

Casuarina Beach Concept



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Issued under the *Environmental Planning and Assessment Act 1979*
Approved Section 75W Modification Application
No. 10 granted on the 7 Nov 2018
in respect to MP 06-0258
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Sheet No. 1 of 47

Casuarina Beach Concept



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Approved Section 75W Modification Application

No. 10 granted on the 7 Nov 2018

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Sheet No. 2 of 47

Grand Parade



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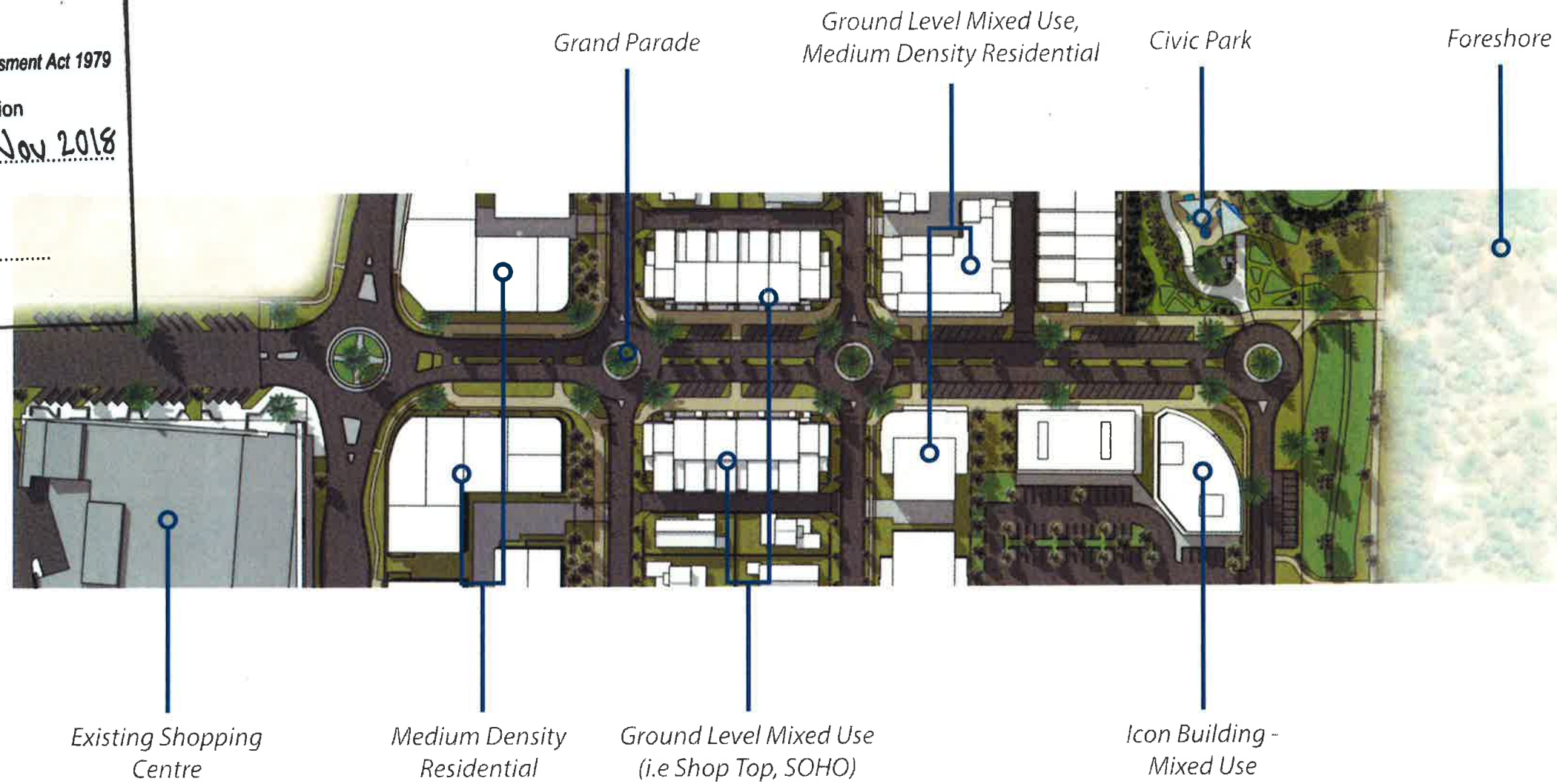
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Example Grand Parade Imagery



Density



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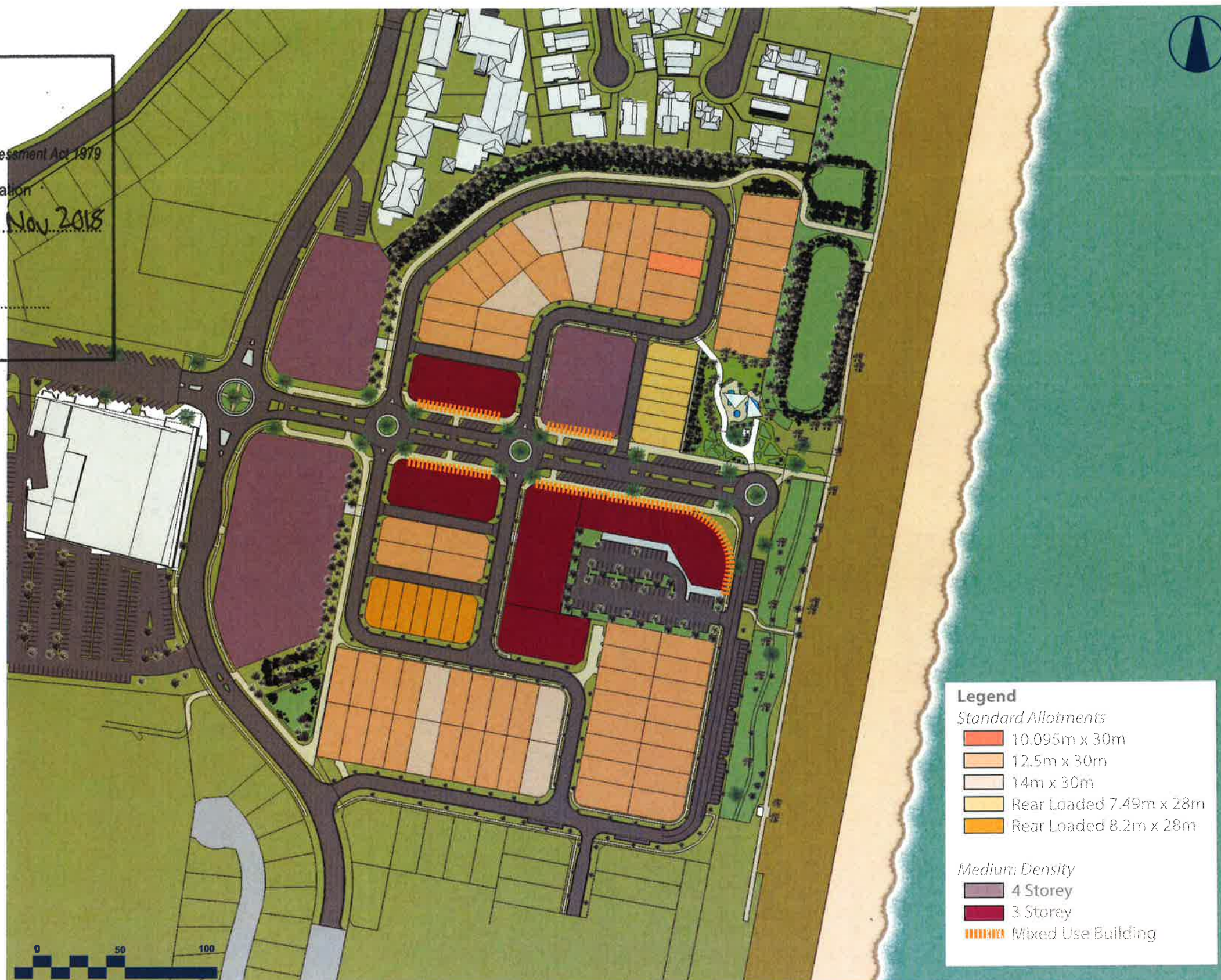
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Sheet No. 4 of 47



Built Form

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 Sheet No. 5 of 47



Built Form



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*Medium Density
& Mixed Use*



*Standard Allotments
Front Loaded*



*Standard Allotments
Rear Loaded*



Yield Estimate



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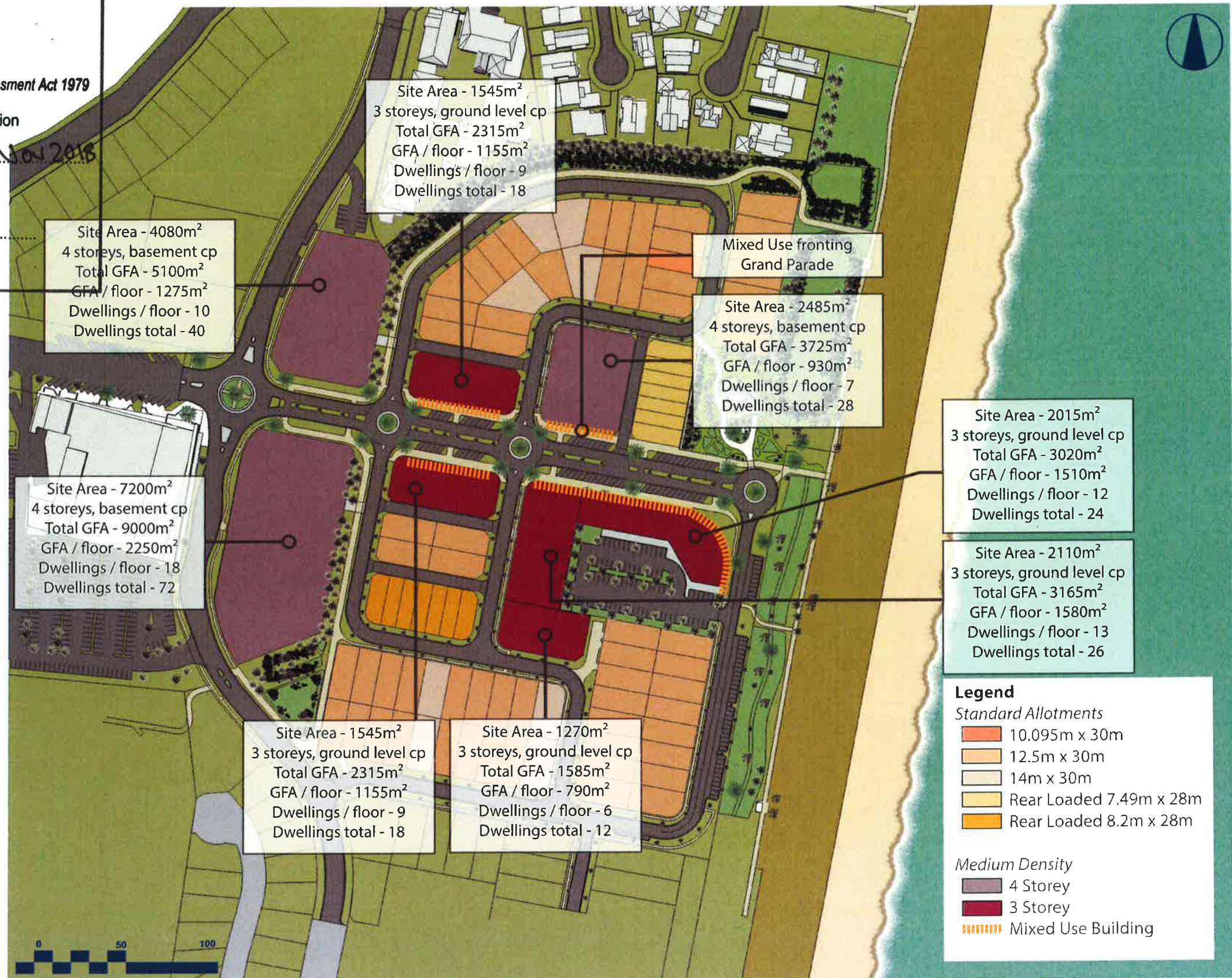
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Sheet No. 7 of 47



LANDSCAPE MASTERPLAN

- 1 Revegetation to edges of swale to integrate device into existing dune landscape
- 2 Primary street trees in informal groupings to local residential streets provide a relaxed intimate streetscape
- 3 Secondary feature trees located at the end of view lines strength wayfinding, create interest in the streetscape and increase amenity
- 4 Feature pavement to laneways breakup expanse of hardscape and create interest within the streetscape
- 5 Buffer to rear of existing properties includes planted mounds, informal shrub and groundcover planting to achieve privacy for residents
- 6 Feature tree avenue to entrance road strengthens way-finding, achieves shade to carparking and pedestrian pathways, provides amenity and creates a signature approach to the beach
- 7 Planting to multi-storey residential surrounds to soften the built form and integrate the property fence into the streetscape
- 8 Beachfront park reinforces beach access and frames views of the ocean
- 9 Trees proposed to carpark provide shade, reduce glare and enhance amenity
- 10 Secondary street trees in a formal arrangement along Blue Horizon Drive strengthen road hierarchy within the development while assisting in wayfinding strategy
- 11 Planting to infiltration basin and surrounds to integrated the device into the landscape
- 12 Shared pedestrian/cycle path connecting residents to the Tweed Shire Council shared pedestrian/cycle path



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Sheet No. 8 of 47



NEIGHBOURHOOD PARK

The park provides a breakout space for residents and visitors. Located at a key juncture between the retail hub, entry road termination and main beach access this space is a key node in pedestrian movement and wayfinding.

The park forms a link between the town centre and the linear open space (7f zone) containing a shared walkway that forms a major north-south pedestrian/cycle network for the Tweed Coast.

The park incorporates a playground with formal play equipment and natural play elements such as mounding and balancing boulders. The playground is nestled into the landscape with landform and planting surrounds. Trees provide shade and amenity to the space. Mounding and planting have been proposed between the road and the play space to create a screen.

A shared 3.5m wide path has been incorporated along the edge of the park for pedestrians and cyclist to traverse from the town centre to the foreshore shared pedestrian and cycle path. Intimate gathering spaces have been created within the park for informal interactions between the communities. A kickabout space has also been defined with planting and mounding to diversify the parks usage.

Mounding and planting will combine to form a buffer and screen between public and private interfaces. A path to the north connects the cul-de-sac road to the park and foreshore.

The sweeping landscape form of planting beds and mounds reflects the natural swaths of the beach landscape. The planting pallet will draw its inspiration from the existing species found within the foreshore linear park.



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0 50 100
Scale 1:750

28/09/2017

landscape report

Page 4 of 5

FORESHORE

The foreshore zone will be protected and enhanced to ensure the scenic and environmental values of the area are preserved. Links are made between the development and the existing shared pedestrian/cycle path to strengthen the community's connection with the environment and foster a stewardship over the land.

Endemic spices will be planted informally along the interface between the development and the foreshore enhancing the current character of the area. These native species will also be filtered throughout the development creating a seamless landscape and strengthened identity.

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- 1 Existing shared pedestrian/cycle path
- 2 Existing beach access
- 3 Path nodes
- 4 Seating placed at required intervals
- 5 Infiltration basins
- 6 Endemic planted mounds using species from the Tweed Shire Council Landscape Guidelines Casuarina Beach -7(f) Zone.
- 7 Access path to park and town centre





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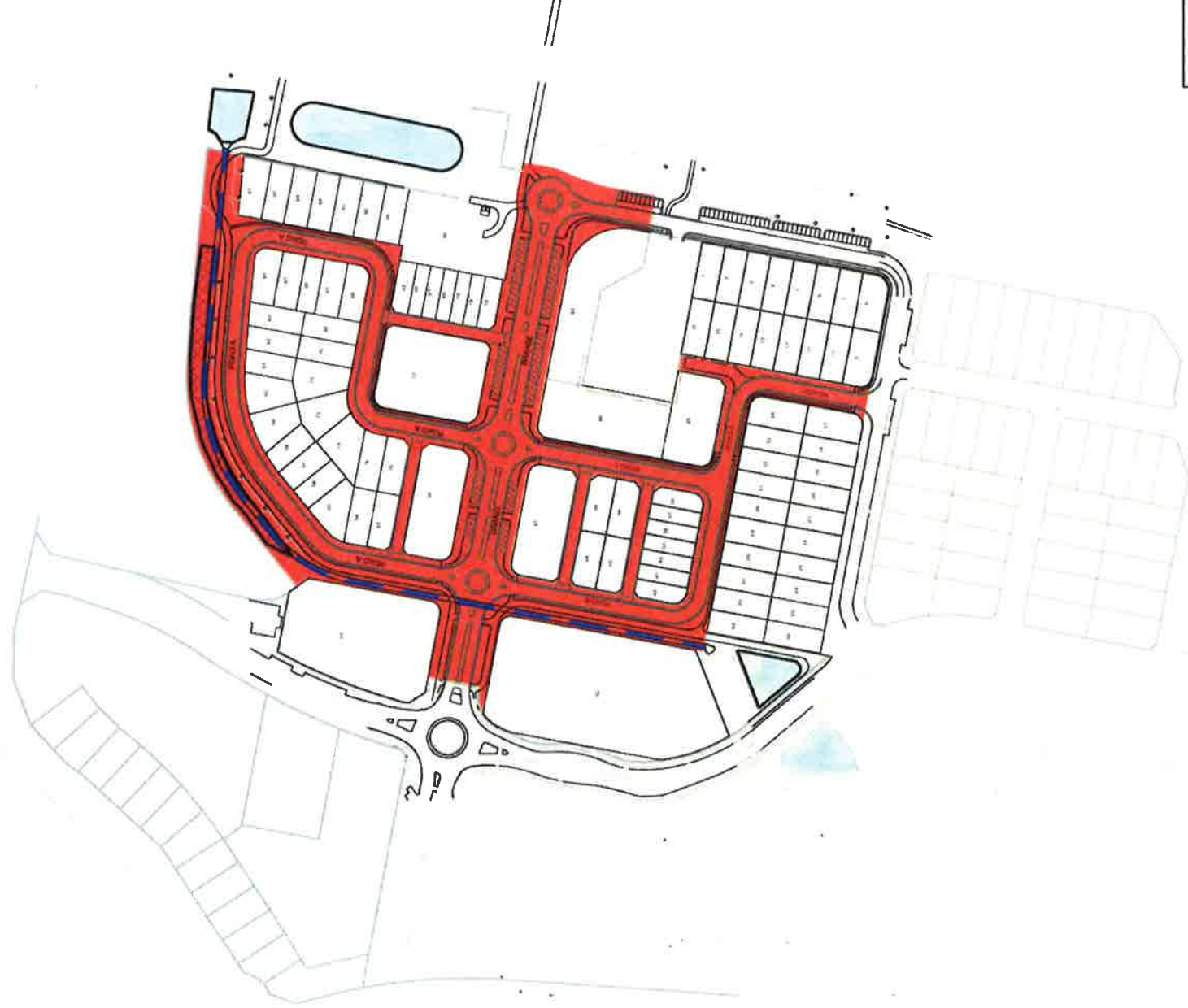
Approved Section 75W Modification Application

