

EG - PROPOSED INDUSTRIAL BUILDING

100 SOUTH CREEK ROAD, CROMER, NSW 2099

DEVELOPMENT APPLICATION

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RETRENTION AND CONSERVATION OF POST WWII COTTAGE AND LANDSCAPE. POTENTIAL FOR ADAPTIVE RE-USE INCLUDING CAFE / KIOSK

IN-SITU RETENTION, CONSERVATION AND ADAPTIVE RE-USE OF THE FORMER ROCHE MAIN OFFICE BUILDINGS

EXISTING HEXAGONAL TOWER ELEMENT. POTENTIAL FOR ADAPTIVE RE-USE AT BASE OF TOWER, I.e. WAREHOUSE OFFICES, SUBJECT TO FURTHER INVESTIGATION.

POTENTIAL INTERPRETATIVE FACADE TREATMENT + ARTWORK, SUBJECT TO FURTHER INVESTIGATION.



POSSIBLE LOCATION FOR PERMANENT CULTURAL HERITAGE INTERPRETATIVE DISPLAY AND ARTWORK

RETENTION, CONSERVATION AND SYMPATHETIC EMBELLISHMENT OF EXISTING LANDSCAPE SETTING ALONG INMAN ROAD FRONTAGE

RETENTION, CONSERVATION AND SYMPATHETIC EMBELLISHMENT OF EXISTING LANDSCAPE SETTING ALONG SOUTH CREEK ROAD FRONTAGE



Indicative External Finishes Legends

- 1 Precast Concrete Panel. Natural Finish

2 Precast Concrete Panel. Paint Finish 01

3 Brick Wall to Match Heritage Building Brick Walls

4 Concrete Beam. Paint Finish to Match Heritage Building Beams

5 Solid Aluminium Cladding in Light Grey Tone, Three Different Greys

6 Solid Aluminium Cladding in Dark Grey Tone, Three Different Greys

7 Metal Louvre / Screen. Powdercoated Black Finish on Carpark

8 Palisade / Diplomat Fencing. Powdercoated Finish

9 Powdercoated Aluminium Windows Frames with Tone Glazing and Powdercoated Metal Solar Control

10 Powdercoated Aluminium Windows Frames with Tone Glazing

11 Danpalon Traslucent Sheet With Vertical Louvre

12 Profiled Metal Roofing in Selected Colorbond Colours





IN-SITU RETENTION, CONSERVATION AND
ADAPTIVE RE-USE OF THE FORMER ROCHE
MAIN OFFICE BUILDINGS - BUILDING 2

EXISTING HEXAGONAL TOWER ELEMENT.
POTENTIAL FOR ADAPTIVE RE-USE AT BASE
OF TOWER, I.e. WAREHOUSE OFFICES,
SUBJECT TO FURTHER INVESTIGATION

IN-SITU RETENTION, CONSERVATION AND
ADAPTIVE RE-USE OF THE FORMER ROCHE MAIN
OFFICE BUILDINGS - BUILDING 1

RETRENTION AND CONSERVATION OF POST WWII
COTTAGE AND LANDSCAPE. POTENTIAL FOR
ADAPTIVE RE-USE INCLUDING CAFE / KIOSK

POSSIBLE LOCATION FOR PERMANENT CULTURAL
HERITAGE INTERPRETATIVE DISPLAY AND
ARTWORK

RETENTION, CONSERVATION AND SYMPATHETIC
EMBELLISHMENT OF EXISTING LANDSCAPE SETTING ALONG
INMAN ROAD FRONTAGE

NORTHEN BEACHES BUSINESS PARK

100 SOUTH CREEK ROAD. CROMER

IMAGE 02 - NOTES

DATE 12.11.2019 SCALE 1 : 200 @ A1

JOB NO. 19110 DWGNO. DA102-B

REVISION 12



RETRENTION AND CONSERVATION OF POST WWII
COTTAGE AND LANDSCAPE. POTENTIAL FOR
ADAPTIVE RE-USE INCLUDING CAFE / KIOSK

IN-SITU RETENTION, CONSERVATION AND
ADAPTIVE RE-USE OF THE FORMER ROCHE
MAIN OFFICE BUILDINGS - BUILDING 2

EXISTING HEXAGONAL TOWER ELEMENT.
POTENTIAL FOR ADAPTIVE RE-USE AT BASE
OF TOWER, I.e. WAREHOUSE OFFICES,
SUBJECT TO FURTHER INVESTIGATION

IN-SITU RETENTION, CONSERVATION AND
ADAPTIVE RE-USE OF THE FORMER ROCHE MAIN
OFFICE BUILDINGS - BUILDING 1



RETRENTION AND CONSERVATION OF POST WWII
COTTAGE AND LANDSCAPE. POTENTIAL FOR
ADAPTIVE RE-USE INCLUDING CAFE / KIOSK

POSSIBLE LOCATION FOR PERMANENT CULTURAL
HERITAGE INTERPRETATIVE DISPLAY AND
ARTWORK

RETENTION, CONSERVATION AND SYMPATHETIC
EMBELLISHMENT OF EXISTING LANDSCAPE SETTING ALONG
INMAN ROAD FRONTAGE

NORTHEN BEACHES BUSINESS PARK

100 SOUTH CREEK ROAD. CROMER

IMAGE 03 - NOTES

DATE 12.11.2019 SCALE 1 : 200 @ A1

JOB NO. 19110 DWGNO. DA103-B

REVISION 12

EXISTING BUILDING OUTLINE SHOWN
DOTTED IN RED. IT IS APROX. 4m IN
FRONT OF THE PROPOSED BUILDING











NOTE:

AREA BETWEEN 0
AND 1 mt ABOVE
11 MTS HEIGHT

AREA BETWEEN 1
AND 2 mts ABOVE
11 MTS HEIGHT

AREA BETWEEN 2
AND 3 mts ABOVE
11 MTS HEIGHT




1

SITE PLAN

1 : 1000



VISUAL SCALE 1:1000 @ A1

 <div><div>121/2019 15/09/2019 All Client/IssueDocuments/1910_Cromer_Base_Pkg_OPTIONAL_SBA_Consultant</div></div>	12	ISSUE FOR DA	12.11.2019
	11	ISSUE FOR DA	01.11.2019
	10	ISSUE FOR REVISION	25.10.2019
	9	UPDATED SET FOR CONSULTANTS-DRAFT	18.10.2019
	8	MARKETING PLAN ISSUED FOR INFORMATION	11.10.2019
	7	FOR CLIENT REVIEW	09.09.2019
	6	FOR CLIENT REVIEW	09.09.2019

CLIENT

NORTHEN BEACHES BUSINESS PARK

100 SOUTH CREEK ROAD. CROMER



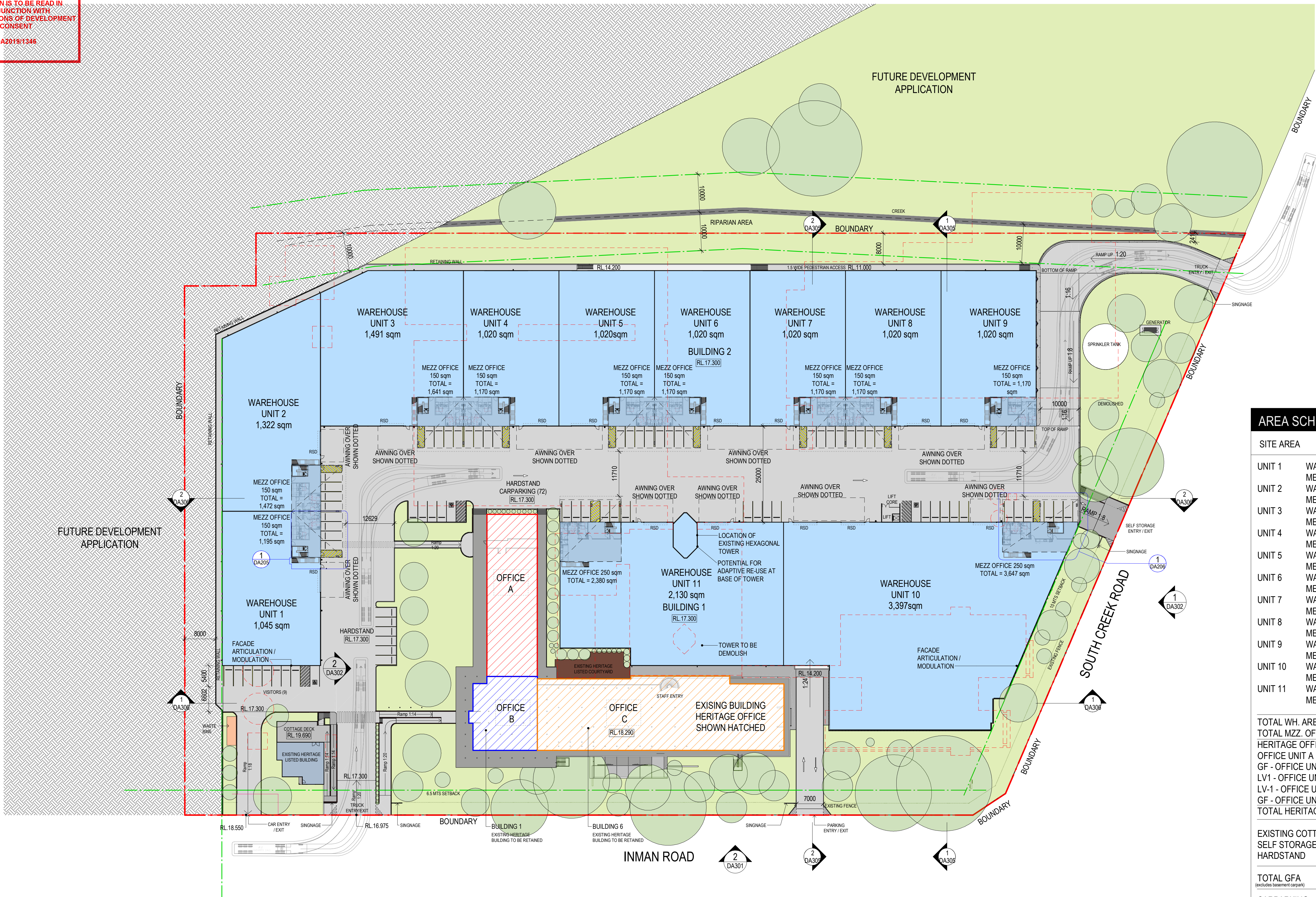
TITLE		SITE PLAN	
DATE	12.11.2019	SCALE	As indicated @ A1
JOB NO.	19110	DWG NO.	DA201
REVISION	12		



THIS PLAN IS TO BE READ IN
CONJUNCTION WITH
THE CONDITIONS OF DEVELOPMENT
CONSENT
DA2019/11346



DEMOLITION LEGEND:
--- WALL TO BE DEMOLISH



AREA SCHEDULE

SITE AREA		37,031 sq.m
UNIT 1	WAREHOUSE	1,045 sq.m
UNIT 2	MEZZ 1	150 sq.m
	WAREHOUSE	1,322 sq.m
UNIT 3	MEZZ 2	150 sq.m
	WAREHOUSE	1,491 sq.m
UNIT 4	MEZZ 3	150 sq.m
	WAREHOUSE	1,020 sq.m
UNIT 5	MEZZ 4	150 sq.m
	WAREHOUSE	1,020 sq.m
UNIT 6	MEZZ 5	150 sq.m
	WAREHOUSE	1,020 sq.m
UNIT 7	MEZZ 6	150 sq.m
	WAREHOUSE	1,020 sq.m
UNIT 8	MEZZ 7	150 sq.m
	WAREHOUSE	1,020 sq.m
UNIT 9	MEZZ 8	150 sq.m
	WAREHOUSE	1,020 sq.m
UNIT 10	MEZZ 9	150 sq.m
	WAREHOUSE	3,397 sq.m
UNIT 11	MEZZ 10	250 sq.m
	WAREHOUSE	2,130 sq.m
UNIT 11	MEZZ 11	250 sq.m
	WAREHOUSE	250 sq.m
TOTAL WH. AREA		15,501 sq.m
TOTAL MZZ. OFFICE AREA		1,850 sq.m
HERITAGE OFFICE		
OFFICE UNIT A		570 sq.m
GF - OFFICE UNIT B		309 sq.m
LV1 - OFFICE UNIT B		401 sq.m
LV-1 - OFFICE UNIT C		775 sq.m
GF - OFFICE UNIT C		1,124 sq.m
TOTAL HERITAGE OFFICE AREA		3,179 sq.m
EXISTING COTTAGE		124 sq.m
SELF STORAGE FACILITY		3,902 sq.m
HARDSTAND		5,621 sq.m
TOTAL GFA (excludes segment carpark)		24,560 sq.m
CARPARKING		237 cars
SITE COVERAGE		66%

1 GROUND LEVEL 1 : 500



VISUAL SCALE 1:500 @ A1

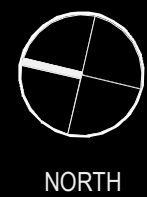


12	BOUNDARY LINE MODIFIED	06.11.2019
11	ISSUE FOR DA	01.11.2019
10	ISSUE FOR REVISION	25.10.2019
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NORTHEN BEACHES BUSINESS PARK

100 SOUTH CREEK ROAD. CROMER



GROUND FLOOR PLAN

DATE 06.11.2019 SCALE As indicated @ A1 JOB NO. 19110 DWGNO. DA202

REVISION 12

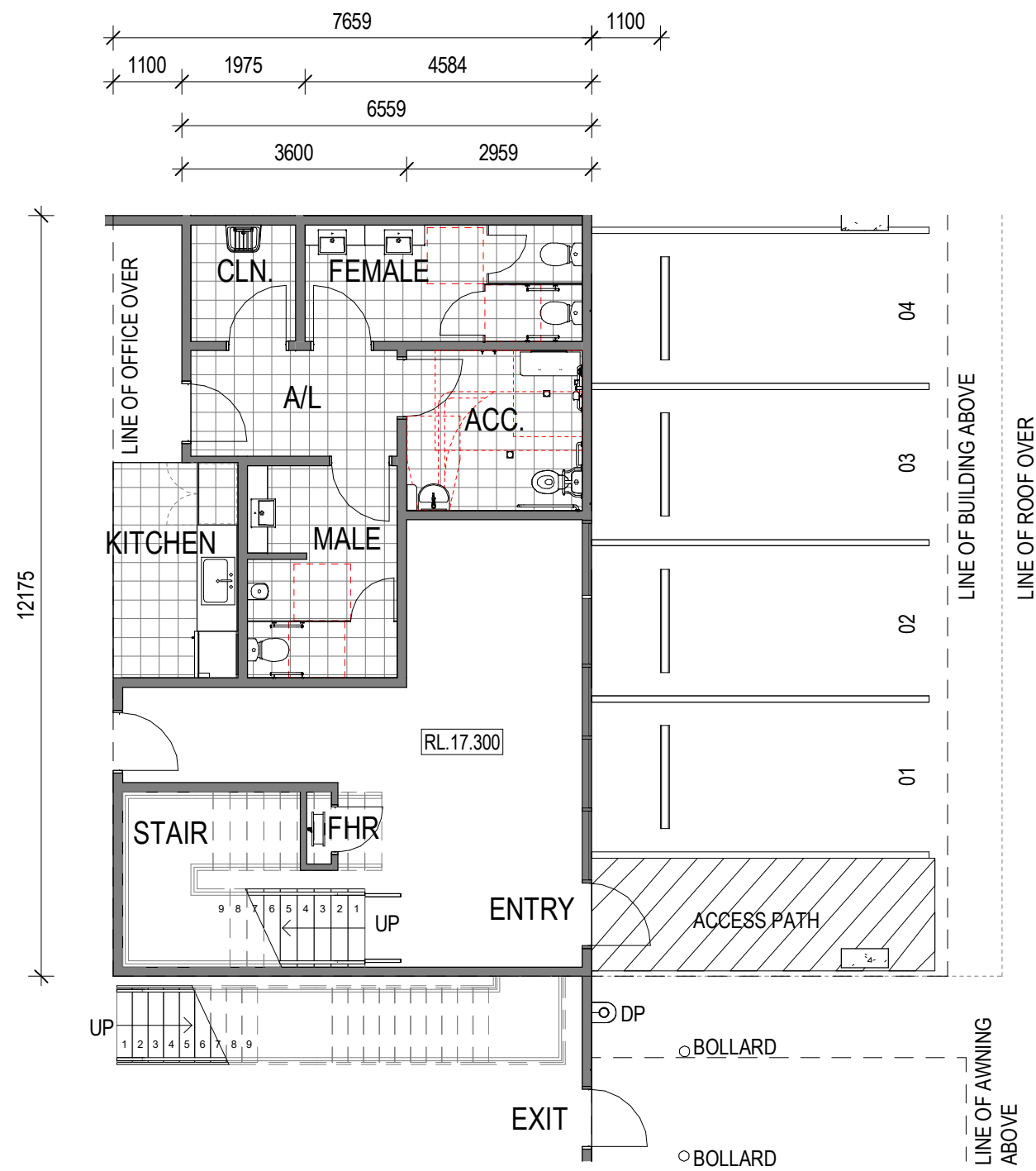




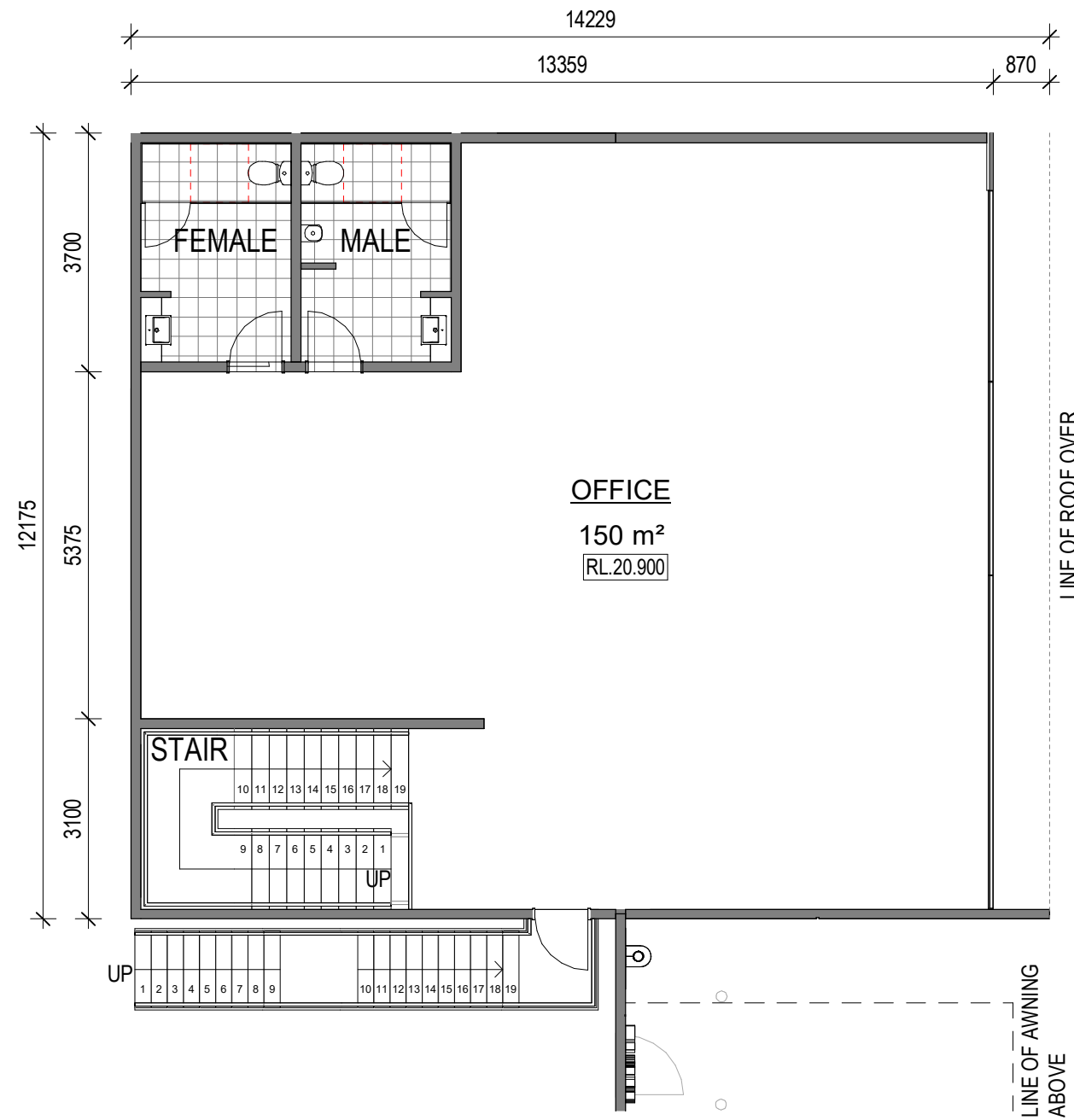
1 LEVEL 1 FLOOR PLAN 1 : 500



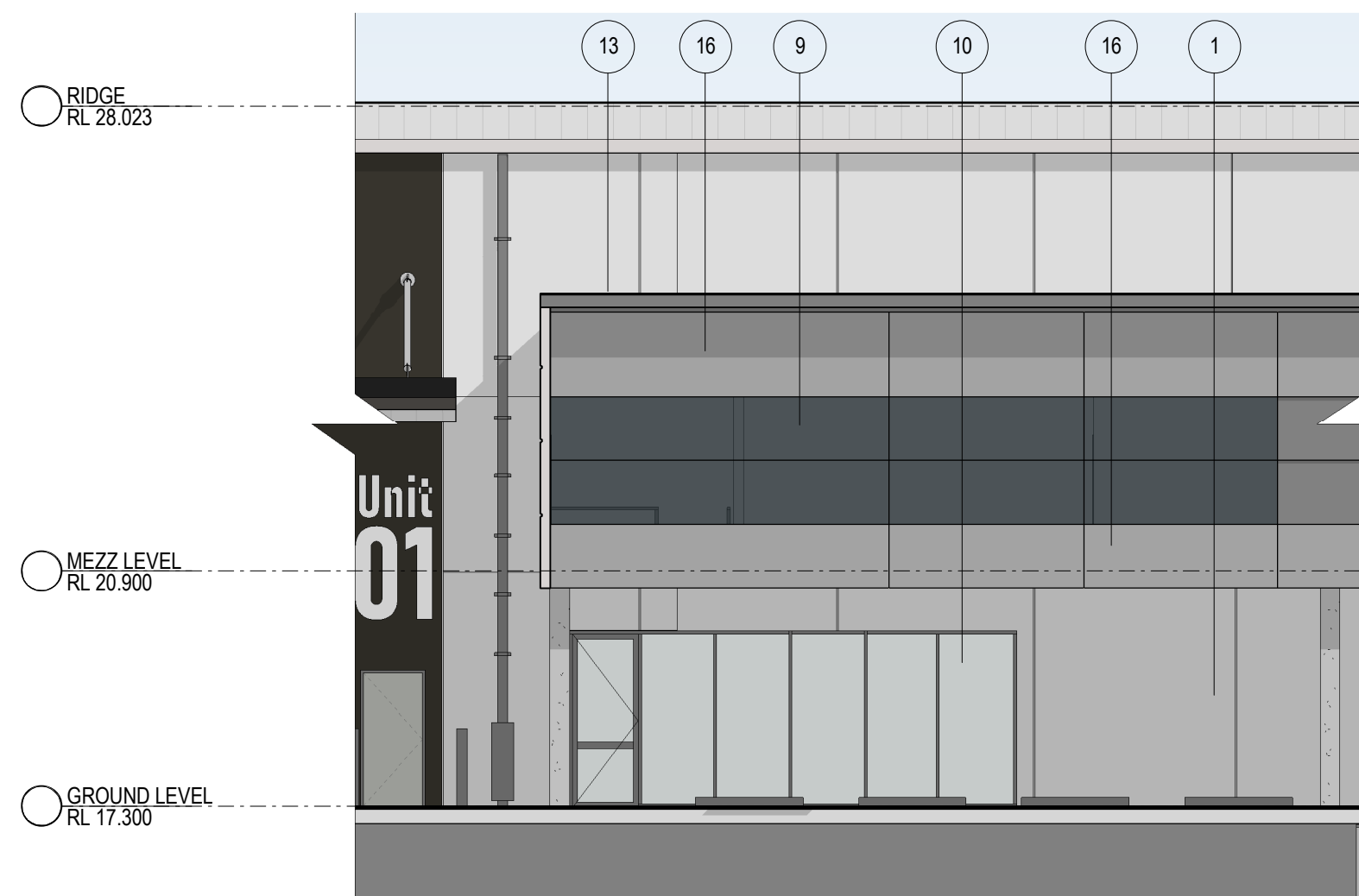
VISUAL SCALE 1:500 @ A1



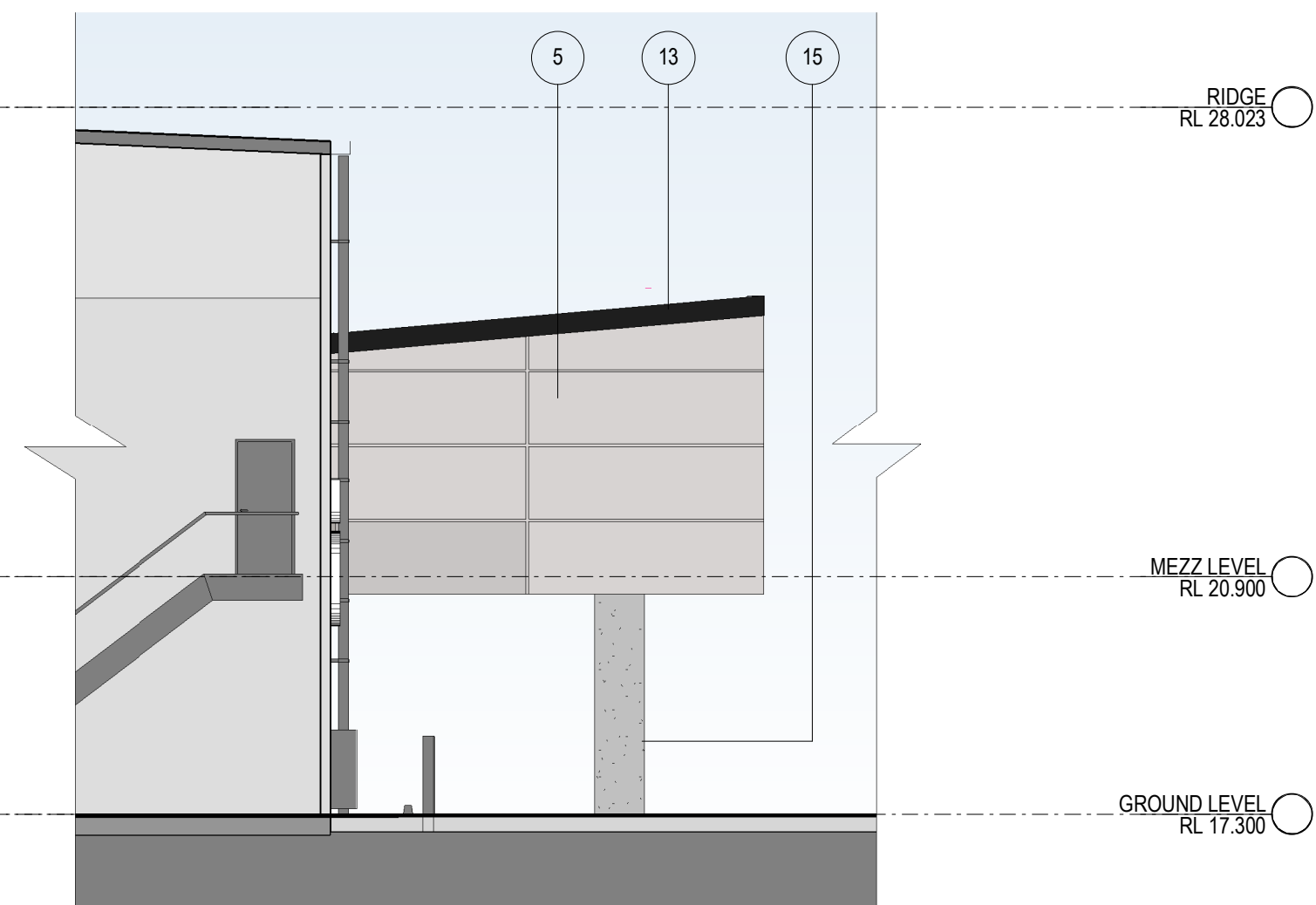
1 150 Sqm OFFICE GROUND FLOOR PLAN 1 : 100



2 150 Sqm OFFICE FIRST FLOOR PLAN 1 : 100



3 150 Sqm OFFICE SOUTH ELEVATION 1 : 100



4 150 Sqm OFFICE WEST ELEVATION 1 : 100

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- 5 Solid Aluminium Cladding in Light Grey Tone, Three Different Greys
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- 8 Palisade / Diplomat Fencing. Powdercoated Finish

- 9 Powdercoated Aluminium Windows Frames with Tone Glazing and Powdercoated Metal Solar Control
- 10 Powdercoated Aluminium Windows Frames with Tone Glazing
- 11 Danpalon Traslucent Sheet With Vertical Louvre

- 12 Profiled Metal Roofing in Selected Colorbond Colours
- 13 Fascia Dark Grey
- 14 Fascia Light Grey
- 15 Concrete Column

- 16 Color Back Gloss - Spandrel

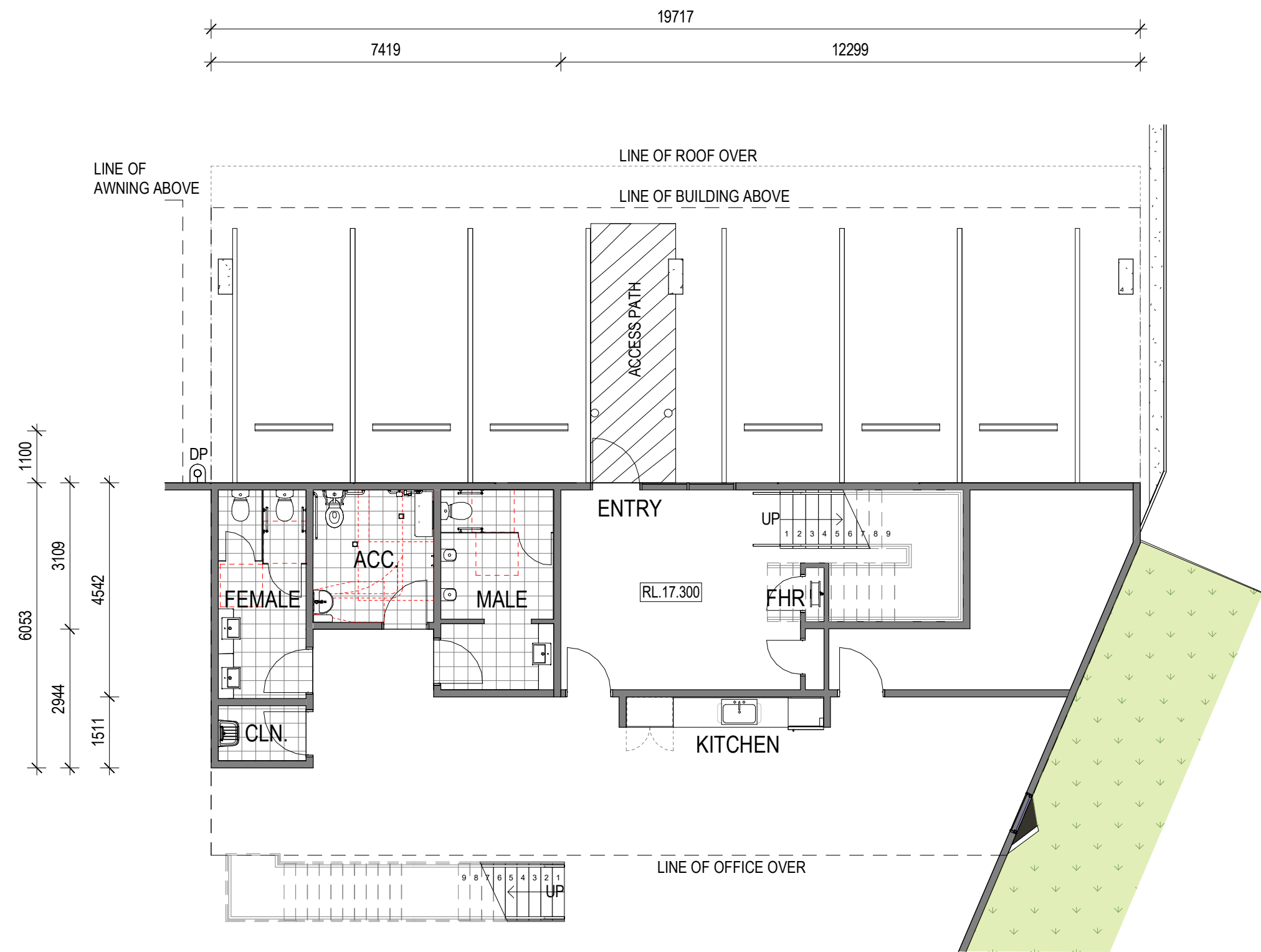


VISUAL SCALE 1:100 @ A1

NORTEN BEACHES BUSINESS PARK

100 SOUTH CREEK ROAD. CROMER

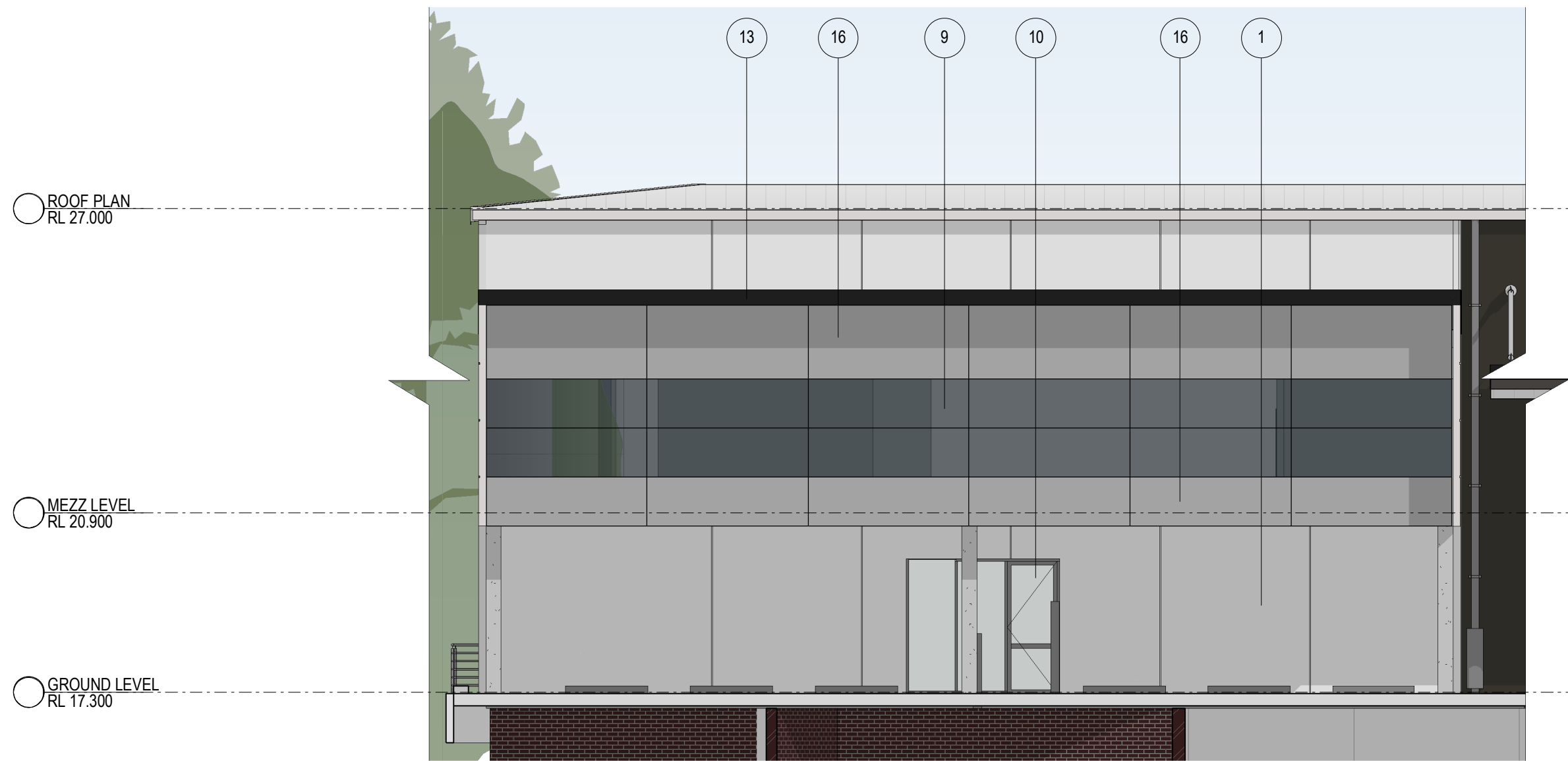
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TYPICAL OFFICES 150 Sqm PLANS
AND ELEVATIONS
DATE 12.11.2019 SCALE As indicated @ A1 JOB NO. 19110 DWG NO. DA205 REVISION 12



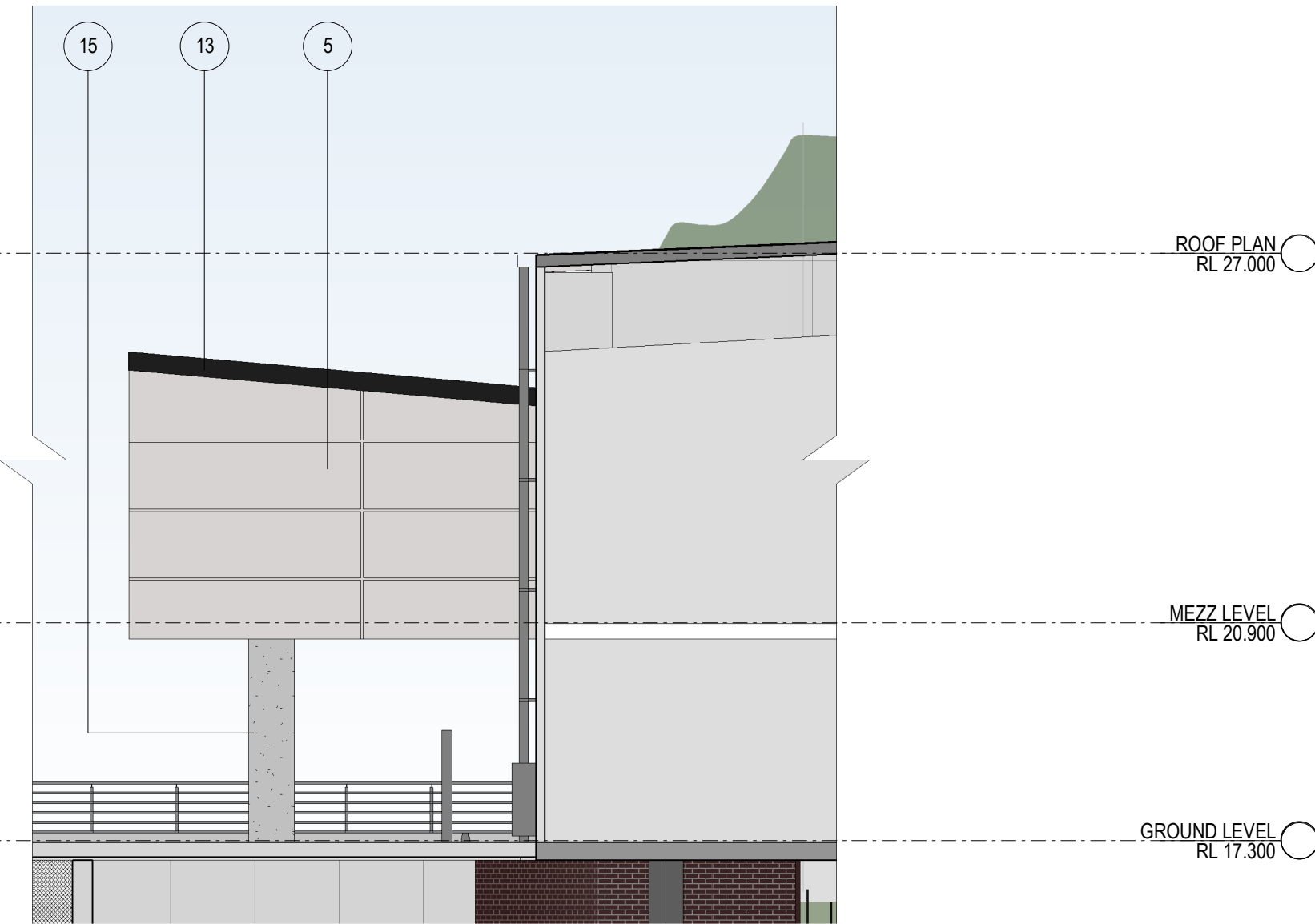
1 250 Sqm OFFICE GROUND FLOOR PLAN 1 : 100



