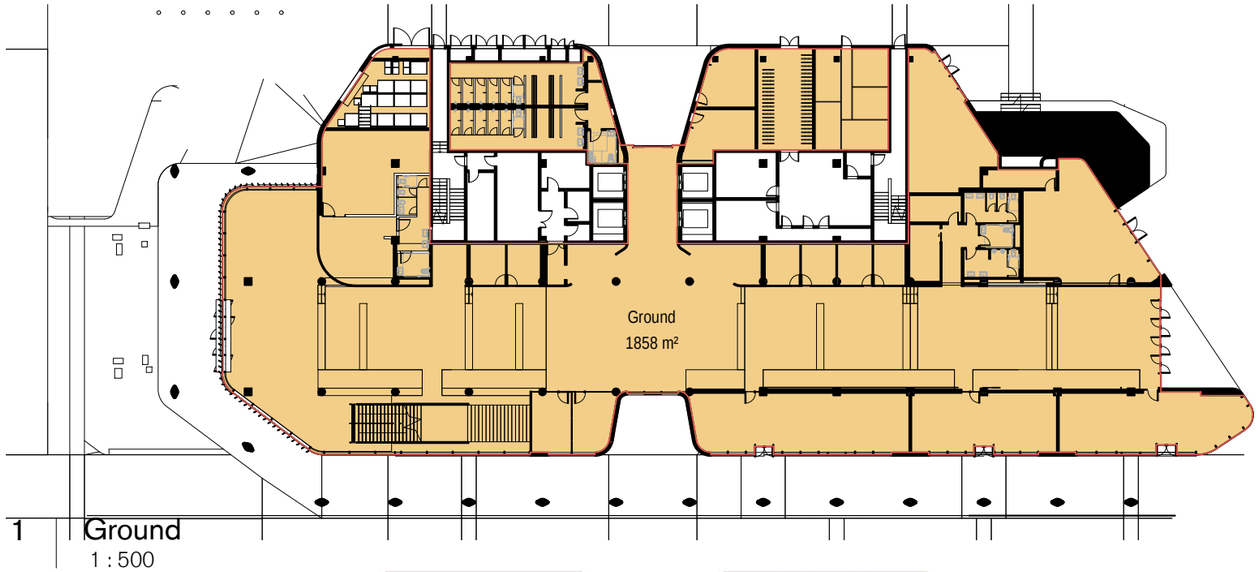
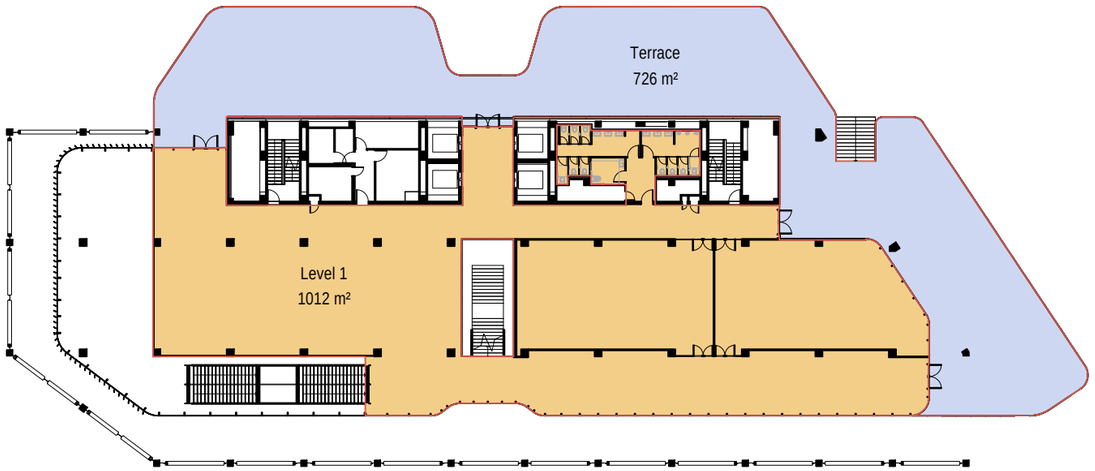
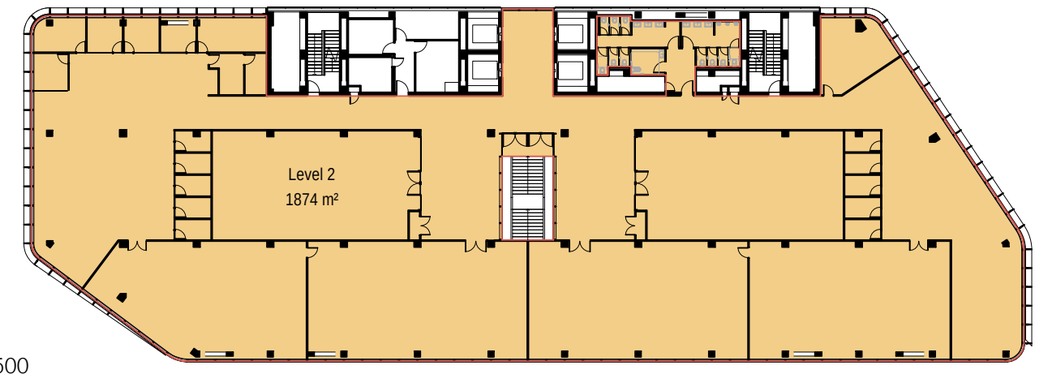


1 | Ground
1 : 500



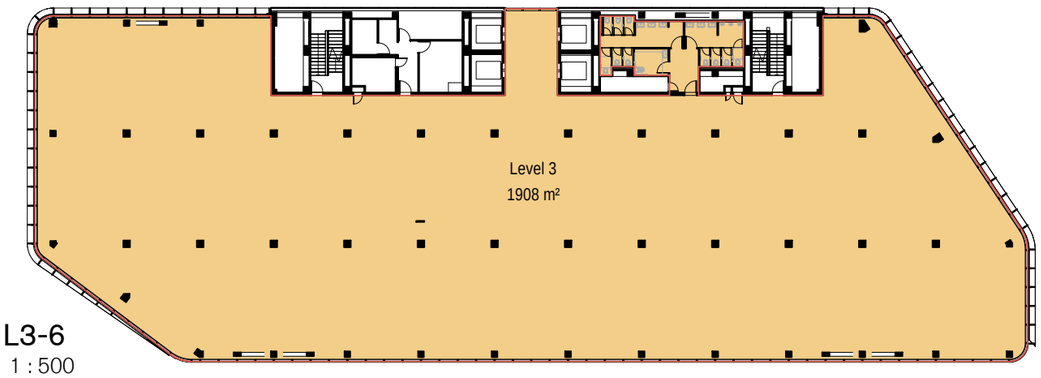
2 | L1
1 : 500



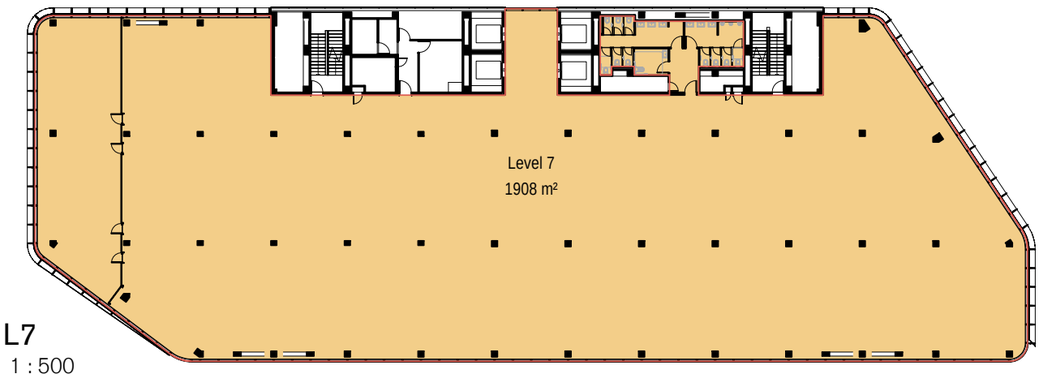
3 | L2
1 : 500

Area Schedule (GFA - Randwick)

Name	Area
Internal	
Ground	1858 m²
Level 1	1012 m²
Level 2	1874 m²
Level 3	1908 m²
Level 4	1908 m²
Level 5	1908 m²
Level 6	1908 m²
Level 7	1908 m²
Internal: 8	**14284 m²**
External	
Terrace	726 m²
External: 1	726 m²
Total (Internal & External): 9	15010 m²



4 | L3-6
1 : 500



5 | L7
1 : 500

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Chi Melhem 7754

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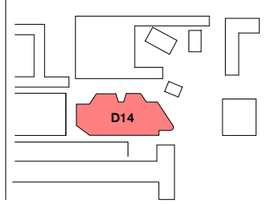
01	24.10.18	Draft SSDA
02	02.11.18	Draft SSDA
03	07.11.18	Draft SSDA
04	08.11.18	SSDA Submission

Legend

Key Plan



Owner and Applicant

UNSW SYDNEY

D&C Partner

lendlease

Architect Tzannes

Scale 1 : 500 @ A3

North

0 5 10 15 m

Project
UNSW D14 Academic Building

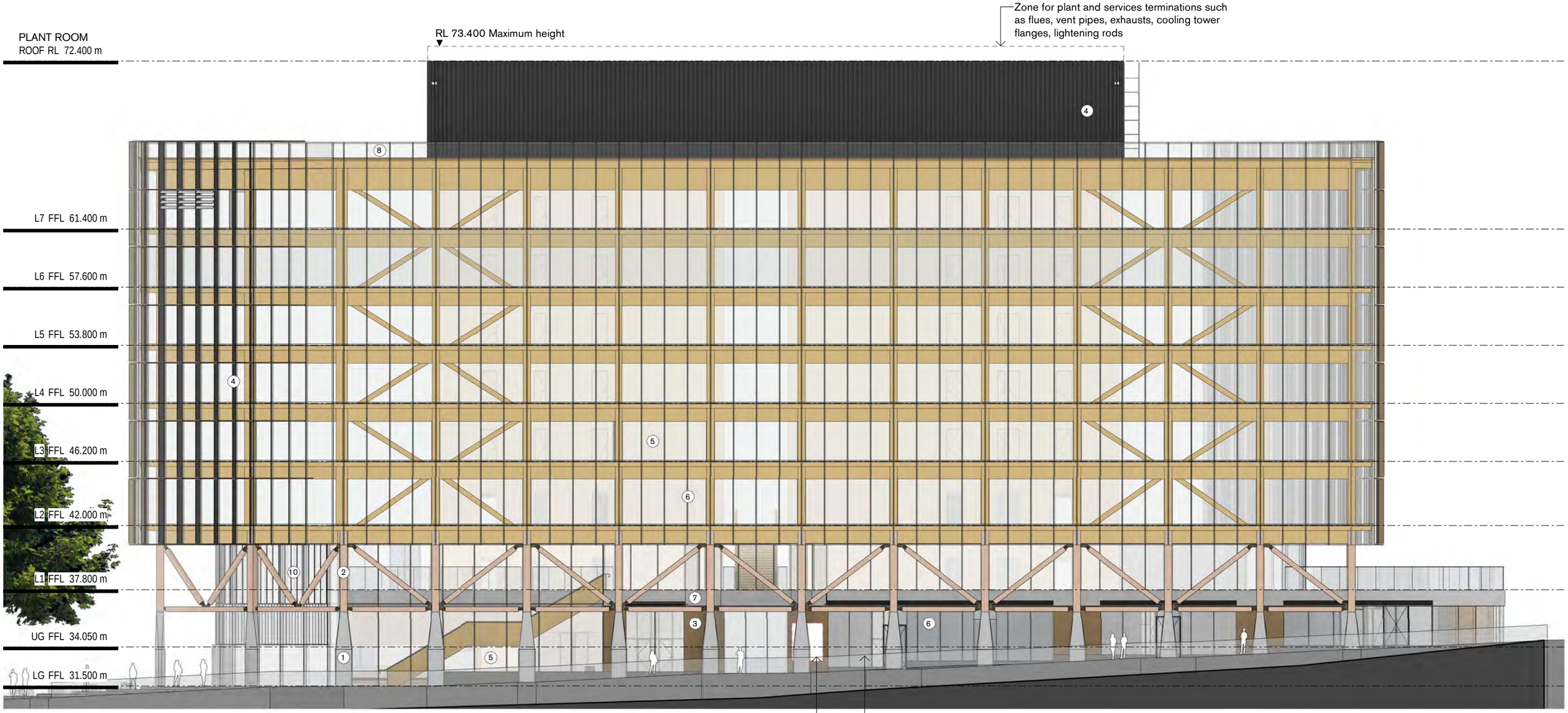
Address
UNSW Kensington Campus

Status
PLANNING APPLICATION

Drawing
GFA Randwick Schedule

Date
08.11.18

Project No. 18026
Drawing No. ADDA30000
Revision 04



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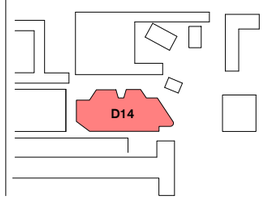
04	08.11.18	SSDA Submission

