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TRANSCITY



AMENDED IN RED

18 MAR 2013

By: PEITA MCVULLACH (name)
MEDQ

PLANS AND DOCUMENTS
referred to in the PDA APPROVAL

21 MAR 2013

MEDQ

Tollroad Control Centre Traffic Design Elements

TC-2113-SR-00-0001_0

LEGACY WAY

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Document Version Control

Rev	Description	Originator	Reviewer	Approved	Date
0	Final Report	Michael Gillies MG	Paul Hatcher PH	Mark Smith MS	25/11/11
A	Draft Report	Michael Gillies MG	Paul Hatcher PH	Mark Smith MS	11/11/11

1. Car Park Review

The following is our assessment to date of the access, internal traffic and parking issues for the proposed Legacy Way Tollroad Control Centre (TCC). For clarification, the assessment has been based on the following Drawing Numbers and Revision Numbers:

Table 1 - Drawing Numbers and Revision Numbers

Drawing Number	Title	Revision Number
A0001	Site Plan (including Development Summary and floor areas)	P
A1000	Ground Floor General Arrangement Floor Plan	T
A1001	Level 1 General Arrangement Floor Plan	U
A1002	Level 2 General Arrangement Floor Plan	U
A1615	Section F (showing ramp grades and clearances)	F

Copies of these plans are attached for reference at Appendix 1.

1.1. Floor Areas

Based on the information provided, the gross floor area (GFA) for the components of the development are as follows:

- TCC uses - ~~1,965~~ ^{1,958} sq.m GFA;
- commercial office - ~~5,879~~ ^{5,148.4} sq.m GFA;
- retail - ~~85~~ ^{79.22} sq.m GFA

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1.2. Parking Numbers

Since TCC components of the development are exempt under the ULDA Development Scheme, there is no specific car parking requirement for this part of the building.

Based on the floor spaces above for commercial and retail uses there would need to be 2 places (max of 1 per 50sq.m) assigned to retail and ~~59~~ ⁶² spaces assigned to offices (max of 1 per 100sq.m) and 20 spaces assigned for TCC office staff (max rate of 1 per 100sq.m). As the ULDA specifies maximum rates, the number could be lower. The ~~84~~ ⁷⁶ maximum required spaces is in line with the ~~76~~ ⁷⁶ spaces to be provided.

1.3. Service Vehicles

Based on the proposed land uses, the maximum service vehicle required would be a Rubbish Collection Vehicle (RCV). Under BCC guidelines, an RCV needs a minimum vertical clearance of 6.1m to enable collection bins to be emptied overhead. An appropriate area for the RCV to empty collection bins is located adjacent to the bin enclosure in the entrance way to the Transcity garage on O'Connell Terrace. The vertical clearance in this area well exceeds the 6.1m minimum requirement. The RCV will be able to proceed into the garage to turn around and leave the site in a forward direction, as is required.

Parking for two tow cranes, a Hino sweeper and a Hino FD 1024 is also proposed.

BCC's Transport, Access, Parking and Servicing Planning Scheme Policy (TAPS) requires a Medium Rigid Vehicle (MRV) to service the retail and office components. An appropriate parking space for an MRV is provided in the Transcity garage with good accessibility to the lifts.

1.4. Disabled Parking

TAPS indicates that there needs to be 1 disabled space per 4,500sq.m for an office. This would require 2 disabled parking spaces for office uses, which is the number of spaces provided on Level 1. The code also indicates that there needs to be 1 disabled parking space per 300sq.m of retail, which is the number of spaces provided on Level 2.

The BCA, Section D3.5, indicates that for most land uses, a rate of 1 disabled parking space per 50 general parking spaces would be appropriate. Based on this rate, a minimum of 2 disabled spaces would be required for this development.

The provision of three disabled parking bays meets desirable requirements for the proposed land uses.

1.5. Parking Spaces

A review of the parking spaces indicates that all bays appear to be of appropriate dimensions.

There is significant use of tandem spaces in the Level 1 and Level 2 parking areas. It is noted that while the number of tandem bays is not specifically limited, there is a requirement that tandem bays must both be assigned to the same business, which would be the case.

1.6. Circulation Aisles

The circulation aisles appear to be of adequate dimensions, over 6.2m, to allow appropriate operation of vehicles.

Swept path analysis has been undertaken to identify if two vehicles are able to pass each other at the turns (involving a 99th percentile and 85th percentile vehicle). The analysis shows that this is not possible without impeding into a number of tandem bays, as well as a column.

A possible way that could be looked at to overcome this would firstly be to remove the tandem bays. This would remove a large number of car parks but may be permitted under the ULDA parking requirements.

Another possible way to allow this to occur would be to have warning signs indicating that the turns are too narrow for two vehicles to pass. Give way markings would need to be provided (preferably on the level surface, not the ramps) with mirrors provided to allow vehicles from both direction to observe each other. Due to the location of where mirrors could go (most likely on pillars or walls), this might not always be possible. An alternative approach may be to have road sensors to inform vehicles with variable message displays in conjunction with the mirrors.

It is recommended that mirrors be installed to allow vehicles to view around the hazardous corners. As vehicle entry and exit is usually tidal, this approach is deemed adequate to address the limited number of occasions when opposing vehicles would meet.

1.7. Site Access

Access to the development is provided from both O'Connell Road and Sneyd Street. From O'Connell Terrace a 6.6m wide access is provided. Due to the access of RCV's, a B2 form, being between 6-9m wide is required for this access, hence this access is appropriate.

For Sneyd Street, due to the number of parking spaces provided for from this access, a B2 access arrangement is also required. The proposed access is 7m wide which is appropriate.

AS2890.1 also indicates that only space for two queuing vehicles is required under Australian Standards at the proposed access control point from Sneyd Road. There is adequate storage at this point.