No. **16** granted on the **7 Nov 2018**

in respect to MP **05-0258**

Signed **[Signature]**

Sheet No. **11** of **47**



LEGEND

PROPOSED BOUNDARY

STAGE 1D

STAGE 1D (SWALE)

NOTE

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REV DATE AMENDMENT

B 22/07/18 BDY
C 17/08/17 BDY
D
E

SOURCE PLAN: N/A

Newton Denny Chapelle

Surveyors Planners Engineers
Email: office@newtondennychapelle.com.au
LESMORE 31 Carrington St. Lesmore 2480 PH 6662 1011
CASINO 100 Barker St. Casino 2470 PH 6662
5000
ABN: 66 230 045 469

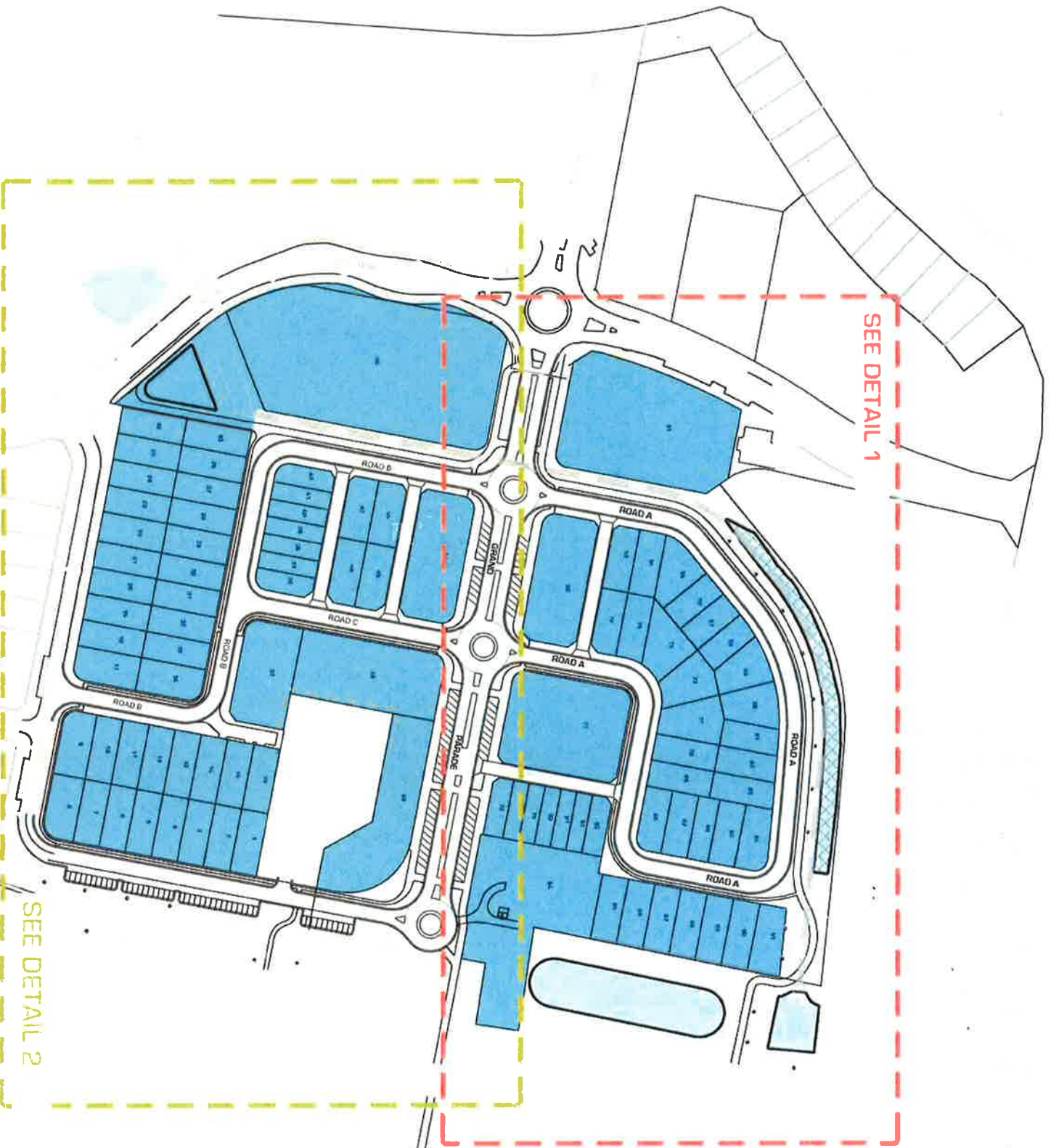
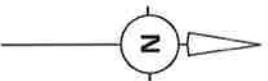
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REV C

CLIENT: CLARENCE PROPERTY

LOCATION: CASUARINA TOWN CENTRE
CASUARINA BEACH

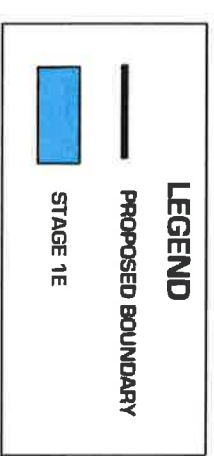
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SCALE: 1:2000 @ A3 DRAWN: DK



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1cm = 25m
1:2500

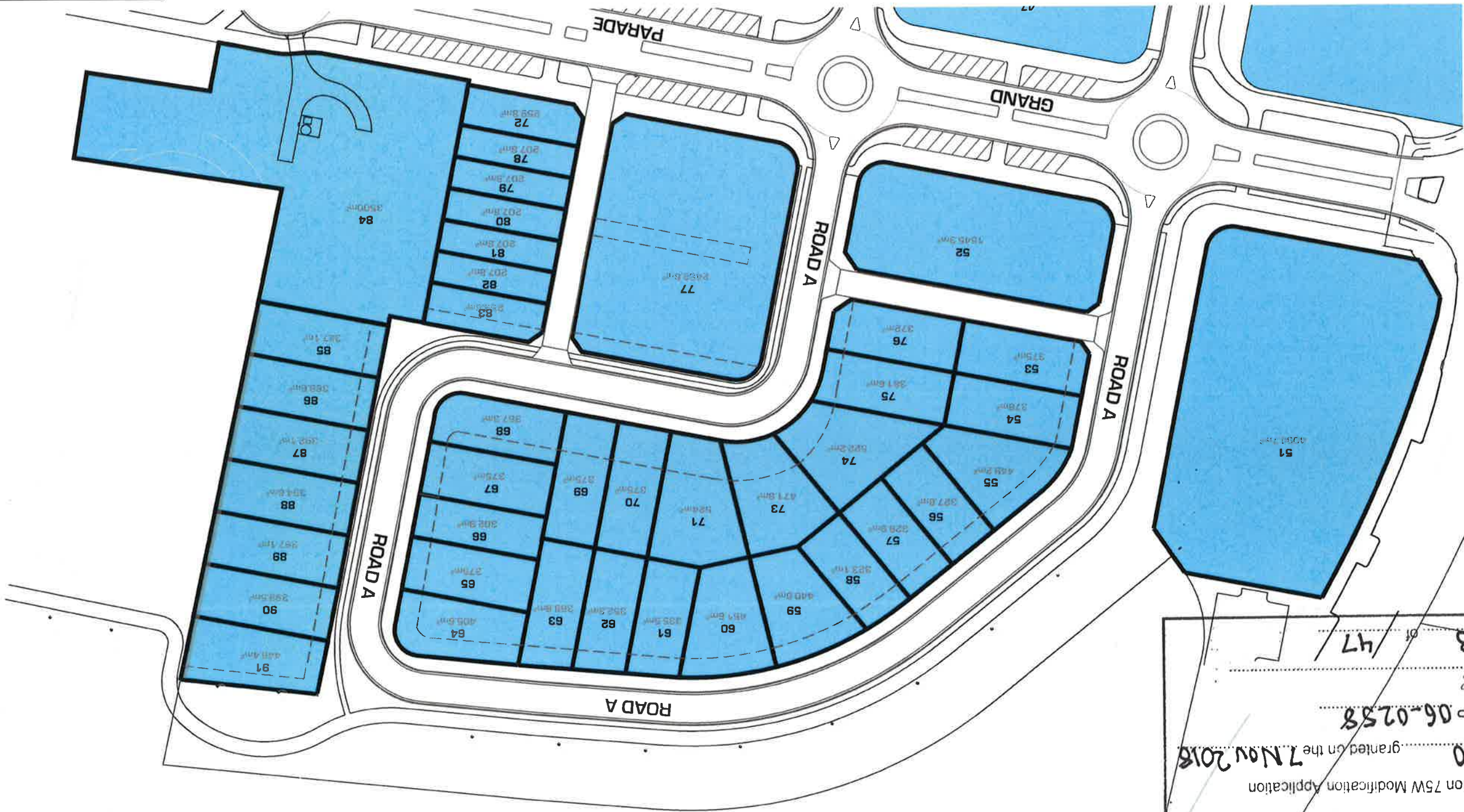
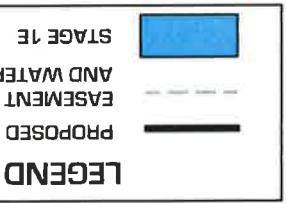
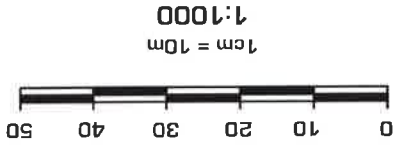
REV DATE AMENDMENT
B 22/07/16 BDY
C 17/08/17 BDY
D
E
SOURCE PLAN: N/A

Newton Denny Chapelle
Surveyors Planners Engineers
Email: office@newtondennychapelle.com.au
Lismore 31 Carrington St, Lismore 2480 Ph: 6622 1011
C/SMD 100 Barker St, Lismore 2470 Ph: 6622 5000
ABN: 56 220 045 463

P2 - SUBDIVISION LAYOUT
PLAN STAGE 1E
CLIENT: CLARENCE PROPERTY
LOCATION: CASUARINA TOWN CENTRE
DATE: 17/08/17 REF: 13/054
SCALE: 1:1500 @ A3 DRAWING: BK

13/11/2018

NOTE:
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REV DATE AMENDMENT
B 22/07/16 BDY
C 17/08/17 BDY
E

SOURCE PLAN: N/A

Newton Denny Chapelle
Surveyors Planners Engineers

Email: office@newtondennychapelle.com.au
LISMORE 31 Carrington St. Lismore 2480 PH: 6622 1011
CASINO 100 Barker St. Casino 2470 PH: 6662 5000
ABN: 86 220 045 469

DATE: 17/08/17
SCALE: 1 : 1000 @ A3
DRAWN: bk
REF: 13/D54

LOCATION: CASUARINA TOWN CENTRE
CASUARINA BEACH

CLIENT: CLARENCE PROPERTY

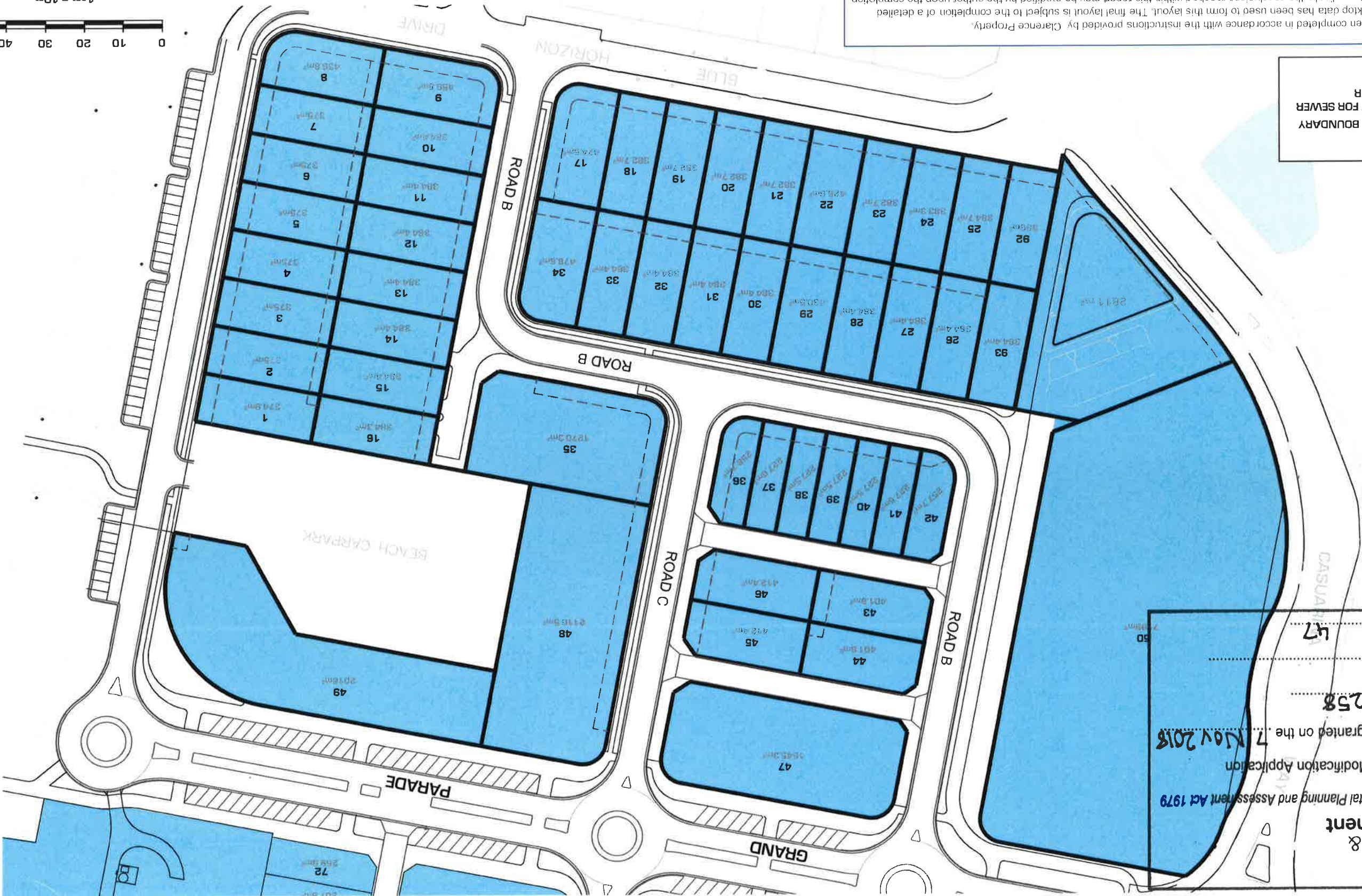
P4 - SUBDIVISION LAYOUT PLAN
STAGE 1E - DETAIL 2

REV C

NOTE:
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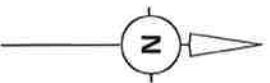
LEGEND
— PROPOSED BOUNDARY
--- EASEMENT FOR SEWER
AND WATER
STAGE 1E