Legend

Key Plan



Owner and Applicant

UNSW SYDNEY

D&C Partner

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Architect Tzannes

Scale 1 : 250 @ A3

North

0 2.5 5 7.5 m

Project
UNSW D14 Academic Building

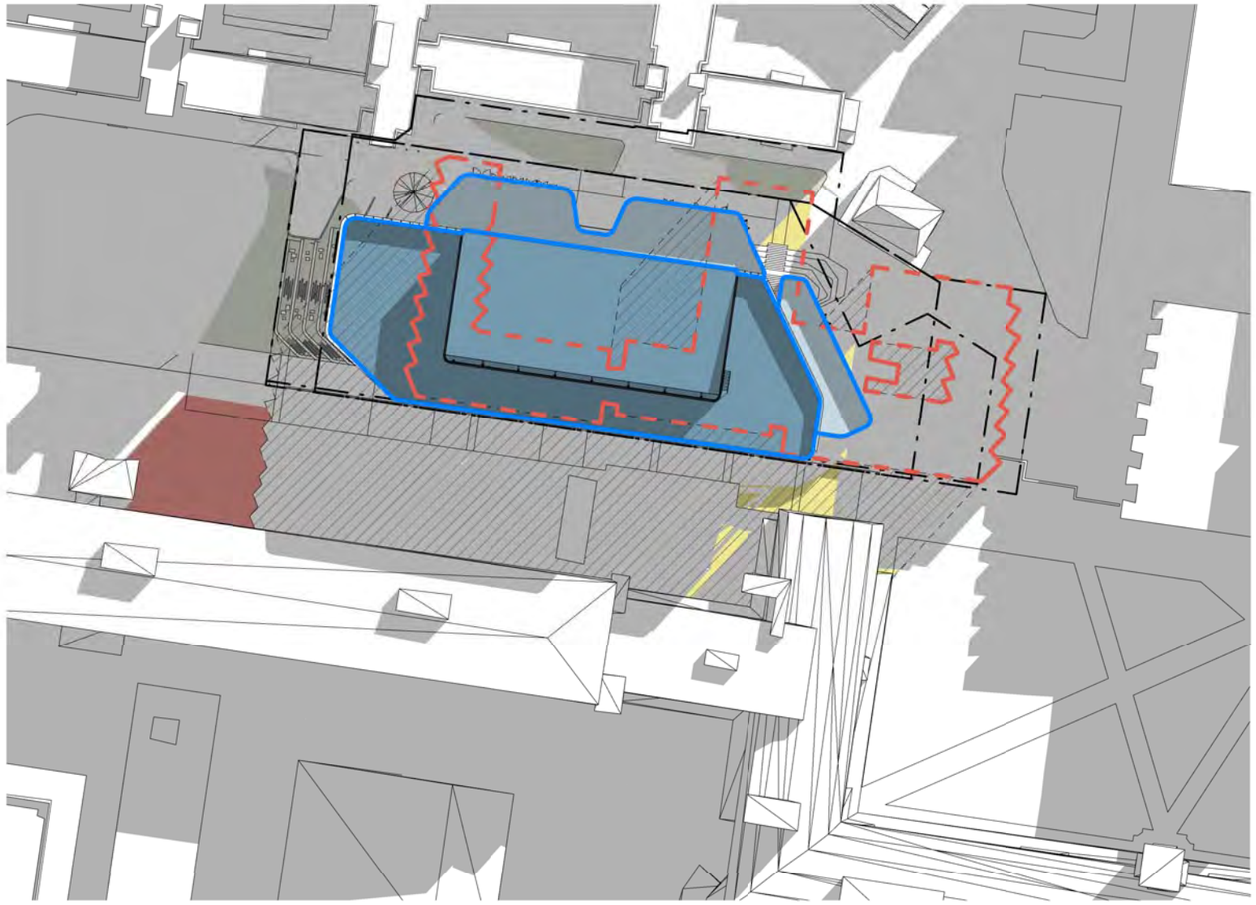
Address
UNSW Kensington Campus

Status
PLANNING APPLICATION

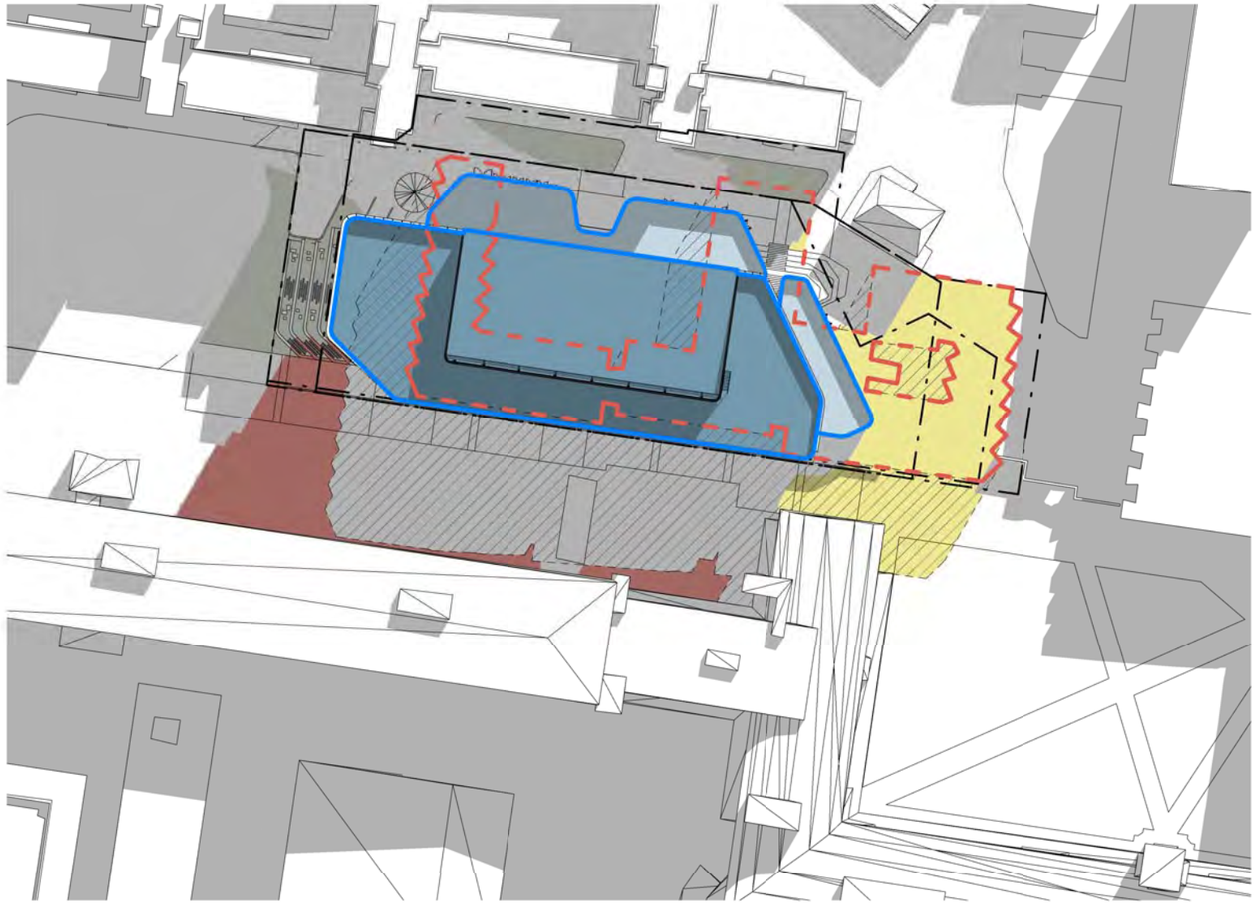
Drawing
Elevation South

Date
08.11.18

Project No. 18026
Drawing No. ADDA41000
Revision 04



1 | Plan 21 JUN 9am
1 : 1000



2 | Plan 21 JUN 10am
1 : 1000

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Chi Melhem 7754

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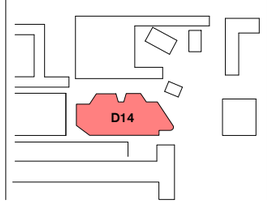
01	24.10.18	Draft SSDA
02	02.11.18	Draft SSDA
03	07.11.18	Draft SSDA
04	08.11.18	SSDA Submission

Legend

- Proposed D14 Footprint
- Existing UNSW Hall D14 Footprint
- Existing UNSW Hall D14 Shadows
- Additional Shadows
- Additional Solar Access

Key Plan



Owner and Applicant

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Architect Tzannes

Scale As indicated @ A3

North

0 10 20 30 m

Project
UNSW D14 Academic Building

Address
UNSW Kensington Campus

Status
PLANNING APPLICATION

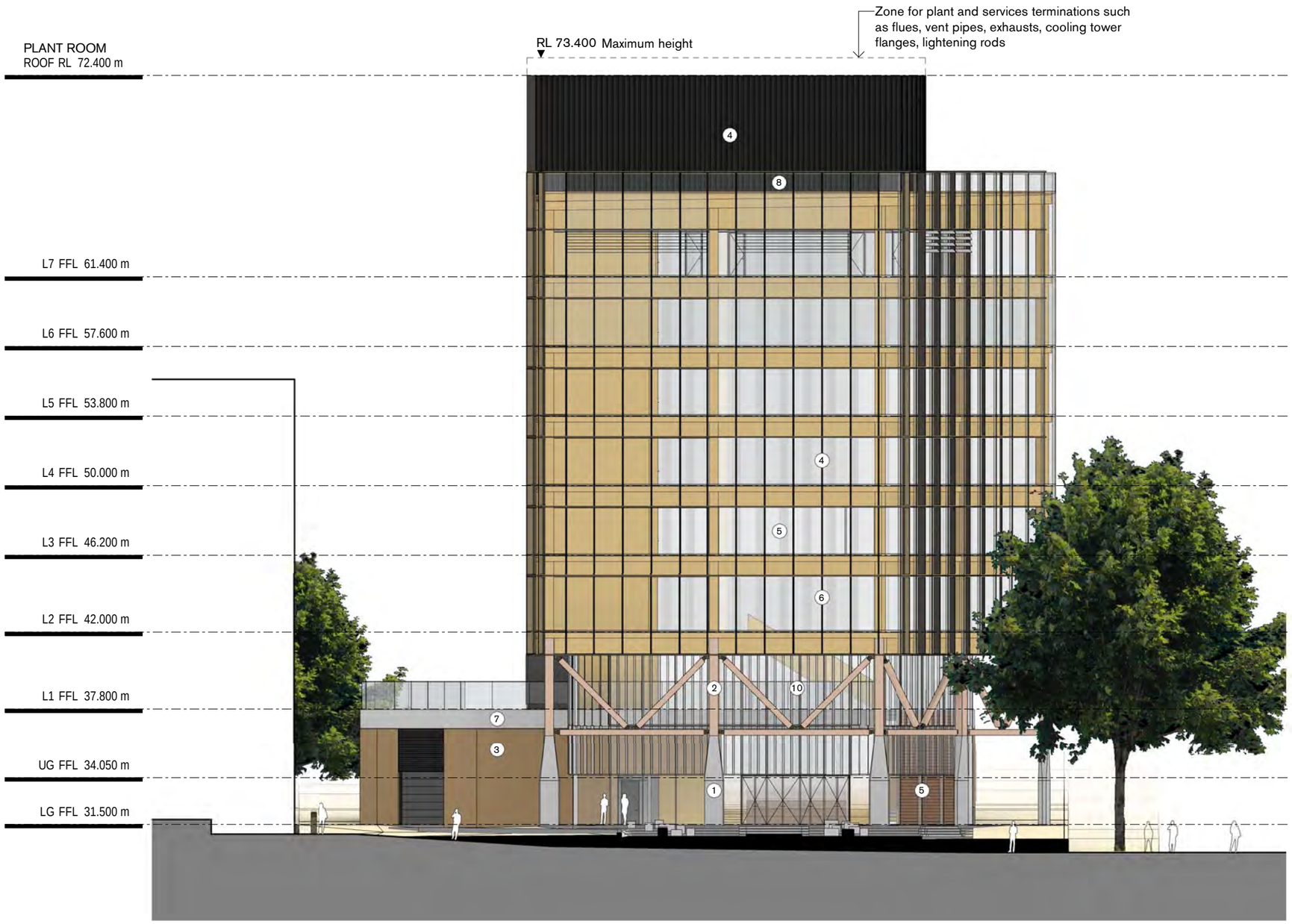
Drawing
Shadow Diagram Winter

Date
08.11.18

Project No. 18026

Drawing No. ADDA99000

Revision 04



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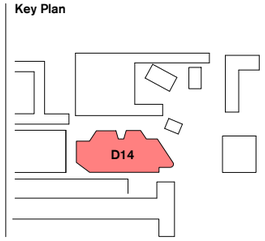
03	07.11.18	Draft SSDA
04	08.11.18	SSDA Submission

