

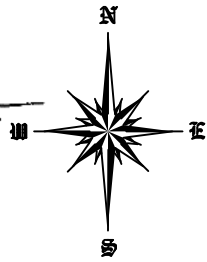
Pursuant to Section 336(b) of the Sustainable Planning Act 2009, this plan forms part of Council's approval for

Approval No: 3329/12

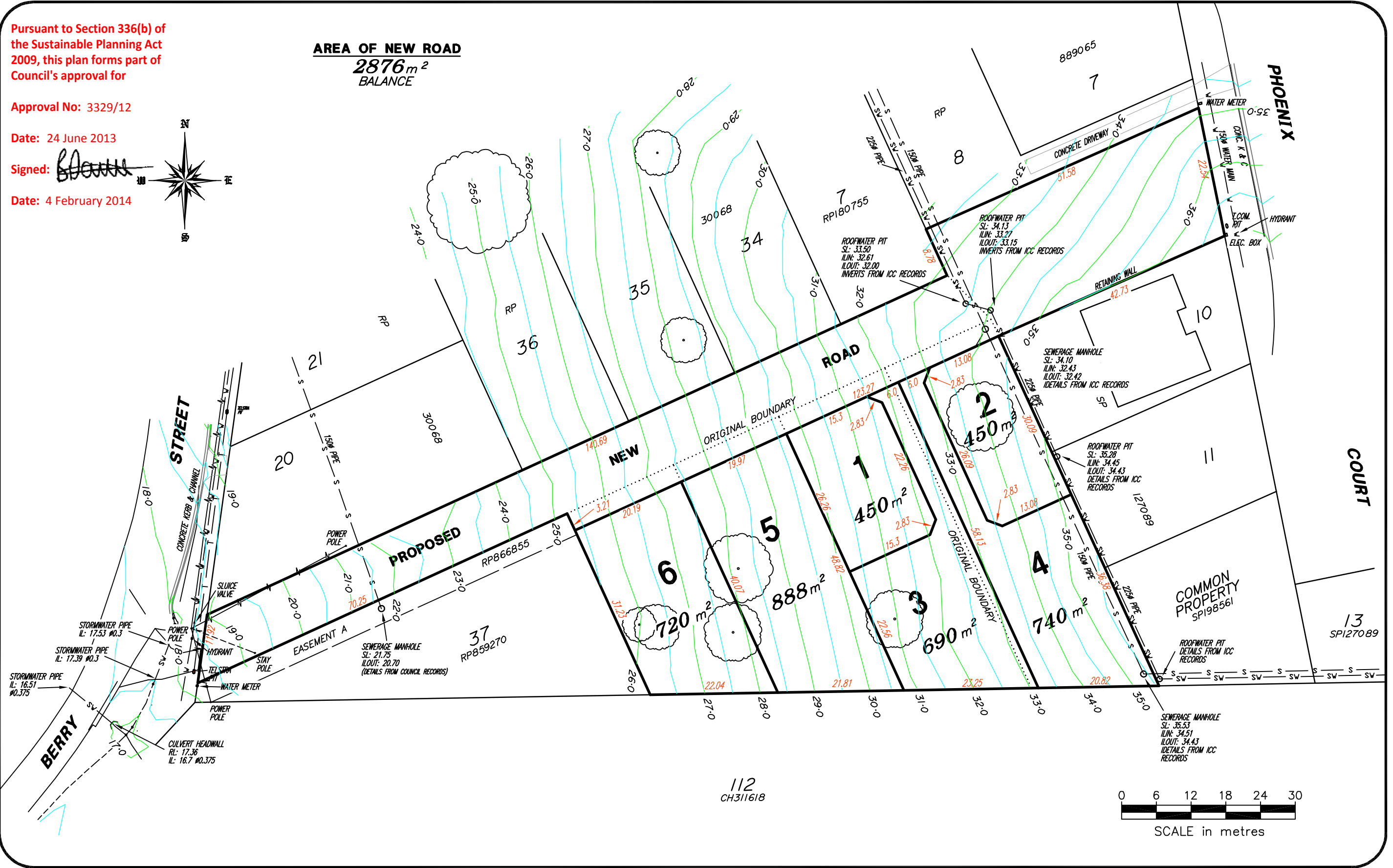
Date: 24 June 2013

Signed: 

Date: 4 February 2014



AREA OF NEW ROAD
2876m²
BALANCE



Level Datum:	A.H.D. vide PSM 30887
Bench Mark Location:	Berry Street
Adopted Level:	18.632m AHD
Contour Interval:	0.5 metres

© A3 SHEET AT SCALE

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SUBDIVISION DESIGN
DEVELOPMENT APPLICATIONS
LAND SURVEYS
ENGINEERING SURVEYS

SURVEYED:
DRAWN: S.P.B.
CREATED: 28/08/2012
SCALE: 1 : 600
APPROVED:
..... DIRECTOR Date

DWG. TITLE
PROPOSED RECONFIGURATION OF A LOT (6 INTO 6 LOTS & NEW ROAD)
Of Lots 38 – 41 on RP30068
and Lots 9 & 101 on SP127089
(Berry Street & Phoenix Court, Churchill)
Parish of PURGA County of Churchill


77 RODERICK STREET
IPSWICH Q. 4305
PH 3812 2076 FAX 3812 1614
survey@bairdandhayes.com.au (Survey)
planning@bairdandhayes.com.au (Planning)

REF. NO.
9597

DWG. NO. Rev.
P32-01a



LEGEND

- PROPOSED NEW ROAD
- WATER MAIN
- EX. OVERHEAD POWER
- EX. SEWER PIPE
- PROPOSED SEWER
- DRAIN INVERT
- CADASTRAL BOUNDARY
- PROPOSED CONTOURS 0.5m
- PROPOSED CONTOURS 0.25m
- EX. CONTOUR 1m
- STORMWATER PIPE
- ROOFWATER PIPE
- EX. ROOFWATER PIPE
- EX. UNDERGROUND TELSTRA
- CROWN OF ROAD

NOTE:

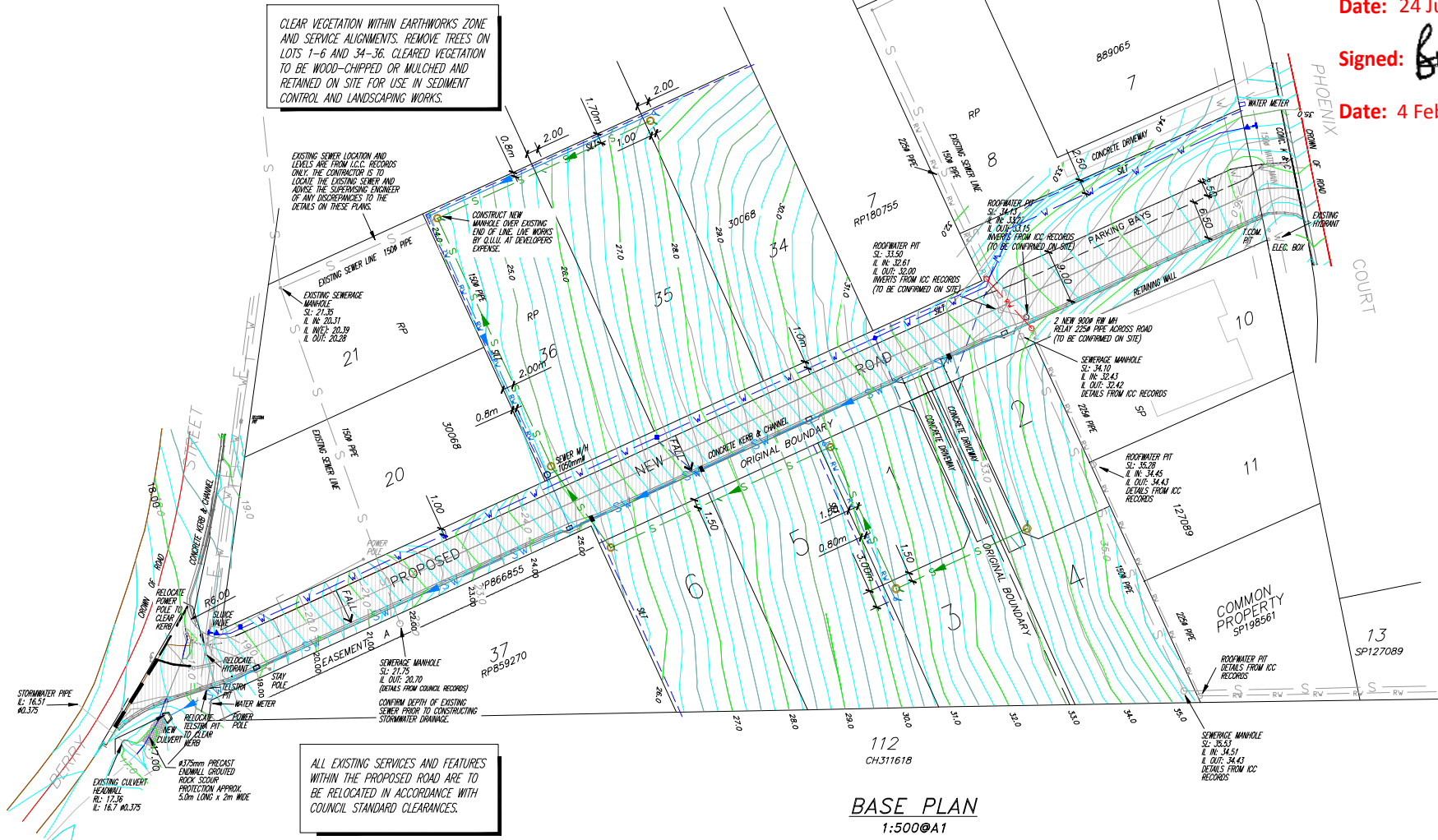
(1) THIS PLAN WAS PREPARED FOR THE PURPOSE AND EXCLUSIVE USE OF RANDS DEVELOPMENT NO.2 PTY. LTD. TO BE USED FOR ENGINEERING DESIGN PURPOSES. THIS PLAN IS NOT TO BE USED WITHOUT THE SUPPLIED DIGITAL INFORMATION. THIS INFORMATION IS NOT TO BE USED FOR ANY OTHER PURPOSE OR BY ANY OTHER PERSON OR CORPORATION. REQUESTS MADE TO BAIRD & HAYES FOR THE SUPPLY OF ADDITIONAL DIGITAL AND/OR HARD COPIES IS TO BE MADE IN WRITING BY THE PERSON OR CORPORATION FOR WHICH THIS PLAN WAS PREPARED. BAIRD & HAYES CONSULTING SURVEYORS ACCEPT NO RESPONSIBILITY FOR ANY LOSS OR DAMAGE SUFFERED HOWEVER ARISING TO ANY PERSON OR CORPORATION WHO MAY USE OR RELY ON THIS PLAN IN CONTRAVENTION OF THE TERMS OF THIS CLAUSE OR CLAUSES (2),(3) OR (4).

(2) THE CONTOURS AND LEVELS SHOWN ON THIS PLAN ARE SUITABLE ONLY FOR THE PURPOSE FOR WHICH THIS PLAN WAS PREPARED AND SHOULD NOT BE USED FOR ANY OTHER PURPOSE.

(3) THE TITLE BOUNDARIES SHOWN HEREON WERE NOT MARKED AT THE TIME OF SURVEY AND HAVE BEEN DETERMINED BY PLAN DIMENSION ONLY, AND NOT BY FIELD SURVEY. THE SERVICES HEREON HAVE BEEN LOCATED WHERE POSSIBLE BY FIELD SURVEY. IF NOT ABLE TO BE LOCATED, SERVICES MAY BE PLOTTED FROM RELEVANT AUTHORITY RECORDS AND HAVE BEEN NOTED ACCORDINGLY ON THIS PLAN. PRIOR TO ANY DEMOLITION, EXCAVATION OR CONSTRUCTION ON THE SITE, THE RELEVANT AUTHORITY SHOULD BE CONTACTED FOR POSSIBLE LOCATION OF FURTHER UNDERGROUND SERVICES AND DETAILED LOCATIONS OF ALL SERVICES.

(4) THIS PLAN MAY NOT BE COPIED UNLESS THIS NOTE IS INCLUDED.

<THIS PLAN IS COPYRIGHT>



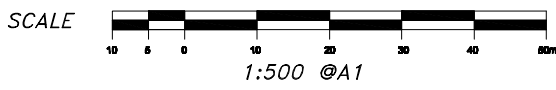
BASE PLAN
1:500@A1

GENERAL NOTES

1. ALL WORK SHALL BE JOINED NEATLY TO EXISTING CONSTRUCTION.
2. WHERE REFERENCE IS MADE ON THESE DRAWINGS TO A KERB LINE, IT SHALL BE TAKEN TO MEAN THE KERB INVERT LINE.
3. LEVELS FOR KERB AND CHANNEL CONSTRUCTION ARE SHOWN AT LIP OF CHANNEL UNLESS SHOWN OTHERWISE.
4. LIP LEVELS ARE AT QUARTER POINTS AT TURNOUTS AND AT EQUAL POINTS WHERE INDICATED. (=) KERBS, KERB AND CHANNEL AND SPOON DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH IPSWICH CITY COUNCIL STANDARD DRAWING SR.11.
5. INVERT DRAINS ACROSS ROAD INTERSECTION SHALL BE IN ACCORDANCE WITH ICC STANDARD DRAWING SR.11 THE CONCRETE SHALL BE CLASS N32 AND THE DEPTH INCREASED BY 50mm TO 175mm AT INVERT. FLUSH KERB TO BE INCREASED IN DEPTH BY 50mm TO 280mm.
6. GULLY CONNECTIONS AND STORM WATER PIPES SHALL BE 375mm DIAMETER CLASS "2" R.C. PIPES UNLESS SHOWN OTHERWISE.
7. GULLY PITS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH I.C.C. STANDARD DRAWING SD.04. THE GRATE AND FRAME DETAILS ARE TO BE IN ACCORDANCE WITH I.C.C. STANDARD DRAWING SD.07. ACCESS CHAMBERS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH I.C.C. STANDARD DRAWING SD.02.
8. GULLY PITS IN EXCESS OF 1.5m DEEP ARE TO BE CONSTRUCTED AS A GULLY PIT/ACCESS CHAMBER STRUCTURE.
9. GRATED INLET PITS TO BE CONSTRUCTED IN ACCORDANCE WITH I.C.C. STANDARD DRAWING SD.04.
10. THE CONTRACTOR SHALL INITIALLY EXCAVATE THE PAVEMENT BOX TO 250mm BELOW THE FINISHED PAVEMENT LEVEL SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL THEN NOTIFY THE ENGINEER WHO WILL FIX THE PAVEMENT THICKNESS TO BE CONSTRUCTED FOLLOWING THE RESULTS OF THE SUB-GRADE TESTING.
11. NOTWITHSTANDING THE LIMITS OF CUTTING AND FILLING SHOWN ON THE DRAWINGS, THE ACTUAL LIMITS SHALL BE DETERMINED ON SITE BY THE ENGINEER AND SIMILARLY THE FINISHED SURFACE CONTOURS MAY BE ADJUSTED BY WRITTEN DIRECTION OF THE ENGINEER DURING CONSTRUCTION.
12. THE MINIMUM CLEARANCE BETWEEN OUTER WALLS OF PIPES IN MANHOLES SHALL BE 150mm.
13. FLUSHING POINTS SHALL BE INSTALLED IN ACCORDANCE WITH I.C.C. STANDARD DRAWING SR.21.
14. CONSTRUCTION LOAD CONTROL ON THE INSTALLATION OF REINFORCED CONCRETE STORMWATER PIPEWORK SHALL BE UNDERTAKEN IN ACCORDANCE WITH THE RECOMMENDATIONS DEFINED IN THE CONCRETE PIPE ASSOCIATIONS OF AUSTRALASIA'S "INSTALLATIONS OF STEEL REINFORCED CONCRETE PIPES - MINIMUM PIPE COVER REQUIRED FOR VARIOUS COMPACTORS".
15. PRIOR TO COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR SHALL ERECT A STAR PICKET AND 2 STRAND WIRE FENCE TO THE PERIMETER OF VEGETATION TO BE RETAINED.
16. INDUSTRIAL CROSSOVERS ARE TO BE CONSTRUCTED FOR ALL COMBINED DRIVEWAYS.

DRAWING SCHEDULE

- 9597-33-01 BASE PLAN, LOCALITY PLAN, DRAWING LIST
- 9597-33-02 EXISTING SURVEY PLAN (D31-01a ORIGINAL SURVEY PLAN)
- 9597-33-03 EARTHWORKS CONTOUR PLAN
- 9597-33-04 ROAD 1 LONGITUDINAL SECTION
- 9597-33-05 CROSS SECTION - ROAD 1 SECTION 1
- 9597-33-06 CROSS SECTION - ROAD 1 SECTION 2
- 9597-33-07 CROSS SECTION - ROAD 1 SECTION 3
- 9597-33-08 COMBINED SERVICES PLAN
- 9597-33-09 STORMWATER PLAN
- 9597-33-10 STORMWATER LONGITUDINAL SECTIONS
- 9597-33-11 STORMWATER CATCHMENT PLAN & CALCULATIONS
- 9597-33-12 STORMWATER MANHOLE & GULLY DETAILS
- 9597-33-13 SEWERAGE PLAN
- 9597-33-14 SEWERAGE LONGITUDINAL SECTIONS
- 9597-33-15 WATER RETICULATION PLAN
- 9597-33-16 DRIVEWAY PLAN & DETAIL
- 9597-33-17 SEDIMENT & EROSION CONTROL PLAN



BASE PLAN
NOT TO SCALE

Pursuant to Section 336(b) of the Sustainable Planning Act 2009, this plan forms part of Council's approval for

Approval No: 3329/12

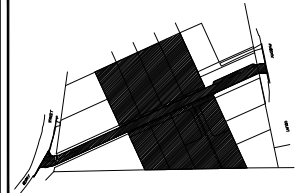
Date: 24 June 2013

Signed:

Date: 4 February 2014

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KEY PLAN



REV	DESCRIPTION	DATE	BY
A	PRELIMINARY FOR COMMENT	13-11-12	P.E.
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D	OPERATIONAL WORKS	15-03-13	P.E.
E	AMENDMENTS FOR APPROVAL	11-06-13	P.E.
F	INFORMATION RESPONSE	04-08-13	P.E.

APPROVED:

DANIEL MICHEL RPEQ 3766
 DIRECTOR
 HUNT MICHEL & PARTNERS



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RANDS DEVELOPMENT NO.2
 Pty Ltd

PROJECT
PROPOSED RECONFIGURATION OF A LOT (LOT 6 INTO 6 LOTS & NEW ROAD)

Of Lots 38-41 on RP30068 and Lots 9 & 101 on SP127089

BERRY STREET & PHOENIX COURT, CHURCHILL
 Parish of FURBER County of CHURCHILL

Level Datum:	A.H.D. vide PSM 30887
Bench Mark	
Location:	Berry Street
Adopted Level:	18.632m AHD
Contour Interval:	0.25m

DRAWING TITLE
BASE PLAN, LOCALITY PLAN, DRAWING LIST & NOTES

DESIGNED:	P.E.	JOB No.	9597
DRAWN:	C.R. & B.R.	DWC No.	9597-33-01
CHECKED:	D.M.		
SCALE:	1:500@A1		



LEGEND

- WATER MAIN — W — W —
- OVERHEAD POWER — E — E —
- EXISTING SEWER — S — S —
- DRAIN INVERT — — — —
- CADASTRAL BOUNDARY — — — —
- EXISTING CONTOURS 1m — — — —
- EXISTING CONTOURS 0.25m — — — —
- FENCELINE — // — // — // —
- I.C.C. STORMWATER PIPE — S — S —
- I.C.C. ROOFWATER PIPE — RW — RW —
- EX. UNDERGROUND TELSTRA — T — T —
- CROWN OF ROAD - - - - -

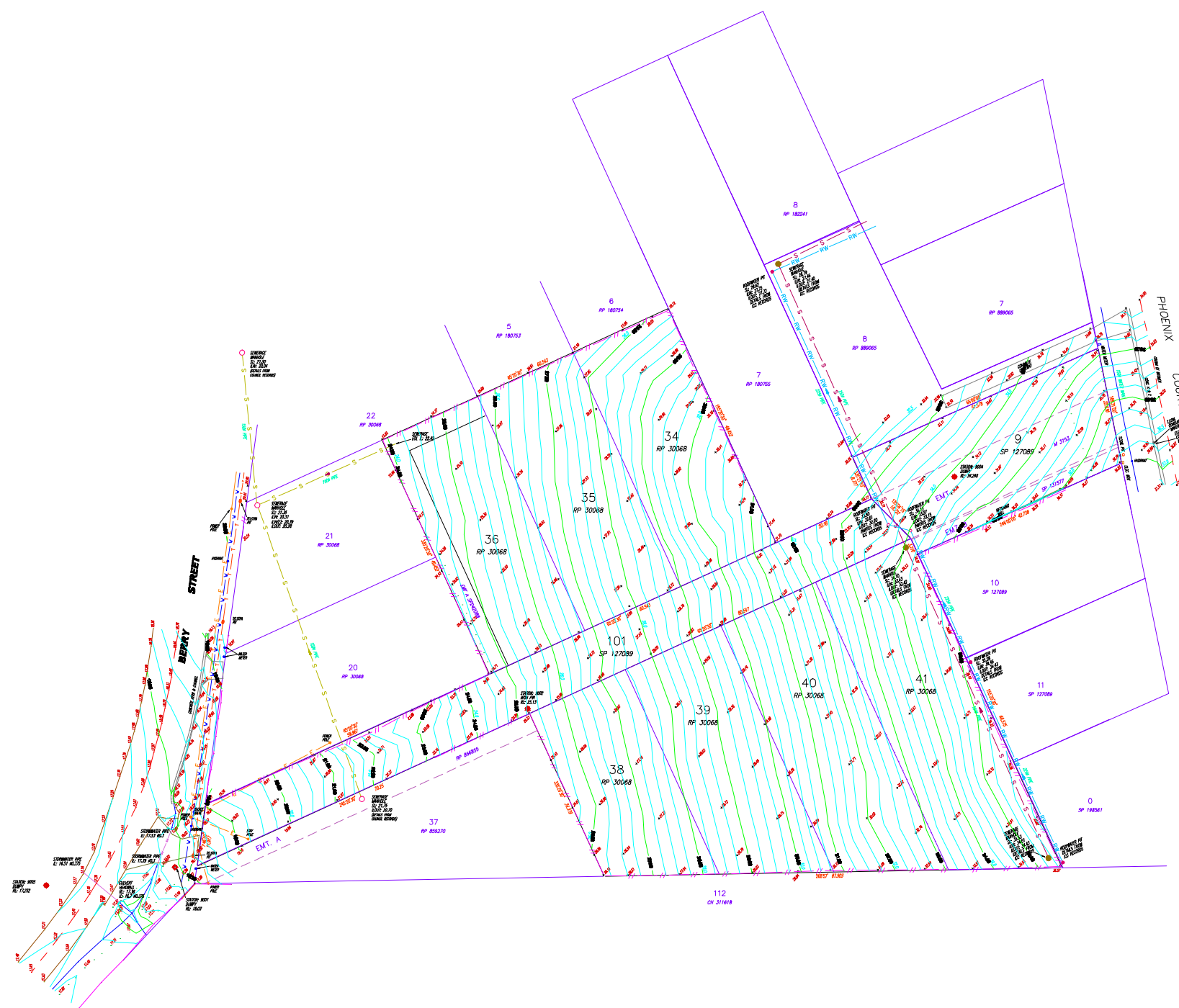
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Approval No: 3329/12

