

Drawing Issue for Court Hearing roject code 1:100 @ A1

scale 1:100 @ A1 first issued DD/MM/YYYY

project code sheet no. revision

EMAG 2003-A 07

07

EMAG

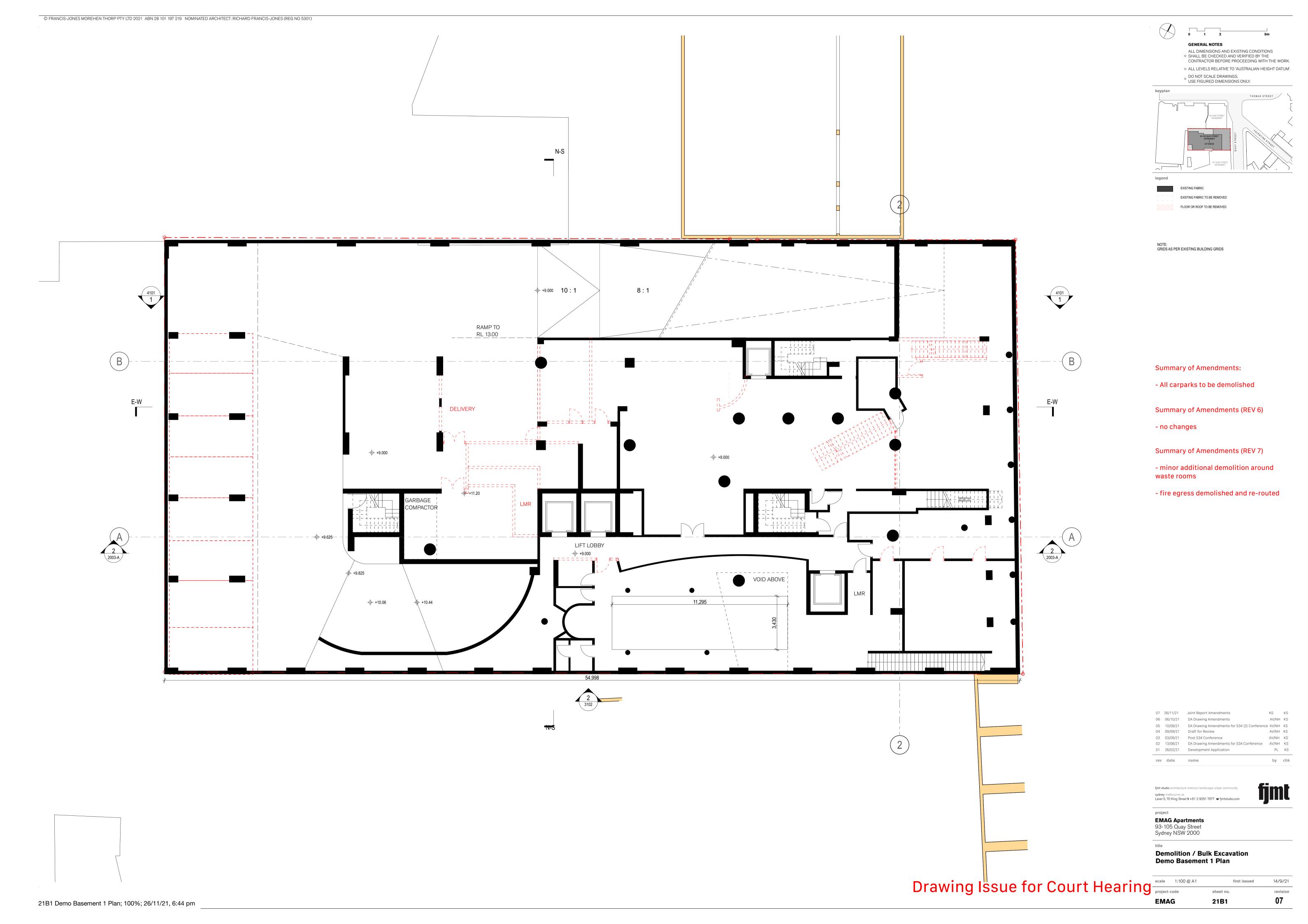
2004

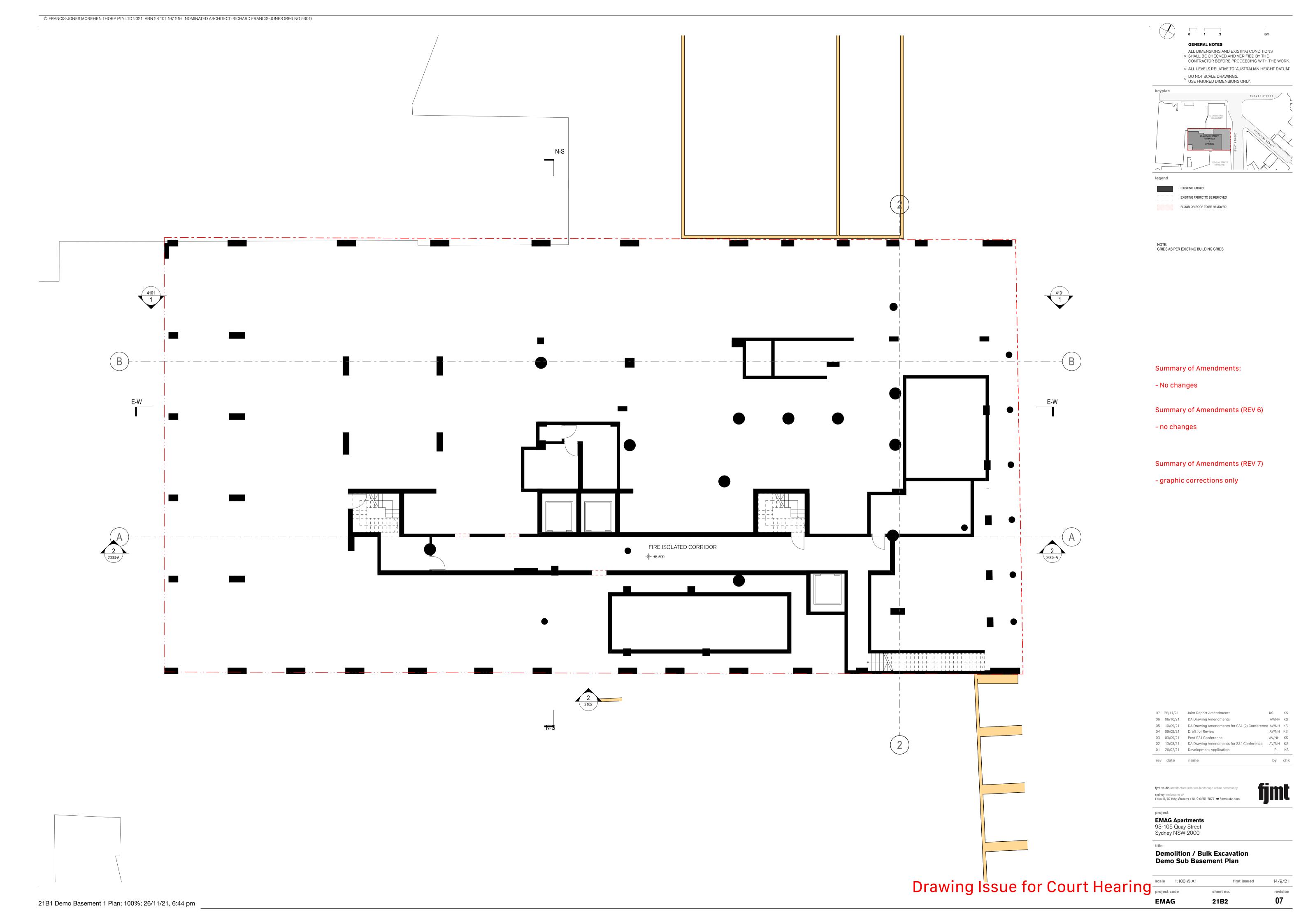
AV/NH KS AV/NH KS PL KS

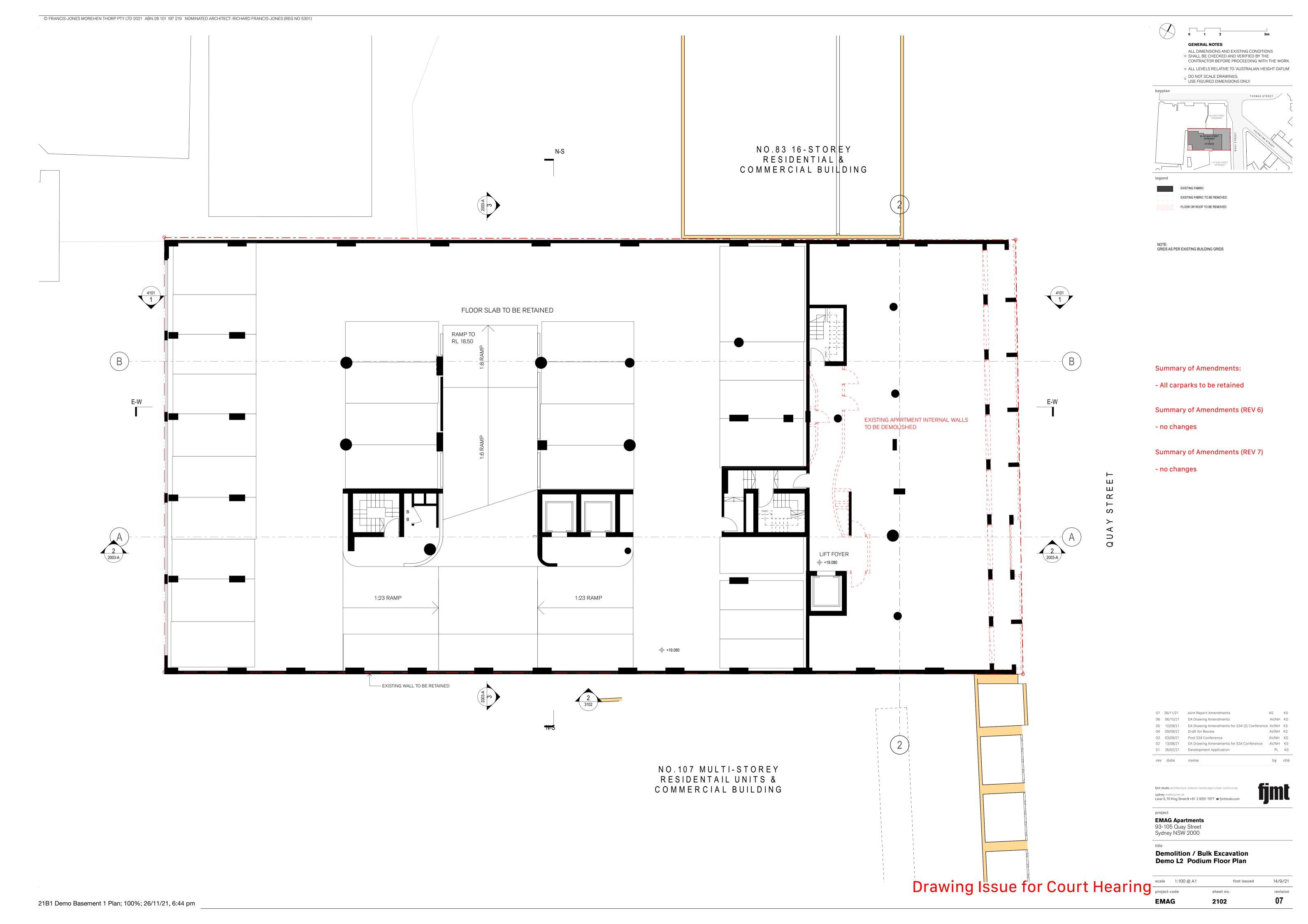
07 **EMAG** 2010

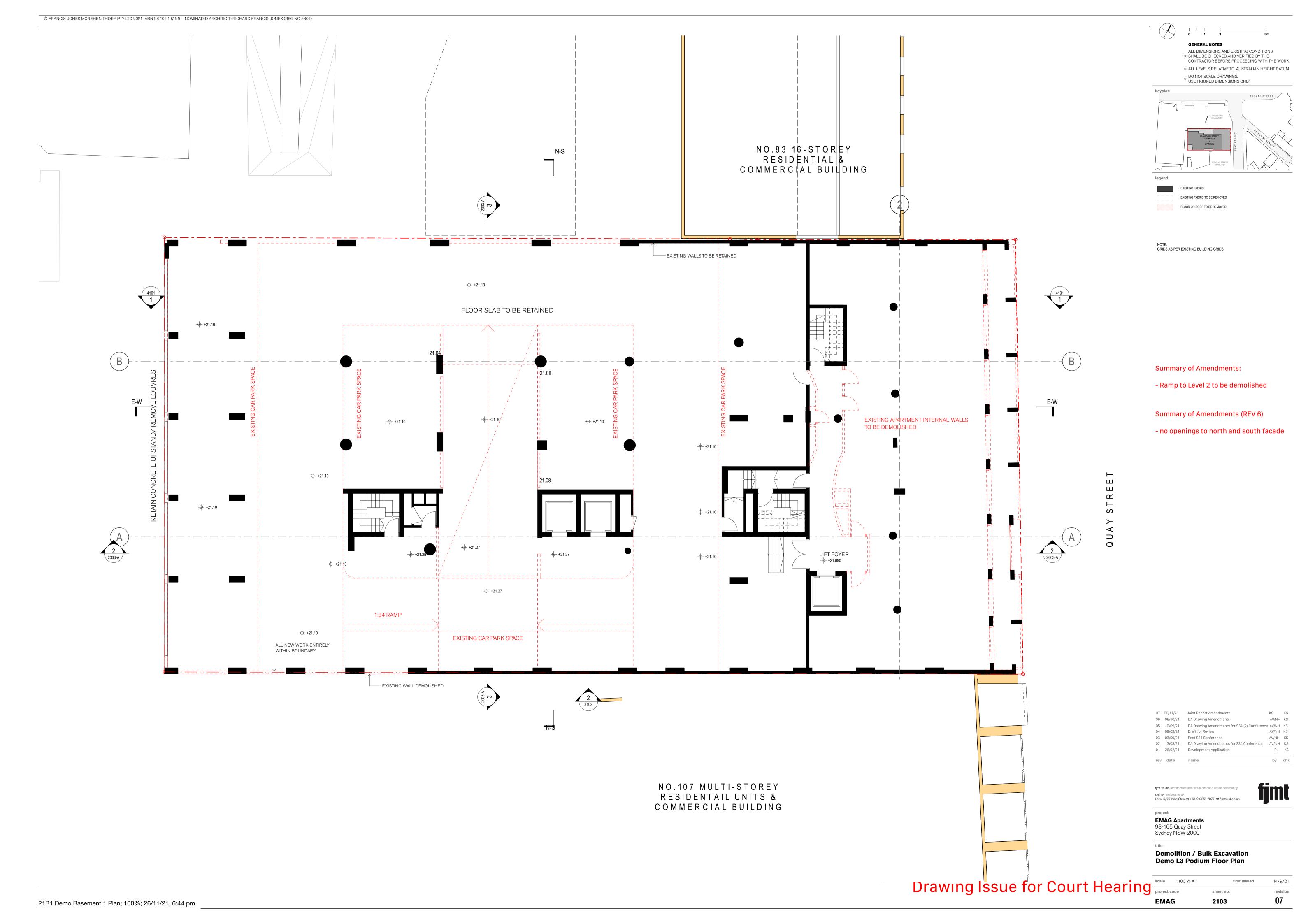
07

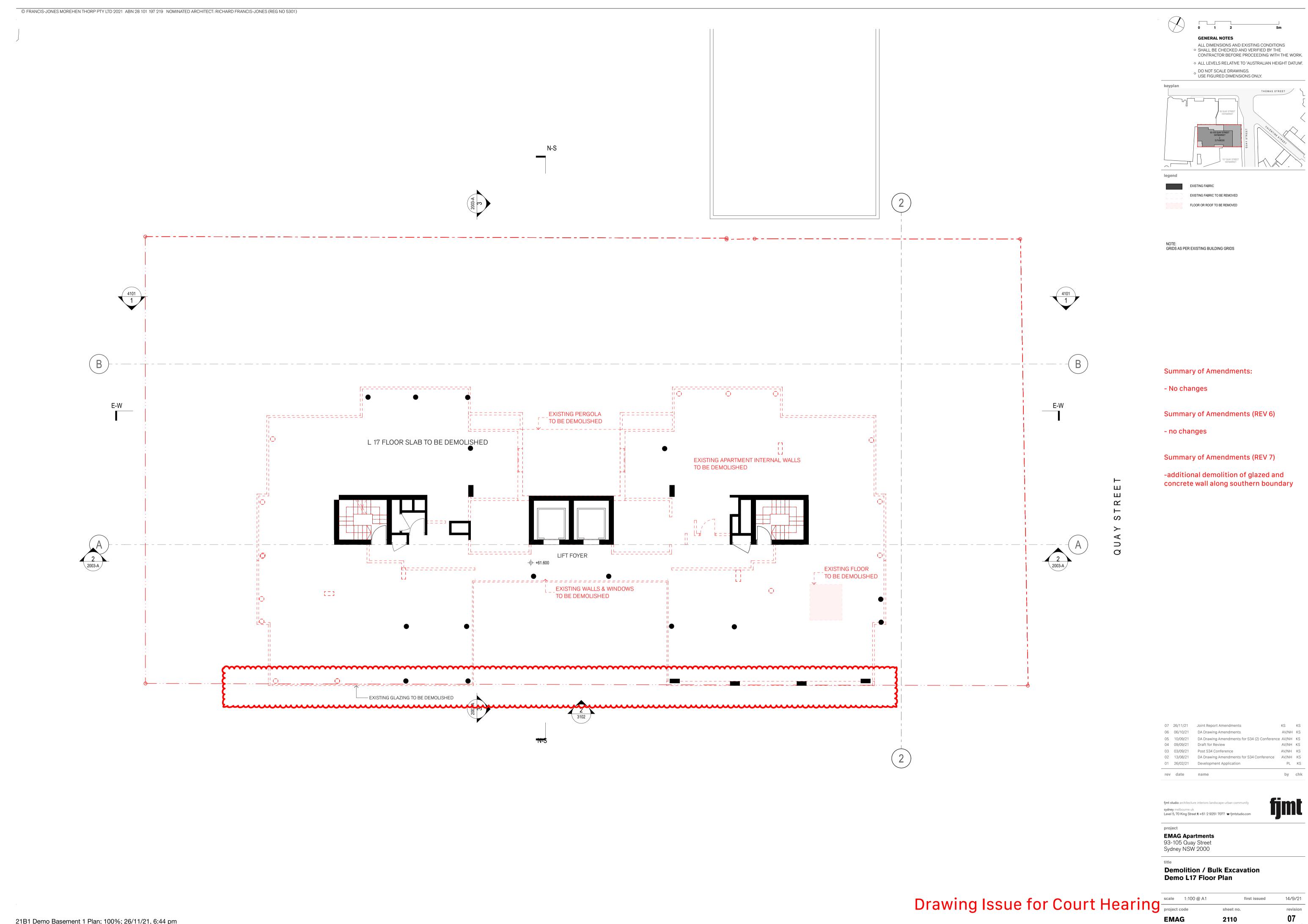
2012











Drawing Issue for Court Hearing scale 1:100@A1

first issued 07

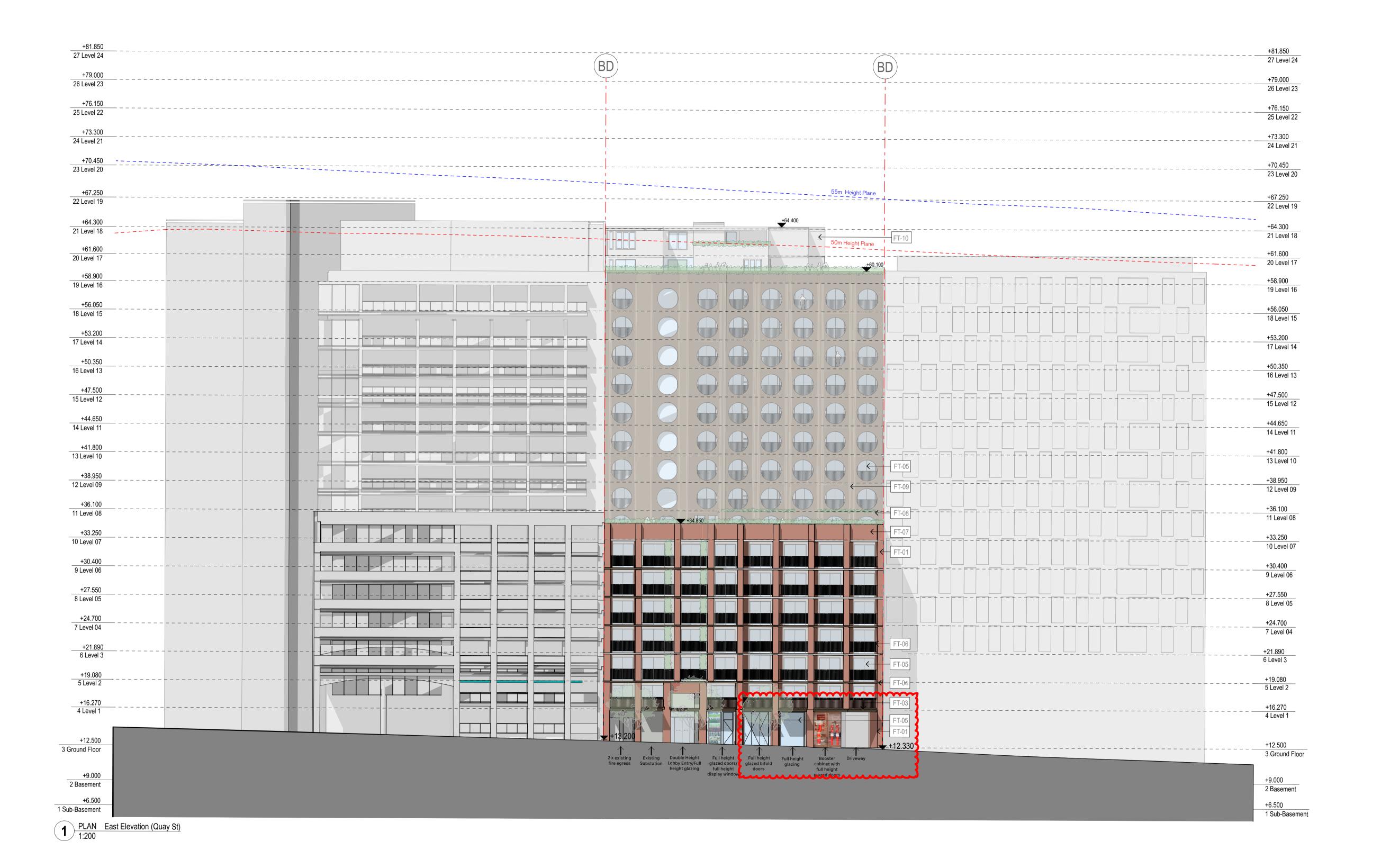
2111

Demolition / Bulk Excavation

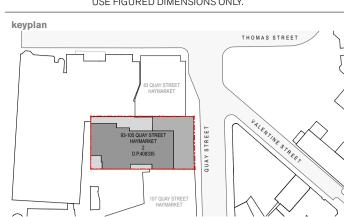
Demo L18 Roof Plan

sydney melbourne uk Level 5, 70 King Street **t** +61 2 9251 7077 **w** fjmtstudio.com

EMAG Apartments 93-105 Quay Street Sydney NSW 2000



o SHALL BE CHECKED AND VERIFIED BY THE DO NOT SCALE DRAWINGS. USE FIGURED DIMENSIONS ONLY.