Legend

Key Plan



Owner and Applicant

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Architect Tzannes

Scale 1 : 250 @ A3 — **North**

0 2.5 5 7.5 m

Project
UNSW D14 Academic Building

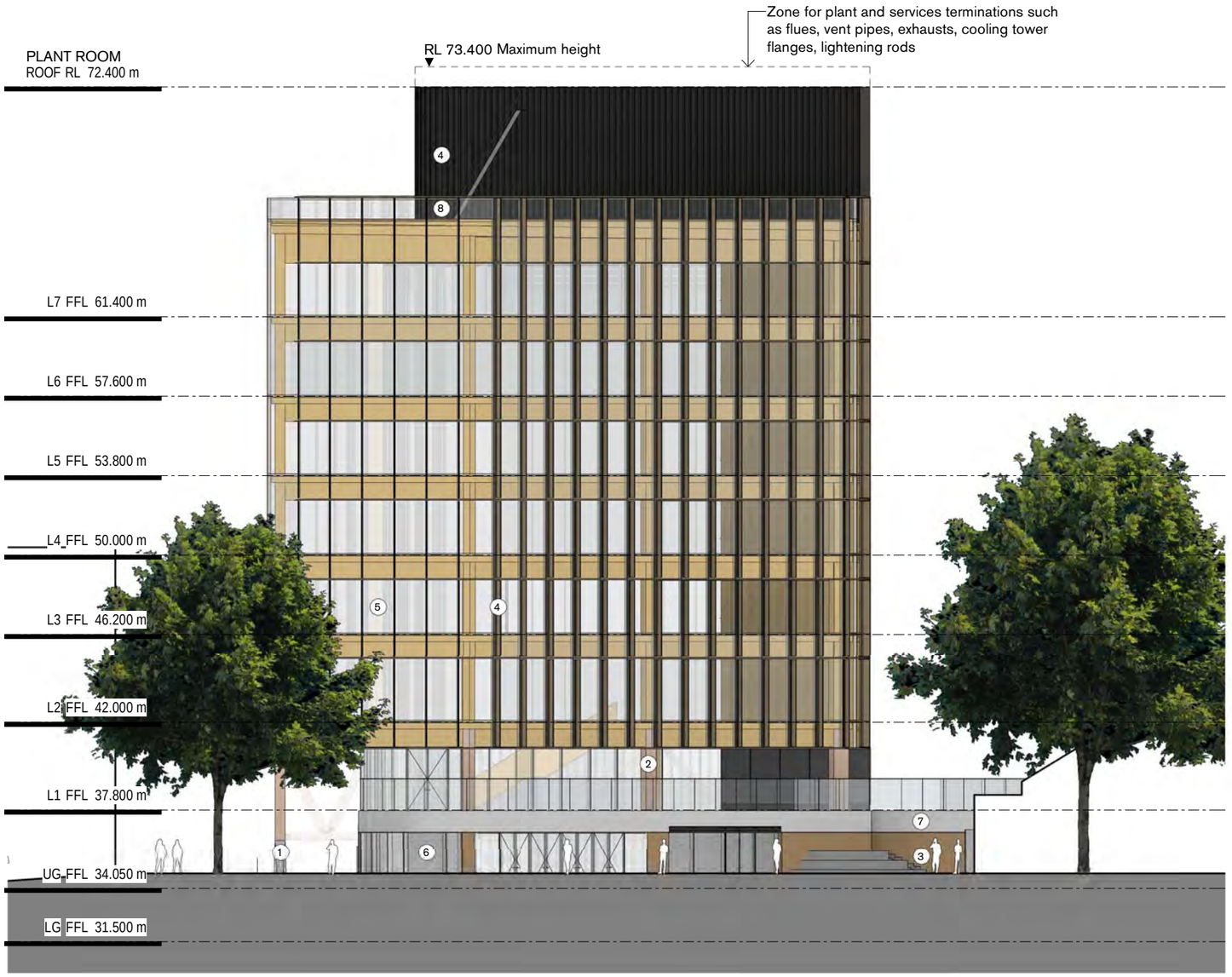
Address
UNSW Kensington Campus

Status
PLANNING APPLICATION

Drawing
Elevation West

Date
08.11.18

Project No.	Drawing No.	Revision
18026	ADDA42000	04



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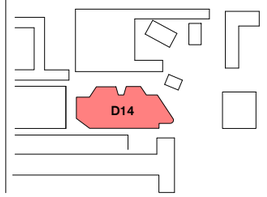
03	07.11.18	Draft SSDA
04	08.11.18	SSDA Submission

Legend

Key Plan



Owner and Applicant

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Architect Tzannes

Scale 1 : 250 @ A3 **North**

0 2.5 5 7.5 m

Project
UNSW D14 Academic Building

Address
UNSW Kensington Campus

Status
PLANNING APPLICATION

Drawing
Elevation East

Date
08.11.18

Project No. 18026
Drawing No. ADDA44000
Revision 04

1 | Section 1
1 : 250

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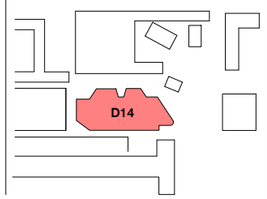
03	07.11.18	Draft SSDA
04	08.11.18	SSDA Submission

Legend

Key Plan



Owner and Applicant

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Architect Tzannes

Scale 1 : 250 @ A3

North

0 2.5 5 7.5 m

Project
UNSW D14 Academic Building

Address
UNSW Kensington Campus

Status
PLANNING APPLICATION

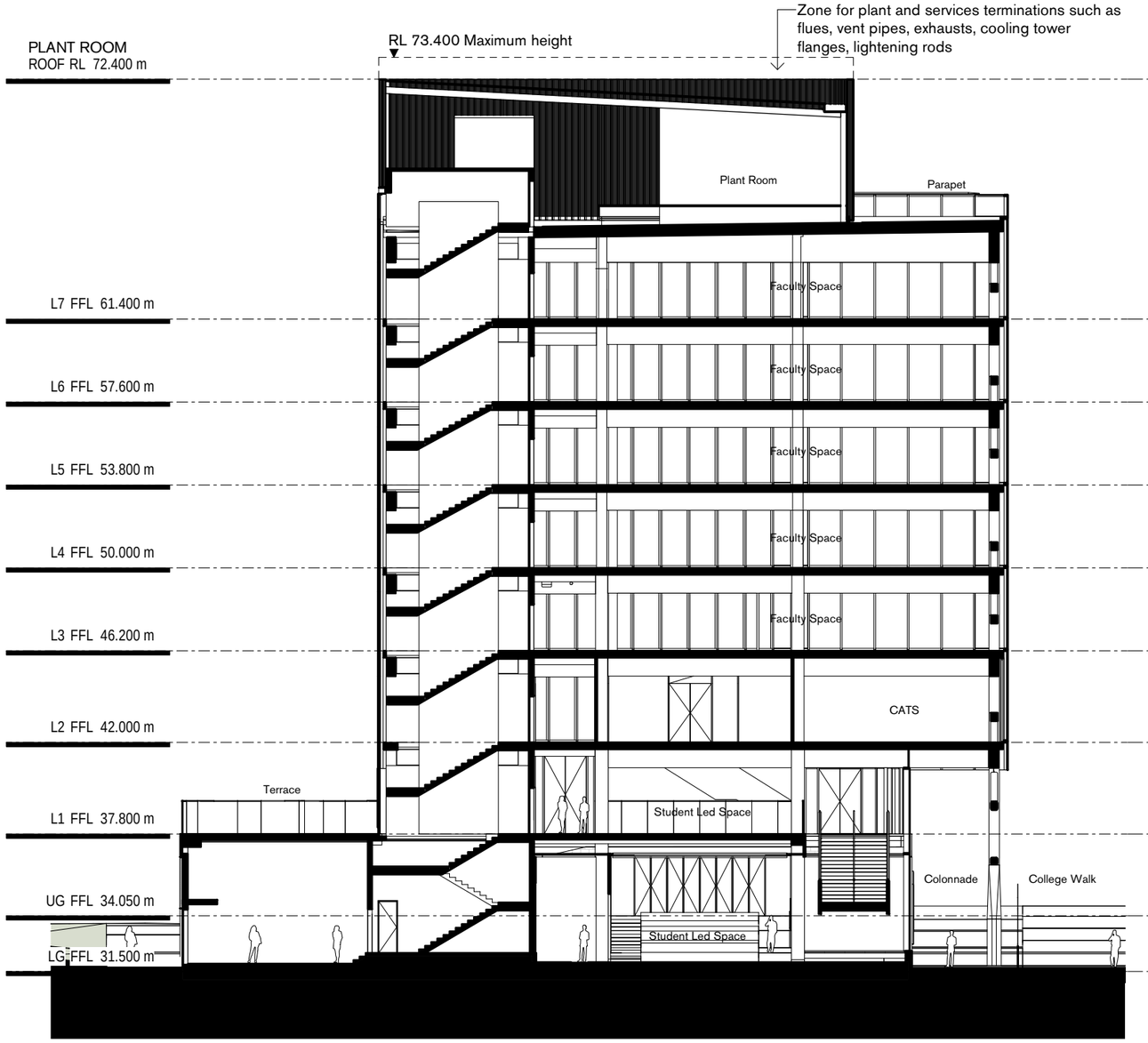
Drawing
Section E-W

Date
08.11.18

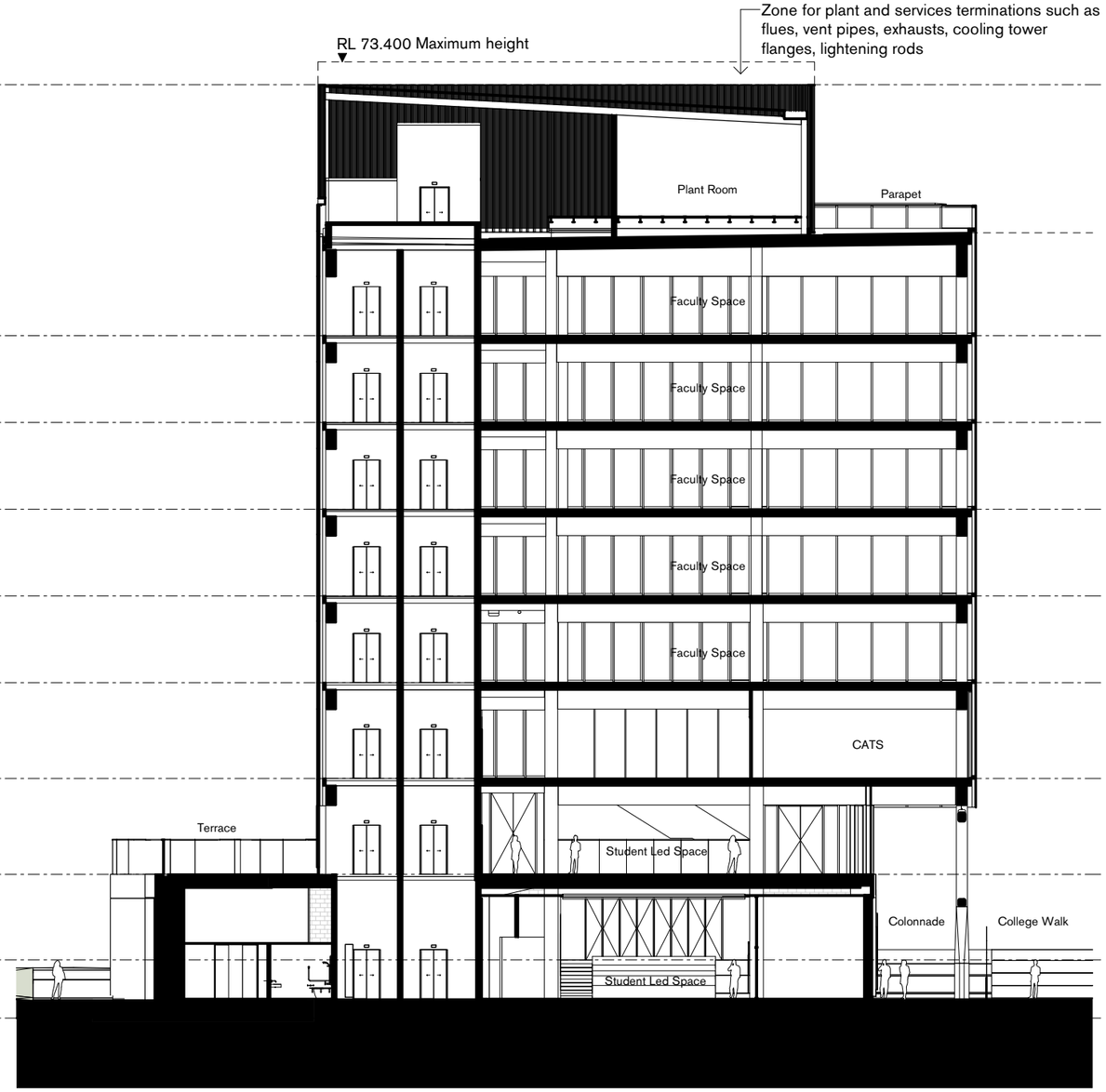
Project No. 18026

Drawing No. ADDA51000

Revision 04



1 | Section 2
1 : 250



2 | Section 3
1 : 250

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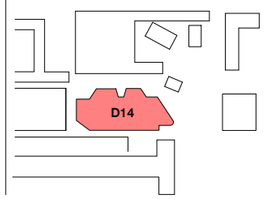
Rev	Date	For
01	24.10.18	Draft SSDA
02	02.11.18	Draft SSDA
03	07.11.18	Draft SSDA
04	08.11.18	SSDA Submission

