

DIAGRAM A

SCALE 1 : 600

LOCATION PLAN

N.T.S.

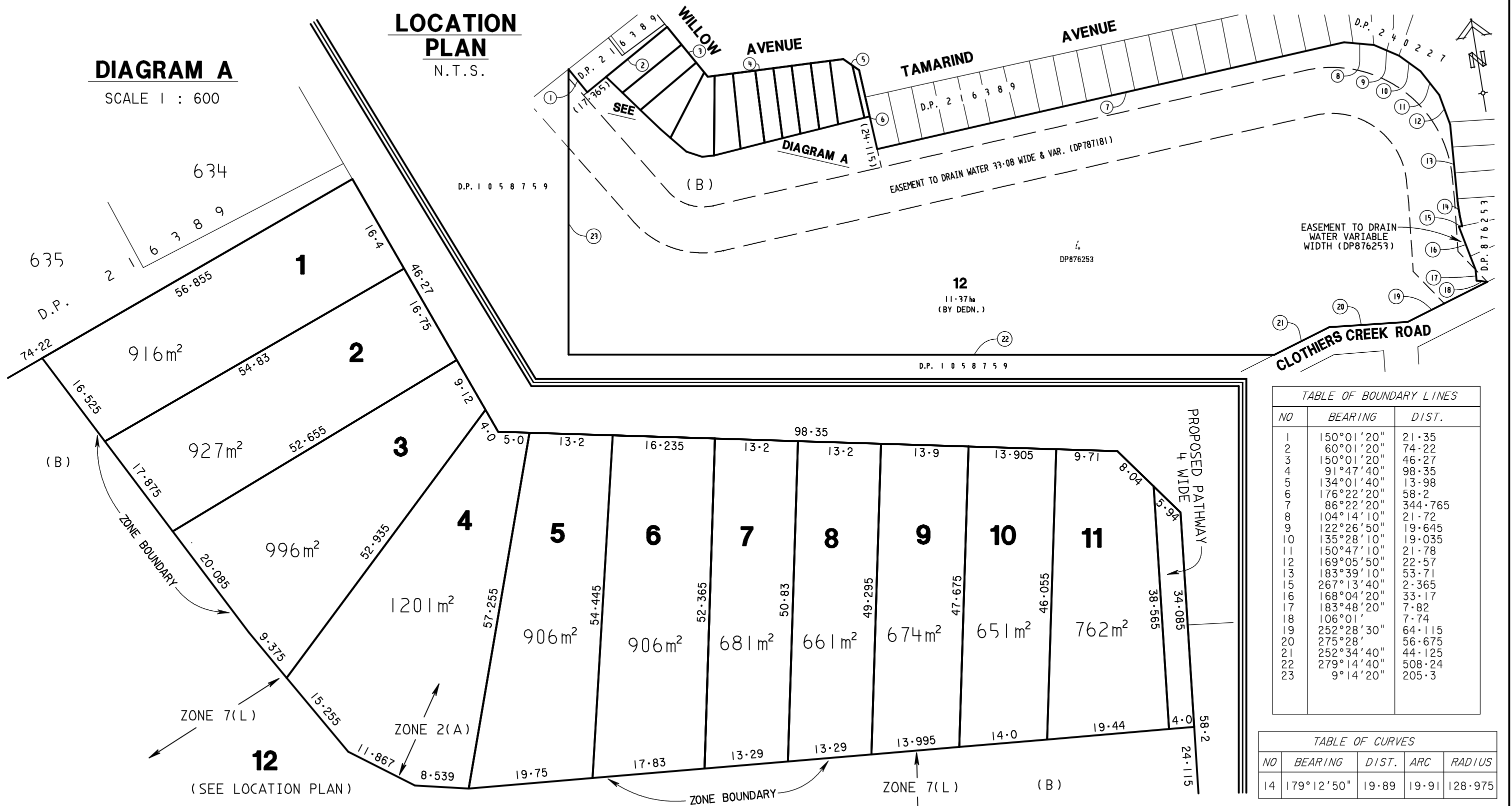


TABLE OF BOUNDARY LINES		
NO	BEARING	DIST.
1	150°01'20"	21.35
2	60°01'20"	74.22
3	150°01'20"	46.27
4	91°47'40"	98.35
5	134°01'40"	13.98
6	176°22'20"	58.2
7	86°22'20"	344.765
8	104°14'10"	21.72
9	122°26'50"	19.645
10	135°28'10"	19.035
11	150°47'10"	21.78
12	169°05'50"	22.57
13	183°39'10"	53.71
14	267°13'40"	2.365
15	168°04'20"	33.17
16	183°48'20"	7.82
17	106°01'	7.74
18	252°28'30"	64.115
19	275°28'	56.675
20	252°34'40"	44.125
21	279°14'40"	508.24
22	9°14'20"	205.3
23		