FACADE TYPES

FT-01 RECYCLED BRICK WORK FT-02 EXISTING CONCRETE WALL

FT-04 ANODISED ALUMINIUM C-CHANNEL

FT-07 MASONRY CLADDING

FT-11 FIXED ANODIZED ALUMINIUM LOUVRES (COLOUR TO MATCH SCREEN)

NOTE: GRIDS AS PER EXISTING BUILDING GRIDS

Summary of Amendments:

- Level 19 & 18 removed

- Level 17 & 16 reduced footprint

Summary of Amendments:

- Roof terraces adjusted

- Building height to match existing at 64.95m

Summary of Amendments:

- Ground floor facade amendments

- Ground floor glazing amount increased

(REV 7) **Summary of Amendments:**

- driveway reduced

- booster cabinet relocated into driveway area to allow for additional glazing to

07	26/11/21	Joint Report Amendments	KS/RA	KS
06	06/10/21	DA Drawing Amendments	AV/NH	KS
05	10/09/21	DA Drawing Amendments for S34 (2) Conference	AV/NH	KS
04	09/09/21	Draft for Review	AV/NH	KS
03	03/09/21	Post S34 Conference	AV/NH	KS
02	13/08/21	DA Drawing Amendments for S34 Conference	AV/NH	KS
01	26/02/21	Development Application	PL	KS

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3100 1:200 Elevations East Elevation (Quay St) +76.150

25 Level 22

24 Level 21

20 Level 17

19 Level 16

17 Level 14

16 Level 13

+44.650

14 Level 11

13 Level 10

+38.950

+36.100 11 Level 08

+33.250

+30.400

+27.550

8 Level 05

+21.100 FT-06 Level 3 Communal Hub

5A Level 2 Carpark

4A Level 1 Carpark

3 Ground Floor

2 Basement

2 ELEVATION South Elevation 1:200

1 Sub-Basement

FT-06

FT-02

9 Level 06

10 Level 07

12 Level 09 FT-09

+76.150

25 Level 22

24 Level 21

+70.450

+67.250

+64.300

+61.600- -20 Level 17

22 Level 19

21 Level 18

19 Level 16

+56.050

+53.200 17 Level 14

+50.350

+44.650

+41.800

+38.950

14 Level 11

13 Level 10

12 Level 09

+36.100 11 Level 08

+33.250

10 Level 07

+30.400 9 Level 06

+27.550 8 Level 05

+24.700 7 Level 04

+21.890 6 Level 3

+12.500 3 Ground Floor

> +9.000 2 Basement

1 ELEVATION North Elevation 1:200

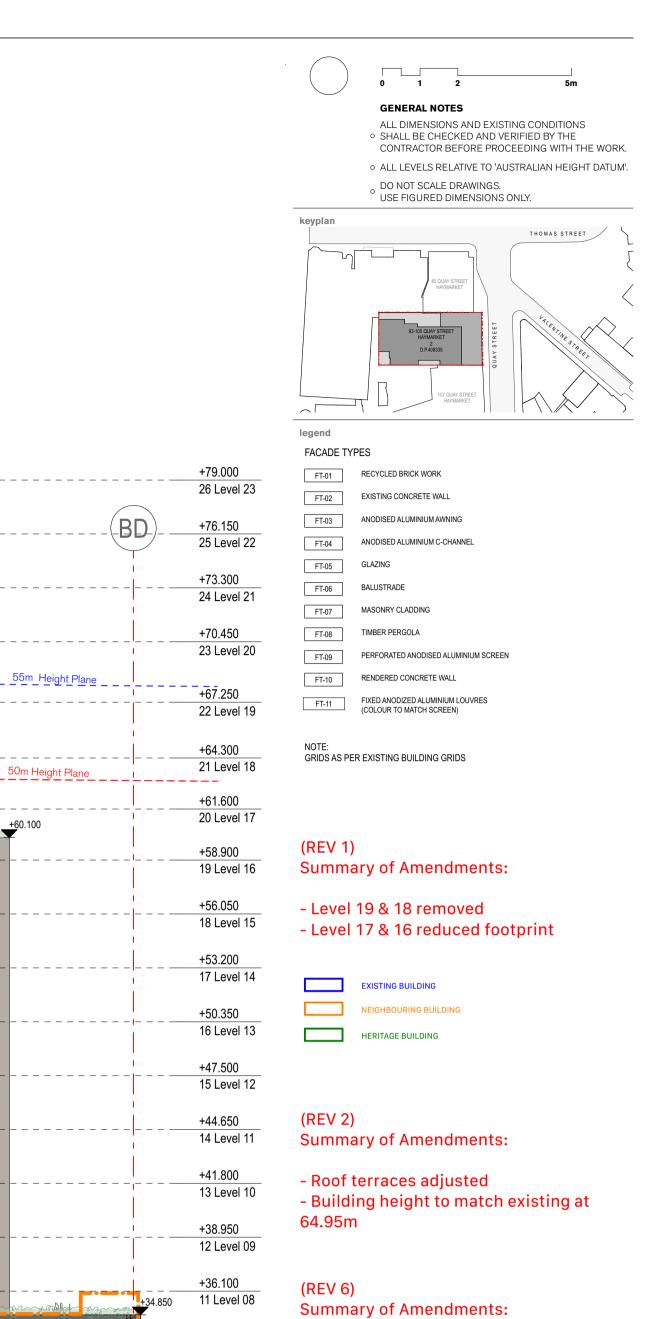
1 Sub-Basement

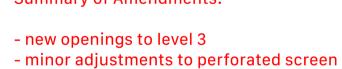
+19.080 5 Level 2

- - - - +16.270 4 Level 1

16 Level 13

23 Level 20





+33.250

+30.400

9 Level 06

+27.550

8 Level 05

+24.700

+21.890 6 Level 3

+19.080 5 Level 2

+6.500 1 Sub-Basement

7 Level 04

10 Level 07

Summary of Amendments:

- fixed aluminium louvres to new communal area and adjacent rooms to improve privacy

+12.500	07	26/11/21	Joint Report Amendments	KS/RA	KS
3 Ground Floor	06	06/10/21	DA Drawing Amendments	AV/NH	KS
	05	10/09/21	DA Drawing Amendments for S34 (2) Conference	AV/NH	KS
	04	09/09/21	Draft for Review	AV/NH	KS
+9.000	03	03/09/21	Post S34 Conference	AV/NH	KS
2 Basement	02	13/08/21	DA Drawing Amendments for S34 Conference	AV/NH	KS
2 Basemont	01	26/02/21	Development Application	PL	KS

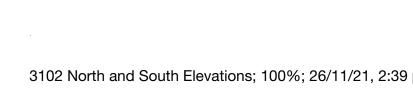
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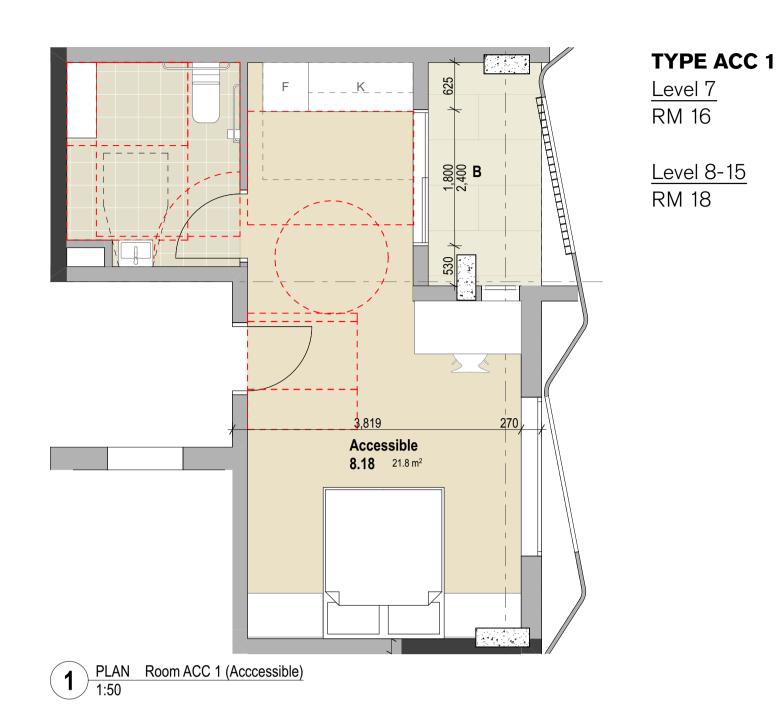
EMAG Apartments 93-105 Quay Street Sydney NSW 2000

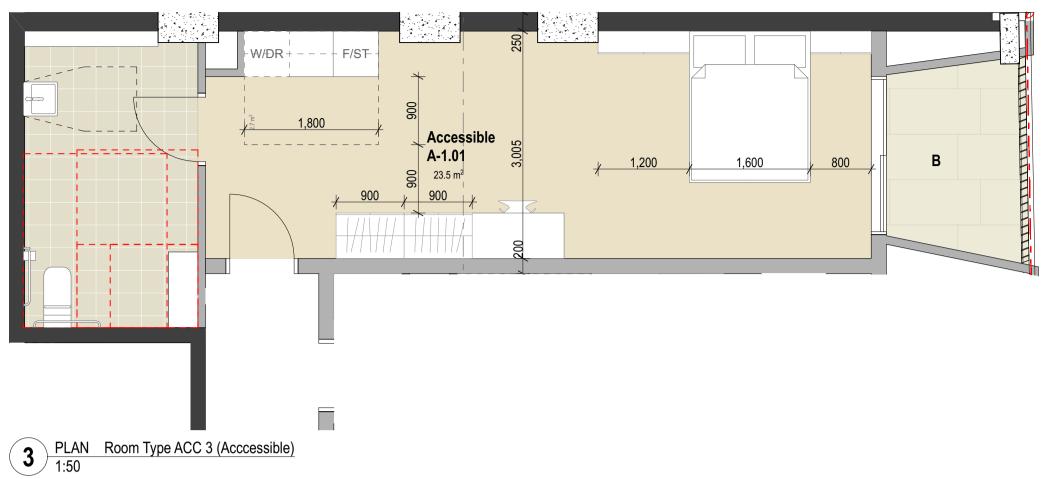
3100 1:200 Elevations **North and South Elevations**

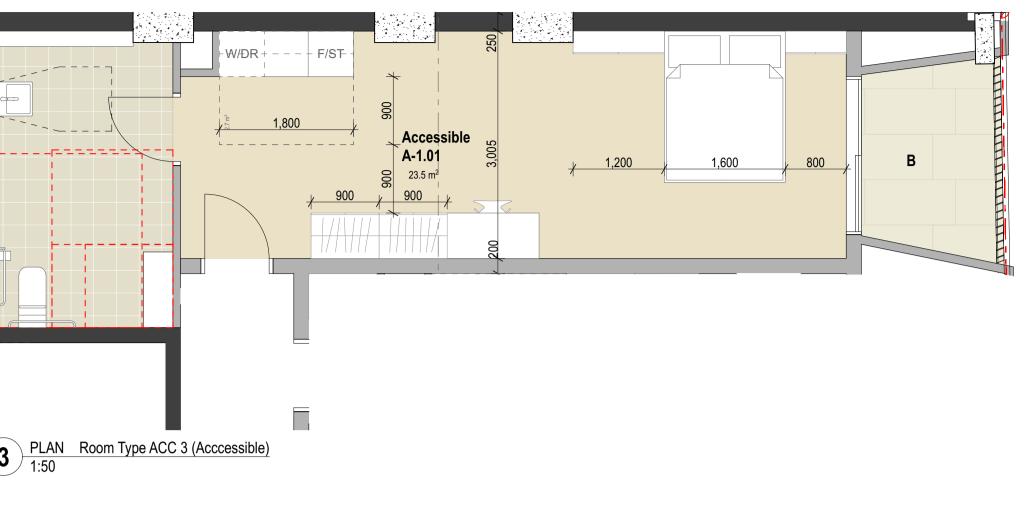








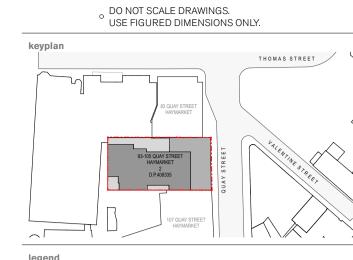






<u>Level 1</u>-3

RM 01

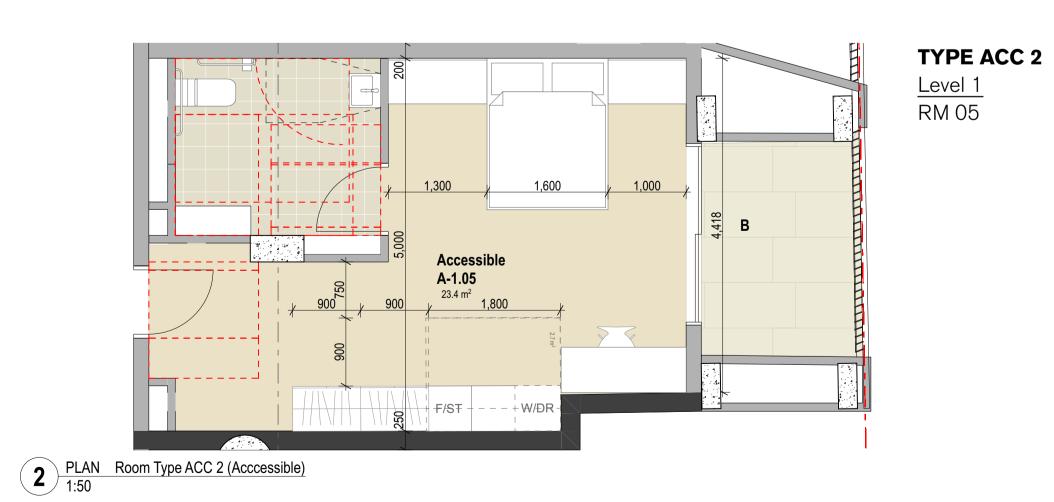


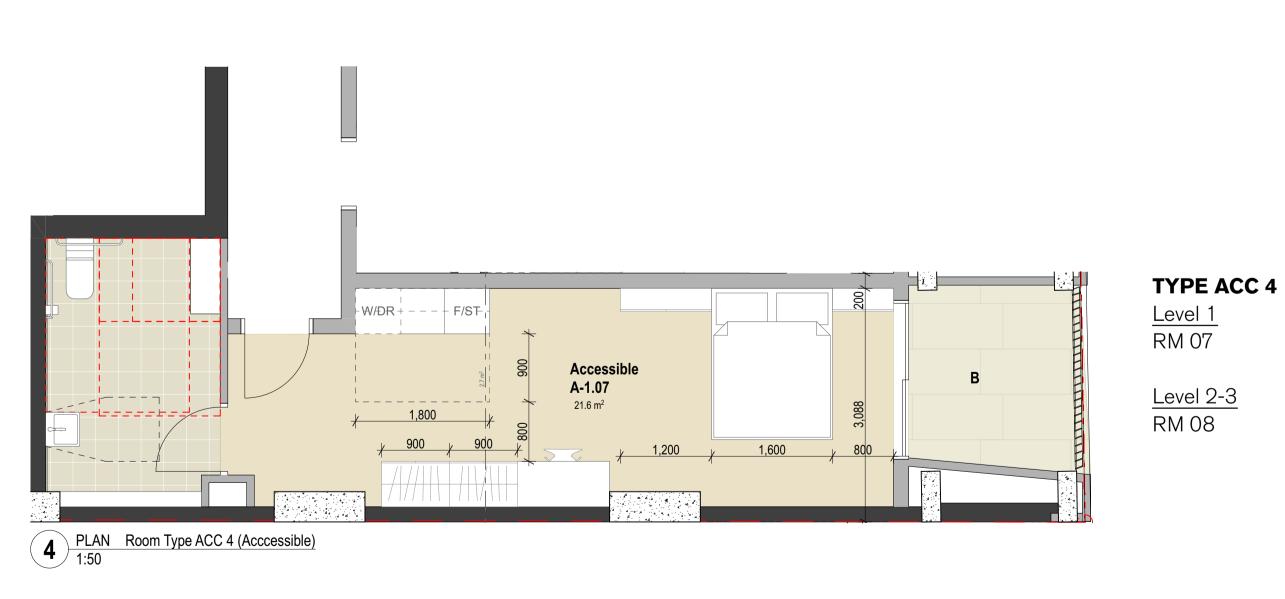
ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE

CONTRACTOR BEFORE PROCEEDING WITH THE WORK. • ALL LEVELS RELATIVE TO 'AUSTRALIAN HEIGHT DATUM'.

legend BEDROOM AREA KITCHEN AREA LAUNDRY AREA BATHROOM AREA

NOTE: GRIDS AS PER EXISTING BUILDING GRIDS





(REV 2) New room layouts to all levels

> (REV 7) Summary of Amendments:

Summary of Amendments:

- room layout changes to accommodate additional wardrobes and desks

Note:
All units of the same type are similar, different lengths and widths might apply but the overall arrangement is the same

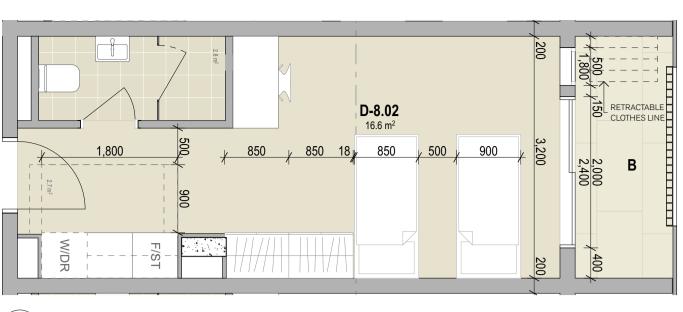
06 06/10/21 DA Drawing Amendments AV/NH KS 02 13/08/21 DA Drawing Amendments for S34 Conference AV/NH KS 01 26/02/21 Development Application PL KS rev date

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Compliance Diagrams
Accessible Units

scale 1:100 @ A1 first issued 14/9/21 project code revision 07 **EMAG** 5201



PLAN Room Type A 1:50

TYPE A

Level 1	Level 7
RM 02 - RM 04	RM 01- RM 0
RM06	RM 06
	RM 15

Level 2-3

RM 03 - RM 05 Level 8-14 Typical Floor

RM 01-RM 04 RM 06 Level 4 RM 01 RM 13 RM 02 RM 14

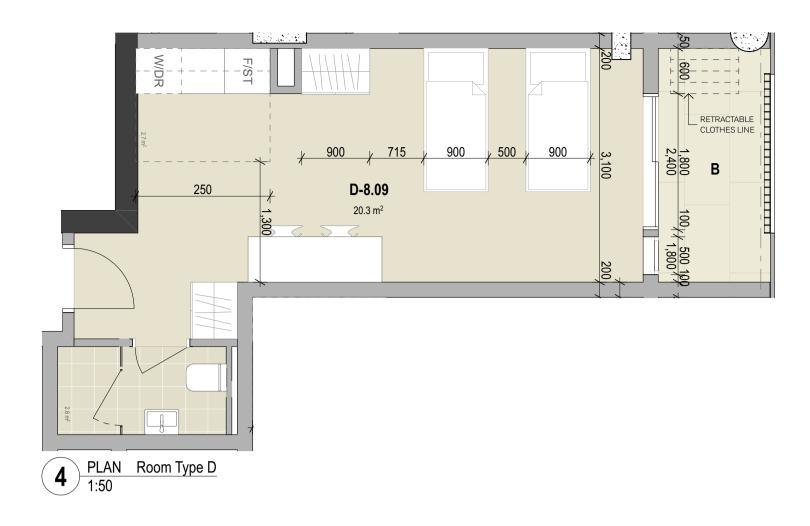
RM 04 RM 11

RM 14 - RM 15 Level 15 RM 17 RM 01-RM 04

RM 17

RM 06 RM 13 Level 5-6 RM 01- RM 04 RM 14 RM 06 RM 17 RM 13

RM 15 - RM 17 Level 16-17 RM 19 RM 02



TYPE D Level 4

RM 07

Level 5-15 RM 09

Level 16-17 RM 05

> BEDROOM AREA KITCHEN AREA LAUNDRY AREA BATHROOM AREA

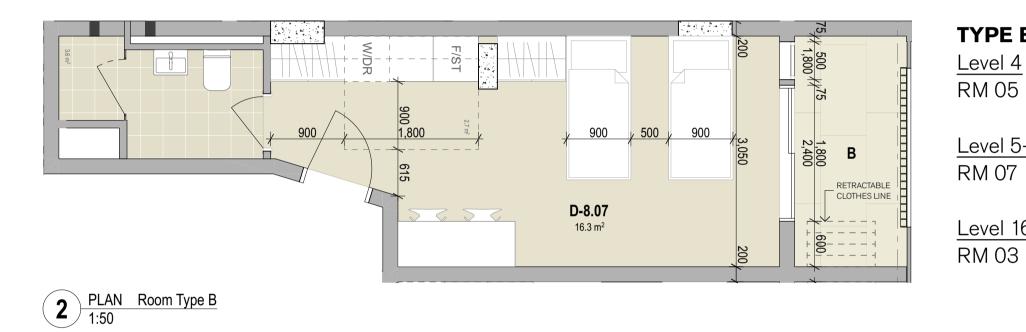
legend

NOTE: GRIDS AS PER EXISTING BUILDING GRIDS

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o DO NOT SCALE DRAWINGS.
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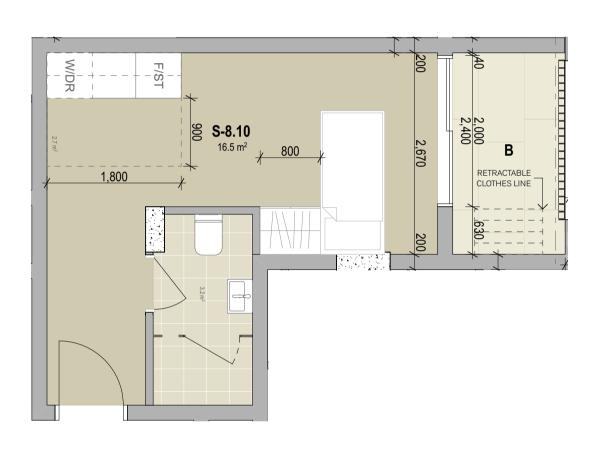