1.8. Queuing

Space for one vehicle leaving the O'Connell Road access is required which is easily accommodated. From Sneyd Street, space for up to two vehicles is required for queuing. This is achieved on the slope leaving the site.

1.9. Ramps

The ramps and the gradients proposed appear appropriate on both the ramps to Level 1 and Level 2. The ramp changes appear to be appropriate gradient changes. The side view shown in the on Drawing number: A1615 Layout Section F included at Appendix 1 indicates that the ramp appears to meet AS2890.1 ramp requirements.

1.10. Clearance

AS2890.1 indicates that the minimum clearance when providing access to disabled spaces is 2.3m. A review of all clearances between slabs indicates that a clearance of 2.5m is easily achieved. Unless services extend beyond this by over 200mm the clearance for this layout should be adequate.

1.11. End of Trip Facilities

The layout provides end of trip facilities for a bicycle store. A review of the TAPS indicates that 1 secure bicycle parking space is required for every 200sq.m for staff, with 1 secure bicycle parking space required for every 1,000sq.m for visitors. This would require that space for 40 staff and 8 visitor parking spaces for bicycles be provided. The TCC garage layout provides the required number of bicycle spaces. A WC and Shower for both female and male staff are also proposed for the bicycle facility as well as lockers, which is adequate.

The UDA Development Scheme specifically refers to AS2890.3 (Bicycle Facilities). It has been concluded that the proposed end of trip facilities comply with AS2890.3.

1.12. Swept Path Analysis in Transcity Garage

Swept path analysis has been undertaken for a number of vehicles. Due to the unusual nature of most of the vehicles, the closest customised vehicles that could be tested were used. It is noted that these vehicles might not be exactly the same dimensions or design as the intended vehicles, although as good as can be determined from the information provided.

Swept path plots are attached for reference in Appendix 2.

It is noted that the new arrangement allows acceptable access to all the vehicles required to use the Transcity garage.

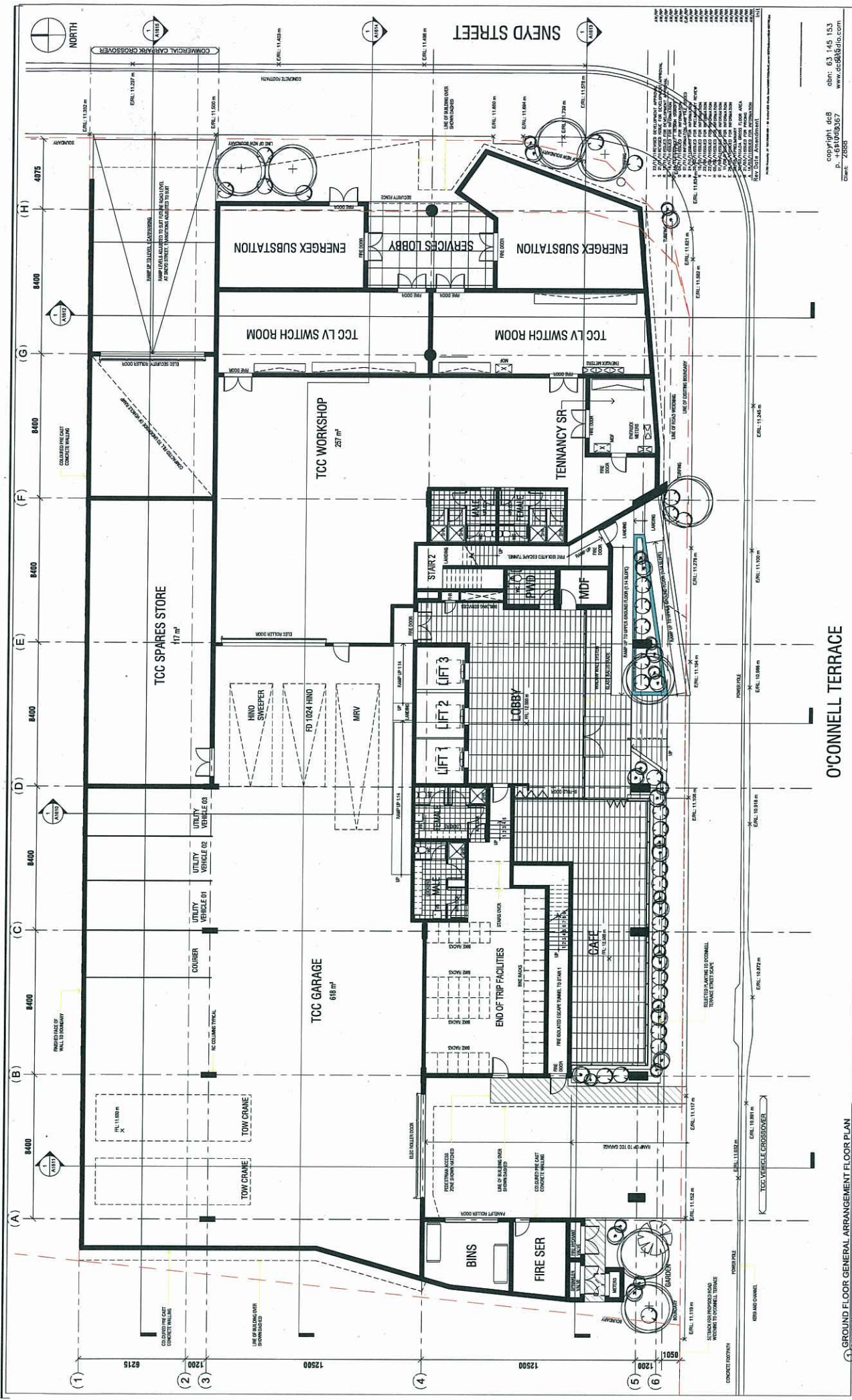
1.13. Mobile Elevated Work Platform

Provision for a mobile elevated work platform is required. This vehicle will be quite small and can either be stored in the TCC workshop or in the Transcity garage to the west of the entrance roller door. Either location will be appropriate and meets all requirements.

