Merriwa Street 1

nts

Merriwa Street

nts

Fitzsimons Lane 1

nts

Merriwa Street 2

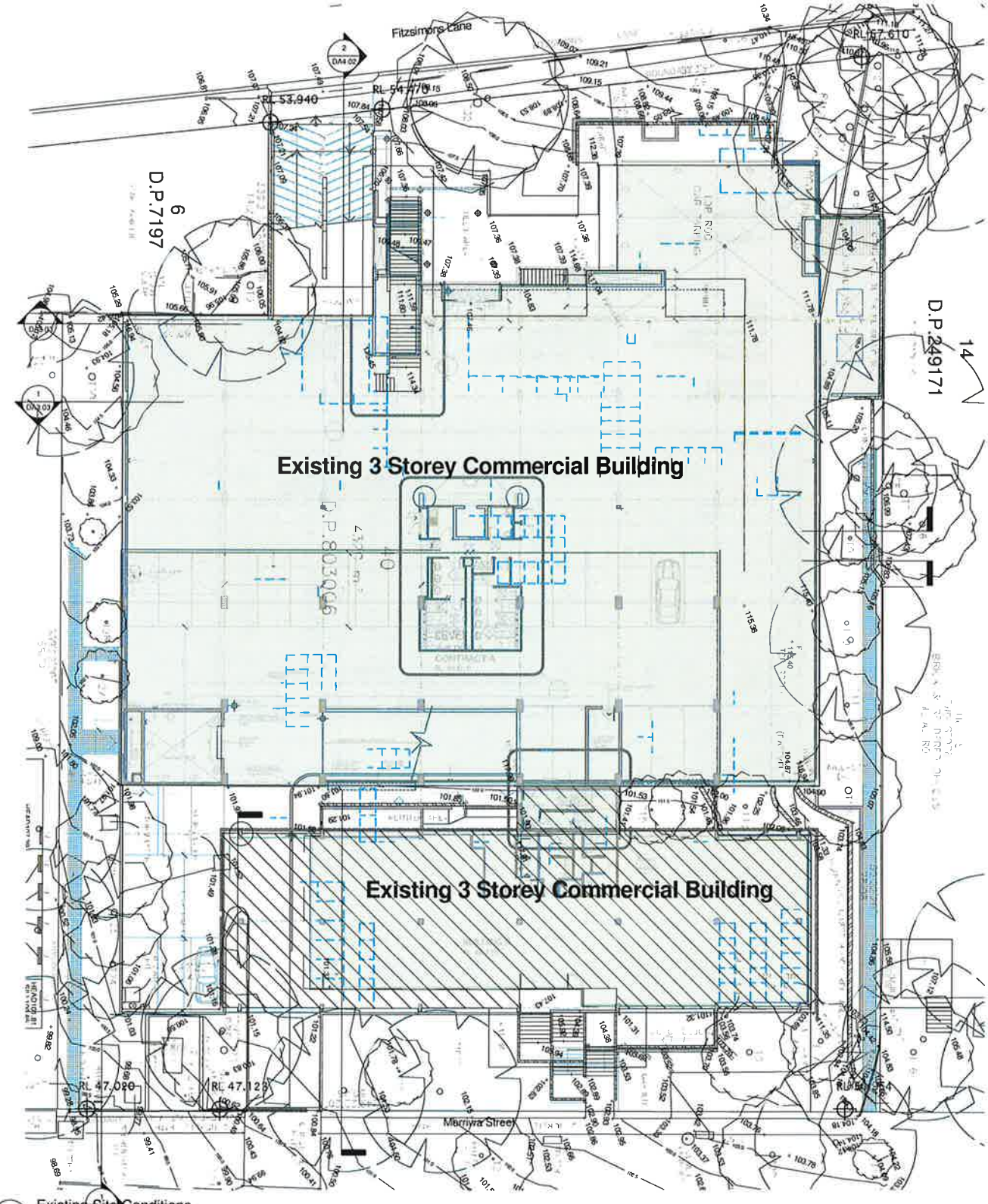
nts

Fitzsimons Lane

nts

Fitzsimons Lane 2

nts



1 Existing Site Conditions

1 : 400

DA Submission
17-23 Merriwa Street,
Gordon

Existing Site Conditions

AUG 2013
13_5472
As indicated

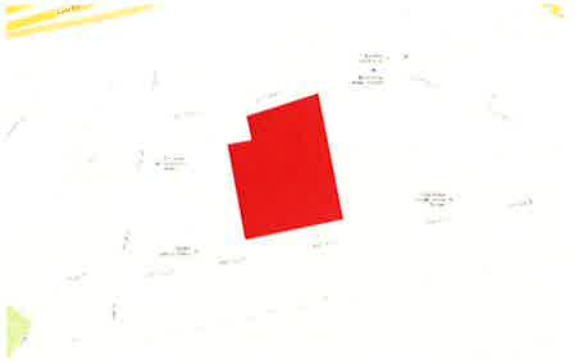
DA1.04

A

Brewster Murray
Architects (Interior and Urban Designers)
99 York Street Sydney NSW 2000 Australia
T 612 9299 8588 F 612 9299 0728

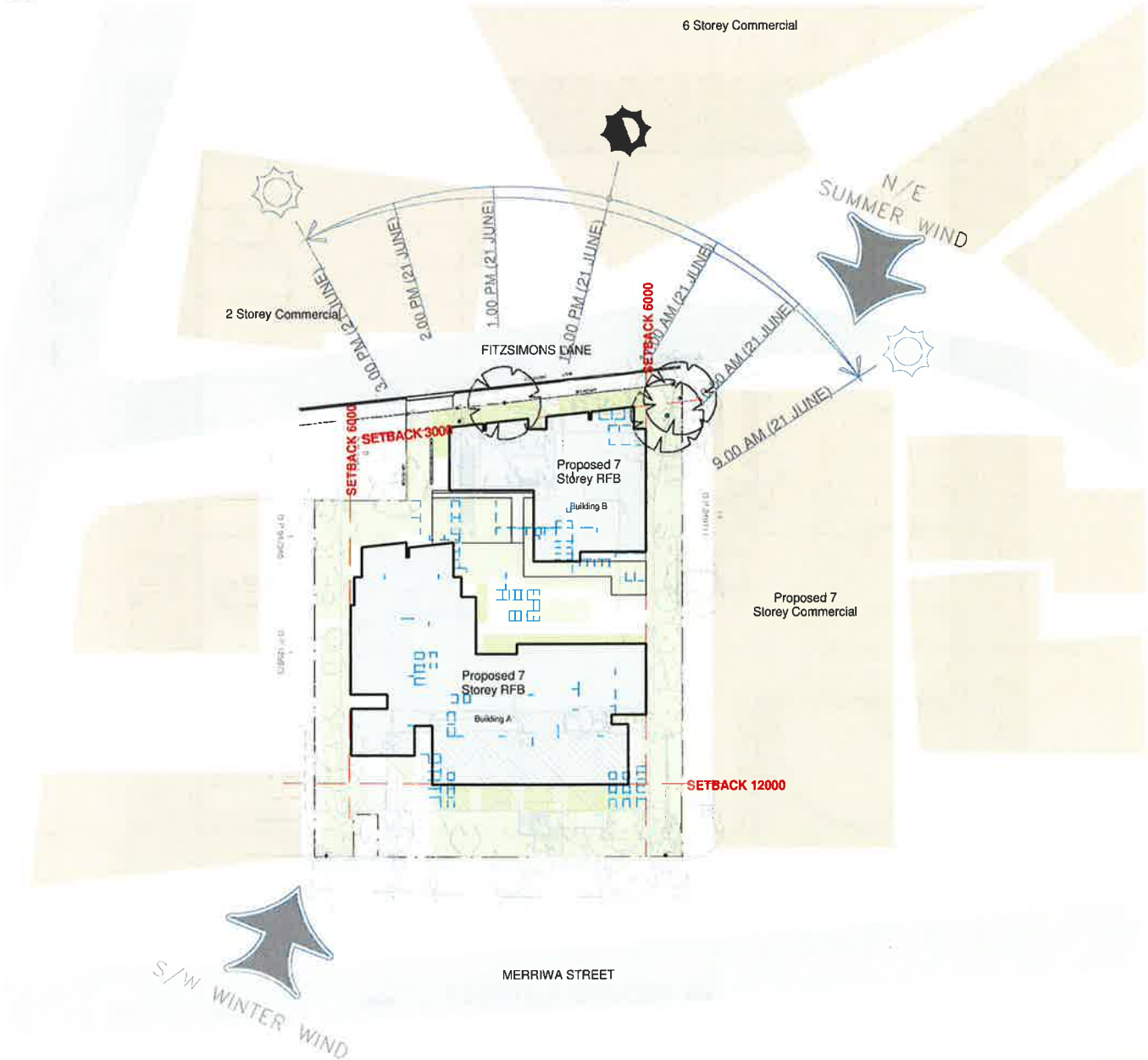
Location Plan

nts



Area Plan

nts



1 Site Analysis

1 : 500

Brewster Murray
Architects Interior and Urban Designers
99 York Street Sydney NSW 2000 Australia
T : 612 9299 8600 F : 612 9299 8766

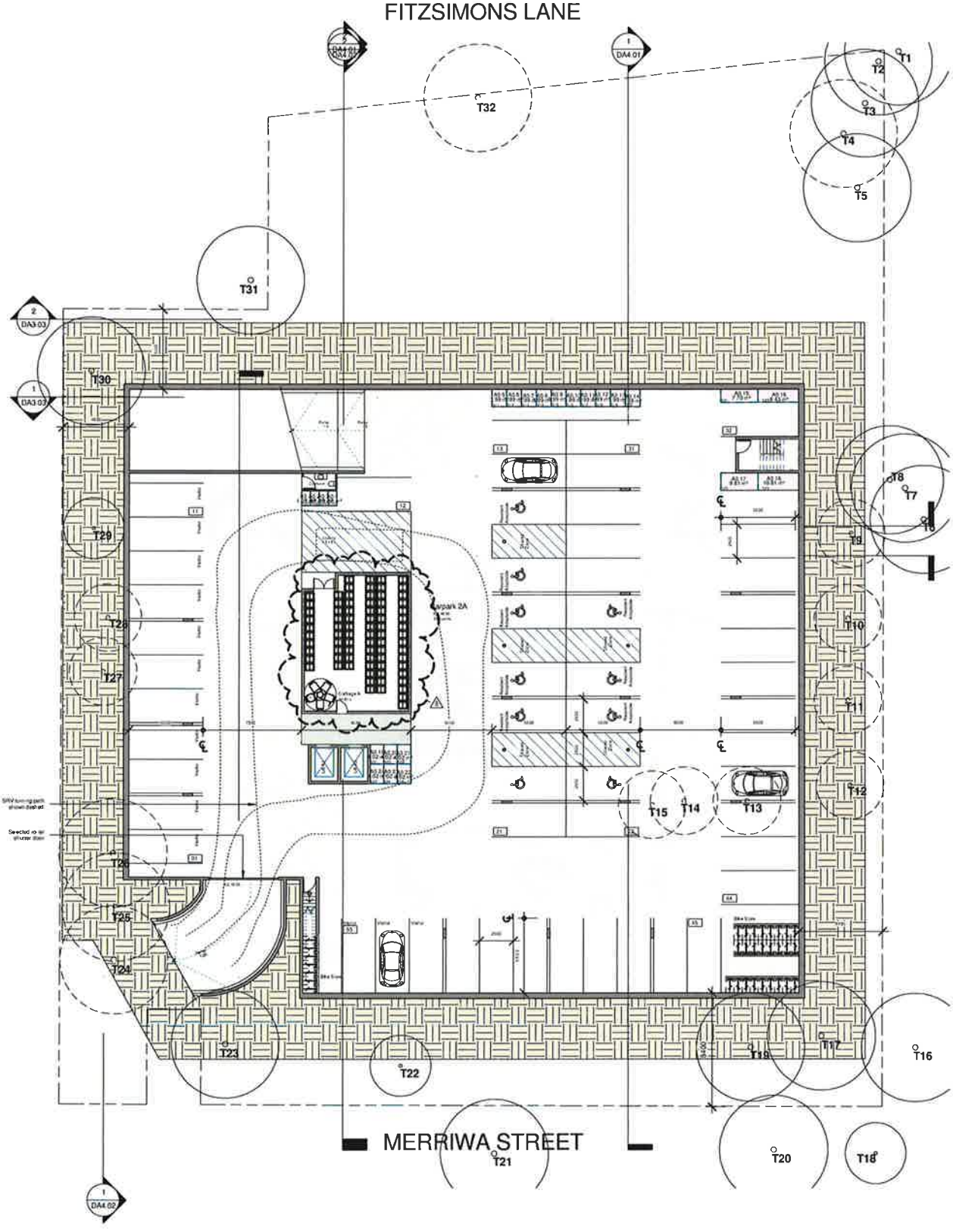
DA Submission
17-23 Merriwa Street,
Gordon

Site Anlalysis

AUG 2013
13_5472
As indicated

DA1.05

A



General BASIX Requirements
All taps to be 5 star rating
All showers to be 6 to 7.5 L/min star rating
All toilets to be 4 star rating and flushed with rainwater
22,500L Rain Water Tank collecting 905 sq m of roof
All hot water systems to be Gas instantaneous - 5 star rating
1 phase air-conditioning 2 star heating & cooling
Gas cook top & electric oven
Dishwashers with 3 star water & 3 star energy

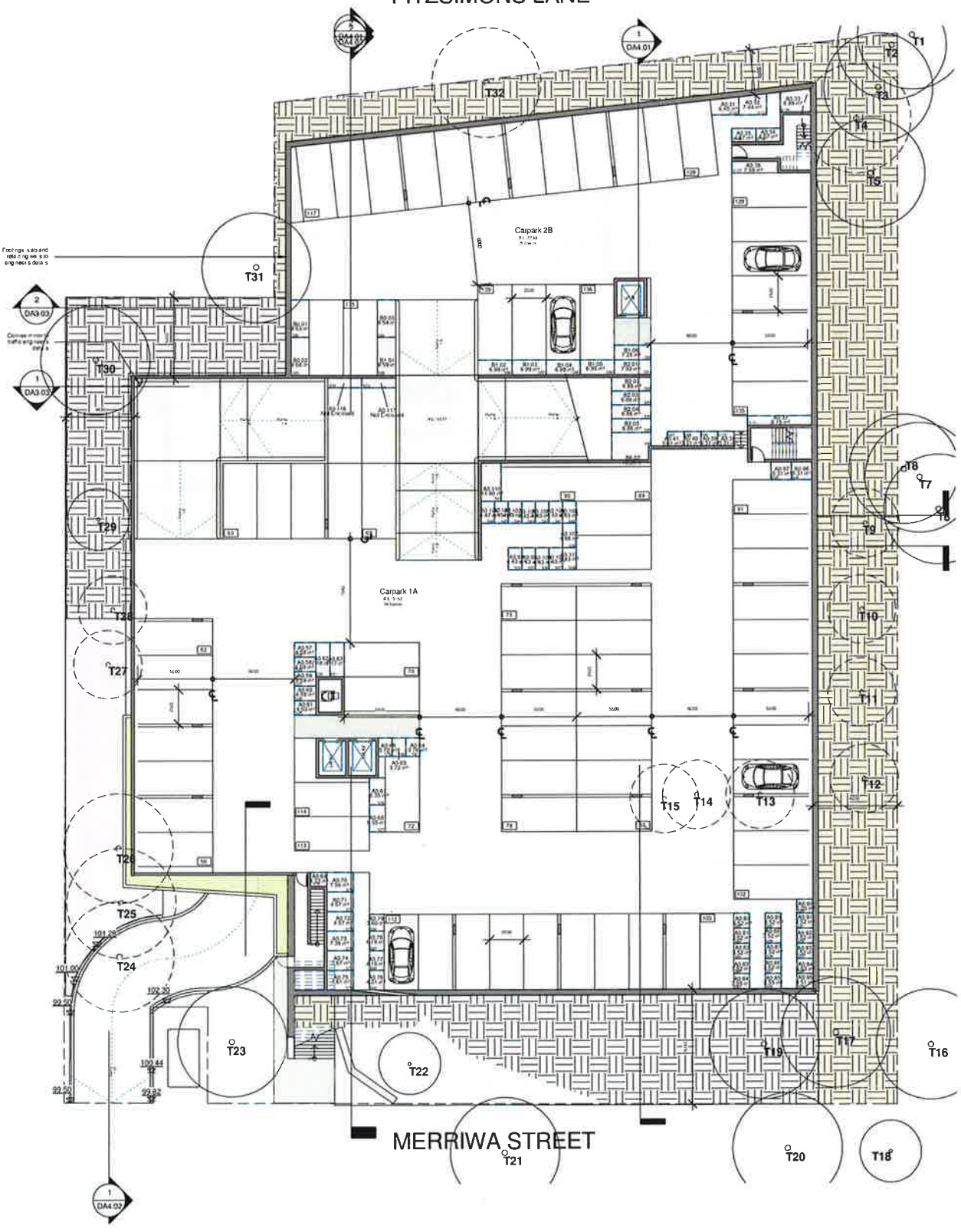
Brewster Murray
Architecture Interior and Urban Designers
99 York Street, Sydney NSW 2000 Australia
T: (61) 2 9299 7666 F: (61) 2 9299 6738

DA Submission
17-23 Merriwa Street, Gordon

Basement 2 A Floor Plan

AUG 2013
13_5472
As indicated

DA2.01 **B**



General BASIX Requirements
All taps to be 5 star rating
All showers to be 6 to 7.5 L/min star rating
All toilets to be 4 star rating and flushed with rainwater
22,500L Rain Water Tank collecting 905 sq m of roof
All hot water systems to be Gas instantaneous - 5 star rating
1 phase air conditioning 2 star heating & cooling
Gas cook top & electric oven
Dishwashers with 3 star water & 3 star energy

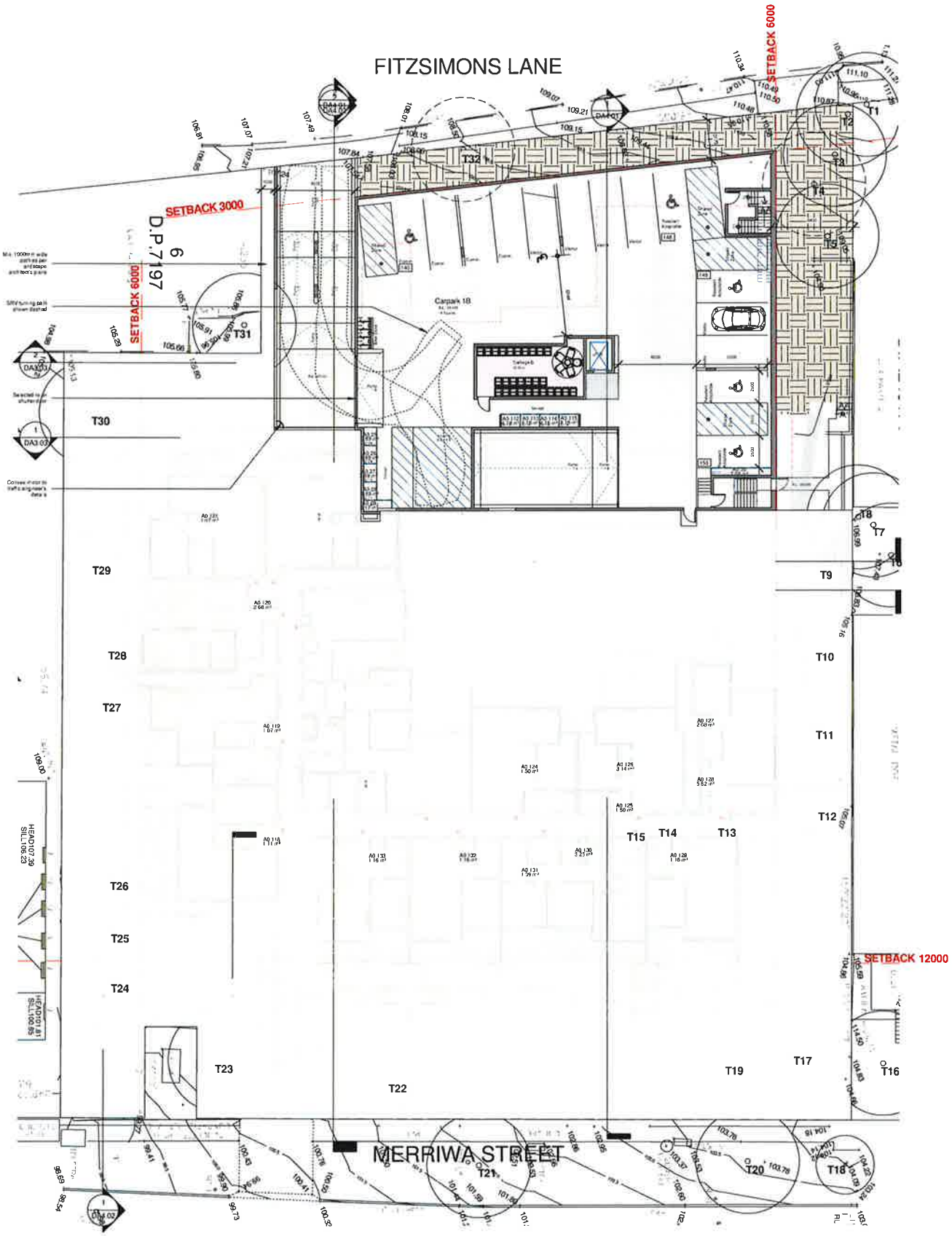
Brewster Murray
Architects Interior and Urban Designers
79 York Street, Sydney NSW 2000 Australia
T (612 9241 2588) F (612 9299 0728)

