, 10m wide overhead gantries spanning across Eveleigh St to allow tower cranes TC2 and TC1 lift from Eveleigh St western workzone over road to Precinct 3
- 1, 10 m wide gantry spanning across Caroline St to allow tower crane TC3 to crane between Precinct 2 1 and 2.
- 1 of 2, 30m B class hoardings along western side of Eveleigh St footpath at 1 of 2 workzones on the western side of Eveleigh St for overhead protection to pedestrians
- 2 of 2, 30m B class hoardings along the western side of Eveleigh St footpath at 2 of 2 workszones on the western side of Eveleigh St for overhead protection for pedestrians
- B class hoarding along the footpath of Vine St
- A class hoarding on the footpath to the remaining perimeter of Precinct 1

2.4.5.2 Precinct 2

- 30m workzone required in Caroline St, required for craning deliveries from delivery trucks for Precinct 2 and for concrete pumping to Precinct 2
- 30m B class hoarding along Caroline footpath at Workzone for overhead protection to pedestrians
- B class hoarding along the footpath of Lawson St
- A class hoarding on footpath and shared walkway to the remaining perimeter of Precinct 2

2.4.5.3 Precinct 3

- 30m workzone to the eastern side of Eveleigh St to be used for concrete pumping for Precinct 3. Note that when this workzone is in operation the adjacent workzone on the western side of Eveleigh St is not to be used
- B class hoarding along the eastern footpath of Eveleigh St
- Railcorp specified fencing to the rail to site shared boundary
- A class hoarding to the remaining perimeter of Precinct 3

2.5 Tower Crane Locations during Construction Phase

Figure 1 page 7 and Figure 2 page 8 shows the location of the 3 tower cranes which are to be used during the construction phase of the works.

Due to the restriction that tower cranes are not permitted to slew over the train lines the 3 cranes are all located on Precinct 1 which was the only location available to maximise crane coverage to Precinct 3

3 Traffic Management

3.1 Council's requirements

The TCPs that are included in this report, should be implemented taking due account of on-site conditions as will occur over the construction period. Accordingly, construction crew are expected to respond proactively to ensure that the plan is implemented with an appropriate level of due diligence to ensure no obvious safety risks are being overlooked. In particular, the following matters are considered noteworthy:

- All signs are to be placed where clear visibility is available;
- All barriers should be positioned to provide satisfactory clearances;
- Installations should be checked intermittently during the course of the day/s, and
- A certified Traffic Controller should be on-site at all times to supervise vehicle access and pedestrian movements.

Construction contractors are also required to comply with Council's Standard Construction Traffic Management Plan requirements below:

- The approved truck route plan shall form part of the contract and must be distributed to all truck drivers.
- All vehicles must enter and exit the site in a forward direction.
- All Traffic Control Plans associated with this Construction Traffic Management Plan must comply with Australian Standards and RTA's Traffic Control at Work Sites Guidelines.
- The applicant must provide Council with details of the largest truck that will be used during the demolition, excavation and construction, prior to the start of any work on site and obtain approval from City's Construction Regulation Unit for the use of this vehicle.
  NOTE: No dog trailers to be used without City's Construction Regulation Unit approval.
- The developer must obtain a permit from the City's Construction Regulation Unit regarding the placing of any plant/equipment on public ways.
- No queuing, marshalling or parking of trucks is permitted in any public road.
- All vehicles associated with the development shall be parked wholly within the site. All site staff related with the works are to park in a designated off street area, no staff are to park on the street.
- All loading and unloading must be within the development site or at an approved "Works Zone".
- The applicant must comply with development consent for hours of construction.
- Traffic Controllers are NOT to stop traffic on the public street(s) to allow trucks to enter or leave the site. They MUST wait until a suitable gap in traffic allows them to assist trucks to enter or exit the site. The Roads Act does not give any special treatment to trucks leaving a construction site - the vehicles already on the road have right-of-way.
- Trucks are not (at any time) allowed to reverse into the site from the road for safety reasons (unless specific approval is obtained from the City's Construction Regulation Unit).
- Pedestrians may be held only for very short periods to ensure safety when trucks are leaving or entering BUT you must NOT stop pedestrians in anticipation i.e. at all times the pedestrians have right-of-way on the footpath not the trucks.
- Physical barriers to control pedestrian or traffic movements need to be determined by the
- Construction Regulations Unit prior to commencement of work.
- Any temporary adjustment to a Bus Stop or Traffic Signals will require the applicant to obtain approval from the STA and RMS (formerly RTA) respectively prior to commencement of works.
- The developer must apply to the Construction Regulations Unit to organise appropriate approvals for cranes and barricades etc.
- The developer must apply to Building Compliance Unit to organise appropriate approvals for hoarding prior to commencement of works.
- The developer must apply to the Work Zones Co-ordinator to organise appropriate approvals for the Work Zones.
- It is noted that project manager/builder is responsible for the implementation of this Construction Traffic Management Plan.

3.2 Traffic Management responsibilities

Traffic management for the site shall be configured to ensure that workers can undertake demolition, excavation and building works safely at all times by separating workers and public road users. Contractors are responsible for the demolition and excavation work and the building contractor is responsible for construction management, shall establish and maintain the Construction Traffic Management Plan for this project and shall be responsible for its ongoing effectiveness, including the control of all quality, environmental and safety aspects that may apply to traffic control measures.

The TCP shall be implemented by appropriately qualified and authorised traffic controllers only. Traffic controllers must have completed RMS (formerly RTA) accredited courses for traffic controllers and must wear yellow vest with the words Authorised Traffic Controller. Reflective white overalls with reflective bands must be worn at night.

All signs and devices shall be placed in accordance with the TCP prior to works starting and in clear view of public road users to inform and guide road users to pass the site. All devices and signs shall then be removed upon the completion of the works.

The road reserves bordering the site must not be obstructed by any materials, vehicles, refuse, skips or the like without prior approval of Council.

3.3 Potential Traffic Impacts

A summary of potential traffic impacts for the site are listed below:

- Construction sites within the vicinity of the site,
- Duration of the project,
- Short term activities such as floating machinery to the site,
- Access, egress and parking in and near the worksite by employees and visitors,
- Pedestrian movements,
- Heavy vehicles parking in and around worksite,
- Vehicles depositing spoil on public roads,
- Loading and unloading, including construction zones,
- Truck/vehicle turning movements,
- Disruption of established traffic movements or patterns,
- Traffic interference in peak times (morning and afternoon),
- Interference to public transport services,
- Interference to the railway station on Lawson Street,
- Traffic volumes including nearby school, industrial, commercial, retail and residential developments

3.4 Site Management Plans

The Site Management Plans Stage 1 Demolition Hoardings and Stage 2 Construction Hoardings are attached at Appendix A. These plans show the location and types of hoarding proposed to be installed, the pedestrian protection measures, the site entry/exit locations during the demolition and the requested work zones during the construction.

They also show the proposed crane locations within the site.

3.5 Truck Routes

The Vehicle Movement Plan (VMP) attached in Appendix C shows vehicles are to access the site travelling south along Regent Street, turning right onto Lawson Street, and turning right at Eveleigh Street to access the site northbound.

When leaving the site vehicles will continue north along Eveleigh Street then re-join the road network via the intersection of Cleveland Street/Eveleigh Street. Vehicles will be able to connect to City Road (Princes Highway) to continue their return trip.

3.6 Traffic Control Plans

The Traffic Control Plans (TCPs) attached in Appendix B show the proposed entry/exit point in Eveleigh Street, Caroline Street and Louis Street and arrangements for warning traffic and guiding traffic and pedestrians around and/or past the worksites of Precincts 1, 2 and 3.

In the implementation of the TCPs the following steps should be undertaken;

1. Place all signs, devices and control measures,
2. Complete a Location Risk Assessment (as per Traffic Control at Work site (TCAW) manual) and identify any modifications that may be required,
3. Drive through and around the site to make sure the TCP is effective,
4. Record implementation, risk assessment and any modifications, and
5. Monitor conditions and record observations.

Where required the TCPs may be changed/updated as necessary to reflect changes in traffic flow or work practices by an appropriately qualified traffic control designer only.

Minor modifications to the TCPs which have been identified in a Location Risk Assessment can be made by a person with a current certificate in TCAW Planning (red card). Should the TCPs be changed all relevant permits and details are to be forwarded to the PCA/Council as required.

Note that the TCP does not relate to works within the road reserves. These TCPs will be prepared once the Public Infrastructure Engineering Design plans have been approved by the Road Authorities.

3.7 Traffic Management Plan

Table 3.4 on the following page summarises the identified potential traffic impacts for this worksite and describes the control measures to be implemented to address each impact.

A swept path analysis was undertaken to check vehicles can safely manoeuvre in and out of the site and conduct the right turn at the intersection of Regent Street and Lawson Street, right turn into Eveleigh Street then left turn into Cleveland Street for an Articulated Vehicle (AV), a truck and dog and a Heavy Rigid Vehicle (HRV). A swept path analysis was also undertaken for an MRV within the street network adjacent to Precincts 1, 2 and 3.

The swept path analysis plans are attached in Appendix D of this report.

It is recommended that an Emergency Plan is considered by the project manager of the site in case of emergency, including the response of traffic emergencies such as accidents or unplanned disruptions.

The local community, road users and other stakeholders shall be kept informed of changed traffic conditions where required by Council.

Seven (7) days notification must be provided to adjoining property owners prior to the implementation of any temporary traffic control measures.

Table 3.4: Traffic Management Plan

Potential Impact	Impact Assessment	Control Measure
Railway station, commercial, retail and residential developments in the vicinity of the site. Duration of project	Heavy vehicle traffic movement through the following local streets: • Regent Street • Lawson Street • Eveleigh Street • Cleveland Street	Bring the majority of traffic through Lawson Street where the impact is minimised. Any potential conflicts in Lawson Street and Eveleigh Street to the operation of the railway station is to be minimised by having Traffic Controllers providing right of access to police and fire fighting vehicles over all other traffic movements including construction traffic. Location Risk Assessments are to be undertaken where necessary to enable safe access and from the site.
Floating machinery to the site	In/out of the site.	Swept path analysis shows turning movements are satisfactory for ARV's and HRV's (See Appendix D). All loading and unloading will be done on site in designated area on site or via the construction/work zone areas adjacent to the Eveleigh Street, Caroline Street and Louis Street as indicated on the Stage 2 Construction TCP (See Appendix B).
Parking in and around worksite by employees and visitors	Possible impact on residents, visitors and commercial developments in the vicinity of the site.	Parking for construction workers will occur off site.
Vehicles leaving the site	Depositing spoil on roadways	Truck shaker grids with a minimum length of 6m will be installed at the vehicle entry/exit points for erosion sediment control and all loads are to be covered. Where sediment is tracked onto the road it is to be swept up immediately.
Pedestrian management	Pedestrians walking around construction zone	Set up delineation by way of no go zones and signage. There is no need to cut off current walkways along the permitter of the site. Pedestrians will be protected by Class B hoardings as shown on the Site Management Plans attached at Appendix A.
Disruption of established traffic movements or patterns, Traffic interference in peak times (morning and afternoon)	Heavy vehicle traffic through the following streets, particularly in morning and afternoon peaks with residents entering and exiting: • Regent Street • Lawson Street • Eveleigh Street • Cleveland Street	Where possible construction vehicle movements are to be restricted during peak times to allow traffic to pass the site.
Interference to public transport services.	Traffic movements blocking bus routes	Access to and from the site is off Eveleigh Street via Lawson Street and will have traffic control devices and controllers in place to prevent disruption to bus routes during the demolition, excavation and building works.

4 Monitoring and Performance

4.1 General

Routine monitoring of the performance of the Construction Traffic Management Plan (CTMP) to confirm the effectiveness of methods, equipment and controls shall be undertaken. Observations shall be recorded by the supervisor/contractor's and opportunities for improvement recommended to the Project Manager.

It is recommended that the CTMP including the Traffic Control Plans (TCPs) be formally reviewed every 4 weeks during the demolition, excavation and building works. Please refer to section 3.3 for the modification of TCPs.

Audits of the demolition, excavation and building works are to be carried out by a suitable qualified person as required.

4.2 Records

The following records shall be kept as evidence of the design, implementation and performance of the CTMP:

1. Qualifications
   - RMS accredited Traffic Control Plan designers
   - RMS accredited Traffic Controllers

2. Principal Contractor's meetings minutes with Principal Contractor(s) from adjoining sites

3. TCP approval

4. Temporary speed zone approval (if applicable)

5. Community consultation (where required by Council) including provision of:
   - Letters
   - Handouts
   - Maps and plans

6. Location Risk assessment and any modifications

7. Confirmation of implementation and start of works

8. Monitoring reports

9. Incident reports and corrective action

5 Conclusion

This Construction Traffic Management Plan details traffic management procedures and systems for the proposed demolition, excavation and building of the mixed use Pemulwuy development in Redfern.

Potential traffic impacts have been identified locally with control measures specified to address these impacts.

Site Management Plans show the location and types of hoarding proposed to be installed, the pedestrian protection measures and the vehicle entry/exit locations during the demolition, excavation and construction.

Traffic Control Plans (TCPs) have been prepared showing appropriate traffic control devices to be implemented for the duration the demolition, excavation and construction.

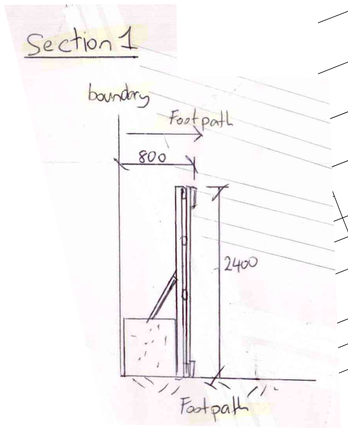
A Vehicle Movement Plan (VMP) has been prepared showing the proposed truck haulage and delivery routes to and from the site.

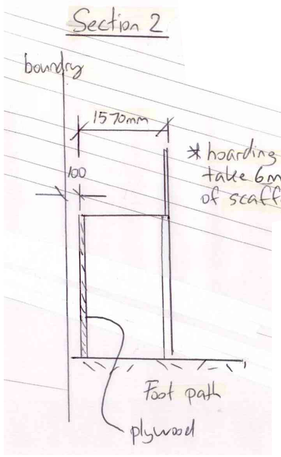
A swept path analysis has been undertaken for the site and shows that articulated vehicles (AV), truck and dogs and Heavy Rigid Vehicles (HRV) can safely manoeuvre in and out of the site to/from Eveleigh Street.

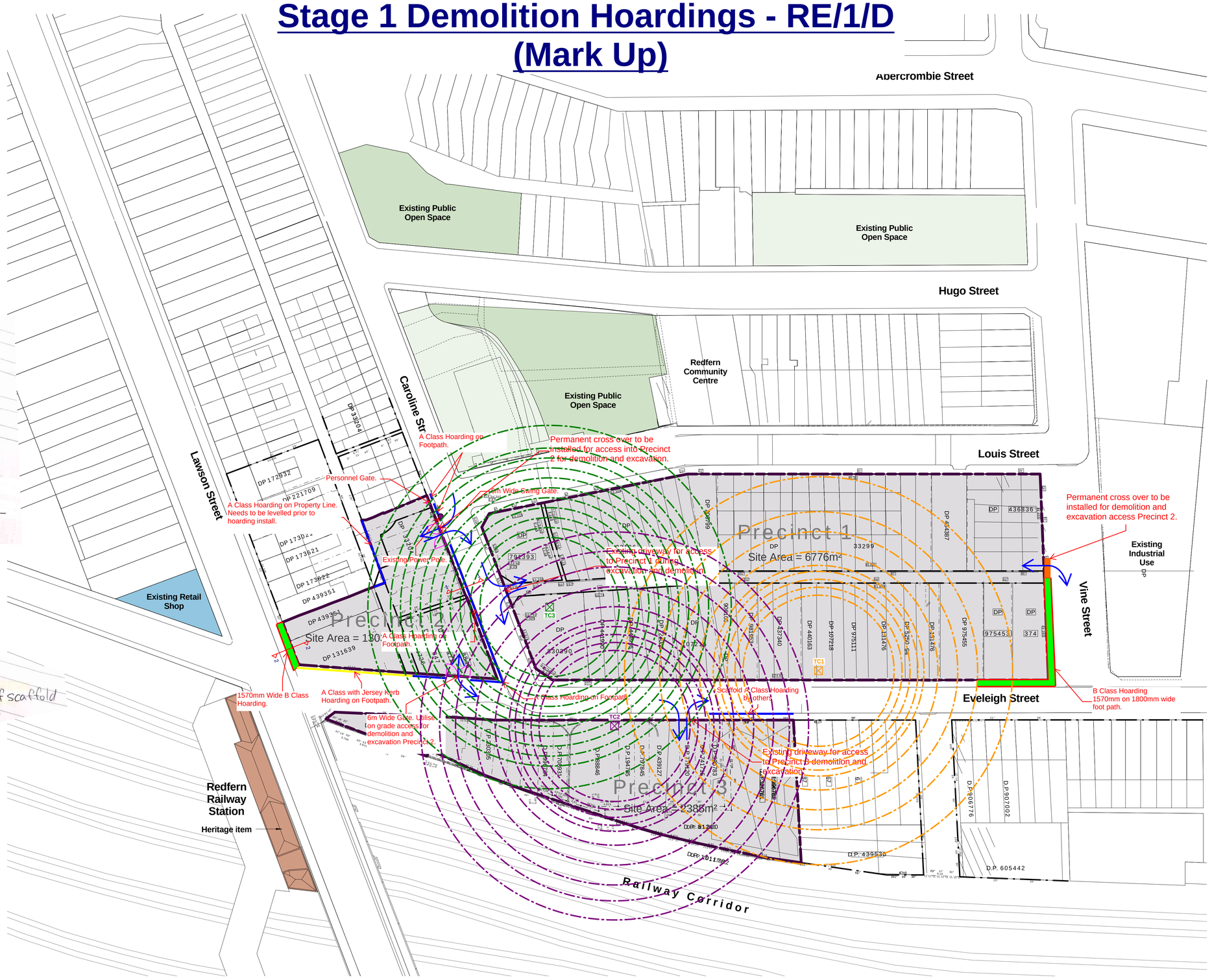
It is considered that if the control, monitoring and performance measures listed in this document are adhered to negative impacts of the site or surrounding properties will be minimised during the demolition, excavation and building works associated with the development.

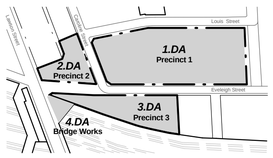
Appendix A
Site Management Plans

Stage 1 Demolition Hoardings - RE/1/D (Mark Up)









General Notes:

Architectural Drawings To Be Read In Conjunction With All Other Consultants Detailed Drawings, Reports And Specifications.

All Levels Indicated Taken To Australian Height Datum (AHD)

Refer To 0DA900 For Abbreviation Schedule And Proposed Outline Colour Seclections And Finishes Selections.

Site Underlay Based On Survey Carried Out By Denny Linker For Previous Application and Subsequent Survey Work Carried Out By Daw & Walton Consulting Surveyors - Refer To Drawing 302808.

Survey Adapted From PDF Copy Of Survey Prepared By Denny Linker

Development Application

Rev	Description	Date
A	Preliminary DA Issue For Review	11.07.11
B	Preliminary DA Issue For Review	20.07.11
C	Preliminary Environmental Assessment Issue (PEA)	28.07.11
D	Site Plan Extension	12.10.11
E	Development Application Issue	14.12.11

NORDON · JAGO ARCHITECTS

CNR PARRAMATTA RD & JOHNSTON ST - PO BOX 254 - ANNANDALI - NSW 2038 - T.02 9517 2822 F.02 9517 2833
STEPHEN J. NORDON REGISTRATION No. NSW - 4704 GRAHAM P. JAGO REGISTRATION No. NSW - 4926

0m 5m 10m 15m 20m 25m 50m
Scale Bar 1:500

TITLE

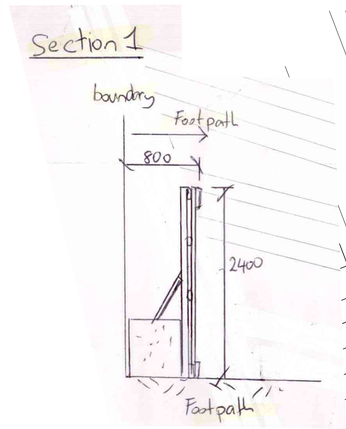
Pemulwuy Project, Mixed Use Development, REDFERN

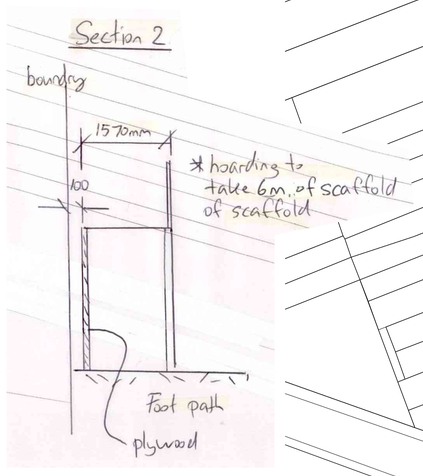
J:\DEI00210 Pemulwuy Project\4 NJA Documentation\5 CADD\3 DA\01 Model\01 Current\DEI00210_0DA Site Master 111212.rvt

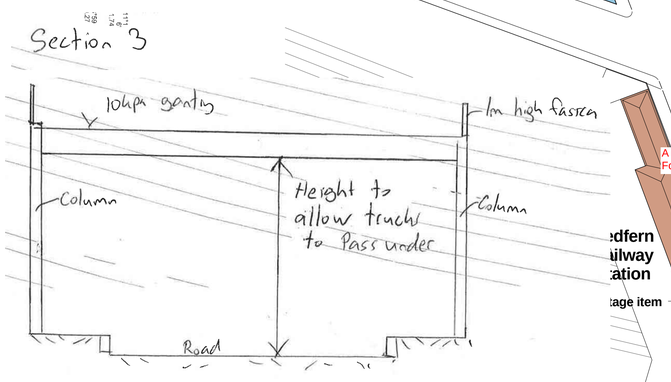
~~Existing Site Plan~~

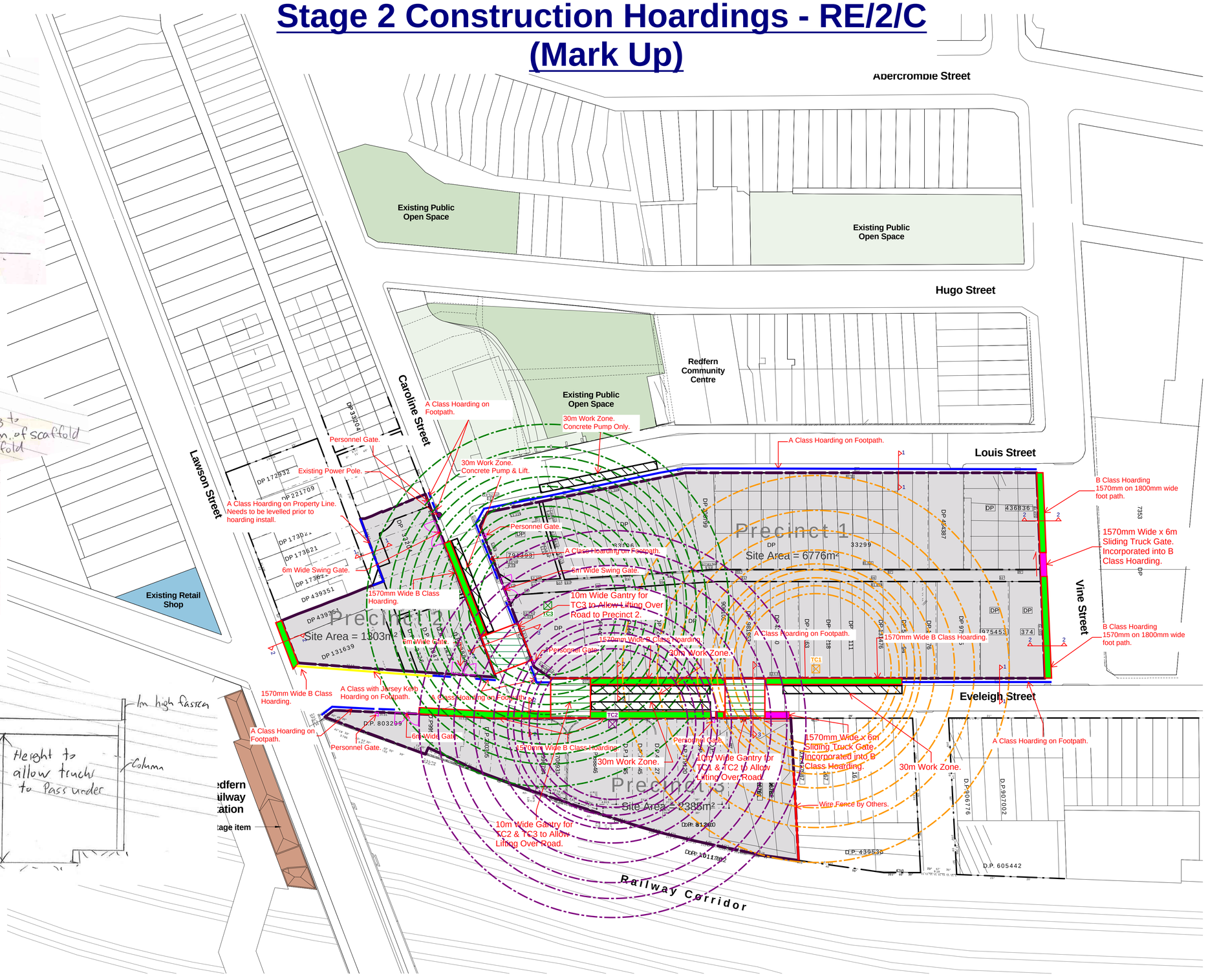
JOB No.	DEI00210
DATE	June 2010
SCALE	A1 @ As indicated
DWG No.	~~0DA010 E~~

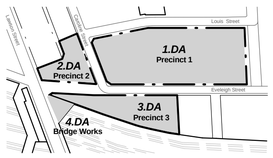
Stage 2 Construction Hoardings - RE/2/C (Mark Up)











General Notes:

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Refer To 0DA900 For Abbreviation Schedule And Proposed Outline Colour Seclections And Finishes Selections.

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0m 5m 10m 15m 20m 25m 50m
Scale Bar 1:500

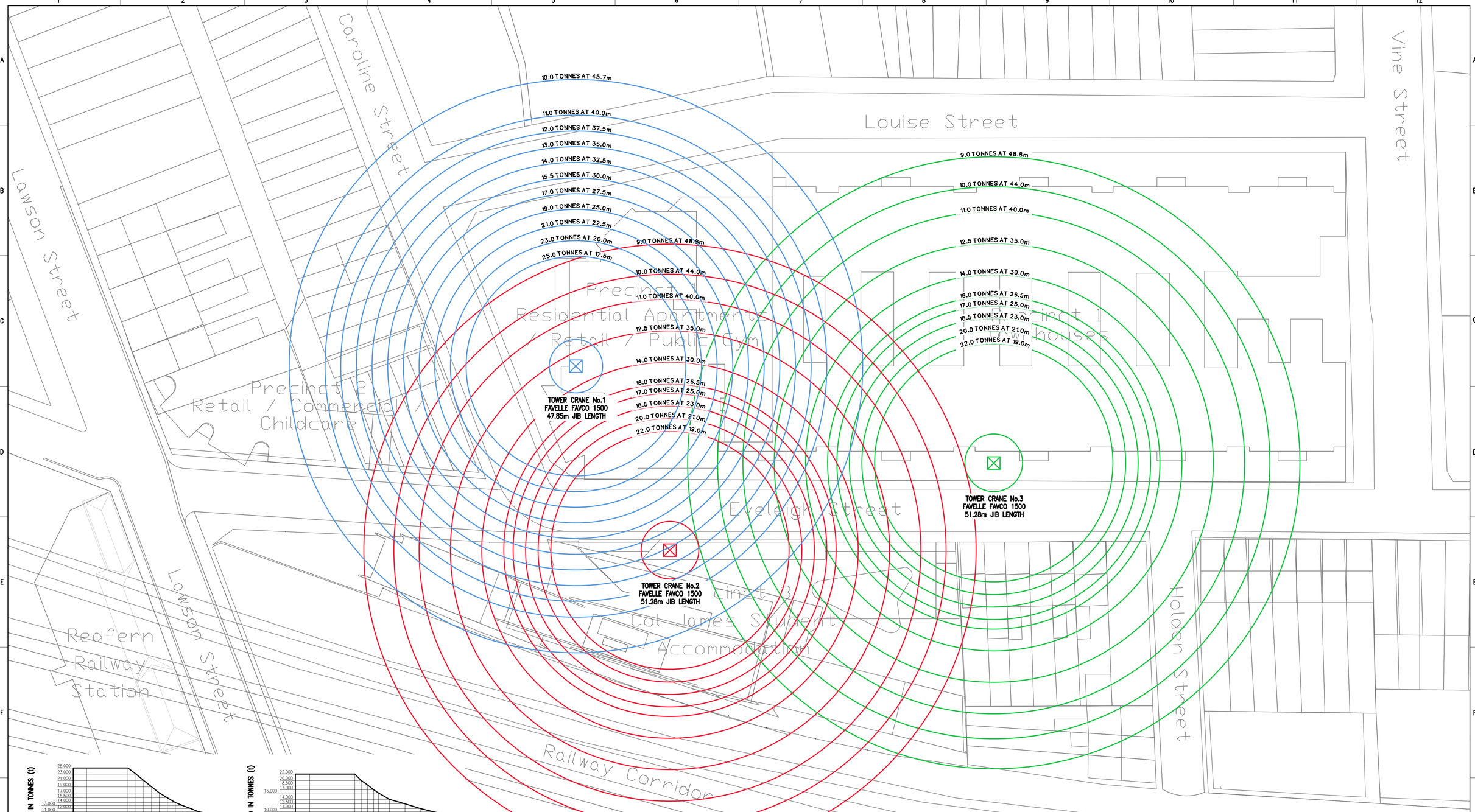
Pemulwuy Project, Mixed Use Development, REDFERN

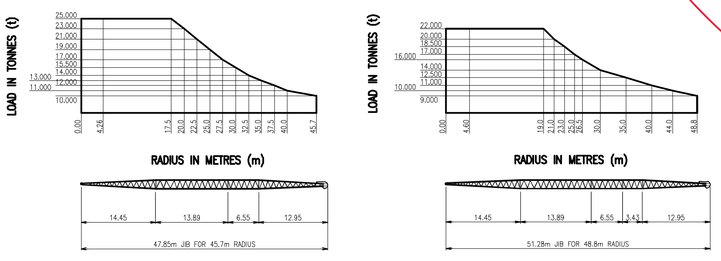
J:\DEI00210 Pemulwuy Project\4 NJA Documentation\5 CADD\3 DA\01 Model\01 Current\DEI00210_0DA Site Master 111212.rvt

TITLE

Existing Site Plan

JOB No.	DEI00210
DATE	June 2010
SCALE	A1 @ As indicated
DWG No.	0DA010 E





LOAD CAPACITY FOR FAVCO 1500 CRANE WITH RADIUS OF 45.7m

LOAD CAPACITY FOR FAVCO 1500 CRANE WITH RADIUS OF 48.8m

NOTE:

1. # DENOTES DIMENSION TO BE CONFIRMED BY BUILDER ON SITE PRIOR TO EXCAVATION OF CRANE BASE.
2. BUILDER TO CONFIRM THAT HOOK AND JIB HEIGHT CLEAR ALL ADJACENT STRUCTURES WITHIN THE JIB RANGE. THIS SHALL BE CONFIRMED BY SURVEY PRIOR TO CRANE INSTALLATION.
3. BUILDER TO CONFIRM THAT HEIGHT UNDER HOOK ABOVE BASE ALLOWS SUFFICIENT CLEARANCE ABOVE THE BUILDING FOR ITEMS BEING LIFTED.
4. THE USE OF A FULL TIME CRANE COORDINATOR IS STRONGLY RECOMMENDED TO MONITOR ALL CRANE MOVEMENTS AND MINIMISE THE RISK OF CLASHES. THIS SHOULD FORM PART OF THE SAFE WORK PLAN FOR THE PROJECT.
5. BUILDER TO CONFIRM APPROVAL HAS BEEN GRANTED TO SLEW NEAR OR OVER NEIGHBOURING PROPERTIES WHERE REQUIRED. THIS SHALL BE CONFIRMED PRIOR TO CRANE INSTALLATION.

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DO NOT SCALE DRAWINGS, USE FIGURED DIMENSIONS

REFER COVER SHEET FOR NOTES UNLESS NOTED OTHERWISE

SCALE 1:250

5 0 5 10m

Rev.	Revision Description	By.	App.	Date
P1	ISSUE FOR INFORMATION	PT	RC	08.02.17
P2	RE-ISSUE FOR INFORMATION	PT	RC	08.06.17

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Client
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23 RESOLUTION DRIVE (PO BOX 1396),
UNANDERRA D.C NSW 2526
PH: (02)4271 4343 - FAX: (02)4271 4746

Title
TOWER CRANE RADIUS PLAN

Project
TOWER CRANE INSTALLATIONS AT PEMULWUY PRECINCT
REDFERN, NSW

PRELIMINARY

Date	Designer	Design Checker
JUNE 2017	R.CALARCO	
Scale at B1	Drawn	Principal/Project Leader
AS SHOWN	P.TWEEDALE	
Job Number	Drawing Number	Revision
17295N	S000-01	P2

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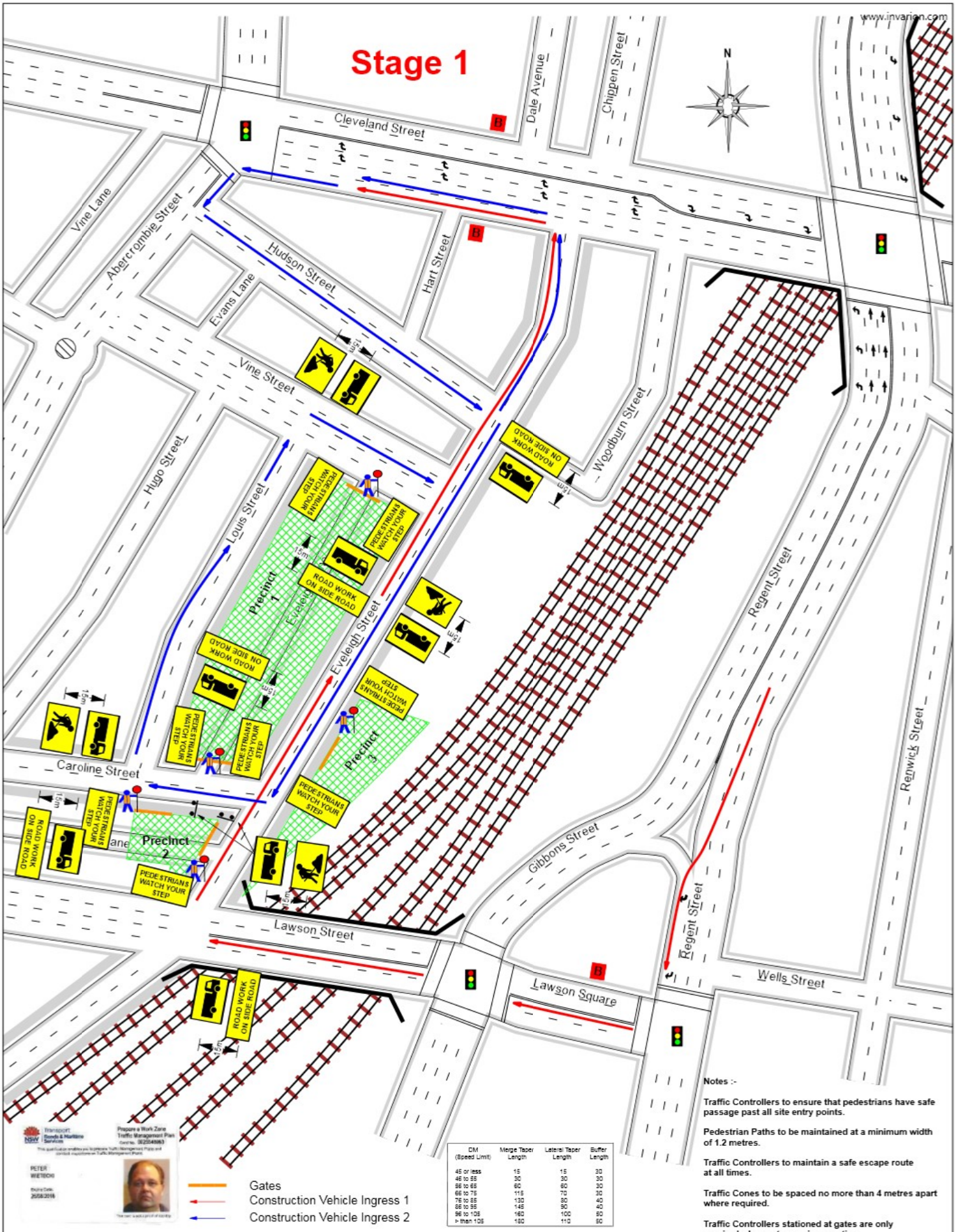
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

Appendix B
Traffic Control Plans

www.invarion.com

Stage 1



Gates
Construction Vehicle Ingress 1
Construction Vehicle Ingress 2

DM (Speed Limit)	Merge Taper Length	Lateral Taper Length	Buffer Length
45 or less	15	15	30
46 to 55	30	30	30
56 to 65	60	60	30
66 to 75	115	70	30
76 to 85	130	80	40
86 to 95	145	90	40
96 to 105	160	100	80
> than 105	180	110	80

Notes :-

Traffic Controllers to ensure that pedestrians have safe passage past all site entry points.

Pedestrian Paths to be maintained at a minimum width of 1.2 metres.

Traffic Controllers to maintain a safe escape route at all times.

Traffic Cones to be spaced no more than 4 metres apart where required.

Traffic Controllers stationed at gates are only required when gates are in operation.

Trucks are to exit to all roads using natural gaps in traffic. Passing traffic is NOT to be stopped to allow trucks to exit.

Hard copies of all appropriate permits to be held by traffic controllers on duty at all times.

Emergency vehicles to be given high priority at all times

Traffic Control Plan not drawn to scale.

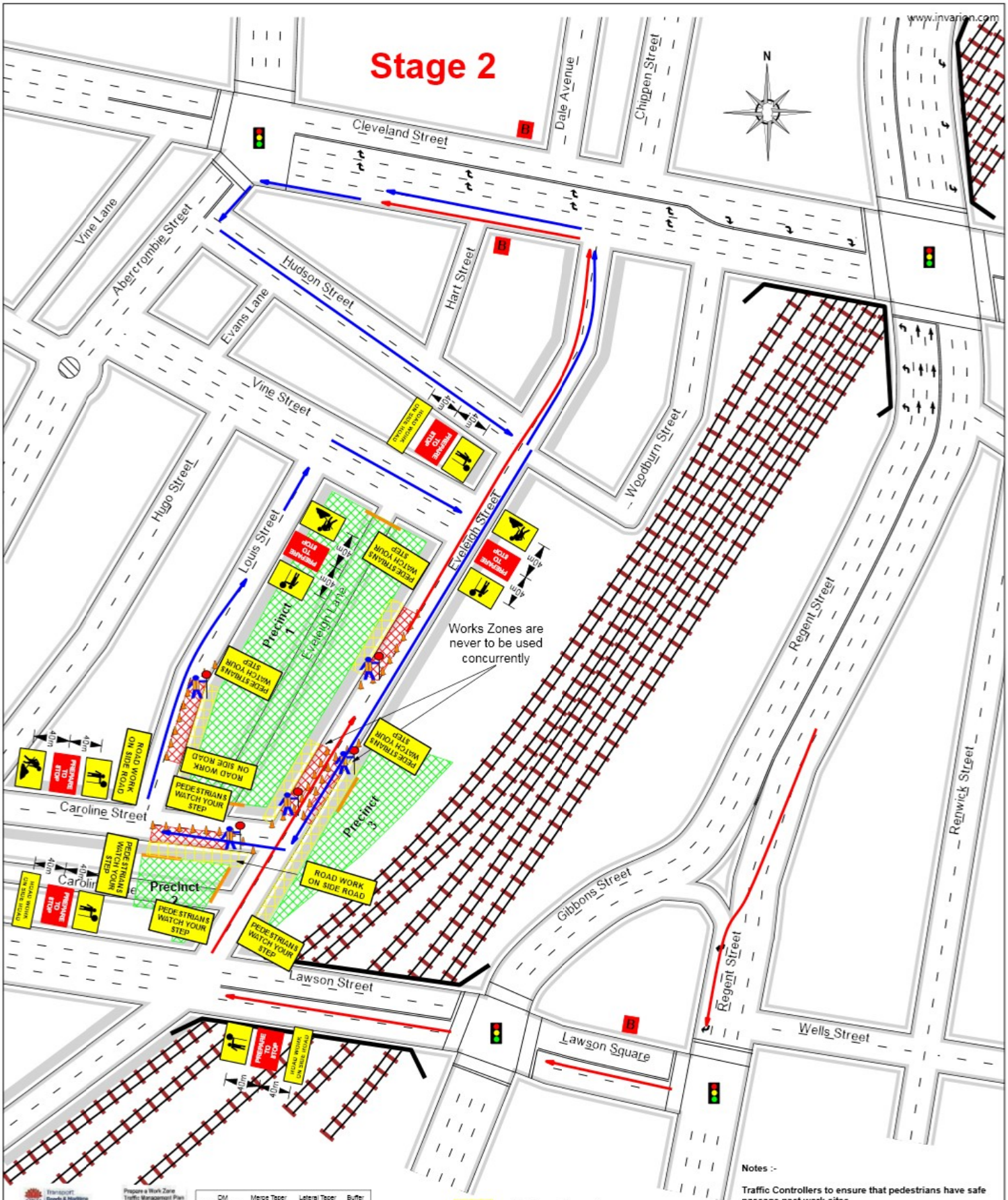
Date: 04/04/2017 **Author:** Peter Wietecki License # 0025546963 Exp 26.08.18 **Project:** Deicorp Eveleigh Street Redfern Stage 1
EVS Group Australia Pty Ltd: Unit 3, 1 Marina Close Mt Ku-ring-gai NSW 2080 **TCP No.:** 01812017 **UBD Ref No.:** 15 A6

Comments:

This Traffic Control Plan is drawn in accordance with AS1742.3 and the RMS Traffic Control at Work Sites manual, it is to be implemented as such.This Traffic Plan is a GUIDE ONLY and can be altered on site but must be signed by an RTA Accredited person
Approach speed up to and equal to 60km/h
Day/Night Class 1 reflective signs to be used
RMS Accredited Traffic controllers to be employed
All traffic controllers are to wear approved Hi-Vis PPE

www.invarion.com

Stage 2



DM (Speed Limit)	Merge Taper Length	Lateral Taper Length	Buffer Length
45 or less	15	15	30
46 to 55	30	30	30
56 to 65	60	60	30
66 to 75	115	70	30
76 to 85	130	80	40
86 to 95	145	90	40
96 to 105	160	100	50
> than 105	180	110	50

- B Class Hoarding
- Work Zone
- Gates
- Construction Vehicle Ingress 1
- Construction Vehicle Ingress 2

Notes :-

Traffic Controllers to ensure that pedestrians have safe passage past work sites.

Pedestrian Paths to be maintained at a minimum width of 1.2 metres.

Traffic Controllers to maintain a safe escape route at all times.

Traffic Cones to be spaced no more than 4 metres apart where required.

Trucks are to exit to all roads using natural gaps in traffic. Passing traffic is NOT to be stopped to allow trucks to exit.

Hard copies of all appropriate permits to be held by traffic controllers on duty at all times.

Emergency vehicles to be given high priority at all times

Traffic Control Plan not drawn to scale.