1cm = 10m
1:1000
0 10 20 30 40 50



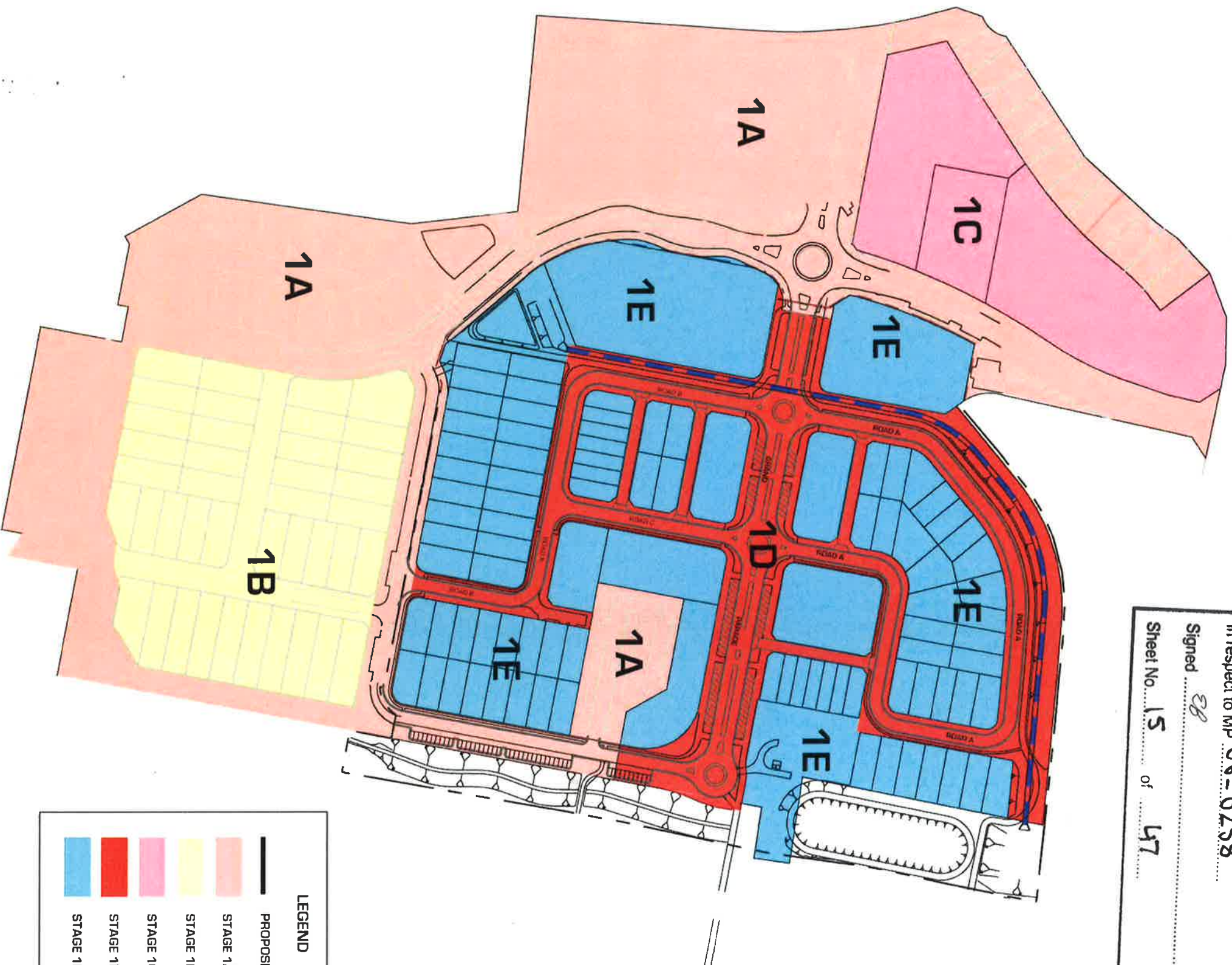
NSW
GOVERNMENT
Planning & Environment

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No. 10 granted on the 7 May 2018
in respect to MP 06-0258
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LEGEND

— PROPOSED BOUNDARY

STAGE 1A

STAGE 1B

STAGE 1C

STAGE 1D

STAGE 1E

0 25 50 75 100 125

1cm = 25m

1:2500

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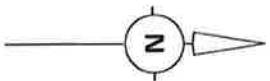
REV	DATE	AMENDMENT
B	22.07.16	BOY
C	17.08.17	BOY
E		

SOURCE PLAN: N/A

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Surveyors Planners Engineers
Email: office@newtondennychapelle.com.au
LISMORE 31 Carrington St, Lismore 2480 PH 6522 1011
CASINO 100 Barker St, Casino 2470 PH 6562 5000
ABN 86 220 045 469

P5 - SUBDIVISION STAGING PLAN
CLIENT: CLARENCE PROPERTY
LOCATION: CARRINGTON TOWN CENTRE
DATE: 17/09/17
SCALE: 1:2500 A3
REV: 13 (CSH)
DRAWN: DK



**Planning &
Environment**

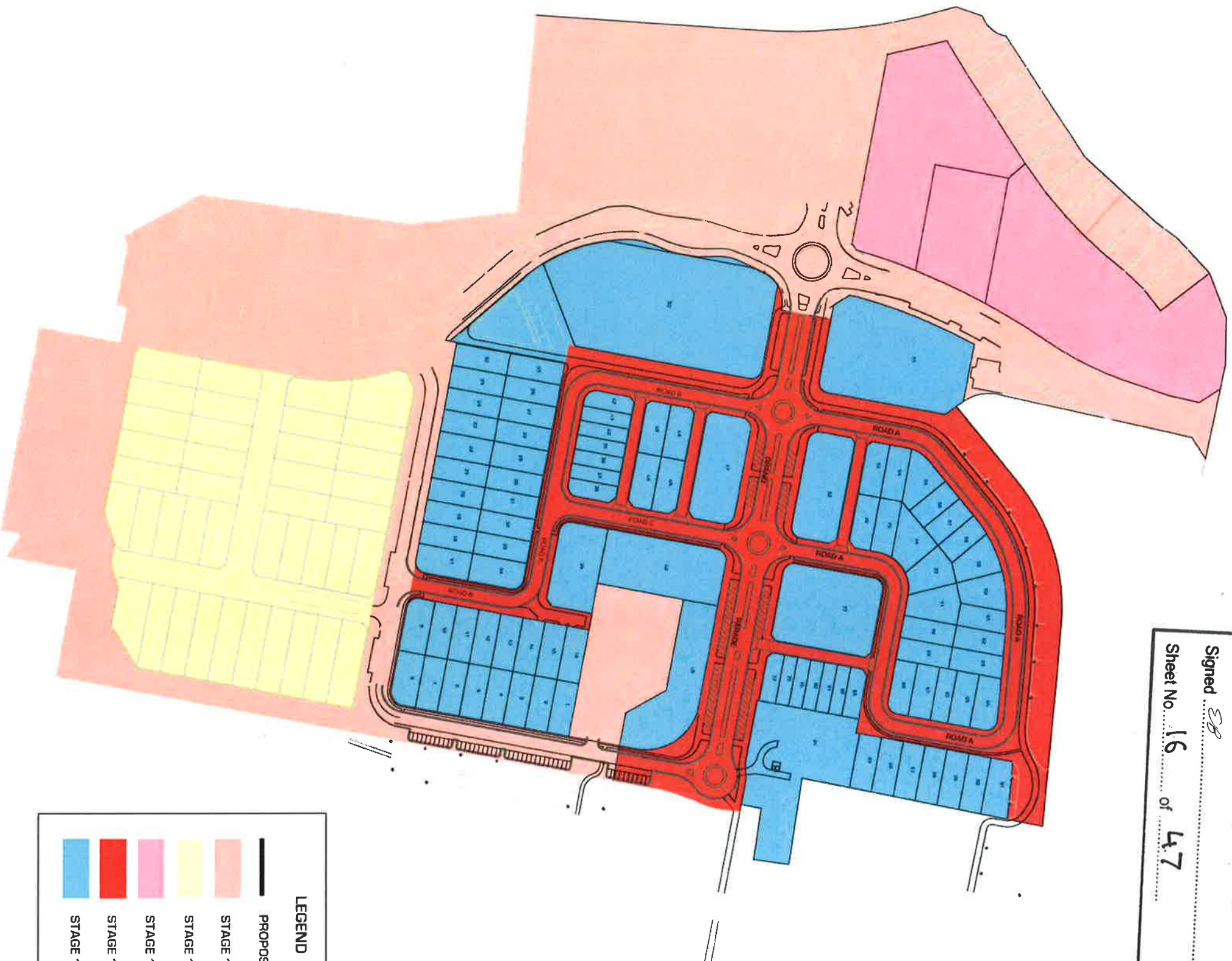
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REV DATE AMENDMENT

22/07/18 BDY
17/08/17 BDY
N/A

SOURCE PLAN: N/A

Newton Denny Chapelle
Surveyors Planners Engineers

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USM006 31 Carrington St, USmore 2480 PH 5552 1011
CASINO 100 Barker St, Casino 2470 PH 5552
ABN: 56 220 045 469

**P6 - DEVELOPMENT
SEQUENCE PLAN**

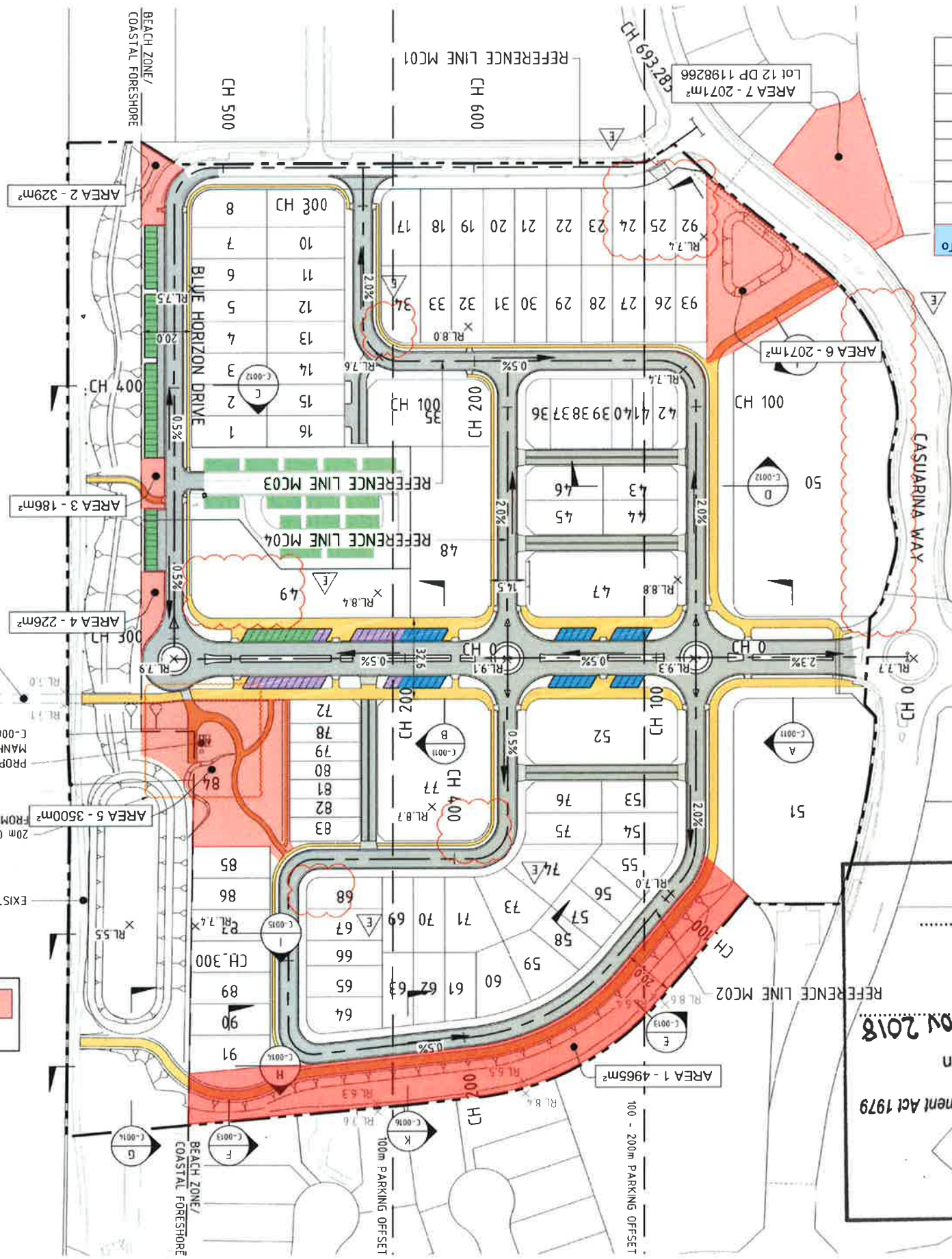
CLIENT: CLARENCE PROPERTY
LOCATION: CASUARINA TOWN CENTRE
CASUARINA BEACH

REV C

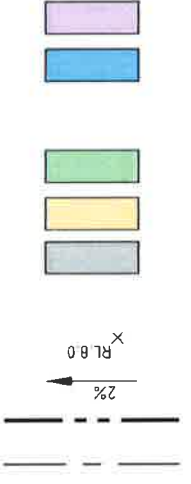
DATE: 17/08/17 REF: 13/054
SCALE: 1:2500 @ A3 DRAWN: CK

No.	Open Space	Total Area	Dedicated To Council
1	EAST - WEST DEDICATION	4965m ²	YES
2	7(i) DEDICATION AREA	329m ²	YES
3	7(i) DEDICATION AREA	186m ²	YES
4	7(i) DEDICATION AREA	226m ²	YES
5	CIVIC PARK	3500m ²	YES
6	STORM WATER INFILTRATION	2071m ²	YES
7	STORMWATER INFILTRATION	1643m ²	YES
8	NORTH WEST INFILTRATION	885m ²	YES
Total Area To Be Dedicated To Council		13,805m ²	

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Sheet No. 17 of 47



LEGEND
OPEN SPACE DEDICATION

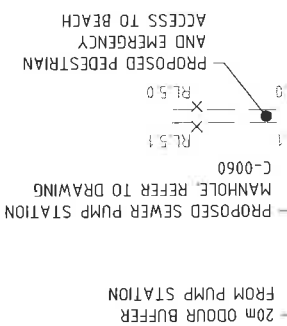


DESIGN CONTROL LINE
LIMIT OF WORKS BOUNDARY
PROPOSED ROAD GRADE
PROPOSED LEVEL
EXISTING LEVEL
PROPOSED ROAD
PROPOSED PATH

PARKING BAYS - 0m TO 100m (134 TOTAL)
• 71 EXISTING BLUE HORIZON DRIVE
• 8 TREESTILES AVENUE
• 55 PROPOSED BAYS
PARKING BAYS - 100m TO 200m (32 TOTAL)
PARKING BAYS - ADDITIONAL (26 TOTAL)

LOT No.	AREA (m ²)
1	374.9
2	375.0
3	375.0
4	375.0
5	375.0
6	375.0
7	375.0
8	438.8
9	456.5
10	384.4
11	384.4
12	384.4
13	384.4
14	384.4
15	384.4
16	384.4
17	474.5
18	382.7
19	382.7
20	382.7
21	382.7
22	428.6
23	382.7
24	385.4
25	410.5
26	384.4
27	384.4
28	384.4
29	438.5
30	384.4
31	384.4
32	384.4
33	384.4
34	461.5
35	1270.5
36	256.7
37	227.6
38	227.5
39	227.5
40	227.5
41	227.5
42	257.7
43	401.8
44	401.8
45	412.4
46	412.4
47	1545.3

LOT No.	AREA (m ²)
48	2111.9
49	2219.3
50	7354.4
51	4084.7
52	1545.3
53	375.0
54	378.0
55	449.2
56	227.8
57	329.5
58	323.1
59	440.6
60	451.6
61	335.5
62	352.3
63	368.8
64	405.6
65	375.0
66	382.9
67	375.0
68	369.3
69	375.0
70	524.0
71	524.0
72	259.8
73	411.8
74	522.2
75	381.6
76	312.0
77	2481.0
78	207.8
79	207.8
80	207.8
81	207.8
82	207.8
83	259.6
84	3500.0
85	389.6
86	389.6
87	392.1
88	394.6
89	397.1
90	399.5
91	468.4
92	151.6
93	584.4



LOT AREA TABLE	LOT NO	AREA (m ²)
48	9	2711.9
49	7	2219.3
50	6	7354.4
51	5	4084.7
52	5	7545.3
53	4	375.0
54	4	378.0
55	4	479.2
56	4	327.8
57	4	329.9
58	4	323.1
59	4	440.6
60	4	451.6
61	4	335.5
62	4	352.3
63	4	368.8
64	4	405.6
65	4	375.0
66	4	302.9
67	4	375.0
68	4	369.3
69	4	375.0
70	4	375.0
71	4	524.0
72	4	259.8
73	4	471.8
74	4	522.2
75	4	381.6
76	4	372.0
77	4	2481.0
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79	4	207.8
80	4	207.8
81	4	207.8
82	4	207.8
83	4	259.6
84	4	350.0
85	4	387.1
86	4	388.6
87	4	392.1
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93	4	778.7

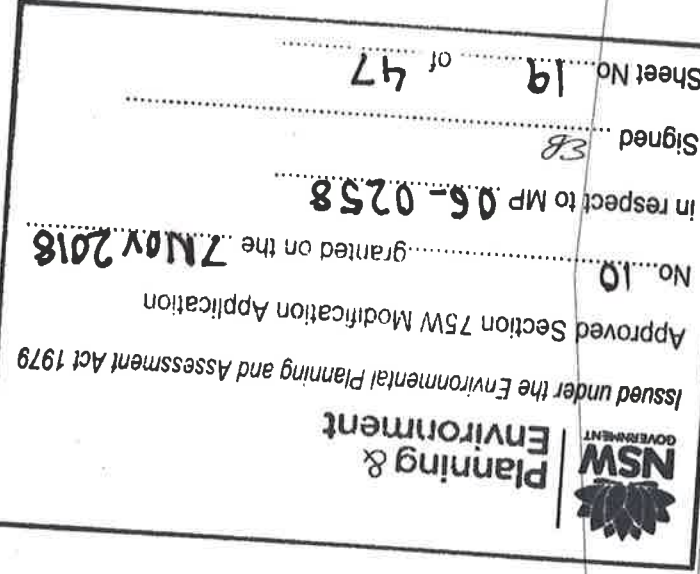


CLARENCE PROPERTY



ISSUED FOR APPROVAL

5000-2	B16097
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[illegible]