DA Submission
17-23 Merriwa Street, Gordon

Basement 1 A - Basement 2 B Floor Plan

AUG 2013
13_5472
As indicated

DA2.03 **B**



General BASIX Requirements
All taps to be 5 star rating
All showers to be 6 to 7.5 L/min star rating
All toilets to be 4 star rating and flushed with rainwater
22,500L Rain Water Tank collecting 905 sq m of roof
All hot water systems to be Gas instantaneous - 5 star rating
1 phase air-conditioning 2 star heating & cooling
Gas cook top & electric oven
Dishwashers with 3 star water & 3 star energy

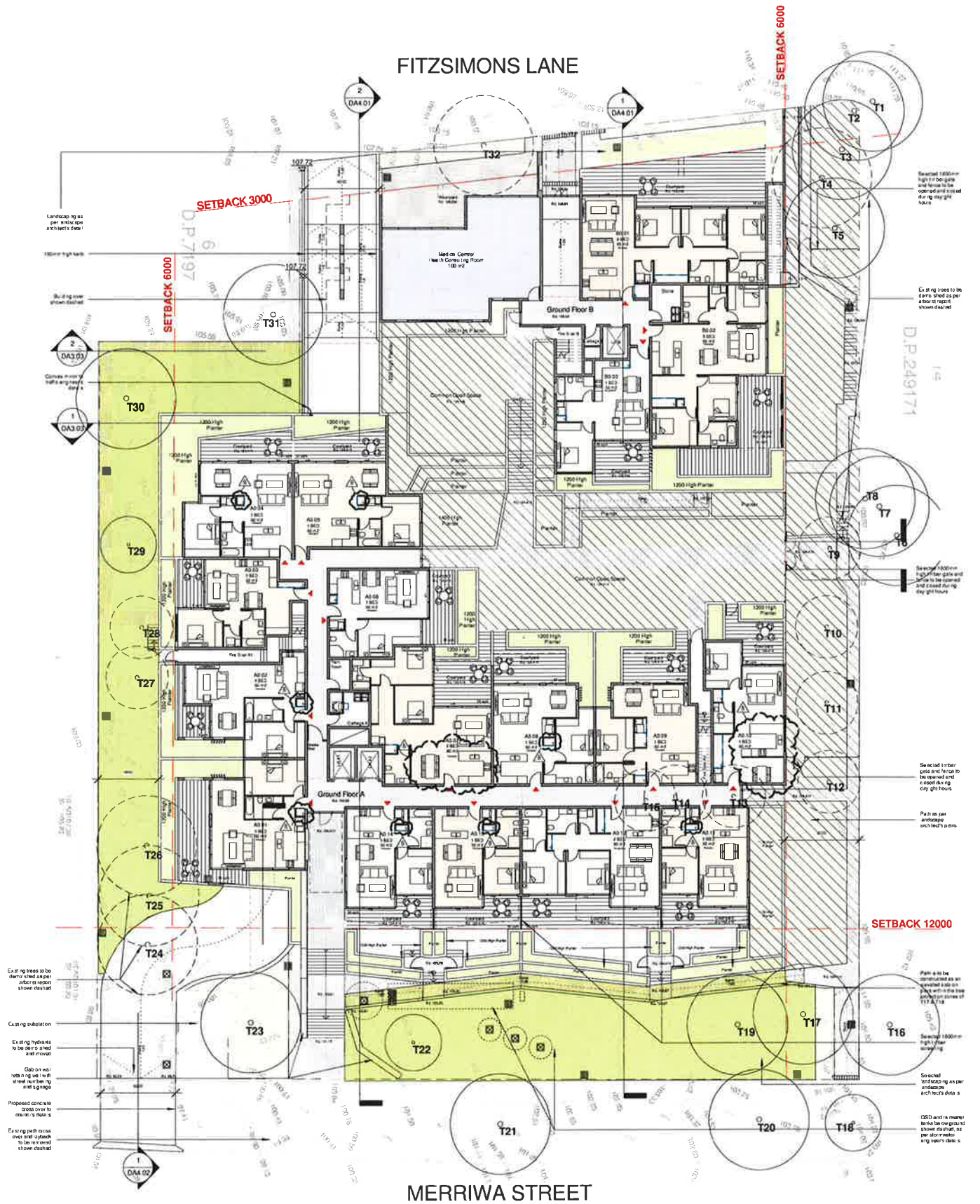
Brewster Murray
Architects Interiors and Urban Designers
29 York Street, Sydney NSW 2000 Australia
T: (612) 9290 2066 F: (612) 9290 5108

DA Submission
17-23 Merriwa Street, Gordon

Basement 1B

AUG 2013
13_5472
As indicated

DA2.04 **B**



Garden Unit Schedule

Unit Number	Garden & Lawn Area
A0.01	18 sqm
A0.02	16sqm
A0.03	8sqm
A0.04	38sqm
A0.05	10sqm
A0.06	8sqm
A0.07	45qm
A0.08	16sqm
A0.09	15sqm
A0.10	7sqm
A0.11	13sqm
A0.12	13sqm
A0.13	9sqm
A0.14	9sqm

Unit Number	Garden & Lawn Area
B0.01	18 sqm
B0.02	25sqm
B0.03	6sqm

General BASIX Requirements

All taps to be 5 star rating
All showers to be 6 to 7.5 L/min star rating
All toilets to be 4 star rating and flushed with rainwater
22,500L Rain Water Tank collecting 905 sq m of roof
All hot water systems to be Gas instantaneous - 5 star rating
1 phase air-conditioning 2 star heating & cooling
Gas cook top & electric oven
Dishwashers with 3 star water & 3 star energy

Brewster Murray
Architects Interior and Urban Designers
99 York Street, Sydney NSW 2000 Australia
T: 612 9299 2855 F: 612 9299 0728

DA Submission
17-23 Merriwa Street, Gordon

Ground Floor Floor Plan

AUG 2013
13_5472
As indicated

DA2.05 B

General BASIX Requirements
All taps to be 5 star rating
All showers to be 6 to 7.5 L/min star rating
All toilets to be 4 star rating and flushed with rainwater
22,500L Rain Water Tank collecting 905 sq m of roof
All hot water systems to be Gas instantaneous - 5 star rating
1 phase air-conditioning 2 star heating & cooling
Gas cook top & electric oven
Dishwashers with 3 star water & 3 star energy

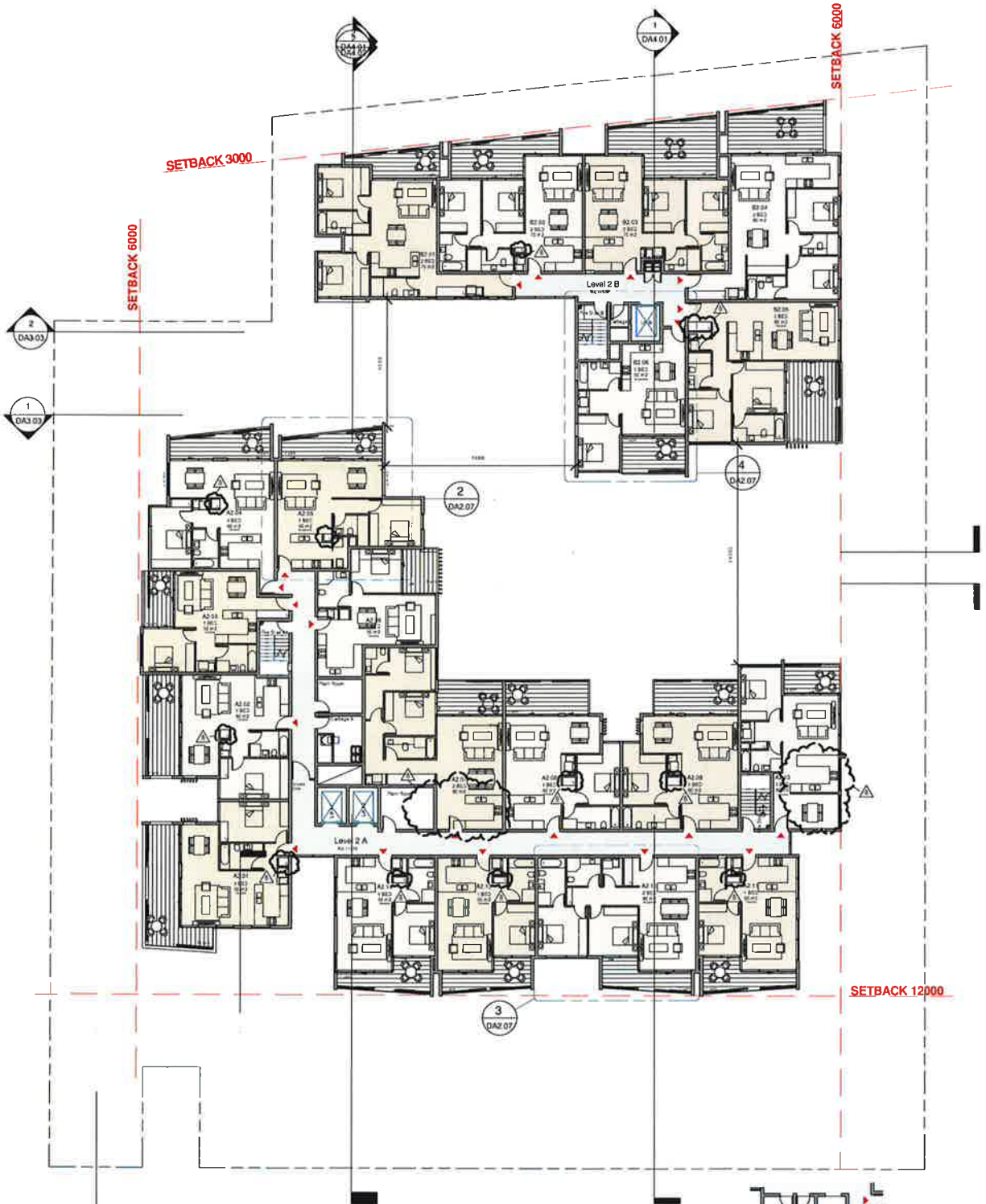
Brewster Murray
Architects Interior and Urban Designers
99 York Street Sydney NSW 2000 Australia
T: +61 2 9299 2555 F: +61 2 9299 8738

DA Submission
17-23 Merriwa Street, Gordon

Level 1 Floor Plan

AUG 2013
13_5472
As indicated

DA2.06 **B**



2 Post Adaption Units A2.05, A3.05
1 : 200

3 Post Adaption Units A0.11, A1.11, A2.11, A3.11, A4.08, A5.08
1 : 200

4 Post Adaption Units B0.03, B1.06, B2.06, B3.06
1 : 200

General BASIX Requirements
All taps to be 5 star rating
All showers to be 6 to 7.5 L/min star rating
All toilets to be 4 star rating and flushed with rainwater
22,500L Rain Water Tank collecting 905 sq m of roof
All hot water systems to be Gas instantaneous - 5 star rating
1 phase air-conditioning 2 star heating & cooling
Gas cook top & electric oven
Dishwashers with 3 star water & 3 star energy

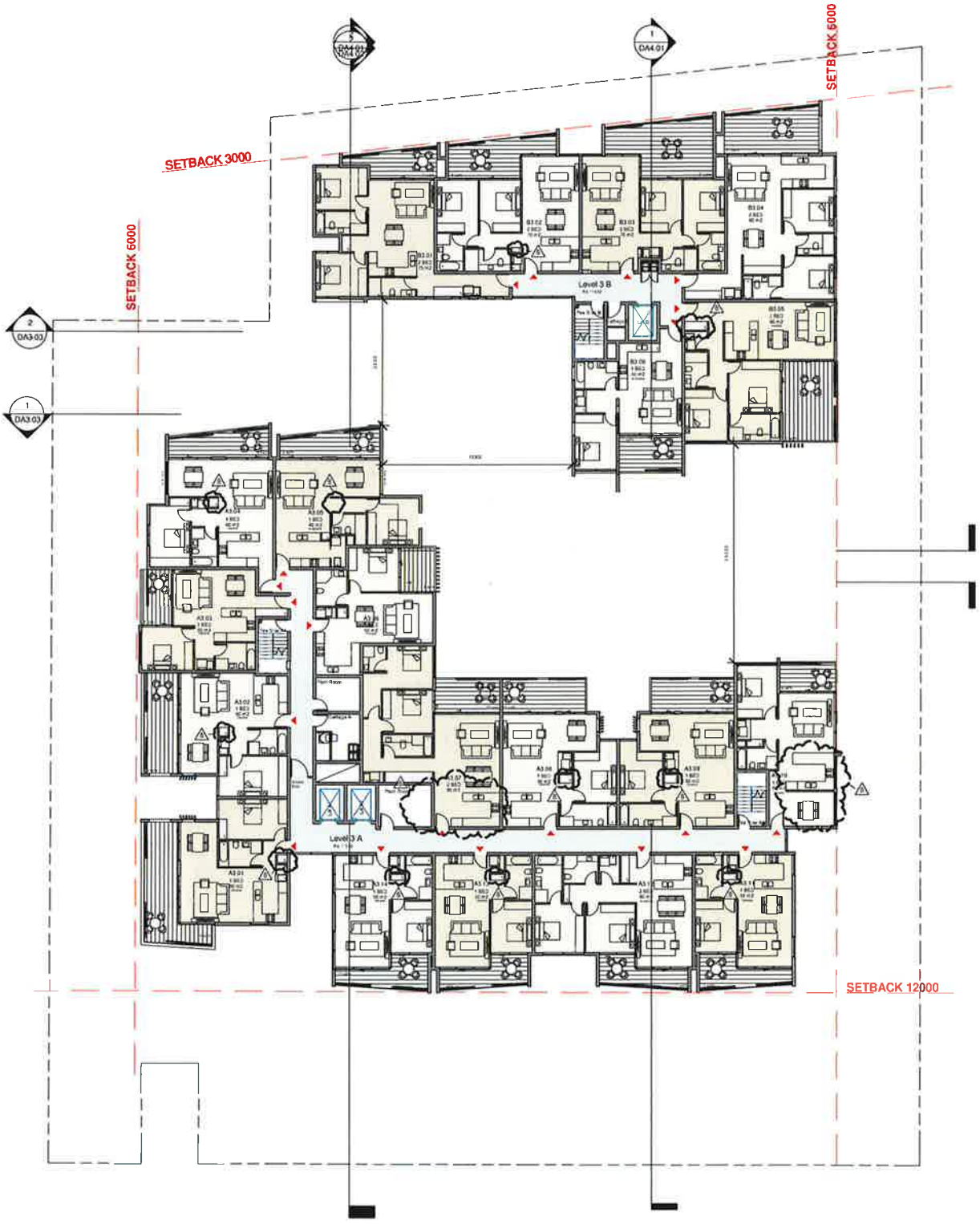
Brewster Murray
Architects Interior and Urban Designers
59 York Street, Sydney NSW 2000 Australia
T - 612 9299 0988 F - 612 9299 0788

DA Submission
17-23 Merriwa Street, Gordon

Level 2 Floor Plan

AUG 2013
13_5472
As indicated

DA2.07 **B**



General BASIX Requirements
All taps to be 5 star rating
All showers to be 6 to 7.5 L/min star rating
All toilets to be 4 star rating and flushed with rainwater
22,500L Rain Water Tank collecting 905 sq m of roof
All hot water systems to be Gas instantaneous - 5 star rating
1 phase air-conditioning 2 star heating & cooling
Gas cook top & electric oven
Dishwashers with 3 star water & 3 star energy

Brewster Murray
Architects Interior and Urban Designers
99 York Street, Sydney NSW 2000 Australia
T: (612 9299 0088 F: (612 9299 0706

DA Submission
17-23 Merriwa Street, Gordon

Level 3 Floor Plan

AUG 2013
13_5472
As indicated

DA2.08 **B**

General BASIX Requirements
All taps to be 5 star rating
All showers to be 6 to 7.5 L/min star rating
All toilets to be 4 star rating and flushed with rainwater
22,500L Rain Water Tank collecting 905 sq m of roof
All hot water systems to be Gas instantaneous - 5 star rating
1 phase air conditioning 2 star heating & cooling
Gas cook top & electric oven
Dishwashers with 3 star water & 3 star energy

Brewster Murray
Architects Interior and Urban Designers
99 York Street Sydney NSW 2000 Australia
T +612 9299 0995 F +612 9299 0708

DA Submission
17-23 Merriwa Street, Gordon

Level 4 Floor Plan

AUG 2013
13_5472
As indicated

DA2.09

B

General BASIX Requirements
All taps to be 5 star rating
All showers to be 6 to 7.5 L/min star rating
All toilets to be 4 star rating and flushed with rainwater
22,500L Rain Water Tank collecting 965 sq.m of roof
All hot water systems to be Gas instantaneous - 5 star rating
1 phase air-conditioning 2 star heating & cooling
Gas cook top & electric oven
Dishwashers with 3 star water & 3 star energy

Brewster Murray
Architects Interior and Urban Designers
99 York Street, Sydney NSW 2000 Australia
T : 612 9299 2688 F : 612 9299 0705

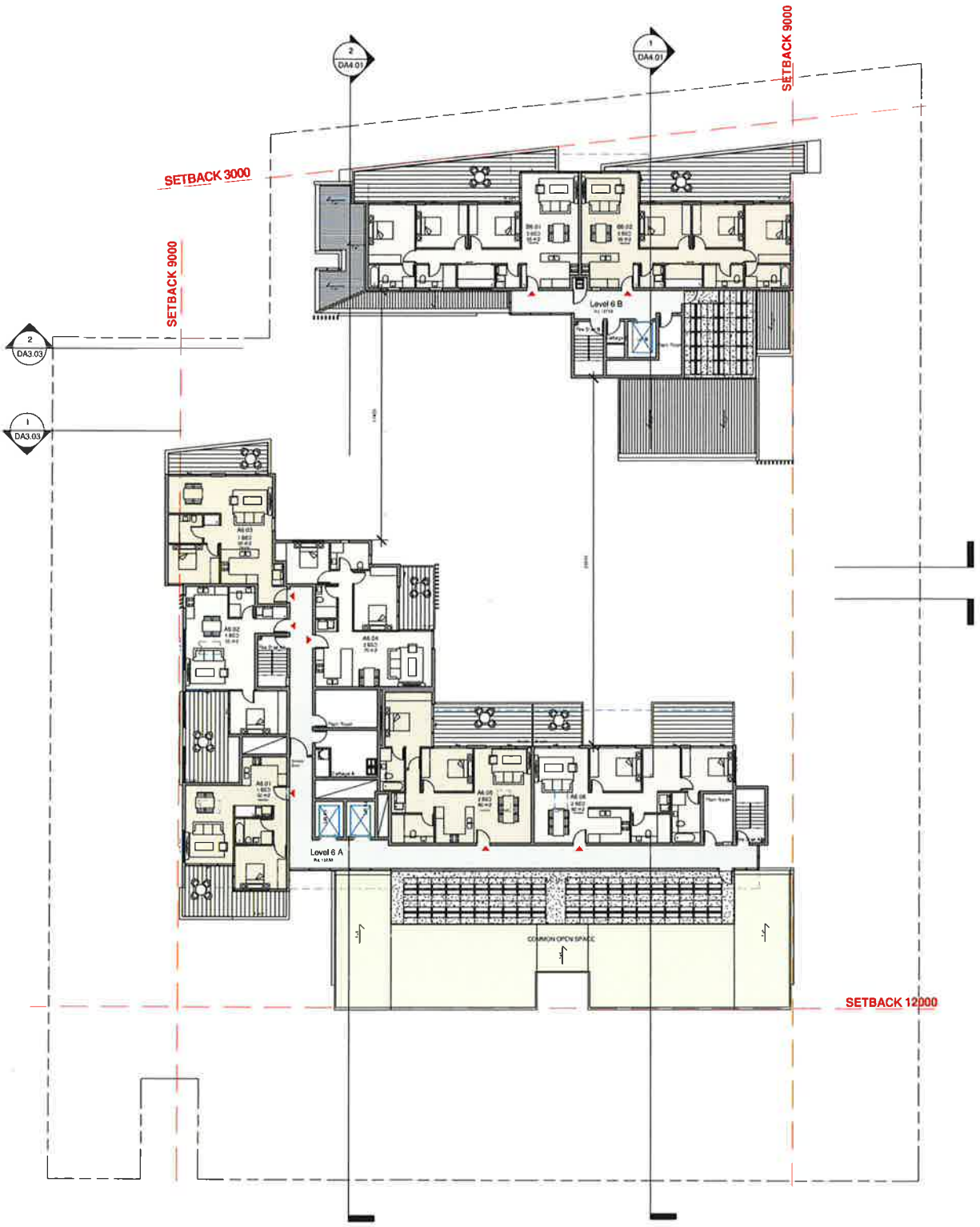
DA Submission
17-23 Merriwa Street, Gordon

