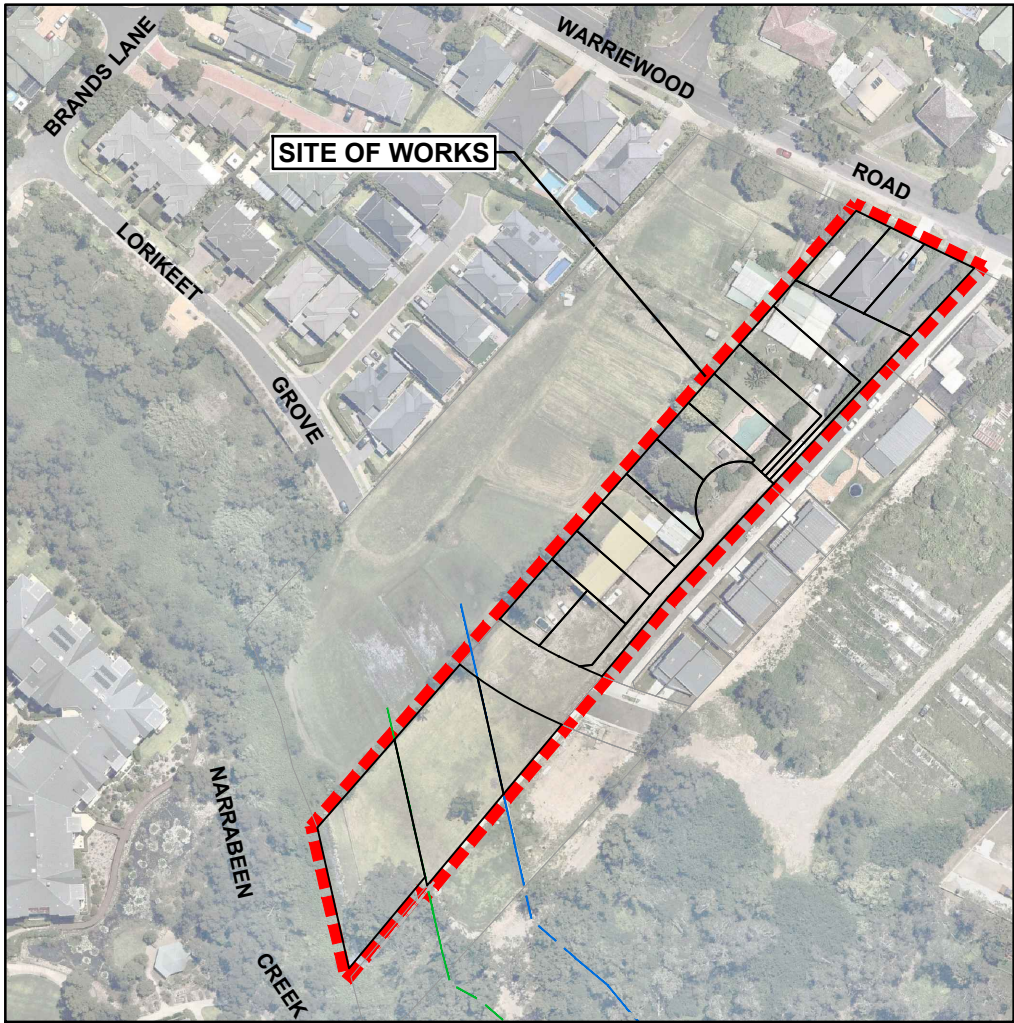


# PROPOSED SUBDIVISION OF LOT 3, D.P.1115877 AND PART LOT 3 D.P.942319 53 & 53B WARRIEWOOD ROAD, WARRIEWOOD

## CIVIL WORKS DEVELOPMENT APPLICATION



LOCALITY PLAN  
NOT TO SCALE  
(SOURCE: NEARMAP 2019)