Legend

Key Plan



Owner and Applicant

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Architect Tzannes

Scale North

1 : 250 @ A3

0 2.5 5 7.5 m

Project
UNSW D14 Academic Building

Address
UNSW Kensington Campus

Status
PLANNING APPLICATION

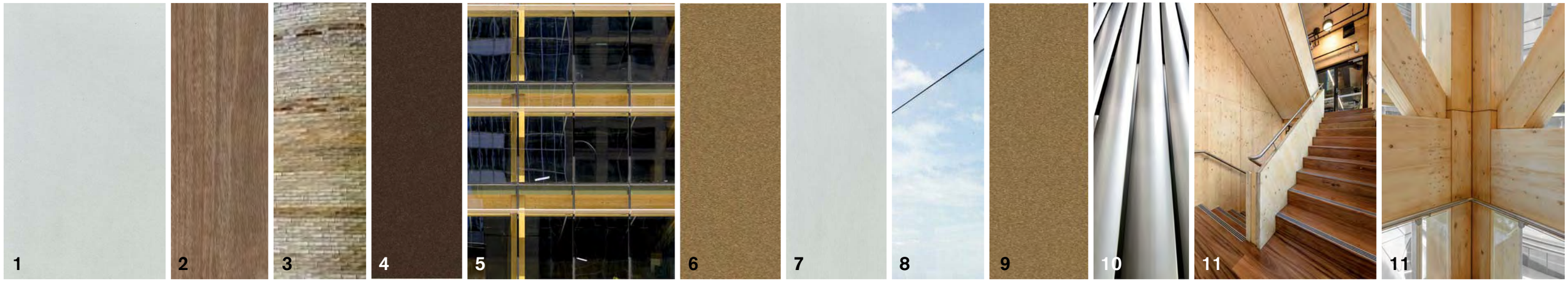
Drawing
Section N-S

Date
08.11.18

Project No. 18026
Drawing No. ADDA52000
Revision 04

MATERIALS & FINISHES SCHEDULE

Colonnade Double Height	Column pedestals, off form class 2 concrete (1) Columns recycled hardwood timber, clear finish (2) L2 soffit, exposed engineered timber beams and slabs (11)
Ground Floor Walls	Face Brick (3)
Shopfront Glazing	Fixed and operable aluminum framed glazed panels, powder coat finish or similar (6)
Ground & Level 1	Glazed double height facade, aluminium framing with clear glass vision panel (5) Panelised system to provide constant surface and colour texture (7) Vertical aluminium sunshading devices (10)
Level 2-7	Glazed curtain wall, aluminium framing powder coat finish or similar with clear low iron, performance glass (5) (6) Horizontal external sunshading devices, metal (4) Vertical external sunshading devices, metal (4) Roof parapet, clear glass (8) Core cladding opaque colour back glass (9)
Plant	Vertical louvres, powder coat finish (4)
Internal Structure Level G-1	Columns & L1 soffit off form class 2 concrete (1) Engineered timber from sustainable source (11)
Internal Structure Level	Engineered timber from sustainable source (11)
Internal Structure Level Level 2-7	Engineered timber from sustainable source (11)



Note: Indicative Samples Only

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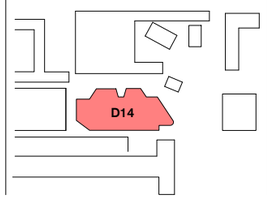
03	07.11.18	Draft SSDA
04	08.11.18	SSDA Submission

Legend

Key Plan



Owner and Applicant

UNSW SYDNEY

D&C Partner

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Architect

Tzannes

Scale @ A3

North

Project
UNSW D14 Academic Building

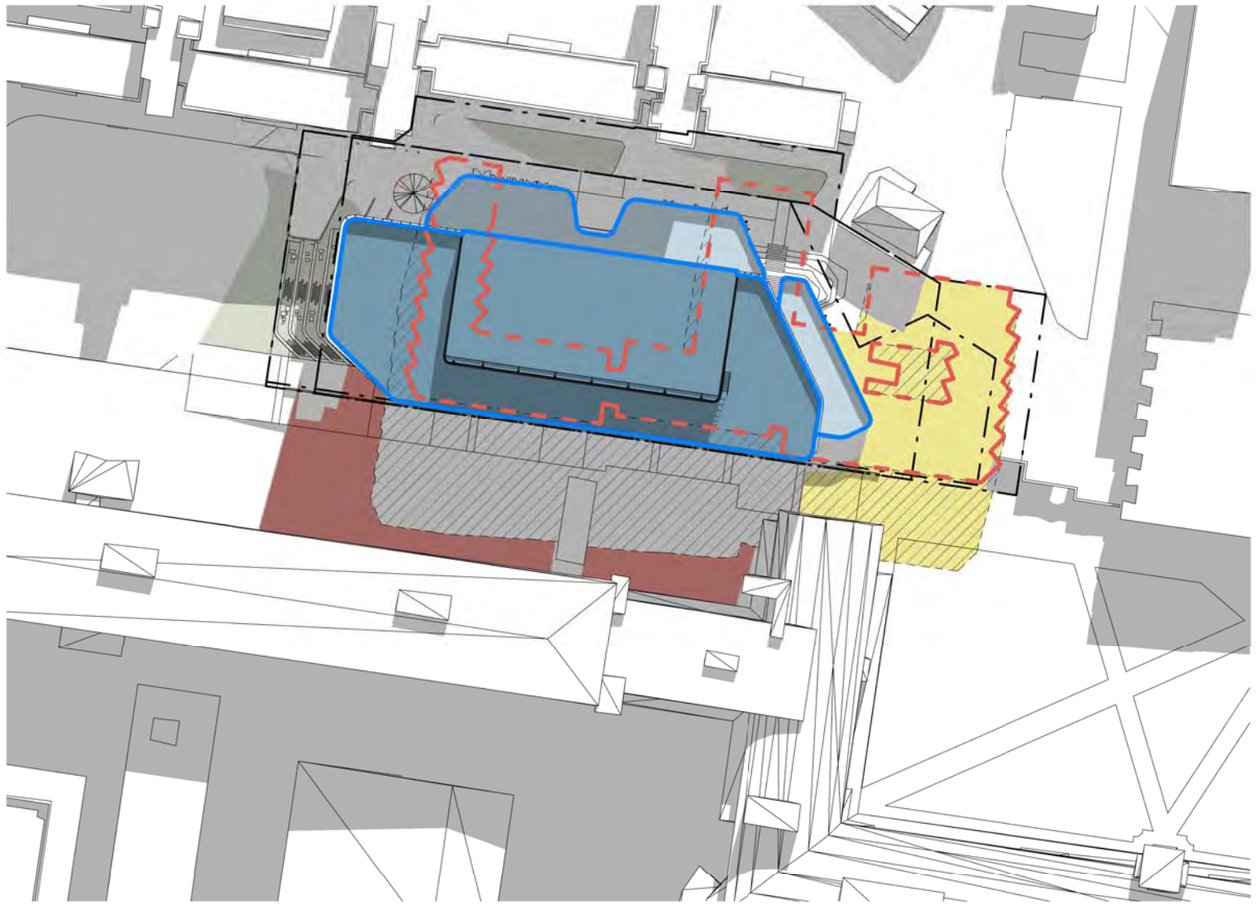
Address
UNSW Kensington Campus

Status
PLANNING APPLICATION

Drawing
Materials & Finishes Schedule

Date
08.11.18

Project No. 18026
Drawing No. ADDA90000
Revision 04



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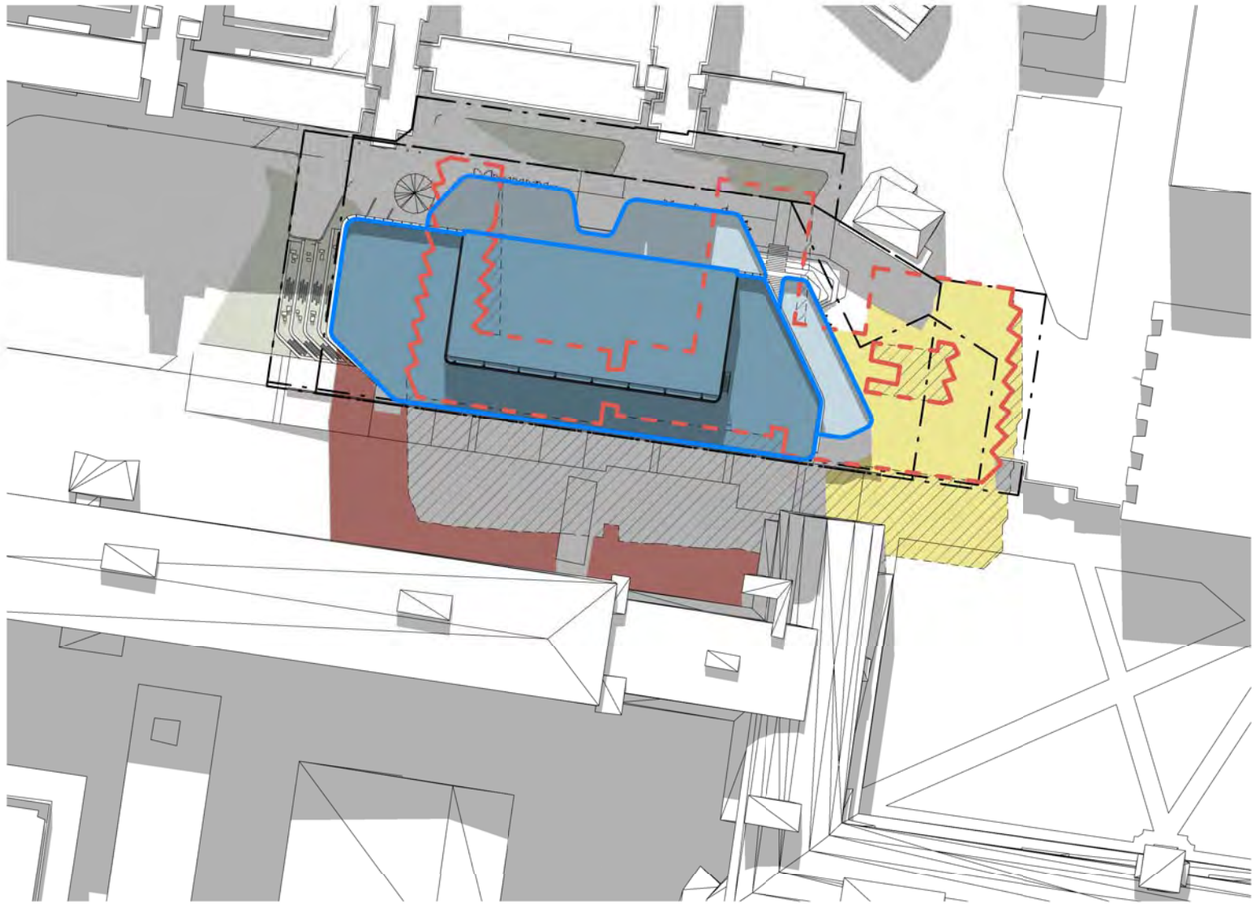
1 : 1000