TYPE B Level 4

Level 5-15 RM 07

Level 16-17

RM 03



TYPE E

Level 7-15 RM 10

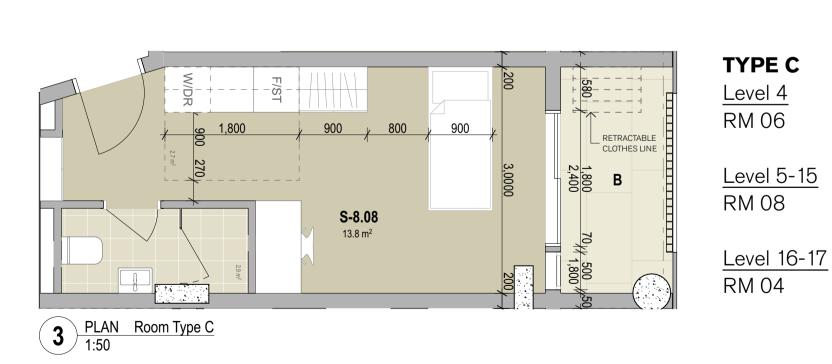
Level 16-17 RM 06

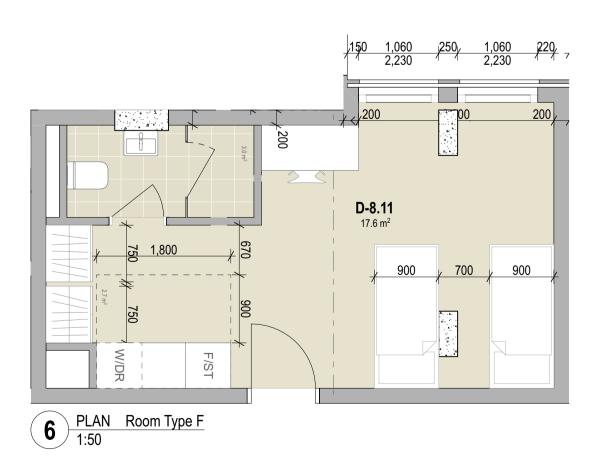
TYPE F

RM 11

<u>Level 7-15</u>

PLAN Room Type E 1:50





Summary of Amendments:

(REV 2) New room layouts to all levels

(REV 7)

Summary of Amendments:

- room layout changes to accommodate additional wardrobes and desks

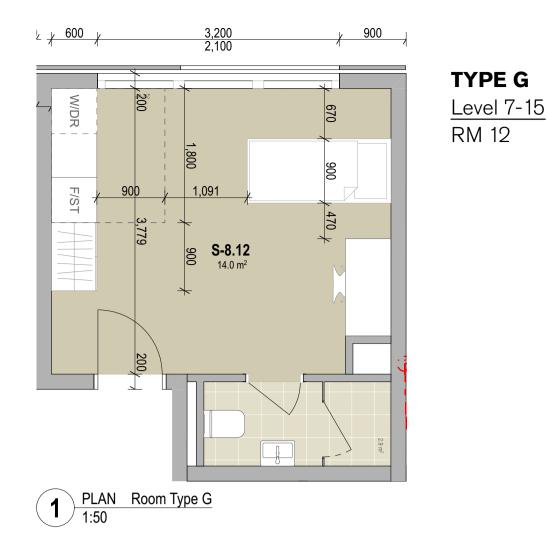
Note:
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06 06/10/21 DA Drawing Amendments AV/NH KS 02 13/08/21 DA Drawing Amendments for S34 Conference AV/NH KS 01 26/02/21 Development Application PL KS rev date

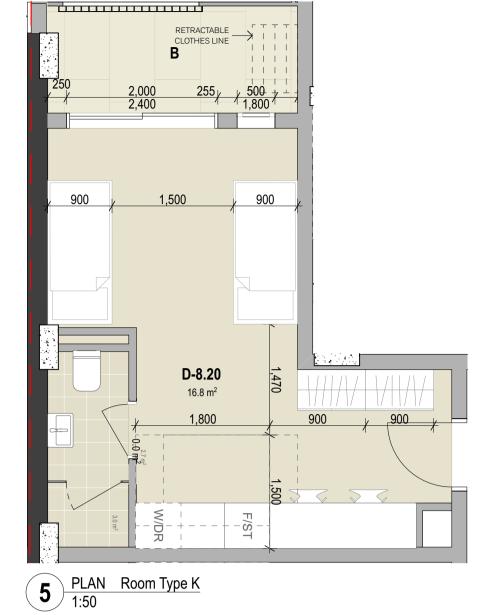
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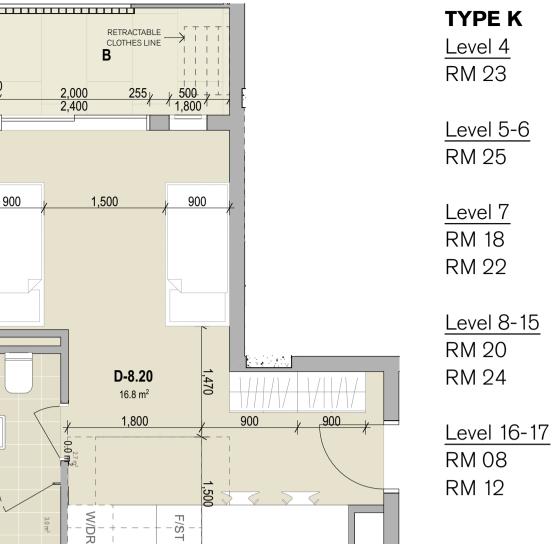
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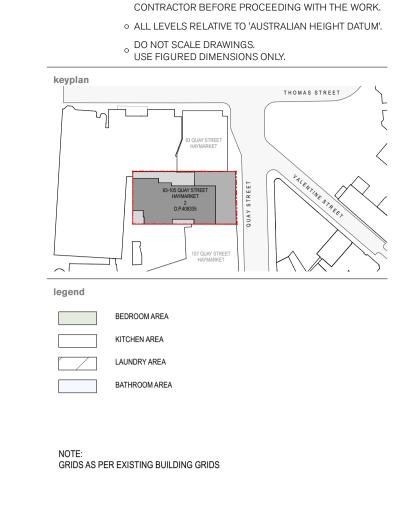
Compliance Diagrams
Typical Units





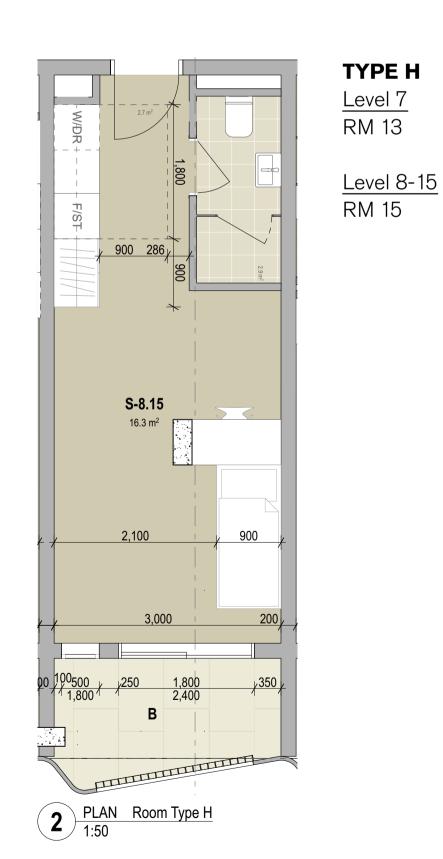


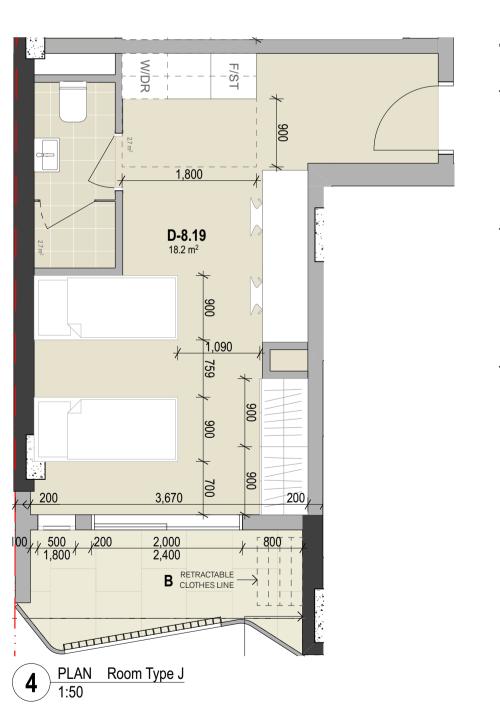


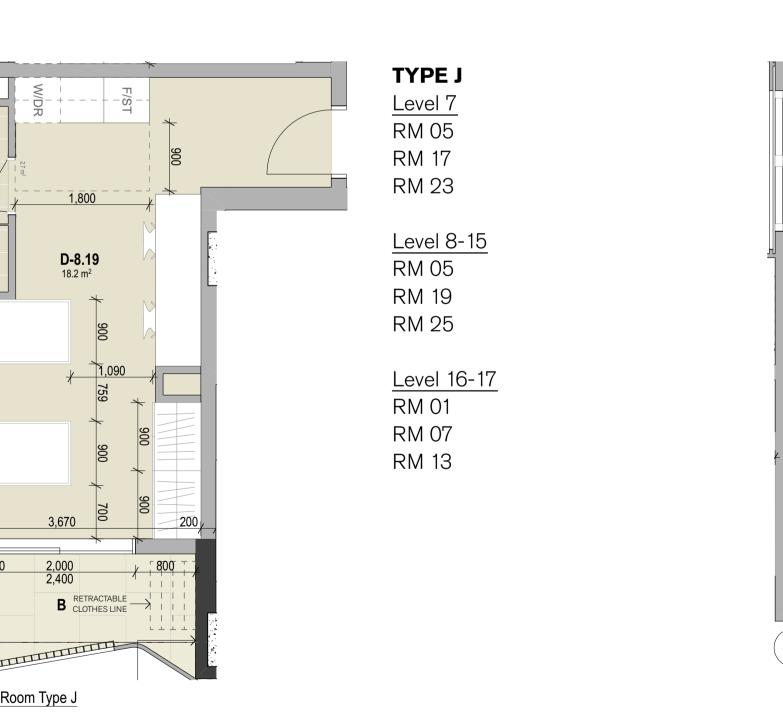


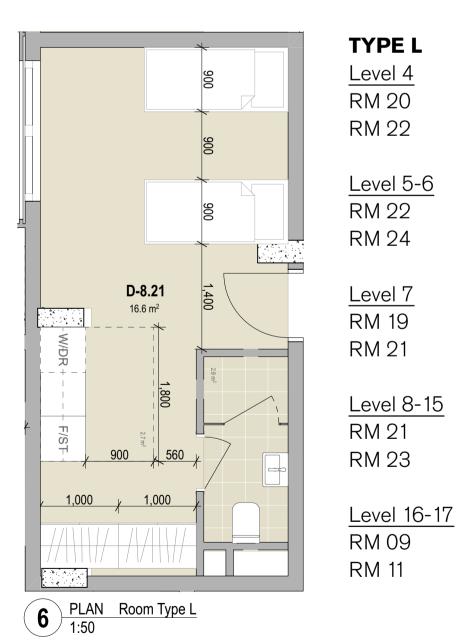
ALL DIMENSIONS AND EXISTING CONDITIONS

SHALL BE CHECKED AND VERIFIED BY THE









Summary of Amendments: (REV 2) New room layouts to all levels (REV 7) **Summary of Amendments:**

- room layout changes to accommodate additional wardrobes and desks

Note:
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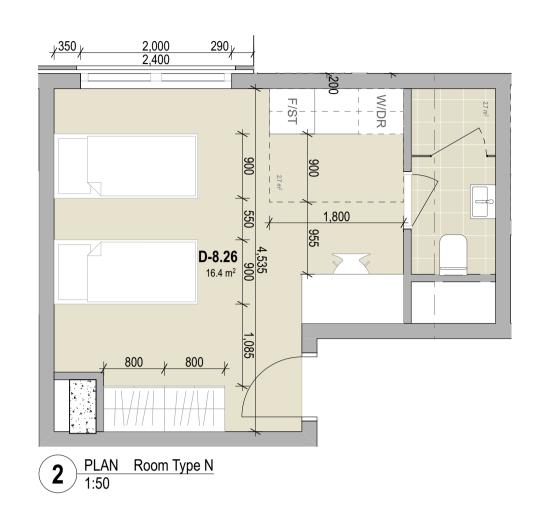
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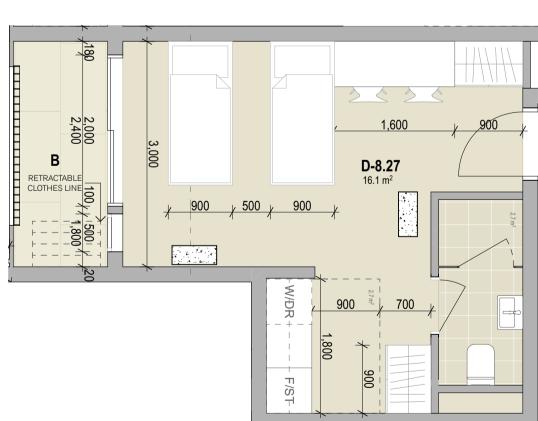
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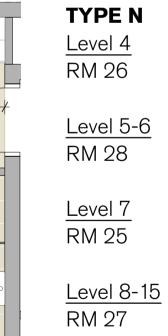
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Compliance Diagrams
Typical Units (1)

scale 1:100 @ A1 first issued 14/9/21 project code revision 07 **EMAG** 5203







TYPE M

Level 5-6

RM 27

Level 7

RM 24

RM 26

Level 16

RM 14

Level 8-15

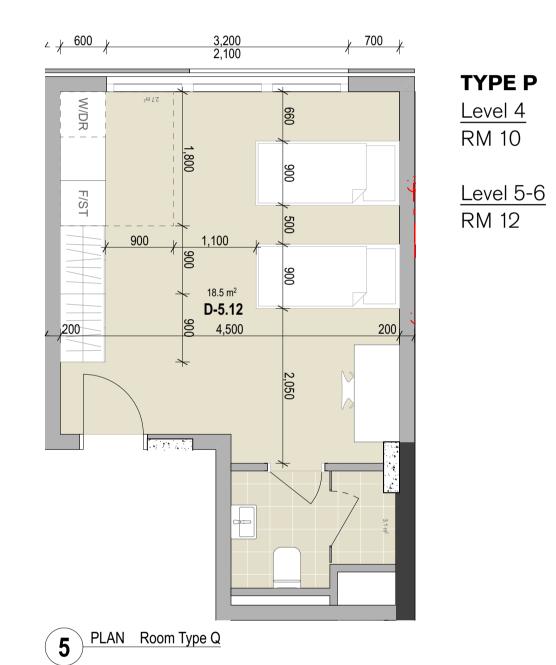
Level 4 RM 25

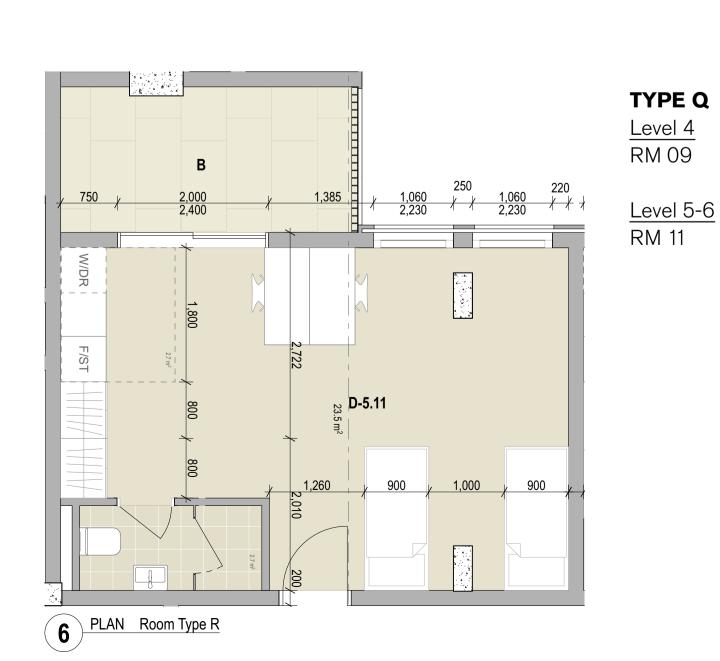
PLAN Room Type O 1:50

2,400
RETRACTABLE
CLOTHES LINE **S-8.28**13.3 m²
1,750 PLAN Room Type P 1:50

Level 4 RM 27 Level 5-6 RM 29 Level 7 RM 26 Level 8-15 RM 28

TYPE 0





- room layout changes to accommodate additional wardrobes and desks

Summary of Amendments:

New room layouts to all levels

Summary of Amendments:

ALL DIMENSIONS AND EXISTING CONDITIONS

SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR BEFORE PROCEEDING WITH THE WORK.

• ALL LEVELS RELATIVE TO 'AUSTRALIAN HEIGHT DATUM'.

o DO NOT SCALE DRAWINGS.
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legend

(REV 2)

(REV 7)

Note:
All units of the same type are similar, different lengths and widths might apply but the overall arrangement is the same

AV/NH KS

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Compliance Diagrams Typical Units (2)

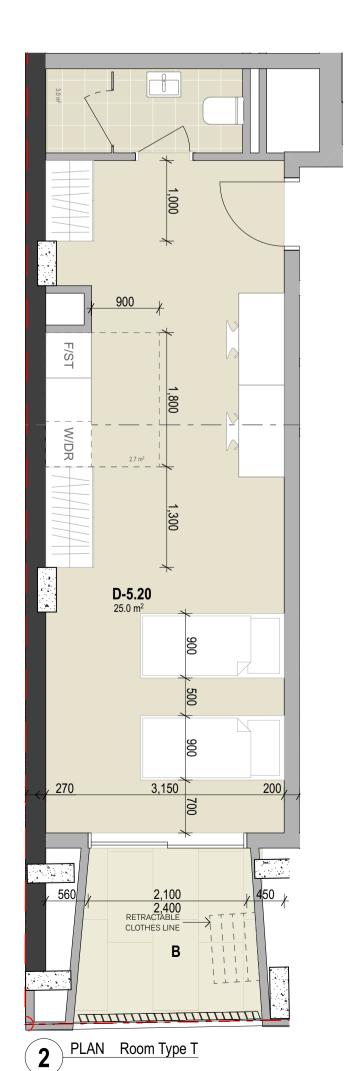
07 26/11/21 Joint Report Amendments 06 06/10/21 DA Drawing Amendments

scale 1:100 @ A1 first issued DD/MM/YYYY project code 07 5204



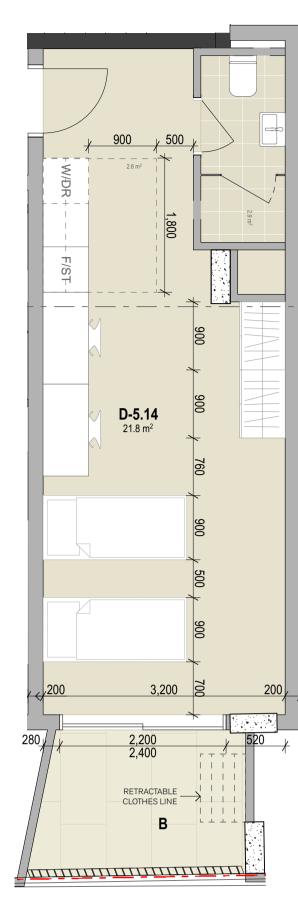
TYPE R Level 2-3 RM 02 RM 06

PLAN Room Type S 1:50



TYPE S Level 4 RM 18

<u>Level 5-6</u> RM 20

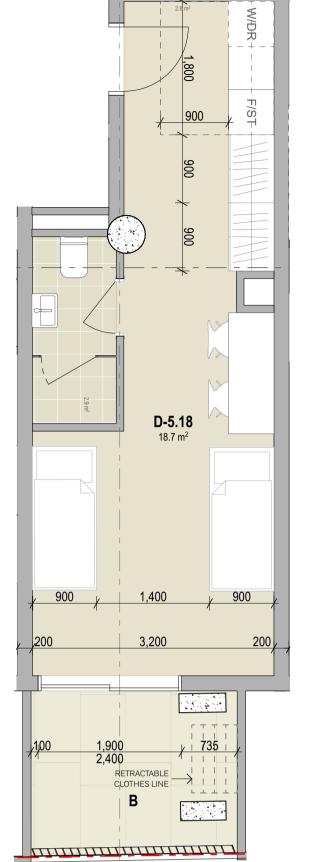


3 PLAN Room Type U



TYPE T Level 4 RM 12

Level 5-6 RM 14



5 PLAN Room Type W

TYPE V

Level 5-6 RM 18

Level 4 RM 16

TYPE W

Summary of Amendments:

(REV 2) New room layouts to all levels

(REV 7) Summary of Amendments:

- room layout changes to accommodate additional wardrobes and desks

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legend

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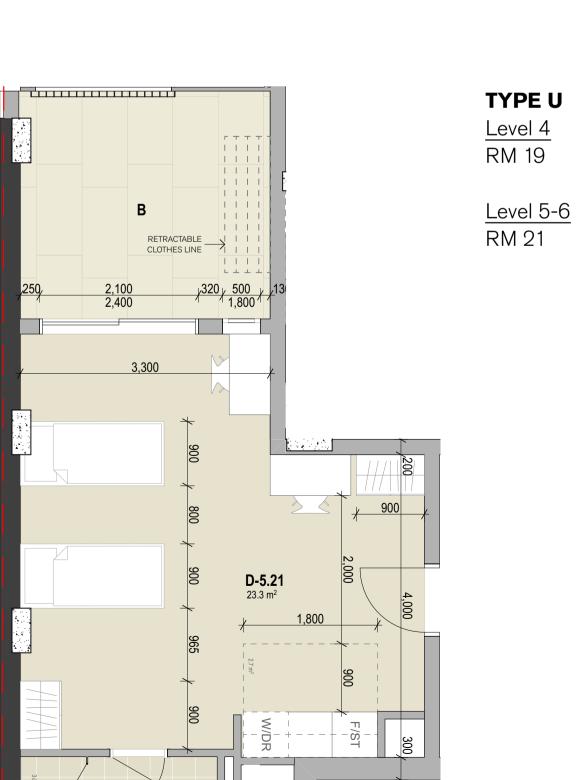
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07 26/11/21 Joint Report Amendments 06 06/10/21 DA Drawing Amendments AV/NH KS rev date name sydney melbourne uk Level 5, 70 King Street **t** +61 2 9251 7077 **w** fjmtstudio.com