Level 5 Floor Plan

AUG 2013
13_5472
As indicated

DA2.10

B



General BASIX Requirements
All taps to be 5 star rating
All showers to be 6 to 7.5 Limin star rating
All toilets to be 4 star rating and flushed with rainwater
22,500L Rain Water Tank collecting 905 sq m of roof
All hot water systems to be Gas instantaneous - 5 star rating
1 phase air conditioning 2 star heating & cooling
Gas cook top & electric oven
Dishwashers with 3 star water & 3 star energy

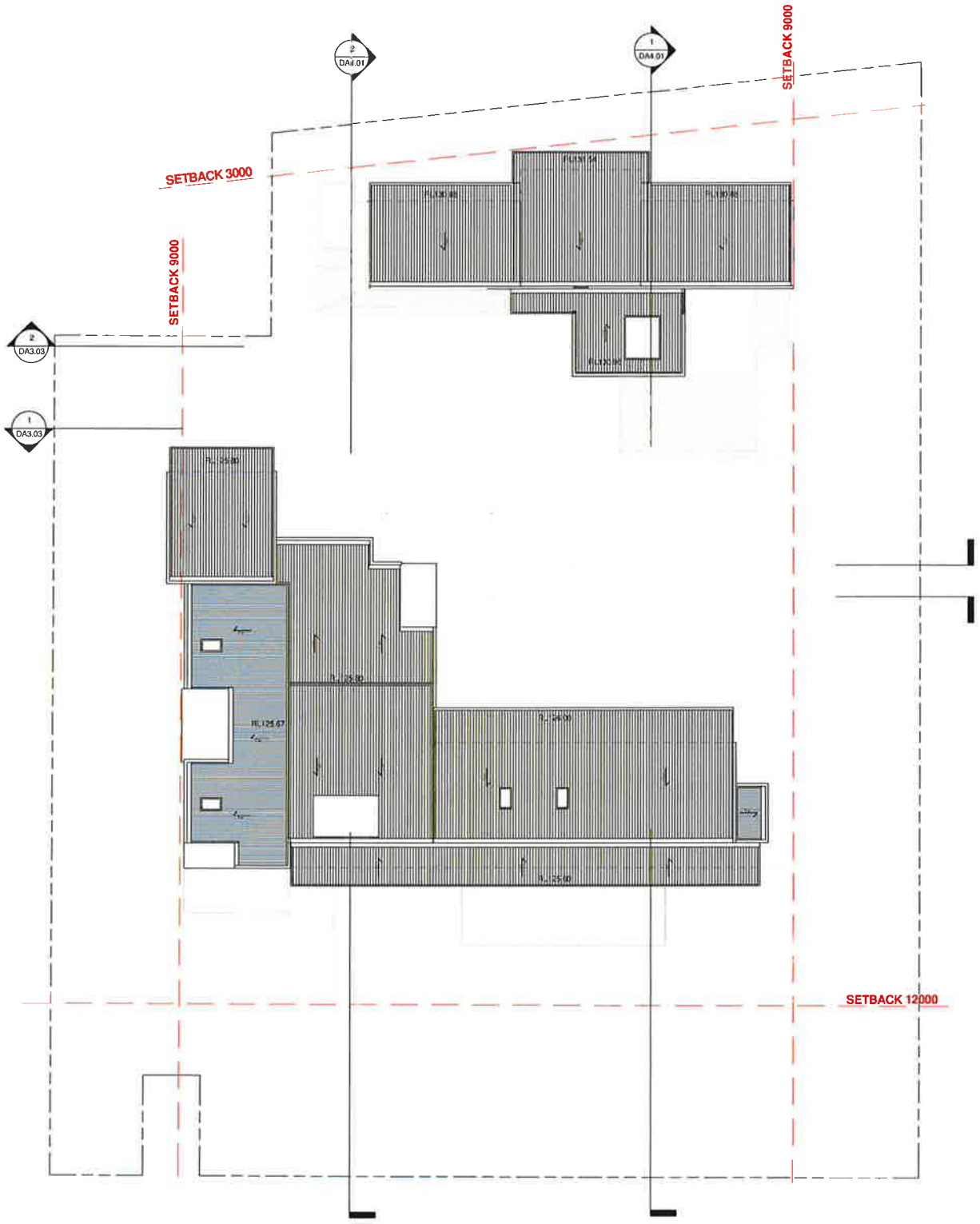
Brewster Murray

DA Submission
17-23 Merriwa Street, Gordon

Level 6 Floor Plan

AUG 2013
13_5472
As indicated

DA2.11 **B**



General BASIX Requirements
All taps to be 5 star rating
All showers to be 8 to 7.5 L/min star rating
All toilets to be 4 star rating and flushed with rainwater
22,500L Rain Water Tank collecting 965 sq m of roof
All hot water systems to be Gas instantaneous - 5 star rating
1 phase air-conditioning 2 star heating & cooling
Gas cook top & electric oven
Dishwashers with 3 star water & 3 star energy

Brewster Murray
Architects Interior and Urban Designers
99 York Street Sydney NSW 2000 Australia
T +612 9299 0988 F +612 9299 0706

DA Submission
17-23 Merriwa Street, Gordon

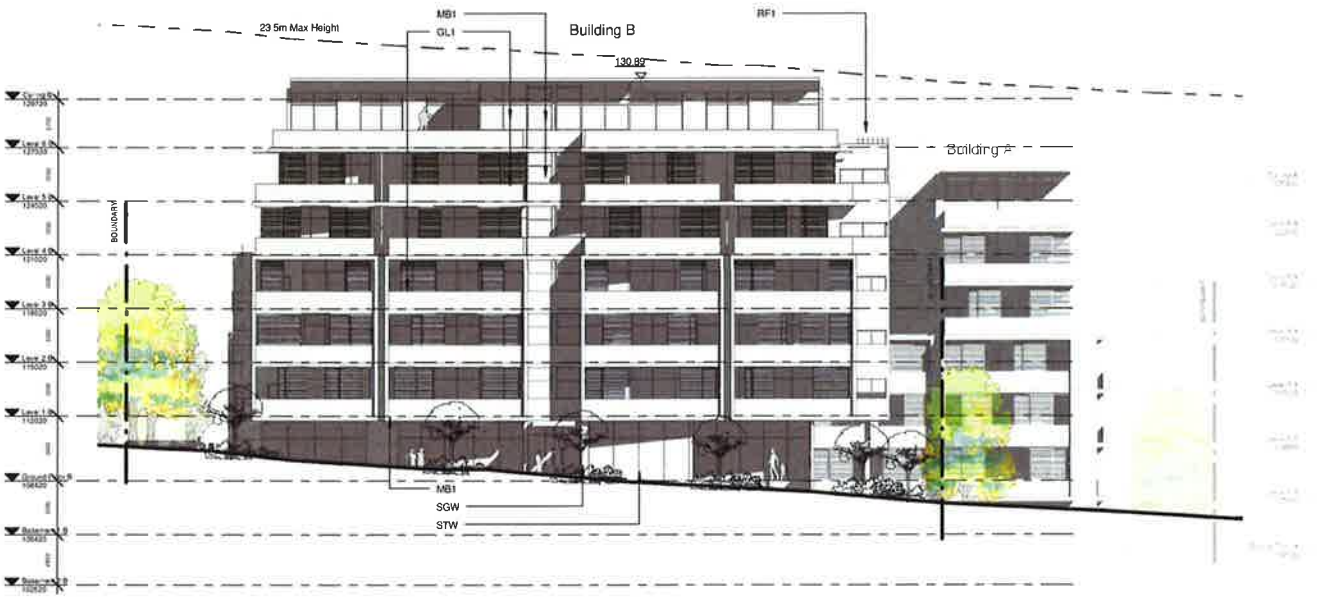
Roof Plan

AUG 2013
13_5472
As indicated

DA2.12 **A**

1 South Elevation (Merriwa Street)

1 : 200



2 North

1 : 200

MB1 - Metal Cladding - 1
MB2 - Metal Cladding - 2
STW - Stacked Stone
SGW - Sandstone Gabion Wall
GL1 - Clear Glazing
GL2 - Colourback Glass
RF1 - Rendered & Painted Finish - 1
RF2 - Rendered & Painted Finish - 2
RF3 - Rendered & Painted Finish - 3
TF - Timber Fence
MS1 - Metal Screening - 1
MS2 - Metal Screening - 2

General BASIX Requirements

All taps to be 5 star rating
All showers to be 6 to 7.5 L/min star rating
All toilets to be 4 star rating and flushed with rainwater
22,500L Rain Water Tank collecting 905 sq m of roof
All hot water systems to be Gas instantaneous - 5 star rating
1 phase air-conditioning 2 star heating & cooling
Gas cook top & electric oven
Dishwashers with 3 star water & 3 star energy

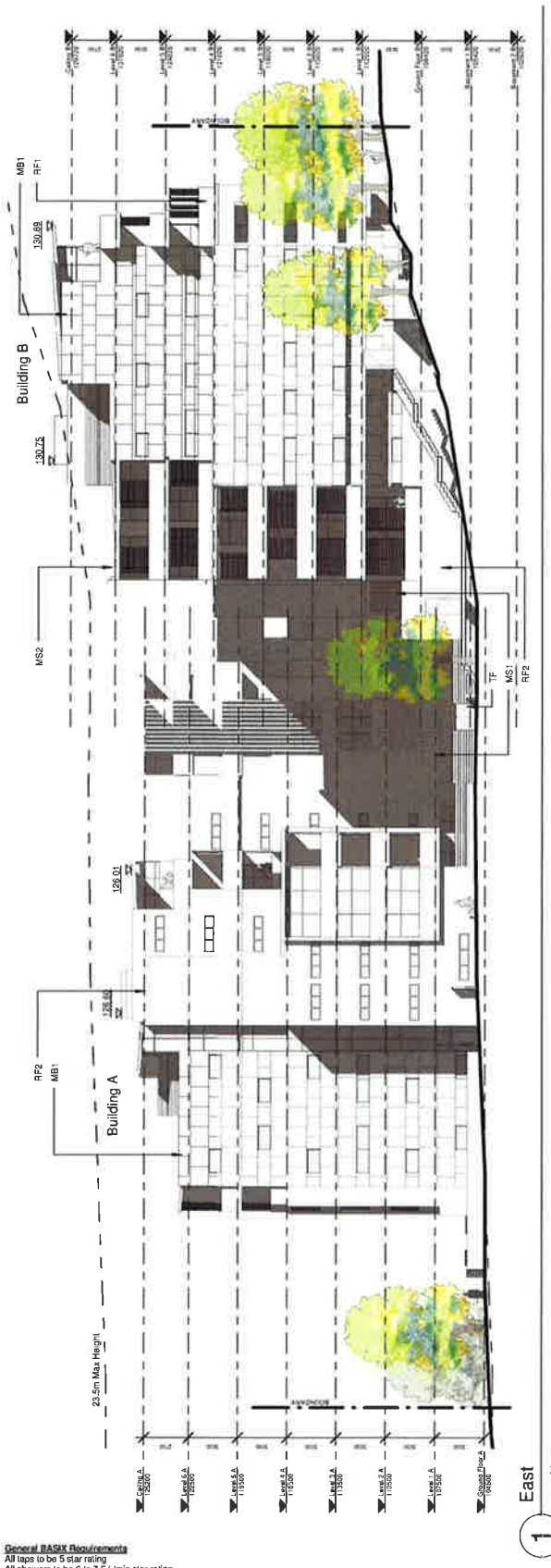
Brewster Murray
Architects Interior and Urban Designers
99 York Street, Sydney NSW 2000 Australia
T 612 9264 9988 F 612 9299 0796

DA Submission
17-23 Merriwa Street, Gordon

South Elevation & North Elevation

AUG 2013
13_5472
As indicated

DA3.01 **A**



1 East 1 : 200

2 West 1 : 200

General BASIX Requirements
All taps to be 5 star rating
All showers to be 6 to 7.5 L/min star rating
All toilets to be 4 star rating and flushed with rainwater
22,500L Rain Water Tank collecting 905 sq m of roof
All hot water systems to be Gas instantaneous - 5 star rating
1 phase air conditioning 2 star heating & cooling
Gas cook top & electric oven
Dishwashers with 3 star water & 3 star energy

MB1 - Metal Cladding - 1
MB2 - Metal Cladding - 2
STW - Stacked Stone
SGW - Sandstone Gabion Wall
GL1 - Clear Glazing
GL2 - Colourback Glass
RF1 - Rendered & Painted Finish - 1
RF2 - Rendered & Painted Finish - 2
RF3 - Rendered & Painted Finish - 3
TF - Timber Fence
MS1 - Metal Screening - 1
MS2 - Metal Screening - 2

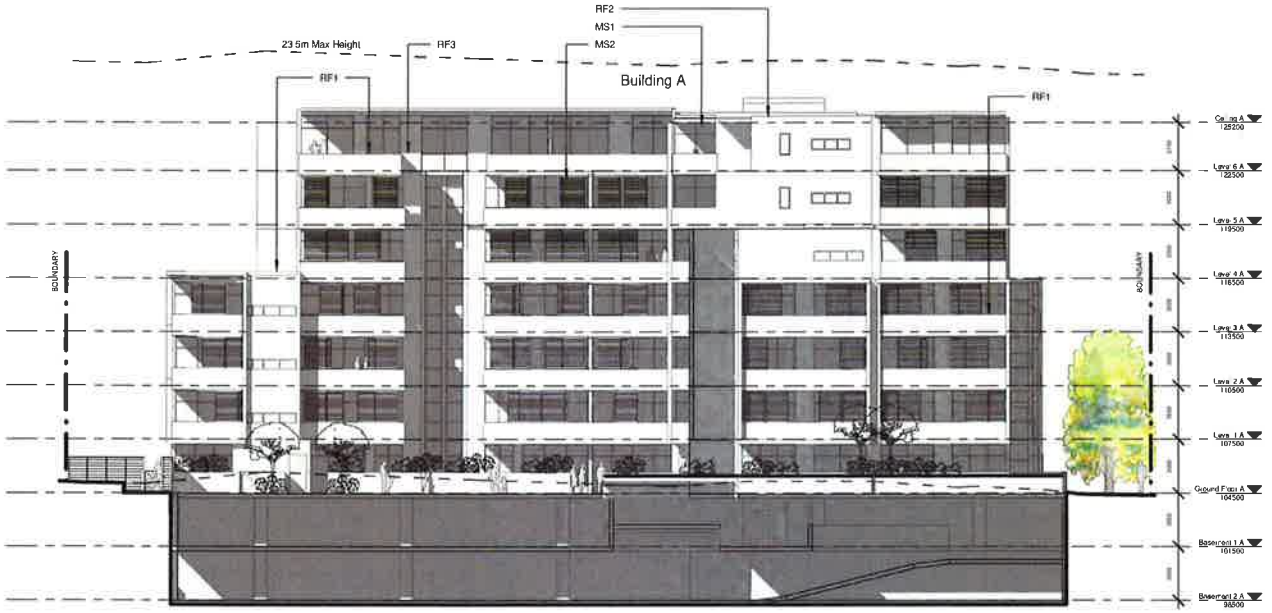
Brewster Murray
Architects Interior and Urban Designers
99 York Street, Sydney NSW 2000 Australia
T +612 9299 9888 F +612 9299 0128

DA Submission
17-23 Merriwa Street, Gordon

East Elevation & West Elevation

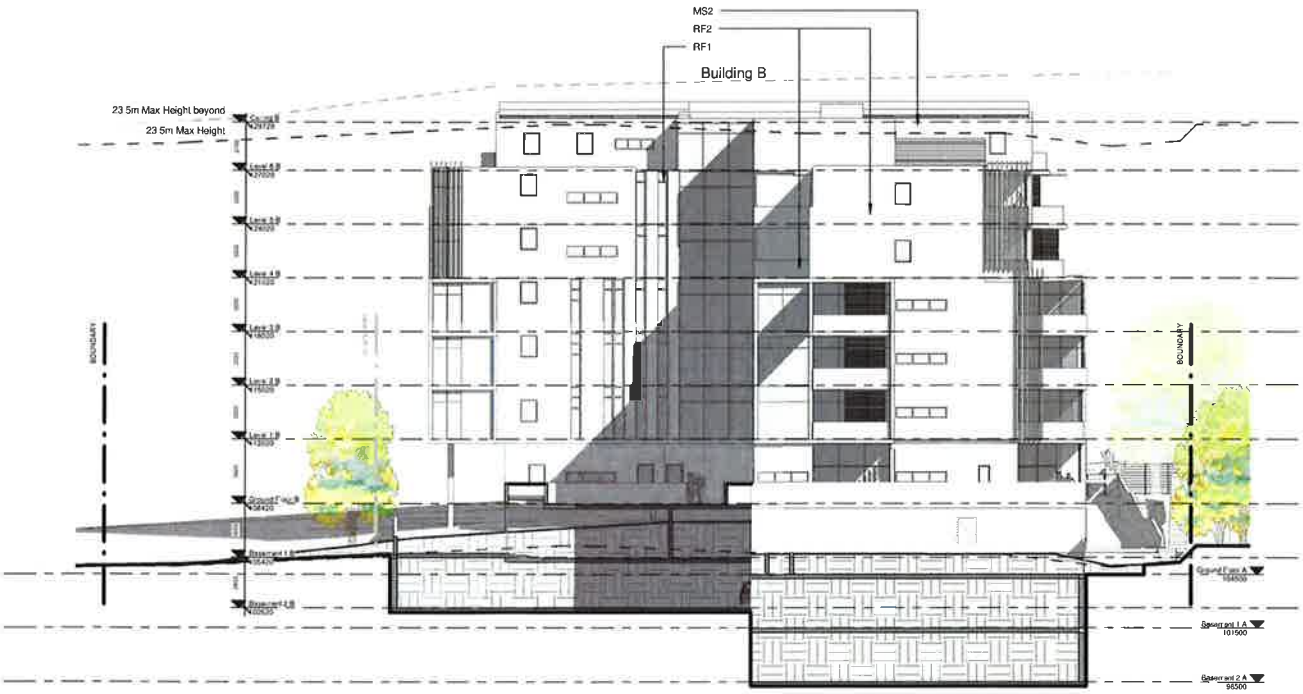
AUG 2013
13_5472
As indicated

DA3.02 **A**



1 North Elevation (Building A)

1 : 200



2 South Elevation (Building B)

1 : 200

MB1 - Metal Cladding - 1
MB2 - Metal Cladding - 2
STW - Stacked Stone
SGW - Sandstone Gabion Wall
GL1 - Clear Glazing
GL2 - Colourback Glass
RF1 - Rendered & Painted Finish - 1
RF2 - Rendered & Painted Finish - 2
RF3 - Rendered & Painted Finish - 3
TF - Timber Fence
MS1 - Metal Screening - 1
MS2 - Metal Screening - 2

General BASIX Requirements

All taps to be 5 star rating
All showers to be 6 to 7.5 L/min star rating
All toilets to be 4 star rating and flushed with rainwater
22,500L Rain Water Tank collecting 905 sq m of roof
All hot water systems to be Gas instantaneous - 5 star rating
1 phase air-conditioning 2 star heating & cooling
Gas cook top & electric oven
Dishwashers with 3 star water & 3 star energy