DRAWING No.	DRAWING TITLE	REV.
076-18C-DA-0001	COVER SHEET, LOCALITY PLAN AND DRAWING INDEX	B
076-18C-DA-0002	GENERAL NOTES	B
076-18C-DA-0003	KEY PLAN	B
076-18C-DA-0021	DEMOLITION PLAN	B
076-18C-DA-0051	BULK EARTHWORKS PLAN	B
076-18C-DA-0101	ROAD AND DRAINAGE PLAN SHEET 1 OF 2	B
076-18C-DA-0102	ROAD AND DRAINAGE PLAN SHEET 2 OF 2	B
076-18C-DA-0151	TYPICAL ROAD CROSS SECTIONS	B
076-18C-DA-0201	ROAD LONGITUDINAL SECTION SHEET 1 OF 2	B
076-18C-DA-0202	ROAD LONGITUDINAL SECTION SHEET 2 OF 2	B
076-18C-DA-0301	ROAD CROSS SECTIONS SHEET 1 OF 2	B
076-18C-DA-0302	ROAD CROSS SECTIONS SHEET 2 OF 2	B
076-18C-DA-0451	GARBAGE TRUCK TURNING PATH	B
076-18C-DA-0701	EXTERNAL CATCHMENT PLAN	B
076-18C-DA-0702	INTERNAL CATCHMENT PLAN	B
076-18C-DA-0711	STORMWATER DRAINAGE LONGITUDINAL SECTION SHEET 1 OF 2	B
076-18C-DA-0712	STORMWATER DRAINAGE LONGITUDINAL SECTION SHEET 2 OF 2	B
076-18C-DA-0721	OVERLAND FLOW PATH ROAD CROSS SECTIONS	B
076-18C-DA-0751	BASIN PLAN	B
076-18C-DA-0752	BASIN SECTIONS	B
076-18C-DA-0753	BASIN DETAILS	B
076-18C-DA-0801	RETAINING WALL PLAN	B
076-18C-DA-0802	RETAINING WALL DETAILS	B
076-18C-DA-0901	SEDIMENT AND EROSION CONTROL PLAN	B
076-18C-DA-0902	SEDIMENT AND EROSION CONTROL DETAILS	B

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GENERAL NOTES

1.

ALL WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH NORTHERN BEACHES COUNCIL ENGINEERING DESIGN SPECIFICATION AND ENGINEERING CONSTRUCTION SPECIFICATION.

2.

SERVICES SHOWN ON THESE PLAN ARE NOT GUARANTEED COMPLETE OR CORRECT AND HAVE BEEN LOCATED FROM INFORMATION SUPPLIED BY THE RELEVANT SERVICE PROVIDERS AND FIELD INVESTIGATIONS. THE CONTRACTOR SHALL LOCATE AND LEVEL ALL EXISTING SERVICES PRIOR TO COMMENCING CONSTRUCTION AND SHALL MAKE ALL NECESSARY ARRANGEMENTS WITH THE RELEVANT SERVICE PROVIDERS TO RELOCATE OR ADJUST AS FOUND NECESSARY.

3.

UTILITY ADJUSTMENTS ARE TO BE AT THE DEVELOPER'S EXPENSE.

4.

CONDUITS SHALL BE PLACED WHERE REQUIRED BY THE RELEVANT AUTHORITIES.

5.

THE CONTRACTOR SHALL NOT ENTER UPON OR DO ANY WORK WITHIN ADJACENT LANDS WITHOUT PRIOR WRITTEN PERMISSION OF THE LAND OWNER.

6.

THE CONTRACTOR SHALL MAINTAIN SERVICES AND ALL WEATHER ACCESS AT ALL TIMES TO THE PUBLIC FOOTWAYS, ROADWAYS AND PROPERTIES ADJACENT TO THE SITE IN A SAFE CONDITION TO THE SATISFACTION OF COUNCIL'S ENGINEER.

7.

THE CONTRACTOR SHALL OBTAIN ALL LEVELS FROM ESTABLISHED BENCH MARKS. SURVEY MARKS SHOWN THUS ▲ Δ ▢ SHALL BE MAINTAINED AT ALL TIMES. WHERE RETENTION IS NOT POSSIBLE THE SUPERINTENDENT SHALL BE NOTIFIED AND CONSENT RECEIVED PRIOR TO THEIR REMOVAL.

8.

BENCHMARK, SSM'S PERMANENT MARKS TO BE AHD.

9.

CONSTRUCTION/CIVIL WORK MAY ONLY BE CARRIED OUT ON THE SITE BETWEEN THE HOURS OF 7.00am TO 5.00pm MONDAY TO FRIDAY AND 8.00am to 1.00pm ON SATURDAY. NO WORK PERMITTED TO BE CARRIED OUT ON SUNDAYS OR PUBLIC HOLIDAYS UNLESS OTHERWISE APPROVED BY NORTHERN BEACHES COUNCIL.

10.

PLANT, GOODS & MATERIALS SHALL NOT BE DELIVERED ON THE SITE OUTSIDE THE APPROVED HOURS OF OPERATION.

