



DISTRICT PLANNING SCHEME No. 2

Amendment No. 156

Planning and Development Act 2005

**RESOLUTION TO ADOPT AMENDMENT TO
LOCAL PLANNING SCHEME**

CITY OF WANNEROO

DISTRICT PLANNING SCHEME NO. 2 - AMENDMENT NO. 156

RESOLVED that the local government pursuant to section 75 of the *Planning and Development Act 2005*, amend the above District Planning Scheme (DPS2) by

1. Rezoning a portion of Lot 499 (144) St Andrews Drive, Yanchep from Public Use (Local Reserve) to Residential with a density coding of R40.

The amendment is standard under the provisions of *Planning and Development (Local Planning Schemes) Regulations 2015* for the following reasons:

- a) The proposed amendment relates to a zone or reserve that is consistent with the objectives identified in DPS2 for that zone or reserve;
- b) The proposed amendment is consistent with the Metropolitan Region Scheme; and
- c) The proposed amendment is considered to have minimal impact on land in the DPS2 area that is not the subject of this proposed amendment.

Dated this day of 20.....

.....
(Director, Planning & Sustainability)

PLANNING AND DEVELOPMENT ACT 2005

CITY OF WANNEROO

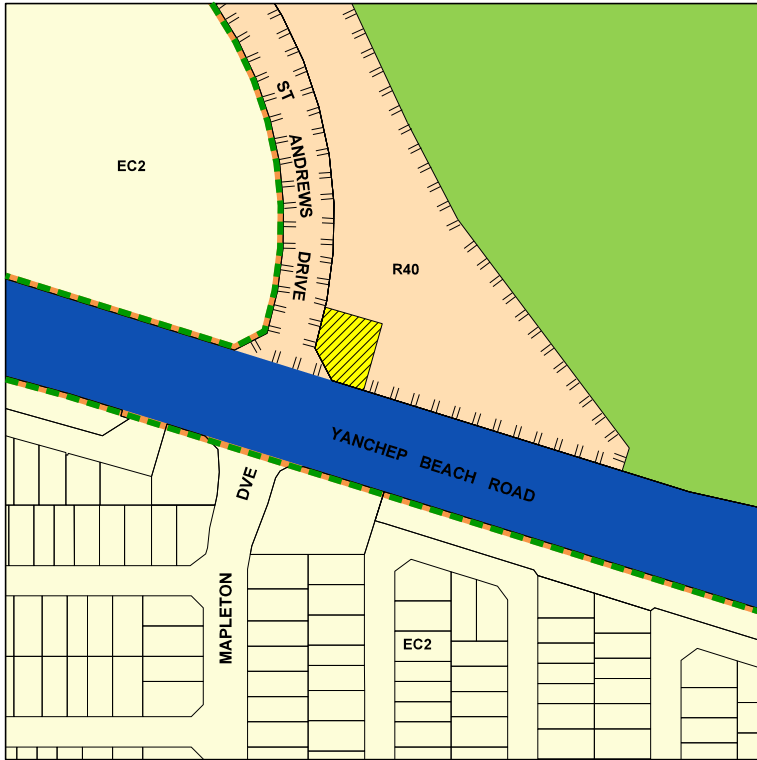
DISTRICT PLANNING SCHEME NO. 2 - AMENDMENT NO. 156

The City of Wanneroo under and by virtue of the powers conferred upon it in that behalf by the Planning and Development Act 2005 hereby amends the above District Planning Scheme by:

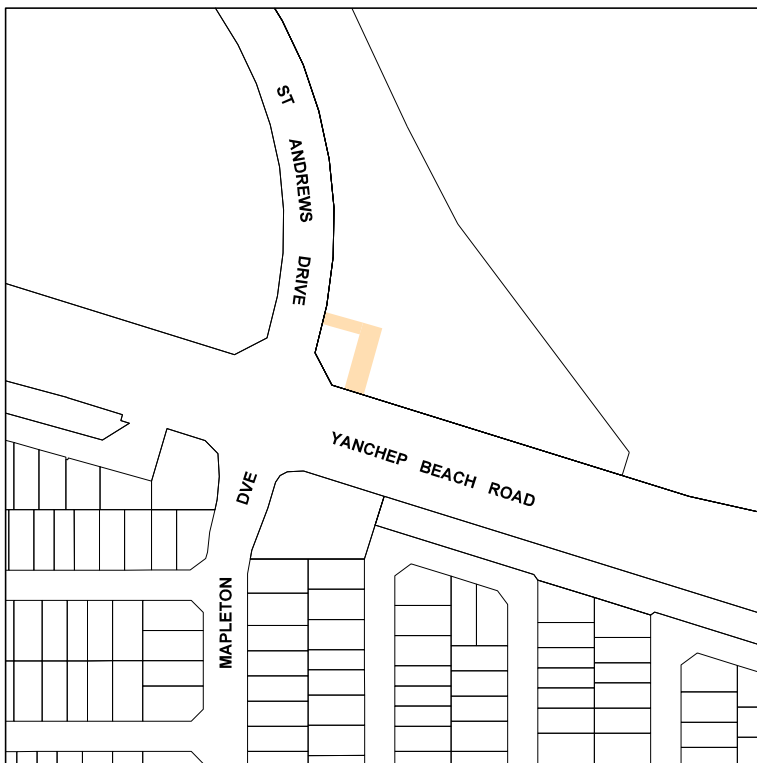
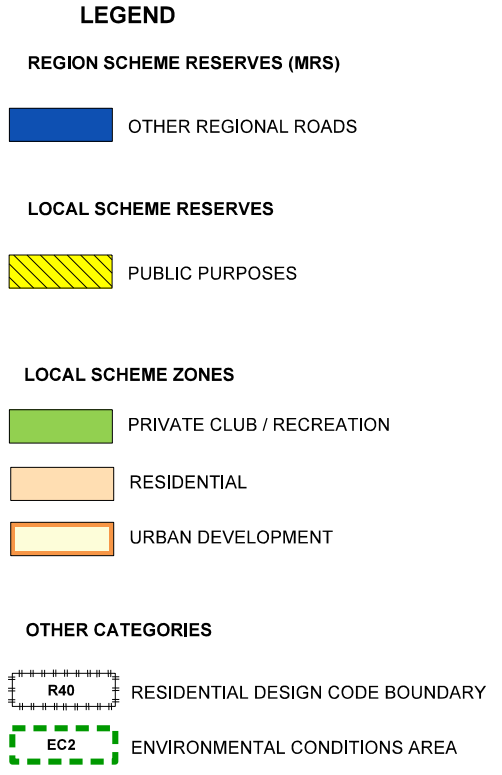
1. Rezoning a portion of Lot 499 (144) St Andrews Drive, Yanchep from Public Use (Local Reserve) to Residential with a density coding of R40.

SCHEME AMENDMENT MAP

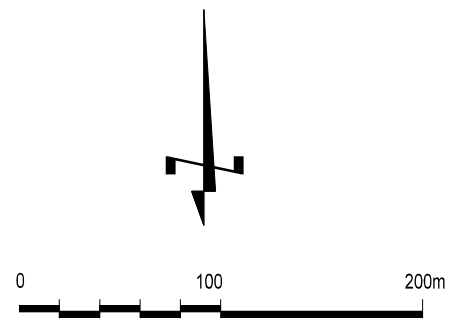
CITY OF WANNEROO DISTRICT PLANNING SCHEME No.2 AMENDMENT No. 156



EXISTING ZONING



PROPOSED ZONING



CITY OF WANNEROO
DISTRICT PLANNING SCHEME NO 2 - AMENDMENT NO. 156
SCHEME AMENDMENT REPORT

PROPOSAL: Rezoning portion of Lot 499 St Andrews Drive, Yanchep from “Public Use” to “Residential R40” as depicted on the scheme amendment map and modifying the Scheme Map accordingly.

1.0 INTRODUCTION

It is proposed, to rezone a portion of Lot 499 St Andrews Drive, Yanchep from “Public Use” to “Residential R40” by way of amendment to the City of Wanneroo District Planning Scheme No. 2 (the Scheme).

The proposed zoning will enable a small portion of land, which forms part of reserved land under the Scheme for “Public Use”, to be included as part of a proposed residential lot area on the adjoining “Residential” zoned land.

While the future intended use of the subject reserve is for drainage purposes, a recent detailed engineering investigation over the site and its surrounds, undertaken as part of a proposed residential subdivision and development on the adjoining land, confirms there is a surplus land area within the reserve over and above that required for future drainage purposes. It is therefore considered a small portion of the reserve (approx. 459m²) would be more suited to form part of the adjoining residential zoned land, thereby providing greater efficient use of the land and an improved future residential lot configuration outcome, as part of the subdivision.

A copy of the Engineers Report confirming the maximum drainage area required within the existing reserve, is contained in **Appendix A** of this Report.

2.0 SITE DESCRIPTION AND BACKGROUND

Lot 499 is located in the western portion of the Yanchep locality and incorporates the Sun City Country Club, which boasts an 18 hole international standard golf course.

The total lot area is approximately 69.16 hectares, of which approximately 2.26 hectares is zoned "Residential R40" with a small portion reserved as "Public Use" under the Scheme. The remainder of Lot 499 is zoned "Private Clubs/Recreation" under the Scheme.

For the purposes of this report the residential zoned and reserved portion of the land is referred to as "the subject land" (**refer Plan 1**).