REV	DATE	BY	CHK	APP	DESCRIPTION



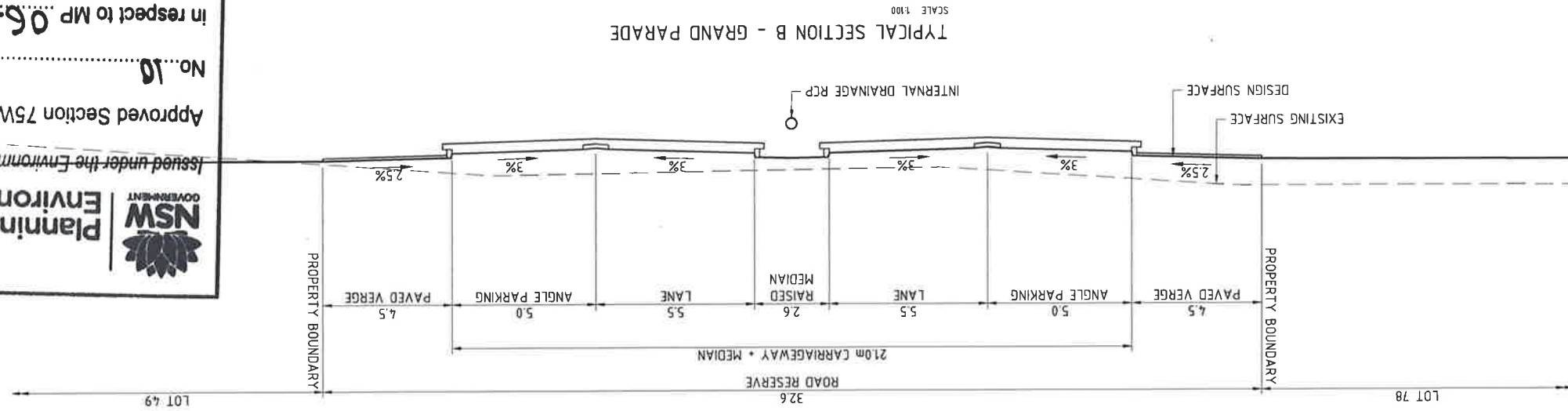
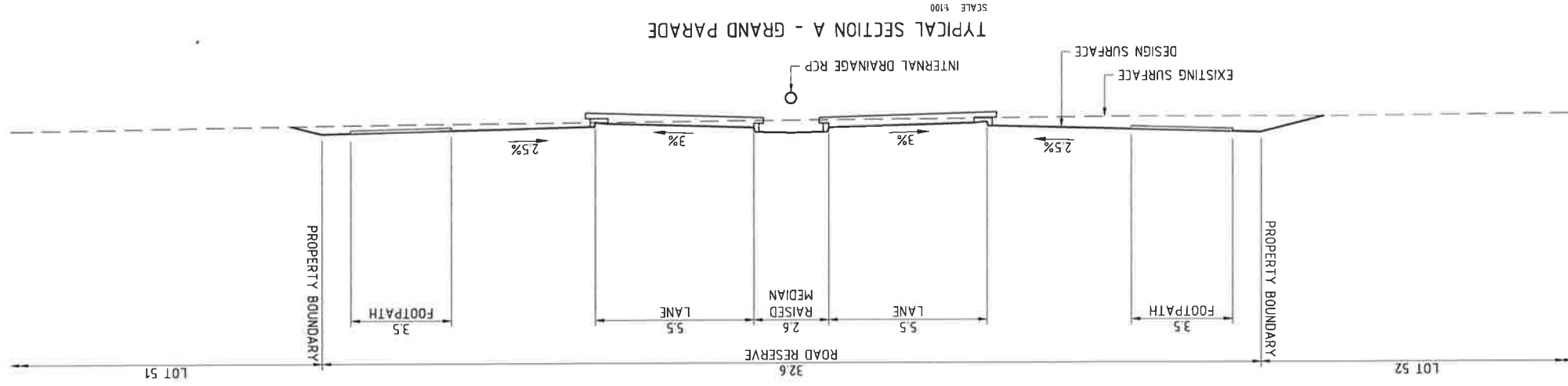
Brisbane Office
74-76 Bowen St, Spring Hill QLD 4000
P / +61 7 3167 3300
E / info@bgeeng.com
bgeeng.com



CASUARINA BEACH
TOWN CENTRE - STAGE 2
CASUARINA WAY, NSW 2487

STATUS	ISSUED FOR APPROVAL
DATE	15/08/2017
BY	CK
CHKD	BJ
SCALE	1:50
PROJECT NO.	B16097
DRAWING NO.	C-0011
REV	A

BULK EARTHWORKS SECTIONS
SHEET 1

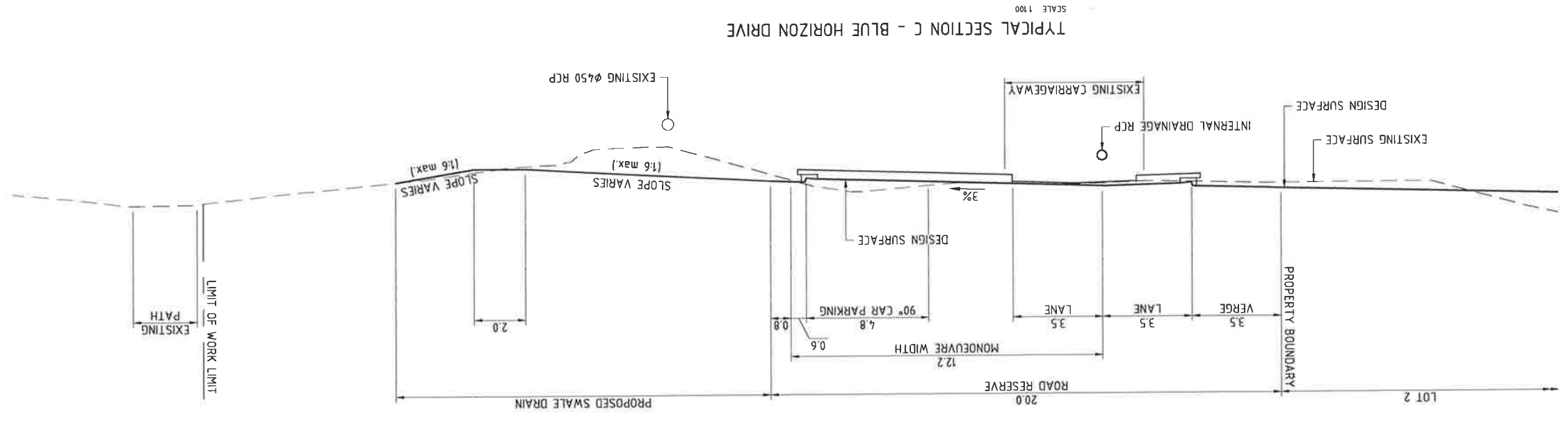
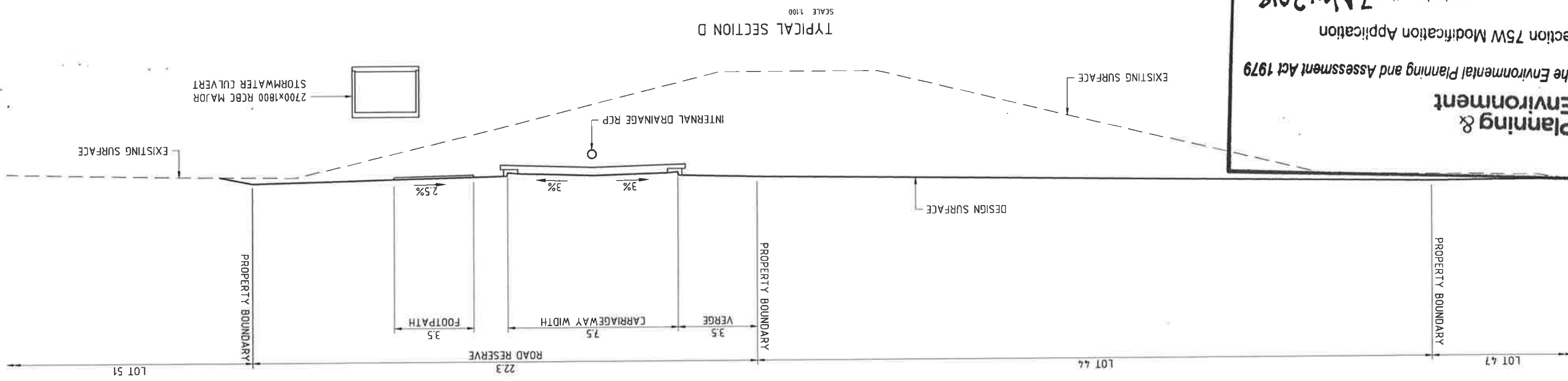


NSW GOVERNMENT
Planning & Environment

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No. 10 granted on the 7 Nov 2018
in respect to MP 06-0258
Signed [Signature]
Sheet No. 22 of 47

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No. 10 granted on the 7 May 2018
in respect to MP 06-0258
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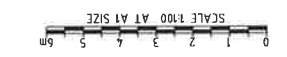
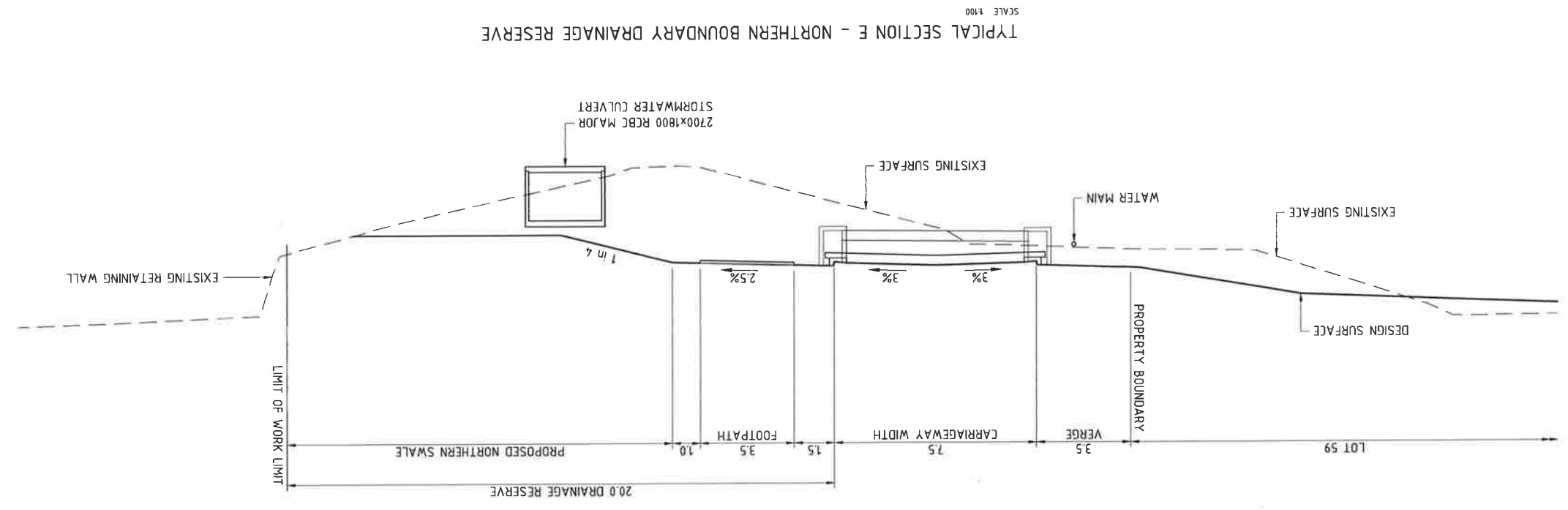
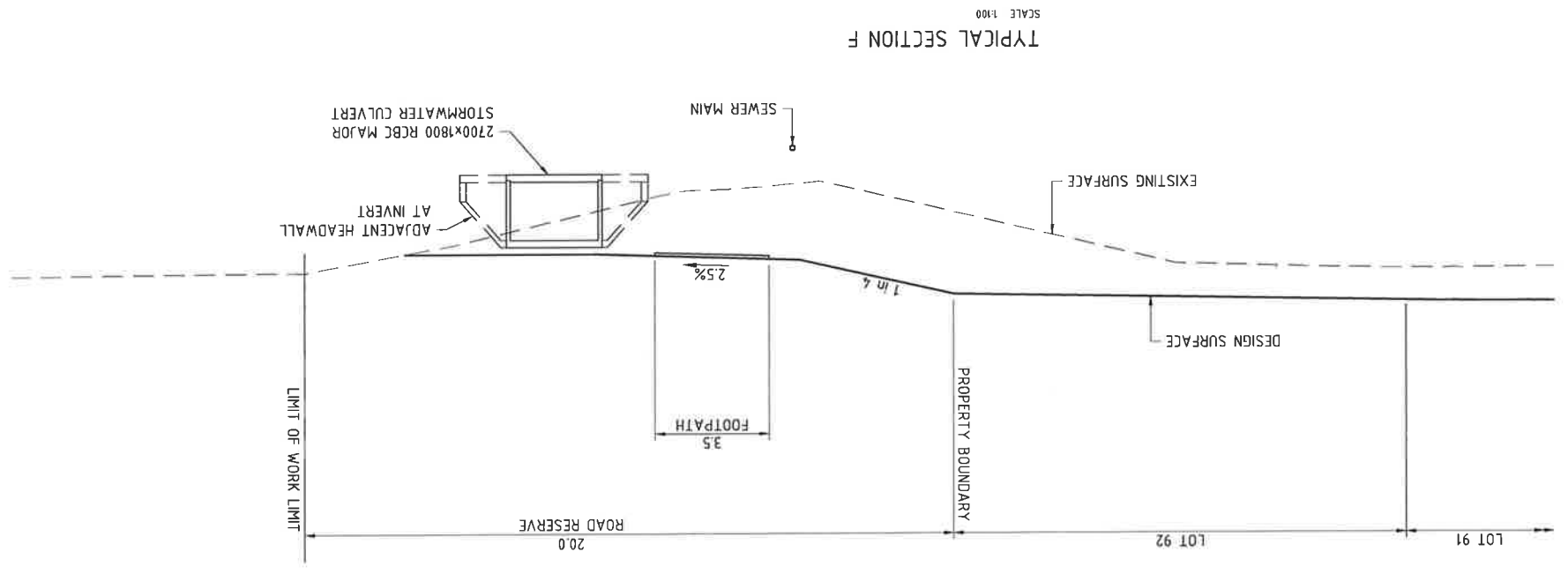
Approved Section 75W Modification Application

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in respect to MP 06-0258

Signed *SC*

Sheet No. 23 of 27



REV	DATE	DESCRIPTION
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2	09/08/17	ISSUED FOR DOA APPROVAL
3	09/08/17	ISSUED FOR DOA APPROVAL
4	09/08/17	ISSUED FOR DOA APPROVAL
5	09/08/17	ISSUED FOR DOA APPROVAL
6	09/08/17	ISSUED FOR DOA APPROVAL
7	09/08/17	ISSUED FOR DOA APPROVAL
8	09/08/17	ISSUED FOR DOA APPROVAL
9	09/08/17	ISSUED FOR DOA APPROVAL
10	09/08/17	ISSUED FOR DOA APPROVAL



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CASUARINA BEACH
TOWN CENTRE - STAGE 2
CASUARINA WAY, NSW 2487

ISSUED FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

DATE	REV	BY	CHK
15/0	150	AHD	MG96
15/0	150	AW	BK

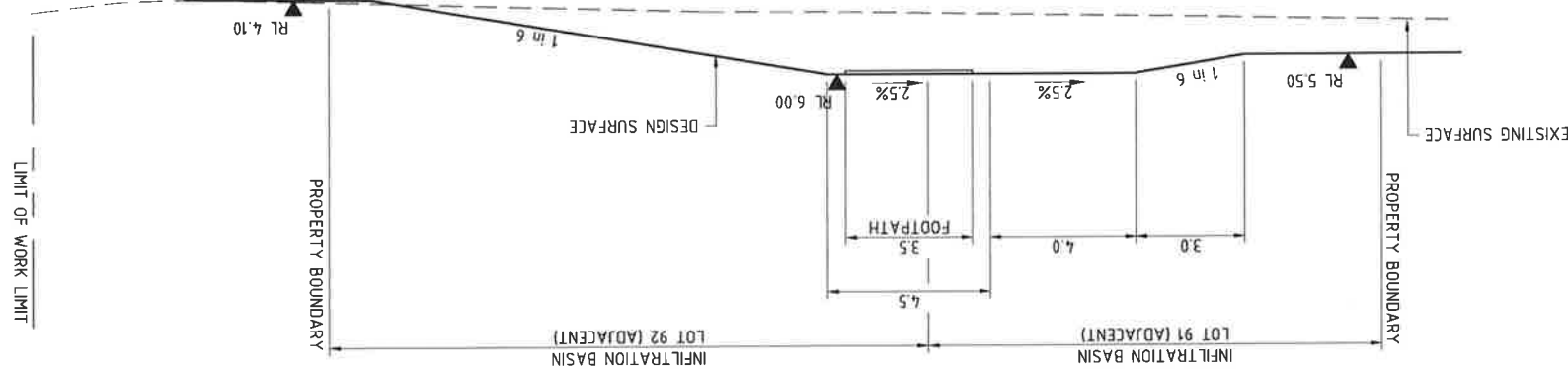
PROJECT NO. B16097

DRAWING NO. C-0014

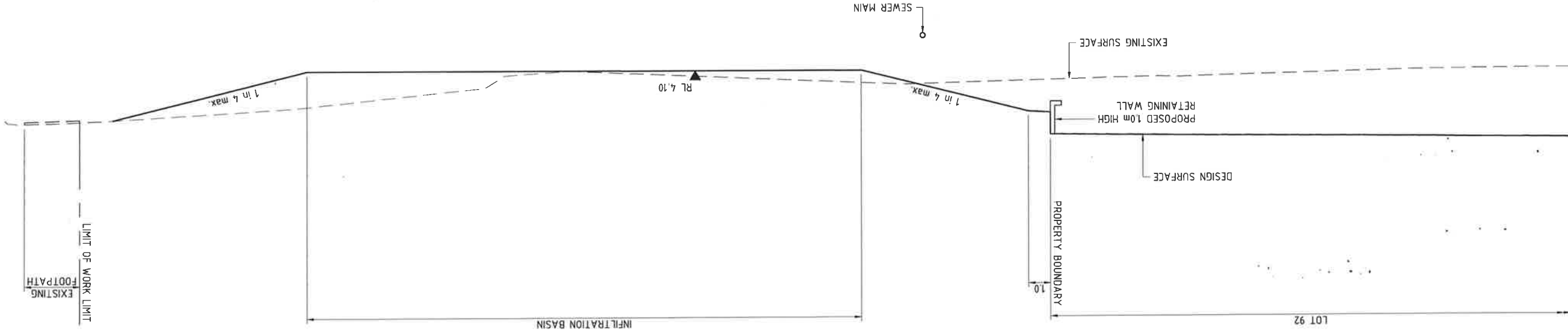
REV B

BULK EARTHWORKS SECTIONS
SHEET 4

TYPICAL SECTION G
SCALE 1:100



TYPICAL SECTION H - EASTERN INFILTRATION BASIN
SCALE 1:100



Sheet No. 24 of 47

Signed *[Signature]*

In respect to MP 06-0258

No. 10

granted on the 7 Nov 2018

Approved Section 75W Modification Application

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REV	DATE	DESCRIPTION	BY	CHKD
1	08/08/17	ISSUED FOR QA APPROVAL		
2	08/08/17	ISSUED FOR QA APPROVAL		
3	08/08/17	ISSUED FOR QA APPROVAL		
4	08/08/17	ISSUED FOR QA APPROVAL		
5	08/08/17	ISSUED FOR QA APPROVAL		
6	08/08/17	ISSUED FOR QA APPROVAL		
7	08/08/17	ISSUED FOR QA APPROVAL		
8	08/08/17	ISSUED FOR QA APPROVAL		
9	08/08/17	ISSUED FOR QA APPROVAL		
10	08/08/17	ISSUED FOR QA APPROVAL		