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Compliance Diagrams
Typical Units (3)

scale 1:100 @ A1 first issued DD/MM/YYYY project code

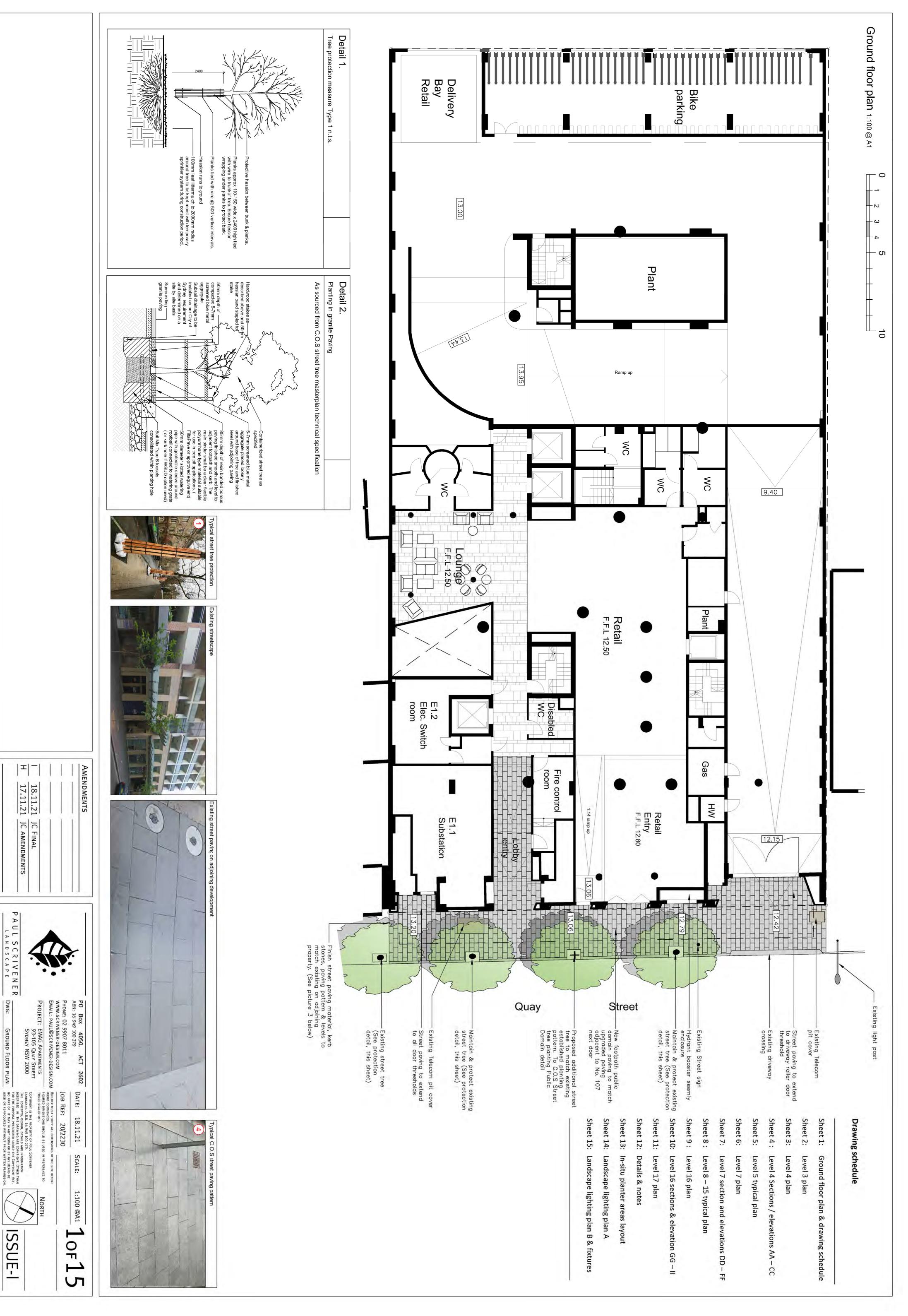


<u>Level 2-3</u> RM 07 D-2.07 23.4 m^2 RETRACTABLE CLOTHES LINE

6 PLAN Room Type S 1:50

Drawing Issue for Court Hearing **EMAG**

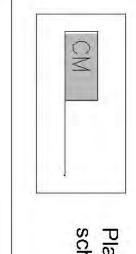
07 5205



Dwg:

GROUND FLOOR PLAN





Planting symbol (See schedule, sheet 8)

포 -18.11.21 JC FINAL 17.11.21 JC AMENDMENTS

AMENDMENTS

PAUL SCRIVENER

Dwg: PROJECT: EMAG APARTMENTS
93-105 QUAY STREET
SYDNEY NSW 2000

PO Box 4050. ABN: 16 949 100 279

DATE:

18.11.21

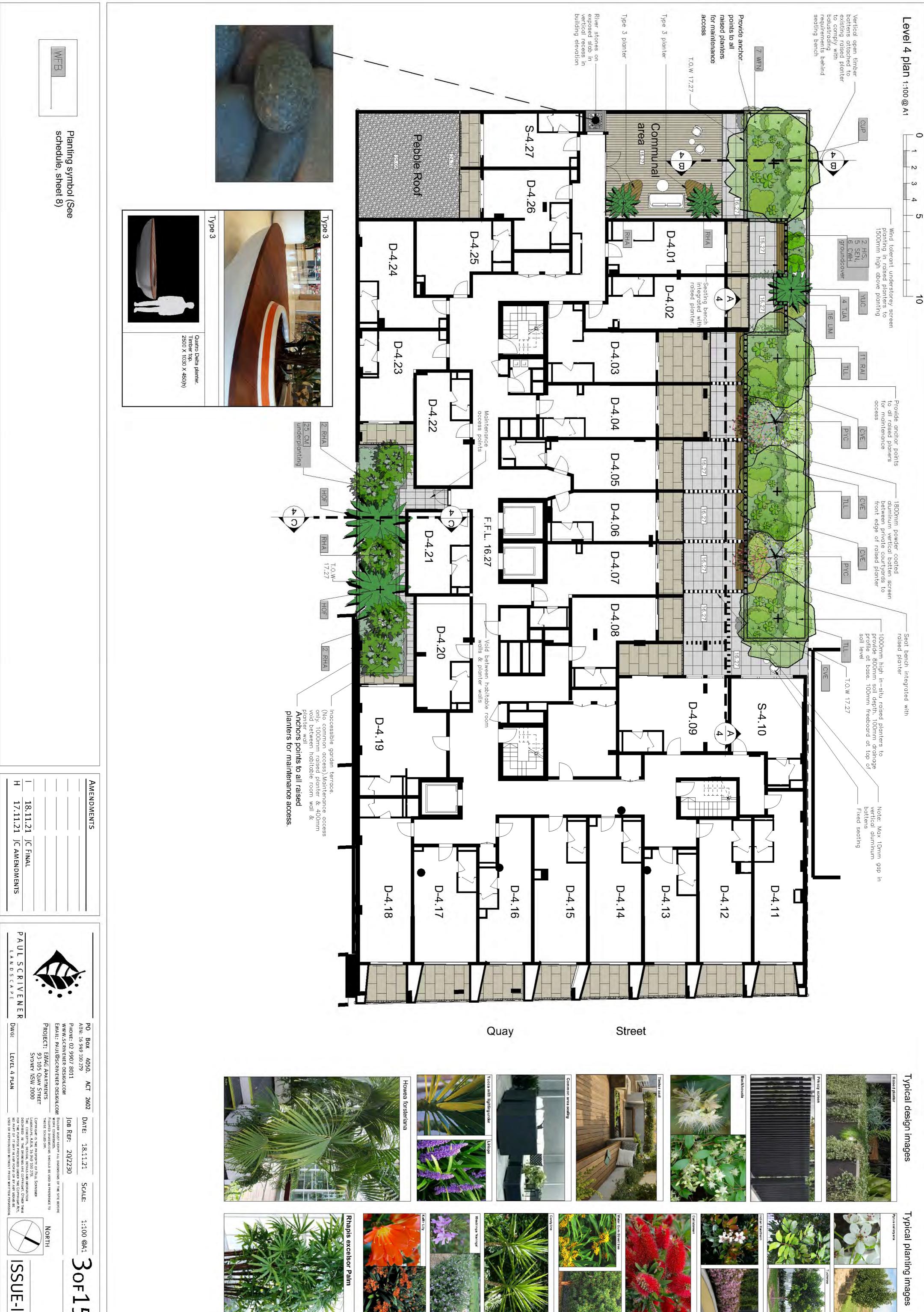
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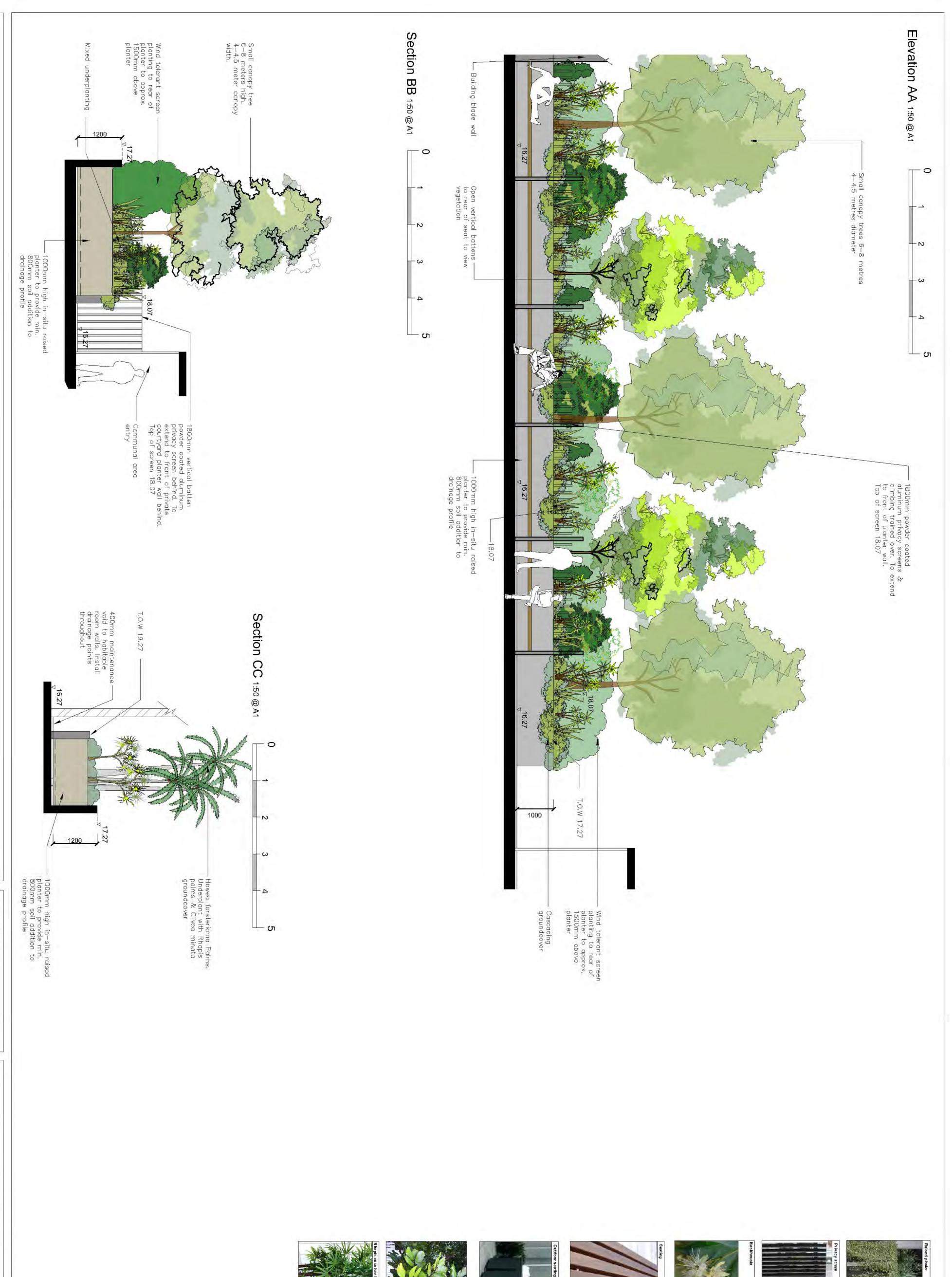
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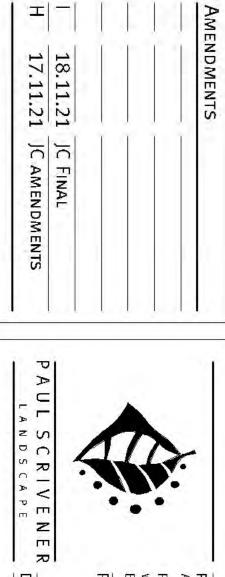
JOB REF: 20/2230

PHONE: 02 9907 8011 WWW.SCRIVENER-DESIGN.COM EMAIL: PAUL@SCRIVENER-DESIGN.COM

2_{of} 5







PO Box 4050. ACT 2602 D.
ABN: 16 949 100 279

PHONE: 02 9907 8011

WWW.SCRIVENER-DESIGN.COM
EMAIL: PAUL@SCRIVENER-DESIGN.COM
EMAIL: DATE:

18.11.21

SCALE:

1:50 @A1

40F

5

Dwg:

LEVEL 4 SECTIONS JOB REF: 20/2230

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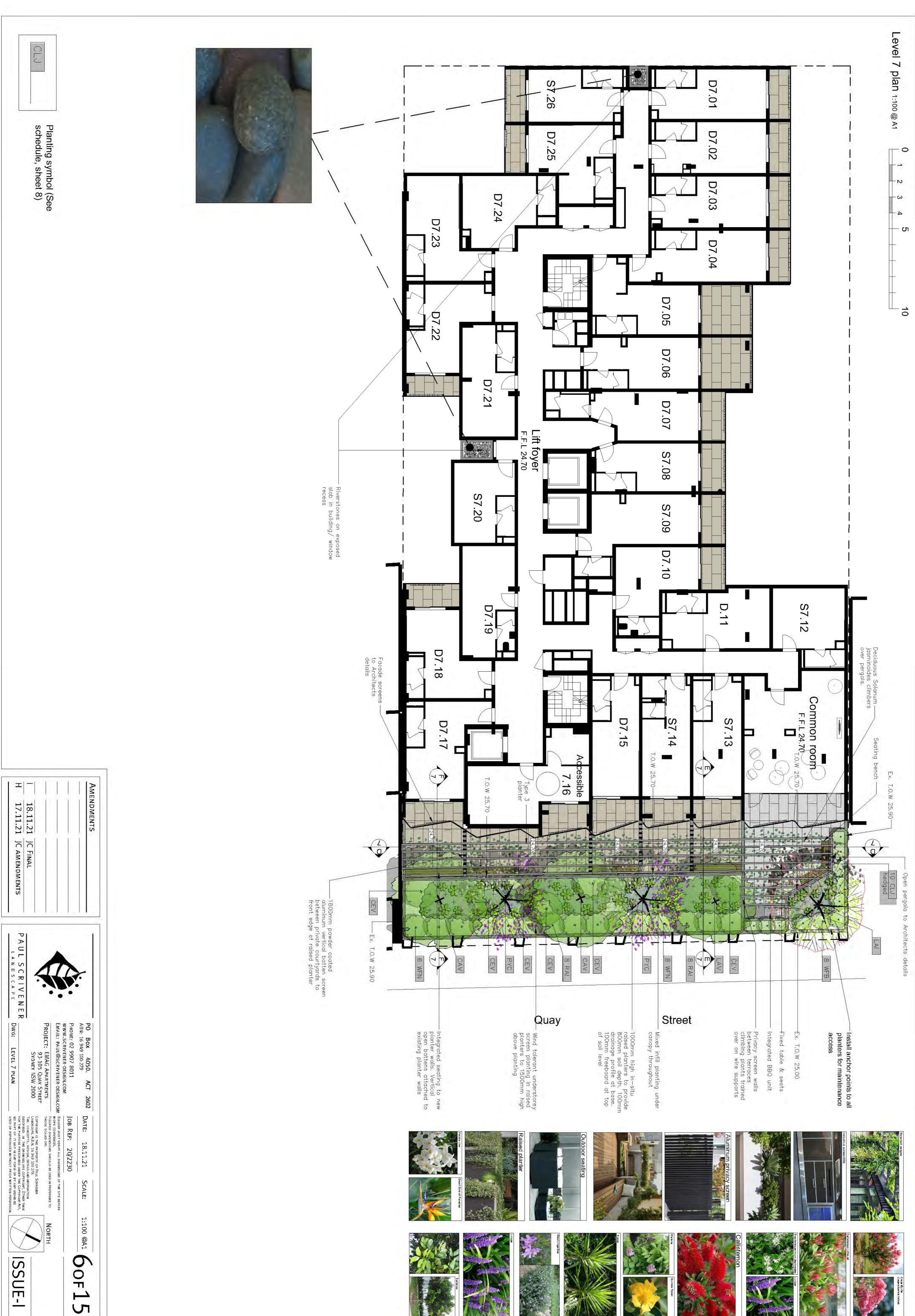


AMENDMENTS 18.11.21 17.11.21 JC FINAL
JC AMENDMENTS

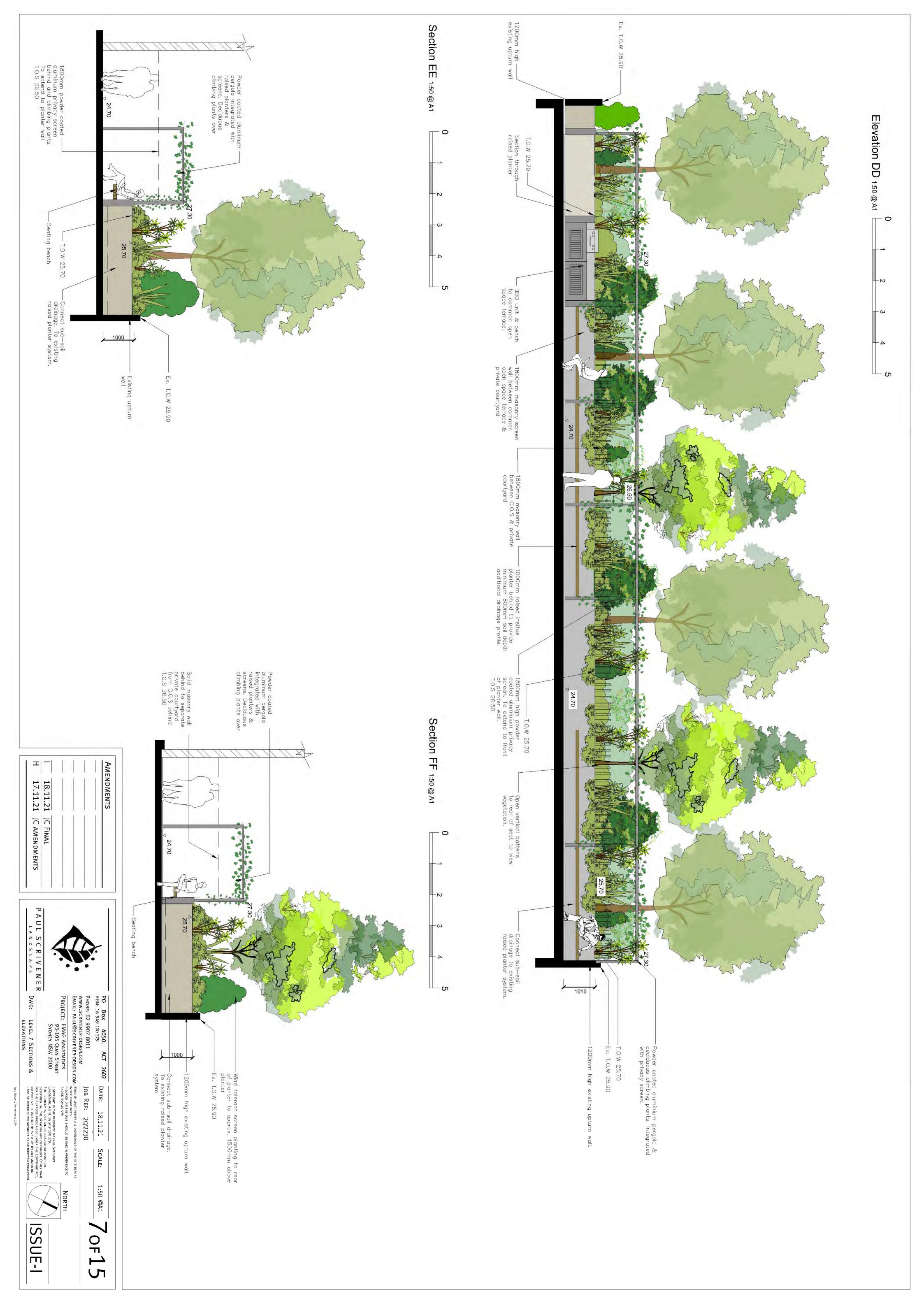
PAUL SCRIVENER

1:100 @A1 5 OF.

