

APPENDIX 8.1

SITE PLAN SHOWING EXISTING FEATURES

**LOT 101 DP 1087389
MILLINGANDI ROAD, MILLINGANDI**

— E — ELECTRICITY LINES
- - - TELSTRA CABLES

NOTES

NO SURVEY HAS BEEN MADE OF THE BOUNDARIES.

THE BOUNDARIES HAVE NOT BEEN MARKED.

AREAS AND DIMENSIONS ARE SUBJECT TO SURVEY.

CONTOUR INTERVAL 1.0 METRE

CONTOURS ARE INDICATIVE OF GROUNDFORM ONLY.
ONLY SPOT LEVELS SHOULD BE USED FOR CALCULATION
OF QUANTITIES WITH CAUTION.

NO INVESTIGATION OF UNDERGROUND SERVICES HAS BEEN MADE.
ALL RELEVANT AUTHORITIES SHOULD BE NOTIFIED PRIOR TO ANY
EXCAVATION ON OR NEAR THE SITE.

STRUCTURES AND FEATURES SHOWN ON THIS PLAN ARE
REPRESENTED AS INDICATIVE ONLY AND HAVE NOT BEEN
LOCATED OR SHOWN FOR DESIGN OR CONSTRUCTION PURPOSES.


SCALE 1:1500 AT PAPER SIZE A2

DP 590397

30
DP 830864

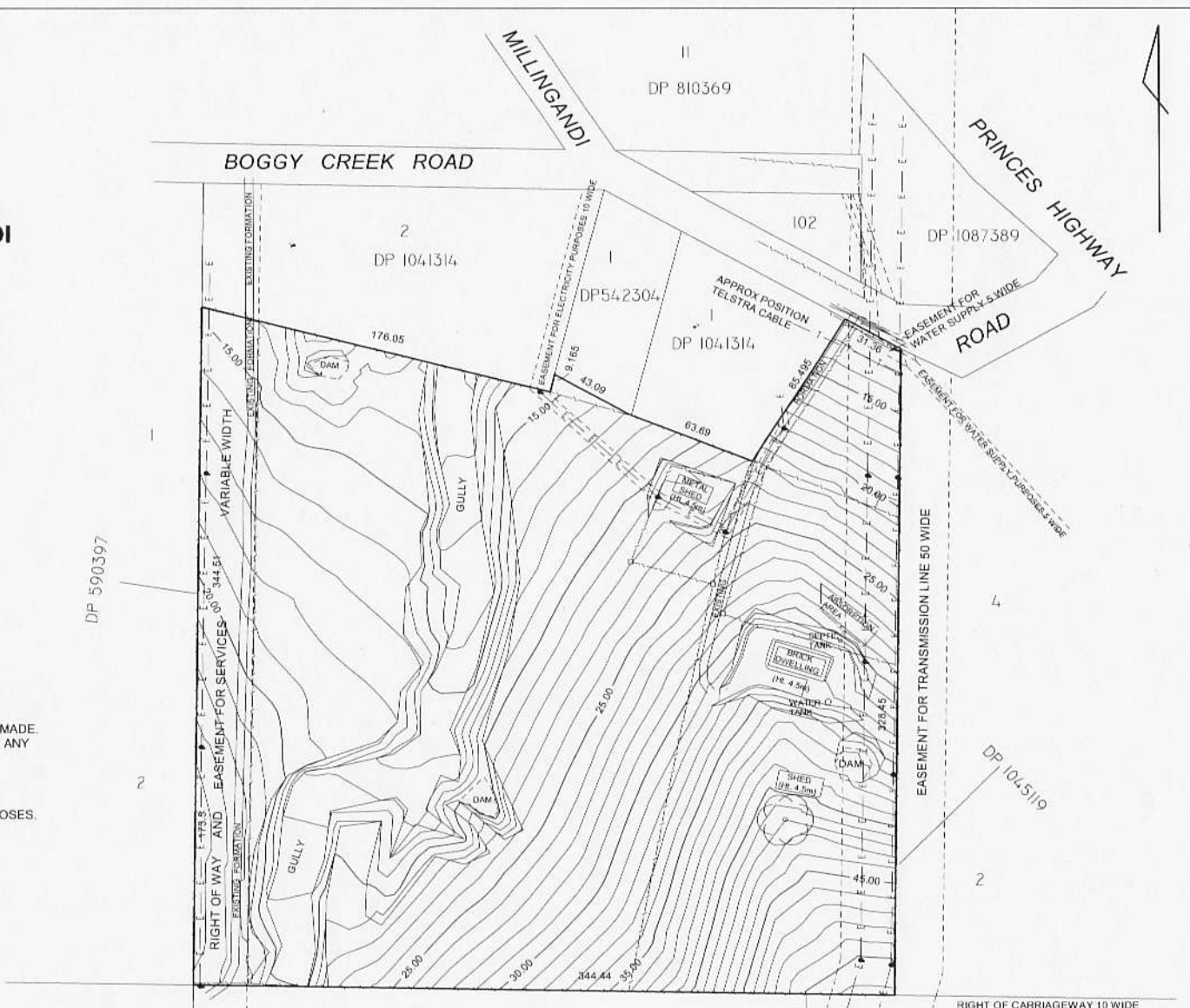
1751
DP 617256

31
DP 835368

 **Surveying & Valuations**

PO BOX 630
35 FLINDERS STREET
EDEN NSW 2205
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E-MAIL: property@rsvsurveying.com