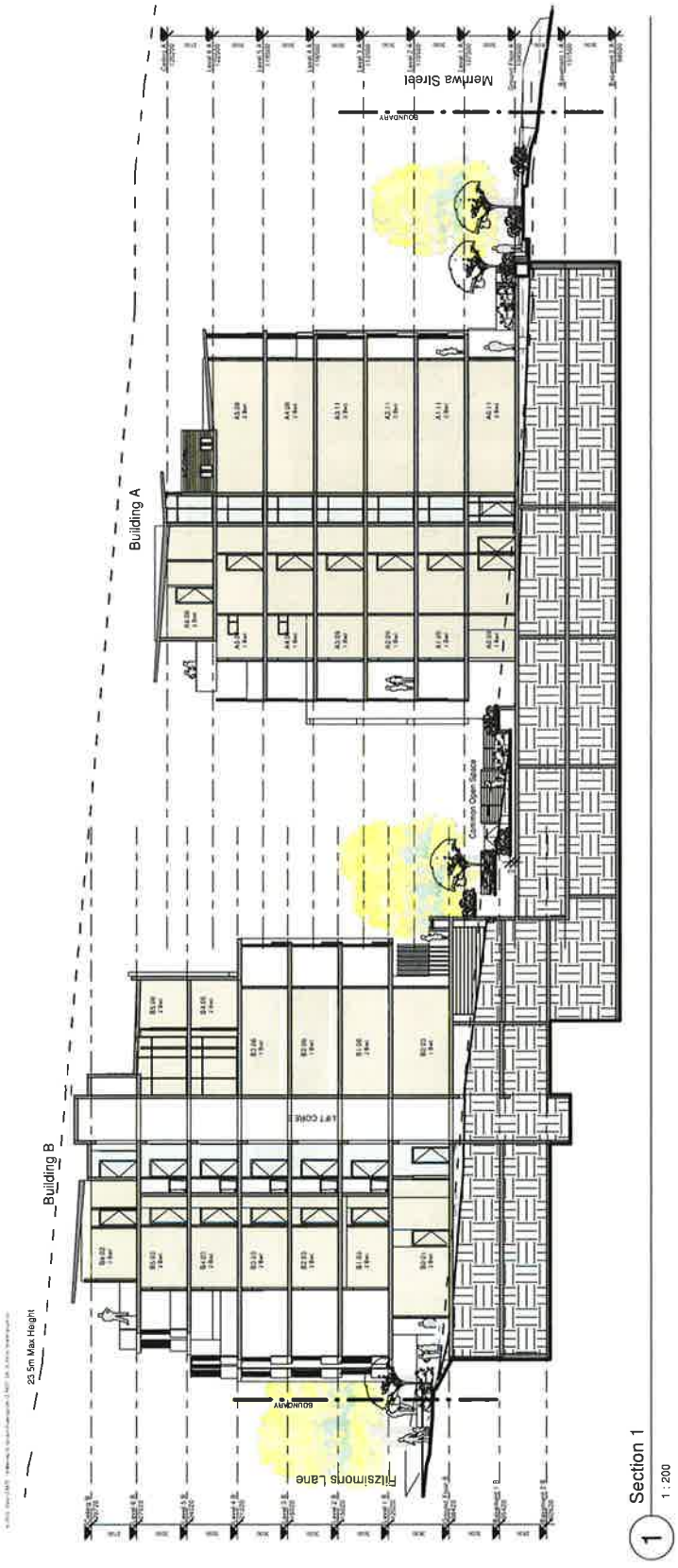
Brewster Murray
Architects Interior and Urban Designers
99 York Street, Sydney NSW 2000 Australia
T +612 9299 7888 F +612 9299 9766

DA Submission
17-23 Merriwa Street, Gordon

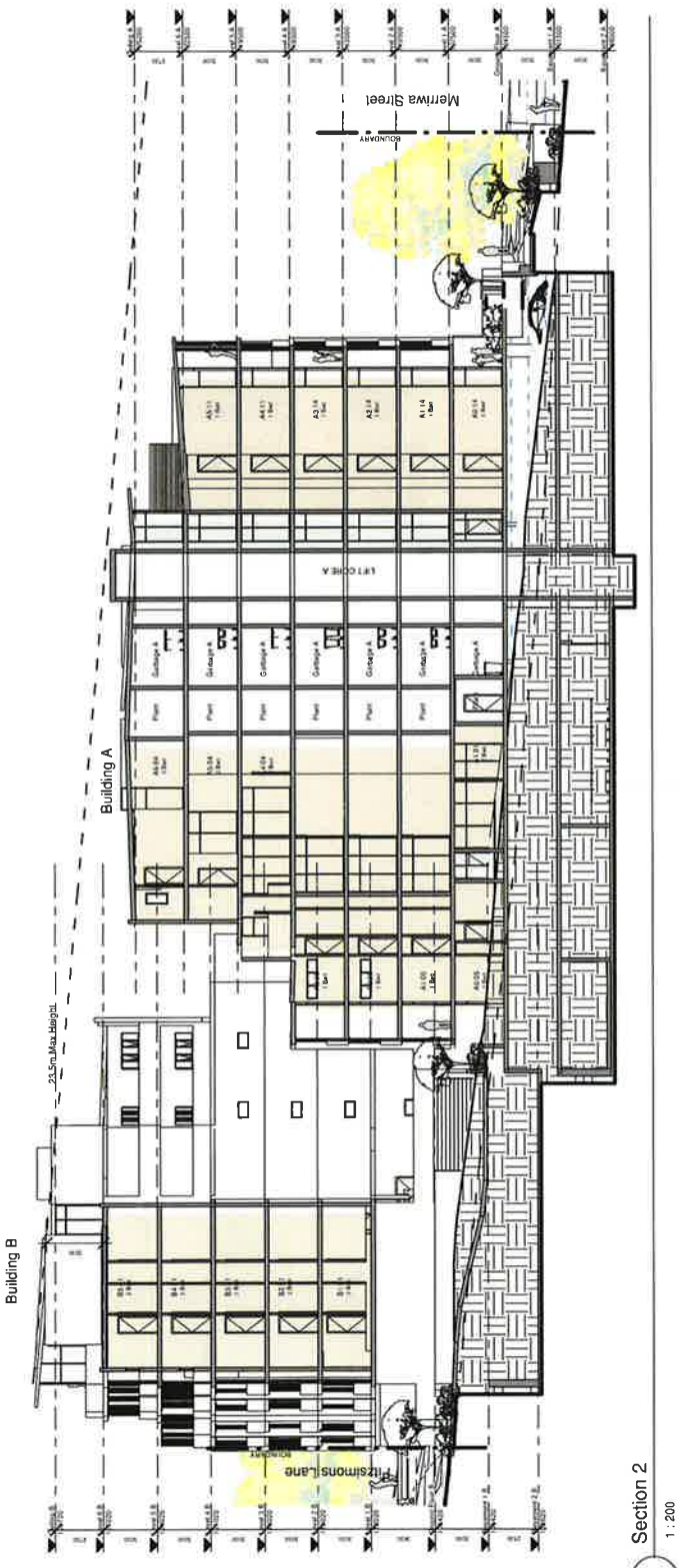
North Elevation (Building A) & South Elevation (Building B)

AUG 2013
13_5472
As indicated

DA3.03 **A**



1 Section 1
1 : 200



2 Section 2
1 : 200

General BASIX Requirements
All taps to be 5 star rating
All showers to be 6 to 7.5 L/min star rating
All toilets to be 4 star rating and flushed with rainwater
22,500L Rain Water Tank collecting 905 sq m of roof
All hot water systems to be Gas instantaneous - 5 star rating
1 phase air-conditioning 2 star heating & cooling
Gas cook top & electric oven
Dishwashers with 3 star water & 3 star energy

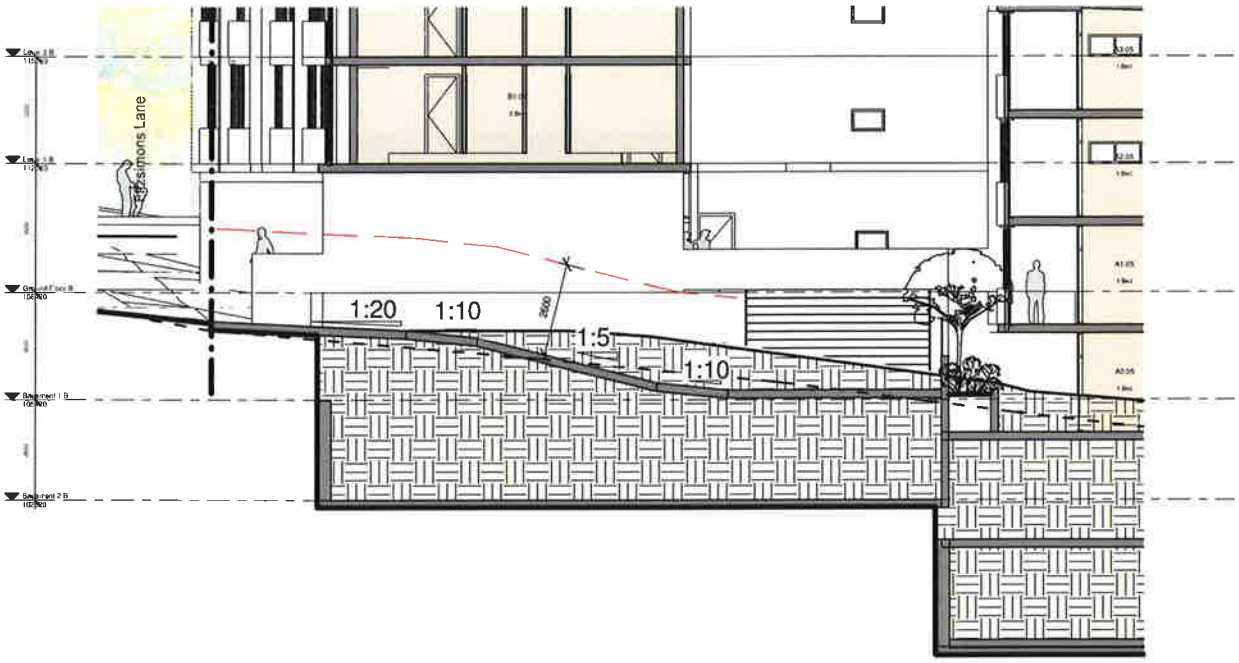
Brewster Murray
Architects licence and Urban Designers
99 York Street Sydney NSW 2000 Australia
T - (61) 2 9261 0668 F - (61) 2 9299 0708

DA Submission
17-23 Merriwa Street, Gordon

Sections 1 & 2

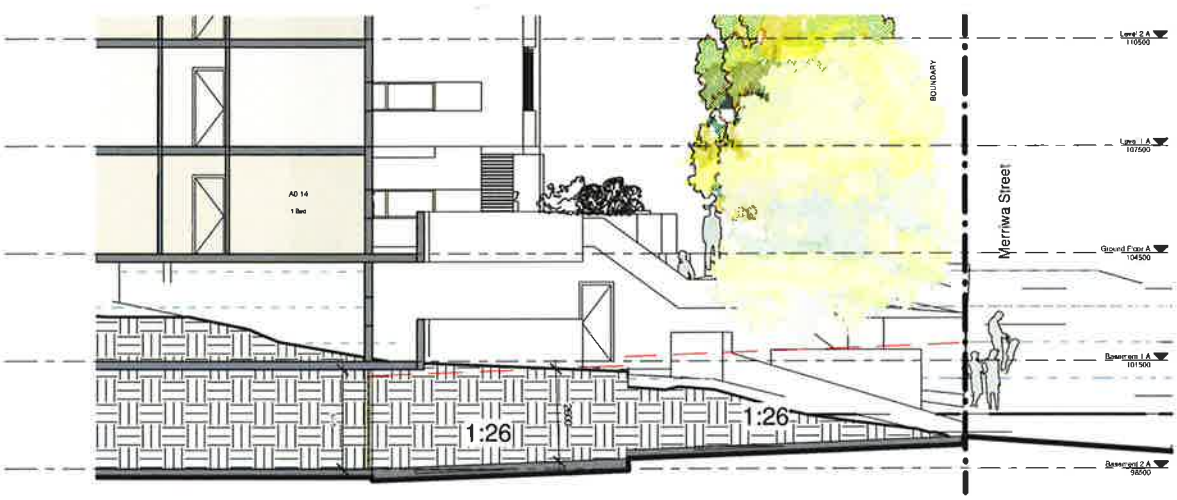
AUG 2013
13_5472
As indicated

DA4.01 **A**



2 Enty Ramp along Fitzsimons Lane

1 : 100



1 Entry Ramp Along Merriwa Street

1 : 100

Brewster Murray
Architects Interior and Urban Designers
99 York Street, Sydney NSW 2000 Australia
T - 612 9299 0991 F - 612 9299 0738

DA Submission
17-23 Merriwa Street,
Gordon

Longitudinal Sections

AUG 2013
13_5472
1 : 100

DA4.02

Brewster Murray
Architects Interior and Urban Designers
99 York Street, Sydney NSW 2000 Australia
T - 612 9299 8966 F - 612 9299 0108

DA Submission
17-23 Merriwa Street,
Gordon

3D Views South - Merriwa Street

AUG 2013
13_5472
1 : 1

DA5.01 **A**

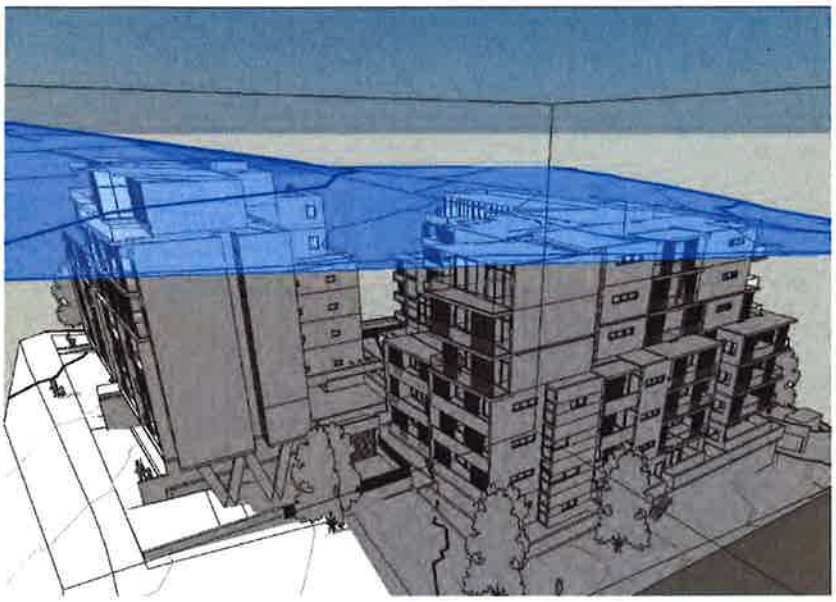
Brewster Murray
Architects Interior and Urban Designers
99 York Street Sydney NSW 2000 Australia
T +612 9264 0669 F +612 9299 0728

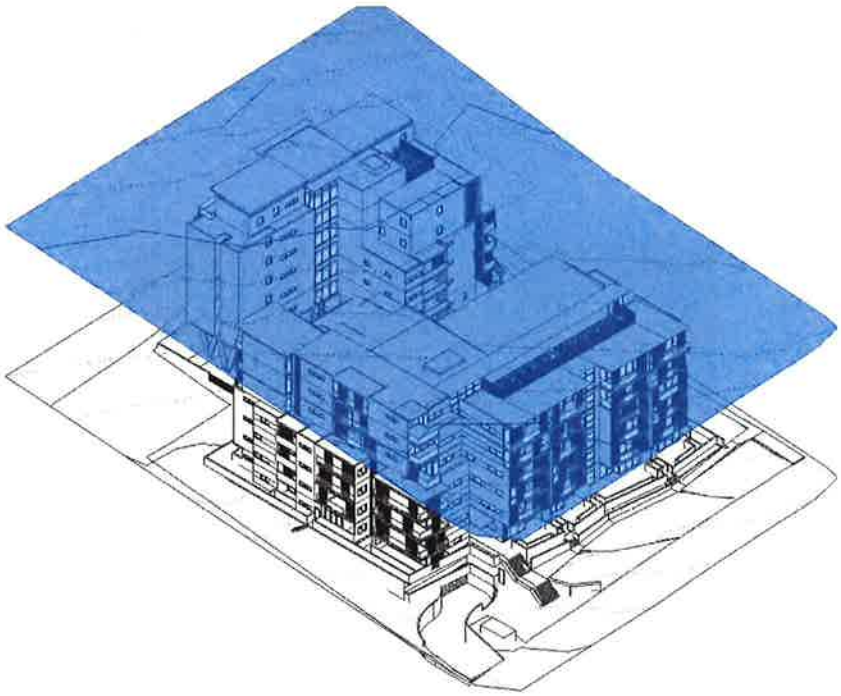
DA Submission
17-23 Merriwa Street, Gordon

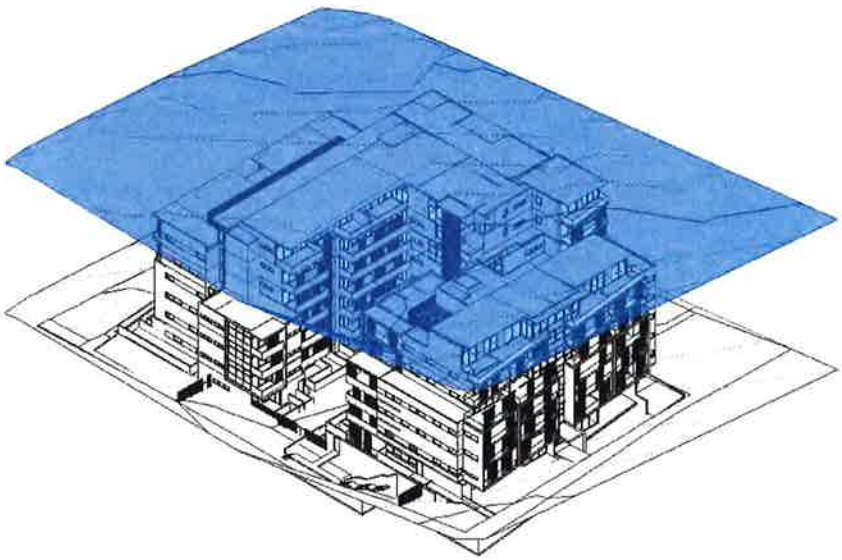
3D Views North - Fitzsimons Street

AUG 2013
13_5472
1 : 1

DA5.02 **A**







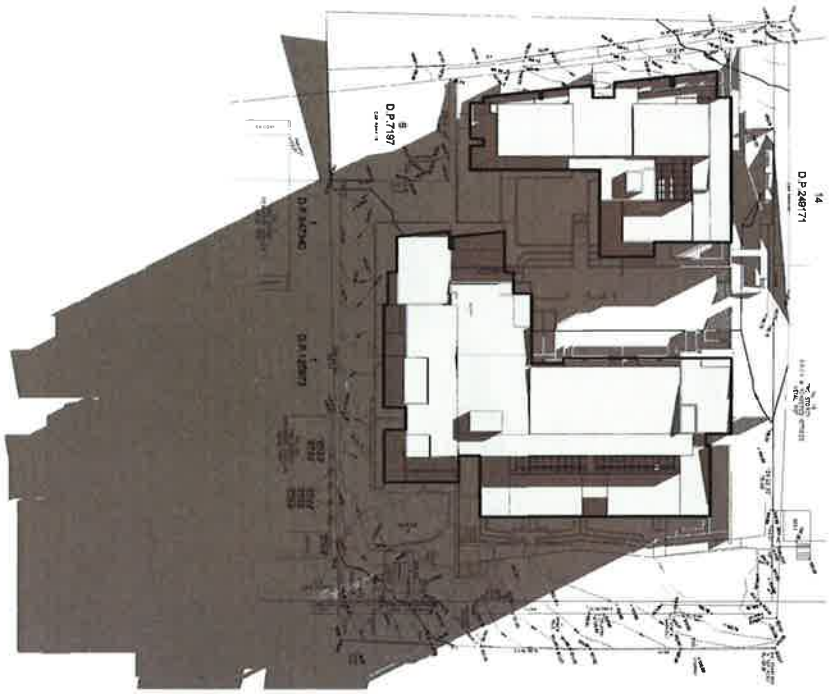
Brewster Murray
Architects Interior and Urban Designers
69 York Street Sydney NSW 2000 Australia
T +612 9299 0888 F +612 9299 0108