2. Conclusion

The assessment above indicates that the current planned layout will be able to meet all relevant requirements. The proposed plans provide satisfactory access, circulation, manoeuvring and end of trip facilities.

Appendix 1: Design Plans



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O'CONNELL TERRACE

1 GROUND FLOOR GENERAL ARRANGEMENT FLOOR PLAN
 Scale: 1:100

PROJECT:
 NEW TUNNEL CONTROL CENTRE
 O'CONNELL
 TERRACE BOWEN HILLS OPTION C
 Drawing Title:
 GROUND FLOOR GENERAL ARRANGEMENT
 FLOOR PLAN

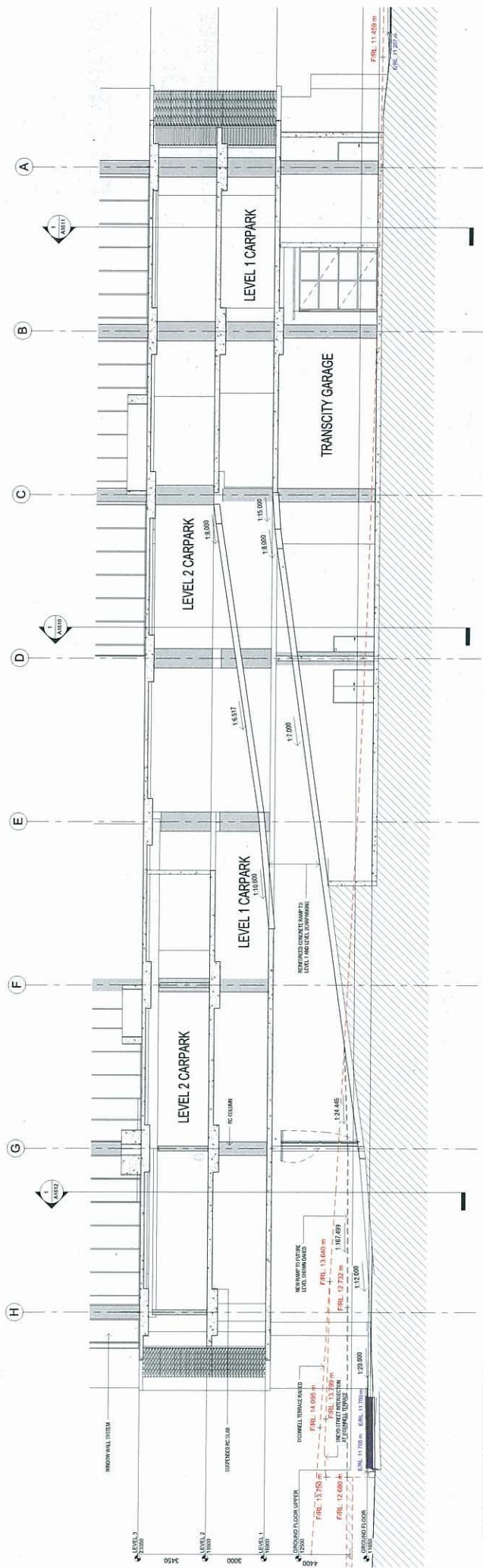
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 Drawn: AW
 Rev: RP5005 - TCC 04/08/30 / Revised RR
 Revision: **A1000**



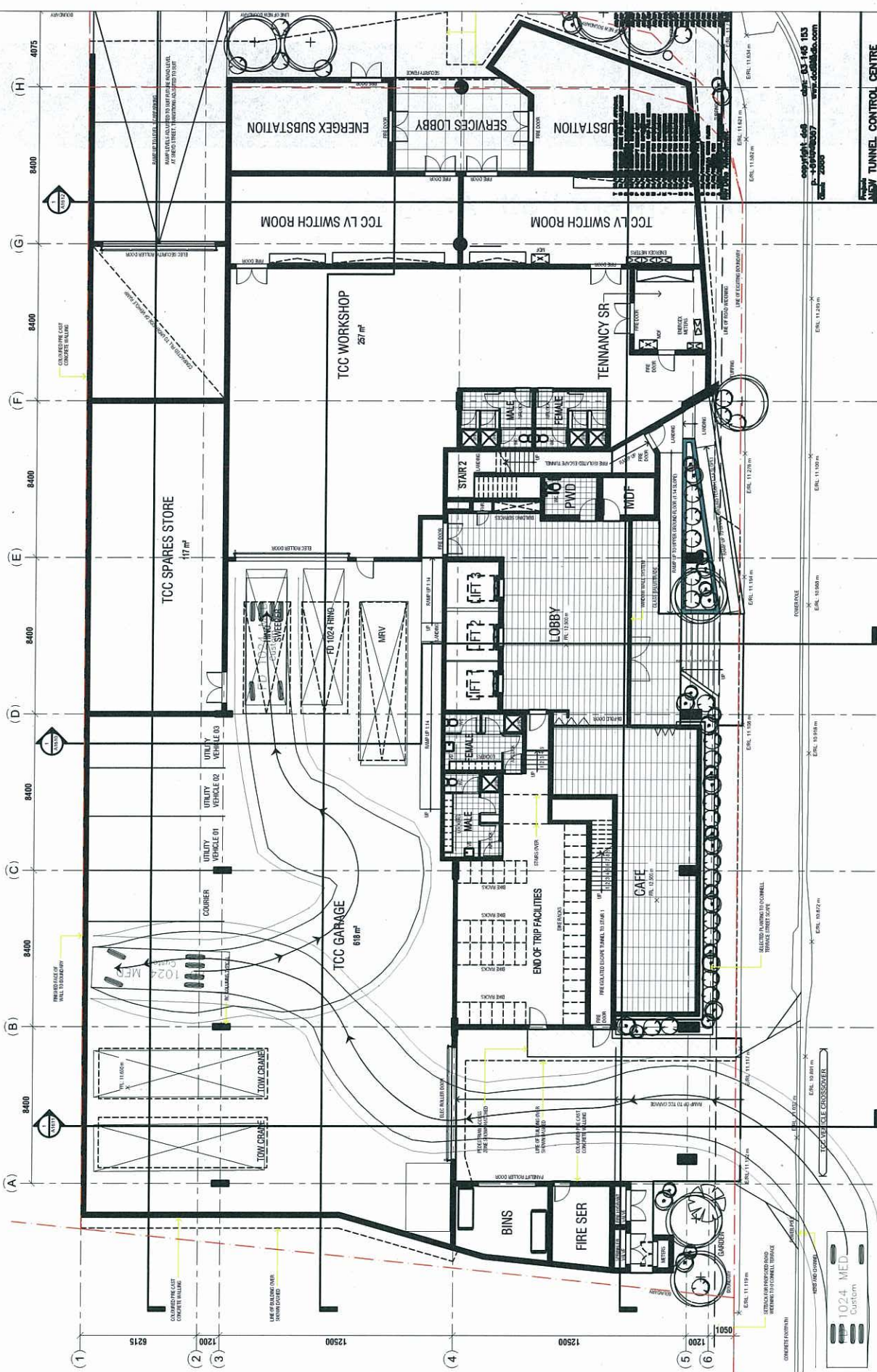
Project:
NEW TUNNEL CONTROL CENTRE O'CONNELL
TERRACE BOWEN HILLS OPTION C