REFERENCE: 0835 A8.1
Rev: 14.11.2008
Structure heights added



SITE ANALYSIS PLAN SHOWING NATURAL ELEMENTS OF PROPERTY

WING PROPERTY

NGANDI

BOGGY CREEK ROAD

MILLINGANDI

DP 810369

PREVAILING WIND SUMMER

PRINCES HIGHWAY

ROAD

ACCESS

DP 1042314

178.05

DAM

DP 590307

341.51

GULLY

ASPECT AND VIEWS

METAL SHED

BRICK DWELLING

WATER TANK

DAM

SOLAR ACCESS

DP 1041514

DP 1045119

DP 830864

1751


DP 617256

DP 835368

PREVAILING WIND WINTER

RIGHT OF CARRIAGEWAY 10 WIDE

REFERENCE: 0835 A
Rev: 14.11.2008
Contours and Goggle
image added to show
& topography, vegeta
neighbouring property



Surveying & Valuations

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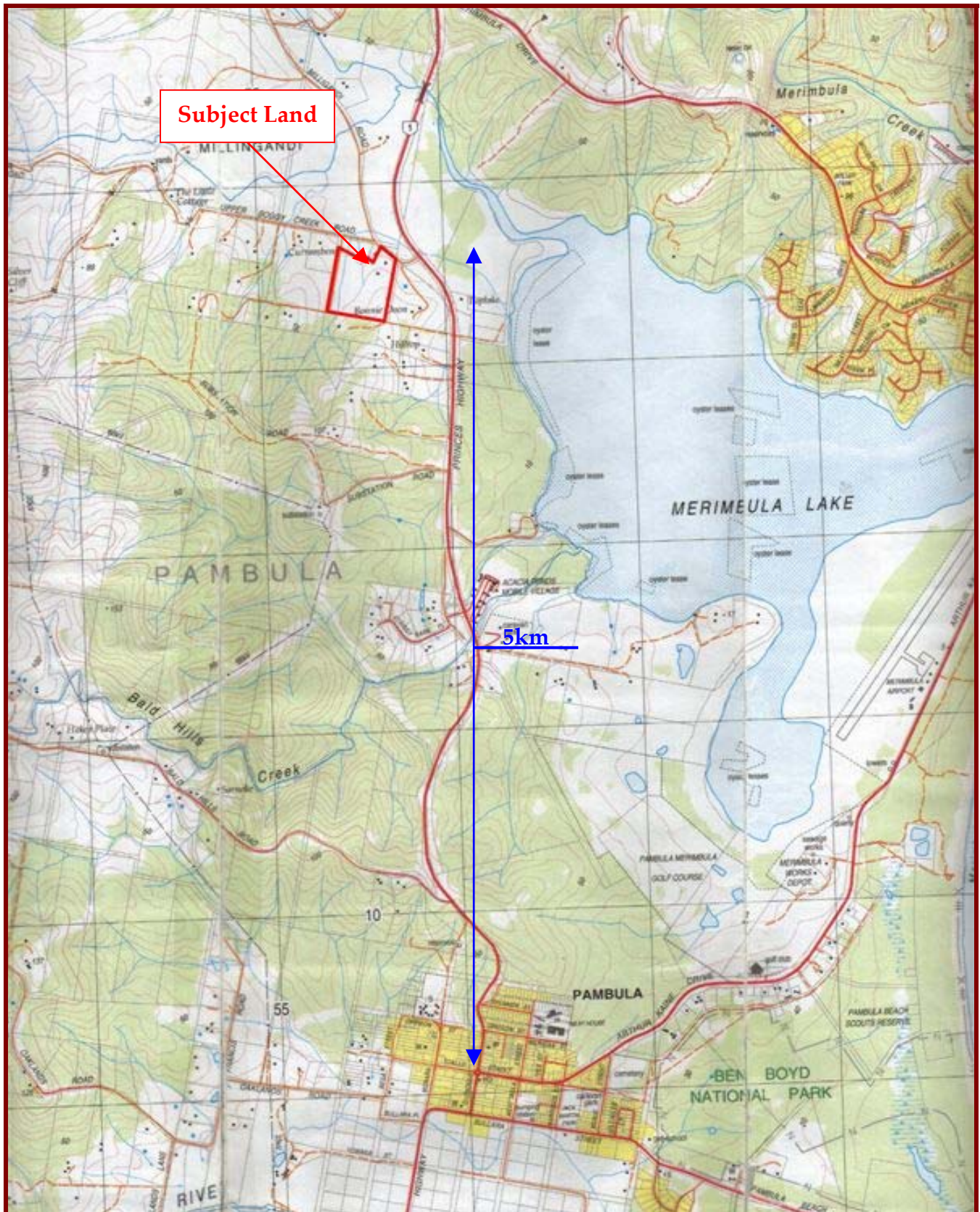
DP 830864