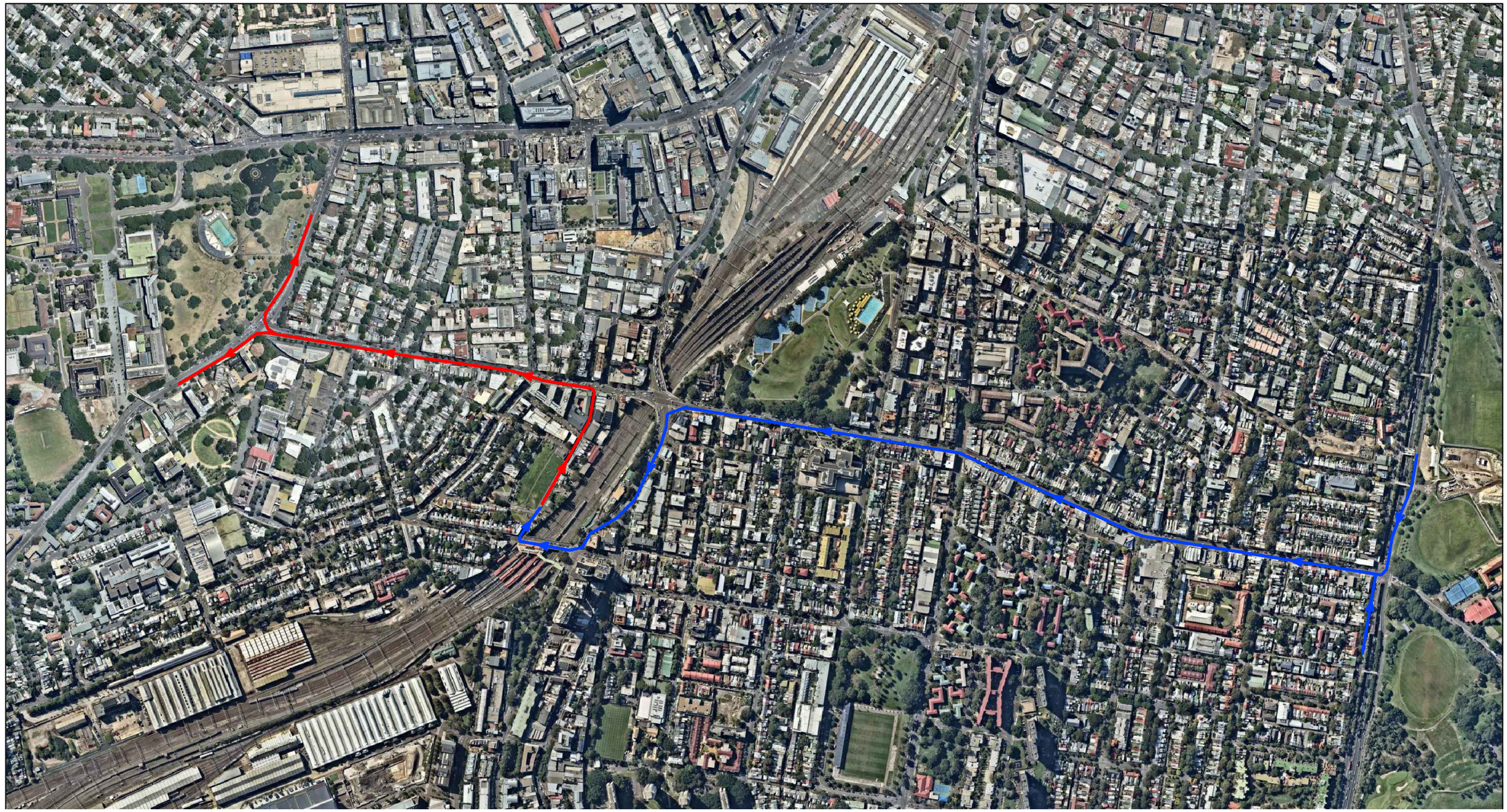
Date: 04/04/2017 **Author:** Peter Wietecki License # 0025546963 Exp 26.08.18 **Project:** Deicorp Eveleigh Street Redfern Stage 2
EVS Group Australia Pty Ltd: Unit 3, 1 Marina Close Mt Ku-ring-gai NSW 2080 **TCP No.:** 01822017 **UBD Ref No.:** 15 A6

Comments:

This Traffic Control Plan is drawn in accordance with AS1742.3 and the RMS Traffic Control at Work Sites manual, it is to be implemented as such.This Traffic Plan is a GUIDE ONLY and can be altered on site but must be signed by an RTA Accredited person
Approach speed up to and equal to 60km/h
Day/Night Class 1 reflective signs to be used
RMS Accredited Traffic controllers to be employed
All traffic controllers are to wear approved Hi-Vis PPE

Appendix C
Vehicle Movement Plan

A3



INGRESS ROUTE

EGRESS ROUTE

No.	DATE	AMENDMENT
A	09/05/17	FIRST ISSUE

BARKER RYAN STEWART
TOTAL PROJECT SOLUTIONS
PLANNING - PROJECT MANAGEMENT - ENGINEERING - CERTIFICATION

SYDNEY
P: 02 9659 0005
CENTRAL COAST
P: 02 4325 5255
HUNTER
P: 02 4966 8388
ABN: 26 134 067 842
barkerryanstewart.com.au
mail@barkerryanstewart.com.au

Designed: GL
Drawn: GL
Checked: GB

Scales: Plan
Horiz.
Vert.
X-Sect.

Datum:

Client:

LGA:
Council Ref:

PEMULWUY PRECINCTS 1, 2 & 3

VEHICLE MANAGEMENT PLAN (VMP)

Plan No. SY1702C01 REV. A

File Ref. SY1702C1.dwg

SHEET 1 OF 1 SHEETS

Appendix D
Swept Path Analysis Plans

HRV Swept Path

Semi Swept Path.

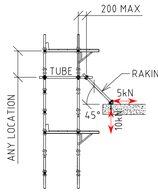
MRV Swept Path.

Annexure B Site Scaffold Plans

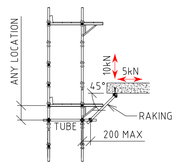
Acrow Scaffolding Plans

Drawings

17118-S01,2,3,4,5,6,7,8, & 9 rev B

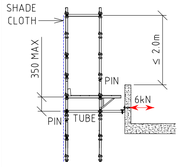


A) TOP OF SLAB

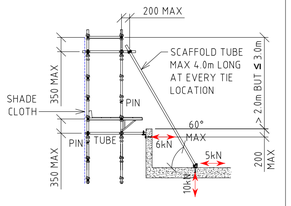


B) BOTTOM OF SLAB

RAKING METHOD TO THE SLAB

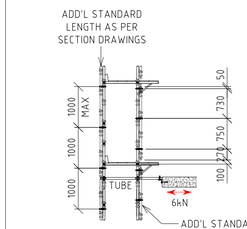


A) ≤ 2.0m (WITH SHADE CLOTH)

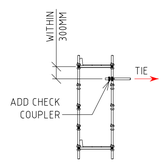


B) > 2.0m BUT ≤ 3.0m (WITH SHADE CLOTH)

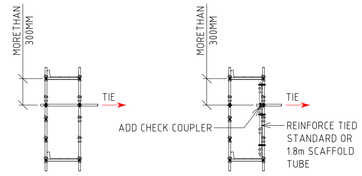
TYING METHOD ABOVE ROOF LEVEL



STANDARD DOUBLE LEG DETAIL



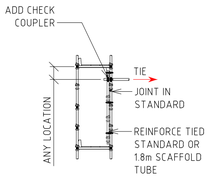
W/IN 300MM UNDERSIDE



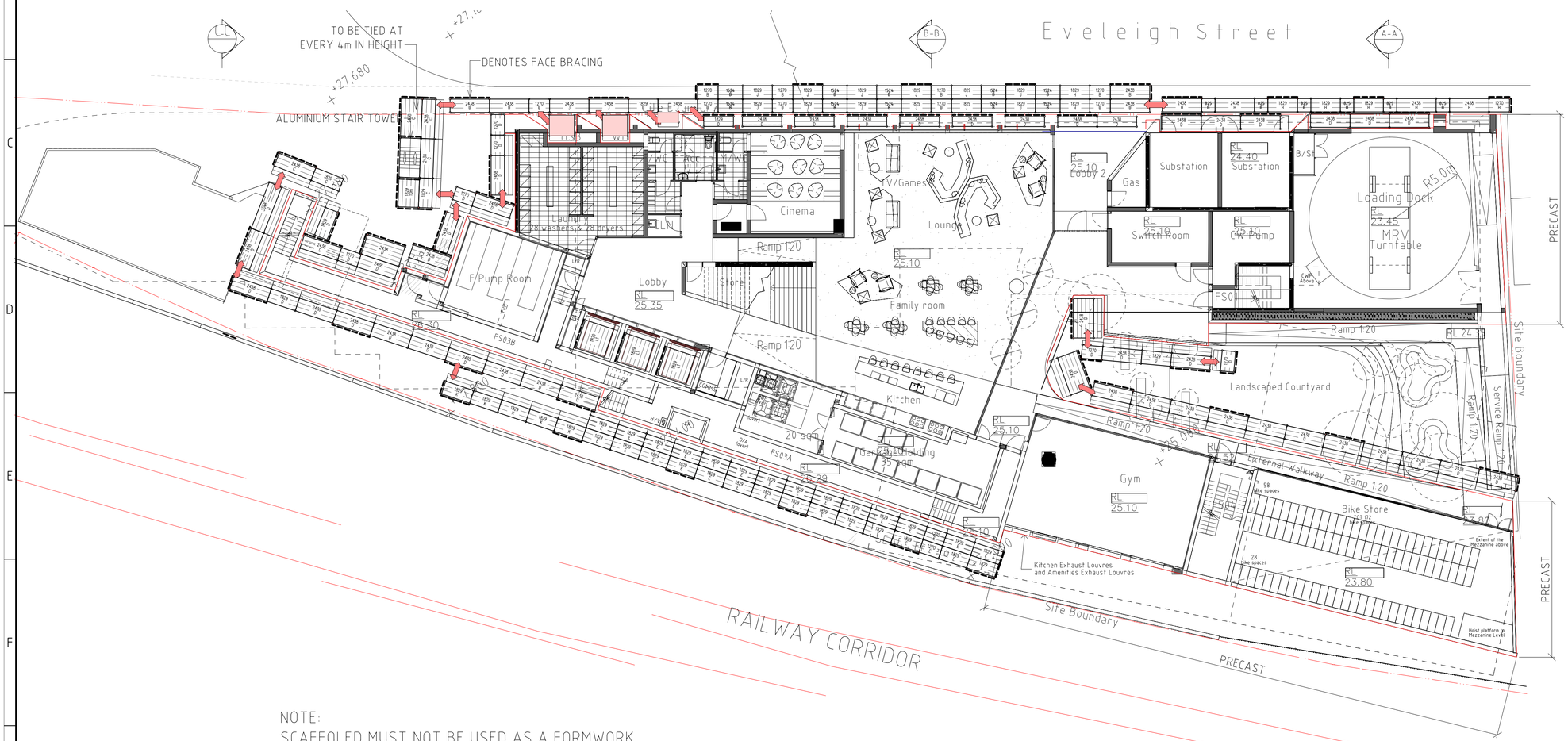
A) CONNECT TO BOTH STANDARD

B) UNABLE TO CONNECT TO BOTH STANDARD

MORE THAN 300MM UNDERSIDE



STANDARD WITH A SPIGOT



NOTE:
SCAFFOLED MUST NOT BE USED AS A FORMWORK SUPPORT UNLESS ENGINEERED AND APPROVED BY ACROW ENGINEERS.

ALL EQUIPMENTS TO BE SUPER CUPLOK

DELETED BY DEICORP - 8/6/2017
IGNORE FROM
LABOUR/SCAFFOLD HIRE

PLAN VIEW - LOWER GROUND

SCALE 1:150

SCAFFOLD HEIGHT (m)	HORIZONTAL SPACING OF TIES		
	BET. GROUND AND 15m LEVEL	BET. 15m AND 30m LEVEL	BET. 30m AND 62m LEVEL
UP TO 15	EVERY 2ND STANDARD	-	-
15 TO 30	EVERY 2ND STANDARD	EVERY 2ND STANDARD	-
ABOVE 30	EVERY STANDARD	EVERY 2ND STANDARD	EVERY STANDARD

MAX. 10 PEOPLE AT ANY GIVEN TIME ON STRETCHER/ALUMINUM STAIR SYSTEM

RAKING TIES FOR STRETCHER/ALUMINUM STAIR TOWER TO BE EVERY 4m IN HEIGHT ON BOTH SIDES OF TOWER FOR STABILITY

SCAFFOLD TIES ARE TO BE LOCATED AT THE END OF EACH RUN REGARDLESS OF HORIZONTAL SPACING OF TIES.

SCAFFOLD TO BE STARTED WITH A 3m STANDARD ON INTERNAL LEG AND A 2m STANDARD ON EXTERNAL LEG IN ORDER TO STAGER THE JOINTS OF STANDARDS

ALL SCAFFOLD TIES, LINK TUBES AND LAP BOARDS OMITTED FOR CLARITY

GENERAL NOTES

G1. IF IN DOUBT, PLEASE ASK.

G2. DO NOT OBTAIN DIMENSIONS BY SCALING FROM THESE DRAWINGS.

G3. VERIFY ON SITE ALL SET OUT DIMENSIONS SHOWN ON THESE DRAWINGS.

G4. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE ON THESE DRAWINGS.

G5. NO ALTERATIONS TO THE DESIGN SHOWN ON THESE DRAWINGS ARE PERMITTED WITHOUT THE PRIOR APPROVAL OF THE DESIGNER.

SCAFFOLD NOTES

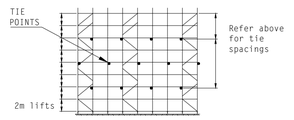
S1. THE SCAFFOLD SHOWN IN THESE DRAWINGS HAS BEEN DESIGNED USING RELEVANT SECTIONS OF AUSTRALIAN STANDARDS AS/NZS1576.1 AND AS/NZS4576. THE DESIGN HAS BEEN BASED ON THE USE OF ACROW FORMWORK & SCAFFOLDING EQUIPMENT ONLY. OTHER EQUIPMENT MAY HAVE A DIFFERENT WORKING LOAD LIMIT AND THUS MAY NOT BE ADEQUATE IN THE APPLICATION SHOWN ON THESE DRAWINGS.

S2. ALL ERECTION WORK IS TO BE CARRIED OUT IN A SAFE TRADESMANLIKE MANNER AND BE IN ACCORDANCE WITH ACROW FORMWORK & SCAFFOLDING GUIDELINES, AS1576, AS4576, LOCAL AUTHORITY REQUIREMENTS AND OCCUPATIONAL HEALTH AND SAFETY REGULATIONS.

S3. THE CLIENT MUST ENSURE THAT:
A). THE SUPPORTING FOUNDATION HAS ADEQUATE BEARING CAPACITY TO SUPPORT THE LOAD IMPOSED BY THE SCAFFOLD,
B). THE SUPPORTING FOUNDATION IS ADEQUATELY PREPARED TO AVOID DIFFERNTIAL SETTLEMENT OR HAS THE CAPACITY AND CHARACTERISTICS PROPERTIES TO LIMIT ANY DIFFERENTIAL SETTLEMENT TO NOT MORE THAN 5MM UNDER SCAFFOLD LEGS,
C). THE PERMANENT STRUCTURE HAS ADEQUATE STRENGTH TO WITHSTAND THE IMPOSED LOADS FROM THE SCAFFOLD ASSEMBLY.

S4. THE SCAFFOLD HAS BEEN DESIGNED USING THE FOLLOWING PARAMETERS:
* BAY LOADING = LIGHT DUTY
= 25 kg PER BAY
* MAX.SCAFFOLD HEIGHT TO TOP DECK = 31.0 m
* NO. OF DECKED LEVELS = 16
* NO. OF WORKING LEVELS = 1
* NO. OF PLATFORM BRACKET LEVELS = 16
* MAX. EXTENSION OF ADJUSTABLE BASES = 300mm
* MAX. LEG LOAD = 21.7 kN
* MAX. DESIGN TIE LOAD (COMP/TENSION) = 6.0 kN
* PRESCRIBED CONTAINMENT SHEETING (IE SHADECLOTH) HAVING MINIMUM 30% POROSITY HAS BEEN ALLOWED FOR
* MAX. SCAFFOLD HEIGHT ABOVE TOP TIE = 4M WITH NO PRESCRIBED SHEETING.
* MAX. SCAFFOLD HEIGHT ABOVE TOP TIE = 2M WITH PRESCRIBED SHEETING HAVING MINIMUM 30% POROSITY.
* MAXIMUM DESIGN WIND SPEED = 75 Km/hr
* WIND TERRAIN CATEGORY TO BE ASSESSED

S5. THE SCAFFOLD IS TO BE TIED TO THE BUILDING/STRUCTURE AS FOLLOWS U.N.O.:-
* HORIZONTALLY: EVERY 2nd STANDARD
* VERTICALLY: EVERY 4.0m (MAXIMUM)
* TIES ARE TO BE STAGGERED AS SHOWN BELOW:-



S6. TIES OR OTHER COMPONENTS ARE NOT TO BE MOVED OR TAMPERED WITH IN ANY WAY EXCEPT BY ACROW FORMWORK & SCAFFOLDING OR OUR NOMINATED SUB-CONTRACTORS.

S7. UNLESS NOTED OTHERWISE ON DRAWING:-
* THE DISTANCE BETWEEN FACE BRACING PANELS IS NOT TO EXCEED THREE BAYS.
* ALL RETURNS OR BREAKS IN SCAFFOLD ARE TO BE TUBE TIED, COMPLETE WITH PLANKING, GUARDRAILS OR MESH INFILL AS REQUIRED ON ADJACENT SCAFFOLD.
* SCAFFOLD TO BE A MAXIMUM OF 225MM FROM WORKING FACE UNLESS DIRECTED OTHERWISE BY LOCAL SAFETY AUTHORITIES.
* PLATFORM BRACKETS ("HOP UPS") ARE NOT TO BE LOADED WITH MATERIALS. THEY ARE TO BE USED FOR ACCESS BY PERSONNEL ONLY.

S8. IT SHALL REMAIN THE CLIENTS RESPONSIBILITY TO ENSURE THAT ALL REASONABLE PRECAUTIONS ARE TAKEN TO AVOID IMPACT LOADS ON THE SCAFFOLD DURING USE, CRANEAGE & VEHICULAR OPERATIONS.

S9. IRRESPECTIVE OF ANY RECOMMENDATIONS SHOWN ON THE DRAWINGS, THE USER IS RESPONSIBLE FOR THE STRUCTURAL ADEQUACY OF MATERIAL OF HIS OWN SUPPLY AND FOR ENSURING THAT THE APPROVED WORKING LOAD LIMITS OF ACROW FORMWORK & SCAFFOLDING EQUIPMENT ARE NOT EXCEEDED.

S10. THIS PROPOSAL HAS BEEN BASE ON DRAWING No: n/a

ISSUE	AMENDMENT	MADE BY	DATE
B	REVISED TO CLIENT'S COMMENTS (MARK-UP)	SKC	08/06/17
A	PRELIMINARY ISSUE	SKC	07/06/17

ALL DIMENSIONS ARE IN mm.
TOLERANCES UNLESS OTHERWISE STATED
UNIT MEASUREMENT ± 1.0 mm
ONE DECIMAL ± 0.5 mm
TWO DECIMALS ± 0.3 mm

REMOVE BURRS & SHARP EDGES

PROJECTION

WORK TO DIMENSIONS IF IN DOUBT ASK

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DRAWING TITLE
PROPOSED SCAFFOLD ARRANGEMENT PLAN VIEW AND NOTES

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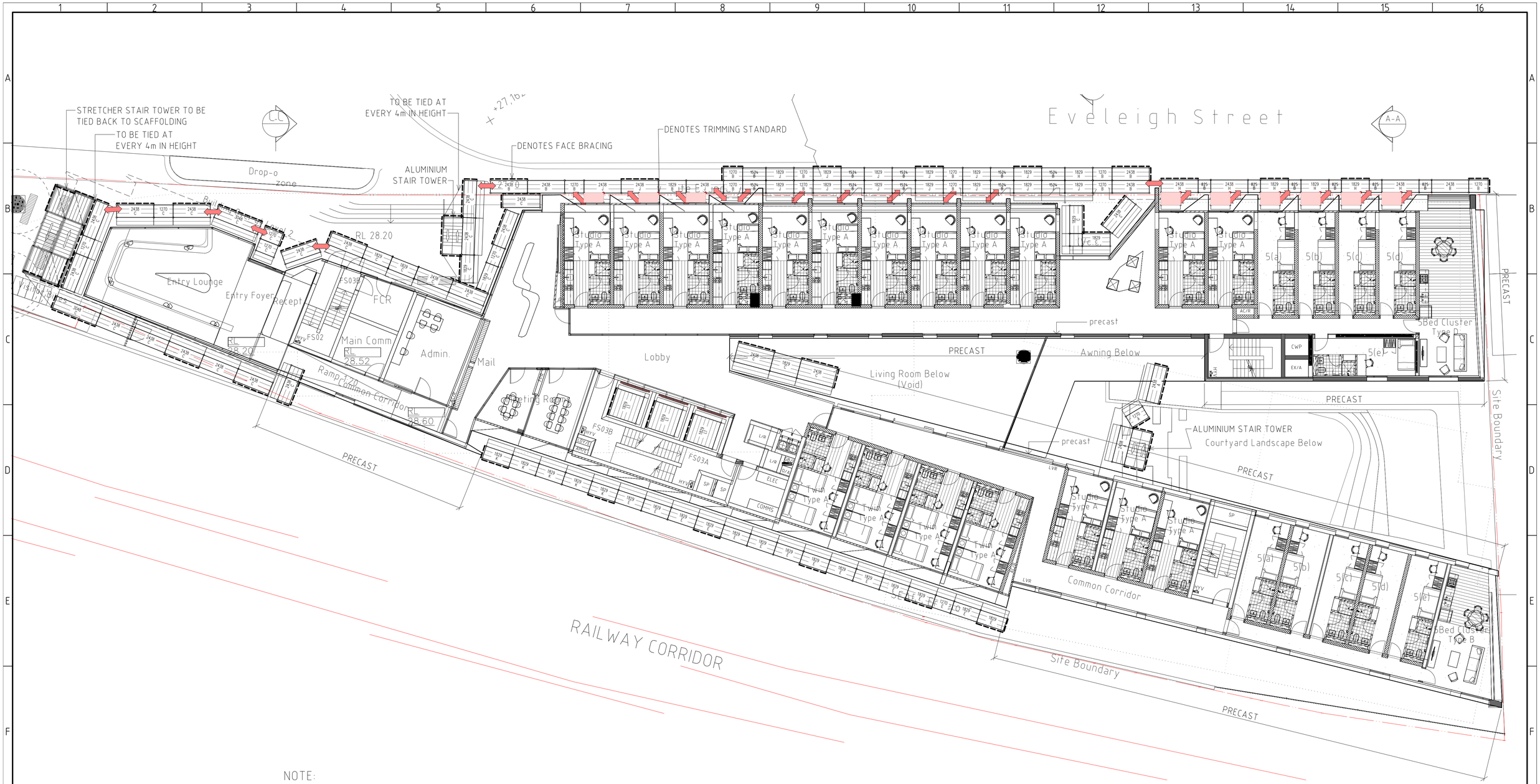
DRWN	SKC	DATE	07/06/17
CHKD	RP	SCALE	AS SHOWN
DESIGN	–	ACAD	17118
APPROVED	–	SHT	1 OF 1

ORIGINATING OFFICE	DATE PLOTTED	SHEET	DRG No:	REVISION
NSW/ACT	09/06/17	A1	17118 – S01	B



NOTE:
SCAFFOLED MUST NOT BE USED AS A FORMWORK SUPPORT UNLESS ENGINEERED AND APPROVED BY ACROW ENGINEERS.

ALL EQUIPMENTS TO BE SUPER CUPLOK

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LABOUR/SCAFFOLD HIRE

PLAN VIEW - UPPER GROUND

SCALE 1:125

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UNIT MEASUREMENT ± 1.0 mm
ONE DECIMAL ± 0.5 mm
TWO DECIMALS ± 0.3 mm

REMOVE BURRS & SHARP EDGES

PROJECTION

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SCAFFOLD HEIGHT (m)	HORIZONTAL SPACING OF TIES		
	BET. GROUND AND 15m LEVEL	BET. 15m AND 30m LEVEL	BET. 30m AND 62m LEVEL
UP TO 15	EVERY 2ND STANDARD	-	-
15 TO 30	EVERY 2ND STANDARD	EVERY 2ND STANDARD	-
ABOVE 30	EVERY STANDARD	EVERY 2ND STANDARD	EVERY STANDARD

MAX. 10 PEOPLE AT ANY GIVEN TIME ON STRETCHER/ALUMINUM STAIR SYSTEM

RAKING TIES FOR STRETCHER/ALUMINUM STAIR TOWER TO BE EVERY 4m IN HEIGHT ON BOTH SIDES OF TOWER FOR STABILITY

SCAFFOLD TIES ARE TO BE LOCATED AT THE END OF EACH RUN REGARDLESS OF HORIZONTAL SPACING OF TIES.

SCAFFOLD TO BE STARTED WITH A 3m STANDARD ON INTERNAL LEG AND A 2m STANDARD ON EXTERNAL LEG IN ORDER TO STAGER THE JOINTS OF STANDARDS

ALL SCAFFOLD TIES, LINK TUBES AND LAP BOARDS OMITTED FOR CLARITY

CLIENT
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DRAWING TITLE
PROPOSED SCAFFOLD ARRANGEMENT
PLAN VIEW AND NOTES

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DRWN	SKC	DATE	07/06/17
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ORIGINATING OFFICE	DATE PLOTTED	SHEET	DRG No:	REVISION
NSW/ACT	09/06/17	A1	17118 –S02	B

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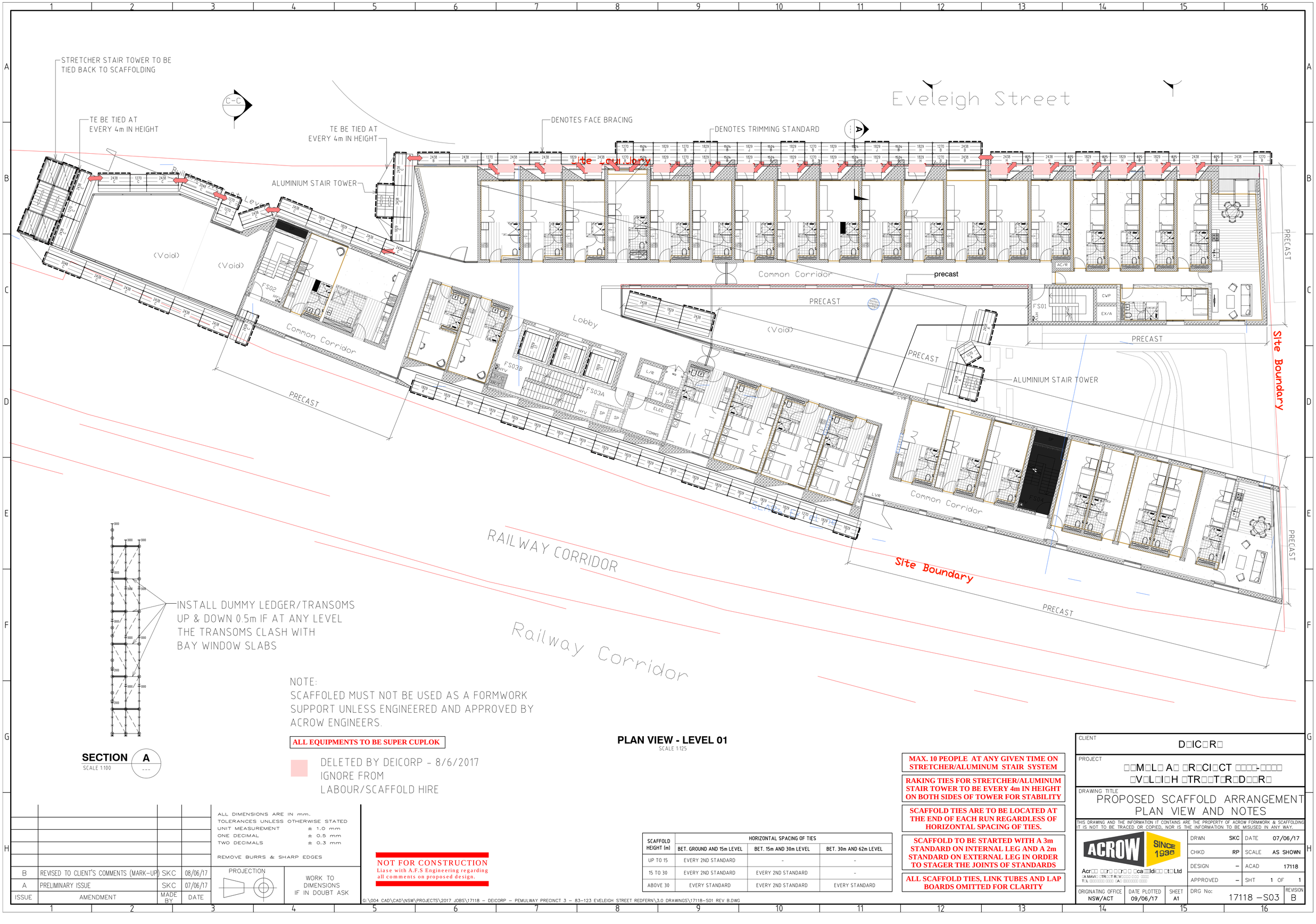

INSTALL DUMMY LEDGER/TRANSOMS
UP & DOWN 0.5m IF AT ANY LEVEL
THE TRANSOMS CLASH WITH
BAY WINDOW SLABS

NOTE:
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ALL EQUIPMENTS TO BE SUPER CUPLOK

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SECTION A
SCALE 1:100

PLAN VIEW - LEVEL 01
SCALE 1:125

SCAFFOLD HEIGHT (m)	HORIZONTAL SPACING OF TIES		
	BET. GROUND AND 15m LEVEL	BET. 15m AND 30m LEVEL	BET. 30m AND 62m LEVEL
UP TO 15	EVERY 2ND STANDARD	-	-
15 TO 30	EVERY 2ND STANDARD	EVERY 2ND STANDARD	-
ABOVE 30	EVERY STANDARD	EVERY 2ND STANDARD	EVERY STANDARD

MAX. 10 PEOPLE AT ANY GIVEN TIME ON STRETCHER/ALUMINUM STAIR SYSTEM

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ALL SCAFFOLD TIES, LINK TUBES AND LAP BOARDS OMITTED FOR CLARITY

ISSUE	AMENDMENT	MADE BY	DATE
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TOLERANCES UNLESS OTHERWISE STATED
UNIT MEASUREMENT ± 1.0 mm
ONE DECIMAL ± 0.5 mm
TWO DECIMALS ± 0.3 mm

REMOVE BURRS & SHARP EDGES

PROJECTION

WORK TO DIMENSIONS IF IN DOUBT ASK

NOT FOR CONSTRUCTION
Liase with A.F.S Engineering regarding all comments on proposed design.

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DRAWING TITLE
PROPOSED SCAFFOLD ARRANGEMENT
PLAN VIEW AND NOTES

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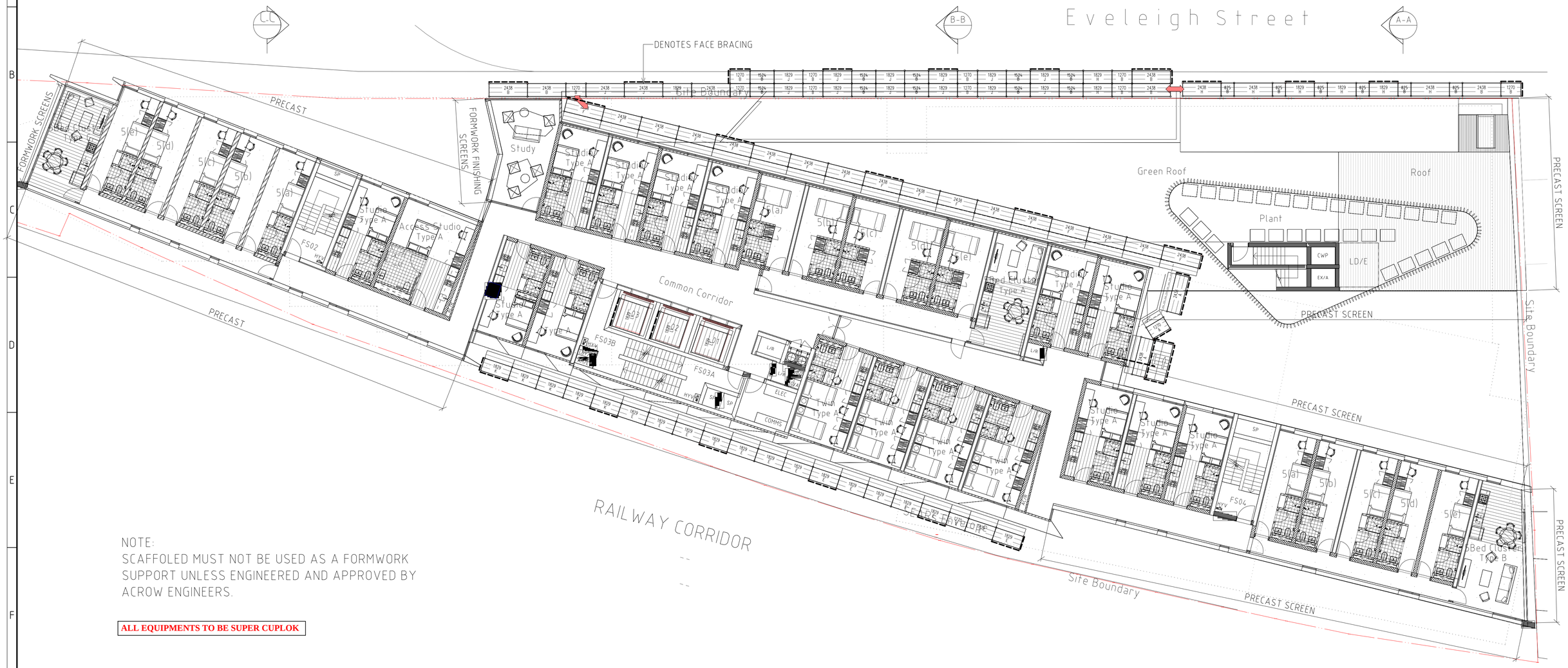
DRWN	SKC	DATE	07/06/17
CHKD	RP	SCALE	AS SHOWN
DESIGN	–	ACAD	17118
APPROVED	–	SHT	1 OF 1

ORIGINATING OFFICE	DATE PLOTTED	SHEET	DRG No:	REVISION
NSW/ACT	09/06/17	A1	17118 –S03	B



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ALL EQUIPMENTS TO BE SUPER CUPLOK

PLAN VIEW - LEVEL 02

SCALE 1:125

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UNIT MEASUREMENT ± 1.0 mm
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REMOVE BURRS & SHARP EDGES

PROJECTION

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SCAFFOLD HEIGHT (m)	HORIZONTAL SPACING OF TIES		
	BET. GROUND AND 15m LEVEL	BET. 15m AND 30m LEVEL	BET. 30m AND 62m LEVEL
UP TO 15	EVERY 2ND STANDARD	-	-
15 TO 30	EVERY 2ND STANDARD	EVERY 2ND STANDARD	-
ABOVE 30	EVERY STANDARD	EVERY 2ND STANDARD	EVERY STANDARD

MAX. 10 PEOPLE AT ANY GIVEN TIME ON STRETCHER/ALUMINUM STAIR SYSTEM

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ALL SCAFFOLD TIES, LINK TUBES AND LAP BOARDS OMITTED FOR CLARITY

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DRAWING TITLE
PROPOSED SCAFFOLD ARRANGEMENT
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DATE	07/06/17
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ACAD	17118
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ORIGINATING OFFICE	DATE PLOTTED	SHEET	DRG No:	REVISION
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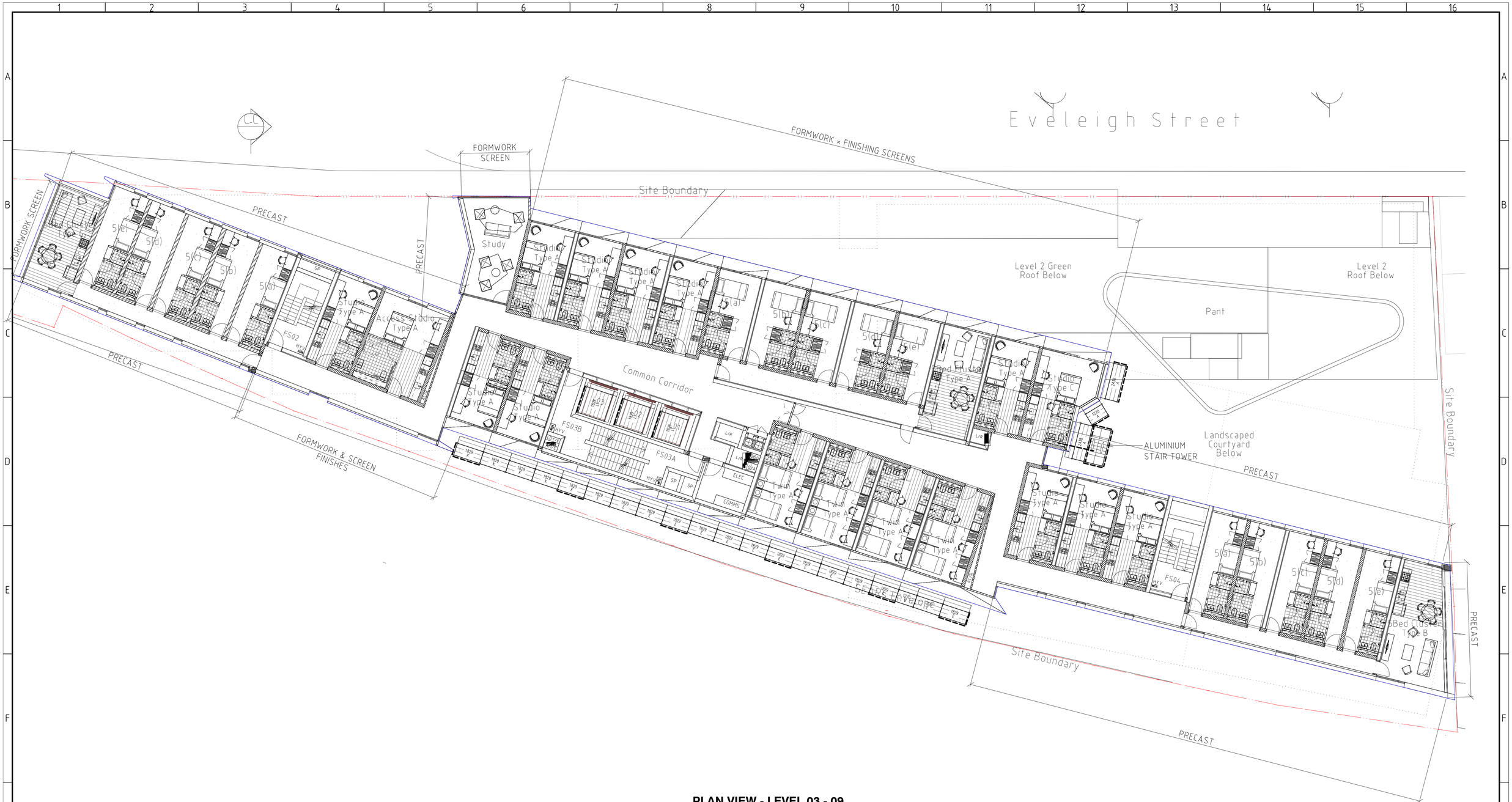

PLAN VIEW - LEVEL 03 - 09

SCALE 1:125

ALL EQUIPMENTS TO BE SUPER CUPLOK

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SCAFFOLD HEIGHT (m)	HORIZONTAL SPACING OF TIES		
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TOLERANCES UNLESS OTHERWISE STATED
UNIT MEASUREMENT ± 1.0 mm
ONE DECIMAL ± 0.5 mm
TWO DECIMALS ± 0.3 mm

REMOVE BURRS & SHARP EDGES

PROJECTION

WORK TO DIMENSIONS IF IN DOUBT ASK

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DRAWING TITLE
PROPOSED SCAFFOLD ARRANGEMENT
PLAN VIEW AND NOTES

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DRWN	SKC	DATE	07/06/17
CHKD	RP	SCALE	AS SHOWN
DESIGN	–	ACAD	17118
APPROVED	–	SHT	1 OF 1

ORIGINATING OFFICE	DATE PLOTTED	SHEET	DRG No:	REVISION
NSW/ACT	09/06/17	A1	17118 –S05	B

PLAN VIEW - LEVEL 10 - 20

SCALE 1:100

ISSUE	AMENDMENT	MADE BY	DATE
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ALL SCAFFOLD TIES, LINK TUBES AND LAP BOARDS OMITTED FOR CLARITY

CLIENT: D□IC□R□

PROJECT: □□M□L□ A□ □R□CI□CT □□□□-□□□□ □V□L□I□H □TR□□T□R□D□□R□

DRAWING TITLE: PROPOSED SCAFFOLD ARRANGEMENT PLAN VIEW AND NOTES

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DRWN	SKC
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CHKD	RP
SCALE	AS SHOWN
DESIGN	–
ACAD	17118
APPROVED	–
SHT	1 OF 1
ORIGINATING OFFICE	NSW/ACT
DATE PLOTTED	09/06/17
SHEET	A1
DRG No:	17118 –S06
REVISION	B

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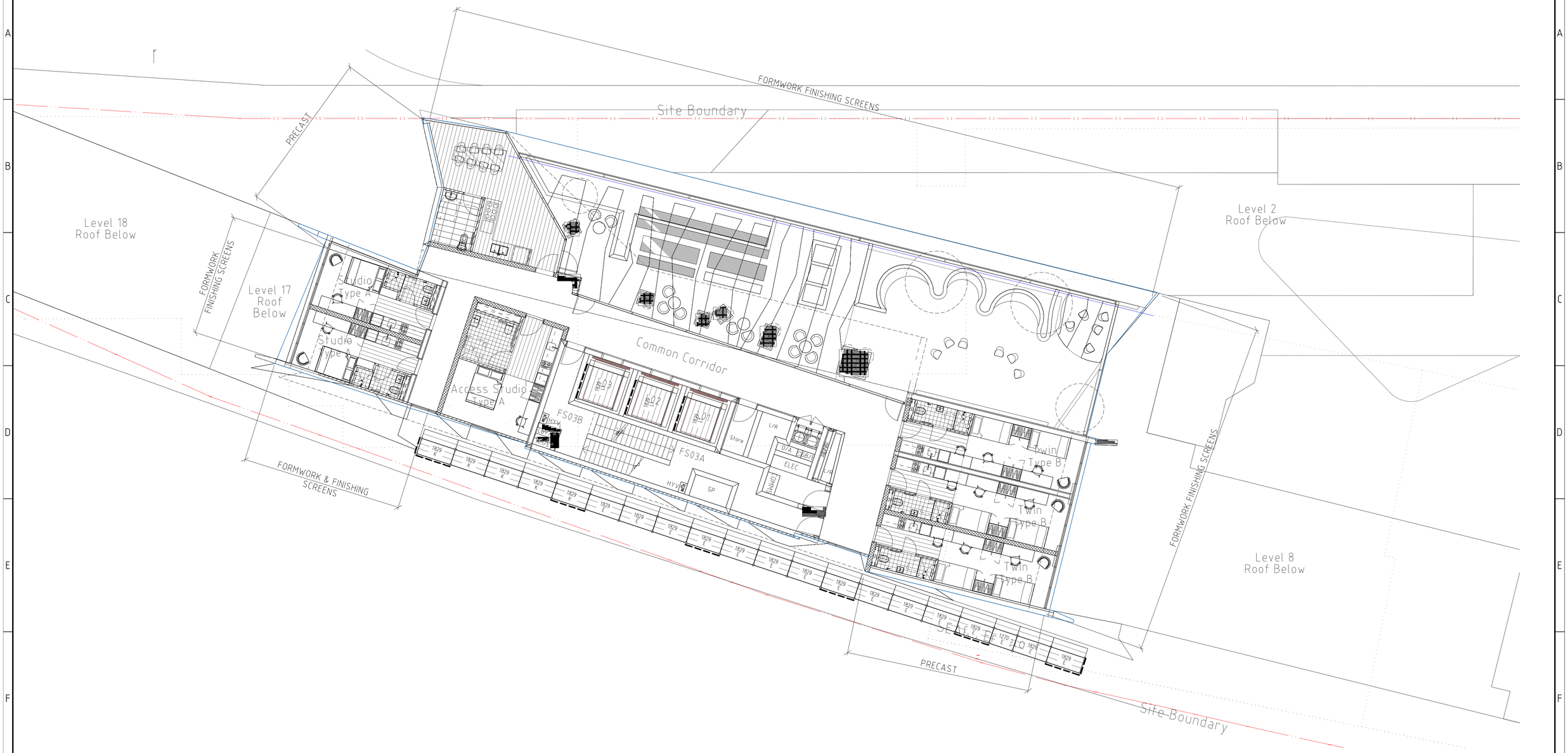

PLAN VIEW - LEVEL 21

SCALE 1:100

ISSUE	AMENDMENT	MADE BY	DATE
B	REVISED TO CLIENT'S COMMENTS (MARK-UP)	SKC	08/06/17
A	PRELIMINARY ISSUE	SKC	07/06/17

ALL DIMENSIONS ARE IN mm.
TOLERANCES UNLESS OTHERWISE STATED
UNIT MEASUREMENT ± 1.0 mm
ONE DECIMAL ± 0.5 mm
TWO DECIMALS ± 0.3 mm

REMOVE BURRS & SHARP EDGES

PROJECTION

WORK TO DIMENSIONS IF IN DOUBT ASK

ALL EQUIPMENTS TO BE SUPER CUPLOK

NOT FOR CONSTRUCTION
Liase with A.F.S Engineering regarding all comments on proposed design.

SCAFFOLD HEIGHT (m)	HORIZONTAL SPACING OF TIES		
	BET. GROUND AND 15m LEVEL	BET. 15m AND 30m LEVEL	BET. 30m AND 62m LEVEL
UP TO 15	EVERY 2ND STANDARD	-	-
15 TO 30	EVERY 2ND STANDARD	EVERY 2ND STANDARD	-
ABOVE 30	EVERY STANDARD	EVERY 2ND STANDARD	EVERY STANDARD

MAX. 10 PEOPLE AT ANY GIVEN TIME ON STRETCHER/ALUMINUM STAIR SYSTEM

RAKING TIES FOR STRETCHER/ALUMINUM STAIR TOWER TO BE EVERY 4m IN HEIGHT ON BOTH SIDES OF TOWER FOR STABILITY

SCAFFOLD TIES ARE TO BE LOCATED AT THE END OF EACH RUN REGARDLESS OF HORIZONTAL SPACING OF TIES.