TABLE OF CURVES				
NO	BEARING	DIST.	ARC	RADIUS
14	179°12'50"	19.89	19.91	128.975

(B) ... PROPOSED EASEMENT TO DRAIN WATER VARIABLE WIDTH

Important Notes:

THE PROPOSED BOUNDARIES, AREAS AND DIMENSIONS AS SHOWN HEREON ARE PRELIMINARY ONLY AND ARE SUBJECT TO FINAL DESIGN, FINAL SURVEY AND REGISTRATION IN THE LANDS TITLE OFFICE.

ZONE BOUNDARIES COMPILED FROM TWEED LEP 2000 MAP NO.23 ON 13/7/2009.

ZONE 2(A)... LOW DENSITY RESIDENTIAL
ZONE 7(L)... ENVIRONMENTAL PROTECTION (HABITAT)

(THIS NOTE IS AN INTEGRAL PART OF THIS PLAN)

PLAN OF PROPOSED SUBDIVISION

Of Lot 4 in DP876253

Willow Avenue – Bogangar

Parish of CUDGEN

County of ROUS

J:\14400\14448\Projects\17199D-D.pro

Scale
1 : 600

Level Datum
—

F.Bk
—

L.Bk
—

Drawn
RWK
Chk'd

B & P SURVEYS CONSULTING SURVEYORS

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Ref. No.
T14448

Date
01/09/2008

Drawing No./Size
17199 D

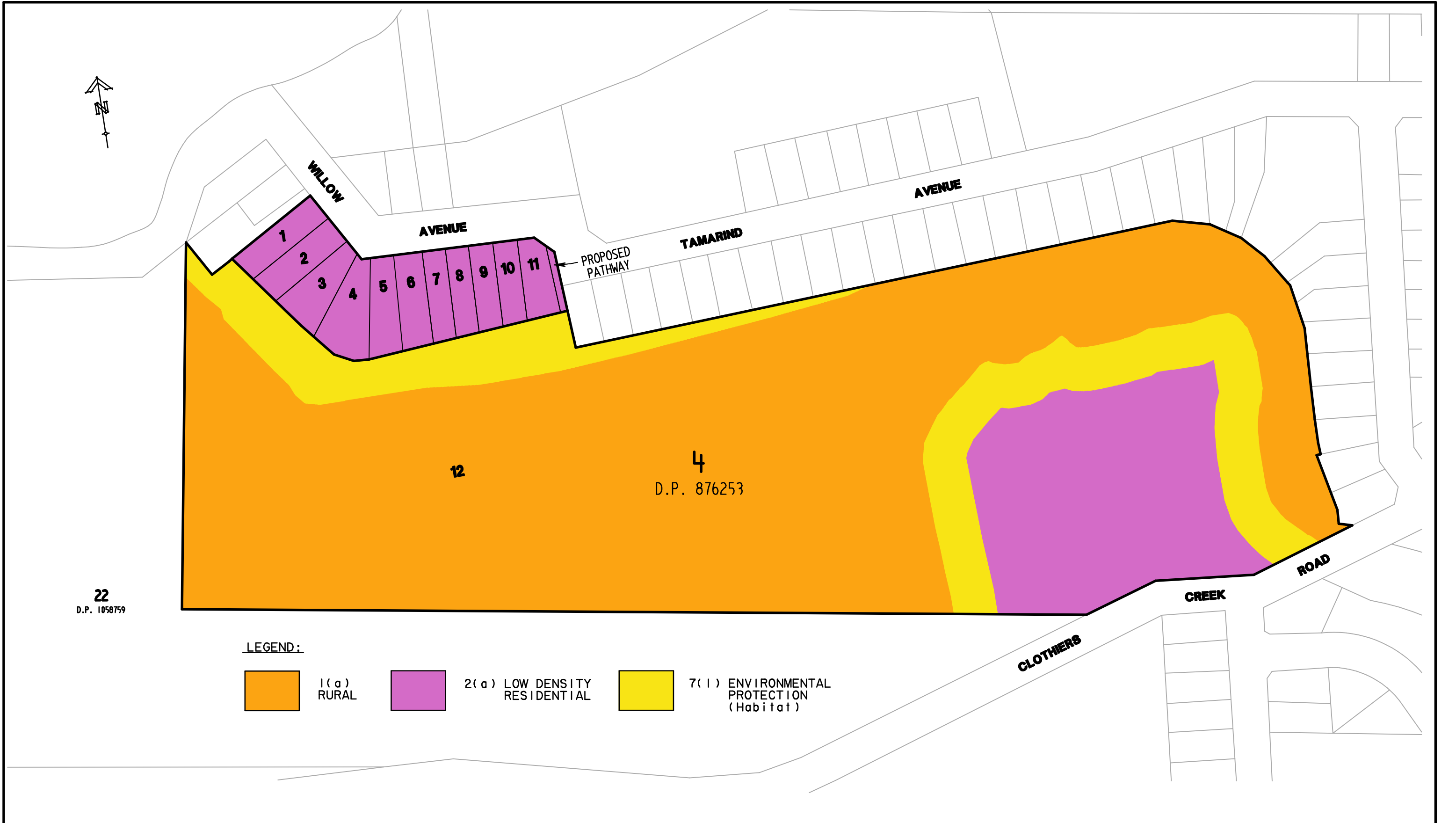
Rev.
D

Rev D – 5/11/10 – Revised Layout
Rev C – 30/06/10 – Amend lots 1–5 & 11–12
Rev B – 26/08/09 – Additional Info
Rev A – 13/7/09 – Additions
Revision

Chk'd

REGISTERED PROPRIETOR:

KENMAR FARMS PTY LTD/
HANSEN DEVELOPMENTS PTY LTD



LEGEND:



1(a)
RURAL



2(a) LOW DENSITY
RESIDENTIAL



7(1) ENVIRONMENTAL
PROTECTION
(Habitat)

Rev E – Lot Configuration – 15/11/10
Rev D – Lot Configuration – 15/07/10
Rev C – Amend Title – 26/08/09