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CASUARINA BEACH
TOWN CENTRE - STAGE 2
CASUARINA WAY, NSW 2487

ISSUED FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

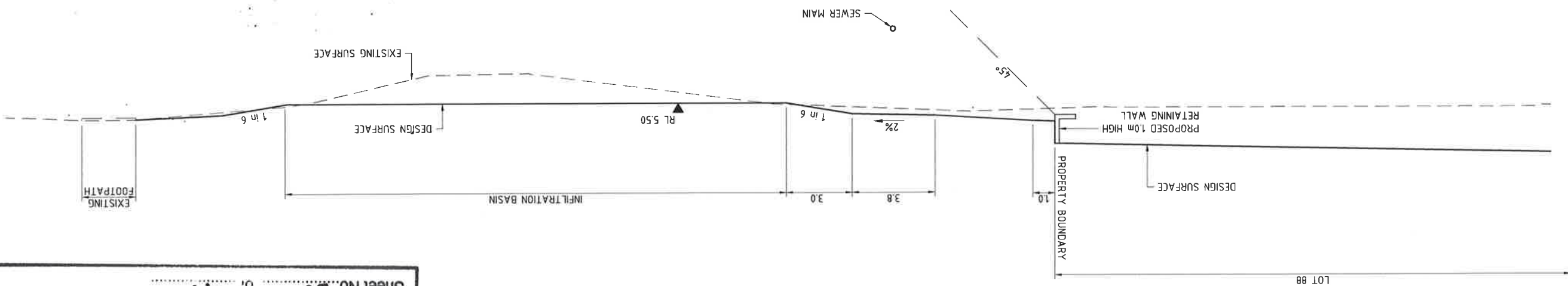
BULK EARTHWORKS SECTIONS
SHEET 5

PROJECT NO. B16097
DRAWING NO. C-0015

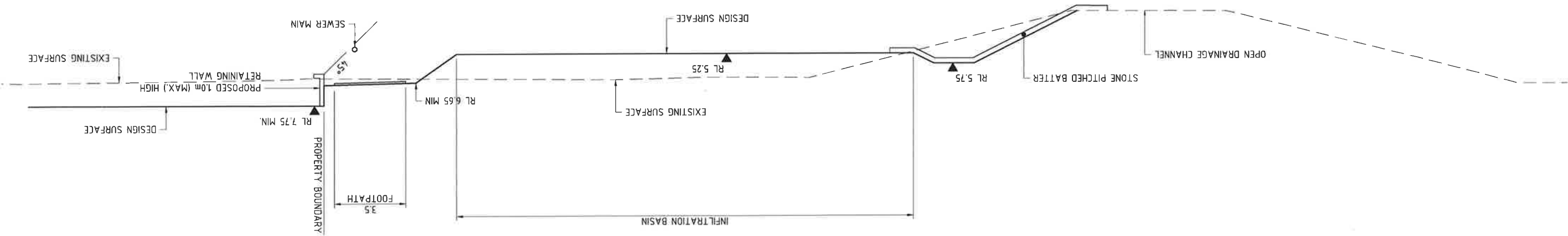
REV. B

SCALE 1:100 AT A1 SIZE
0 1 2 3 4 5 6m

TYPICAL SECTION I - EASTERN INFILTRATION BASIN
SCALE 1:100



TYPICAL SECTION J
SCALE 1:100



NSW Planning & Environment
GOVERNMENT
Issued under the Environmental Planning and Assessment Act 1979
Approved Section 75W Modification Application
No. 10 granted on the 7 Nov 2018
in respect to MP 05-0258
Signed *JB*
Sheet No. 25 of 47

BULK EARTHWORKS SECTIONS		SHEET 6	
B16097		C-0016	
A		A	



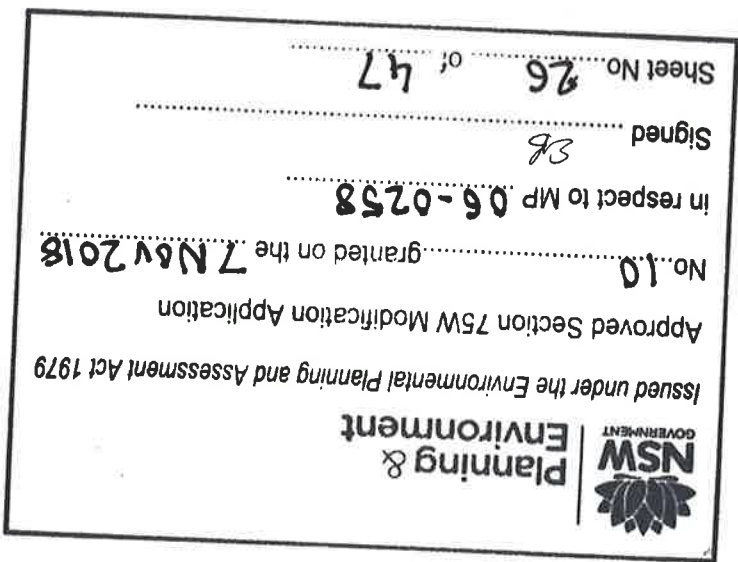
CASUARINA BEACH
TOWN CENTRE - STAGE 2
CASUARINA WAY, NSW 2487

ISSUED FOR APPROVAL	NOT TO BE USED FOR CONSTRUCTION	DATE	BY	CHK
		02/01/12	MW	BK

SCALE 1:100 AT A1 SIZE

0 1 2 3 4 5 6m

SCALE 1:100



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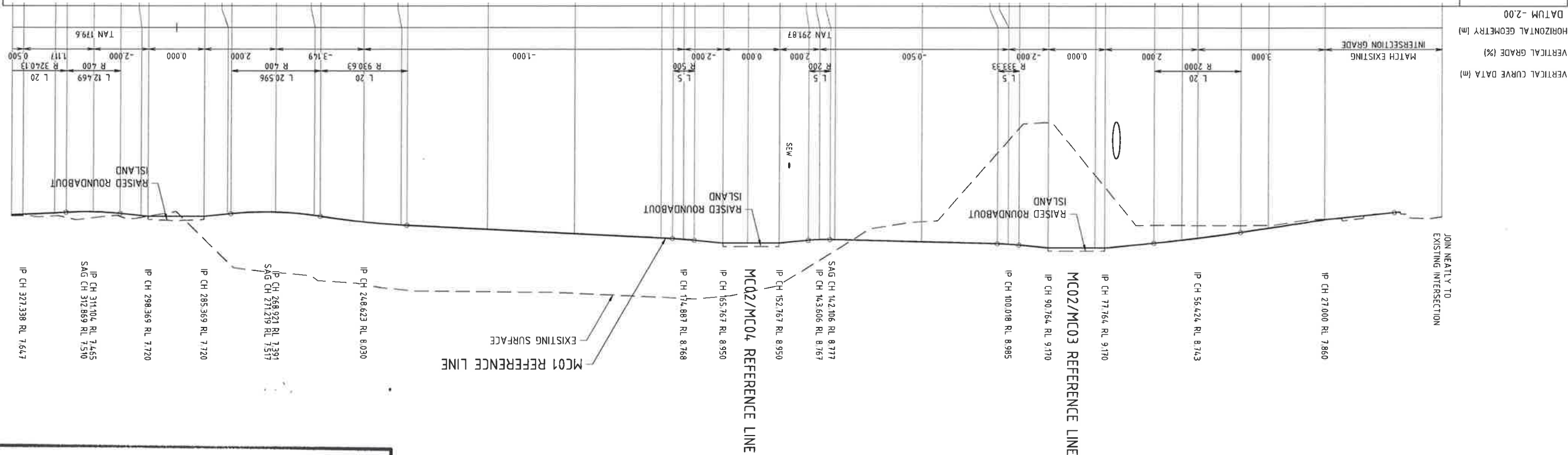
CASUARINA BEACH
TOWN CENTRE - STAGE 2
CASUARINA WAY, NSW 2487

ISSUED FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

ROAD LONGITUDINAL SECTION
MC01 SHEET 1

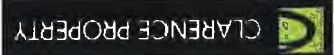
MC01 LONGITUDINAL SECTION (CONT)

CHAMBAE	LEVEL	EXISTING SURFACE	DESIGN SURFACE	FILL DEPTH (+VE) CUT DEPTH (-VE)
27.000	7.640	-7.860	-0.021	
4.0.000	8.126	8.250	-0.125	
4.6.424	8.129	8.443	-0.314	
56.624	8.134	8.718	-0.584	
60.000	8.128	8.804	-0.676	
66.624	8.123	8.943	-0.820	
77.754	6.368	9.170	-2.802	
80.000	5.888	9.170	-3.552	
90.764	3.380	9.170	-5.790	
97.518	3.646	9.035	-5.389	
100.000	4.211	8.994	-4.784	
100.018	4.215	8.994	-4.779	
102.518	4.784	8.972	-4.189	
120.000	7.961	8.885	-0.924	
140.000	9.309	8.785	-0.525	
141.106	9.647	8.779	-0.868	
143.606	9.759	8.782	-0.977	
146.106	10.071	8.817	-1.254	
152.767	10.902	8.950	-1.952	
160.000	11.228	8.950	-2.278	
165.767	11.425	8.950	-2.475	
172.387	11.542	8.818	-2.724	
174.887	11.542	8.774	-2.762	
177.987	11.591	8.743	-2.848	
180.000	11.665	8.716	-2.949	
200.000	11.278	8.516	-2.762	
220.000	11.200	8.316	-2.884	
238.623	11.140	8.130	-3.010	
240.000	11.112	8.115	-2.996	
248.623	10.875	7.977	-2.898	
268.921	10.326	7.524	-2.802	
279.719	9.974	7.597	-2.377	
280.000	9.822	7.613	-2.209	
285.369	8.771	7.170	-1.601	
298.869	7.722	7.170	-0.603	
300.000	7.719	7.167	-0.591	
304.869	7.731	7.590	-0.141	
311.104	7.794	7.514	-0.280	
317.338	7.719	7.535	-0.244	
320.000	7.703	7.564	-0.139	
327.338	7.688	7.631	-0.057	
330.000	7.708	7.652	-0.056	



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 No. 10 granted on the 7 Nov 2018
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 No. 10 granted on the 7 Nov 2018
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 Sheet No. 27 of 47

REV	DATE	DESCRIPTION



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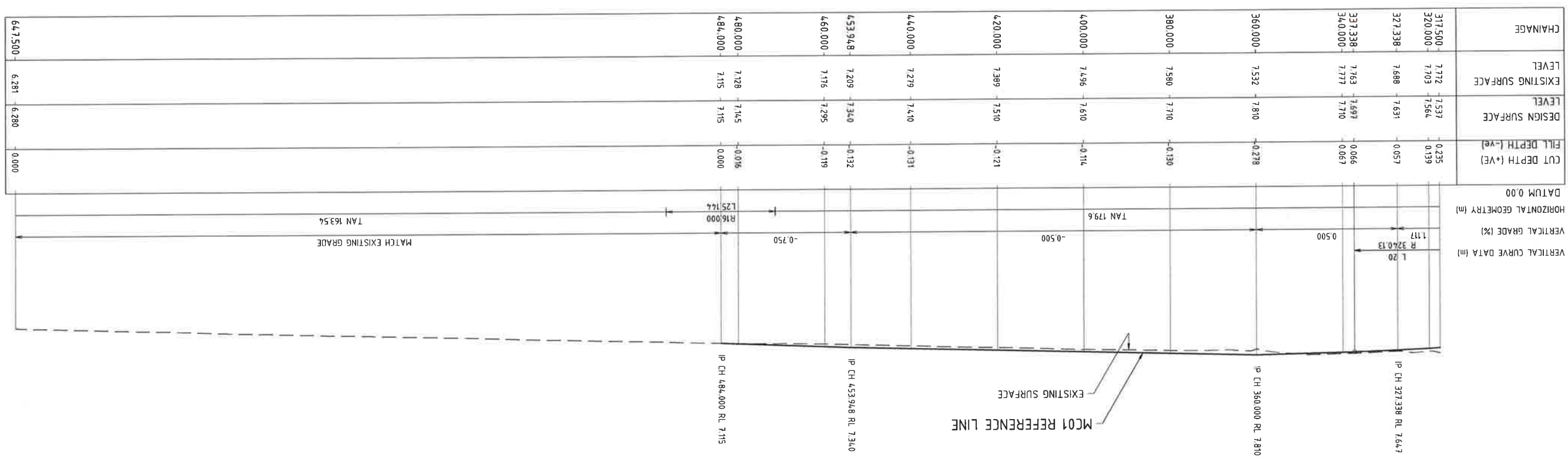
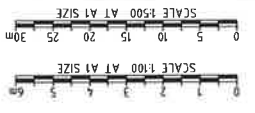


CASUARINA BEACH
TOWN CENTRE - STAGE 2
CASUARINA WAY, NSW 2487

PROJECT NO.	B76097
DRAWING NO.	C-0021
DATE	
BY	
CHECKED BY	
APPROVED BY	
SCALE	

ISSUED FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION
ROAD LONGITUDINAL SECTION
MC01 SHEET 2

MC01 LONGITUDINAL SECTION (CON'T)



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Approved Section 75W Modification Application

No. 10

in respect to MP 06-0258

Signed *SB*

Sheet No. 28 of 47

REV	DATE	DESCRIPTION	BY	CHK	DATE	DESCRIPTION	BY	CHK



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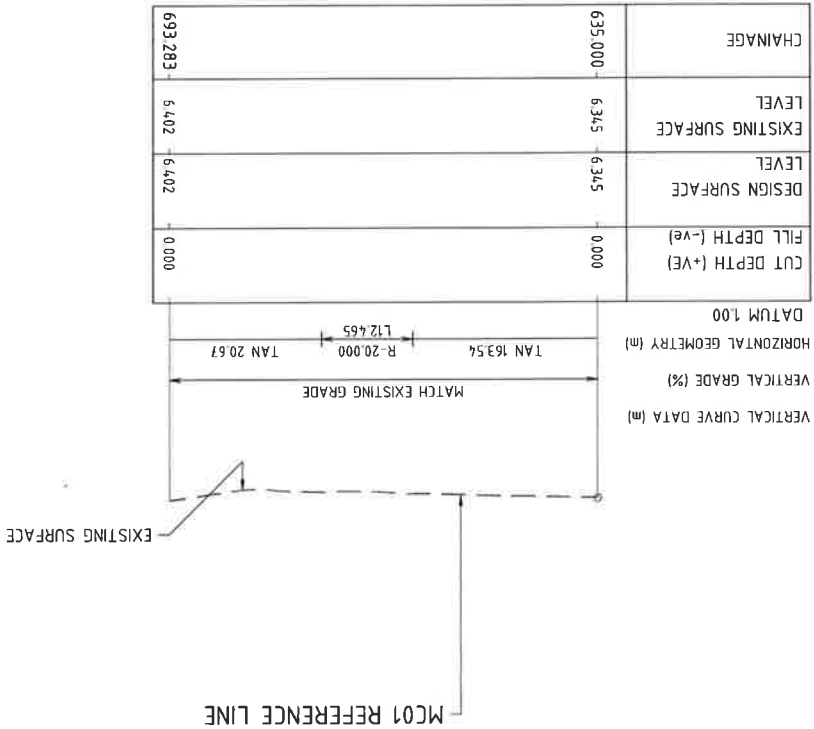


CASUARINA BEACH
TOWN CENTRE - STAGE 2
CASUARINA WAY, NSW 2487

SCALE	1:100
DATE	15/05/2017
PROJECT NO	B16097
ISSUED FOR APPROVAL	ISSUED FOR APPROVAL
SCALE	1:100
DATE	15/05/2017
PROJECT NO	B16097
ISSUED FOR APPROVAL	ISSUED FOR APPROVAL

SCALE	1:100
DATE	15/05/2017
PROJECT NO	B16097
ISSUED FOR APPROVAL	ISSUED FOR APPROVAL
SCALE	1:100
DATE	15/05/2017
PROJECT NO	B16097
ISSUED FOR APPROVAL	ISSUED FOR APPROVAL

MC01 LONGITUDINAL SECTION (CON'T)