DP 617256

DP 835368

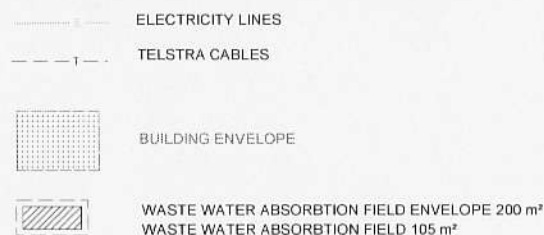
REFERENCE: 0835 A8.2
Rev: 14.11.2008
Contours and Goggle Earth
image added to show slope
& topography, vegetation &
neighbouring properties

Appendix 8.3



PLAN OF PROPOSED SUBDIVISION

LOT 101 DP 1087389
MILLINGANDI ROAD, MILLINGANDI



NOTES

NO SURVEY HAS BEEN MADE OF THE BOUNDARIES.

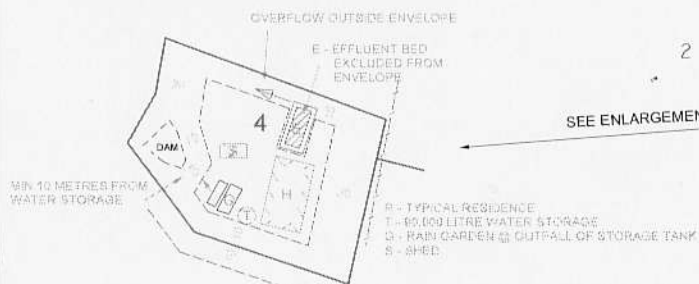
THE BOUNDARIES HAVE NOT BEEN MARKED.

AREAS AND DIMENSIONS ARE SUBJECT TO SURVEY

NO INVESTIGATION OF UNDERGROUND SERVICES HAS BEEN MADE.
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TYPICAL SITE DEVELOPMENT



APPENDIX 8.5

PLAN OF PROPOSED SUBDIVISION & EXISTING SITE DETAIL

**LOT 101 DP 1087389
MILLINGANDI ROAD, MILLINGANDI**

— E — ELECTRICITY LINES
- - - TELSTRA CABLES

NOTES

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SCALE 1:1500 AT PAPER SIZE A2



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DP 830864

DP 617256



REFERENCE: 0835 A8.5
Rev: 09.02.2009
Proposed Right of Access
amended to 20 metres wide.
House sites & effluent envelopes
removed.

APPENDIX 8.6

PLAN SHOWING STORMWATER AND SITE DRAINAGE

LOT 101 DP 1087389 MILLINGANDI ROAD, MILLINGANDI

UNIMPROVED SITE FLOW - "B1"
ARI 1:20 2.406 MEGALITRES
ARI 1:100 4.073 MEGALITRES

IMPROVED SITE FLOW - "B2"
ARI 1:20 2.396 MEGALITRES
ARI 1:100 3.991 MEGALITRES

INDICATES DIRECTION OF DRAINAGE

CENTRELINE OF GULLY

NOTES

CONTOUR INTERVAL 1.0 METRE

CONTOURS ARE INDICATIVE OF GROUNDFORM ONLY.
ONLY SPOT LEVELS SHOULD BE USED FOR CALCULATION
OF QUANTITIES WITH CAUTION.