DA Submission
17-23 Merriwa Street,
Gordon

23.5m Height Diagram

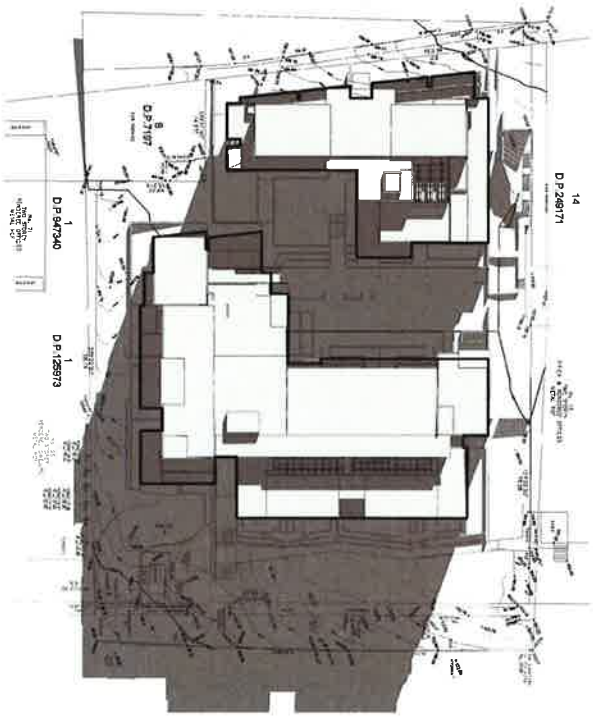
AUG 2013
13_5472

DA5.03



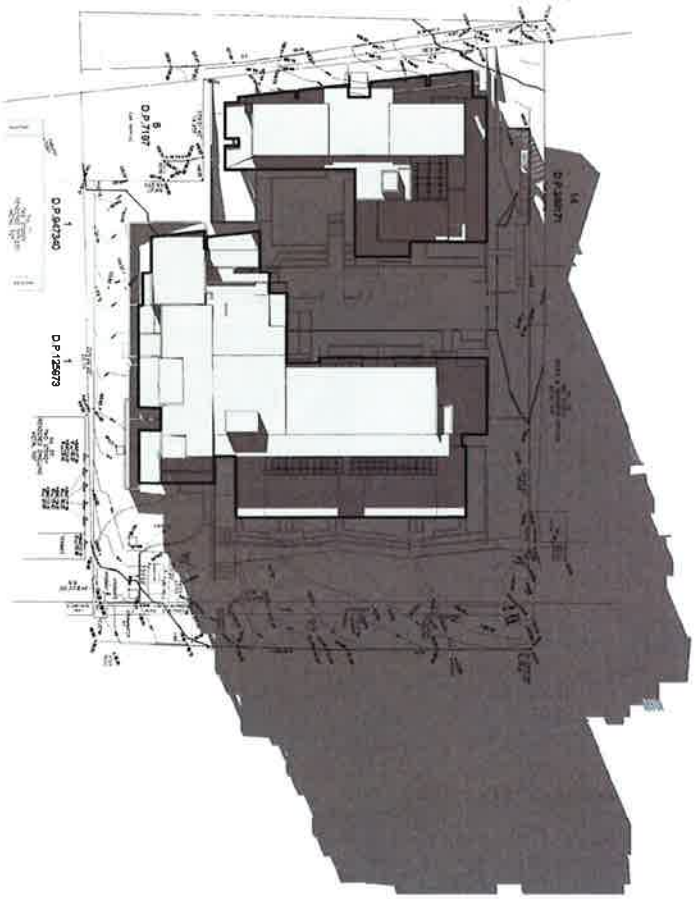
1 Shadows_Winter 9am

1 : 500



2 Shadows_Winter 12pm

1 : 500



3 Shadows_Winter 3pm

1 : 500

Brewster Murray
Architects Interiors and Urban Designers
39 York Street Sydney NSW 2000 Australia
T +612 9290 2968 F +612 9299 0708

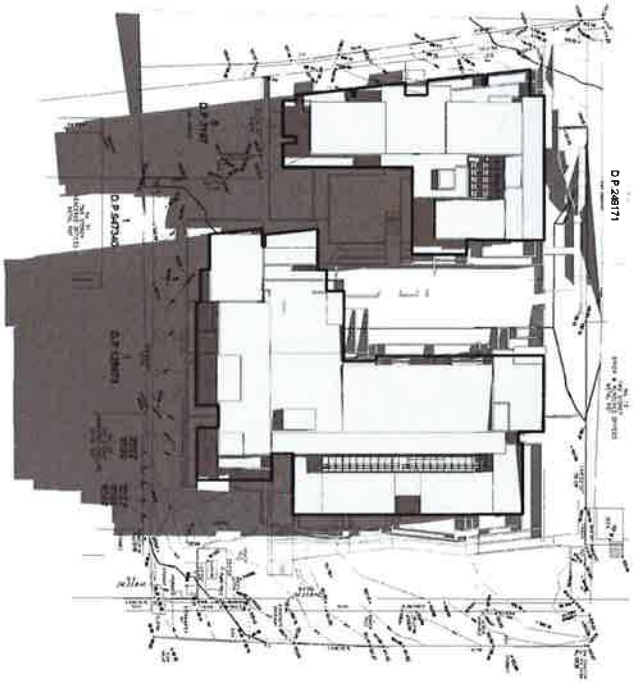
DA Submission
17-23 Merriwa Street, Gordon

Shadow Diagrams - Winter

AUG 2013
13_5472
1 : 500

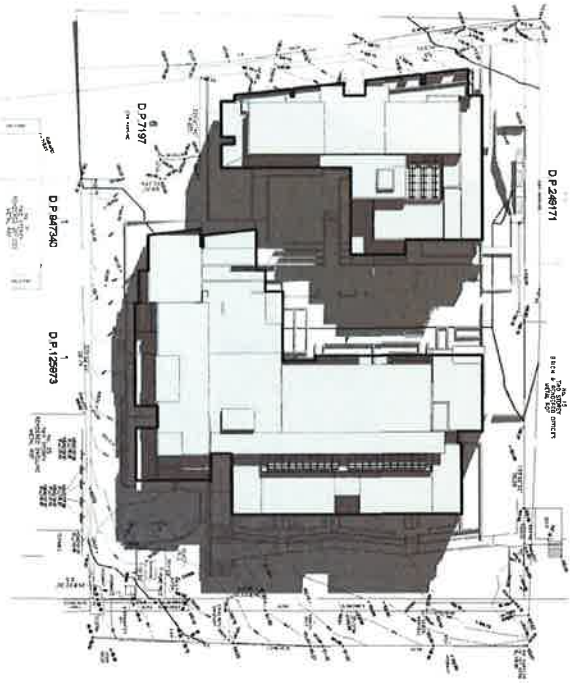
DA6.01

A



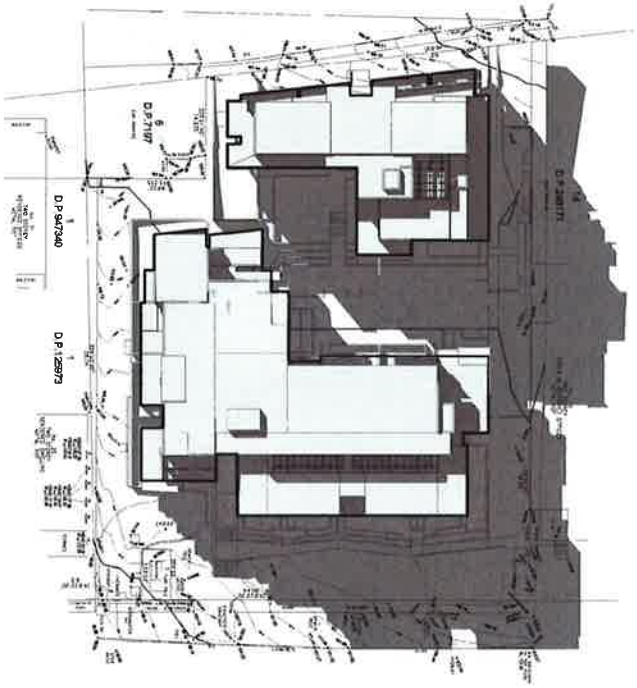
1 Shadows_Autumn 9am

1 : 500



2 Shadows_Autumn 12pm

1 : 500



3 Shadows_Autumn 3pm

1 : 500

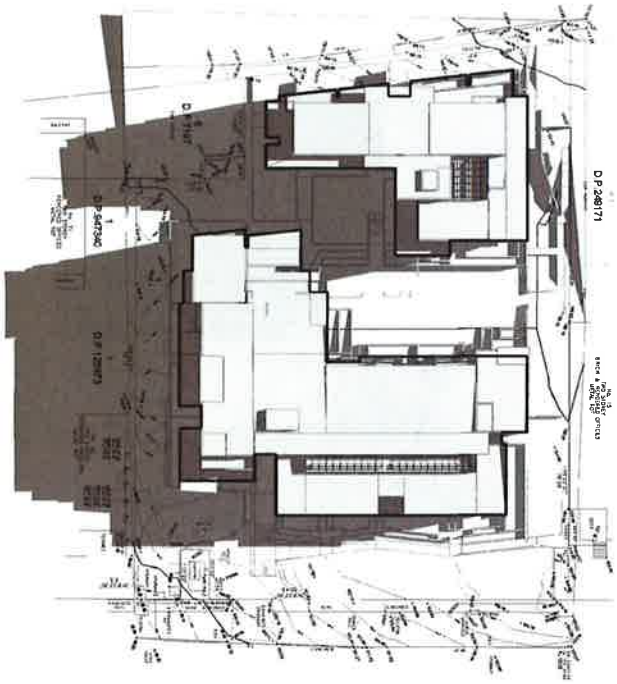
Brewster Murray
Architects Interiors and Urban Designers
99 York Street Sydney NSW 2000 Australia
T - 612 9299 9988 F - 612 9299 0766

DA Submission
17-23 Merriwa Street, Gordon

Shadow Diagrams - Autumn

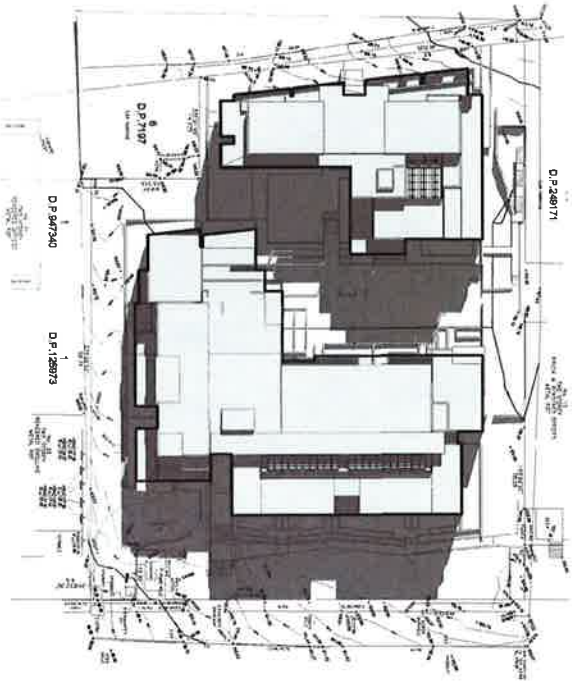
AUG 2013
13_5472
1 : 500

DA6.02 **A**



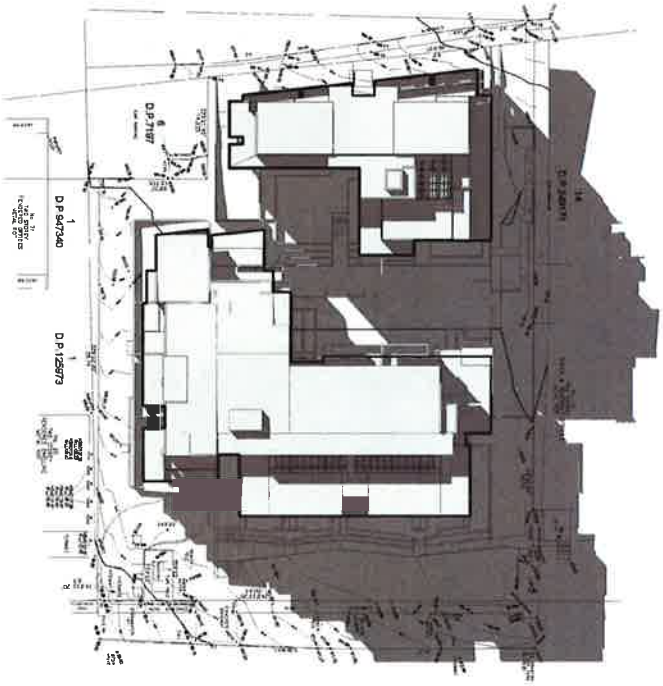
1 Shadows_Spring 9am

1 : 500



2 Shadows_Spring 12pm

1 : 500



3 Shadows_Spring 3pm

1 : 500

Brewster Murray
Architects Interior and Urban Designers
99 York Street Sydney NSW 2000 Australia
T +612 9299 0966 F +612 9299 0706

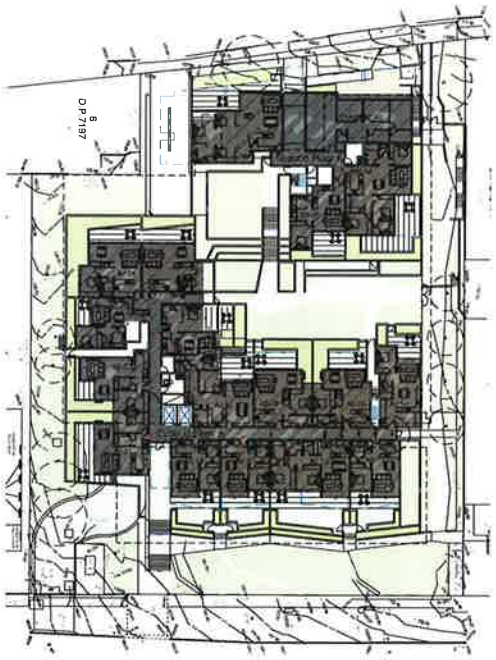
DA Submission
17-23 Merriwa Street,
Gordon

Shadow Diagrams - Spring

AUG 2013
13_5472
1 : 500

DA6.03

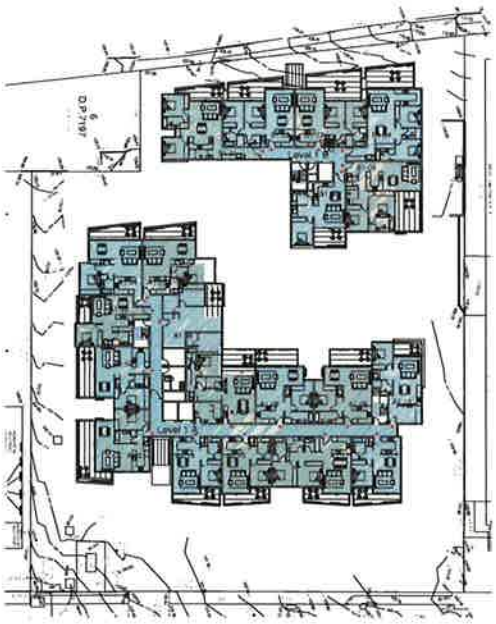
A



1 Ground Floor A_Area

1 : 500

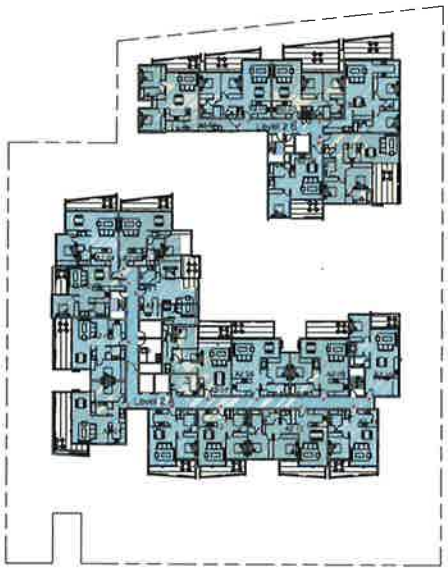
451 sqm



2 Level 1 A_Area

1 : 500

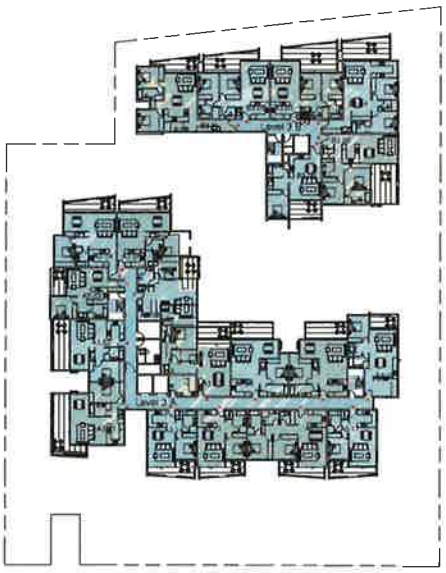
451 sqm



3 Level 2 A_Area

1 : 500

451 sqm



4 Level 3 A_Area

1 : 500

451 sqm

Brewster Murray
Architects Interior and Urban Designers
95 York Street Sydney NSW 2000 Australia
T - 61 2 9299 0988 F - 61 2 9299 0708

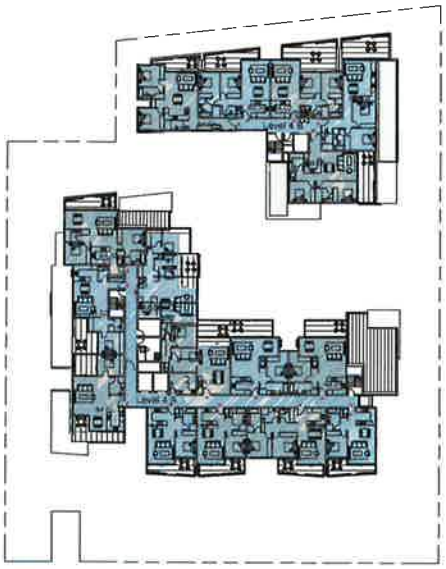
DA Submission
17-23 Merriwa Street,
Gordon

Area Schedule Plan

AUG 2013
13_5472
1 : 500

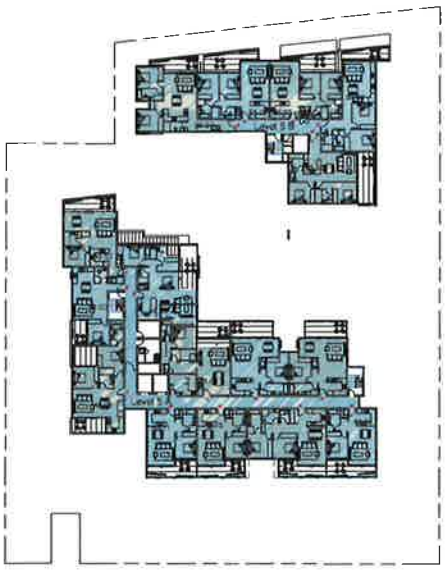
DA7.01

A



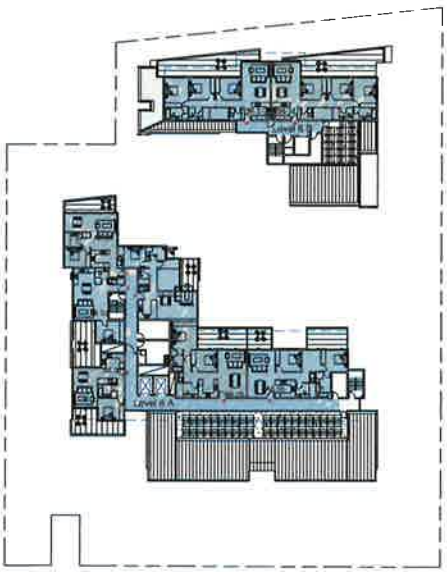
1 Level 4 A_Area

1 : 500 451 sqm



2 Level 5 A_Area

1 : 500 451 sqm



3 Level 6 A_Area

1 : 500 451 sqm

	Area Building A (Total GFA per floor plate including common lobby)	Area Building B (Total GFA per floor plate including common lobby)	Total
Ground Floor	947	410	1357
L1	947	460	1407
L2	947	460	1407
L3	947	460	1407
L4	835	385	1220
L5	839	385	1224
L6	405	213	618
Sub Total	**5867 sqm**	**2773 sqm**	
			8640 sqm