The subject land is bound by Yanchep Beach Road and St Andrews Drive and is the subject of an approved subdivision application, issued by the Western Australian Planning Commission (WAPC) that excises it from Lot 499 to create Super Lot 866. A copy of the subject WAPC Approval (No.152589) is contained in Appendix B of this report.

Apart from the adjoining golf course, the surrounding area is predominantly existing or proposed residential land and constitutes the primary expansion area for Yanchep.

Existing vegetation is scattered and the topography generally falls from east to west across the subject land with a gradual decline to the south, towards the subject drainage reserve.

There are no existing improvements on the land.



SUBJECT LAND

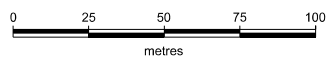
PLAN 1: LOCATION PLAN

Lot 499 St Andrews Drive, YANCHEP

CLIENT : E-POST AUSTRALIA PTY LTD
 SCALE : 1:1,250 @ A3
 DATE : 17 March 2016
 PLAN No : FIG-YAN-001
 REVISION : A
 PLANNER : SLB
 DRAWN : BL

LEGEND

--- SUBJECT LAND



A 191A Naturaliste Terrace Dunsborough WA 6281 E admin@lbplanning.com.au
 P (08) 9750 5925 ABN 55 115 374 128

3.0 PLANNING FRAMEWORK

3.1 City of Wanneroo District Planning Scheme No.2

As mentioned previously, the majority of the subject land is zoned “Residential” with an applicable density code of R40.

Clause 3.4.1 of the Scheme states that:

“The Residential Zone is intended primarily for residential development in an environment where high standards of amenity and safety predominate to ensure the health and welfare of the population.”

The proposal to incorporate the subject portion of reserved land into the “Residential” zone is consistent with the intent of the Scheme in that it will facilitate future residential development on a suitably configured and appropriately positioned residential allotment, thus contributing to achieving improved residential amenity.

Part II of the Scheme and in particular Clause 2.4 relates to Local Reserves. In this regard there is no provision under Part II of the Scheme which prohibits Council from considering a proposal to rezone a portion of reserved land into another zone under the Scheme by way of scheme amendment.

3.2 Metropolitan Region Scheme

The subject land is zoned by the Metropolitan Region Scheme (MRS) as “Urban” which aligns with its current “Residential” zoning under the Scheme.

MRS reserved land (Other Primary Roads) in the form of Yanchep Beach Road abuts the southern boundary of the subject land and land zoned “Private Recreation” (Sun City Country Club) under the MRS lies directly to the east of the subject land.

4.0 PROPOSED SCHEME AMENDMENT

4.1 The Proposal

The proposed scheme amendment seeks to achieve the following:

- a) To rezone a portion of “Public Use” reserved land under the Scheme to “Residential” with an applicable density code of R40; and
- b) Modify the Scheme Map accordingly, as depicted on the proposed Scheme Amendment Map.

The proposed rezoning will enable the subject portion of reserved land (approx.459m²) to be included as part of a future residential lot on land directly adjacent to current reserved land which is already zoned Residential R40” under the Scheme (**refer Plan 2**).

In respect of the current reserve, its intended use under the Scheme relates to the anticipated drainage requirements for the adjoining residential zoned land in advance of its future subdivision and development. It is understood that the current area of the reserve provided under the Scheme to accommodate future drainage requirements was based on preliminary estimations at the time of the original zoning of the land during the 1990s.

Moving forward from this time, future development of the subject land in accordance with its residential zoning under the Scheme, is now being progressed and the envisaged subdivision outcome over the subject land is represented by a proposed subdivision plan, which at the time of writing this report, is being considered by the WAPC.

A copy of the proposed subdivision plan is contained in **Appendix B** of this report and is also partly illustrated on **Plan 2**. The allocated WAPC Application No is 153290.

In the context of this proposal, a detailed engineering investigation over the site and its surrounds, has been carried out as part of the initial residential subdivision design phase. The investigation confirms there is a surplus land area within the reserve not required for future drainage purposes. Accordingly, it is considered that a portion of the reserve (approx. 459m²) would be more suited to form part of the adjoining residential zoned land, thereby providing more efficient use of the land and an improved lot parcel configuration to adjoining proposed Lot 101, as illustrated on **Plan 2**.

Please note the calculated area to be rezoned is approximate and subject to final detailed survey at the time of subdivision.

A copy of the Engineers Report confirming the maximum drainage area required within the existing reserve to support this proposal, is contained in **Appendix A** of this Report.



PORION OF DRAINAGE RESERVE TO BE REZONED TO "RESIDENTIAL" ZONE AND INCLUDED IN PROPOSED LOT 101 (116.5m²) AND LOT 101 (342.5m²)

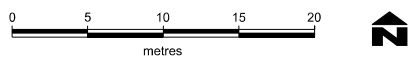
PLAN 2: PROPOSED REZONING

Lot 499 St Andrews Drive, YANCHEP

CLIENT : E-POST AUSTRALIA PTY LTD
 SCALE : 1:500 @ A3
 DATE : 23 March 2016
 PLAN No : FIG-YAN-002
 REVISION : A
 PLANNER : SLB
 DRAWN : BL

LEGEND

-  SUBJECT SITE
-  PORTION OF DRAINAGE RESERVE TO BE INCLUDED IN PROPOSED LOTS 100 & 101



A 191A Naturaliste Terrace Dunsborough WA 6281 E admin@lbplanning.com.au
 P (08) 9750 5925 ABN 55 115 374 128

5.0 CONCLUSION

The proposed scheme amendment presents an opportunity to utilise a portion of reserve land in a more efficient and useful manner by incorporating the subject area into the adjoining proposed residential lot. Accordingly the subject portion of land is required to be rezoned to residential zone under the scheme to facilitate this outcome.

The proposal does not conflict with any Scheme objectives and it will not impinge on the existing character or amenity of the locality, nor will create any adverse impact on other land within the Scheme area.

This scheme amendment is therefore being considered as a “standard” amendment under the provisions of the *Planning and Development (Local Planning Schemes) Regulations 2015*.

Appendix A

Engineering Report



DEVELOPMENT
ENGINEERING
CONSULTANTS

Telephone: (08) 9481 1900

Facsimile: (08) 9481 1700

Suite 3, Ground Floor

The Atrium 123A Colin Street

West Perth WA 6005

Our Ref: YANBDG01 Drainage Report 4-4-2016.doc
4th April 2016

E-Post Australia Pty Ltd
Suite 5, 18-22 Riseley Street,
ARDROSS WA 6153

To whom it may concern:-

**LOT 499 ST ANDREWS DRIVE YANCHEP
EXISTING DRAINAGE REQUIREMENTS**

The attached sketch plan details the road reserves of Yanchep Beach Road and Saint Andrews Drive that contributes stormwater run-off into the existing Council drainage sump located in the south-west corner of lot 499 Saint Andrews Drive, Yanchep.

Drainage calculations have been undertaken which clearly demonstrate that this existing drainage facility can be converted to an unfenced basin (in accordance with the attached drainage concept plan) to contain the 1 in 10 year event (& up to the 1 in 100 year event provided the pipe system is able to accommodate such an event). As indicated on both sketch plans, the minimum area of land required to achieve this would need to be ~450m².

It should also be noted (subject to detailed design) that the actual basin area required to adequately accommodate this existing catchment can be further reduced in size by using underground storage and/or by diverting upper catchment stormwater flows.