SCAFFOLD TO BE STARTED WITH A 3m STANDARD ON INTERNAL LEG AND A 2m STANDARD ON EXTERNAL LEG IN ORDER TO STAGER THE JOINTS OF STANDARDS

ALL SCAFFOLD TIES, LINK TUBES AND LAP BOARDS OMITTED FOR CLARITY

CLIENT
D□IC□R□

PROJECT
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□V□L□I□H □TR□□T□R□D□□R□

DRAWING TITLE
PROPOSED SCAFFOLD ARRANGEMENT
PLAN VIEW AND NOTES

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ACROW SINCE 1936

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DRWN	SKC	DATE	07/06/17
CHKD	RP	SCALE	AS SHOWN
DESIGN	–	ACAD	17118
APPROVED	–	SHT	1 OF 1

ORIGINATING OFFICE	DATE PLOTTED	SHEET	DRG No:	REVISION
NSW/ACT	09/06/17	A1	17118 –S07	B

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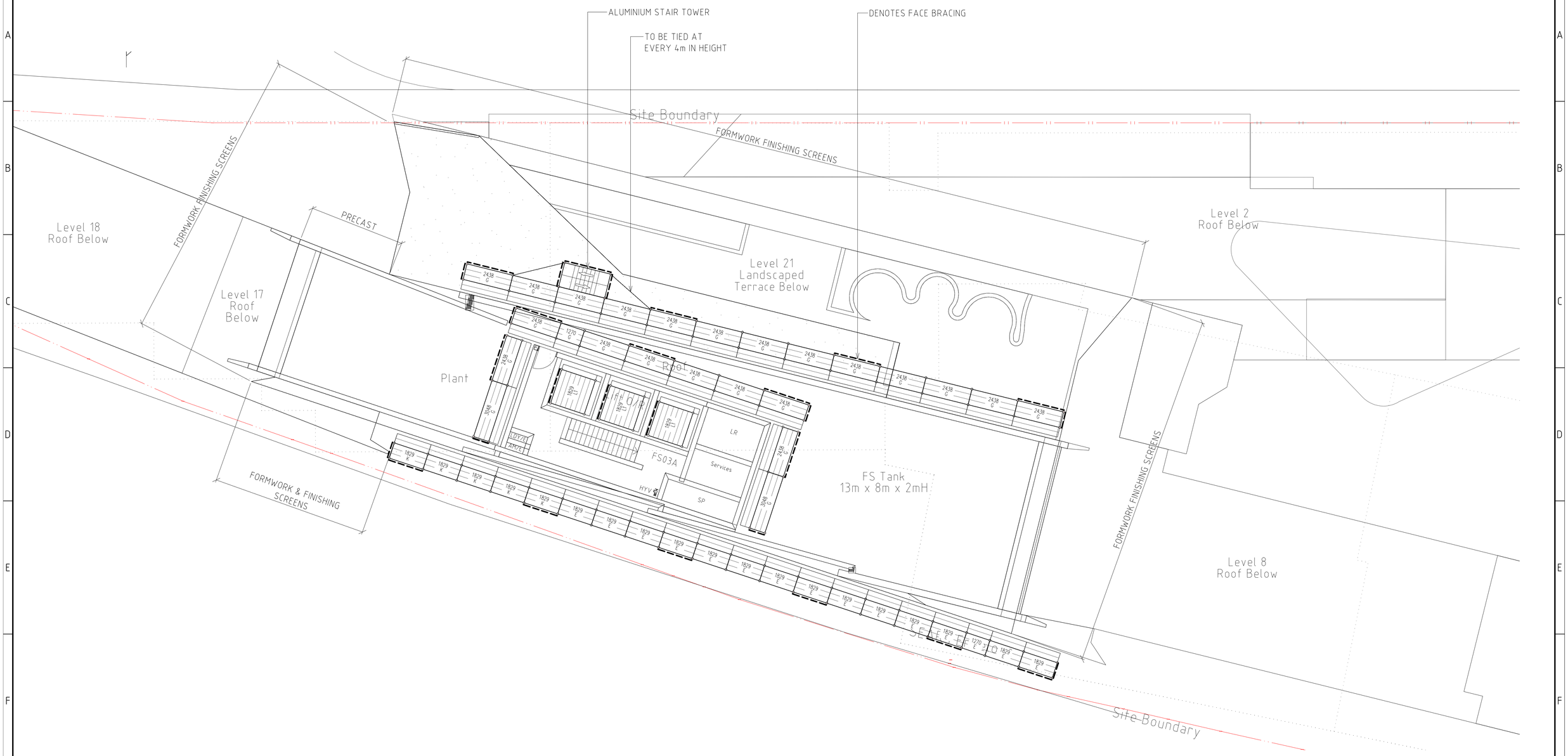

PLAN VIEW - ROOF

SCALE 1:100

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DRWN	SKC	DATE	07/06/17
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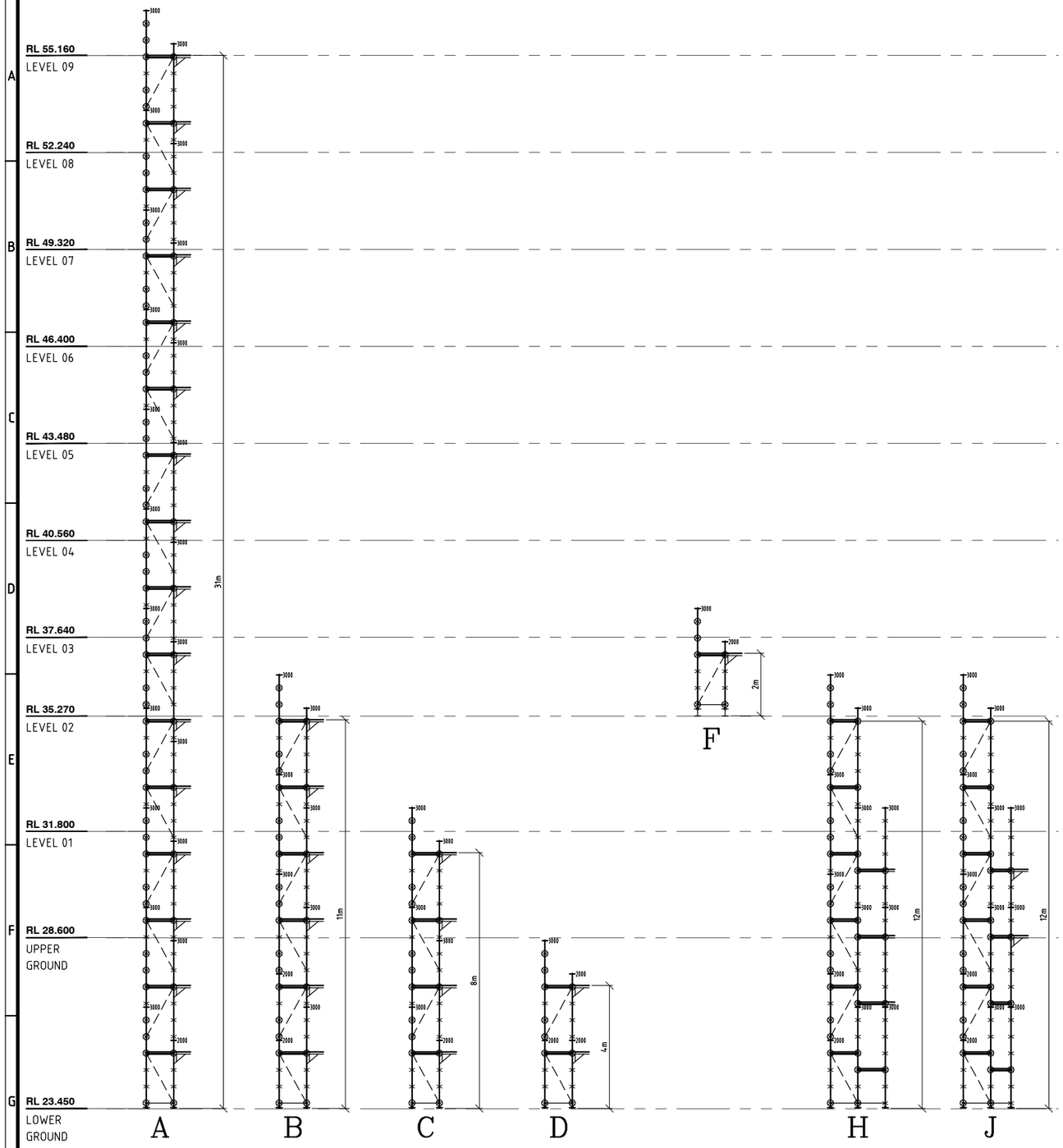
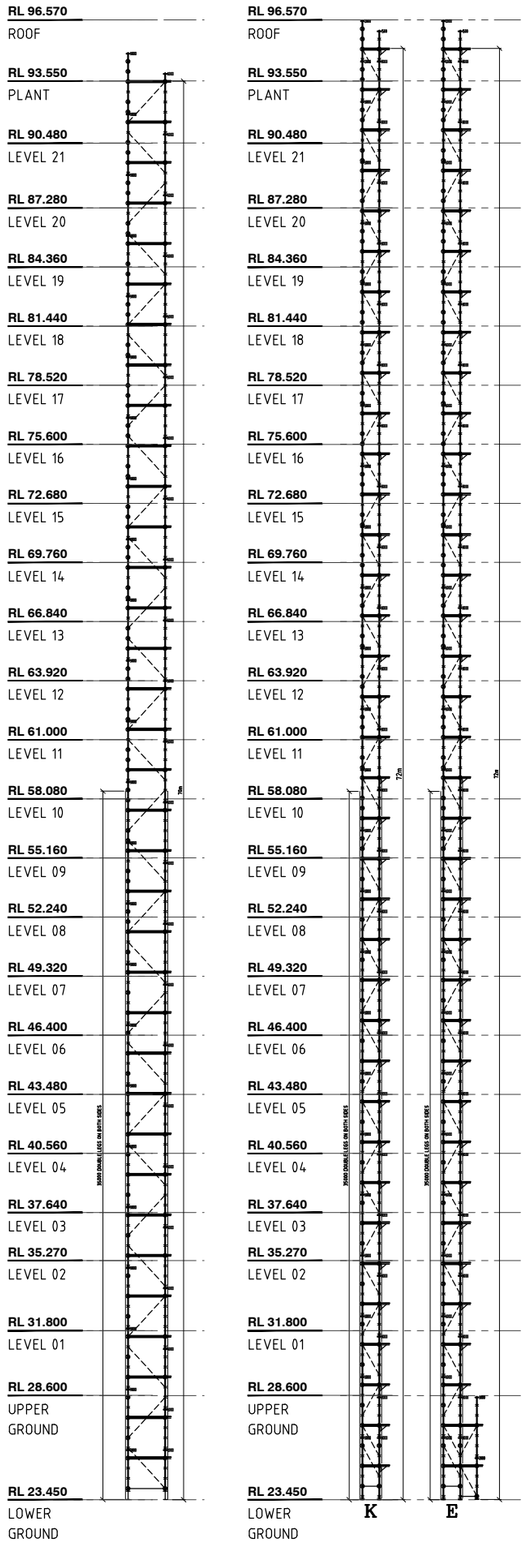
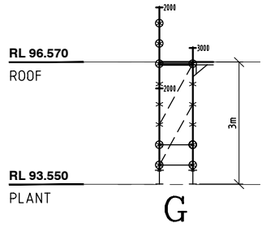


SECTION VIEWS
SCALE 1:75





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□V□L□I□H □TR□□T□R□D□□R□

DRAWING TITLE
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SECTION VIEWS

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□A MAVE□ □TR□□T R□V□□□□ □□□ □□□□
T/A □□□□□□□ □□□□ □A□ □□□□□□□□ □□□□

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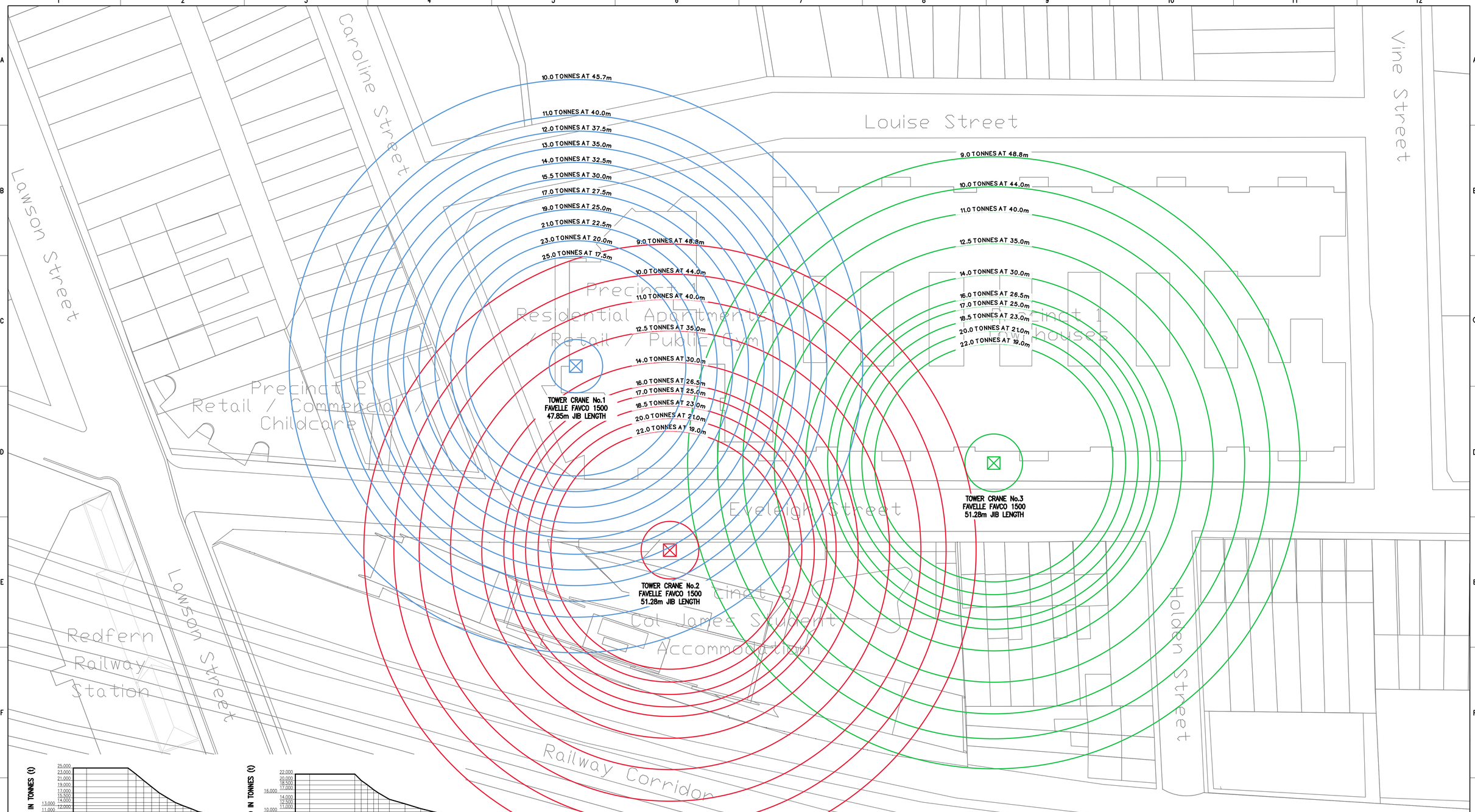
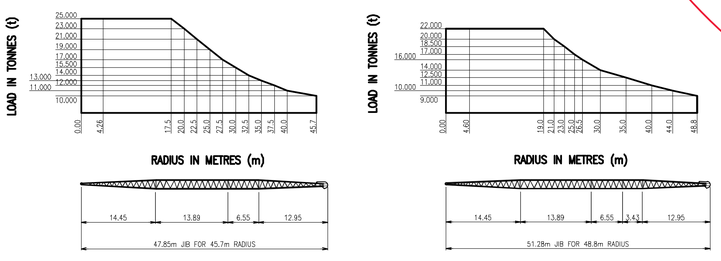
APPROVED	–	SHT	1 OF 1

ORIGINATING OFFICE	DATE PLOTTED	SHEET	DRG No:	REVISION
NSW/ACT	09/06/17	A1	17118 –S09	B

Annexure C Crane Radius Plan

Drawing - Robert Bird Group Tower Crane Installations @ Pemulwuy Precinct Redfern NSW , 17295N-S000-01-P2





LOAD CAPACITY FOR FAVCO 1500 CRANE WITH RADIUS OF 45.7m

LOAD CAPACITY FOR FAVCO 1500 CRANE WITH RADIUS OF 48.8m

NOTE:

1. # DENOTES DIMENSION TO BE CONFIRMED BY BUILDER ON SITE PRIOR TO EXCAVATION OF CRANE BASE.
2. BUILDER TO CONFIRM THAT HOOK AND JIB HEIGHT CLEAR ALL ADJACENT STRUCTURES WITHIN THE JIB RANGE. THIS SHALL BE CONFIRMED BY SURVEY PRIOR TO CRANE INSTALLATION.
3. BUILDER TO CONFIRM THAT HEIGHT UNDER HOOK ABOVE BASE ALLOWS SUFFICIENT CLEARANCE ABOVE THE BUILDING FOR ITEMS BEING LIFTED.
4. THE USE OF A FULL TIME CRANE COORDINATOR IS STRONGLY RECOMMENDED TO MONITOR ALL CRANE MOVEMENTS AND MINIMISE THE RISK OF CLASHES. THIS SHOULD FORM PART OF THE SAFE WORK PLAN FOR THE PROJECT.
5. BUILDER TO CONFIRM APPROVAL HAS BEEN GRANTED TO SLEW NEAR OR OVER NEIGHBOURING PROPERTIES WHERE REQUIRED. THIS SHALL BE CONFIRMED PRIOR TO CRANE INSTALLATION.

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DO NOT SCALE DRAWINGS, USE FIGURED DIMENSIONS

REFER COVER SHEET FOR NOTES UNLESS NOTED OTHERWISE

SCALE 1:250

5 0 5 10m

Rev.	Revision Description	By.	App.	Date
P1	ISSUE FOR INFORMATION	PT	RC	08.02.17
P2	RE-ISSUE FOR INFORMATION	PT	RC	08.06.17

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Title
TOWER CRANE RADIUS PLAN

Project
TOWER CRANE INSTALLATIONS AT PEMULWUY PRECINCT
REDFERN, NSW

PRELIMINARY

Date	Designer	Design Checker
JUNE 2017	R.CALARCO	
Scale at B1	Drawn	Principal/Project Leader
AS SHOWN	P.TWEEDALE	
Job Number	Drawing Number	Revision
17295N	S000-01	P2

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0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

DEICORP

Annexure D Natform Screen Details

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NATFORM

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AN INNOVATIVE IDEA

Since formation in 1989, the Company has experienced strong growth reflecting market acceptance. 100% Australian owned Natform is now the leading designer and hirer of screen systems for the construction industry.

Natform screens continue to offer the industry savings in time and labour without compromising site safety. Large developers and constructors recognise the site efficiencies from using screens. This is occurring more than ever before, particularly in the low rise buildings.

DESIGN IN FOCUS

Natform's highly skilled staff continually deliver design solutions to satisfy t he demands of the diverse construction industry.

Through their experience, Natform's team has a true understanding and knowledge of the relationship between the site structure, finishing works and screen system.

Maintenance of new designs and engineering standards allows larger construction companies to benefit from the inherent advantages of screens.

ENJOY A VERSATILE SYSTEM

With flexible and innovative Natform designs, there are few limitations on building companies that use the screen system.

Natform accommodates screens in a vast diversity of low, mid and high rise projects including;

- Shopping Complexes
- Residential Buildings
- Commercial Offices
- Hospitals
- Car Parks
- Bridges

An extensive range of specialised fittings has enabled the Natform screens to be utilised in applications previously regarded as not being suitable such as;

- Building extensions and refurbishments
- Excavation zones
- Train Stations
- Construction zones

Versatility has been demonstrated with the expanded role of screens in steel framed buildings and for finishing trades. There are very few construction sites that cannot be handled by Natform Screens.

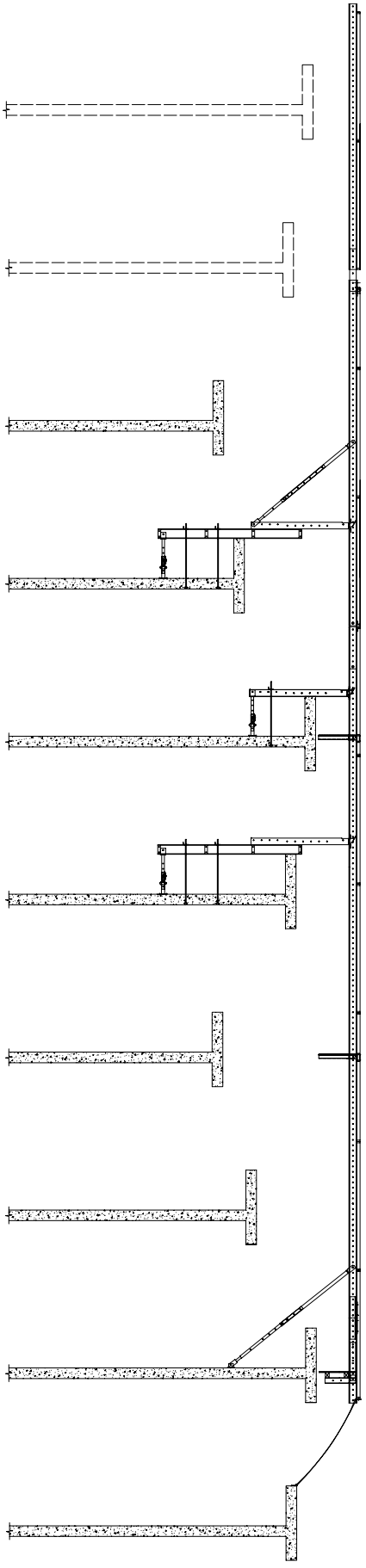
Screen stock availability is an integral part of the Company operation. Natform's expanded and upgraded storage yard permits delivery at relatively short notice.

SIGNIFICANT BENEFITS

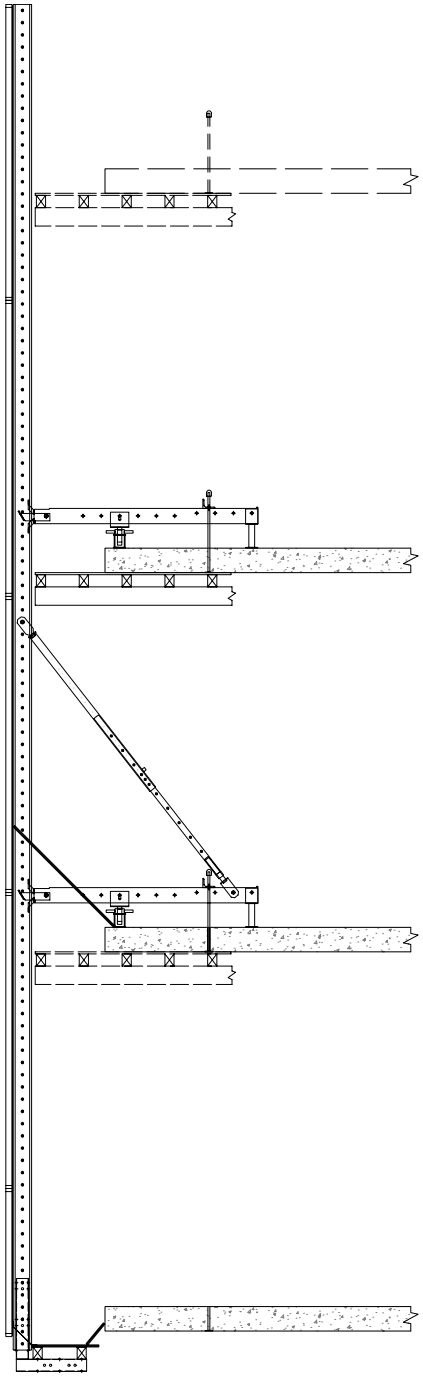
- Simple design means faster installation, lifting and removal
- The labour requirements are substantially lower
- Natural light is not restricted
- No onsite maintenance is required
- Screens are controlled by the Client allowing for better site coordination and also eliminates the need for anothe trade
- Due to ease of operation, construction speed is increased
- Valuable ground storage space is available for access
- Loading platform positions are flexible
- There is unobstructed access for cladding
- The installation of architectural awnings is possible at an early stage of the construction cycle.

Screens have proven to be a cost effective and safer overall solution in most applications.

SCREEN SYSTEM APPLICATIONS

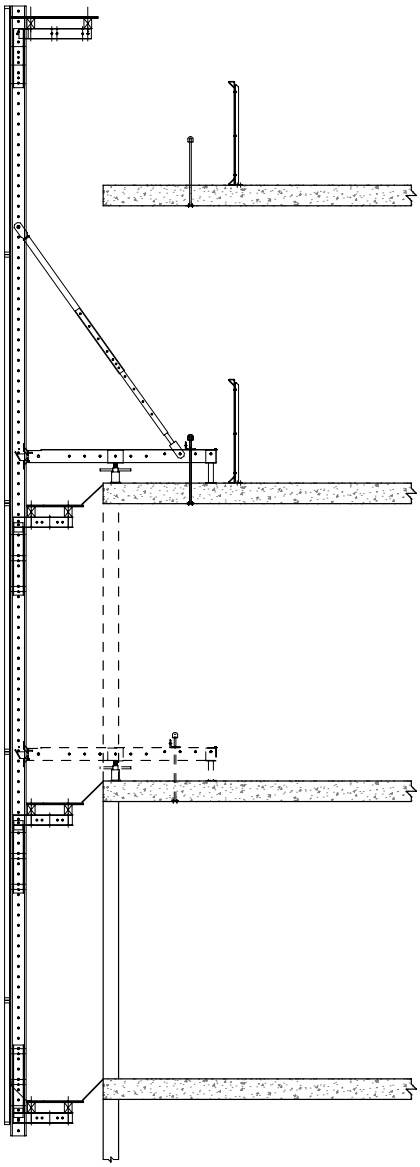


VARYING PROFILES

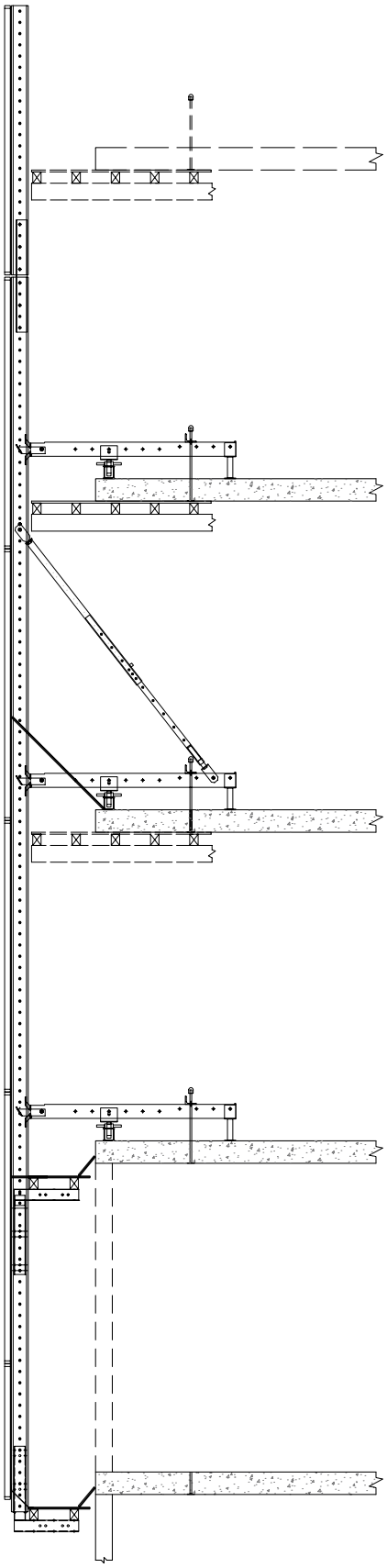


THREE LEVEL SCREEN SYSTEM

MULTIPLEX

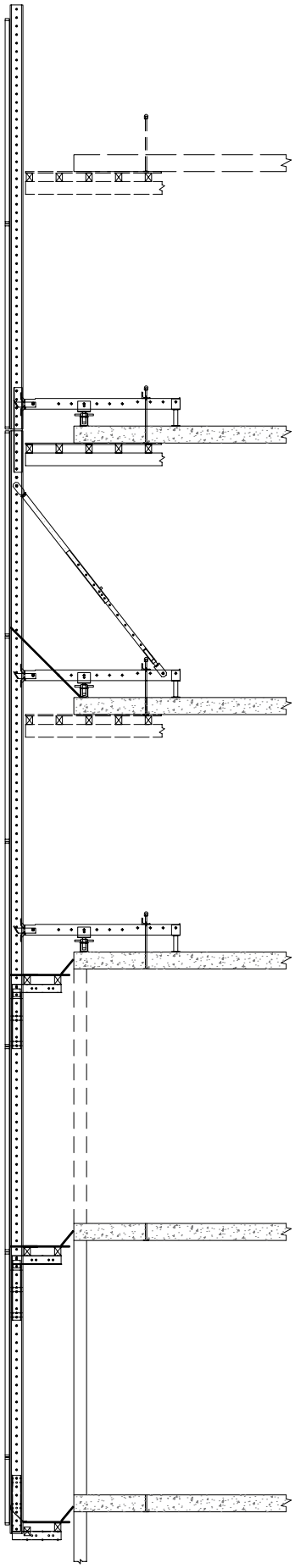


FINISHING TRADES SECONDARY SCREENS



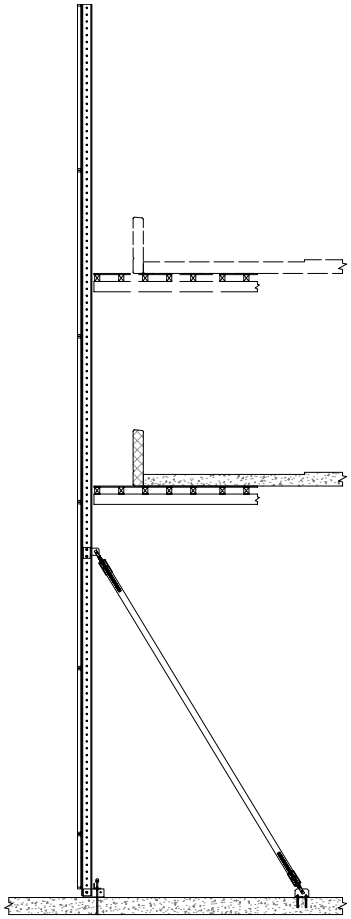
FOUR LEVEL SCREEN SYSTEM

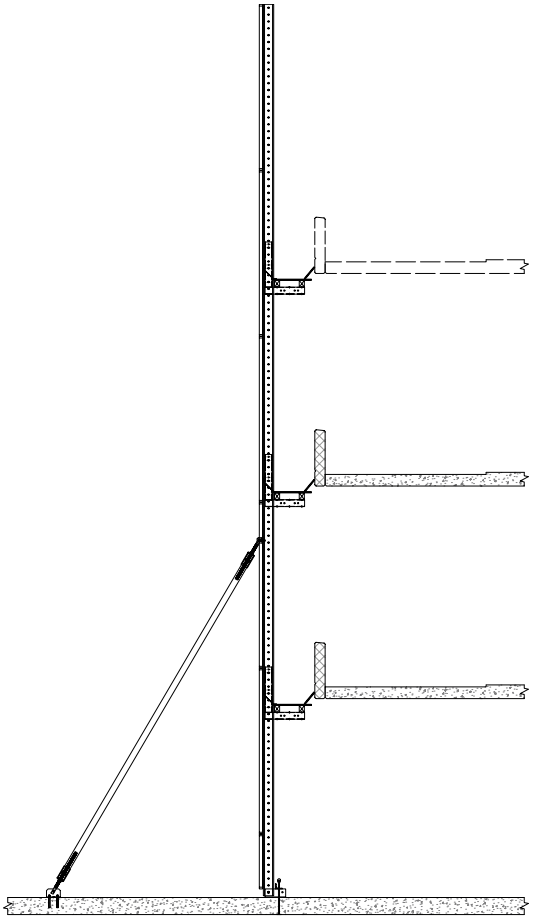
Audi Centre Gold Coast

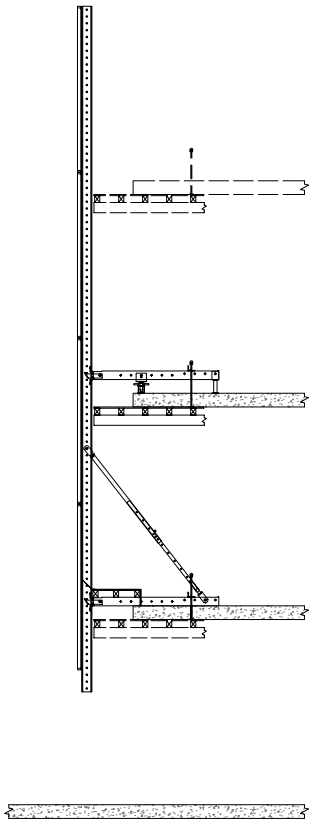


FIVE LEVEL SCREEN SYSTEM

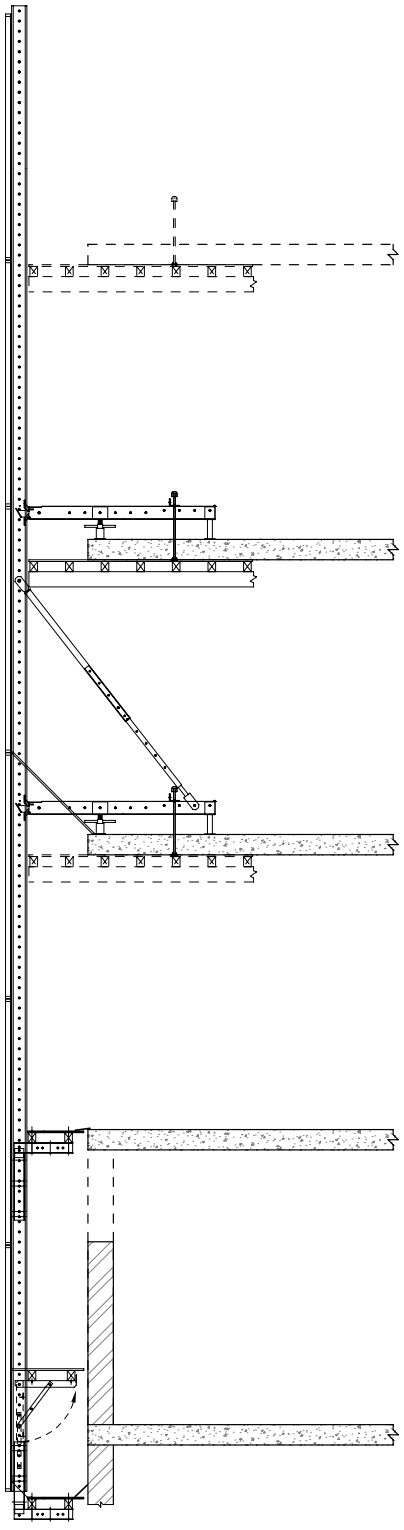
FRASERS
NOW SELLING



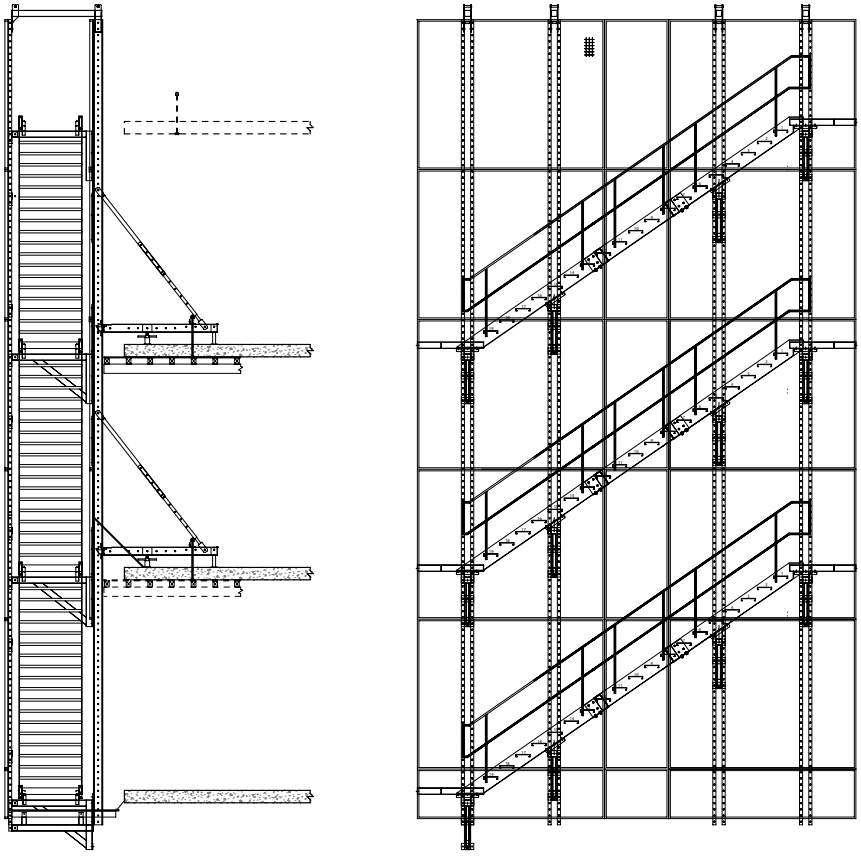




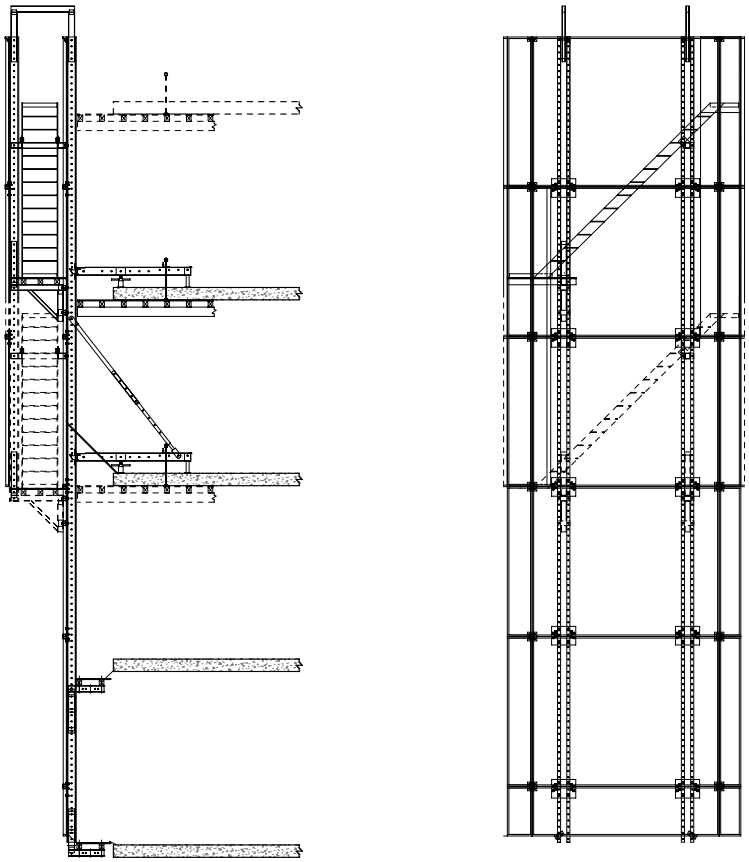
LOW RISE STATIC SCREENS



BRICKWORK SCREENS



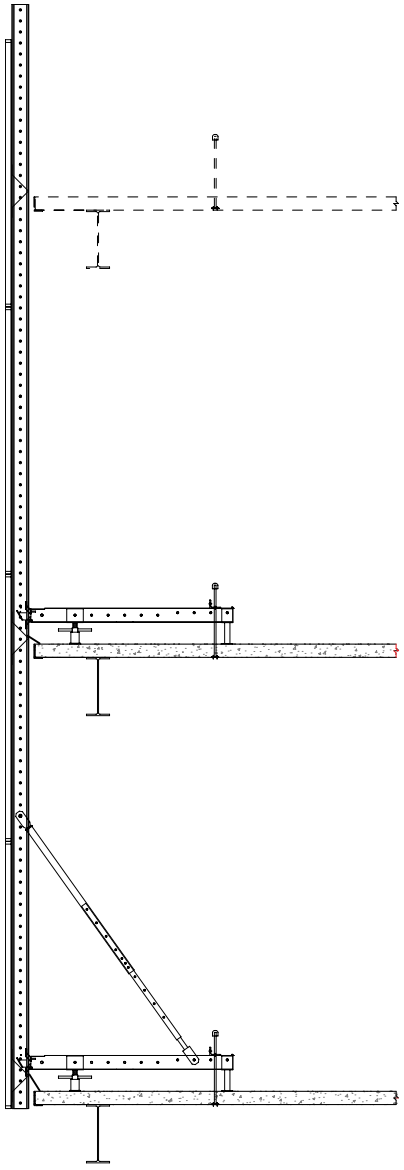
THREE LEVEL STRETCHER STAIRS ACCESS



SINGLE OR TWO LEVEL PERSONNEL STAIR ACCESS

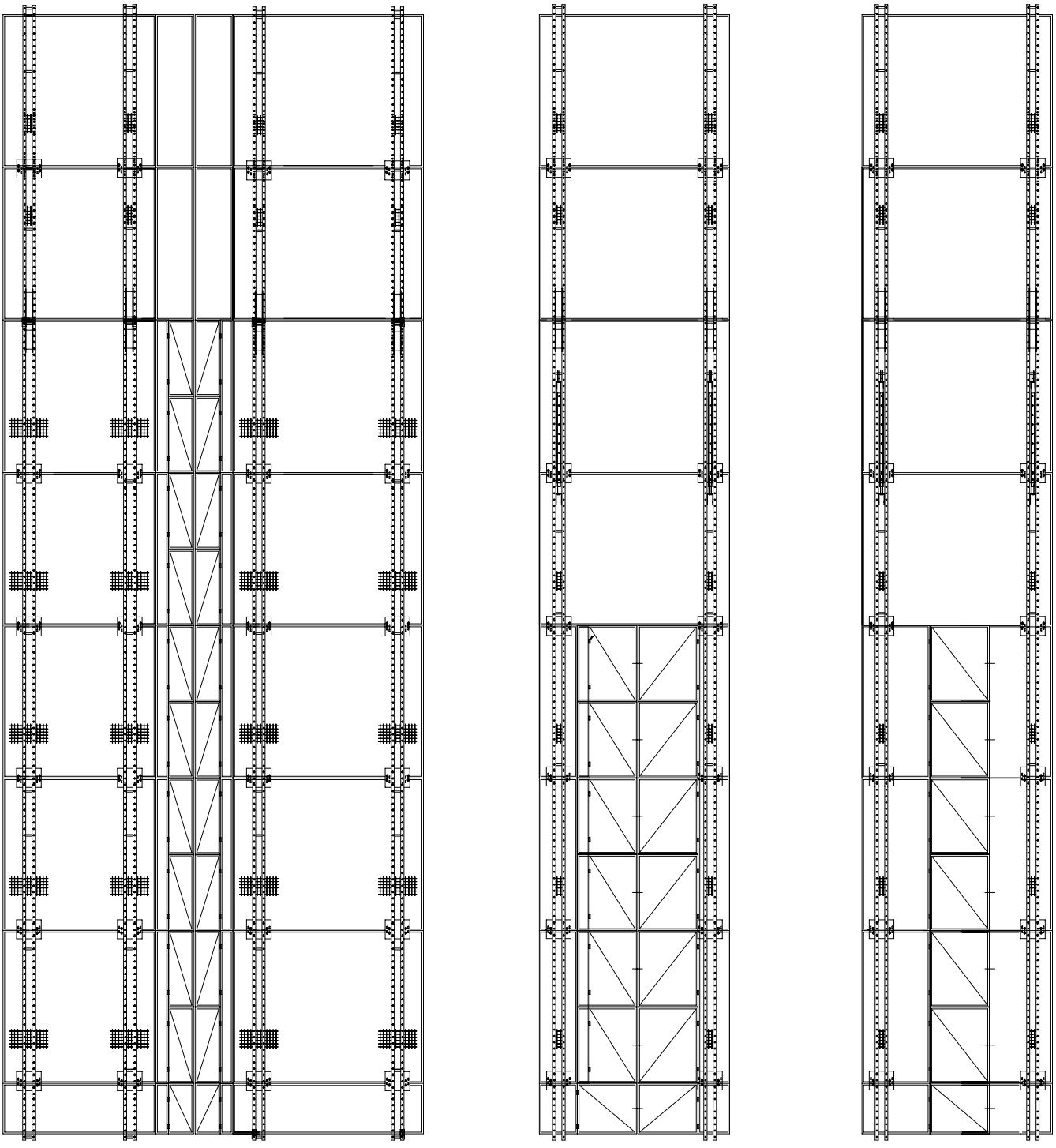
STRETCHER STAIRS

TWO LEVEL PERSONNEL STAIR ACCESS

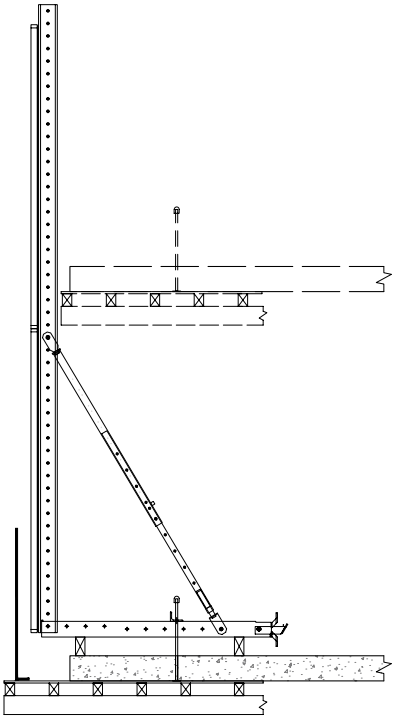


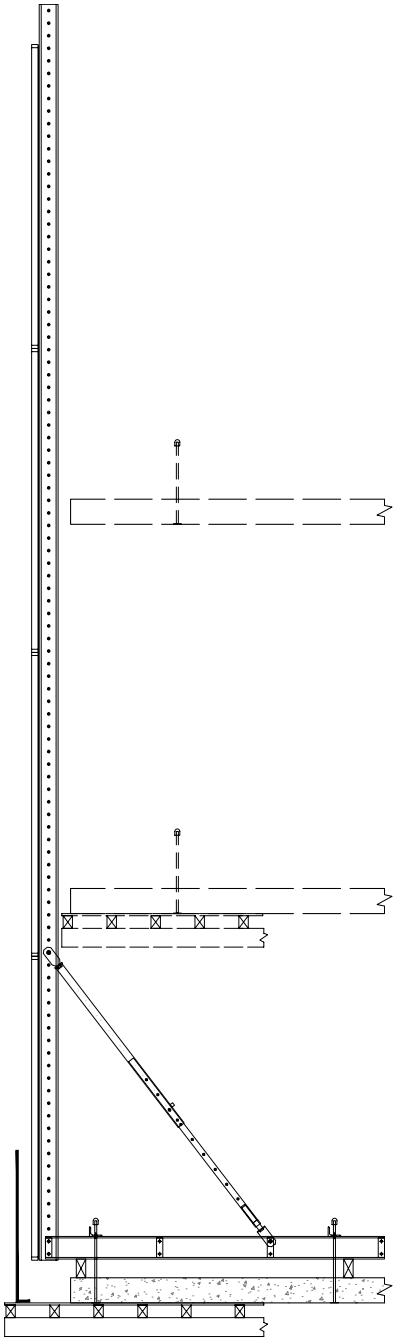
STRUCTURAL STEEL CONSTRUCTION

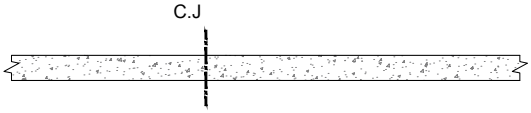
MULTIPLEX

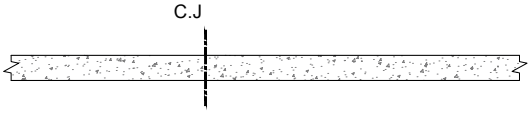


CRANE TIE AREAS









CONSTRUCTION JOINT SCREENS

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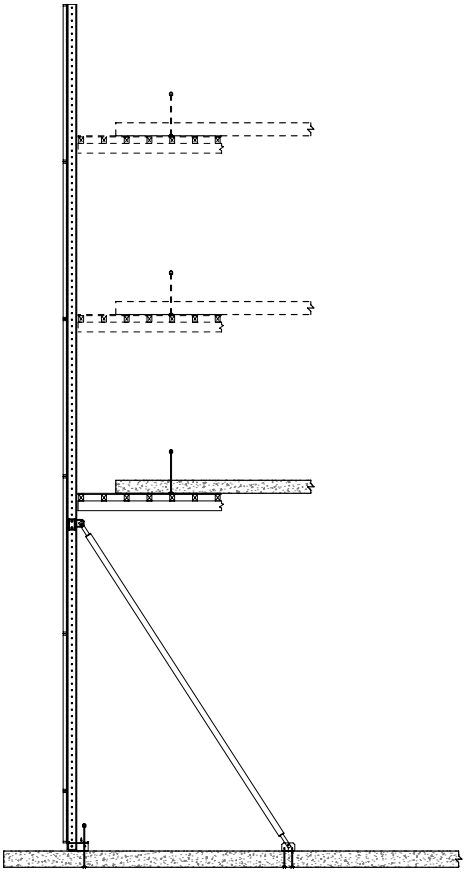
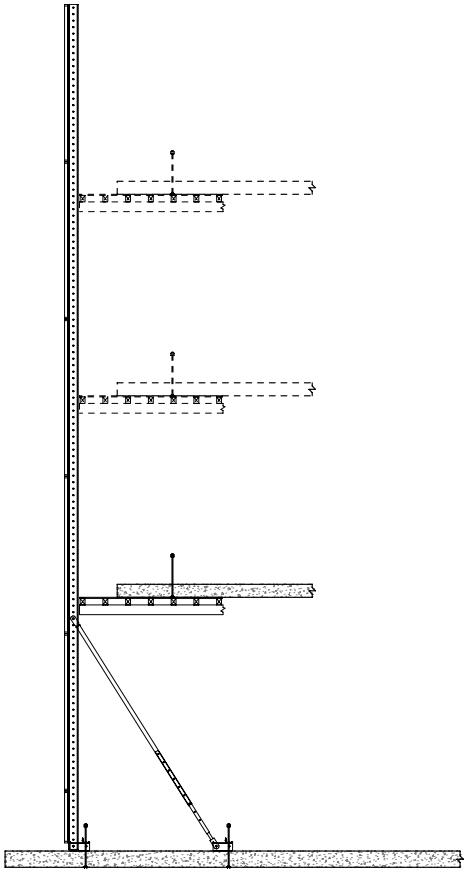
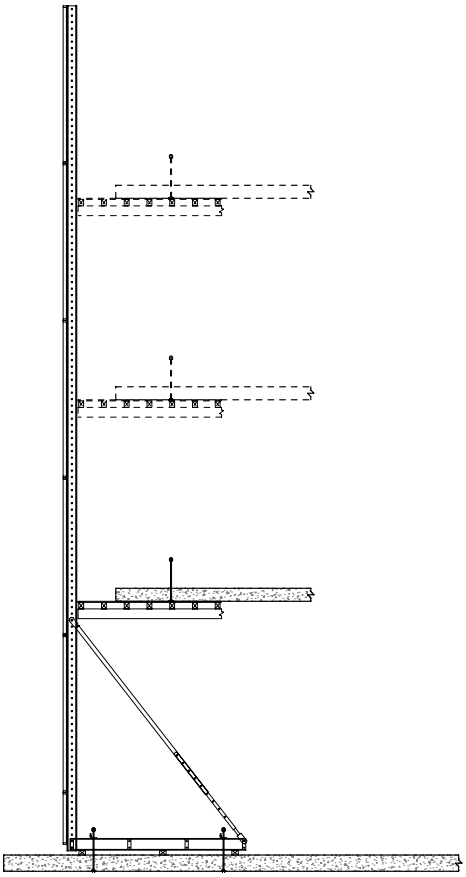
315