NSW GOVERNMENT
Planning & Environment

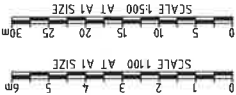
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No. 10 granted on the 7 May 2018

in respect to MP 06-0258

Signed *EB* Sheet No. 19 of 47





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CHAINAGE	EXISTING SURFACE LEVEL	DESIGN SURFACE LEVEL	CUT DEPTH (+ve) FILL DEPTH (-ve)	VERTICAL CURVE DATA (m)	VERTICAL GRADE (%)	HORIZONTAL GEOMETRY (m)
0+000	4.769	9.170	-4.400	RAISED ROUNDABOUT ISLAND SEW	0.000	TAN 72.83
6+500	4.758	9.170	-4.412			
20+000	4.782	8.900	-4.117	SAG CH 118.64.7 RL 6.927	2.000	TAN 36.27
40+000	4.829	8.500	-3.671			
60+000	4.922	8.100	-3.177	SAG CH 133.64.7 RL 7.027	L 50 R 2000	TAN 24.15
80+000	4.628	7.700	-3.072			
93+64.7	3.480	7.427	-3.946	EXISTING SURFACE MC02 REFERENCE LINE	0.500	TAN 27.09
100+000	3.476	7.310	-3.834			
118+64.7 120+000	5.657 5.645	7.083 7.073	-1.426 -1.429	SEW	TAN 26.15	TAN 24.893
140+000	5.569	7.037	-1.468			
143+64.7	5.542	7.052	-1.510	SEW	TAN 24.15	TAN 27.09
160+000	5.474	7.134	-1.720			
180+000	5.767	7.234	-1.467	SEW	TAN 24.15	TAN 27.09
200+000	5.645	7.334	-1.689			
220+000	5.884	7.434	-1.550	SEW	TAN 24.15	TAN 27.09
240+000	5.577	7.534	-1.957			
260+000	5.886	7.634	-1.747	SEW	TAN 24.15	TAN 27.09
280+000	6.714	7.734	-1.019			
300+000	6.296	7.834	-1.537	SEW	TAN 24.15	TAN 27.09
320+000	6.060	7.934	-1.873			
330+000	6.859	7.984	-1.125	SEW	TAN 24.15	TAN 27.09

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 No. 10 granted on the 7 Nov 2018
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 in respect to MP 06-0258
 Sheet No. 30 of 47



CLARENCE PROPERTY

ISSUED FOR APPROVAL

MC02 LONGITUDINAL SECTION (CONT)

Plan view of the MC02 REFERENCE LINE. The line is shown as a dashed line with a solid line segment at the end. Stationing is marked along the line: IP CH 476.274 RL 8.715 and IP CH 488.024 RL 8.950. The line is labeled MC02 REFERENCE LINE. A note indicates EXISTING SURFACE.

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No. 10 granted on the 7 Nov 2018

MP 06-0258 in respect to

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Sheet No. 31 of 47

MC01 REFERENCE LINE

REV	DATE	DESCRIPTION
1	08/08/17	ISSUED FOR DA APPROVAL
2	08/08/17	ISSUED FOR DA APPROVAL
3	08/08/17	ISSUED FOR DA APPROVAL
4	08/08/17	ISSUED FOR DA APPROVAL
5	08/08/17	ISSUED FOR DA APPROVAL
6	08/08/17	ISSUED FOR DA APPROVAL
7	08/08/17	ISSUED FOR DA APPROVAL
8	08/08/17	ISSUED FOR DA APPROVAL
9	08/08/17	ISSUED FOR DA APPROVAL
10	08/08/17	ISSUED FOR DA APPROVAL



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CASUARINA BEACH
TOWN CENTRE - STAGE 2
CASUARINA WAY, NSW 2487

ISSUED FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

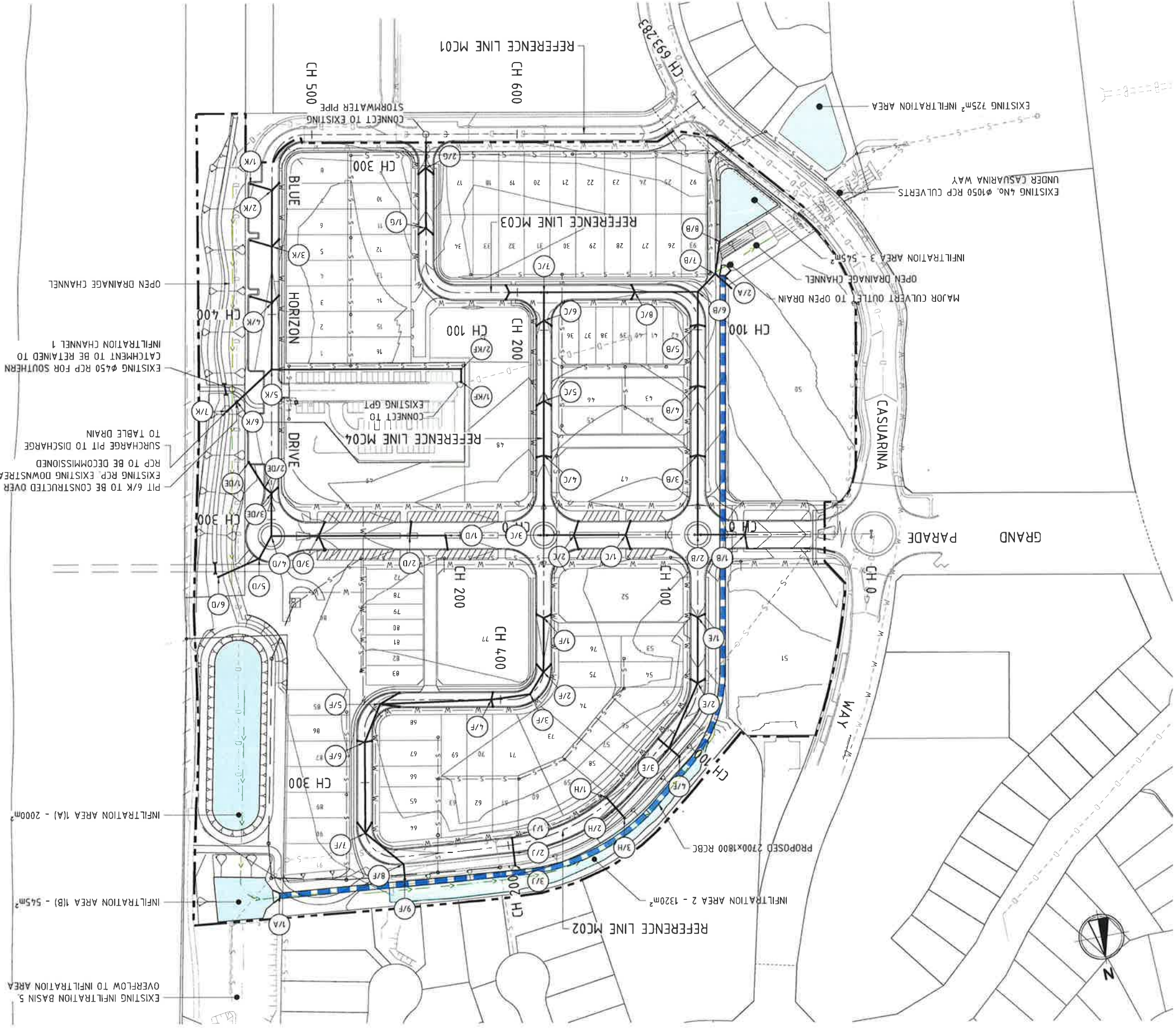
STORMWATER LAYOUT PLAN
SHEET 1

C-0030

B16097

C

SCALE 1:1000 AT SIZE
0 10 20 30 40 50 60m



OPEN DRAINAGE CHANNEL
INFILTRATION CHANNEL 1
EXISTING $\phi 450$ RCP FOR SOUTHERN CATCHMENT TO BE RETAINED TO
PIT 6/K TO BE CONSTRUCTED OVER
EXISTING RCP. EXISTING DOWNSTREAM
RCP TO BE DECOMMISSIONED
SURCHARGE PIT TO DISCHARGE
TO TABLE DRAIN

INFILTRATION AREA 1(A) - 2000m²
INFILTRATION AREA 1(B) - 545m²
INFILTRATION AREA 2 - 1320m²
INFILTRATION AREA 3 - 545m²
INFILTRATION AREA 4 - 1050 RCP CULVERTS UNDER CASUARINA WAY

NOTE
1. BIO-RETENTION IS TO BE PROTECTED FROM SEDIMENT INPUTS DURING HOUSING CONSTRUCTION. BIO-RETENTION TO BE HANDED OVER TO COUNCIL AFTER 90% HOUSING CONSTRUCTION IS COMPLETE.

- LEGEND
- DESIGN CONTROL LINE
 - LIMIT OF WORKS BOUNDARY
 - PROPOSED LIP OF KERB
 - PROPOSED RETAINING WALL
 - PROPOSED MINOR STORMWATER NETWORK
 - PROPOSED MAJOR CULVERT AND HEADWALL
 - PROPOSED DRAINAGE STRUCTURE
 - INFILTRATION AREA (5900m² TOTAL)
 - PROPOSED SWALE DRAIN
 - PROPOSED TRUNK SEWER ALIGNMENT (0.3m - 5.0m DEEP)
 - PROPOSED SEWER ALIGNMENT (0m - 3.0m DEEP)
 - PROPOSED WATER CONNECTION
 - PROPOSED WATER
 - PROPOSED CONTOURS
 - EXISTING WATER
 - EXISTING OVERHEAD POWER LINE
 - EXISTING CONTOURS

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No. 10 granted on the Nov 7, 2016
in respect to MP 06 - 0258
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Sheet No. 34 of 47

 CLARENCE PROPERTY		Brisbane Office— 7A Bowen St, Spring Hill QLD 4000 P / +61 7 3167 3300 E / info@bgeeng.com bgeeng.com—		 CASUARINA BEACH TOWN CENTRE - STAGE 2 CASUARINA WAY, NSW 2487		<table><tr><td colspan="2">ISSUED FOR APPROVAL</td><td colspan="2">DATE: 12/05/2017</td><td colspan="2">DATE: 12/05/2017</td></tr><tr><td colspan="2">NOT TO BE USED FOR CONSTRUCTION</td><td colspan="2">BY: [Signature]</td><td colspan="2">BY: [Signature]</td></tr><tr><td colspan="2">AS SHOWN</td><td colspan="2">AS SHOWN</td><td colspan="2">AS SHOWN</td></tr></table>				ISSUED FOR APPROVAL		DATE: 12/05/2017		DATE: 12/05/2017		NOT TO BE USED FOR CONSTRUCTION		BY: [Signature]		BY: [Signature]		AS SHOWN		AS SHOWN		AS SHOWN		B16097		C-0035		A	
ISSUED FOR APPROVAL		DATE: 12/05/2017		DATE: 12/05/2017																													
NOT TO BE USED FOR CONSTRUCTION		BY: [Signature]		BY: [Signature]																													
AS SHOWN		AS SHOWN		AS SHOWN																													

PIPE SIZES TO BE DETERMINED DURING DETAILED DESIGN.

 NSW GOVERNMENT	Planning & Environment	Issued under the Environmental Planning and Assessment Act 1979	Approved Section 75W Modification Application	No. 10	10 granted on the 7 Nov 2018	In respect to MP 06-0258	Signed 38	Sheet No 35 of 47

..... Signed

in respect to MP 06-0258

01.....ON

Approved Section 75W Modification Application

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		Brisbane Office— 74-76 Bowen St, Spring Hill QLD 4000 P +61 7 3167 3800 E / info@bgeeng.com bgeeng.com—				CASUARINA BEACH TOWN CENTRE - STAGE 2 CASUARINA WAY, NSW 2487		<table><tr><td>MSA96</td><td>AHD</td><td>AS SHOWN</td><td>AK</td></tr><tr><td>CK</td><td>BJ</td><td>BK</td><td></td></tr></table>		MSA96	AHD	AS SHOWN	AK	CK	BJ	BK		<table><tr><td>STORMWATER LONGITUDINAL SECTIONS SHEET 2</td><td>B16097</td><td>C-0036</td><td>A</td></tr></table>		STORMWATER LONGITUDINAL SECTIONS SHEET 2	B16097	C-0036	A
MSA96	AHD	AS SHOWN	AK																				
CK	BJ	BK																					
STORMWATER LONGITUDINAL SECTIONS SHEET 2	B16097	C-0036	A																				

SCALE 1:1000 AT A1 SIZE

0 10 20 30 40 50 60 m

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Planning & Environment
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 Approved Section 75W Modification Application
 No. 16 granted on the 7 May 2018
 In respect to MP 06-0258
 Signed *JB*
 Sheet No. 36 of 47

NOTE
1. PIPE SIZES TO BE DETERMINED DURING
DETAILED DESIGN

REV	DATE	DESCRIPTION
1	08/08/17	ISSUED FOR DA APPROVAL
2	08/08/17	ISSUED FOR DA APPROVAL
3	08/08/17	ISSUED FOR DA APPROVAL
4	08/08/17	ISSUED FOR DA APPROVAL
5	08/08/17	ISSUED FOR DA APPROVAL
6	08/08/17	ISSUED FOR DA APPROVAL
7	08/08/17	ISSUED FOR DA APPROVAL
8	08/08/17	ISSUED FOR DA APPROVAL
9	08/08/17	ISSUED FOR DA APPROVAL
10	08/08/17	ISSUED FOR DA APPROVAL



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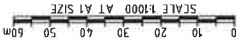


CASUARINA BEACH
TOWN CENTRE - STAGE 2
CASUARINA WAY, NSW 2487

ISSUED FOR APPROVAL

AS SHOWN	AS SHOWN	AS SHOWN	AS SHOWN
MGA94	AHD	CK	BK
BJ	MW	BK	

STORMWATER
LONGITUDINAL SECTIONS
SHEET 3
PROJECT NO. B16097
DRAWING NO. C-0037



STRUCTURE NAME	STRUCTURE DESCRIPTION	PIPE SIZE (mm)	PIPE CLASS	PIPE GRADE (%)	DATUM (m)	PIPE FLOW (cumecs)	PIPE CAPACITY	AT GRADE (cumecs)	WATER LEVEL IN STRUCTURE	HYDRAULIC GRADE LEVEL	DEPTH TO INVERT	INVERT LEVEL OF DRAIN	STRUCTURE SETOUT LEVEL	RUNNING CHAINAGE	STRUCTURE SETOUT
1.B	MANHOLE	375	RCP CL3	0.5%	-7.0					0.000	1.420	7.415	8.835	22.923	E 556051556 0.000 N 6869762638
2.B	MANHOLE	375	RCP CL3	0.5%						0.000	2.019	7.301	9.320	22.923	E 556074.075 22.923 N 6869758356
3.B	MANHOLE	375	RCP CL3	0.5%						0.000	1.436	7.086	8.522	33.804	E 556066.809 61.813 N 6869720156
4.B	MANHOLE	375	RCP CL3	0.93%						0.000	1.094	6.752	7.846	29.845	E 556064.974 95.617 N 686968634
5.B	MANHOLE	375	RCP CL3	1.58%						0.000	1.222	6.156	7.378	15.934	E 556054.976 125.463 N 6869657622
6.B	MANHOLE	375	RCP CL3	0.5%						0.000	1.579	5.891	7.469	9.602	E 556051940 141.396 N 6869641964
7.B	SAG INLET	375	RCP CL3	0.5%						0.000	1.472	5.332	6.804	18.416	E 556044.093 150.938 N 6869636438
8.B	HEADWALL OUTLET	375	RCP CL3	0.5%						0.000	0.503	5.270	5.712	169.414	E 556037.250 169.414 N 6869619338

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Approved Section 75W Modification Application

No. 10

in respect to MP 06-0258

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Sheet No. 37 of 47

NOTE

1. PIPE SIZES TO BE DETERMINED DURING DETAILED DESIGN.

1. PIPE SIZES TO BE DETERMINED DURING DETAILED DESIGN

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CASUARINA BEACH
TOWN CENTRE - STAGE 2
CASUARINA WAY, NSW 2487

ISSUED FOR APPROVAL

STORMWATER
LONGITUDINAL SECTIONS

ECT No	CHAMING No	838
B16097	C-0038	B

DATE	DESCRIPTION	DATE	DESCRIPTION	DATE	DESCRIPTION
01/01/2018	SELECT FOR DA APPROVAL	01/01/2018	SELECT FOR DA APPROVAL	01/01/2018	SELECT FOR DA APPROVAL
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03/01/2018	SELECT FOR DA APPROVAL	03/01/2018	SELECT FOR DA APPROVAL	03/01/2018	SELECT FOR DA APPROVAL
04/01/2018	SELECT FOR DA APPROVAL	04/01/2018	SELECT FOR DA APPROVAL	04/01/2018	SELECT FOR DA APPROVAL
05/01/2018	SELECT FOR DA APPROVAL	05/01/2018	SELECT FOR DA APPROVAL	05/01/2018	SELECT FOR DA APPROVAL
06/01/2018	SELECT FOR DA APPROVAL	06/01/2018	SELECT FOR DA APPROVAL	06/01/2018	SELECT FOR DA APPROVAL
07/01/2018	SELECT FOR DA APPROVAL	07/01/2018	SELECT FOR DA APPROVAL	07/01/2018	SELECT FOR DA APPROVAL
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09/01/2018	SELECT FOR DA APPROVAL	09/01/2018	SELECT FOR DA APPROVAL	09/01/2018	SELECT FOR DA APPROVAL
10/01/2018	SELECT FOR DA APPROVAL	10/01/2018	SELECT FOR DA APPROVAL	10/01/2018	SELECT FOR DA APPROVAL
11/01/2018	SELECT FOR DA APPROVAL	11/01/2018	SELECT FOR DA APPROVAL	11/01/2018	SELECT FOR DA APPROVAL
12/01/2018	SELECT FOR DA APPROVAL	12/01/2018	SELECT FOR DA APPROVAL	12/01/2018	SELECT FOR DA APPROVAL