Rev B – Amend Information – 13/7/09
Rev A – Amend Information – 30/10/08
Revision

Client
**KENMAR FARMS PTY LTD /
HANSEN DEVELOPMENTS PTY LTD**

Chk'd

Important Notes:

THE BOUNDARIES SHOWN HEREON HAVE BEEN
DIGITISED FROM TWEED SHIRE COUNCIL RECORDS
AND AS SUCH ARE TO PLOTTING ACCURACY ONLY.

ZONE BOUNDARIES COMPILED FROM TWEED L.E.P. 2000
MAP NO. 23 ON 13/07/2009

FOR DIMENSIONS AND AREAS OF THE PROPOSED 12 LOT
SUBDIVISION OF LOT 4 IN DP 876253
REFER TO B & P SURVEYS DRAWING NO. 17199D REV A

(THIS NOTE IS AN INTEGRAL PART OF THIS PLAN)

ZONING PLAN

Lot 4 in DP 876253

Willow Avenue – Bogangar

Parish of CUDGEN

County of ROUS

J:\14400\14448\Projects\17301D-E.pro

Scale
1 : 1000 @ A1
1 : 2000 @ A3

Level Datum

—

F.Bk

—

L.Bk

—

Drawn
SDS
Chk'd

**B & P SURVEYS
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A QUALITY ASSURED COMPANY



Ref. No.

T14448

Date

22.10.2008

Drawing No./Size

17301 D

Rev.

E

22 November 2010

Mr Darryl Anderson
Darryl Anderson Consulting Pty Ltd
Suite 7, Corporate House
8 Corporation Circuit
TWEED HEADS SOUTH, NSW 2486



N-T9009.00 20101122 JL RFI Response

Dear Darryl

**PROPOSED 12 LOT SUBDIVISION
LOT 4 DP876253
WILLOW AVE, BOGANGAR
RFI RESPONSE**

In response to the further information request regarding the abovementioned proposed subdivision we provide the following information.