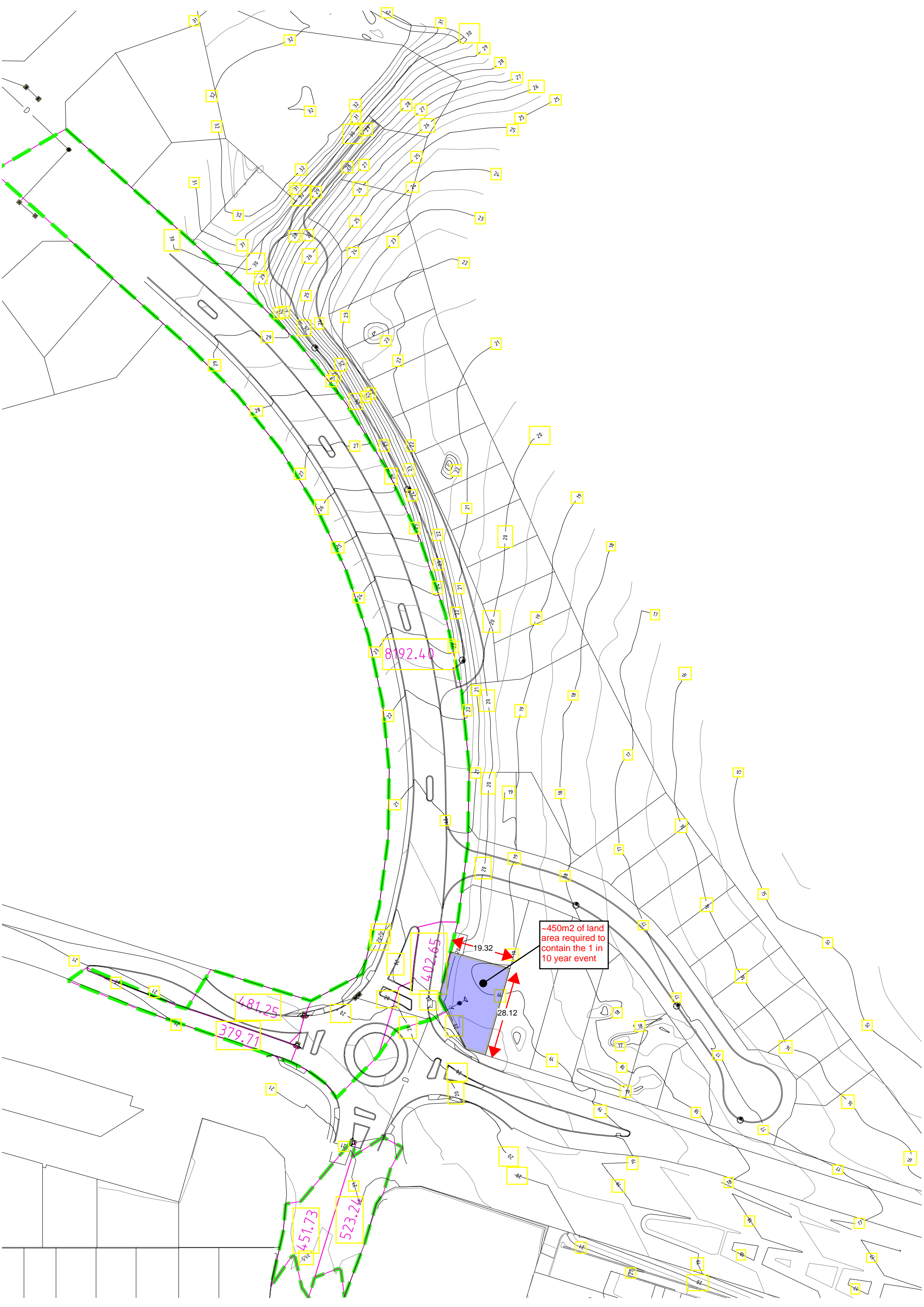
Yours faithfully,

DEVELOPMENT ENGINEERING CONSULTANTS PTY LTD

ROBERT D. GRAIEG
PRINCIPAL CIVIL ENGINEER

Attachments included with this letter:-

- (1) Drainage catchment plan.
- (2) Drainage concept plan
- (3) 1 in 10yr drainage calculations
- (4) 1 in 100yr drainage calculations



~450m² of land area required to contain the 1 in 10 year event

8192.40

402.65

19.32

28.12

481.25

379.71

451.73





523.24

1:200

DRAINAGE CONCEPT PLAN

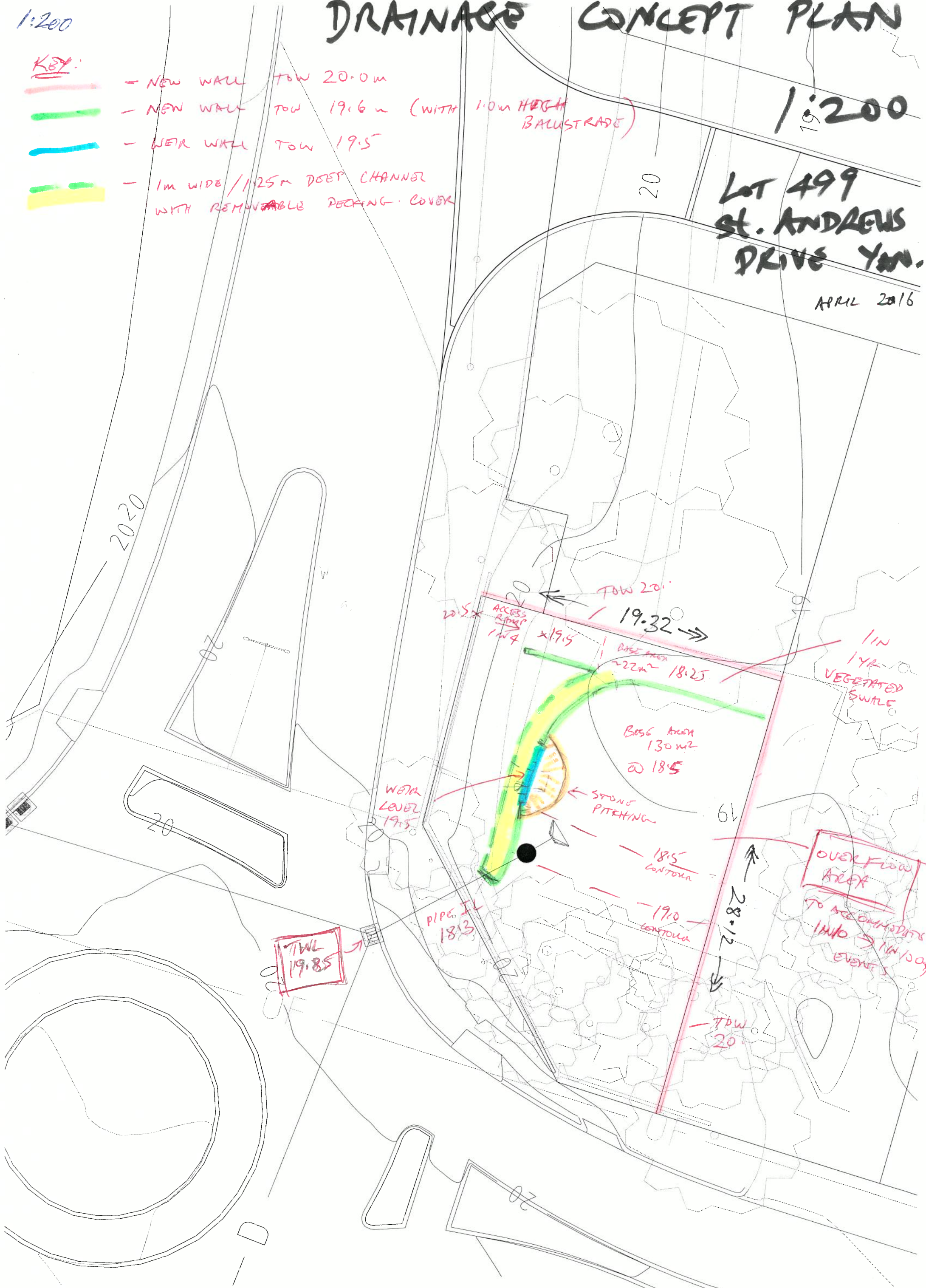
1:200

KEY:

-  - NEW WALL TOW 20.0m
-  - NEW WALL TOW 19.6m (WITH 1.0m HIGH BALUSTRADE)
-  - WEIR WALL TOW 19.5
-  - 1m WIDE / 1.25m DEEP CHANNEL WITH REMOVABLE PECKING COVER

LOT 499
ST. ANDREWS
DRIVE YAM.

APRIL 2016



20.20

20

TOW 20.0
 19.32
 20.5
 ACCESS RAMP
 1.0m
 x 19.5
 BASE AREA
 ~22m² 18.25

1 IN
100
VEGETATED
SWALE

BASE AREA
130 m²
@ 18.5

WEIR
LEVEL
19.5

STONES
PITCHING

18.5
CONTOUR

19.0
CONTOUR

PIPE I/L
18.3

TWL
19.85

OVERFLOW
AREA
TO ACCOMMODATE
1 IN 100 YEAR
EVENTS

61

28.12

TOW
20

20

Project: **Lot 499 St Andrews Dr Yanchep**

Table A - Contributing Catchment Areas:

Swale Name / Discription >	Overflow Swale			Totals (ha)
	1	2	3	
C₁₀ Areas m2	0	0	0	1+2+3
0.6 YBR				0
0.8 Road Res				0
0.7 St Andrews				0
10yr - A _{imp} >	0	0	0	0.00
10yr - Co-eff >	0.00	0.00	0.00	-

Table D - Permeability Rate: With Clogging Factor of: **50.00%**

K_i = 2.32E-04 m/s	K_h used: 1.16E-04 m/s
or 20.00 m/day	or 10.00 m/day
or 833 mm/hr	or 417 mm/hr

Table B - Basin / Swale Characteristics:

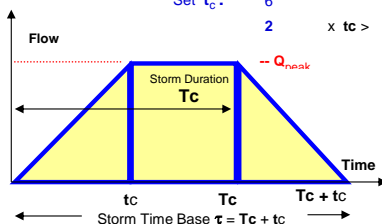
Height above Base (m)	Wetted Surface (m ²)	Capacity / Volume (m ³)	18.50	<-RL _{BASE} (m)
0.00	130.0	0.0	0.00	18.50
1.35	260.0	263.3	1.35	19.85
Max. Values:	1.35	260.00	263.25	Max. Depth >: 1.35

Table C - Pre-development Flow Table:

Estimate of Pre-development flows	With: C ₁₀ = & n* =
Adopted ARI	Pre-Dev Q l/s
1	0
2	0
5	0
10	0
20	0
50	0
100	0