15



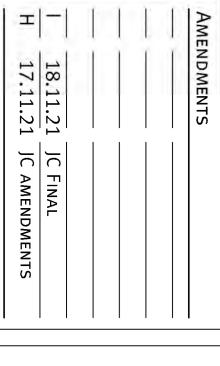
Jus: Menney/Frances

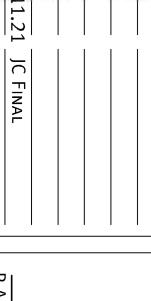




Proposed planting species

nbol Botanical name	Common name	Cont. size	Staking / hession supports	Exp. mature height	req.
es (to provide min 15% site canopy coverage	ge after 10 years. (Configured for 1000mm raised planters with	3500 x	3500mm soil area requirements.	See sheet 13 of	15)
Backhousia myrtifolia	Grey Myrtle (Native tree in deep soil)	100Lt	detail 1 sheet 12	5-7.0M	
	Ē	100Lt		7-8.0M	
A Gordonia axillaris	Fried Egg Tree. Gordonia (small flowering treeT	100Lt	detail 1 sheet 12	5-7.0M	
Pyrus calleryana 'Çapital'	Ornamental Pear (medium deciduous narrow tree)	100Lt	1 sheet 12	6-8.0M	
Syzygium paniculatum Tristaniopsis laurina 'Luscious'	Magenta Cherry (med native tree) Water Gum cultivar (indigenous small-med tree)	100Lt 100Lt	sheet 12 sheet 12	7-8.0M 5-7.0M	
een plants / small trees					l
Callistemon Kings Park Special'	Bottlebrush small (native tree for planterbox) Little .let Bottlebrush (Dense plant suitable for wind protection)	300mm	2x50x50x1800 nil	3-3.5M 1-1 4M	
amellia jap	ellia japonica (shade tolerant small tree Camellia			3-4.0M	
Callistemon citrinus 'Endeavor' Magnolia 'Little Gem'	Endeavor Crismson Bottlebrush (Flowering native small tree) Little Gem (small ornamental standard tree)		1800	2-3.0M 3-4.0M	
Plumeria acutifolia	Frangipani (small flowering deciduous tree)	45Lt	0x50x1800	4-5.0M	
Pittosporum tobira 'Miss Muffet' Raphiolepis indica	Miss Muffet Pittosporum (bright green foliage hedge) Indian Hawthorn (Dense plant suitable for wind protection)	200mm 300mm	hedged nil	0.8-1.0M 1.2-1.8M	
Syzygium 'Baby Boomer'	Dwarf Lilly Pilly (flowering informal plant)	200mm	o req.height	1.2-1.5M	
Westringia fruticosa 'Naringa'	Ozbreed Blue Gem® ((Dense plant suitable for wind protection) Ozbreed Naringa (Dense plant suitable for wind protection)	200mm	neagea heagea	1-1.4M 1.5-1.8M	
ms / Succulents					
Agave attenuata	Century plant (striking spiky leaved succulent)	200mm	<u>. 2.</u>	0.5M	
	Glant Bromellade (Large succulent leaved ornamental plant) Dwarf Chinese Bamboo (ornamental bamboo can be hedged)	200mm	<u>ni</u> 2	2.5-3.5M	
R(M) Cordyline spp. Mini	≓	200mm	<u>s.</u> <u>s.</u>	0.6M	
Chamaedorea seifrizii	Bamboo Palm (shade tolerant small Palm)	200mm	2. 1	2.0M	
Draceana marginata Draceana draco	Dragon Tree (striking feature plant)	semi adv.		2.5-3.5M	
Howea forsterana	Kentia Palm (tall palm)	semi-adv	re guys	6-80M	
Yucca elaphantipes	Giant Yucca (multi trunked spiky feature plant)	300mm	<u>2</u> . <u>1</u>	1.5M	
undcovers/Climbers					
Cissus Antarctica	Kangaroo Vine (native groundcover)	140mm	<u>⊒.</u> ⊒.	0.2M	
edera helix	English Ivy (shade tolerant climbing plant)	200mm	rtical wire cables	5.0M	
Hibbertia scandens Myoprum parvifolium	Guinea Flower (flowering climber / groundcover) Creeping Boobliala (native cascading groundcover)	200mm 140mm	<u>2. 2</u>	0.3M 0.2M	
Pandorea pandorana	Wonga Wonga Vine (native climbing plant / groundcover)	200mm	e supports on fence	3.0M	
Senicia serpens	Blue Chalk Sticks (silver blue low succulent groundcover)	200mm		0.2M	
Trachelospermum asiaticum	Flatmat Star Jasmine (FT01 Ozbbreed hyvrid groundcover)	200mm		0.2M	
Wisteria sinensis	Chinese Wisteria (deciduous climber over pergola)	300mm	over pergola	5.0M	
amental grasses/strappy leaved plants	nts				
ientalis 'Blue'	ue Lily	200mm		0.5M	
Clivea miniata Cheilocostus speciosus 'Red Stem'	Red ed	200mm 200mm	<u> </u>	0.5M 1-2.8M	
a 'Cassa B		100mm		0.44	
Linope Evergreen Glant Linope Evergreen Glant	Dwarf Mat Rush (native mass planted groundcover)	140mm	<u> </u>	0.4M	
ed groundcovers/ornamental grasses	s Infill planting for raised planters				
glaucescens	rdy salt wind tolerant trailing groundcover)			0.2M	
ondra 'Silver Falls' יערווני רוסנ	Silver Falls (cascading groundcover in roof garden)			0.15M	
ania tomentosa	Orange Flowering Daisy (low hardy coastal groundcover)_ Yellow Flowering Daisy (low hardy coastal groundcover)_	140mm		0.3M	
pertia scandens	Guinea Flower (flowering climber / groundcover)	200mm		0.3M	
denbergia violacea 'Meema' prum parvifolium	Meema Purple Coral Pea (purple flower native groundcover) Creeping Boobliala (native cascading groundcover)	200mm 140mm	<u>2.</u> <u>2.</u>	0.24M	
evola aemula icia serpens	Fan Flower (Flowering cascading groundcover) Blue Chalk Sticks (silver blue low succulent groundcover)	140mm 200mm		0.3 M 0.2 M	
chelospermum tricolor pe Evergreen Giant	Variegated Star Jasmine (variegated colour groundcover) Turf Lilv (shade tolerant groundcover)	200mm 140mm		0.5M 0.4M	
	0	-			







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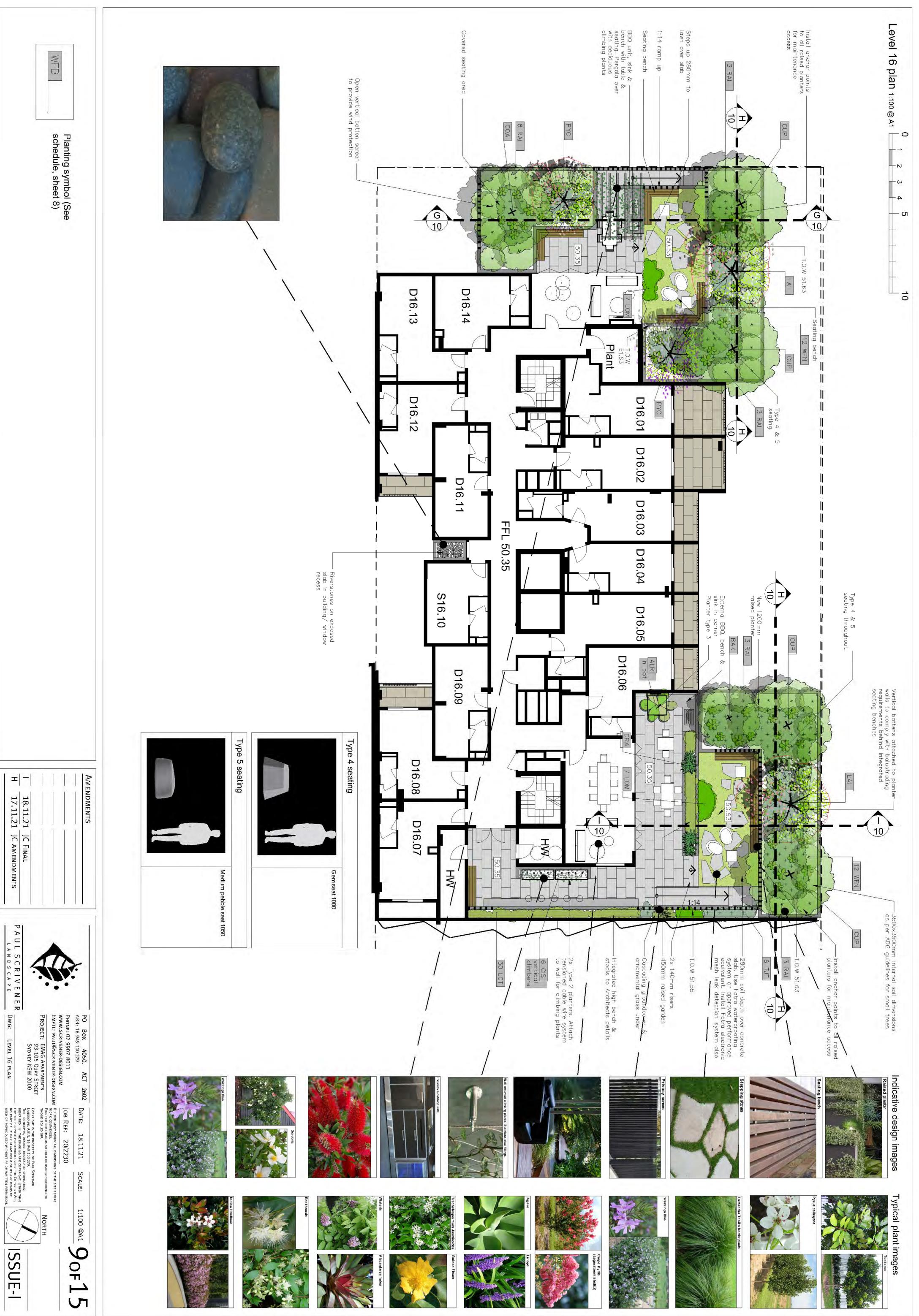
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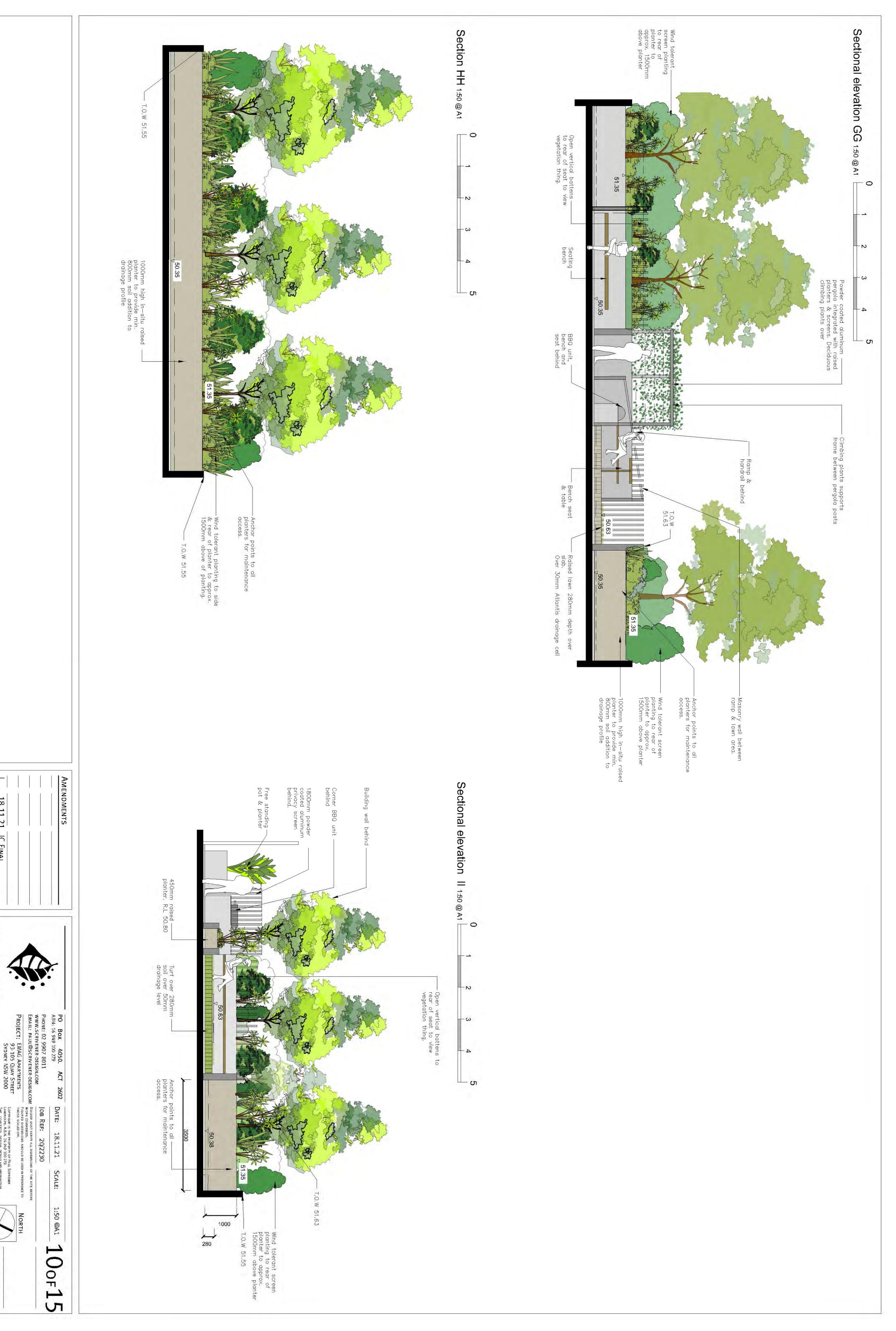
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LEVEL 16 PLAN



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17.11.21 JC AMENDMENTS

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LEVEL 16 SECTIONS

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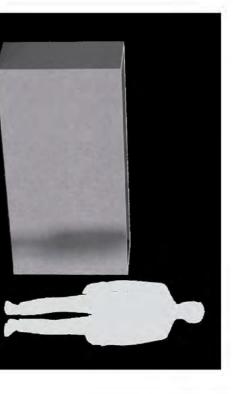
Medium pebble seat 1050

Gem seat 1000

Type 1

Quatro civic planter. 1500 X 1500 X 1000(h)

Type 2

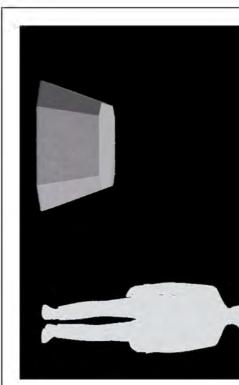


Quatro narrcw tall planter. 2000 X 600 X 1000(h)

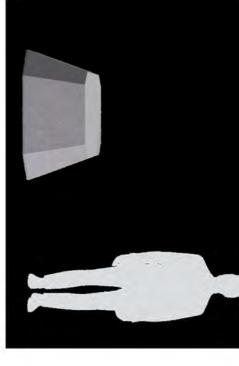
Type 3

Quatro Delta planter. Timber top. 2500 X 1030 X 450(h)

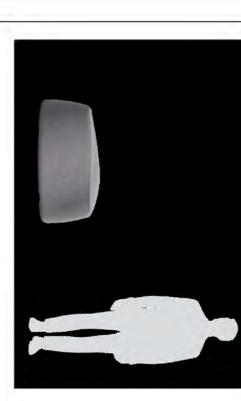
Type 4



Gem seat 1000



Type 5



Medium pebble seat 1050



Proposed waterproofing sperformance alternative stem or approved

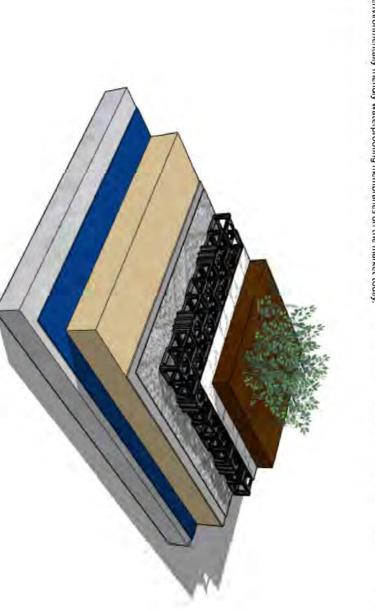
BALLASTED INSULATED
CONCRETE GREEN ROOF SYS TEM

SYSTEM OVERVIEW

The Fatra insulated green roof system incorporates the PIR insulation by protection layer, Fatra drainage cell, filter fabric and vegetation layer to

anes are tested to FLL standar layers or root resistant coatin

100% recyclable and can be made using up to it waterproofing membranes on the market today





ra Armour protection mat tallation of Fatra Drainage the green roof build up.

BALLASTED PLANTER BOX SYSTEM fama

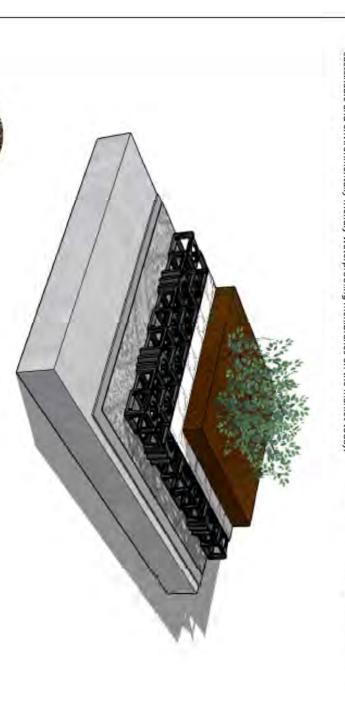




he Fatra ballasted planter box system atra drainage cell, filter fabric and veg ncorporates the Fati tation layer to creat

nd on the

he Fatrafol PVC memb nd oak trees. No addit ranes are tested to FLL standards and ional protection layers or root resistar

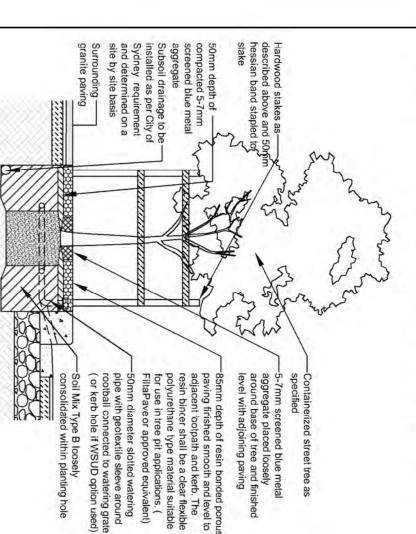


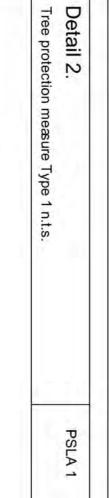


mat is loose laid over the Fatrafol PVC Membrane to pro of Fatra Drainage cell is then installed with a filter fabric on of the planter box build up.

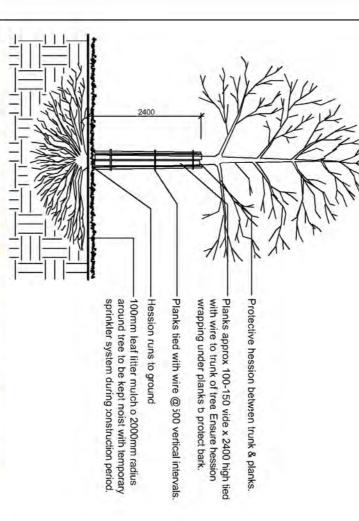
Detail 1.

Tree planting detail As sourced from C.0.S street tree



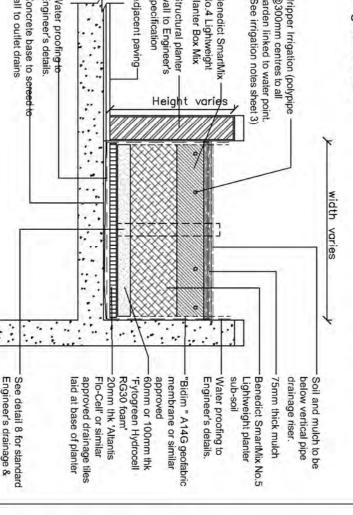


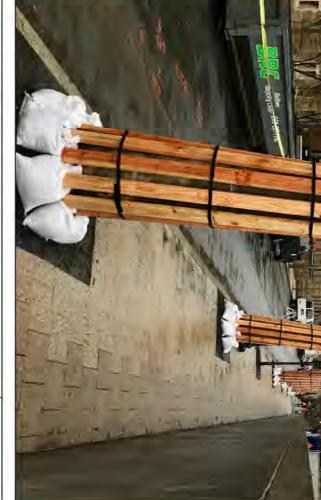
6.Fertliser All planting



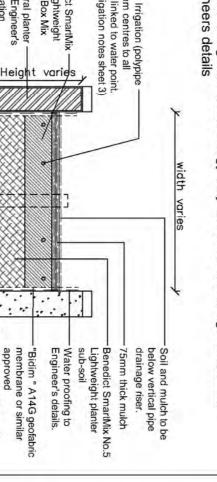


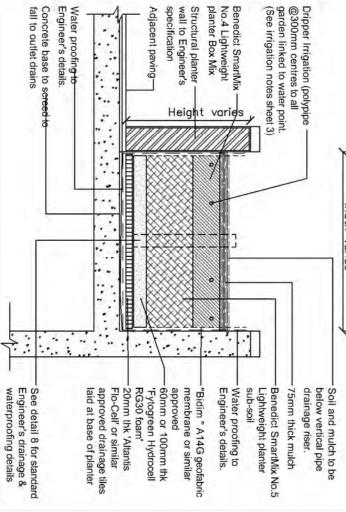
On structure plantertypical Detail 3. For soil & irrigation nethodology only Sructural & drainage Engineers details soil insta ation detail n.t.s





to relevant





General installation notes

tion to be retained shall be preserved and protected from damage of any sort during the execution of landscape work. In sting plants must not be disturbed if possible. Any nearby site works near to existing street trees should be carried carefully he survival and growth of existing street trees during the proposed works, protect by armoring as detailed on sheet 1. Trees duriless specific written approval to do so is given or is indicated on plan. Storage of materials, mixing of materials, vehicle achinery repairs and refueling, site office and sheds, and the lighting of fires shall not occur within three (3) metres of any second, rubble or other debris cleared from the site, or building materials, within the dripline of existing trees. Vehicular access ree (3) metres of any tree.

shrubs should be secured to stakes with hessian ties to prevent rocking by wind. Planting holes for plant material should be not ball with additional space to take back filling of good quality planting mix. (Please note mature heights of planting as shown y due to site conditions, locations in constricted deep soil or over slab planters and so forth) Also shallow soils in certain heights. Nominated heights for plantings in raised planters over slabs are nominated as less than their normal expected of the contained soil environment. For other deep soil trees heights are subject to particular site conditions, and intended a requirements such as available planting width, intended access under branches and solar access. be deep ripped to 200mm (where possible) and clay soils to be treated with clay breaker.. Apply at least 200mm depth good arden planting areas. To comply with AS 4419 Turfed areas as noted to be laid over 100mm min. good quality turf underlay be deep ripped to 200mm depth prior to installation. To be worked in with rotary hoe except where tree root damage would tions care to be taken to hand cultivate in any area where existing tree roots exist to preserve health of trees and to comply vrborist's report. Where planting is to occur in existing soil profiles ensure soil conditioners and compost worked into the top AS 4454:1999.

oofed and 'Atlantis' drainage cell installed with geotextile fabric or similar approved. Refer Engineer's details for ALL structural, alls whatsoever for wall construction. All raised gardens to have the following soils:
Lightweight Planter Mix (or approved equivalent) to min. 400-500mm depth.. To comply with AS 4419 and AS 3743
ve automatic dripline irrigation system.
stall all planter box fill material and plant material after other site works are completed to ensure no deterioration of waterproof

5.Mulching All planting a water. To co

ed with a minimum 75mm thick cover of recycled hard wood chip mulch and then all plant areas to be thoroughly soaked with

ver 100mm good quality turf underlay

9.Structural All structural 8.Turfing
Turfed areas
details shee r to Engineer's details

Irrigation notes

Prior to approval by the project manager and prior to installation the Contractor responsible for the irrigation installation is to provide an irrigation design to meet the following requirements.

Water supply tap hosecocks and water supply conduit to be coordinated by Hydraulic and Structural Engineer's details). Irrigation hose cocks to all private terraces suitable for dripline irrigation ply lines with battery timer. Dripline system to all common area planters and free standing planters on automatic timers controlled by the maintenance operators of the development.

to be selected. To extend to ALL raised in-situ and free standing planters

tomatic drip line watering

beer modified polypropeyline reticulation (where required) to provide water supply to the nominated areas. To be coordinated with Hydraulic engineers and.

To include all bends, junctions, ends, ball valves, solenoids and all other ancillary equipment. Backwash valve: An approved backwash prevention live is to be located at the primary water source for top up valves to rainwater tanks (where applicable).

d for all common area garden ected to autor

Root inhibiting system. Driplin es to be 'Netafim Techline AS XR' drip tubing or approved equivalent

common area landscape areas provide automatic 2 week timer with hourly multi-cycle operation for each eet. Battery timers to isolated planter boxes to private terraces.

Performance: It shall be the Landscape Contractor's responsibility to ensure and guarantee satisfactory operation of the irrigation system. The system is to be fit for the purpose and should utilize sufficient solenoics to provide for the varying watering requirements of landscape areas to allow all plants and lawn areas to thrive and attain long term viability.

Testing: After the system has been installed to the satisfaction of the project manager, the installation shall be tested under working conditions Acceptance of the installed plant ard equipment shall be subject to these being satisfactory.