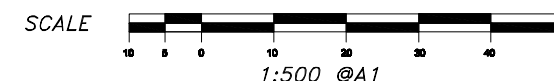
Date: 24 June 2013

Signed:

Date: 4 February 2014

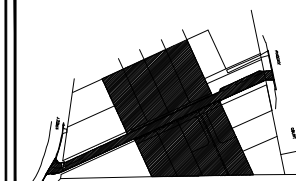


EXISTING SURVEY PLAN
1:500@A1



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APPROVED:

DANIEL MICHEL RPEQ 3766
DIRECTOR
HUNT MICHEL & PARTNERS



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Of Lots 38-41 on RP30063
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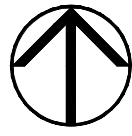
**BERRY STREET & PHOENIX COURT,
CHURCHILL**
Parish of FURGA County of CHURCHILL

Level Datum:	A.H.D. vide PSM 30887
Bench Mark	
Location:	Berry Street
Adopted Level:	18.632m AHD
Contour Interval:	0.25m

DRAWING TITLE

EXISTING SURVEY PLAN
(formerly D31-01a)

DESIGNED: P.E.	JOB No. 9597
DRAWN: C.R. & B.R.	
CHECKED: D.M.	
SCALE: 1:500@A1	DWG No. 9597-33-02



LEGEND

- EXTENT OF FILL
- EXTENT OF CUT
- PROPOSED CONTOURS 1m
- PROPOSED CONTOURS 0.25m
- EXISTING CONTOUR 0.5m

EARTHWORKS & ALLOTMENT NOTES:

1. REMOVE ALL TOPSOIL, VEGETATION AND DELETERIOUS MATERIAL FROM EARTHWORKS ZONES.
2. PROOF ROLL SUBGRADE TO DETECT ANY SOFT SPOTS. SOFT SPOTS SHALL BE REMOVED AND BACKFILLED WITH APPROVED SUB-BASE MATERIAL.
3. MAXIMUM BATTER SLOPE TO BE 1:4 (V:H) UNLESS NOTED OTHERWISE. (MAX 1:6 WITHIN ROAD SURFACE)
4. IPSWICH CITY COUNCIL REQUIRES ALL COMPACTION OF FILL TO HAVE LEVEL 1 SUPERVISION.
5. ALLOTMENT FILLING AND TESTING OF ALLOTMENT FILLING SHALL BE CARRIED OUT IN ACCORDANCE WITH AS.3798 AND IPSWICH CITY COUNCIL REQUIREMENTS.
6. TEST RESULTS ARE TO BE MADE AVAILABLE TO THE SUPERINTENDENT UPON REQUEST.
7. IMPORTED FILL TO BE MINIMUM CBR15 MATERIAL, PLACED IN MAXIMUM 150mm LAYERS AND PLACED AT OPTIMUM MOISTURE CONTENT AND COMPACTED TO 98% STANDARD MAXIMUM DRY DENSITY AS DEFINED BY AS.1289.5.1.1
8. A TOPSOIL DEPTH OF 150mm HAS BEEN USED TO DETERMINE THE EARTHWORKS QUANTITIES. THE CONTRACTOR IS TO SATISFY THEMSELVES OF THE ACCURACY OF THESE QUANTITIES AND MAKE ANY NECESSARY ALLOWANCES IF THEY DISAGREE WITH THEM.
9. ALL TOPSOIL IS TO BE STRIPPED AND STOCKPILED PRIOR TO THE COMMENCEMENT OF ANY EARTHWORKS.

NOTE:
ALL FINISHED LEVELS SHOWN
ARE FINISHED TOP OF TOPSOIL
OR TOP OF CONCRETE LEVELS.

REFER TO DRAWINGS
9597-33-17 FOR EROSION AND
SEDIMENT CONTROL MEASURES.

FOR DRIVEWAY DETAILS REFER
TO DRAWING 9597-33-16

FOR EXISTING SERVICES REFER
TO ORIGINAL SURVEY DRAWING
9597-33-02.
(formerly D31-01a)

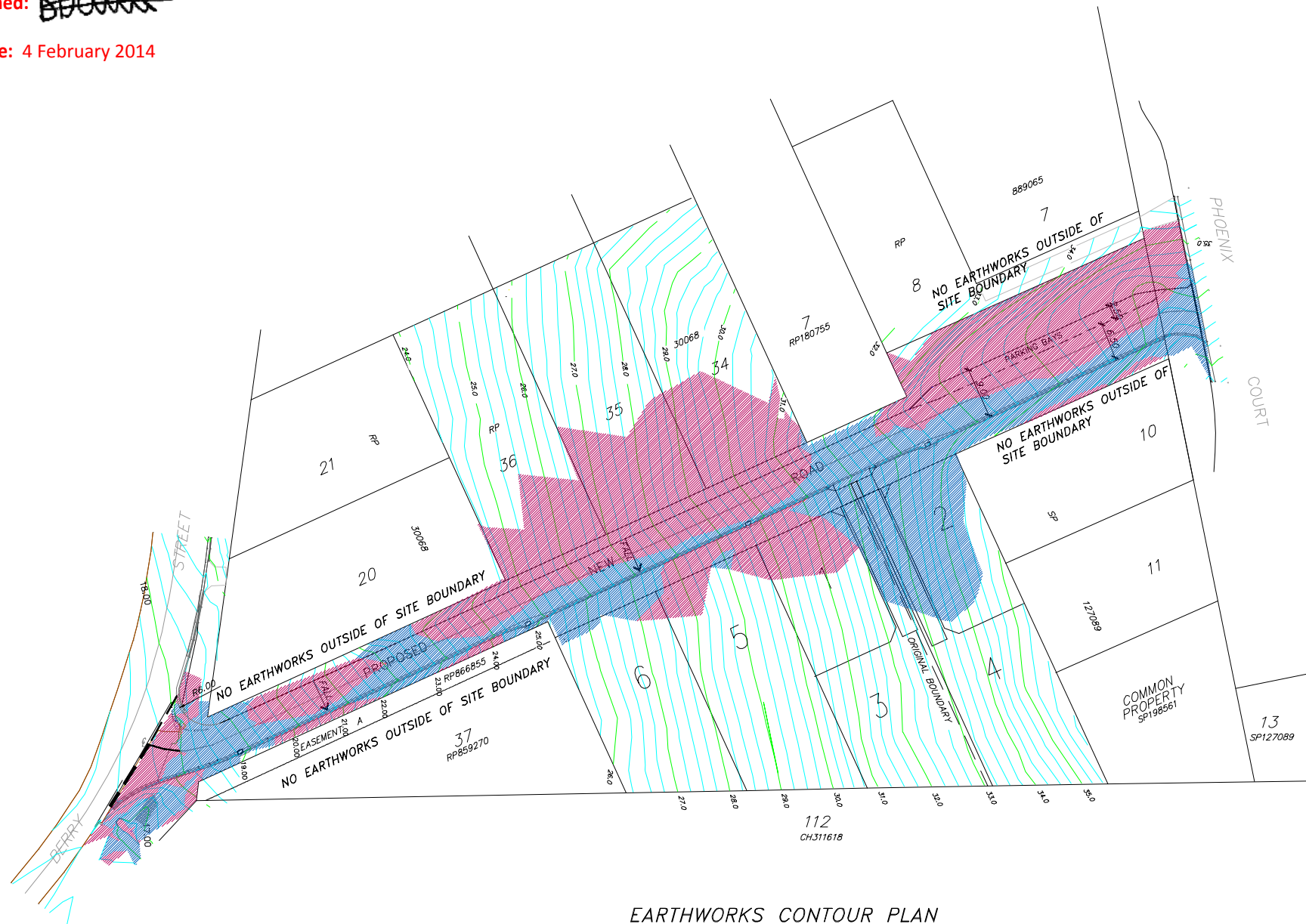
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Approval No: 3329/12

Date: 24 June 2013

Signed:

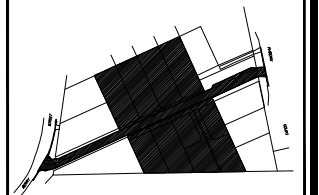
Date: 4 February 2014



EARTHWORKS CONTOUR PLAN
1:500@A1

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F	INFORMATION RESPONSE	04-09-13	P.E.

APPROVED:

DANIEL MICHEL RPEQ 3766
DIRECTOR
HUNT MICHEL & PARTNERS



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RANDS DEVELOPMENT NO.2
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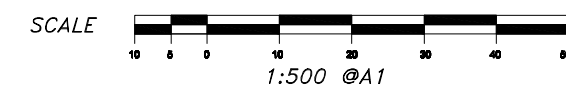
**BERRY STREET & PHOENIX COURT,
CHURCHILL,
District of FURGA County of CHURCHILL**

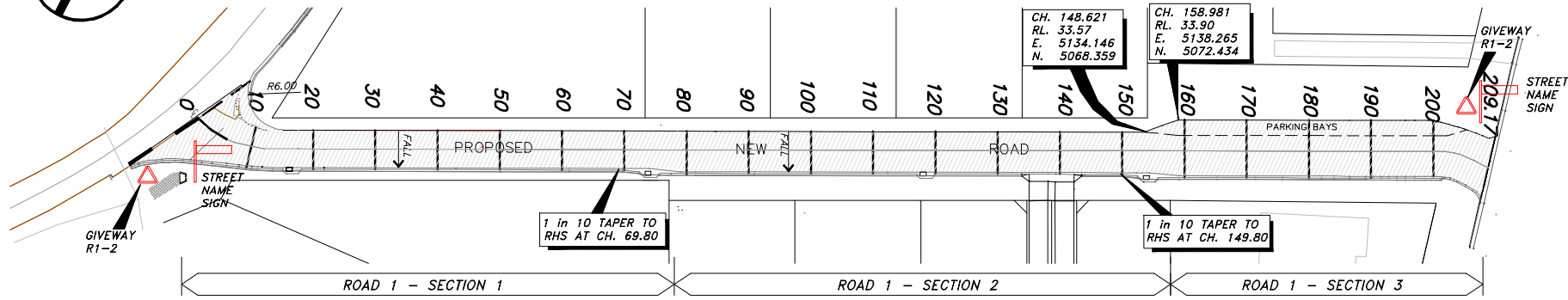
Level Datum:	A.H.D. vide PSM 30887
Bench Mark	
Location:	Berry Street
Adopted Level:	18.632m AHD
Contour Interval:	0.25m

DRAWING TITLE

EARTHWORKS CONTOUR
PLAN

DESIGNED:	P.E.	JOB No.	
DRAWN:	C.R. & B.R.		9597
CHECKED:	D.M.		
SCALE:	1:500@A1	DWG No.	9597-33-03





ROAD PLAN
SCALE 1:500 @A1

NOTE:
CONTRACTOR SHALL LOCATE AND PROTECT ALL EXISTING SERVICES. ANY DAMAGE TO THESE SERVICES SHALL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR.

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Approval No: 3329/12

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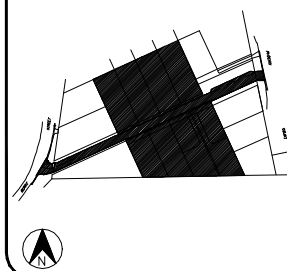
Signed: *[Signature]*

Date: 4 February 2014

SETOUT TABLE

CHAINAGE	R/L	EASTING	NORTHING
0.0 (START)	17.67	4994.943	5007.078
10.0	18.83	5004.682	5006.525
20.0	19.38	5013.878	5010.261
30.0	20.31	5022.978	5014.407
40.0	21.37	5032.078	5018.552
50.0	22.37	5041.175	5022.699
60.0	23.36	5050.274	5026.854
70.0	24.36	5059.373	5030.992
80.0	25.37	5068.478	5035.139
90.0	26.51	5077.577	5039.285
100.0	27.65	5086.677	5043.432
110.0	28.70	5095.777	5047.578
120.0	29.79	5104.877	5051.725
130.0	31.09	5113.976	5055.871
140.0	32.29	5123.076	5060.018
150.0	33.22	5132.176	5064.164
160.0	33.85	5141.276	5068.311
170.0	34.35	5150.375	5072.458
180.0	34.86	5159.475	5076.604
190.0	35.42	5168.574	5080.751
200.0	36.12	5177.674	5084.897
209.17	36.23	5186.685	5086.207

KEY PLAN



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APPROVED:

[Signature]
DANIEL MICHEL RPEQ 3766
DIRECTOR
HUNT MICHEL & PARTNERS



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Pty Ltd

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Of Lots 38-41 on RP30063 and Lots 9 & 101 on SP127089

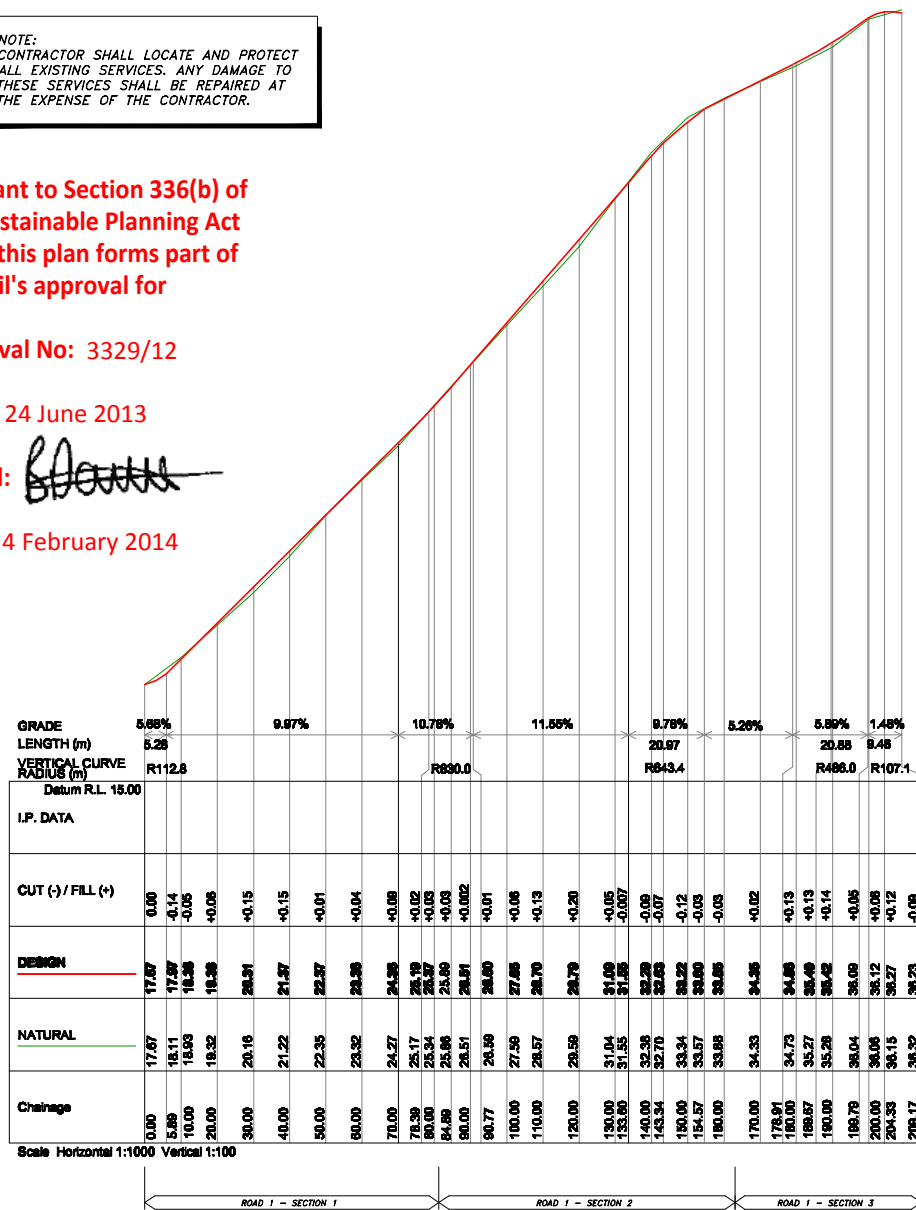
BERRY STREET & PHOENIX COURT, CHURCHILL
Fields of PURBA County of CHURCHILL

Level Datum: A.H.D. vide PSM 30887
Bench Mark
Location: Berry Street
Adopted Level: 18.632m AHD
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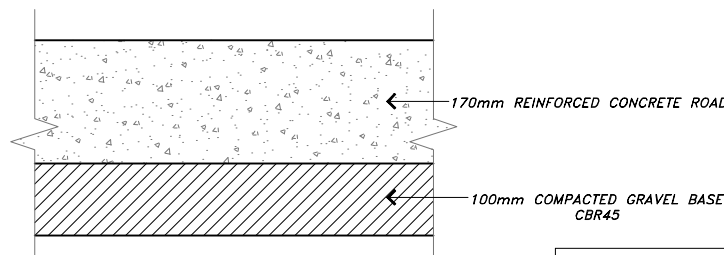
DRAWING TITLE

**ROAD 1
LONGITUDINAL SECTION**

DESIGNED: P.E. JOB No. 9597
DRAWN: C.R. & B.R.
CHECKED: D.M.
SCALE: AS NOTED DWG No. 9597-33-04

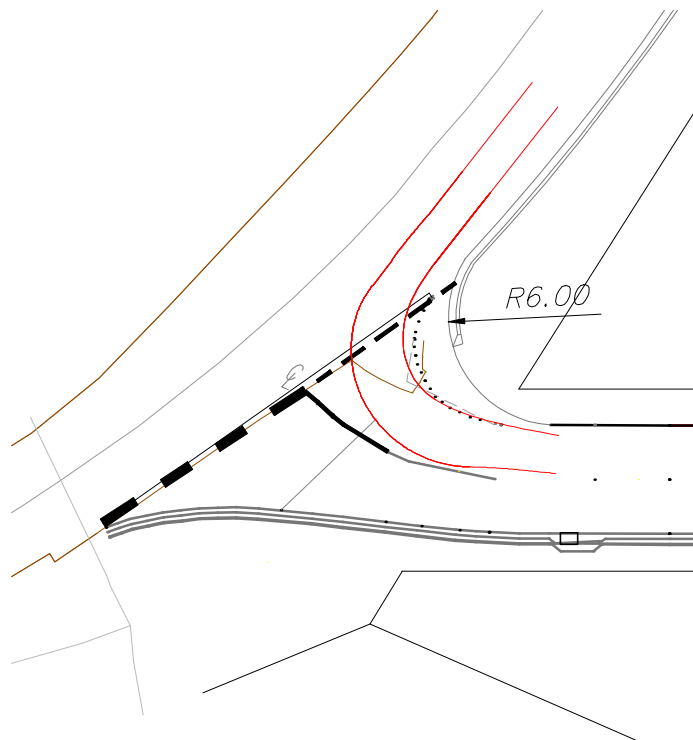


LONGITUDINAL SECTION
SCALES HORIZONTAL 1:1000, VERTICAL 1:100 @A1

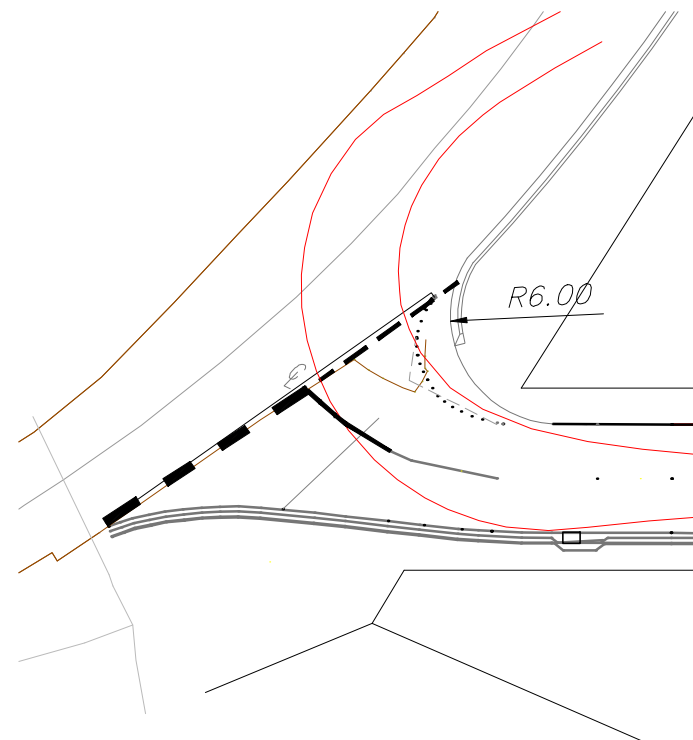


TYPICAL ROAD SECTION
NOT TO SCALE

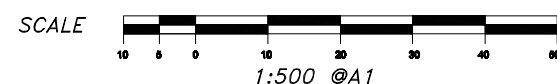
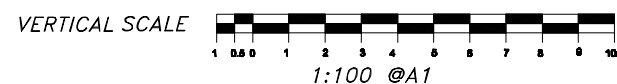
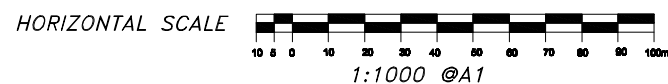
NOTE:
PROVISIONAL DESIGN ONLY.
TO BE CONFIRMED
FOLLOWING RESULTS OF
SUBGRADE CBR TEST.