Column #:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Storm Event (Years)	10																								
~ Q _{peak} (l/s)	0																								
min. t _c (mins)	6.00																								
A _{imp} (m ²)	0.00																								
T _c (mins)	6.0	0.10	108.35	0.00																					
T _c (hrs)	6.0	0.10	108.35	0.00																					
I (mm/hr)	108.35	0.00	0.00																						
Q _{Run-off} (l/s)	0.00																								
Extra Q _{Extra-in} (l/s)									51.64	51.64	18.59	2.82	0.00	0.00	21.41	140.57	5.64	15.77	15.77	137.79	0.00	0.28	5.64	18.58	0.00
Total Q _{In (R+E)} (l/s)									70.34	70.34	61.75	4.01	0.00	0.00	54.66	156.99	11.96	42.70	42.70	151.09	0.00	0.73	0.22	18.72	0.00
Total V _{In} (m ³)									68.62	68.62	61.75	4.44	0.00	0.00	66.19	162.69	15.25	50.95	50.95	155.16	0.00	0.86	0.26	18.76	0.00
V _{rain-over TWL} (m ³)									53.77	53.77	96.79	5.83	0.00	0.00	102.62	180.68	32.36	70.26	70.26	164.70	0.00	1.14	0.36	18.86	0.00
Q _{out-pipe} (l/s)									43.16	43.16	116.53	6.69	0.00	0.00	123.22	190.85	50.14	73.08	73.08	166.09	0.00	1.18	0.37	18.87	0.00
V _{out-pipe} (m ³)									36.02	36.02	129.67	7.32	0.00	0.00	136.99	197.65	68.27	68.72	68.72	163.94	0.00	1.12	0.35	18.85	0.00
V _{In} (less input losses) (m ³)									28.11	28.11	151.81	8.42	0.00	0.00	160.22	209.12	105.98	54.24	54.24	156.79	0.00	0.91	0.28	18.78	0.00
Total V _{To be contained} (m ³)									23.15	23.15	166.67	9.26	0.00	0.00	175.93	216.88	144.54	31.39	31.39	145.50	0.00	0.55	0.16	18.66	0.00
Max. Wetted Surface - with All "in" over T _c (m ²)									17.17	17.17	185.47	10.57	0.00	0.00	196.04	226.81	223.02	0.00	0.00	130.00	0.00	0.00	0.00	18.50	0.00
V _{soaked over T_c} (m ³)									9.53	9.53	205.92	13.21	0.00	0.00	219.13	238.21	460.30	0.00	0.00	130.00	0.00	0.00	0.00	18.50	0.00
Approx. V _{To be contained} (m ³)									6.30	6.30	204.17	15.07	0.00	0.00	219.23	238.26	690.55	0.00	0.00	130.00	0.00	0.00	0.00	18.50	0.00
Actual Max. V _{Contained} (m ³)									4.44	4.44	191.72	16.55	0.00	0.00	208.27	232.85	907.20	0.00	0.00	130.00	0.00	0.00	0.00	18.50	0.00
Max. Wetted Surface - after T _c (m ²)									1.05	1.05	90.44	20.65	0.00	0.00	111.09	184.86	1574.42	0.00	0.00	130.00	0.00	0.00	0.00	18.50	0.00
~ V _{By-pass} (m ³)									0.21	0.21	22.39	22.09	0.00	0.00	44.48	151.97	1762.43	0.00	0.00	130.00	0.00	0.00	0.00	18.50	0.00
~ Time Basin Wet after T _c (hrs)									0.00	0.00	0.00	23.27	0.00	0.00	23.27	141.49	2036.36	0.00	0.00	130.00	0.00	0.00	0.00	18.50	0.00
~ H (Above base) (m)									0.00	0.00	0.00	25.09	0.00	0.00	25.09	142.39	2724.13	0.00	0.00	130.00	0.00	0.00	0.00	18.50	0.00
~ TWL (Above base) (m)									0.00	0.00	0.00	26.39	0.00	0.00	26.39	143.03	3413.16	0.00	0.00	130.00	0.00	0.00	0.00	18.50	0.00
By-pass Q _{In-B} (l/s)									0.00	0.00	0.00	27.31	0.00	0.00	27.31	143.49	4102.62	0.00	0.00	130.00	0.00	0.00	0.00	18.50	0.00
Details for:-									45.0							238.3	4102.6	73.1	73.1	166.1	0.0	1.2	0.37	0.37	0.0

10 year storm event for Overflow Swale: Critical storm duration: 45mins / 0.75hrs with swale reaching ~0.37m max. depth, storage volume of ~73.1m³ & ~166.1m² max. TWL area.



Project: **Lot 499 St Andrews Dr Yanchep**

Table A - Contributing Catchment Areas:

Swale Name / Discription >	1in1yr Basin			Totals (ha)
	1	2	3	
C ₁₀ Areas m2	10430.98	0	0	1+2+3
0.6 YBR	860.96			860.96
0.8 Road Res	974.97			974.97
0.7 St Andrews	8595.05			8595.05
10yr - A _{imp} >	7313	0	0	0.73
10yr - Co-eff >	0.70	0.00	0.00	0.70

Table D - Permeability Rate: With Clogging Factor of: **50.00%**

K _n =	2.32E-04 m/s	K _n used:	1.16E-04 m/s
or	20.00 m/day	or	10.00 m/day
or	833 mm/hr	or	417 mm/hr

Table B - Basin / Swale Characteristics:

Height above Base (m)	Wetted Surface (m ²)	Capacity / Volume (m ³)	18.25	<-RL-BASE (m) V RL-TWL
0.00	37.0	0.0	0.00	18.25
1.25	50.0	54.4	1.25	19.50
Max. Values:	1.25	50.00	54.38	Max. Depth >: 1.25

Extra storage (Pipes & pits - m3) > **5.00** 4.58 6.28

Depth allowance for initial loss > mm of total available base area

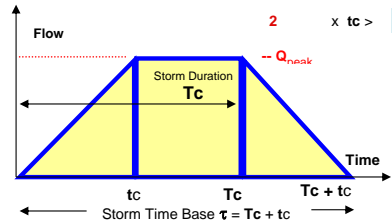
Table C - Pre-development Flow Table:

Estimate of Pre-development flows		With: C ₁₀ =
		& n* =
ARI	Adopted Q _{out} l/s	Pre-Dev Q l/s
1	0	
2	0	
5	0	
10	0	
20	0	
50	0	
100	0	

~ Max. time to empty basin/swale (after storm event) > **0.12** days

Column #:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Storm Event (Years)	V	~ Q _{peak} (l/s)	min. tc (mins)	A _{imp} (m ²)	Tc (mins)	Tc (hrs)	I (mm/hr)	Q _{Run-off} (l/s)	Extra Q _{Ex-train} (l/s)	Total Q _{In} (R+E) (l/s)	Total V _{In} (m ³)	V _{rain} -over TWL (m ³)	Q _{Out} (pipe) (l/s)	V _{out} (pipe) (m ³)	V _{In} (less input losses) (m ³)	Max. Wetted Surface - with All "In" over Tc (m ²)	V _{soaked} over Tc (m ³)	Approx. V _{To} be contained (m ³)	Actual Max. V _{Contained} (m ³)	Max. Wetted Surface - after Tc (m ²)	~V _{By-pass} (m ³)	~Time Basin Wet after Tc (hrs)	~ H (Above base) (m)	~ TWL (Above base) (m)	By-pass Q _{In-B} (l/s)
10	220	6.00	7313.09	6.0	0.10	108.35	220.10	220.10	79.24	220.10	79.24	Incl. 0.00	0.00	0.00	74.78	50.00	1.81	72.97	54.38	50.00	50.65	3.00	1.25	19.50	51.64
		2	x tc >	12.0	0.20	77.17	156.77	156.77	112.87	0.77	0.00	0.00	108.65	50.00	3.63	105.02	54.38	50.00	50.65	3.00	1.25	19.50	70.34		
				15.0	0.25	68.26	138.67	138.67	124.81	0.85	0.00	0.00	120.66	50.00	4.53	116.13	54.38	50.00	61.75	3.00	1.25	19.50	68.62		
				30.0	0.50	44.88	91.17	91.17	164.11	1.12	0.00	0.00	160.23	50.00	9.06	151.16	54.38	50.00	96.79	3.00	1.25	19.50	53.77		
				45.0	0.75	34.31	69.71	69.71	188.21	1.29	0.00	0.00	184.50	50.00	13.59	170.90	54.38	50.00	116.53	3.00	1.25	19.50	43.16		
				60.0	1.00	28.14	57.16	57.16	205.77	1.41	0.00	0.00	202.17	50.00	18.13	184.05	54.38	50.00	129.67	3.00	1.25	19.50	36.02		
				90.0	1.50	21.58	43.84	43.84	236.75	1.62	0.00	0.00	233.37	50.00	27.19	206.18	54.38	50.00	151.81	3.00	1.25	19.50	28.11		
				120.0	2.00	17.81	36.18	36.18	260.51	1.78	0.00	0.00	257.30	50.00	36.25	221.04	54.38	50.00	166.67	3.00	1.25	19.50	23.15		
				180.0	3.00	13.55	27.52	27.52	297.19	2.03	0.00	0.00	294.22	50.00	54.38	239.85	54.38	50.00	185.47	3.00	1.25	19.50	17.17		
				360.0	6.00	8.47	17.20	17.20	371.52	2.54	0.00	0.00	369.06	50.00	108.76	260.30	54.38	50.00	205.92	3.00	1.25	19.50	9.53		
				540.0	9.00	6.44	13.08	13.08	423.78	2.90	0.00	0.00	421.68	50.00	163.14	258.54	54.38	50.00	204.17	3.00	1.25	19.50	6.30		
				720.0	12.00	5.30	10.77	10.77	465.43	3.18	0.00	0.00	463.62	50.00	217.52	246.10	54.38	50.00	191.72	3.00	1.25	19.50	4.44		
				1440.0	24.00	3.31	6.72	6.72	580.88	3.97	0.00	0.00	579.85	50.00	435.03	144.81	54.38	50.00	90.44	3.00	1.25	19.50	1.05		
				1800.0	30.00	2.83	5.75	5.75	621.31	4.25	0.00	0.00	620.56	50.00	543.79	76.77	54.38	50.00	22.39	3.00	1.25	19.50	0.21		
				2160.0	36.00	2.49	5.05	5.05	654.61	4.48	0.00	0.00	654.09	50.00	652.55	1.54	1.54	37.37	0.00	0.10	0.04	18.29	0.00		
				2880.0	48.00	2.01	4.08	4.08	705.79	4.83	0.00	0.00	705.61	50.00	870.07	0.00	0.00	37.00	0.00	0.00	0.00	0.00	0.00	18.25	0.00
				3600.0	60.00	1.69	3.44	3.44	742.21	5.07	0.00	0.00	742.29	50.00	1087.59	0.00	0.00	37.00	0.00	0.00	0.00	0.00	0.00	18.25	0.00
				4320.0	72.00	1.46	2.96	2.96	768.15	5.25	0.00	0.00	768.40	50.00	1305.10	0.00	0.00	37.00	0.00	0.00	0.00	0.00	0.00	18.25	0.00
Details for:-				12.0				156.8							50.0	1305.1	260.3	54.4	50.0	205.9	3.0	1.25	1.25	70.3	

10 year storm event for 1in1yr Basin: Critical storm duration: 12mins / 0.2hrs with swale reaching ~1.25m max. depth, storage volume of ~54.4m³ & ~50m² max. TWL area.