Warranty: A twelve month warranty is to be provided in writing by the Landscape Contractor, which shall commit the Landscape Contractor to rectify the system (the items they have installed) to the satisfaction of the project manager or nominated representative. This will apply should any fault develop, or the capacity or efficiency fall below that guaranteed, or should the discharge or pressure be inadequate, or should defects develop in the filter unit or control heads, or any blockages that may develop in the system.

ire that the irrigation system conforms with all Water Board, Co

Maintenance s chedule

The Landscape Contractor shall maintain the contract areas by accepted horticultural practices as well as rectifying any defects that become apparent in the works under normal use. The Landscape Contractor shall maintain the works and make good all defects for a period of thirteen (13) weeks after the date of practical completion. Practical completion of the landscape works shall include but not be limited to the replacement of plants which have failed or been damaged or stolen during work under the contract. Landscape maintenance shall include but not be limited to the following: watering, rubbish removal, spraying and wiping leaf surfaces, replacing failed plants, maintaining mulch, pruning, insect and disease control, cleaning of surrounding areas.

fects period noted above the owner corporation responsible for the ongoing maintenance of the development are responsily and viability of the gardens and ongoing maintenance shall include the following: particular checks if installed drip line irrigation system is turned off. Irrigation to be installed and maintained as per manufacture lar checks for function of system, to check for leaks and to ensure general good working operation. Regular maintenance timers (where required) for isolated planter beds in common areas. Battery timers for private terraces are the responsibility timers.

ed up every 6 months to ensure an even 75mm coverage in all garden beds to be undertaken to ensure continued uniform growth of canopy and foliage of trees and shrubs. Removal of vegetation over equired) as the garden matures. Subject to the relevant council applications tts for evidence of insect attack or disease. Appropriate pest oil, white oil of industry standard safe to use pest spray is to be

spected regularly after practical con pletion to ensure it is maintained in good order. Replace where required if defective

വ associated items that arise from the regular garden maintenance procedures are to be collected and stored in appropriate te containers as is appropriate. Excess waste unable to be stored in Council waste containers is to be removed from the site



JC FINAL
JC AMENDMENTS



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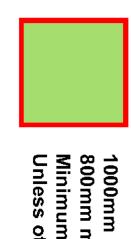
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DETAILS & SCHEDULES





1000mm raised planter 800mm minimum soil depth Minimum 3500mm internal width dimension Unless otherwise noted

413.82 m²

AMENDMENTS

18.11.21 JC FINAL 17.11.21 JC AMENDMENTS

PAUL SCRIVENER

CANOPY TREE RAISED PLANTER ZONES

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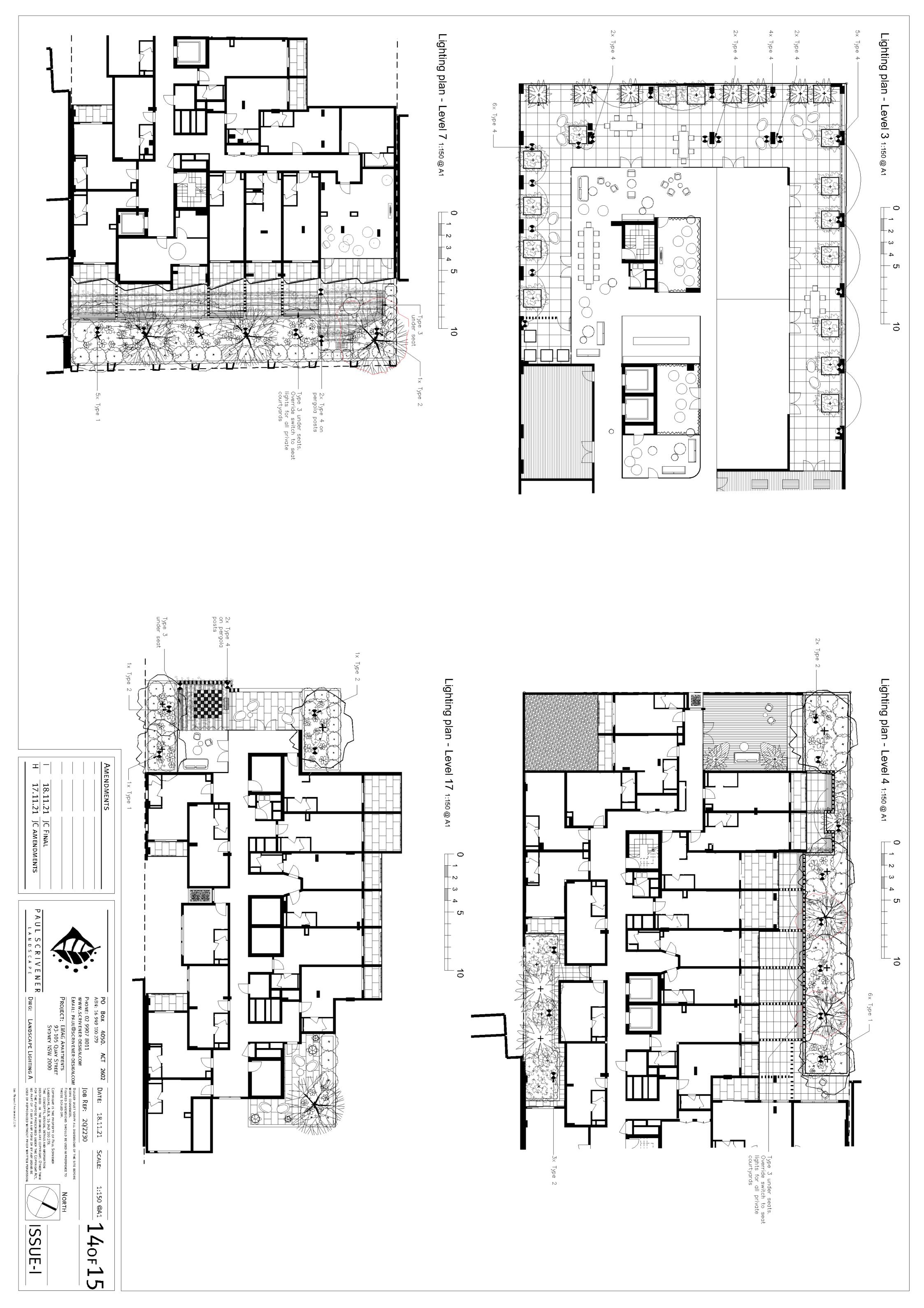
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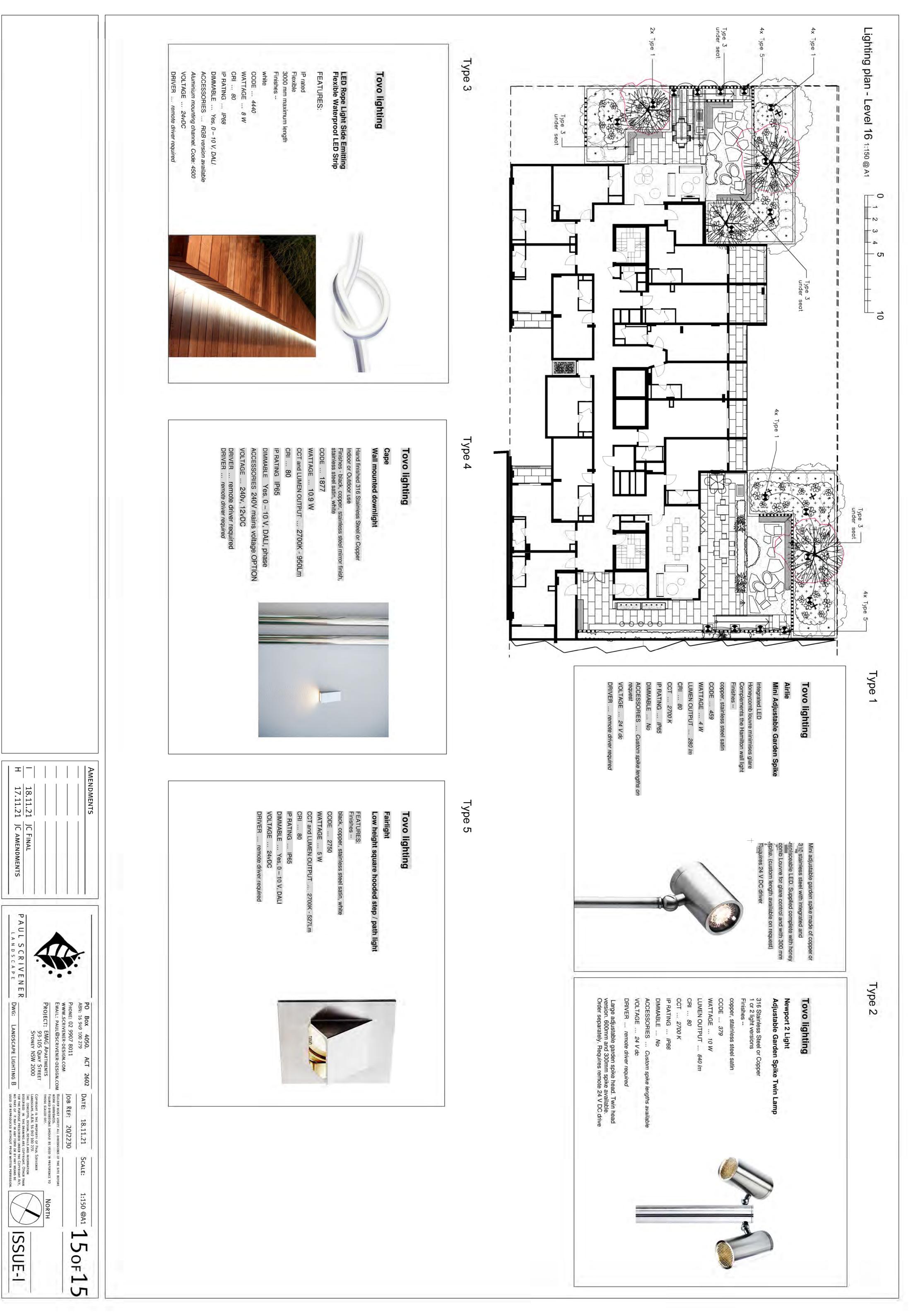
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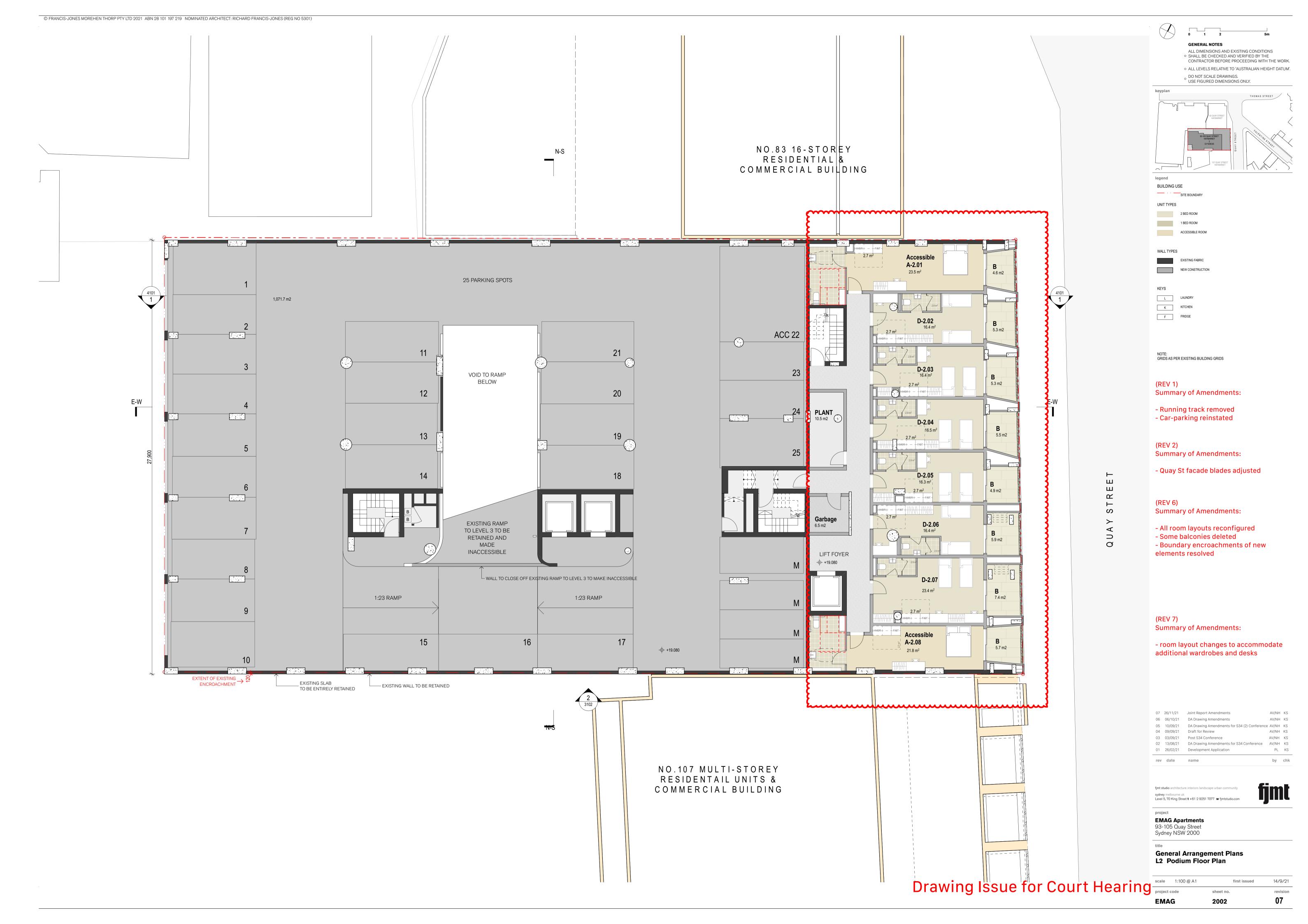
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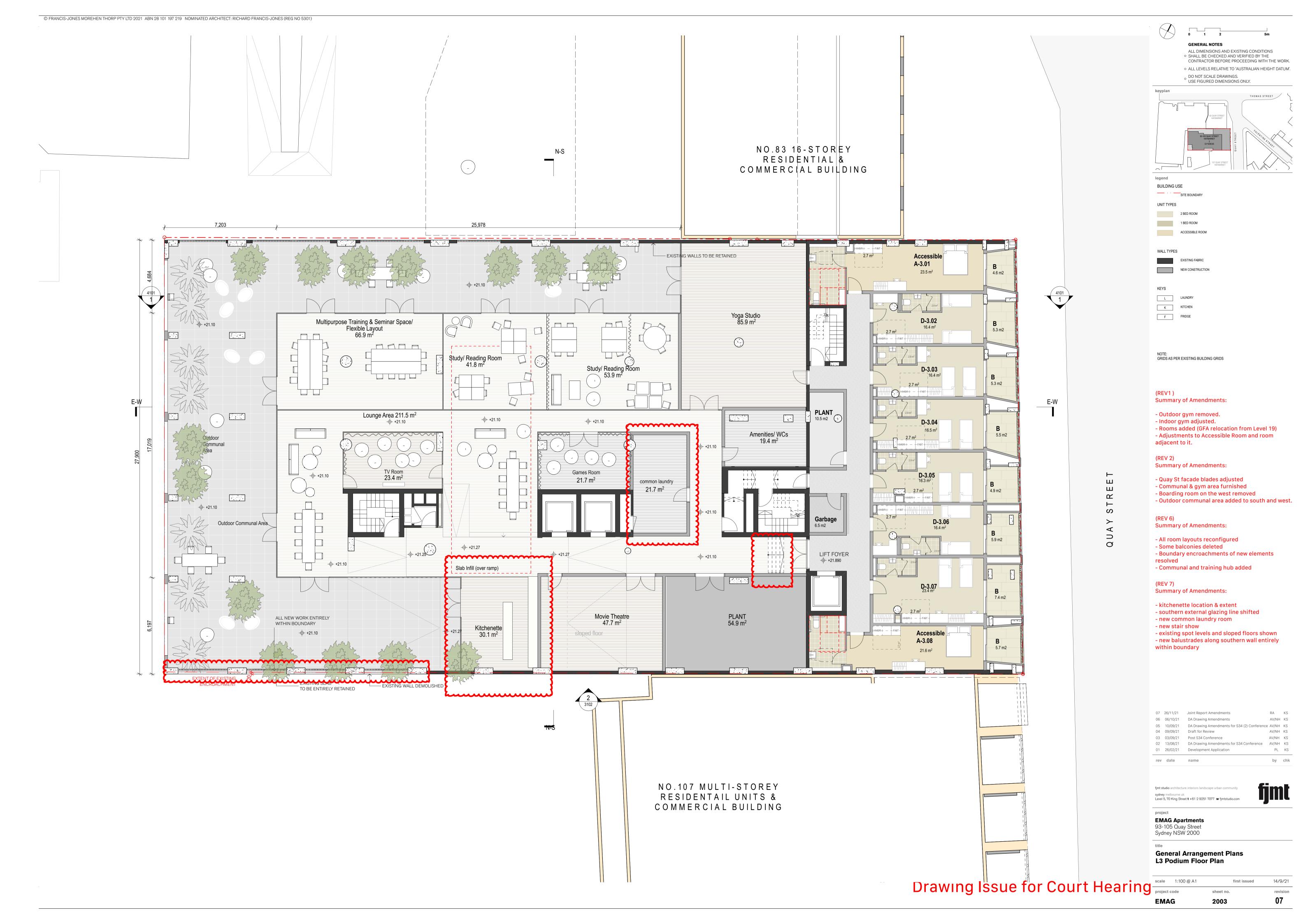
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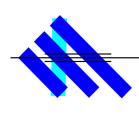












JOHN ROMANOUS & ASSOCIATES

CONSULTING CIVIL & STRUCTURAL ENGINEERS

"Engineering A Strong Australia"

Celebrating 25 Years Est., Since 1993

29th November 2021

Job No. 6477

Principal Certifying Authority

Dear Sir.,

Re: Alterations to Existing Residential Building at

93-105 Quay St., Haymarket, NSW

I, John Romanous (Engineers Australia ID 1044101), on behalf of John Romanous & Assoc.P/L, prepared the structural engineering design, inspected all of the structural components and provided structural certification for the construction of the existing building at 93-105 Quay St., Haymarket, at the time in 2003

I have reviewed the architectural drawings for the subject project as prepared by "fjmt studio" (Rev 7) and have completed a structural analysis of the existing structure against the as built drawings prepared by Axel Richter Architect and the following is noted:

that the existing structure, with structural modifications as specified by a suitably qualified structural engineer prior to issue of construction certificate, will be structurally adequate to support the proposed building layout & modifications as shown in architectural plans prepared by "fjmt studio" architects.

Yours Faithfully for John Romanous & Associates

John M. Romanous

B.E., MIEAust., CPEng., NER, APEC, IntPE(Aus)

93-105 Quay St, Haymarket: Waste Management Plan Variation

A Submission to NUPD

29th November 2021







93-105 Quay St, Haymarket: Waste Management Plan Variation

A Submission to NUPD

Prepared by

MRA Consulting Group (MRA) Registered as Mike Ritchie & Associates Pty Ltd ABN 13 143 273 812

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Version History

Ver	Date	Status	Author	Approver	Signature
0.1	14/12/2020	Draft	Maya Deacock	James Cosgrove	-
0.2	15/12/2020	Review	James Cosgrove	-	-
1	12/02/2021	Final	Maya Deacock	James Cosgrove	
1.1	13/09/2021	Revision	Maya Deacock	James Cosgrove	- /
1.2	05/10/2021	Revision	Maya Deacock	James Cosgrove	-/
1.3	24/11/2021	Revision	James Cosgrove	- /	
1.4	29/11/2021	Revision	Esther Hughes	Esther Hughes	

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Glossary

Terminology	Definition			
AS	Australian Standard			
C&D	Construction and Demolition			
CBD	Central Business District			
CoS	City of Sydney (Council)			
SDCP	Sydney Development Control Plan 2012			
SLEP	Sydney Local Environmental Plan 2012			
DCP	Development Control Plan			
ENM	Excavated Natural Material			
EPA	Environment Protection Authority			
LGA	Local Government Area			
MGB	Mobile Garbage Bin			
MUD	Multi-Unit Dwelling			
MSW	Municipal Solid Waste			
VENM	Virgin Excavated Natural Material			
WMP	Waste Management Plan			
WSP	Waste Service Provider			
WSRA	Waste Storage and Recycling Area			



1 Introduction

MRA Consulting Group (MRA) was engaged by NUPD to update a Waste Management Plan (WMP) previously prepared by MRA for the proposed redevelopment of the site at 93-105 Quay Street, Haymarket (hereafter referred to as "the site"). The site is situated in the City of Sydney Council (CoS) Local Government Area (LGA). Specific features of the proposed works are outlined as follows:

- Fit out and new façades for building;
- Development of 384 boarding rooms and associated infrastructure; and
- Fit out of ground floor retail area for a food and beverage use.

This WMP addresses demolition, fit-out and ongoing use of the development

The WMP will be used to inform best practice waste management for the site and promote sustainable outcomes. The WMP complies with Council's waste management guidelines and with other relevant statutory requirements.

The City of Sydney Development Control Plan (SDCP, 2012) is the main governing document for waste management in new developments for the LGA. The SDCP outlines the following objectives to achieve sustainable waste management:

Objectives:

- 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 and maximise resource recovery.
- 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.



2 Background

2.1 Description of Proposed Development

The proposed development site is located at 93-105 Quay St Haymarket in Sydney's Central Business District (CBD). The site is legally identified as Lot 2 of DP 408335 in the Sydney Local Environmental Plan 2012.

Figure 1: Site in context with surrounding roadways and land use



Source: Nearmaps, 2020

2.2 Zoning and Land Use

The site is located on land zoned B8 Metropolitan Centre, which is characterised by the following objectives:

- To recognise and provide for the pre-eminent role of business, office, retail, entertainment and tourist premises in Australia's participation in the global economy.
- To provide opportunities for an intensity of land uses commensurate with Sydney's global status.
- To permit a diversity of compatible land uses characteristic of Sydney's global status and that serve the workforce, visitors and wider community.
- To encourage the use of alternatives to private motor vehicles, such as public transport, walking or cycling.
- To promote uses with active street frontages on main streets and on streets in which buildings are used primarily (at street level) for the purposes of retail premises.

Boarding house accommodation and commercial premises are permitted with consent in this zone.



2.3 Strategies

Waste management for the site considers better practice, necessary equipment, and integration with other guidance documents including the NSW Waste and Avoidance and Resource Recovery (WARR) Strategy (NSW EPA 2014), and National Waste Policy: Less Waste, More Resources (EPHC 2009). The key policy aims that are considered are:

- Avoidance (to prevent the generation of waste);
- Reduce the amount of waste (including hazardous waste) for disposal;
- Manage waste as a resource; and
- Ensure that waste treatment, disposal, recovery and re-use are undertaken in a safe, scientific and environmentally sound manner.

Management of waste generated onsite according to directives of the WARR Strategy 2014-2021 will assist in achieving the target of 80% diversion from landfill in the C&D sector.

The site is also subject to the SDCP, including objectives outlined in Section 1.

2.4 Assumptions

This report is a WMP, forming part of the mixed-use development documentation and assumes:

- Drawings and information that have been used in waste management planning for this WMP are the final reference/indicative development plan from the project architect, FJMT Architects, dated 16th November 2021.
- Expected waste generation volumes for the site are based industry building materials of existing structures, Council guidelines and industry knowledge. Waste management equipment and infrastructure recommendations have been made according to estimated waste generation and SDCP waste guideline requirements; and
- This WMP is a living document and therefore, waste management equipment and systems described in this report are subject to change based on future operations and available technology.