- 2a) The proposed surcharge flows from the infiltration trenches to the rear of the property will discharge overland through proposed Lot 12. Lot 12 is proposed to be a drainage easement and therefore a lawful point of discharge.
- 2b & 2c) Stormwater drainage is addressed by providing roofwater drainage designs to a Q100 capacity to ensure major flows are discharged to the rear of the site and not Willow Avenue. This is the basis of the calculations in our report and addresses the RFI. The proposed lots will also be regraded where necessary and provided with perimeter drains to limit additional filling and drain the remainder of lots to the rear of the site. The proposed layout is demonstrated in the attached sketch N-T9009.00 SK20101119. Please note house pad and perimeter drain locations are indicative only and are provided to demonstrate the minimum requirement to achieve the proposed drainage outcome.
- 2d) In small flood events, local flooding would surcharge along Willow Avenue to the west rather than entering the site as the site levels are already higher than the roadway. Surcharge flow from Willow Avenue would only flow over the site during regional flood events. The proposal incorporates a 4m wide pathway easement on the eastern boundary of proposed Lot 11 which would provide access to proposed Lot 12. The pathway provides an surcharge overland flow to the canal at the rear of the proposed lots. This is due to the existing levels along the path which are lower than the proposed lots and house pads. The existing levels are proposed to be maintained with only minimum regrading to achieve code compliant grades for access. By maintaining the existing levels the possibility for more frequent flooding to the existing adjoining allotment would be prevented.



We trust this satisfies the requirements of the Departments further information request.

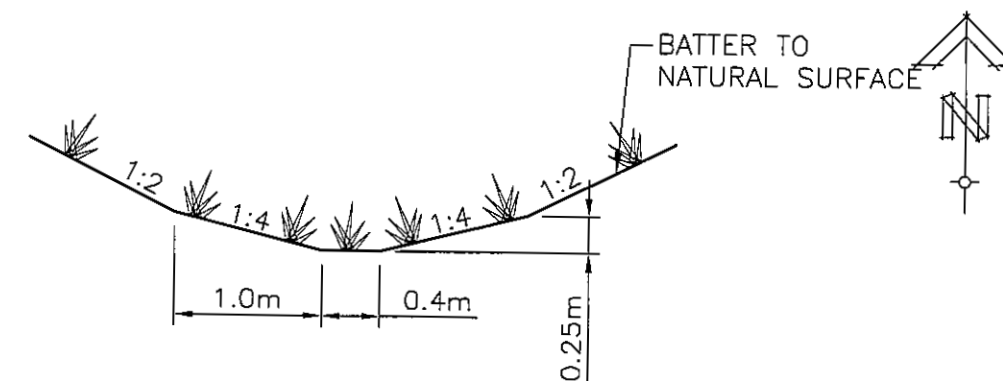
Yours Faithfully

A handwritten signature in black ink, appearing to read "Jon Lindsay", written in a cursive style.

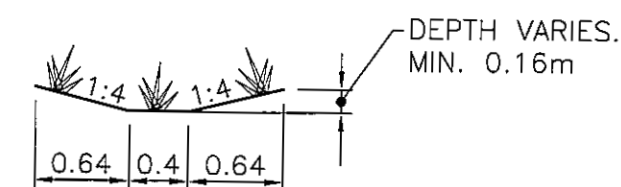
JON LINDSAY
Civil Engineer

CATCHMENT	AREA (ha)	ARI (yrs) MINOR/MAJOR	tc (min)	SUBCATCHMENT Q5(m ³ /sec)	SUBCATCHMENT Q100(m ³ /sec)
C	0.8554	5 / 100	15	0.212	0.421
D	0.4349	5 / 100	5	0.177	0.345

NOTE:
CATCHMENT C FLOWS DIRECTED
TO CANAL AT REAR OF PROPOSED
LOTS VIA PERIMETER DRAINS



TYPICAL OVERLAND FLOW
PATH CROSS SECTION
1:50



TYPICAL PERIMETER
DRAIN CROSS SECTION
1:50

LEGEND

- → → → PROPOSED PERIMETER DRAINS
- ~~~~~ OVERLAND FLOW PATH
- ▬ INFILTRATION TRENCH

KENMAR FARMS PTY LTD
ENGINEERING IMPACT ASSESSMENT

LOT 4 DP876253
WILLOW AVENUE
BOGANGAR, NSW

N-T9009.00 - SK 20101119

REVISED STORMWATER MANAGEMENT PLAN
OPUS QANTEC McWILLIAM



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