Project: **Lot 499 St Andrews Dr Yanchep**

Table A - Contributing Catchment Areas:

Swale Name / Discription >	Overflow Swale			Totals (ha)
	1	2	3	
C ₁₀ Areas m2	0	0	0	1+2+3
0.6 YBR				0
0.8 Road Res				0
0.7 St Andrews				0
100yr - A _{imp} >	0	0	0	0.00
100yr - Co-eff >	0.00	0.00	0.00	-

Table D - Permeability Rate: With Clogging Factor of: **50.00%**

K _i = 2.32E-04 m/s	K _h used: 1.16E-04 m/s
or 20.00 m/day	or 10.00 m/day
or 833 mm/hr	or 417 mm/hr

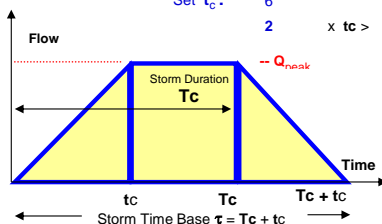
Table B - Basin / Swale Characteristics:

Height above Base (m)	Wetted Surface (m ²)	Capacity / Volume (m ³)	18.50	<-RL _{BASE} (m) V RL _{TWL}
0.00	130.0	0.0	0.00	18.50
1.35	260.0	263.3	1.35	19.85
Max. Values:	1.35	260.00	263.25	Max. Depth >: 1.35

Table C - Pre-development Flow Table:

Estimate of Pre-development flows	With: C ₁₀ = & n* =
Adopted ARI	Pre-Dev Q l/s
1	0
2	0
5	0
10	0
20	0
50	0
100	0

Column #:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Storm Event (Years)	100																								
Q_{peak} (l/s)	0																								
min. tc (mins)	6.00																								
A_{imp} (m²)	0.00																								
Tc (mins)	6.0	0.10	189.44	0.00																					
Tc (hrs)	6.0	0.10	189.44	0.00																					
I (mm/hr)	189.44	0.00	189.44	0.00																					
Q_{Run-off} (l/s)	0.00																								
Extra Q_{Extra-in} (l/s)	294.46																								
Total Q_{In} (R+E) (l/s)	294.46																								
Total V_{In} (m³)	106.01																								
V_{rain-over} (m³)	4.93																								
Q_{out-pipe} (l/s)	0.00																								
V_{out-pipe} (m³)	0.00																								
V_{In} (less input losses) (m³)	110.93																								
Max. Wetted Surface - with All "in" over Tc (m²)	184.78																								
V_{soaked over} Tc (m³)	6.56																								
Approx. V_{To be contained} (m³)	104.37																								
Actual Max. V_{Contained} (m³)	104.37																								
Max. Wetted Surface - after Tc (m²)	181.54																								
~V_{By-pass} (m³)	0.00																								
~Time Basin Wet after Tc (hrs)	1.61																								
~ H (Above base) (m)	0.54																								
~ TWL (Above base) (m)	19.04																								
By-pass Q_{In-B} (l/s)	0.00																								



E - ARI	C _{ARI}	YBR	Road Res	St Andrews	540	720	1440	1800	2160	2880	3600	4320
1	0.80	0.48	0.64	0.56	9.00	12.00	24.00	30.00	36.00	48.00	60.00	72.00
2	0.85	0.51	0.68	0.60	8.34	11.12	22.24	27.80	34.56	45.76	57.12	68.64
5	0.95	0.57	0.76	0.67	7.52	10.03	20.06	25.08	30.10	40.13	50.16	60.19
10	1.00	0.6	0.8	0.7	6.75	8.99	17.98	22.48	26.97	35.96	44.95	53.94
20	1.05	0.63	0.84	0.74	6.20	8.27	16.54	20.68	24.82	32.76	40.70	48.64
50	1.15	0.69	0.92	0.81	5.56	7.41	14.82	18.53	22.24	29.65	36.81	44.16
100	1.20	0.72	0.96	0.84	5.00	6.67	13.34	16.68	20.00	26.67	33.34	40.00

Details for:- 90.0 68.5 260.0 4875.4 261.5 261.5 259.1 0.0 3.2 1.34 1.34 0.0

100 year storm event for Overflow Swale: Critical storm duration: 90mins / 1.5hrs with swale reaching ~1.34m max. depth, storage volume of ~261.5m³ & ~259.1m² max. TWL area.

Project: **Lot 499 St Andrews Dr Yanchep**

Table A - Contributing Catchment Areas:

Swale Name / Discription >	1in1yr Basin			Totals (ha)
	1	2	3	
C10 Areas m2	10430.98	0	0	1+2+3
0.6 YBR	860.96			860.96
0.8 Road Res	974.97			974.97
0.7 St Andrews	8595.05			8595.05
100yr - A _{imp} >	8776	0	0	0.88
100yr - Co-eff >	0.84	0.00	0.00	0.84

Table D - Permeability Rate: With Clogging Factor of: 50.00%

K _n =	2.32E-04 m/s	K _n used:	1.16E-04 m/s
or	20.00 m/day	or	10.00 m/day
or	833 mm/hr	or	417 mm/hr

Table B - Basin / Swale Characteristics:

Height above Base (m)	Wetted Surface (m ²)	Capacity / Volume (m ³)	18.25	<-RL _{BASE} (m) V RL _{SWL}
0.00	37.0	0.0	0.00	18.25
1.25	50.0	54.4	1.25	19.50
2				
3				
4				
5				
6				
7				
8				
9				
10				

Max. Values: 1.25 50.00 54.38 Max. Depth >: 1.25

Extra storage (Pipes & pits - m³) > 5.00 4.58 6.28

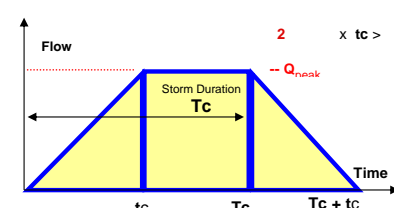
Depth allowance for initial loss > mm of total available base area

Table C - Pre-development Flow Table:

ARI	Adopted Q _{out} l/s	With: C ₁₀ = & n* =
		Pre-Dev Q l/s
1	0	
2	0	
5	0	
10	0	
20	0	
50	0	
100	0	

~ Max. time to empty basin/swale (after storm event) > 0.12 days

Column #:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Storm Event (Years)	100																								
min. tc (mins)	6.00																								
A_{imp} (m²)	8775.70																								
Tc (mins)	6.0	0.10																							
I (mm/hr)	189.44	189.44																							
Q_{Run-off} (l/s)	461.80	461.80																							
Extra Q_{Extrain} (l/s)																									
Total Q_{In} (R+E) (l/s)	461.80	166.25																							
Total V_{In} (m³)	166.25	166.25																							
V_rrain-over TWL (m³)	Incl.	0.95																							
Q_{Out} (pipe) (l/s)	0.00	0.00																							
V_{out} (pipe) (m³)	0.00	0.00																							
V_{in} (less input losses) (m³)	162.19	162.19																							
Max. Wetted Surface - with All "in" over Tc (m²)	50.00	50.00																							
V_{soaked over Tc} (m³)	1.81	1.81																							
Approx. V_{To be contained} (m³)	160.38	160.38																							
Actual V_{Contained} (m³)	54.38	54.38																							
Max. Wetted Surface - after Tc (m²)	50.00	50.00																							
~V_{By-pass} (m³)	106.01	106.01																							
-Time Basin Wet after Tc (hrs)	3.00	3.00																							
~ H (Above base) (m)	1.25	1.25																							
~ TWL (Above base) (m)	19.50	19.50																							
By-pass Q_{In-B} (l/s)	294.46	294.46																							



E - ARI	C _{ARI}	YBR	Road Res	St Andrews
1	0.80	0.48	0.64	0.56
2	0.85	0.51	0.68	0.60
5	0.95	0.57	0.76	0.67
10	1.00	0.6	0.8	0.7
20	1.05	0.63	0.84	0.74
50	1.15	0.69	0.92	0.81
100	1.20	0.72	0.96	0.84

Details for:- 6.0 461.8 50.0 1305.1 661.2 54.4 50.0 606.8 3.0 1.25 1.25 294.5

100 year storm event for 1in1yr Basin: Critical storm duration: 6mins / 0.1hrs with swale reaching ~1.25m max. depth, storage volume of ~54.4m³ & ~50m² max. TWL area.