PROPOSED DAM SITES FOR SITE
DRAINAGE COLLECTION SHOWN

DRAINAGE EASEMENTS TO BE
CREATED FOR SITE DRAINAGE
COLLECTION FOR PROPOSED
LOTS 1, 2 & 7

SCALE 1:1500 AT PAPER SIZE A2

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DP 830864

DRAINAGE ENTRY POINT
FLOW ENTERING SITE - "A":
1:20 ARI - 13.900 MEGALITRES
1:100 ARI - 24.150 MEGALITRES



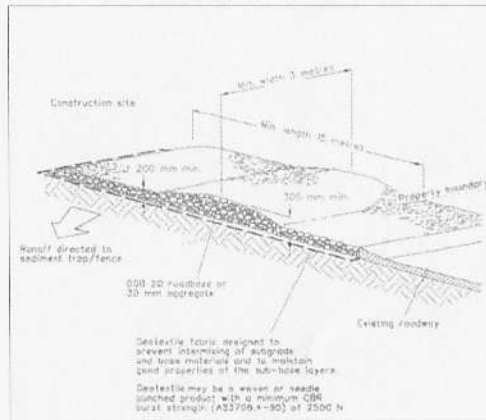
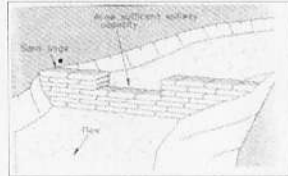
REFERENCE: 0835 A8.6
Rev: 14.11.2008 Rights of Carriageway changed
to Public Road or Rights of Access.
Rev: 17.12.2008 Flows added

APPENDIX 8.7

PLAN SHOWING EROSION & SEDIMENT CONTROL LOT 101 DP 1087389 MILLINGANDI ROAD, MILLINGANDI



GRADE STABILISING
SPILLWAY



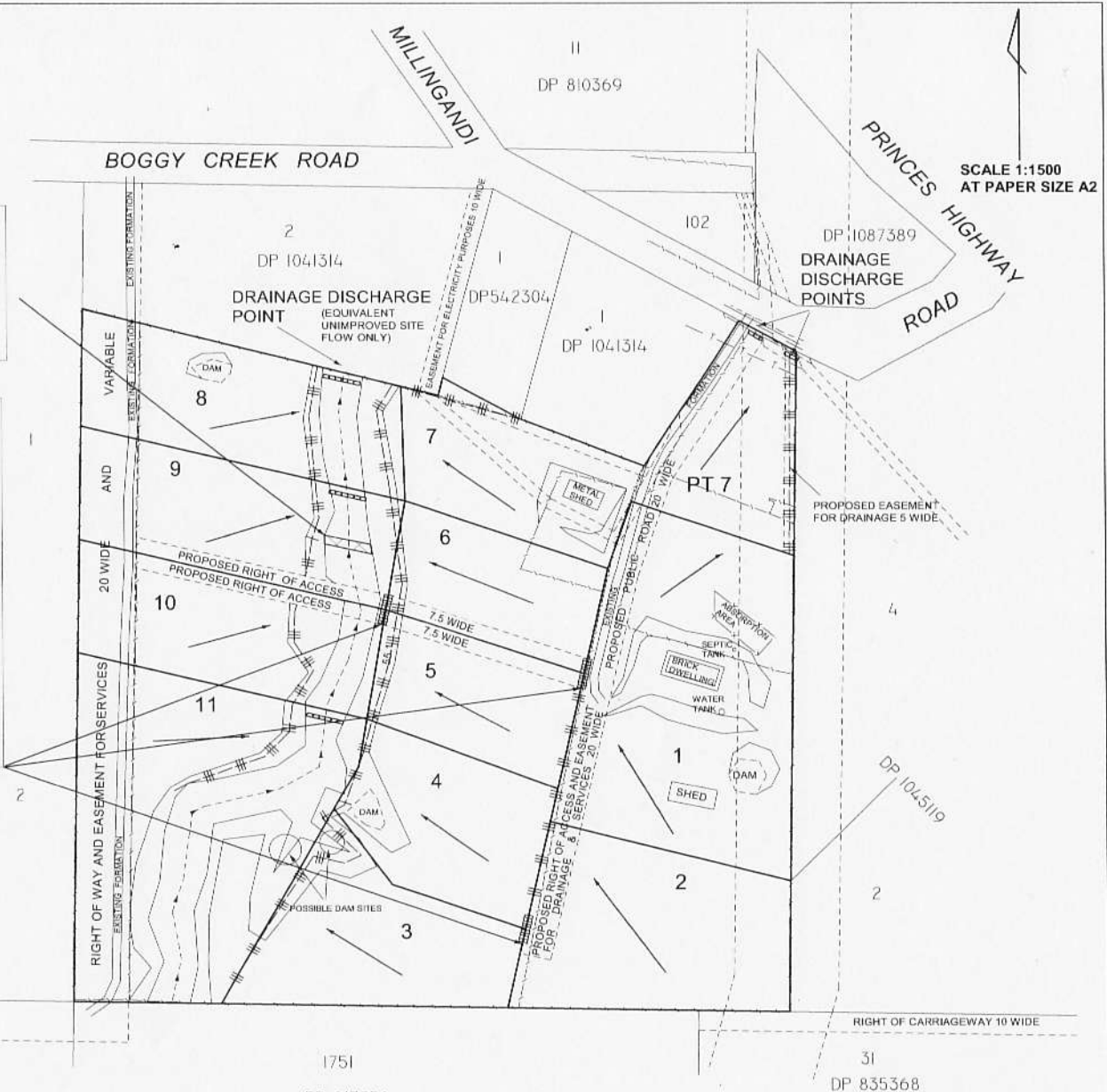
STABILISED SITE ACCESS

INDICATES DIRECTION OF DRAINAGE

---+---+---+ CENTRELINE OF GULLY

---+---+---+ SILT FENCING

□□□□ STRAW BALE & GEOTEXTILE
SEDIMENT FILTER



LOT 101 DP 1087389
MILLINGANDI ROAD, MILLINGANDI

LOT 101 DP 1087389

MILLINGANDI ROAD, MILLINGANDI

Surveying & Valuations

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E-MAIL: property@nwsurveying.com