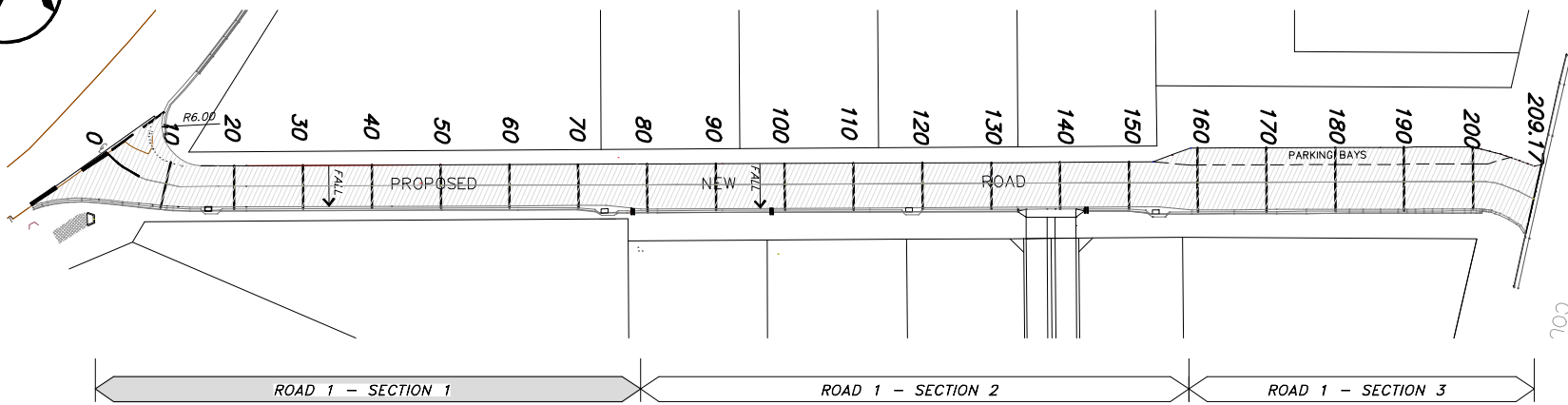


6m CAR TURNING CIRCLE DIAGRAM
SCALES 1:200 @A1

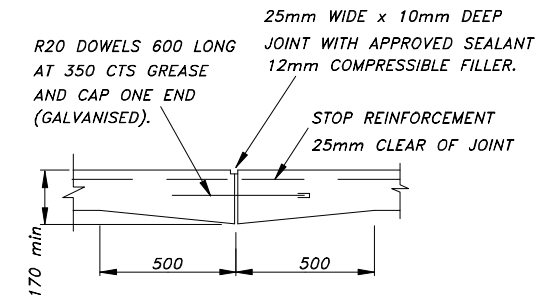


12m TRUCK TURNING CIRCLE DIAGRAM
SCALES 1:200 @A1



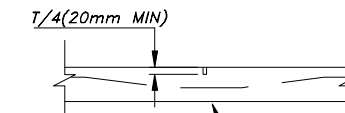


ROAD PLAN
SCALE 1:500 @A1



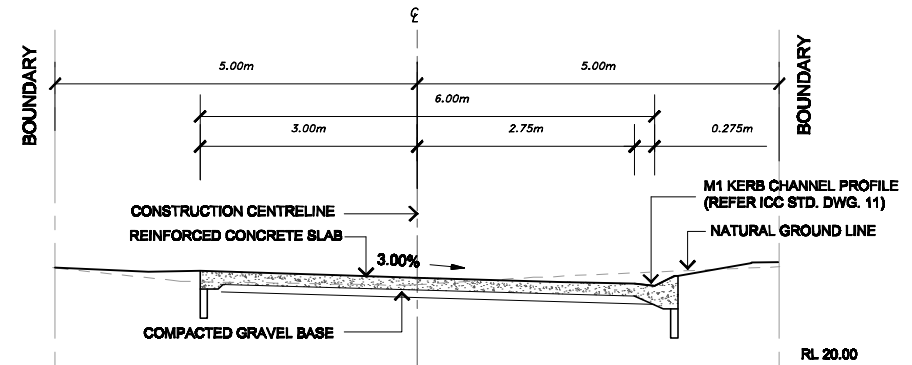
TYPICAL EXPANSION JOINT DETAIL
AT 12m CTS. TO ROAD TYPICAL.

ALL WORKMANSHIP, MATERIALS AND TESTING TO BE IN ACCORDANCE WITH ICC POLICY 3 AND STANDARD DRAWINGS.



TYPICAL EXPANSION JOINT DETAIL
AT 6m CTS. TO ROAD TYPICAL

POINT No.	EASTING	NORTHING	RL
09	5008.230	5010.982	18.771
10	5005.284	5010.624	18.382
11	5002.524	5011.716	18.007
12	5000.612	5013.994	17.963
13	5000.062	5016.960	18.014
14	5000.094	5017.343	18.071



TYPICAL CROSS SECTION
SCALE 1:50 @A1

Pursuant to Section 336(b) of the Sustainable Planning Act 2009, this plan forms part of Council's approval for

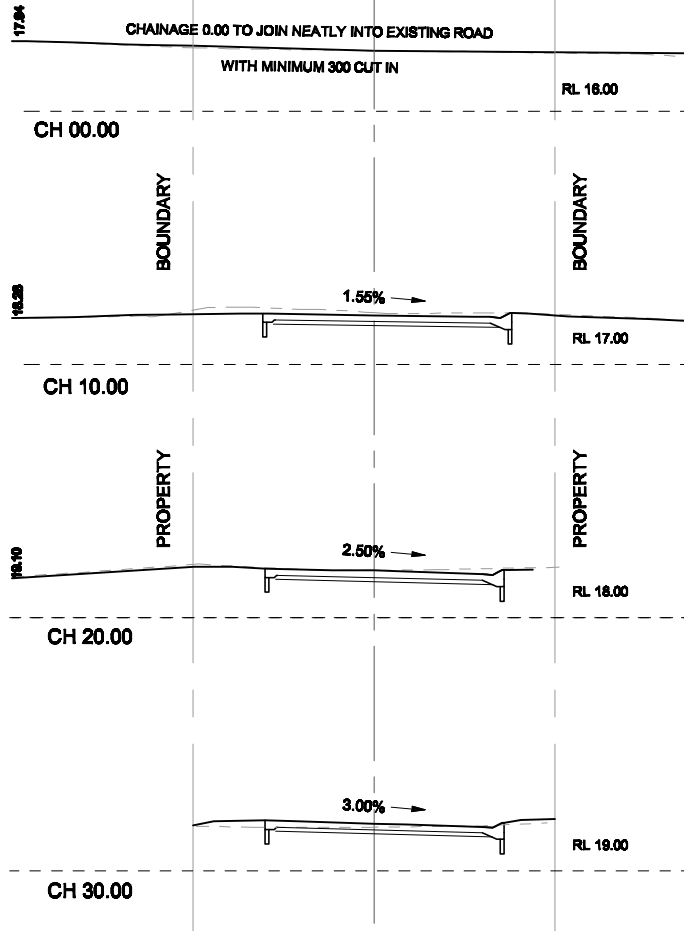
Approval No: 3329/12

Date: 24 June 2013

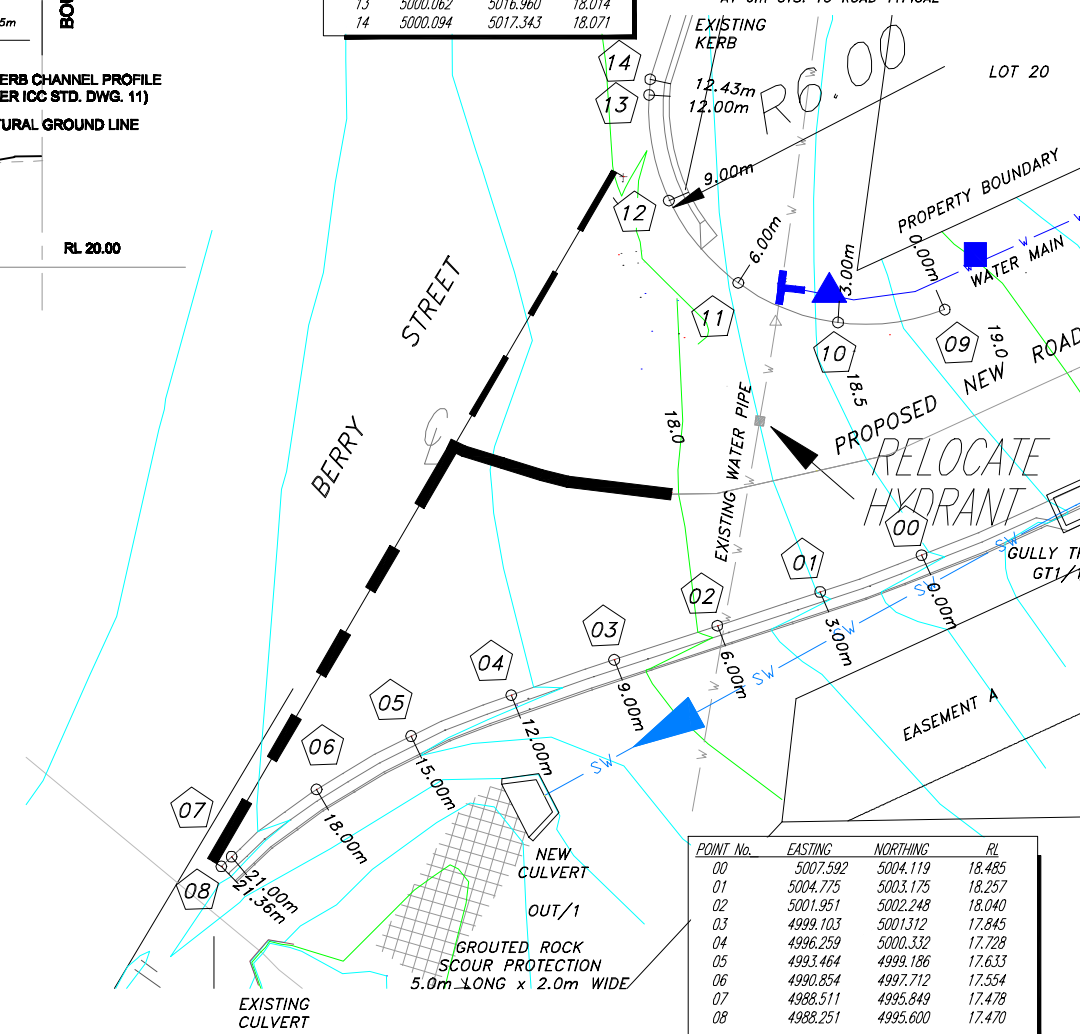
Signed: *[Signature]*

Date: 4 February 2014

INTERSECTION AT BERRY STREET

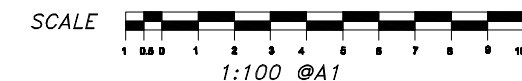
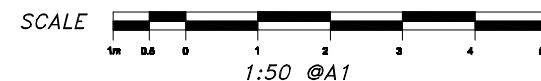


ROAD 1 SECTION 1 CROSS SECTION
SCALE 1:100 @A1



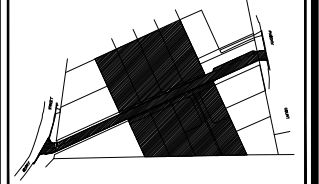
POINT No.	EASTING	NORTHING	RL
00	5007.592	5004.119	18.485
01	5004.775	5003.175	18.257
02	5001.951	5002.248	18.040
03	4999.103	5001.312	17.845
04	4996.259	5000.332	17.728
05	4993.464	4999.186	17.633
06	4990.854	4997.712	17.554
07	4988.511	4995.849	17.478
08	4988.251	4995.600	17.470

INTERSECTION DETAIL PLAN
BERRY STREET
SCALE 1:100 @A1



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APPROVED:

[Signature]
DANIEL MICHEL RPEQ 3766
DIRECTOR
HUNT MICHEL & PARTNERS

BAIRD & HAYES
SURVEYORS - TOWN PLANNERS

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Pty Ltd

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Of Lots 38-41 on RP30068 and Lots 9 & 101 on SP127089

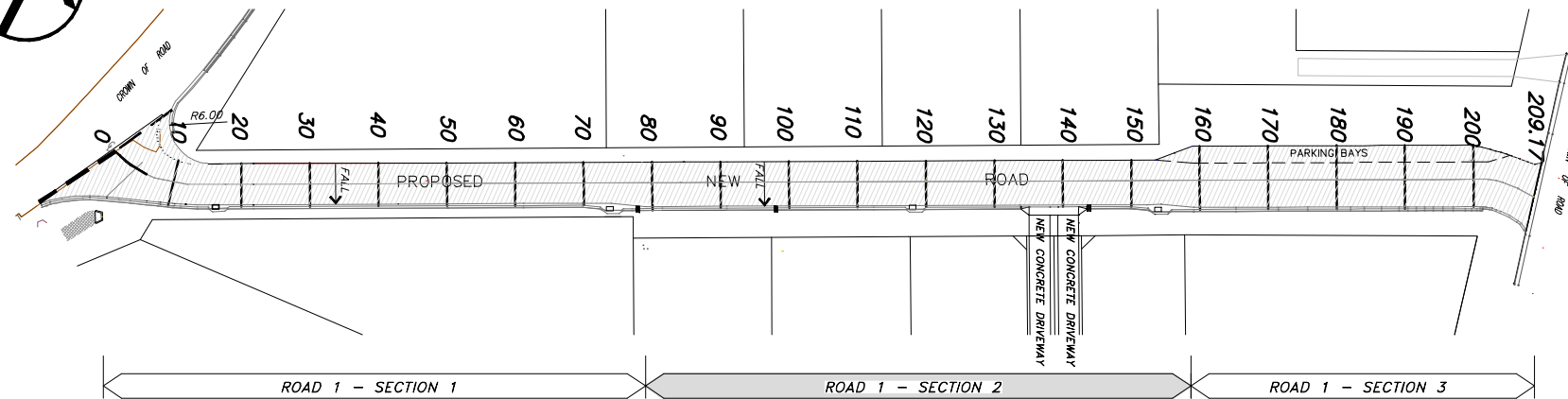
BERRY STREET & PHOENIX COURT, CHURCHILL
Fiduciary of FUMGA County of CHURCHILL

Level Datum:	A.H.D. vide PSM 30887
Bench Mark	
Location:	Berry Street
Adopted Level:	18.632m AHD
Contour Interval:	0.25m

DRAWING TITLE

CROSS SECTIONS
ROAD 1 - SECTION 1

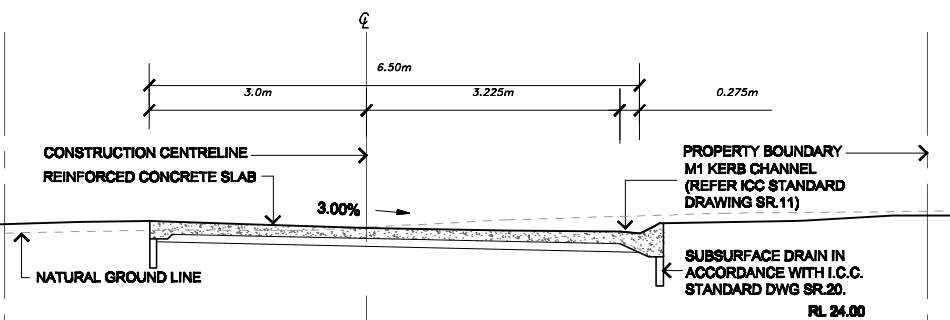
DESIGNED:	P.E.	JOB No.	9597
DRAWN:	C.R. & B.R.	CHECKED:	D.M.
CHECKED:	D.M.	SCALE:	AS SHOWN
SCALE:	AS SHOWN	DWG No.	9597-33-03



ROAD PLAN

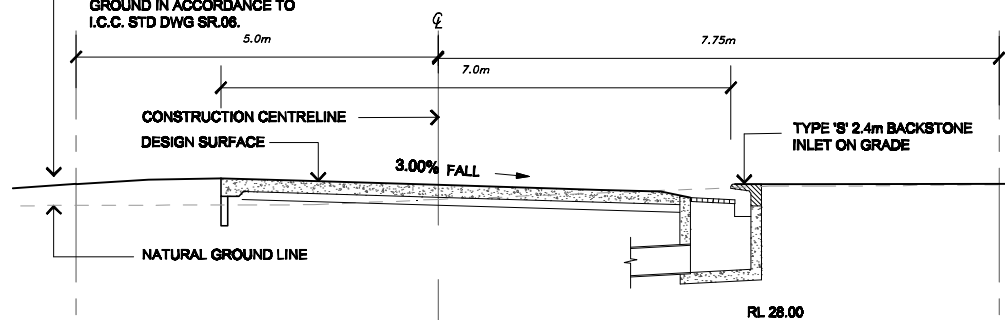
SCALE 1:500 @A1

BATTER BACK TO NATURAL GROUND IN ACCORDANCE TO I.C.C. STD DWG SR.06.



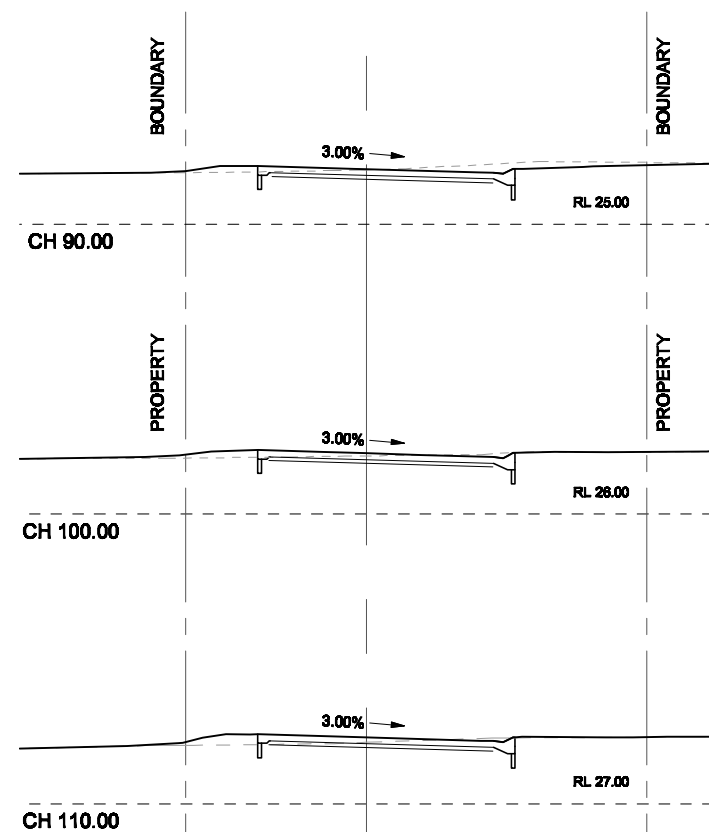
TYPICAL CROSS SECTION

SCALE 1:50 @A1



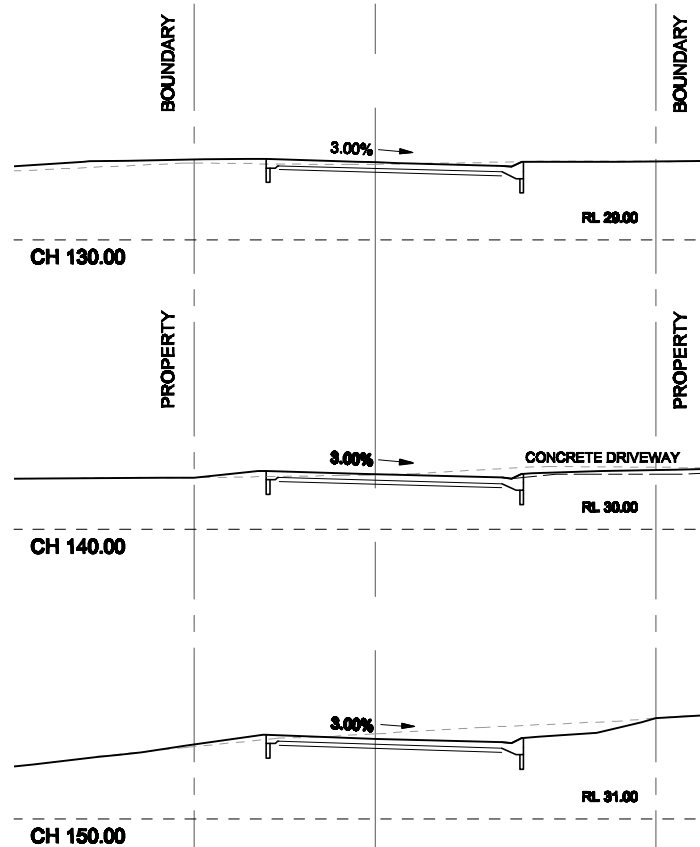
TYPICAL CROSS SECTION

SCALE 1:50 @A1

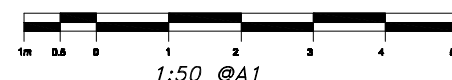


ROAD 1 SECTION 1 CROSS SECTION

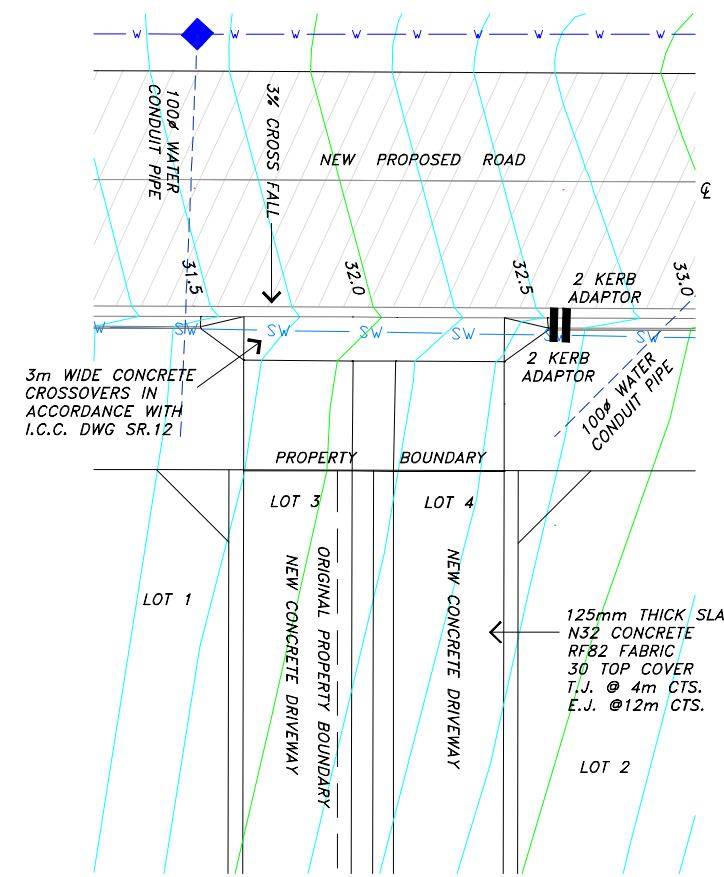
SCALE 1:100 @A1



SCALE



SCALE



DRIVEWAY DETAIL PLAN

SCALE 1:100 @A1

Pursuant to Section 336(b) of the Sustainable Planning Act 2009, this plan forms part of Council's approval for

Approval No: 3329/12

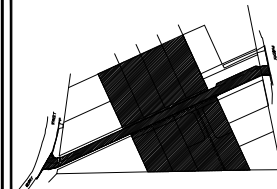
Date: 24 June 2013

Signed: *[Signature]*

Date: 4 February 2014

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D	OPERATIONAL WORKS	15-03-13	P.E.
E	AMENDMENTS FOR APPROVAL	11-06-13	P.E.
F	INFORMATION RESPONSE	04-09-13	P.E.