2 | Plan 21 JUN 12pm
1 : 1000

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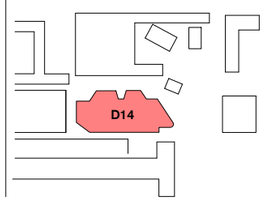
01	24.10.18	Draft SSDA
02	02.11.18	Draft SSDA
03	07.11.18	Draft SSDA
04	08.11.18	SSDA Submission

Legend

- Proposed D14 Footprint
- Existing UNSW Hall D14 Footprint
- Existing UNSW Hall D14 Shadows
- Additional Shadows
- Additional Solar Access

Key Plan



Owner and Applicant

UNSW SYDNEY

D&C Partner

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Architect Tzannes

Scale As indicated @ A3

North

0 10 20 30 m

Project
UNSW D14 Academic Building

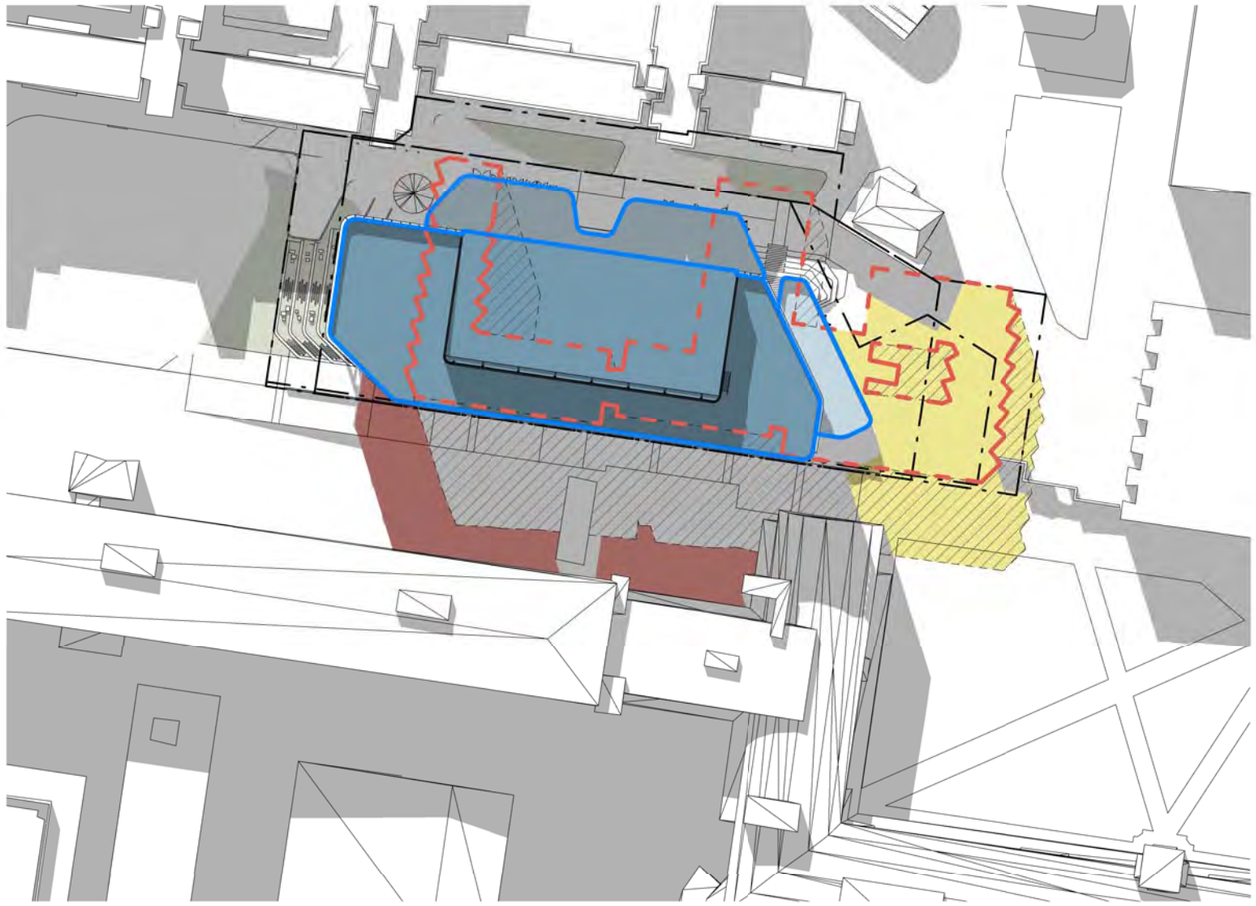
Address
UNSW Kensington Campus

Status
PLANNING APPLICATION

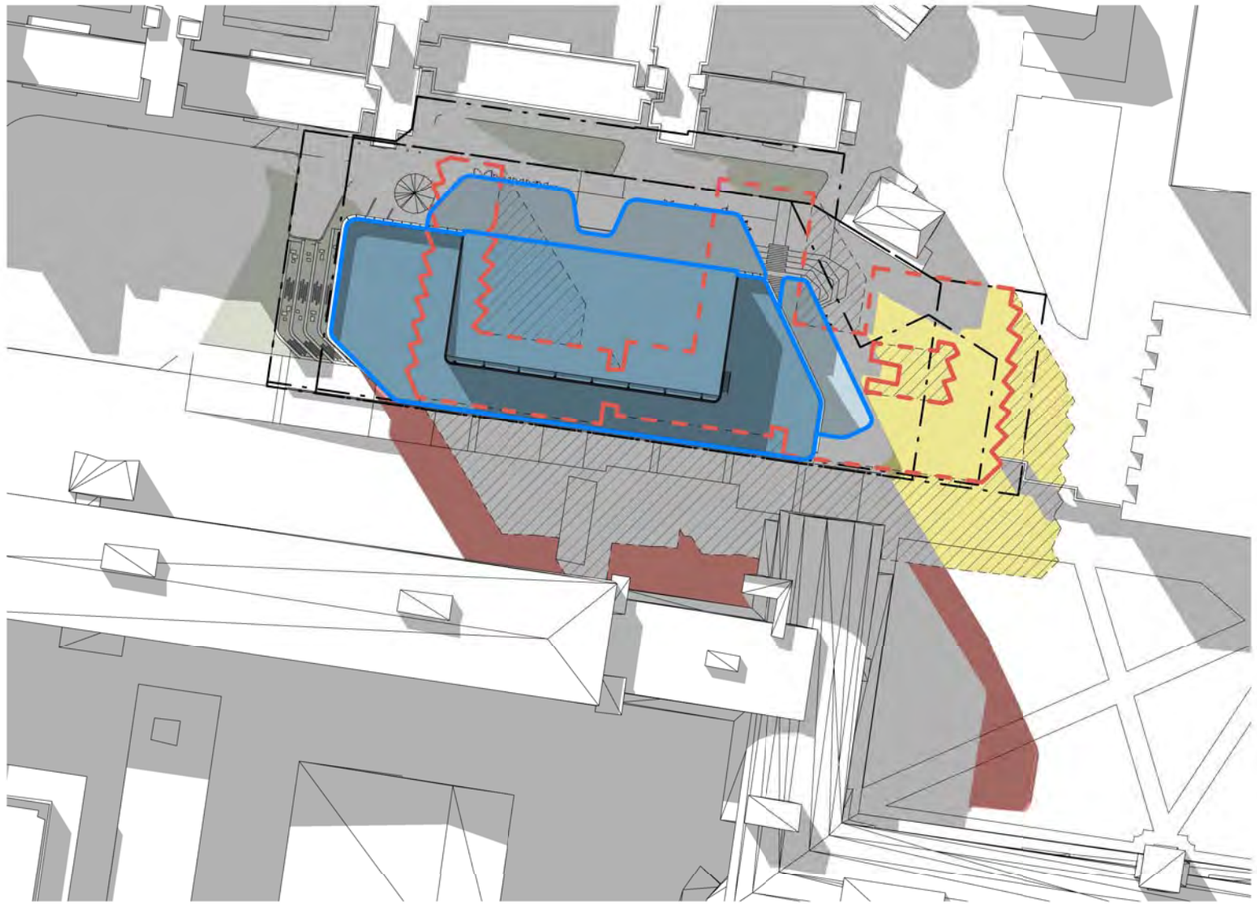
Drawing
Shadow Diagram Winter

Date
08.11.18

Project No.	Drawing No.	Revision
18026	ADDA99010	04



1 | Plan 21 JUN 1pm
1 : 1000



2 | Plan 21 JUN 2pm
1 : 1000

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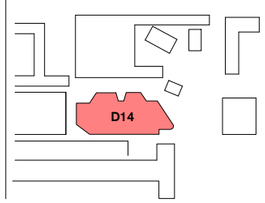
Rev	Date	For
01	24.10.18	Draft SSDA
02	02.11.18	Draft SSDA
03	07.11.18	Draft SSDA
04	08.11.18	SSDA Submission

Legend

- Proposed D14 Footprint
- Existing UNSW Hall D14 Footprint
- Existing UNSW Hall D14 Shadows
- Additional Shadows
- Additional Solar Access

Key Plan



Owner and Applicant

UNSW SYDNEY

D&C Partner

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Architect Tzannes

Scale As indicated @ A3

North

0 10 20 30 m

Project UNSW D14 Academic Building

Address UNSW Kensington Campus

Status PLANNING APPLICATION

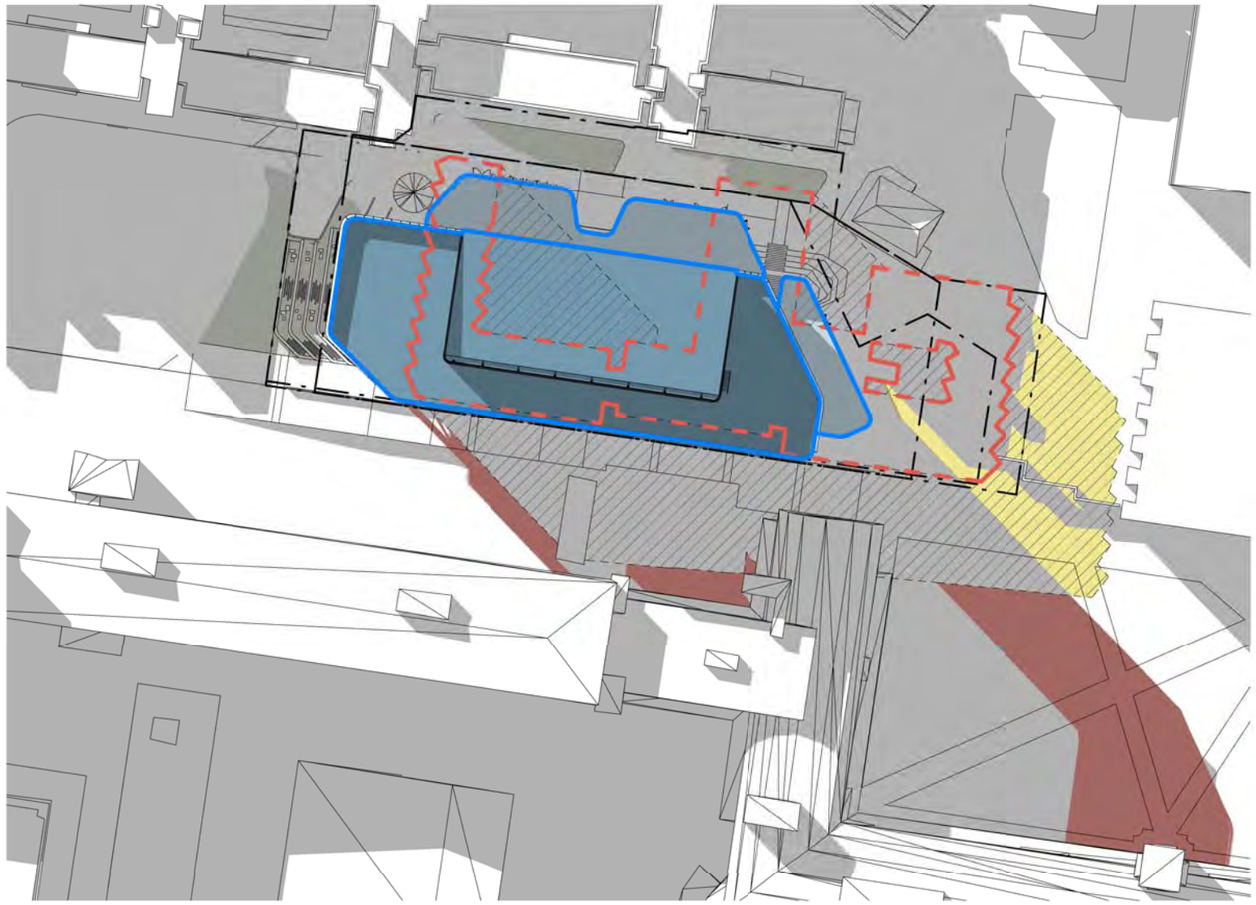
Drawing Shadow Diagram Winter

Date 08.11.18

Project No. 18026

Drawing No. ADDA99020

Revision 04



1 | Plan 21 JUN 3pm
1 : 1000

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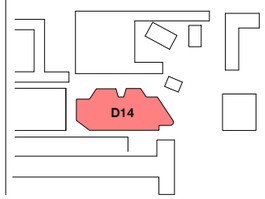
03	07.11.18	Draft SSDA
04	08.11.18	SSDA Submission