2 250 Sqm OFFICE FIRST FLOOR PLAN 1 : 100



3 250 Sqm OFFICE EAST ELEVATION 1 : 100



4 250 Sqm OFFICE NORTH ELEVATION 1 : 100

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- 13 Fascia Dark Grey
- 14 Fascia Light Grey
- 15 Concrete Column

- 16 Color Back Gloss - Spandrel

0m 2m 4m 6m 8m 10m

VISUAL SCALE 1:100 @ A1

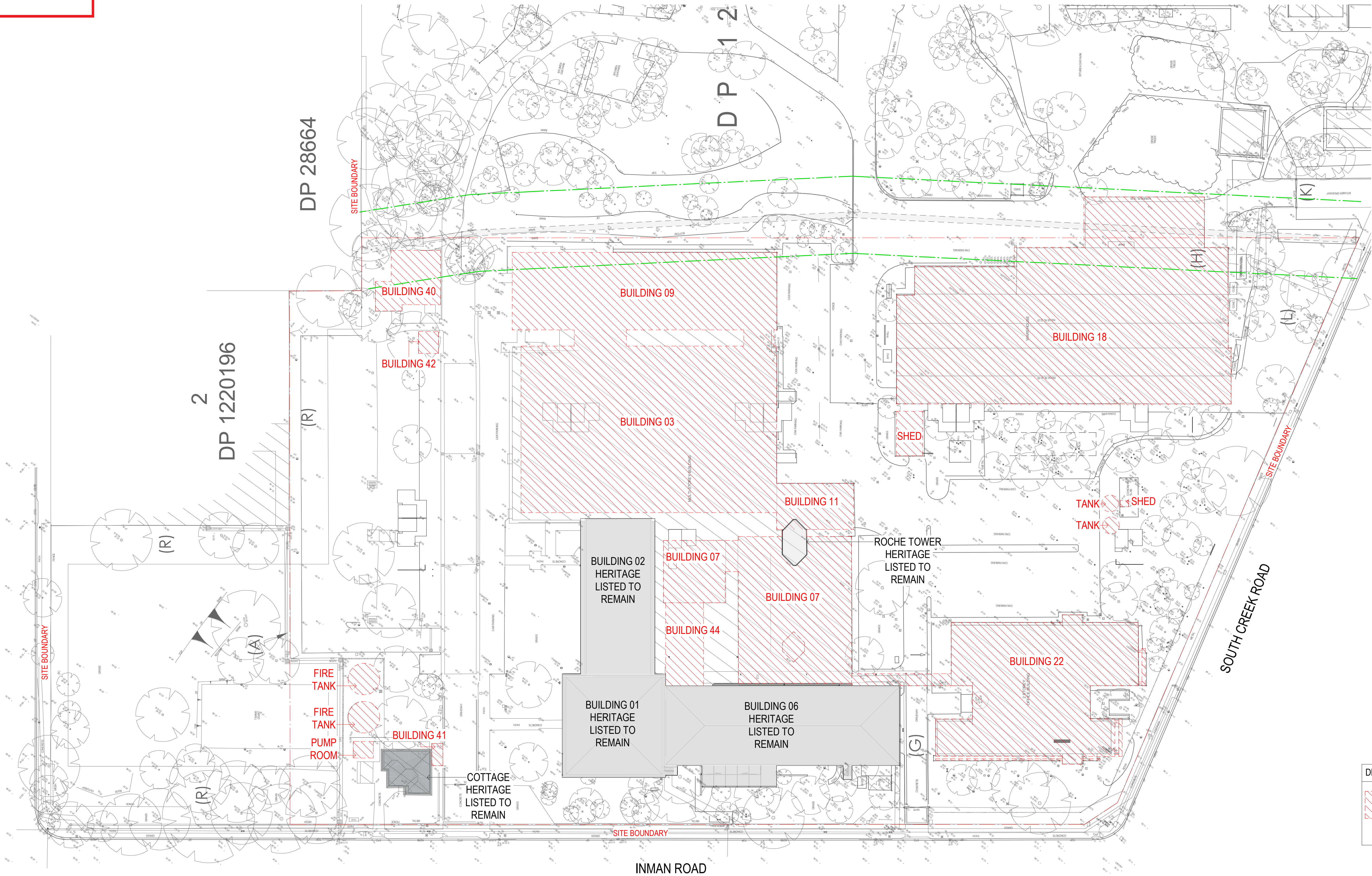


1 : 500

LEGEND

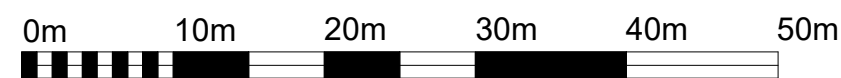
BG	BOX GUTTER
EG	EAVES GUTTER
MDR	METAL DECK ROOFING
TRS	TRANSLUCENT ROOF SHEET





DEMOLITION LEGEND:	
	BUILDING TO BE DEMOLISH

1 DEMOLITION PLAN 1:500



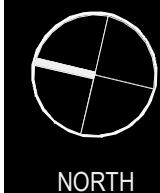
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DATE	DESCRIPTION	BY
12.11.2019	ISSUE FOR DA	
01.11.2019	ISSUE FOR DA	
25.10.2019	ISSUE FOR REVISION	
18.10.2019	UPDATED SET FOR CONSULTANTS-DRAFT	
11.10.2019	MARKETING PLAN ISSUED FOR INFORMATION	
09.09.2019	FOR CLIENT REVIEW	

CLIENT

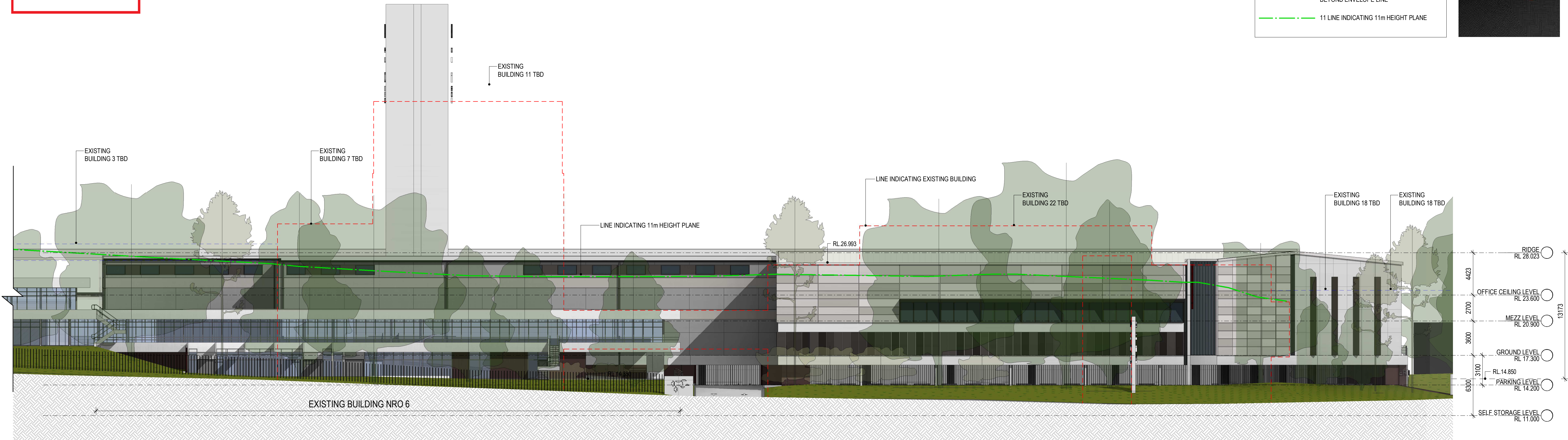
NORTHEN BEACHES BUSINESS PARK

100 SOUTH CREEK ROAD. CROMER

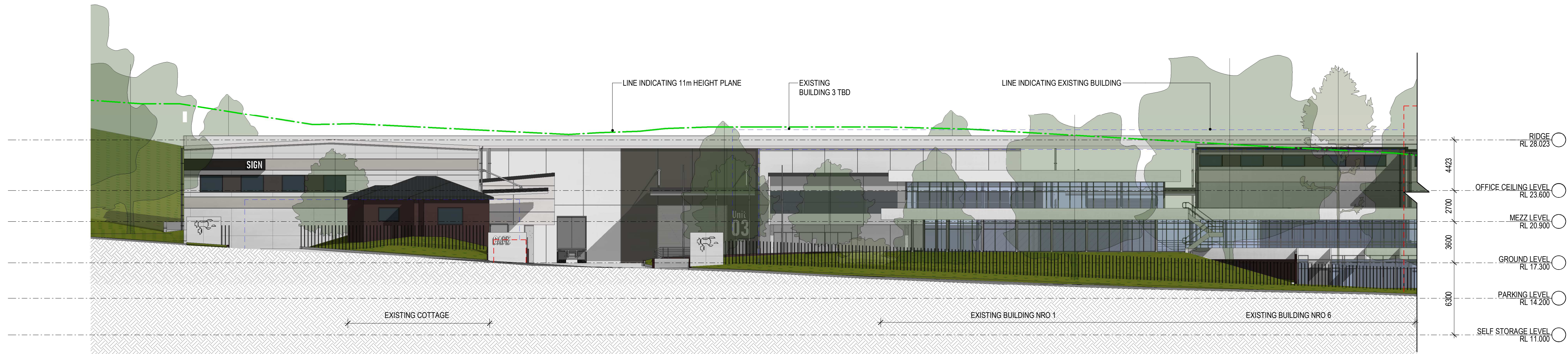


DEMOLITION PLAN

DATE	SCALE	JOB NO.	DWG NO.	REVISION
12.11.2019	As indicated @ A1	19110	DA208	12



1 INMAN RD ELEVATION SOUTHERN CORNER 1 : 200



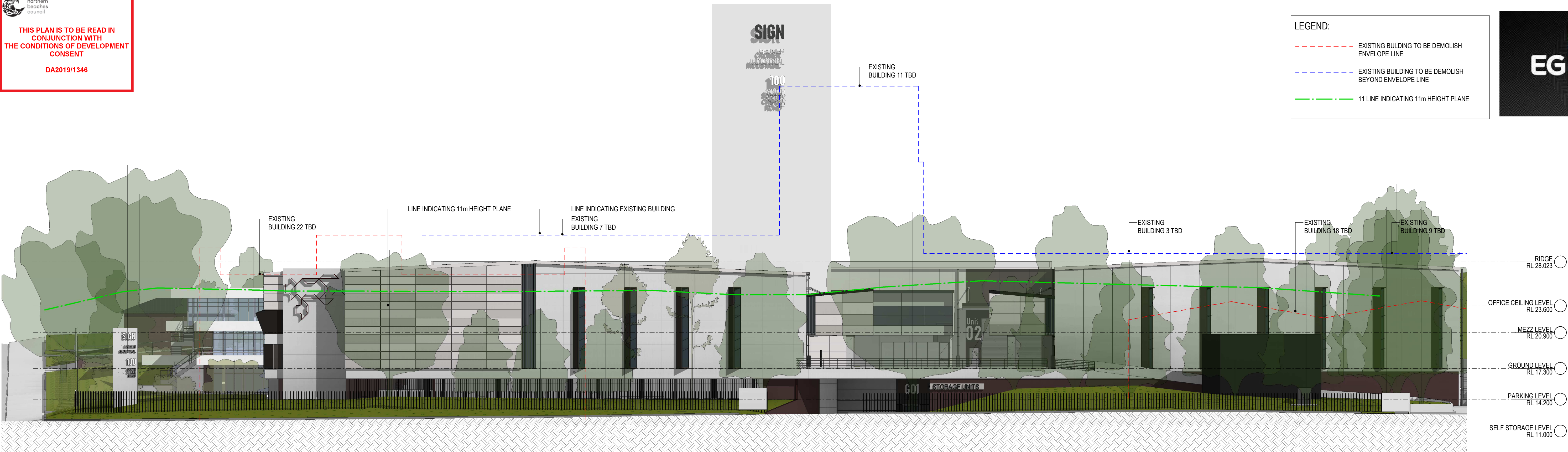
2 INMAN RD ELEVATION NORTHERN CORNER 1 : 200



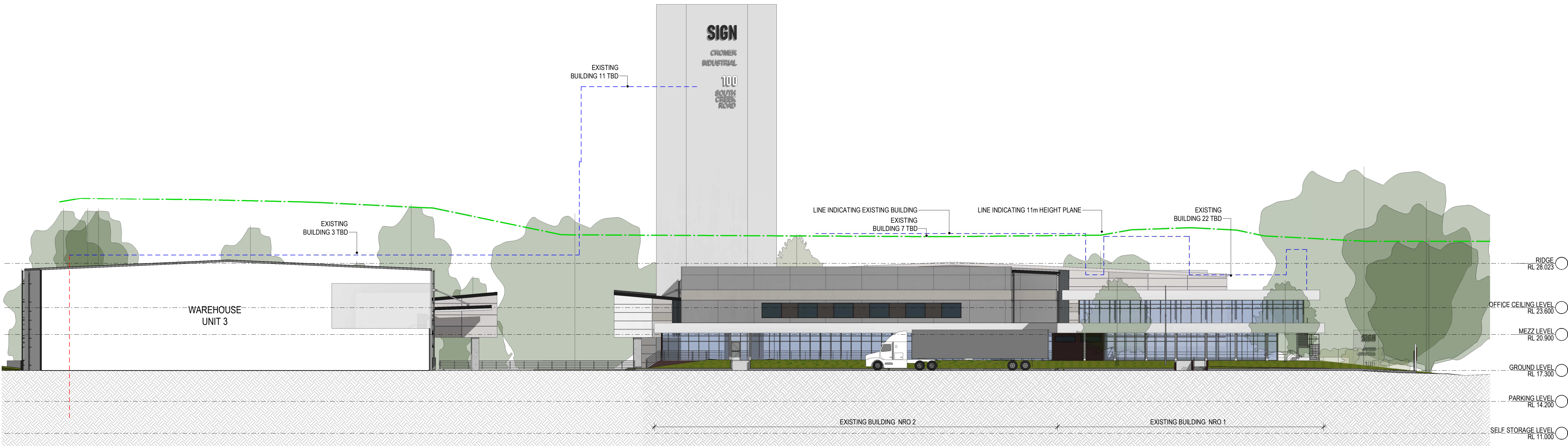
VISUAL SCALE 1:200 @ A1

LEGEND:

- EXISTING BUILDING TO BE DEMOLISH
ENVELOPE LINE
- EXISTING BUILDING TO BE DEMOLISH
BEYOND ENVELOPE LINE
- 11 LINE INDICATING 11m HEIGHT PLANE



1 SOUTH CREEK RD ELEVATION 1 : 200



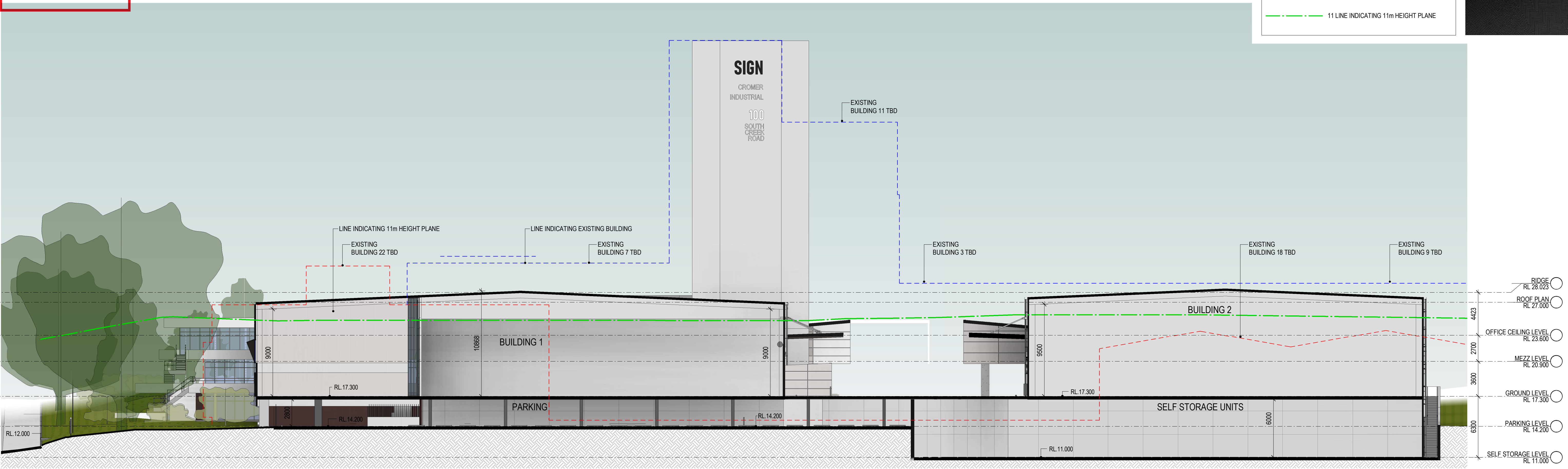
2 NORTH ELEVATION 1 : 200



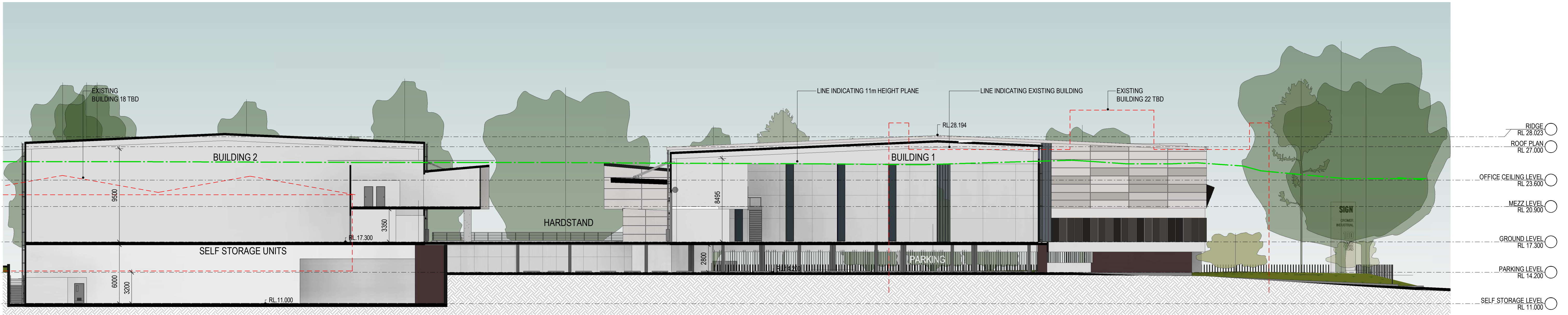
VISUAL SCALE 1:200 @ A1

LEGEND:

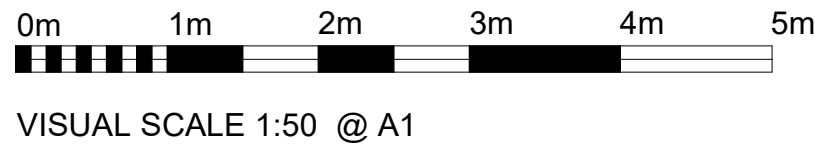
- EXISTING BUILDING TO BE DEMOLISH ENVELOPE LINE
- EXISTING BUILDING TO BE DEMOLISH BEYOND ENVELOPE LINE
- 11m LINE INDICATING 11m HEIGHT PLANE



1 Section A 1 : 200

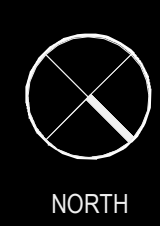


2 Section B 1 : 200



12	ISSUE FOR DA	12.11.2019
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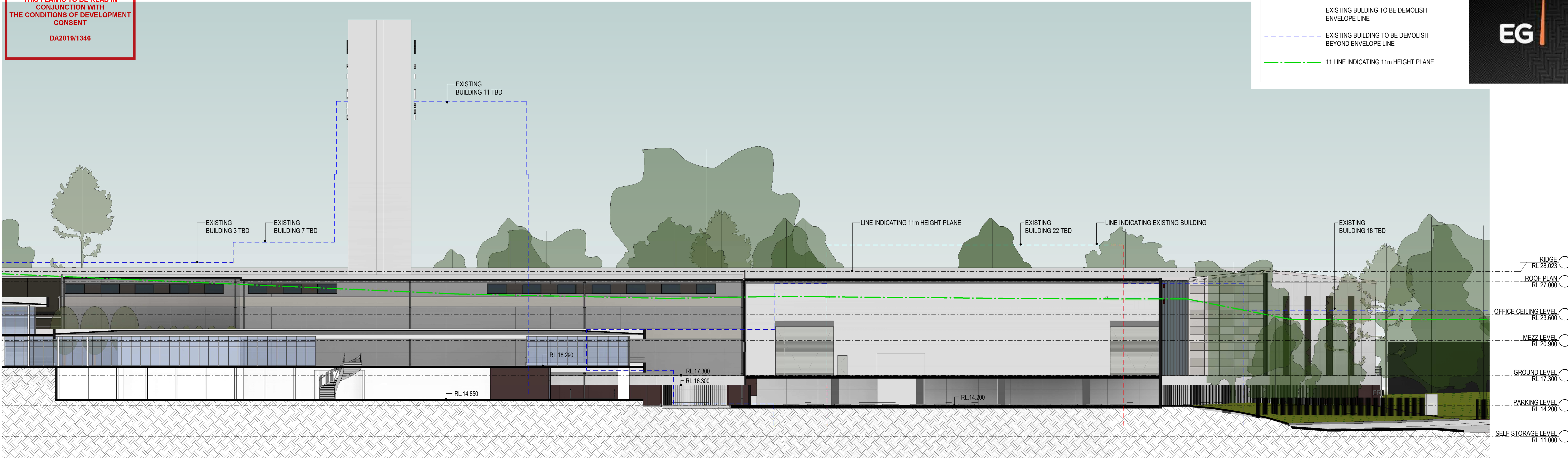
NORTEN BEACHES BUSINESS PARK
100 SOUTH CREEK ROAD, CROMER



TITLE	SECTIONS	JOB NO.	19110	DWGNO.	DA305	REVISION	12
DATE	12.11.2019	SCALE	1 : 200 @ A1				

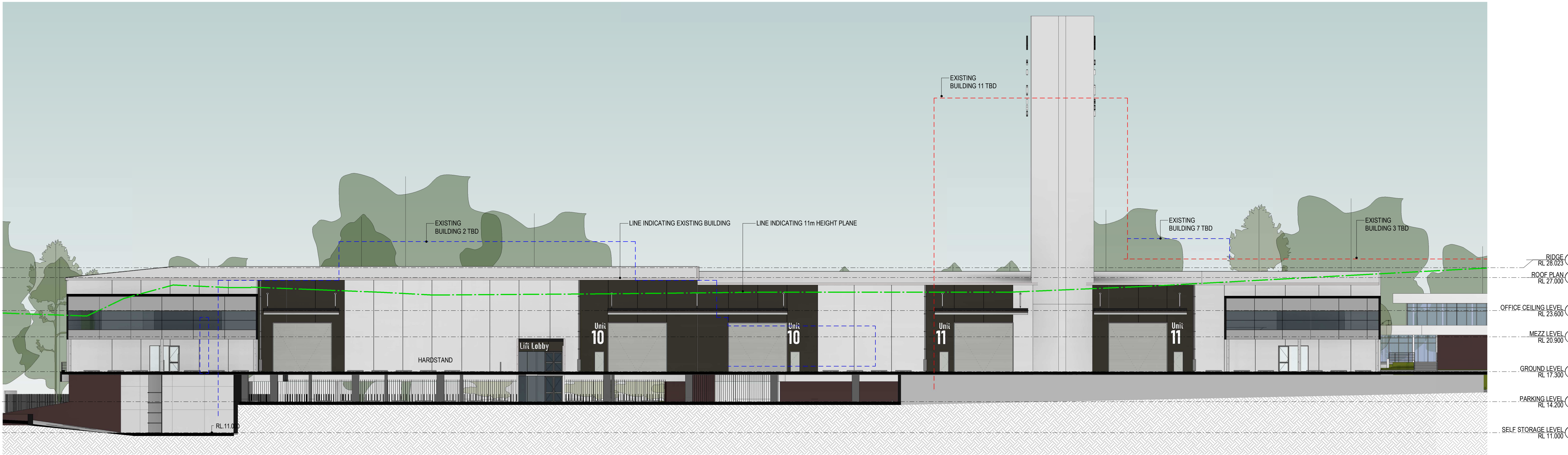
LEGEND:

- EXISTING BUILDING TO BE DEMOLISH
ENVELOPE LINE
- EXISTING BUILDING TO BE DEMOLISH
BEYOND ENVELOPE LINE
- 11 LINE INDICATING 11m HEIGHT PLANE



1 Section C

1 : 200



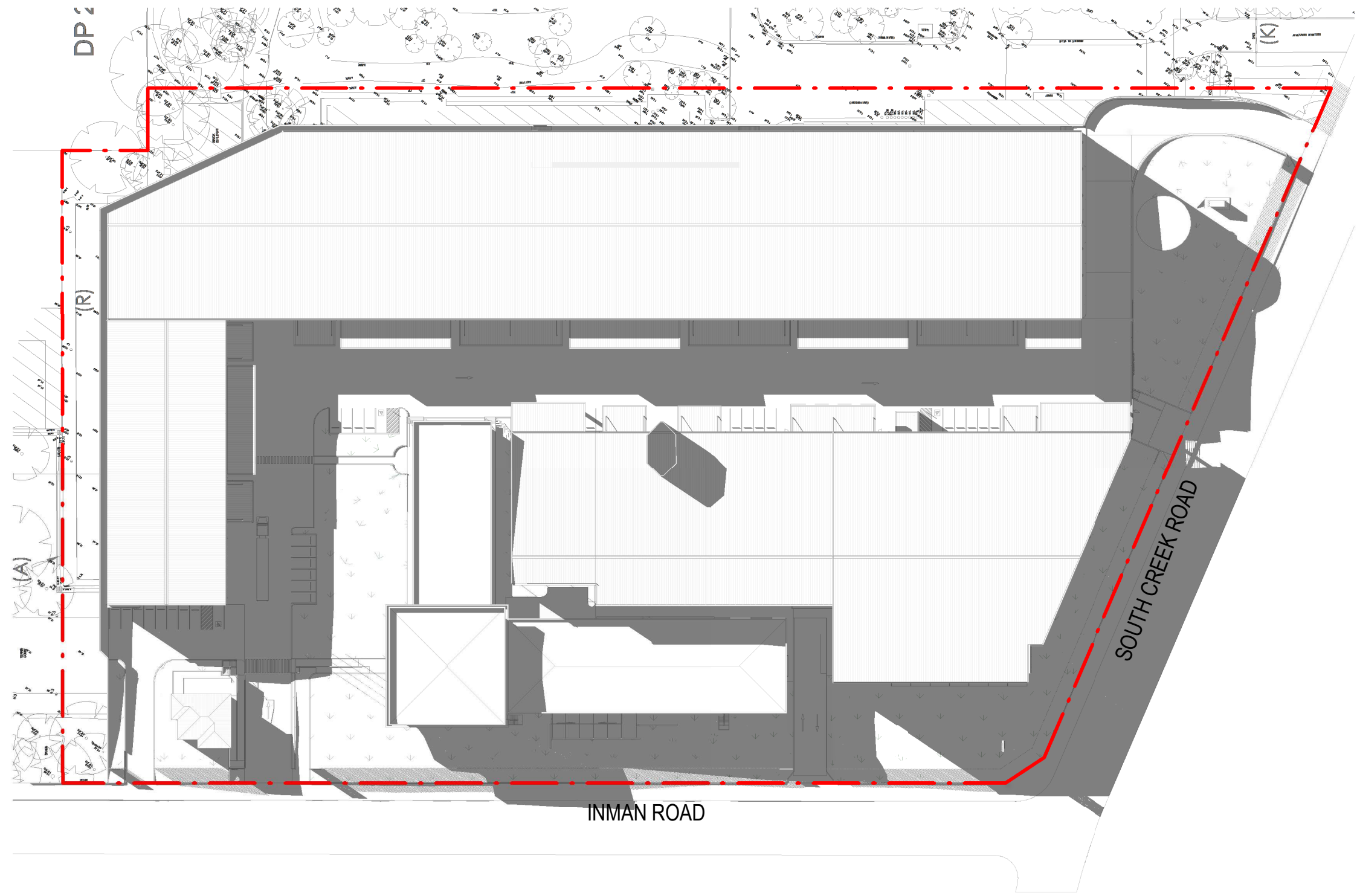
2 Section D

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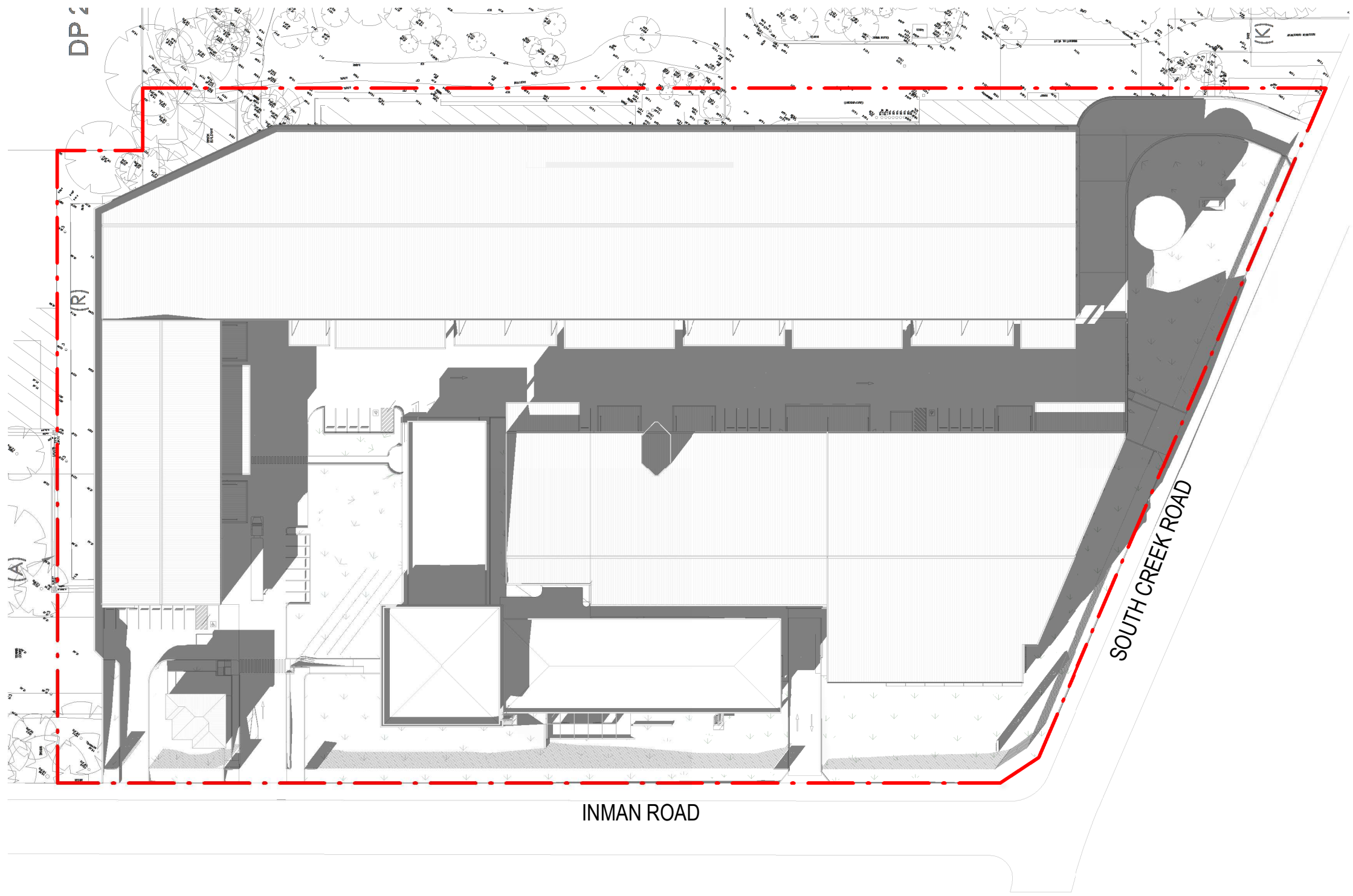


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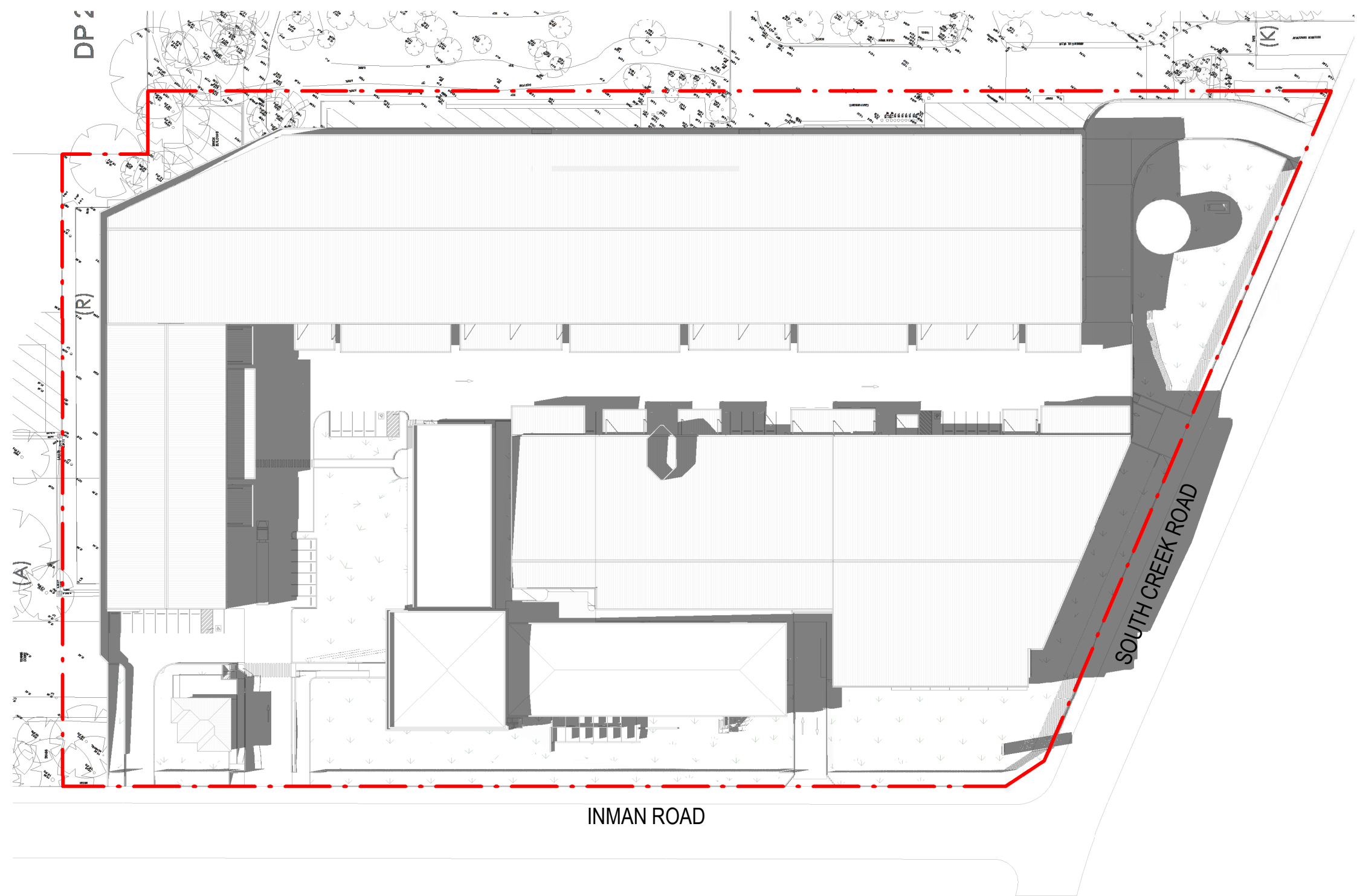
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11	ISSUE FOR DA	01.11.2019
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9	UPDATED SET FOR CONSULTANTS-DRAFT	18.10.2019
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1 21-06 9.00AM