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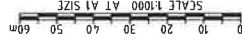


CASUARINA BEACH
TOWN CENTRE - STAGE 2
CASUARINA WAY, NSW 2487

ISSUED FOR APPROVAL		NOT TO BE USED FOR CONSTRUCTION		10/24/2017 10/24/2017 10/24/2017	
CK	BJ	MW	BK	DATE	AS SHOWN
MG694	AHD			02	02

STORMWATER
LONGITUDINAL SECTIONS
SHEET 5

1616097	PL 2004002
C-0039	



LINE	STRUCTURE SETOUT	RUNNING CHAINAGE	STRUCTURE SETOUT LEVEL	INVERT LEVEL OF DRAIN	DEPTH TO INVERT	HYDRAULIC GRADE LEVEL	WATER LEVEL IN STRUCTURE	PIPE GRADE (Cumecs)	PIPE CAPACITY	PIPE FLOW (Cumecs)	DATUM (m)	PIPE SIZE (mm)	PIPE CLASS	PIPE GRADE (%)	PIPE GRADE (1 in)	STRUCTURE DESCRIPTION	
E 55619.639 N 6869735.423	0.000	8.446	7.100	1346							-5.0	375	RCP CL3	0.5%	1 in 200	MANHOLE	1.0
E 55524.128 N 6869726.58	47.322	8.271	7.012	1258								375	RCP CL3	0.97%	1 in 103.5	MANHOLE	2.0
E 55626.342 N 6869722.171	23629	7.525	6.679	0.846								375	RCP CL3	0.5%	1 in 200	MANHOLE	3.0
E 556270.969 N 6869688.26	84.819	7.921	6.385	1536								375	RCP CL3	0.5%	1 in 200	MANHOLE	4.0
E 556278.281 N 6869656.175	97.362	7.722	6.302	1420								375	RCP CL3	0.5%	1 in 200	MANHOLE	5.0
E 556281.777 N 6869655.511	117.789	6.171										375	RCP CL3	6.8%	1 in 14.7	HEADWALL OUTLET	6.0

[illegible]

NOTE

Sheet No. 39 of 47

Signed *[Signature]*

in respect to MP 06 - 0258

No. 10 granted on the 7 May 2018

Approved Section 75W Modification Application

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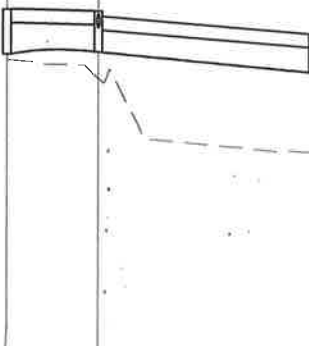
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CASUARINA BEACH
TOWN CENTRE - STAGE 2
CASUARINA WAY, NSW 2487

ISSUED FOR APPROVAL					
NOT TO BE USED FOR CONSTRUCTION					
DATE		BY		FOR	
07-08-2019		B.J.		M.W.	
				B.K.	
C.A.D.		D.R.G.		A.H.D.	
G.M.A.9L		AS SHOWN			
SHEET NO.		OF			

MANHOLE										1.0	
E 556176.337 0.000										7.167	
N 6869586.376										6.108	
1059											
-6.0											
1 in 59.2										169%	
RCP CL3										375	
1 in 200										0.5%	
RCP CL3										375	
											
MANHOLE										2.0	
E 556171.004 29.321										6.576	
N 6869557.538										5.612	
0.964										5.463	
1.113											
MANHOLE										3.0	
E 556168.542 4.1709										6.622	
N 6869545.398										5.401	
1.220											
MANHOLE										3.0	
NOTE										1. PIPE SIZE	
ON EXISTING										DETAIL	

NOTE

PIPE SIZES TO BE DETERMINED DURING DETAILED DESIGN.

NSW GOVERNMENT

Planning & Environment
1.F

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No 10 granted on the 7 Nov 2018.

in respect to MP 06-0258

Signed _____

STRUCTURE DESCRIPTION

MANHOLE

40 47

Sheet No.



ISSUED FOR APPROVAL	NOT TO BE USED FOR CONSTRUCTION	
DATE	BY	FOR
10/1/01	BJ	MM
10/1/01	BJ	MM

[illegible]

 NSW GOVERNMENT	Planning & Environment	MANDEL	Issued under the Environmental Planning and Assessment Act 1979
Approved Section 75W Modification	granted on the	No. 10	in respect to MP 06-0258
Signed	83	42	Sheet No.

[illegible]

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CASUARINA BEACH
TOWN CENTRE - STAGE 2
CASUARINA WAY, NSW 2487

ISSUED FOR APPROVAL

SERVICES PLAN
SHEET 1

NSW GOVERNMENT
Planning & Environment

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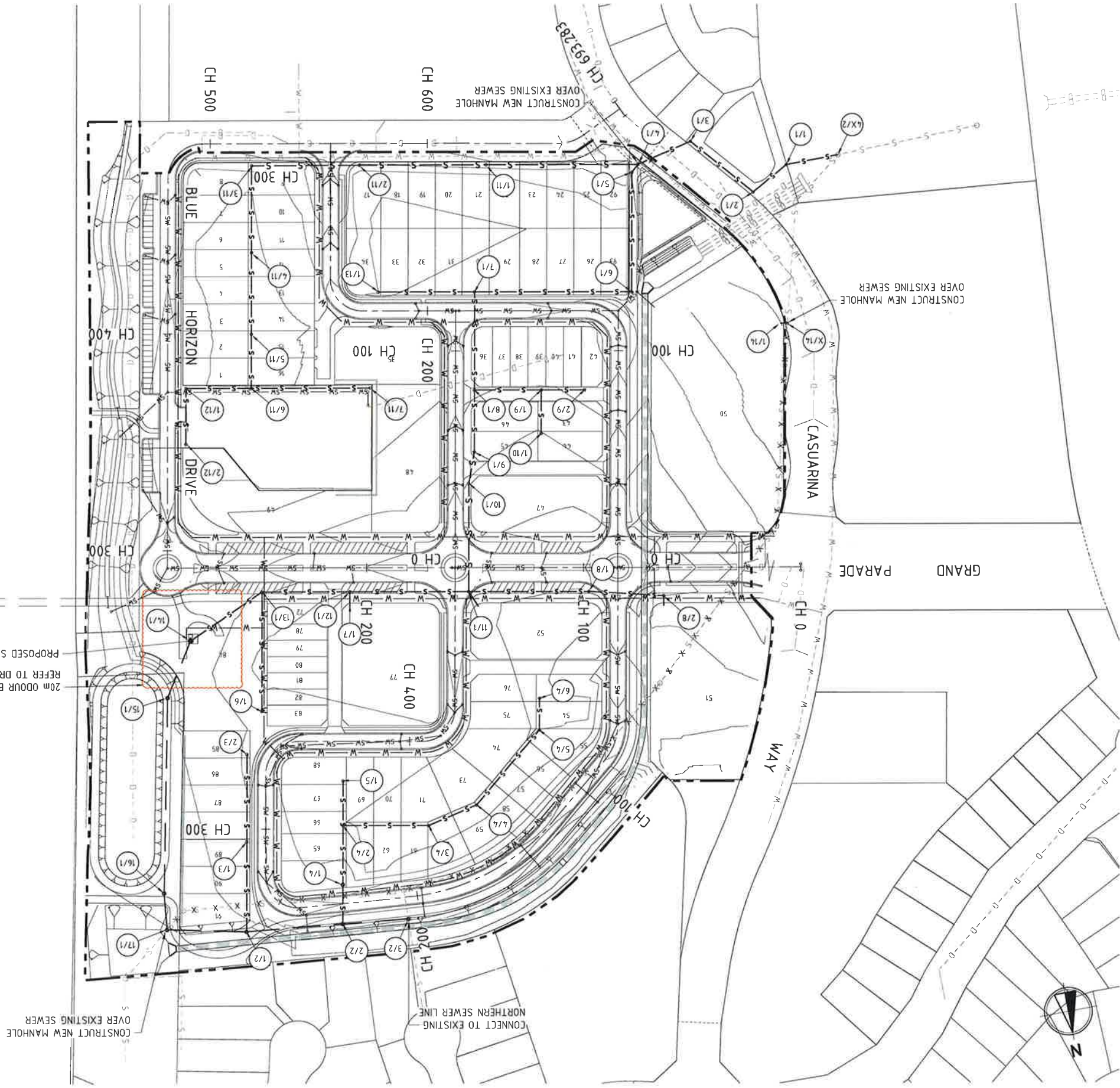
Approved Section 75W Modification Application

No. 10 granted on the 7 Nov 2018

in respect to MP 06-0258

Signed *JS*

Sheet No. 42 of 47



- LEGEND
- + CH 100
- DESIGN CONTROL LINE
- LIMIT OF WORKS BOUNDARY
- PROPOSED LIP OF KERB
- PROPOSED RETAINING WALL
- PROPOSED TRUNK SEWER ALIGNMENT
(3.0 - 5.0m DEEP)
- PROPOSED SEWER ALIGNMENT
(0 - 3.0m DEEP)
- PROPOSED SEWER STRUCTURE
- PROPOSED WATER RETICULATION ALIGNMENT
- PROPOSED INTERNAL STORMWATER
- PROPOSED CULVERT AND HEADWALL
- PROPOSED CONTOUR
- EXISTING WATER
- EXISTING TRUNK SEWER ALIGNMENT
- EXISTING TRUNK SEWER TO BE REMOVED
- EXISTING CONTOURS
-
- The legend defines the symbols used in the sewerage scheme plan. It includes a north arrow pointing towards the top right. Symbols are shown for the Design Control Line (a line with cross-ticks), the Limit of Works Boundary (a dashed line), the Proposed Lip of Kerb (a line with short perpendicular dashes), the Proposed Retaining Wall (a line with long perpendicular dashes), the Proposed Trunk Sewer Alignment (a line with 'S' markers, shown for depths of 3.0 to 5.0m and 0 to 3.0m), the Proposed Sewer Alignment (a line with 'S' markers for depths of 0 to 3.0m), the Proposed Sewer Structure (a circle with '4/F' inside), the Proposed Water Reticulation Alignment (a line with 'W' markers), the Proposed Internal Stormwater (a line with 'SW' markers), the Proposed Culvert and Headwall (a trapezoidal shape), the Existing Water (a line with 'W' markers), the Existing Trunk Sewer Alignment (a line with 'X' markers), the Existing Trunk Sewer to be Removed (a line with 'X' markers), and the Existing Contours (a line with '25.75' markers).

REV	DATE	DESCRIPTION
1	08/08/17	ISSUED FOR DA APPROVAL
2	08/08/17	ISSUED FOR DA APPROVAL
3	08/08/17	ISSUED FOR DA APPROVAL
4	08/08/17	ISSUED FOR DA APPROVAL
5	08/08/17	ISSUED FOR DA APPROVAL
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9	08/08/17	ISSUED FOR DA APPROVAL
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17	08/08/17	ISSUED FOR DA APPROVAL
18	08/08/17	ISSUED FOR DA APPROVAL
19	08/08/17	ISSUED FOR DA APPROVAL
20	08/08/17	ISSUED FOR DA APPROVAL



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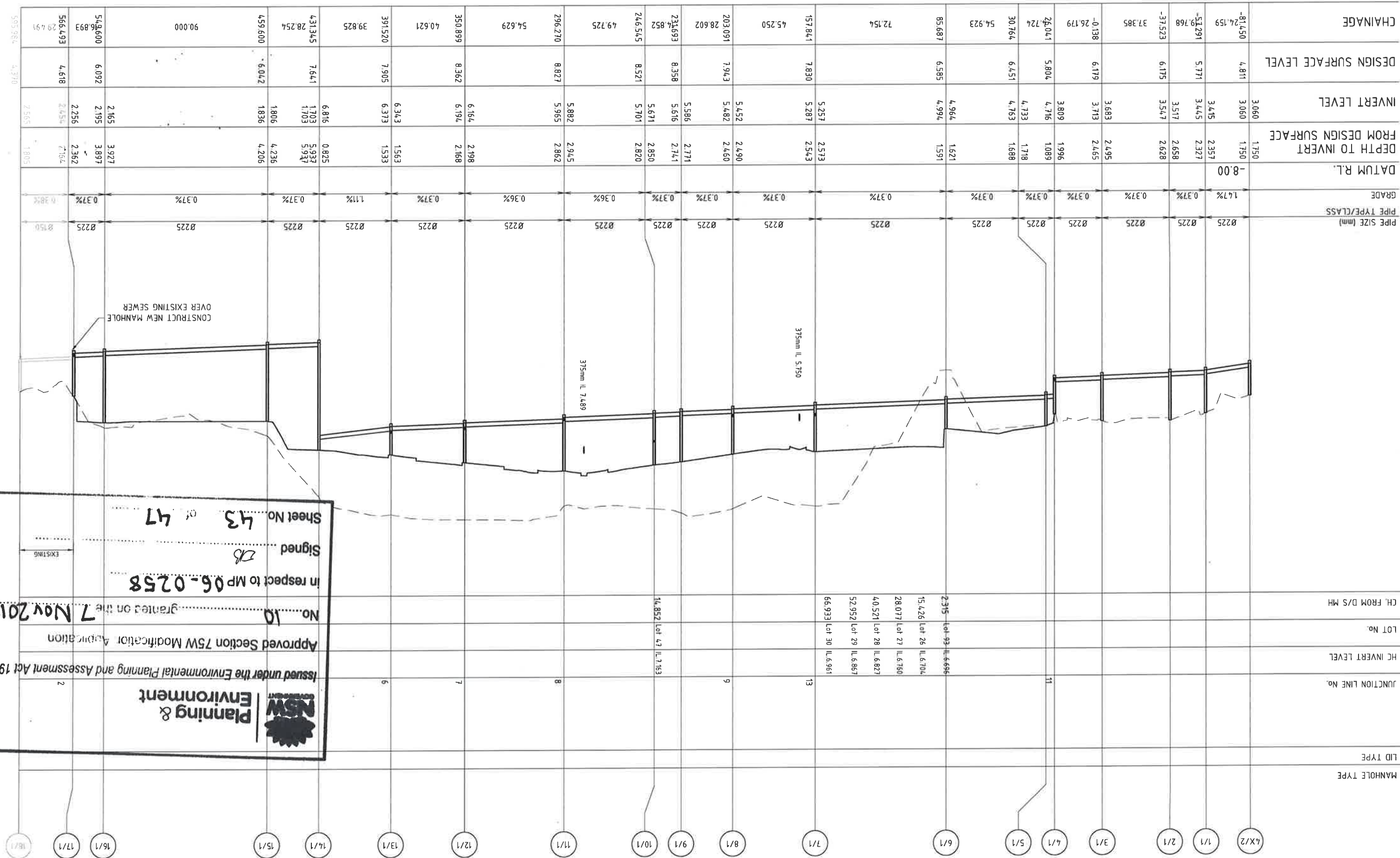


CASUARINA BEACH
TOWN CENTRE - STAGE 2
CASUARINA WAY, NSW 2487

ISSUED FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION
DRAWN BY: CK
CHECKED BY: BJ
SCALE: AS SHOWN
PROJECT NO: B16097
DRAWING NO: C-0055

SEWAGE RETICULATION
LONGITUDINAL SECTIONS
SHEET 1

LINE 1



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No. 10 granted on the 7 Nov 2018
in respect to MP 06-0258
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Sheet No. 43 of 47



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No.10 granted on the **7 Nov 2018**

in respect to MP **06-0258**

Signed *SB*

Sheet No. **44** of **47**

LOT No.
HC INVERT LEVEL
JUNCTION LINE No.
LID TYPE
MANHOLE TYPE

CH FROM D/S MH

PIPE SIZE (mm)
PIPE TYPE/CLASS
GRADE

DATUM R.L.