APPROVED:

[Signature]
DANIEL MICHEL RPEQ 3766
DIRECTOR
HUNT MICHEL & PARTNERS

BAIRD & HAYES
SURVEYORS - TOWN PLANNERS

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survey@bairdandhayes.com.au (Survey)
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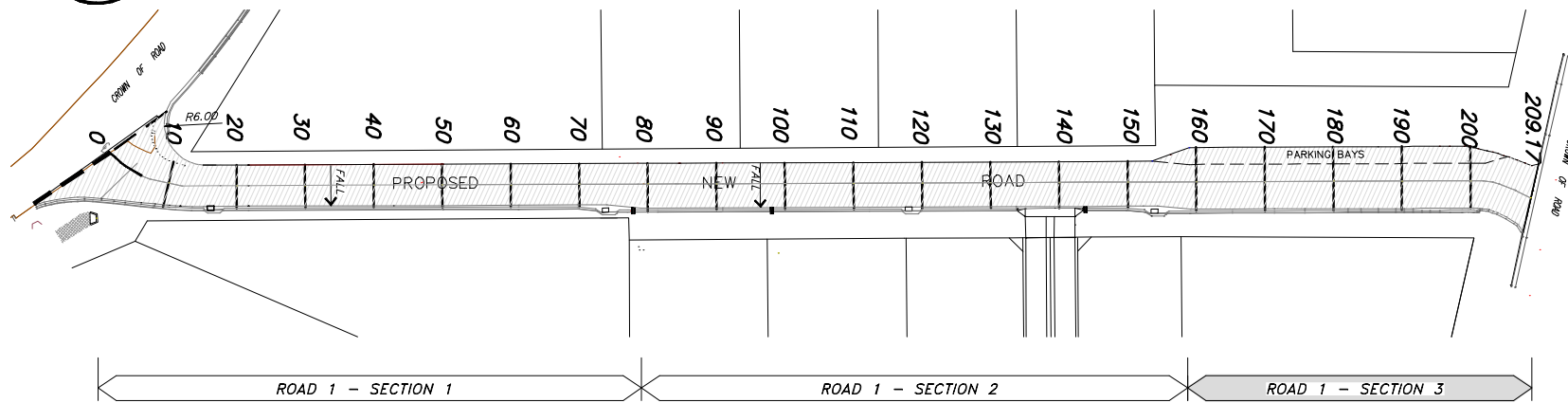
BERRY STREET & PHOENIX COURT, CHURCHILL
Push of TUMBA County of CHURCHILL

Level Datum: A.H.D. vide PSM 30887
Bench Mark: Berry Street
Adopted Level: 18.632m AHD
Contour Interval: 0.25m

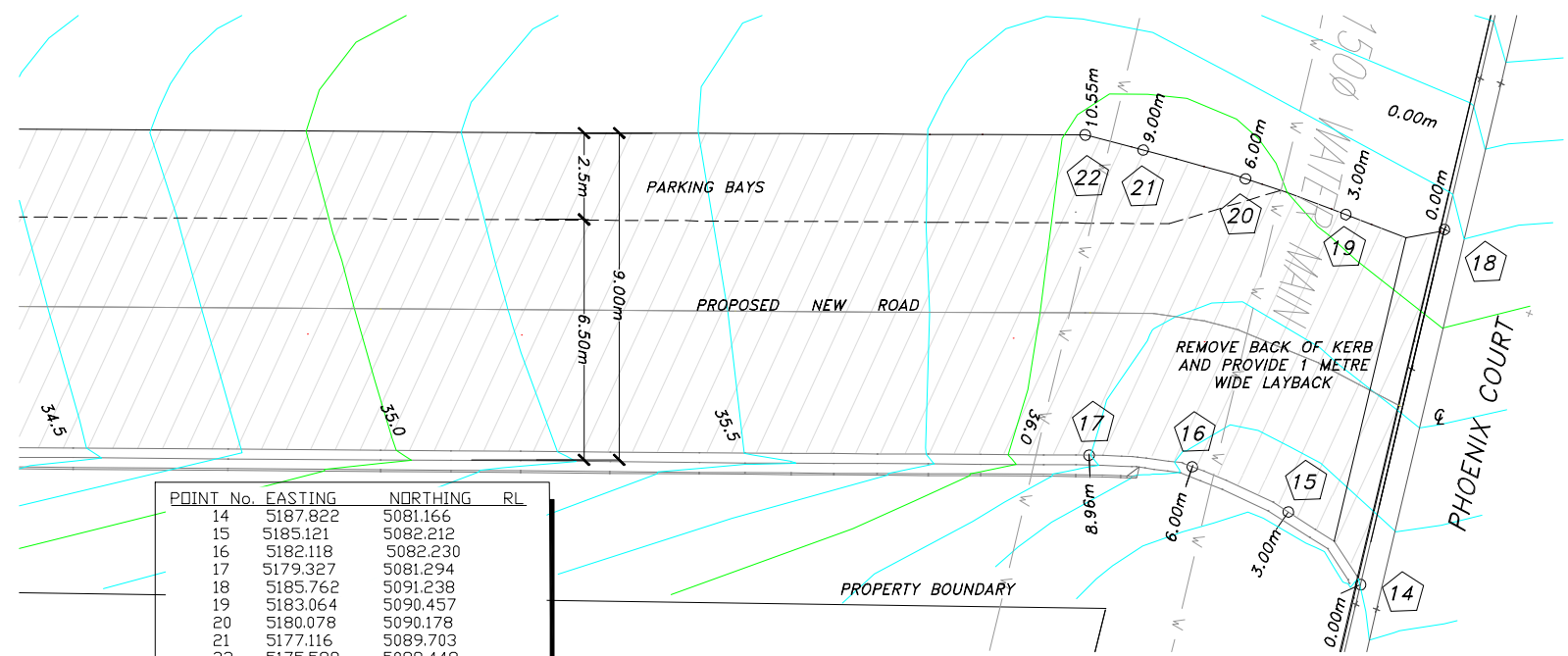
DRAWING TITLE

CROSS SECTIONS
ROAD 1 - SECTION 2

DESIGNED: P.E. JOB No. 9597
DRAWN: C.R. & B.R.
CHECKED: D.M.
SCALE: AS SHOWN DWG No. 9597-33-06

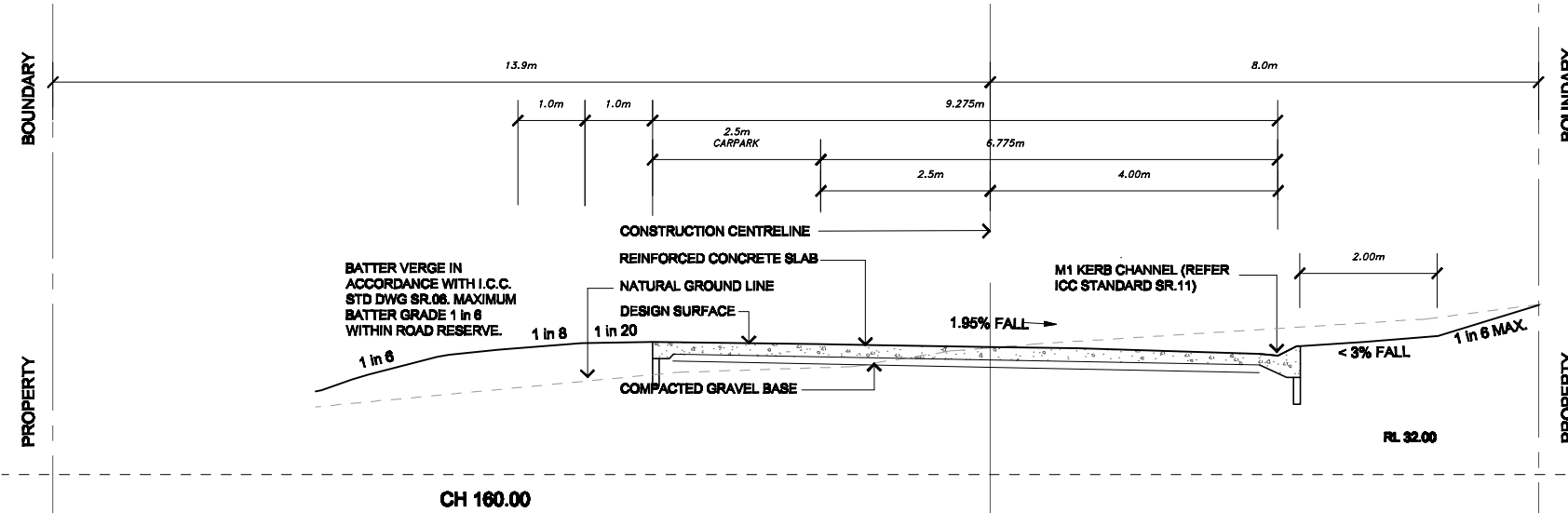


ROAD PLAN
SCALE 1:500 @A1

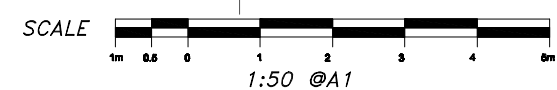


POINT No.	EASTING	NORTHING	RL
14	5187.822	5081.166	
15	5185.121	5082.212	
16	5182.118	5082.230	
17	5179.327	5081.294	
18	5185.762	5091.238	
19	5183.064	5090.457	
20	5180.078	5090.178	
21	5177.116	5089.703	
22	5175.589	5089.448	

ROAD 1 SECTION 3 DETAIL PLAN
PHOENIX COURT INTERSECTION
SCALE 1:100 @A1



TYPICAL CROSS SECTION
SCALE 1:50 @A1



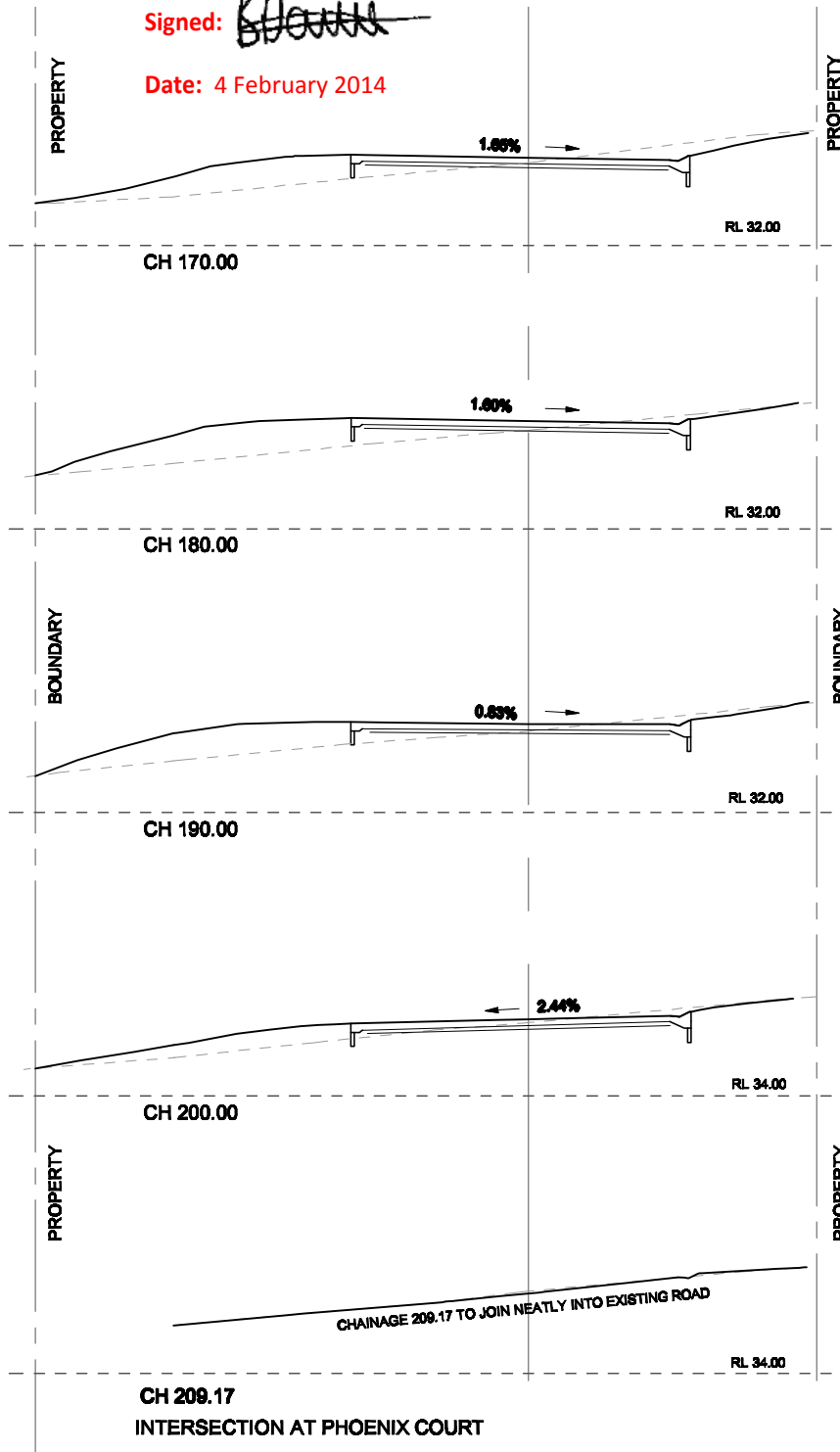
Pursuant to Section 336(b) of the Sustainable Planning Act 2009, this plan forms part of Council's approval for

Approval No: 3329/12

Date: 24 June 2013

Signed: *[Signature]*

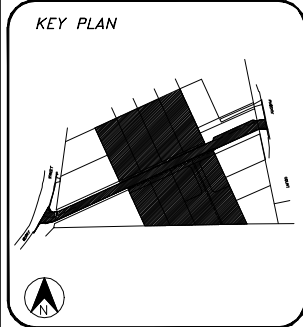
Date: 4 February 2014



ROAD 1 SECTION 3 CROSS SECTION
SCALE 1:100 @A1



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APPROVED:
[Signature]
DANIEL MICHEL RPEQ 3766
DIRECTOR
HUNT MICHEL & PARTNERS

BAIRD & HAYES
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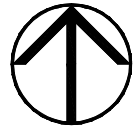
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RANDS DEVELOPMENT NO.3
Pty Ltd

PROJECT
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Of Lots 38-41 on RP30068 and Lots 9 & 101 on SP127089
BERRY STREET & PHOENIX COURT, CHURCHILL
Patch of FURBA County of CHURCHILL

Level Datum:	A.H.D. vide PSM 30887
Bench Mark:	
Location:	Berry Street
Adopted Level:	18.632m AHD
Contour Interval:	0.25m

DRAWING TITLE
CROSS SECTIONS ROAD 1 - SECTION 3

DESIGNED:	P.E.	JOB No.	9597
DRAWN:	C.R. & B.R.		
CHECKED:	D.M.		
SCALE:	AS SHOWN	DWG No.	9597-33-07



LEGEND

CADASTRAL BOUNDARY	---
WATER MAIN	— W — W —
PROPOSED SEWER	— S — S —
DRAIN INVERT	—
STORMWATER PIPE	— SW — SW —
ROOFWATER PIPE	— RW — RW —
ALT. ROOFWATER PIPE	— RW — RW —
CROWN OF ROAD	—
EX. ROOFWATER PIPE	— RW — RW —
EX. UNDERGROUND TELSTRA	— T — T —
EX. OVERHEAD POWER	— E — E —
EX. SEWER PIPE	— S — S —

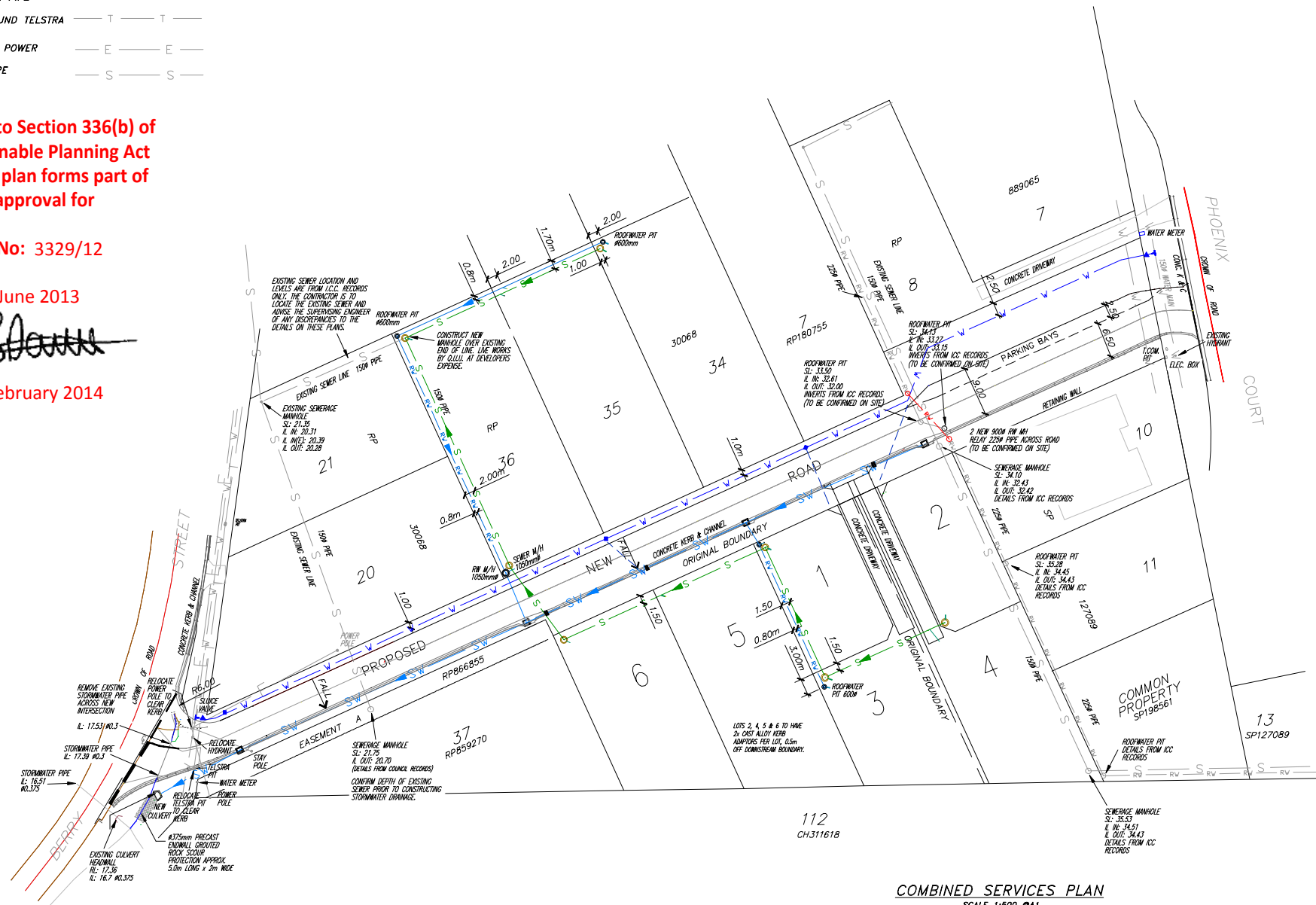
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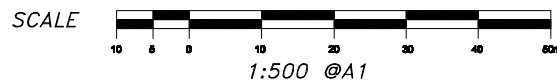
Date: 24 June 2013

Signed: *[Signature]*

Date: 4 February 2014



COMBINED SERVICES PLAN
SCALE 1:500 @A1



STORMWATER DRAINAGE NOTES:

- ALL CONSTRUCTION TO BE IN ACCORDANCE WITH I.C.C. PLANNING SCHEME "POLICY 3 - GENERAL WORKS" AND STANDARD DRAWINGS.
- ALL STORMWATER PIPES ARE TO BE RCP CLASS 2 OR FRC UNO.
- PIPES 600 DIA OR LESS TO BE SPIGOT AND SOCKET WITH RUBBER RING JOINTS. PIPES GREATER THAN 600 DIA TO BE INTERNAL FLUSH JOINTED WITH PIPE MANUFACTURER'S PROPRIETARY EXTERNAL BANDS.
- PIPES SHALL BE BEDDED IN ACCORDANCE WITH ICC DRAWING SD.11A.
- BACK FILLING OF TRENCHES UNDER ROADS SHALL BE IN ACCORDANCE WITH ICC DRAWING SD.11A.
- ALL GULLY PITS ARE TO BE CONCRETE WITH GALVANISED STEEL GRATES IN ACCORDANCE WITH ICC SD.04A AND SD.07A STANDARD DRAWINGS RESPECTIVELY.
- ALL GULLY PITS ARE TO HAVE LINTELS IN ACCORDANCE WITH ICC SD.06A. REFER TO STORMWATER LONG SECTION FOR SIZES.
- GULLY PITS AND MANHOLES ARE TO HAVE STEP RUNGS IN ACCORDANCE WITH ICC SD.10A.
- ALL END WALL OUTLETS ARE TO BE IN ACCORDANCE WITH QLD TRANSPORT STANDARD DRAWING NO. 1305.
- ALL MANHOLES ARE TO BE IN ACCORDANCE WITH ICC SD.02A. REFER TO LONG SECTIONS FOR SIZES. ALL MANHOLES ARE TO HAVE BOLT DOWN CAST IRON COVER AND FRAME.
- FINAL FORM OF ALL STORMWATER DRAINAGE OUTLETS ARE SUBJECT TO COUNCIL APPROVAL.