Appendix B

Super Lot 866 Approval
(WAPC Approval 152589)

**Proposed Subdivision
Plan**
(WAPC Application 153290)

Your Ref :
Enquiries : Nicole Alexander (Ph 6551 9861)

E-Post Australia
Suite 5, 18-22 Riseley Street
ARDROSS WA 6153

Approval Subject To Condition(s) Freehold (Green Title) Subdivision

Application No : 152589

Planning and Development Act 2005

Applicant	:	E-Post Australia Suite 5, 18-22 Riseley Street ARDROSS WA 6153
Owner	:	Sun City Country Club Inc 144 St Andrews Drive YANCHEP WA 6035
Application Receipt	:	11 September 2015

Lot Number	:	499
Diagram / Plan	:	Deposited Plan 43646
Location	:	-
C/T Volume/Folio	:	2709/709
Street Address	:	St Andrews Drive, Yanchep
Local Government	:	City of Wanneroo

The Western Australian Planning Commission has considered the application referred to and is prepared to endorse a deposited plan in accordance with the plan date-stamped **11 September 2015** once the condition(s) set out have been fulfilled.

This decision is valid for **three years** from the date of this advice, which includes the lodgement of the deposited plan within this period.

The deposited plan for this approval and all required written advice confirming that the requirement(s) outlined in the condition(s) have been fulfilled must be submitted by **22 December 2018** or this approval no longer will remain valid.

Reconsideration - 28 days

Under section 151(1) of the *Planning and Development Act 2005*, the applicant/owner may, within 28 days from the date of this decision, make a written request to the WAPC to reconsider any condition(s) imposed in its decision. One of the matters to which the WAPC will have regard in reconsideration of its decision is whether there is compelling evidence by way of additional information or justification from the applicant/owner to warrant a reconsideration of the decision. A request for reconsideration is to be submitted to the WAPC on a Form 3A with appropriate fees. An application for reconsideration may be submitted to the WAPC prior to submission of an application for review. Form 3A and a schedule of fees are available on the WAPC website: <http://www.planning.wa.gov.au>

Right to apply for a review - 28 days

Should the applicant/owner be aggrieved by this decision, there is a right to apply for a review under Part 14 of the *Planning and Development Act 2005*. The application for review must be submitted in accordance with part 2 of the *State Administrative Tribunal Rules 2004* and should be lodged within 28 days of the date of this decision to: the State Administrative Tribunal, Level 6, State Administrative Tribunal Building, 565 Hay Street, PERTH, WA 6000. It is recommended that you contact the tribunal for further details: telephone 9219 3111 or go to its website: <http://www.sat.justice.wa.gov.au>

Deposited plan

The deposited plan is to be submitted to the Western Australian Land Information Authority (Landgate) for certification. Once certified, Landgate will forward it to the WAPC. In addition, the applicant/owner is responsible for submission of a Form 1C with appropriate fees to the WAPC requesting endorsement of the deposited plan. A copy of the deposited plan with confirmation of submission to Landgate is to be submitted with all required written advice confirming compliance with any condition(s) from the nominated agency/authority or local government. Form 1C and a schedule of fees are available on the WAPC website: <http://www.planning.wa.gov.au>

Condition(s)

The WAPC is prepared to endorse a deposited plan in accordance with the plan submitted once the condition(s) set out have been fulfilled.

The condition(s) of this approval are to be fulfilled to the satisfaction of the WAPC.

The condition(s) must be fulfilled before submission of a copy of the deposited plan for endorsement.

The agency/authority or local government noted in brackets at the end of the condition(s) identify the body responsible for providing written advice confirming that the WAPC's requirement(s) outlined in the condition(s) have been fulfilled. The written advice of the agency/authority or local government is to be obtained by the applicant/owner.

When the written advice of each identified agency/authority or local government has been obtained, it should be submitted to the WAPC with a Form 1C and appropriate fees and a copy of the deposited plan.

If there is no agency/authority or local government noted in brackets at the end of the condition(s), a written request for confirmation that the requirement(s) outlined in the condition(s) have been fulfilled should be submitted to the WAPC, prior to lodgement of the deposited plan for endorsement.

Prior to the commencement of any subdivision works or the implementation of any condition(s) in any other way, the applicant/owner is to liaise with the nominated agency/authority or local government on the requirement(s) it considers necessary to fulfil the condition(s).

The applicant/owner is to make reasonable enquiry to the nominated agency/authority or local government to obtain confirmation that the requirement(s) of the condition(s) have been fulfilled. This may include the provision of supplementary information. In the event that the nominated agency/authority or local government will not provide its written confirmation following reasonable enquiry, the applicant/owner then may approach the WAPC for confirmation that the condition(s) have been fulfilled.

In approaching the WAPC, the applicant/owner is to provide all necessary information, including proof of reasonable enquiry to the nominated agency/authority or local government.

The condition(s) of this approval, with accompanying advice, are:

CONDITION(S):

1. Engineering drawings and specifications are to be submitted, approved, and works undertaken in accordance with the approved engineering drawings, specifications and approved plan of subdivision, for grading and/or stabilisation of the site to ensure that:
 - a) lots can accommodate their intended use; and
 - b) finished ground levels at the boundaries of the lot(s) the subject of this approval match or otherwise coordinate with the existing and/or proposed finished ground levels of the land abutting.

(Local Government)
2. a) Prior to the commencement of subdivisional works, the landowner/applicant is to provide a pre-works geotechnical report certifying that the land is physically capable of development or advising how the land is to be remediated and compacted to ensure it is capable of development; and

- b) In the event that remediation works are required, the landowner/applicant is to provide a post geotechnical report certifying that all subdivisional works have been carried out in accordance with the pre-works geotechnical report.

(Local Government).

3. Pursuant to Section 150 of the *Planning and Development Act 2005* and Division 3 of the *Planning and Development Regulations 2009* a covenant preventing vehicular access onto Yanchep Beach Road being lodged on the certificate(s) of title of the proposed lot(s) at the full expense of the landowner/applicant. The covenant is to prevent access, to the benefit of the local government, in accordance with the plan dated 11 September 2015 and the covenant is to specify:

"No vehicular access is permitted from Yanchep Beach Road." (Local Government)

4. Drainage easements and reserves as may be required by the local government for drainage infrastructure being shown on the diagram or plan of survey (deposited plan) as such, granted free of cost, and vested in that local government under Sections 152 and 167 of the *Planning and Development Act 2005*.
(Local Government)

5. Uniform fencing being constructed along the boundaries of proposed lot 887 abutting the Sun City golf course. (Local Government)

6. Measures being taken to ensure the identification and protection of any vegetation on the site worthy of retention that is not impacted by subdivisional works, prior to commencement of subdivisional works.

(Local Government).

7. An area of land at least 2,271.3m² in area, in a position to be agreed with the Western Australian Planning Commission, being shown on the diagram or plan of survey (deposited plan) as a reserve for recreation and vested in the Crown under Section 152 of the *Planning and Development Act 2005*, such land to be ceded free of cost and without any payment of compensation by the Crown.
(Local Government)

8. A minimum horizontal separation of 50 metres being provided between the centre of the fairway(s) of the golf course and the abutting lot boundaries of proposed lots 886 and 887 (Local Government).

9. Arrangements being made to the satisfaction of the Western Australian Planning Commission and to the specification of Western Power for the provision of an underground electricity supply to the lot(s) shown on the approved plan of subdivision. (Western Power).

10. The transfer of land as a Crown reserve free of cost to Western Power for the provision of electricity supply infrastructure. (Western Power)

11. Arrangements being made with the Water Corporation so that provision of a suitable water supply service will be available to the lots shown on the approved plan of subdivision. (Water Corporation)
12. Arrangements being made with the Water Corporation so that provision of a sewerage service will be available to the lots shown on the approved plan of subdivision. (Water Corporation)

ADVICE:

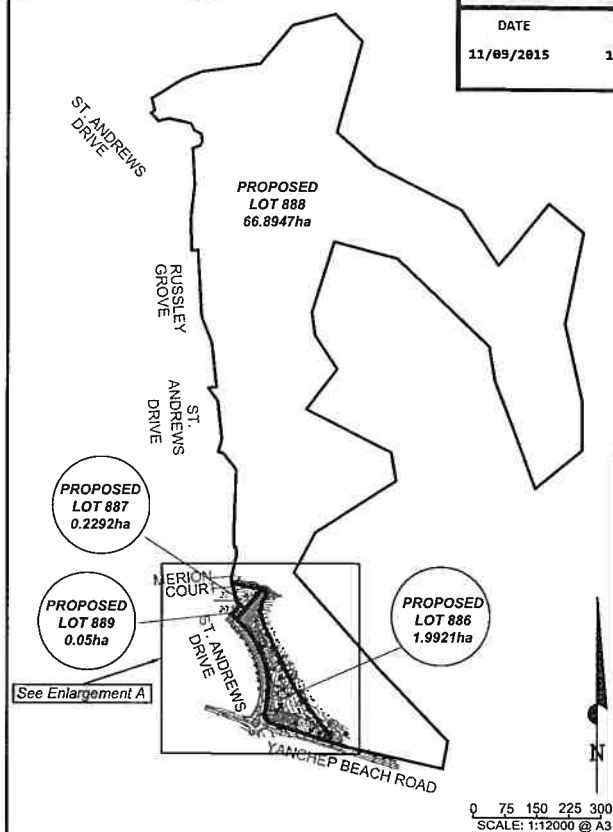
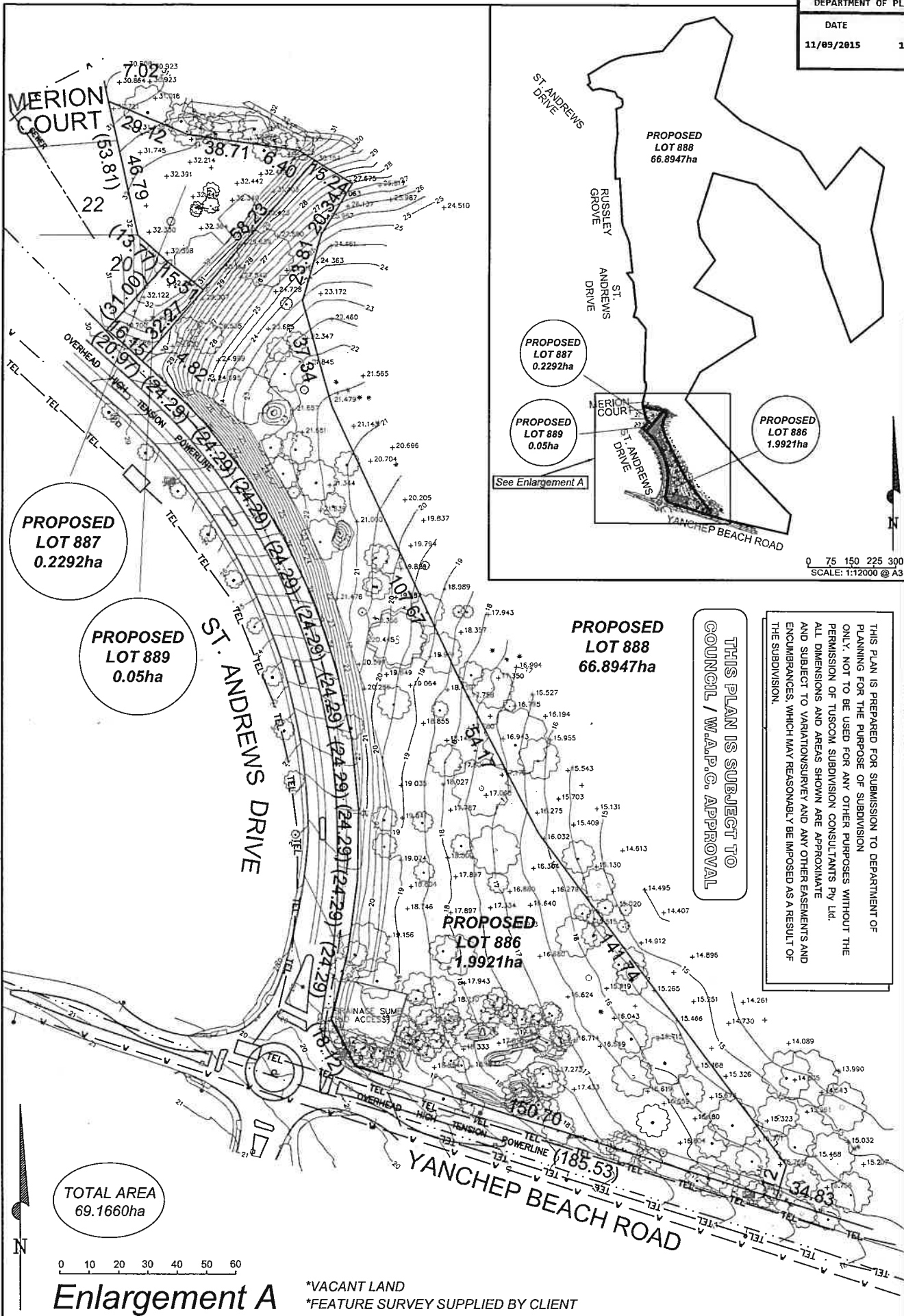
1. With regard to Condition 7, provisions of section 153 of the *Planning and Development Act 2005* provide that arrangements can be made, subject to further approval of the Western Australian Planning Commission, for a cash-in-lieu contribution by the landowner/applicant to the local government.
2. In regard to Condition 7, the Western Australian Planning Commission hereby approves of a cash-in-lieu contribution in accordance with Section 153 of the *Planning and Development Act 2005*.
3. In regard to Condition 9, Western Power provides only one underground point of electricity supply per freehold lot.
4. In regard to Conditions 11 and 12; the landowner/applicant shall make arrangements with the Water Corporation for the provision of the necessary services. On receipt of a request from the landowner/applicant, a Land Development Agreement under Section 83 of the *Water Services Act 2012* will be prepared by the Water Corporation to document the specific requirements for the proposed subdivision.
5. The Department of Fire and Emergency Services (DFES) advises that historical research has revealed that during the past 100 years, former elements of the Australian Defence Forces may have conducted training and/or operational activities within or close to the area of the proposed subdivision. It is possible that as a result of these activities, the subject area may contain unexploded ordnance (UXO). Whilst it is considered that the possible risk from UXO on the land subject to this approval is minimal, an absolute guarantee that the area is free from UXO cannot be given. Should, during subdivisional works, or at any other time, a form or suspected form of UXO be located, DFES has advised that the following process should be initiated:
 - a) do not disturb the site of the known or suspected UXO;
 - b) without disturbing the immediate vicinity, clearly mark the site of the UXO;
 - c) notify Police of the circumstances/situation as quickly as possible; and
 - d) maintain a presence near the site until advised to the contrary by a member of the WA Police Service or Defence Forces.



Further advice on this issue may be obtained by contacting the Unexploded Ordnance Unit, Department of Fire and Emergency Services.

A handwritten signature in black ink that reads "Kerrine Blenkinsop".

Kerrine Blenkinsop
Secretary
Western Australian Planning Commission
22 December 2015



**THIS PLAN IS SUBJECT TO
COUNCIL / W.A.P.C. APPROVAL**

THIS PLAN IS PREPARED FOR SUBMISSION TO DEPARTMENT OF PLANNING FOR THE PURPOSE OF SUBDIVISION ONLY. NOT TO BE USED FOR ANY OTHER PURPOSES WITHOUT THE PERMISSION OF TUSCOM SUBDIVISION CONSULTANTS PTY LTD. ALL DIMENSIONS AND AREAS SHOWN ARE APPROXIMATE AND SUBJECT TO VARIATIONS SURVEY AND ANY OTHER EASEMENTS AND ENCUMBRANCES, WHICH MAY REASONABLY BE IMPOSED AS A RESULT OF THE SUBDIVISION.

TOTAL AREA
69.1660ha

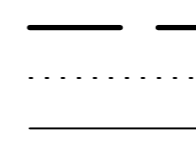
Enlargement A

*VACANT LAND
*FEATURE SURVEY SUPPLIED BY CLIENT

PROPOSED GREEN TITLE SUBDIVISION OF LOT 499 (144) ST ANDREWS DRIVE, YANCHEP	DATE: 09/09/2015	Location of boundary pegs or fences in relation to the boundary is not guaranteed
SCALE: 1:1200 @ A3 DEPOSITED PLAN: 43646 C/T: 2709/709	LOCAL AUTHORITY: CITY OF WANNEROO	
TUSCOM SUBDIVISION CONSULTANTS Pty. Ltd. (08 93168388)	DATUM: AHD(APPROX.) CLIENT: GREG MOORE	DRAWN BY: EW / GR