3 21-06 3.00PM



2 21-06 12.00PM

WINTER SOLSTICE SHADOW DIAGRAMS



VISUAL SCALE 1:1000 @ A1

12	ISSUE FOR DA	12.11.2019
11	ISSUE FOR DA	01.11.2019
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CLIENT

NORTHEN BEACHES BUSINESS PARK

100 SOUTH CREEK ROAD, CROMER



TITLE
SHADOW DIAGRAMS_1

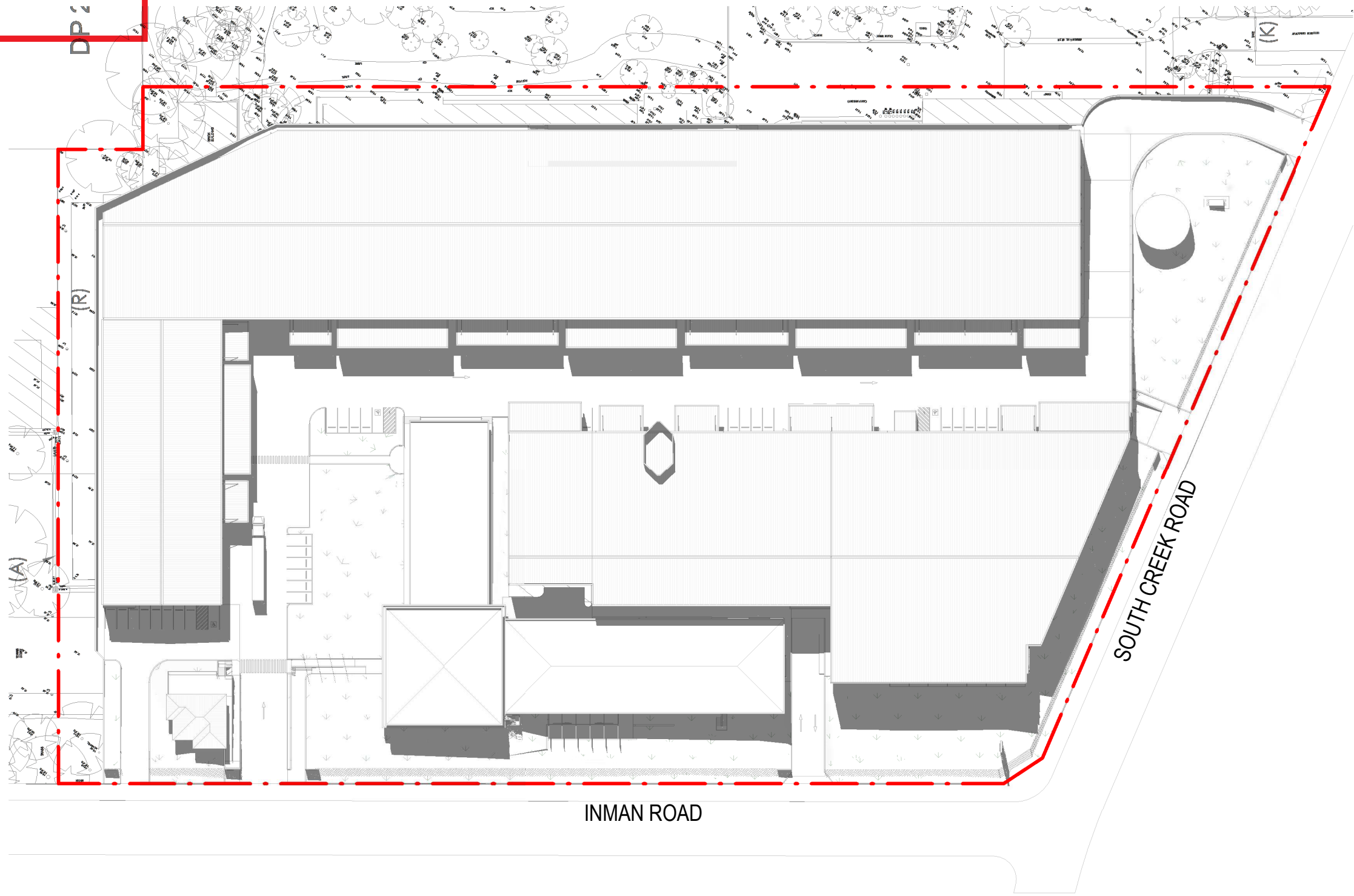
DATE
12.11.2019

SCALE
1 : 1000 @ A1

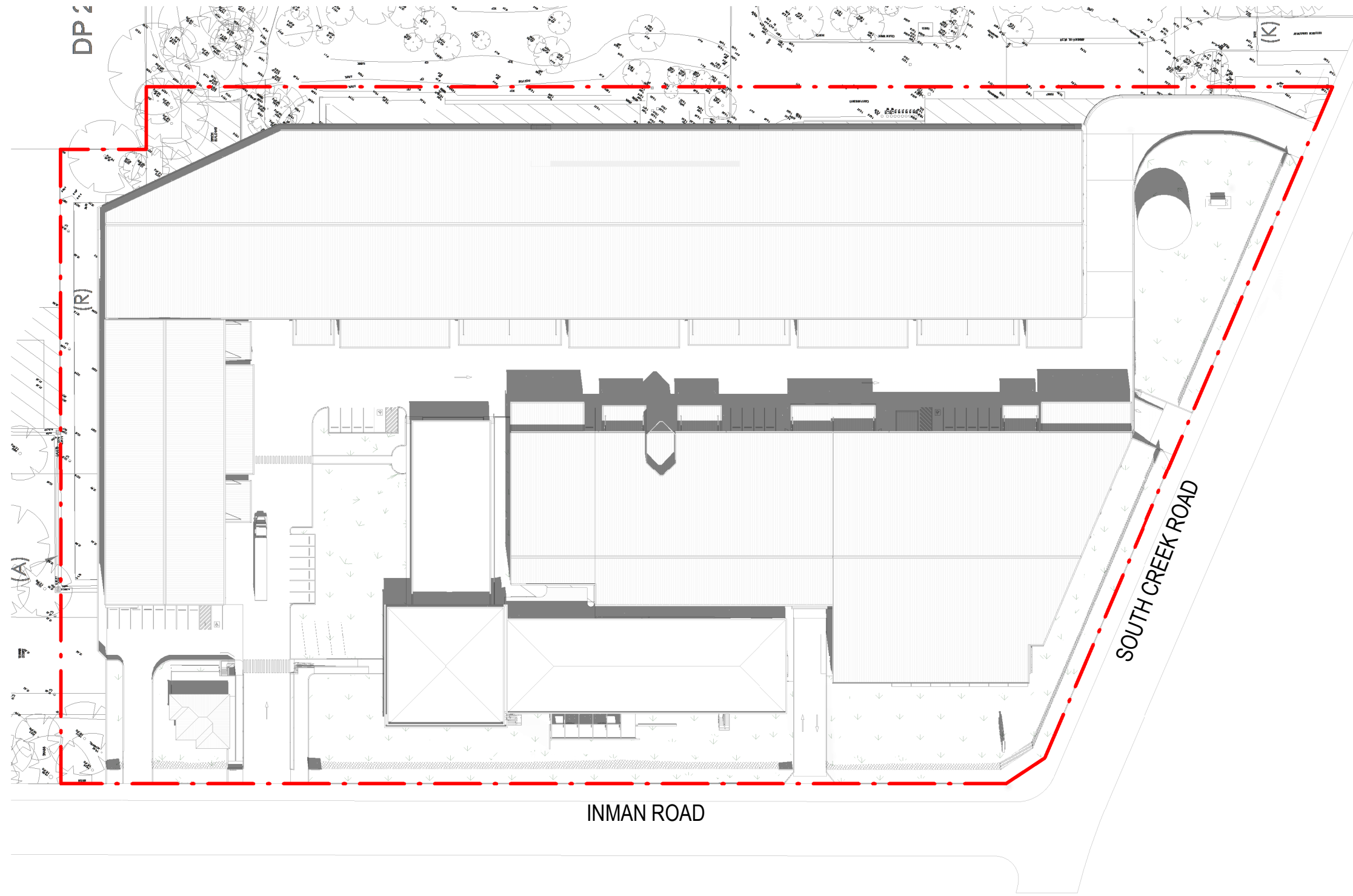
JOB NO.
19110

DWG NO.
DA400

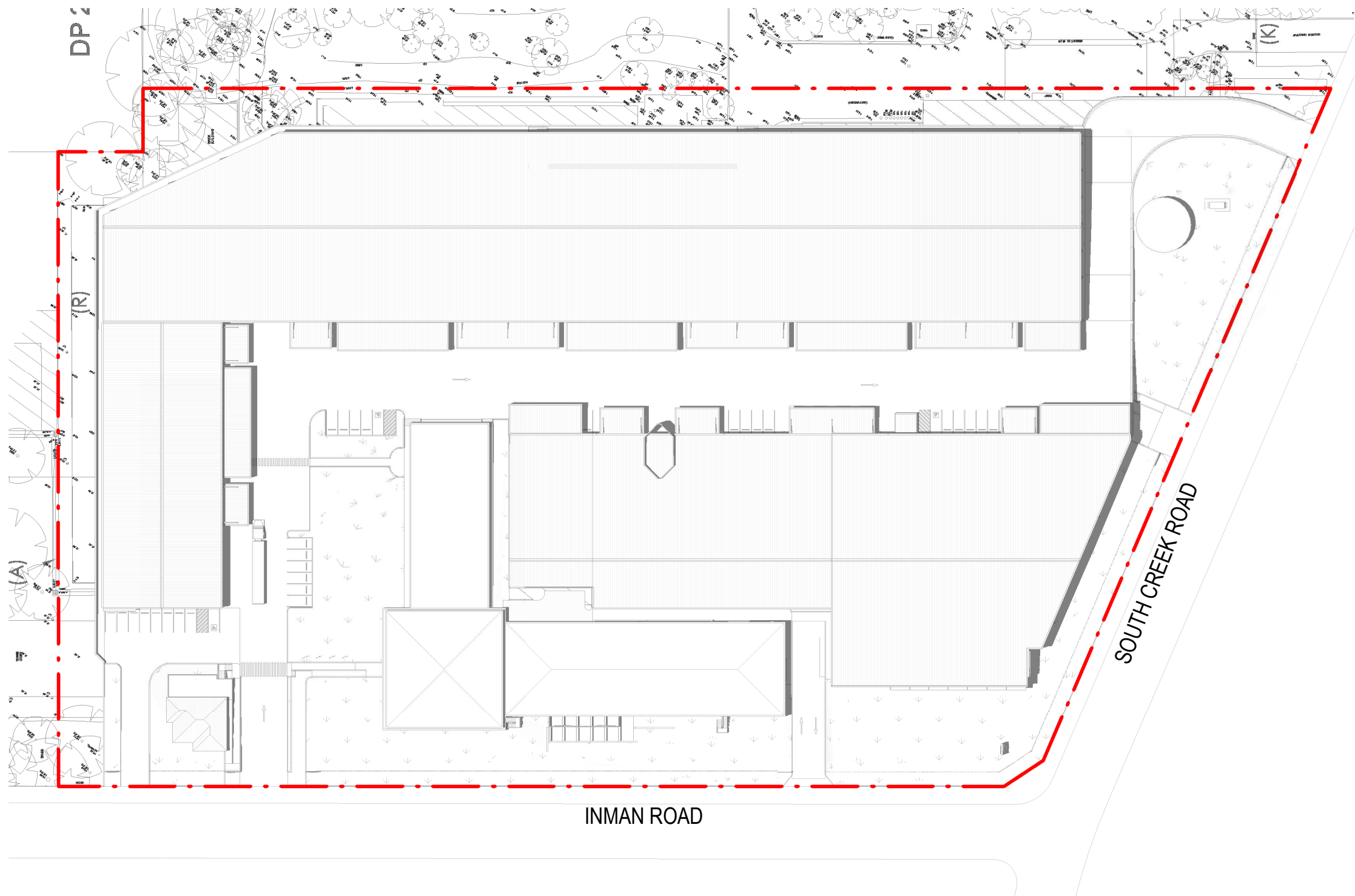
REVISION
12



1 21-12 9.00AM

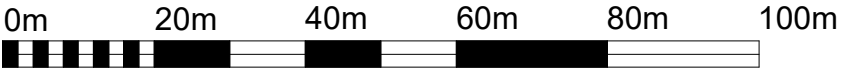


3 21-12 3.00PM



2 21-12 12.00PM

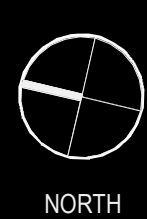
SUMMER SOLSTICE SHADOW DIAGRAMS



VISUAL SCALE 1:1000 @ A1

NORTEN BEACHES BUSINESS PARK

100 SOUTH CREEK ROAD. CROMER



TITLE
SHADOW DIAGRAMS_2

DATE
12.11.2019

SCALE
1 : 1000 @ A1

JOB NO.
19110

DWG NO.
DA401

REVISION
12

SBA
ARCHITECTS

12	ISSUE FOR DA	12.11.2019
11	ISSUE FOR DA	01.11.2019
10	ISSUE FOR REVISION	25.10.2019
9	UPDATED SET FOR CONSULTANTS-DRAFT	18.10.2019
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CLIENT



THIS PLAN IS TO BE READ IN
CONJUNCTION WITH
THE CONDITIONS OF DEVELOPMENT
CONSENT

DA2019/1346



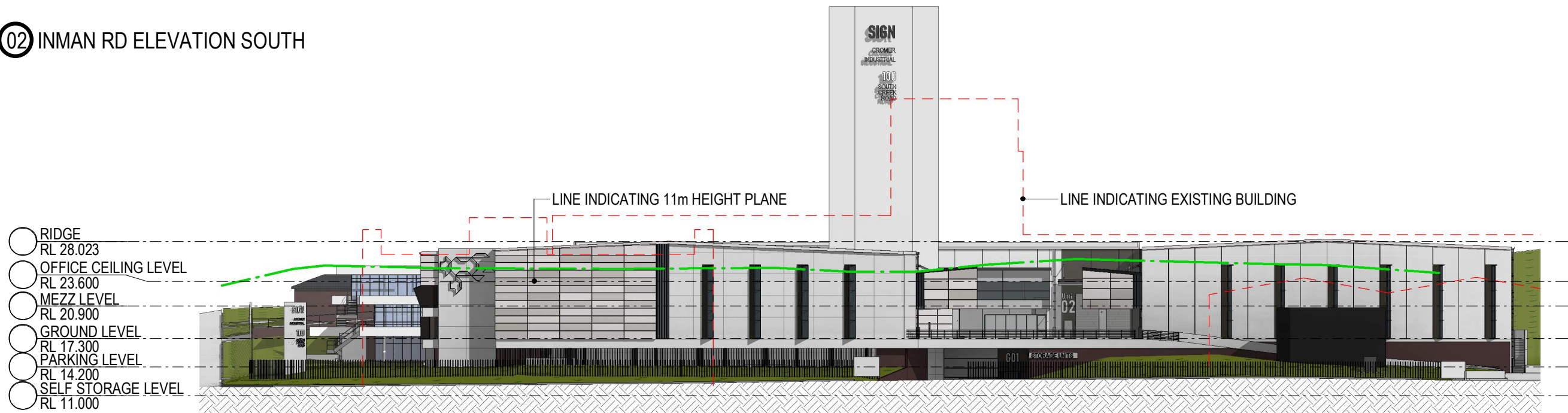
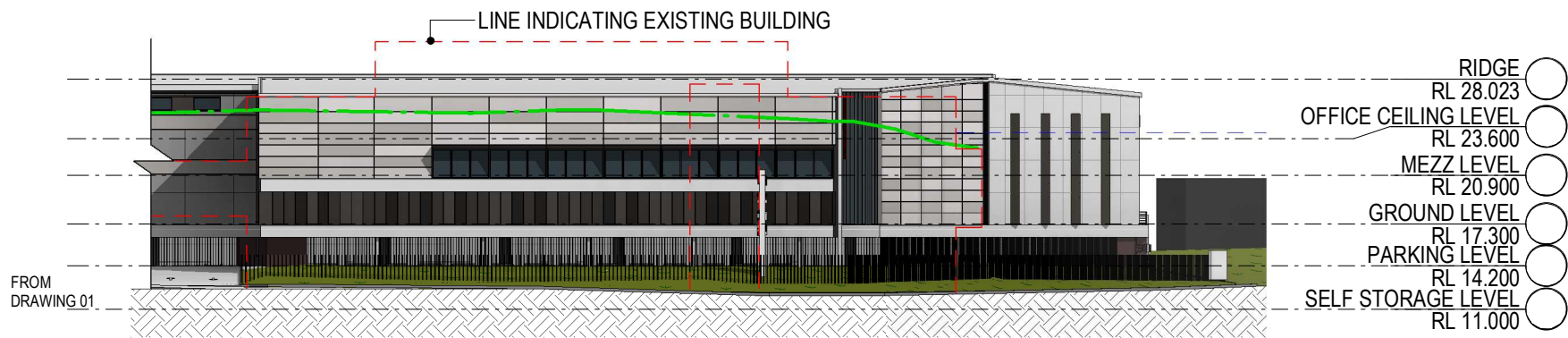
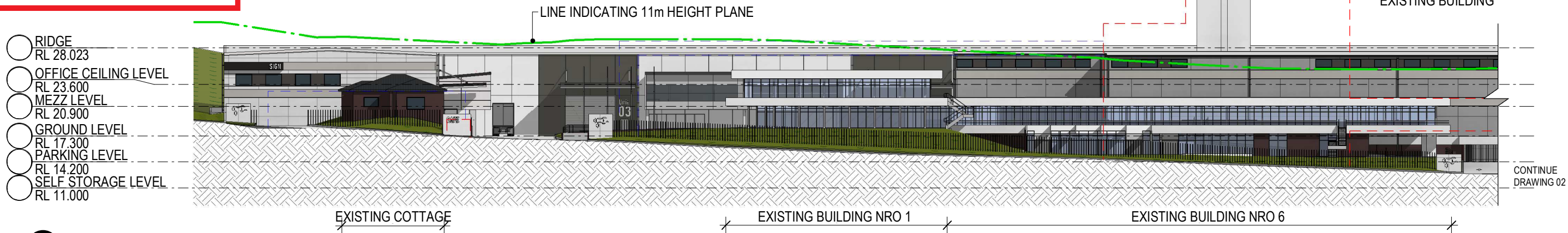
01 SITE PLAN



northern
beaches
council

THIS PLAN IS TO BE READ IN
CONJUNCTION WITH
THE CONDITIONS OF DEVELOPMENT
CONSENT

DA2019/1346



ARCHITECT



SBA

ARCHITECTS

Commercial Industrial Residential Retail Interior Design

Suite 702, 83 Mount Street, North Sydney NSW 2060

T 02 9929 9988 F 02 9929 8899

E info@sbaarch.com.au W www.sbaarch.com.au

12	ISSUE FOR DA	12.11.2019	
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8	MARKETING PLAN ISSUED FOR INFORMATION	11.10.2019	
7	FOR CLIENT REVIEW	09.09.2019	
6	AMENDMENTS FOR PRE DA MEETING	06.08.2019	
5	LEVELS DROPPED	01.06.2019	
4	ISSUE	DESCRIPTION	DATE

CLIENT

NORTEN BEACHES BUSINESS PARK

100 SOUTH CREEK ROAD, CROMER
CONCEPT DESIGN

TITLE

NOTIFICATION PLAN_2

DATE

SCALE

JOB NO.

DWG NO.

Type model issue

600 @A3

19110

DA501

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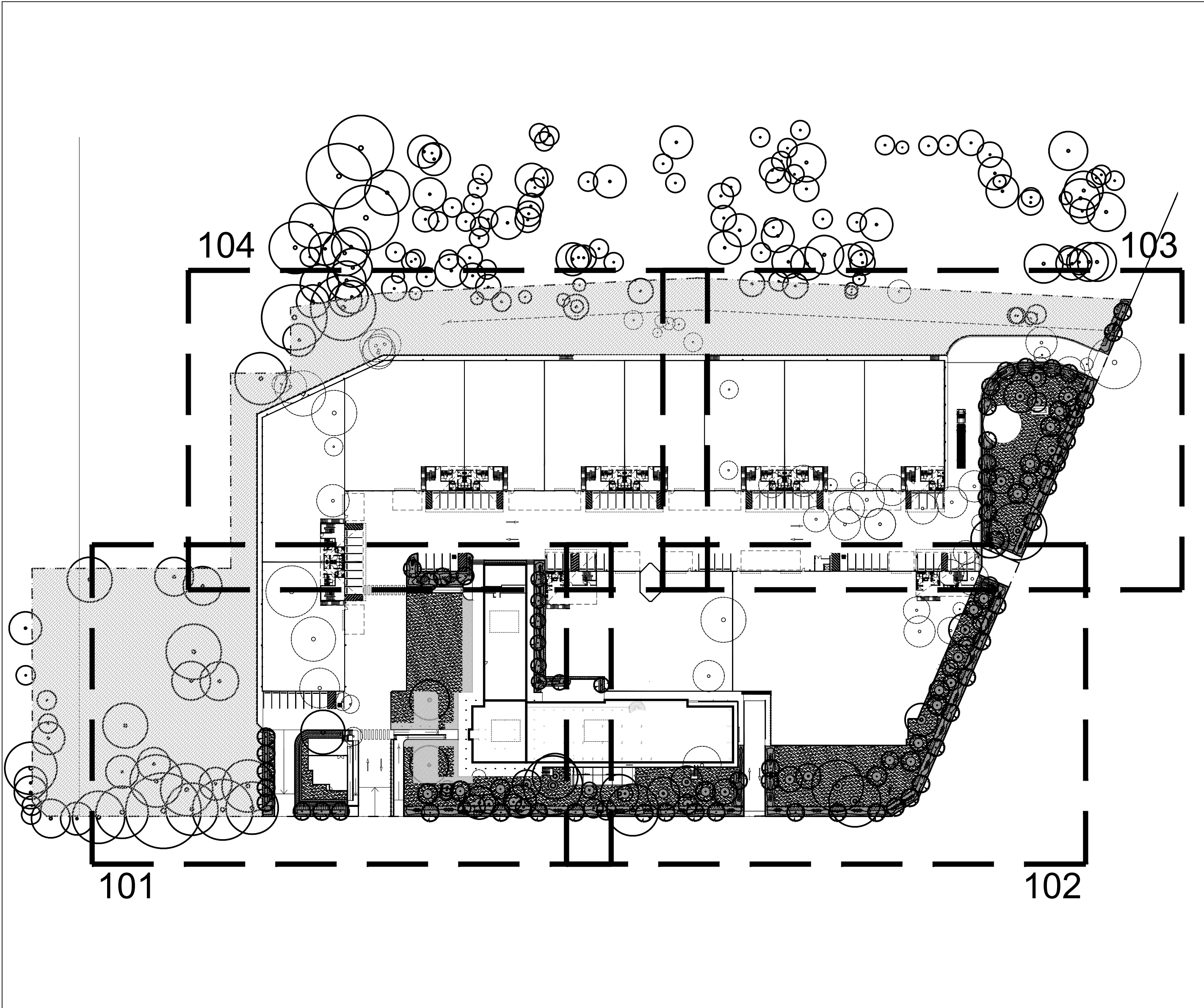
NORTHERN BEACHES BUSINESS PARK

100 South Creek Road, Cromer

DEVELOPMENT APPLICATION

Drawing Schedule

Drawing Number	Drawing Title	Scale
000	Landscape Coversheet	1:1000
001	Landscape Master Plan	1:500
101	Landscape Plan	1:200
102	Landscape Plan	1:200
103	Landscape Plan	1:200
104	Landscape Plan	1:200
501	Landscape Details	As Shown



Site Plan | Scale 1:1000

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LEGEND

B	Revised For Comment	JW	NM	04.11.2019
A	For Comment	JW	NM	30.10.2019
Issue	Revision Description	Drawn	Check	Date

Key Plan:

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Client:
Northern Beaches Business Park

Project:
Northern Beaches Business Park
100 South Creek Road
Cromer

Drawing Name:
Cover Sheet

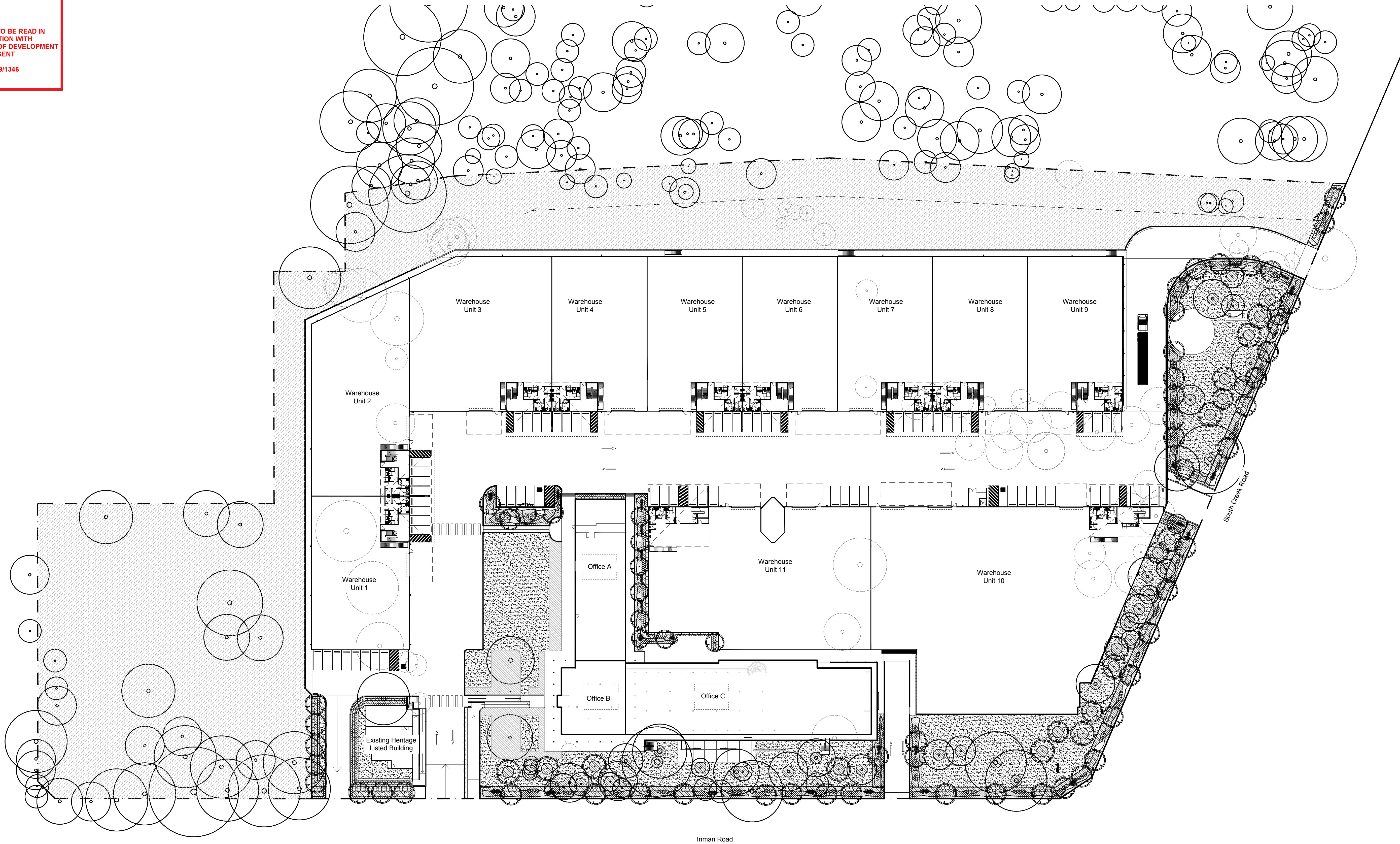
Scale:

Job Number:
SS19-4248

Drawing Number:
000

Issue:
B

PRELIMINARY



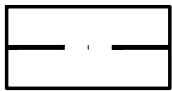
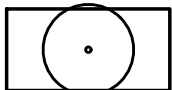
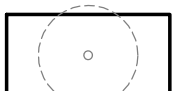

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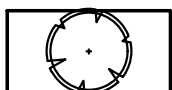
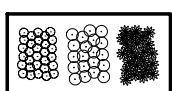
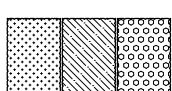
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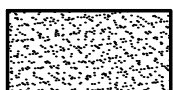
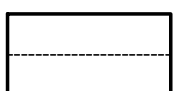

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B	Revised For Comment
A	For Comment
Issue	Revision Description

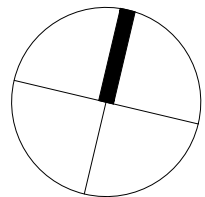
JW	NM	04.11.2019
JW	NM	30.10.2019
Drawn	Check	Date

LEGEND	
	Site Boundary
	Existing Tree to be Retained
	Existing Tree to be Removed
	Existing Landscaping

	Proposed Tree
	Proposed Shrubs and Accents
	Proposed Grasses and Ground Covers

	Turf
	Hard Garden Edging
	Future Development Application

Key Plan:



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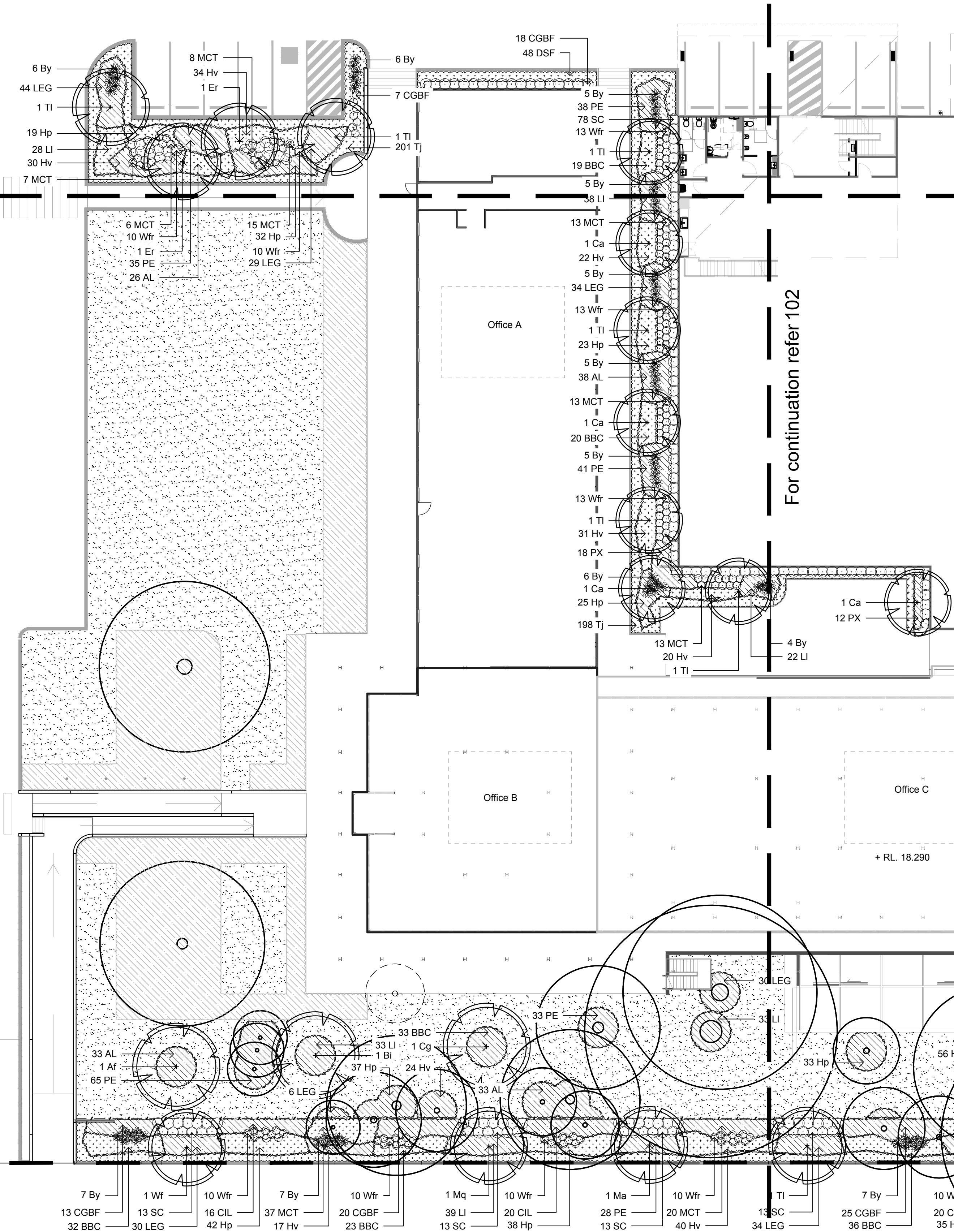
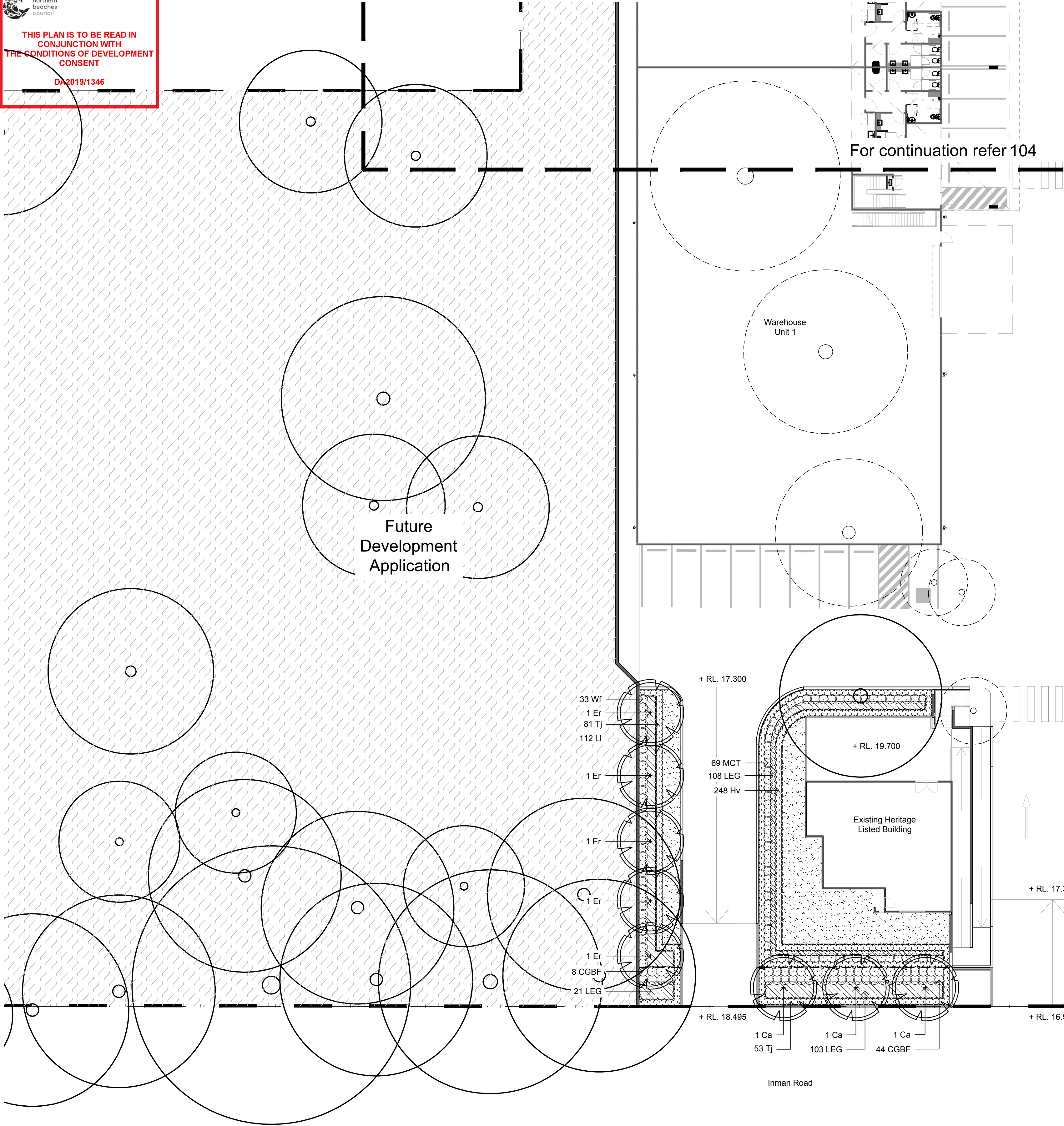
Project:
Northern Beaches Business Park
100 South Creek Road
Cromer

Drawing Name:
Landscape Master Plan

Scale: 1:500 @ A1
Job Number:
SS19-4248

PRELIMINARY

0 2 5 10 15 25m
Drawing Number:
001 Issue:
B



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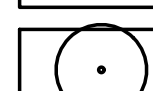

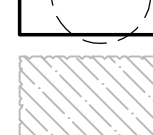
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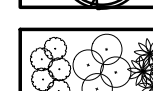
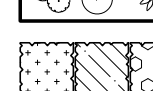
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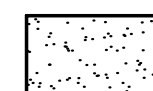
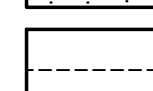
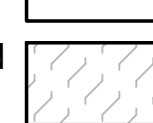
B Revised For Comment
A For Comment
Issue Revision Description

JW NM 04.11.2019
JW NM 30.10.2019
Drawn Check Date

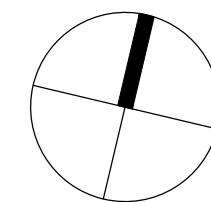
LEGEND

-  Site Boundary
-  Existing Tree to be Retained
-  Existing Tree to be Removed
-  Existing Landscaping

-  Proposed Tree
-  Proposed Shrubs and Accents
-  Proposed Grasses and Ground Covers

-  Turf
-  Hard Garden Edging
-  Future Development Application

Key Plan:



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Project:
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100 South Creek Road
Cromer

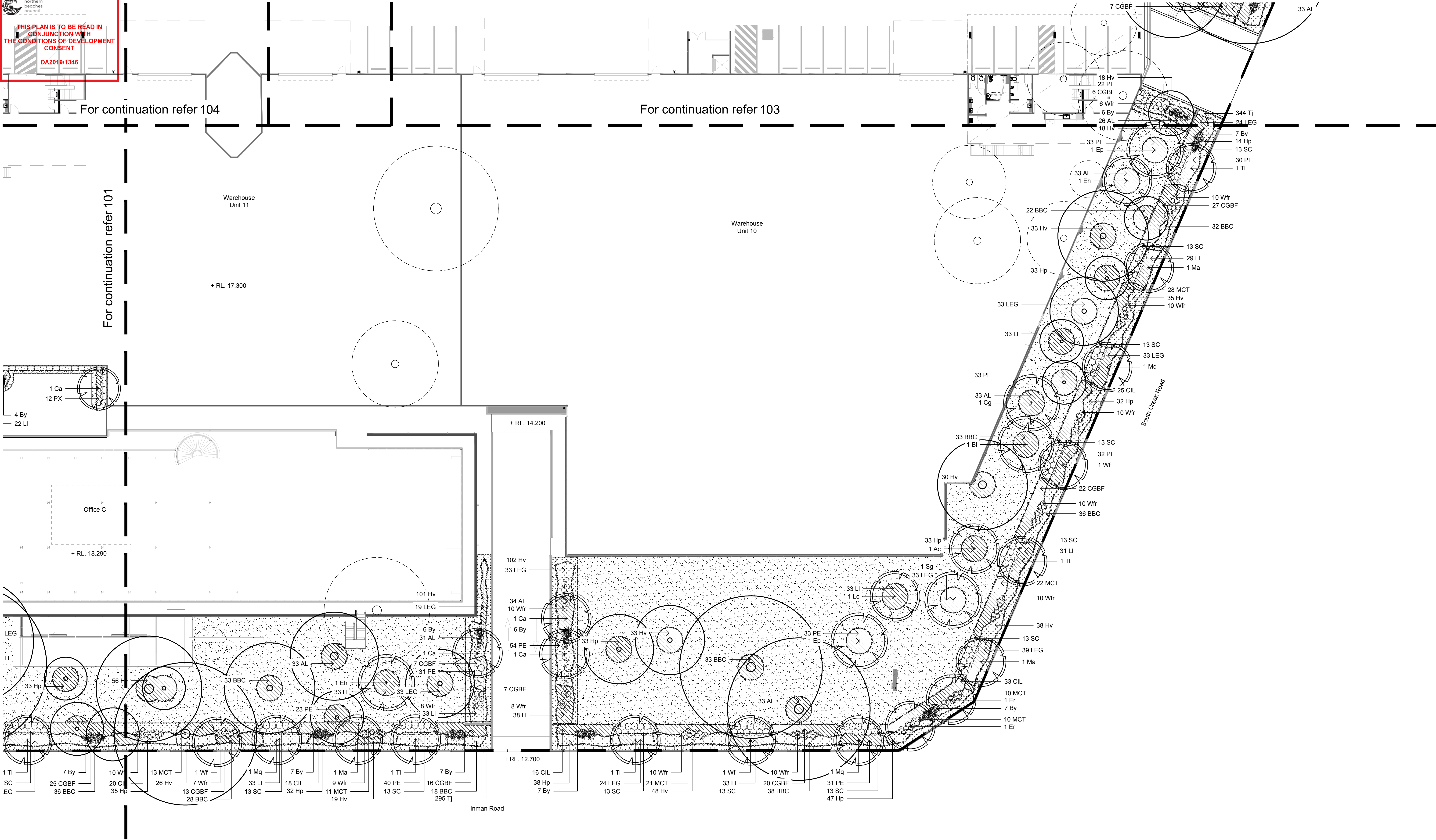
Drawing Name:
Landscape Plan

PRELIMINARY

Scale: 1:200 @ A1
Job Number:
SS19-4248

0 1 2 4 6 10m
Drawing Number:
Issue:

101 B



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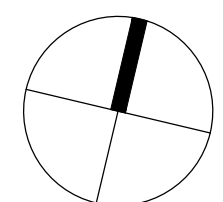
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B	Revised For Comment	JW	NM	04.11.2019
A	For Comment	JW	NM	30.10.2019
Issue	Revision Description	Drawn	Check	Date

LEGEND	
	Site Boundary
	Existing Tree to be Retained
	Existing Tree to be Removed
	Existing Landscaping
	Proposed Tree
	Proposed Shrubs and Accents
	Proposed Grasses and Ground Covers
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Key Plan:



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Project:
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100 South Creek Road
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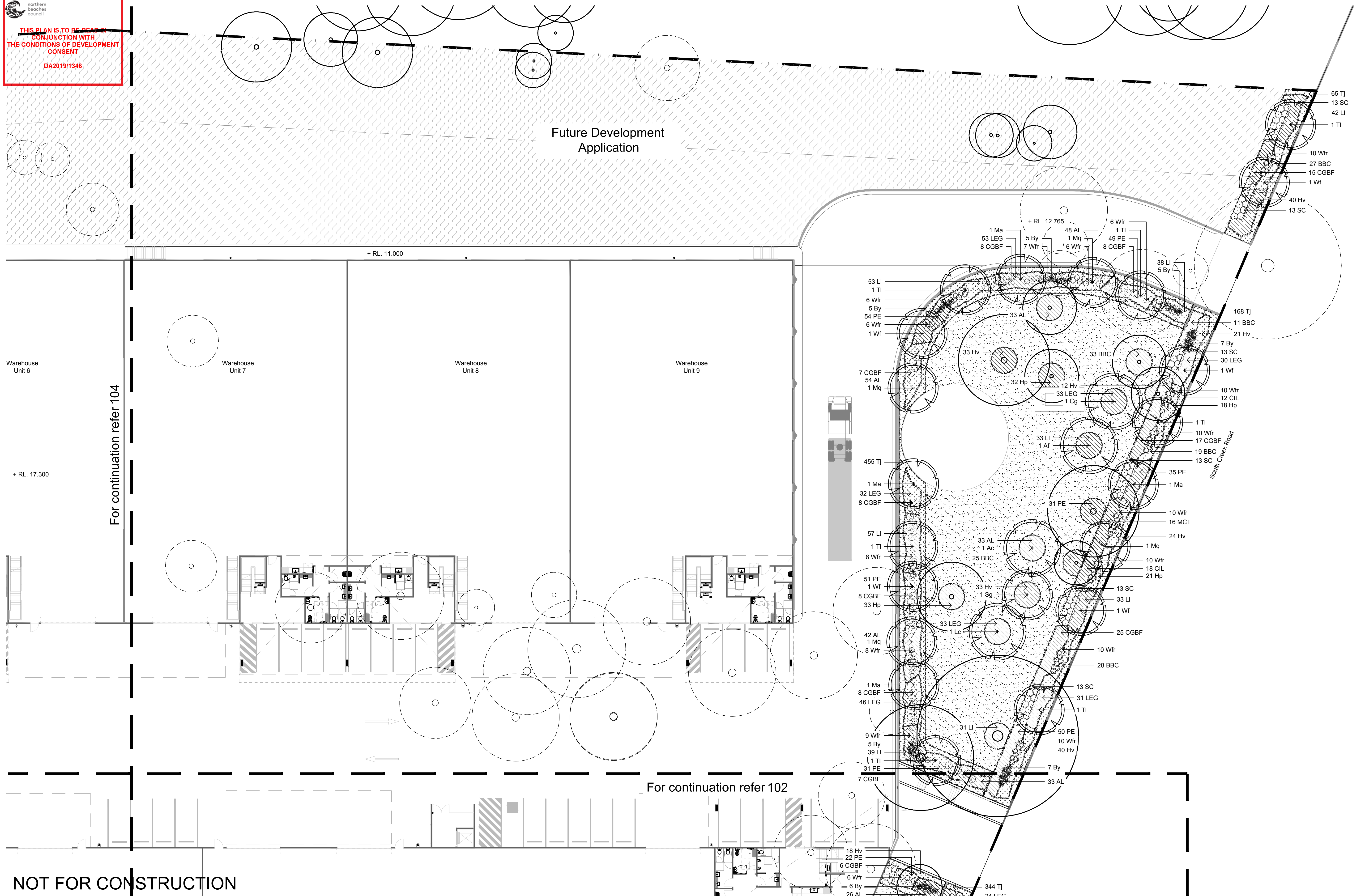
Drawing Name:
Landscape Plan

Scale: 1:200 @ A1

Job Number:
SS19-4248

Issue:
102 B

PRELIMINARY



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Issue	Revision Description
B	Revised For Comment
A	For Comment

JW	NM	04.11.2019
JW	NM	30.10.2019
Drawn	Check	Date

LEGEND


 Site Boundary

 Existing Tree to be Retained


Existing Tree to be Removed

 Existing Landscaping

Proposed Tree



Proposed Shrubs and Accents



Proposed Grasses and Ground Covers

 Turf

Hard Garden Edging



Future Development Application

Key Plan:

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Client:

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Project:

Northern Beaches Business Park

100 South Creek Road

Cromer

Drawing Name:

Landscape Plan

PRELIMINARY

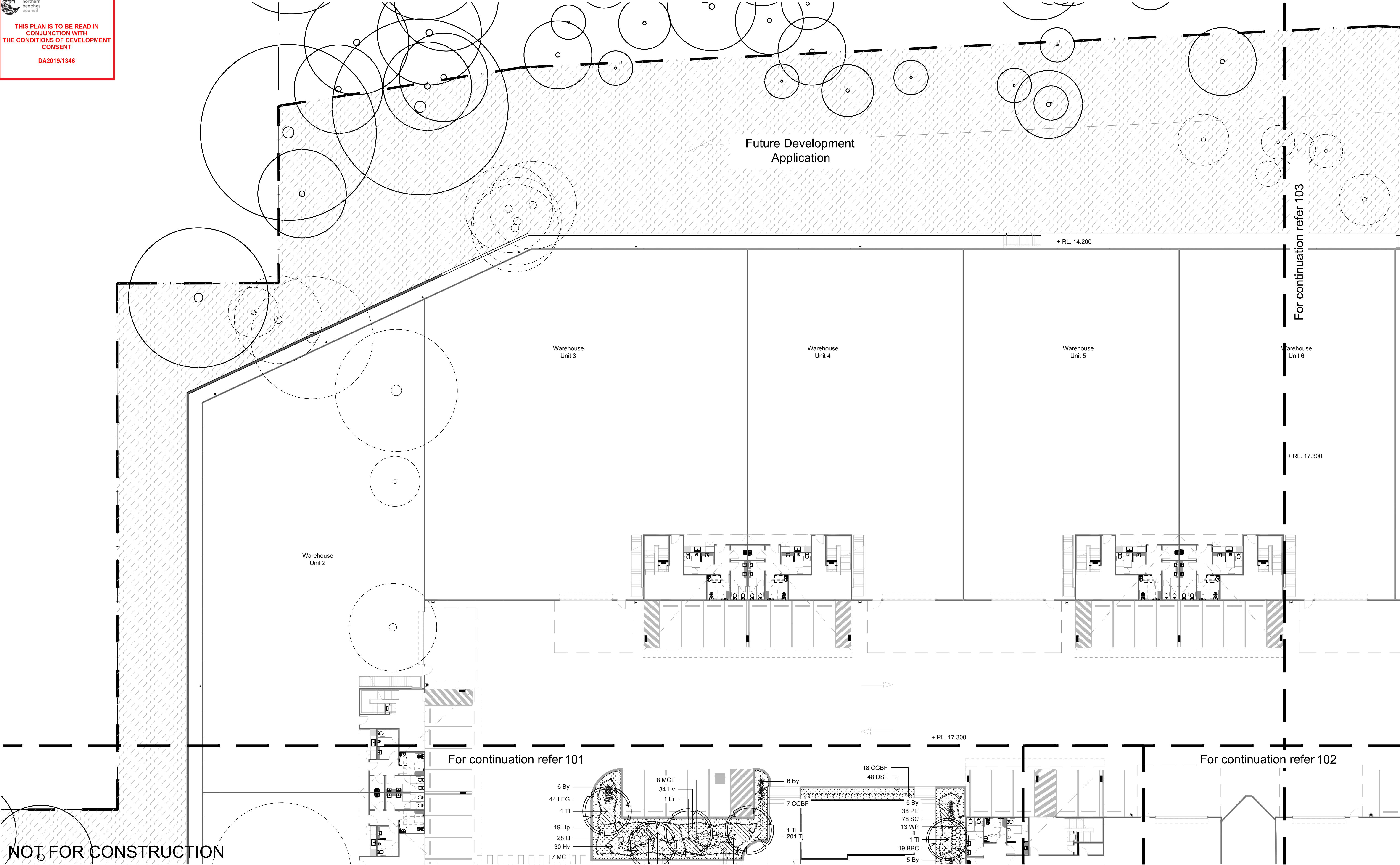
Scale: 1:200 @ A1

Job Number:

SS19-4248

Drawing Number: Issue:

103 B



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B Revised For Comment
A For Comment
Issue Revision Description

JW NM 04.11.2019
JW NM 30.10.2019
Drawn Check Date

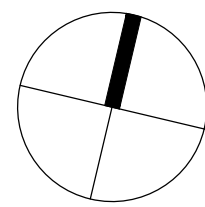
LEGEND

- Site Boundary
- Existing Tree to be Retained
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Key Plan:



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Client:
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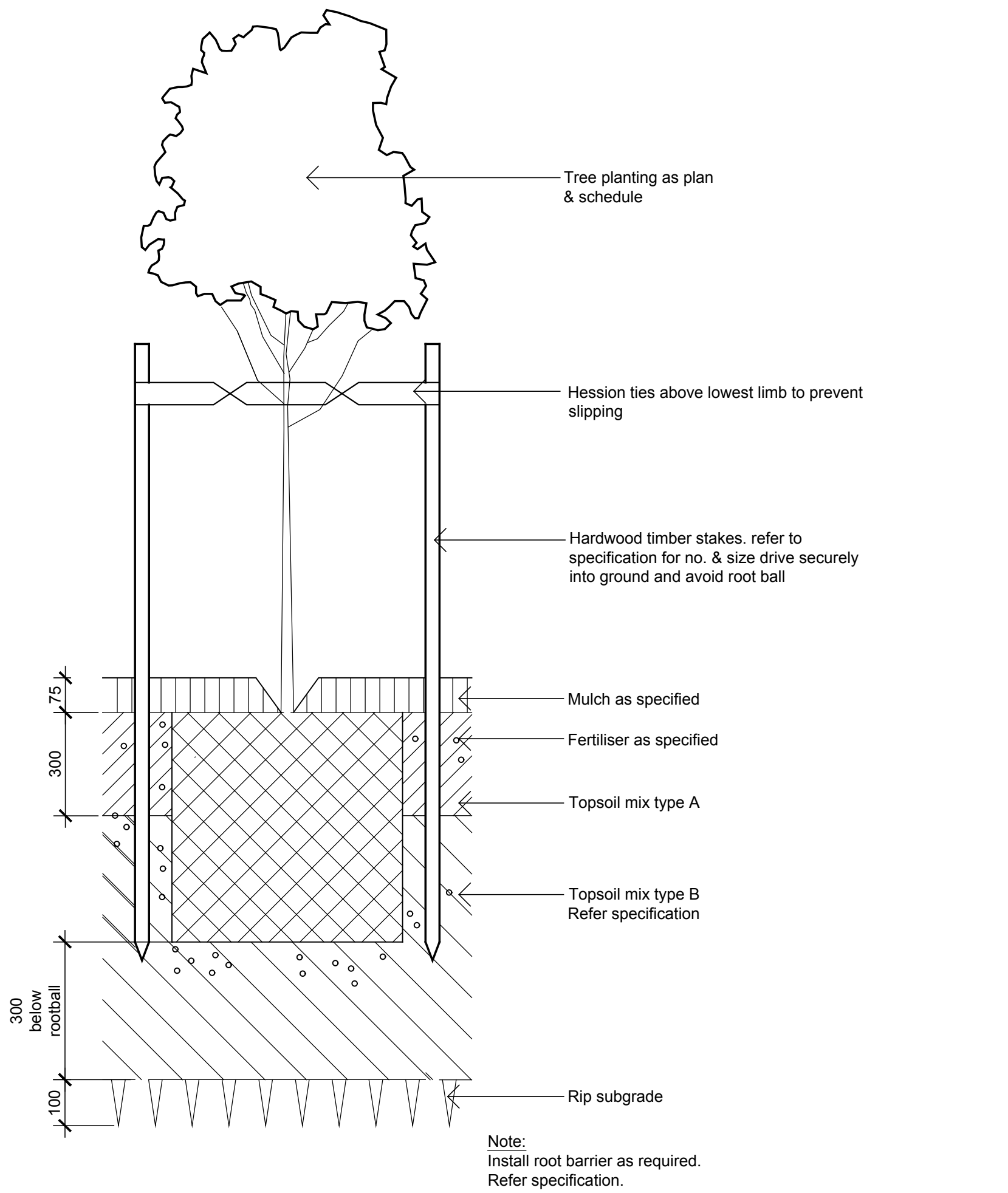
Project:
Northern Beaches Business Park
100 South Creek Road
Cromer

Drawing Name:
Landscape Plan

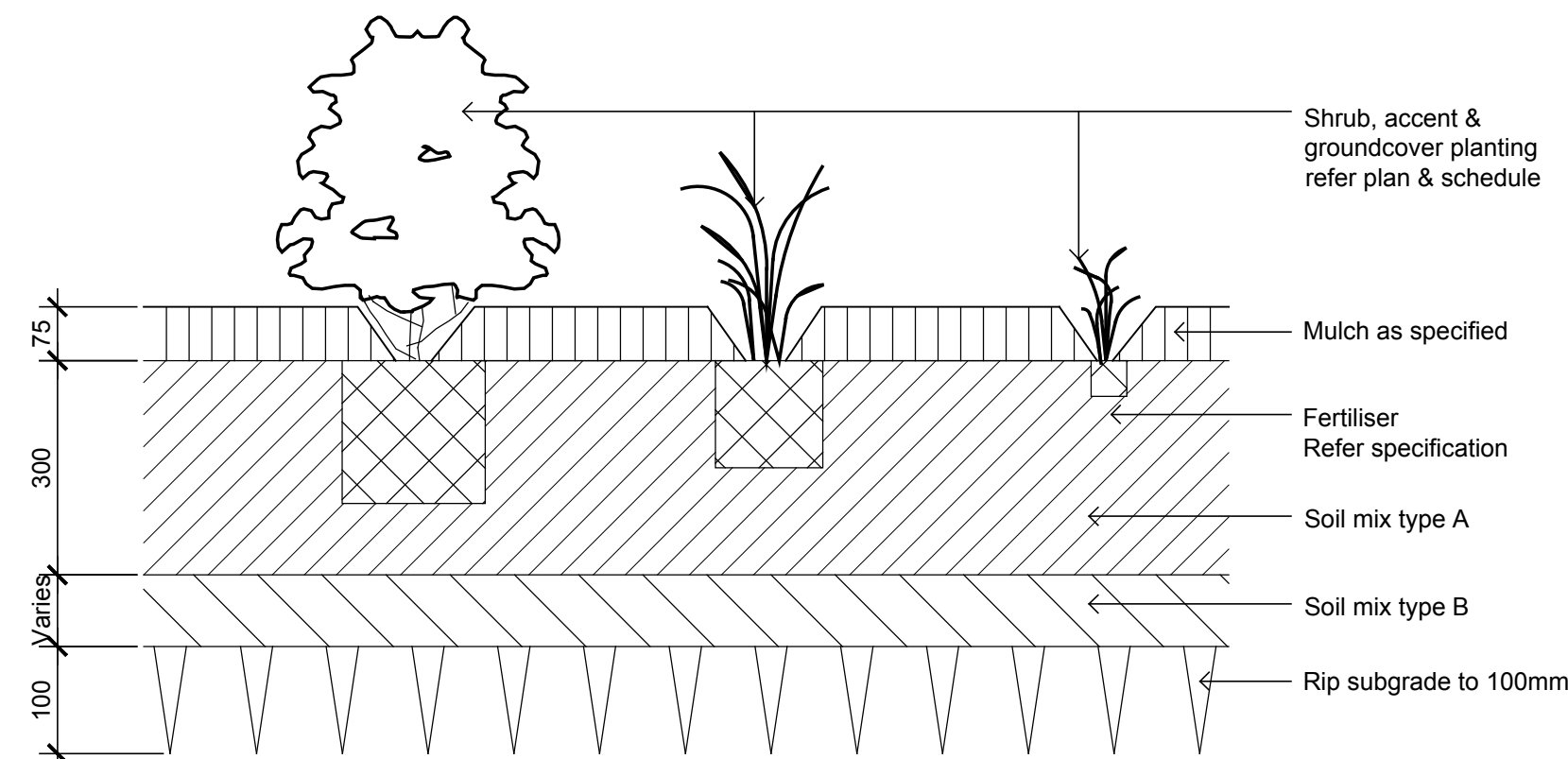
PRELIMINARY

Scale: 1:200 @ A1
Job Number:
SS19-4248

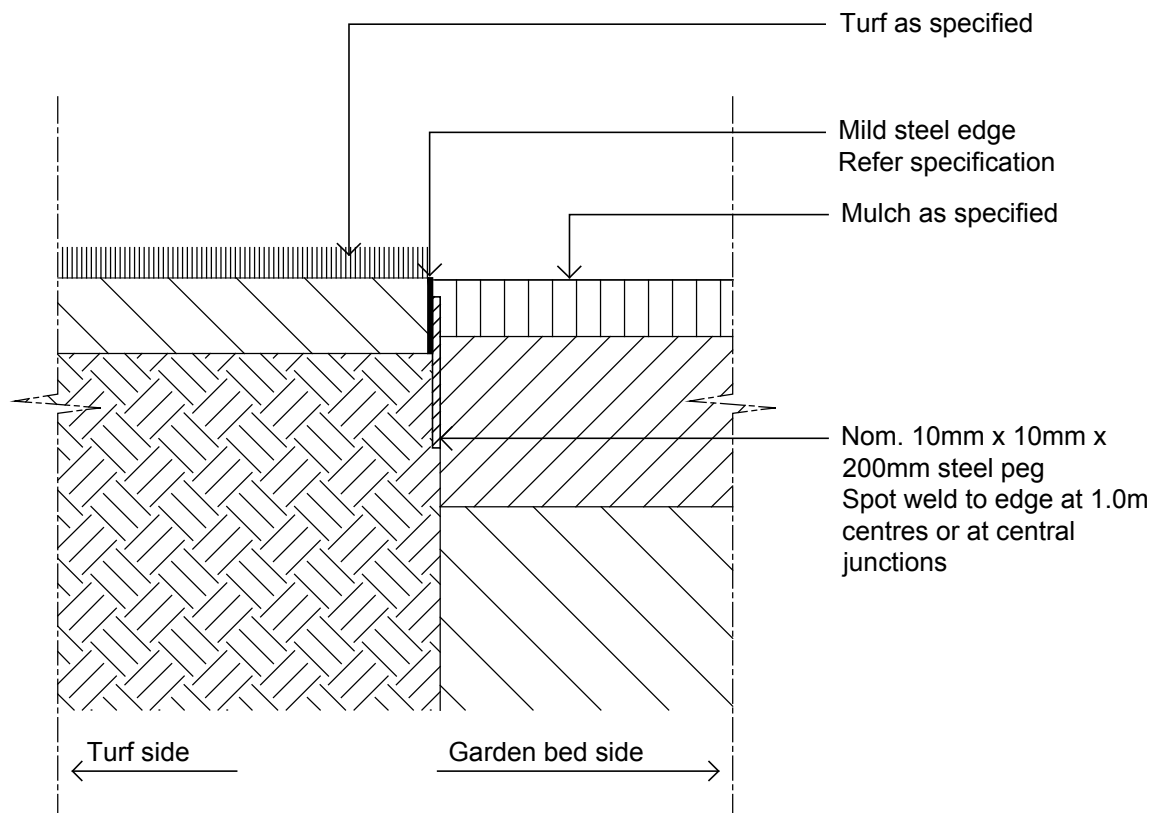
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Drawing Number:
104 B



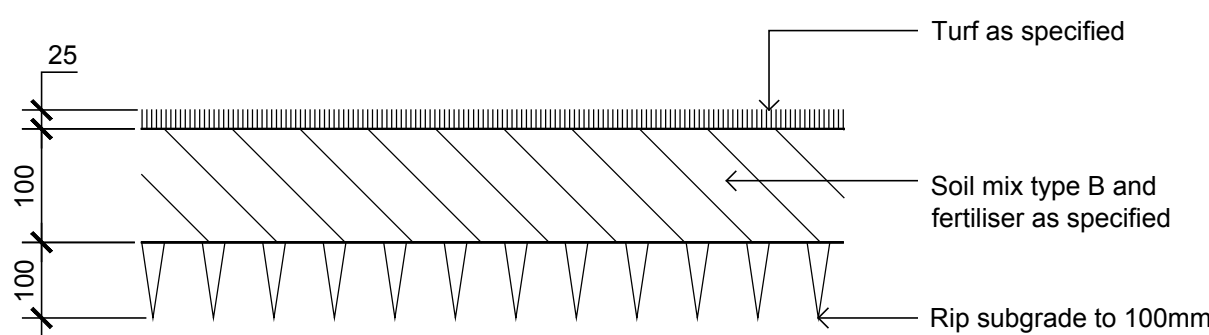
DETAIL - 75-200L TREE PLANTING ON GRADE
1:10



DETAIL - SHRUB, ACCENT & GROUNDCOVER PLANTING ON GRADE
1:10



TYPICAL MILD STEEL EDGE
SCALE 1:10



DETAIL - TURF ON EVEN GRADE
1:10

PLANT SCHEDULE

Symbol	Botanical Name	Common Name	Height Metres	Width	Pot Size	Spacing
Trees						
Ac	<i>Angophora costata</i>	Sydney Red Gum	30	10	75L	As Shown
Af	<i>Angophora floribunda</i>	Rough Bark Angophora	20	6	75L	As Shown
Bi	<i>Banksia integrifolia</i>	Coastal Banksia	20	6	75L	As Shown
Cg	<i>Corymbia gummifera</i>	Bloodwood	40	7	75L	As Shown
Ca	<i>Cupaniopsis anacardioides</i>	Tuckeroo	7	5	75L	As Shown
Er	<i>Elaeocarpus reticulatus</i>	Blueberry Ash	7	5	75L	As Shown
Eh	<i>Eucalyptus haemastoma</i>	Scribbly Gum	15	5	75L	As Shown
Ep	<i>Eucalyptus punctata</i>	Grey Gum	30	7	75L	As Shown
Lc	<i>Lophostemon confertus</i>	Brushbox	15	10	75L	As Shown
Ma	<i>Melaleuca armillaris</i>	Bracelet Honey Myrtle	8	6	75L	As Shown
Mq	<i>Melaleuca quinquenervia</i>	Paperbark	8	4	75L	As Shown
Sg	<i>Syncarpia glomulifera</i>	Turpentine	50	7	75L	As Shown
Ti	<i>Tristania laurina</i>	Water Gum	5	3	75L	As Shown
Wf	<i>Waterhousia floribunda</i>	Weeping Lilly Pilly	12	8	75L	As Shown

Shrubs and Accents

By	<i>Beschorneria yuccoides</i>	Mexican Lily	1	2	200mm	As Shown
CGBF	<i>Callistemon 'Great Balls of Fire'</i>	Bottlebrush	1.5	1.5	200mm	As Shown
CIL	<i>Correa glabra 'Ivory Lantern'</i>	Ivory Lantern	0.6	0.6	200mm	As Shown
MCT	<i>Melaleuca 'Claret Tops'</i>	Honey Myrtle	1	1	200mm	As Shown
PX	<i>Philodendron 'Xanadu'</i>	Xanadu	0.4	0.4	200mm	As Shown
SC	<i>Syzygium 'Cascade'</i>	Lily Pily	2	2	200mm	As Shown
Wfr	<i>Westringia fruticosa</i>	Coastal Rosemary	2	2	200mm	As Shown

Groundcovers

AL	<i>Acacia 'Limelight'</i>	Bower Wattle	0.8	1.2	Tube	5/m2
BBC	<i>Banksia 'Birthday Candles'</i>	Birthday Candles	0.4	1	Tube	5/m2
DSF	<i>Dichondra 'Silver Falls'</i>	Silver Falls	0.2	3	Tube	5/m2
Hv	<i>Hardenbergia violacea</i>	Happy Wanderer	1	1	Tube	5/m2
Hp	<i>Helichrysum petiolatum</i>	Licorice Plant	0.4	1	Tube	5/m2
LEG	<i>Liriope Evergreen Giant</i>	Evergreen Giant	0.6	0.5	Tube	5/m2
LI	<i>Lomandra longifolia</i>	Mat Rush	0.7	0.7	Tube	5/m2
PE	<i>Poa labillardieri 'Eskdale'</i>	Eskdale Poa	0.8	0.5	Tube	5/m2
TJ	<i>Trachelospermum jasminoides</i>	Star Jasmine	7	Spreading	Tube	5/m2

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C	Plant Schedule Amendments	JW	NM	06.11.2019
B	Revised For Comment	JW	NM	04.11.2019
A	For Comment	JW	NM	30.10.2019
Issue	Revision Description	Drawn	Check	Date

LEGEND

Key Plan:

SITE IMAGE



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Client:

Northern Beaches Business Park

Project:

Northern Beaches Business Park
100 South Creek Road
Cromer

Drawing Name:

Landscape Details

PRELIMINARY

Scale:

Job Number:

SS19-4248

Drawing Number:

Issue:

501 C

PROPOSED INDUSTRIAL DEVELOPMENT

100 SOUTH CREEK ROAD, CROMER, NSW

CIVIL ENGINEERING DRAWINGS FOR DEVELOPMENT APPLICATION

DRAWING LIST

DRAWING NO. C013674.01-DA10	DRAWING TITLE DRAWING LIST & GENERAL NOTES
C013674.01-DA20	EROSION & SEDIMENT CONTROL PLAN
C013674.01-DA25	EROSION & SEDIMENT CONTROL DETAILS – SHEET 1
C013674.01-DA26	EROSION & SEDIMENT CONTROL DETAILS – SHEET 2
C013674.01-DA41	STORMWATER DRAINAGE PLAN – GROUND LEVEL
C013674.01-DA42	STORMWATER DRAINAGE PLAN – BASEMENT
C013674.01-DA45	STORMWATER DETAILS – SHEET 1
C013674.01-DA46	STORMWATER DETAILS – SHEET 2
C013674.01-DA47	STORMWATER DETAILS – SHEET 3
C013674.01-DA48	STORMWATER DETAILS – SHEET 4
C013674.01-DA51	FINISHED LEVELS PLAN – GROUND LEVEL
C013674.01-DA52	FINISHED LEVELS PLAN – BASEMENT
C013674.01-DA55	TYPICAL SECTIONS
C013674.01-DA65	RETAINING WALL DETAILS



GENERAL NOTES:

- G1
- THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANTS' DRAWINGS AND SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCY SHALL BE REFERRED TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
- G2
- ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE RELEVANT AND CURRENT STANDARDS AUSTRALIA CODES AND WITH THE BY-LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITIES EXCEPT WHERE VARIED BY THE PROJECT SPECIFICATION.
- G3
- ALL DIMENSIONS SHOWN SHALL BE VERIFIED BY THE BUILDER ON SITE. ENGINEER'S DRAWINGS SHALL NOT BE SCALED FOR DIMENSIONS. ENGINEER'S DRAWINGS ISSUED IN ANY ELECTRONIC FORMAT MUST NOT BE USED FOR DIMENSIONAL SETOUT. REFER TO THE ARCHITECT'S DRAWINGS FOR ALL DIMENSIONAL SETOUT INFORMATION.
- G4
- DURING CONSTRUCTION THE STRUCTURE SHALL BE MAINTAINED IN A STABLE CONDITION AND NO PART SHALL BE OVERSTRESSED. TEMPORARY BRACING SHALL BE PROVIDED BY THE BUILDER TO KEEP THE WORKS AND EXCAVATIONS STABLE AT ALL TIMES.
- G5
- UNLESS NOTED OTHERWISE ALL LEVELS ARE IN METRES AND ALL DIMENSIONS ARE IN MILLIMETRES.
- G6
- ALL WORKS SHALL BE UNDERTAKEN IN ACCORDANCE WITH ACCEPTABLE SAFETY STANDARDS & APPROPRIATE SAFETY SIGNS SHALL BE INSTALLED AT ALL TIMES DURING THE PROGRESS OF THE JOB.

ELECTRONIC INFORMATION NOTES:

1.
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2.
- THE CONTRACTOR'S DIRECT AMENDMENT OR MANIPULATION OF THE DATA OR INFORMATION THAT MIGHT BE CONTAINED WITHIN AN ENGINEER-SUPPLIED DIGITAL TERRAIN MODEL AND ITS SUBSEQUENT USE TO UNDERTAKE THE WORKS WILL BE SOLELY AT THE DISCRETION OF AND THE RISK OF THE CONTRACTOR.
3.
- THE CONTRACTOR IS REQUIRED TO HIGHLIGHT ANY DISCREPANCIES BETWEEN THE DIGITAL TERRAIN MODEL AND INFORMATION PROVIDED IN THE CONTRACT AND/OR DRAWINGS AND IS REQUIRED TO SEEK CLARIFICATION FROM THE SUPERINTENDENT.
4.
- THE ENGINEER WILL NOT BE LIABLE OR RESPONSIBLE FOR THE POSSIBLE ON-GOING NEED TO UPDATE THE DIGITAL TERRAIN MODEL, SHOULD THERE BE ANY AMENDMENTS OR CHANGES TO THE DRAWINGS OR CONTRACT INITIATED BY THE CONTRACTOR.

SITE PREPARATION NOTES:

1.
- ALL EARTHWORKS SHALL BE COMPLETED GENERALLY IN ACCORDANCE WITH THE GUIDELINES SPECIFIED IN THE GEOTECHNICAL REPORT.
2.
- EXISTING LEVELS ARE BASED ON INFORMATION PROVIDED BY L TS LOCKLEY TITLED 50384001DT DATED 21/06/16.
3.
- STRIP ANY TOP SOIL OR DELETERIOUS MATERIAL AND DISPOSE OF FROM SITE OR STORE AS DIRECTED.
4.
- COMPLETE CUT TO FILL EARTHWORKS TO ACHIEVE THE REQUIRED LEVELS AS INDICATED ON THE DRAWINGS WITHIN A TOLERANCE OF +0mm/-10mm THROUGH BUILDING PADS/PAVEMENTS AND +0mm/-20mm ELSEWHERE. PREPARE STEEP BATTERS TO RECEIVE FILL BY CONSTRUCTING BENCHING TO FACILITATE FILL PLACEMENT AND COMPACTION.
6.
- AREAS TO RECEIVE FILL (THAT ARE NOT ON BENCHED BATTERS) AND AREAS IN CUT SHALL BE PROOF ROLLED TO IDENTIFY ANY SOFT HEAVING MATERIAL. SOFT MATERIAL SHALL BE BOXED OUT AND REMOVED PRIOR TO FILL PLACEMENT. PROOF ROLLING TO BE INSPECTED BY A GEOTECHNICAL ENGINEER OR THE EARTHWORKS DESIGNER.
7.
- SITE WON FILL SHALL BE COMPACTED IN MAXIMUM 300mm LAYERS AND TO DRY OR HILF DENSITY RATIOS (STANDARD COMPACTION) OF BETWEEN 98% AND 103%. THE PLACEMENT MOISTURE VARIATION OR HILF MOISTURE VARIATION SHALL BE CONTROLLED TO BE BETWEEN 2% DRY AND 2% WET.
8.
- IMPORTED FILL SHALL BE COMPACTED IN MAXIMUM 300mm LAYERS AND TO DRY OR HILF DENSITY RATIOS (STANDARD COMPACTION) OF BETWEEN 98% AND 103%. THE PLACEMENT MOISTURE VARIATION OR HILF MOISTURE VARIATION SHALL BE CONTROLLED TO BE BETWEEN 2% DRY AND 2% WET.
9.
- ALL ENGINEERED FILL PARTICLES SHALL BE ABLE TO BE INCORPORATED WITHIN A SINGLE LAYER. FURTHER, LESS THAN 30% OF PARTICLES SHALL BE RETAINED ON THE 37.5 MM SIEVE. ENGINEERED FILL SHALL BE ABLE TO BE TESTED IN ACCORDANCE WITH THE STANDARD COMPACTION METHOD (AS1289.5.4.1) OR HILF TEST METHOD (AS1289.5.7.1). THESE METHODS REQUIRE LESS THAN 20% RETAINED ON THE 37.5 MM SIEVE. WHERE BETWEEN 20% AND 30% OF PARTICLES ARE RETAINED ON THE 37.5 MM SIEVE THE ABOVE TEST METHODS SHALL STILL BE ADOPTED AND TEST REPORTS ANNOTATED APPROPRIATELY. THESE REQUIREMENTS SHOULD BE MET BY THE MATERIAL AFTER PLACEMENT AND COMPACTION
10.
- ALL THE EARTHWORKS UNDERTAKEN AND THE SUBGRADE CONDITION IN THE CUT AREAS (IN THE STATED PERIOD) ARE DOCUMENTED IN THE REPORTS AND HAVE BEEN UNDERTAKEN IN ACCORDANCE WITH THE SPECIFICATION (EG. COSTIN ROE SITE PREPARATION NOTES IN DWG C013003.01-EWC10)
11.
- PRIOR TO ANY EARTHWORKS, EROSION CONTROL AS OUTLINED IN THE EROSION AND SEDIMENTATION CONTROL PLAN SHALL BE COMPLETED.
12.
- EXISTING ROCK, IF ANY, SHALL BE REMOVED BY HEAVY ROCK BREAKING OR RIPPING.
13.
- MATCH EXISTING LEVELS AT BATTER INTERFACE.
14.
- CONTRACTOR TO MATCH EXISTING LEVELS AT THE INTERFACE OF EARTHWORKS AND EXISTING SURFACE AT BATTER LOCATIONS OR WHERE NO RETAINING WALLS ARE PRESENT. ANY DISCREPANCY BETWEEN DESIGN AND EXISTING LEVELS TO BE REFERRED TO THE ENGINEER FOR DIRECTION OR ADJUSTMENTS TO DESIGN LEVELS.

FINISHED LEVELS PLAN NOTES:

1.
- LEVELS DATUM IS A.H.D.
2.
- ALL CONTOUR LINES & SPOT LEVELS INDICATE FINISHED PAVEMENT LEVELS U.N.O. ON PLAN.
3.
- THE MAJOR CONTOUR INTERVAL IS 0.5m
4.
- THE MINOR CONTOUR INTERVAL IS 0.1m.
5.
- MINIMUM PAVEMENT GRADE IS TO BE 1:100 (1%).
6.
- MAXIMUM PAVEMENT GRADE IS TO BE 1:20 (5%) IN CARPARKING AREAS AND 1:25 (4%) ELSEWHERE.
7.
- MAXIMUM RAMP GRADES ARE TO BE 1:12 (8.3%) U.N.O. ON PLAN
8.
- PROVIDE MINIMUM 3.0m LONG TRANSITION WHERE CHANGES GRADE EXCEDE 1:20 (5%).
9.
- PERMANENT BATTER SLOPES ARE TO HAVE A MAXIMUM GRADE OF 1V:3H.
10.
- ALL BATTER SLOPE WITH GRADES AT OR EXCEEDING 1V:6H ARE TO BE TURFED IMMEDIATELY OR APPROPRIATE EROSION CONTROL IS TO BE PROVIDED TO THE SATISFACTION OF THE ENGINEER.
11.
- THE ACCESS ROAD TO THE HARDSTAND AREA IS TO HAVE A CROSSFALL OF 2% AS INDICATED ON PLAN.
12.
- ALL FOOTPATHS ARE TO FALL AWAY FROM THE BUILDING AT 2.5% NOMINAL. GRADE.
13.
- ALL PAVEMENTS ARE TO BE SET AT 50mm BELOW THE FINISHED FLOOR LEVEL OF THE WAREHOUSE AND OFFICE AREAS.

EROSION CONTROL NOTES

ALL CONTROL WORK INCLUDING DIVERSION BANKS AND CATCH DRAINS, V-DRAINS AND SILT FENCES SHALL BE COMPLETED DIRECTLY FOLLOWING THE COMPLETION OF THE EARTHWORKS.

1.
- SILT FENCES AND SILT FENCE RETURNS SHALL BE ERECTED CONVEX TO THE CONTOUR TO POND WATER.
2.
- HAY BALE BARRIERS AND GEOFABRIC FENCES ARE TO BE CONSTRUCTED TO TOE OF BATTER, PRIOR TO COMMENCEMENT OF EARTHWORKS, IMMEDIATELY AFTER CLEARING OF VEGETATION AND BEFORE REMOVAL OF TOP SOIL.
3.
- ALL TEMPORARY EARTH BERMS, DIVERSION AND SILT DAM EMBANKMENTS ARE TO BE MACHINE COMPACTED, SEEDED AND MULCHED FOR TEMPORARY VEGETATION COVER AS SOON AS THEY HAVE BEEN FORMED.
4.
- CLEAR WATER IS TO BE DIVERTED AWAY FROM DISTURBED GROUND AND INTO THE DRAINAGE SYSTEM.
5.
- THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING AND PROVIDING ON GOING ADJUSTMENT TO EROSION CONTROL MEASURES AS REQUIRED DURING CONSTRUCTION.
6.
- ALL SEDIMENT TRAPPING STRUCTURES AND DEVICES ARE TO BE INSPECTED AFTER STORMS FOR STRUCTURAL DAMAGE OR CLOGGING, TRAPPED MATERIAL IS TO BE REMOVED TO A SAFE, APPROVED LOCATION.
7.
- ALL FINAL EROSION PREVENTION MEASURES INCLUDING THE ESTABLISHMENT OF GRASSING ARE TO BE MAINTAINED UNTIL THE END OF THE DEFECTS LIABILITY PERIOD.
8.
- ALL EARTHWORKS AREAS SHALL BE ROLLED ON A REGULAR BASIS TO SEAL THE EARTHWORKS.
9.
- ALL FILL AREAS ARE TO BE LEFT WITH A BUND AT THE TOP OF THE SLOPE AT THE END OF EACH DAYS EARTHWORKS. THE HEIGHT OF THE BUND SHALL BE A MINIMUM OF 200MM.
10.
- ALL CUT AND FILL SLOPES ARE TO BE SEEDED AND HYDROMULCHED WITHIN 10 DAYS OF COMPLETION OF FORMATION.
11.
- AFTER REVEGETATION OF THE SITE IS COMPLETE AND THE SITE IS STABLE IN THE OPINION OF A SUITABLY QUALIFIED PERSON ALL TEMPORARY WORK SUCH AS SILT FENCE, DIVERSION DRAINS ETC SHALL BE REMOVED.
12.
- ALL TOPSOIL STOCKPILES ARE TO BE SUITABLY COVERED TO THE SATISFACTION OF THE SITE MANAGER TO PREVENT WIND AND WATER EROSION.
13.
- ANY AREA THAT IS NOT APPROVED BY THE CONTRACT ADMINISTRATOR FOR CLEARING OR DISTURBANCE BY THE CONTRACTOR'S ACTIVITIES SHALL BE CLEARLY MARKED AND SIGN POSTED, FENCED OFF OR OTHERWISE APPROPRIATELY PROTECTED AGAINST ANY SUCH DISTURBANCE.
14.
- ALL STOCKPILE SITES SHALL BE SITUATED IN AREAS APPROVED FOR SUCH USE BY THE SITE MANAGER. A 6m BUFFER ZONE SHALL EXIST BETWEEN STOCKPILE SITES AND ANY STREAM OR FLOW PATH. ALL STOCKPILES SHALL BE ADEQUATELY PROTECTED FROM EROSION AND CONTAMINATION OF THE SURROUNDING AREA BY USE OF THE MEASURES APPROVED IN THE EROSION AND SEDIMENTATION CONTROL PLAN.
15.
- ACCESS AND EXIT AREAS SHALL INCLUDE SHAKE-DOWN OR OTHER METHODS APPROVED BY THE SITE MANAGER FOR THE REMOVAL OF SOIL MATERIALS FORM MOTOR VEHICLES. THE CONTRACTOR IS TO ENSURE RUNOFF FROM ALL AREAS WHERE THE NATURAL SURFACE IS DISTURBED BY CONSTRUCTION, INCLUDING ACCESS ROADS, DEPOT AND STOCKPILE SITES, SHALL BE FREE OF POLLUTANTS BEFORE IT IS EITHER DISPERSED TO STABLE AREAS OR DIRECTED TO NATURAL WATERCOURSES.
17.
- THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SLOPES, CROWNS AND DRAINS ON ALL EXCAVATIONS AND EMBANKMENTS TO ENSURE SATISFACTORY DRAINAGE AT ALL TIMES WATER SHALL NOT BE ALLOWED TO POND ON THE WORKS UNLESS SUCH PONDING IS PART OF AN APPROVED ESCP / SWMP.