Legend

- Proposed D14 Footprint
- Existing UNSW Hall D14 Footprint
- Existing UNSW Hall D14 Shadows
- Additional Shadows
- Additional Solar Access

Key Plan



Owner and Applicant

UNSW SYDNEY

D&C Partner

lendlease

Architect Tzannes

Scale As indicated @ A3

North

0 10 20 30 m

Project
UNSW D14 Academic Building

Address
UNSW Kensington Campus

Status
PLANNING APPLICATION

Drawing
Shadow Diagram Winter

Date
08.11.18

Project No. 18026

Drawing No. ADDA99030

Revision 04

Appendix B

Previous Results

UCL Statistics for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.118/09/2018 1:12:57 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

BaP

General Statistics

Total Number of Observations	10	Number of Distinct Observations	6
Number of Detects	5	Number of Non-Detects	5
Number of Distinct Detects	5	Number of Distinct Non-Detects	1
Minimum Detect	0.2	Minimum Non-Detect	0.05
Maximum Detect	2.5	Maximum Non-Detect	0.05
Variance Detects	0.837	Percent Non-Detects	50%
Mean Detects	1.12	SD Detects	0.915
Median Detects	1.1	CV Detects	0.817
Skewness Detects	0.815	Kurtosis Detects	0.24
Mean of Logged Detects	-0.236	SD of Logged Detects	1.014

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.936	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.762	Detected Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.184	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.343	Detected Data appear Normal at 5% Significance Level

Detected Data appear Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.585	KM Standard Error of Mean	0.279
KM SD	0.788	95% KM (BCA) UCL	1.04
95% KM (t) UCL	1.096	95% KM (Percentile Bootstrap) UCL	1.035
95% KM (z) UCL	1.043	95% KM Bootstrap t UCL	1.104
90% KM Chebyshev UCL	1.421	95% KM Chebyshev UCL	1.799
97.5% KM Chebyshev UCL	2.325	99% KM Chebyshev UCL	3.357

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.229	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.686	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.197	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.361	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.579	k star (bias corrected MLE)	0.765
Theta hat (MLE)	0.709	Theta star (bias corrected MLE)	1.464
nu hat (MLE)	15.79	nu star (bias corrected)	7.65
Mean (detects)	1.12		

Gamma ROS Statistics using Imputed Non-Detects		
GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs		
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)		
For such situations, GROS method may yield incorrect values of UCLs and BTVs		
This is especially true when the sample size is small.		
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates		
Minimum	0.01	Mean 0.565
Maximum	2.5	Median 0.105
SD	0.845	CV 1.496
k hat (MLE)	0.362	k star (bias corrected MLE) 0.32
Theta hat (MLE)	1.562	Theta star (bias corrected MLE) 1.767
nu hat (MLE)	7.233	nu star (bias corrected) 6.397
Adjusted Level of Significance (β)	0.0267	
Approximate Chi Square Value (6.40, α)	1.846	Adjusted Chi Square Value (6.40, β) 1.453
95% Gamma Approximate UCL (use when n>=50)	1.958	95% Gamma Adjusted UCL (use when n<50) 2.487
Estimates of Gamma Parameters using KM Estimates		
Mean (KM)	0.585	SD (KM) 0.788
Variance (KM)	0.621	SE of Mean (KM) 0.279
k hat (KM)	0.551	k star (KM) 0.452
nu hat (KM)	11.02	nu star (KM) 9.048
theta hat (KM)	1.062	theta star (KM) 1.293
80% gamma percentile (KM)	0.955	90% gamma percentile (KM) 1.615
95% gamma percentile (KM)	2.328	99% gamma percentile (KM) 4.1
Gamma Kaplan-Meier (KM) Statistics		
Approximate Chi Square Value (9.05, α)	3.356	Adjusted Chi Square Value (9.05, β) 2.782
95% Gamma Approximate KM-UCL (use when n>=50)	1.577	95% Gamma Adjusted KM-UCL (use when n<50) 1.903
Lognormal GOF Test on Detected Observations Only		
Shapiro Wilk Test Statistic	0.954	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.762	Detected Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.228	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.343	Detected Data appear Lognormal at 5% Significance Level
Detected Data appear Lognormal at 5% Significance Level		
Lognormal ROS Statistics Using Imputed Non-Detects		
Mean in Original Scale	0.585	Mean in Log Scale -1.786
SD in Original Scale	0.831	SD in Log Scale 1.883
95% t UCL (assumes normality of ROS data)	1.067	95% Percentile Bootstrap UCL 1
95% BCA Bootstrap UCL	1.142	95% Bootstrap t UCL 1.512
95% H-UCL (Log ROS)	24.49	
Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution		
KM Mean (logged)	-1.616	KM Geo Mean 0.199
KM SD (logged)	1.522	95% Critical H Value (KM-Log) 4.258
KM Standard Error of Mean (logged)	0.538	95% H-UCL (KM -Log) 5.487
KM SD (logged)	1.522	95% Critical H Value (KM-Log) 4.258
KM Standard Error of Mean (logged)	0.538	

	A	B	C	D	E	F	G	H	I	J	K	L
102	**DL/2 Statistics**											
103	**DL/2 Normal**						**DL/2 Log-Transformed**					
104	Mean in Original Scale					0.573	Mean in Log Scale					-1.962
105	SD in Original Scale					0.84	SD in Log Scale					1.942
106	95% t UCL (Assumes normality)					1.059	95% H-Stat UCL					27.75
107	**DL/2 is not a recommended method, provided for comparisons and historical reasons**											
108												
109	**Nonparametric Distribution Free UCL Statistics**											
110	**Detected Data appear Normal Distributed at 5% Significance Level**											
111												
112	**Suggested UCL to Use**											
113	95% KM (t) UCL					1.096						
114												
115	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
116	Recommendations are based upon data size, data distribution, and skewness.											
117	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
118	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
119												

Table B1: Summary of Laboratory Results for Soil Analysis

Sample		Soil Type [b]	Date Sampled	Heavy Metals								PAH				TRH (NEPM 2013) [e]						BTEX									
				As	Cd	Cr [c]	Cu	Pb	Hg	Ni	Zn	total	BaP TEQ	BaP	Naphthalene	C6-C10	>C10-C16	F1 - C6 – C10 less BTEX	F2 - >C10-C16 less naphthalene	>C16-C34	>C34-C40	Benzene	Toluene	Ethylbenzene	xylene	VOC [d]	phenol	PCB	OCP [d]	OPP [d]	Asbestos [j]
				Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
Soil Assessment Criteria (SAC) - (NEPC, 2013) (refer to report body for details)																															
HIL D				3,000	900	3,600	240,000	1,500	730/180	6,000	400,000	4,000	40														660	7	refer to note h	refer to note i	
EIL/ ESL				*160*		*680*	*320*	*1,800*		*320*	*1,000*			*1.4*	*370*		*170*	*215*		*2,500*	*6,600*	*95*	*135*	*185*	*95*				*640* [f]		
Ecological Reference Level														172 [g]																	
Management Limit		Coarse														700	1,000			3,500	10,000										
HSLs - Vapour Intrusion																															
HSL D	0-<1m	Sand													NL			260	NL			3	NL	NL	230						
HSL D, direct contact															11,000			26,000	20,000	27,000	38,000	430	99,000	27,000	81,000						
Intrusive Maintenance Workers																															
HSLs - Vapour Intrusion																															
HSL	0-<2m	Sand													NL			NL	NL			77	NL	NL	NL						
HSL, direct contact															29,000			82,000	62,000	85,000	120,000	1,100	120,000	85,000	130,000						
Laboratory Results																															
Sample Location		**Depth**																													
1		0-0.1	Fill	25-Jul-18	<4	<0.4	7	23	35	<0.1	5	80	1.55	<0.5	0.2	<0.1	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<5	<0.1	<0.1	<0.1	NAD
BD1/20180725	a		Fill	25-Jul-18	<5	<1	4	13	28	<0.1	2	71	<7.5	0.6	<0.5	<0.5	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	-	-	-	-	-	-
1		1.7	Natural	25-Jul-18	<4	<0.4	2	1	2	<0.1	<1	5	<1.35	<0.5	<0.05	<0.1	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	<5	<0.1	<0.1	<0.1	NAD
2		0.5	Fill	25-Jul-18	<4	<0.4	8	47	6	<0.1	37	32	1.125	<0.5	<0.05	<0.1	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<5	<0.1	<0.1	<0.1	NAD
2		1.8	Fill	25-Jul-18	<4	<0.4	<1	<1	<1	<0.1	<1	<1	<1.35	<0.5	<0.05	<0.1	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	<5	<0.1	<0.1	<0.1	NAD
3A		0.1-0.2	Fill	25-Jul-18	<4	<0.4	15	81	67	0.4	11	150	14.7	1.9	1.4	<0.1	<25	<50	<25	<50	180	<100	<0.2	<0.5	<1	<1	<1	<5	<0.1	0.1	<0.1	NAD
3A		0.4-0.5	Fill	25-Jul-18	<4	<0.4	6	37	100	0.3	10	120	3.4	0.6	0.4	<0.1	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	<5	<0.1	<0.1	<0.1	NAD
4		0-0.1	Fill	25-Jul-18	<4	<0.4	6	16	14	0.1	14	33	0.96	<0.5	0.06	<0.1	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	<5	<0.1	<0.1	<0.1	NAD
BD4/20180725	a		Fill	25-Jul-18	<4	<0.4	7	20	24	0.2	12	61	9.95	1.5	1.1	<0.1	<25	<50	<25	<50	150	130	<0.2	<0.5	<1	<1	-	-	-	-	-	-
4		1.5	Natural	25-Jul-18	<4	<0.4	<1	<1	<1	<0.1	<1	<1	<1.35	<0.5	<0.05	<0.1	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	<5	<0.1	<0.1	<0.1	NAD
5		0-0.1	Fill	25-Jul-18	<4	<0.4	6	53	20	<0.1	6	31	<1.35	<0.5	<0.05	<0.1	<25	<50	<25	<50	540	670	<0.2	<0.5	<1	<1	<1	<5	<0.1	<0.1	<0.1	NAD
BD2/20180725	a		Fill	25-Jul-18	<4	<0.4	7	70	16	<0.1	5	30	0.725	<0.5	<0.05	<0.1	<25	<50	<25	<50	730	890	<0.2	<0.5	<1	<1	-	-	-	-	-	-
5		0.5	Fill	25-Jul-18	<4	<0.4	6	35	53	<0.1	5	36	<1.35	<0.5	<0.05	<0.1	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	<5	<0.1	<0.1	<0.1	NAD
6		0.1	Fill	25-Jul-18	5	<0.4	12	42	55	0.3	55	68	<1.35	<0.5	<0.05	<0.1	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<5	<0.1	<0.1	<0.1	NAD
6		0.5	Fill	25-Jul-18	5	<0.4	5	61	230	0.9	10	110	15.75	3.6	2.5	<0.1	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	<5	<0.1	<0.1	<0.1	NAD

Notes

a	Replicate sample of sample listed directly above
b	Fill or naturally
c	Analysis result for total Cr, SAC and waste classification guidelines for Cr(VI), background ranges for Cr(III)
d	Where results of one or more component compound are above PQL sum of all results above PQL given, when all results are below PQL results quoted as <PQL of majority of individual analytes
e	Analysis result for TRH, guidelines for TPH
f	EIL for DDT
g	Sourced from CRC CARE Technical Report No. 39, Risk-based management and remediation guidance for benzo(a)pyrene (2017)
h	DDT+DDE+DDD - 3600 mg/kg, Aldrin + Dieldrin - 45 mg/kg, chlordane - 530 mg/kg, endosulfan - 2000 mg/kg, endrin - 100 mg/kg, heptachlor - 50 mg/kg, HCB - 80 mg/kg and methoxychlor - 2500 mg/kg
i	chloropyifos - 2000 mg/kg
j	Refer to Table F2, Appendix F for further information
Italic	Exceedance of EIL/ESL