Drawing Title:
**LEVEL 1 GENERAL ARRANGEMENT FLOOR
PLAN**

Scale @ A1: **1: 100**
Job No: **RP5005_TCC** Date: **08/30/11** Drawn: **AW**
Drawing No: **A1001** Approved: **AW**
Revised: **U**



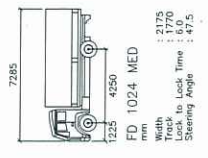
Appendix 2: Swept Path Analysis

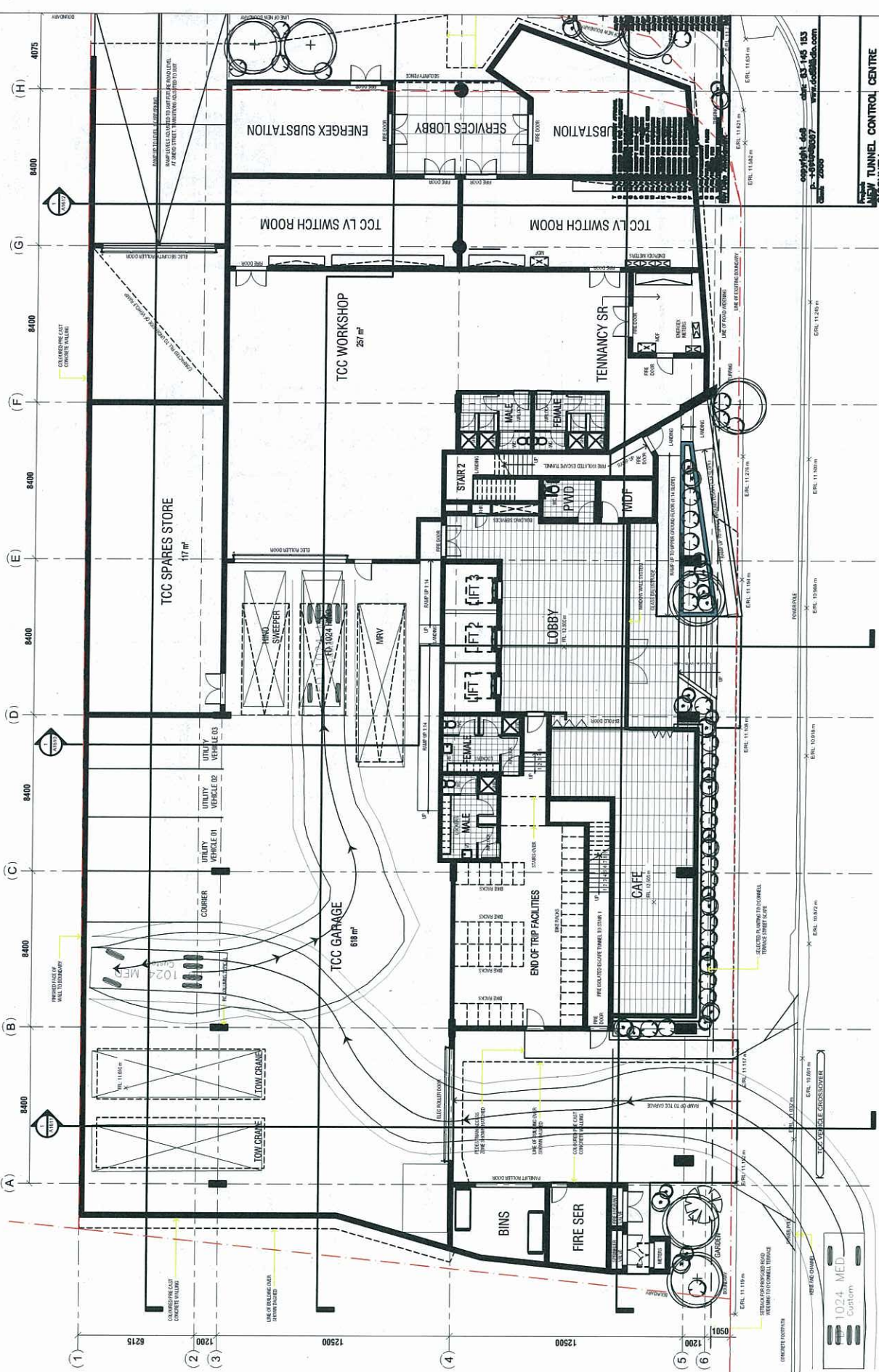


O'CONNELL TERRACE

NEW TUNNEL CONTROL CENTRE