ROOFWATER DRAINAGE NOTES:

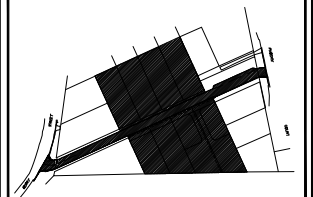
- ALL CONSTRUCTION TO BE IN ACCORDANCE WITH I.C.C. PLANNING SCHEME "POLICY 3 - GENERAL WORKS" AND STANDARD DRAWINGS.
- ROOFWATER ALIGNMENT TO BE 0.6m FROM REAR PROPERTY BOUNDARIES AND 1.2m FROM SIDE BOUNDARIES UNO.
- SEWERS PARALLEL TO ROOFWATER LINES TO BE LOCATED ON A 2.0m ALIGNMENT. ROOFWATER HOUSE CONNECTION BRANCHES TO EXTEND 0.5m PAST THE CENTRE OF THE SEWER MAIN. A 1.0m SEPARATION TO BE PROVIDED BETWEEN SEWER AND ROOFWATER BRANCHES.
- ALL PIPES ARE TO BE UPVC SEWER CLASS SH SOLVENT WELDED TO AS1260 OR FRC CLASS 2 R.R.J TO AS4139 OR RC CLASS 2 R.R.J TO AS1342.
- ACCESS CHAMBERS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH ICC DWG SD.12 AND SHALL BE:
600mm# - FOR DEPTHS UP TO 750mm
900mm# - FOR DEPTHS 750mm TO 1500mm
1050mm# - FOR DEPTHS >1500mm
- ROOFWATER HOUSE CONNECTIONS ARE TO BE 100mm TYPE A UNO IN ACCORDANCE WITH SEWER STANDARDS ICC SS.10D.
- ALL PIPES ARE TO HAVE 450mm MINIMUM COVER.

SEWERAGE RETICULATION NOTES

- ALL CONSTRUCTION IS TO BE IN ACCORDANCE WITH I.C.C. PLANNING SCHEME "POLICY 3 - GENERAL WORKS" AND STANDARD DRAWINGS.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN THE LOCATION AND DEPTH OF ALL PUBLIC UTILITIES WHICH MAY BE AFFECTED BY THIS PLAN PRIOR TO COMMENCING WORK.
- ALL SEWERAGE CONSTRUCTION WORK UNDERTAKEN BY THE CONTRACTOR IS TO COMPLY WITH THE REQUIREMENTS OF THE QUEENSLAND WORKPLACE HEALTH AND SAFETY ACT.
- THE CONTRACTOR TO VERIFY FINISHED SURFACE LEVELS ON SITE BEFORE CONSTRUCTION OF SEWERS AND HOUSE CONNECTION BRANCHES.
- ALL WORK ASSOCIATED WITH LIVE SEWERS OR MANHOLES TO BE CARRIED OUT BY Q.U.U. AT DEVELOPER'S EXPENSE.
- ALL ACCESS CHAMBERS ARE TO BE 1050# PRECAST OR CAST-IN-SITU IN ACCORDANCE WITH ICC SS.03A AND SS.02A STANDARD DRAWINGS RESPECTIVELY. THE SURFACE LEVEL OF CHAMBERS ARE TO BE 50 TO 75mm HIGHER THAN SURROUNDING FINISHED SURFACE LEVELS. THE DESIGN FINISHED SURFACE LEVELS ARE A GUIDE ONLY.
- ALL HOUSE CONNECTION BRANCHES ARE TO EXTEND 600mm MIN INTO PROPERTY AND ARE TO BE CONSTRUCTED IN ACCORDANCE WITH ICC SS.10D STANDARD DRAWING.
- END OF LINE MANHOLES ARE TO BE CONSTRUCTED IN ACCORDANCE WITH ICC STD DWG SS.24.
- ALL HOUSE CONNECTION INVERT LEVELS AS SHOWN ON THESE DRAWINGS ARE THE HIGHEST POSSIBLE LEVEL TO CONTROL THE ALIGNMENT. ANY HOUSE CONNECTION LAID TO A HIGHER LEVEL SHALL BE RECTIFIED AT THE CONTRACTORS COST.
- CONNECTION TO EXISTING MANHOLES ARE TO BE MADE BY Q.U.U UNLESS DIRECTED IN WRITING OTHERWISE BY Q.U.U.
- ALL SEWER PIPES ARE TO BE U.P.V.C. CLASS SN8, 100mm HOUSE CONNECTION BRANCHES TO BE U.P.V.C. CLASS SN4.
- ALL PIPE WORK IS TO BE TESTED TO THE SATISFACTION OF THE ENGINEER AND COUNCIL PRIOR TO CONNECTION TO THE COUNCIL MAINS.
- ALL SEWER LINES TO BE PRESSURE TESTED WITH AIR. PRESSURE TEST TO 30kPa MIN AND HOLD FOR 3 MINUTES. PRESSURE MUST NOT FALL BELOW 25kPa IN 3 MINUTES.
- COMPLY WITH ALL REQUIREMENTS OF THE SEWERAGE AND WATER SUPPLY ACT.

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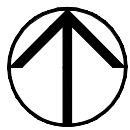
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Level Datum:	A.H.D. vide PSM 30887
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Adopted Level:	18.632m AHD
Contour Interval:	0.25m

DRAWING TITLE
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DESIGNED:	P.E.	JOB No.	9597
DRAWN:	C.R. & B.R.		
CHECKED:	D.M.		
SCALE:	1:500@A1	DWG No.	9597-33-08



LEGEND

- STORMWATER PIPE — SV — SV —
- ROOFWATER PIPE — RW — RW —
- PROPOSED RW CONNECTION — RW — RW —
- CROWN OF ROAD — — — —
- DESIGN CONTOUR 1.0m — — — —
- DESIGN CONTOUR 0.25m — — — —
- HOUSE CONNECTION — — — —
- STRUCTURE NUMBER STRUCTURE NO. 2 LINE NO. 3

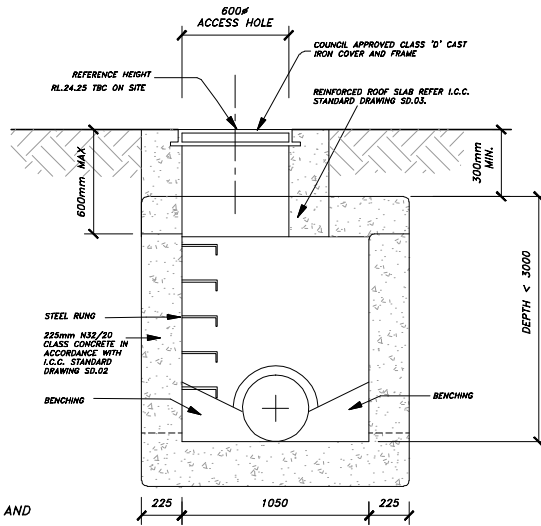
STORMWATER DRAINAGE NOTES:

- ALL CONSTRUCTION TO BE IN ACCORDANCE WITH I.C.C. PLANNING SCHEME "POLICY 3 - GENERAL WORKS" AND STANDARD DRAWINGS.
- ALL STORMWATER PIPES ARE TO BE RCP CLASS 2 OR FRC UNO.
- PIPES 600 DIA OR LESS TO BE SPIGOT AND SOCKET WITH RUBBER RING JOINTS. PIPES GREATER THAN 600 DIA TO BE INTERNAL FLUSH JOINTED WITH PIPE MANUFACTURER'S PROPRIETARY EXTERNAL BANDS.
- PIPES SHALL BE BEDDED IN ACCORDANCE WITH ICC DRAWING SD.11A.
- BACKFILLING OF TRENCHES UNDER ROADS SHALL BE IN ACCORDANCE WITH ICC DRAWING SD.11A.
- ALL GULLY PITS ARE TO BE CONCRETE WITH GALVANISED STEEL GRATES IN ACCORDANCE WITH ICC SD.04A AND SD.07A STANDARD DRAWINGS RESPECTIVELY.
- ALL GULLY PITS ARE TO HAVE LINTELS IN ACCORDANCE WITH ICC SD.06A. REFER TO STORMWATER LONG SECTION FOR SIZES.
- GULLY PITS AND MANHOLES ARE TO HAVE STEP RUNGS IN ACCORDANCE WITH ICC SD.10A.
- ALL END WALL OUTLETS ARE TO BE IN ACCORDANCE WITH QLD TRANSPORT STANDARD DRAWING NO. 1305.
- ALL MANHOLES ARE TO BE IN ACCORDANCE WITH ICC SD.02A. REFER TO LONGSECTIONS FOR SIZES. ALL MANHOLES ARE TO HAVE BOLT DOWN CAST IRON COVER AND FRAME.
- FINAL FORM OF ALL STORMWATER DRAINAGE OUTLETS ARE SUBJECT TO COUNCIL APPROVAL.

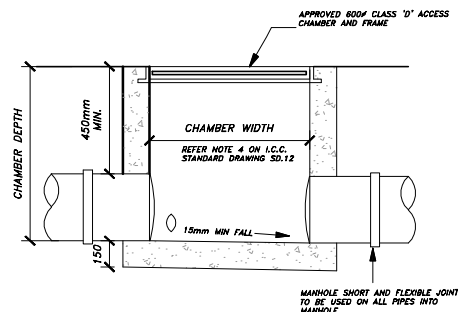
ROOFWATER DRAINAGE NOTES:

- ALL CONSTRUCTION TO BE IN ACCORDANCE WITH I.C.C. PLANNING SCHEME "POLICY 3 - GENERAL WORKS" AND STANDARD DRAWINGS.
- ROOFWATER ALIGNMENT TO BE 0.6m FROM REAR PROPERTY BOUNDARIES AND 1.2m FROM SIDE BOUNDARIES UNO.
- SEWERS PARALLEL TO ROOFWATER LINES TO BE LOCATED ON A 2.0m ALIGNMENT. ROOFWATER HOUSE CONNECTION BRANCHES TO EXTEND 0.5m PAST THE CENTRE OF THE SEWER MAIN. A 1.0m SEPARATION TO BE PROVIDED BETWEEN SEWER AND ROOFWATER BRANCHES.
- ALL PIPES ARE TO BE UPVC SEWER CLASS SH SOLVENT WELDED TO AS1260 OR FRC CLASS 2 R.R.J TO AS4139 OR RC CLASS 2 R.R.J TO AS1342.
- ACCESS CHAMBERS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH ICC DWG SD.12 AND SHALL BE:
600mm# - FOR DEPTHS UP TO 750mm
900mm# - FOR DEPTHS 750mm TO 1500mm
1050mm# - FOR DEPTHS >1500mm
- ROOFWATER HOUSE CONNECTIONS ARE TO BE 100mm TYPE A UNO IN ACCORDANCE WITH SEWER STANDARDS ICC SS.10D.
- ALL PIPES ARE TO HAVE 450mm MINIMUM COVER.

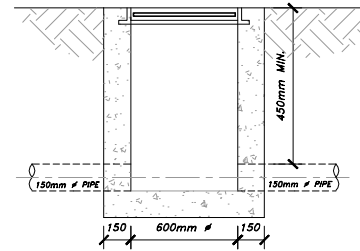
STORMWATER SETOUT			
M/H	S/L	EASTING	NORTHING
OUT/1	17.45	4997.167	4997.552
GT1/1	18.85	5012.429	5005.403
GT2/1	24.65	5065.070	5028.837
GT3/1	29.65	5105.311	5047.164
GT4/1	33.50	5137.542	5061.796
1/2	24.70	5060.632	5038.105
2/2	23.97	5040.726	5081.545
3/2	27.60	5078.514	5098.865
1/3	29.83	5107.175	5043.274
2/3	30.44	5119.115	5017.217



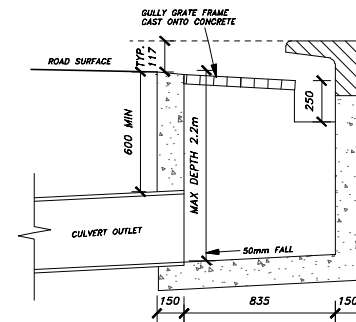
TYPICAL STORMWATER ACCESS CHAMBER SECTION
WHERE DEPTH < 3000mm
REFER I.C.C. STANDARD DRAWING SD.02
SCALE 1:20@A1



TYPICAL ROOFWATER INSPECTION CHAMBER SECTION
REFER I.C.C. STANDARD DRAWING SD.12
SCALE 1:20@A1



TYPICAL FIELD INLET SECTION
REFER I.C.C. STANDARD DRAWING SD.09
SCALE 1:20@A1



TYPICAL GRATED INLET SECTION
REFER I.C.C. STANDARD DRAWING SD.04
SCALE 1:20@A1

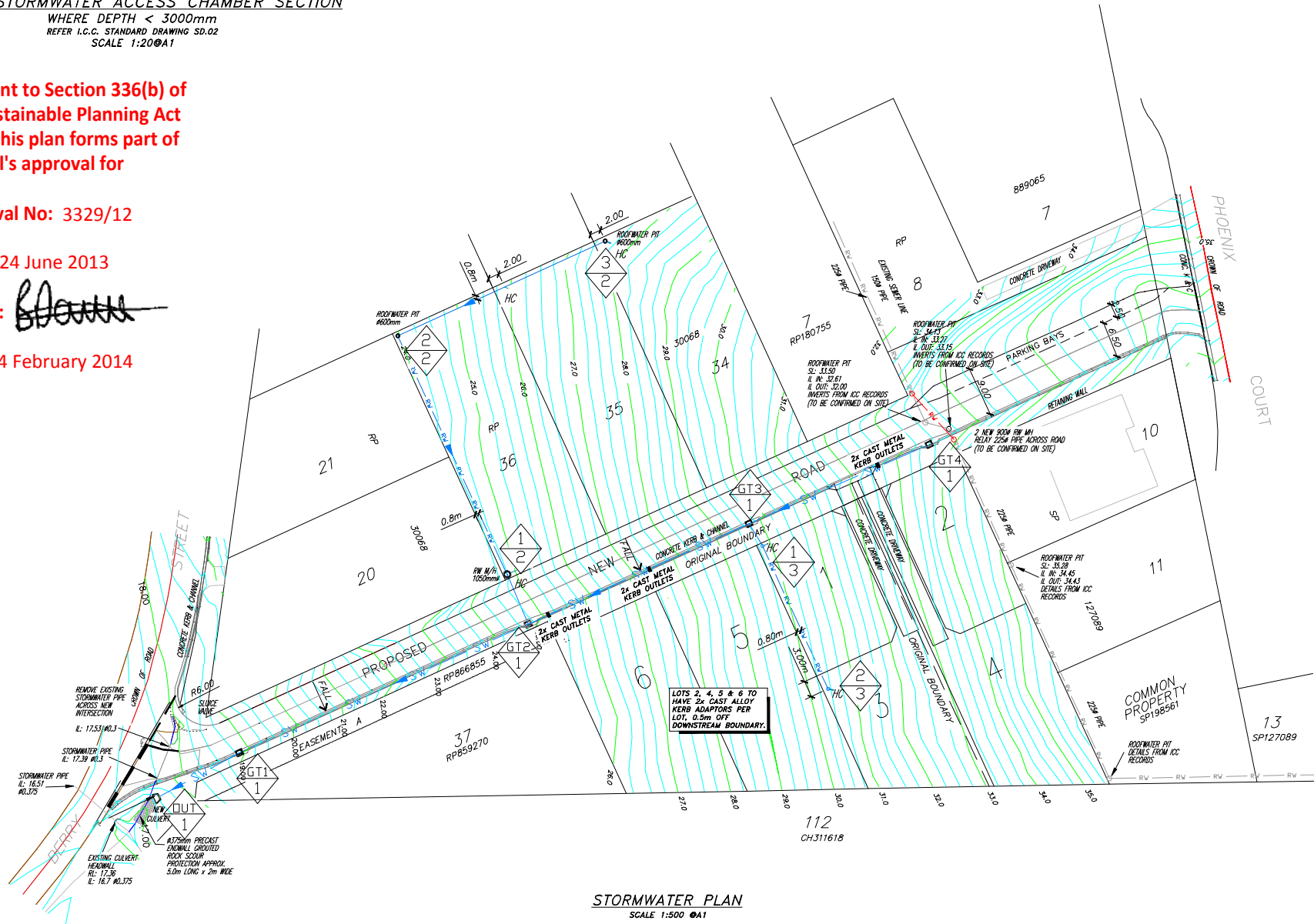
Pursuant to Section 336(b) of the Sustainable Planning Act 2009, this plan forms part of Council's approval for

Approval No: 3329/12

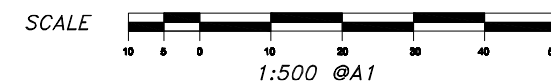
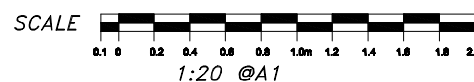
Date: 24 June 2013

Signed: *[Signature]*

Date: 4 February 2014

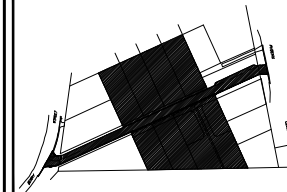


STORMWATER PLAN
SCALE 1:500 @A1



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KEY PLAN



REV	DESCRIPTION	DATE	BY
A	PRELIMINARY FOR COMMENT	13-11-12	P.E.
B	AMENDMENTS FOR COMMENT	01-03-13	P.E.
C	AMENDMENTS FOR APPROVAL	14-03-13	P.E.
D	OPERATIONAL WORKS	19-03-13	P.E.
E	AMENDMENTS FOR APPROVAL	11-06-13	P.E.
F	INFORMATION RESPONSE	04-09-13	P.E.

APPROVED:
[Signature]
DANIEL MICHEL RPEQ 3766
DIRECTOR
HUNT MICHEL & PARTNERS



P.O BOX 867, IPSWICH Q. 4305
77 RODERICK STREET, IPSWICH
"BARTLEFREERE"
PH 3812 2076 FAX 3812 1614

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planning@bairdandhayes.com.au (Planning)
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DEVELOPMENT APPLICATIONS
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ENGINEERING SURVEYS

CLIENT
RANDS DEVELOPMENT NO.2
Py Ltd

PROJECT
PROPOSED RECONFIGURATION OF A LOT (LOT 6 INTO 6 LOTS & NEW ROAD)

Of Lots 38-41 on RP30068
and Lots 9 & 101 on SP127089
BERRY STREET & PHOENIX COURT,
CHURCHILL
Part of PURBA County of CHURCHILL

Level Datum: A.H.D. vide PSM 30887
Bench Mark
Location: Berry Street
Adopted Level: 18.632m AHD
Contour Interval: 0.25m

DRAWING TITLE
STORMWATER PLAN

DESIGNED: P.E. JOB No. 9597
DRAWN: C.R. & B.R. 9597
CHECKED: D.M. DWG No. 9597-33-09
SCALE: AS SHOWN

- NOTES:
1. THE CONTRACTOR IS TO VERIFY EXISTING SEWER LEVELS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
 2. THE CONTRACTOR IS TO VERIFY ALL FINISHED SURFACE LEVELS OF THE PROPOSED MAINTENANCE HOLES BEFORE CONSTRUCTION TO FINISHED LEVELS.
 3. THE CONTRACTOR IS TO NOTIFY THE SUPERVISING ENGINEER OF ANY DISCREPANCIES BETWEEN THE DESIGN PLANS AND THE CONDITIONS ON SITE PRIOR TO COMMENCEMENT OF ANY PIPE LAYING.
 4. HOUSE CONNECTIONS HAVE BEEN DESIGNED TO CONTROL ALL OF THE BLOCK AT A GRADE OF 1:80 AT A MAXIMUM DEPTH OF PROPERTY CONNECTION OF 1.80m UNLESS OTHERWISE STATED.