REF: 0835 A8.8.1

BOGGY
CREEK RD

DP 1087389

PRINCES

HIGHWAY

DP542304

SIGNED:.....

HELEN WEBB

RTA CERT NO. 5123000444

DATE: 30.10.2007

REF: 0835 A8.8

NOTES:

1. Traffic Controller to hold east bound traffic until there are sufficient gaps in the west bound traffic.

2. Cones to be placed at 5 metre intervals

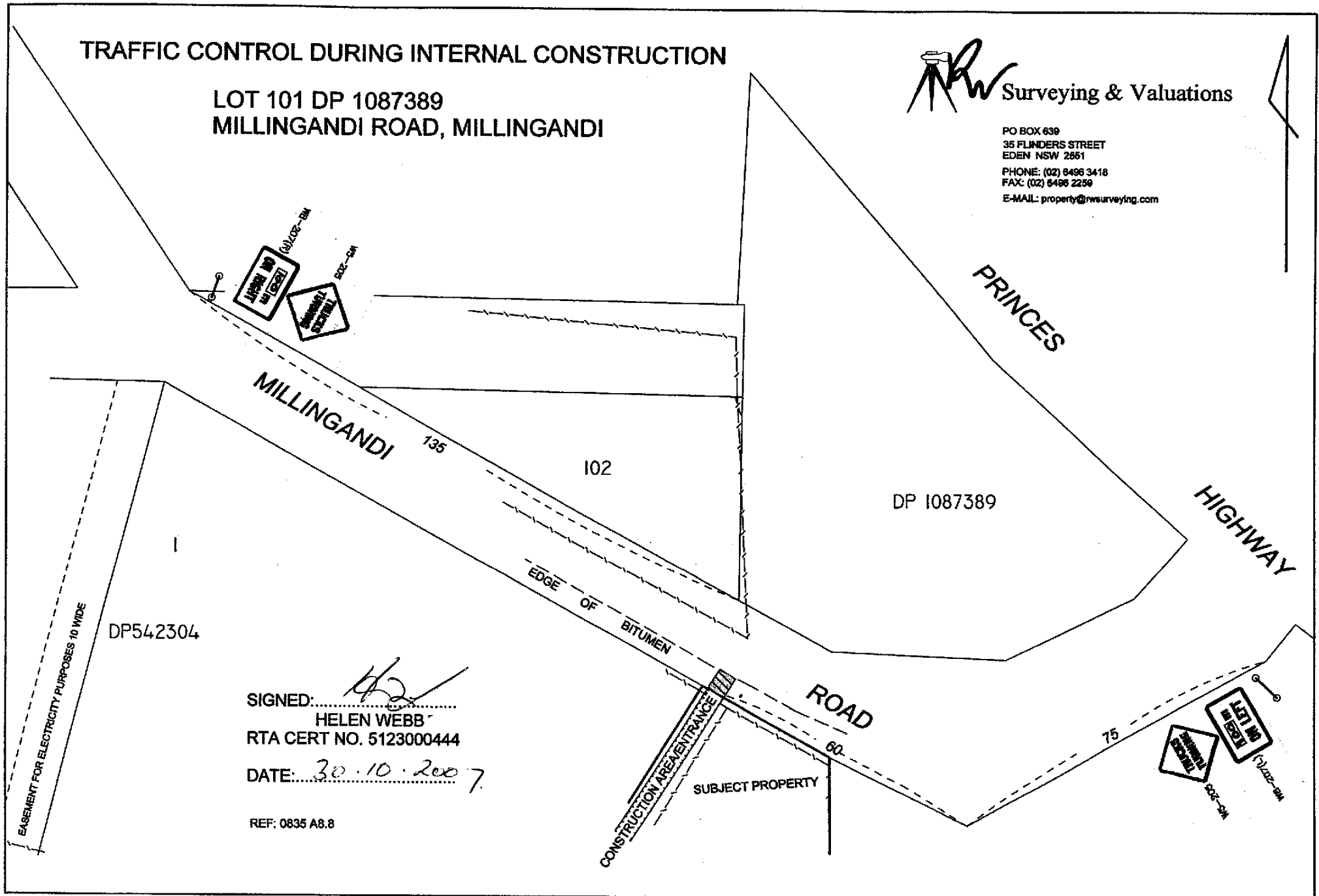
TRAFFIC CONTROL DURING INTERNAL CONSTRUCTION