3 Demolition and Construction Waste Management

Demolition and excavation activities at the site will generate a range of wastes. Throughout the process, all materials will be reused and recycled where possible, minimising the disposal (landfilling) of materials other than those that are contaminated or unsuitable for reuse, recycling or decontamination processes. This is in line with the Sydney development control principles and the NSW WARR Strategy 2014-2021, to reduce landfilling and achieve a resource recovery target of 80% for all construction and demolition related works.

Waste storage during demolition operations will involve stockpiling of excavated and reusable material, as well as placement of skip (Marrell) bins for the separation of construction materials for recycling. A separate skip bin for residual waste and/or contaminated material will also be made available at the site for disposal where necessary. The active waste management area(s) may require alternative placement throughout operations, as areas are cleared, and existing buildings are demolished. This will facilitate the safe and efficient storage of materials and will be retained within property boundaries to avoid illegal dumping.

Site waste storage areas will be kept clear to maintain vehicular access and shall also be kept tidy to encourage separation of waste materials and for WHS reasons.

The waste management principles and facilities in use on the site shall be included as part of the site induction for all personnel working on the site. It is noted that actual quantities of C&D waste may differ based on actual material use and practice.

Table 1 below outlines expected waste materials and quantities, including reuse, recycling and disposal methods through the demolition and construction phases of the proposed redevelopment.

3.1 Demolition Waste

The demolition phase of this development includes the following:

Removal of internal walls and fit outs.

Existing buildings as well as rubbish stockpiled onsite may contain or be constructed of asbestos materials. In a bonded form, asbestos is relatively stable, however, if the material is damaged and friable, health risks could occur. If appropriate safety precautions are used, up to $10m^2$ of bonded asbestos may be removed from the site and disposed of by an appropriately licensed waste contractor.

3.2 Construction Waste

The construction phase of this development includes the following:

- Fit out of ground floor restaurant;
- Construction of 384 boarding room dwellings; and
- Other building details such as façade and communal and landscaped areas.



Table 1: Demolition and Construction Waste and Recycling Management Plan

Type of Material	Demolition: Estimated volumes (m³)	Construction: Estimated volumes (m³)	Re-use on- site	Recycle (Separate collection)	Recycle (Off-site)	Landfill	% of landfill diversion	Methods for re-use, recycling or disposal
								Recovery levels will depend highly on any contaminants in excavated material.
Excavated Material	N.	/A	√	✓	√	Unknown	Unknown	Non contaminated material would be separated and stored for reuse on or offsite. Contaminated excavated material would be stockpiled separately and aerated to remove contaminants if they do not present a risk to local waterways. Any hazardous contaminated material would be removed from site for treatment or disposal at an approved/licenced facility.
Garden Organics	N/A	<10m³	✓	√	√	5%	95%	Onsite: Organic material can be woodchipped and reused onsite as mulch for landscaping. Weeds or invasive species should not be mulched and reapplied to land to avoid regrowth of these species. Offsite: removal to an appropriately licenced organics processing facility for processing into mulch or compost product.



Type of Material	Demolition: Estimated volumes (m³)	Construction: Estimated volumes (m³)	Re-use on- site	Recycle (Separate collection)	Recycle (Off-site)	Landfill	% of landfill diversion	Methods for re-use, recycling or disposal
Bricks	380	60	√	√	√	5%	95%	Onsite: Separated wherever possible and reused or crushed for landscaping and driveways.
Bilens	380	60		·		376	9376	Offsite: Removed to C&D facility for crushing and recycling for recovered products.
Concrete &			√	√	√			Onsite: Separated wherever possible and reused or crushed for filling, levelling or road base.
asphalt	<100	<100 55	·	v	·	<20%	>80%	Offsite: Removed to C&D facility for crushing and recycling for recovered products.
	00	<20 <5			<i>y</i>		>90%	Onsite: Separated wherever possible and reused or crushed for landscaping and driveways.
Tiles	<20		<10%	% >90%	Offsite: Removed to C&D facility for crushing and recycling for recovered products.			
Timber	<15	<5	_	√	√	<10%	>90%	Onsite: Separated wherever possible to improve resource recovery.
	110	<5	-	✓	·	11070	7 00 70	Offsite: Removed to C&D facility for recovery.
Plasterboard	35	<10	-	√	√	<10%	90%	Onsite: Separated wherever possible to improve resource recovery.



Type of Material	Demolition: Estimated volumes (m³)	Construction: Estimated volumes (m³)	Re-use on- site	Recycle (Separate collection)	Recycle (Off-site)	Landfill	% of landfill diversion	Methods for re-use, recycling or disposal
								Offsite: Removed to C&D or plasterboard recovery facility for recovery where possible.
Oleve	_	<5	~	√	√	<10%	000/	Onsite: Separated wherever possible and reused or crushed for landscaping and driveways.
Glass	<5	25 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	>90%	Offsite: Removed to C&D facility for crushing and recycling for recovered products.				
	00	_	V	√	√	<10%	>90%	Onsite: Separated wherever possible and reused or crushed for landscaping and driveways.
Ceiling Tiles	20	<5	·	v	·	×1070	20070	Offsite: Removed to C&D facility for crushing and recycling for recovered products.
				,	,			Onsite: Separated wherever possible to improve resource recovery.
Metals	15	15 <5	-	√	✓	<10%	>90%	Offsite: Removed to C&D facility for recovery and recycling.
Carpet	20	<5	-	√	✓	50%	50%	Should be removed in bulk and sent to carpet recycler or C&D facility for recovery where possible.



Type of Material	Demolition: Estimated volumes (m³)	Construction: Estimated volumes (m³)	Re-use on- site	Recycle (Separate collection)	Recycle (Off-site)	Landfill	% of landfill diversion	Methods for re-use, recycling or disposal
Mixed recyclables	10	10	-	√	√	<5%	>95%	Collected separately and sent to materials recycling facility.
Residual waste	50	50	-	√	√	100%	-	Resource recovery dependant on facility destination capability.
Hazardous/ special waste (e.g. spills. Contaminated soil and waste)	Unkr	nown	-	-	√	Unknown	Unknown	Material management in accordance with the site Remedial Action Plan (RAP). Management by a licensed asbestos and site hygienist should hazardous or special waste be found at the site. Some contaminated material may be recoverable following decontamination.



3.3 Waste Contractors and Facilities

To ensure best practice waste management, appropriate contractors and facilities have been proposed based on their location and service offerings (Table 2).

Table 2: Waste service contractors and facilities

Role	Details
Recommended Waste Collection Contractor	The following are local skip bin operators for consideration in the management of C&D waste for the site: • Aussie Bins; • Just Skip Bins; • Orange Skip Bins; • BinsExpress Skip Bins; and • Bingo Bins. Or otherwise elected by the building contractor.
Principal Off-Site Recycler	The following are local facilities capable of recycling C&D waste generated at the site: • Benedict Moorebank; • Concrete Recyclers Camellia; • Bingo Recycling Centre Banksmeadow; and • DADI Genesis facility. Or other appropriate facility elected by the waste management contractor.
Principal Licensed Landfill Site	Dial a Dump Genesis Xero (Eastern Creek); Or other appropriate facility elected by the waste management contractor.

3.4 Site documentation

This WMP will be retained on-site during the demolition and remediation phases of the development, along with other waste management documentation (e.g. contracts with waste service providers).

Responsibility for the WMP, waste documentation and processes during demolition and remediation works will be with the site or demolition manager.

A logbook that records waste management and collection will be maintained on site, with entries including:

- Time and date;
- Description of waste and quantity;
- Waste/processing facility that will receive the waste; and
- Vehicle registration and company name.

Waste management documentation, the logbook and associated dockets and receipts must be made available for inspection by an authorised Council Officer at any time during site works.



4 Use and Ongoing Waste Management

Waste management strategies related to site operations have been established according to the documents outlined in the SDCP.

Building management and the site waste caretaker will maintain waste storage and management areas located on basement level 1, for use by all residents and commercial tenants.

The following space calculations are based off the bin dimensions sourced from NSW EPA's *Better Practice Guide for Resource Recovery in Residential Developments* (2019) (Table 3).

Table 3: MGB capacity and footprint

Bin Capacity (L)	Height (mm)	Depth (mm)	Width (mm)	Footprint (Approx. m²)
240	1,080	735	580	0.43
660 1,250		850	1,370	1.16
1,100	1,470	1,245	1,370	1.71

Source: Better practice guide for resource recovery in residential developments (2019).

It is noted that landscaping at the site will be maintained by an external contractor who will remove all vegetation waste from ongoing maintenance activities. In addition, since the proposed development is for a mixed-use building with boarding rooms, it is unlikely that a high quantity of garden waste will be generated and therefore, no garden waste bins will be retained at the site.

4.1 Residential Waste

4.1.1 Generation

The City of Sydney Council has developed a guideline for waste management that provides waste generation rates for a range of residential, commercial, and industrial uses. The following waste generation predictions are based on rates provided in the *Guidelines* for boarding rooms.

Table 4: Residential waste generation

Number of boarding rooms	Waste Stream	Waste Generation	Weekly Waste Generation (L)
	General Waste	30L/100m ² /day	26,084
384	Recycling	30L/100m²/day	26,084
	Food Waste	30L/100m ² /day	26,084

4.1.2 Waste Storage Requirements

The Sydney DCP requires that residential waste be collected, managed, and stored separately from commercial waste. Therefore, the restaurant waste will be addressed separately from the boarding room waste in this section. The following waste management areas are highlighted in Appendix A, and have undergone revision to allow for sufficient storage and servicing of waste at this site.



Temporary Waste Storage

Each dwelling must have sufficient space provisioned for the storage of one days' waste generated This includes separate receptacles for general waste, recycling, and food waste, and will be located in a cupboard within the kitchenette of each habitable room.

Interim Waste Room (Level 1-2)

Dwellings on levels 1 and 2 will be serviced by an interim waste room adjacent to the lift foyer (marked in Figure 7 of Appendix A). This waste room will feature general waste, recycling, and organics bins (3 x 240L bins) for residents to deposit waste. Site cleaning staff will be responsible for the transfer of these wastes to the basement level, at minimum once per week. Food waste will be transferred more frequently to avoid amenity issues associated with odour and vermin.

The furthest distance between a dwelling and the waste room is 15m.

Interim Waste Room (Levels 3-17)

As the development is greater than nine storeys, a waste chute system will be used for the disposal of waste generated on each habitable level. A single core waste chute system currently exists in the building and will continue to be utilised for general waste following redevelopment. Each habitable level has a waste cupboard (marked on Figure 8 of Appendix A) where residents will be required to transport bagged general waste or loose recycling for disposal.

Each interim waste room will also feature a bin cupboard for a 240L bin for commingled recycling, as well as a 240L bin for food waste. These bins will be transferred by site cleaning staff to the waste room on the basement level to be emptied, at minimum once per week. Food waste will be transferred more frequently to avoid amenity issues associated with odour and vermin.

The furthest distance between a boarding room entrance and the interim waste room is 44m. While this is in excess of 30m as stated in Council's DCP, it is not an unreasonable distance to travel to deposit waste.

Basement Bin Room

The basement bin room will feature a chute outlet for general waste, and 1,100L bins suitable for retaining expected volumes of waste generated between collections. Recycling will be transferred by cleaning staff to the 8 x 1,100L bins designated for recycling in the basement bin room.

1,100L MGB's are recommended for storage of all waste generated at this site, based on the waste generation rates and available size of the waste storage area. 1,100L bins provide increased capacity in comparison to smaller MGB varieties, therefore reducing the required collection frequency and number of bins required to be retained on-site. Minimal manoeuvring will be necessary between the site waste storage room and the loading dock since they are situated adjacent.

The frequency of collections has been reduced to three times a week for general waste, recycling, and food waste. A higher rate of collection for food waste is also preferred as this will reduce the amount of time this waste type is stored at the site, as well as minimising the potential amenity impacts such as odour and vermin.

Table 5: Residential Bin Requirements

Waste Stream	Weekly Waste Generation (L)	Collection Frequency	Bins Required
General Waste	26,084		8 x 1,100L MGB
Recycling	26,084	3 times a week	8 x 1,100L MGB
Food Waste	26,084		37 x 240L MGB



4.1.3 Bulky Waste

The City of Sydney Guidelines for waste management in new developments provides minimum storage requirements for bulky waste. While the development will involve residential dwellings, the nature of prefurnished boarding rooms means that the likelihood of disposal of mattresses, furniture, or white goods is very low.

The DCP requires 8m² minimum allocated to bulky waste for up to 80 rooms, with an additional 1m² for every ten rooms thereafter. For a development of 384 rooms, this would equate to 38.5m² allocated to bulky waste. Considering the nature of boarding house developments, the rooms will all be pre-furnished, and residents will not be permitted to provide their own furniture.

The majority of bulky waste will be located separately to the residential bin room, in a residential bulky waste room of 30m² adjacent to the bike parking area (refer to Figure 6 of Appendix A).

Collections for bulky waste will be facilitated by site management, with additional services by private waste contractors coordinated as required to avoid any overspill of bulky waste.

4.1.4 Waste Storage and Recycling Area

An existing residential waste room is situated on the basement level of the site and has an approximate area of 86m². Table 6 below summarises space requirements for the residential bin room and are shown on plans in Appendix A and .

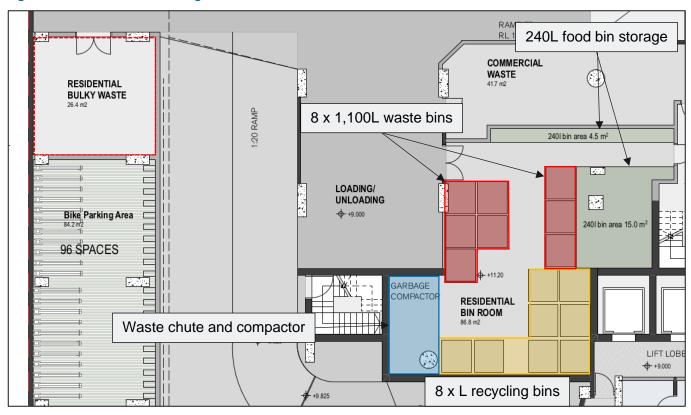
Table 6: Residential waste room requirements

Location	Equipment	Space Required	Total Minimum Area including space to manoeuvre bins
Residential Bin Room (86m²)	Chute Outlet and Compactor	2m²	
	General Waste: 8 x 1,100L MGB	14m²	
	Recycling: 8 x 1,100L MGB	14m²	81m²
	Food Waste: 37 x 240L MGB	16m²	
	Bulky Waste Cage	10m²	

The residential bin room is presented with sufficient circulation space to manoeuvre bins around within the room and out to the loading dock for servicing.



Figure 2: Residential waste storage areas



Source: FJMT, 2021

4.2 Commercial Waste

4.2.1 Generation

The City of Sydney Council has developed a guideline for waste management that provides waste generation rates for a range of residential, commercial, and industrial uses. The following waste generation predictions are based on rates provided in the *Guidelines*.

Table 7: Commercial waste generation

Commercial Use	Waste Stream	Waste Generation Rate	Weekly Waste Generation (L)
	General Waste	100L/100m ² /day	1,421
Food & Beverage Use	Recycling	500L/100m ² /day	7,105
	Food Waste	100L/100m ² /day	1,421

4.2.2 Bin Requirements

Interim/BOH Waste Area

The F&B tenant will be required to house bins in the back of house area for the temporary storage of waste. Receptacles for general waste, recycling, and food waste will be accommodated in this space. Retail staff will be responsible for the transfer of waste between this area and the bins in the commercial waste rooms on the basement level.



Basement Level Commercial Waste Room

1,100L MGB's are recommended for storage of general waste, food waste, and comingled recycling, based on the waste generation rates and available size of the waste storage area. 1,100L bins provide increased capacity in comparison to smaller MGB varieties, therefore reducing the required collection frequency and number of bins required to be retained on-site. Minimal manoeuvring will be necessary between the site waste storage room and the loading dock since they are situated adjacent.

Table 8: Commercial Bin Requirements

Waste Stream	Weekly Waste Generation (L)	Collection Frequency	Bins Required
General Waste	1,421	Once a week	2 x 1,100L
Recycling	7,105	Twice a week	4 x 1,100L
Food Waste	1,421	Once a week	2 x 1,100L

4.2.3 Bulky Waste

An area of 4m² has been allocated towards the storage of bulky waste arising from typical use of the food and beverage tenancy on the ground floor. Bulky waste may include items such as whitegoods, broken furniture, and pallets or milk crates. This area has been marked up on the plans available in Figure 6 of Appendix A.

4.2.4 Waste Storage and Recycling Area

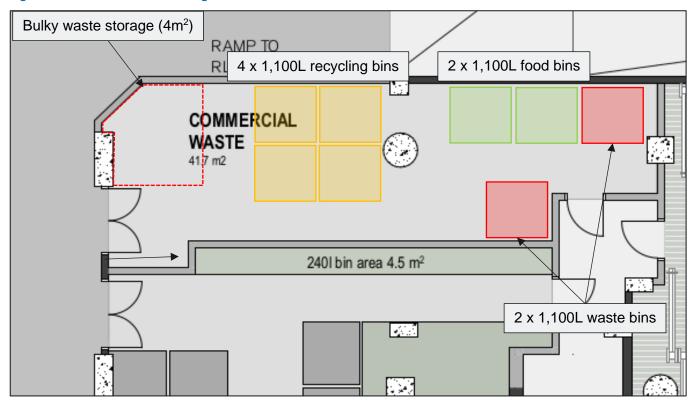
Two spaces for the management of commercial waste are available on the basement level. Table 9 below summarises space requirements for the commercial bin room and Figure 3 outlines potential layout of the room based on bin numbers described below.

Table 9: Commercial waste room requirements

Location	Equipment	Space Required	Total Minimum Area including space to manoeuvre bins
Commercial Waste Room (41m²)	General Waste Bins: 2 x 1,100L	3.5m²	25m²
	Food Waste Bins: 2 x 1,100L	3.5m ²	
	Recycling Bins: 4 x 1,100L	7m²	
	Bulky Waste Cage	4m²	



Figure 3: Commercial waste storage areas



Source: FJMT, 2021

4.3 Additional Waste Streams

Management may like to include the following collection systems to increase resource recovery onsite.

4.3.1 Container Deposit Scheme (CDS) eligible materials

Recyclable containers eligible for the NSW EPA's "Return and Earn" container deposit scheme can be collected separately to commingled recycling. Reverse Vending Machines (RVMs) accept these containers and issue refunds through retail vouchers (to spend or swap for cash), online into a PayPal account, or donated to a selected charity.

There are a few options to achieve CDS material recovery – a sorting machine can be purchased with the assistance of the EPA BinTrim equipment rebate program. This covers up to 50% of capital machinery costs up to \$50,000. This option also allows users to directly collect or donate their refund.

Otherwise, a separate bin can be used to collect CDS materials which will be collected by a service provider such as St George Recyclers. This is a free collection services with the refund paid out via bank transfer to the organisation. St George Recyclers will either provide a blue bin (\$59 fee for delivery within 14 days) or are able to collect CDS materials contained in garbage bags.

The location of either the RVM or CDS material bin can be in a public area for use by both residents and customers of the ground-floor businesses.

4.3.2 E-Waste collection

An E-waste collection service can be organised for the development. This can be either an on-call service or scheduled collection depending on the need.



4.3.3 Textiles bins

Storage of textile waste prior to collection or drop-off can be in the bulky waste area, in garbage bags or in a designated clothing bin.

Re-useable clothing

There are a number of services which will collect clothes in good quality for free. Clothing Cleanup offers free collection of unwanted clothing. Clothes must be placed in plastic bags and left in a location organised during the booking process. See https://clothingcleanup.com.au/ for more information.

Unusable clothing waste

Dirty, ripped, or otherwise unwearable clothing waste can still be repurposed or recycled. Major fashion retailers such as H&M and Zara accept clothing waste which is then recycled into cleaning cloths, insulation for cars and homes, and other products.

4.3.4 Soft Plastics

Soft plastics cannot be placed in kerbside recycling bins; however, they can still be diverted from landfill. REDcycle is a recycling program working in conjunction with Coles and Woolworths Supermarkets, that collects soft plastics to be processed by Replas into recycled plastic products.

Management can also engage a waste service such as Cleanaway to collect soft plastic waste. However, this is unlikely to be necessary if the volumes of plastic waste generated are not significant.

4.3.5 Mattress Collection

This service is provided as an on-call service when required. Soft Landing is a leading social enterprise in Sydney, providing collection and resource recovery services for mattresses. Bookings can be made online or by phone.

4.3.6 Food Donation

Management may like to explore the potential for donation of excess consumable food from the restaurant to charities such as OzHarvest or FoodBank NSW.

4.3.7 Problem Wastes

Cooking oil, light globes, paint tins, and cleaning chemicals are all examples of problem wastes which are unable to be disposed of through typical general waste or recycling services. Wastes such as these are to be stored separately from general waste and recycling bins. Liquid waste should be stored in an undercover, bunded area which mitigates the risk or spills or leaks and prevents runoff to stormwater drains. Some cooking oil suppliers will also collect used oil when swapping empty barrels as part of their service.



5 Equipment and Waste Management Systems

5.1 Resident Waste Disposal and Recycling Method

The flow of waste goes from unit generation to collection through several steps (Figure 4).

Figure 4: Residential waste flow

Unit

- Units will be provided with source-separation receptacle (i.e. in the kitchen, or another suitable location) or adequate space for general waste and recycling materials.
- The receptacle or area should be sized for a minimum of one days storage.

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- Residents to take waste to the interim waste area located on each floor.
- General waste to be contained in tied bin bags to prevent spillage or leaking.
- Signage about correct, safe and appropriate use of the bins and waste chute will be displayed.
- General waste to be disposed of using the general waste chute.
- Recycling to be disposed of using the provided 240L MGB.
- Food waste to be disposed of using the provided 240L MGB.
- Site cleaning staff to transfer waste from recycling and food waste MGBs as required (between once a week and 5 times a week) and transfer to the basement level 1,100L bins using a janitor trolley or similar.

Waste Storage

Floor

- The waste caretaker to observe and manage the chute outlet and bin, and swap out bins where necessary. The building or waste caretaker will monitor contents to ensure minimal contamination.
- All stored waste and recycling will be contained in MGBs with a tight fitting lid and smooth, washable internal surface.

Bulky Waste

- Building management will coordinate storage of bulky wastes in the basement waste room when necessary.
- A private waste contractor will be responsible for the collection of bulky waste at the site.
- Planned cleanout events or furniture replacement will be coordinated with bulk bins for excess bulky waste.

Collection

- Prior to collection, MGBs will be retained in the basement level waste room, for collection at the loading dock.
- Collection will be provided by a private waste contractor elected by building management.



5.2 Commercial Waste Disposal and Recycling Method

The flow of waste goes from retail generation to collection through several steps (Figure 5).