NATFORM

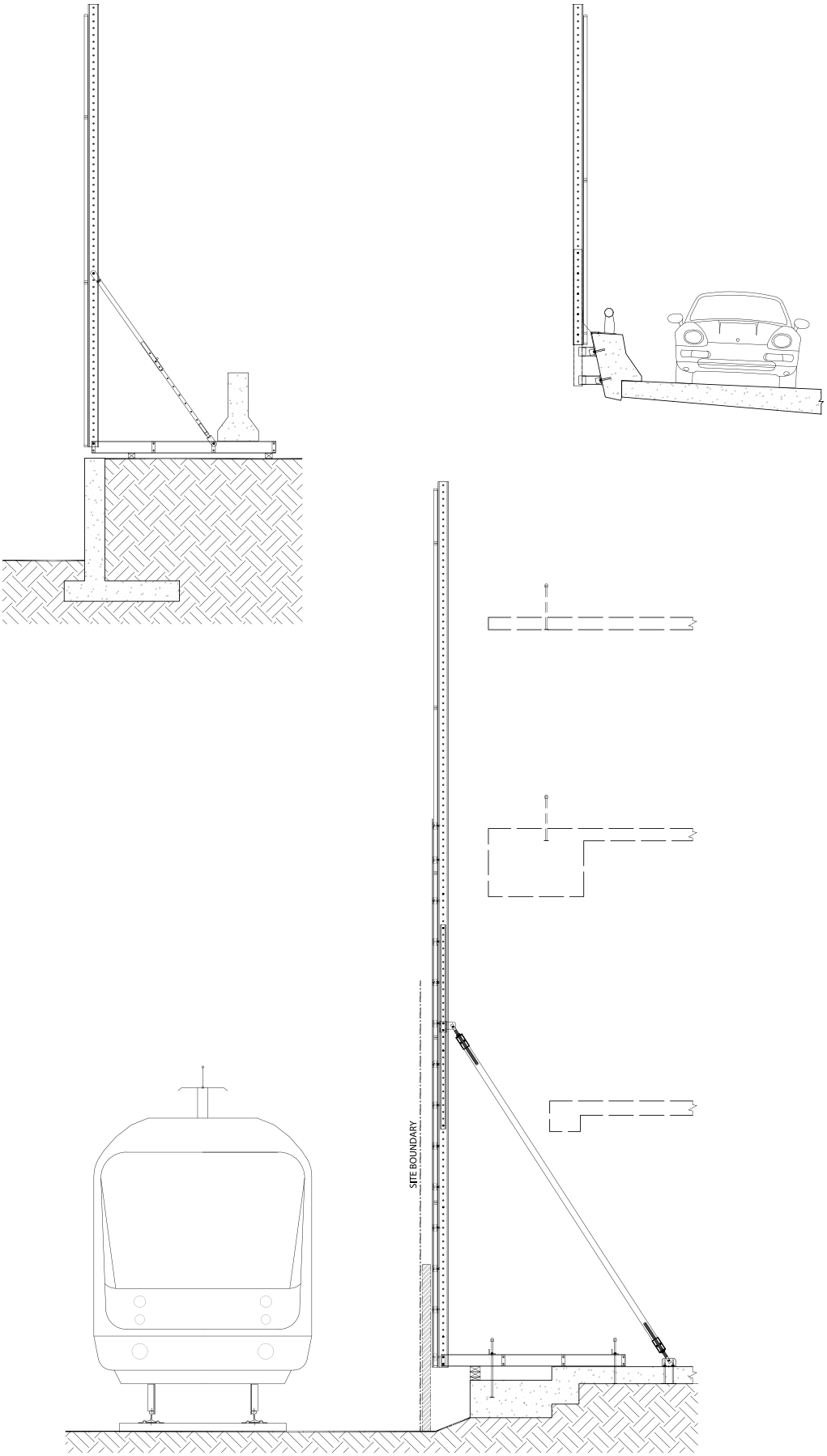






INITIAL SITE ERECTION OFF GROUND (LOADS PERMITTING)

City Precinct



BRIDGES/ROADWORK/TRAIN STATIONS

BALLDERSTONE
HORNIBROOK

Buildcorp

BUILDING EXTENSIONS;

- COMMERCIAL
- SHOPPING CENTRES
- RESIDENTIAL
- CAR PARKS

FAN SCREENS

FOR MINOR DEBRIS ONLY

TRANSPORTING

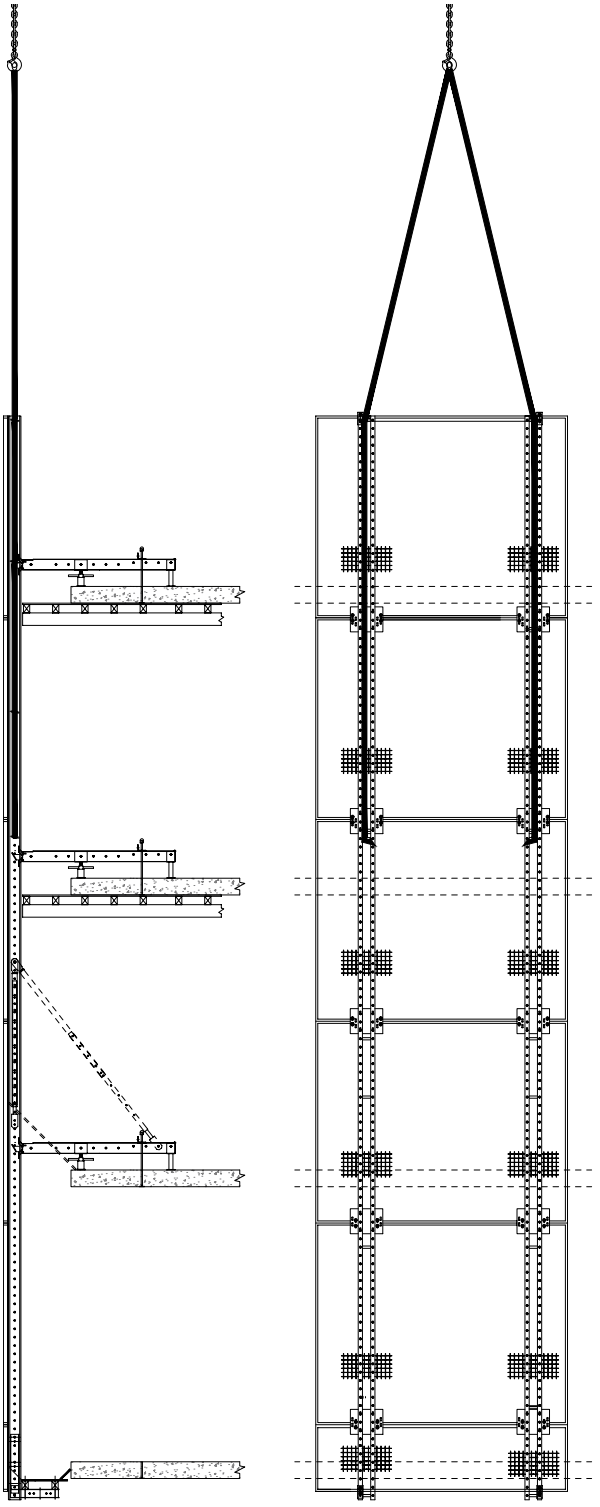
UNLOADING/LIFTING

SITE STORAGE

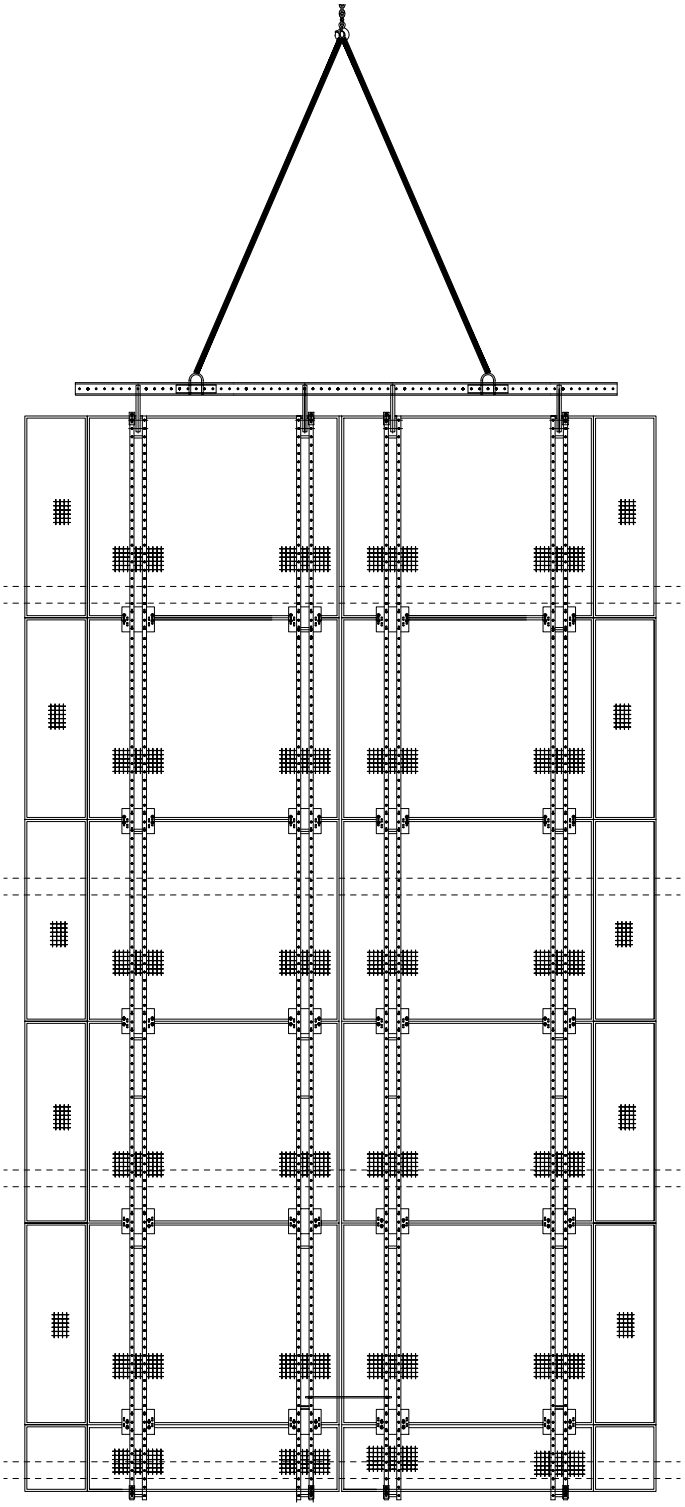
NEEDLE DELIVERY & REMOVAL

GAP
CLOSURE

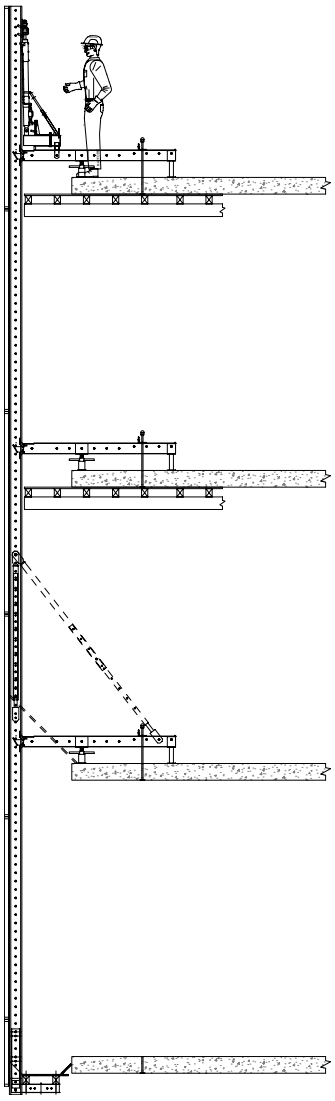
LIFTING



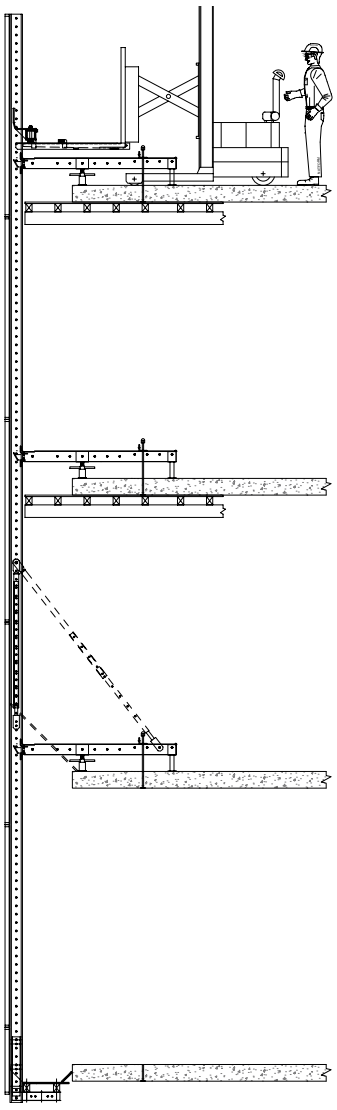
SOFT SLINGS USED FOR SCREEN ERECTION AND CLIMBING



SCREENS GANGED TO REDUCE HOOK TIME ON CRANE



SCREEN CLIMBING BY MEANS OF HYDRAULIC RAMS. HYDRAULIC RAMS MAY BE LOCATED AT LEVEL BELOW THAT SHOWN



SCREEN CLIMBING BY MEANS OF PEDESTRIAN FORKLIFT

SCREEN SYSTEM COMPONENTS

back prop outer - 400 H

back prop outer - 500 H

back prop inner - 500 H

back prop inner - 700 H

jack

stand

holding down bolt - flat plate

holding down bolt - bent plate

folding platform bkt - 550

folding platform bkt - 750

hop-up

wall needle bkt

550 platform bkt

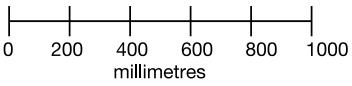
750 platform bkt

750 platform bkt extension

screen plate stand

screen plate 100 offset

soldier rubber



restraint

kickplate

needle - 460 lg

needle - 915 lg

needle - 1330 lg

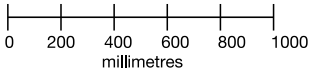
needle std - 1830 lg

channel needle

prop - short

prop - standard

prop - long



R-clip

screen clip

spacer

U-bolt

U-bolt plate

saddle - std

saddle - long

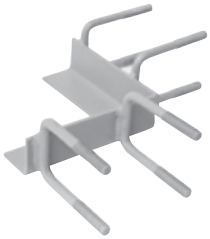
soldier/prop bkt

soldier/prop shoe

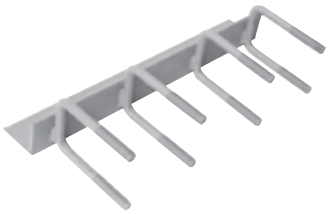
prop bkt

U-clamp

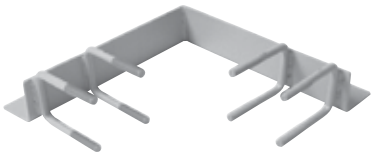
90° ext wing bkt



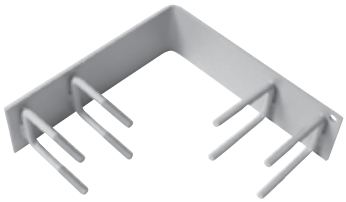
straight wing bkt



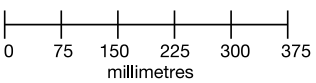
90° int wing bkt/angle



90° int wing bkt/plate



135° int wing bkt



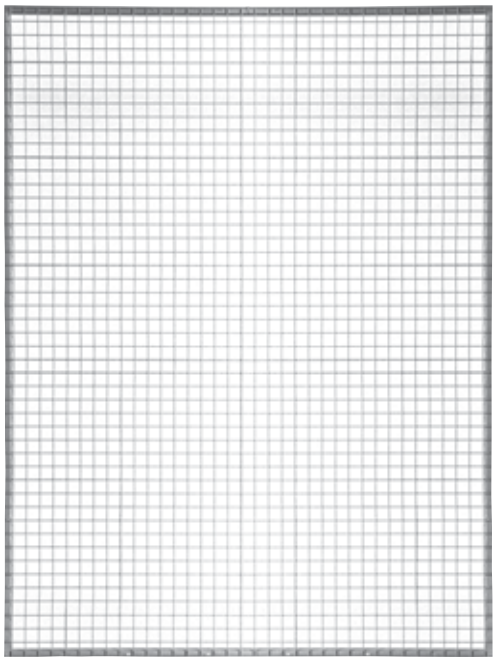
channel soldier splice

angle soldier splice

extension post

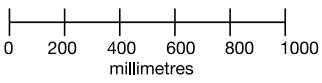
fixed wall bkt

screen soldier



mesh panel

storage box



GENERAL INFORMATION REQUIRED FOR SCREEN SYSTEM DESIGN

- Drawings to be supplied in pdf and AutoCAD formats.
- All approved drawings reflecting structural concrete dimensions together with any "changeovers", penetrations, set downs etc.
- Relevant levels, depths of slabs and edge beams (i.e. sections).
- Stressing positions and jack clearance requirements (normally 750mm clearance from slab edge to screen mesh).
- Location(s) of adjoining building(s) and hoarding(s) together with their relative height(s).
- External or internal formwork hoist(s) position(s) and exact profiles with clearances required.
- Men and material hoist(s) location(s) and exact profiles with clearances required.
- Construction Joint(s) and sequence of pouring.
- Loading platform(s) size(s) & position(s).
- Crane(s) location(s) and capacity.
- Crane(s) ties location(s) and levels.
- Area(s) of difficult craneage access for screens erection and dismantling.
- Columns free area(s) for screen assembly.

SCREEN SYSTEM RELATED WORK CARRIED OUT ON SITE BY CLIENT/CONTRACTOR

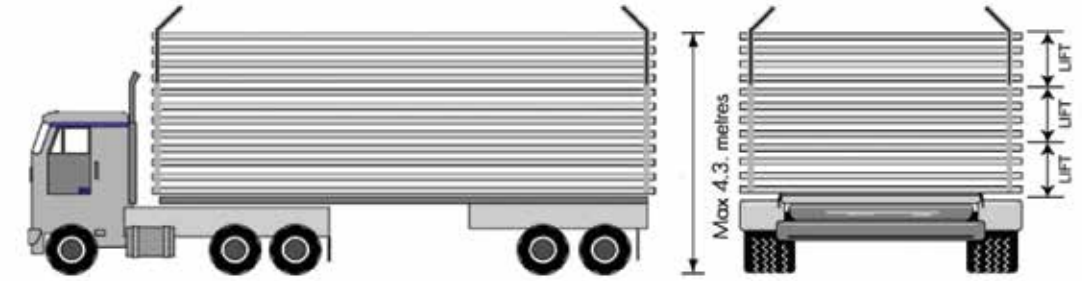
1. Unload semi-trailers.
2. Fix wings to screens.
3. Supply timber & ply for platforms and ply flaps.
4. Fabricate platforms & fit screens, cut metal sheeting kickplates to size and fit to platforms (ignore if platforms not required).
5. Fit ply flaps to screens, provide fixings for flaps.
6. Fit jacks and stands to needles.
7. Set-out and fix holding down bolts to formwork deck.
8. Fix needles to concrete.
9. Erect & plumb screens, close off gaps between screen platforms and other areas as required.
10. Provide edge protection where formwork is stripped at initial erection stage prior to climbing screens to typical position.
11. Climb screens, relocate needles & fixings from floor to floor re-use.
12. Cut off redundant anchors.
13. Relocate props from initial erection position to typical position, also through non-typical floors and final climb.
14. Dismantle platforms and wings, stack materials in boxes or on pallets, strap wings, needles etc.
15. Remove screens off the building.
16. Supply support chairs to underside of Holding Down Bolts if required.
17. Supply bar caps to Holding Down Bolts if required.

YOU WILL NEED:

- Extension leads and power
- 1 x Impact Wrench
- 1 x 18mm Deep Socket for M12 Nut
- 1 x Ratchet –10" handle, 1/2" Drive
- 1 x 24mm Deep Socket for M16 Nut
- Tape Measure, Marking Crayon, Spirit Level
- Tube Spanner – made ex 24mm 1/2" Drive Socket – 300mm long

METHOD STATEMENT

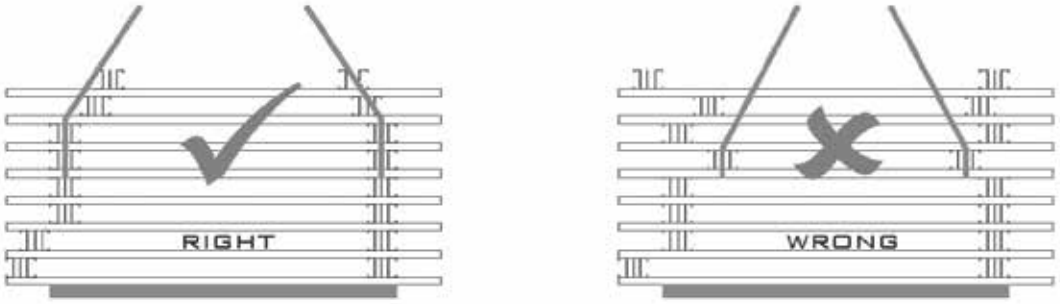
MAKING UNLOADING SAFE



SIDE VIEW BACK VIEW

THE RIGHTS AND WRONGS OF SCREEN LOADING

- SCREEN LIFTING SPACERS MUST BE SECURELY FIXED PRIOR TO LIFTING.



- 12 METRE LONG CHAINS MUST BE CONNECTED TO LIFTING SPACERS AT THE ENDS OF THE BOTTOM SCREEN SOLDIERS.
- DO NOT SLING AROUND LOAD.
- CRANE MUST HAVE ADEQUATE LIFTING CAPACITY.
- LONGER SCREENS TO BE LOADED AT THE BOTTOM OF THE SEMITRAILER.
- UNLOAD LIKE SIZED (LENGTH) BUNDLES ONLY WHEN LIFTING LOAD.

NO. OF SCREENS LIFTED AT ONE TIME STD WIDTH - 3 METRES	SCREEN LENGTH	MASS TOTAL
MAX FIVE (5)	10 METRES	3200 KG
MAX FOUR (4)	13 METRES	3200 KG

* Sketch is schematic only.

Screen quantities, sizes and soldiers offset vary for each load

INSTALLING A SCREEN SYSTEM WITHOUT PLATFORMS

PREPARATION WORK

1. Tape off areas where screen erection is to occur and remove handrails as necessary.
2. Locate needles between the previously cast-in holding down bolts and secure them into position, using saddles and nuts. Ensure that the rear of the needles are at the required offsets and the fronts (toes) are at the same level. Use a straight piece of timber and along spirit level to carry this out.
3. Follow this procedure for all needles.

INSTALLATION

1. With screen lying flat, attach wing panels to main screen assembly using brackets and fasteners. *Use an impact wrench to save time*.
2. Check that props and support spacers are located in required positions and prop inners are fixed to prop outersby means of pin and R-clip.Ensure that props will be hanging down during lifting.
3. **Thread slings between topmost lifting spacers and mesh panel**, then attach to lifting points just above props *(max. screen mass 1000kg)*.
4. Using crane, lift screen slowly to vertical, then lower into relevant needles. While lowering, restrain “toes” of the needles back to vertical.
5. Swing props out to concrete slab before soldier support spacers rest on relevant “toes”.
6. Fix ends of props to needles using pins and R-clips.
7. Fit prop outers to inners with connecting pins and install R-clips.
8. Using jacks and props, plumb screen in both directions.
9. Check all connections for soundness then release weight off crane.
10. Remove crane lifting hooks, then slowly withdraw upwards until clear of soldiers.
11. Close off any gaps as required.
12. Follow this procedure for all screens.
13. At the time of platform attachment (if required), ply and timber must be bolted to the platform brackets as detailed on section drawings.

INSTALLING A SCREEN SYSTEM WITH PLATFORMS

PREPARATION WORK

1. Tape off areas where screen erection is to occur and remove handrails as necessary.
2. Position needles, saddles and nuts at holding down bolts locations. **Do not fix to concrete.**

INSTALLATION

1. With screen lying flat, attach wing panels to main screen assembly using brackets and fasteners. *Use an impact wrench to save time*.
2. Fix assembled platforms to screens. Ply and timber to be bolted to the platform bracket as shown on section drawings.
3. Check that props and support spacers are located in required positions and that prop inners are fixed to prop outers by means of pins and R-clips. Ensure that props will be hanging down during lifting.
4. **Thread slings between topmost lifting spacers and mesh panel**, then attach to lifting points just above props *(max. screen mass 1000kg)*.
5. Using crane, lift screen slowly to vertical.
6. Lower to relevant level. Swing props out to concrete slab.
7. With screen hanging opposite, rotate and engage needles to soldiers.
8. Lower needles between holding down bolts and fix to concrete at required offset.
9. Rest soldier support spacers on “toes” of needles.
10. Using pins and R-clips, fix ends of props to needles.
11. Fit prop outers to inners with connecting pins and R-clips.
12. Using jacks and props, plumb screen in both directions.
13. Check all connections for soundness then release weight totally off crane.
14. Remove crane lifting hooks, then slowly withdraw slings upwards until clear of soldiers.
15. Close off any gaps as required.
16. Follow this procedure for all screens.

LIFTING A SCREEN SYSTEM

STAGE 1

1. Check that all work requiring screens is completed.
2. Sweep edge of slab and clean all screen platforms of debris and loose items.
3. Install edge protection at the bottom screen platform level.
4. Install needles at the top level with correct offsets.
5. Remove ply flaps, gap covers and restraints.
6. **Attach crane hooks to topmost screen lifting spacers. Do not lift.** Ensure that the line of lifting chains is vertical.
7. Remove pins at prop to needle connections. Collapse props and fold in to hang positions between soldier lipped channels ensuring that inners to outers connecting pins are in positions and locking **R-clips are fitted.**
8. Check for any formwork interference with screen.

STAGE 2

1. Slowly lift screen to next level, continuously checking for possible snagging.
2. Overclimb by approximately 200mm to allow needle “toes” to drop below support spacers.
3. Lower screen so that support spacers rests on the “toes” of upper needles.

STAGE 3

1. Swing props out and fix ends of props to needles using pins and R-clips.
2. Fit prop outers to inners with connecting pins and **install R-clips.**
3. Remove lifting hooks and withdraw chains upwards.
4. Using props and jacks, plumb screen in both directions. Check soldier offset at top level.
5. Close off any gaps as required.
6. Remove lowest needles by lifting them clear of holding down bolts, rotate and disengage from soldiers.
7. After concrete pour install needles as in Stage 1.

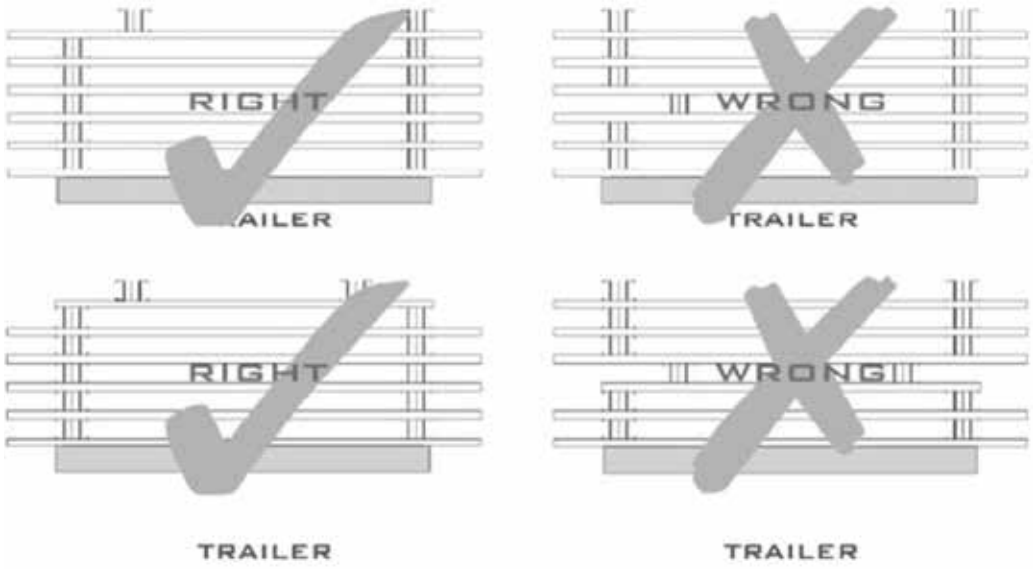
PRE-SITE DISMANTLING

1. Check that all work requiring screen protection is complete at all affected levels.
2. Ensure that all handrails are fixed in positions at all affected levels.
3. Prepare a screen removal priority list to allow the widest screen to be at the bottom of the load and label screens accordingly.
4. Prepare dismantling areas for laying screens down. *Two such areas required, 6 screens per area, 12 per load (full load) – check local height requirements.*
5. Sweep edges of slab and clean all screen platforms of debris etc.
6. Prepare tools at support needles area.

SITE DEMOBILISATION

1. Hook up to crane at topmost screen lifting spacers.
2. Take load of screen, **do not lift** but ensure that the line of lifting is vertical and the screen will not swing away when needles are loosened.
3. Remove nuts on saddles over support needles. Place on deck on inside of edge protection.
4. Remove pins at prop to needle connections, collapse props and fold in to hang positions **ensuring that inner to outer connecting pins are in positions and locking R-clips are fitted.**
5. Lift needles clear of holding down bolts, rotate and remove from soldiers. Place needles on inside of edge protection.
6. Slowly lift screen and lay flat onto dismantling area.
7. Remove wings and fixing brackets from main screens.
8. If screens are fitted with platforms, remove platforms then timber and ply from platform brackets, prepare brackets for removal off site.
9. **Reinstall lifting spacers to top and bottom of soldiers.**
10. Lay down screens flat on concrete slab and place them one on top of each other *(max. lifting bundle is four (4) or five (5) screens – refer to table on Page 52).*
11. Lift like sized (length) bundles using 12 metre long chains with hooks attached to lifting spacers at ends of bottom screen soldiers. **Do not sling around bundles.**
12. Load screens on the truck. *Max load height – 4.3 metres from street level.*
13. **Always use straps not chains to secure screens during transport. Ensure that straps are atscreen panel junctions.**
14. On completion of main screen removal, collect all miscellaneous items i.e. Needles, brackets, wing panels etc. and prepare for removal off site.

THE RIGHTS AND WRONGS OF SCREEN LOADING



- Max twelve screens per load.
- To avoid screen damage loads must be strapped, not chained to semi trailer.
- Same length screen bundles to be unloaded and loaded when lifting.
- Materials stacked on top of screen loads to be unloaded independently of screens.

REMOVAL OF ALL COMPONENTS

Wings: to be strapped in bundles of 10 maximum Use timber between bundles.

Needles: placed and strapped to pallets after jacks and supports are removed.

Other items: i.e. brackets, plates, saddles, jacks, supports etc. – to be placed into site boxes.

Wide loads can only travel in non-peak periods – 10am to 3pm. Travel time ex site to Yard must be allowed for.

NSW Natform Yard Opening Hours:

07am to 3pm – Monday to Friday

QLD Natform Yard Opening Hours:

07am to 3pm – Monday to Friday

JOB SAFETY ANALYSIS

JOB SAFETY ANALYSIS

	TASK	RISK	RATING	CONTROLS	RESIDUAL RISK
01	UNLOADING ASSEMBLED SCREENS	Falling screens	H	Lifting spacers must be used at both ends. Do not sling around load. Follow Instructions *(Page 52).*	L
02	WINGS INSTALLATION USING IMPACT WRENCH	Electric shock Hand injuries	H H	Read manufacturer's instructions. Ensure electrical equipment is tagged as per current guidelines	L L
03	NEEDLES INSTALLATION	Back injury	H	Use correct lifting techniques.	L
04	SCREENS INSTALLATION:				
	General	Fall from slab edge	H	Use safety harness and attachments, if required. *(Pages 53 & 54).*	L
	Lifting	Falling screen Head injuries	H	Thread slings between topmost lifting spacers and mesh panel. Ensure props are hanging down. *(Pages 53 & 54).*	L
	Lowering into position	Jamming fingers	H	Restrain the "toes" of the needles in vertical position. Keep hands clear from front of needles. *(Pages 53 & 54).*	L
	Prop to needle connection	Falling prop inner	H	Extend prop by holding out over slab, then use pin and R–clip to connect them. *(Pages 53 & 54).*	L
	Lifting using chain / sling	Head injury	M	Withdraw chains/slings upwards after disconnection. *(Pages 53 & 54).*	L
05	PLY FLAP INSTALLATION	Falling ply	H	Exercise care.	L
06	PLATFORM INSTALLATION	Falling from height	H	Exercise care.	L
07	SCREENS IN POSITION	Falling screens	H	Needles must be securely fixed to concrete, check all connections for soundness.	L
		Falling debris	H	Keep platforms clean by sweeping regularly. Close all gaps at bottom platform.	L
		Overloading platform	H	Install maximum load limit signage and do not exceed that specified.	L
		Falling objects	H	No stacking or leaning of any objects against screens.	M

Updated: 21.01.15

	TASK	RISK	RATING	CONTROLS	RESIDUAL RISK
07	SCREENS IN POSITION (CONTINUED)	Falling through platform	H	Timber and ply must conform to grade specified and be in good condition. Check ply to timber and timber to bracket connections for soundness.	L
		Body injury	H	Be vigilant and wear protective clothing when handling wire, steel and rough timber. *(Page 55).*	L
08	SCREENS LIFTING	Falling debris	H	Sweep all platforms clean before lifting. *(Page 55).*	
		Falling prop inner	H	Pin and R–clip must be used to connect prop inners to prop outers. *(Page 55).*	L
		Snagging	H	Maintain visual contact and remove any obstacles. *(Page 55).*	L
09	REMOVAL OF SCREEN SYSTEM FROM BUILDING PERIMETER:				
	General	Falling debris	H	Sweep all platforms clean and carefully remove all ply flaps.	L
		Falling prop inne	H	Collapse prop when holding out over slab, then use pin and R–Clips to connect them. *(Page 56).*	L
		Falling from slab edge	H	Use safety harness and attachments if required. Ensure lifting points have been reinstalled and used. *(Page 56).*	L
	Stacking screens	Unbalanced stack	H	Follow Natform handbook samples. *(Pages 52 & 56)).*	L
	Loading	Falling screens	H	Lifting spacers must be used at both ends. *(Pages 52 & 56)*	L
	Removal	Falling screens	H	Follow Natform handbook – demobilisation, samples, removal. *(Pages 52 and 56).*	L
	Transporting screens	Falling screens	H	Strap load securely at mesh panel junctions.	L
10	CUTTING OFF REDUNDANT HOLDING DOWN BOLTS	Foreign object in eye	H	Use safety goggles.	L
		Electric Shock	H	Ensure electrical equipment is tagged as per current guidelines.	L
		Body Injury	H	Exercise care during cutting operation.	L

LIST OF PROJECTS

LIST OF PROJECTS

PROJECT	BUILDER	PROJECT	BUILDER
Southern Hotel, Drlg Hbr.	Multiplex	Centra Hotel, Mascot	A.W. Edwards
130 Elizabeth St, Syd	Amacon	74 Castlereagh St, Syd	CCL
210 Clarence St, Syd	CCL	400 Kent St, Syd	Condux
Syd Central, Hymrkt	Holland Stolte	Great West Hwy, Pmta	Meriton
Piccadilly Plaza, Syd	Multiplex	65 Epping Rd, Epp	Triden
16-24 Elsie St, Bur	Triden	Chtswd Tel Excha	CCL
ANA Hotel, Circ Qy	C&C	160 Sussex St, Syd	BHL
ATO, Bnkstwn	Jennings	Carrington St, Syd	Multiplex
45 Clarence St, Syd	Mirvac	Grace Bros. Chtswd	Westfield
400 Pitt St, Syd	Meriton	Family Law Court, Syd	BHL
NSW Uni, Carpark, Rndwk	A.W. Edwards	Metroplaza, Nth Syd	Multiplex
330-370 Wattle St, Ult	Meriton	Anzac Bridge, Glebe	BHL
301-303 Anzac Pde, Kngsfd	Meriton	Meeks St, Kngsfd	Meriton
William Henry St. Ult	Meriton	Market City, Hymrkt	Multiplex
Baiyoke II, Bang, Thail	CCL Thailand	ATO, Wllng	B+B
ATO, Hstvle	B+B	York Park, Cnbra	CCL
Ibis Hotel, Drlg Hbr	Multiplex	Northern Hotel, Drlg Hbr	Multiplex
Port Jackson Tower, Mlsns Pt	CCL	304-308 Pitt St, Syd	Meriton
Westfield Chtswd Ext	Westfield	Westfield Pmta Ext	Westfield
Hyde Park Tower, Hyde Prk	CCL	Sun Alliance, Chtswd	CCL
Montgomery Ave, Main Bh Qld.	Meriton	616 Pacific Hwy, Rckdle	Meriton
Westmead Hosp Car Park Ext	Leighton	City West Centre, Pyrmnt	A.W. Edwards
Herbert St, St Lnrds	Meriton	NSW Uni Car Park, Knsgtn	C&C
Royal Women's Hosp, Rndwk	CCL	261 Harris St, Pyrmnt	CCL
224-232 Sussex St, Syd	Meriton	473 Pacific Hwy, Artrm	Meriton
107 Pacific Hwy. Hnsby	Meriton	Syd Casino	Leighton
Kirra St, Mrnda	Meriton	Radio Tower - 3rd Runway	Leighton
Observatory Tower, Syd	BHL & B+B	Willock Ave, Mrnda	Meriton
Chtswd Chase, Chtswd	Multiplex	Hughes Ave, Main Bh, Qld.	Meriton
"Chatsworth", Victor St, Chtswd	Mirvac	Glen St. Mlsns Pt	Walker
Bunn & Murray Sts. Pyrmnt	Meriton	20 Hunter St, Syd	CCL
Prima Tower, Syd	BHL	Prince of Wales Hosp - Ext	Thiess
Network Ten, Pyrmnt	A.W. Edwards	347 Kent St, Syd	BHL
Southern Cross Tower	Abigroup	Shopping Centre, Rckdle	City Freehold
Charlestown Car Park - Ext	C&C	Pitt & Castlereagh Sts, Syd	Meriton
"The Elan", Kngs Crs	CCL	Canterbury Hosp, Cntrbry	CCL
Campbell St, Sry Hls	St. Hilliers	Russell Re-develop, Cnbra	C&C
Sussex & Day Sts, Syd	Meriton	OSW World Sq	CCL
2 Bulletin Place, Syd	Multiplex	"The Horizon", Drlghst	Grocon
Stafford Ave, Main Bh	Meriton	400 George St, Syd	Grocon
"Forum", St Lnrds	CCL	Landmark Centre, Syd	Multiplex
60 Castlereagh St, Syd	CCL	Chelsea Apts, Chtswd	Multiplex
Macquarie Uni, Mcqrie	BHL	Campbell St, Tower	Meriton
Exchange Centre, Syd	BHL	Rockwell Grdns, Potts Pt	Kell & Rigby
Pacific Waves, Manly	Barclay Mowlem	102 Miller St, Pyrmnt	Meriton
Rshct Bay Hotel, Rshct Bay	Multiplex	Hbrside Grdns, Darl Harb	Abigroup
Multi Use Arena, Hmbsh	D.M.&G.	Pinnacle, Mlsons Pt	Multiplex
Hmbsh Bay Hotels, Hmbsh	C&C	Multi Use Arena	Abigroup
Citivilla Apts	H&Y	Forum, St Lnrds	WCG
Merchant Court Hotel, Syd	Multiplex	Jamison St, Syd	CCL
Angel Place, Syd	Leighton	2 Park St, Podium, Syd	D.M.&G.
88 Phillip St - Lift Lobby, Syd	Lend Lease	155 Macquarie St, Syd	Lend Lease
Riverside, N Ryde	BHL	Cook & Phillip Park, Syd	BHL
Stamford Hotel, Syd	Multiplex	Railway Sq Hotel, Syd	Multiplex
Angel Place, Syd	Leighton	Capcount - Bldg C	A.W. Edwards
Henry Dean Park, Hymrkt	BHL	Oracle, Riverside, Ryde	St. Hilliers
Serv Club, Twd Hds	Multiplex	"The Marbury", Sry Hls	SXC
Travelodge, Syd	WCG	Rckdle Plaza	City Freehold
Wales House, Syd	CCL	80 Pacific Hwy	Thiess
Pmta Central	Develop & Bldg	40 Miller St, N Syd	A.W. Edwards
Westfield, Brwd	Westfield	R.P.A. Hosp, Cmprdwn	Thiess
Rckdle Paza - Tower "B&C"	City Freehold	123 Epping Rd, N Ryde	Lipman
BOC, Riverside Park	Richard Crookes	Arthur St Bridge, Coffs Hbr	Public Works
35 Clarence St, Syd	Barclay Mowlem	Capcount, Pyrmt	A.W. Edwards
"Altair", Kngs Crs	Walker	Regency, Chtswd	Grocon