LEGEND

BOUNDARY OF SUBJECT LAND
 EXISTING BOUNDARIES
 PROPOSED BOUNDARIES



STATISTICS

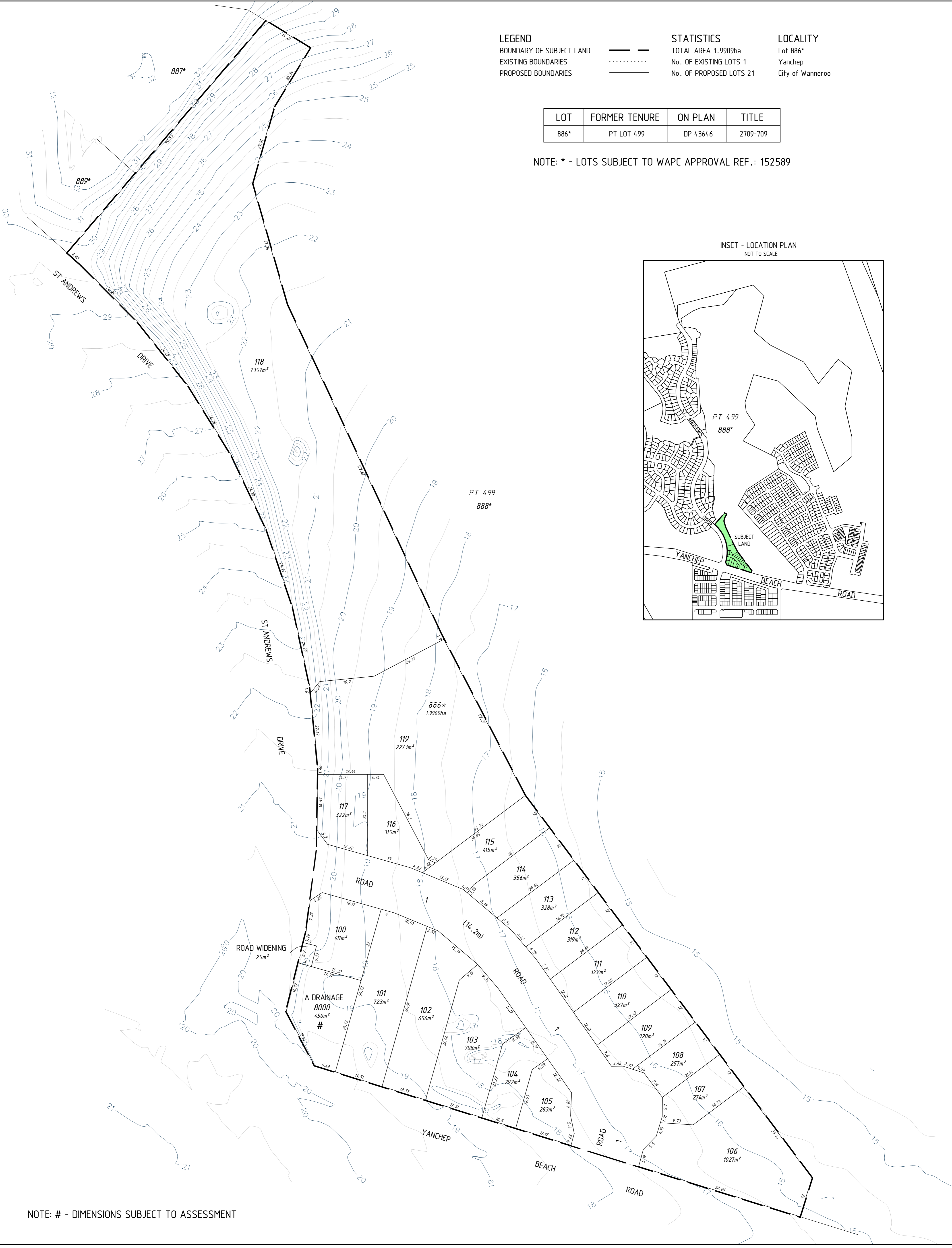
TOTAL AREA 1.9909ha
 No. OF EXISTING LOTS 1
 No. OF PROPOSED LOTS 21

LOCALITY

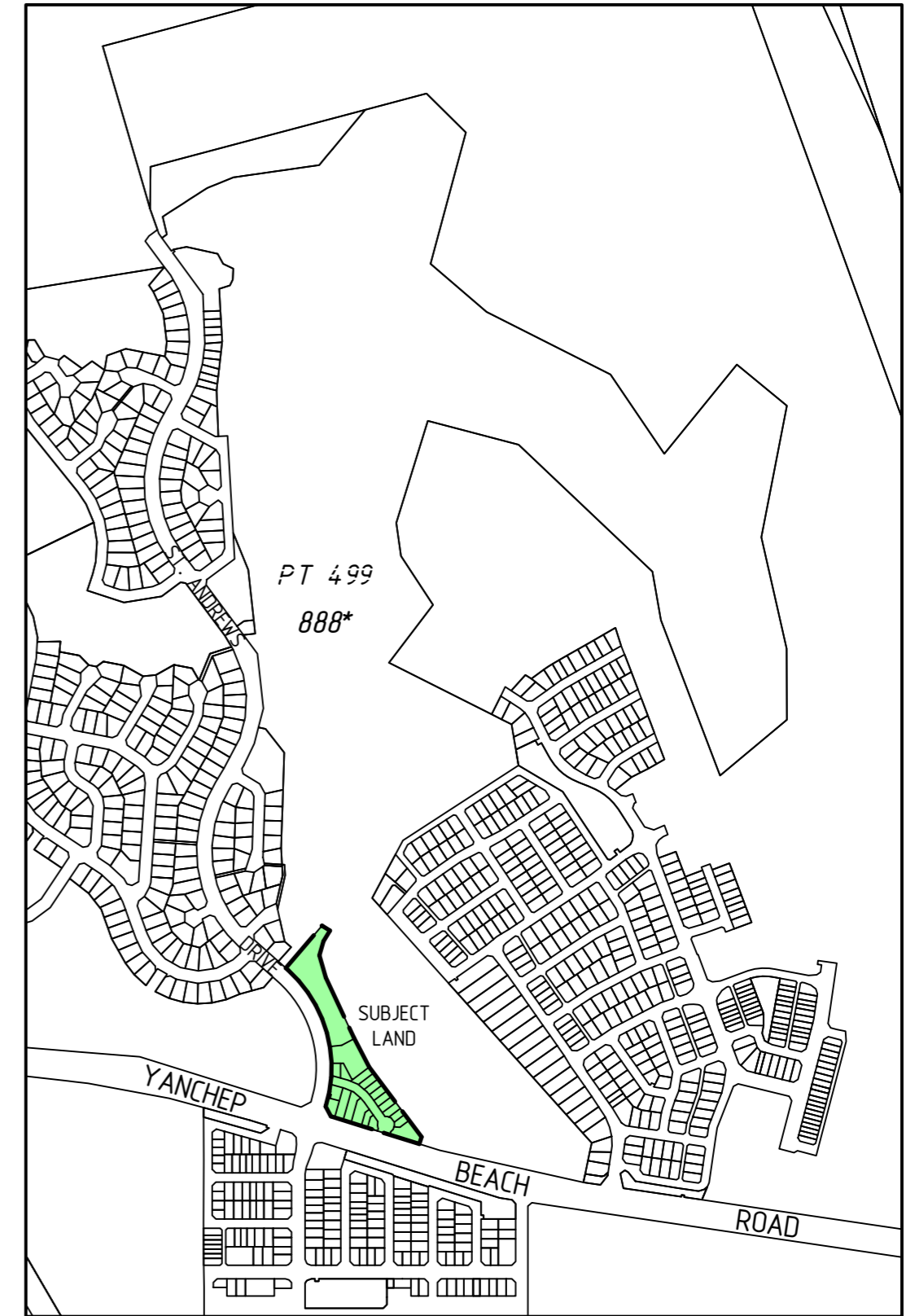
Lot 886*
 Yanchep
 City of Wanneroo

LOT	FORMER TENURE	ON PLAN	TITLE
886*	PT LOT 499	DP 43646	2709-709

NOTE: * - LOTS SUBJECT TO WAPC APPROVAL REF.: 152589



INSET - LOCATION PLAN
 NOT TO SCALE

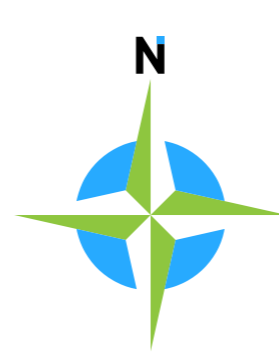


NOTE: # - DIMENSIONS SUBJECT TO ASSESSMENT

Ver.	Description	Drawn	Date	Checked
E	Amend all lots for revised surround, lot 18 to lot 118 and add overall location inset	SCL	22/02/2016	CJL
D	Amend lots 101-105 and 8000	SCL	17/02/2016	CJL
C	Addition of notation	AMJ	04/02/2016	CJL
B	Amend lot configuration and numbering	AMJ	03/02/2016	CJL
A	Initial Issue	ER	24/11/2015	CJL

FILES
 map\COGO-
 Control Register:-
 File Name:- 99559ap-003e.dgn

All areas and dimensions depicted on this plan are subject to survey and Landgate registration. All cadastral information external to the stage/s which form the subject of this plan are not guaranteed and are supplied as a guide only.

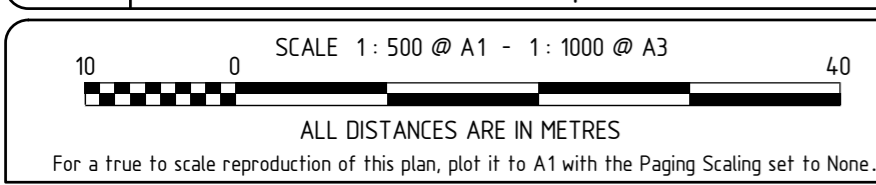


PROPOSED SUBDIVISION OF LOT 886

CLIENT:



The contents of this plan are current and correct as of the date stated within the revision panel. All consultants and persons wishing to utilise this data should satisfy themselves of this plans currency by contacting the Mullen Nolan Group.



Project Mngr:	Colin Lyons	Datum:	PCG94
99559 - 003 - E	Job Number	Plan Number	Version



M C MULLEN NOLAN GROUP
 Level 1, 2 Sabre Crescent
 Jandakot, W.A. 6164
 PO Box 3525, Success
 W.A. 6964, Australia
 Offices in: Broombe, Bunbury, Kununurra, Newman, Onslow, Port Hedland

Tel: (08) 6436 3599
 Fax: (08) 6436 3500
 info@mngsurvey.com.au
 www.mngsurvey.com.au
 ABN 90 009 363 311

Project Mngr:	Colin Lyons	Datum:	PCG94
99559 - 003 - E	Job Number	Plan Number	Version

Adopted by resolution of the Council of the City of Wanneroo at the Ordinary meeting of the Council held on the day of

.....
DIRECTOR, PLANNING & SUSTAINABILITY

Adopted for final approval by resolution of the City of Wanneroo at the meeting of the Council held on the day of and the Common Seal of the City of Wanneroo was hereunto affixed by the authority of a resolution of the Council in the presence of:

.....
MAYOR

.....
DIRECTOR, PLANNING & SUSTAINABILITY

Recommended/Submitted for final approval

.....
DELEGATED UNDER S.16 OF
PD ACT 2005

DATE

Final Approval Granted

.....
MINISTER FOR PLANNING

DATE