Acronyms

As	arsenic
BaP	benzo(a)pyrene
BaP TEQ	benzo(a)pyrene toxic equivalent
BTEX	benzene, toluene, ethyl benzene, xylenes
Cd	cadmium
Cr	chromium (total)
Cu	copper
EIL	ecological investigation level
ESL	ecological screening level
Hg	mercury
HIL	health investigation level
HSL	health screening level
NAD	no asbestos detected at the limit of reporting
Ni	nickel
NL	“Not limiting” to human health for the proposed land use for vapour intrusion from petroleum hydrocarbons
OCP	organochlorine pesticides
OPP	organophosphorus pesticides
PAH	polycyclic aromatic hydrocarbons
Pb	lead
PCB	polychlorinated biphenyls
PQL	practical quantitation limit
TPH	total petroleum hydrocarbons
TRH	total recoverable hydrocarbons, including total petroleum hydrocarbons (TPH)
VOC	volatile organic compounds
Zn	zinc

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Table B2: Summary of Laboratory Results for Analysis of Asbestos in Soil

Sample	Soil Type	Date Sampled	Asbestos 40 g Sample		Asbestos (500 ml Samples)				
			Asbestos ID in soil	Trace Analysis	Asbestos ID in soil (AS4964) >0.1g/kg	Trace Analysis	Total Asbestos#1	Asbestos ID in soil <0.1g/kg*	FA and AF Estimation*#2
					Total				
					-	-	g/kg	-	%(w/w)
Soil Assessment Criteria (SAC) - NEPM (as amended 2013) (refer to report body for details)									
Commercial									
HIL D									0.001
Laboratory Results									
Sample Location	**Depth**								
1	0-0.1	Fill	25-Jul-18	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	<0.001
1	1.7	Natural	25-Jul-18	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	-	-	-	-	-
2	0.5	Fill	25-Jul-18	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	<0.001
2	1.8	Fill	25-Jul-18	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	<0.001
3A	0.1-0.2	Fill	25-Jul-18	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	<0.001
3A	0.4-0.5	Fill	25-Jul-18	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	-	-	-	-	-
4	0-0.1	Fill	25-Jul-18	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	<0.001
4	1.5	Natural	25-Jul-18	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	-	-	-	-	-
5	0-0.1	Fill	25-Jul-18	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	<0.001
5	0.5	Fill	25-Jul-18	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	-	-	-	-	-
6	0.1	Fill	25-Jul-18	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	<0.001
6	0.5	Fill	25-Jul-18	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	-	-	-	-	-

Table B3: Summary of Laboratory Results for Waste Classification

Sample		Soil Type	Date Sampled	Heavy Metals										PAH			TRH/TPH		BTEX				VOC [b]	phenol	PCB	OCP [b]	OPP [b]	Asbestos [j]
				As	Cd	Cr [c]	Cu	Pb		Hg	Ni		Zn	total [b]	BaP		C_6 - C_9	C_{10} - C_{36} [d]	Benzene	Toluene	Ethylbenzene	xylene						
				Total	Total	Total	Total	Total	TCLP	Total	Total	TCLP	Total	Total	Total	TCLP	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/L	mg/kg	mg/kg	mg/L	mg/kg	mg/kg	mg/kg	mg/L	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
Waste Classification Thresholds (EPA, 2014)																												
General Solid		CT1		100	20	100		100		4	40			200	0.8		650	10,000	10	288	600	1,000	- [e]	288	<50	<50 [f]	250 [g]	
		SCC1/TCLP1						1,500	5		1,050	2				0.04												
Published Background Ranges																												
NEPC (1999)				1-50	1	5-1000	2-100	2-200		0.03	5-500		10-300															
ANZECC (1992)				0.2-30	0.04-2	0.5-110	1-190	<2-200		0.001-0.1	2-400		2-180	0.95-5					0.05 - 1	0.1 - 1				0.03 – 0.5	0.02 – 0.1	<0.001 - <0.97		
ANZECC (2000)				1-53	0.016-0.78	2.5-673	0.4-412	2-81			1-517		1-263															
Laboratory Results																												
Sample Location		**Depth**																										
1		0-0.1	Fill	25-Jul-18	<4	<0.4	7	23	35	-	<0.1	5	-	80	1.55	0.2	-	<25	<250	<0.2	<0.5	<1	<1	<1	<5	<0.1	<0.1	<0.1	NAD
BD1/20180725	a		Fill	25-Jul-18	<5	<1	4	13	28	-	<0.1	2	-	71	<7.5	<0.5	-	<10	<50	<0.2	<0.5	<0.5	<0.5	-	-	-	-	-	-
1		1.7	Natural	25-Jul-18	<4	<0.4	2	1	2	-	<0.1	<1	-	5	<1.35	<0.05	-	<25	<250	<0.2	<0.5	<1	<1	-	<5	<0.1	<0.1	<0.1	NAD
2		0.5	Fill	25-Jul-18	<4	<0.4	8	47	6	-	<0.1	37	-	32	1.125	<0.05	-	<25	<250	<0.2	<0.5	<1	<1	<1	<5	<0.1	<0.1	<0.1	NAD
2		1.8	Fill	25-Jul-18	<4	<0.4	<1	<1	<1	-	<0.1	<1	-	<1	<1.35	<0.05	-	<25	<250	<0.2	<0.5	<1	<1	-	<5	<0.1	<0.1	<0.1	NAD
3A		0.1-0.2	Fill	25-Jul-18	<4	<0.4	15	81	67	-	0.4	11	-	150	14.7	1.4	<0.0001	<25	175	<0.2	<0.5	<1	<1	<1	<5	<0.1	0.1	<0.1	NAD
3A		0.4-0.5	Fill	25-Jul-18	<4	<0.4	6	37	100	-	0.3	10	-	120	3.4	0.4	-	<25	<250	<0.2	<0.5	<1	<1	-	<5	<0.1	<0.1	<0.1	NAD
4		0-0.1	Fill	25-Jul-18	<4	<0.4	6	16	14	-	0.1	14	-	33	0.96	0.06	-	<25	<250	<0.2	<0.5	<1	<1	-	<5	<0.1	<0.1	<0.1	NAD
BD4/20180725	a		Fill	25-Jul-18	<4	<0.4	7	20	24	-	0.2	12	-	61	9.95	1.1	<0.001	<25	215	<0.2	<0.5	<1	<1	-	-	-	-	-	-
4		1.5	Natural	25-Jul-18	<4	<0.4	<1	<1	<1	-	<0.1	<1	-	<1	<1.35	<0.05	-	<25	<250	<0.2	<0.5	<1	<1	-	<5	<0.1	<0.1	<0.1	NAD
5		0-0.1	Fill	25-Jul-18	<4	<0.4	6	53	20	-	<0.1	6	-	31	<1.35	<0.05	-	<25	<250	<0.2	<0.5	<1	<1	<1	<5	<0.1	<0.1	<0.1	NAD
BD2/20180725	a		Fill	25-Jul-18	<4	<0.4	7	70	16	-	<0.1	5	-	30	0.725	<0.05	-	<25	985	<0.2	<0.5	<1	<1	-	-	-	-	-	-
5		0.5	Fill	25-Jul-18	<4	<0.4	6	35	53	-	<0.1	5	-	36	<1.35	<0.05	-	<25	735	<0.2	<0.5	<1	<1	-	<5	<0.1	<0.1	<0.1	NAD
6		0.1	Fill	25-Jul-18	5	<0.4	12	42	55	-	0.3	55	<0.02	68	<1.35	<0.05	-	<25	<250	<0.2	<0.5	<1	<1	<1	<5	<0.1	<0.1	<0.1	NAD
6		0.5	Fill	25-Jul-18	5	<0.4	5	61	230	0.08	0.9	10	-	110	15.75	2.5	<0.001	<25	<250	<0.2	<0.5	<1	<1	-	<5	<0.1	<0.1	<0.1	NAD

Notes

a	Replicate sample of sample listed directly above
b	Where results of one or more component compound are above PQL sum of all results above PQL given, when all results are below PQL results quoted as <PQL of majority of individual analytes
c	Analysis result for total Cr, SAC and waste classification guidelines for Cr(VI), background ranges for Cr(III)
d	Where results of one or more component compound are above PQL sum of all results above PQL given, when all results are below PQL results quoted as less than the sum of PQLs of the individual analytes
e	Various, not listed here as all results less than PQL
f	Guideline for scheduled chemicals
g	Guideline for moderately harmful pesticides
h	Various available, not listed as not detected above PQL
i	Analysis result for TRH, guidelines for TPH
j	Refer to Table F2, Appendix F for further information

Guidelines

EPA, 2014	NSW EPA (2014) *Waste Classification Guidelines*
NEPC (1999)	National Environment Protection Council (NEPC) *National Environment Protection (Assessment of Site Contamination) Measure* 1999 (as amended 2013).
	NEPC (1999) *National Environment Protection Measure (Assessment of Site Contamination)* Schedule B1, Table 5-A, Background Ranges
ANZECC (1992)	ANZECC/NHMRC (1992) *Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites* , Environmental Soil Quality Guidelines Background A [ANZECC A];
ANZECC (2000)	ANZECC (2000) *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* , Volume 3, Table 9.2.16 Datasets used to derive suggested upper background values for uncontaminated Australian soils

Acronyms

As	arsenic	PQL	practical quantitation limit
BaP	benzo(a)pyrene	TCLP	toxicity characteristic leaching procedure
BTEX	benzene, toluene, ethyl benzene, xylenes	TPH	total petroleum hydrocarbons
Cd	cadmium	TRH	total recoverable hydrocarbons, including TPH
Cr	chromium (total)	VOC	volatile organic compounds
Cu	copper	Zn	zinc
Hg	mercury		
NAD	no asbestos detected at the limit of reporting		
Ni	nickel		
OCP	organochlorine pesticides		
OPP	organophosphorus pesticides		
PAH	polycyclic aromatic hydrocarbons		
Pb	lead		
PCB	polychlorinated biphenyls		

Appendix C

Asbestos Work Health and Safety Plan

Asbestos Work Health and Safety Plan

In the event that asbestos contaminated soils are encountered the asbestos work health and safety plan must also be enacted.

1.1 Overview and Required Plans

All asbestos site work must be undertaken in a controlled and safe manner with due regard to potential hazards, training and safe work practices. To assist in achieving this goal the following plans, as a minimum, shall be developed by the Contractor (or the relevant subcontractors and provided to the Contractor for approval):

- Work Health and Safety Plan (WHSP): detailing the WHS procedures for the site, this may incorporate or include references to the below plans;
- Safe Works Method Statement (SWMS): which will be specific to individual tasks undertaken at the site;
- Asbestos Removal Control Plan (ARCP): as detailed further below; and
- Emergency Response Plan: detailing the procedures to be implemented in an emergency.

The above plans will all comply with regulatory requirements, including the WHS Regulation and SafeWork NSW requirements.

The ARCP must be provided to the person who commissioned the works. The ARCP must include:

- Details of how the asbestos removal will be carried out, including the method to be used and the tools, equipment and personal protective equipment to be used, and
- Details of the asbestos to be removed, including the location, type and condition of the asbestos.

The licensed asbestos contractor must keep the ARCP in accordance with the WHS Regulations.

Furthermore, consultation with site workers when drafting the above plans is to be undertaken to address issues which may be otherwise overlooked. Moreover, if issues are raised by workers during the works, then these plans should be reviewed and updated accordingly to take into consideration site conditions.

1.2 Induction

All site personnel must be inducted. The induction is to include, but not be limited to, general hazards associated with construction works, hazards specific to asbestos, evacuation and emergency response plans, first aid providers, what to do in the case of unexpected finds and any aspects of this plan applicable to their tasks.

1.3 Stakeholder Contacts

Prior to the commencement of works a stakeholder contact list must be produced which is maintained at the site office and updated as appropriate.

Table 1: Stakeholders

Role	Contact Person	Contact Number
Principal		
Principal Contractor		
Asbestos Contractor (if required)		
Sub-contractors		
Local Council		
Occupation Hygienist		
Environmental Consultant		

This list should be updated as required. In addition a contact list of the relevant utility providers should be available on site as required.

1.4 Hazards at the Site

Various hazards can be present at construction sites, and should be identified by the Contractor prior to commencement of works. Hazards present at the site may include the following:

- Heat exposure;
- Excavations;
- Buried services;
- Noise;
- Dust;
- Electrical Equipment;
- Heavy Equipment and Truck Operation;
- Asbestos and asbestos fibres; and
- Chemical hazards (no chemical hazards identified from the contamination assessment).