LIST OF PROJECTS

PROJECT	BUILDER
Adelaide St, Bondi Jn	Walker
Establishment Hotel, Syd	Multiplex
Rawson St., Aubn	Cameron
Westfield, Hnsby	Westfield
515 Kent St, Syd	Grocon
Castle Towers, Cstl Hl	BLL
St. Vincents Hosp Drlghst	Leighton
“Marquise” Apts, Melb	WCG
298 Sussex St, Syd	Meriton
“Madison”, Hnsby	Waracon
Henry Deane Park - Stg 2	BHL
“The Chelsea”, Wtara	Meriton
ABC Bldg, Ult	Leighton
207 Pacific Hwy, St Lnrds	WCG
ACI Stage 1, Wtrloo	Meriton
Walsh Bay, Syd	Mirvac
Chapel St, South Yarra, Melb	Mirvac
Westfield EastGrdns	Westfield
Commuter Carpark, Kog	Richard Crookes
Centre Carpark, Cnbra	BLL
Railway St “Altour”, Chtswd	Mirvac
“Leura” Apts, Chtswd	Meriton
Lang Park Redevelop, Bris	Multiplex
“Top of the Town”, Kngs Crs	Barclay Mowlem
Riparian Apts, Bris	Multiplex
Rex Apts, Syd	Grocon
Legal Chambers, Pmta	Buildcorp
Linea Apts, St Lnrds	Australand
NSW Police, Pmta	Multiplex
38 Talavera Rd, N Ryde	ICA
“Abode”, St Lnrds	BHL
120 Mary St, Bris	BHL
“Habitat” Apts, St Lnrds	Grindley
Lobana Apts, Syd	Grocon
Greenknowe Ave, Eliz By	Cordukes
Lane Cove Rd. Bldg A+B	ICA
King St Wharf, Syd	Multiplex
Botany Rd, Alex	IDD
120 Edward St, Bris	Forrester Kurts
Cameron Offices, Cnbra	BLL
Binary Centre, N Ryde	BLL
Main Bh Pde, Main Bh Qld.	Meriton
11 Chater Rd, Hong Kong	Gammon
383 Kent St, Syd	Leighton
Croydon Grdns, Crydn	Meriton
Gallery Tower, Melb	WCG
Henry Deane Park, Brdway	BHL
Bay Centre, Pyrmnt	Mirvac
Waterloo Rd, Macq Pk	Fletcher
Holden St, Ash	Meriton
Boral Indus, Grystns	Barclay Mowlem
77 Pacific Hwy, St Lnrds	BHL
82 Queens Rd, Melb	Mackie & Staff
Bunda St Bridge Cnbra	BLL
Bonar St, Arnclf	Meriton
11 Talavera Rd, Macq Pk	ICA
Railway Station, Pdstw	WCG
Global Chambers, Hstvle	SXC
“Cove” Apts, Syd	Grocon
“Fiore”, Hassall St, Pmta	Meriton
Bayside Apts, Rshct By	SXC
646 Harris St, Ult	BJ Metro
“Malcolm”, Sth Yarra	Mirvac
Syd Park Rd, Ersknvle	Multiplex
“Linc” Apts, Sry Hls	Australand
Sunlord Tower, Syd	Moonfare
Transgrid Station, Hymrkt	WCG
Gold Coast Hwy, Sufrs Pdse	Deena
Flynn Apts, Spring Hill, Bris	BHL
Magistrates’ Court, Bris	WCG
38 Hickson Road, Mlrs Pt	BLL
“Quadrant”, Syd	BHL
Neeta City, Frfld	Barclay Mowlem
“Brdbch on the Park”, Brdbch	BHL
Shoppingtown, Bondi Jn	Westfield
Latitude World Square, Syd	Multiplex
Distillery Hill, Syd	BLL
McArthur Chambers, Bris	Watpac
95 Pacific Hwy, N Syd	Timwin
Corp. Posh Bldg G, Rhodes	Australand
LOT 301, Zetland	WCG
Chiswick Apts	Meriton
Aust. Custom, Mascot	Multiplex
J. Whiteway Dr, Gsfrd	Barclay Mowlem
Hilton, Syd	Multiplex
Grey St., Bris	Mirvac
Pivotal, Sufrs Pdse	Multiplex
Beau Monde, N Syd	Multiplex
Astrazeneca, N Ryde	Austin
Waterline Apt, Brdbch	Junipers
Pink Poodle, Sufrs Pdse	Regency
Railway St “Epica”, Chtswd	Mirvac
ACI Stage 4, Wtloo	Meriton
Moore St, Cnbra	BLL
126 Phillip St, Syd	BLL
Scots Church, Syd	Westpoint
Walker St, Rhodes	Meriton
60-70 William St, Syd	Zonie
The Common, Sry Hls	WBHO
LOT 302, Ztlnd	Walter
Westpoint Shpgtwn, Blktwn	BHL
Pacific Square, Mrbra	Abigroup
Queens Plaza, Bris	Watpac
Kens Project, Syd	Leightons
Rhodes Waterside, Rhodes	Walker
9 Railway St, Bldg F, Chtswd	Mirvac
Oxford Square, Drlghst	Multiplex
Azure Apts, Mlsns Pt	Interco
Altro City Quarter, Cmprdwn	Abigroup
Albany St, St Lnrds	SXC
Argyle St, Pmta	Dyldam
Southpoint, Hlsdle	Richard Crookes
Bathurst St, Syd	Atlen
Scarborough House, Cnbra	BHL
The Observatory, Clndra	Reed
Linear Auchenflower, Bris	Abigroup
Trilogy, Gold Cst	BHL
“Ramada”, Sunshine Cst	Reed
Parklands Crescent, Bris	Pradella
Brisbane Square	BHL
Altitude Apts, Auckland, NZ	Scarbro
Sundale B2, Sthprt	Meriton
Regent Place, Tower B, Syd	Multiplex
140 Church St, Pmta	Citilink (Wedmora)
100 Pacific Hwy, N Syd	Thiess
Centre Court, N Ryde	BHL
Westfield Livpl	Westfield
Westfield Pmta	Westfield
Stamford Marque Apts, Syd	Barclay Mowlem
50-72 Union St, Pyrmnt	BHL

LIST OF PROJECTS

PROJECT	BUILDER	PROJECT	BUILDER
Dist. Hill Bldg H Carpark, Pyrmont	BLL	64 Allara St, Cnbra	Koundouris
12-24 Talavera Rd, N Ryde	Barclay Mowlem	16 Marcus Clarke, Cnbra	BLL
Mater Car Park, Bris	Watpac	20-24 Alfred St, Mlsns Pt	Probuild
Section 88, Cnbra	Const. Control	AMP Bldg 4, Milt	Adco
Metropolitan Apts, Cnbra	John Hindmarsh	Brisbane Central Bldg 175	Watpac
Volt Apts, Auckland, NZ	Scarbro	Channel 7 ATP, Evlgh	Watpac
Sky Plaza, Cnbra	Multiplex	City West Offices, Cnbra	Leighton
Epping Station	A.W. Edwards	Energex, Bris	FKP
Epping Station	Thiess	19 Marcus Clarke, Cnbra	PBS
Darling Park Stage 3, Syd	BLL	154 Melbourne St, Bris	Pradella
Section 84, Precinct B, Cnbra	BLL	54-58 Mounts Bay Rd, Prth	Broad
ISPT Bldg, Cnbra	BLL	Nirvana, Kirra	Glenzeil
Regent Place, Tower A, Syd	Multiplex	Nth Shore Hosp Car Park	BLL
Sydney Olympic Park, Bldg 5	Grant	Section 68 City West, Cnbra	Baulderstone
101 George St, Pmta	John Holland	The Dalgety, Twnsvle	Parkview
100 Arthur St, N Syd	BLL	The Oracle, Brdbch	Grocon
Westfield Chermside	Westfield	Top Ryde Shopping Centre	BLL
Rhodes Station	Arenco	122 Walker St, Twnsvle	CMC
Breakfast Pt, Lot 5J	BHL	710-722 George St, Syd	Parkview
The Wave, Sufrs Pdse	Multiplex	Charlestown Sq. Shpgcnt	Bovis
Section 84, Precinct C, Cnbra	BLL	The Ark, 40 Mount St, N Syd	Thiess
Latitude East, World Square	Multiplex	The Hyde, 157 Liverpool St Syd	Grocon
Circle on Cavill, Gold Cst	Sunland	Dee Why Hotel Redev	Southern Cross
Sundale D1 & D2, Sthprt	Meriton	Liverpool Hosp	Bovis
18 Marcus Clarke St, Cnbra	Thiess	19-25 Grosvenor St, Neut By	Probuild
7 London Circuit, Cnbra	Thiess	Hurstville Car Park	Hansen Yuncken
95 Epping Rd, Mcqrie Pk	BHL	Westfield Syd City Zone 1	Westfield
299 Adelaide St, Bris	Hutchinson	Sussex Hay Centre, Hymrkt	Built
25 Smith St, Pmta	Broad	Sugar Dock, Distillery Hill	Bovis
Westfield Ktra	Westfield	123 Albert St, Bris	Laing O'Rourke
Pmta Justice Precinct	Multiplex	Hilton Hotel West Tower	Brookfield Multiplex
Aura Apts, Auckland, NZ	Scarbro	380 Little Lonsdale St, Melb	Brady
Rhdes Waterside, Lot 12	Meriton	Hancock St Car Park, Bris	Laing O'Rourke
Pmta Trial Courts	Multiplex	6 National Circuit, Cnbra	HDL Projects
St Vincent's Hosp	A.W. Edwards	6 Mort St, Cnbra	St Hilliers
Electrolux, Mascot	St Hilliers	Scott St, Kang Pt, Bris	Hutchinson
Aspect Apts, Syd	SaabCorp	Doha Offices, Cnbra	Doma Group
Rhdes, Bldg 4	Mirvac	Westfield Syd City Podium	Westfield
Rsbry, Bldgs B & C	Meriton	Hilton Hotel East Tower	Brookfield Multiplex
Evolve, Distillery Hill, Syd	BLL	Cochlear HQ, Mcqrie Pk	Watpac
Federal St, Auckland, NZ	Scarbro	4-10 Campbell St, Syd	Meriton
Links Seaside Resort	Wideform	Urbanest, Quay St, Hymrkt	Built
Tabitha Offices, Hmbsh	BLL	Sundale, Stage C	Meriton
Belmore Station	Arenco	Victoria Towers, Sthprt	Hutchinson
Kirra Surf Apts, Kirra	Parkview	Supreme Court, Bris	Bovis
City Beach, Wlngng	Parkview	Gold Coast Hospital	Bovis
Hyundai, H.Q., Mcqrie Pk	Lucas Stuart	Canberra Hospital Car Park	J. Hindmarsh
Elysee Apts, Kirra	Laing O'Rourke	H20, Southport Tower 1	Phillip Usher
Milan, Main Bh	Matrix	Red Cross, O'Riordan St, Alex	Buildcorp
Evolution, Bris	Hutchinson	Hyde Park Apts, Syd	Hutchinson
Grande Pacific, Sthprt	Glenzeil	UTS Student Accommodation	Hutchinson
Police Barracks, Bris	Hutchinson	Darling Walk	Bovis
1 Rivett Rd, N Ryde	F.D.C.	Cent. Terrace Bldg, Syd Airport	Abigroup
2 Short St, Sry Hls	TepCorp	UOW, Innovation Campus	Baulderstone
39 Delhi Rd, N Ryde	BHPL	VINE Discovery Pt, Site 4	PBS
Pinnacle, Epp Rd	Laing O'Rourke	UOW, Bldg C, Wlngng	Baulderstone
Stonecutters, Dist. Hl, Pyrmnt	BLL	Royal Nth Shore Hospital	Thiess
Sydney Water, Pmta	Multiplex	Westfield Syd City Tower	Westfield
420 George St, Syd	BLL	H20, Southport Tower 2	Phillip Usher
67 Epp Rd, Mcqrie Pk	Whitehorse	Commonwealth Offices, Cnbra	BLL
Syd Int'l Airport, Departures T1	BLL	Kingston Place, Block 1	Amalgamated
SCG New Hill Grand Stand	AW Edwards	Kingston Place, Block 2	Amalgamated
Suncorp Tower, Bris	Amalgamated	Translational Research Institute	Watpac
Wesley Hospital East Wing	BHPL	1 Bligh St, Syd	Grocon
One30 Esplanade, Drwn	Halikos	Elinya, Rhodes Waterside	Mirvac
Kinston Place, Block 3, ACT	Amalgamated	Gasometer 2, QLD	Hutchinson

LIST OF PROJECTS

PROJECT	BUILDER	PROJECT	BUILDER
QLD Childrens Hospital, Bris	BLL	Proj Waters, QLD	PBS
Westfield Crndale	Westfield	Victoria Square 4, Bldg E	Meriton
111 Eagle Street, Bris	Leighton	Mount Gravatt, QLD	Westfield
Distillery Hill – Silk, Pyrmnt	BLL	East Village, Zetland	Dasco
ATO - Albry	Doma	Urba Tower, Redfern	Deicorp
One Central Park, Brdwy	Watpac	Bldg C, Walker St, Rhodes	Billbergia
Womens & Childrens Hosp. ACT	BLL	Aspire, Albert St, Syd	Hindmarsh
Axis, Canberra (3 Buildings)	Amalgamated	B1 Square, Brwd	Icon
New Acton Nishi, ACT	PBS	Botanic Apts, Lne Cve	Icon
Eclipse Broadbeach, QLD	Amalgamated	699 Bourke St, Melb	Mirvac
Collins on Bourke, Alex	SXC	Bldg D, Walker St, Rhodes	Billbergia
Mackay Base Hosp, Crns	BHPL	Summit, B2, Disc. Pt, Wolli Ck	Hutchinson
8 Chifley Sq, NSW	Mirvac	Divercity St 4, Block C, Wtrloo	Becton
Kingston Place Block 4, ACT	Amalgamated	Botanica Residential	PBS
52 Walker St, Lot 101, Rhdes	Meriton	34 Hunter St, Syd	Probuild
Wintergarden Redev. Bris	MPX	5 Martin Plce, Syd	Grocon
Metro Towers, Chtswd	Hutchinson	20 Martin Plce, Syd	Built
Uni of QLD, St Lucia Campus	Cockram	IGLU, 65 Mary St, Bris	Probuild
Charlotte St, Bris	Hutchinson	Railway Terrace, Milton QLD	FKP
Ann St – Residential, Bris	Laing O'Rourke	One Central Park, B 4S, Syd	R. Crookes
Ann St – Commercial, Bris	Laing O'Rourke	OTB Tower, Perth	Mirvac
QUT, Bris	Leighton	Otto, Rosebery	Icon
G-40, Griffith Uni, QLD	Laing O'Rourke	Pacific Fair, Brdbch	Westfield
52 Walker St, Lot 102, Rhdes	Meriton	Pinnacle Portside, Hamilton	Hutchinson
Uni of Adelaide, SA	BHPL	Project Waters, Fort Valley	PBS
UNSW – Tyree Bldg	BHPL	Queens Residences, Auckland	Scarbro
Gold Coast Hosp. Crprk	Laing O'Rourke	Rhapsody, QLD	BMPX
1 Railway Pde, Bur	Steve Nolan	RNA Stage 1, QLD	BLL
Lifehouse, RPA Hosp.	BDMG	Sunshine Coast Uni Carpark	BLL
Belvedere, N Syd	Buildcorp	161 Sussex St, West. Dist, Syd	BMPX
Gore Hill Tech. Park	FDC	Synergy Brdbeach	Morris
495 Bunnerong Rd, Mtrville	Nahas	600 Victoria Rd, Ryde	Taylor
UNSW Wallace Wurth Bldg	BLL	Welles Thomas Bldg 1, Chtswd	Meriton
Altitude Apts, Blcnn	Hindmarsh	Welles Thomas Bldg 2, Chtswd	Meriton
Syd Airport, T1 Crprk	Abigroup	1 William St, Bris	BMPX
Bldg O, Victoria Park	Meriton	Westmark Milton	Divine
Syd Adv Hosp, Multideck Crprk	Buildcorp	Newstead Towers, QLD	BMPX
Macquarie Cntr	Westfield	88 Archer Street, Chtswd	Icon
Pinnacle, Rhdes	Mirvac	Skye By Crown, Nth Syd	Crown
CODCD, Syd. Uni.	BMPX	Bankstown Travelodge	Paynter Dixon
Metro Towers, Chtswd	Hutchinson	161 Sussex St, Tower, Syd	BMPX
Rowe St. Estwd	SXC	Darling H. Exhibition Cent. C.J.	BLL
Royal Randwck Racecourse	BDMG	Civic Centre, Melb.	Kane
Manhattan Aprtmnts	Chase	Broadway on Ann, Bris	Hindmarsh
Green Sq, QLD	Leighton	Lucent, Nth Syd	R. Crookes
Madison Aprtmnts	PBS	Urbanest, Darling Dr.	Buildcorp
Hall St, Bondi	Toga	Woolooware Bay, Stage 1	Parkview
Adel Oval, SA	Baulderstone	Disc. Point Bldgs 8 & 10	Probuild
Indrplly SC	BMPX	Macquarie Park Village	Parkview
Block 1, Section 199, Blcnn	Morris	Aqua Apartments, Bondi Jct	R. Crookes
Castlereagh St, 163	Grocon	Futra Mascot	Hamilton Marino
Gold Coast Hosp.	Laing O'Rourke	Mayfair Apts, ACT	Morris
Mort Street, ACT	BLOC	Queens Residences, N.Z.	Scarbro
Victoria St	Buildcorp	333 George St, Syd	Watpac
Verde, Flinders St	Hutchinson	Canterbury Towers, QLD	PBS
O'Connell Tce	Hutchinson	Abian Tower, Bris	Sunland
Felicity Hotel, QLD	Hutchinson	Capitol, Bondi Jct.	Icon
Westfield Miranda, Zone P	Westfield	Talavera Rd, Mac Park	Holdmark
150 Collins St, Melb	Grocon	Lot 9C, Wntwrth Pt	Parkview
Transgrid, Ultimo	Built	Zen Apts, Wntwrth Pt	Billbergia
Talavera Rd	FDC	80 Arthur St, Nth Syd	Meriton
Australia Towers, SOP	Parkview	330 Church St, Prmta	Meriton
West Keira	H&Y	POWH, Rndwck	AW Edwards
SCG Redevlopment	AW Edwards	Wayfarer, Belconnen, ACT	Geocon
UNSW Student Accom.	R. Crookes	Vue, Bondi Jct	Hutchinson
Padstow Car Park	AW Edwards	Ikea, Northlakes, QLD	Westfield

LIST OF PROJECTS

PROJECT	BUILDER	PROJECT	BUILDER
Governor Pl Car Park, ACT	Morris		
150 Epping Rd, Lane Cove	Meriton		
Highpoint, Hurstville	Toga		
Hing Loong Apts, Hymrkt	Hindmarsh		
Kent St, Mascot	Meriton		
Spire Apts, Newcastle	R. Crookes		
Crown St, Wllng	Crown		
RNA Stage 2, QLD	Lend Lease		
UNSW, Biological Science	BMPX		
Gurner, Podium, QLD	BMPX		
Warringah Mall	Westfield		
Darling Sq, NW Plot, Drlg Hbr	Lend Lease		
420 Macquarie St, Livpl	Lateral		
300 George St, Bris	BMPX		
Ibis & Pullman Hotels, QLD	Watpac		
Arthouse, Bris	Mirvac		
Tuggeranong Office Park, ACT	R. Crookes		
Trilogy, Phillip	Milin		
Syd Domestic Airport Car Park	Lend Lease		
K-Mart, Westfield Northlakes	Westfield		
Spire Apts, Bris	Hutchinson		
Westfield Chermside	Westfield		
Bldg C, Sthbank, Wolli Crk	Ganellen		
Lot 9B, Taiga, Wntwrth Pt	Parkview		
Unilodge, 190 Vulture St, Bris	Adco		
New Space, Uni of Newcastle	Hansen Yuncken		
234 Vulture St, Bris	PBS		
Jupiters Casino, Bris	Probuild		
Coorparoo Tower, Bris	Probuild		
Brisbane Casino Towers	BMPX		
Polaris, Nth Syd	Parkview		
IGLU, Regent St, Rdfrn	R.Crookes		
100 Bennelong Parkway	Meriton		
9 Christie St, Bris	Icon		
10 Shelley St, KPMG Bldg, Syd	Shape		
ARDC, Moore Park	AW Edwards		
MPV, Sydney Tower	Parkview		
Bldg C, Wntwrth Pt	Billbergia		
Ryde Grdns, Bldg C	Watpac		
Altitude Apts, Blktwn	Bower		
11 Hassall St, Prmta	Cowper		

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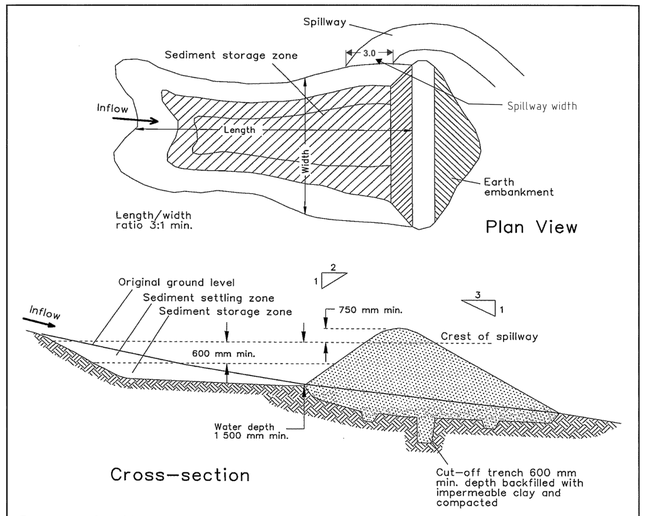
Annexure E Erosion & Sediment Control Plans

Bonacci Drawings

200116401-C-082-B, 083-B, 084-B



Construction Notes

1. Remove all vegetation and topsoil from under the dam wall and from within the storage area.
2. Construct a cut-off trench 500 mm deep and 1,200 mm wide along the centreline of the embankment extending to a point on the gully wall level with the riser crest.
3. Maintain the trench free of water and recompact the materials with equipment as specified in the SWMP to 95 per cent Standard Proctor Density.
4. Select fill following the SWMP that is free of roots, wood, rock, large stone or foreign material.
5. Prepare the site under the embankment by ripping to at least 100 mm to help bond compacted fill to the existing substrate.
6. Spread the fill in 100 mm to 150 mm layers and compact it at optimum moisture content following the SWMP.
7. Construct the emergency spillway.
8. Rehabilitate the structure following the SWMP.

EARTH BASIN - WET
(APPLIES TO 'TYPE D' AND 'TYPE F' SOILS ONLY) **SD 6-4**

1. Erosion Hazard and Sediment Basins

Site Name: PEMULWUY PROJECT

Site Location: REDFERN

Precinct/Stage: PRECINCT 1 AND 3

Other Details:

Site area	Sub-catchment or Name of Structure						Notes
	PC1	PC3					
Total catchment area (ha)	0.68	0.25					
Disturbed catchment area (ha)	0.68	0.25					
Soil analysis (enter sediment type if known, or laboratory particle size data)							
Sediment Type (C, F or D) if known:	D	D					From Appendix C (if known)
% sand (fraction 0.02 to 2.00 mm)							Enter the percentage of each soil fraction. E.g. enter 10 for 10%
% silt (fraction 0.002 to 0.02 mm)							
% clay (fraction finer than 0.002 mm)							
Dispersion percentage							E.g. enter 10 for dispersion of 10%
% of whole soil dispersible							See Section 6.3.3(e). Auto-calculated
Soil Texture Group	D	D					Automatic calculation from above
Rainfall data							
Design rainfall depth (no of days)	5	5					See Section 6.3.4 and, particularly, Table 6.3 on pages 6-24 and 6-25.
Design rainfall depth (percentile)	75	75					
x-day, y-percentile rainfall event (mm)	43.6	43.6					
Rainfall R-factor (if known)							Only need to enter one or the other here
IFD: 2-year, 6-hour storm (if known)	13	13					
RUSLE Factors							
Rainfall erosivity (*R*-factor)	3650	3650					Auto-filled from above
Soil erodibility (*K*-factor)	0.06	0.06					RUSLE LS factor calculated for a high rill/interrill ratio.
Slope length (m)	80	80					
Slope gradient (%)	6	4.5					
Length/gradient (*LS*-factor)	1.47	1.05					
Erosion control practice (*P*-factor)	1.3	1.3	1.3	1.3	1.3	1.3	
Ground cover (*C*-factor)	1	1	1	1	1	1	
Sediment Basin Design Criteria (for Type D/F basins only. Leave blank for Type C basins)							
Storage (soil) zone design (no of months)	2	2	2	2	2	2	Minimum is generally 2 months
Cv (Volumetric runoff coefficient)	0.69	0.69					See Table F2, page F-4 in Appendix F
Calculations and Type D/F Sediment Basin Volumes							
Soil loss (t/ha/yr)	418	299					
Soil Loss Class	4	3					See Table 4.2, page 4-13
Soil loss (m^3/ha/yr)	322	230					Conversion to cubic metres
Sediment basin storage (soil) volume (m^3)	36	10					See Sections 6.3.4(i) for calculations
Sediment basin settling (water) volume (m^3)	205	75					See Sections 6.3.4(i) for calculations
Sediment basin total volume (m^3)	241	85					

NB for sizing of Type C (coarse) sediment basins, see Worksheet 3 (if required).

TYPICAL DETAIL DRAWING OF TYPE D/F SEDIMENT BASIN

SEDIMENT BASIN CALCULATION

SOIL WATER MANAGEMENT PLAN

NOTE:

- VERIFY THE SOIL TEXTURE GROUP. IF TYPE D (DISPERSIBLE SOIL) FLOCCULATE WATER IN BASIN TO SETTLE AS REQUIRED FOR DISCHARGING PRIOR TO STORMWATER.

Rev	Description	Date	By	App
B	FOR CONSTRUCTION	2.06.17	RB	SN
A	FOR CONSTRUCTION	13.12.11	AS	SN

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PEMULWAY PROJECT
REDFERN, NSW

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SEDIMENT BASIN DETAIL
DRAWING AND CALCULATION
REDFERN

FOR CONSTRUCTION

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Date	MAR 11		
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Project Ref	Drawing No	Rev
200116401	C084	B

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SOIL WATER MANAGEMENT PLAN - PRECINCT 1 AND 2

SCALE 1:250 (0m 2.5m 5m 10m 15m)

CONSTRUCT SHAKER RAMP FOR TEMPORARY ENTRY/EXIT - REFER TO TYPICAL DETAIL. INDICATIVE LOCATION ONLY. EXACT LOCATION TO BE DETERMINED ON SITE IN CONJUNCTION WITH BUILDER.

PROVIDE SEDIMENT FENCE (REFER TO TYPICAL DETAIL)

SEDIMENT BASIN NOT REQUIRED DUE TO DISTURBED AREA LESS THAN 2500 Sq.m IN ACCORDANCE WITH LANDCOM MANAGING URBAN STORMWATER "BLUE BOOK". LOCATION TO BE CONFIRMED ON SITE.. BASIC EROSION AND SEDIMENT MEASURES TO BE EMPLOYED.

PRECINCT 2

TOTAL SITE AREA OF 1303m2

TEMPORARY STOCKPILE, (TO BE CONFIRMED ON SITE)

CONSTRUCT SHAKER RAMP FOR TEMPORARY ENTRY/EXIT - REFER TO TYPICAL DETAIL. INDICATIVE LOCATION ONLY. EXACT LOCATION TO BE DETERMINED ON SITE IN CONJUNCTION WITH BUILDER.

PROVIDE SEDIMENT FENCE (REFER TO TYPICAL DETAIL)

PROVIDE CATCH DRAIN TO DIVERT LOCALISED TRAPPED FLOW TO PROPOSED SEDIMENT BASIN TO MEET WATER QUALITY TARGETS BEFORE LEAVING THE SITE (REFER TO DRAWING NO. C084 FOR DETAILS)

CONSTRUCT SHAKER RAMP FOR TEMPORARY ENTRY/EXIT - REFER TO TYPICAL DETAIL. INDICATIVE LOCATION ONLY. EXACT LOCATION TO BE DETERMINED ON SITE IN CONJUNCTION WITH BUILDER.

PRECINCT 1

TOTAL SITE ARE OF 6776m2

TEMPORARY STOCKPILE (TO BE CONFIRMED ON SITE)

PROVIDE SEDIMENT BAGS ON EXISTING KERB INLET PIT (REFER TO TYPICAL DETAIL)

CONSTRUCT SHAKER RAMP FOR TEMPORARY ENTRY/EXIT - REFER TO TYPICAL DETAIL. INDICATIVE LOCATION ONLY. EXACT LOCATION TO BE DETERMINED ON SITE IN CONJUNCTION WITH BUILDER.

SEDIMENT BASIN:
CONTRACTOR TO PROVIDE SEDIMENT BASIN (EXCAVATION MAY ACT AS BASIN). ALL SITE GROUND WATER & RUNOFF TO DRAIN TO BASIN. SEDIMENT SHOULD BE ALLOWED TO SETTLE THEN WATER MAY BE DISCHARGED, PRIOR TO DISCHARGE CONTRACTOR MUST VERIFY THAT WATER QUALITY MEETS AUTHORITY REQUIREMENTS. ACCUMULATED SEDIMENT SHOULD THEN BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH ENVIRONMENTAL MANAGEMENT PROCEDURES. ALL SEDIMENT CONTROL MEASURES TO BE INSTALLED IN ACCORDANCE WITH LANDCOM MANAGING URBAN STORMWATER "BLUE BOOK". LOCATION TO BE CONFIRMED ON SITE.

SEDIMENT BASIN PC1:
MIN VOLUME 241 m3
(17m (LENGTH) x 12m (WIDE) x 1.2m (DEEP))
REFER TO DRAWING NO.C084 FOR SEDIMENT VOLUME CALCULATIONS

PROPOSED TOTAL WIDTH OF 3m EMERGENCY SPILLWAY (BASE WIDTH OF MIN. 2m) TO BE LOCATED LOWEST POINT OF THE SEDIMENT BASIN (/SITE).

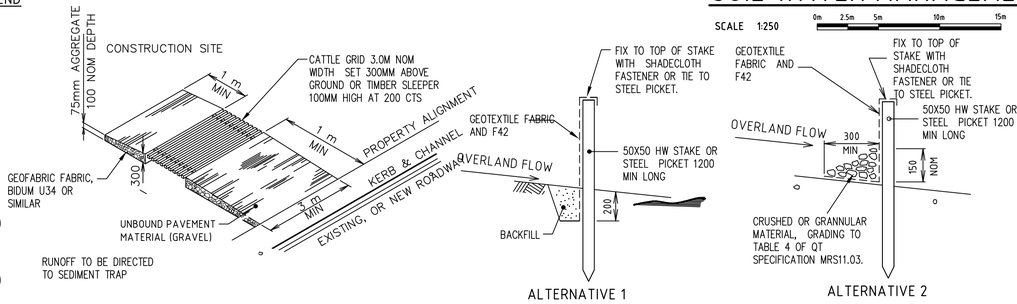
CONSTRUCT SHAKER RAMP FOR TEMPORARY ENTRY/EXIT - REFER TO TYPICAL DETAIL. INDICATIVE LOCATION ONLY. EXACT LOCATION TO BE DETERMINED ON SITE IN CONJUNCTION WITH BUILDER.

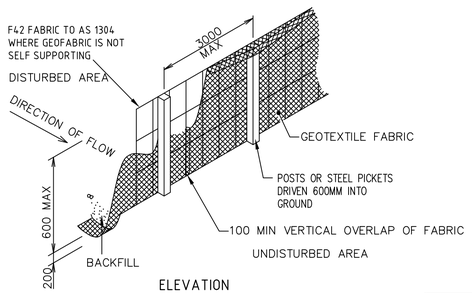
SOIL AND WATER MANAGEMENT LEGEND

- SEDIMENT FENCE
- SITE BOUNDARY
- CD — CATCH DRAIN
- TEMPORARY SHAKER RAMP FOR ENTRY/EXIT
- SEDIMENT BASIN (LOCATION TBC ON-SITE)
- TEMPORARY STOCKPILE (LOCATION TBC ON-SITE)
- +RL 20.75 — TOP OF BANK (/CREST) LEVEL
- +IL 18.80 — BOTTOM OF SEDIMENT BASIN
- SANDBAGS INSTALLED ON EXISTING PIT
- OVERLAND FLOW

TEMPORARY CONSTRUCTION VEHICLE ENTRY/EXIT SEDIMENT TRAP

NOT TO SCALE





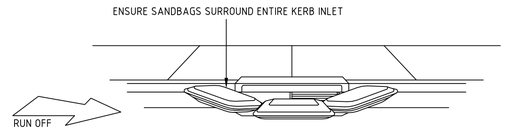
ELEVATION

SEDIMENT FENCE

NOT TO SCALE

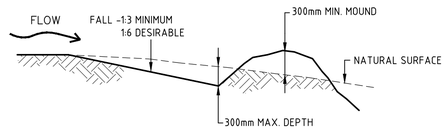
NOTE:

- CONTRACTOR TO PROVIDE PROPOSED MANAGEMENT PLAN PROCEDURES
- VEHICLE MOVEMENTS ARE TO BE LIMITED TO AREAS APPROVED IN THE ENVIRONMENTAL MANAGEMENT PLAN.
- INSTALL WIND FENCES AROUND EXPOSED SOIL IN AREAS SUSCEPTIBLE TO DUST GENERATION.
- WATER EXPOSED SOIL WHEN DUST IS VISIBLE. ENSURE THAT THIS WATER DOES NOT CONTAMINATE SURFACE WATER. WATER FROM SEDIMENT DAMS MAY BE USED FOR DUST SUPPRESSION.



SANDBAG KERB INLET SEDIMENT TRAP

NOT TO SCALE



CATCH DRAIN

NOT TO SCALE

SITE INSPECTION & MAINTENANCE CONDITIONS

THE SITE MANAGER WILL INSPECT THE SITE ATLEAST WEEKLY AND WILL:

1. ENSURE THAT CATCH DRAINS OPERATE PROPERLY & TO EFFECT ANY NECESSARY REPAIRS
2. REMOVES SPILLED SAND OR OTHER MATERIALS FROM HAZARD AREAS, INCLUDING LANDS CLOSER THAN 5m FROM AREAS OF LIKELY CONCENTRATED OR HIGH VELOCITY FLOWS ESPECIALLY WATERWAYS & PAVED AREAS.
3. REMOVE TRAPPED SEDIMENT WHENEVER LESS THAN DESIGN CAPACITY REMAINS WITHIN THE STRUCTURE
4. ENSURE REHABILITATED LANDS HAVE EFFECTIVELY REDUCED THE EROSION HAZARD AND TO INITIATE UPGRADING OR REPAIR AS APPROPRIATE.
5. CONSTRUCT ADDITIONAL EROSION AND/OR SEDIMENT CONTROL WORKS AS MIGHT BECOME NECESSARY TO ENSURE THE DESIRED PROTECTION IS GIVEN TO DOWNSLOPE LANDS AND WATERWAYS.
6. MAINTAIN EROSION & SEDIMENT CONTROL MEASURES IN A FULLY FUNCTIONING CONDITION UNTIL ALL EARTHWORK ACTIVITIES ARE COMPLETED AND THE SITE IS REHABILITATED.
7. REMOVE TEMPORARY SOIL CONSERVATION STRUCTURES AS THE LAST ACTIVITY IN THE REHABILITATION PROGRAM.

AS PART OF THE STATUTORY 'DILIGENCE OF CARE' RESPONSIBILITIES, THE SITE MANAGER WILL KEEP A LOGBOOK MAKING ENTRIES ATLEAST WEEKLY, IMMEDIATELY BEFORE FORECAST RAIN AND AFTER RAINFALL. ENTRIES WILL INCLUDE:

1. THE VOLUME & INTENSITY OF ANY RAINFALL EVENTS
2. THE CONDITION OF ANY SOIL & WATER MANAGEMENT WORKS
3. THE CONDITION OF VEGETATION & ANY NEED TO IRRIGATE
4. THE NEED FOR DUST PREVENTION STRATEGIES
5. ANY REMEDIAL WORKS TO BE UNDERTAKEN

THE BOOK WILL BE KEPT ONSITE & MADE AVAILABLE TO ANY AUTHORISED PERSON ON REQUEST. IT WILL BE GIVEN TO THE PROJECT MANAGER AT THE CONCLUSION OF WORKS.

SEDIMENT CONTROL CONDITIONS

1. SEDIMENT FENCES WILL BE INSTALLED AS SHOWN AND ELSEWHERE AT THE DISCRETION OF THE SITE MANAGER TO CONTAIN COARSER SEDIMENT FRACTIONS (INCLUDING AGGREGATED FINES) AS NEAR AS POSSIBLE TO THEIR SOURCE.
2. SEDIMENT REMOVED FROM ANY TRAPPING DEVICE WILL BE RELOCATED WHERE FURTHER POLLUTION TO DOWNSLOPE LANDS & WATERWAYS CANNOT OCCUR.
3. STOCKPILES WILL BE PLACED AT THE DISCRETION OF THE SITE MANAGER AND NOT WITHIN 5m OF HAZARD AREAS INCLUDING LIKELY AREAS OF HIGH VELOCITY FLOWS SUCH AS WATERWAYS, PAVED AREAS & DRIVEWAYS.
4. WATER WILL BE PREVENTED FROM DIRECTLY ENTERING THE PERMANENT DRAINAGE SYSTEM WITH INLET FILTERS (SEE DETAILS) UNLESS IT IS SEDIMENT FREE.
5. TEMPORARY SEDIMENT TRAPS WILL BE RETAINED UNTIL AFTER THE LANDS THEY ARE PROTECTING ARE COMPLETELY REHABILITATED.

SEDIMENT & EROSION CONTROL PROCEDURE - STAGE 1

1. CONSTRUCT TEMPORARY ENTRY/EXIT SEDIMENT TRAP (REFER TO TYPICAL DETAIL, BUILDER TO CONFIRM LOCATION ONSITE).
2. CONSTRUCT SEDIMENT FENCE AND NO DIRTY WATER SHOULD BE ALLOWED TO LEAVE THE SITE - REFER TO TYPICAL DETAIL.
3. CONSTRUCT ON GRADE KERB INLET SEDIMENT TRAP TO EXISTING STORMWATER PITS REFER TO TYPICAL DETAIL
4. CONSTRUCT SEDIMENT BASINS
5. ADJUST/EMPTY SEDIMENT BASIN AS REQUIRED TO PREVENT SEDIMENT LADEN WATER FROM LEAVING THE SITE.
6. MINIMISE DISTURBED AREA.

- SEDIMENT CONTROL MEASURES TO BE CHECKED DAILY
- HAUL ROAD LOCATIONS TO BE DETERMINED ON SITE WITH THE APPROVAL OF THE SUPERINDENDENT
- SEALED ROADS ARE TO BE KEPT FREE OF CLAY BITUMEN ROADS ARE TO BE CLEANED/WASHED AS REQUIRED
- NO CLAY/SEDIMENTS ARE TO BE WASHED/DRAINED INTO PITS.
- PREVENT SEDIMENT LEAVE THE BUILDING SITE

Rev	Description	Date	By	App
B	FOR CONSTRUCTION	02.06.17	RB	SN
A	FOR CONSTRUCTION	13.12.11	AS	SN

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SOIL WATER MANAGEMENT PLAN LAYOUT FOR PRECINCT 1 AND 2, REDFERN

FOR CONSTRUCTION

Designed	SN
Drawn	AS
Scale	NOTED
Date	MAR 11
Sheet	

Project Director Approved: SN — Date — North

Project Ref: 200116401 — Drawing No: C082 — Rev: B

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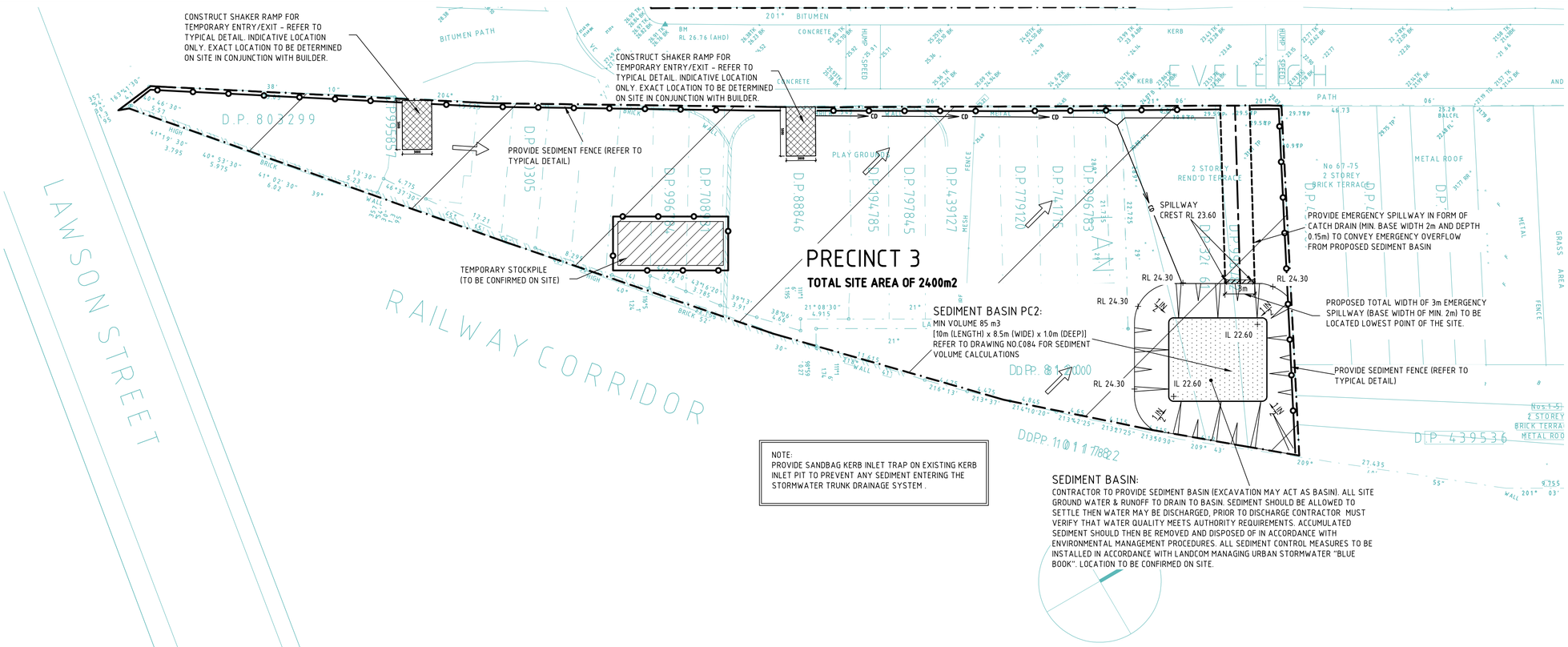
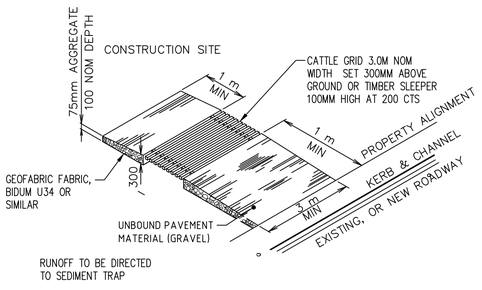


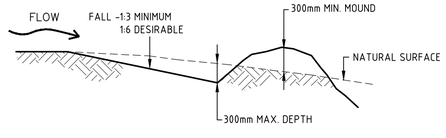
SOIL WATER MANAGEMENT PLAN - PRECINCT 3

SCALE 1:250 (0m, 2.5m, 5m, 10m, 15m)



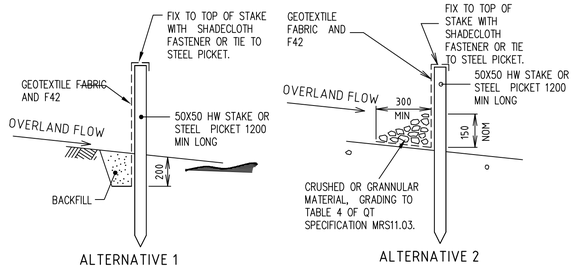
TEMPORARY CONSTRUCTION VEHICLE ENTRY/EXIT SEDIMENT TRAP

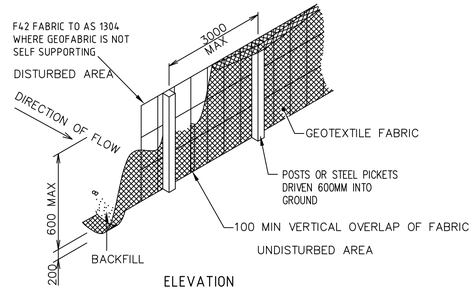
NOT TO SCALE



CATCH DRAIN

NOT TO SCALE





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PEMULWAY PROJECT
REDFERN, NSW

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SOIL WATER MANAGEMENT LAYOUT FOR PRECINCT 3, REDFERN

FOR CONSTRUCTION

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Date	MAR 11		
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Project Ref	Drawing No	Rev
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DEICORP

Annexure F RailCorp Dilapidation Survey

Australian Consulting Engineers Dilapidation Report “RailCorp Assets Job 170037.0 dated May 2017

AustralianConsultingEngineers Pty Ltd
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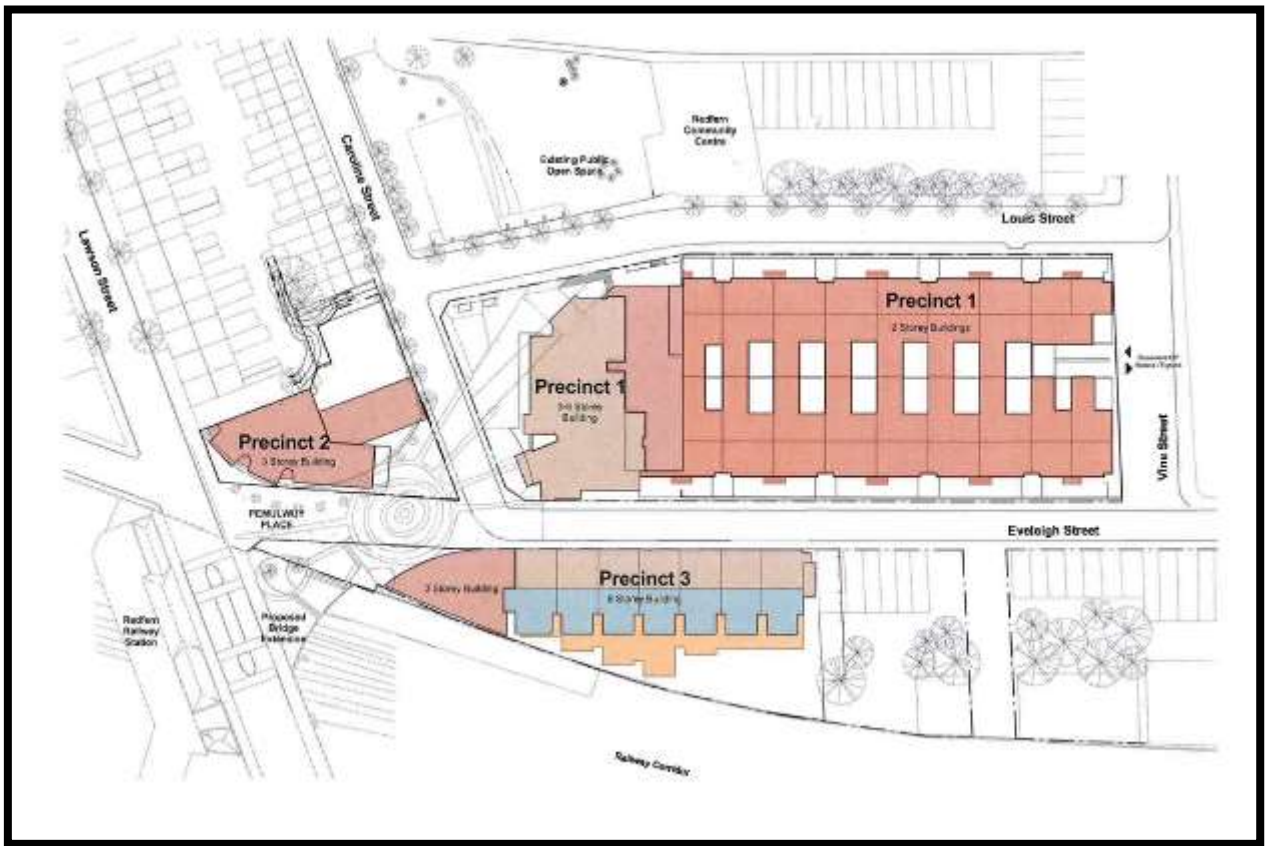
Web: www.aceeng.com.au
Ph: +61 2 9763 1500
Fax: +61 2 9763 1515
E–mail: info@aceeng.com.au

Re: Dilapidation Report for Property **Job: 170037.0**
No: Pemulwuy Project - Redfern NSW 2016 **Date: MAY 2017**

Prepared for: DEICORP CONSTRUCTIONS (NSW) PTY LTD



Prepared by:
Per:

Dr. Anthony S. Hasham
B.E., M.E., M.B.A., Ph.D., M.I.E. AUST., C. P. Eng. N.P.E.R., R.P.E.Q
Civil/Structural Engineer
Accredited Certifier
Managing Director

INTRODUCTION

Important Information Regarding the Scope and Limitations of the Inspection and this Report

I. This report is **not** an all-encompassing report dealing with the building from every aspect. This report is **not** a Certificate of Compliance with the requirements of any Act, Regulation, Ordinance or by-law. It is **not** a structural report. Should you require any advice of a structural nature you should contact a structural engineer.