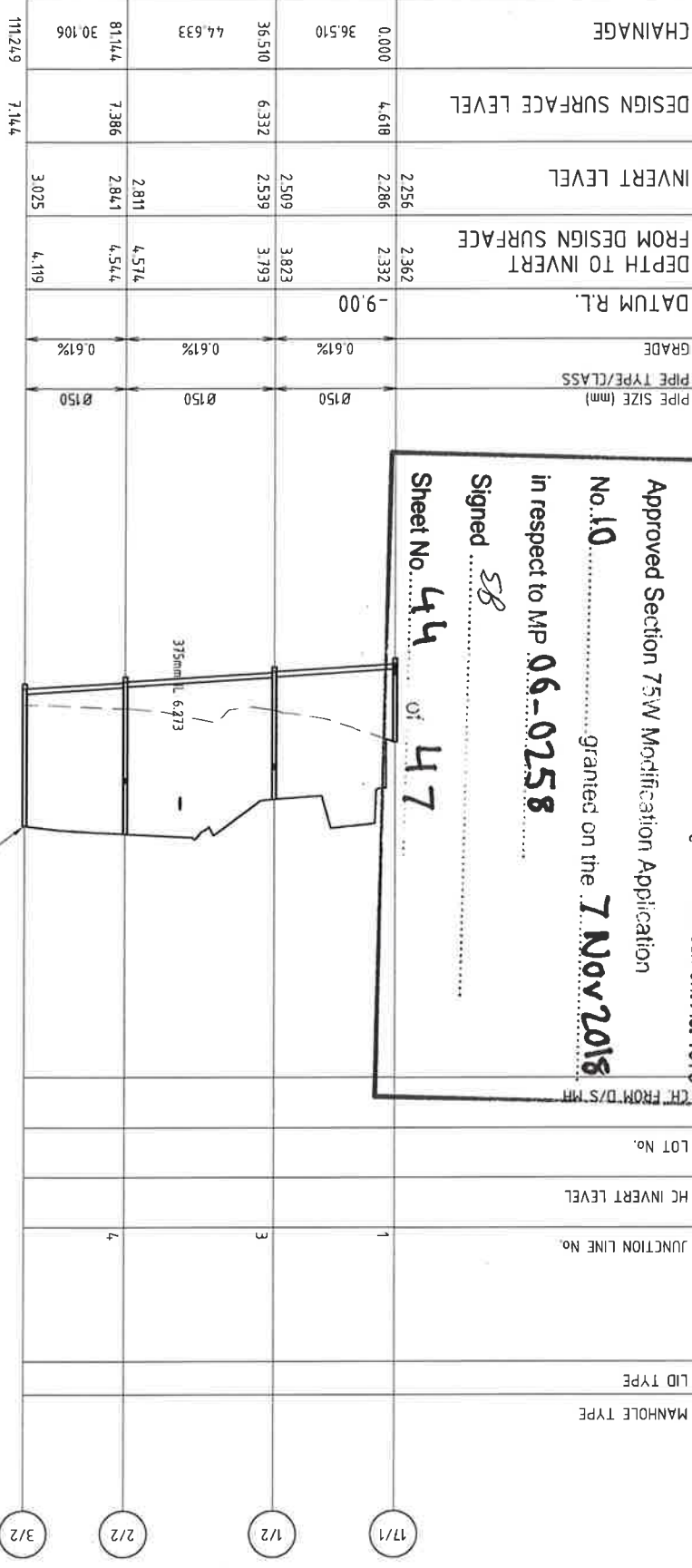
DEPTH TO INVERT
FROM DESIGN SURFACE

INVERT LEVEL

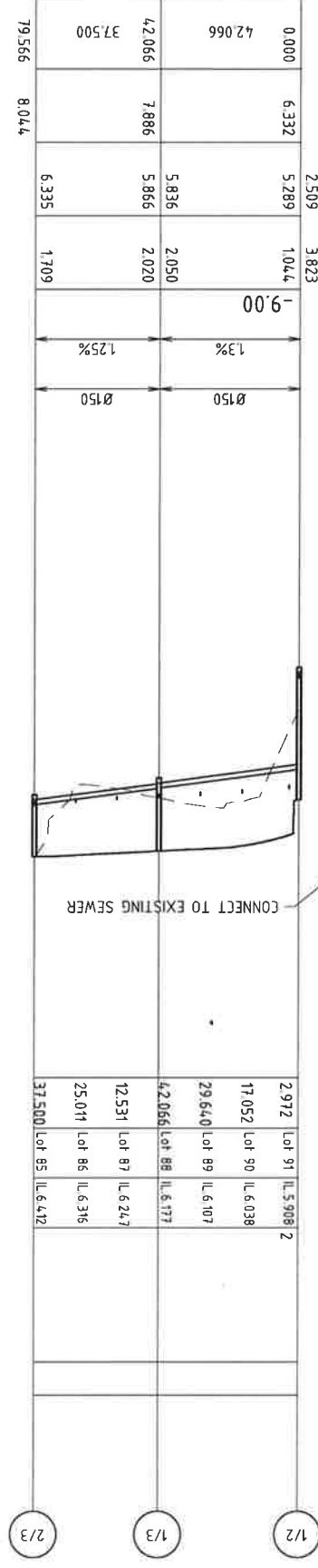
DESIGN SURFACE LEVEL

CHAINAGE

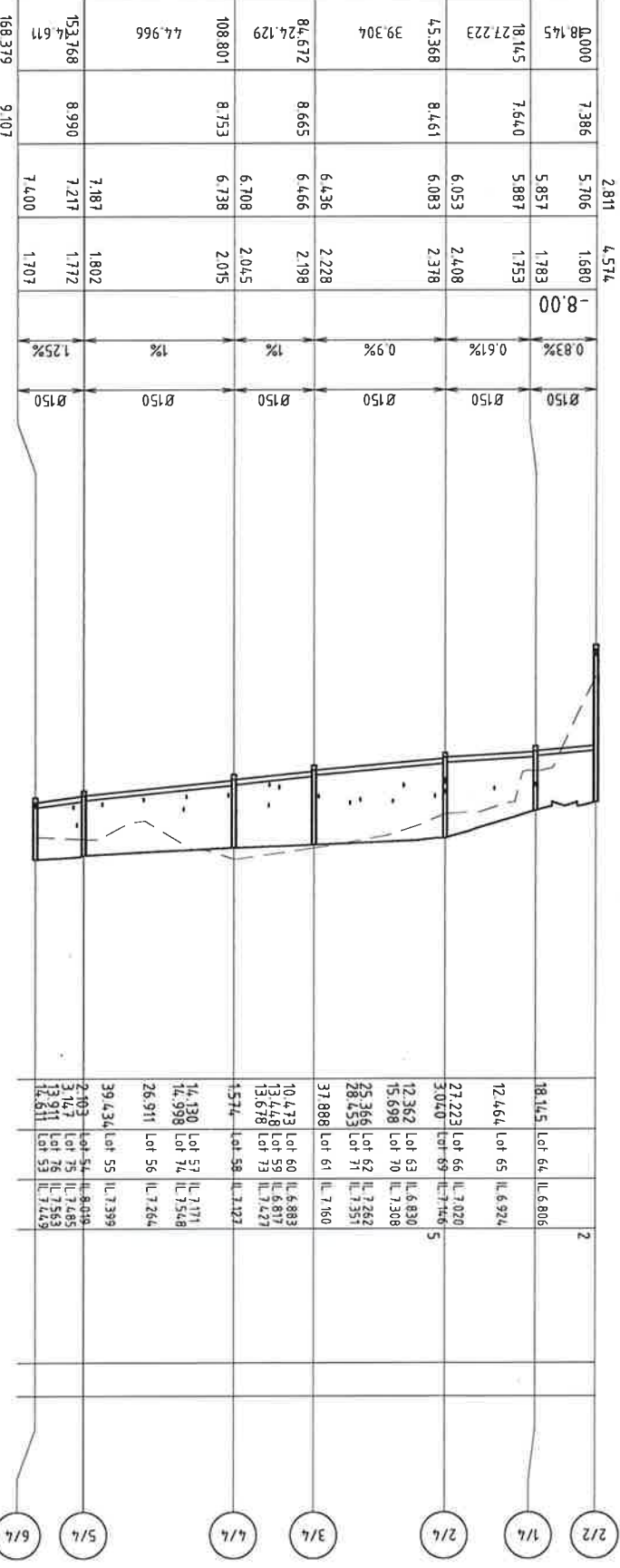
LINE 2



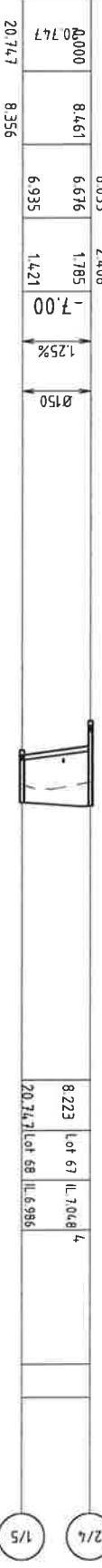
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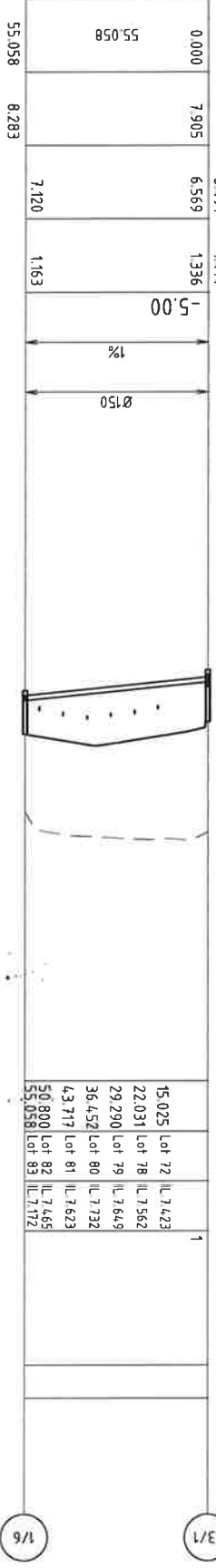
LINE 4



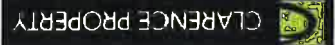
LINE 5



LINE 6



LINE 7



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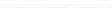


CASUARINA BEACH
TOWN CENTRE - STAGE 2
CASUARINA WAY, NSW 2487

ISSUED FOR APPROVAL	NOT TO BE USED FOR CONSTRUCTION
CK	BJ
AS SHOWN	AS SHOWN
DATE	DATE

PROJECT NO. B16097
SHEET 2
SEWERAGE RETICULATION
LONGITUDINAL SECTIONS



		Brisbane Office 74-76 Bowen St, Spring Hill QLD 4000 P / +61 7 3167 3300 E / info@bgeeng.com bgeeng.com				CASUARINA BEACH TOWN CENTRE - STAGE 2 CASUARINA WAY, NSW 2487		<table><tr><td>PLAN</td><td>DATE</td><td>BY</td><td>CHKD</td><td>AS SHOWN</td><td>DATE</td><td>BY</td></tr><tr><td>ISSUED FOR APPROVAL</td><td>20/07/20</td><td>BJ</td><td>CK</td><td>AHD</td><td>20/07/20</td><td>BJ</td></tr><tr><td colspan="7">NOT TO BE USED FOR CONSTRUCTION</td></tr><tr><td>REVISION</td><td>DATE</td><td>BY</td><td>CHKD</td><td>AS SHOWN</td><td>DATE</td><td>BY</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>		PLAN	DATE	BY	CHKD	AS SHOWN	DATE	BY	ISSUED FOR APPROVAL	20/07/20	BJ	CK	AHD	20/07/20	BJ	NOT TO BE USED FOR CONSTRUCTION							REVISION	DATE	BY	CHKD	AS SHOWN	DATE	BY								<table><tr><td>PROJECT</td><td>DATE</td><td>BY</td><td>CHKD</td><td>AS SHOWN</td><td>DATE</td><td>BY</td></tr><tr><td>SEWERAGE RETICULATION</td><td>20/07/20</td><td>BJ</td><td>CK</td><td>AHD</td><td>20/07/20</td><td>BJ</td></tr><tr><td colspan="7">LONGITUDINAL SECTIONS</td></tr><tr><td colspan="7">SHEET 3</td></tr></table>		PROJECT	DATE	BY	CHKD	AS SHOWN	DATE	BY	SEWERAGE RETICULATION	20/07/20	BJ	CK	AHD	20/07/20	BJ	LONGITUDINAL SECTIONS							SHEET 3							B16097 C-0057		B	
PLAN	DATE	BY	CHKD	AS SHOWN	DATE	BY																																																																								
ISSUED FOR APPROVAL	20/07/20	BJ	CK	AHD	20/07/20	BJ																																																																								
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555 D.C.

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GOVERNMENT

**Planning &
Environment**

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No. 10 granted on the 7 May 2018

in respect to MP 06-0258

Signed EB

Sheet No. 45 of 47

FROM D/S

A diagram of a rectangular frame structure. It consists of two vertical posts and two horizontal rails. A diagonal brace is shown as a dashed line connecting the top of the left post to the bottom of the right post. There are small rectangular components, possibly rollers or guides, located at the intersections of the rails and posts.



REV	DATE	DESCRIPTION
1	08/08/17	ISSUED FOR APPROVAL
2	08/08/17	ISSUED FOR APPROVAL
3	08/08/17	ISSUED FOR APPROVAL
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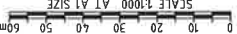


CASUARINA BEACH
TOWN CENTRE - STAGE 2
CASUARINA WAY, NSW 2487

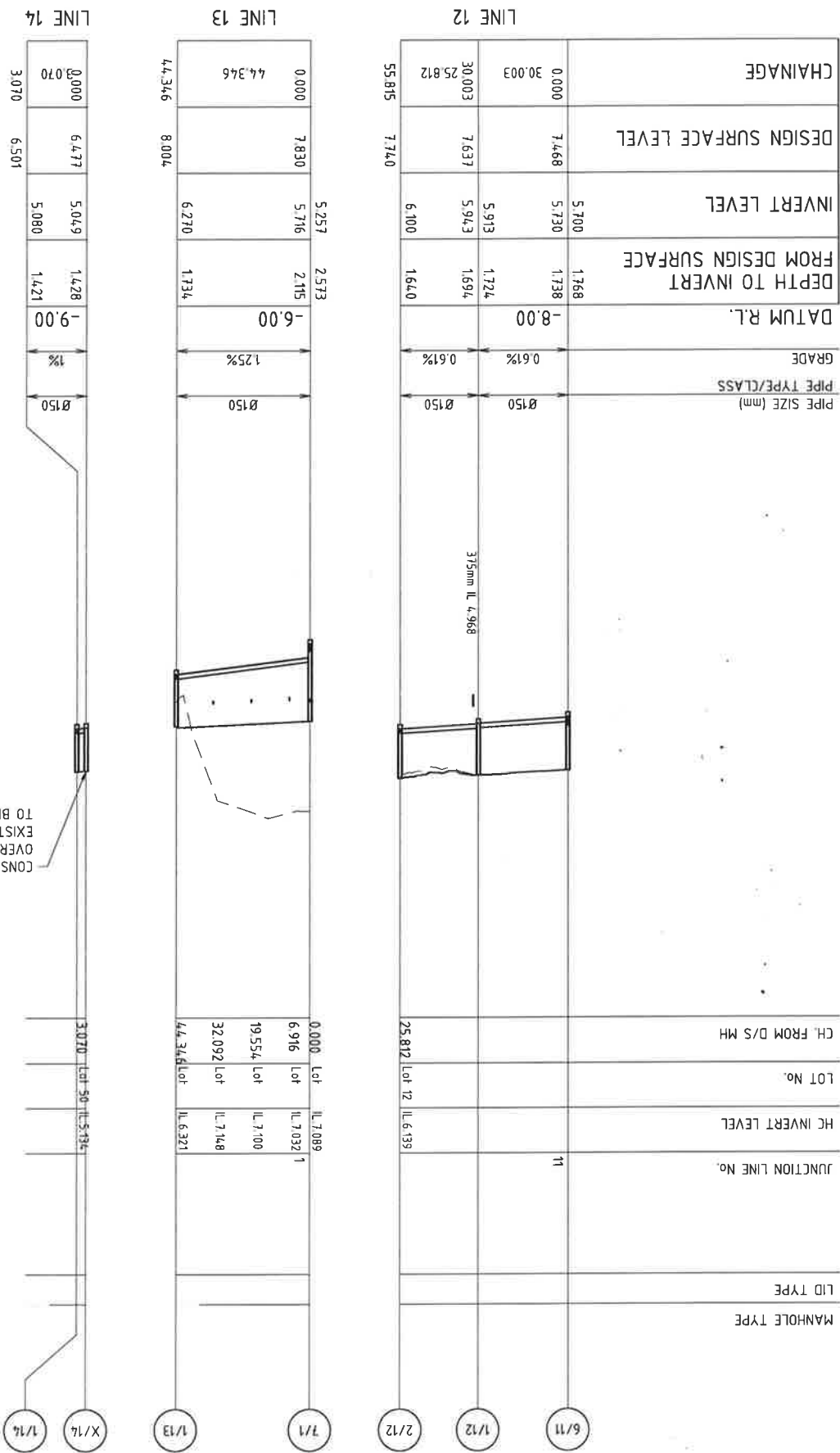
ISSUED FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

DATE	BY	CHK	APP	AS SHOWN
08/08/17	CK	BJ	MW	BK

SEWERAGE RETICULATION
LONGITUDINAL SECTIONS
SHEET 4
C-0058



CONSTRUCT NEW MANHOLE
OVER EXISTING SEWER.
EXISTING INVERT LEVEL
TO BE CONFIRMED



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No. 10 granted on the 7 Nov 2018
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Sheet No. 46 of 47

ISSUED FOR APPROVAL		NOT TO BE USED FOR CONSTRUCTION		DATE		BY		REVISION	
1		SEWER PUMP STATION LAYOUT		1/10/20		AK		1	
2				1/10/20		SS		2	
3				1/10/20		AK		3	
4				1/10/20		MW		4	
5				1/10/20		BK		5	
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56				1/10/20				56	



LEGEND

PROPOSED LIP OF KERB

PROPOSED TRUNK SEWER ALIGNMENT

(3.0 - 5.0m DEEP)

PROPOSED SEWER ALIGNMENT

(0 - 3.0m DEEP)

PROPOSED SEWER STRUCTURE

PROPOSED WATER RETICULATION ALIGNMENT

PROPOSED INTERNAL STORMWATER

PROPOSED ELECTRICAL

COASTAL FORESHORE BOUNDARY

EXTENT OF AREA ALLOWABLE
FOR PLAYGROUND EQUIPMENT

The legend defines the symbols used in the site plan:

- PROPOSED LIP OF KERB:** Represented by a solid black line.
- PROPOSED TRUNK SEWER ALIGNMENT (3.0 - 5.0m DEEP):** Represented by a line with 'S' markers at intervals.
- PROPOSED SEWER ALIGNMENT (0 - 3.0m DEEP):** Represented by a line with 'W' markers at intervals.
- PROPOSED SEWER STRUCTURE:** Represented by a circle with '4/4' inside, indicating a 4-foot diameter.
- PROPOSED WATER RETICULATION ALIGNMENT:** Represented by a line with 'WS' markers at intervals.
- PROPOSED ELECTRICAL:** Represented by a line with 'E' markers at intervals.
- COASTAL FORESHORE BOUNDARY:** Represented by a dashed line.
- EXTENT OF AREA ALLOWABLE FOR PLAYGROUND EQUIPMENT:** Represented by a rectangle with diagonal hatching.