STORMWATER DRAINAGE NOTES:

1.
- ALL STORMWATER WORKS TO BE COMPLETED IN ACCORDANCE WITH AUSTRALIAN STANDARD AS3500.3:2003 PLUMBING AND DRAINAGE, PART 3: STORMWATER DRAINAGE.
2.
- THE MINOR (PIPED) SYSTEM HAS BEEN DESIGNED FOR THE 1 IN 20 YEAR ARI STORM EVENT AND THE MAJOR (OVERLAND) SYSTEM HAS BEEN DESIGNED FOR THE 1 IN 100 YEAR ARI STORM EVENT.
3.
- ALL FINISHED PAVEMENT LEVELS SHALL BE AS INDICATED ON FINISHED LEVELS PLANS DA51 & DA52.
4.
- PIT SIZES SHALL BE AS INDICATED IN THE SCHEDULE WHILE PIPE SIZES AND DETAILS ARE PROVIDED ON PLAN.
5.
- EXISTING STORMWATER PIT LOCATIONS AND INVERT LEVELS TO BE CONFIRMED BY SURVEY PRIOR TO COMMENCING WORKS ON SITE.
6.
- ALL STORMWATER PIPES ϕ 375 OR GREATER SHALL BE CLASS 2 (WITH HS2 SUPPORT) REINFORCED CONCRETE WITH RUBBER RING JOINTS UNLESS NOTED OTHERWISE.
7.
- ALL PIPES UP TO AND INCLUDING ϕ 300 TO BE uPVC GRADE SN8 UNO.
8.
- PIPE CLASS NOMINATED ARE FOR IN-SERVICE LOADING CONDITIONS ONLY. CONTRACTOR IS TO MAKE ANY NECESSARY ADJUSTMENTS REQUIRED FOR CONSTRUCTION CONDITIONS.
9.
- ALL CONCRETE PITS GREATER THAN 1000mm DEEP SHALL BE REINFORCED USING N12-200 EACH WAY CENTERED IN WALL AND BASE. LAP MINIMUM 300mm WHERE REQUIRED. ALL CONCRETE FOR PITS SHALL BE F'c 25 MPA. PRECAST PITS MAY BE USED WITH THE APPROVAL OF THE ENGINEER.
10.
- IN ADDITION TO ITEM 6 ABOVE, ALL CONCRETE PITS GREATER THAN 3000mm DEEP SHALL HAVE WALLS AND BASE THICKNESS INCREASED TO 200mm.
11.
- PIPES SHALL BE LAID AS PER PIPE LAYING DETAILS. PARTICULAR CARE SHALL BE TAKEN TO ENSURE THAT THE PIPE IS FULLY AND EVENLY SUPPORTED. RAM AND PACK FILLING AROUND AND UNDER BACK OF PIPES AND PIPE FAUCETS, WITH NARROW EDGED RAMMERS OR OTHER SUITABLE TAMPING DETAILS.
12.
- CONCRETE PIPES UNDER, OR WITHIN THE ZONE OF INFLUENCE OF PAVED AREAS SHALL BE LAID USING HS2 TYPE SUPPORT, AS A MINIMUM, IN ACCORDANCE WITH AS 3725. AGGREGATE BACKFILL SHALL NOT BE USED FOR PIPE BEDDING AND OR HAUNCH/SIDE SUPPORT.
13.
- WHERE PIPE LINES ENTER PITS, PROVIDE 2m LENGTH OF STOCKING WRAPPED SLOTTED ϕ 100 uPVC TO EACH SIDE OF PIPE.
14.
- ALL SUBSOIL DRAINAGE LINES SHALL BE ϕ 100 SLOTTED uPVC WITH APPROVED FILTER WRAP LAID IN 300mm WIDE GRANULAR FILTER UNLESS NOTED OTHERWISE. LAY SUBSOIL LINES TO MATCH FALLS OF LAND AND/OR 1 IN 200 MINIMUM. PROVIDE CAPPED CLEANING EYE (RODDING POINT) AT UPSTREAM END OF LINE AND AT 30m MAX. CTS. PROVIDE SUBSOIL LINES TO ALL PAVEMENT / LANDSCAPED INTERFACES, TO REAR OF RETAINING WALLS (AS NOMINATED BY STRUCTURAL ENGINEER) AND AS SHOWN ON PLAN.
15.
- ALL PIPE GRADES 1 IN 100 MINIMUM UNO.
16.
- PROVIDE STEP IRONS IN PITS DEEPER THAN 1000mm.
17.
- MIN. 600 COVER TO PIPE OBVERT BENEATH ROADS & MIN. 400 COVER BENEATH LANDSCAPED AND PEDESTRIAN AREAS.
18.
- PIT COVERS IN TRAFFICABLE PAVEMENT SHALL BE CLASS D 'HEAVY DUTY', THOSE LOCATED IN NON-TRAFFICABLE AREAS SHALL BE CLASS B 'MEDIUM DUTY' U.N.O.
19.
- PROVIDE CLEANING EYES (RODDING POINTS) TO PIPES AT ALL CORNERS AND T-JUNCTIONS WHERE NO PITS ARE PRESENT.
20.
- DOWN PIPES (DP) TO BE AS PER HYDRAULIC ENGINEERS DETAILS WITH CONNECTOR TO MATCH DP SIZE U.N.O. ON PLAN. PROVIDE CLEANING EYE AT GROUND LEVEL.
21.
- PIPE LENGTHS NOMINATED ON PLAN OR LONGSECTIONS ARE MEASURED FROM CENTER OF PITS TO THE NEAREST 0.5m AND DO NOT REPRESENT ACTUAL LENGTH. THE CONTRACTOR IS TO ALLOW FOR THIS.



**THIS PLAN IS TO BE READ IN
CONJUNCTION WITH
THE CONDITIONS OF DEVELOPMENT
CONSENT**

LEGEND:

-  - DENOTES SILT FENCE WITH CATCH DRAIN
-  - DENOTES SILT FENCE
-  - DENOTES DIVERSION DRAIN
-  - DENOTES DIRECTION OF OVERLAND FLOW

SEDIMENTATION BASIN NOTE:

FOR SEDIMENT & EROSION CONTROL DETAILS REFER TO
DRAWING C013674.01-C25 & C26.

SEDIMENTATION BASIN SIZING BASED ON RECOMMENDATIONS
OF 'SOILS AND CONSTRUCTION, MANAGING URBAN
STORMWATER-THE BLUE BOOK'.
CAPACITY BASED UPON 5 DAY RAINFALL DEPTH AT 85th
PERCENTILE INTENSITY (44.0mm).

APPROXIMATE AREA OF DISTURBED SITE = 4.45Ha

SEDIMENTATION BASINS TO COLLECT RUN-OFF IN EXTREME RAINFALL EVENTS. COLLECTED RUN-OFF TO BE ASSESSED BY A QUALIFIED LABORATORY FOR DOUSING RATES OF ALUM OR GYPSUM TO ENSURE COAGULATION OF SEDIMENTS PRIOR TO WATER BEING DISCHARGED TO COUNCIL STORMWATER SYSTEM.

EACH BASIN IS TO HAVE A MARKER PLACED AS PER THE
DETAIL TO INDICATE WHEN SEDIMENT IS TO BE REMOVED.
REMOVED SEDIMENT IS TO BE CLASSED AND DE-WATERED
PRIOR TO REMOVAL FROM SITE

ALLOWANCE TO BE MADE DURING BENCHING OF SITE TO
ENSURE RUN-OFF IS DIRECTED TO SEDIMENTATION BASINS.

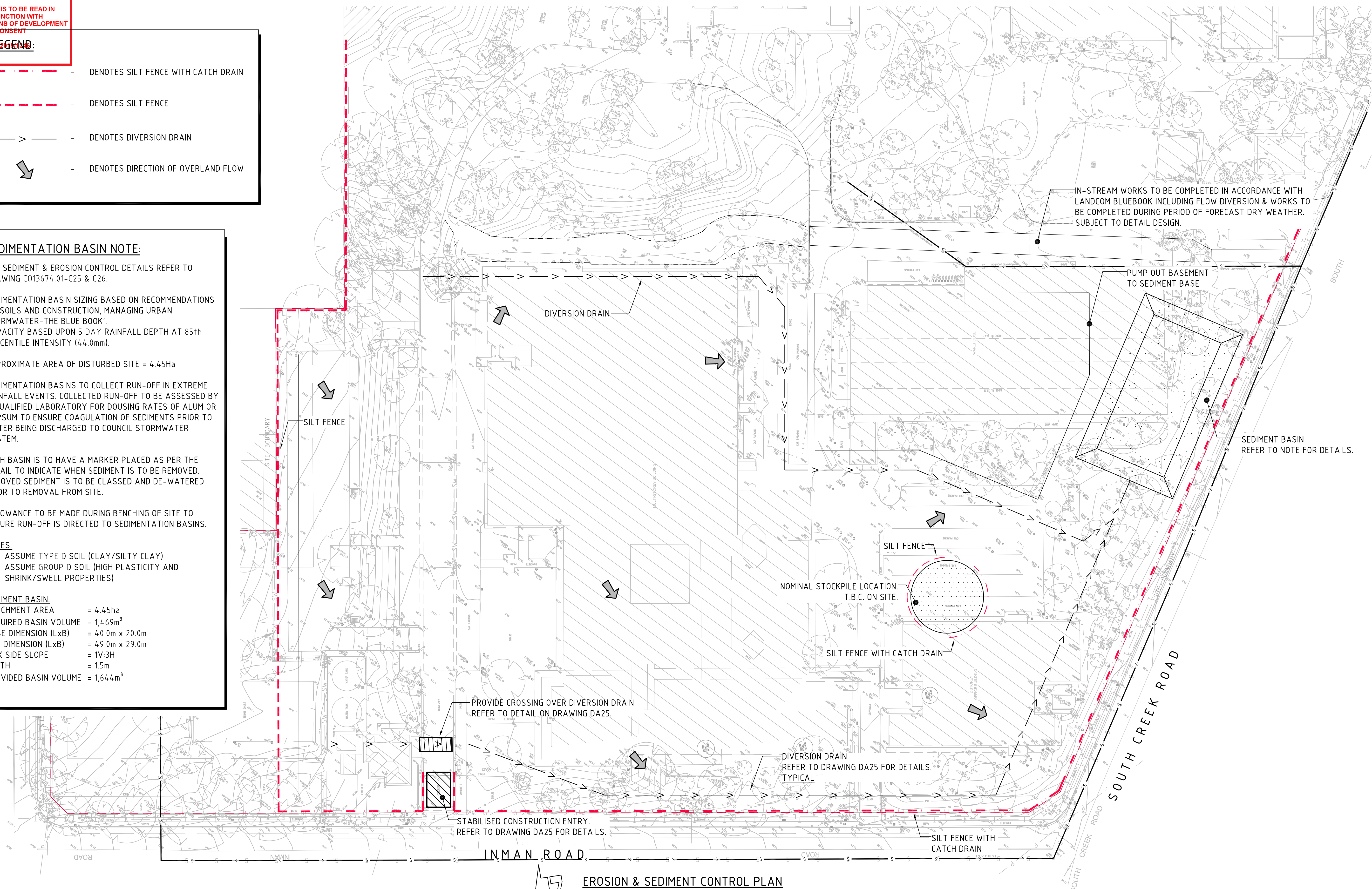
NOTES:

- NOTES:**
1. ASSUME TYPE D SOIL (CLAY/SILTY CLAY)
 2. ASSUME GROUP D SOIL (HIGH PLASTICITY AND SHRINK/SWELL PROPERTIES)

SEDIMENT BASIN:

SEBMENT BASIN:

CATCHMENT AREA	= 4.45ha
REQUIRED BASIN VOLUME	= 1,469m ³
BASE DIMENSION (LxB)	= 40.0m x 20.0m
TOP DIMENSION (LxB)	= 49.0m x 29.0m
MAX SIDE SLOPE	= 1V:3H
DEPTH	= 1.5m
PROVIDED BASIN VOLUME	= 1,644m ³



EROSION & SEDIMENT CONTROL PLAN
1:500 SCALE

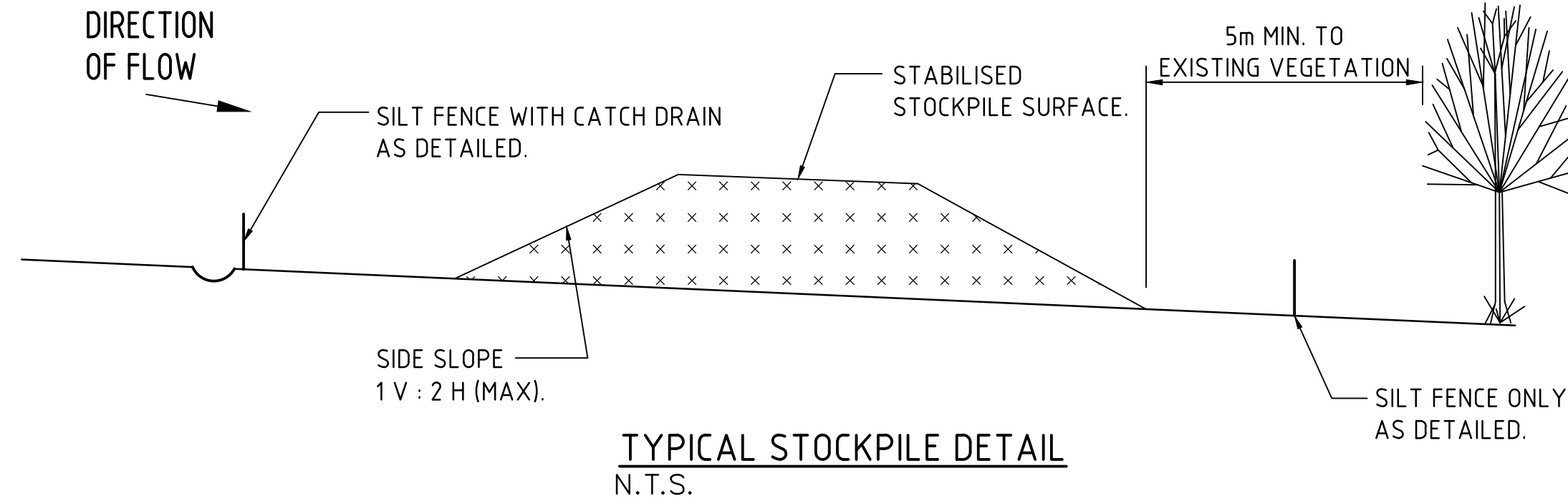
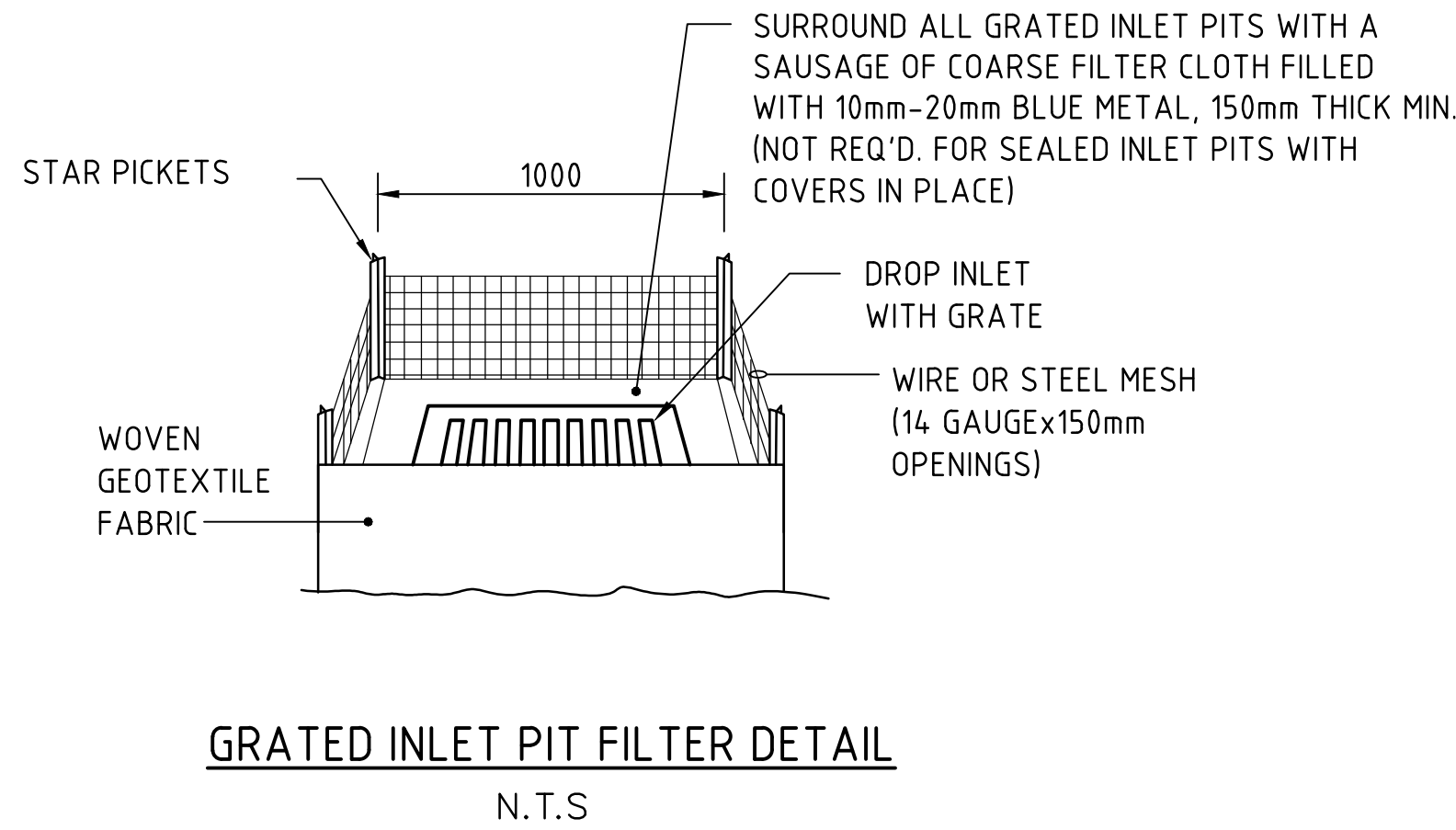
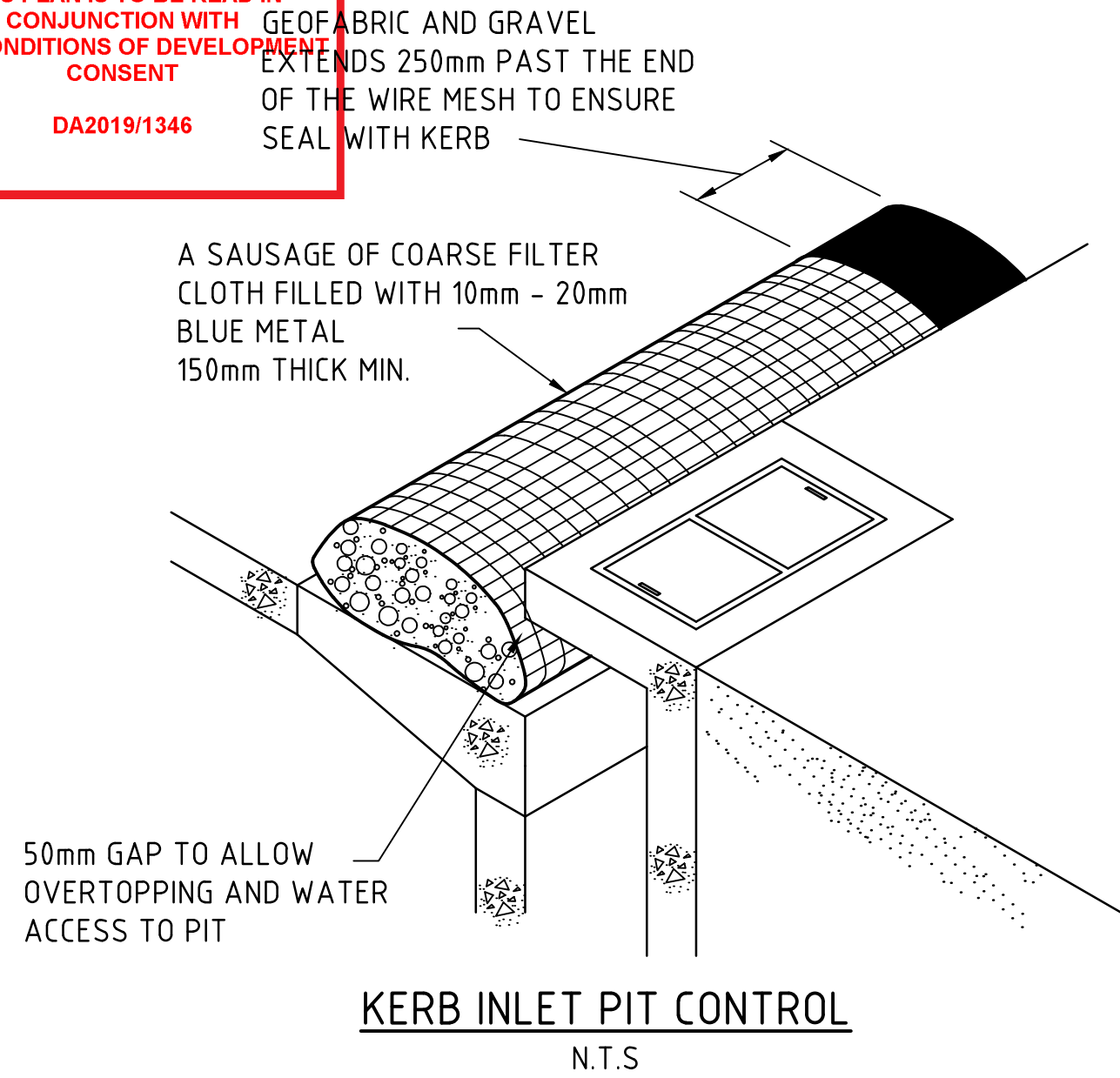
FOR DEVELOPMENT APPLICATION



			ARCHITECT		CLIENT EG FUNDS MANAGEMENT GOVERNOR PHILLIP TOWER 21/1 FARRER PLACE SYDNEY, NSW 2000		PROJECT PROPOSED DEVELOPMENT 100 SOUTH CREEK ROAD CROMER, 2099, NEW SOUTH WALES				Costin Roe Consulting Pty Ltd. Consulting Engineers ACH 003 696 446 Level 1, 8 Windmill Street Walsh Bay, Sydney NSW 2000 Tel: (02) 9251-7699 Fax: (02) 9241-3731 email: mail@costinroe.com.au ©				DRAWING TITLE EROSION & SEDIMENT CONTROL PLAN	
ISSUED FOR DEVELOPMENT APPLICATION 26.11.19 A							DESIGNED: T.W. DRAWN: T.W. DATE: OCT 2019 CHECKED: M.W. SIZE: A1 SCALE: AS SHOWN CAD REF: C013674.01-DA20				PRECISION COMMUNICATION ACCOUNTABILITY		DRAWING No C013674.01-DA20		ISSUE A	
AMENDMENTS DATE ISSUE																



THIS PLAN IS TO BE READ IN CONJUNCTION WITH THE CONDITIONS OF DEVELOPMENT CONSENT DA2019/1346



NOTE: ADOPT ABOVE DETAILS AROUND ALL PITS WITHIN AREA ENCOMPASSED BY SILT FENCE & TO PITS ON THE ROAD ADJACENT TO SITE BOUNDARY.

STOCKPILE NOTES

1. PLACE ALL STOCKPILES IN LOCATIONS MORE THAN 5m FROM EXISTING VEGETATION, ROADS & HAZARD AREAS.
2. CONSTRUCT ON THE CONTOUR AS LOW, FLAT ELONGATED MOUNDS. SIDE SLOPE TO BE 1 V: 2 H MAX.
3. WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2m IN HEIGHT.
4. WHERE STOCKPILES ARE TO BE IN PLACE FOR MORE THAN 10 DAYS, STABILISE USING WOOD CHIP MULCH - 16 TONNE/Ha.
5. CONSTRUCT SILT FENCE WITH CATCH DRAIN ON UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES & SILT FENCE ONLY 1 TO 2m DOWNSLOPE AS SHOWN.

NOTES:

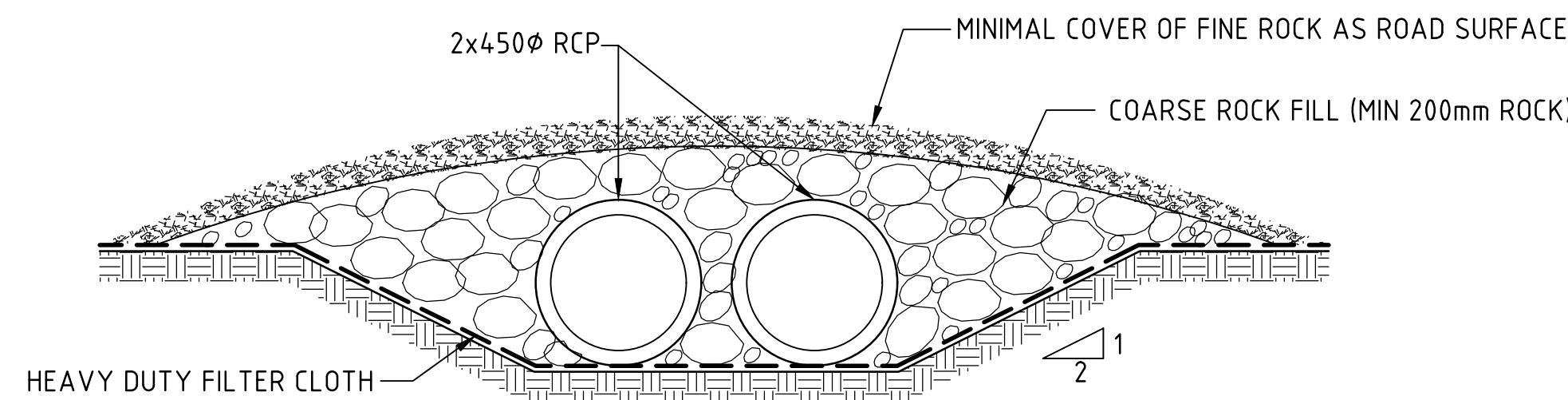
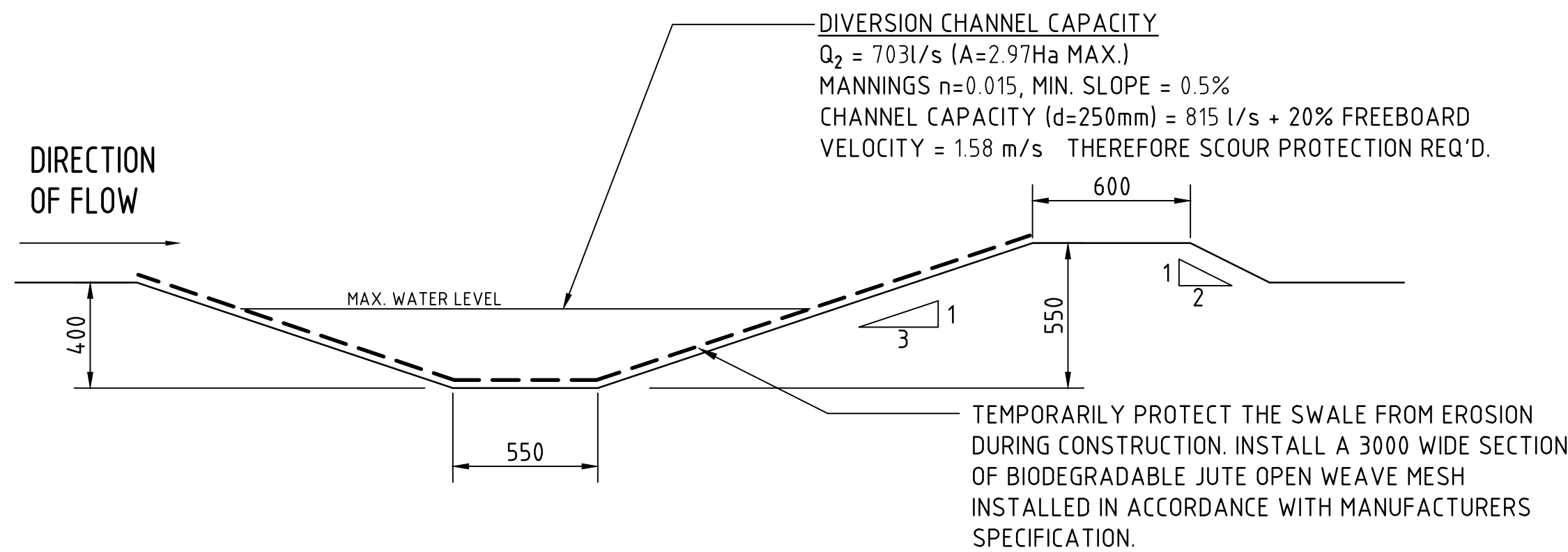
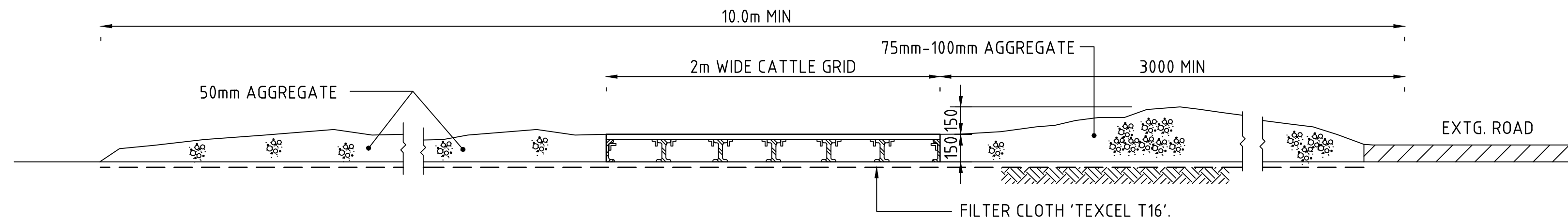
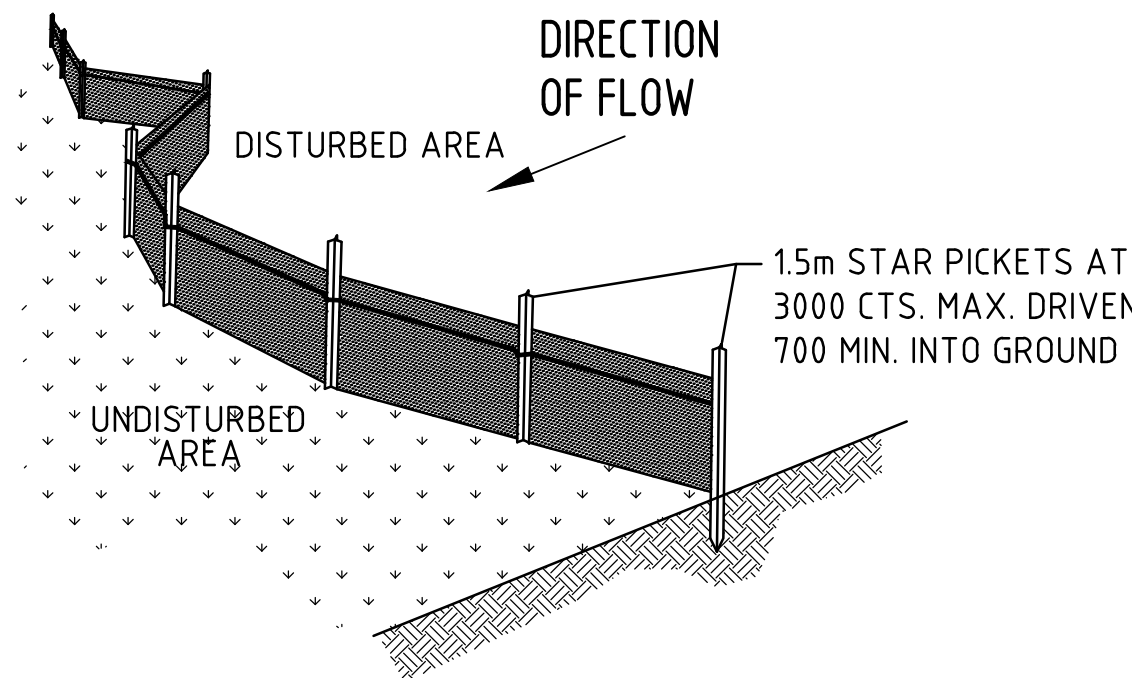
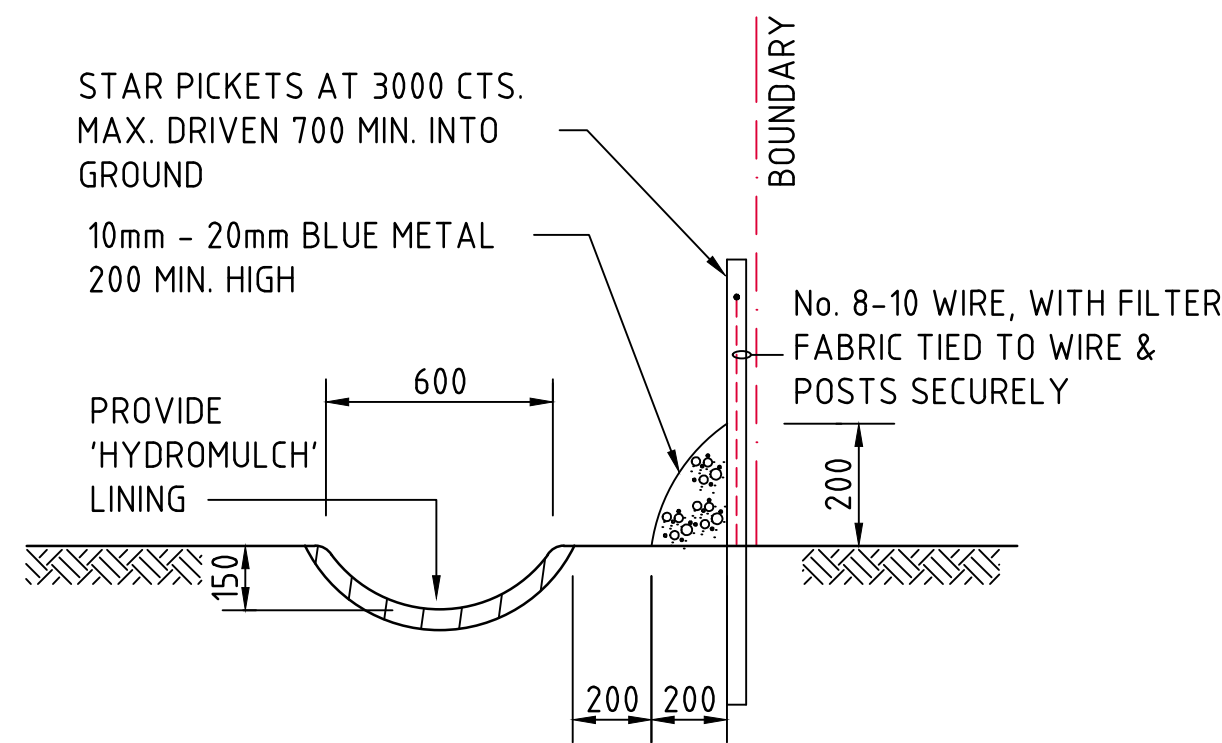
ALL EROSION & SEDIMENT CONTROL MEASURES TO BE INSPECTED & MAINTAINED DAILY BY SITE MANAGER.

MINIMISE DISTURBED AREAS.

ROADS & FOOTPATHS TO BE SWEEPED DAILY.


1.2m TURF TO BE PLACED BEHIND KERBS.

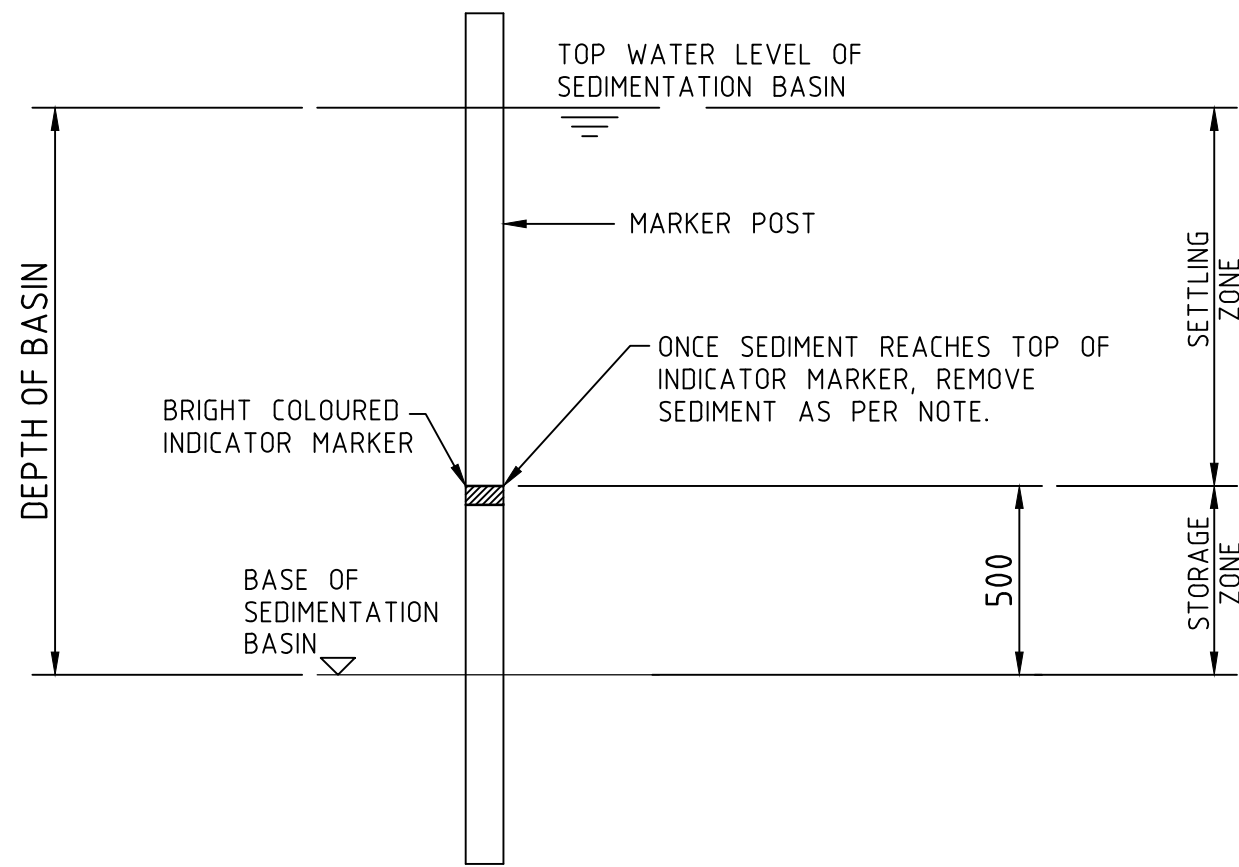
DUST MINIMISATION CONTROL BY WATERING TO BE IMPLEMENTED BY SITE MANAGER AS REQUIRED OR AS DIRECTED BY THE EPA.