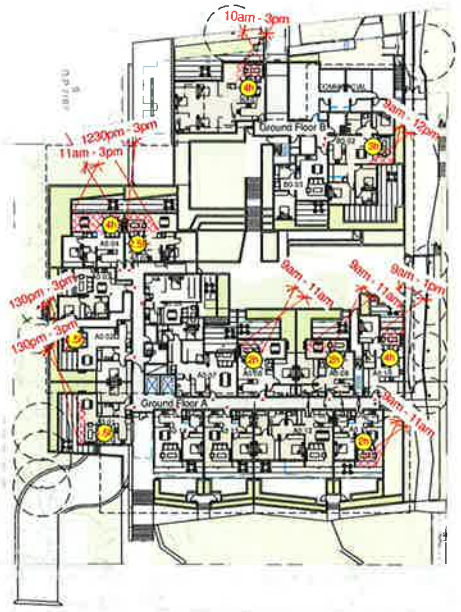
Brewster Murray
Architects Interior and Urban Designers
99 York Street, Sydney NSW 2000 Australia
T : (612 9241 2988 F : (612 9299 0708

DA Submission
17-23 Merriwa Street, Gordon

Area Schedule Plan

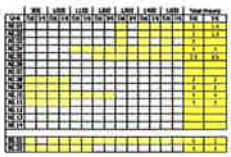
AUG 2013
13_5472
As indicated

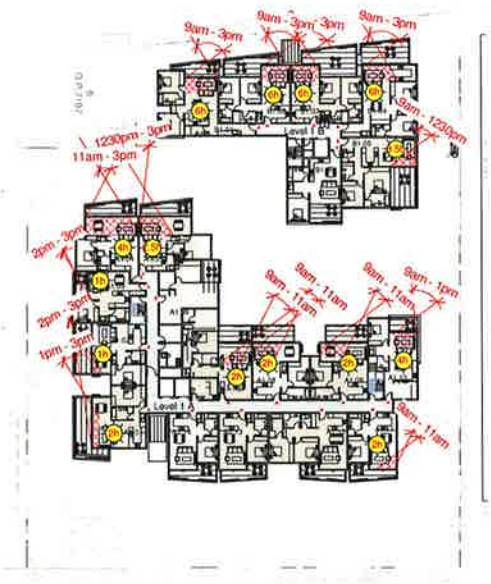
DA7.02 **A**



1 Ground Floor A_Solar

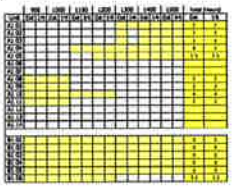
1 : 500

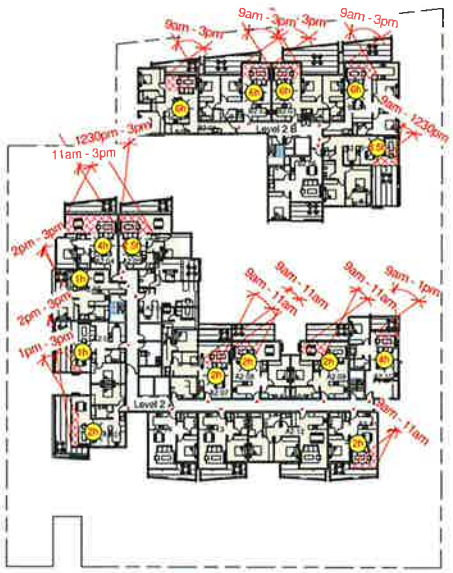




2 Level 1 A_Solar

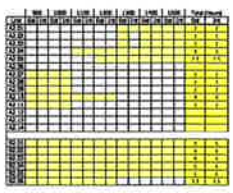
1 : 500

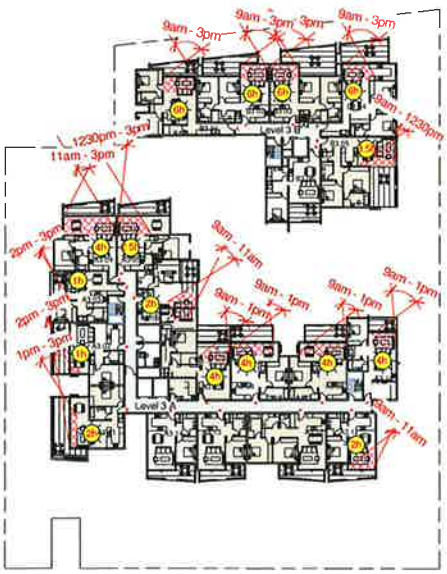




3 Level 2 A_Solar

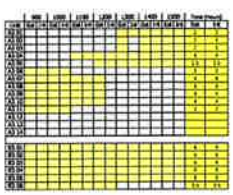
1 : 500





4 Level 3 A_Solar

1 : 500



Brewster Murray
Architects Interior and Urban Designers
99 York Street Sydney NSW 2000 Australia
T : 612 9299 0988 F : 612 9299 0798

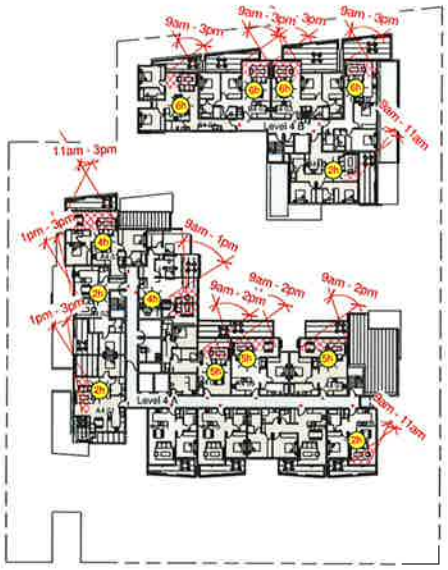
DA Submission
17-23 Merriwa Street,
Gordon

Solar Access

AUG 2013
13_5472
As indicated

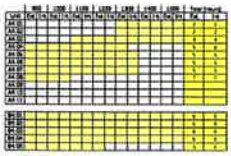
DA8.01

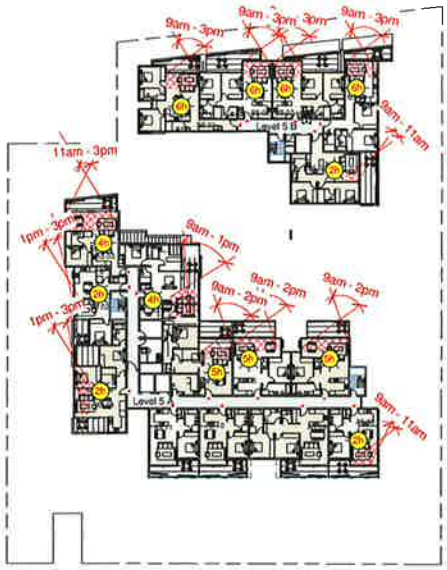
A



1 Level 4 A_Solar

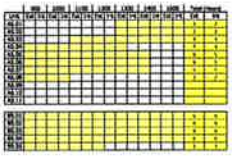
1 : 500

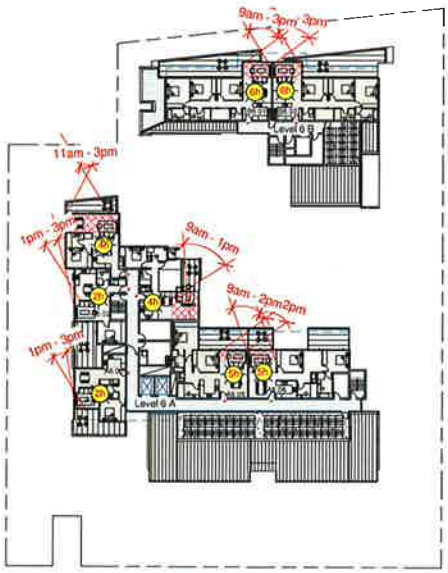




2 Level 5 A_Solar

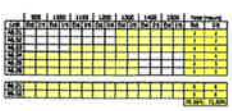
1 : 500





3 Level 6 A_Solar

1 : 500



Brewster Murray
Architects Interior and Urban Designers
99 York Street Sydney NSW 2000 Australia
T : 612 9539 0988 F : 612 9299 0708

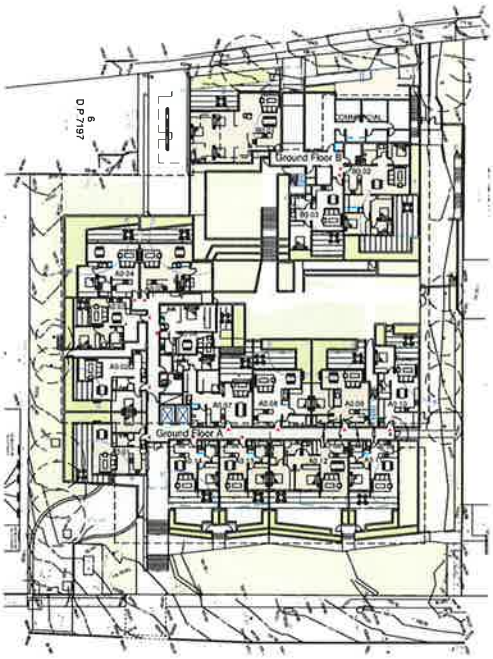
DA Submission
17-23 Merriwa Street,
Gordon

Solar Access

AUG 2013
13_5472
As indicated

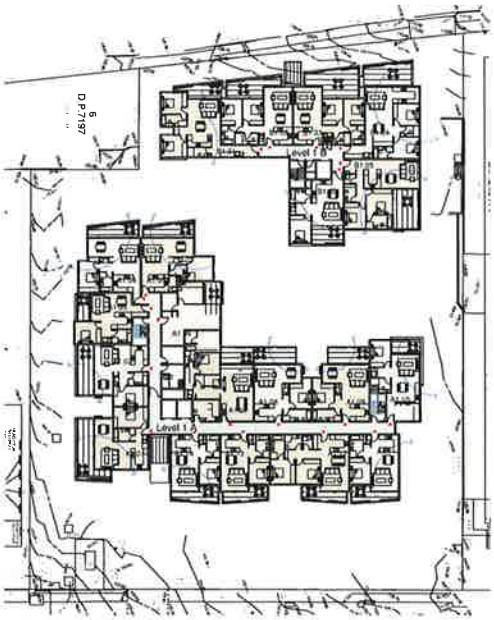
DA8.02

A



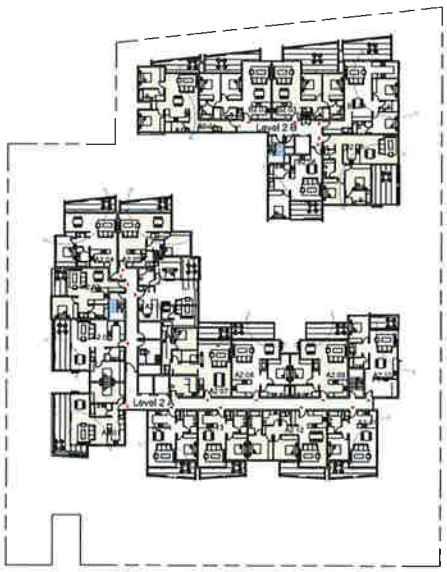
1 Ground Floor A_Ventilation

1 : 500



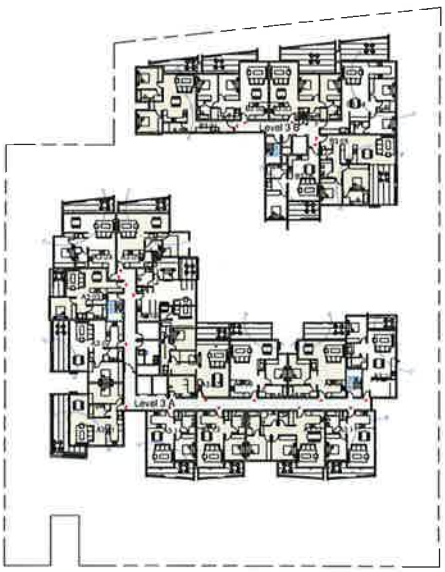
2 Level 1 A_Ventilation

1 : 500



3 Level 2 A_Ventilation

1 : 500



4 Level 3 A_Ventilation

1 : 500

Brewster Murray
Architects Interiors and Urban Designers
58 York Street, Sydney NSW 2000 Australia
T : 612 9250 0888 F : 612 9955 0708

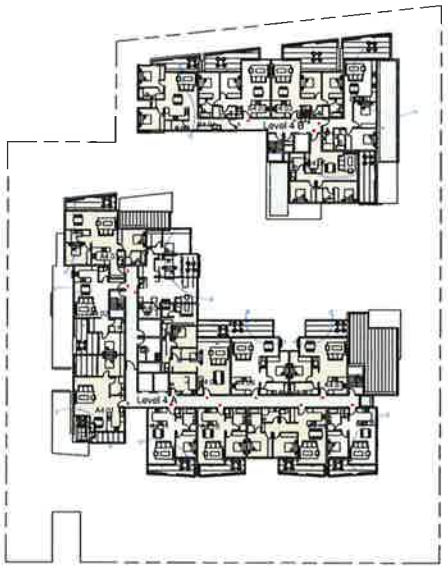
DA Submission
17-23 Merriwa Street,
Gordon

Natural Ventilation

AUG 2013
13_5472
As indicated

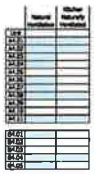
DA8.03

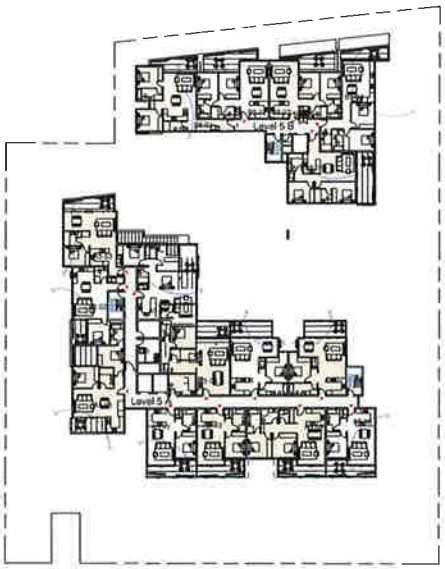
A



1 Level 4 A_Ventilation

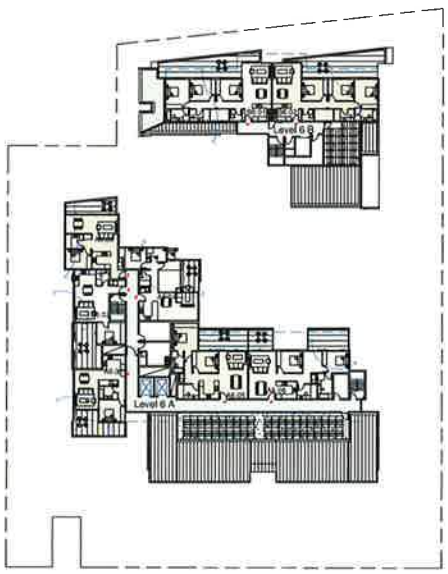
1 : 500





2 Level 5 A_Ventilation

1 : 500



3 Level 6 A_Ventilation

1 : 500

Unit		
A6.01		
A6.02		
A6.03		
A6.04		
A6.05		
A6.06		
B6.01		
B6.02		
	79 = 67.5%	29 = 24.78%

Brewster Murray
Architects Interior and Urban Designers
99 York Street, Sydney NSW 2000 Australia
T +612 9290 0988 F +612 9290 0708

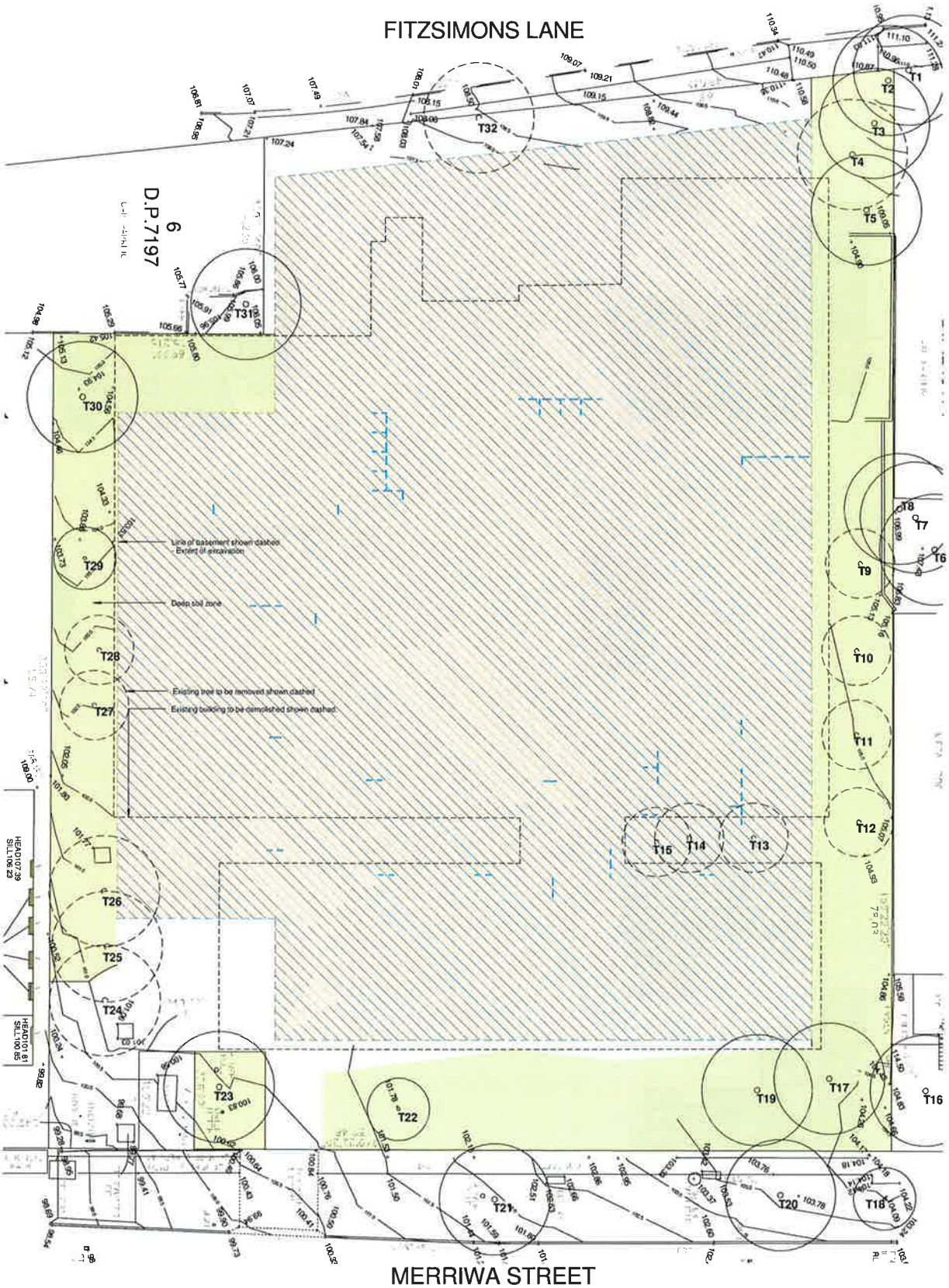
DA Submission
17-23 Merriwa Street,
Gordon

Natural Ventilation

AUG 2013
13_5472
As indicated

DA8.04

A



Brewster Murray
Architecture Interiors and Urban Designers
99 York Street Sydney NSW 2000 Australia
T - 612 9299 9888 F - 612 9299 0738