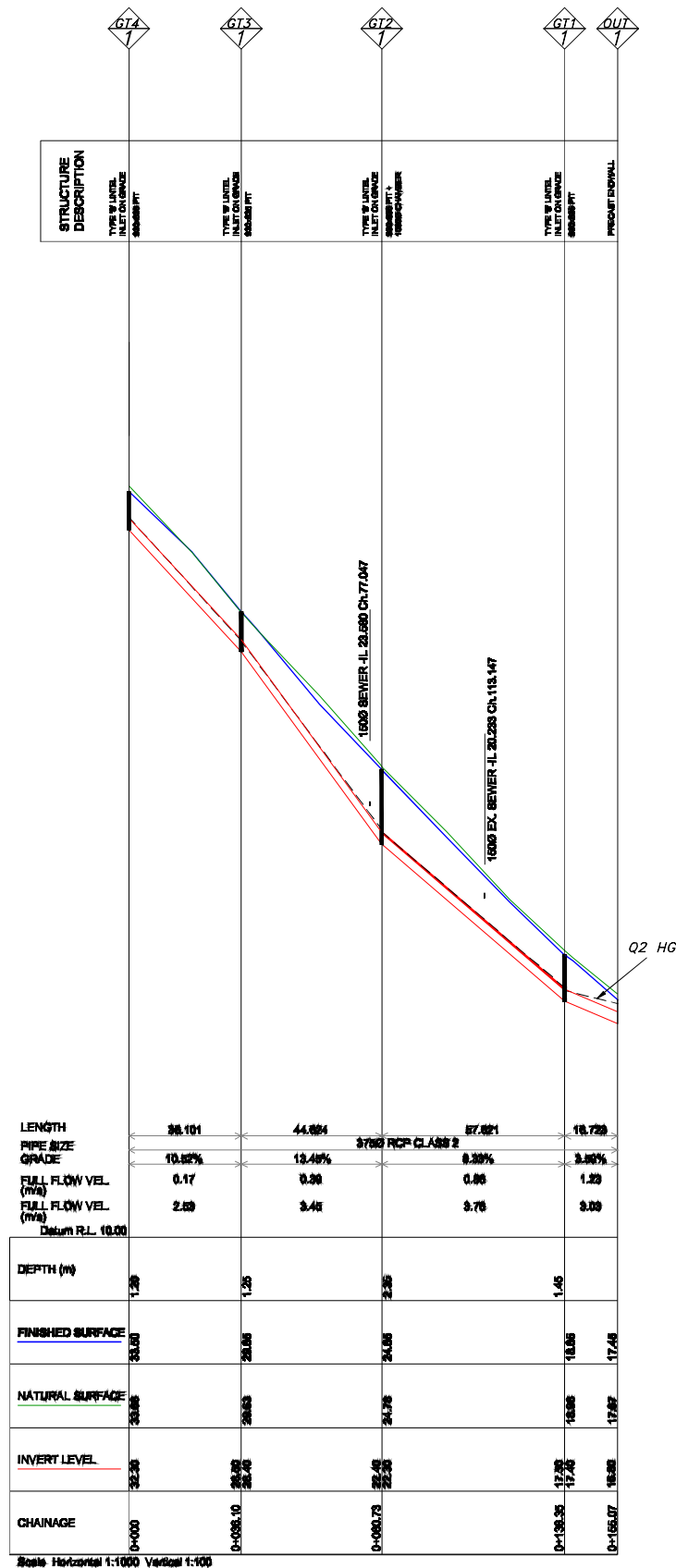
Pursuant to Section 336(b) of the Sustainable Planning Act 2009, this plan forms part of Council's approval for

Approval No: 3329/12

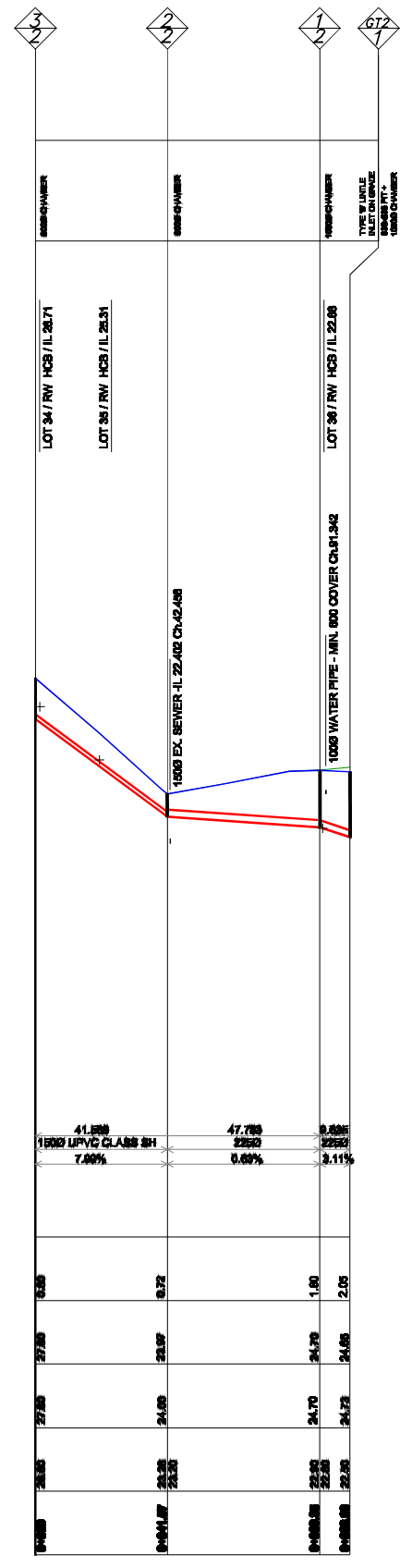
Date: 24 June 2013

Signed: 

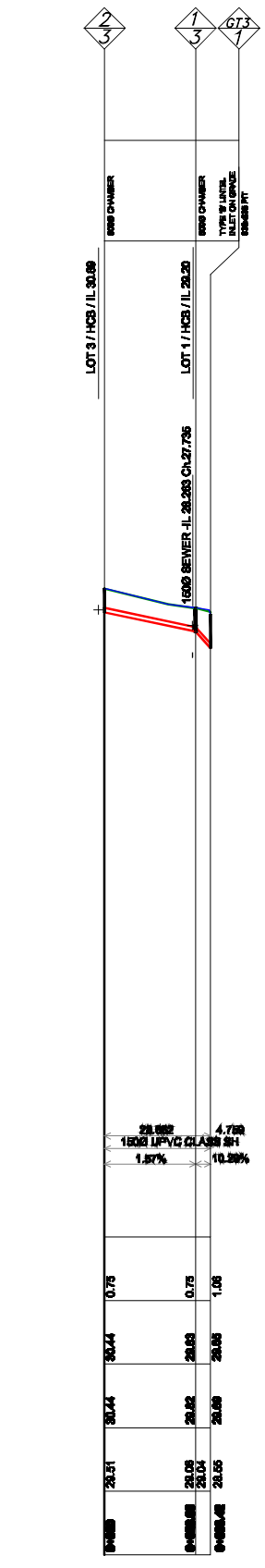
Date: 4 February 2014



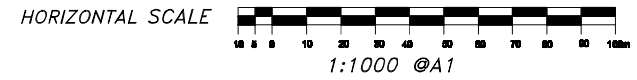
STORMWATER LINE 1



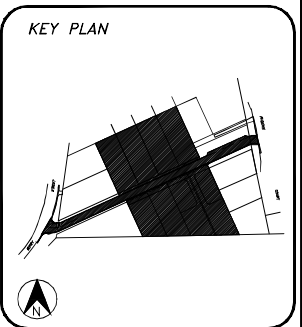
ROOFWATER LINE 2



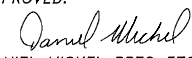
ROOFWATER LINE 3



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E	AMENDMENTS FOR APPROVAL	11-06-13	P.E
F	INFORMATION RESPONSE	04-09-13	P.E

APPROVED:

 DANIEL MICHEL RPEQ 3766
 DIRECTOR
 HUNT MICHEL & PARTNERS

BAIRD & HAYES
 SURVEYORS • TOWN PLANNERS

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 Pty Ltd

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PROPOSED RECONFIGURATION OF A LOT (LOT 6 INTO 6 LOTS & NEW ROAD)
 Of Lots 38-41 on RP30068 and Lots 9 & 101 on SP127069

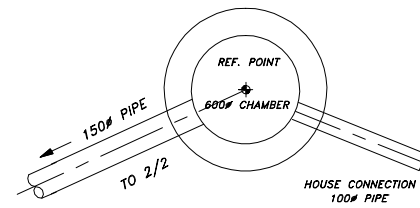
BERRY STREET & PHOENIX COURT, CHURCHILL
 Parish of PURBA County of CHURCHILL

Level Datum: A.H.D. vield PSM 30887
 Bench Mark
 Location: Berry Street
 Adopted Level: 18.632m AHD
 Contour Interval: 0.25m

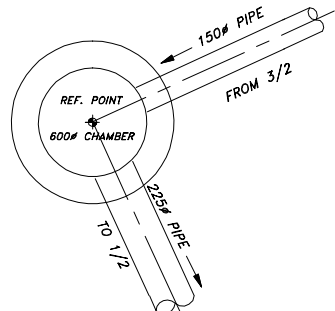
DRAWING TITLE
 STORMWATER
 LONGITUDINAL SECTIONS

DESIGNED: P.E.
 DRAWN: C.R. & B.R.
 CHECKED: D.M.
 SCALE: AS SHOWN

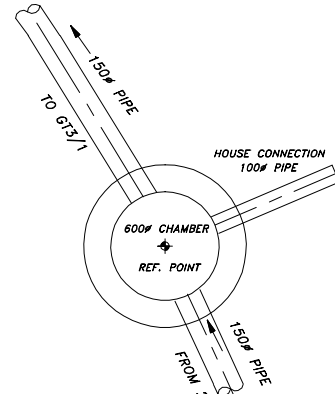
JOB No. 9597
 DWG No. 9597-33-10



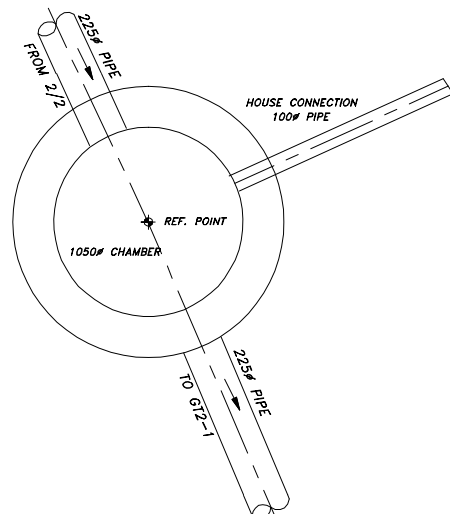
RW MH 3/2 PLAN
SCALE 1:20 @A1



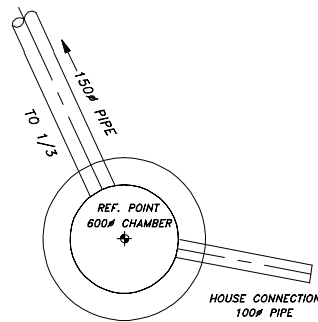
RW MH 2/2 PLAN
SCALE 1:20 @A1



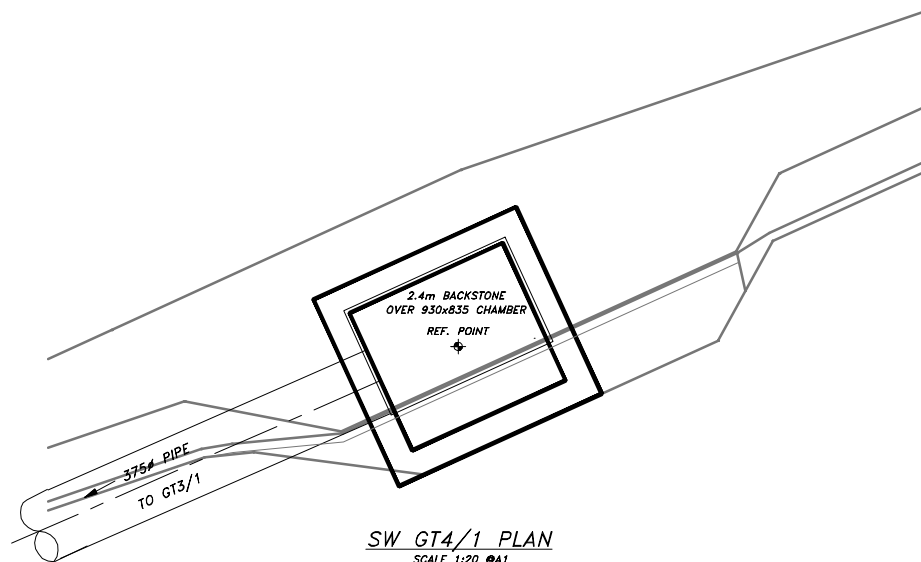
RW MH 1/3 PLAN
SCALE 1:20 @A1



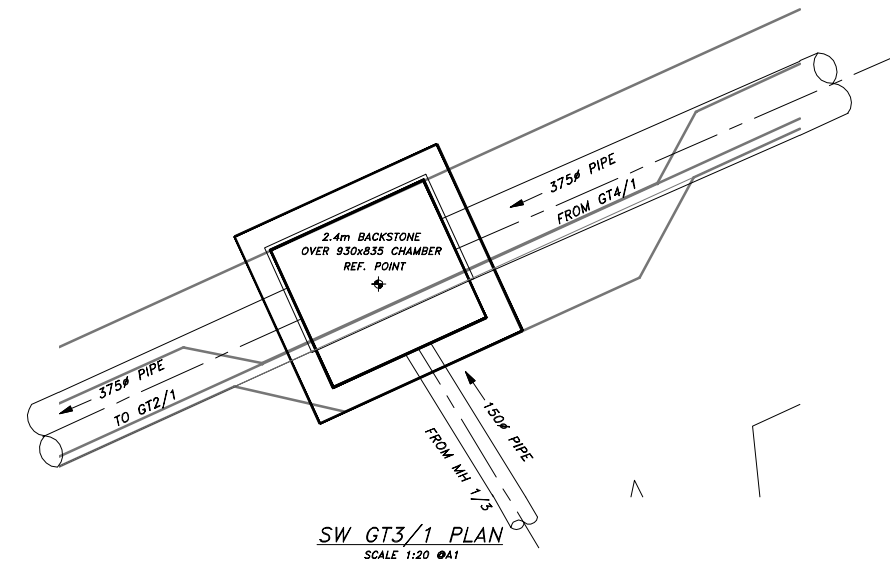
RW MH 1/2 PLAN
SCALE 1:20 @A1



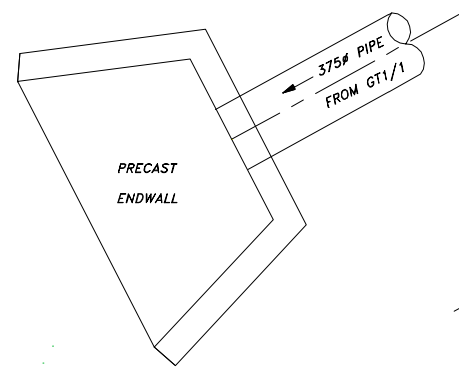
RW MH 2/3 PLAN
SCALE 1:20 @A1



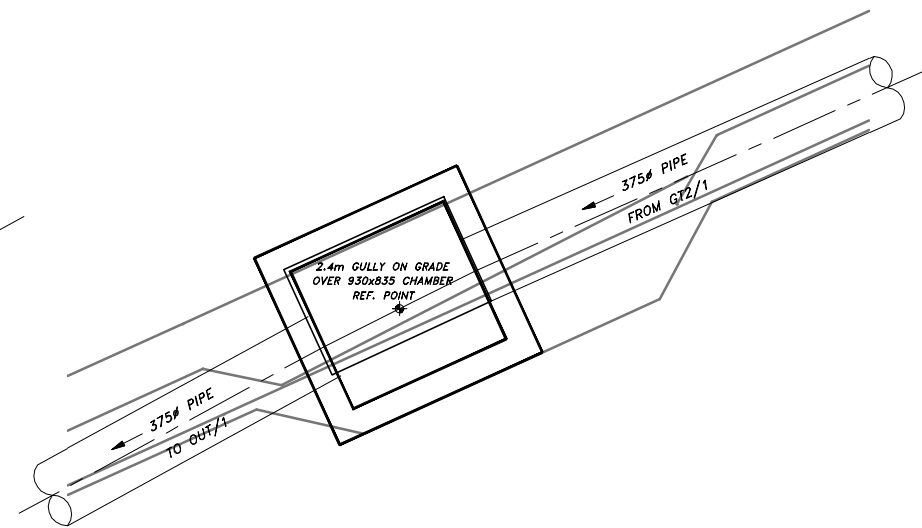
SW GT4/1 PLAN
SCALE 1:20 @A1



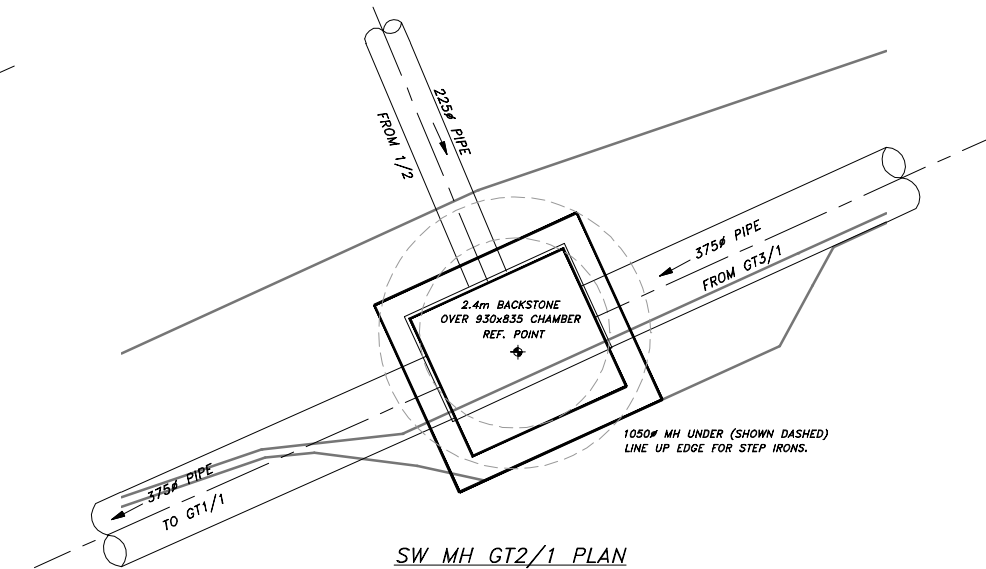
SW GT3/1 PLAN
SCALE 1:20 @A1



SW CULVERT OUT/1 PLAN
SCALE 1:20 @A1



SW GT1/1 PLAN
SCALE 1:20 @A1



SW MH GT2/1 PLAN
SCALE 1:20 @A1

STORMWATER NOTES
 1. DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN. DO NOT DIMENSION OFF THIS DRAWING.
 2. CONCRETE CLASS TO BE N32/20 IN ACCORDANCE WITH A.S.1379 AND A.S.3600.
 3. REFER I.C.C. STANDARD DRAWING SD.02 FOR ACCESS CHAMBER DEPTHS AND THICKNESSES.

Pursuant to Section 336(b) of the Sustainable Planning Act 2009, this plan forms part of Council's approval for

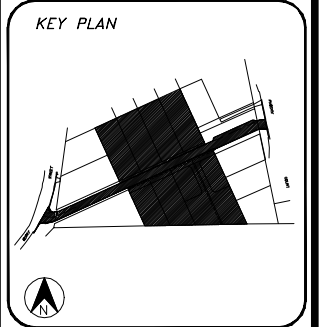
Approval No: 3329/12

Date: 24 June 2013

Signed: *[Signature]*

Date: 4 February 2014

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D	OPERATIONAL WORKS	15-03-13	P.E.
E	AMENDMENTS FOR APPROVAL	11-06-13	P.E.
F	INFORMATION RESPONSE	04-09-13	P.E.

APPROVED:
[Signature]
 DANIEL MICHEL RPEQ 3766
 DIRECTOR
 HUNT MICHEL & PARTNERS

BAIRD & HAYES
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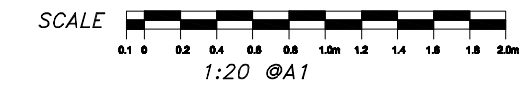
PROJECT
PROPOSED RECONFIGURATION OF A LOT (LOT 6 INTO 6 LOTS & NEW ROAD)
 Of Lots 38-41 on RP30068 and Lots 9 & 101 on SP127089
BERRY STREET & PHOENIX COURT, CHURCHILL
 Parish of PUMBA County of CHURCHILL

Level Datum: A.H.D. vide PSM 30887
 Bench Mark
 Location: Berry Street
 Adopted Level: 18.632m AHD
 Contour Interval: 0.25m

DRAWING TITLE
 STORMWATER MANHOLE & GULLY DETAILS

DESIGNED: P.E.
 DRAWN: C.R. & B.R.
 CHECKED: D.M.
 SCALE: 1:20 @A1

JOB No. 9597
 DWG No. 9597-33-12



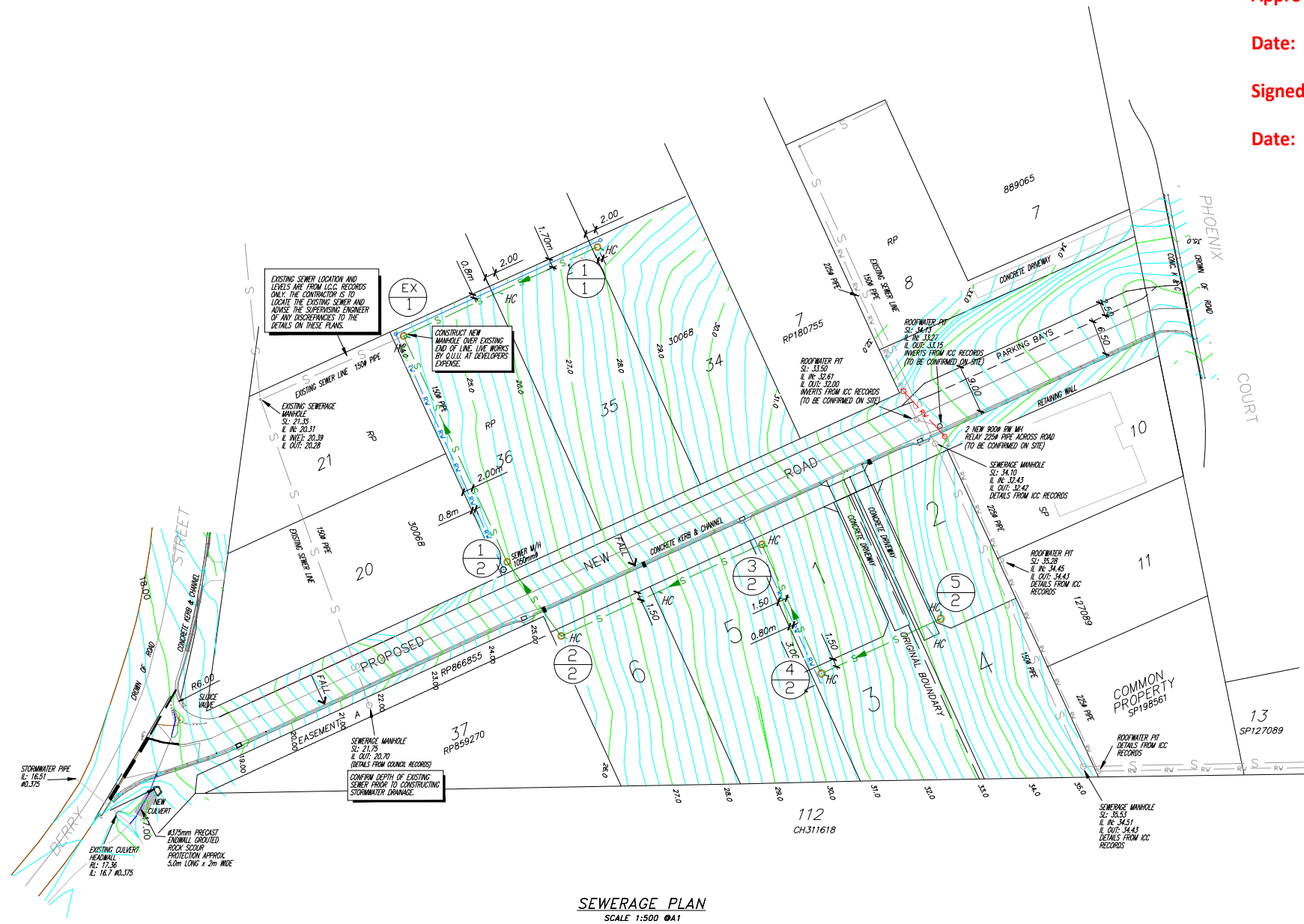


LEGEND

- PROPOSED SEWER PIPE — S — S —
- EXISTING SEWER PIPE — S — S —
- DRAIN INVERT — — — —
- ROOFWATER PIPE — RW — RW —
- CROWN OF ROAD — — — —
- DESIGN CONTOUR 1.0m — — — —
- DESIGN CONTOUR 0.25m — — — —
- HOUSE CONNECTION — — — —
- PROPOSED ACCESS CHAMBER LEVEL STRUCTURE NO. (2) LINE NO. (2)