O'CONNELL
TERRACE BOWEN HILLS OPTION C
GROUND FLOOR GENERAL ARRANGEMENT
FLOOR PLAN

Scale 1:1
RF-6005-TCC-08/20/10
Drawing No. A1000
Revision
Date: 03/10/13
P: 10/10/2007
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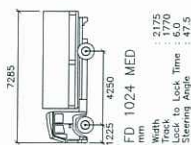


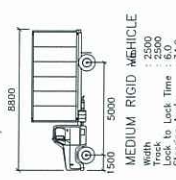
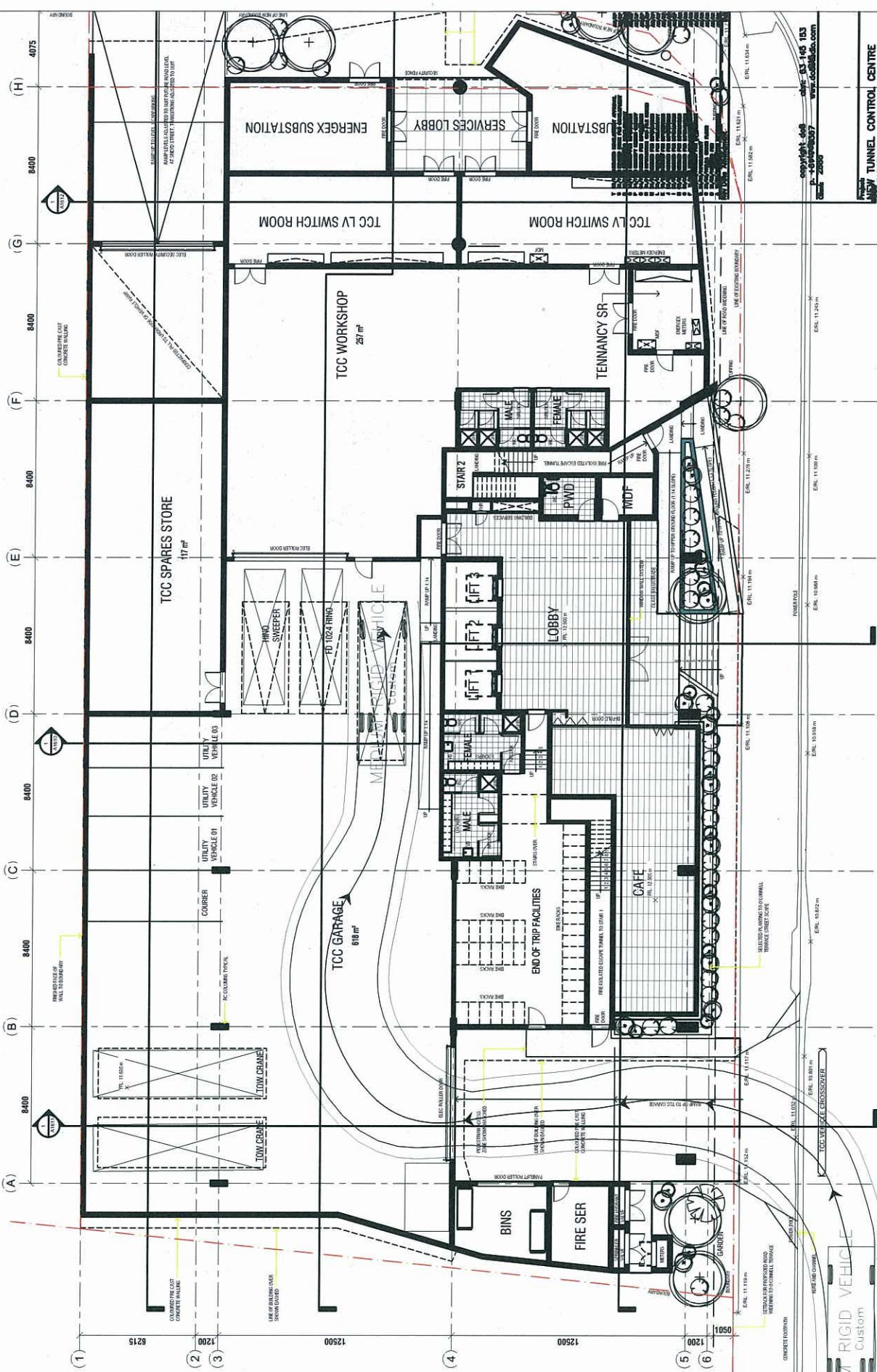