II. **THIS IS A VISUAL INSPECTION ONLY** limited to those areas and the sections of the property fully accessible to the inspector on the date of inspection. An inspection **does not** include breaking apart, dismantling, removing or moving objects including but not limited to, foliage, mouldings, roof insulation / insulation, floor or wall coverings, sidings, ceilings, floors, furnishings, appliances or personal possessions. The inspector **cannot** see inside walls, between floors, inside skill iron roofing, behind stored goods in cupboards, other areas that are concealed or obstructed. The inspector **did not** dig, gouge, force or perform any other invasive procedures. Visible timbers cannot be destructively probed or hit without the written permission of the property owner.

III. This report **does not** and **cannot** make comment upon defects that may have been concealed during the assessment or detection of defects (including- rising damp and leaks) which may be subject to the prevailing weather conditions; the presence or absence of timber pests, gas-fittings, common property areas, environmental concerns; the proximity of the property to flight paths, railways, or busy traffic; noise levels; health and safety issues; heritage concerns; security concerns; fire protections; site drainage (apart from surface water drainage); swimming pools and spas (non-structural); detection and identification of illegal building work ; detection and identification of illegal plumbing work; durability of exposed finishes; neighbourhood problems; and document analysis; electrical installations; any matters that are solely regulated by statute; any area(s) or item(s) that **could not** be inspected by the consultant. Accordingly this report is **not a guarantee** that defects and/ or damage **does not** exist in any inaccessible or partly inaccessible areas or sections of the property. (NB: such matters may upon request be covered under the terms of a special purpose property report.)

IV. In the event of any controversy or claim arising out of, or relating to this report, it will be settled by arbitration, in accordance with the rules of the Institute of Arbitrators Australia. Any judgments from such arbitration shall be binding upon both parties.

SUMMARY

The aim of this report is to represent the condition and state of the RailCorp Infrastructure assets of the "Metro Illawarra & South Coast" line, which are adjacent to the subject site, prior to demolition and construction stages at:

Pemulwuy Project - Redfern NSW 2016.

This is illustrated through the photographic evidence depicted in Appendix A.

DESCRIPTION OF TERMS IN THIS REPORT

- **Good** - Indicates that there are no defects evident and the items described are in good condition for their age.
- **Reasonable** - Indicates the item may have minor defects that should be noted but not significant enough to need immediate rectification
- **Poor** - Indicates that general maintenance or minor repair may be warranted
- **Defective** - Indicates there is a significant fault that should be rectified.

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INSPECTED AREAS

The Area*(s) inspected were:

The RailCorp infrastructure assets including the Railway corridor, steel portal haunches, overhead supply system, boundary fence and all other elements that are located adjacent to the subject site.

The Area*(s) NOT Accessible for any Inspection and the Reason(s) why were:

No inspection was made of concealed frame timbers or any areas concealed by wall linings/sidings, soil, landscaping, rubbish, floor coverings, furniture, pictures, appliances, stored items, insulation, hollow blocks/pots or any other obstructions to visual inspection.

The internal areas of all neighbouring properties

Further than **20m** from the said sight unless otherwise stated.

The Area*(s) in which Visual Inspection was Obstructed and the reason(s) why were:

Floor coverings and furnishings

Vegetation growth

Stored boxes etc…

* No comment is made on these concealed areas.

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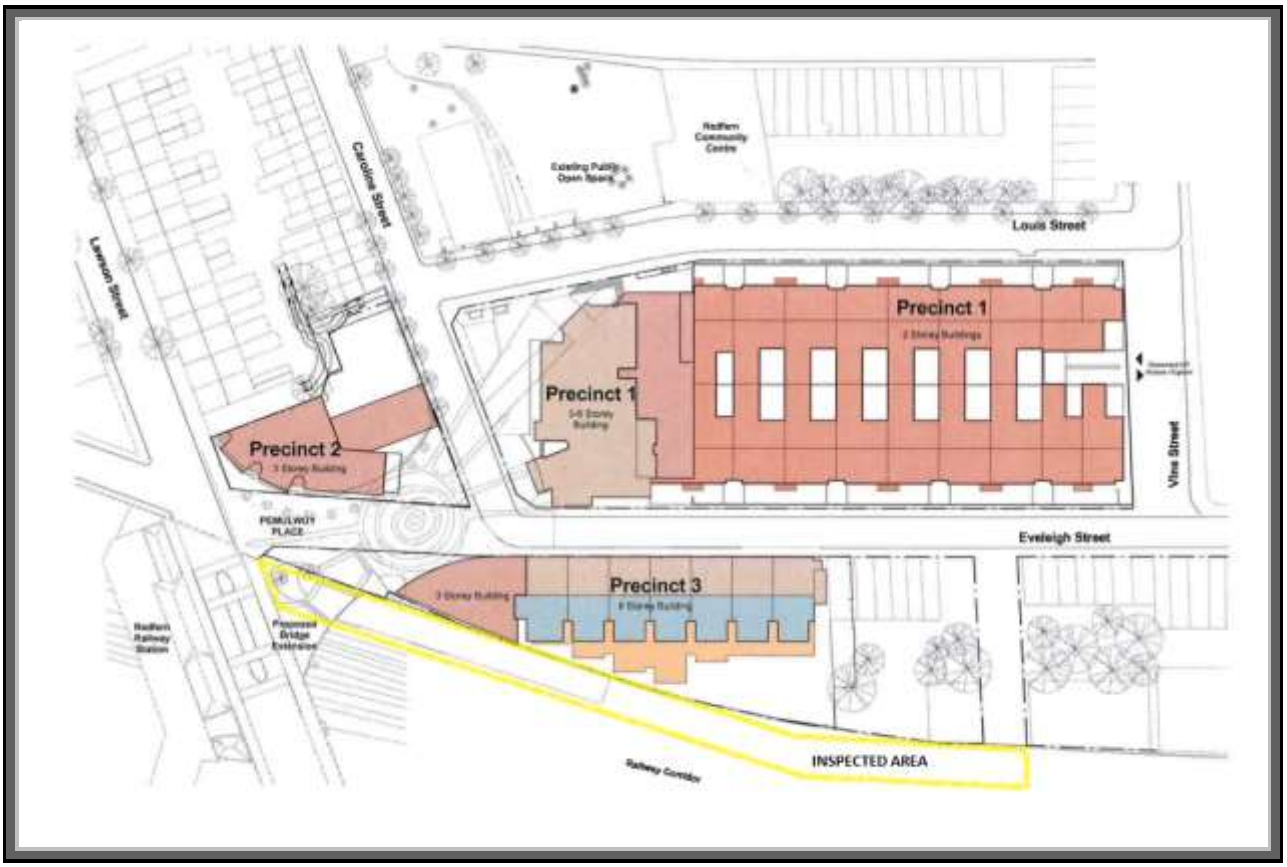
No: Pemulwuy Project - Redfern NSW 2016 **Date: MAY 2017**



Prepared by:

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Civil/Structural Engineer
Accredited Certifier
Managing Director

APPENDIX (A)

"RAILCORP ASSETS" PHOTOGRAPHIC RECORDS

Figure 1 – General condition of RailCorp boundary wall and steel portal haunch observed from Lawson Street Overpass Bridge

Figure 2 – General condition of RailCorp boundary wall and steel portal haunch observed from Lawson Street Overpass Bridge

Figure 3 – General condition of RailCorp boundary wall and steel portal haunch observed from Lawson Street Overpass Bridge

Figure 4 – General condition of RailCorp boundary wall and steel portal haunch observed from Lawson Street Overpass Bridge

Figure 5 – General condition of RailCorp boundary wall observed from Lawson Street Overpass Bridge

Figure 6 – General condition of RailCorp boundary wall observed from Lawson Street Overpass Bridge

Figure 7 – General condition of RailCorp boundary wall observed from Lawson Street Overpass Bridge

Figure 8 – General condition of RailCorp boundary wall observed from Lawson Street Overpass Bridge

Figure 9 – General condition of RailCorp boundary wall observed from Lawson Street Overpass Bridge

Figure 10 – General condition of RailCorp boundary wall observed from Lawson Street Overpass Bridge

Figure 11 – General condition of RailCorp boundary wall observed from Lawson Street Overpass Bridge

Figure 12 – General condition of RailCorp boundary wall observed from Lawson Street Overpass Bridge

Figure 13 – General condition of RailCorp boundary wall observed from Lawson Street Overpass Bridge

Figure 14 – General condition of RailCorp boundary wall observed from Lawson Street Overpass Bridge

Figure 15 – General condition of RailCorp boundary wall observed from Lawson Street Overpass Bridge

Figure 16 – General condition of RailCorp boundary wall observed from Lawson Street Overpass Bridge

Figure 17 – General condition of RailCorp boundary wall observed from Lawson Street Overpass Bridge

Figure 18 – General condition of RailCorp boundary wall observed from Lawson Street Overpass Bridge

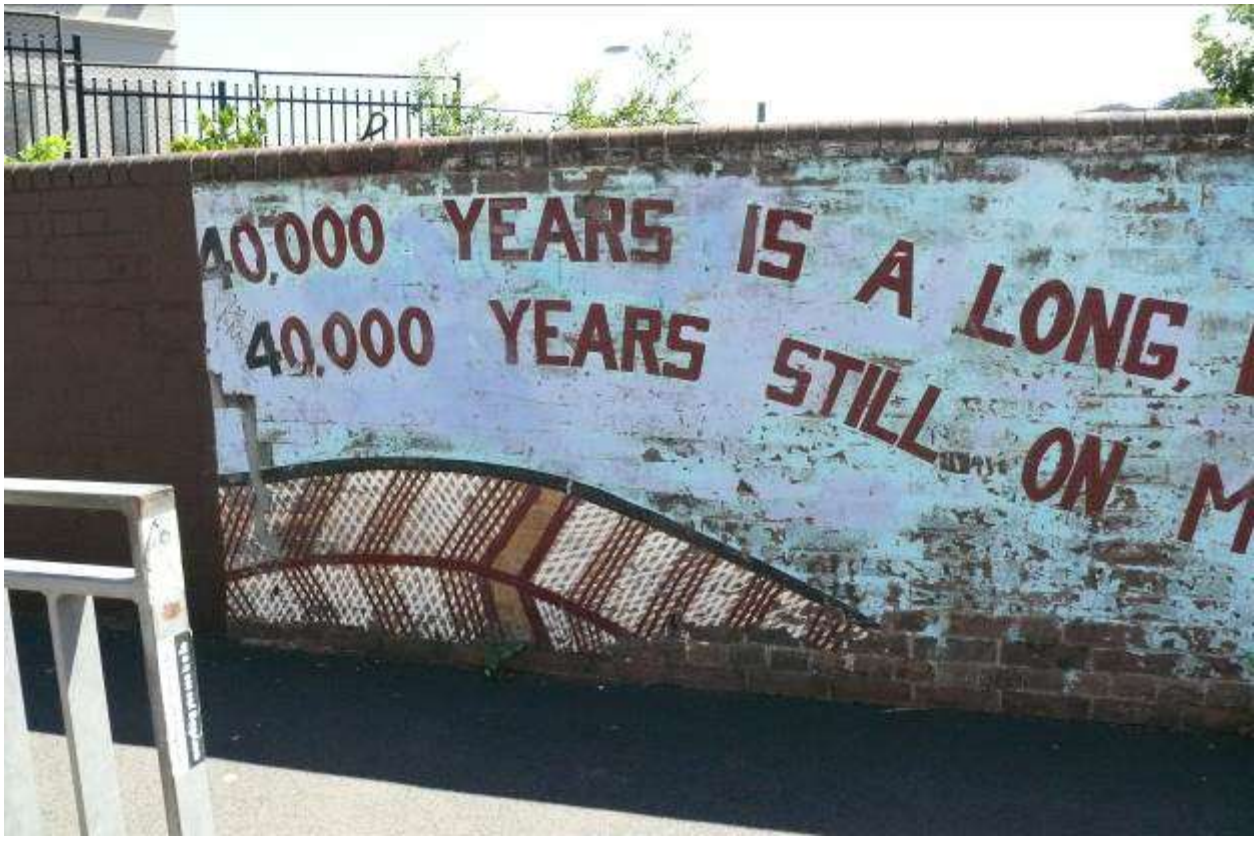

Figure 19 – General condition of RailCorp boundary wall observed from Lawson Street Overpass Bridge

Figure 20 – Crack propagation through boundary wall observed from Lawson Street Overpass Bridge

Figure 21 – Crack propagation through boundary wall observed from Lawson Street Overpass Bridge

Figure 22 – Crack propagation and loss of material through boundary wall observed from Lawson Street Overpass Bridge

Figure 23 – Crack propagation and loss of material through boundary wall observed from Lawson Street Overpass Bridge

Figure 24 – General condition of RailCorp boundary wall observed from Lawson Street Overpass Bridge

Figure 25 – Loss of material and evidence of patchwork through boundary wall observed from Lawson Street Overpass Bridge

Figure 26 – General condition of RailCorp boundary wall observed from Lawson Street Overpass Bridge

Figure 27 – Crack propagation through boundary wall observed from Lawson Street Overpass Bridge

Figure 28 – Crack propagation and loss of material through boundary wall observed from Lawson Street Overpass Bridge

Figure 29 – General condition of RailCorp boundary wall observed from Lawson Street Overpass Bridge

Figure 30 – Crack propagation, separation and loss of material through boundary wall

Figure 31 – Crack propagation, separation and loss of material through boundary wall observed from Lawson Street Overpass Bridge

Figure 32 – Crack propagation, separation and loss of material through boundary wall observed from Lawson Street Overpass Bridge

Figure 33 – Crack propagation, separation and loss of material through boundary wall observed from Lawson Street Overpass Bridge

Figure 34 – General condition of RailCorp boundary wall observed from Lawson Street Overpass Bridge

Figure 35 – Crack propagation, separation and loss of material through boundary wall observed from Lawson Street Overpass Bridge

Figure 36 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 37 – General condition of RailCorp boundary wall observed from Eveleigh Street

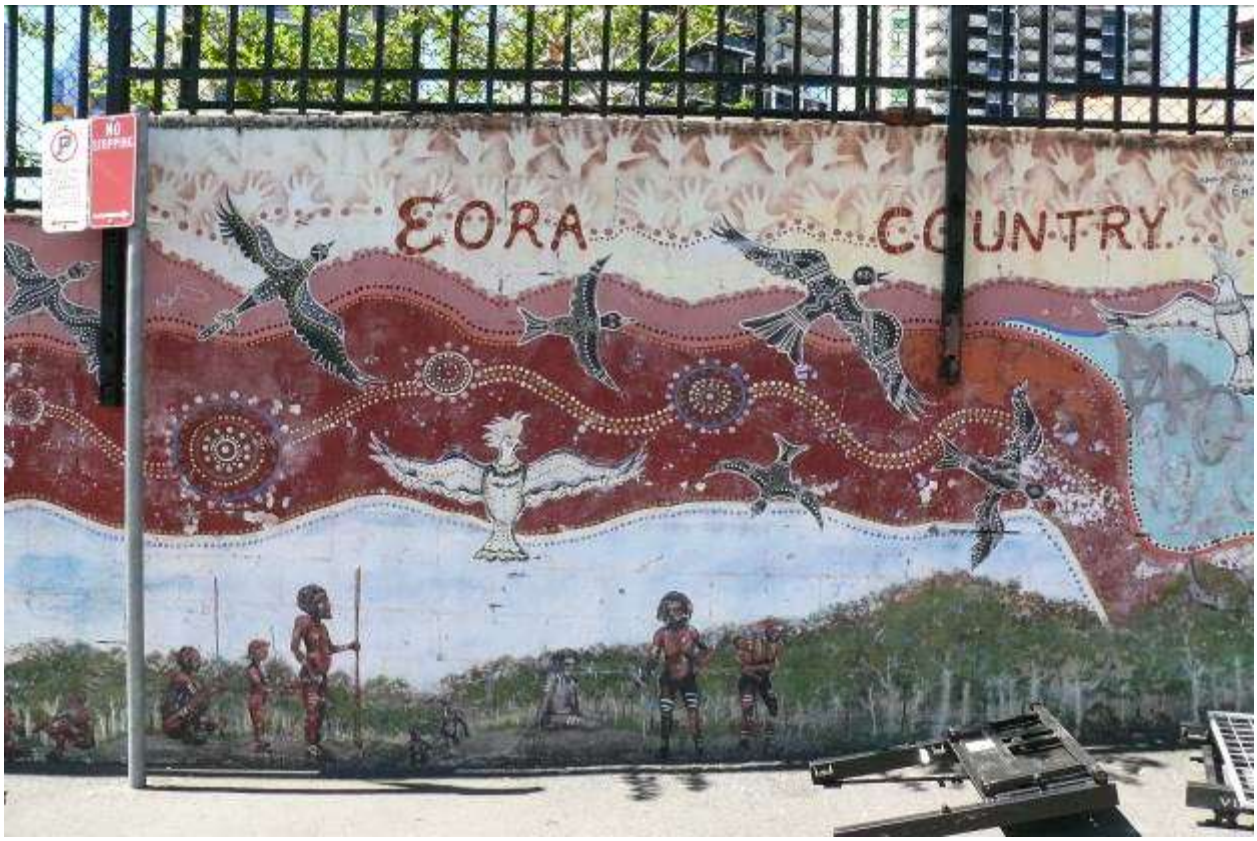

Figure 38 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 39 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 40 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 41 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 42 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 43 – Crack propagation through boundary wall observed from Eveleigh Street

Figure 44 – Crack propagation through boundary wall observed from Eveleigh Street

Figure 45 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 46 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 47 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 48 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 49 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 50 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 51 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 52 – Crack propagation through boundary wall observed from Eveleigh Street

Figure 53 – Crack propagation through boundary wall observed from Eveleigh Street

Figure 54 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 55 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 56 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 57 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 58 – Loss of material through boundary wall observed from Eveleigh Street

Figure 59 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 60 – General condition of RailCorp boundary wall observed from Eveleigh Street

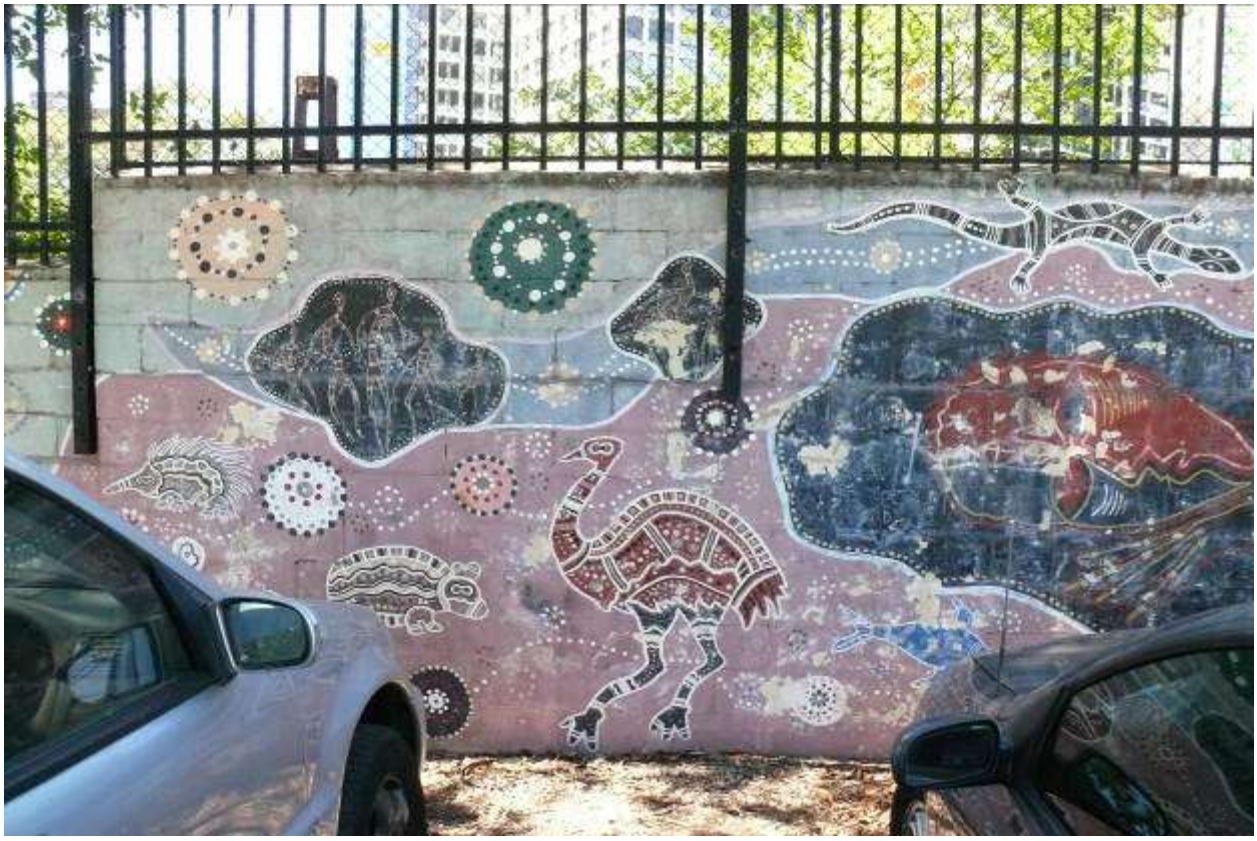

Figure 61 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 62 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 63 – Crack propagation and separation through boundary wall observed from Eveleigh Street

Figure 64 – Crack propagation and separation through boundary wall observed from Eveleigh Street

Figure 65 – Crack propagation through boundary wall observed from Eveleigh Street

Figure 66 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 67 – Crack propagation through boundary wall observed from Eveleigh Street

Figure 68 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 69 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 70 – Crack propagation through boundary wall observed from Eveleigh Street

Figure 71 – Crack propagation through boundary wall observed from Eveleigh Street

Figure 72 – Crack propagation through boundary wall observed from Eveleigh Street

Figure 73 – Crack propagation through boundary wall observed from Eveleigh Street

Figure 74 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 75 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 76 – Crack propagation through boundary wall observed from Eveleigh Street

Figure 77 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 78 – Crack propagation and separation through boundary wall observed from Eveleigh Street

Figure 79 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 80 – Crack propagation through boundary wall observed from Eveleigh Street

Figure 81 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 82 – Crack propagation and loss of material through boundary wall observed from Eveleigh Street

Figure 83 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 84 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 85 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 86 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 87 – Crack propagation and separation through boundary wall observed from Eveleigh Street

Figure 88 – Crack propagation and separation through boundary wall observed from Eveleigh Street

Figure 89 – Crack propagation and separation through boundary wall observed from Eveleigh Street

Figure 90 –Separation through boundary wall observed from Eveleigh Street

Figure 91 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 92 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 93 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 94 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 95 – Crack propagation and loss of material through boundary wall observed from Eveleigh Street

Figure 96 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 97 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 98 – Crack propagation and separation through boundary wall observed from Eveleigh Street

Figure 99 – Crack propagation and separation through boundary wall observed from Eveleigh Street

Figure 100 – Crack propagation and separation through boundary wall observed from Eveleigh Street

Figure 101 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 102 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 103 – Crack propagation through boundary wall observed from Eveleigh Street

Figure 104 – Crack propagation through boundary wall observed from Eveleigh Street

Figure 105 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 106 – Crack propagation and loss of material through boundary wall observed from Eveleigh Street

Figure 107 – Crack propagation and loss of material through boundary wall observed from Eveleigh Street

Figure 108 – Crack propagation and loss of material through boundary wall observed from Eveleigh Street

Figure 109 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 110 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 111 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 112 – General condition of RailCorp boundary wall observed from Eveleigh Street

Figure 113 – Physical damage to boundary fence observed from Eveleigh Street

Figure 114 – Physical damage to boundary fence observed from Eveleigh Street

Figure 115 – Physical damage to boundary fence observed from Eveleigh Street

Figure 116 – Physical damage to boundary fence observed from Eveleigh Street

Figure 117 – Physical damage to boundary fence observed from Eveleigh Street

Figure 118 – General condition of steel portal haunch observed from Eveleigh Street

Figure 119 – General condition of steel portal haunch observed from Eveleigh Street

Figure 120 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 121 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 122 – General condition of RailCorp underpass observed from Railway Corridor

Figure 123 – General condition of RailCorp underpass observed from Railway Corridor

Figure 124 – General condition of RailCorp underpass observed from Railway Corridor

Figure 125 – General condition of RailCorp underpass observed from Railway Corridor

Figure 126 – General condition of RailCorp underpass observed from Railway Corridor

Figure 127 – General condition of RailCorp underpass observed from Railway Corridor

Figure 128 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 129 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 130 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 131 – General condition of RailCorp boundary wall and fence observed from Railway Corridor

Figure 132 – General condition of RailCorp boundary wall and fence observed from Railway Corridor

Figure 133 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 134 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 135 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 136 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 137 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 138 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 139 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 140 – General condition of RailCorp boundary wall and fence observed from Railway Corridor

Figure 141 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 142 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 143 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 144 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 145 – General condition of RailCorp boundary wall and fence observed from Railway Corridor

Figure 146 – General condition of RailCorp boundary wall and fence observed from Railway Corridor

Figure 147 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 148 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 149 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 150 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 151 – General condition of RailCorp boundary wall and fence observed from Railway Corridor

Figure 152 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 153 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 154 – General condition of RailCorp boundary wall and fence observed from Railway Corridor

Figure 155 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 156 – General condition of RailCorp boundary wall and fence observed from Railway Corridor

Figure 157 – General condition of RailCorp boundary wall and fence observed from Railway Corridor

Figure 158 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 159 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 160 – Crack propagation through RailCorp boundary wall observed from Railway Corridor

Figure 161 – General condition of RailCorp boundary wall and fence observed from Railway Corridor

Figure 162 – General condition of RailCorp boundary wall and fence observed from Railway Corridor

Figure 163 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 164 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 165 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 166 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 167 – General condition of RailCorp boundary wall and fence observed from Railway Corridor

Figure 168 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 169 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 170 – Crack propagation through RailCorp boundary wall observed from Railway Corridor

Figure 171 – General condition of RailCorp boundary wall and fence observed from Railway Corridor

Figure 172 – General condition of RailCorp boundary wall and fence observed from Railway Corridor

Figure 173 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 174 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 175 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 176 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 177 – General condition of RailCorp boundary wall and fence observed from Railway Corridor

Figure 178 – Crack propagation through RailCorp boundary wall observed from Railway Corridor

Figure 179 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 180 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 181 – General condition of RailCorp boundary wall and fence observed from Railway Corridor

Figure 182 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 183 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 184 – General condition of RailCorp boundary wall and fence observed from Railway Corridor

Figure 185 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 186 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 187 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 188 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 189 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 190 – General condition of RailCorp boundary wall and fence observed from Railway Corridor

Figure 191 – Crack propagation through RailCorp boundary wall and fence observed from Railway Corridor

Figure 192 – Crack propagation through RailCorp boundary wall observed from Railway Corridor

Figure 193 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 194 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 195 – General condition of RailCorp boundary wall observed from Railway Corridor

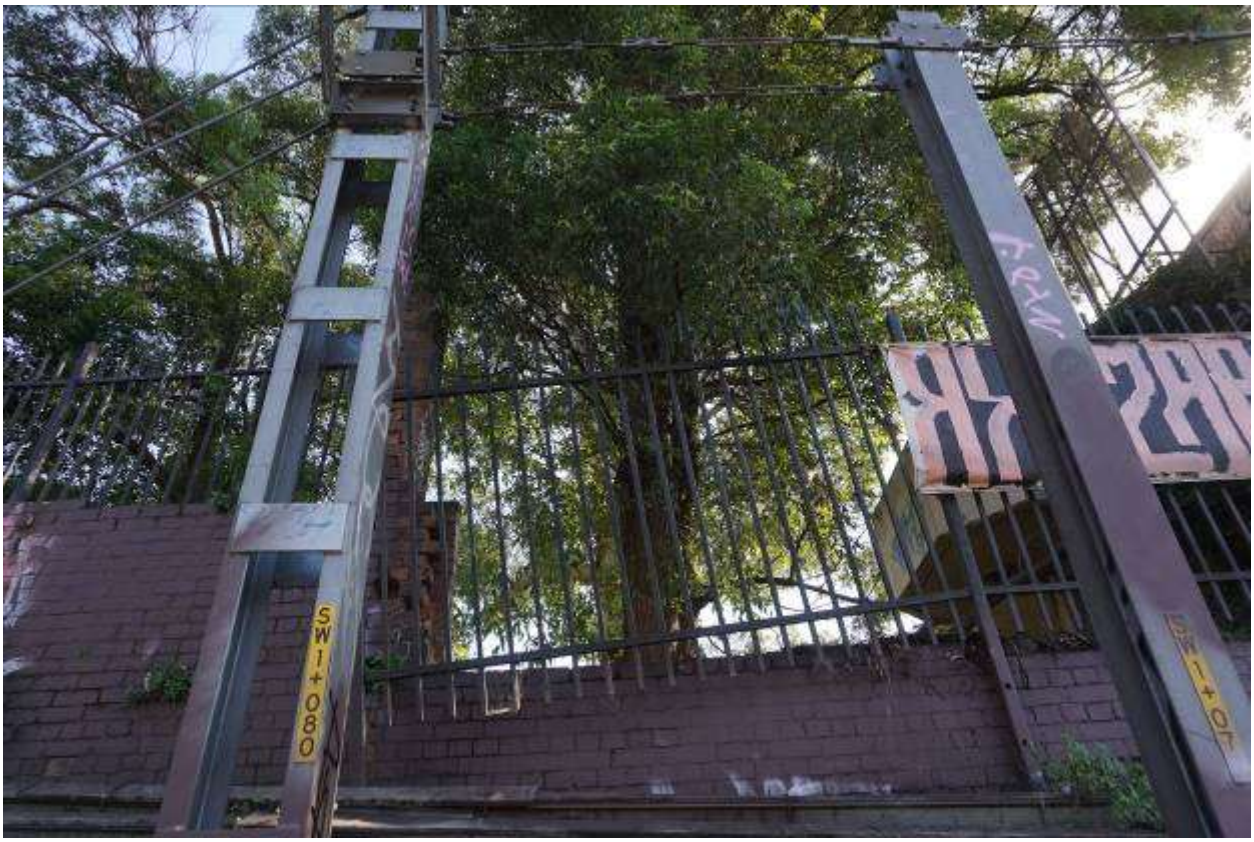

Figure 196 – Physical damage through RailCorp boundary fence observed from Railway Corridor

Figure 197 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 198 – Crack propagation and loss of material through RailCorp boundary wall observed from Railway Corridor

Figure 199 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 200 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 201 – General condition of RailCorp boundary wall observed from Railway Corridor

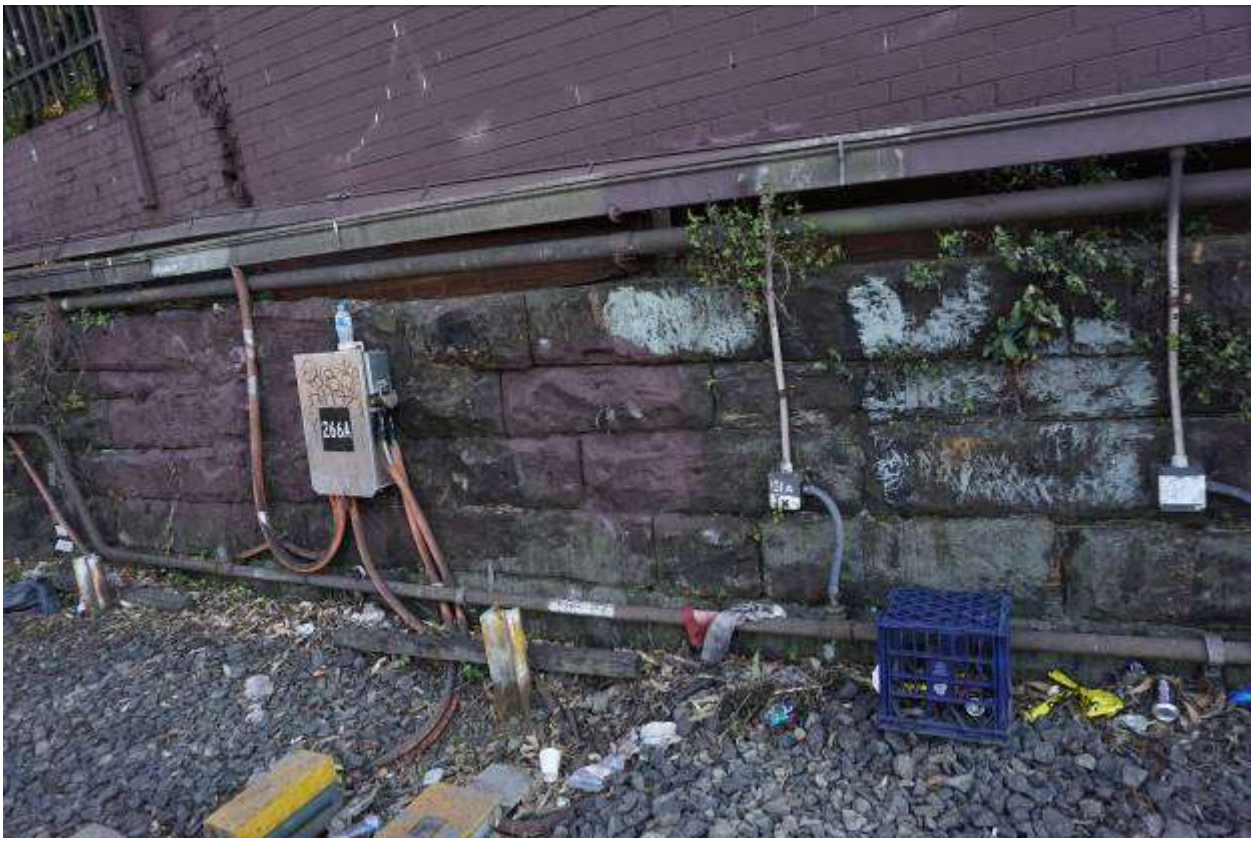

Figure 202 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 203 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 204 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 205 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 206 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 207 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 208 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 209 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 210 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 211 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 212 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 213 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 214 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 215 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 216 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 217 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 218 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 219 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 220 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 221 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 222 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 223 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 224 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 225 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 226 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 227 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 228 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 229 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 230 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 231 – General condition of Survey Track Control Mark observed from Railway Corridor

Figure 232 – General condition of steel portal haunch Identification No. SW1+047 observed from Railway Corridor

Figure 233 – General condition of steel portal haunch Identification No. SW1+047 and overhead power supply system observed from Railway Corridor

Figure 234 – General condition of steel portal haunch Identification No. SW1+047 and overhead power supply system observed from Railway Corridor

Figure 235 – General condition of steel portal haunch Identification No. SW1+047 and overhead power supply system observed from Railway Corridor

Figure 236 – General condition of concrete footing observed from Railway Corridor

Figure 237 – General condition of concrete footing observed from Railway Corridor

Figure 238 – General condition of RailCorp traffic signal observed from Railway Corridor

Figure 239 – General condition of RailCorp traffic signal observed from Railway Corridor

Figure 240 – General condition of RailCorp traffic signal observed from Railway Corridor

Figure 241 – General condition of Survey Track Control Mark observed from Railway Corridor

Figure 242 – General condition of RailCorp signal troughing observed from Railway Corridor

Figure 243 – General condition of Survey Track Control Mark observed from Railway Corridor

Figure 244 – General condition of RailCorp signal troughing observed from Railway Corridor

Figure 245 – General condition of RailCorp signal troughing observed from Railway Corridor

Figure 246 – General condition of railway corridor observed from Railway Corridor

Figure 247 – General condition of Survey Track Control Mark observed from Railway Corridor

Figure 248 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 249 – General condition of RailCorp tracks observed from Railway Corridor

Figure 250 – General condition of RailCorp points rodding observed from Railway Corridor

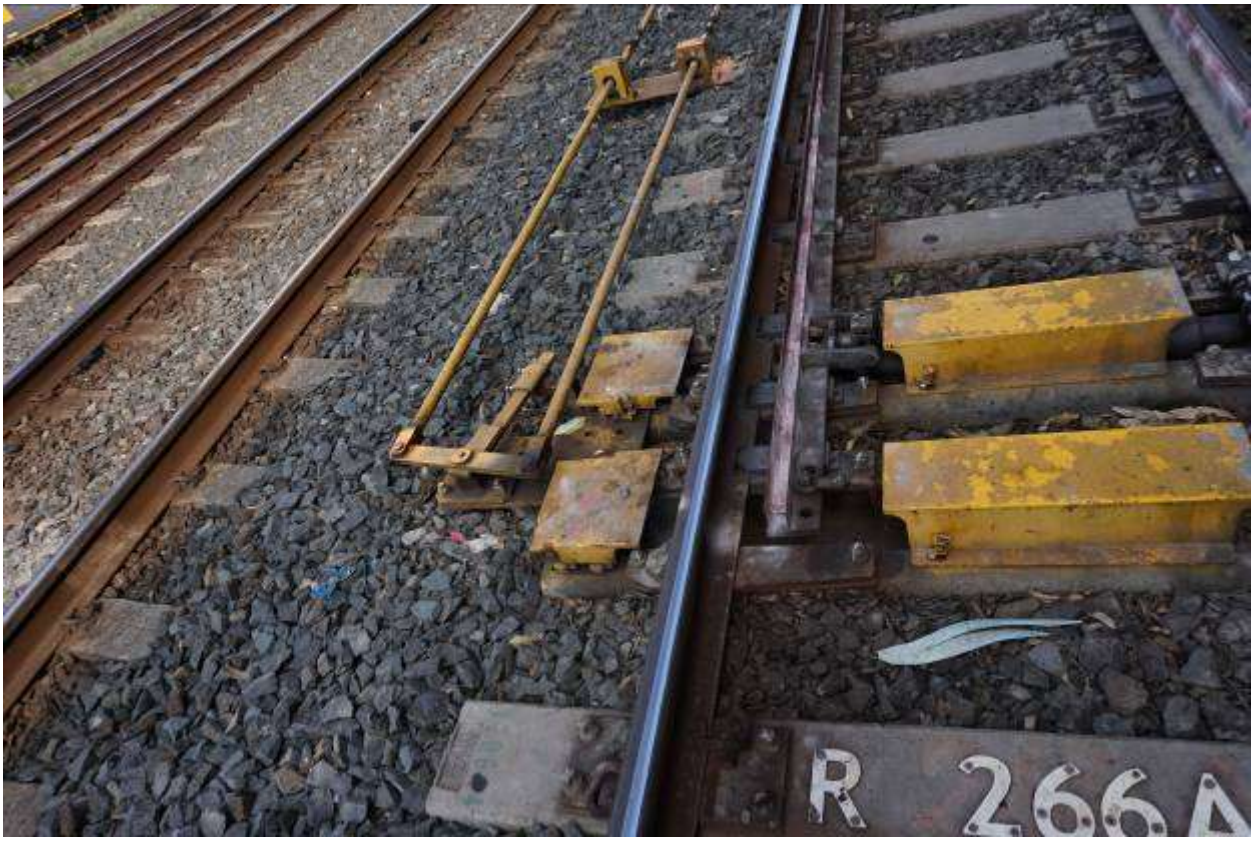

Figure 251 – General condition of RailCorp points rodding observed from Railway Corridor

Figure 252 – General condition of RailCorp electricity box observed from Railway Corridor

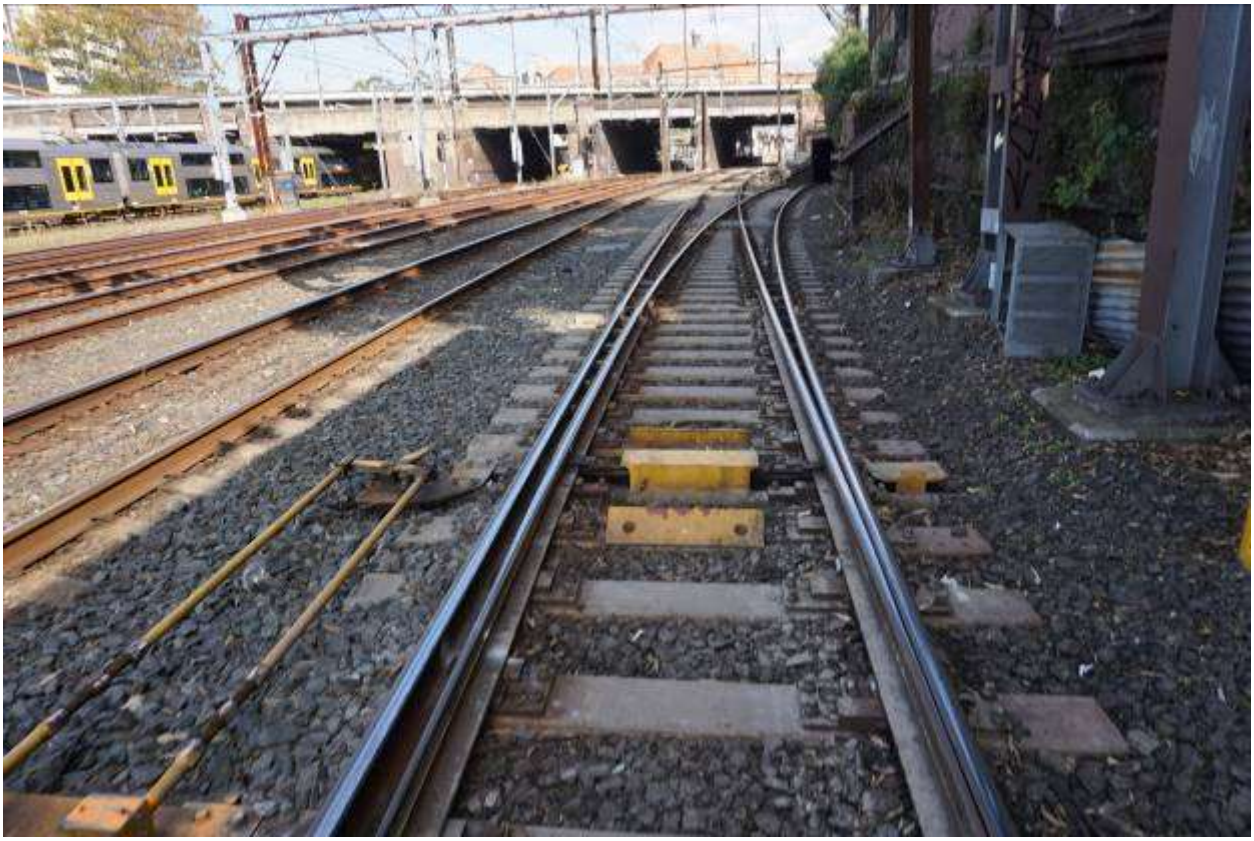

Figure 253 – General condition of RailCorp points rodding observed from Railway Corridor

Figure 254 – General condition of Survey Track Control Mark observed from Railway Corridor

Figure 255 – General condition of steel portal haunch Identification No. SW1+077 observed from Railway Corridor

Figure 256 – General condition of steel portal haunch Identification No. SW1+077 observed from Railway Corridor

Figure 257 – General condition of steel portal haunch Identification No. SW1+077 observed from Railway Corridor