DA Submission
17-23 Merriwa Street,
Gordon

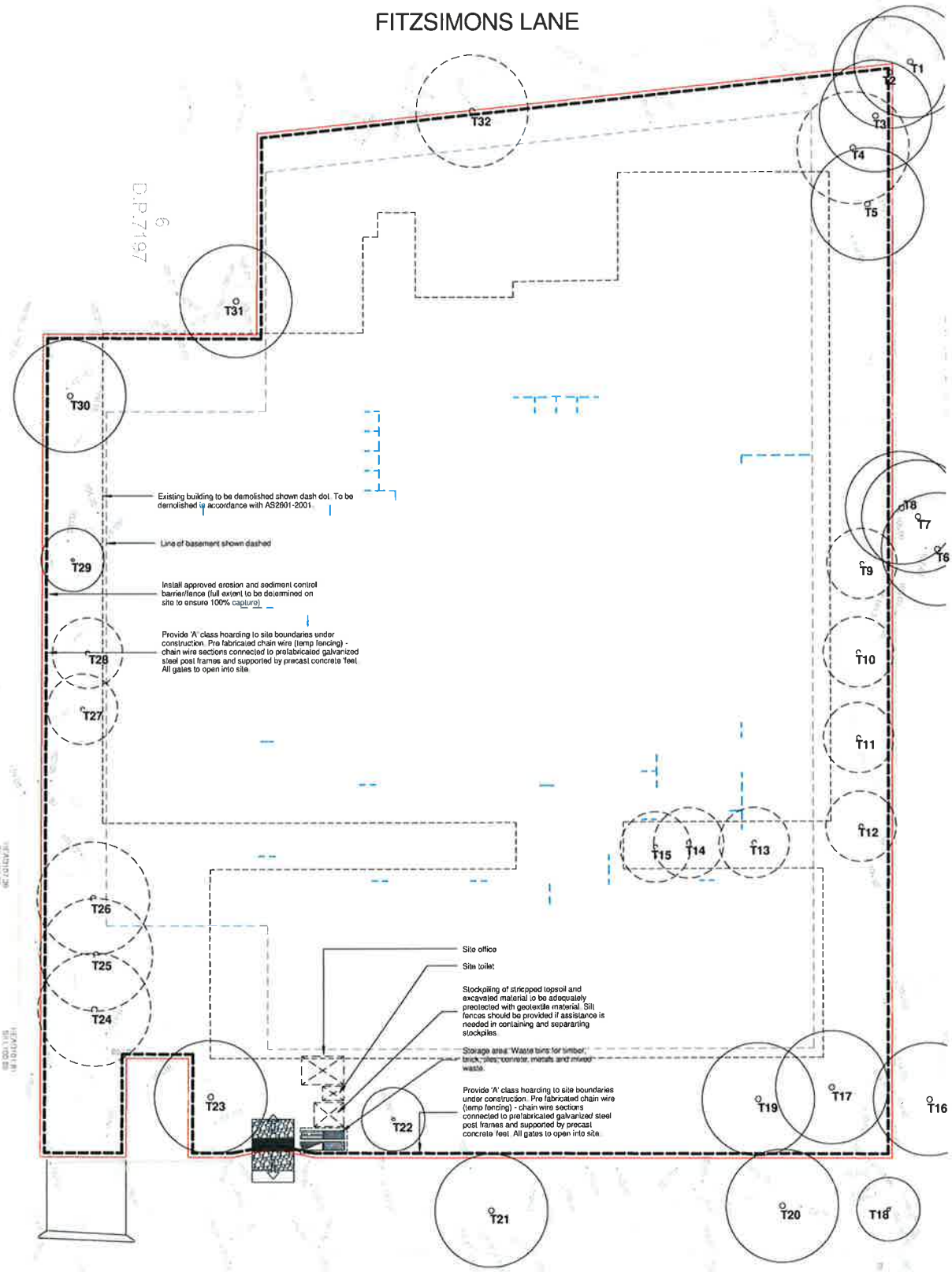
Deep Soil & Excavation Plan

AUG 2013
13_5472
1:200

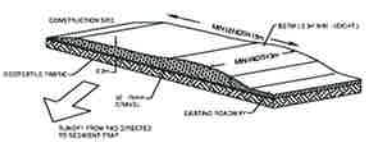
DA9.01

A

FITZSIMONS LANE

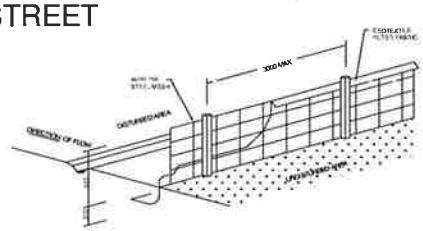


MERRIWA STREET



Cross Over

1 : 200



Silt Fence

1 : 200

Browster Murray
Architects Interior and Urban Designers
99 York Street Sydney NSW 2000 Australia
T : 612 9232 2988 F : 612 9290 0708

DA Submission
17-23 Merriwa Street, Gordon

Environmental Site Management Plan

AUG 2013
13_5472
1 : 200

DA9.02

A

Brewster Murray
Architecture Interior and Urban Designers
56 York Street Sydney NSW 2000 Australia
T +612 9299 0988 F +612 9299 0705

DA Submission
17-23 Merriwa Street,
Gordon

Sample Board

AUG 2013
13_5472

DA10.01 **A**

Brewster Murray
Architects Interior and Urban Designers
99 York Street Sydney NSW 2000 Australia
T +612 9299 8988 F +612 9299 3708

DA Submission
17-23 Merriwa Street,
Gordon

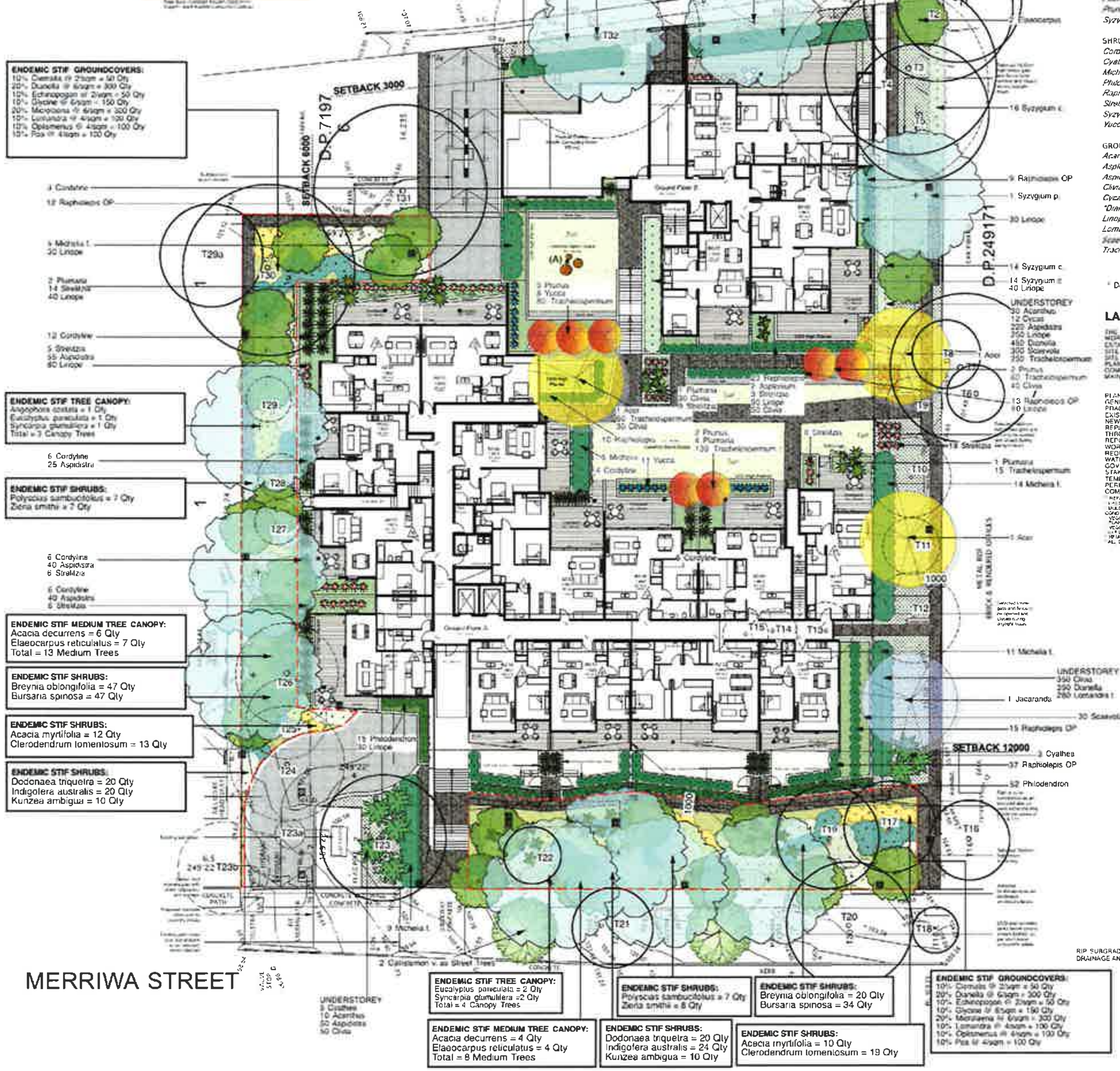
Physical Model

AUG 2013
13_5472

DA10.02 **A**

Appendix D

Landscape Plan



FITZSIMONS LANE
MERRIWA STREET
SETBACK 6000
SETBACK 3000
SETBACK 12000
D.P.7197
D.P.249171
ENDEMIC STIF GROUNDCOVERS:
10% Clematis @ 2/sqm = 50 Qty
20% Dianella @ 6/sqm = 300 Qty
10% Echinopogon @ 2/sqm = 50 Qty
10% Glycine @ 6/sqm = 150 Qty
20% Microlaena @ 6/sqm = 300 Qty
10% Lomandra @ 4/sqm = 100 Qty
10% Oplismenus @ 4/sqm = 100 Qty
10% Poa @ 4/sqm = 100 Qty
ENDEMIC STIF TREE CANOPY:
Angophora costata = 1 Qty
Eucalyptus paniculata = 1 Qty
Syncarpia glomulifera = 1 Qty
Total = 3 Canopy Trees
6 Cordyline
25 Aspidistra
ENDEMIC STIF SHRUBS:
Polyscias sambucifolius = 7 Qty
Zieria smithii = 7 Qty
6 Cordyline
40 Aspidistra
6 Strelitzia
ENDEMIC STIF MEDIUM TREE CANOPY:
Acacia decurrens = 6 Qty
Elaeocarpus reticulatus = 7 Qty
Total = 13 Medium Trees
ENDEMIC STIF SHRUBS:
Breynia oblongifolia = 47 Qty
Bursaria spinosa = 47 Qty
ENDEMIC STIF SHRUBS:
Acacia myrtifolia = 12 Qty
Clerodendrum tomentosum = 13 Qty
ENDEMIC STIF SHRUBS:
Dodonaea triquetra = 20 Qty
Indigofera australis = 20 Qty
Kunzea ambigua = 10 Qty
ENDEMIC STIF TREE CANOPY:
Eucalyptus paniculata = 2 Qty
Syncarpia glomulifera = 2 Qty
Total = 4 Canopy Trees
ENDEMIC STIF MEDIUM TREE CANOPY:
Acacia decurrens = 4 Qty
Elaeocarpus reticulatus = 4 Qty
Total = 8 Medium Trees
ENDEMIC STIF SHRUBS:
Polyscias sambucifolius = 7 Qty
Zieria smithii = 8 Qty
ENDEMIC STIF SHRUBS:
Dodonaea triquetra = 20 Qty
Indigofera australis = 24 Qty
Kunzea ambigua = 10 Qty
ENDEMIC STIF SHRUBS:
Breynia oblongifolia = 20 Qty
Bursaria spinosa = 34 Qty
ENDEMIC STIF SHRUBS:
Acacia myrtifolia = 10 Qty
Clerodendrum tomentosum = 19 Qty
ENDEMIC STIF GROUNDCOVERS:
10% Clematis @ 2/sqm = 50 Qty
20% Dianella @ 6/sqm = 300 Qty
10% Echinopogon @ 2/sqm = 50 Qty
10% Glycine @ 6/sqm = 150 Qty
20% Microlaena @ 6/sqm = 300 Qty
10% Lomandra @ 4/sqm = 100 Qty
10% Oplismenus @ 4/sqm = 100 Qty
10% Poa @ 4/sqm = 100 Qty

Planting Schedule

Botanical Name	Common Name	Pot Size	Height (m)	Quantity
TREES				
Acer palmatum	Japanese Maple	200L	8	3
*Angophora costata	Sydney Red Gum	75L	18	1
Callistemon viminalis	Weeping Bottle Brush	25Lt	5	2
*Elaeocarpus reticulatus	Blue Berry Ash	45L	8	2
*Eucalyptus paniculata	Grey Iron Bark	75L	20	1
Jacaranda mimosifolia	Jacaranda	200L	13	1
Plumeria rubra	Frangipani	100L	5	7
Prunus cerasifera 'Nigra'	Purple Leaved Cherry Plum	75L	6	7
Syzygium paniculatum	Magenta Cherry	75L	14	1
SHRUBS/ACCENT				
Cordyline stricta	Cordyline	200mm	3	37
Cyathea cooperi	Tree Fern	1CT	5	5
Michelia figo	Port Wine Magnolia	200mm	1.8	93
Philodendron 'Xanadu'	Xanadu	200mm	0.8	67
Rhaphiolepis 'Oriental Pearl'	Oriental Pearl	200mm	1	141
Strelitzia reginae	Bird of Paradise	200mm	1.5	81
Syzygium cascade	Weeping Lilly Pilly	200mm	2	44
Yucca elephantipes	Yucca	300mm	3	43
GROUNDCOVERS/ACCENTS				
Acanthus mollis	Oyster Plant	200mm	1.2	40
Asplenium australasicum	Birds Nest Fern	200mm	0.8	2
Aspidistra elatior	Cast Iron Plant	140mm	0.8	430
Clivia miniata	Clivia	140mm	0.6	490
Cycas revoluta	Sago Palm	45L	1	12
*Dianella caerula	Flax Lily	140mm	0.5	880
Liriope muscari	Turf Lily	140mm	0.6	710
Lomandra tanika	Dwarf Mat Rush	140mm	0.5	500
Scaevola 'Purple Fusion'	Purple Fusion	140mm	0.3	330
Trachelospermum 'Tri Colour'	Painted Star Jassmine	140mm	0.3	595

* Denotes STIF Diagnostic

LANDSCAPE MAINTENANCE

THE CONTRACTOR SHALL CONTINUOUSLY MAINTAIN ALL AREAS OF THE CONTRACT DURING THE PROGRESS OF THE WORKS. THE CONTRACTOR SHALL COMMENCE AND FULLY IMPLEMENT THE SHORT TERM MAINTENANCE AND ESTABLISHMENT AFTER PRACTICAL COMPLETION HAS BEEN CONFIRMED.
SITE CONTROL: REPORT TO THE PRINCIPAL'S DESIGNATED REPRESENTATIVE ON ARRIVING AT AND BEFORE LEAVING THE SITE.
PLANT ESTABLISHMENT PERIOD: THE PERIOD BETWEEN THE DATE OF PRACTICAL COMPLETION AND THE DATE OF FINAL COMPLETION.
MAINTENANCE/ ESTABLISHMENT PERIOD: 12 MONTHS

PLANT ESTABLISHMENT: MAINTAIN THE CONTRACT AREA DURING THE PLANT ESTABLISHMENT PERIOD. ENSURE THE GENERAL APPEARANCE AND PRESENTATION OF THE LANDSCAPE AND THE QUALITY OF PLANT MATERIAL AT DATE OF PRACTICAL COMPLETION IS MAINTAINED FOR THE FULL PLANTING ESTABLISHMENT PERIOD.
EXISTING PLANT MATERIAL: MAINTAIN EXISTING PLANTING WITHIN THE LANDSCAPE CONTRACT AREA AS SPECIFIED FOR NEW PLANTING.
REPLACEMENTS: REPLACE FAILED, DEAD AND/OR DAMAGED PLANTS AT MINIMUM 3 WEEK INTERVALS AS NECESSARY THROUGHOUT THE FULL PLANT ESTABLISHMENT PERIOD.
REPORTING: SUBMIT REGULAR REPORTS BY THE LAST FRIDAY OF EACH MONTH SUMMARISING THE GENERAL STATUS OF WORKS. INCLUDE A MAINTENANCE SCHEDULE, A LOG BOOK OF MAINTENANCE ACTIVITY, SOIL TEST RESULTS AS REQUIRED FOR ANY FERTILISING PROGRAMS, AND PLANT REPLACEMENT REQUIREMENTS.
WATER RESTRICTIONS: COORDINATE THE WATER SUPPLY AND CONFIRM THE WATERING REGIME AGAINST RELEVANT GOVERNMENT LEGISLATION AND RESTRICTIONS AT THE TIME.
STAKES AND TIES: REMOVE AT THE END OF THE PLANTING ESTABLISHMENT PERIOD.
TEMPORARY FENCES: REMOVE TEMPORARY PROTECTIVE FENCES AT THE END OF THE PLANTING ESTABLISHMENT PERIOD.
COMPLIANCE: PLANT ESTABLISHMENT SHALL BE DEEMED COMPLETE, SUBJECT TO THE FOLLOWING:
- REPAIRS TO PLANTING MEDIA COMPLETED
- VEGETATION IS ESTABLISHED AND WELL FORMED
- PLANTS HAVE HEALTHY ROOT SYSTEMS
- ALL DEFECTS NOTIFICATIONS HAVE BEEN CLOSED OUT

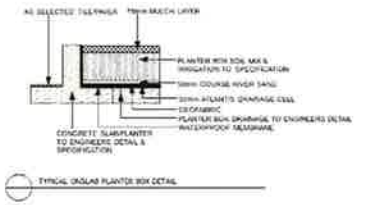
600sqm STIF Planting Schedule

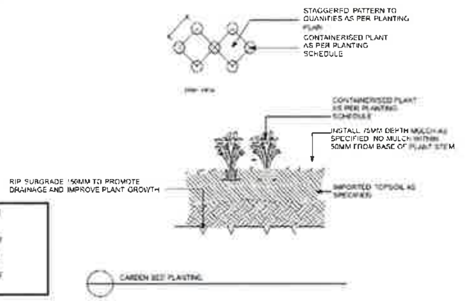
Botanical Name	Common Name	Pot Size	Height (m)	Quantity
TREES				
*Acacia decurrens	Green Wattle	25Lt	9	10
*Angophora costata	Sydney Red Gum	25Lt	18	1
*Elaeocarpus reticulatus	Blue Berry Ash	25Lt	7	11
*Eucalyptus paniculata	Grey Iron Bark	200Lt	20	3
*Syncarpia glomulifera	Turpentine	25Lt	18	3
SHRUBS/BAMBOO				
*Acacia myrtifolia	Myrtle Wattle	140mm	2	19
*Breynia oblongifolia	Coffee Bush	140mm	3	60
*Bursaria spinosa	Australian Blackthorn	140mm	4.5	75
*Clerodendrum tomentosum	Hairy Lolly Bush	140mm	4	29
*Dodonaea triquetra	Hop Bush	140mm	3	40
*Indigofera australis	Austral Indigo	140mm	1.5	44
*Kunzea ambigua	Tick Bush	140mm	3	20
*Polyscius sambucifolius	Elderberry Panax	140mm	3	9
*Zieria smithii	Sandfly Zieria	140mm	2	11
GROUNDCOVERS/ACCENTS				
*Clematis aristata	Clematis	200mm	0.5	100
*Dianella caerula s. lat	Blue Flax Lily	150mm	0.5	600
*Echinopogon caespitosus	Tufted Hedgehog Vine	140mm	0.3	100
*Glycine microphylla	Love Creeper	140mm	0.3	300
*Lomandra longifolia	Mat Rush	200mm	1.2	200
*Microlaena stipoides	Weeping Grass	140mm	0.8	600
*Oplismenus imbecillis	Basket Grass	140mm	0.5	200
*Poa affinis	Poa Grass	140mm	1	200

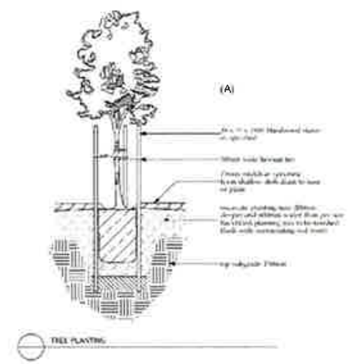
* Denotes STIF Diagnostic

Syncarpia glomulifera (Sydney Turpentine)

Eucalyptus paniculata (Grey Iron Bark)







AMENDMENTS		
ISSUE	AMENDMENT	DATE
P	PRELIM DRAFT	
A	DA ISSUE	
B	STIF PLANTING	

LEGEND

- T21 Existing Tree to be Removed (Refer to Arborist Report)
- Existing Tree to be Retained (Refer to Arborist Report) T## - Tree Number
- Lawn (Shade Master Buffalo)
- Groundcovers
- Hardwood/Composite Decking
- BOUNDARY
- Concrete Path
- As Selected Paver/Tile
- Timber Bench Seating
- Drainage Pits
- Proposed Spot Level
- Existing Spot Level
- 600sqm SYDNEY TURPENTINE IRONBARK FOREST (STIF)

PROJECT: 17-23 Merriwa Street GORDON NSW

CLIENT: Meissen Properties IB Pty Ltd

LANDSCAPE ARCHITECT: SITEDESIGN +STUDIOS www.sdstudios.com.au

Drawing Title: LANDSCAPE PLAN

Scale:	Date:	Project #:	Drawing #:
Drawn:	Checked:	Revision: B	LP 01

Appendix E

Staff CVs

Dr David Robertson

Director

Dr David Robertson's ecological career has spanned 27 years since completion of his PhD at Melbourne University in 1985. He is a specialist ecologist with expertise in both botany and zoology and has worked as an ecological consultant since 1993.