O'CONNELL TERRACE

NEW TUNNEL CONTROL CENTRE
O'CONNELL
TERRACE BOWENS HILLS OPTION C
GROUND FLOOR GENERAL ARRANGEMENT
FLOOR PLAN

Scale: 1:1
RF-8005, TCC 08/30/14
Drawing No: 1000

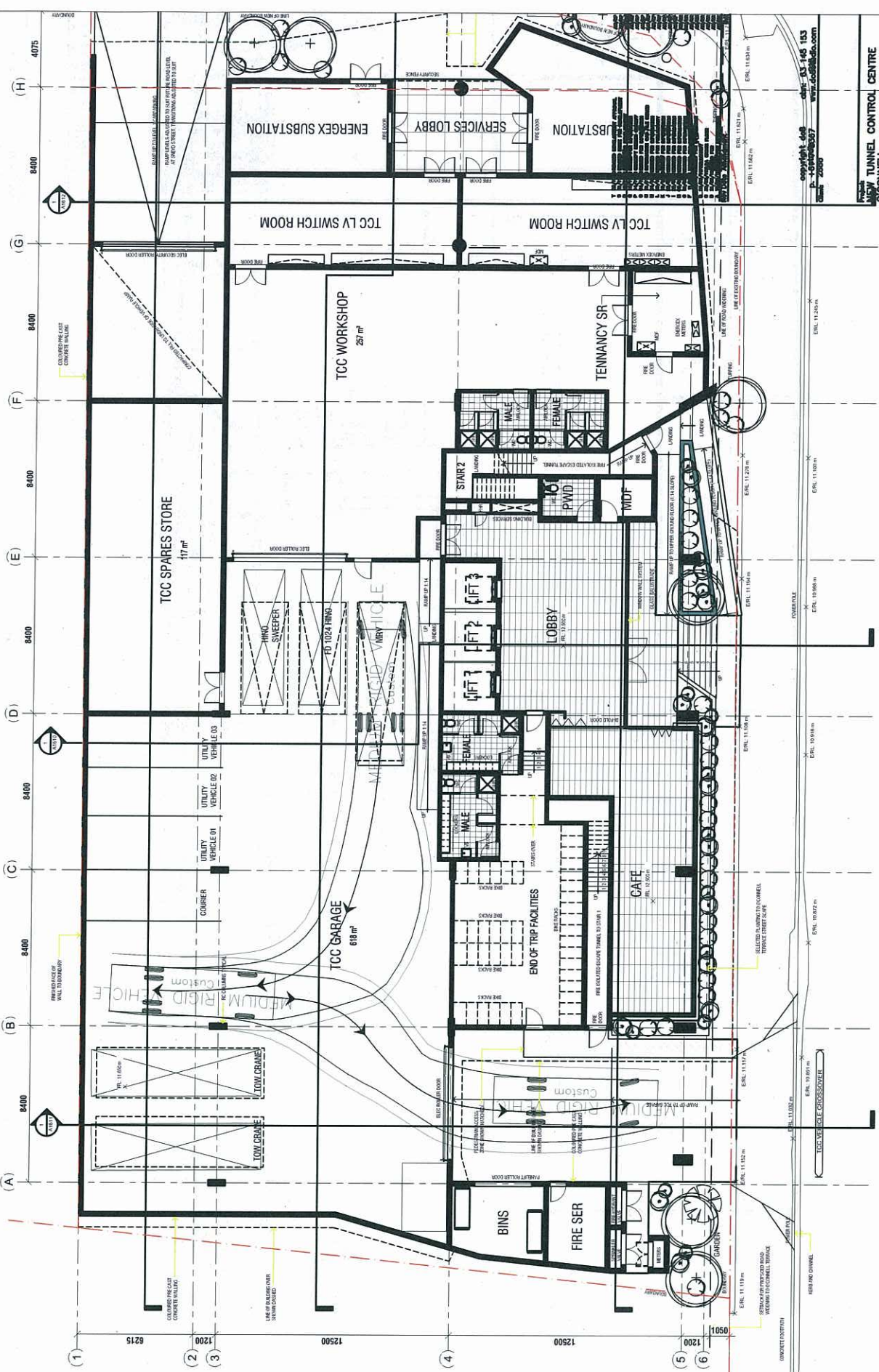




O'CONNELL TERRACE

PROJECT: NEW TUNNEL CONTROL CENTRE
DESIGNER: D CONNELL
LOCATION: TERRACE BOWEN HILLS OPTION C
DRAWING: AROUND FLOOR GENERAL ARRANGEMENT
FLOOR PLAN