SEWERAGE RETICULATION NOTES

1. ALL CONSTRUCTION IS TO BE IN ACCORDANCE WITH I.C.C. PLANNING SCHEME "POLICY 3 - GENERAL WORKS" AND STANDARD DRAWINGS.
2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN THE LOCATION AND DEPTH OF ALL PUBLIC UTILITIES WHICH MAY BE AFFECTED BY THIS PLAN PRIOR TO COMMENCING WORK.
3. ALL SEWERAGE CONSTRUCTION WORK UNDERTAKEN BY THE CONTRACTOR IS TO COMPLY WITH THE REQUIREMENTS OF THE QUEENSLAND WORKPLACE HEALTH AND SAFETY ACT.
4. THE CONTRACTOR TO VERIFY FINISHED SURFACE LEVELS ON SITE BEFORE CONSTRUCTION OF SEWERS AND HOUSE CONNECTION BRANCHES.
5. ALL WORK ASSOCIATED WITH LIVE SEWERS OR MANHOLES TO BE CARRIED OUT BY Q.U.U. AT DEVELOPER'S EXPENSE.
6. ALL ACCESS CHAMBERS ARE TO BE 1050# PRECAST OR CAST-IN-SITU IN ACCORDANCE WITH ICC SS.03A AND SS.02A STANDARD DRAWINGS RESPECTIVELY. THE SURFACE LEVEL OF CHAMBERS ARE TO BE 50 TO 75mm HIGHER THAN SURROUNDING FINISHED SURFACE LEVELS. THE DESIGN FINISHED SURFACE LEVELS ARE A GUIDE ONLY.
7. ALL HOUSE CONNECTION BRANCHES ARE TO EXTEND 600mm MIN INTO PROPERTY AND ARE TO BE CONSTRUCTED IN ACCORDANCE WITH ICC SS.10D STANDARD DRAWING.
8. END OF LINE MANHOLES ARE TO BE CONSTRUCTED IN ACCORDANCE WITH ICC STD DWG SS.24.
9. ALL HOUSE CONNECTION INVERT LEVELS AS SHOWN ON THESE DRAWINGS ARE THE HIGHEST POSSIBLE LEVEL TO CONTROL THE ALLOTMENT. ANY HOUSE CONNECTION LAID TO A HIGHER LEVEL SHALL BE RECTIFIED AT THE CONTRACTOR'S COST.
10. CONNECTION TO EXISTING MANHOLES ARE TO BE MADE BY Q.U.U. UNLESS DIRECTED IN WRITING OTHERWISE BY Q.U.U.
11. ALL SEWER PIPES ARE TO BE U.P.V.C. CLASS SN8. 100mm HOUSE CONNECTION BRANCHES TO BE U.P.V.C. CLASS SN4.
12. ALL PIPE WORK IS TO BE TESTED TO THE SATISFACTION OF THE ENGINEER AND COUNCIL PRIOR TO CONNECTION TO THE COUNCIL MAINS.
13. ALL SEWER LINES TO BE PRESSURE TESTED WITH AIR. PRESSURE TEST TO 30kPa MIN AND HOLD FOR 3 MINUTES. PRESSURE MUST NOT FALL BELOW 25kPa IN 3 MINUTES.
14. COMPLY WITH ALL REQUIREMENTS OF THE SEWERAGE AND WATER SUPPLY ACT.



SEWERAGE PLAN SCALE 1:500 @A1

SEWER SETOUT			
M/H	S/L	EASTING	NORTHING
1/1	27.65	5077.987	5097.625
EX/1	24.08	5042.195	5081.220
1/2	24.88	5061.301	5039.515
2/2	25.43	5071.311	5025.846
3/2	29.93	5108.289	5042.759
4/2	30.55	5119.277	5018.942
5/2	33.55	5141.310	5029.040

Pursuant to Section 336(b) of the Sustainable Planning Act 2009, this plan forms part of Council's approval for

Approval No: 3329/12

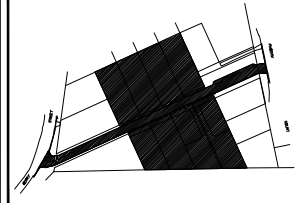
Date: 24 June 2013

Signed: [Signature]

Date: 4 February 2014

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KEY PLAN



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APPROVED: Daniel Michel, DANIEL MICHEL RPEQ 3766, DIRECTOR, HUNT MICHEL & PARTNERS

BAIRD & HAYES
SURVEYORS - TOWN PLANNERS

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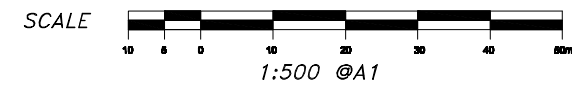
CLIENT: RANDS DEVELOPMENT NO.3 Pty Ltd

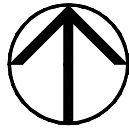
PROJECT: PROPOSED RECONFIGURATION OF A LOT (LOT 6 INTO 6 LOTS & NEW ROAD) Of Lots 38-41 on RP30068 and Lots 9 & 101 on SP127089 BERRY STREET & PHOENIX COURT, CHEURCHILL, Parish of FUMBA County of CHEURCHILL

Level Datum:	A.H.D. vide PSM 30887
Bench Mark	
Location:	Berry Street
Adopted Level:	18.632m AHD
Contour Interval:	0.25m

DRAWING TITLE: SEWERAGE PLAN

DESIGNED:	P.E.	JOB No.	
DRAWN:	C.R. & B.R.		9597
CHECKED:	D.M.		
SCALE:	1:500@A1	DWG No.	9597-33-13





Pursuant to Section 336(b) of the Sustainable Planning Act 2009, this plan forms part of Council's approval for

Approval No: 3329/12

Date: 24 June 2013

Signed:

Date: 4 February 2014

LID TYPE	CIRC.	CLASS B
MANHOLE TYPE (mm)	1000	
DROP TYPE	TYPE A	TYPE A

CH. 1.13 LOT 38 / HCB / IL 22.62
CH. 18.91 LOT 38 / HCB / IL 24.53
CH. 40.77 LOT 34 / HCB / IL 26.12

CONSTRUCTION OF NEW MANHOLE OVER EXISTING MAIN BY Q.U.U. AT DEVELOPER'S EXPENSE.

PIPE LENGTH (m)	39.37
PIPE SIZE (mm)	1500
GRADE	8.74%
Datum R.L. 10.00	
JUNCTION INVERT	
DEPTH (m)	1.54 (existing)
FINISHED SURFACE	24.08
NATURAL SURFACE	24.08
INVERT LEVEL	22.54
Chirnage	0+000

Scale Horizontal 1:1000 Vertical 1:100

SEWER LINE 1

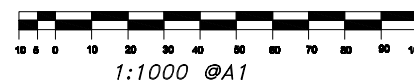
LID TYPE	CIRC.	CLASS B
MANHOLE TYPE (mm)	1000	
DROP TYPE	TYPE A	TYPE A

CH. 1.30 LOT 38 / HCB / IL 22.62
CH. 64.08 LOT 8 / HCB / IL 24.35
CH. 83.50 LOT 5 / HCB / IL 26.31
CH. 104.61 LOT 11 / HCB / IL 28.45
CH. 130.72 LOT 3 / HCB / IL 28.95
CH. 150.89 LOT 4 / HCB / IL 31.62
CH. 184.81 LOT 2 / HCB / IL 32.00

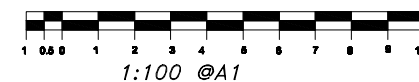
PIPE LENGTH (m)	45.87	16.85	40.88	28.23	24.24
PIPE SIZE (mm)	1500	1500	1500	1500	1500
GRADE	1.08%	4.31%	10.72%	1.62%	12.82%
Datum R.L. 10.00					
JUNCTION INVERT					
DEPTH (m)	1.56	1.88	1.50	1.57	1.59
FINISHED SURFACE	24.08	24.88	25.43	28.83	30.48
NATURAL SURFACE	24.08	24.85	25.49	28.82	30.55
INVERT LEVEL	22.52	23.00	22.85	28.20	28.80
Chirnage	0+000	0+045.87	0+102.82	0+143.60	0+171.83

SEWER LINE 2

HORIZONTAL SCALE

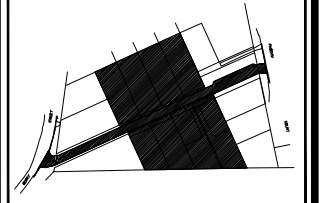


VERTICAL SCALE



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KEY PLAN



REV	DESCRIPTION	DATE	BY
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D	OPERATIONAL WORKS	15-03-13	P.E.
E	AMENDMENTS FOR APPROVAL	11-06-13	P.E.
F	INFORMATION RESPONSE	04-09-13	P.E.

APPROVED:

DANIEL MICHEL RPEQ 3766
DIRECTOR
HUNT MICHEL & PARTNERS

BAIRD & HAYES
SURVEYORS - TOWN PLANNERS

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DEVELOPMENT APPLICATIONS
LAND SURVEYS
ENGINEERING SURVEYS

CLIENT
RANDS DEVELOPMENT NO.3
Pty Ltd

PROJECT
PROPOSED RECONFIGURATION OF A LOT (LOT 6 INTO 6 LOTS & NEW ROAD)
Of Lots 38-41 on RP30068 and Lots 9 & 101 on SP127089
BERRY STREET & PHOENIX COURT, CHURCHILL
Patch of FURBA County of CHURCHILL

Level Datum: A.H.D. vide PSM 30887
Bench Mark Location: Berry Street
Adopted Level: 18.632m AHD
Contour Interval: 0.25m

DRAWING TITLE
SEWERAGE LONGITUDINAL SECTIONS

DESIGNED: P.E.
DRAWN: C.R. & B.R.
CHECKED: D.M.
SCALE: AS SHOWN

JOB No. 9597
DWG No. 9597-33-14



LEGEND

- WATER MAIN 100#
- WATER CONDUIT 100# PIPE
- EXISTING WATER PIPE
- CONTOUR LINE 1.0m
- CONTOUR LINE 0.25m

WATER RETICULATION

1. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH I.C.C. PLANNING SCHEME "POLICY 3 - GENERAL WORKS" AND STANDARD DWGS.
2. WATERMAIN ALIGNMENT TO BE STRICTLY 2.5m FROM PROPERTY BOUNDARIES UNO.
3. ALL WATERMANS SHALL HAVE 600mm MIN COVER (750mm FOR 200 AND 250# MAINS) UNDER FOOTPATHS; 900mm MIN COVER UNDER ROADWAYS (PROVIDE DICL MAINS IF 900 COVER CAN NOT BE ACHIEVED).
4. BACKFILLING OF TRENCHES SHALL BE IN ACCORDANCE WITH ICC DRAWING SW.02A.
5. PIPES TO BE DICL CLASS K9 HEAVY CEMENT LINED OR UPVC CLASS 16 RUBBER RING JOINT SOCKET SPIGOT PIPE WITH DUCTILE IRON COMPATIBILITY O.D. TO BE MANUFACTURED IN ACCORDANCE WITH AS2977.1.
6. ALL FITTINGS TO BE CAST IRON OR DUCTILE IRON, CEMENT LINED, MINIMUM CLASS K9 AND TO BE MANUFACTURED AND TESTED IN ACCORDANCE WITH AS2280.
7. DUCTILE IRON PIPES AND FITTINGS TO BE SLEEVED IN POLYETHYLENE IN ACCORDANCE WITH AS3680 AND AS3681.
8. THE CONTRACTOR IS TO OBTAIN TO LOCATION OF ALL EXISTING SERVICES AND PROTECT THESE PRIOR TO WORKING IN THE VICINITY. ANY DAMAGE IS TO BE REPAIRED AT THE CONTRACTOR'S COST.
9. SLUICE VALVES ARE TO BE CAST IRON TO BE MANUFACTURED TO AS2638 AND BE CLASS 14 MINIMUM.
10. THRUST BLOCKS TO BE PROVIDED AT ALL BENDS, TEES AND DEAD ENDS.
11. ALL WATER SUPPLY BENDS AND FITTINGS TO BE LOCATED IN THE FOOTPATH.
12. HYDRANTS TO BE LOCATED AS NEAR AS POSSIBLE ON LINE WITH COMMON PROPERTY BOUNDARIES.
13. HYDRANTS TO BE LOCATED OVER HIGHEST OR LOWEST POINTS ON THE WATER MAIN. WATER MAIN TO BE RAISED OR LOWERED TO INDUCE HIGH OR LOW POINTS AT HYDRANTS IN SAGS AND AT END OF MAINS.
14. HYDRANTS AND VALVES AT TRUNCATIONS TO BE LOCATED AT OR BEFORE THE TRUNCATION POINTS. ALL HYDRANTS AND VALVES ARE TO BE LOCATED WITH MARKER STAKES AND INDICATORS IN ACCORDANCE WITH ICC SW.10A AND SW.11A.
15. MAXIMUM JOINT DEFLECTIONS TO BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
16. SERVICE CONDUITS TO BE 100 DIA. FRC CLASS X OR UPVC CLASS 12 PIPES OR EQUIVALENT.
17. CONNECTIONS INTO EXISTING WATER MAINS TO BE CONSTRUCTION BY Q.U.U. AT DEVELOPER'S EXPENSE. THESE CONNECTIONS ARE TO BE 2m LONG AND THE NEW MAIN IS TO BE LAID IN LINE HORIZONTALLY AND VERTICALLY WITH THE EXISTING.
18. TEMPORARY WARNING SIGNS AND DEVICES TO BE ERECTED AS PER MAINS ROADS DEPARTMENT MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
19. PRIOR TO BACKFILLING THE MAINS AND FITTINGS, THE SYSTEM TO BE EXPOSED FOR MEASURING AS CONSTRUCTED INFORMATION BY THE PRINCIPAL'S SURVEYOR.
20. PRIOR TO BACKFILLING THE WATER RETICULATION SYSTEM IS TO BE PRESSURE TESTED TO 1.2MPa AND HELD FOR A MINIMUM OF FIFTEEN MINUTES.

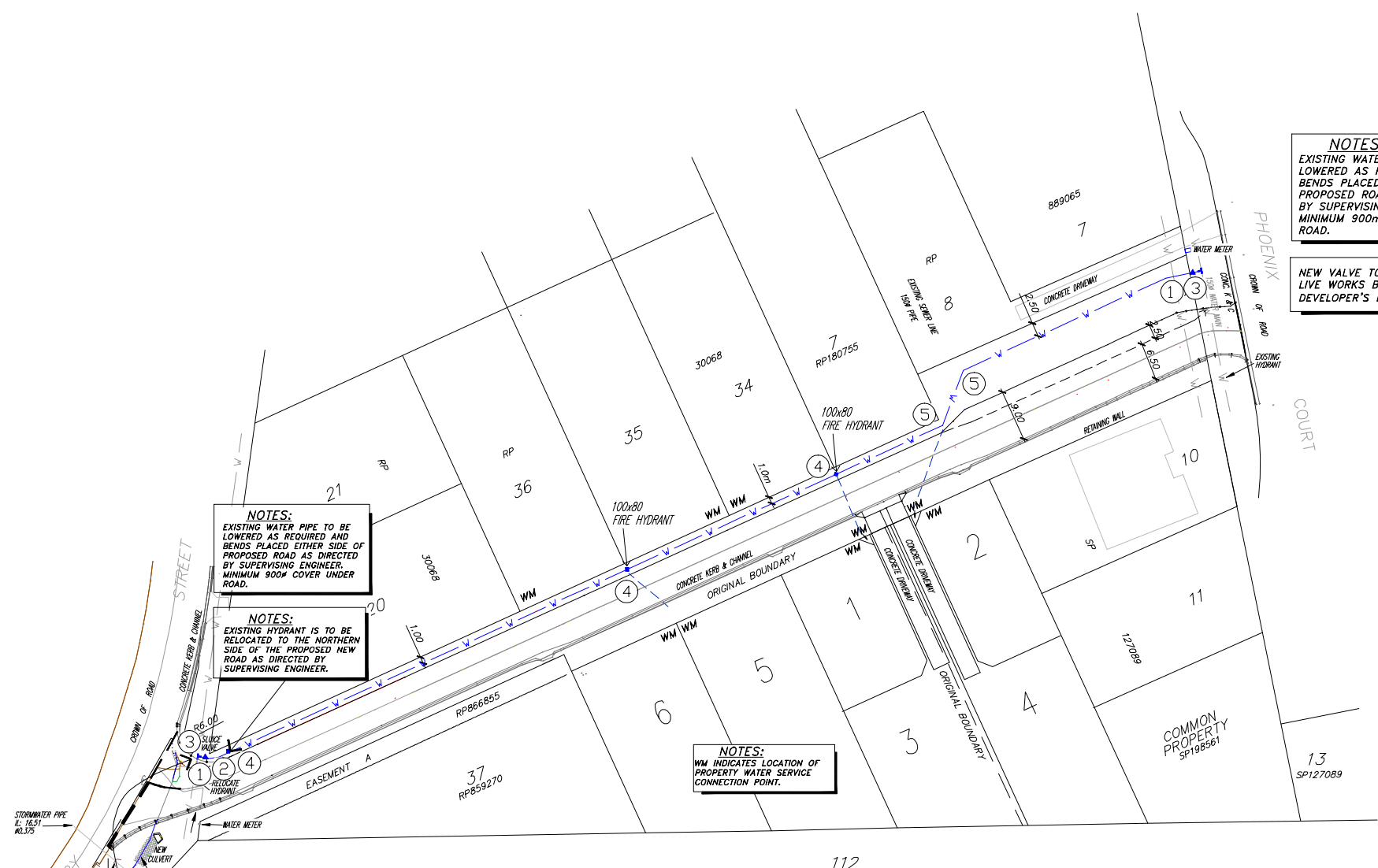
Pursuant to Section 336(b) of the Sustainable Planning Act 2009, this plan forms part of Council's approval for

Approval No: 3329/12

Date: 24 June 2013

Signed:

Date: 4 February 2014



NOTES:
EXISTING WATER PIPE TO BE LOWERED AS REQUIRED AND BENDS PLACED EITHER SIDE OF PROPOSED ROAD AS DIRECTED BY SUPERVISING ENGINEER. MINIMUM 900mm COVER UNDER ROAD.

NEW VALVE TO EXISTING MAIN. LIVE WORKS BY Q.U.U. AT DEVELOPER'S EXPENSE.

NOTES:
EXISTING WATER PIPE TO BE LOWERED AS REQUIRED AND BENDS PLACED EITHER SIDE OF PROPOSED ROAD AS DIRECTED BY SUPERVISING ENGINEER. MINIMUM 900mm COVER UNDER ROAD.

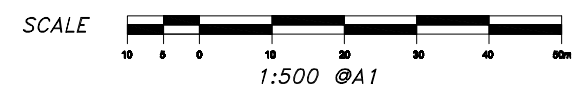
NOTES:
EXISTING HYDRANT IS TO BE RELOCATED TO THE NORTHERN SIDE OF THE PROPOSED NEW ROAD AS DIRECTED BY SUPERVISING ENGINEER.

NOTES:
WM INDICATES LOCATION OF PROPERTY WATER SERVICE CONNECTION POINT.

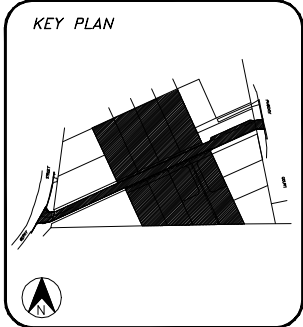
NOTES:
LIVE CONNECTION TO EXISTING MAIN INCLUDING PROVISION OF TEE FITTINGS BY Q.U.U. AT DEVELOPER'S EXPENSE.

WATER RETICULATION FITTINGS		
FITTING No.	TYPE	QUANTITY.
1	100/11.25 BEND	2
2	100/22.5 BEND	1
3	100 VALVE	2
4	100 HYDRANT	3
5	100/45 BEND	2

WATER RETICULATION PLAN
SCALE 1:500 @A1



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F	INFORMATION RESPONSE	04-09-13	P.E.