LOT 101 DP 1087389
MILLINGANDI ROAD, MILLINGANDI



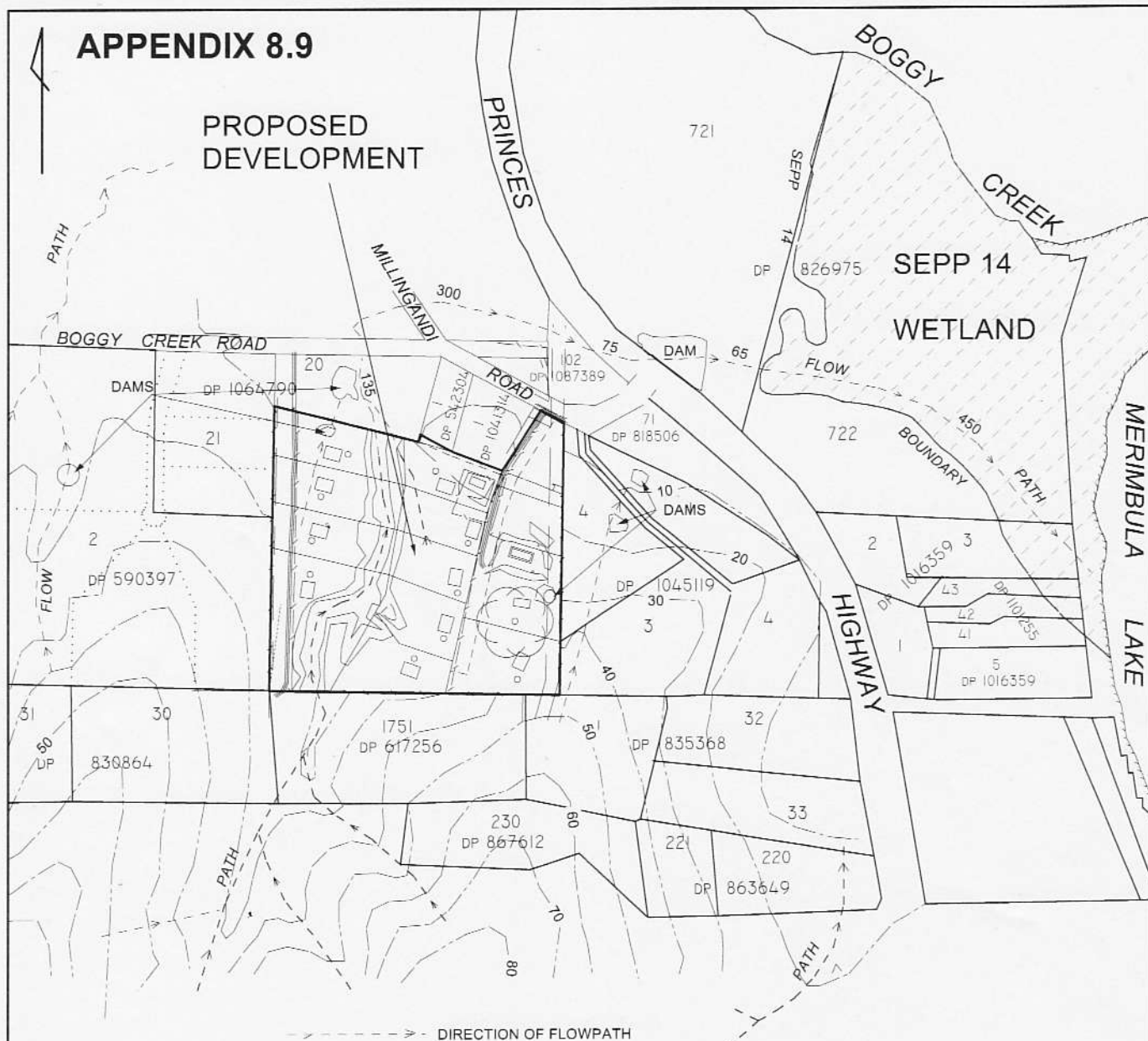
Surveying & Valuations

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APPENDIX 8.9

PROPOSED DEVELOPMENT



DIRECTION OF FLOWPATH

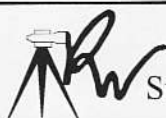


TYPICAL RAINWATER CONTROL FOR EACH HOME SITE

TANKS (90,000 LITRES) SHOWN TO SCALE - 7.5 METRE DIAMETER