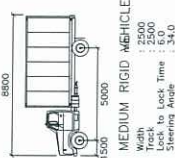
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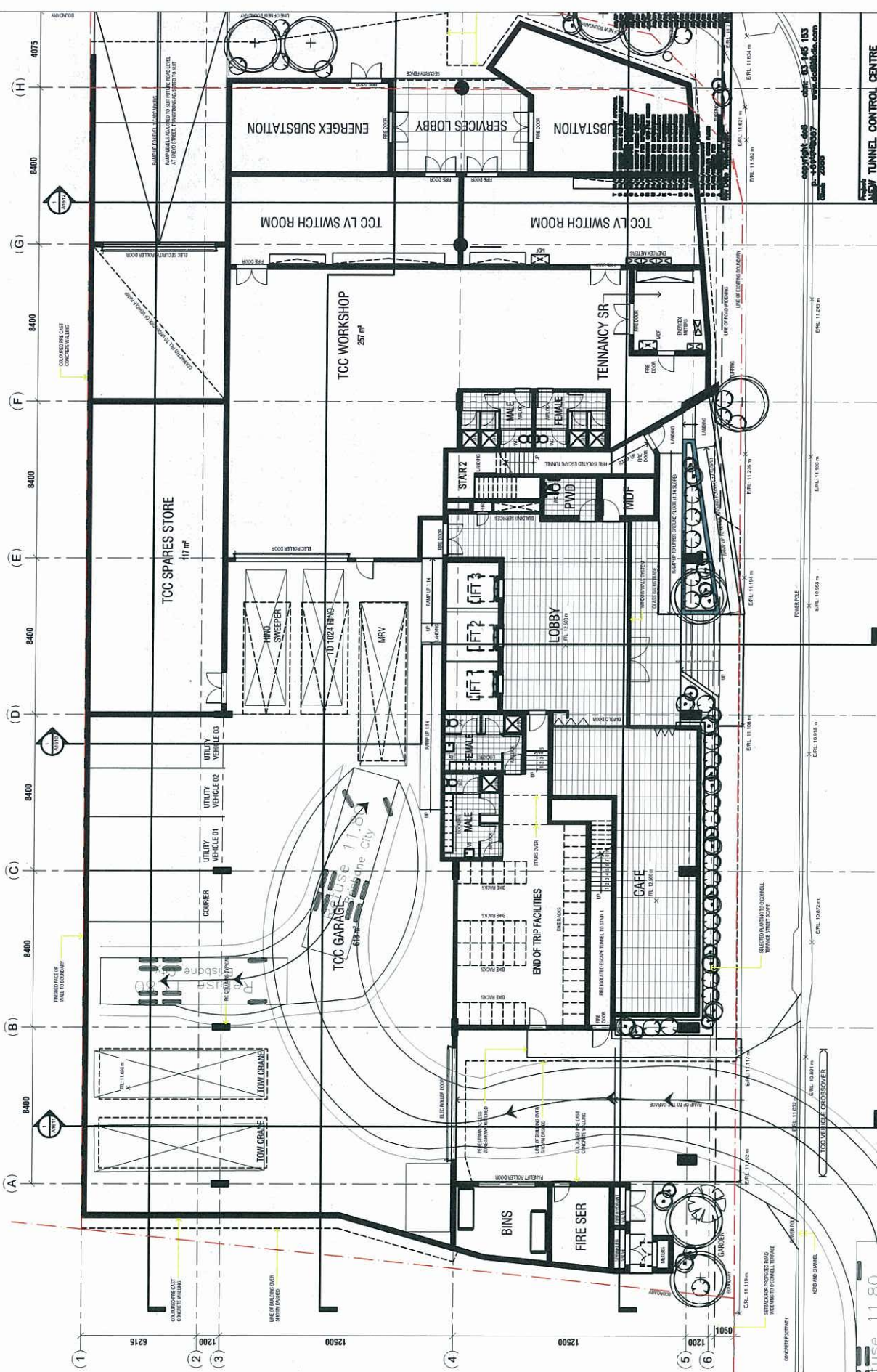


O'CONNELL TERRACE

NEW TUNNEL CONTROL CENTRE
O'CONNELL
TERRACE BOWEN HILLS OPTION C
GROUND FLOOR GENERAL ARRANGEMENT
FLOOR PLAN

Scale: 1:1
Drawn: AW
Check: RF
Date: 08/30/2008
Project: TCC
Drawing No: A1000





O'CONNELL TERRACE

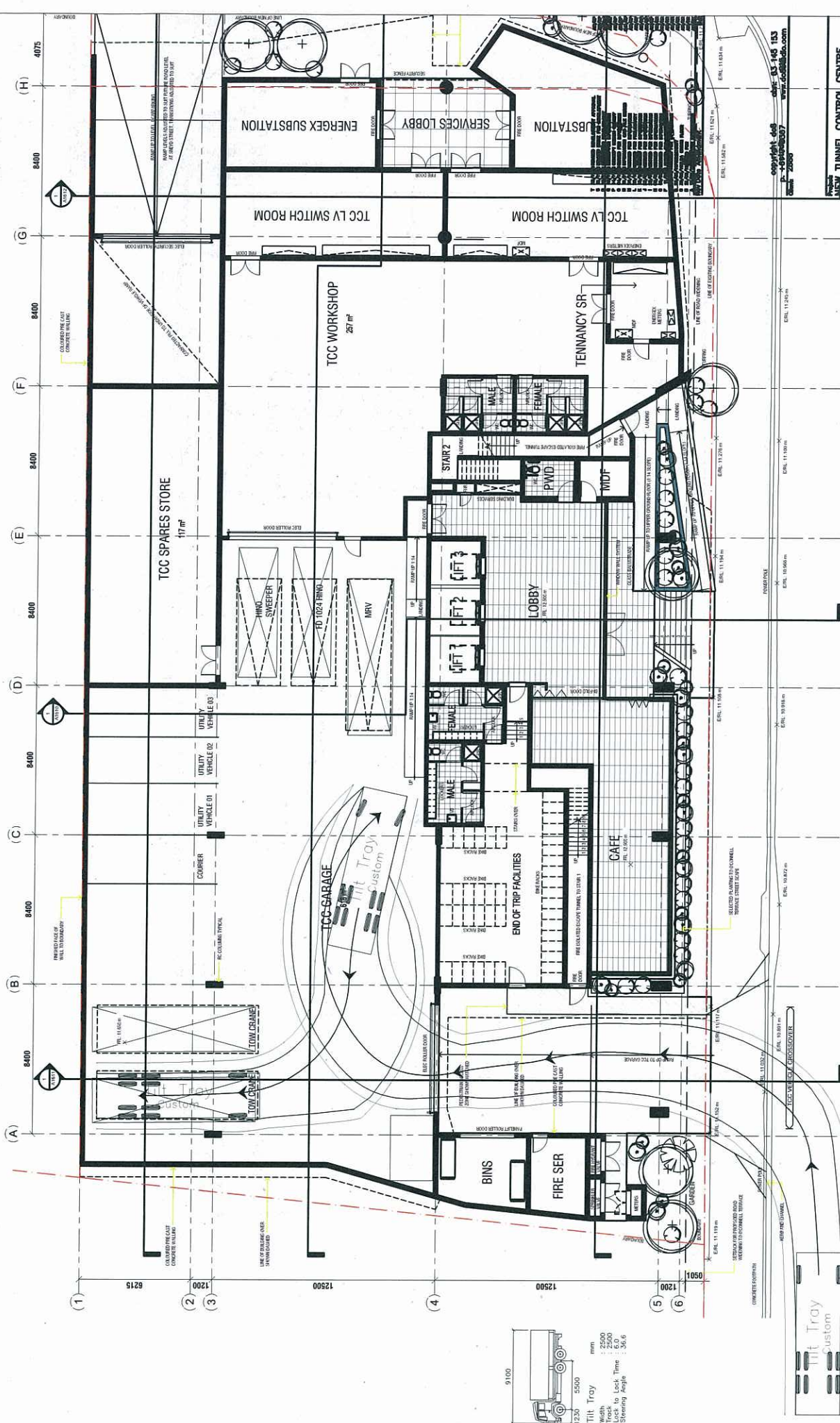
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1600	9300	2500
width	mm	2500
Lock to Lock	mm	2500
Steering Angle	mm	29.4