APPROVED:

DANIEL MICHEL RPEQ 3766
DIRECTOR
HUNT MICHEL & PARTNERS

BAIRD HAYES
SURVEYORS - TOWN PLANNERS

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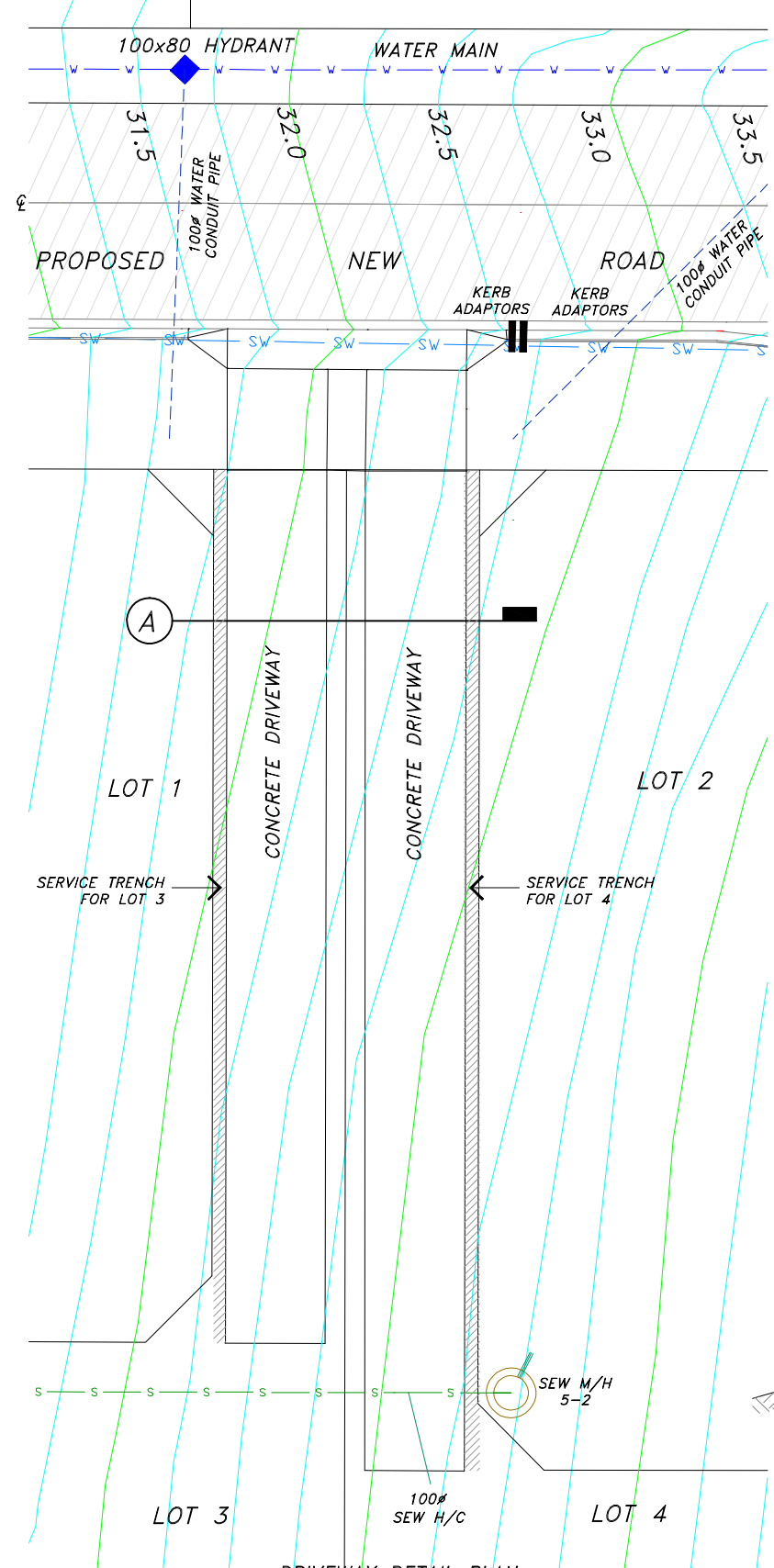
CLIENT
RANDS DEVELOPMENT NO.2
Pty Ltd

PROJECT
PROPOSED RECONFIGURATION OF A LOT (LOT 6 INTO 6 LOTS & NEW ROAD)
Of Lots 38-41 on RP30063 and Lots 9 & 101 on SP127089
BERRY STREET & PHOENIX COURT, CHURCHILL
Parish of FURBA County of CHURCHILL

Level Datum: A.H.D. vide PSM 30887
Bench Mark
Location: Berry Street
Adopted Level: 18.632m AHD
Contour Interval: 0.25m

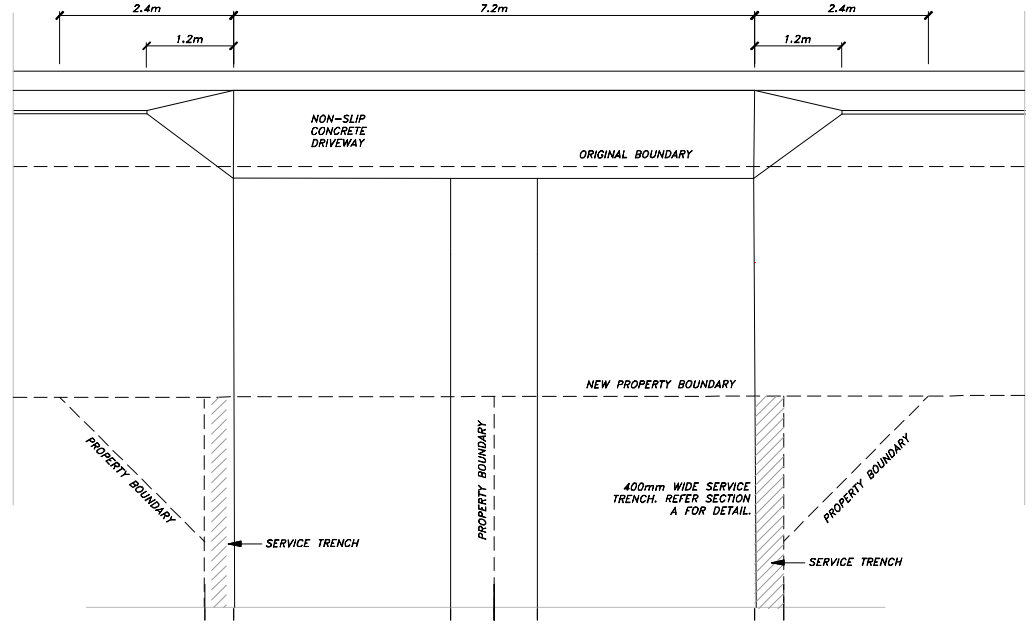
DRAWING TITLE
WATER RETICULATION PLAN

DESIGNED: P.E. JOB No. 9597
DRAWN: C.R. & B.R.
CHECKED: D.M.
SCALE: 1:500@A1 DWG No. 9597-35-15

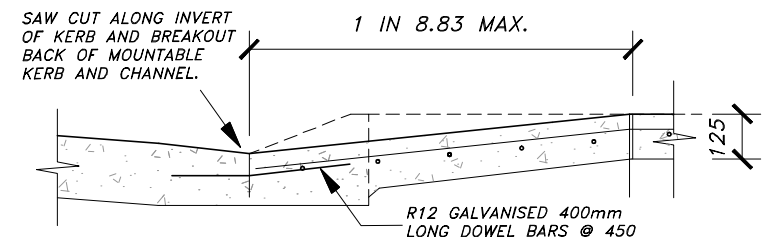


DRIVEWAY DETAIL PLAN
SCALE 1:100 @A1

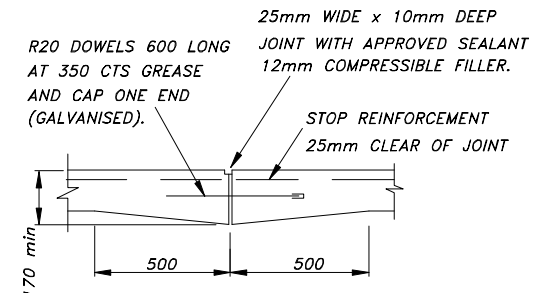
CONCRETE CROSSOVERS FOR LOTS 3 AND 4 IN ACCORDANCE WITH I.C.C. STANDARD DWG SR.12.



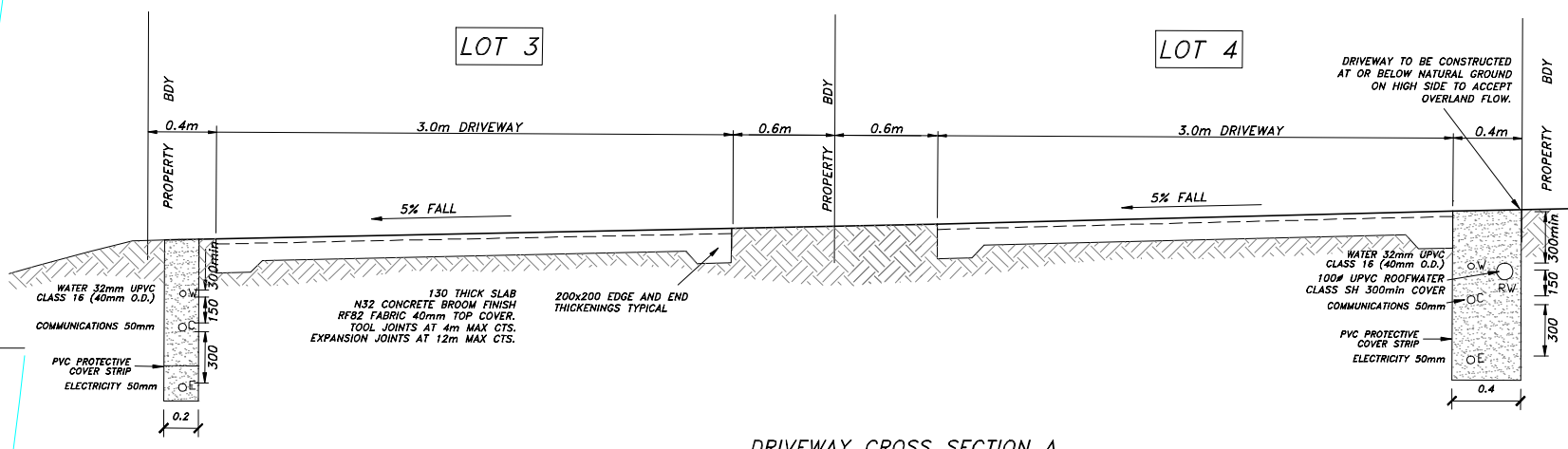
DRIVEWAY DETAIL PLAN
SCALE 1:50@A1



TYPICAL MOUNTABLE KERB & CHANNEL
SECTION B-B
SCALES HORIZONTAL 1:10 @ A1
REFER TO I.C.C. STANDARD DRAWING SR.12



TYPICAL DRIVEWAY EXPANSION JOINT DETAIL
SCALE 1:10@A1



DRIVEWAY CROSS SECTION A
SCALES 1:20 @A1



Pursuant to Section 336(b) of the Sustainable Planning Act 2009, this plan forms part of Council's approval for

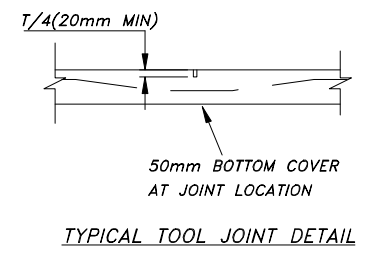
Approval No: 3329/12

Date: 24 June 2013

Signed: *[Signature]*

Date: 4 February 2014

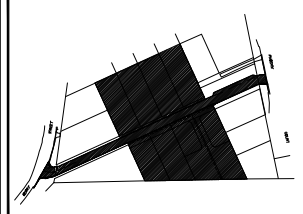
ALL WORKMANSHIP, MATERIALS AND TESTING TO BE IN ACCORDANCE WITH ICC POLICY 3 AND STANDARD DRAWINGS.



TYPICAL TOOL JOINT DETAIL

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D	OPERATIONAL WORKS	15-03-13	P.E.
E	AMENDMENTS FOR APPROVAL	11-06-13	P.E.
F	INFORMATION RESPONSE	04-09-13	P.E.

APPROVED:

[Signature]
DANIEL MICHEL RPEQ 3766
DIRECTOR
HUNT MICHEL & PARTNERS

BAIRD HAYES
SURVEYORS - TOWN PLANNERS

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CLIENT

RANDS DEVELOPMENT NO.3
Pty Ltd

PROJECT

PROPOSED RECONFIGURATION OF A LOT (LOT 6 INTO 6 LOTS & NEW ROAD)

Of Lots 38-41 on RP30068
and Lots 9 & 101 on SP127089
BERRY STREET & PHOENIX COURT, CHURCHILL
Push of TUMBA County of CHURCHILL

Level Datum:	A.H.D. vide PSM 30887
Bench Mark Location:	Berry Street
Adopted Level:	18.632m AHD
Contour Interval:	0.25m

DRAWING TITLE

DRIVEWAY PLAN AND DETAILS

DESIGNED:	P.E.	JOB No.	9597
DRAWN:	C.R. & B.R.	DWG No.	9597-33-16
CHECKED:	D.M.		
SCALE:	AS SHOWN		



LEGEND

- PROPOSED ROAD
- SILT FENCE
- CONTOUR LINE 1.0m
- CONTOUR LINE 0.25m

Pursuant to Section 336(b) of the Sustainable Planning Act 2009, this plan forms part of Council's approval for

Approval No: 3329/12

Date: 24 June 2013

Signed:

Date: 4 February 2014

SEDIMENT CONTROL NOTES

1. THE CONTRACTOR IS TO TAKE ALL NECESSARY PRECAUTIONS TO CONTROL EROSION AND DOWNSTREAM SEDIMENTATION DURING ALL STAGES OF CONSTRUCTION INCLUDING THE MAINTENANCE PERIOD.
2. ALL SEDIMENT CONTROL DEVICES SHALL BE MONITORED, CLEANED AND/OR REPAIRED WHENEVER THE ACCUMULATED SEDIMENT REDUCES THE CAPACITY BY 25%.
3. ALL PERIMETER BANK/SWALE SHALL HAVE UNINTERRUPTED POSITIVE GRADE TO AN OUTLET.
4. AT ALL TIMES THE CONTRACTOR SHALL MONITOR THE PREVAILING WEATHER CONDITIONS AND PROTECT ANY DOWNSTREAM CONSTRUCTION AND GULLY INLETS.
5. ALL INLETS TO HAVE SILT PROTECTION BY PROVIDING PERIMETER SAND BAGS.
6. ALL AREAS OUTSIDE OF EXTENT OF WORKS ARE TO REMAIN UNDISTURBED.
7. ALL STOCKPILES CREATED ON SITE SHALL HAVE A SILT FENCE INSTALLED AT TOE OF DOWNSTREAM SIDE BATTER IMMEDIATELY AFTER PLACING OF THE STOCKPILE.

PHASE 1 CLEARING AND BULK EARTHWORKS
CONSTRUCT AND MAINTAIN SILT FENCES, SILT PONDS AND HAY BALES WHICH CONTROL SEDIMENTATION AND EROSION DURING CLEARING AND BULK EARTHWORKS.

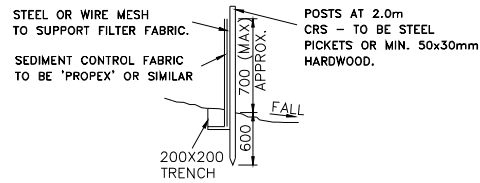
PHASE 2 TRENCH EXCAVATION
CONSTRUCT AND MAINTAIN SILT FENCES WHICH CONTROL SEDIMENTATION DURING TRENCHING WORK.

PHASE 3 PAVEMENT CONSTRUCTION
CONSTRUCT AND MAINTAIN SILT FENCES, GULLY INLET PROTECTION AND PIPE OUTLET PROTECTION WHICH CONTROL SEDIMENTATION AND EROSION DURING PAVEMENT CONSTRUCTION.

PHASE 4 MAINTENANCE PERIOD
CONSTRUCT AND MAINTAIN SILT MANAGEMENT CONTROLS WHICH CONTROL SEDIMENTATION AND EROSION PRIOR TO THE ESTABLISHMENT OF GRASS COVER.

THE CONTRACTOR IS TO MONITOR SITE CONDITIONS AND PROVIDE ADDITIONAL EROSION CONTROL MEASURES WHERE REQUIRED. REFER TO I.C.C. STANDARD DRAWING SD.14 FOR CHECK DAM AND SEDIMENT TRAP DETAILS.

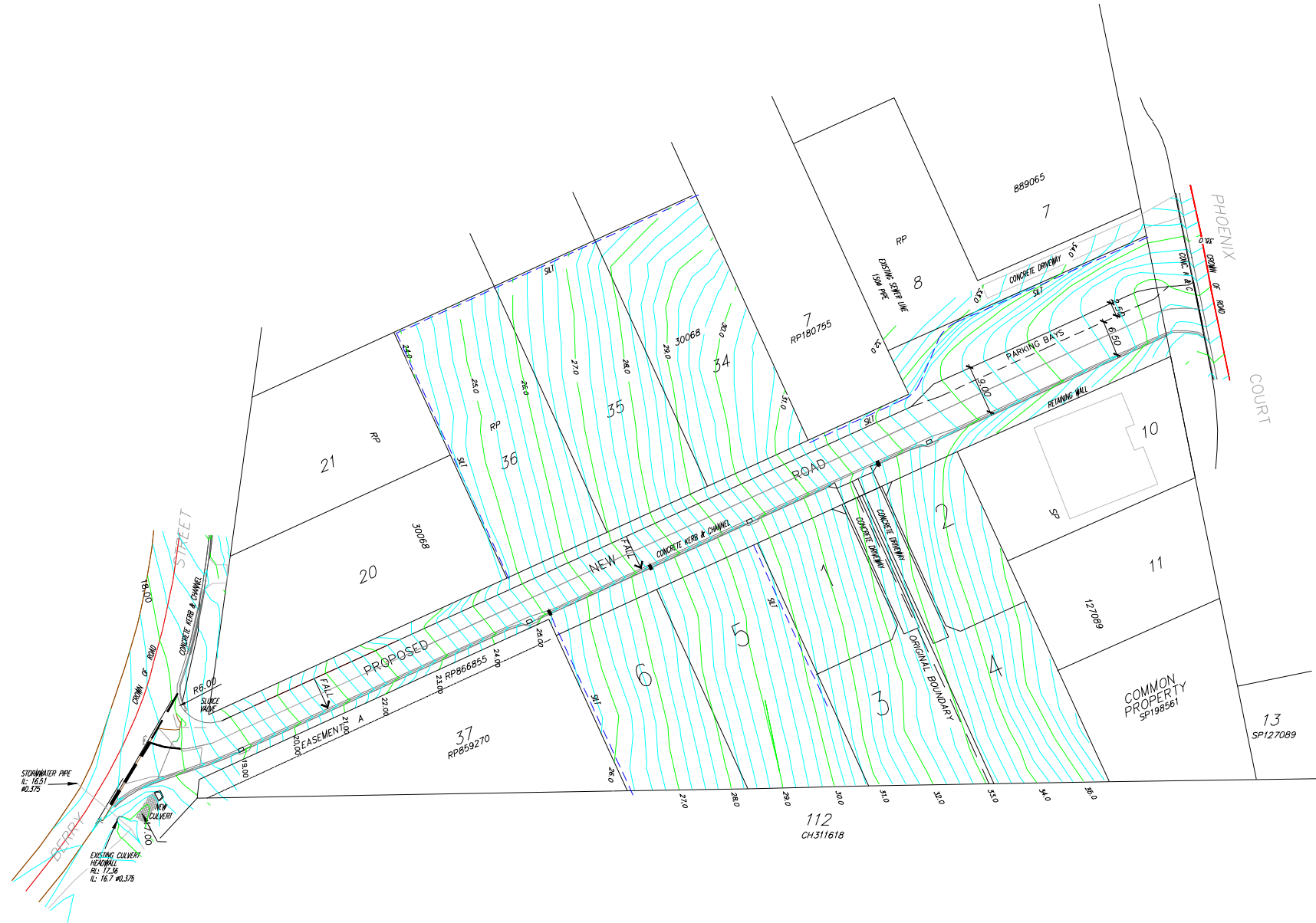
ALL DISTURBED AREAS TO BE TURFED OR HYDROMULCHED AS SOON AS PRACTICABLE AFTER COMPLETION OF EARTHWORKS.



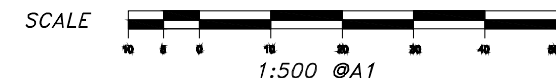
SEDIMENT FENCE (SILT)

NOTES:

1. SEDIMENT FENCE TO BE INSTALLED ALONG A LINE OF CONSTANT GROUND ELEVATION WHEREVER PRACTICAL.
2. BOTH ENDS OF THE SEDIMENT FENCE TO EXTEND UP THE SLOPE AT LEAST 1m.
3. SUPPORT POSTS TO BE SPACED A MAXIMUM 2m APART UNLESS THE FENCE IS SUPPORTED BY A TOP WIRE OR WIRE MESH BACKING, IN WHICH CASE 3m MAXIMUM SPACING.
4. FENCE 'RETURNS' SHALL BE INSTALLED AT MAXIMUM 20m SPACING IF FENCE IS INSTALLED ALONG THE CONTOUR, OTHERWISE 5 TO 10m MAXIMUM SPACING.
5. MINIMUM 4 STAPLES OR TIE WIRES PER STAKE.
6. REFER TO IECA AUSTRALASIA STANDARD DRAWINGS SF-01 AND SF-02 FOR ADDITIONAL NOTES AND DETAILS.

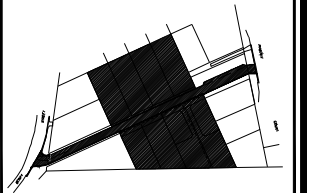


EROSION & SEDIMENT CONTROL PLAN
SCALE 1:500 @A1



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APPROVED:

DANIEL MICHEL RPEQ 3766
DIRECTOR
HUNT MICHEL & PARTNERS



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CLIENT

RANDS DEVELOPMENT NO.3
Pty Ltd

PROJECT
PROPOSED RECONFIGURATION
OF A LOT (LOT 6) INTO 6 LOTS
& NEW ROAD

Of Lot 38-41 on RP9008
and Lot 9 & 101 on SP127089

BERRY STREET & PHOENIX COURT,
CESTINGELLA
Part of PC28A County of CHURCHILL

Level Datum:	A.H.D. vide PSM 30887
Bench Mark	
Location:	Berry Street
Adopted Level:	18.632m AHD
Contour Interval:	0.25m

DRAWING TITLE

SEDIMENT & EROSION
CONTROL PLAN

DESIGNED:	P.E.	JOB No.	
DRAWN:	C.R. & B.R.		9597
CHECKED:	D.M.		
SCALE:	1:500@A1	DWG No.	9597-33-17