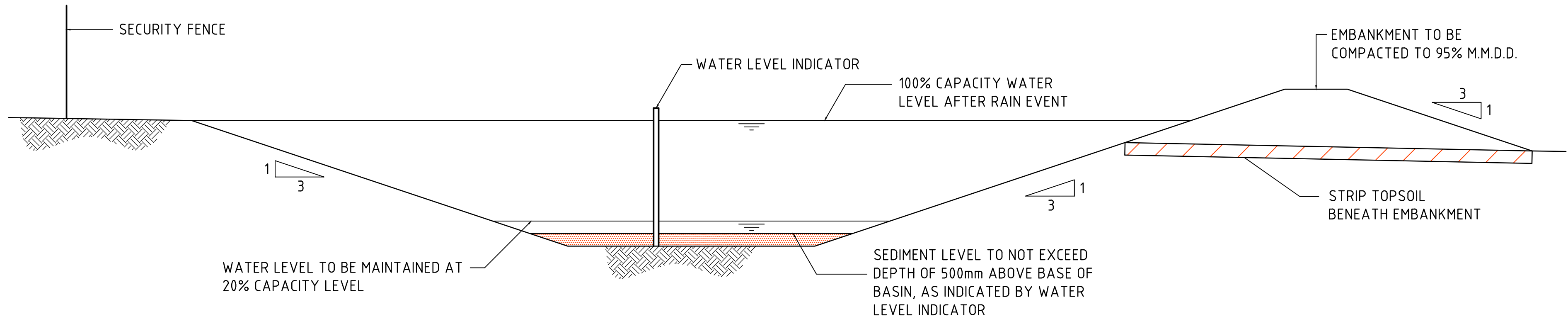
200mm 0 500 1000 1500 2000mm
SCALE 1:20 AT A1 SHEET SIZE

FOR DEVELOPMENT APPLICATION

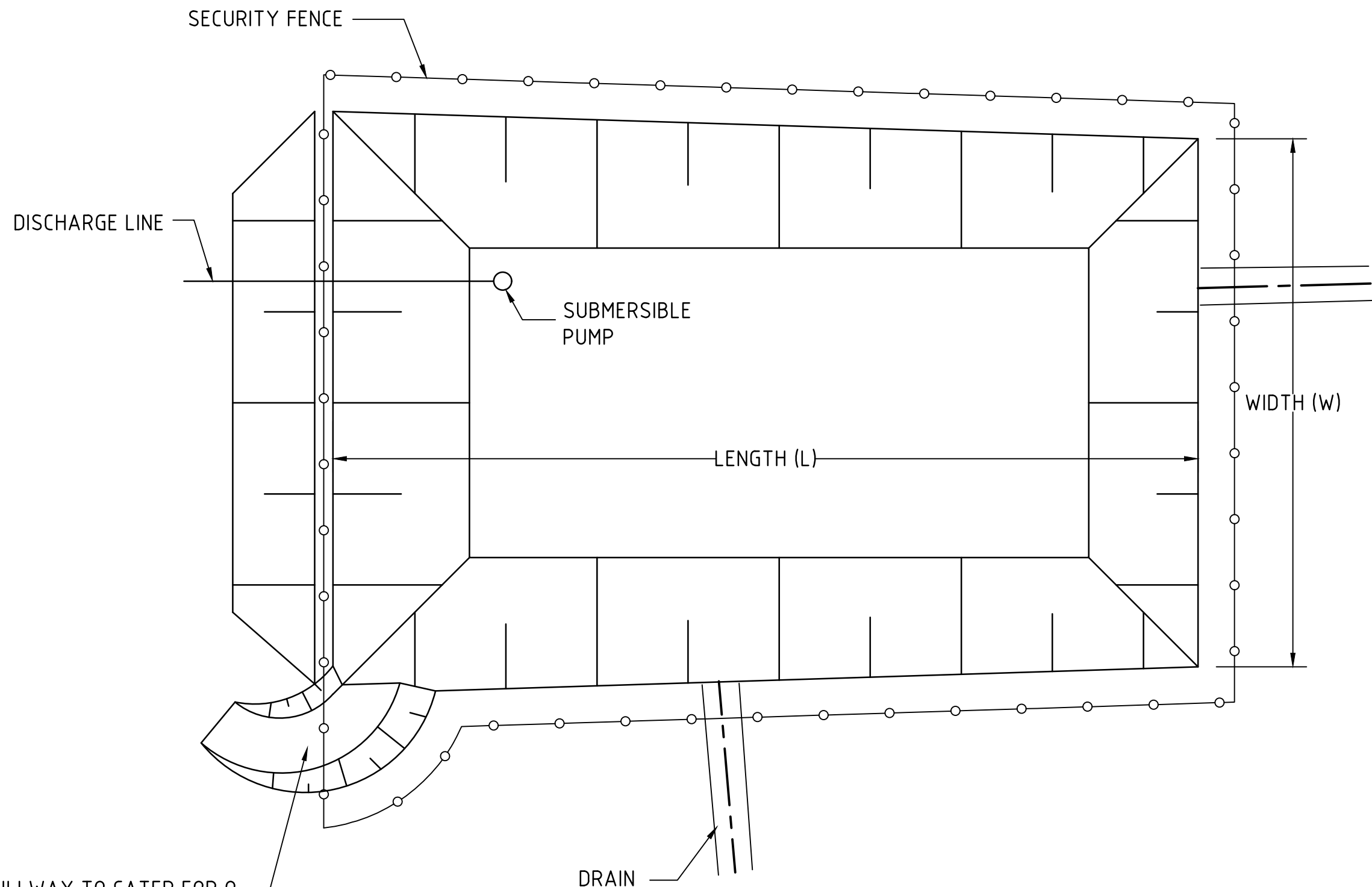
			ARCHITECT		CLIENT EG FUNDS MANAGEMENT GOVERNOR PHILLIP TOWER 21/1 FARRER PLACE SYDNEY, NSW 2000		PROJECT PROPOSED DEVELOPMENT 100 SOUTH CREEK ROAD CROMER, 2099, NEW SOUTH WALES				Costin Roe Consulting Pty Ltd. Consulting Engineers <small>ACH 003 090 648</small> Level 1, 8 Windmill Street Walsh Bay, Sydney NSW 2000 Tel: (02) 9251-7899 Fax: (02) 9241-3731 email: mail@costinroe.com.au @		<div>Costin Roe Consulting</div>			DRAWING TITLE EROSION & SEDIMENT CONTROL DETAILS - SHEET 1				
ISSUED FOR DEVELOPMENT APPLICATION			26.11.19		A								PRECISION COMMUNICATION ACCOUNTABILITY			DRAWING No C013674.01-DA25			ISSUE A	
AMENDMENTS			DATE		ISSUE															



SEDIMENT STORAGE MARKER
SCALE 1:20

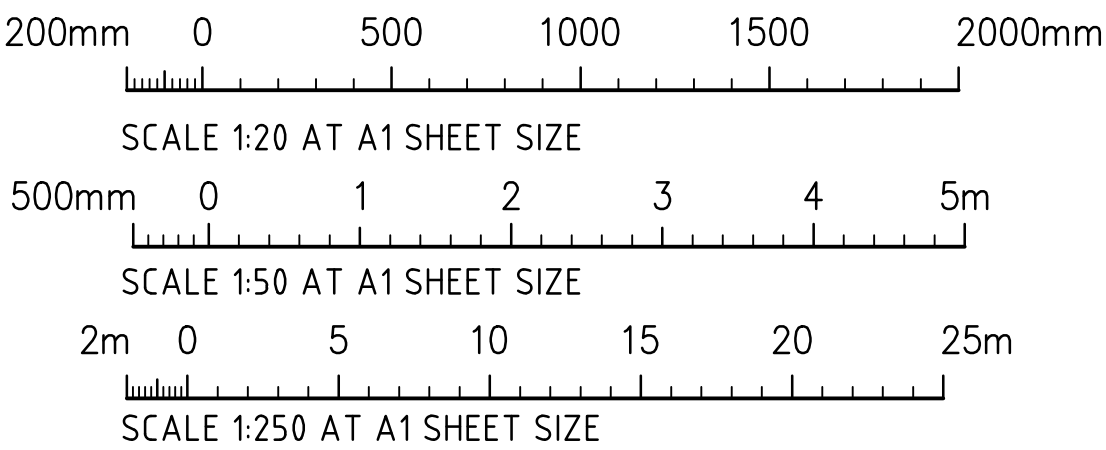


TYPICAL SEDIMENT CONTROL BASIN SECTION
SCALE 1:50



SPILLWAY TO CATER FOR Q₂ ARI FLOW FOR 6-12 MONTHS. REFER TO PLAN FOR SPILLWAY WIDTH

TYPICAL SEDIMENT CONTROL POND PLAN
SCALE 1:250



FOR DEVELOPMENT APPLICATION

			ARCHITECT		CLIENT EG FUNDS MANAGEMENT GOVERNOR PHILLIP TOWER 21/1 FARRER PLACE SYDNEY, NSW 2000		PROJECT PROPOSED DEVELOPMENT 100 SOUTH CREEK ROAD CROMER, 2099, NEW SOUTH WALES				Costin Roe Consulting Pty Ltd. Consulting Engineers 629 003 696 646 Level 1, 8 Windmill Street Walsh Bay, Sydney NSW 2000 Tel: (02) 9251-7899 Fax: (02) 9241-3731 email: mail@costinroe.com.au ©		<div>Costin Roe Consulting</div>		DRAWING TITLE EROSION & SEDIMENT CONTROL DETAILS - SHEET 2		
ISSUED FOR DEVELOPMENT APPLICATION			26.11.19		A		DESIGNED TW	DRAWN TW	DATE OCT 2019	CHECKED MW	SIZE A1	SCALE AS SHOWN	CAD REF: C013674.01-DA 26	PRECISION COMMUNICATION ACCOUNTABILITY		DRAWING No C013674.01-DA 26	ISSUE A



THIS PLAN IS TO BE READ IN CONJUNCTION WITH THE CONDITIONS OF DEVELOPMENT
LEGEND:
LEVELS DATUM IS AHD.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- GRATED DRAIN (300W x 200D U.N.O.)
- DRAINAGE LINE
- ROOFWATER LINE
- EXISTING SEWER MAIN
- FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS

LOCATION OF EXISTING CULVERT DISCHARGE INTO CHANNEL VIA 2xØ600 PIPES TO BE MAINTAINED

APPROXIMATE EXTENT OF EXISTING WATERWAY TO BE MAINTAINED

APPROXIMATE EXTENT OF EXISTING WATERWAY

APPROXIMATE EXTENT OF WATERWAY TO BE REINSTATED. REMOVE EXISTING CULVERTS & PAVEMENT AND CONSTRUCT WATERWAY.

STORMWATER LINE EXPECTED TO PASS ABOVE EXISTING Ø225 SEWER. SEWER TO BE POT-HOLE SURVEYED TO CONFIRM CLEARANCE TO PROPOSED STORMWATER.

APPROXIMATE EXTENT OF EXISTING WATERWAY TO BE MAINTAINED

EXISTING 2xØ825 PIPES TO BE DEMOLISHED

DISCHARGE TO REINSTATED CHANNEL AT I.L. 10.85 APPROX.

EXISTING HEADWALL & 2xØ900 PIPES TO BE PRESERVED

RETAINING WALL 3

STORMWATER MANAGEMENT BASIN
F.S.L. = 12.00m
OSD STORAGE = 1,325m³
FILTER MEDIA AREA = 663m²
MEDIA DEPTH = 500mm
EXTENDED DETENTION DEPTH = 300mm
BIO-RETENTION FILTRATION AREA EXCLUSIVE OF SCOUR PROTECTION, INLET STRUCTURES & OUTLET STRUCTURES.

PROVIDE HAVESTOCK FLOOR DRAINS ALONG SUSPENDED SLAB. PIPES TO BE SLUNG UNDER SLAB AND TO DISCHARGE INTO BASEMENT IN-GROUND DRAINAGE SYSTEM. REFER TO DRAWINGS DA42 & DA45 FOR DETAILS.

PROVIDE DROPPER. STORMWATER PIPES TO DISCHARGE INTO BASEMENT IN-GROUND DRAINAGE SYSTEM.

PROVIDE DROPPER

PROPOSED BUILDING
FFL 17.30

PROPOSED BUILDING
FFL 17.30

EXISTING BUILDING
FFL 18.29

RETAINING WALL 1. REFER TO DRAWING DA51 FOR DETAILS. TYPICAL

STORMWATER DRAINAGE PLAN - GROUND FLOOR
1:500 SCALE

STORMWATER DRAINAGE NOTES:
REFER TO DRAWING DA10 FOR STORMWATER DRAINAGE NOTES

STORMWATER PIT SCHEDULE:
REFER TO DRAWING DA42 FOR STORMWATER PIT SCHEDULE

5m 0 10 20 30 40 50m
1:500 SCALE AT A1 SHEET SIZE

FOR DEVELOPMENT APPLICATION

ISSUED FOR DEVELOPMENT APPLICATION	26.11.19	B
ISSUED FOR INFORMATION ONLY	01.11.19	A
AMENDMENTS	DATE	ISSUE

ARCHITECT	PROJECT
EG FUNDS MANAGEMENT	GOVERNOR PHILLIP TOWER
21/1 FARRER PLACE	SYDNEY, NSW 2000

CLIENT	PROPOSED DEVELOPMENT
GOVERNOR PHILLIP TOWER	100 SOUTH CREEK ROAD
21/1 FARRER PLACE	CROMER, 2099, NEW SOUTH WALES

DESIGNED	DRAWN	CHECKED	DATE	SCALE	CAD REF:
TW	TW	MW	OCT 2019	A1 AS SHOWN	C013674.01-DA41

Costin Roe Consulting Pty Ltd.	CONSULT AUSTRALIA
Consulting Engineers	
Level 1, 8 Windmill Street	
Wahah Bay, Sydney NSW 2000	
Tel: (02) 9251-7699 Fax: (02) 9241-3731	
email: mail@costinroe.com.au @	

PRECISION COMMUNICATION ACCOUNTABILITY
--

DRAWING TITLE	DRAWING No	ISSUE
STORMWATER DRAINAGE PLAN GROUND FLOOR	C013674.01-DA41	B

THIS PLAN IS TO BE READ IN
CONJUNCTION WITH
THE CONDITIONS OF DEVELOPMENT
CONSENT

LEGEND:

LEVELS DATUM IS AHD.

SGGP, SINGLE GRATED GULLY PIT

SJP, SEALED JUNCTION PIT

GRATED DRAIN (300W x 200D U.N.O.)

DRAINAGE LINE

ROOFWATER LINE

EXISTING SEWER MAIN

PIT SCHEDULE

NETWORK A

PIT No.	GRATE RL	TYPE	SIZE	COMMENT
PIT A 01	17.05	SGGP	900x900	⊕
PIT A 02	17.05	SGGP	900x900	⊕
PIT A 03	17.05	SGGP	900x900	⊕
PIT A 04	17.05	SGGP	900x900	⊕
PIT A 05	17.12	SJP	900x900	
PIT A 06	17.00	SGGP	900x900	⊕
PIT A 07	17.00	SGGP	900x900	⊕
PIT A 08	17.00	SGGP	900x900	⊕

NETWORK B

PIT No.	GRATE RL	TYPE	SIZE	COMMENT
PIT B 01	14.05	SGGP	900x900	⊕
PIT B 02	14.05	SGGP	900x900	⊕
PIT B 03	14.05	SGGP	900x900	⊕
PIT B 04	14.05	SGGP	900x900	⊕
PIT B 05	14.05	SGGP	900x900	⊕
PIT B 06	14.05	SGGP	900x900	⊕
PIT B 07	14.05	SGGP	900x900	⊕
PIT B 08	14.05	SGGP	900x900	⊕
PIT B 09	14.05	SGGP	900x900	⊕
PIT B 10	14.05	SGGP	900x900	⊕
PIT B 11	14.05	SGGP	900x900	⊕
PIT B 12	14.05	SGGP	900x900	⊕
PIT B 13	14.05	SGGP	900x900	⊕
PIT B 14	14.05	SGGP	900x900	⊕
PIT B 15	14.05	SGGP	900x900	⊕
PIT B 16	14.05	SGGP	900x900	⊕
PIT B 17	14.05	SGGP	900x900	⊕
PIT B 18	14.05	SGGP	900x900	⊕
PIT B 19	13.70	SJP	900x900	

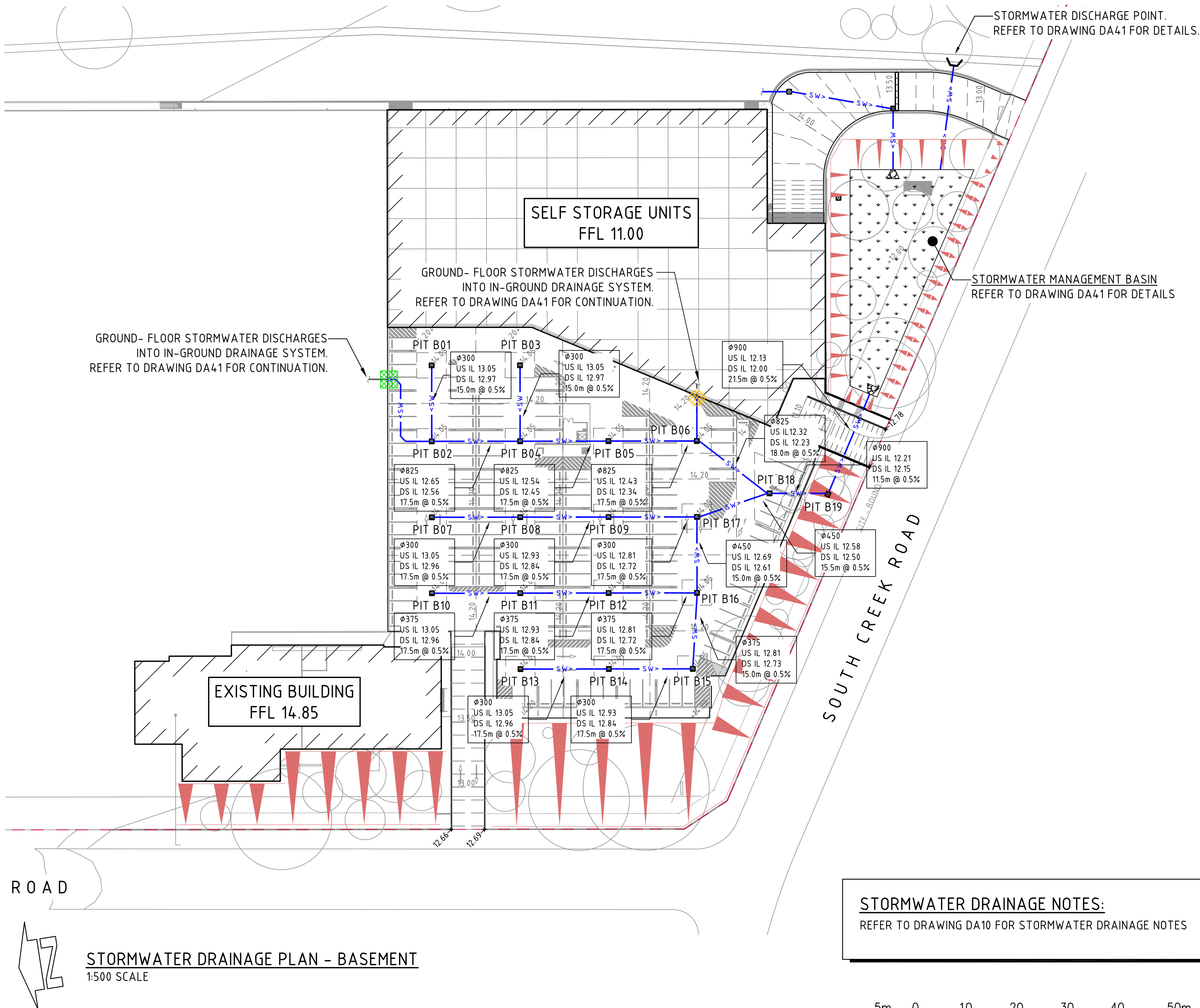
NETWORK C

PIT No.	GRATE RL	TYPE	SIZE	COMMENT
PIT C 01	17.25	SJP	900x900	
PIT C 02	17.00	SJP	900x900	
PIT C 03	15.00	SJP	900x900	
PIT C 04	13.92	SJP	900x900	
PIT C 05	13.50	SGGP	900x900	⊕

NETWORK D

PIT No.	GRATE RL	TYPE	SIZE	COMMENT
PIT D 01	12.45	BIP	1200x1200	

⊕ DENOTES PIT TO BE FITTED WITH OCEANGUARD
OCEANPROTECT PIT INSERT



STORMWATER DRAINAGE NOTES:
REFER TO DRAWING DA10 FOR STORMWATER DRAINAGE NOTES

FOR DEVELOPMENT APPLICATION

ISSUED FOR DEVELOPMENT APPLICATION	26.11.19	B
ISSUED FOR INFORMATION ONLY	01.11.19	A
AMENDMENTS	DATE	ISSUE

ARCHITECT

CLIENT
EG FUNDS MANAGEMENT
GOVERNOR PHILLIP TOWER
21/1 FARRER PLACE
SYDNEY, NSW 2000

PROJECT
PROPOSED DEVELOPMENT
100 SOUTH CREEK ROAD
CROMER, 2099, NEW SOUTH WALES



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DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
TW	TW	OCT 2019	MW	A1	AS SHOWN	C013674.01-DA42

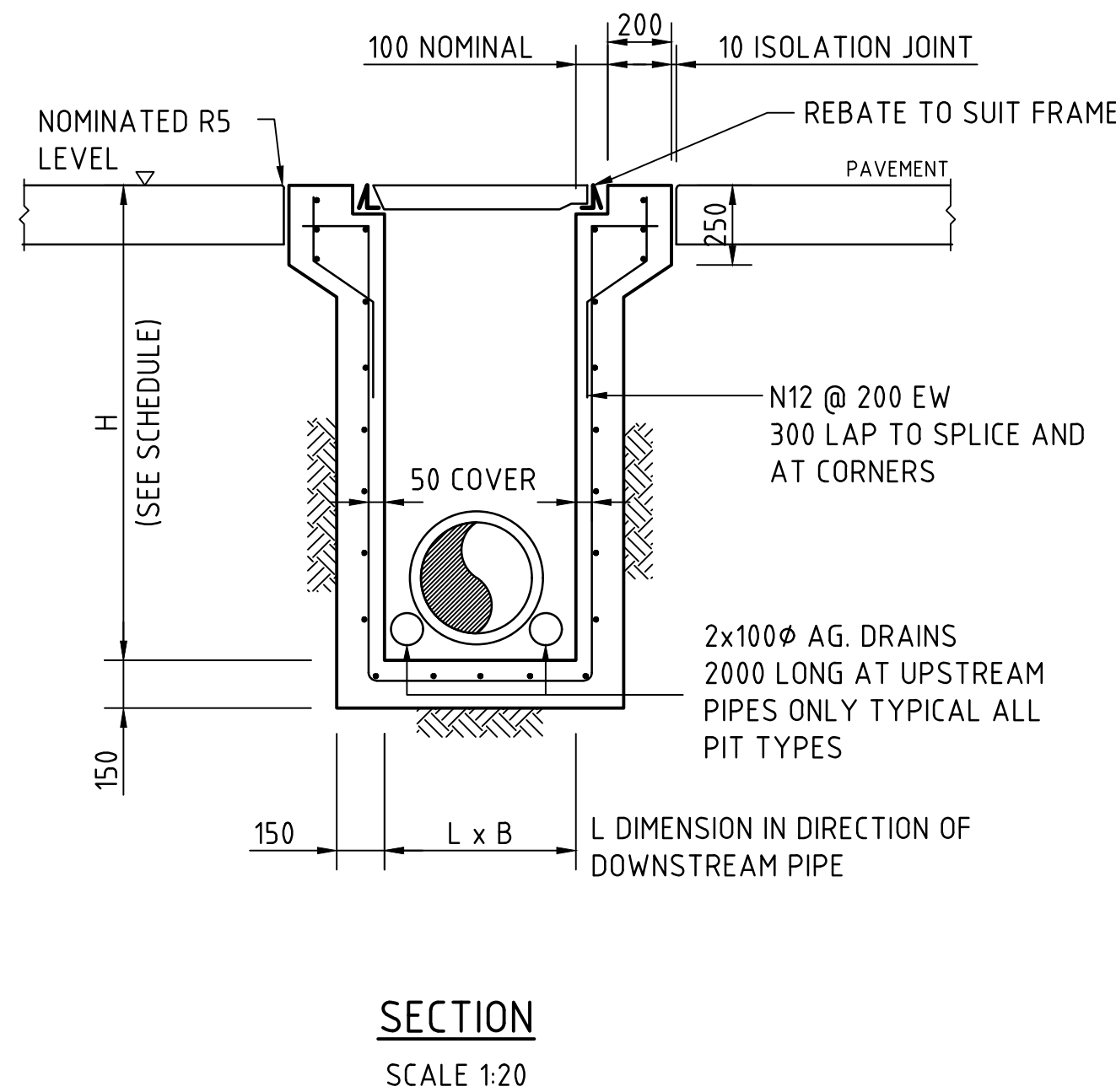
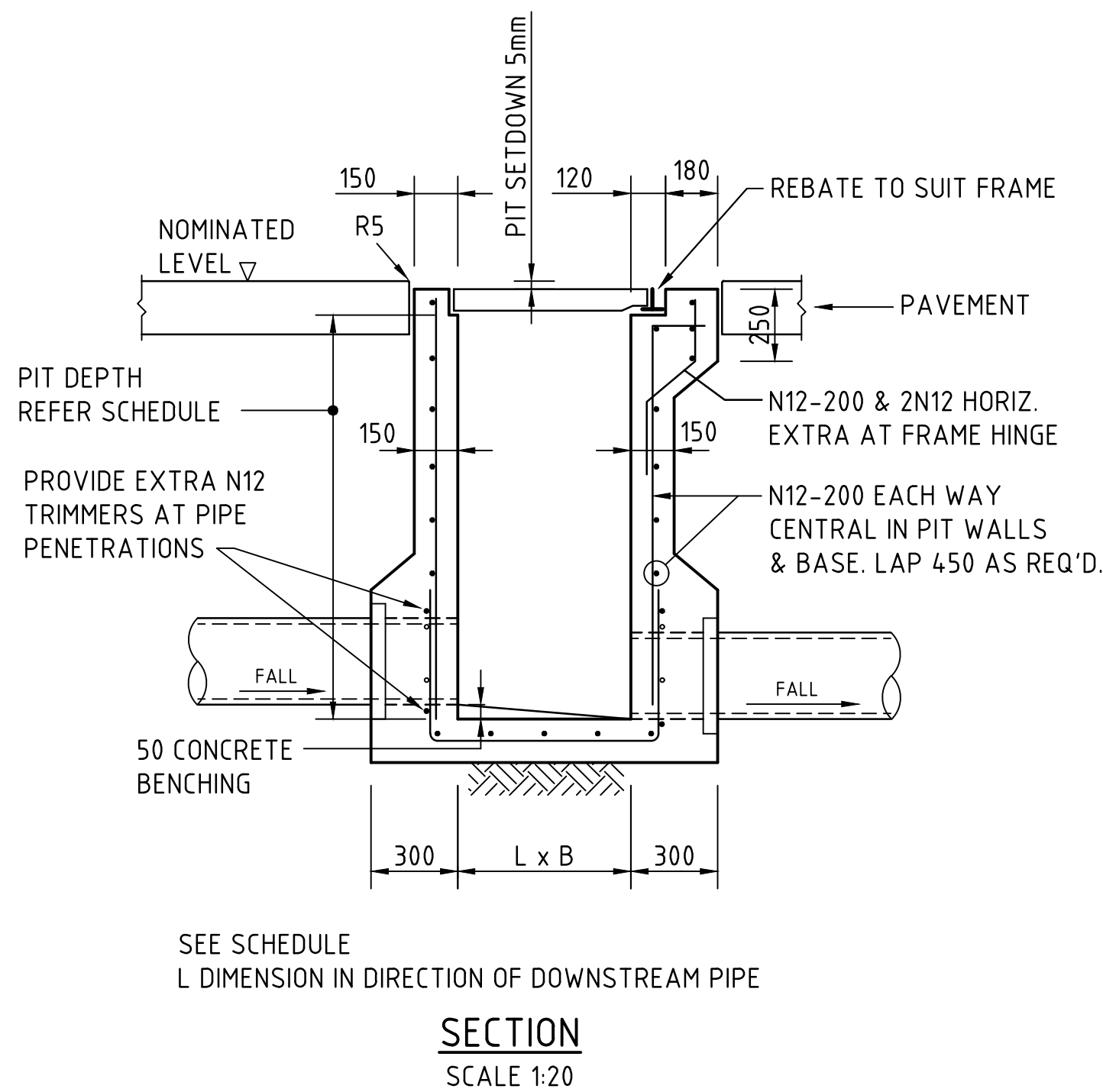
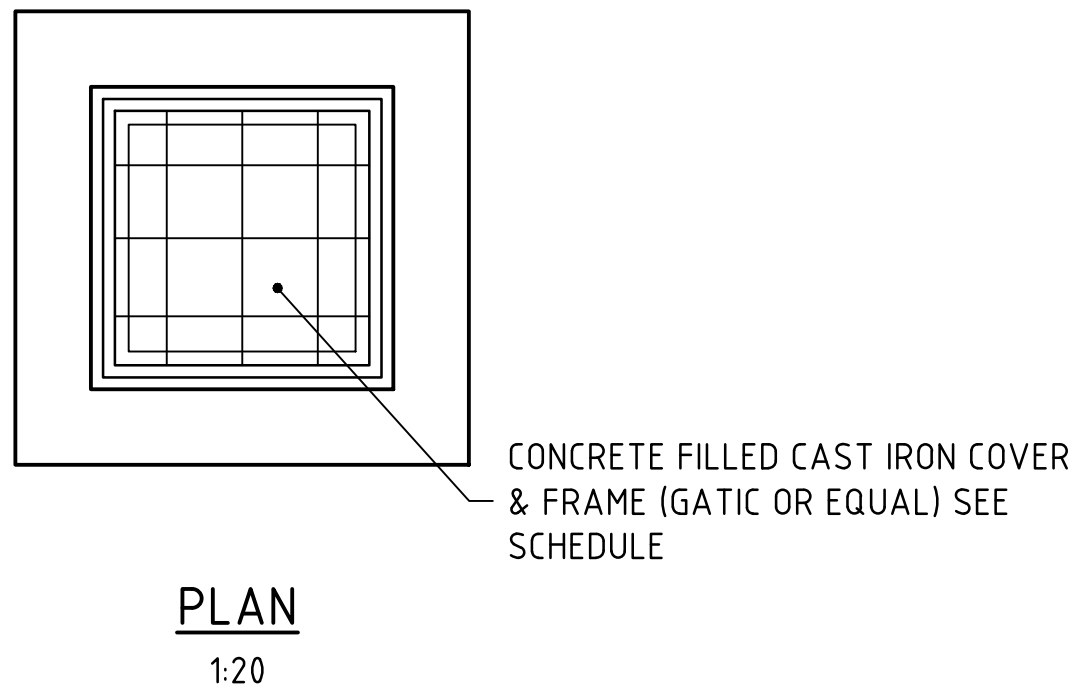
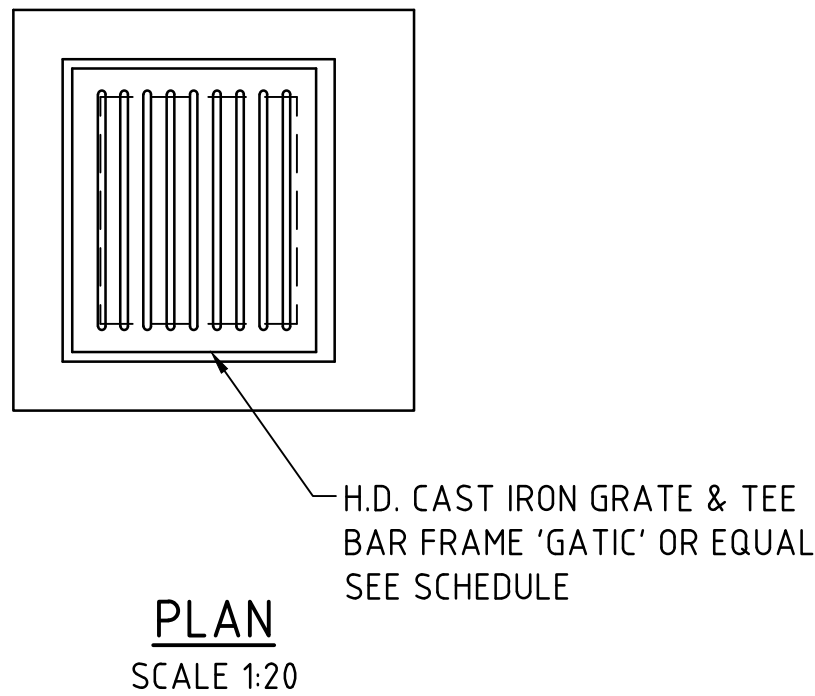
Costin Roe Consulting

PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE
STORMWATER DRAINAGE PLAN
BASEMENT

DRAWING No C013674.01-DA42

ISSUE
B

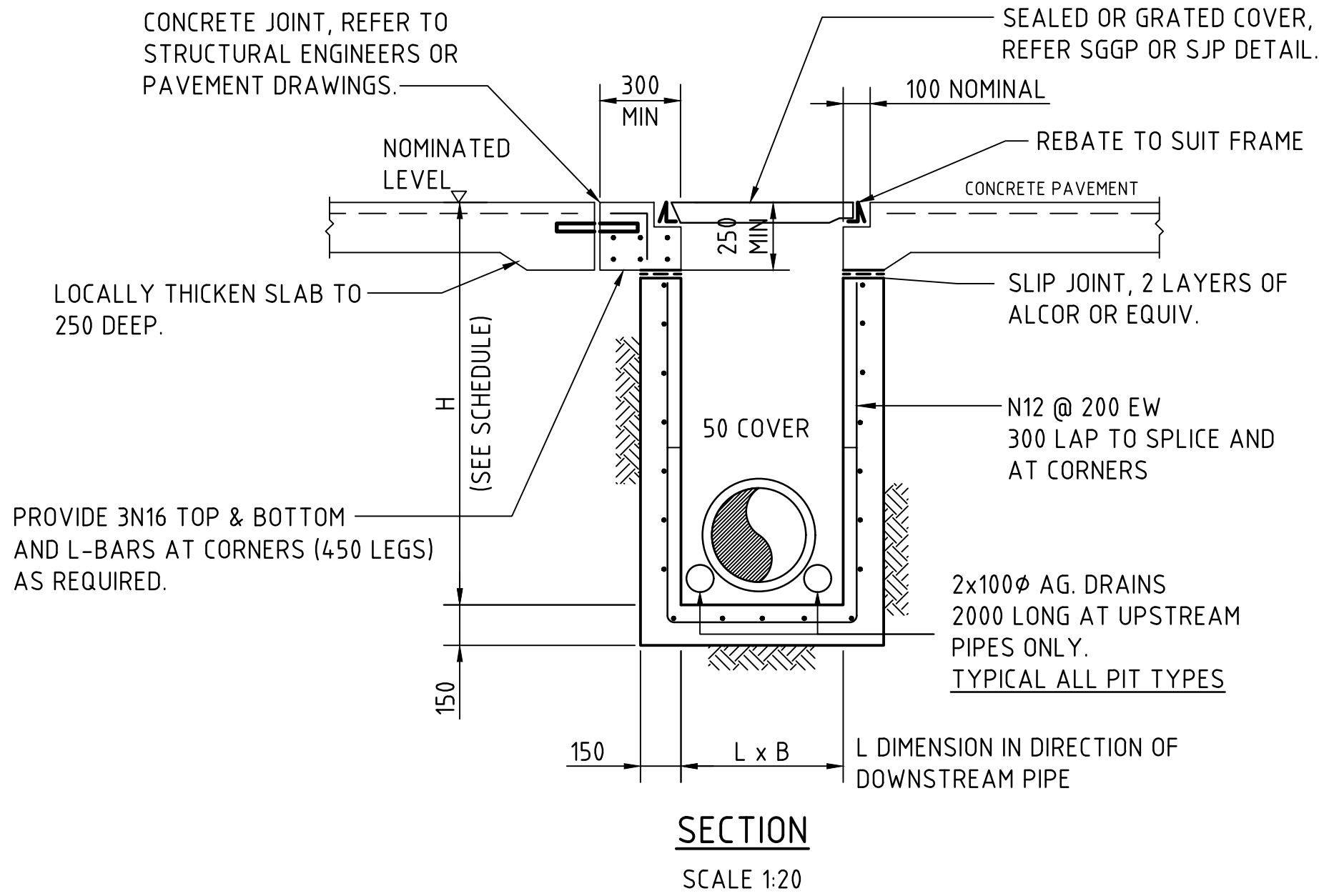
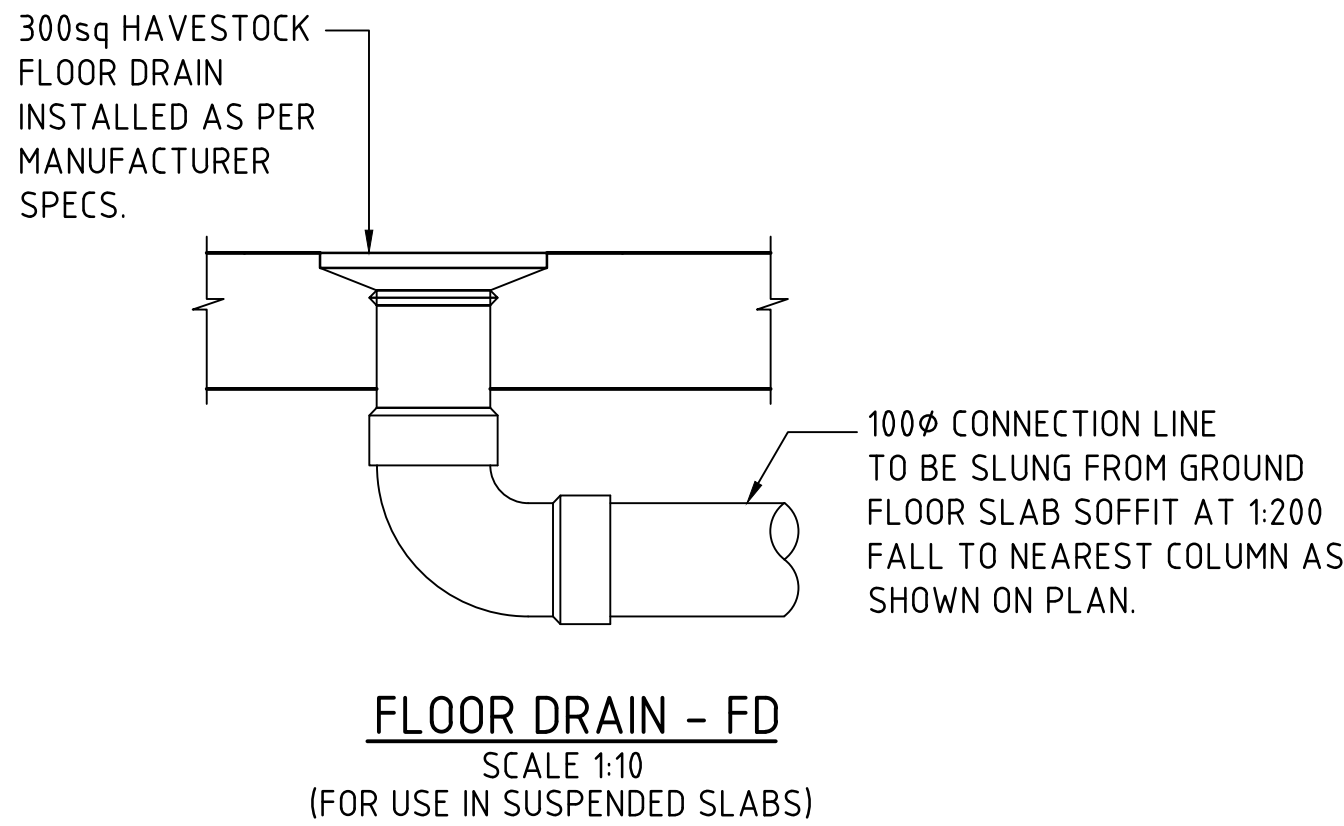


SINGLE GRATED GULLY PIT - SGGP

NOTES:

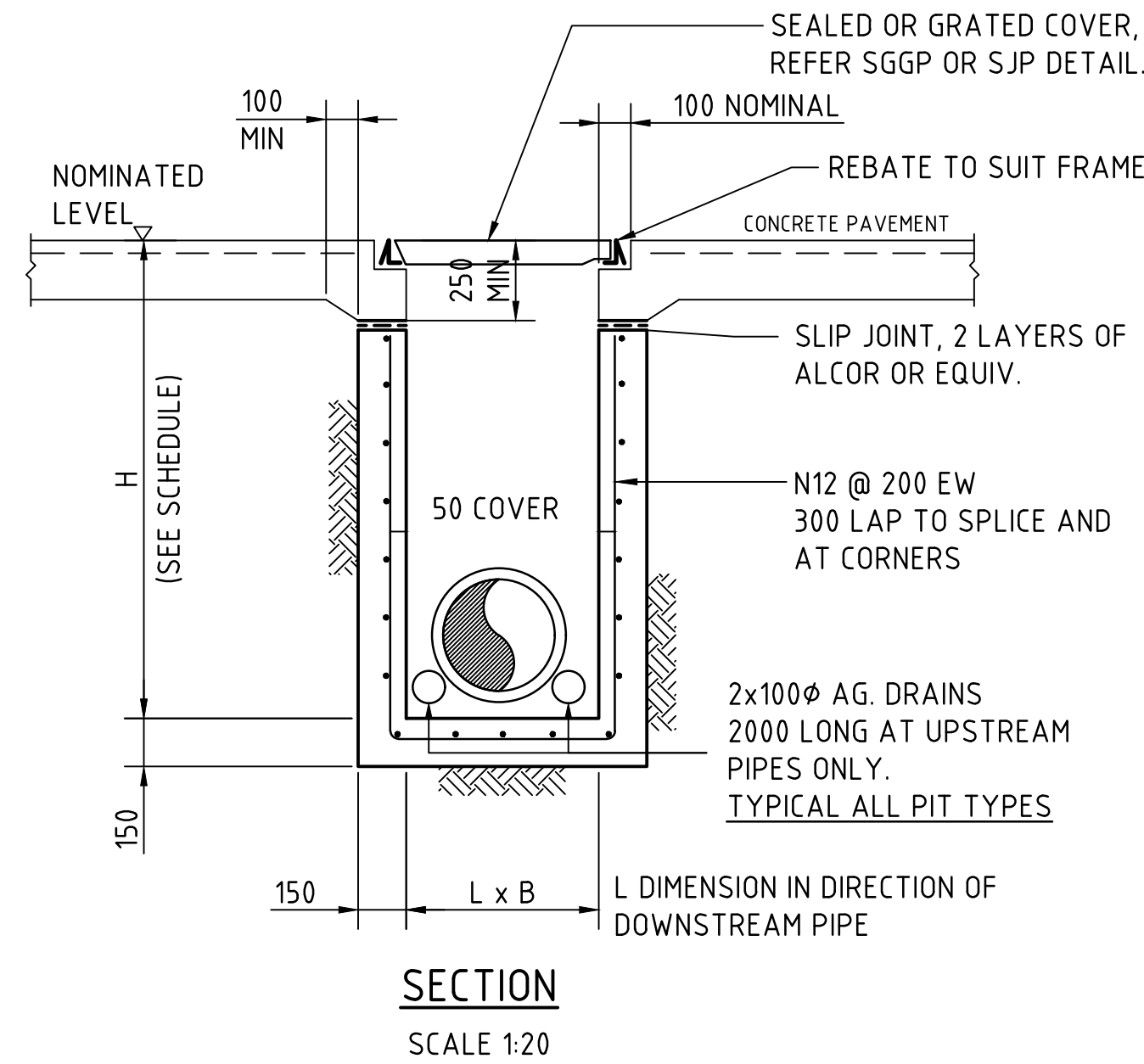
- WHERE GULLY PIT IS LOCATED ON KERB RETURNS OR BULB OF CUL-DE-SACS PROVIDE CURVED PRECAST CONCRETE LINTELS.
- SAG PITS SHALL HAVE LINTEL PLACED CENTRALLY ABOUT THE GRATE.
- ALL REINFORCING TO HAVE 30 MIN. CLEAR CONCRETE COVER.
- FOR PITS DEEPER THAN 1200mm CLIMB RAILS SHALL BE PROVIDED.