Figure 5: Commercial waste flow



- The retail tenancy will retain general waste, recycling, and food waste bins for temporary waste storage in the back of house area.
- The receptacle or area should be sized for a minimum of one-days storage.
- Retail staff or contracted cleaning staff will transfer waste from the back of house area to the retail waste room located on the basement floor.

Waste Storage Room

- •The building or waste caretaker will rotate waste bins as they fill and monitor contents to ensure minimal contamination.
- Signage about correct, safe and appropriate use of the bins will be displayed.
- All stored waste and recycling will be contained in MGBs with a tight fitting lid and smooth, washable internal surface.

Bulky Waste

- For bulky wastes, a 10m² area is designated in the commercial waste room.
- Interim storage of bulky waste prior to collection can be arranged with the site building manager.
- A private waste contractor will be responsible for the collection of bulky waste at the site.

Collection

- Prior to collection, MGBs will be retained in the basement level waste room, for collection at the loading dock.
- Collection will be provided by a private waste contractor elected by building management.



5.3 Chute System Maintenance and Downtime

The chute system will service the general waste stream for the residential portion of the site. During periods of blockage or downtime for maintenance, an additional 240L MGB will be provided to each interim waste room for the capture of general waste. During this time, site cleaning staff will collect each stream using a split receptacle janitorial trolley or similar. The waste will then be transferred to the basement level waste room.

Chute maintenance will be conducted by the chute equipment supplier under a maintenance and callout contract. Scheduled maintenance will occur in accordance with the manufacturers' recommendations.

At the chute outlet, bins will be manually monitored and rotated by site cleaning staff.

5.4 Collection method and loading areas

A private waste collection contractor will service the site for residential waste, and a private waste contractor will be engaged for the collection of retail waste. The collection vehicle would be a Small Rigid Vehicle (SRV) of maximum length 6.4m. The smaller collection vehicle is able to accommodate the 1,100L bin size. The collection point and areas for handling and loading are as follows:

- Collection and loading will occur within the loading dock, with access from Quay St;
- The loading dock will be located on the basement level;
 - The loading dock is located adjacent to both the residential and commercial waste rooms, with a maximum transfer distance of 5m from waste room to loading dock.
- Clear, safe, accessible and convenient space for handling of MGBs and equipment and loading of collection vehicles; and
- Identifiable areas where residents, visitors and site staff can recognise and avoid any risk associated with moving vehicles, and bin moving and handling.

Table 10 outlines relevant specifications.

Table 10: Collection point and loading area specifications

Component	Requirement	Specification
Collection point	Allow safe waste collection and loading operations	 Adequate clearance and manoeuvring space; Sufficient clearance for the safe handling of materials and equipment; and Sectioned loading bay does not impede upon traffic and pedestrian safety.
Vehicle manoeuvring and loading space	Truck space for adequate lift clearance, manoeuvring and operation for a contractor collection vehicle	 Collection from the loading dock is assisted by the site layout which permits waste vehicles to enter and exit the site in a forward-facing direction; Adequate loading bay dimensions do not impede rear lift clearance; Operational clearance for truck manoeuvring in a forward direction in and out of the loading bay; and The provision of space clear of vehicle parking spaces.
Operating times	Appropriate collection times to limit noise and traffic disturbance	 Collection times will be arranged to ensure minimal disturbance to residents, pedestrians and visitors.

The bin rooms will also be utilised for the storage of full bins prior to collection and empty bins that can be rotated when bins become full.



Waste collection vehicles will access the loading dock via Quay Street, where the waste caretaker will position the MGBs for collection. Bins will be transferred between the bin rooms and holding area no earlier than the evening before collection day and will be returned to their respective waste rooms no later than the evening of collection day. There is a maximum distance of 5m between the residential waste storage rooms and bin loading area. The retail waste storage room and residential bin hold are located adjacent to the loading dock.

Collection of site waste bins by the waste contractor will be facilitated through building management or the site waste caretaker who will provide access to the basement floor loading dock.

5.4.1 Residential Waste Collection

Residential waste will be collected by a private waste contractor. Collection will occur at a rate of three times per week for general waste, recycling, and food waste. Due to the width of the access of the site a 6.4m waste collection vehicle would be required. These are available through the commercial provider - Waste Wise.

5.4.2 Commercial Waste Collection

Commercial waste will be collected by a private waste contractor. Collection will occur twice a week for general waste recycling and food waste. Due to the width of the access of the site a 6.4m waste collection vehicle would be required. These are available through the commercial provider - Waste Wise.

5.5 Management System and Responsibilities

Building management and the site waste caretaker will be responsible for the management of waste at the site. Should there be any issues that impact on the operational efficiency, safety and suitability of waste management, the waste caretaker will inform management. Operation of the waste management system is the responsibility of building management and the waste caretaker. Responsibilities include:

- Using this WMP to inform waste management operations, design and infrastructure;
- Providing educational materials and information on sorting methods for recycled waste, awareness
 of waste management procedures for waste minimisation and resource recovery. Methods of
 communication can be by email, letters, social media, and signage;
- Maintaining a valid and current contract with a licensed waste service provider for waste and recycling collection and disposal;
- Ensuring SafeWork NSW requirements for access, manoeuvring, transferring and emptying of waste/recycling bins are met by the waste caretaker;
- Making information available to residents, commercial tenants, visitors and site staff about waste management procedures;
- Collection of waste from ground floor ancillary services in a mobile waste management/janitor trolley, for direct disposal into designated bins retained in ground floor bin storage area;
- Manoeuvring bins to specified onsite collection point prior to and following scheduled collection of waste bins;
- Organising, maintaining and cleaning waste management areas as part of a regular maintenance schedule;
- Maintenance of equipment and infrastructure for waste where possible (within the means of staff);
- Organising the relevant waste contractor for additional maintenance or waste management for the site (including bulky waste);



- Ensuring bin allocation and waste/recycling collection frequency is adequate. Requesting additional infrastructure or services where necessary; and
- Monitoring any vermin and pest issues and arranging appropriate controls (traps or fumigating) and maintenance of doors or other points of potential entry.

5.6 Waste Storage and Recycling Area Specifications

The bin rooms will provide centralised storage that has adequate capacity to receive and store the maximum likely generation of waste and recycling between collection times. Each bin room will be constructed to improve amenity, minimise odour, protect surrounding areas and promote user safety. bin room specifications include:

- Signage for safety and waste bin identification;
- Safety precautions, staff training and signage for plant;
- Fitted with a smoke detector in accordance with Australian Standards, and connected to the fire prevention system of the building;
- Noise attenuation for waste management and bin rooms that limits effects to residents from any bin transfer and collection vehicle noise;
- Floors constructed of concrete (at least 75mm thick) or other approved solid, impervious material that can be cleaned easily;
- Grading and draining to an approved drainage fitting located in the room;
- A smooth, even floor surface covered with vertical wall and plinth faces;
- Doorway ramp (if not level);
- Light colour finish for all room surfaces;
- Adequate supply of water with hose cock as close as practicable to the doorway;
- Close-fitting and self-closing door, large enough to facilitate access of 660L bins and bulky waste items;
- Suitable construction including limited entry paths to prevent vermin;
- Ventilation through permanent unobstructed ventilation (5% of floor area) or mechanical exhaust ventilation system (5L/s per m² of floor area); and
- Security and lighting.

5.7 Signage and Education

Signage that promotes resource recovery, waste minimisation, safety and amenity follows the Australian Standard for safety signs for the occupational environment (Standards Australia 1994, Figure 2 and 3).

Signage is designed to consider language and accessibility (i.e. to be understood as clearly as possible by those with different abilities of vision, knowledge of the English language, intellectual ability and with other conditions). Signage is to be prominently posted in each waste room and relevant waste service area indicating:

- Detail on acceptable recyclables;
- Recyclables are to be decanted loose (not bagged);
- No standing and danger warnings apply to the area surrounding the bin room;
- Contact details for arranging the disposal of bulky items; and



• The area is to be kept tidy.

Standard signage requirements and guidance for application apply (see Appendix C).

5.8 Prevention of Pollution, Illegal Dumping and Litter Reduction

To minimise dispersion of litter and prevent pollution (to water and land via contamination of runoff, dust and hazardous materials), building management will also be responsible for:

- Maintenance of communal areas and the bin room;
- Securing the waste storage area from vandalism and the escape of litter;
- Identification and appropriate disposal of goods with hazardous material content (paints, e-waste, fluorescent tubes);
- · Acting to prevent dumping and unauthorised use of waste areas; and
- Requiring contractors to clean up any spillage that may occur during waste servicing or other work.



6 Contentions by The Council of the City of Sydney

The Statement of Facts and Contentions for Case number 2021/00190330 outlines the following particulars for the matter of Waste Management and Servicing:

Table 11: Contentions by City of Sydney Council

Contention	Response	
i. The waste storage areas for the proposed boarding house and the retail premises are not large enough to store all required bins and the size and dimensions of bins have not been shown on the proposed plans.	Please refer to Section 4.1.3 and 4.2.3	
ii. The proposed 5 weekly collections for the various streams of waste and recycling will lead to congestion of waste and recycling collection vehicles. There is insufficient space allocated to waste storage to accommodate 7 days waste generation for all streams as required by the Sydney Guidelines for Waste Management in New Developments.	This service schedule has been revised down to: Residential: three times a week collection for each stream. Section 5.4.1 Commercial: two times a week for recycling, and once a week for general waste and food waste. Section 5.4.2	
iii. The proposal does not allocate a separate space for food waste recycling or propose bins of 240L or smaller for food waste.	Section 4.1.3 and 4.2.3 Due to the expected volumes of food waste generated at the site, management of food waste in 240L bins would result in high numbers of bins with associated labour and time requirements, as well as more frequent and longer waste servicing periods at the site.	
iv. A minimum 8 square metre space(s) for up to 80 rooms and then 1 square metre for every ten rooms after that has not been provided for residential bulky waste storage. A dedicated 4 square metre bulky waste storage area for the retail premises has not been identified on the plans.	The bulky waste allocation has been improved for the site and details can be found in: Residential: Section 4.1.3 Commercial: Section 4.2.3	
v. The proposed compaction of residential waste will create issues relating to weight, handling and overall life span of bins.	Compaction has been removed from general waste under this revised WMP.	
vi. The waste collection point for the site is more than 10m from the waste storage location.	Section 5.4	
vii. It has not been demonstrated that there is at least 2 metres clearance at the rear of the waste truck when parked for the safe access and servicing of bins.	The swept path diagrams in Appendix B demonstrate a rear clearance of 2m for a waste servicing vehicle at the site.	



Contention	Response
viii. A dual chute system is not shown to be installed within a chute room on every residential floor, within 30 metres of each boarding room. Chute rooms are required to be accessible, not adjacent to a habitable area, and contain 1 spare MGB for each waste.	The site has an existing single core chute system. It is proposed that general waste is managed using the chute, with 240L bins for recycling and food waste on each level. Section 4.1.2
ix. The submitted waste management plan does not provide details of the ongoing management of the chute systems including bin transfers, rotation and arrangements for periodic servicing or chute failure.	Section 5.3
x. It is not demonstrated that Council garbage collection vehicles can enter and exit in a forward direction.	The swept path diagrams in Appendix B demonstrate the ability of a rear loading waste vehicle to enter and exit the site in a forward direction.
	Regardless, a private waste contractor will be engaged for the waste servicing of the site.
xi. It has not been demonstrated that the retail loading, delivery areas and general building services comply with the service vehicle parking requirements of the Sydney DCP 2012.	Please refer to Traffic Report



7 References

Australian Building Codes Board (2016) National Construction Code (NCC).

City of Sydney Council (2013) Sydney Local Environmental Plan.

City of Sydney Council (2013) Sydney Development Control Plan.

City of Sydney (2018) Guidelines for Waste Management in New Developments

Blue Environment (2016) Australian National Waste Report.

Department of Environment and Climate Change (2008) NSW Model Waste Not DCP Chapter.

Department of Environment, Climate Change & Water (2010) House deconstruction fact sheet: Bricks and concrete removal.

Department of the Environment (2016) Working together to reduce food waste in Australia, Australian Government.

Environment Protection and Heritage Council (2009) National Waste Policy: Less Waste, More Resources. Available at: http://www.nepc.gov.au/system/files/resources/906a04da-bad6-c554-1d0d-45216011370d/files/wastemgt-rpt-national-waste-policy-framework-less-waste-more-resources-print-ver-200911.pdf.

NSW EPA (2016) Recycling Signs, Posters and Symbols. Available at: http://www.epa.nsw.gov.au/wastetools/signs-posters-symbols.htm.

NSW EPA (2019) Better Practice Guide for Resource Recovery in Residential Developments, Australian Standards and Statutory Requirements.

Standards Australia (1994) AS 1319: Safety signs for the occupational environment, Homebush, NSW: Standards Australia.

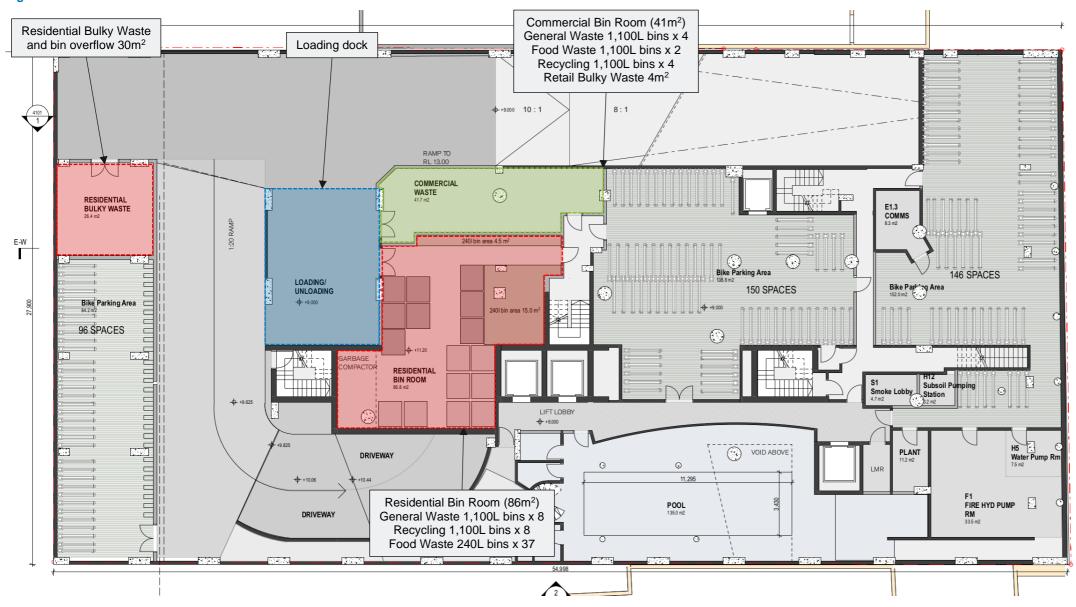
Standards Australia (2008) AS 4123 Mobile waste containers.

WorkCover (2011) Managing Work Environment Facilities Code of Practice.



Appendix A Site Plans

Figure 6: Basement Level Site Plan

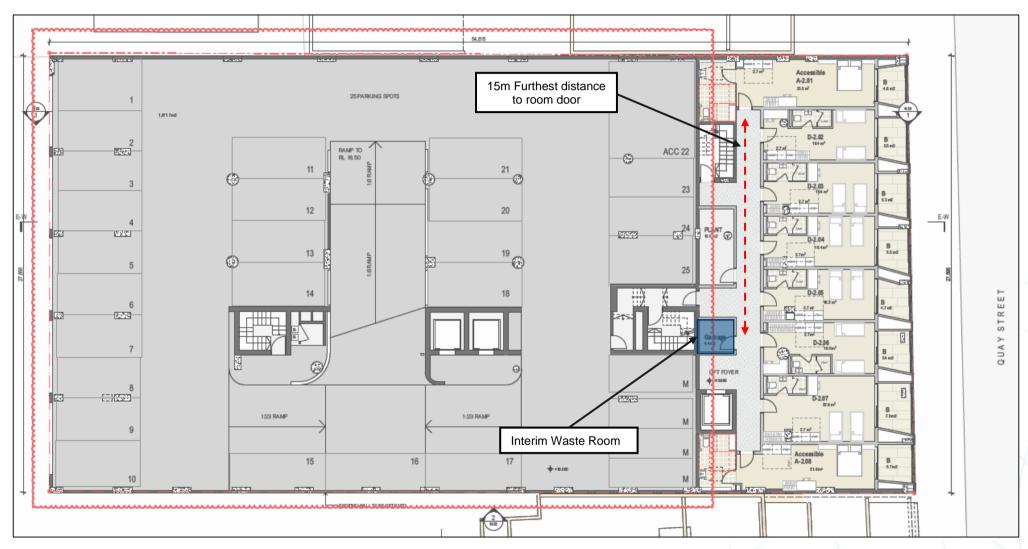


Source: FJMT, 2021

NUPD / 93-105 Quay St, Haymarket WMP



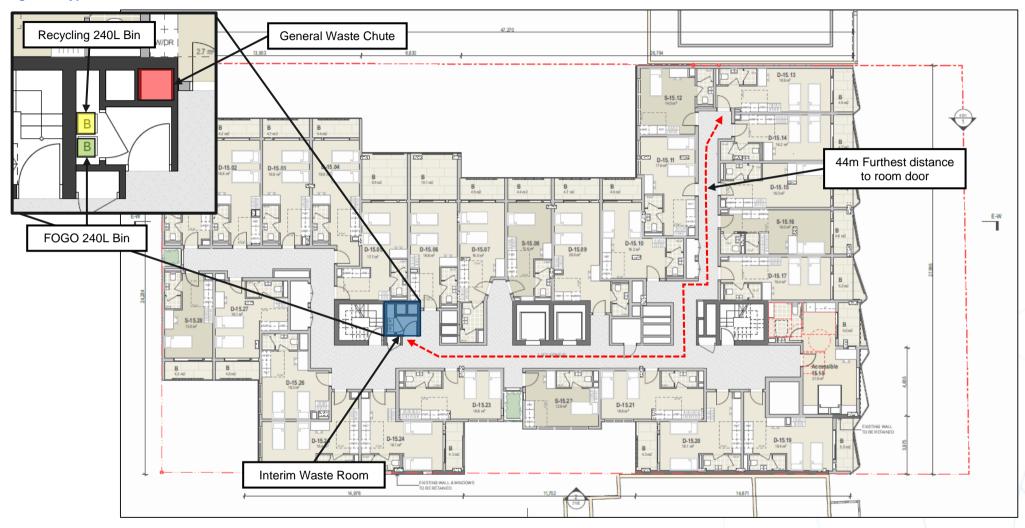
Figure 7: Level 1 and 2 Waste Areas



Source: FJMT, 2021



Figure 8: Typical Level Site Plan

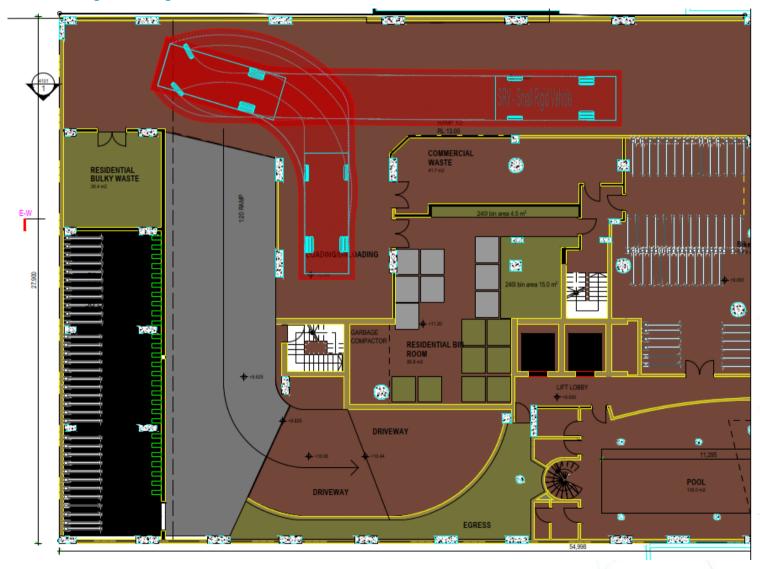


Source: FJMT, 2021

Appendix B Truck Swept Path Diagrams

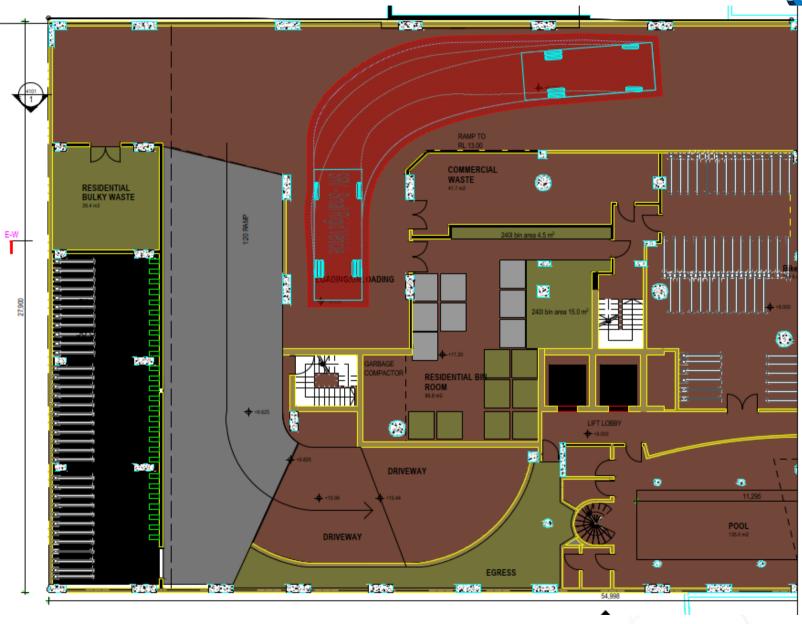


Figure 9: Truck entry and manoeuvring into loading dock



Source: PDC Consultants, 2021

Figure 10: Truck exit and manoeuvring out of loading dock



Source: PDC Consultants, 2021



Appendix C Standard Signage

Waste Signage

Signs for garbage, recycling and organics bins should comply with the standard signs promoted by the NSW Office of Environment and Heritage (NSW OEH 2008b).

Standard symbols for use in signage, bin facade and educational materials are promoted through the NSW Environment Protection Authority. They are available for download from the NSW EPA website (NSW EPA 2016b), in black and white and colour versions. The Australian Standard series AS 4123 (Part 7) details colours for mobile waste containers (Standards Australia 2008).

Figure 11: Examples of standard signage for bin uses







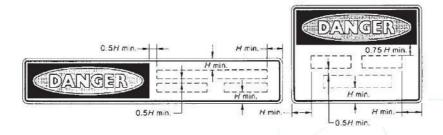
Safety Signs

The design and use of safety signs for waste and recycling rooms and enclosures should comply with AS 1319 (Standards Australia 1994). Safety signs should be used to regulate, and control safety related to behaviour, warn of hazards and provide emergency information, including fire protection information. Below are some examples. Clear and easy to read 'NO STANDING' and 'DANGER' warning signs must be fixed to the external face of each waste and recycling room where appropriate.

Figure 12: Example and layout of safety signage



FIGURE D5 TYPICAL ARRANGEMENTS OF DANGER SIGNS



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