During part of his career, David has also been a lecturer in plant taxonomy, plant ecology and freshwater ecology at Charles Sturt University and Austalian Catholic University. This has developed his capability to work in both aquatic and terrestrial flora and fauna inventory, management of threatened species, ecological risk assessment, wetland rehabilitation and management, and ecological research for environmental impact assessment.

Throughout his career, David has worked on a wide variety of ecological projects. This includes ecological projects across Australia, including New South Wales, Queensland, ACT, Victoria, Tasmania and Western Australia. He has also gained international experience as the senior ecologist involved with consultancies in Hong Kong, Sri Lanka and the Philippines.

Since the inception of Cumberland Ecology Pty Ltd in 2003, David and his team of ecologists at Cumberland Ecology have worked on ecological investigations throughout NSW, averaging over 80 projects per year. They have worked extensively within the Hunter Valley, Gunnedah Basin, Sydney Region, on coastal projects and in the Western Blue Mountains.

David has had, and continues to have, direct involvement in many large-scale vegetation mapping and flora and fauna impact assessment projects. David has worked on many projects that entail the preparation of ecological offsets and Cumberland Ecology has been engaged to monitor such offsets. Cumberland Ecology has helped to formulate offsets for many mining projects in NSW, and also for mines in north Queensland and in Mindanao (Philippines). Under David's direction, an array of monitoring work has been and is being conducted at sites in the Hunter Valley, Gunnedah, Coffs Harbour and Western Sydney.

Education

Bachelor of Science (Honours), Ecology, University of Melbourne, 1980.

Doctor of Philosophy, Ecology, University of Melbourne, 1986.

David undertook his tertiary education at Melbourne University, completing a Bachelor of Science majoring in botany and zoology. This included a thesis submitted as part of the requirements for the B.Sc. Honours Degree at The University of Melbourne School of Botany:

Aspects of the Ecology of Eucalyptus sideroxylon (A. Cunn, ex W. Wool) at Point Addis, Victoria (November 1980).

He completed his Doctor of Philosophy in 1985 at the School of Botany, which was entitled:

Interrelationships between Kangaroos, Fire and Vegetation Dynamic at Gellibrand Hill Park, Victoria (August 1985).

Professional Memberships and Affiliations

Ecological Society of Australia

Ecological Consultants Association of NSW

He is also an accredited BioBanking Assessor.

Employment History

David has lectured in ecology and aquatic biology at Charles Sturt University. Consultancy employment includes as a senior ecologist with the Australian Museum, senior ecologist in charge of the Ecological Services Practice for ERM Australia, and Director of Cumberland Ecology (current).

2003- 2013 - Cumberland Ecology: Director

1997-1993 - ERM: Senior Ecologist

1998-1999 - Australian Catholic University: Lecturer (part time)

1995-1996 - Australian Museum: Senior Ecological Consultant

1987-1994 - Charles Sturt University: Lecturer

1986-1987 - University of Melbourne: Research Fellow

Offsets Experience

David has been involved in the development of biodiversity offset packages for a number of projects, which have included strategic assessments of land as compensatory habitats and involvement in the development of indirect offsets such as threatened species recovery plans. As part of the development of suitable offsets, David is regularly involved in negotiations with clients and regulators about the level of mitigation measures required for flora and fauna impacts.

Recent examples of projects requiring significant offsets work entailing the selection of suitable remnant vegetation for enduring protection and habitat for threatened species listed under the EPBC Act and TSC Act include the:

- Mt Pleasant Project Modification: involved in the selection and subsequent ecological investigations of candidate offset lands, resulting in a substantial offsets package of over 12,000 ha. Further involvement in the development of an Offset Management Plan designed to effectively manage and monitor the offsets for conservation and ecological gains.

- Maules Creek Coal Project is a large-scale flora and fauna baseline study of 2,700 hectares of forest and woodland in the locality of Narrabri, New South Wales. The purpose of the study, which has been ongoing since 2008, was to assess the potential impacts of proposed open cut mining on biodiversity. Key biodiversity values of the Project Area include a number of threatened bird and bat species as well as threatened ecological communities such as the critically endangered Box Gum Woodland.

- Warkworth Mine Extension Project: assistance in the development of an approved offset package. Involved in fauna surveys of the offsets to provide baseline data on their ecological value, particularly for threatened species, and which fulfil a component of the Project's conditions of consent.

- Drayton South Coal Project: involved in the strategic selection and survey, including vegetation mapping, flora and fauna investigations, of suitable offsets.

- Shenhua Watermark Coal Project; presents a complex suite of ecological issues including Critically Endangered and Endangered Ecological Communities (including areas of Box Gum Grassy Woodland), threatened flora and fauna. In particular Koalas, an iconic species for which the area is well known, are present within the proposed Watermark Project Boundary. This has resulted in extensive surveying and mapping of suitable offsets.

- Bengalla Mine Project involves the preparation of an EIA to support a State Significant Development application. The Project impacts include clearing of Box Gum Woodland and Derived Native Grassland, as well the removal of habitat for a range of threatened species and an endangered population. This has involved negotiations with State and Federal Government Authorities to develop appropriate offsets for the Project impacts. This includes participation in the Upper Hunter Strategic Assessment. Cumberland Ecology is currently preparing an Assessment Report for submission as part of the UHSA, including summary of the results of extensive flora and fauna survey and calculations using the Biodiversity Certification Assessment Methodology (BCAM).

Dr Gitanjali Katrak

Project Manager/Ecologist

Gitanjali Katrak is a Project Manager/Ecologist at Cumberland Ecology, based in Sydney. She has a Bachelor of Sciences (Biological Sciences) with Honours and a PhD in intertidal wetland ecology.

Gitanjali has has been involved in vegetation mapping, flora and fauna surveys and impact assessments as part of development applications for a variety of projects, particularly residential subdivisions and mining projects in NSW. Recently, she has managed State Significant Developments and Section 5A assessments with endangered ecological community and threatened species issues. She has also been involved in the preparaton of affidavits and Statements of Evidence in Land and Environment Court cases and statistical analyses of ongoing monitoring projects.

Recent consultancy work has included:

- Flora and fauna impact assessments for State Significant Developments, Part 3A projects and Part 5 projects;
- Vegetation mapping and targeted threatened species habitat assessment and surveys;
- Impact assessment and offsetting for mining projects;
- Statisical analyses for legal court cases and ongoing monitoring programmes.

Fields of Competence

- *Commonwealth Environment Protection and Biodiversity Conservation Act 1999;*
- NSW *Threatened Species Conservation Act 1995*;
- Ecological surveys, particularly assessment of threatened species and ecological communities;
- Report writing; and
- Statistical analyses.

Key Industry Sectors

- Urban development; and
- Mining and Extraction industries.

Education

- Bachelor of Science (Honours) in Biological Sciences, La Trobe University, VIC. 2002
- Doctor of Philosophy, Intertidal Wetland Ecology. Flinders University, SA. 2011

Key Projects

Wallarah 2 Coal Project

Gitanjali is currently managing the Ecological Impact Assessments and Offset Strategy for the Development Application of the State Significant Wallarah 2 Coal Project.

St. Mary's Development – Lend Lease

Gitanjali is involved with the progressive development of the former ADI site at St Marys, Western Sydney. Assessments have included the preparation of large scale Species Impact Statements for the Western Precinct DA's

Flora and fauna surveys

Gitanjali has been involved in ecological assessments including Species Impact Statements and Flora and Fauna Assessments as part of development applications for a variety of projects in the greater Sydney Metropolitan area.

Statistical analysis

Gitanjali has experience conducting statistical analyses, using programmes such as SPSS and PRIMER, to determine biological patterns and community structure.

Cecilia Phu

Senior Project Manager / Botanist

Cecilia Phu is a senior project manager and botanist at Cumberland Ecology based in Sydney. She has a Bachelor of Science (Honours) with a major in Biology.

Cecilia has been involved in numerous ecological impact assessment projects with threatened species or endangered ecological community issues and routinely assesses projects in response to State and Commonwealth threatened species legislation. Her work entails vegetation mapping, targeted survey for threatened species, impact assessment and report preparation. Cecilia manages major ecological impact assessments, biodiversity offsetting and management projects.

Cecilia also has experience in survey design, community and population data analysis (SPSS and ePRIMER) and collection, storage and analysis of geospatial data required to provide key strategic advice to clients and department agencies (CivilCad, MapInfo). Recent consultancy work has included:

- Vegetation mapping;
- Flora and fauna impact assessment;
- Biobanking assessments;
- Development of bushland management plans with focuses on threatened species habitat management, weed control and bush regeneration; and
- Monitoring studies for approved activities.

Fields of Competence

- *Commonwealth Environment Protection and Biodiversity Conservation Act 1999;*
- *NSW Environmental Planning and Assessment Act 1979;*
- *NSW Threatened Species Conservation Act 1995;*
- Biobanking Assessors Training Course at TAFE Ryde;
- Botanical survey, biological monitoring and environmental impact assessment; and
- Geospatial Information Systems (GIS).

Key Industry Sectors

Urban, industrial and logistics, infrastructure, extraction.

Education

Bachelor of Science, University of Sydney, 2006.

Bachelor of Science (Honours) in Biology, University of Sydney, 2008

Key Projects

Flora and Fauna Impact Assessments

Since 2008, Cecilia has ecological assessments in the Hunter region and the Gunnedah Basin for major mining projects. She has also worked within the Gallilee and Bowen Basins in north Queensland. She has also worked the Sydney Metropolitan area and has particular experience within the Sydney Growth Centres and the Western Sydney Employment Area.

BioBanking Assessments

Cecilia has assessed a number of impacts and offsets for projects using the BioBanking assessment methodology in the Sydney Basin and Hunter Valley regions. Work has included vegetation mapping, flora and fauna surveys and habitat assessments. Data collected during fieldwork was utilised within the BioBanking Credit Calculator.

Management Plans and Monitoring

Cecilia has assisted with the development of management plans for development and offsetting projects in the Sydney, north east NSW and western NSW areas. Such projects have involved monitoring of grazing, vegetation restoration and animal population census.

Other Projects

Cecilia has been involved in terrestrial and aquatic ecology studies for a gold mining project in the Phillippines. She has worked closely with local botanists and zoologists in the Phillippines and was involved in the preparation of the terrestrial ecology and aquatic reports for the Project's international Environmental Impact Statement.

Bryan Furchert

Project Manager / Botanist

Bryan Furchert is a Project Manager and Botanist at Cumberland Ecology, based in Sydney. He has a Bachelor of Biodiversity and Conservation, focussing on population genetics of plant species in fragmented habitat remnants, and in exotic, invasive weed populations.

Bryan has 6 years experience in Bushland Regeneration, as a Team Leader. He has experience in the assessment of degradation of native vegetation communities and identification of factors contributing to exotic weed invasion of communities on a site by site basis. Bryan has extensive experience in vegetation management and community restoration within Hawkesbury Sandstone soil communities, and also has experience surveying shale soil communities, in particular the Critically Endangered Ecological Community Cumberland Plain Woodland. He has experience in identifying plant species and vegetation communities throughout the Sydney Basin Bioregion.

Bryan also has experience in Geographic Information Systems (GIS - MapInfo), statistical analysis of biodiversity values with biodiversity indices, and population census of fauna species. Recent consultancy work has included:

- Vegetation Management Plans;
- Flora and fauna impact assessment; and
- Monitoring studies

Fields of Competence

- Botanical surveys;
- Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*;
- NSW *Threatened Species Conservation Act 1995*;
- NSW *Noxious Weeds Act 1993; and*
- Weeds of National Significance (WoNS) – Identification and Control.

Key Industry Sectors

- Urban development;
- Industrial and logistics;
- Infrastructure; and
- Extraction.

Education

Bachelor of Biodiversity and Conservation from Macquarie University, 2012

Diploma of Conservation and Land Management, Belmont TAFE, 2009

Courses

- Grass identification within the Sydney area;
- Eucalypt identification within the Sydney area;
- Recognising Water Weeds (DPI), and
- Aboriginal Site Awareness (The Aboriginal Heritage Office)

Key Projects

Exotic Weed Management

Since 2006, Bryan has worked in control of exotic weeds extensively throughout the Manly LGA. Tasks have included site assessment, weed elimination, targeting Noxious Weeds and WoNS, and management of daily work programme for a team of five.

Bushland Restoration

Bryan has been involved in the restoration of natural bushland areas in a number of Hawkesbury Sandstone soil derived coastal vegetation communities. These include the Endangered Ecological Communities *Littoral Rainforest in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions*, and *Duffys Forest Ecological Community in the Sydney Basin Bioregion.* Tasks included weed management, revegetation, preparation for ecological and fuel reduction burns, and erosion control.

Consultancy Work

Bryan has worked on a range of projects including flora surveys, vegetation management plans, ecological constraints analyses for development applications, and flora monitoring on long term projects.

Michelle Frolich

GIS Specialist

Michelle Frolich is a Sydney based GIS Specialist at Cumberland Ecology. She has a Bachelor of Science (Marine Science) (Honours) degree.

Michelle has detailed technical knowledge and experience in the interpretation and production of mapping products, including topographic modelling and classification and feature extraction using aerial photography and satellite imagery. At Cumberland Ecology, Michelle is closely involved in all major projects and is responsible for GIS development, mapping and analyses, as well as the training of staff in GIS.

Recent consultancy work has included:

- GIS mapping and analysis for various mining projects for Environmental Assessments, Biodiversity Management Plans, NSW Part 3A project applications and Referrals under the Commonwealth EPBC Act;
- Vegetation, threatened flora and fauna mapping for large and small scale projects;
- GIS mapping for and performing BioBanking Assessments for large and small Development and Offset Sites; and
- GIS mapping for and performing Bio-Certification Assessments for mining projects involved in the Upper Hunter Strategic Assessment.

Fields of Competence

- Geographic Information Systems (GIS);
- Image and spatial data analysis;
- BioBanking Assessment Methodology;
- OEH Bio-Certification Assessment Methodology;
- Coastal and estuarine morphodynamics; and
- Data and project management.

Key Industry Sectors

- Urban Development; and
- Extraction industry.

Education

Bachelor of Science (Marine Science) (Honours), from the University of Sydney (2007)

Key Projects

NSW Mining Projects

Michelle has extensive experience working on GIS mapping for Part 3A Major Projects relating to mining in the Central Hunter Valley and Namoi CMA. She has been involved in the GIS mapping of vegetation communities, threatened flora and fauna species and produced detailed maps for field surveys.

National Projects

Michelle has been involved in the mapping of vegetation communities, threatened flora and fauna species and produced detailed field maps for Part 3A Major Projects relating to mining in Western Queensland.

OEH Upper Hunter Strategic Assessment

Michelle has been involved in the preparation and mapping of vegetation communities and threatened flora and fauna for Biodiversity Certification Assessments for mining projects in the Upper Hunter Valley as part of the OEH Upper Hunter Strategic Assessment. She has liaised with various members of OEH and attended workshop meetings.

BioBanking Assessments

Michelle has been invovled in the mapping for and assessment of projects using the BioBanking Assessment Methodology for small and large projects in the Sydney Basin, Hunter Valley and Namoi CMA. She has extensive experience using collected data within the BioBanking Credit Calculator, and in producing high quality maps for BioBanking reports.

Other Projects

Michelle has also worked on several other small scale projects in Sydney and throughout NSW, using GIS for vegetation mapping, mapping of threatened flora and fauna species, production of field maps and image analysis. She has also assisted with field surveys for flora and fauna.

Appendix F

Flora list

Table F.1 Flora Species Recorded within Subject Site

Species	Common	Exotic/Non-endemic	PP1	PP2	PP3	PP4	PP5	PP6	PP7
Angophora costata	Smooth-barked Apple							+	
Callistemon viminalis	Weeping Bottlebrush	*		+					
Casuarina glauca	Swamp Oak				+	+			
Corymbia citriodora	Lemon-scented Gum	*	+						
Eucalyptus microcorys	Tallowwood	*	+						
Eucalyptus paniculata	Grey Ironbark		+						
Pinus sp.	Exotic Pine	*			+				
Syncarpia glomulifera	Turpentine			+		+	+		
Syzygium paniculatum	Lilly Pilly							+	+
Ardisia crenata	Coral Berry	*						+	
Azalea indica		*						+	
Buxus microphylla		*	+					+	
Callistemon citrinus	Crimson Bottlebrush			+		+			
Camellia sasanqua		*						+	
Cinnamomum camphora	Camphor Laurel	*	+			+		+	
Cotonoeaster pannosus		*						+	
Ficus pumila	Climbing Fig	*							+
Gardenia sp.		*	+					+	

Table F.1 Flora Species Recorded within Subject Site

Species	Common	Exotic/Non-endemic	PP1	PP2	PP3	PP4	PP5	PP6	PP7
Ligustrum lucidum	Broad-leaf Privet	*				+		+	+
Magnolia grandiflora		*						+	
Melaleuca quinquenervia	Broad-leaved Paperbark		+						+
Murraya paniculata	Orange Jessamine	*	+						+
Nandina domestica	Heavenly Bamboo	*		+				+	
Olea europaea susp. cuspidata	African Olive	*				+			
Syzygium australe		*	+						
Bidens pilosa	Cobbler's Pegs	*				+			
Celtis sinensis	Chinese Celtis	*				+			
Cirsium vulgare	Spear Thistle	*						+	
Conyza bonariensis	Fleabane	*							+
Conyza sumatrensis	Fleabane	*				+			
Dichondra repens	Kidney Weed								+
Elaeocarpus reticulatus (Seedling)								+	
Euphorbia peplus	Petty Spurge	*				+			
Gnaphalium sp.		*							+
Grevillea robusta	Silky Oak	*				+			
Hypochaeris radicata	Cat's Ear	*						+	+
Ligustrum sinense	Small-leaf Privet	*			+			+	

Table F.1 Flora Species Recorded within Subject Site

Species	Common	Exotic/Non-endemic	PP1	PP2	PP3	PP4	PP5	PP6	PP7
Modiola caroliniana	Red-flowered Mallow	*							+
Ochna serrulata	Mickey Mouse Plant	*			+	+			
Oxalis corniculata	Wood Sorrel	*						+	
Oxalis perennans	Wood Sorrel		+						
Parietaria judaica	Asthman Weed	*	+						
Phytolacca octandra	Inkweed	*						+	
Plantago lanceolata	Lamb's Tongue	*							+
Portulaca oleracea	Common Purslane	*	+						
Pratia purpurascens	White Root							+	
Sida rhombifolia	Paddy's Lucerne	*	+						
Soliva sessilis	Bindii	*							+
Sonchus oleraceus	Milk Thistle	*			+				
Taraxacum officinale	Dandelion	*	+					+	+
Ulmus parviflora	Chinese Elm	*				+		+	
Veronica plebeia	Trailing Speedwell								+
Agapanthus praecox	Agapanthus	*						+	
Agave americana	Century Plant	*							+
Asparagus aethiopicus	Sprenger's Asparagus	*				+		+	
Clivia miniata	Clivia	*							+

Table F.1 Flora Species Recorded within Subject Site

Species	Common	Exotic/Non-endemic	PP1	PP2	PP3	PP4	PP5	PP6	PP7
Cordyline fruticosa		*						+	
Cyperus gracilis						+			
Cyperus tenellus		*							+
Dianella caerulea var. producta	Blue Flax Lily				+			+	
Doryanthes excelsa	Gymea Lily		+		+			+	
Hedychium gardnerianum	Ginger Lily	*							+
Lomandra longifolia (Tanika cultivar)	Mat Rush	*	+	+					
Nothoscordum borbonicum	False Onion Weed	*						+	
Ophiopogon japonicus	Mondo Grass	*						+	
Philodendron 'Xanadu'		*			+	+		+	
Tradescantia fluminensis	Wandering Jew	*			+				
Zantedeschia aethiopica	Arum Lily	*							+
Axonopus fissifolius	Carpet Grass	*							+
Ehrharta erecta	Panic Veldtgrass	*	+			+		+	+
Oplismenus aemulus	Basket Grass				+	+		+	
Pennisetum clandestinum	Kikuyu	*	+						
Poa labillardieri	Tussock Grass				+				
Sporobolus africanus	Parramatta Grass	*	+						
Cissus antarctica	Kangaroo Vine				+				

Table F.1 Flora Species Recorded within Subject Site

Species	Common	Exotic/Non-endemic	PP1	PP2	PP3	PP4	PP5	PP6	PP7
Hedera helix	English Ivy	*			+				
Stephania japonica	Snake Vine				+				