PLAN SHOWING EXTENT OF WATER CATCHMENT AFFECTING LOT 101, DP 1087389 13 MILLINGANDI ROAD, MILLINGANDI

FOR G & K CLEMMENTS: OWNERS



Surveying & Valuations

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LEVEL DATUM

PAMBULA TOPOGRAPHICAL MAP 8824 - 25

SCALE 1:5000

DATE 04.12.2008

DRN. HW

CHK. RW

SIZE A3

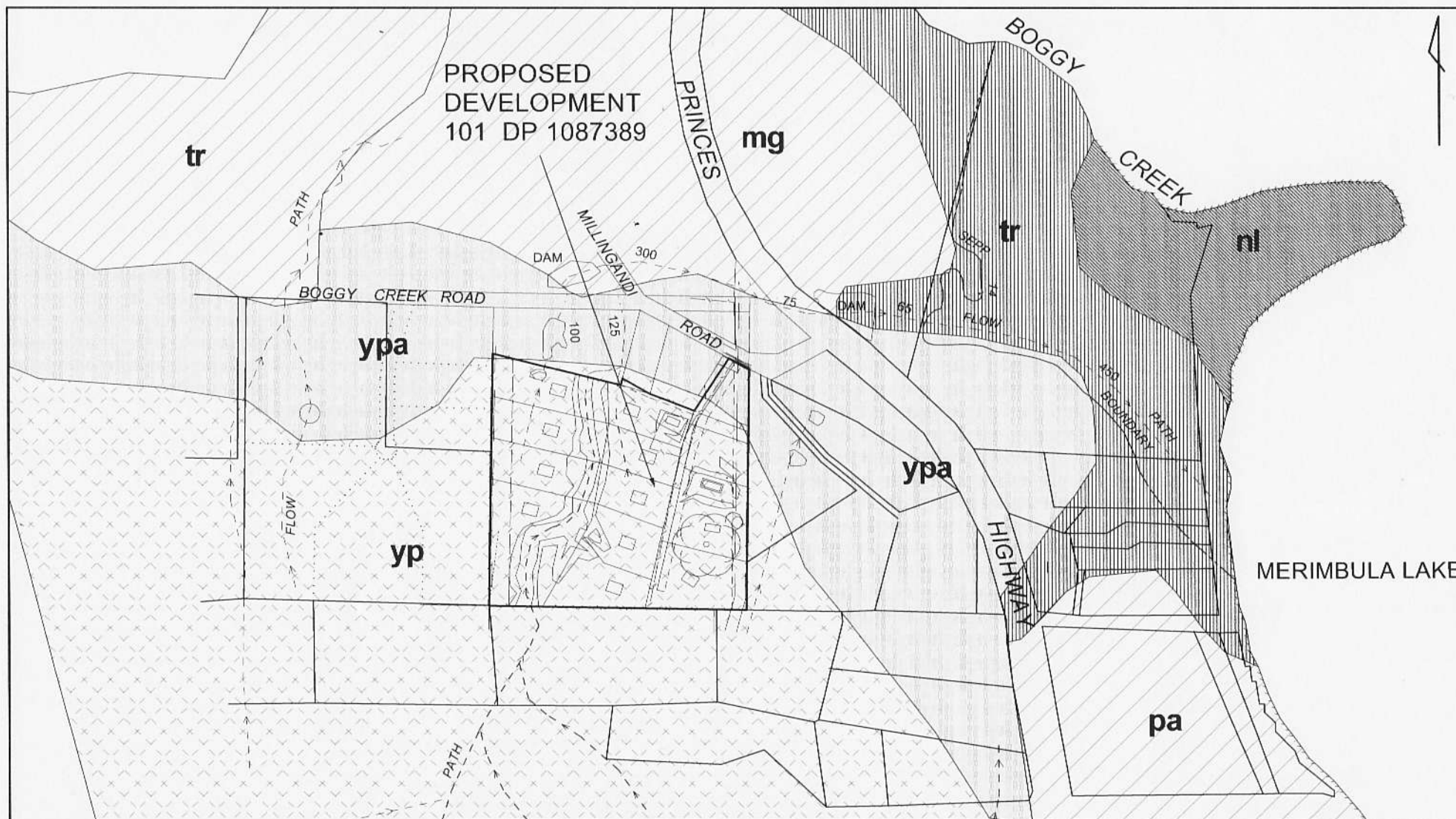
REFERENCE/DRAWING NAME

0835 W

SHEET 1 OF 1

REV.