CONCRETE QUALITY					
ELEMENT	SLUMP	AGGREGATE (MAX. SIZE)	CEMENT TYPE	ADMIXTURE	F'c (MPa)
PIT	80	20	GP	NIL	25



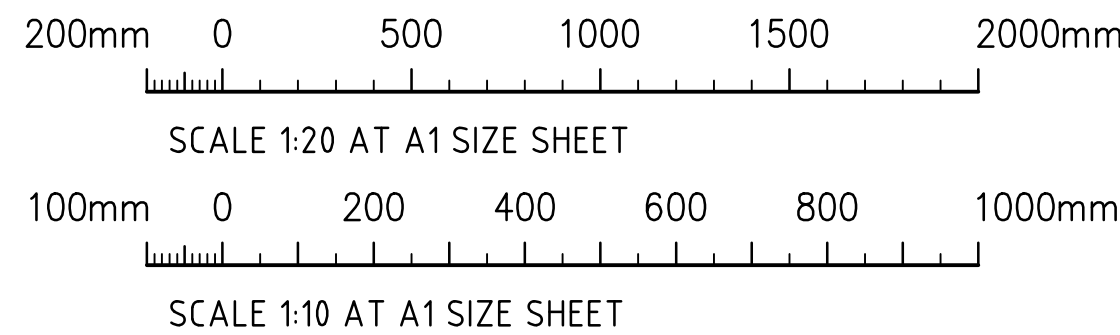
SJP/CIS & SGGP/CIS (CAST IN SLAB) PIT DETAIL GRATE/COVER SUPPORT CAST-INTO PAVEMENT SLAB

(ADOPT IN CONCRETE PAVEMENT FOR SGGP's & SJP's, WHERE PITS ARE LOCATED IN THE CORNER OF SLAB PANELS OR ADJACENT TO SLAB PANEL JOINTS)



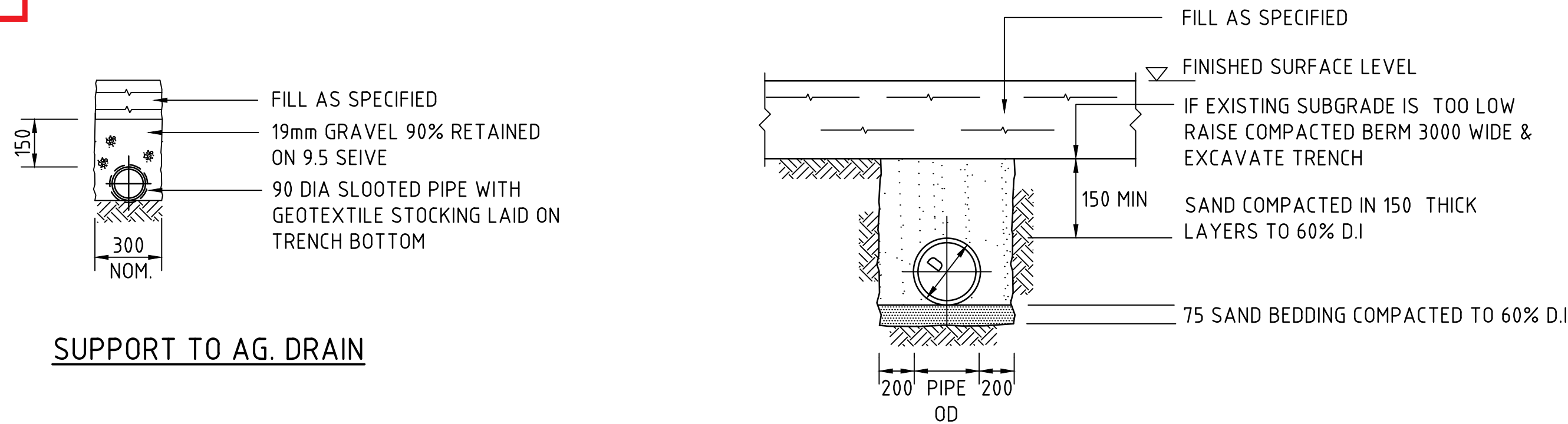
SJP/CIS & SGGP/CIS (CAST IN SLAB) PIT DETAIL GRATE/COVER SUPPORT CAST-INTO PAVEMENT SLAB

(ADOPT IN CONCRETE PAVEMENTS FOR SGGP's & SJP's, WHERE JOINTS ARE NOT LOCATED WITHIN PROXIMITY OF THE GRATE)

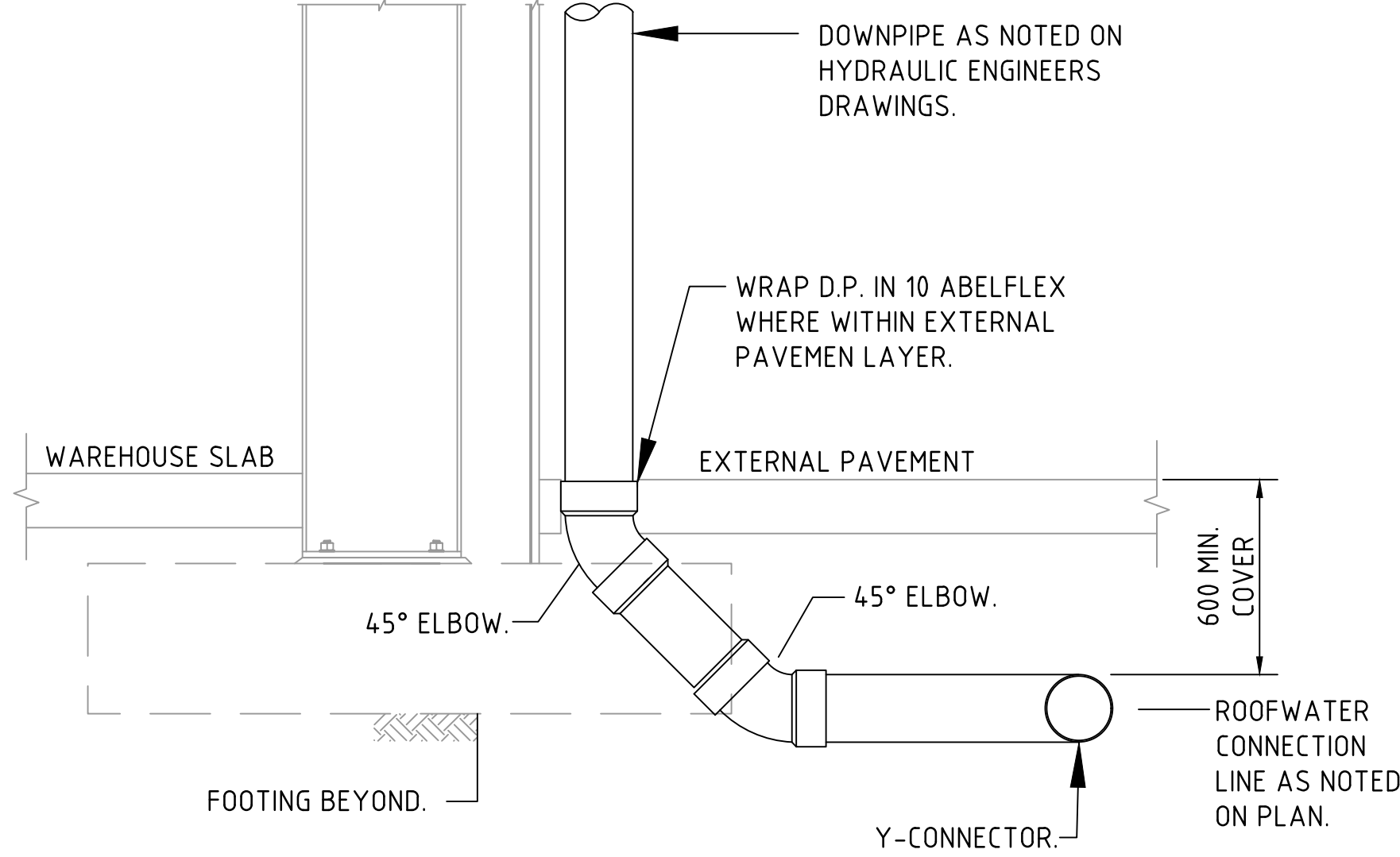
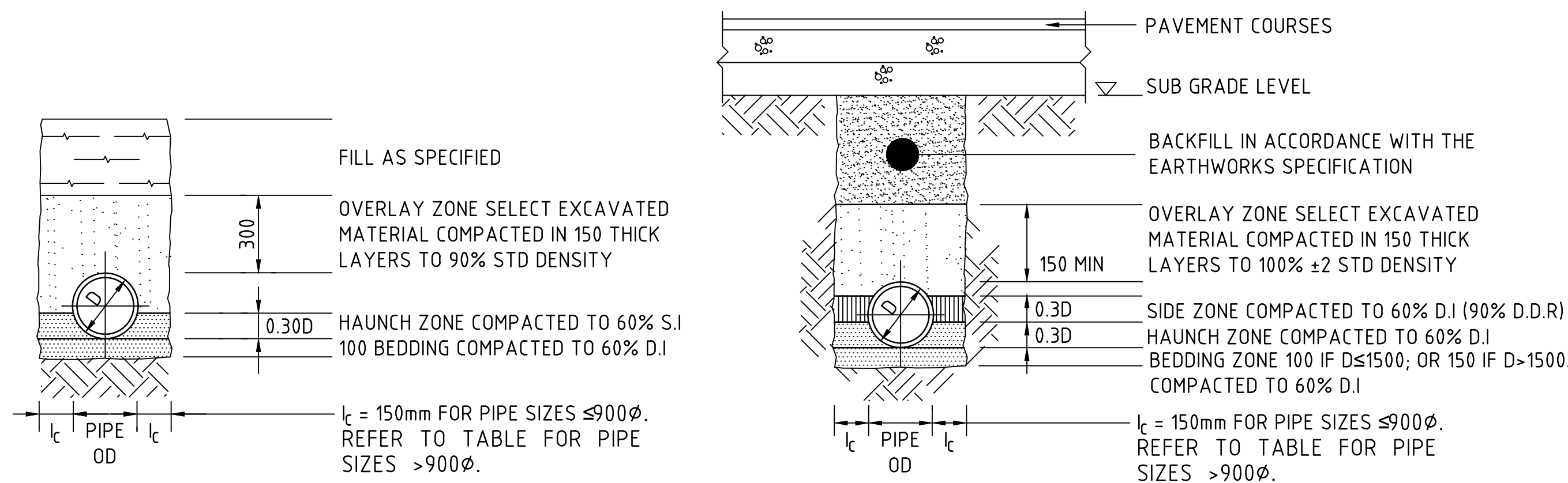


FOR DEVELOPMENT APPLICATION

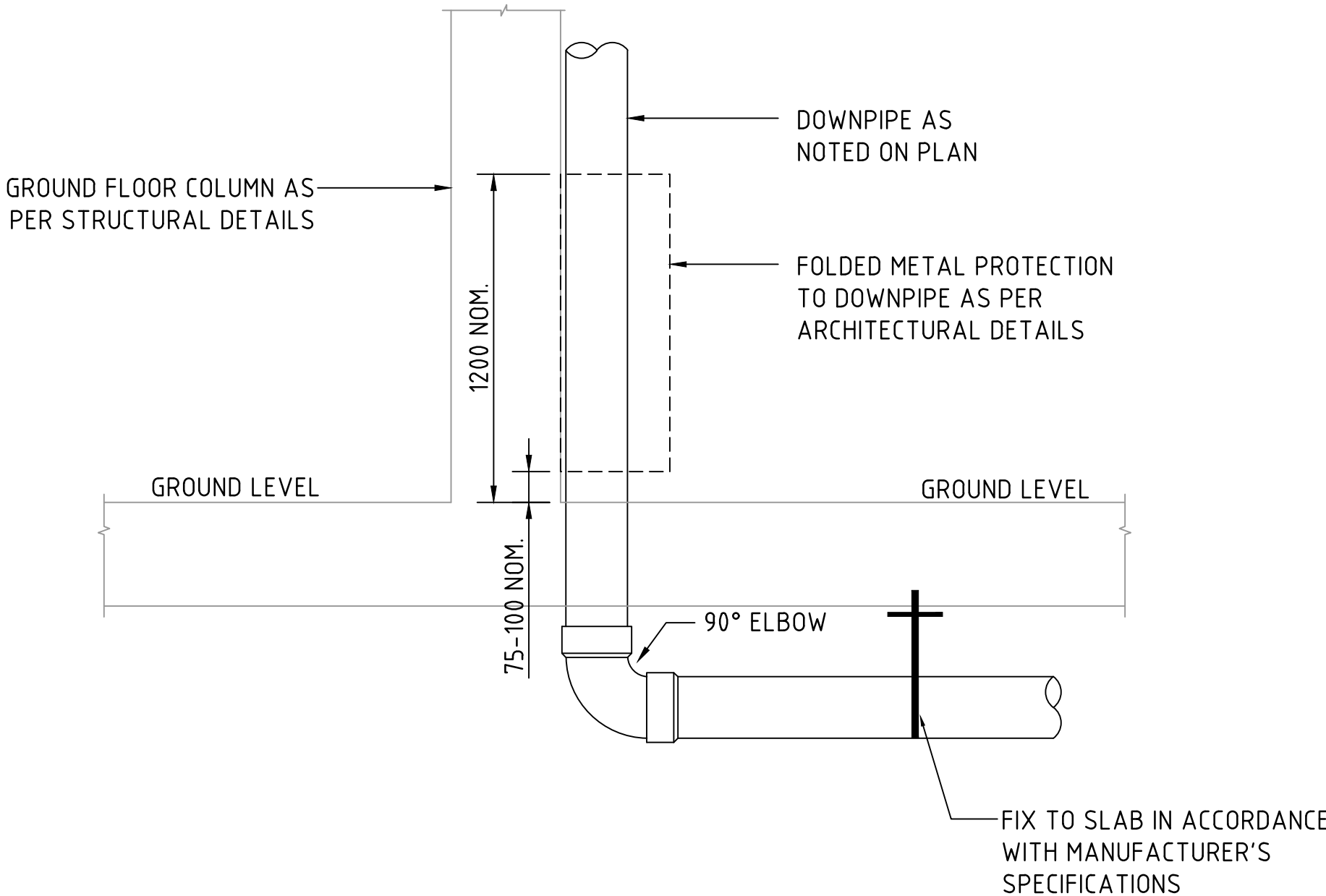
ARCHITECT			CLIENT			PROJECT			CONSULTING ENGINEERS			DRAWING TITLE		
EG FUNDS MANAGEMENT			GOVERNOR PHILLIP TOWER			PROPOSED DEVELOPMENT			Level 1, 8 Windmill Street			STORMWATER DRAINAGE DETAILS		
21/1 FARRER PLACE			SYDNEY, NSW 2000			CROMER, 2099, NEW SOUTH WALES			Walsh Bay, Sydney NSW 2000			SHEET 1		
ISSUED FOR DEVELOPMENT APPLICATION			26.11.19			DESIGNED			Tel: (02) 9251-7899 Fax: (02) 9241-3731			DRAWING No		
ISSUED FOR INFORMATION ONLY			01.11.19			DRAWN			email: mail@costinroe.com.au ©			C013674.01-DA45		
AMENDMENTS			DATE			CHECKED			PRECISION COMMUNICATION ACCOUNTABILITY			ISSUE		
												B		



SUPPORT TO uPVC PIPES



DOWNPIPE TURN-UP DETAIL
(CLEAR OF FOOTING)
SCALE 1:20



DOWNPIPE TURN-UP DETAIL
(AT COLUMN LOCATION)
SCALE 1:20

BEDDING & HAUNCH MATERIAL GRADING	
SIEVE SIZE	WEIGHT PASSING(%)
19	100
2.36	100 TO 50
0.60	90 TO 20
0.30	60 TO 10
0.15	25 TO 0
0.075	10 TO 0

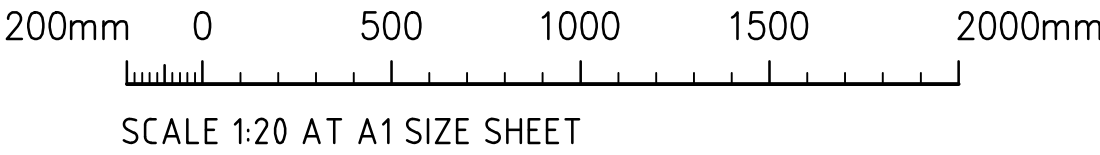
SIDE ZONE MATERIAL GRADING	
SIEVE SIZE	WEIGHT PASSING(%)
75	100
9.5	100 TO 50
2.36	100 TO 30
0.60	50 TO 15
0.075	25 TO 0

SELECT FILL MATERIAL IN ACCORDANCE WITH TABLE 1 AS 3725

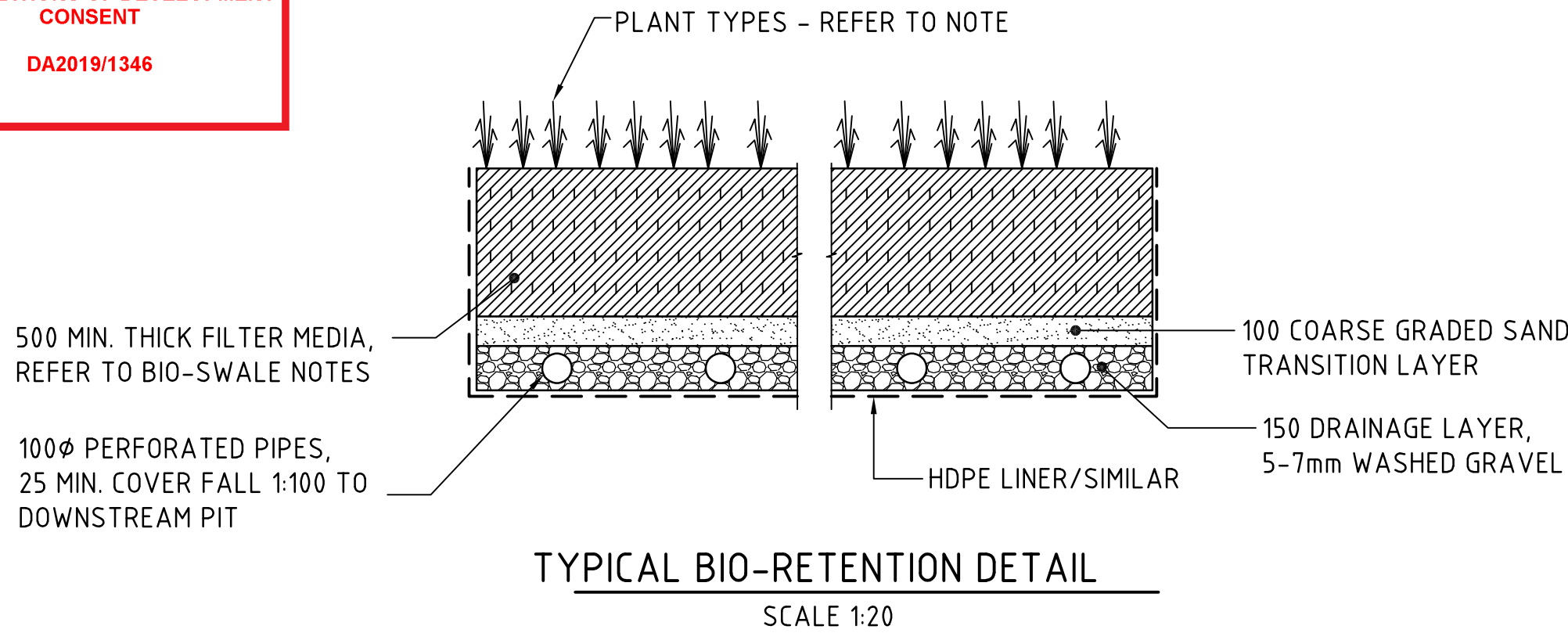
SIDE ZONE WIDTH	
PIPE SIZE	lc (mm)
≤900Ø	150
1050Ø	175
1200Ø	200
1350Ø	225
1500Ø	250
1650Ø	275
1800Ø	300

REFER TO ENGINEER FOR TRENCH WIDTHS FOR PIPE SIZES GREATER THAN 1800Ø

PIPE LAYING DETAILS
SCALE 1:20



FOR DEVELOPMENT APPLICATION



BIO-RETENTION NOTES:

FILTER MEDIA TO BE LOAMY SAND WITH A PERMEABILITY NOT LESS THAN 200mm/hr. FILTER MEDIA TO BE FREE OF RUBBISH, DELETERIOUS MATERIAL, TOXICANTS, DECLARED PLANTS AND LOCAL WEEDS, AND IS TO NOT BE HYDROPHOBIC.

FILTER MEDIA TO HAVE THE FOLLOWING COMPOSITION RANGE:

CLAY & SILT (<0.05mm)	<3%
VERY FINE SAND (0.05-0.15mm)	5-30%
FINE SAND (0.15-0.25mm)	10-30%
MEDIUM TO COARSE SAND (0.25-1.00mm)	40-60%
COARSE SAND (1.0-2.0mm)	7-10%
FINE GRAVEL (2.0-3.4mm)	<3%

FILTER MEDIA THAT DOES NOT MEET THE FOLLOWING CRITERIA SHALL BE REJECTED:

- ORGANIC MATTER CONTENT TO BE IDEALLY WITHIN 1% TO 3% (W/W) AND TO BE NO GREATER THAN 5%(W/W).
- PH TO BE BETWEEN 5.5 AND 7.5
- PHOSPHOROUS CONTENT TO BE NO GREATER THAN 35mg/kg

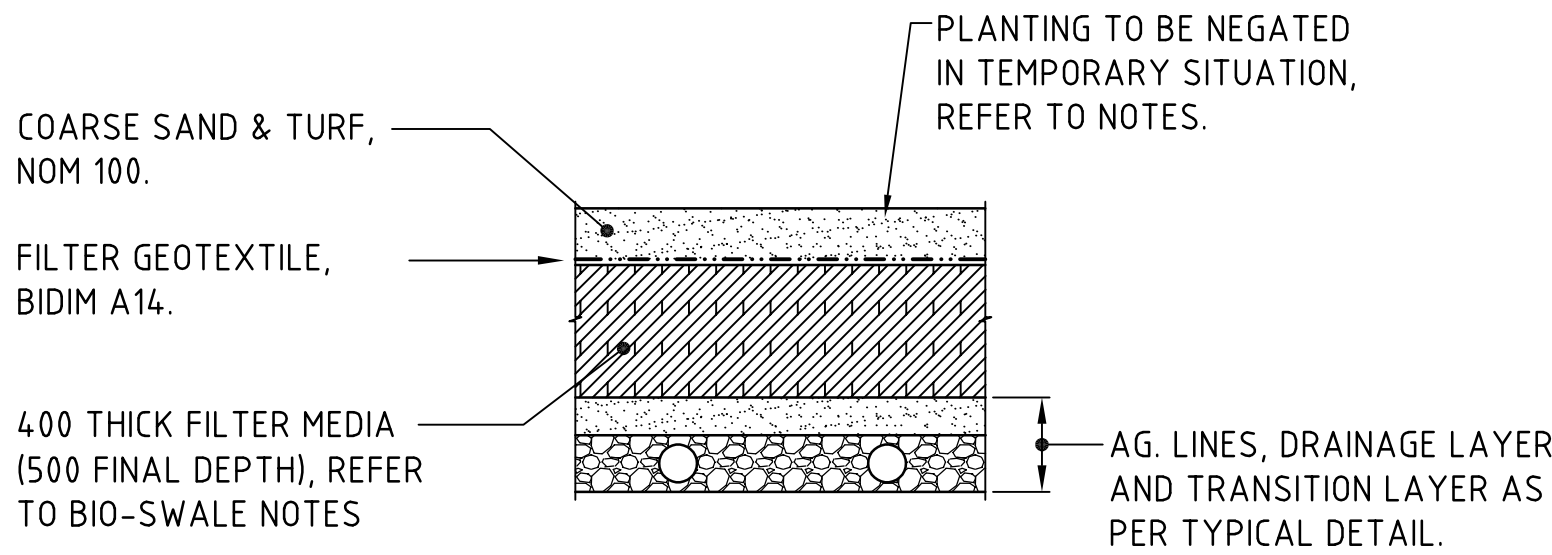
FILTER MEDIA TO BE ASSESSED BY QUALIFIED HORTICULTURALIST TO ENSURE CAPABILITY OF SUPPORTING PLANT LIFE.

DRAINAGE LAYER TO BE CLEAN GRAVEL 5-7mm.

PLANTS TO BE IN ACCORDANCE WITH NORTHERN BEACHES CITY COUNCIL REQUIREMENTS.

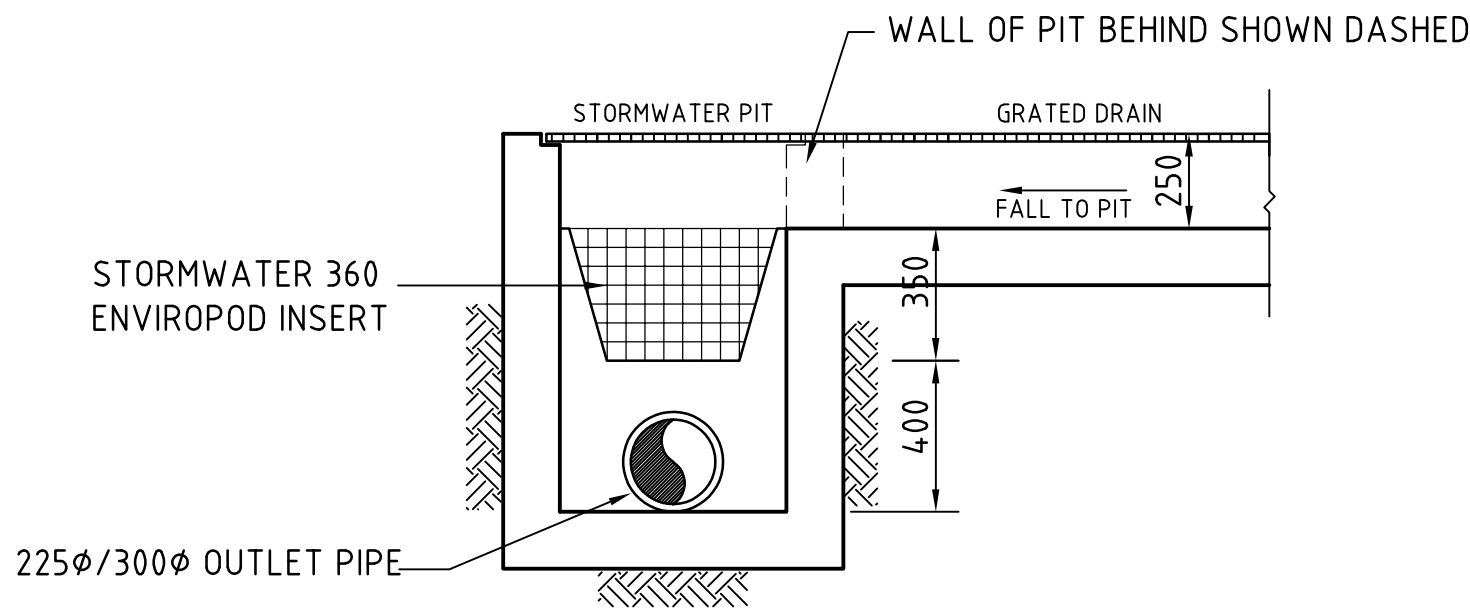
PROVIDE 100mm TOPSOIL AND TEMPORARY EROSION PROTECTION (JUTEMASTER OR EQUIV) TO SWALE BATTER SLOPES AND ADJACENT LANDSCAPED AREAS. NOTE THAT NO TOPSOIL IS TO BE PLACED OVER FILTRATION MEDIA. PROVIDE SILT FENCE TO TOP OF BANK UNTIL SUCH TIME AS THIS STABILISING AND VEGETATION HAS BEEN COMPLETED.

BIO-RETENTION TO BE PARTIALLY INSTALLED, FOLLOWING COMPLETION OF THE ROAD, WITH THE TOP 75-100mm OF FILTER MEDIA REPLACED WITH A FINE TO COARSE SAND UNDERLAIN WITH A GEOTEXTILE LAYER (REFER TO DETAIL). FOLLOWING COMPLETION OF THE UPSTREAM DEVELOPMENT AND SITE STABILISATION, THE SAND IS TO BE REMOVED, REPLACED WITH FILTER MATERIAL AND PLANTED OUT. REFER TO TEMPORARY BIO-BASIN DETAIL



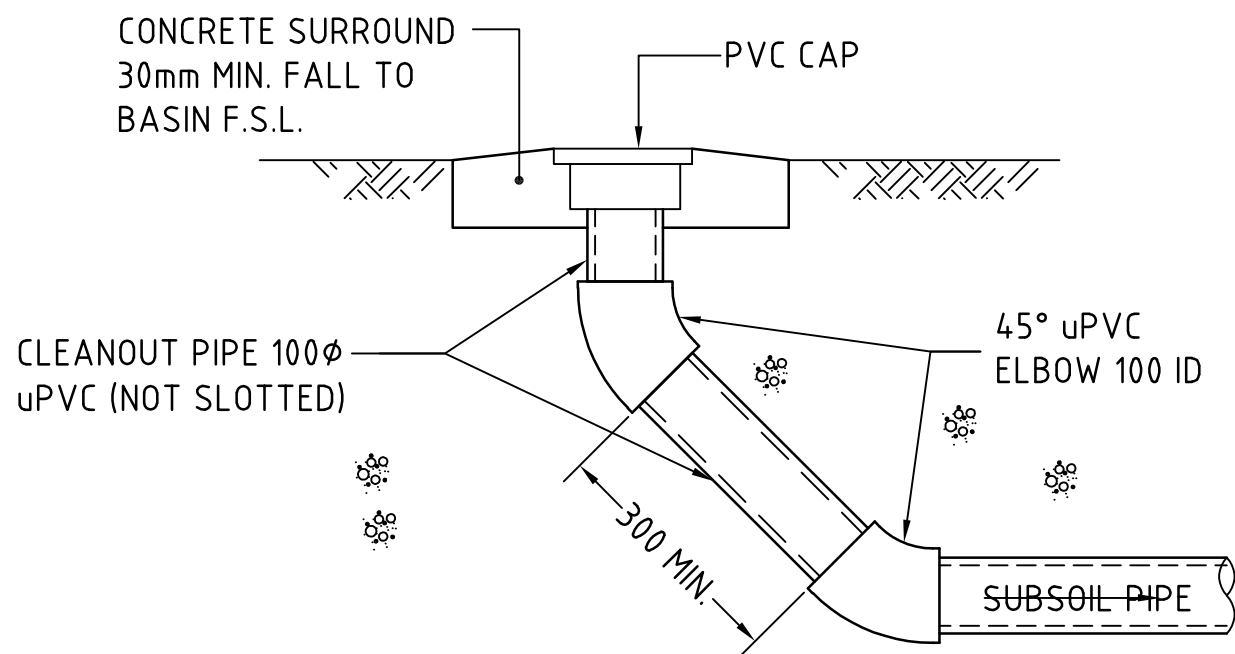
TEMPORARY BIO-RETENTION PROTECTION DETAIL

SCALE 1:20
TEMPORARY CONSTRUCTION REQUIREMENT DETAIL - REFER TO NOTES FOR IMPLEMENTATION PERIODS.



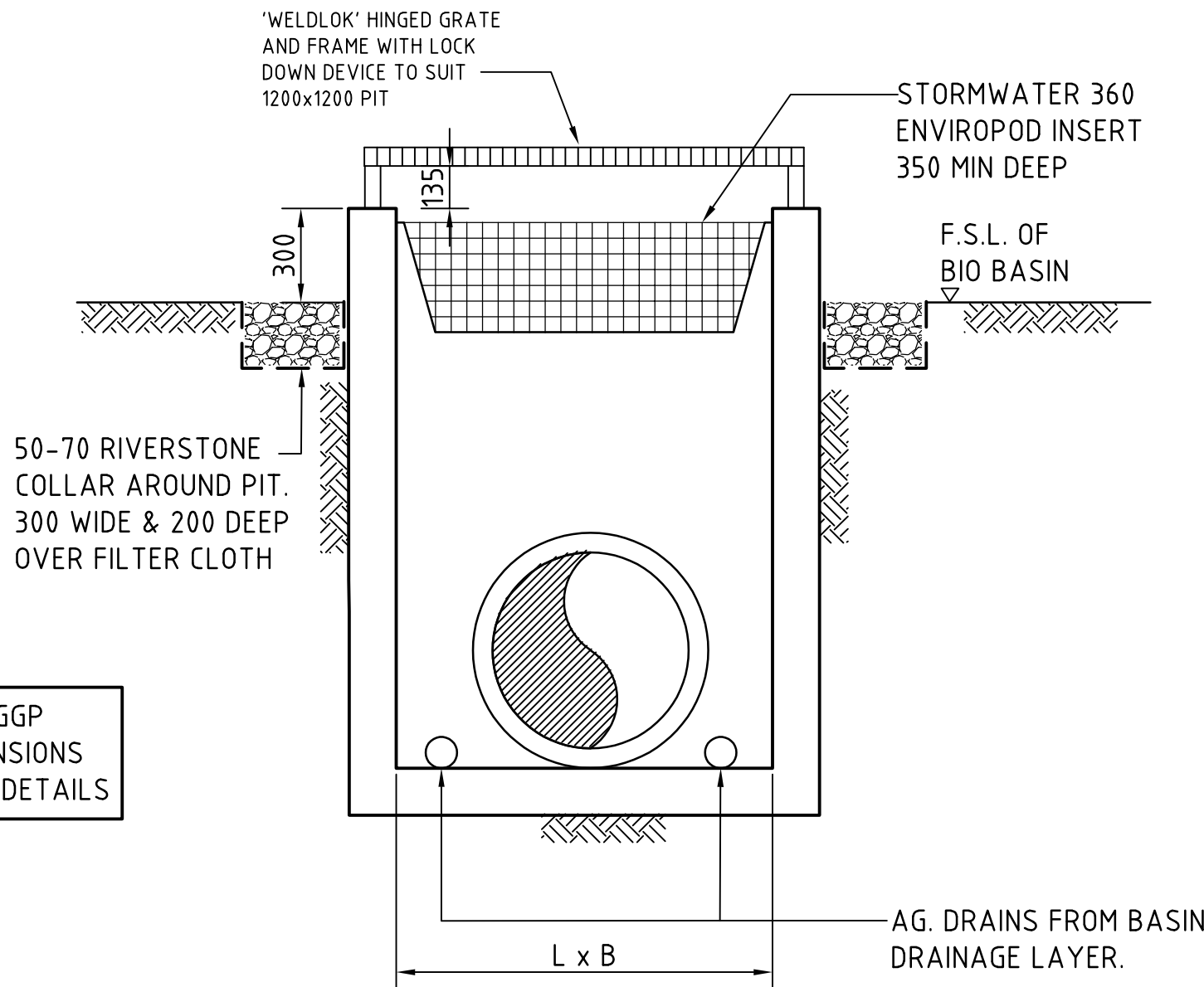
GRATED DRAIN/STORMWATER PIT WITH ENVIROPOD CONFIGURATION

SCALE 1:20



BIORETENTION CLEANOUT EYE ELEVATION

SCALE 1:20
DENOTED C.E. ON PLAN



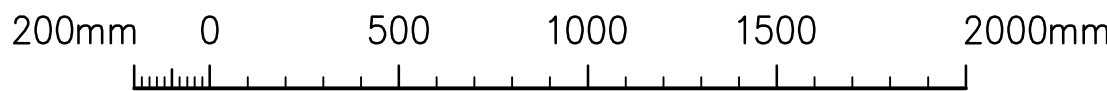
SECTION
SCALE 1:20

BASIN INLET PIT - BIP

BIO-RETENTION BASIN DETAILS

SCALE 1:20

FOR DEVELOPMENT APPLICATION




SCALE 1:20 AT A1 SIZE SHEET

ISSUED FOR DEVELOPMENT APPLICATION	26.11.19	B
ISSUED FOR INFORMATION ONLY	01.11.19	A
AMENDMENTS	DATE	ISSUE

ARCHITECT

CLIENT
EG FUNDS MANAGEMENT
GOVERNOR PHILLIP TOWER
21/1 FARRER PLACE
SYDNEY, NSW 2000

PROJECT						
PROPOSED DEVELOPMENT						
100 SOUTH CREEK ROAD						
CROMER, 2099, NEW SOUTH WALES						
DESIGNED TW	DRAWN TW	DATE OCT 2019	CHECKED MW	SIZE A1	SCALE AS SHOWN	CAD REF: C013674.01-DA47



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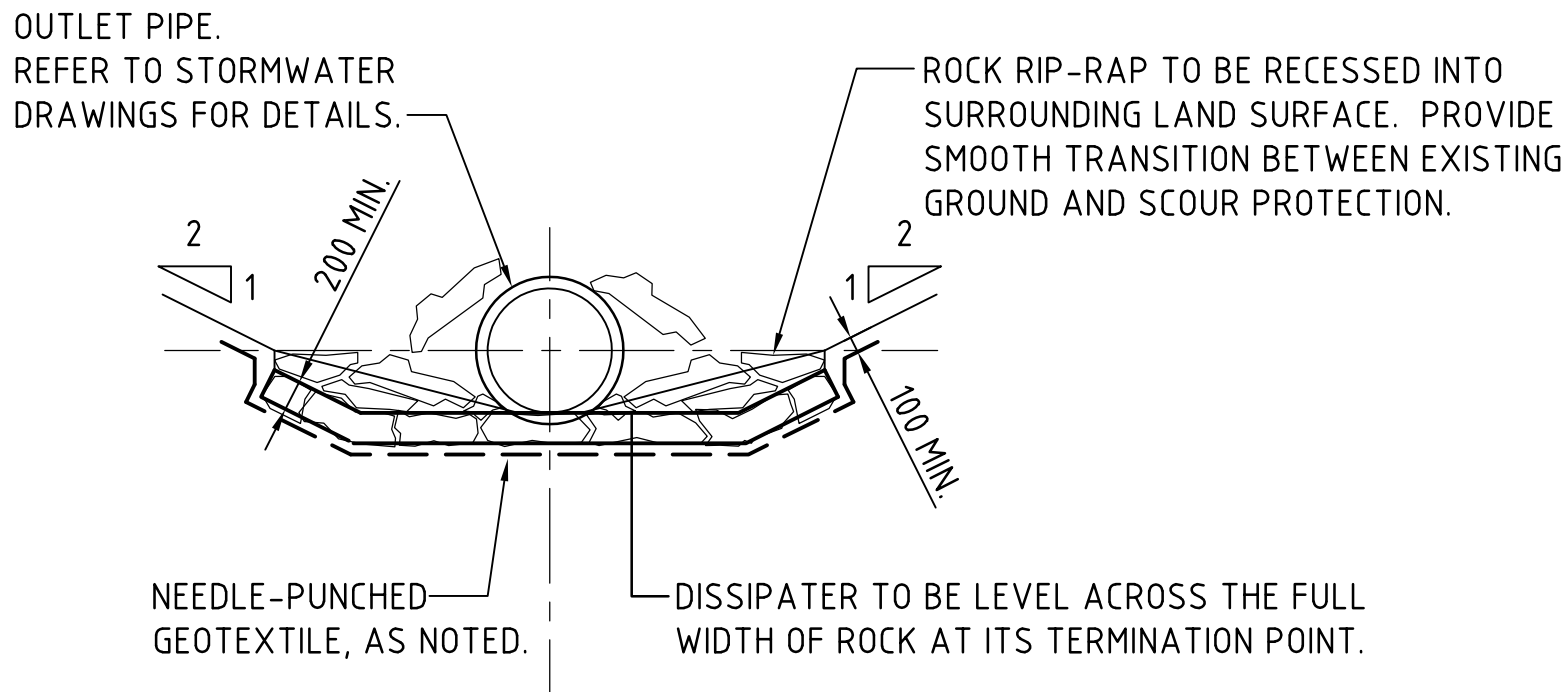
Costin Roe Consulting