Figure 258 – General condition of steel portal haunch Identification No. SW1+080 and overhead power supply system observed from Railway Corridor

Figure 259 – General condition of steel portal haunch Identification No. SW1+080 and overhead power supply system observed from Railway Corridor

Figure 260 – General condition of railway corridor observed from Railway Corridor

Figure 261 – General condition of Survey Track Control Mark observed from Railway Corridor

Figure 262 – General condition of railway drainage observed from Railway Corridor

Figure 263 – General condition of steel portal haunch Identification No. SW1+083 observed from Railway Corridor

Figure 264 – General condition of steel portal haunch Identification No. SW1+083 observed from Railway Corridor

Figure 265 – General condition of railway corridor observed from Railway Corridor

Figure 266 – General condition of RailCorp signal troughing observed from Railway Corridor

Figure 267 – General condition of RailCorp signal troughing observed from Railway Corridor

Figure 268 – General condition of Survey Track Control Mark observed from Railway Corridor

Figure 269 – General condition of RailCorp signal troughing observed from Railway Corridor

Figure 270 – General condition of RailCorp signal troughing observed from Railway Corridor

Figure 271 – General condition of RailCorp signal troughing observed from Railway Corridor

Figure 272 – General condition of steel portal haunch and overhead power supply system observed from Railway Corridor

Figure 273 – General condition of steel portal haunch and overhead power supply system observed from Railway Corridor

Figure 274 – General condition of RailCorp signal troughing observed from Railway Corridor

Figure 275 – General condition of RailCorp signal troughing observed from Railway Corridor

Figure 276 – General condition of Survey Track Control Mark observed from Railway Corridor

Figure 277 – General condition of RailCorp signal troughing observed from Railway Corridor

Figure 278 – General condition of steel portal haunch observed from Railway Corridor

Figure 279 – General condition of Survey Track Control Mark observed from Railway Corridor

Figure 280 – General condition of RailCorp signal troughing observed from Railway Corridor

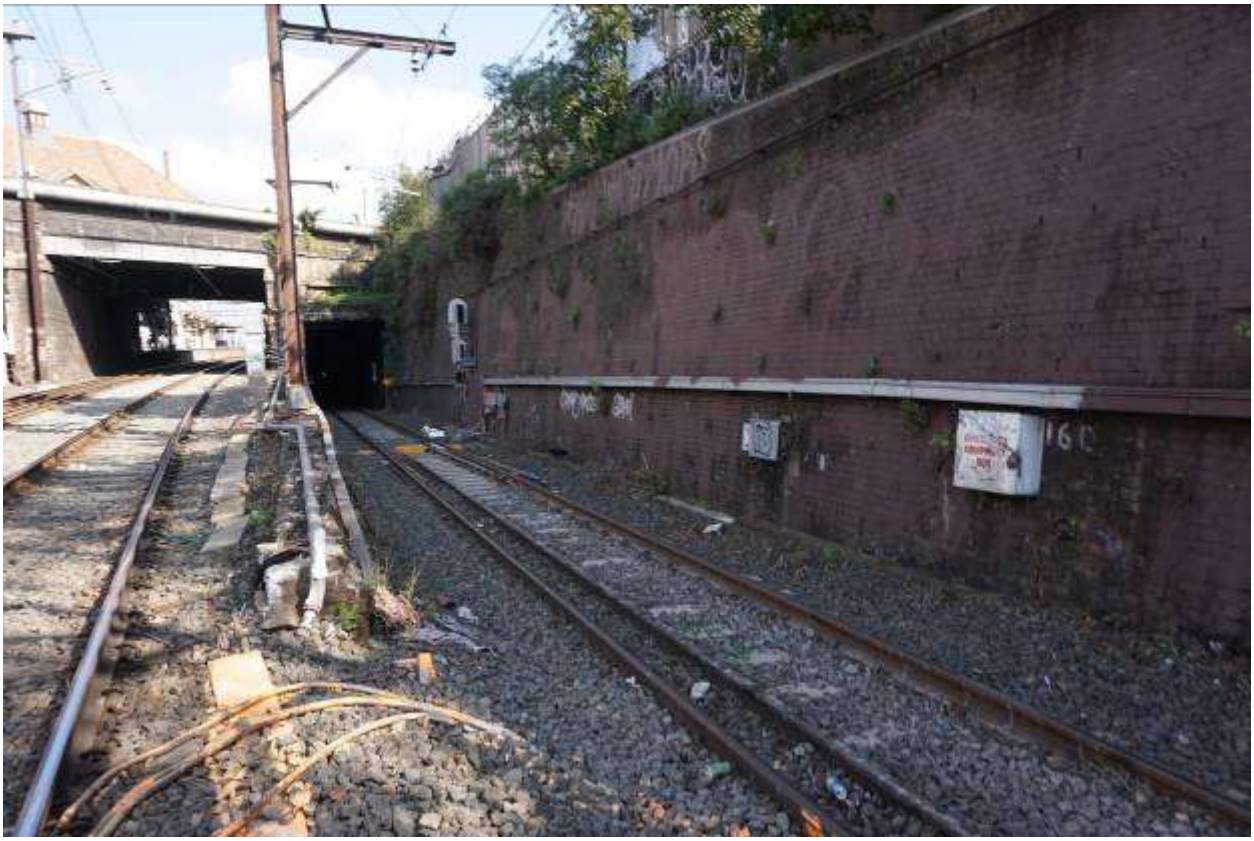

Figure 281 – General condition of RailCorp signal troughing observed from Railway Corridor

Figure 282 – General condition of railway corridor observed from Railway Corridor

Figure 283 – General condition of RailCorp signal troughing observed from Railway Corridor

Figure 284 – General condition of RailCorp signal troughing observed from Railway Corridor

Figure 285 – General condition of RailCorp signal troughing observed from Railway Corridor

Figure 286 – Crack propagation through retaining wall adjacent to RailCorp signal troughing observed from Railway Corridor

Figure 287 – General condition of RailCorp signal troughing observed from Railway Corridor

Figure 288 – General condition of RailCorp signal troughing observed from Railway Corridor

Figure 289 – General condition of railway corridor observed from Railway Corridor

Figure 290 – General condition of RailCorp signal troughing observed from Railway Corridor

Figure 291 – General condition of steel portal haunch and overhead power supply system observed from Railway Corridor

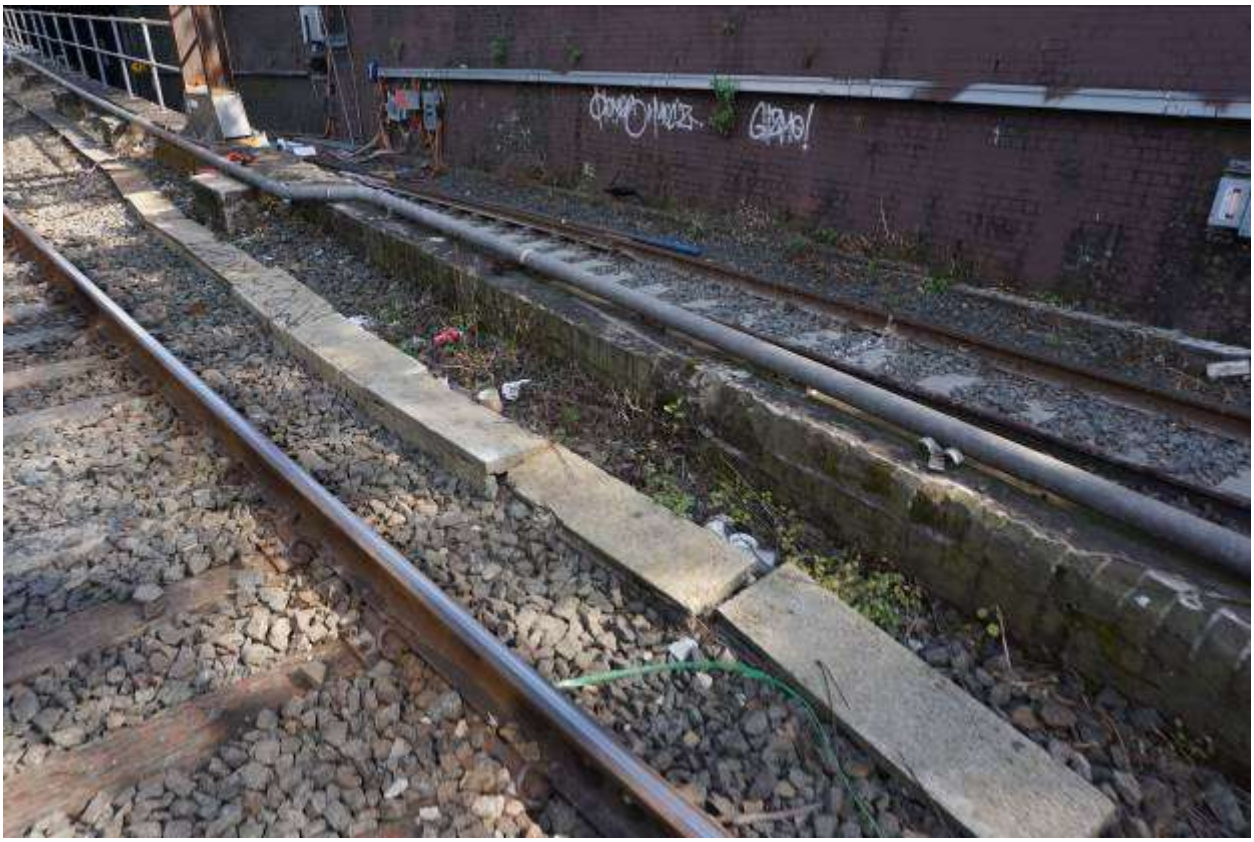

Figure 292 – General condition of railway retaining wall observed from Railway Corridor

Figure 293 – General condition of railway corridor observed from Railway Corridor

Figure 294 – General condition of railway corridor observed from Railway Corridor

Figure 295 – General condition of railway corridor observed from Railway Corridor

Figure 296 – General condition of railway corridor observed from Railway Corridor

Figure 297 – General condition of RailCorp traffic signal observed from Railway Corridor

Figure 298 – General condition of overhead power supply system observed from Railway Corridor

Figure 299 – General condition of overhead power supply system observed from Railway Corridor

Figure 300 – General condition of railway boundary fence observed from Railway Corridor

Figure 301 – General condition of railway corridor observed from Railway Corridor

Figure 302 – General condition of RailCorp furniture observed from Railway Corridor

Figure 303 – General condition of RailCorp furniture observed from Railway Corridor

Figure 304 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 305 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 306 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 307 – General condition of RailCorp boundary wall observed from Railway Corridor

Figure 308 – General condition of RailCorp underpass observed from Railway Corridor

Figure 309 – General condition of RailCorp underpass observed from Railway Corridor

Figure 310 – General condition of RailCorp underpass observed from Railway Corridor

Figure 311 – General condition of RailCorp underpass observed from Railway Corridor

Figure 312 – General condition of RailCorp underpass observed from Railway Corridor

Figure 313 – General condition of RailCorp underpass observed from Railway Corridor

Figure 314 – General condition of railway corridor observed from Railway Corridor

COMMENTS

The section of RailCorp infrastructure of the "Metro Illawarra & South Coast" line which is associated with the subject site was inspected and photographic evidence compiled in order to depict the condition of such elements prior to the commencement of any work at the subject site.

The boundary walls along Lawson Street Overpass Bridge was inspected and it was determined to be in poor condition with various cases of cracking, separation and material loss noted throughout the wall.

The boundary walls along Eveleigh Street was also inspected and it was determined to be in reasonable to poor condition with various cases of cracking, separation and material loss noted throughout the wall. Some cases of physical damage was also observed through the boundary fence along this street.

The section of the RailCorp infrastructure including the Railway corridor, steel portal haunch, overhead supply system, boundary fence and all other elements were inspected and photographed from the Railway Corridor, and were determined to be in a reasonable condition with some cases of cracking and material loss noted through the boundary walls.

Refer to Appendix (A) for photographic records of the above.

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Re: Dilapidation Report for Property **Job: 170037.0**
No: Pemulwuy Project - Redfern NSW 2016 **Date: MAY 2017**

SUMMARY

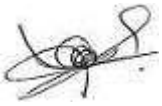
This report serves as a record of the condition of the RailCorp infrastructure assets of the "Metro Illawarra & South Coast" line, which is adjacent to the subject site, prior to the commencement of any works proposed at: **Pemulwuy Project - Redfern NSW 2016.**

DISCLAIMER OF LIABILITY: - No liability shall be accepted on account of failure of the within Report to notify any problems in any area(s) or section(s) of the subject property physically Inaccessible for inspection or to which access for Inspection is denied by or to the Consultant (including but not limited to any area(s) or section(s) so specified by the within Report).

DISCLAIMER OF LIABILITY TO THIRD PARTIES: - This Report is made solely for the use and benefit of Client named on the front of this Report and no liability or responsibility whatsoever is accepted to any third party who may rely on the Report wholly or in part. Any third party acting or relying on this Report whether in whole or in part does so at their own risk.

Please do not hesitate to contact us, should you have any further queries regarding this report.

Per:



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Re: Dilapidation Report for Property **Job: 170037.0**
No: Pemulwuy Project - Redfern NSW 2016 **Date: MAY 2017**

15/05/2017

To Whom It May Concern;

Dear Sir/Madam:

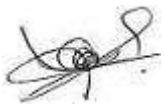
Further to your request to conduct a dilapidation report on the RailCorp Infrastructure assets adjacent to the proposed development at: **Pemulwuy Project - Redfern NSW 2016,** we wish to note that on the 13th of February 2017 an engineer from our office conducted an external inspection on the RailCorp infrastructure of the "Metro Illawarra & South Coast" line which includes the Railway corridor, steel portal haunches, overhead supply system, boundary fence and all other elements that are located adjacent to the subject site.

On the 11th of May 2017, an engineer from our office conducted an internal inspection on the RailCorp infrastructure of the "Metro Illawarra & South Coast" line which includes the Railway corridor, steel portal haunches, overhead supply system, boundary fence and all other elements that are located adjacent to the subject site.

All photographic records can be found attached in appendix (A). Furthermore, if any additional information is required please do not hesitate to contact me.

Yours faithfully,

AustralianConsultingEngineers Pty Ltd
Per:



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DEICORP

Annexure G Waste Management Plan

Barker Ryan Stewart Waste Management Plan for 83-123 Eveleigh St report SY170002 dated 9/6/2017

BARKER RYAN STEWART
TOTAL PROJECT SOLUTIONS

PLANNING
PROJECT MANAGEMENT
ENGINEERING
CERTIFICATION

Deicorp Pty Ltd

Waste Management Plan

Colonel James Student Accommodation (Pemulwuy Precinct 3)

83-123 Everleigh Street, Redfern

June 2017

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Project No.	SY170002
Author	RJ
Checked	GB
Approved	GB

Rev No.	Status	Date	Comments
1	Final	09/06/2017	

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1 Applicant and Project Details

APPLICANT DETAILS	
Application No.	
Name	
Address	
Phone number(s)	
Email	

DEVELOPMENT DETAILS	
Project Details	Colonel James Student Accommodation - Mixed Use Development (Pemulwuy Precinct 3)
Address of Development	83-123 Everleigh Street Redfern 2016
Existing Buildings and other structures currently on the site	One two storey concrete car park, asphalted car park and greenery.
Description of proposed development	Student Accommodation – 23 storeys, 522 rooms and associated common areas and student facilities.
This development achieves the waste objectives set out in the DCP. The details on this form are the provisions and intentions for minimising waste relating to this project. All records demonstrating lawful disposal of waste will be retained and kept readily accessible for inspection by regulatory authorities such as council, OEH or WorkCover NSW.	
Contact Name	
Signature	
Date	
Rev	

1 Introduction

1.1 Overview

This Waste Management Plan (WMP) has been prepared on behalf of Deicorp Pty Ltd.

Development consent is sought for a mixed-use development comprising of student housing and associated common areas.

The proposed development will be consistent with the guiding waste management principles of:

- Reduce;
- Reuse;
- Recycle.

2 Council Requirements

2.1 Council DCP

This WMP has been prepared having regard for the specific waste management objectives of the City of Sydney Council DCP, which for new developments are:

- Reduce the amount of construction and demolition waste going to landfill.
- Reduce amount of waste generated in the operation of a development from going to landfill.
- Ensure waste from within developments can be collected and disposed in a manner that is healthy, efficient, minimises disruption to amenity, and is conducive to the overall minimisation of waste generated.

And the 2005, "Policy for Waste Minimisation in New Development" whose objectives are:

- To avoid waste through design and ordering correct material quantities
- To encourage improved environmental outcomes through increased source separation of materials
- To ensure more efficient management of waste and recyclable materials.
- To maximise reuse and recycling of building construction materials, household generated waste and industrial commercial waste.

3 Demolition

Table 1: Demolition waste generation.

TYPE OF WASTE GENERATED	REUSE	RECYCLE	DISPOSAL	COMMENT
	Estimate Volume (m³)	**Estimate Volume (m³)**	**Estimate Volume (m³)**	**Specify method of on-site reuse, contractor and recycling outlet and/or waste depot to be used**
Excavation material	NA	NA	NA	No waste will be generated. Refer to construction table.
Timber (Side façade / dressed)	NA	NA	NA	Transferred to waste management facility or recycling facility.
Gyprock / Cladding	NA	NA	NA	Transferred to waste management facility or recycling facility.
Concrete	NA	NA	300m³	Any concrete waste will be crushed and transported to other construction sites.
Masonry (Hebel Block/Fibre cement sheeting/ Pavers / bricks / stone)	NA	50m³	NA	Transferred to waste management facility or recycling facility.
Tiles (roof)	NA	NA	NA	Transferred to waste management facility or recycling facility.
Metal (roofing / framing / rebar)	NA	3m³	NA	Transferred to waste management facility or recycling facility.
Glass	NA	NA	1m³	Transferred to waste management facility or recycling facility.
Furniture	NA	NA	NA	Furniture will be removed prior to demolition.
Fixtures / Fittings	NA	NA	5m³	Transferred to waste management facility or recycling facility.
Floor coverings	NA	NA	NA	Transferred to waste management facility or recycling facility.
Packaging (used pallets / pallet wrap)	NA	NA	NA	No packaging will be used during the demolition.
Garden organics	20m³	NA	NA	Reused as mulch.
Containers (cans / plastic / glass)	NA	NA	2m³	Transferred to waste management facility or recycling facility.
Paper / cardboard	NA	2m³	NA	No paper will result from the demolition.
Residual waste	NA	NA	2.5m³	Transferred to a Council Waste Management Facility.
Hazardous / special waste (specify)	NA	NA	NA	Should any asbestos be found on the site it will be removed and disposed of by a qualified demolition removalist in accordance with the relevant standards.
Other -Asphalt	NA	NA	300m³	Transferred to a Council Waste Management Facility.

4 Construction

Table 2: Construction waste generation.

TYPE OF WASTE GENERATED	REUSE	RECYCLE	DISPOSAL	COMMENT
	Estimate Volume (m³)	**Estimate Volume (m³)**	**Estimate Volume (m³)**	**Specify method of on-site reuse, contractor and recycling outlet and/or waste depot to be used**
Excavation material	10000m³	NA	NA	Excavated materials will be reused as fill on other developments; or on-site.
Timber (Side façade / dressed)	20m³	20m³	NA	Transferred to waste management facility or recycling facility.
Gyprock / Cladding	NA	64m³	NA	Transferred to waste management facility or recycling facility.
Concrete	7m³	NA	1m³	Any excess concrete will be retained in the truck and used elsewhere.
Masonry (Hebel Block/Fibre cement sheeting/ Pavers)	NA	100m³	NA	Transferred to waste management facility or recycling facility.
Tiles (roof)	NA	NA	NA	Transferred to waste management facility or recycling facility.
Metal (roofing / framing / façade)	NA	70m³	NA	Transferred to waste management facility or recycling facility.
Glass	NA	NA	1m³	All glass will be made to order
Furniture	NA	NA	NA	Not at this stage.
Fixtures / fittings	NA	15m³	10m³	Fixtures will be made to order.
Floor coverings	NA	60m³	40m³	Transferred to waste management facility or recycling facility.
Packaging (used pallets / pallet wrap)	NA	NA	70m³	Pallets will be transferred to a Material Recovery Facility. Wrap and packaging will be a transferred to Councils Waste Management Facility.
Garden organics	5m³	NA	NA	Organics will be ordered to size in accordance with the quantity survey.
Containers (cans / plastic / glass)	NA	20m³	15m³	Containers will be a transferred to Councils Waste Management Facility.
Paper / cardboard	NA	30m³	6m³	Transferred to waste management facility or recycling facility.
Residual waste	NA	16m³	20m³	Residual waste will be transferred to Councils Waste Management Facility.
Hazardous / special waste (specify)	NA	NA	NA	No hazardous materials will be utilised in the construction.
Other	NA	NA	NA	NA

Table 6: Construction waste reduction measures.

CONSTRUCTION DESIGN
The following outline waste avoidance measures. • All fixtures and fittings will be made to measure; • All materials will be ordered in accordance with a bill of quantities; • Recycled materials will be utilised where ever possible; • Measures will be taken to ensure the demolition contractor appropriately disposes of waste and where possible recycles materials; and • Measures will be taken to ensure the construction contractor is aware of the waste management procedures and adheres to appropriate guidelines.

5 Plans and Drawings

The following checklists are designed to help ensure WMP are accompanied by sufficient information to allow assessment of the application.

Drawings are to be submitted to scale, clearly indicating the location of and provisions for the storage and collection of waste and recyclables during:

- Demolition;
- Construction; and
-

Table 8: Waste operation indicated on plans.

DEMOLITION	TICK YES
Size and location(s) of waste storage area(s)	
Access for waste collection vehicles	
Areas to be excavated	
Types and numbers of storage bins likely to be required	
Signage required to facilitate correct use of storage facilities	
CONSTRUCTION	**TICK YES**
Size and location(s) of waste storage area(s)	
Access for waste collection vehicles	
Areas to be excavated	
Types and numbers of storage bins likely to be required	
Signage required to facilitate correct use of storage facilities	
ON-GOING OPERATION	**TICK YES**
Space	
Size and location of waste storage areas	
Recycling bins placed next to residual waste bins	
Space provided for access to and the manoeuvring of bins	
Any additional facilities	
Access	
Access route(s) to deposit waste in storage room/area	
Access route(s) to collect waste from storage room/area	
Bin carting grade not to exceed 10% and travel distance no greater than 100m	
Location of final collection point	
Clearance, geometric design and strength of internal access driveways and roads	
Direction of traffic flow for internal access driveways and roads	
Amenity	
Aesthetic design of waste storage areas, including being compatible with the main building/s and adequately screened and visually unobtrusive from the street	
Signage – type and location	
Construction details of storage rooms/areas (including floor, walls, doors, ceiling design, sewer connection, lighting, ventilation, security, wash down provisions, cross & longitudinal section showing clear internal dimensions between engaged piers and other obstructions, etc)	

*Details provided at construction certificate stage.

Refer to the architectural plans for further detail.

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Annexure H Demolition Methodology

ACE Demolitions and Excavations Demolition Methodology for 77 to 89 Eveleigh St

ACE DEMOLITION & EXCAVATION PTY LTD
PO Box 63, Auburn NSW 2144
Ph: 9644 5596 Fax: 9644 5595 A.B.N: 15 107 709 151

DEMOLITION WORK PLAN

PROJECT TITLE: **Pemulwuy Precinct 3**
77 - 89 Eveleigh Street
Redfern NSW 2016

DA NO.:

JOB NO.:

REVISION NO.: 1

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Section 2 – Site Specific Safety Management Plan

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Safety Data Sheets	

Development

Separable Portion No. 1
Pemulwuy Precinct 3 | 77 - 89 Eveleigh Street, Redfern NSW 2016

SECTION 1 - PROGRAM

1. Program

1.1. The Demolition Package for Separable Portion No. 1, demolition of 77 – 89 Eveleigh Street, Redfern and removal of trees along the Railcorp boundary. This package includes Site Establishment, Preliminaries and Bulk Demolition of the existing 2 storey concrete building which has been stripped down to the existing concrete structure. All content for remaining SOW including all other portions will be contained in DWP – Precincts 1 & 2.

As part of the Demolition Package the following activities will take place as noted:-

Demolition

- General Conditions
- Deicorp to make application to council to modify existing DA Conditions regarding noise and permitted operations. A Jack Hammer and Road Saw are requested to be approved for use.
- Preliminaries [WorkCover Work Permits, Council Permits, etc.]
- Protection, Scaffold supply and erection
- Establishment
    - Traffic Control including set out
    - Sedimentation and Dust Controls.
    - Signage Requirements
    - Plant, equipment and personnel
- Site Investigation
    - Disconnection, Relocation or Isolation of Services
- ACM Removal from building per the client's Hazmat Report, including Clearance Certification issued on completion
- Internal Strip out of structure will not be required as the building has previously been stripped down.
- Manual and mechanical demolition of the existing structure and surroundings including all slabs, internal and external walls.
- Site Clearance including strip and remove all landscape debris and trees.
- Implementation of Unexpected Finds Protocol for potential hazardous finds underneath removed slabs or potential hazardous finds contained in previously obstructed / non-visible areas of the structure.

2. Construction Timetable

Deicorp will provide a submission to Railcorp for approval prior to works commencing. The scheduled commencement is pending this process.

3. "No Work" Day Calender

Calendar Schedule 2017: -

Monday February 27	RDO (flexible)
Monday March 27	RDO (flexible)
Friday April 14	No Work Public Holiday
Saturday April 15	No Work Saturday
Sunday April 16	No Work Sunday
Monday April 17	No Work Public Holiday
Monday April 24	RDO (fixed)
Tuesday April 25	No Work Public Holiday
Monday May 22	RDO (flexible)
Saturday June 10	No Work Saturday
Sunday June 11	No Work Sunday
Monday June 12	No Work Public Holiday
Tuesday June 13	RDO (fixed)
Monday July 17	RDO (flexible)
Monday August 14	RDO (flexible)
Monday September 11	RDO (flexible)
Saturday September 30	No Work Saturday
Sunday October 1	No Work Sunday
Monday October 2	No Work Public Holiday
Tuesday October 3	RDO (fixed)
Monday November 6	RDO (flexible)
Saturday December 2	No Work Saturday
Sunday December 3	No Work Sunday
Monday December 4	No Work — Industry Picnic Day
Tuesday December 5	RDO (fixed)
Saturday December 23	No Work Saturday
Sunday December 24	No Work Sunday
Monday December 25	Christmas Day
Tuesday December 26	No Work Public Holiday
Wed December 27	RDO (fixed)

4. Preliminaries

4.1. Site Establishment

4.1.1. This DWP has been prepared at the client's request based on the documentation provided to date. It is a working document which complies with all relevant codes of practice and Australian Standards. The DWP and supplementary documentation are working documents and will be amended on site by the relevant parties as and when site conditions require.

4.1.2. Notification of Intention to Commence Non-Friable Asbestos Removal Works will be given to the regulator. Subsequently issued Non-Friable Asbestos Removal Permit will be attached to this DWP as Annexure C (ARMP).

4.1.3. Notification of Intention to Commence Demolition Works will be given to the regulator. Subsequently issued Demolition Permit will be attached to this DWP as Annexure B.

4.1.4. Consultation with stakeholders have and will commence prior to site establishment and will continue throughout the project.

4.1.5. The following References, Authorities and / or Permits have been identified for these works:

4.1.5.1. Client's Authority to Work – Structural Demolition including the conditions of SOP - Demolition

4.1.5.2. Client's SOW for the Demolition Package

4.1.5.3. Asbestos Removal Management Plan

4.1.5.4. SafeWork NSW Asbestos Removal Permit as mentioned above (for ACMs finds in building).

4.1.5.5. SafeWork NSW Demolition Permit as mentioned above.

4.1.6. Temporary toilets will be provided during all stages of the works.

4.1.7. Area for storage of equipment and materials will also be established.

5. General Conditions – Australian Standard 2601

5.1. GENERAL PRECAUTIONS (AS2601)

5.1.1. Supervision

At all times demolition work shall be supervised by a competent person.

5.1.2. Stability of the structure

The structures to be demolished and all of its components shall be maintained in a stable and safe condition at all stages of the demolition work. Temporary bracing, guys, shoring, or any combination of these, shall be added for stability where necessary. Slabs and beams, which are either pre-tensioned, or post-tensioned with fully grouted tendons, may be demolished as for reinforced members. Tilt-up panels, post-tensioned slabs and beams in which the tendons are ungrouted, or only partially grouted, shall not be demolished without prior written direction from an engineer conversant with this type of construction. Considerable care needs to be exercised to avoid cutting a prestressed tendon that is ungrouted or only partially grouted.

5.1.3. Loading on floors

Suspended floors and their supporting members shall not be loaded by machinery, or by falling or accumulated rubble or debris, to the extent that there is excessive deflection, permanent deformation, or danger of collapse.

Prior to any live loading on any of the slab levels an Engineer's Certificate will be obtained which confirms the acceptable size of the Excavator and any maximum dead load weight.

5.1.4. Loading against walls

Walls shall not be laterally loaded by accumulated rubble or debris, to the extent that they are in danger of collapse.

5.1.5. Protection of openings

Openings in existing walls and floors, through which there is a risk of persons falling to a lower level, shall be either properly guarded or boarded over and the boarding secured against unauthorized or accidental removal.

5.1.6. Glass

Precautions shall be taken to prevent glass from falling onto persons in or outside the building.

5.1.7. Weather

Precautions shall be taken to ensure that the stability of all parts of the structure, and the safety of persons on and outside the site, will be maintained in the event of sudden and severe weather changes. Severe weather changes refer to the localized high winds that often accompany rapidly moving cold fronts, as well as tropical cyclones. In these circumstances inadequately braced walls and columns may be blown over and loose debris can become airborne, particularly if it is in sheet form. The wind forces can be calculated in accordance with AS 1170.2 for the design of bracing or restraint systems.

5.1.8. Site access

The site shall be secured at all times against the unauthorized entry of persons or vehicles. Provision shall be made for ready access to the site by emergency services personnel, in the event of fire or accident.

5.1.9. Access within the structure

At least one access and egress route, connecting all undemolished floors to the nearest street and clearly marked, shall be provided as an emergency exit. The marked route shall be kept free of accumulations of demolished materials at all times and provision shall be made for illuminating the entire route in the event of an emergency.

5.1.10. Live services

Services within a demolition site required to be maintained during the demolition shall be protected and made safe.

5.1.11. Disconnected services

Services within the structure not required to be maintained during the demolition work shall be properly disconnected and sealed before any stripping or demolition commences.

Prior to demolition works to the buildings a Certificate confirming disconnection shall be provided.

5.1.12. Damaged or Ruinous Buildings

Appropriate safety precautions shall be taken during the assessment and demolition of buildings that have been identified as being fire damaged, ruinous or otherwise dangerous.

5.2. REMOVAL OF HAZARDOUS SUBSTANCES

5.2.1. General

Removal of hazardous substances shall be carried out only by competent persons, or competent and registered persons if so required prior to the start of any demolition or stripping work

5.2.2. Removal of asbestos

Removal of asbestos or materials containing asbestos fibre shall be in accordance with the NOHSC (WorkSafe Australia), Code of practice for the safe removal of asbestos.

These works will be done prior to the commencement of any demolition works.

Bonded Asbestos and asbestos impacted soil removal are all applicable to these works, as well as an unexpected finds protocol in place in the event any additional asbestos finds occur on site during the works.

5.2.3. Removal of other materials

Precautions to be observed, and procedures to be adopted during the removal of hazardous substances, shall be in accordance with the relevant State or Territory regulations appertaining to those materials.

5.3. SEQUENTIAL METHODS

5.3.1. General

5.3.1.1. Sequence of demolition

Generally, structures shall be demolished in the reverse order to that of their construction. The order of demolition for

buildings shall be progressive, storey by storey (where structure(s) are multi-storey), having proper regard to the type of construction, and retaining the stability of the structure

5.3.1.2. Removal of demolished materials

Demolished material shall not be allowed to fall freely outside the structure, unless it is confined within a chute or similar enclosure. Demolished material shall not be allowed to fall freely within a structure, unless it is confined within a shaft, similar enclosure, or demolition zone / Drop Zone.

Drop Zones will be at least 10m and will be physically barricaded with barricades. Further signage and warning tape will also be installed.

Demolished material shall be removed progressively from the site and, at any time, shall not be allowed to accumulate to the extent that it presents a hazard to the public or to site personnel.

5.3.1.3. Cutting and lowering of large members

If necessary to suit the capacity of the available hoisting equipment, large members shall be cut into smaller sized portions before lowering. Whole or large portions of members shall be lowered in a controlled manner so that there is no likelihood of them falling freely.
Wherever possible, a crane or similar lifting device, shall be used to support beams or columns while they are being separated from the remainder of the structure.

NOTE: Where appropriate, sample pieces of members should be cut and test-weighed and the weight per unit length, or weight per unit area, of a member determined. This will provide a guide to the maximum length or area that can be safely handled by the available equipment.

5.4. MANUAL DEMOLITION

Personnel shall be permitted to work only from a safe work area or from a safe access system. Where concrete members are being demolished manually, the reinforcement shall not be cut while breaking out of the concrete is in progress.

During the progressive removal of individual rafters or trusses from a pitched roof, sufficient purlins and bracing shall be retained to ensure stability of the remaining roof rafters or trusses. Where necessary to maintain stability, temporary bracing shall be added. Particular care shall be taken to provide safety measures against personnel falling through or off the roof.

5.5. MECHANICAL DEMOLITION

5.5.1. By load-shifting equipment

Where demolition is carried out by load-shifting equipment operating from ground level, Clause 1.5 shall apply. In addition, care shall be taken to minimize the risk of the equipment tilting by ensuring that it is operated from firm, stable ground.

5.5.2. On suspended floors

Load-shifting equipment, and the like, shall not be operated on a suspended floor unless —

- the type, size, weight and usage of the particular piece of equipment has been specified in the work plan;
- it has been demonstrated by calculations based on principles of structural engineering that the floor is capable of sustaining the static and operating load of the equipment including attachments plus demolished materials, without excessive deformation or collapse, either without additional support from below; or
- where it is determined for propping to be applied from below, props used for supports shall be structurally sound and in an operational condition, braced, in each storey, in two directions approximately at right angles to one another, spaced and arranged so that the loads they transmit do not exceed their manufacturer's specified rating; or
- it is moved between suspended floor slabs by appropriate hoist equipment; or a fabricated ramp designed by a practicing structural engineer, detailed and certified in the work plan and supported by the principles of structural engineering.
- Effective communication shall be maintained between the equipment operator and the demolition supervisor while the equipment is operating. Where a particular piece of equipment

has been specified in the work plan, another piece of equipment of the same type and usage may be substituted for it, provided that the substituted equipment is neither larger nor heavier than the specified equipment.

NOTE: Load–shifting equipment should, as far as practicable, be located on a beam. Skid steer loaders using a breaker may not be appropriate to be used on suspended floors with their limited reach.

6. Site Specific Content

Scope of Work and Sequence of Work Operations

6.1. Disconnect and cap services to Buildings

Deicorp to engage an appropriately licenced electrical contractor to disconnect services to the building prior to commencement of any demolition works. An Electrician's Certificate confirming disconnection will be required.

Connection for Water Services will be retained for use throughout the project, specifically for use during demolition and earthworks as a dust mitigation strategy.

HOLD POINT – no works to proceed until Disconnection Certificate provided confirming no live services in building.

6.2. Removal of Hazardous Materials

Hazardous building materials should be removed prior to any significant disturbance including from manual strip out works and demolition work.

Hazardous building components containing asbestos, SMF, lead or other materials identified during the visual inspection and / or in the Asbestos Materials Survey Reports, will be removed and disposed of by a Licenced Contractor as required in accordance with current regulations and practice using licensed asbestos removal personnel. The material identified in Hazmat Report comprises bonded classes of asbestos.

Detailed, site specific documentation for submission to client include: -

- Asbestos Removal Management Plan
  - Unexpected Finds Protocol
  - WorkCover Asbestos Licence
  - WorkCover Asbestos Permit
  - SWMS No. 1 – Bonded ACM Removal

- All ACM Removal Works will be in accordance with the above-mentioned documentation and will generally include for the following items: -

6.2.1. Preparation

- Prior to the commencement of the removal of asbestos at the site a WorkCover Notification must be sent to WorkCover NSW and a Safe Work Method Statement will be prepared for the proposed asbestos removal work.
- The majority of removal works cannot be contained within buildings as they apply to internal areas of the building.
- Prepare a restricted access / 10 – 15m Exclusion Zone
- Install asbestos warning signage at prominent points
- Erect isolation fence around the working area using barrier tape
- All persons engaged in the work and/or entering the work area, are to wear disposable coveralls and a half face Class P2 respirator.
- Persons engaged in the work are to have completed formal training in asbestos removal work and are to be supervised by a person who has completed an asbestos removal supervisor's course.
- The Supervisor will also be a Registered Competent Supervisor on the current WorkCover NSW Database.
- A decontamination area is to be located at the entry to the asbestos removal area at the site. All persons entering an asbestos removal work area are to change into and out of their asbestos PPE in the decontamination and change area.
- Provide for all required safety equipment and asbestos PPE including (but not limited to);
  - Asbestos Warning Tape – as above the tape will serve to delineate the required exclusion zone. It provides a visual warning and physical barrier of the restricted area.
  - Signage – signage will be supplied and erected around the exclusion zone and specifically on building entry points to alleviate unauthorised and / or accidental entry during internal removal works.
  - 200um Plastic Bags – will be utilized to avoid ACMs tearing the plastic

- 200um Plastic Sheets – will also be utilized to avoid ACMs tearing the plastic. Sheets will be used to line bins and truck bins and as a load cover on departing trucks. Sheets will also be used in place of bags where the ACMs are larger in size so the ACM can be removed in-tact, without breakage as per the current regulation. ACMs will be enclosed in the plastic sheets and will be appropriately sealed. Bulky and / or oversized parcels will require team lifting as per Manual Handling requirements.
- Industrial Strength Tape – will be utilized to seal all plastic bags and sheets. Industrial quality tape will ensure that all ACMs remain contained and will not be exposed during periods of handling and loading.
- Water-fed device – a hand held hose or other water spray device to be supplied and used for wetting down ACMs prior to their removal. Water spraying will wet the ACM encapsulating potential particles and preventing them from becoming airborne.
- Coveralls – disposable overalls worn during the asbestos removal works that will be removed when exiting the exclusion zone. Coveralls and other disposable PPE items will be bagged in 200um plastic bags and will be disposed of as asbestos waste.
- Half-face Class P2 Respirator – breathing apparatus is a compulsory PPE item. Dispose of when leaving the exclusion zone in the area provided.
- Gloves – to prevent skin contact and is also a compulsory PPE item. Dispose of when leaving the exclusion zone in the area provided.

- The transport of the asbestos waste is to be undertaken in covered leak proof vehicles and is to be disposed of at a landfill site that can lawfully receive this waste in accordance with 'Section 42 – Special Requirements Relating to Asbestos Waste' as detailed in the Protection of the Environment Operations (Waste) Regulation 2005
- EPA Licenced transporters only – place the vehicles adjoining the target areas and line bins
- Due to the requirement to hand load asbestos bags, provide access to the truck body or bin where the fall potential is in excess of 1.2m

6.2.2. Removal Works | Per EI Australia Hazardous Building Materials Survey (Report E23309 AB_Rev0)

Hazardous building materials including asbestos, synthetic mineral fibre (SMF), lead dust and polychlorinated biphenyls (PCBs) were identified or assumed present during the survey as outlined in Appendix A of the Hazmat Report.

Limited or no access was available to certain areas of the site. Inaccessible areas should be assumed to contain hazardous building materials as a precaution until inspection and assessment of these areas by a Competent Person confirms otherwise.

- Please note that a detailed Site Specific SWMS and Asbestos Removal Control Plan has been provided to the client and has been subsequently approved by the client prior to any site establishment.
- SWMS No. 1 is both detailed and site specific and should be the referenced documentation when performing ACM Removal, however they will generally include for the following items: -
- The 'Wet removal method' will be adopted for these works
- In accordance with the National Code of Practice for the Safe Removal of Asbestos NOHSC2002 (2005), all hazardous materials will be removed by hand with all care taken to prevent breakage of ACMs. Labourers and other personnel within exclusion zone to hold minimum competency 'Bonded Asbestos Removal Ticket'.
- Using a hand held hose or other suitable water-fed device, thoroughly wet down the ACM (where practical), prior to removal, alternatively mist / spray with a hand held water spray.
- In the event any PCBs or lead paint contamination are found any PCBs and/or lead paint affected materials will be encapsulated in a glue based spray as opposed to a water spray.
- Asbestos Labourer to remove the ACM in-tact, by hand and deposit directly into 200um plastic bag and/or wrap in 200um plastic. Continue to remove ACMs until all visible ACMs have been collected. For asbestos eves / roof sheeting and other work areas at heights, use a mobile scaffold or other suitable EWP to access the area.
- Where evident, any localised asbestos debris in soil will be thoroughly wetted down with water before being sparrow-picked by hand and deposited directly into 200um plastic bags. Heavily contaminated soil will be mechanically excavated with soil scrapping every 50 – 100mm.

- Asbestos Labourer to seal the 200um plastic bag and/or plastic sheet with industrial strength tape to avoid opening.
- Hand-load the bags directly onto truck bin to avoid bags ripping.
- Transportation in leak-proof vehicles authorized to transport hazardous waste. Cover all loads prior to departing the site. All collection, handling, storage, transportation and disposal to be in strict accordance to Clause 29 of the Protection of the Environment Operations (Waste) Regulation 1996.
- Tipping documentation to be made available to client for submission to Council and / or PCA as evidence of proper disposal at a licensed landfill, if specified in DA Conditions of Consent.

6.2.3. Disposal

There will be no waste sorting and / or recycling of ACMs (asbestos containing materials) on this site. The following disposal methods will be adopted for the waste stream ACM:

- ACM waste will be placed directly into 200um plastic bags / lined bins and then hand loaded onto a truck bin and covered prior to transportation
- PPE consumables including disposable coveralls and gloves will also be disposed of as asbestos waste.
- All ACMs, Lead Paint and PCBs removed from site will be disposed of in accordance with EPA regulations at an approved and licenced facility
- At this stage the company nominates Veolia Environmental Services as a disposal site. The company / address details for these facilities are as follows:

  Veolia Environmental Services
  Horsley Park Waste
  716 – 752 Wallgrove Road
  Horsley Park NSW 2175
  P. 9620 1944 | F. 9620 2867

▶ HOLD POINT – no works to proceed until a Competent Person has provided a Clearance Certificate confirming ACM removal complete.

6.3. Tree Protection

There is no requirement to protect any trees contained within the site boundary.

6.4. Demolish existing structure complete

6.4.1. Protection and Hoarding / Scaffolding Erection

The existing chain wire enclosure will be utilized as perimeter fencing.

The North / East corner adjoining property boundary of 91 Eveleigh will be supplied with custom built protective devices made to fit to the existing solar paneling.

Demolition Scaffolding combined with chain wire and shade cloth will be supplied and erected to the site boundary: -

- Northern boundary along adjoining property boundary (except for the North/East corner as mentioned above)

Demolition Scaffolding combined with A Class Hoarding will be supplied and erected to the site boundary: -

- Western boundary along Eveleigh Street frontage

A Vertical Demolition Screen will be mounted on the rail side of the Rear Railcorp Boundary Wall as a protection device to ensure debris cannot fall freely on the Railway Tracks, Cable Tray or Overhead Transmission Lines. The screen will be a modular type to enable progressive removal in panels in conjunction with the demolition of the wall. When mounted the screen will project approximately 300 – 400ml and will be enclosed on the rear panel.

Deicorp will provide protection to the Railcorp Cable Tray and will arrange for the tiger tailing of all overhead Ausgrid electrical wires.

Following removal of the rear Railcorp Boundary Wall a fence will be erected on top of the footings as protection to the rail corridor for the remainder of the demolition.

▶ HOLD POINT – no works to proceed until the client has provided Hoarding/Scaffold Certificates.

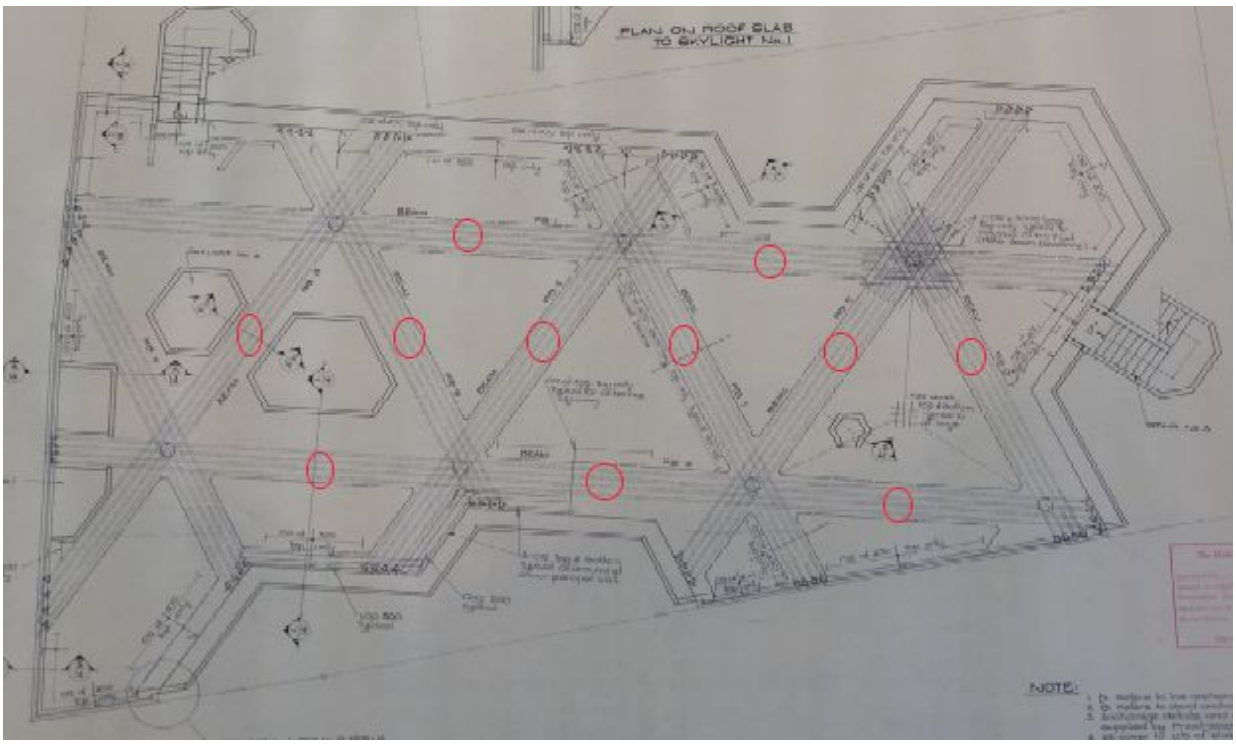
6.4.2. Propping

i. Per Appendix E Shore Hire Propping Plan – the Roof Slab will be propped using Acrow Props to facilitate live loading and demolition processes.
ii. Per Appendix E Shore Hire Propping Plan – the First Floor Slab will be propped using Acrow Props to facilitate live loading and demolition processes.
iii. Per Appendix E Shore Hire Propping Plan – the rear Railcorp Boundary Wall will be propped using tilt props to ensure the wall is structurally sound and not undermined throughout the demolition process.