1.5 Licensed Contractor and Training

All asbestos works greater than 10 m^2 must be undertaken by an asbestos contractor with a Class B asbestos removal licence issued by SafeWork NSW. The asbestos contractor must ensure that the remedial work is adequately supervised and carried out in a safe manner. Supervisory personnel shall

have a detailed knowledge of the precautions and procedures outlined in *Code of Practice: How to Safely Remove Asbestos* (Safe Work Australia 2011) and shall, in light of this knowledge and experience, assume the responsibilities as detailed in the Code. These include planning, directing and monitoring asbestos removal works to ensure the required controls are implemented, in addition to ensuring that the consultant is reliably and regularly informed of the progress of the removal works.

Prior to engagement in the work, all asbestos remediation workers shall be instructed in the relevant aspects of asbestos health hazards, safe working procedures, and the wearing and maintenance of protective clothing and equipment.

The asbestos remediation contractor should keep a written record of all training provided to each of their asbestos removal workers and ensure these records are readily accessible.

Asbestos remediation contractor should also provide the following information to all of their asbestos removal workers and to all applicants for employment as an asbestos removal worker:

- The health risks associated with exposure to asbestos;
- The need for, and details of, health surveillance, including medical examinations in accordance with the Guidelines for Health Surveillance [NOHSC:7039 (1995)]; and
- Details of legislation and codes of practice relating to the control and safe removal of asbestos.

1.6 Notification

SafeWork NSW must be notified five days in advance of any asbestos works.

The Asbestos Contractor must, before commencing the licensed asbestos removal work, inform the following people that asbestos removal works are to be conducted and the date the work will commence:

- The person with management or control of the workplace and any adjacent occupied buildings; and
- The entity / person who commissioned the asbestos removal work.

The person with management or control of the workplace must inform workers and any other persons in the workplace.

1.7 Fencing and Signage for Asbestos Areas

Prior to the commencement of asbestos works, the area will be delineated from the rest of the site with the use of hazard tape and warning signage and shall be specific to Asbestos Hazards. Further delineation with hazard tape and warning signage will be required for the asbestos contaminated stockpiles.

All warning signs must comply with AS 1319 *Safety Signs for the Occupational Environment* and the National Code of Practice *How to Manage and Control Asbestos in the Workplace (Safe Work Australia 2011)*.

Appropriate fencing must also be placed around any deep excavations or unstable areas in accordance with WHS Regulations.

1.8 Restriction of Access to Asbestos Works Area

Access to the asbestos works site will be restricted to:

- Workers engaged in the asbestos removal work;
- Other persons associated with the asbestos removal work such as Occupational Hygienist or Asbestos Assessor; and
- Anyone allowed under the WHS Regulation or another law to be in the asbestos removal area.

1.9 Personal Protective Equipment

As a minimum, all personnel on site will be required to wear the following personal protective equipment (PPE) at all times during asbestos works:

- Steel-capped lace-less boots;
- Hard hat meeting AS1801-1981 and AS/NZS 1801:1997/Amdt 1:1999 requirements;
- High visibility clothing;
- Half-face P2 rated respirator or similar;
- Disposable full length body coveralls with elasticated hood and cuffs (Tyvek suit or equivalent); and
- Gloves.

Clothing made from wool or other materials that attract fibrous dusts should not be worn in the asbestos work area. Regardless of whether gloves are used, asbestos removal workers must clean their hands and fingernails thoroughly after work. The level of respiratory protection required (e.g. P1, P2 and P3 supplied air respirators) should be determined by a Competent Person in accordance with the asbestos remediation task to be undertaken. Appendix B of the Code provides for more information on the selection of suitable respiratory protection for particular removal tasks. This should be recorded on the Asbestos Removal Control Plan for the specific job and must be adhered to at all times. Workers in excavator cabs with recycled AC facilities may not require use of RPE but should have appropriate RPE and PPE on hand for emergency use.

The following additional PPE shall be used as considered necessary:

- Safety glasses or safety goggles;
- Hearing protection;
- Sunscreen;
- Sun visor/ brim; and
- Long sleeve shirts and pants.

The PR is to ensure that respirator, overalls and gloves are available at the entry/exit point to the exclusion area. The Asbestos Contractor must ensure that personal protective equipment used during the fill excavation and removal works is disposed of as asbestos waste or decontaminated in accordance with the WHS Regulations.

1.10 Asbestos Remediation Equipment

A constant low-pressure water supply is required for wetting down asbestos or asbestos containing soils. This can be achieved with a mains-supplied garden hose fitted with a pistol grip. If no water supply is readily available, a portable pressurised vessel, such as a pump-up garden sprayer or water tanker, may be suitable.

1.11 Airborne Asbestos Monitoring

Monitoring for airborne asbestos fibres is to be carried out by an independent Occupational Hygienist during the earthworks that disturb the asbestos contaminated soils. Monitoring must commence prior to commencement earthworks in asbestos contaminated areas and monitors are to be positioned locations as nominated by the Occupational Hygienist. Where occupational exposure to asbestos materials is likely to occur, exposure is not to exceed half the occupational exposure standards for each hazardous building materials type or category as published by the National Occupational Health and Safety Commission (Safe Work Australia).

Asbestos air monitoring will be undertaken in accordance with Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres *2nd Edition* [NOHSC: 3003 (2005)] and sampling density and locations will be determined by the Occupational Hygienist. All filters will be submitted to a NATA accredited laboratory for analysis. Air samples will be collected from the breathing zone of a person, over a minimum of four hours duration.

The current National Exposure Standards TWA for asbestos are:

- Chrysotile (white) asbestos - 0.1 fibres/ml;
- Amosite (brown) asbestos - 0.1 fibres/ml;
- Crocidolite (blue) asbestos - 0.1 fibres/ml; and
- Other forms of asbestos or a mixture of asbestos types - 0.1 fibres/ml.

Throughout the duration of the works, air test results should return results below 0.01 fibres/ml. The following table shows the actions to be taken should the fibre levels exceed the action level of 0.01 fibres/ml.

Table 2: Allowable Fibre Levels

Action Level (fibres/ml)	Control / Action
< 0.01	Continue with control measures

Action Level (fibres/ml)	Control / Action
≥ 0.01 ≤ 0.02	Review control measures, investigate cause and implement controls to minimise further release
≥ 0.02	Stop removal work and notify the regulator. Investigate cause including enclosure & equipment where present and clean immediate area. Do not recommence work until air test results return readings of < 0.01 fibres/ml

It is recommended that air monitoring take place during all remediation and/or handling of involving known or suspected ACM.

Following the completion of the landscaping works in the asbestos contaminated areas asbestos fibre monitoring can be discontinued.

1.12 Decontamination

When exiting the taped and sign-posted exclusion area, which is to be via the one entry/exit point, each person is to decontaminate at the entry/exit point. Note that future works may entail delineated exclusion areas and other entry/exit points within the site. Personal decontamination involves the following:

- Rinsing boots in the bucket filled with detergent solution at the entry/exit point. Rinsing is to remove mud from the boots;
- Removing overalls, gloves and then respirator and placing in the plastic bags within the provided disposal bin located at the entry/exit point. For privacy this can be undertaken in the designated decontamination area surrounded by black plastic at the entry/exit point; and
- Thoroughly washing of hands (including under nails) with detergent.

A water supply for decontamination purposes is to be maintained at the entry/exit point at all times. The amount of potential waste water generated is liable to be minimal and can be lightly spread (not sprayed) periodically within the middle of the exclusion zone where asbestos impacted material is exposed, is yet to be capped and hence is subject to this contingency plan. Any contaminated water collected as part of these works that cannot be disposed of in this fashion is to be double bagged, placed in a leak proof drum or skip and disposed of as asbestos waste.

With respect to any plant or equipment used in the asbestos removal exclusion zone area, these are to be appropriately decontaminated at the edge of the area prior to leaving the exclusion zone. Vehicles, excavators, etc. are to be washed down and all mud removed, with particular attention given to tyres, tracks, underside of the vehicle's body and other areas which would have come in contact with the ACM impacted materials (e.g. excavator buckets). This is to be undertaken at the entry/exit gate to the exclusion zone and monitored by the removalist supervisor, The amount of water generated from these decontamination activities is not expected to be significant and hence will infiltrate into the surface within the exclusion zone, However, if sufficient water is used which would cause surface migration then the exclusion zone is to be bunded to prevent water migrating outside the exclusion zone.

Any other equipment leaving the exclusion zone is to be decontaminated. Where possible this should be done with a detergent solution (e.g. shovels) within the exclusion zone. If not possible (e.g. electrical equipment), the equipment is to be wiped down with a damp cloth and the cloth disposed of in the asbestos waste bin at the entry/exit point to the exclusion zone.

1.13 Asbestos Waste

All asbestos waste (if any), including used disposable coveralls, masks, dust sheets and items deemed contaminated with asbestos is to be kept wet until sealed and wrapped in plastic sheeting or bags (at least 0.2 mm thick). This does not include the asbestos impacted soils which will be capped at the site. The bagged waste shall be appropriately labelled as containing asbestos and removed from site as soon as practicable.

Asbestos waste (if any) shall not be allowed to accumulate excessively within the work area, but shall be bagged or placed in appropriate receptacles as the work proceeds. Controlled wetting of waste shall be used to eliminate asbestos dust emission during bag sealing or in case of subsequent rupture of a bag. Solid asbestos waste (if any) shall be placed in approved heavy-duty 200 µm minimum thickness clear polythene bags of a maximum size 1200 mm in length by 900 mm in width. The bags shall be labelled with an appropriate warning statement that the bag contains asbestos and that dust creation and inhalation shall be avoided. Bags, which have contained asbestos material, shall not be reused. Bags marked for asbestos waste shall not be used for any other purpose.

Asbestos waste bags shall not be filled more than half full, in order to minimise the risk of bag tearing/splitting and to assist in manual handling of bags. The neck end of each bag shall be twisted tightly, folded over and the neck secured in the folded position with wire ties, adhesive tape or any other effective method. Each bag shall be washed free of any visible asbestos residue. Each bag shall then be placed in a second waste bag, which shall be sealed. The external surface of each bag shall be cleaned to remove any adhering dust before the bags are removed from the work area. Hard and sharp asbestos waste shall require preliminary sealing or protective covering prior to placement in asbestos waste bags.

All drums or bins used for the storage and disposal of asbestos waste (if required) should be in a good condition, with lids and rims in good working order, and free of hazardous residues. The drums or bins should be lined with plastic (minimum 200 µm thickness), and labels warning of the asbestos waste should be placed on the top and side of each drum or bin, with the words, ‘Danger: Asbestos. Do not break seal’. This may be substituted with a similar warning. If the drum or bin is to be re-used, the asbestos waste must be packed and sealed so that when the drum or bin is emptied there is no residual asbestos contamination. Controlled wetting of the waste should be used to reduce asbestos dust emissions. Where possible, the drums or bins should be placed in the asbestos work area before work on ACM begins. The drums or bins should have their rims sealed and their outer surfaces wet wiped and inspected before they are removed from the asbestos work area. If it is not possible to locate the drums or bins inside the asbestos work area, they should be located as close to the work area as possible. Routes for moving the waste from the asbestos work area to the waste drums or bins should be designated prior to the commencement of each task. Drums or bins used to store asbestos waste should be stored in a secure location within the asbestos removal site when they are

not in use. Drums or bins should not be moved manually once they have been filled. Trolleys or drum lifters should be used.

1.14 Asbestos for Disposal to be Separated, Wrapped and Labelled

Contaminated asbestos waste (if any) must be:

- Separated from other material for disposal where that is reasonably practicable;
- Wrapped or contained in a manner that prevents asbestos fibres entering the atmosphere during transportation by road; and
- Labelled or marked with the words “CAUTION ASBESTOS” in letters no less than 50 millimeters high.

Current requirements for asbestos waste disposal must be adhered to as shown in the following subsections. Copies of asbestos waste disposal certificates/receipts must be provided.

1.15 Emergency Plan

A site-specific emergency plan, reflecting the risks involved, should be developed before any asbestos removal work commences. Workers should be trained for emergency situations. Decontamination procedures can be temporarily waived in the event of an emergency. Emergency planning should include provisions for emergency and fire evacuation, including exit arrangements and emergency communications such as audible alarms. These alarms should be used for emergencies only.

Emergency exit arrangements need to be adequate for the risks involved. Barriers and signs or other warning devices can be used to communicate emergency arrangements.

A first aid kit and first aid officer should be readily available at all times with sufficient suitable fire extinguishers and hoses available at strategic locations. The locations of fire extinguishers and hoses should be displayed in written and/or graphic format.

The emergency plan should also incorporate measures and actions to be taken in the case of unforeseen circumstances directly related and affecting the removal works such as loss of power / lighting and accidental leakage of fibres from the works area. These measures must be included within the Asbestos Removal control Plan with all operatives aware and able to implement in the event of an incident.

1.16 Reportable Incidents

All reportable WHS incidents will be reported to the PR in a timely manner and to the appropriate authority and in accordance with regulatory requirements.