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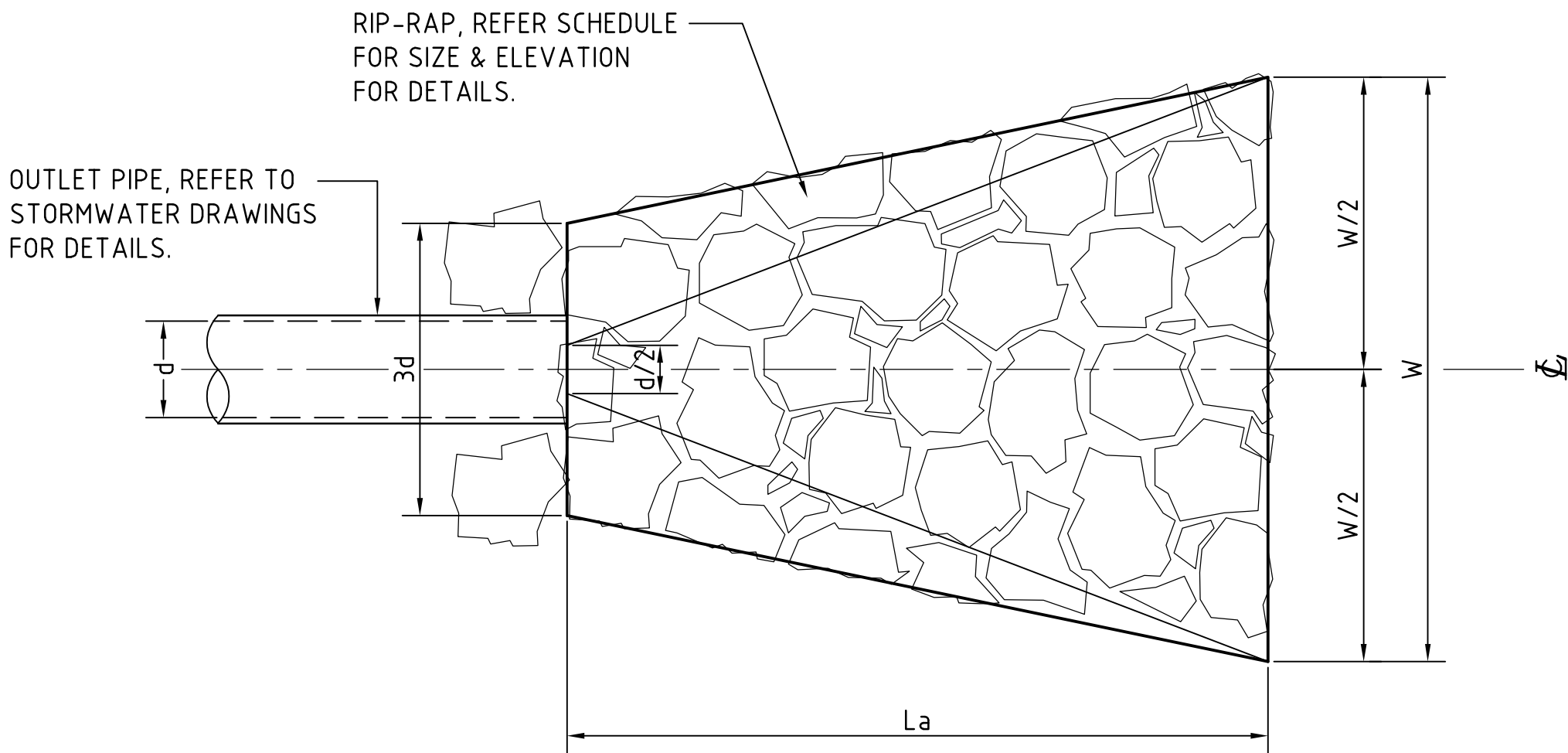
DRAWING TITLE		
STORMWATER DRAINAGE DETAILS		
SHEET 3		
DRAWING No	C013674.01-DA47	ISSUE
		B

DISSIPATER NOTES :

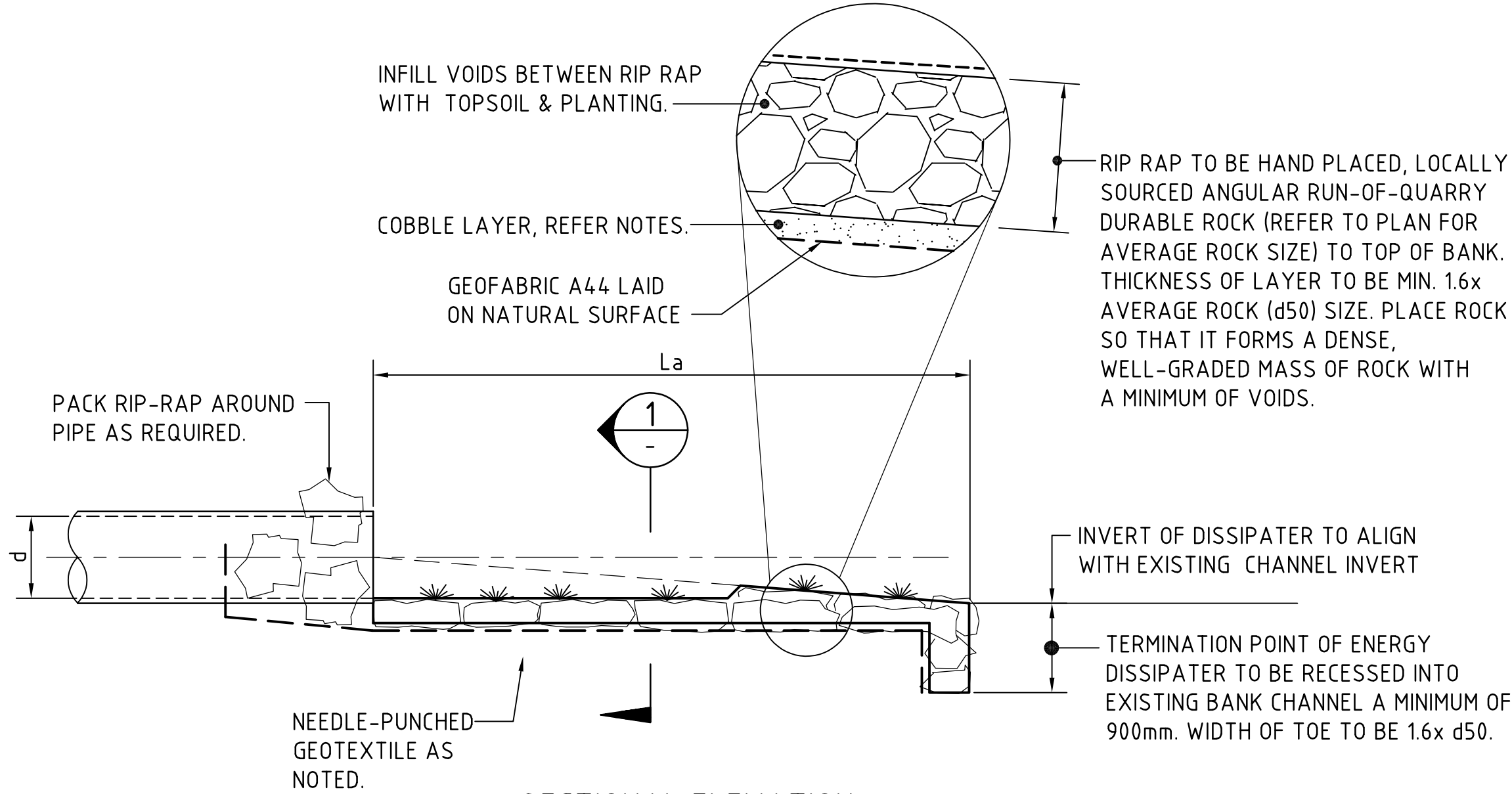
1. ALIGN STRUCTURE EVENLY WITH BANK.
2. LOCATE STRUCTURE AT INVERT LEVEL OF STREAM AND POINT IN A DOWNSTREAM DIRECTION.
3. PIPE TO REST ON, AND BE PACKED IN, BY RIP-RAP (SIZE AS NOTED).
4. DISCHARGE INTO STREAM WHERE BEDROCK IS PRESENT, OTHERWISE SCOUR PROTECT AS REQUIRED.
5. SCOUR PROTECT THE OPPOSITE BANK AS REQUIRED. SCOUR PROTECTION TO BE PROVIDED WHERE OPPOSITE BANK IS WITHIN 12-14 TIMES THE PIPE DIAMETER.
6. RIP-RAP TO CONSIST OF ANGULAR RUN-OF-QUARRY ROCK (d50= 150mm MINIMUM) AS NOTED ON THE PLAN. RIP-RAP TO BE MINIMUM THICKNESS OF RIP-RAP LAYER TO BE 1.6x AVERAGE ROCK SIZE (d50).
7. RIP-RAP IS TO BE PLACED OVER A 200mm LAYER OF 140mm COBBLES OVER NEEDLE-PUNCHED GEOFAB A44.
8. PLACE ROCK SO THAT IT FORMS A DENSE, WELL-GRADED MASS OF ROCK WITH A MINIMUM OF VOIDS. THE FINISHED RIP-RAP SURFACE SHOULD BE FREE OF POCKETS OF SMALL ROCK OR CLUSTERS OF LARGE ROCKS.
9. GAPS IN RIP-RAP TO BE HAND PACKED WITH TOPSOIL & PLANTED WITH NATIVE SEDGES & RUSHES TO PROVIDE. THE INTENT IS FOR THERE TO BE NO VOIDS BETWEEN RIP-RAP BOULDERS.
10. ENSURE THE FINISHED ROCK SURFACE BLENDS WITH THE SURROUNDING GROUND LEVELS. NO OVERFALL OR PROTRUSION OF ROCK SHOULD BE APPARENT.
11. ENSURE THAT STORMWATER FROM SURROUNDING GROUND IS FREE TO ENTER THE STRUCTURE WITHOUT CAUSING UNDESIRABLE PONDING OR SCOUR.



SECTION 1:50

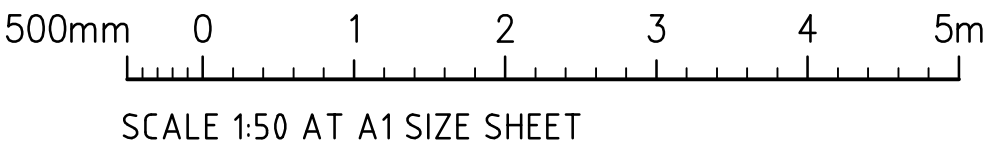


PLAN



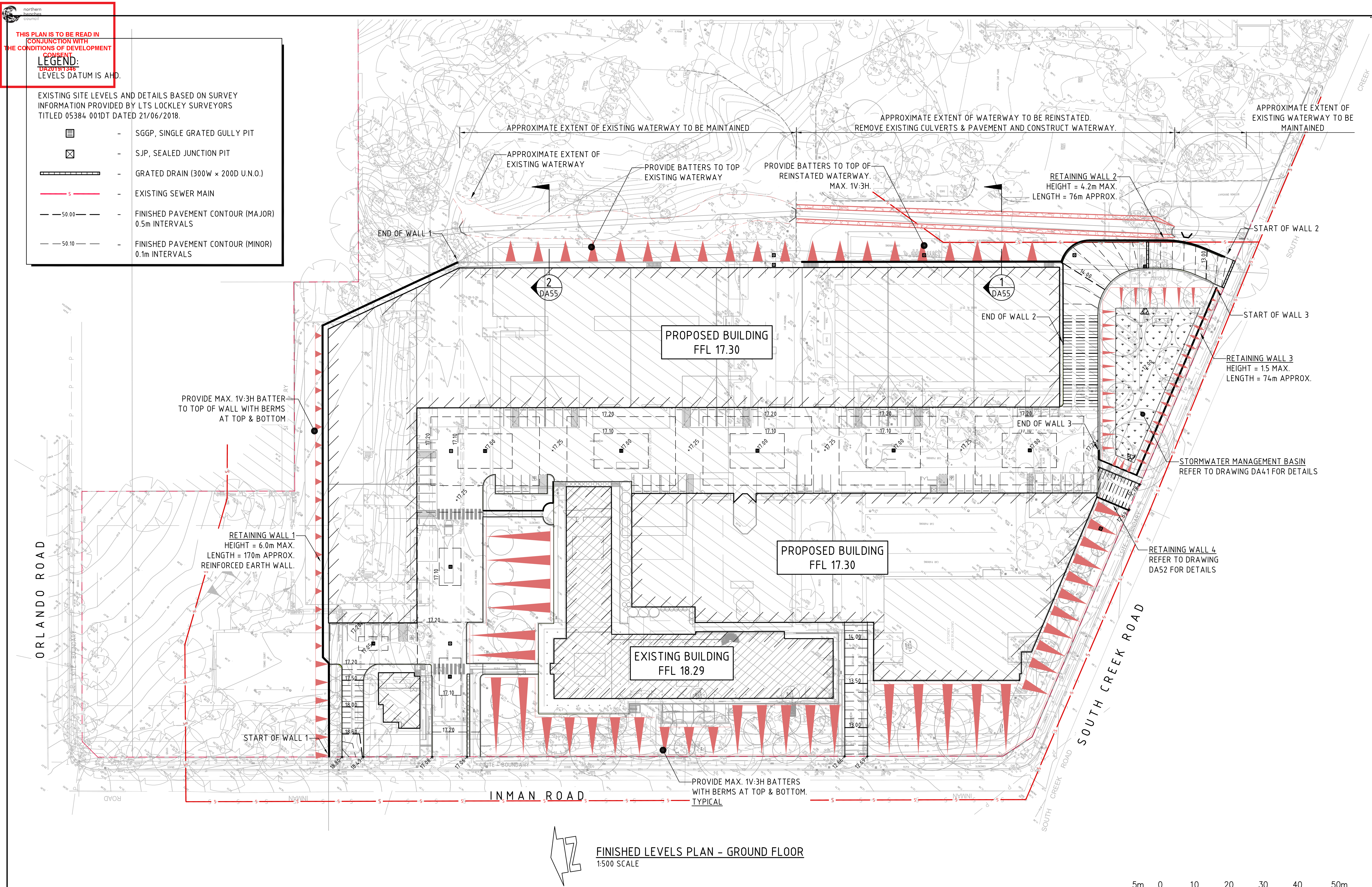
SECTIONAL ELEVATION

STORMWATER OUTLET DISSIPATER
SCALE 1:50

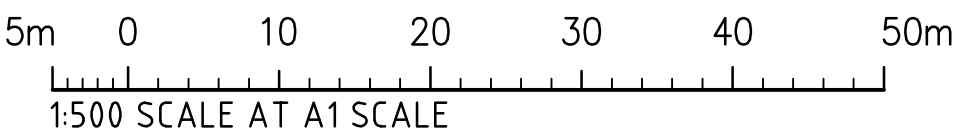


FOR DEVELOPMENT APPLICATION

			ARCHITECT			CLIENT			PROJECT						Costin Roe Consulting Pty Ltd. Consulting Engineers <small>ACT 003 696 446</small> Level 1, 8 Windmill Street Walsh Bay, Sydney NSW 2000 Tel: (02) 9251-7899 Fax: (02) 9241-3731 email: mail@costinroe.com.au ©						DRAWING TITLE STORMWATER DRAINAGE DETAILS SHEET 4																	
ISSUED FOR DEVELOPMENT APPLICATION			26.11.19			A			EG FUNDS MANAGEMENT			PROPOSED DEVELOPMENT																										
AMENDMENTS			DATE			ISSUE			GOVERNOR PHILLIP TOWER			100 SOUTH CREEK ROAD																										
									21/1 FARRER PLACE			CROMER, 2099, NEW SOUTH WALES																										
									SYDNEY, NSW 2000																													
												DESIGNED TW			DRAWN TW			DATE OCT 2019			CHECKED MW			SIZE A1			SCALE AS SHOWN			CAD REF: C013674.01-DA48								



FOR DEVELOPMENT APPLICATION









ISSUED FOR DEVELOPMENT APPLICATION 26.11.19 B			ARCHITECT			PROJECT			CLIENT			CONSULT AUSTRALIA			Costin Roe Consulting Pty Ltd. Consulting Engineers Level 1, 8 Windmill Street Wahsh Bay, Sydney NSW 2000 Tel: (02) 9251-7699 Fax: (02) 9241-3731 email: mail@costinroe.com.au ©			PRECISION COMMUNICATION ACCOUNTABILITY			DRAWING TITLE FINISHED LEVELS PLAN GROUND FLOOR		
ISSUED FOR INFORMATION ONLY 01.11.19 A						PROPOSED DEVELOPMENT			EG FUNDS MANAGEMENT			CONSULT AUSTRALIA			100 SOUTH CREEK ROAD			Costin Roe Consulting			DRAWING No C013674.01-DA51		
AMENDMENTS			DATE			DESIGNED			GOVERNOR PHILLIP TOWER			CHECKED			CROMER, 2099, NEW SOUTH WALES						ISSUE		
						DRAWN			21/1 FARRER PLACE			SIZE			SYDNEY, NSW 2000						B		
						DATE						SCALE											
						DATE						AS SHOWN											

LEGEND:

LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY
INFORMATION PROVIDED BY LTS LOCKLEY SURVEYORS
TITLED 05384 001DT DATED 21/06/2018.

- | | | |
|---|---|---|
|  | - | SGGP, SINGLE GRATED GULLY PIT |
|  | - | SJP, SEALED JUNCTION PIT |
|  | - | GRATED DRAIN (300W x 200D U.N.O.) |
|  | - | EXISTING SEWER MAIN |
|  | - | FINISHED PAVEMENT CONTOUR (MAJOR)
0.5m INTERVALS |
|  | - | FINISHED PAVEMENT CONTOUR (MINOR)
0.1m INTERVALS |

ORLANDO ROAD

SITE - BOUNDARY

SITE - BOUNDARY

INMAN ROAD



FINISHED LEVELS PLAN - BASEMENT

5m 0 10 20 30 40 50m

1:500 SCALE AT A1 SCALE

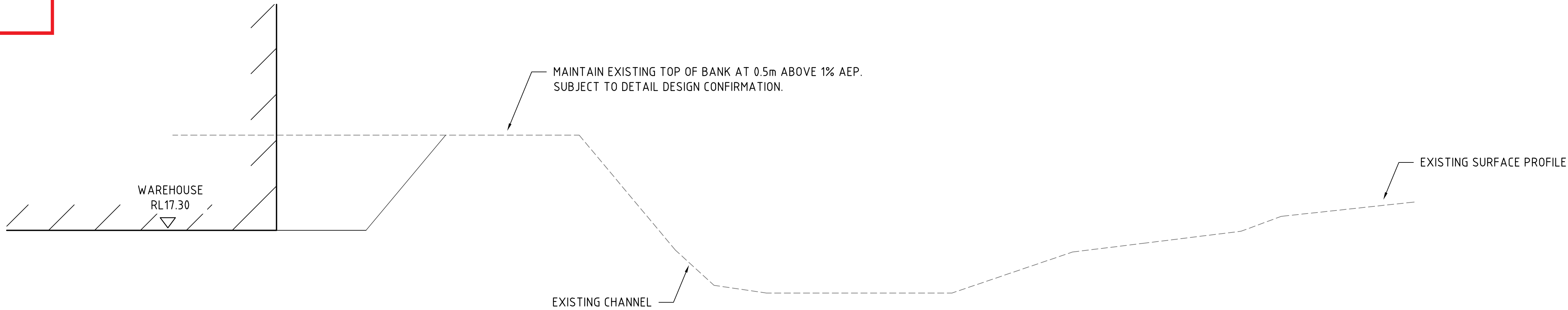
FOR DEVELOPMENT APPLICATION

	ARCHITECT	CLIENT	PROJECT		Costin Roe Consulting Pty Ltd. Consulting Engineers <small>ACN 003 096 446</small> Level 1, 8 Windmill Street Walsh Bay, Sydney NSW 2000 Tel: (02) 9281-7699 Fax: (02) 9241-3731 email: mail@costinroe.com.au @		DRAWING TITLE FINISHED LEVELS PLAN BASEMENT						
		EG FUNDS MANAGEMENT GOVERNOR PHILLIP TOWER 21/1 FARRER PLACE SYDNEY, NSW 2000	PROPOSED DEVELOPMENT 100 SOUTH CREEK ROAD CROMER, 2099, NEW SOUTH WALES					DRAWING No	C013674.01-DA52	ISSUE			
ISSUED FOR DEVELOPMENT APPLICATION	26.11.19	B	DESIGNED J.W.					DRAWN .T.W.	DATE OCT 2019	CHECKED M.W.	SIZE A1	SCALE AS SHOWN	CAD REF: C013674.01-DA52
ISSUED FOR INFORMATION ONLY	01.11.19	A											
AMENDMENTS	DATE	ISSUE											
PRECISION COMMUNICATION ACCOUNTABILITY													

 northern beaches council

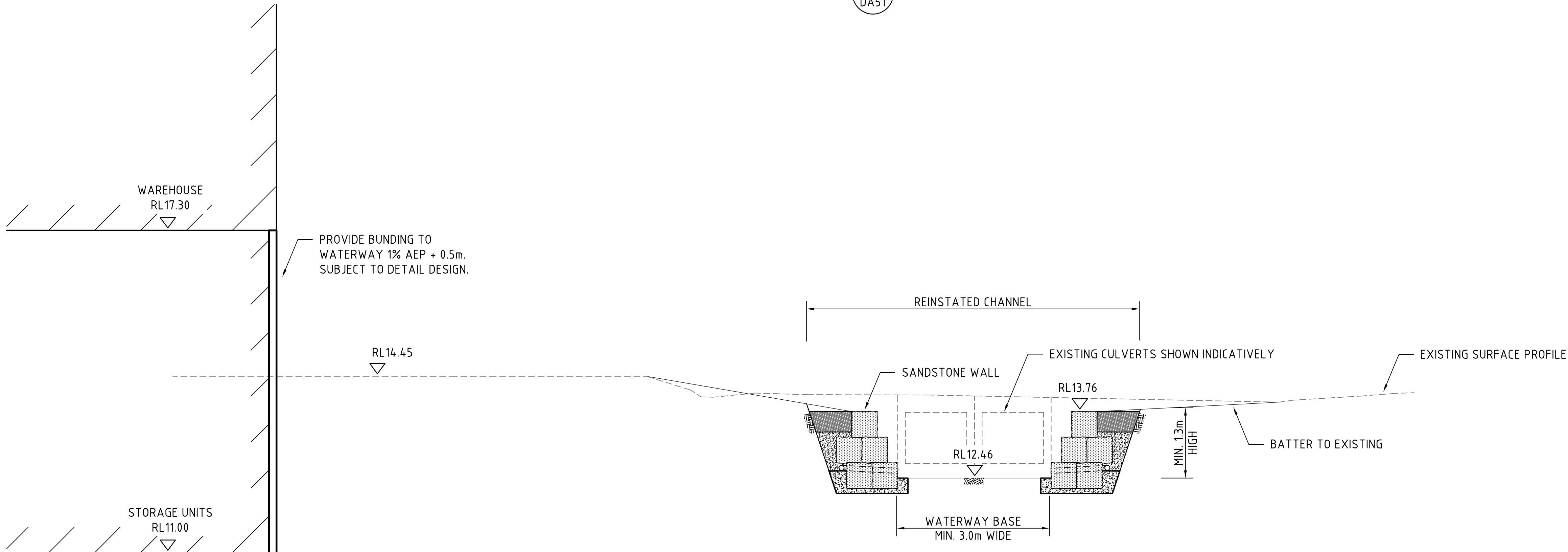
THIS PLAN IS TO BE READ IN CONJUNCTION WITH THE CONDITIONS OF DEVELOPMENT CONSENT

DA2019/1346



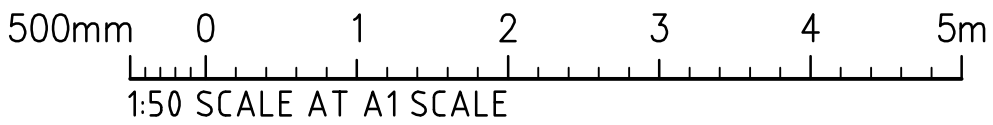
SECTION 1:50

2
DA51



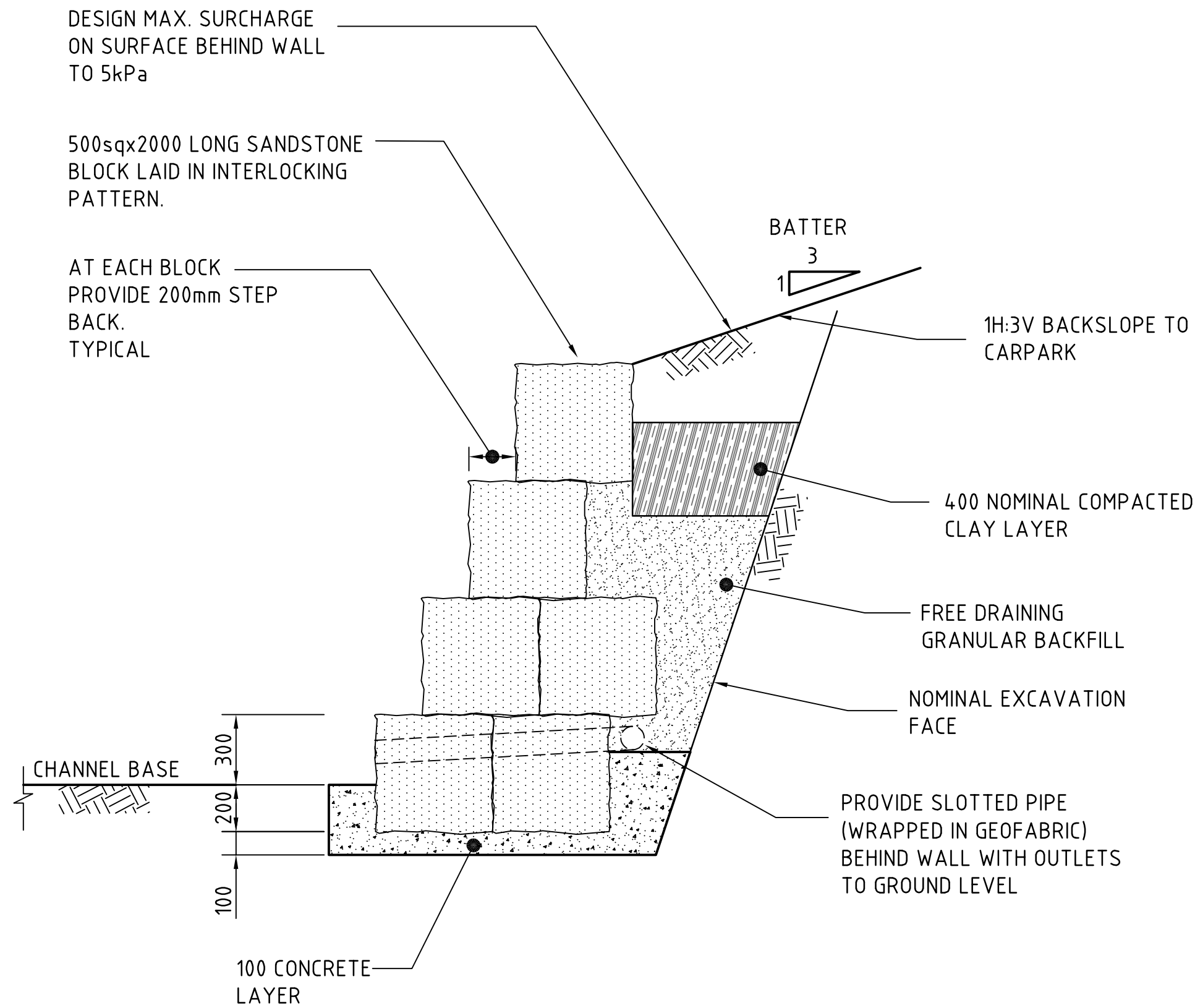
SECTION 1:50

1
DA51



FOR DEVELOPMENT APPLICATION

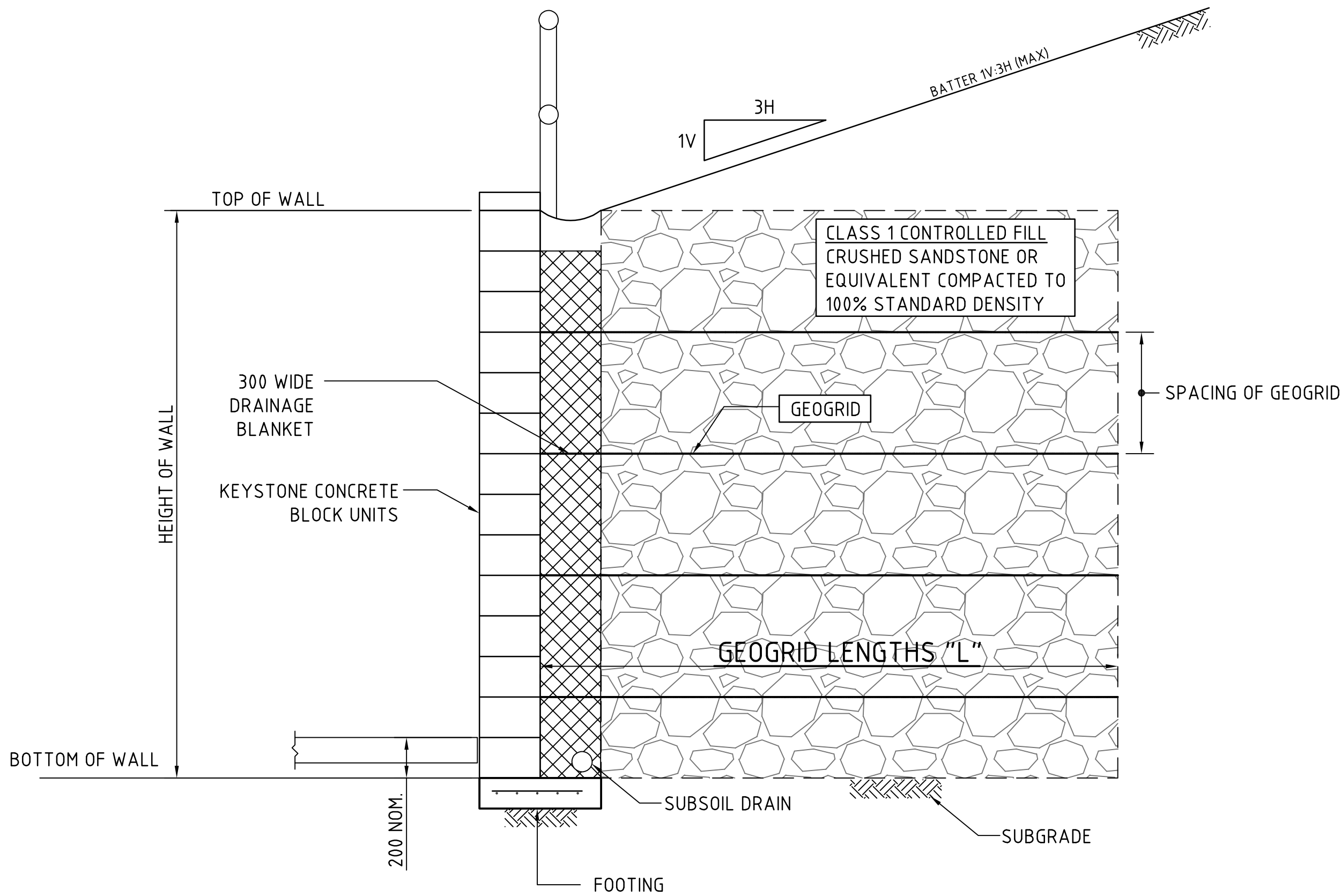
			ARCHITECT			CLIENT EG FUNDS MANAGEMENT GOVERNOR PHILLIP TOWER 21/1 FARRER PLACE SYDNEY, NSW 2000			PROJECT PROPOSED DEVELOPMENT 100 SOUTH CREEK ROAD CROMER, 2099, NEW SOUTH WALES			 CONSULT AUSTRALIA			Costin Roe Consulting Pty Ltd. Consulting Engineers <small>ACTR 603 696 446</small> Level 1, 8 Windmill Street Wahsh Bay, Sydney NSW 2000 Tel: (02) 9251-7899 Fax: (02) 9241-3731 email: mail@costinroe.com.au ©						DRAWING TITLE TYPICAL SECTIONS														
ISSUED FOR DEVELOPMENT APPLICATION			26.11.19			A			DESIGNED TW			DRAWN TW			DATE OCT 2019			CHECKED MW			SIZE A1			SCALE AS SHOWN			CAD REF: C013674.01-DA55			DRAWING No C013674.01-DA55			ISSUE A		
AMENDMENTS			DATE			ISSUE																					PRECISION			COMMUNICATION			ACCOUNTABILITY		



SANDSTONE WALL DETAIL
SCALE 1:20

NOTE:

- BASED ON 500x500x2000 LONG STANDARD CUT SANDSTONE BLOCKS LAID IN INTERLOCKING BRICK PATTERN:
- FIRST TWO COURSES TO BE 2xSANDSTONE BLOCKS IN 100 MASS CONCRETE BEDDING.
 - THIRD & FOURTH COURSE TO BE 1 SANDSTONE BLOCK.
 - STEP EACH SUCCESSIVE COURSES 200mm BACK



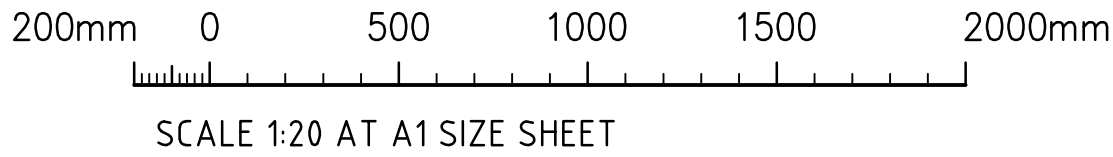
REINFORCED EARTH RETAINING WALL
SCALE 1:20

WALL HEIGHT "H"	GEOGRID LENGTH "L"	GEOGRID TYPE
2300	2600	GX50/30
3300	3500	GX50/30
4300	4700	GX50/30
5300	5800	GX50/30
6400	6900	GX50/30
7400	7600	GX50/30

NOTE :
INDICATIVE DETAIL ONLY. DESIGN TO BE CONFIRMED / PROVIDED BY D+C CONTRACTOR.

REINFORCED EARTH RETAINING WALL NOTES:

- ALL COMPONENTS AND INSTALLATION SHALL COMPLY WITH AS4678 AND THE STANDARDS REFERRED TO THEREIN.
- MINIMUM HEIGHT (H) TO GEOGRID REINFORCEMENT LENGTH (L) TO BE 1.0.
- MINIMUM BEARING CAPACITY OF FOUNDATION (BASED ON MINIMUM H/L RATIO OF 1.0) TO BE AS FOLLOWS:
 - H MAX. 2.0m = 100 kPa
 - H MAX. 3.5m = 150 kPa
 - H MAX. 5.0m = 200 kPa
- BEFORE COMMENCEMENT OF CONSTRUCTION THE FOUNDATION SHALL BE INSPECTED AND VERIFIED BY A QUALIFIED GEOTECHNICAL ENGINEER.
- WHERE MINIMUM BEARING IS NOT ACHIEVABLE OR NOT MEETING DESIGN REQUIREMENT, THE FOUNDATION MATERIAL IS TO BE EXCAVATED AND REPLACED WITH APPROVED MATERIAL PLACED IN ACCORDANCE WITH THE FILLING SPECIFICATION TO A MINIMUM COMPACTION OF 100% SMDD AND PLACED WITHIN 2% OF OMC.
- MINIMUM SURCHARGE LOADS TO BE APPLIED AS FOLLOWS U.N.O. ON PLAN:
 - LIVE LOAD = 20 kPa
 - DEAD LOAD = 5 kPa
 - CONSTRUCTION TRAFFIC LIVE LOAD = 10 kPa
- THE GEOGRIDS SHALL BE OF THE TYPE AND INDEX STRENGTH NOMINATED ON THE DRAWINGS. THE MINIMUM GEOGRIDS SHALL BE A SINGLE LENGTH IN THE DIRECTION OF DESIGN TENSION, NOT LAPPED, MAKING PROVISION FOR CONNECTION TO THE FACING ACROSS THE WHOLE WIDTH OF THE FACING AND PROVIDING FOR THE SPECIFIED ANCHORAGE WITHIN THE DESIGNATED ANCHORAGE ZONE. GEOGRIDS SHALL COVER THE WHOLE OF THE PLAN AREA BEHIND THE WALL FOR THE SPECIFIED ANCHORAGE LENGTH AND SHALL BE LAPPED WITH ADJACENT SECTIONS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- MINIMUM WALL EMBEDMENT AT THE TOE OF THE WALL TO BE 300mm.
- DESIGN LIFE OF STRUCTURE IS TO BE 100 YEARS.
- SELECT BACKFILL MATERIAL WITHIN THE REINFORCED SOIL BLOCK SHALL BE SOUND GRANULAR MATERIAL OF NATURAL OR INDUSTRIAL ORIGIN, NON-EXPANSIVE, FREE FROM ORGANIC OR OTHER DELETERIOUS MATERIAL CONFORMING TO THE PHYSICAL, CHEMICAL AND ELECTROCHEMICAL LIMITS AS SPECIFIED AND SHALL NOT BE SUBJECT TO BREAKDOWN UNDER COMPACTION. THE SELECT BACKFILL MATERIAL IS TO HAVE THE FOLLOWING PARAMETERS:
 - MINIMUM INTERNAL FRICTION, $\phi = 34^{\circ}$
 - EFFECTIVE COHESION, $c' \leq 0$ kPa
 - UNIT WEIGHT = 21 kN/m^3
 - PH BETWEEN 4 AND 9.
- SELECT BACKFILL IS TO BE PLACED AND COMPACTED IN LAYERS NOT MORE THAN 300mm (LOOSE). COMPACTION TO NOT LESS THAN 100% SMDD WILL BE ACHIEVED AND MATERIAL PLACED WITHIN 2% OF OMC. DENSITY TESTING SHALL BE PERFORMED IN EACH COMPACTED LIFT IN ACCORDANCE WITH AS3798.
- PROVIDE A DRAINAGE LAYER DIRECTLY BEHIND THE FACING UNITS IN A MINIMUM 300mm WIDE 12-20mm AGGREGATE LAYER. FACING UNIT VOIDS TO BE FILLED WITH AGGREGATE. PROVIDE 100mm MINIMUM AG. DRAIN IN GEOTEXTILE SOCK AT TOE OF WALL FACING AND CONNECT TO DRAINAGE SYSTEM AT 30m MAX. SPACING.
- THE NEED FOR A CHIMNEY DRAIN OR DRAINAGE AT THE REAR OF THE MASS SOIL BLOCK IS TO BE CONFIRMED ON SITE BY THE GEOTECHNICAL ENGINEER AND DESIGNER FOLLOWING PREPARATION OF THE FOUNDATION AND PRIOR TO CONSTRUCTION OF THE MASS SOIL BLOCK.
- CONSTRUCTION EQUIPMENT WEIGHING MORE THAN 500kg STATIC WEIGHT IS TO BE KEPT BACK 1.5m FROM THE REAR FACE OF THE WALL FACING UNITS. COMPACTION OF THE SELECT FILL MATERIAL WITHIN THE 1.5m STRIP ADJACENT TO THE WALL SHALL BE ACHIEVED BY LIGHT MECHANICAL TAMPERS (VIBRATING PLATE, TRENCH COMPACTOR OR SIMILAR) TO GIVE THE SAME DENSITY AS IN THE REMAINDER OF THE SELECT FILL.
- ALL DESIGN AND CONSTRUCT WALL SYSTEM TO BE COMPLETED IN ACCORDANCE WITH THESE NOTES.



FOR DEVELOPMENT APPLICATION