6.4.3. Post Tensioned Cable Investigation

i. The Roof Slab is Post-tensioned therefore we will investigate to ensure the cables are grouted.
ii. Cut penetration in slab as marked out below and inspect.

Mark up for Penetration Locations for Grout Investigation



6.4.4. Structure Demolition of 77 – 89 Eveleigh St, Redfern

Demolition Works – Multi level standalone concrete structure previously stripped back to concrete roof, external and internal walls, concrete slab flooring and stair wells.

⇨ **All works in accordance to the current regulations, codes and standards. SWMS No 2 to be submitted to the client for the demolition works.**

Staging Plan

Stage 1	Demolition Sequence 1 – 9 per plan Roof Slab Sawcut slab to disconnect from boundary wall Demolish in 1500mm rows from Stair No. 1 to Northern boundary	Grid 1
Stage 2	Rear Railcorp Boundary Wall First Floor Brick courses by hand	Grid 1
Stage 3	Demolition Sequence 1 – 9 (repeated) per plan First Floor Demolish in 1500mm rows from Stair No. 1 to Northern boundary	Grid 1
Stage 4	Rear Railcorp Boundary Wall Ground Floor Brick courses by hand	Grid 1
Stage **5**	Pulverize Roof Slab First Floor Columns First Floor Slab 30 – 40T Excavator on Ground	Grid 2
Stage **6**	Pulverize Roof Slab First Floor Columns First Floor Slab 30 – 40T Excavator on Ground	Grid 3
Stage 7	Ground Slab	Grid 2 – 3
Stage 8	Trees to Railcorp Boundary	Boundary

See marked up Staging Plans attached as Appendix F

- ⇲ The building has been assessed as being structurally adequate to handle mechanical demolition methods.
- ⇲ Labourers using a hand held concrete saw to complete two cuts to separate slab structure from rear Railcorp boundary wall.
- ⇲ Drop slab in 1m sections to lower floors and extract debris.
- ⇲ Establish 5T Excavator on Roof Slab by crane.
- ⇲ Demolish Grid 1 in 1500mm rows commencing from Stair No. 1 to the northern end (right to left).
- ⇲ Travel to Southern stair end and complete 1500mm rows 1 – 6.
- ⇲ Per engineer, leapfrog props.
- ⇲ Excavator and demolition direction to remain per plan to coincide with prop locations.
- ⇲ Labourers to demolish rear Railcorp boundary wall in First Floor by hand. Remove each brick and brick course by hand to slab level.
- ⇲ Establish 5T Excavator to First Floor and repeat 1500mm rows to demolish First Floor Slab to entire Grid 1 as per plan.
- ⇲ Travel to Southern stair end and complete 1500mm rows 1 – 6.
- ⇲ Excavator and demolition direction to remain per plan to coincide with prop locations.
- ⇲ Per engineer, leapfrog props.
- ⇲ Labourers to demolish rear Railcorp boundary wall in Ground Floor by hand. Remove each brick and brick course by hand to slab level.
- ⇲ Loadshifting Operator is to demolish all remaining structure mechanically using Excavator situated from the ground outside of the building envelope.
- ⇲ Commencing with Grid 2 pulverize the concrete demolishing the roof slab, first floor columns, first floor slab concurrently moving through the building as per the marked up plan.
- ⇲ Continue process onto Grid 3 pulverize the concrete demolishing the roof slab, first floor columns, first floor slab concurrently moving through the building as per the marked up plan.
- ⇲ Demolish ground slabs to Grid 2 and 3.
- ⇲ Per the marked up SOW trees along the Railcorp boundary are to be removed.

6.5. TECHNIQUES AND METHODS OF DEMOLITION TO BE ADOPTED

6.5.1. Manual Demolition

These works will require a combination of both manual and mechanical methods of demolition.

Personnel shall be permitted to work only from a safe work area or from a safe access system. Where concrete members are being demolished manually, the reinforcement shall not be cut while breaking out of the concrete is in progress.

6.5.2. Mechanical Demolition

This structure has been assessed as being capable of handling mechanical demolition methods. The site layout provides for establishment of Loadshifting Machinery to be safely situated outside of the building envelope. We will be establishing a 30 - 40T Excavator in the south western corner on the existing hardstand area for mechanical demolition to building.

At this stage live loading on any building slab will only be relevant to Grid 1 Roof Slab and First Floor Slabs. Engineer approval has been provided for live loading and will follow the Engineer's Plan for sequencing and directional instructions to coincide with the propping plan.

Effective communication shall be maintained between the equipment operator and the demolition supervisor while the equipment is operating. Where a particular piece of equipment has been specified in the work plan, another piece of equipment of the same type and usage may be substituted for it, provided that the substituted equipment is neither larger nor heavier than the specified equipment.

6.6. PLANT AND EQUIPMENT

Plant items identified for the demolition works include: -

- 30 – 40T Excavator w/ Hammer, Bucket, Grab & Pulveriser Attachments
- 5T Yanmar Excavator

Equipment items identified for the demolition works include: -

- Drill
- Concrete Saw
- Kanga Hammer
- Grinder
- Oxy Set
- Demolition Pinch Bars, Sledge Hammers, etc.

6.7. MANAGEMENT OF VIBRATION, NOISE & DUST

To mitigate vibration, noise and dust we will utilize the strategies set out below: -

- Perimeter scaffolding combined with chain wire and shade cloth will mitigate dust to surrounding areas.
- Stockpiled debris are to be covered or dampened when moving.
- All work faces will be hosed down to control dust. We acknowledge that dust control will be closely monitored and will ensure all resources and materials necessary to control dust are provided.
- Noise and vibration emissions are expected to be minor due to our selection and use of new acquired plant. These plant items are new model machinery, regularly serviced and maintained and are therefore in good working order.
- Operators will operate plant in slow controlled motions and will ensure that sudden turns and abrupt operations which cause vibrations do not occur.
- Noise and Vibration is to be managed in accordance with the site requirements. If required by the client, monitors will be installed and monitored and any occurrences will be dealt with on site with the relevant parties.

6.8. LIGHTING / VENTILATION

Works to buildings will not require lighting of any kind as there is ample natural light.

6.9. PROPOSED ACCESS / EGRESS TO THE DEMOLITION SITE

Existing access and egress to the worksite will be utilized for these demolition works.

All access and egress routes will be kept clear of debris, rubbish, plant and equipment at all times. At no time will any point of exit be blocked.

6.10. PRECISE DETAILS OF ANY PRE-WEAKENING OF THE STRUCTURE

Not applicable.

6.11. NATURE, EXTENT AND LOCATION OF PUBLIC PROTECTION REQUIRED (EG. FENCING, HOARDING, ETC.)

All scaffolding requirements will be installed as part of our establishment.

Specific controls for the work areas will apply due to the plant movements. These will be in place for worker protection and will include: -

- Plant travel routes marked up
- Stockpile site marked up
- Exclusion Zone around mechanical demolition works will apply

6.12. TYPE AND LOCATION OF BRACING AND SHORING TO BE USED

- Propping Plan per Drawing Number 100 attached as Annexure E (slab and wall propping).

6.13. ISOLATION / DISCONNECTION OF SERVICES

All required isolation and/or disconnection of services to the buildings be completed by the client. No additional requirement exists.

6.14. METHOD OF HANDLING AND DISPOSING DEMOLISHED MATERIALS

Demolished material shall not be allowed to fall freely outside (or inside) the structure.

Demolished material shall be removed progressively from the site and, at any time, shall not be allowed to accumulate to the extent that it presents a hazard to the public or to site personnel.

Demolition debris will be progressively removed to a stockpile area and will be loaded onto construction trucks for removal offsite.

Nothing is to be retained and we have allowed for the correct disposal of all waste streams.

6.15. METHOD OF HANDLING AND DISPOSING CONTAMINATED MATERIALS

Refer to the ACM sections above, the Asbestos Removal Management Plan and the Unexpected Finds Protocol.

6.16. PPE / RPE REQUIREMENTS FOR PERSONNEL

Refer to the task specific SWMS for additional information.

6.17. EMERGENCY PLANNING

All Emergency Plans per the principal Deicorp.

All personnel must attend the PCs Site Induction where Emergency Plans such as First Aid and Evacuation will be delivered. Location of Emergency Wall Charts and Evacuation Point will also be made available at the Site Induction.

All Emergency Planning per the Principal Contractor.

6.18. CERTIFICATION BY SPECIALIST PERSONNEL

Should unexpected ACM finds be encountered, this DWP therefore notes the requirement of a competent person to undertake clearance certification prior to any structural demolition commencing.

We therefore note our engagement of Phil Clifton & Associates Pty Ltd as our competent person for the provision of Asbestos Clearance Certificate to clear buildings on completion of ACM removal.

6.19. QUALIFICATIONS / CERTIFICATION OF DEMOLITION PERSONNEL

ACE will appoint a Designated Officer for the Supervision of these works. The D.O will hold, as a minimum competency, a registration with WorkCover NSW as a Nominated Competent Person and will hold a Demolition Supervision competency.

ACE nominates Mr Hamzeh Allam as the nominated competent person to supervise all works in relation to asbestos removal and demolition.

Demolition workers will hold various competencies including: -

- Asbestos Removal Tickets
- Safe Work at Heights for works at a height
- Manual Handling
- Plant Competencies (RTO issued VOCs) for the operation of:
    - Excavators

6.20. REGULATORY AUTHORITY REQUIREMENTS OR NOTIFICATIONS

Notification of Intention to Commence Demolition and Asbestos Removal Works will be given to the regulator a minimum of five days prior to the expected commencement date. SafeWork NSW are to issue Permits for Demolition and Asbestos. (Permits attached to DWP as noted Annexures).

7. Communication

This communication plan outlines the communication activities and key messages that are designed to achieve best practice in delivering the project.

7.1. ACE Project Contacts

Personnel	Position	Primary Contact	Fax Number	Email Address	Postal Address
Sami Allam	Director	0414 424 884	9644 5595	sami@acedemolition.com.au	PO Box 63 Auburn NSW 2144
Munaf Al Sarray	Contracts Manager	0420 280 480		munaf@acedemolition.com.au	
Hamzeh Allam	Site Supervisor / DO	0404 859 702		hamzeh@acedemolition.com.au	
Nicole Anthony	WHS, RTW	0404 859 716		nicole@acedemolition.com.au	
Bashar Allam	Allocations	0455 554 444		bash@acedemolition.com.au	
ACE Head Office		9644 5596	9644 5595	mail@acedemolition.com.au	362 Park Road, Regents Park NSW 2143

7.2. Emergency Contacts

Site Address	77 – 89 Eveleigh Street, Redfern	
Emergency Evacuation	*Exit via the Site Gate and assemble out the front of the site*	
Location of First Aid Kit:	*A First Aid Kit can be found in the Site Shed*	
Doctor / Medical Centre		
Hospital		
Ambulance	000	
Fire	000	
Police	000	
Police Station		
Water	132 090	Sydney Water Emergency Repairs
Electricity	131 388	Ausgrid Emergencies
Gas	131 909	AGL Emergencies
EPA	131 555	Pollution Line
Safe Work Australia	13 10 50	Safe Work Australia Sydney
Emergency Co-ordinator – ACE	0414 297 117	Hamzeh Allam
1st Aid Officer – ACE	0414 297 117	Hamzeh Allam

7.3. Communication Plan

Refer to Appendix A: Communications Plan

Appendix A: Communications Plan

Name/Nature of Communication	From	To	Content Provided By	Frequency	Format Used	Delivery Media	Comments
Induction / Training Matters	Site Manager	Site Personnel, Client, Subcontractors and Suppliers	Site Manager, WHS Team Members	(1) Initially (2) As needed	Induction Sheets / WMS / Tool Box Talk Forms	Site Induction Meeting	Record all inductions on both Induction Register and SWMS Sign-Off Sheet
Urgent Issues	Site Manger	Client Project Manager	Site Manger	As needed	Any	Verbal, E-mail, Fax, Telephone	The Site Manager will collect any information regarding the issue and add an entry in the Daily Report for future reference.
Project / Team Meetings	Site Manger and/or Contracts Administrator	Client Project Manager & other Client Reps	Stakeholders	Weekly	Weekly Site Meetings with Client. Determinatio n of Progress Claim Percentage Complete	Meeting & Issues/Action Items section of meeting minutes	The scribe will capture issues/action items and maintain a running log through the meeting minutes document. Progress Claims anticipated with clients input.
New Issues/Action Items	Site Manager	Site Personnel	Site Manager	As needed or bi-weekly as a minimum	Discussions during bi-weekly Tool Box Talks	Meeting	Exchange any information and document discussion items, personnel present and required actions on Tool Box Talk Form . Any critical information will be distributed to ensure knowledge transfer
Safety Checks / Audits	Site Manager / Client WHS Rep	Site Manager / Client WHS Rep	Site Manager / Client WHS Rep	Daily by Site Manager and Weekly by Site Manager and Client WHS Rep	Safety Check Form	Site Walk-around	Review hazards, issues, and risks To identify and communicate potential risks and issues that may effect the health & safety of site personnel and/or members of the public.
Non Conformance / Resolutions	Site Manager and/or Client Project Manager	Site Manager and/or Client Project Manager	Site Manager and/or Client Project Manager	As needed	Non-Conformance	Email, Fax, in person	Any non-conformance to be issued in writing to the relevant party for immediate resolution.
Internal Team Meetings	Contracts Manager	Team	All	As needed or weekly	Status Report	Office / Site Meetings	Internal project status meetings for the purpose of correctly allocating resources and monitoring timely project completion. Any outstanding issues from site or the client will be addressed and completed. Complete internal audit of site processes to ensure effective running of project.

Appendix B: Demolition Permit

To be inserted on issue

Appendix C: ARMP & Permit

Appendix D: Unexpected ACM Finds Protocol

ACE Demolition & Excavation Pty Ltd	Unexpected Asbestos Finds Protocol

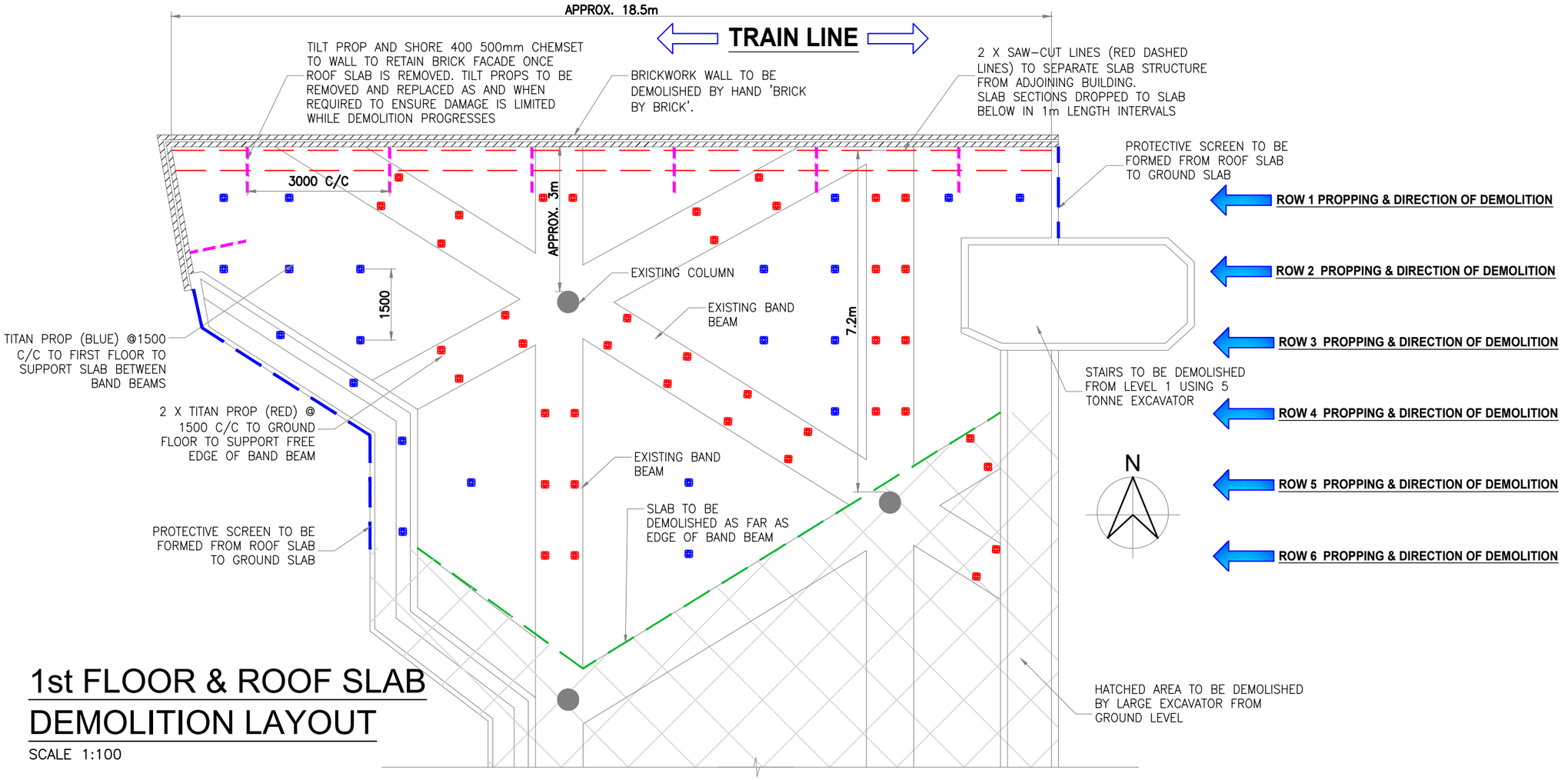
In the event Asbestos Containing Materials (ACMs) are unexpectedly found on site during the course of our scope of works, the following protocol will apply: -

1. Should unexpected potential contamination be found on site, works are to stop immediately.
2. Notify your direct Supervisor and the Principal Contractor's Representative.
3. In the event an item of plant has come in contact with the potential contaminant (eg. Drilling Rig whilst drilling, Excavator whilst excavating), the plant is to be thoroughly washed to remove all traces of the contaminant and prevent the risk of cross contamination to other areas of the site.
4. Erect Warning Signage specific to the Asbestos Hazard per Australian Standard 1319-1994 Safety Signs for the Occupational Environment.
5. Create an Exclusion Zone around the affected area of at least 10 square meters to secure against unauthorized / accidental entry. The Exclusion Zone should be set using physical barricades, temporary fencing or other similar method and install Warning Tape around the perimeter.
6. The affected area should be dampened with water, unless an electrical risk is present. Once adequately dampened cover the area with plastic sheeting, preferably 200um, and secure sheeting to ensure it does not dislodge.
7. The affected area should be isolated with a minimum ten meter radius barrier to minimize potential disturbance to the affected soils.
8. Dampen the suspected material with water (unless an electrical risk is present) and cover the area with plastic sheeting.
9. Notify an Occupational Hygienist. The Hygienist will need to attend site to carry out an assessment of the nature and extent of the unexpected contamination, which may include sampling, laboratory analysis and reporting.
10. The Hygienist will provide a written report which details, amongst other items,: -
    a. Classification of Material
    b. Recommendation for Removal and Remediation
11. The location of the identified asbestos material will be identified and documented into an Asbestos Register which will be maintained for the life of project.
12. All work associated with asbestos will be undertaken under the Companies AS2 Non-Friable Asbestos License. In the event the ACM is classified Friable an AS1 License Holder will be engaged to complete the works.
13. Notify WorkCover 5 days prior to commencing works for the obtainment of the appropriate Permits.
14. Prior to commencement an Asbestos Removal Control Plan (ARCP) and a Site Specific Work Method Statement (SWMS) must be prepared and implemented.
15. Air Monitoring for Friable works or Soil-based Bonded works is required for the duration of the removal works.
16. Only ticketed personnel are allowed access to the Exclusion Zone.
17. All ACMs will be disposed of at an appropriately licensed waste facility with evidence of correct disposal to be provided to the PC.
18. On completion of the removal works the Hygienist is to be contacted to attend site for re-inspection. A Clearance Certificate is to be provided as confirmation that the area is safe to access.
19. Validation of the remediated area should be carried out to assess the success of the remediation works.
20. On receipt of the above Clearance the Exclusion Zone is to be decommissioned and normal work may continue.

Rev 2 dated 2-Dec-2014 Page No. 1 of 1

Appendix E: Shore Hire Drawing No. 100

DON'T FORGET SAFETY



1st FLOOR & ROOF SLAB DEMOLITION LAYOUT

SCALE 1:100

NO PART OF THIS DRAWING MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR STORED IN ANY RETRIEVAL SYSTEM OF ANY NATURE WITHOUT THE WRITTEN PERMISSION OF SHOREHIRE PTY LTD. AS COPYRIGHT HOLDER EXCEPT AS AGREED FOR USE ON THE PROJECT FOR WHICH THE DRAWING WAS ORIGINALLY ISSUED.

A. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL RELEVANT ENGINEERS, ARCHITECTS AND SPECIALISTS DRAWINGS.

B. ALL DIMENSIONS IN mm UNLESS NOTED.

C. DO NOT SCALE DIMENSIONS.

D. THE CONTRACTOR SHALL CHECK ALL DIMENSIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION. DISCREPANCIES SHALL BE REPORTED TO THIS OFFICE IN WRITING.

NOTES:

1. ALL DIMENSIONS IN mm. U.N.O.
2. ASSEMBLY AND CONNECTIONS OF THE TEMPORARY PROP SYSTEM IS THE RESPONSIBILITY OF OTHERS AND REFERENCE SHOULD BE MADE TO THE SHORE HIRE OEPRATING PROCEDURES FOR EACH HIRE PRODUCT.
3. ALL BOLTS ARE TO BE SUPPLIED BY SHOREHIRE, ARE TO BE OF STRUCTURAL GRADE 8.8 AND TO CONFORM TO AS 1252:1996.
4. ALL BOLTS MUST BE FULLY TENSIONED DURING ASSEMBLY.
5. FOR INFORMATION ON WEIGHTS OF MATERIALS, REFER TO SHOREHIRE FOR SPECIFIC INFORMATION.

DEMOLITION SEQUENCE 1 TO 9

1. ENSURE ALL METHOD STATEMENTS AND PRE-START CHECKS ARE UNDERTAKEN BY DEMO CONTRACTOR PRIOR TO WORKS.
2. CORDON OFF AREA AS DIRECTED BY THE DEMOLITION CONTRACTOR AND INSTALL PROTECTIVE SCREEN ALNG EDGE OF SLAB MARKED AS DASHED BLUE LINE.
3. INSTALL TILT PROPS AND SHORE 400 SECTIONS TO THE EXISTING BRICK WALL FROM LEVEL 1 TO UNDERSIDE OF ROOF SLAB AT 3m C/C.
4. INSTALL A MINIMUM OF ROW 1 TO ROW 3 TITAN PROPS AS SHOWN ON THE ABOVE PLAN LAYOUT. THE 5 TONNE EXCAVATOR IS TO MANOUVRE WITHIN THIS ZONE OF PROPPING AT ALL TIMES AND PROPPING ROWS ARE LEAPFROGGED AS DEMOLITION PROGRESSES.
5. ALTERNATIVELY, ALL PROPPING IS TO BE INSTALLED AND REMOVED AS THE DEMOLITION PROGRESSES.
6. SAW-CUT THE SLAB IN TWO LINES APPROX. 500mm AWAY FROM EACH OTHER AND LET CONCRETE DROP IN SMALL SECTIONS (MAX. 1m LENGTH) TO THE GROUND BELOW. DISCONNECT AND RE-CONNECT TILT PROPS AS AND WHEN REQUIRED TO ENSURE DAMAGE IS MITIGATED TO PROPS. COORDINATION IS REQUIRED BY THE DEMOLITION CONTRACTOR.
7. ONCE AREA OF DEMOLITION HAS BEEN SEPARATED FROM THE BRICKWORK WALL, SLOWLY DEMOLISH THE SLAB AND BEAMS USING A ROCK-HAMMER ATTACHMENT ON THE 5 TONNE EXCAVATOR IN A DIRECTION MOVING EAST TO WEST AND AWAY FROM TRAIN LINE. ANY MONITORING POINTS AS DIRECTED IN THE DEMO CONTRACTOR METHOD STATEMENTS SHOULD BE ENFORCED THROUGHOUT. ENSURE BREAKING OF CONCRETE IS UNDERTAKEN IN A CONTROLLED MANNER TO MINIMISE VIBRATION.
8. MOVE PROPS AWAY IN A COORDINATED FASHION AS SLAB IS BEING DEMOLISHED USING SPOTTERS AND TWO WAY RADIO. REPEAT ABOVE STEPS FOR ALL AREAS UNTIL THE SLAB IS FULLY DEMOLISHED AS FAR AS THE HATCHED AREA (INDICATED BY DASHED GREEN LINE).
9. REPEAT STEPS 1 - 8 FOR THE FIRST FLOOR LEVEL OR ALTERNATIVELY, USE A LARGE EXCAVATOR FROM GROUND LEVEL ONCE SAW-CUT HAS BEEN MADE AND USING A CRUSHER ATTACHMENT DEMOLISH AWAY FROM THE SAW-CUT LINE IN AN EAST TO WEST DIRECTION.

AUTHORISED BY:

BARRY CROWLEY
CPEng, MIEAust

Rev	Description	Date	Drwn	Chkd
0	ISSUED FOR REVIEW	09.06.17	BC	BC

shorehire.

Shore Hire Pty. Ltd.
PO Box CP449
354 Edgar Street
Condell Park
NSW 2200
Tel: 02 8708 1200
Fax: 02 87081222
Email: info@shorehire.com.au
Web: www.shorehire.com.au

Client: ACE DEMOLITION			Drawing: SEQUENCE OF DEMOLITION & PLAN LAYOUT OF 1ST FLOOR & ROOF SLABS					
Project: DEVELOPMENT AT EVELEIGH ST., REDFERN, NSW 2016								
Job No.	Drawing Number	Revision	Sht. Size	Scale	Date	Drawn	Checked	
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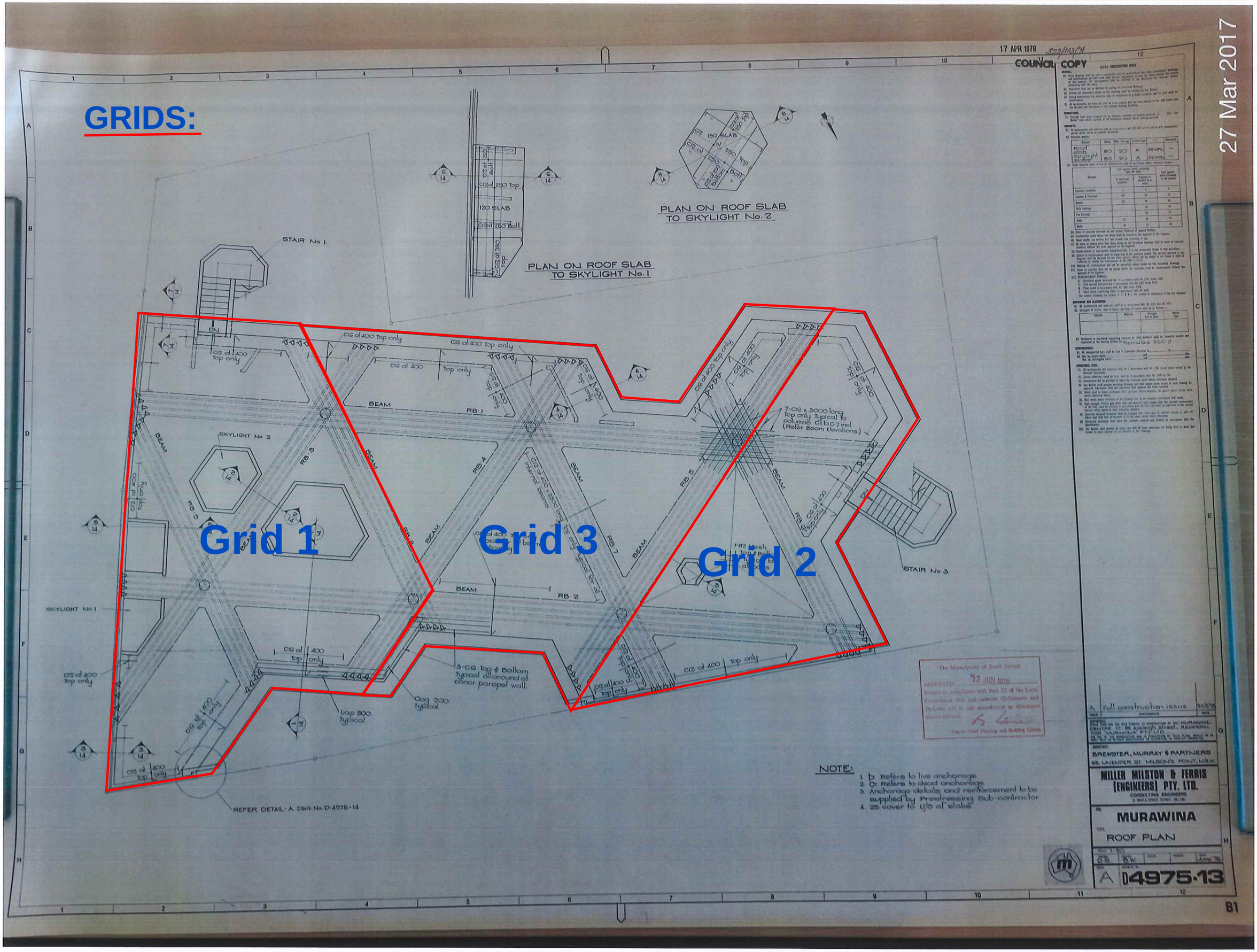
DON'T SCALE DIMENSIONS

GRIDS:



27 Mar 2017

STAGE 1 :

Demolition Sequence 1-9 per plan
Roof Slab
Sawcut Slab to disconnect from boundary wall
Demolish in 1500mm rows from Stair No. 1 to Northern boundary

Grid 1

Grid 3

Grid 2

27 Mar 2017

STAGE 2:

Rear Railcorp Boundary Wall
First Floor
Brick cources by hand

27 Mar 2017

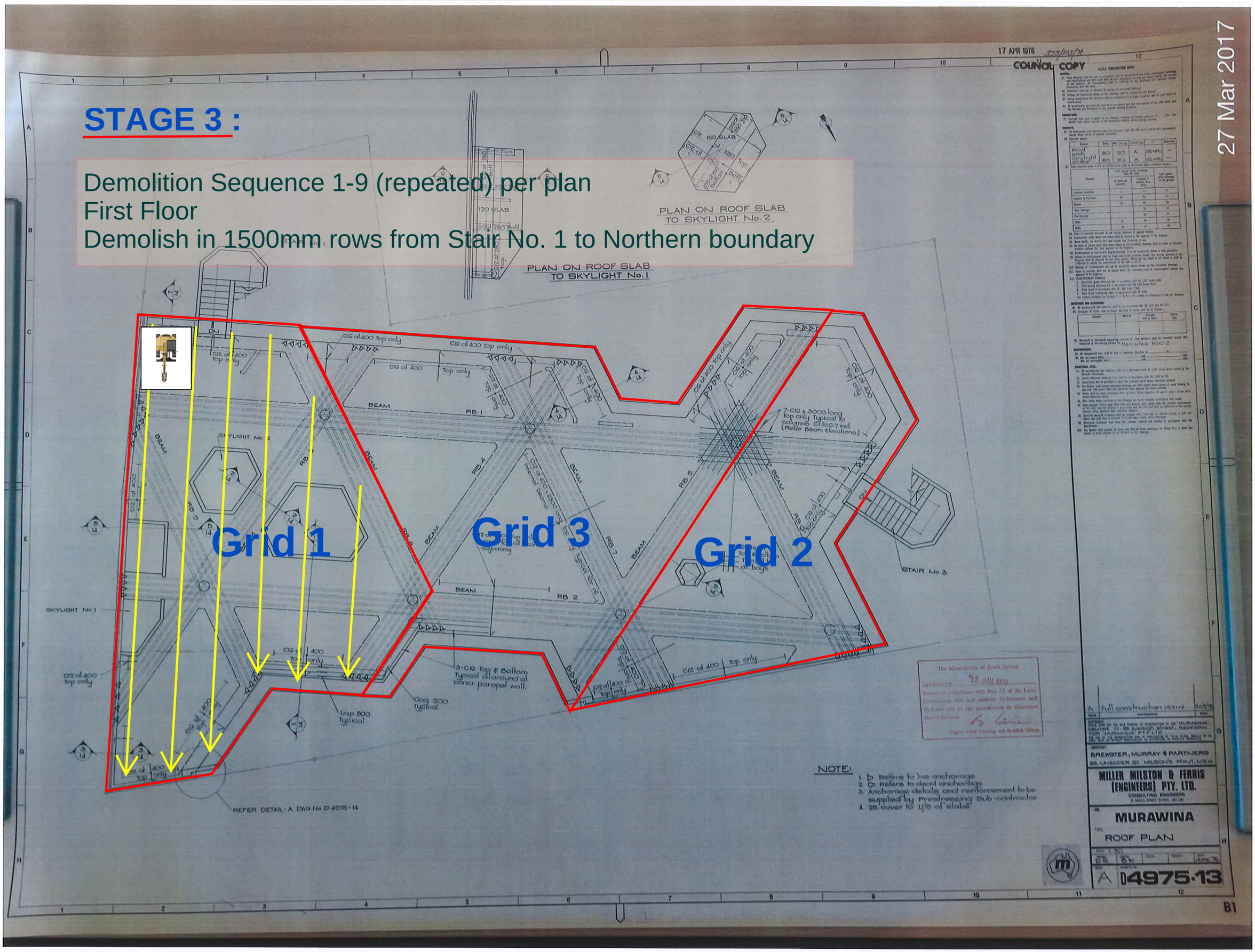
Grid 1

Grid 3

Grid 2

STAGE 3 :

Demolition Sequence 1-9 (repeated) per plan
First Floor
Demolish in 1500mm rows from Stair No. 1 to Northern boundary



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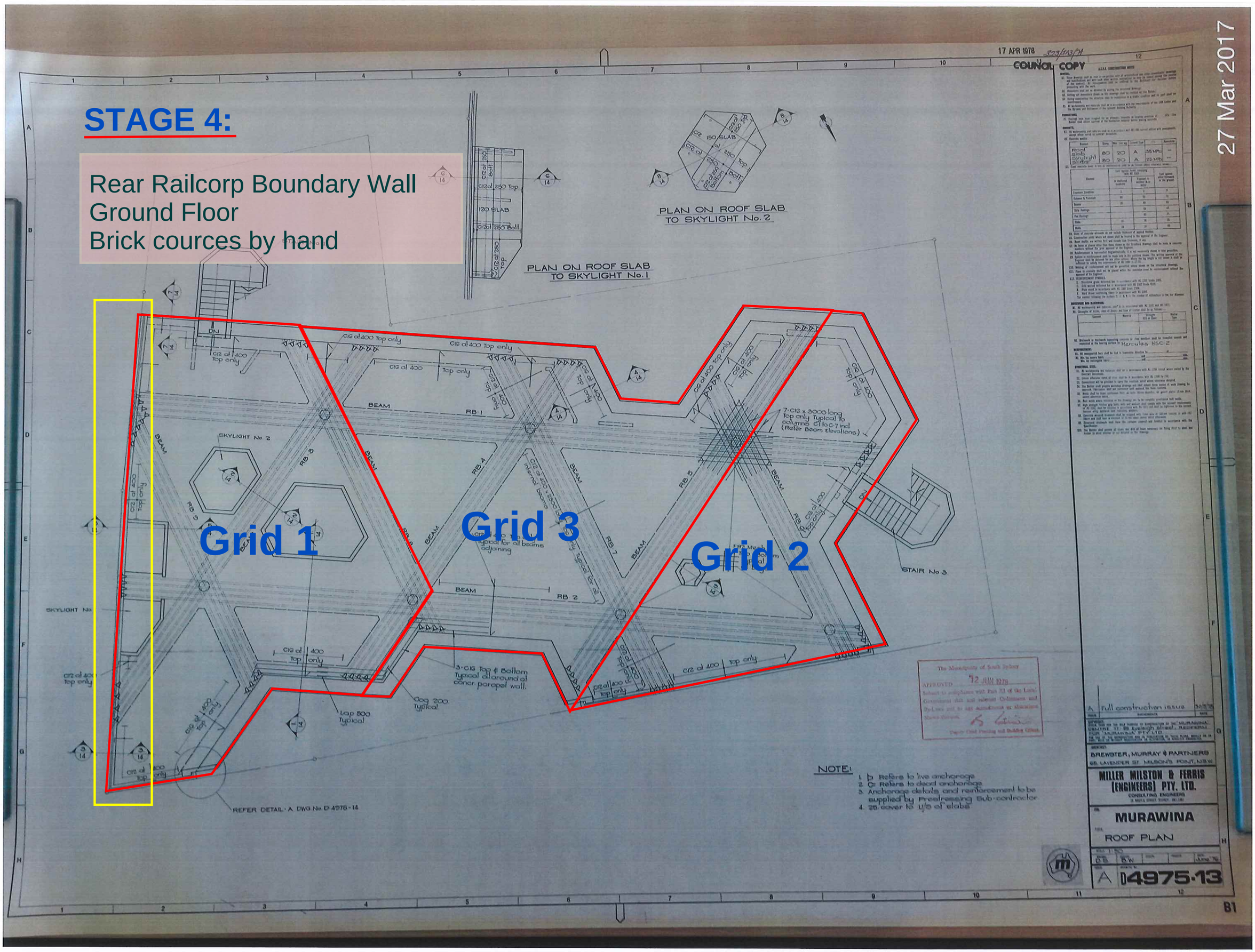
27 Mar 2017

STAGE 4:

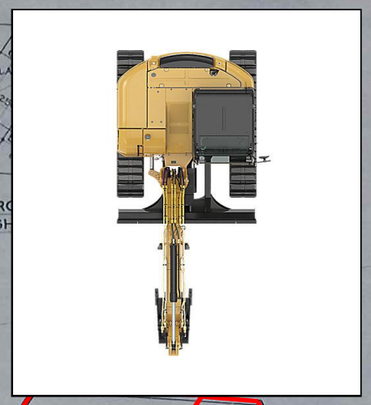
Rear Railcorp Boundary Wall
Ground Floor
Brick cources by hand



27 Mar 2017

STAGE 5 :

Pulverize Roof Slab
First Floor Columns
First Floor Slab
30-40 T Excavator on Ground



Grid 1

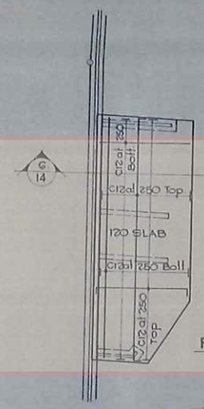
Grid 3

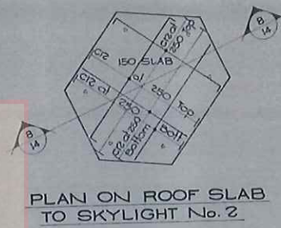
Grid 2

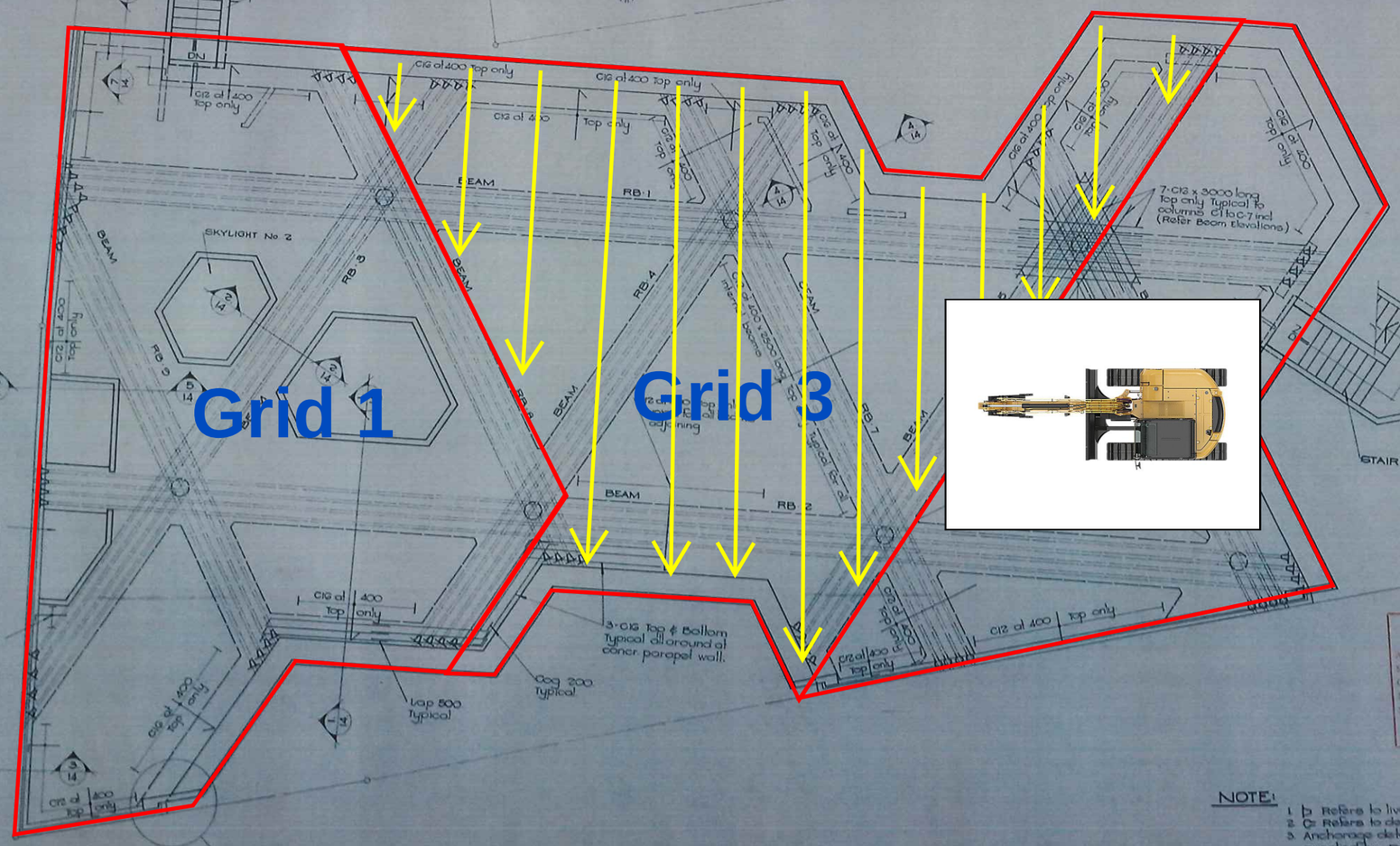
27 Mar 2017

STAGE 6 :

Pulverize Roof Slab
First Floor Columns
First Floor Slab
30-40 T Excavator on Ground







NOTE:
1. b Refers to live anchorage
2. D Refers to dead anchorage
3. Anchorage details and reinforcement to be supplied by Prestressing Sub-contractor
4. 25 cover to ½ of slabs

A Full construction issue

BREWSTER, MURRAY & PARTNERS
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CONSULTING ENGINEERS

MURAWINA
ROOF PLAN

A D4975-13

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STAGE 7:

Ground Slab
Grid 2-3

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PLAN ON ROOF SLAB TO SKYLIGHT No. 2

PLAN ON ROOF SLAB TO SKYLIGHT No. 1

STAIR No 1

STAIR No 3

SKYLIGHT No 1

SKYLIGHT No 2

Grid 1

Grid 3

Grid 2

NOTE:
1. ▷ Refers to live anchorage
2. ▷ Refers to dead anchorage
3. Anchorage details and reinforcement to be supplied by Prestressing Sub-contractor
4. 25 cover to u/s of slabs

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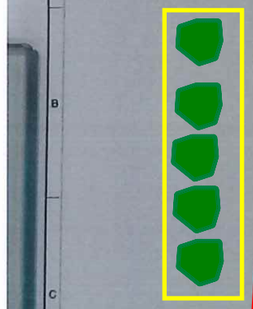
STAGE 8:

Trees to Railcorp Boundary



Grid 1

Grid 3

Grid 2

27 Mar 2017

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COUNCIL COPY

PLAN ON ROOF SLAB TO SKYLIGHT No. 2

PLAN ON ROOF SLAB TO SKYLIGHT No. 1

STAIR No. 1

STAIR No. 3

SKYLIGHT No. 1

SKYLIGHT No. 2

BEAM

RB 1

RB 2

RB 3

RB 4

RB 5

RB 7

RB 8

7-Cl2 x 3000 long Top only Typical to columns C1to-7 incl (Refer Beam Elevations)

3-Cl2 Top & Bottom Typical all around at concr parapet wall.

Cog 200 Typical

Lap 500 Typical

REFER DETAIL 'A' DWG No D-4975-14

NOTE:
1. ▷ Refers to live anchorage
2. ◁ Refers to dead anchorage
3. Anchorage details and reinforcement to be supplied by Prestressing Sub-contractor
4. 25 cover to u/s of slabs

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