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NEW TUNNEL CONTROL CENTRE
O'CONNELL
TERRACE BOWEN HILLS OPTION C
GROUND FLOOR GENERAL ARRANGEMENT
FLOOR PLAN

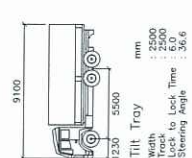
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Date 08/20/2005
Author AW
Reviewer JRR
Drawing No. A1000

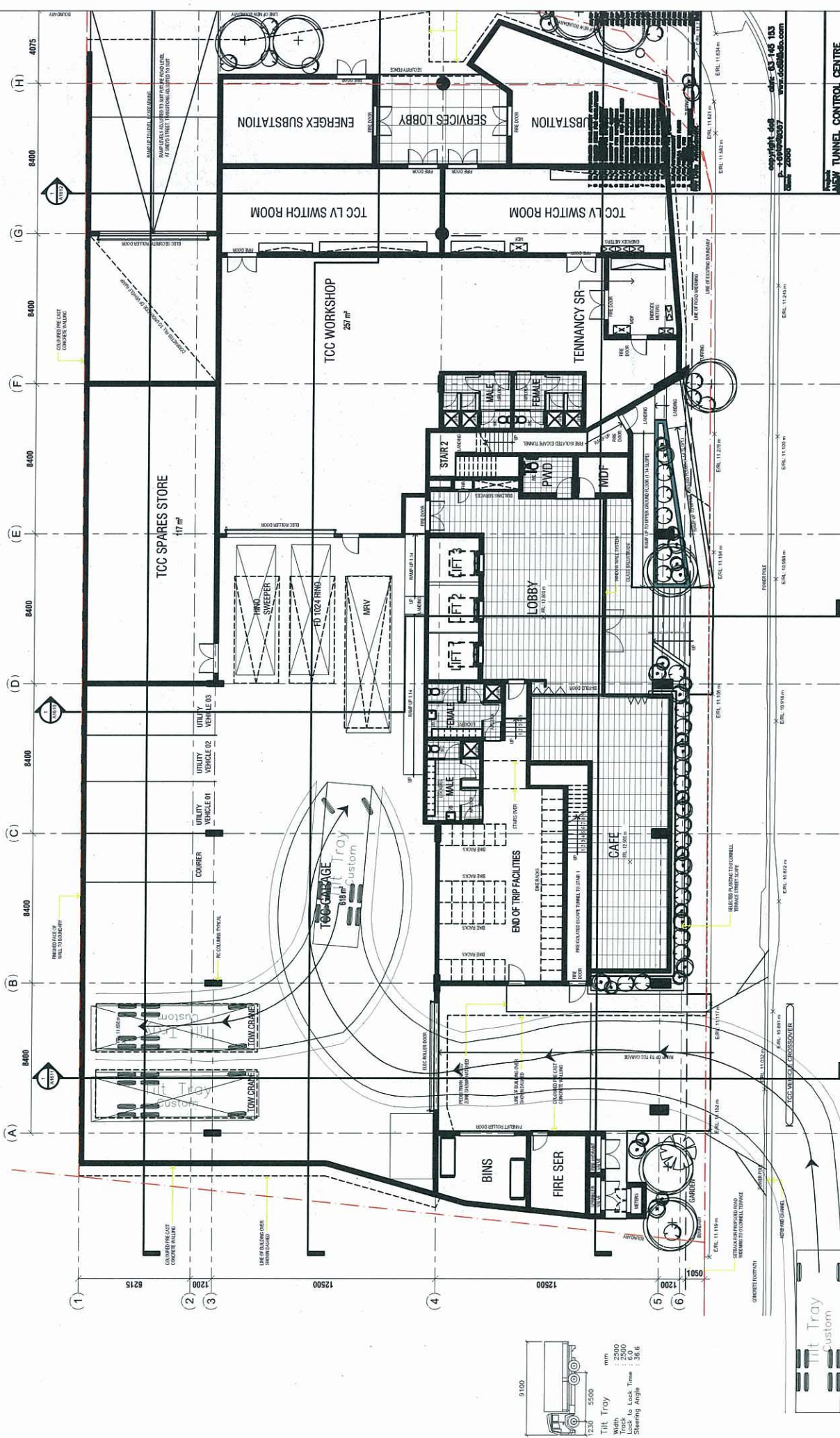


O'CONNELL TERRACE

NEW TUNNEL CONTROL CENTRE
O'CONNELL TUNNEL
TERRACE BOWEN HILLS OPTION C
GROUND FLOOR GENERAL ARRANGEMENT
FLOOR PLAN

Scale: 1:1
RF8005 TCC 08/30/14
AW
1000





O'CONNELL TERRACE

NEW TUNNEL CONTROL CENTRE
O'CONNELL
TERRACE BOWEN HILLS OPTION C
GROUND FLOOR GENERAL ARRANGEMENT
FLOOR PLAN

Scale: 1:1
Date: 08/08/2010
Project: TCC
Drawing: A1000