1



FOR DETAILED DESCRIPTION OF SOIL
LANDSCAPES SHOWN SEE:
"SOIL LANDSCAPES OF BEGA,
1:100000 SHEET"
REPORT BY M.J. TULAU

PLAN SHOWING SOIL LANDSCAPE OF
LOT 101 DP 1087389
13 MILLINGANDI ROAD, MILLINGANDI
& SURROUNDING OCCUPATION

FOR G & K CLEMMENTS: OWNERS



Surveying & Valuations

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EDEN NSW 2551
PHONE: (02) 6496 3418
FAX: (02) 6496 2259
E-MAIL: property@rwsurveying.com

LEVEL DATUM	SCALE 1:5000	DATE 09.12.2008	DRN. HW	CHK. RW	SIZE A3
N/A	REFERENCE/DRAWING NAME				REV.
	0835 S				SHEET 1 OF 1
					O

JOB No: 0835

Calculation basis: Rural Catchment Flows - Chapter 5 AR&R

$$\text{Time of Concentration} = 0.76A^{0.38} \text{ (A in km}^2\text{)} = 0.304 \text{ hrs}$$

$$= 18 \text{ mins}$$

Hence:
Rainfall Intensity I 132 mm per hour (from Bureau of Meteorology chart attached)

ARI 20 Rural F factor	1.12
C₂₀	67%

$$\text{Design Flow } Q = \frac{C \times I \times A}{360} \text{ (A in ha)} = 2.202 \text{ m}^3 \text{ per sec}$$

Total water catchment over time of concentration: 2406.898 m³

The ARI 1:20 flow arising from the area of the subdivision while undeveloped is 2.202 m³ per sec producing 2406.898 m³ total runoff.

Design certified by:

Date: _____

Robert Gordon Webb
Registered Surveyor

WATER QUALITY ASSESSMENT - BOGGY CREEK ROAD, MILLINGANDI

JOB No: 0835

Rural catchment flow analysis

Calculation basis: Rural Catchment Flows - Chapter 5 AR&R

Subdivision total land area 89378.4 m² 0.089 km²

Less:

Sealed Road - Runoff Coefficient	0.85	1360 m ²
Gravel Road - Runoff Coefficient	0.70	1365 m ²
10 Proposed dwellings - Runoff Coefficient	1.00	3000 m ²

Catchment area A 83653.4 m² 0.084 km²

Time of Concentration $0.76A^{0.38}$ (A in km²) = 0.296 hrs
= 18 mins

ARI 20 years

Hence:

Rainfall Intensity I 132 mm per hour (from Bureau of Meteorology chart attached)

Runoff Coefficient C₁₀ 60% - Reference Fig 5.1 1987 AR&R

ARI 20 Rural F factor 1.12
C₂₀ 67%

Design Flow $Q = \frac{C \times I \times A}{360}$ (A in ha) = 2.061 m³ per sec

Total water catchment over time of concentration: 2196.768 m³

Design Flow from built environment

Sealed Road	0.04239
Gravel Road	0.03504
10 Proposed dwellings	0.11000
Total	0.18742 m³ per sec

Total water catchment over time of concentration: 199.747 m³

CONCLUSION:

The ARI 1:20 flow arising from the undeveloped part of the subdivision is 2.061 m³ per sec producing 2196.768 m³ total runoff. The ARI 1:20 flow arising from the proposed built environment in the subdivision is 0.18742 m³ per sec producing 199.747 m³ total runoff.

Design certified by:

.....

Date:

Robert Gordon Webb
Registered Surveyor

WATER QUALITY ASSESSMENT - BOGGY CREEK ROAD, MILLINGANDI

JOB No: 0835

Rural catchment flow analysis

Calculation basis: Rural Catchment Flows - Chapter 5 AR&R

Subdivision total land area		89387.4 m ²	0.089387 km ²
Less:			
Sealed Road - Runoff Coefficient	0.85	1360 m ²	
Gravel Road - Runoff Coefficient	0.70	1365 m ²	
10 Proposed dwellings - Runoff Coefficient	1.00	3000 m ²	

Catchment area A		83662.4 m ²	0.083662 km ²
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Time of Concentration	$0.76A^{0.38}$ (A in km ²) =	0.2960568 hrs
	=	18 mins

ARI 100 years

Hence:

Rainfall Intensity I **180** mm per hour (from Bureau of Meteorology chart attached)

Runoff Coefficient C₁₀ 60% - Reference Fig 5.1 1987 AR&R

ARI 100 Rural F factor 1.39
C₁₀₀ 83%

Design Flow $Q = \frac{C \times I \times A}{360}$ (A in ha) = 3.489 m³ per sec

Total water catchment over time of concentration: 3718.296 m³

Design Flow from built environment

Sealed Road	0.05780
Gravel Road	0.04778
10 Proposed dwellings	0.15000
Total	0.25558 m ³ per sec

Total water catchment over time of concentration: 272.393 m³

CONCLUSION:

The ARI 1:100 flow arising from the undeveloped part of the subdivision is 3.489 m³ per sec producing 3718.296 m³ total runoff. The ARI 1:100 flow arising from the proposed built environment in the subdivision is 0.25558 m³ per sec producing 272.393 m³ total runoff.

Design certified by:

Date:

Robert Gordon Webb
Registered Surveyor