11.

THE CONTRACTOR SHALL CLEAR AND DISPOSE OF ONLY THOSE TREES THAT HAVE BEEN APPROVED TO BE REMOVED. TREES THAT ARE NOT TO BE REMOVED SHALL BE PRESERVED. NO TREE SHALL BE FELLED, LOPPED OR REMOVED WITHOUT PRIOR APPROVAL FROM NORTHERN BEACHES COUNCIL.

12.

FELLED TREES SHALL BE SALVAGED FOR REUSE AS WOODCHIP MULCH OR LOG FORM FOR SITE REHABILITATION, NON-SALVAGEABLE MATERIAL SUCH AS STUMPS AND ROOTS SHALL BE DISPOSED OFF SITE AS NOMINATED BY THE SUPERINTENDENT.

13.

SITE SHEDS, STOCKPILES, MATERIALS AND VEHICLE PARKING SHALL BE LOCATED AWAY FROM TREES ON THE SITE TO PREVENT SOIL COMPACTION. STOCKPILING OF MATERIALS SHALL NOT BE PERMITTED WITHIN TREE PROTECTION AREAS. ALL AREAS FOR STOCKPILING SHALL BE APPROVED BY THE SUPERINTENDENT.

14.

ALL SOIL AND WATER MANAGEMENT DEVICES SHALL BE INSTALLED AND APPROVED PRIOR TO WORKS PROCEEDING.

15.

ALL EROSION AND POLLUTION CONTROL MEASURES SHALL BE MAINTAINED IN GOOD WORKING ORDER AND REPAIR THROUGHOUT THE COURSE OF BUILDING CONSTRUCTION OR DEVELOPMENT WORK ON THE SITE AND UNTIL THE WORKS HAVE BEEN COMPLETED TO THE SATISFACTION OF COUNCIL.

16.

TEMPORARY REHABILITATION MUST BE APPLIED AND ESTABLISHED TO DISTURBED AREAS AS SOON AS PRACTICAL AFTER COMPLETION OF EARTHWORKS.

17.

TOPSOIL IS TO BE STRIPPED AND STOCKPILED ON THE SITE WITH EROSION CONTROL MEASURES PROVIDED AS DETAILED. UPON COMPLETION OF WORKS, MINIMUM 150mm THICK TOPSOIL SHALL BE SPREAD ON ALL FOOTPATHS, BERMS, BATTERS AND SITE REGRADED AREAS. EXCESS TOPSOIL SHALL BE DISPOSED OF AS DIRECTED BY THE SUPERINTENDENT.

18.

ALL EARTHWORKS TO BE IN ACCORDANCE WITH A.S.3798 & TO BE CARRIED OUT TO THE SATISFACTION OF SUPERINTENDENT. UNSOUND MATERIALS ARE TO BE REMOVED FROM ROADS AND LOTS PRIOR TO FILLING.

19.

SURPLUS EXCAVATED MATERIAL SHALL BE DISPOSED OF IN CONSULTATION WITH SUPERINTENDENT. DOCUMENTATION OF THE DISPOSAL SITE SHALL BE PROVIDED TO COUNCIL PRIOR TO COMMENCEMENT OF WORKS.

20.

ALL SITE FILLING SHALL BE PLACED IN LAYERS NOT EXCEEDING 300mm AND COMPACTED TO 95% STANDARD COMPACTION AND SHALL BE CONTROLLED BY AN APPROVED N.A.T.A. SOILS LABORATORY.

21.

WHERE LOT FILLING IN EXCESS OF 300mm IS PROPOSED, LEVELS ARE TO BE TAKEN ON THE STRIPPED SURFACE PRIOR TO THE COMMENCEMENT OF FILLING AND ON THE FINISHED SURFACE. SUCH LEVELS ARE TO BE SHOWN ON THE WORK-AS-EXECUTED PLAN.

22.

ALL LAND DISTURBED BY EARTHWORKS SHALL BE SPRAY-GRASSED, OR SIMILARLY TREATED TO ESTABLISH GRASS COVER. SEED MIXTURES ARE TO BE APPROVED BY COUNCIL PRIOR TO SPRAYING. ALL GRASSED AREAS SHALL BE REGULARLY WATERED AND MAINTAINED UNTIL EXPIRATION OF THE MAINTENANCE PERIOD.

23.

THE CONTRACTOR SHALL MAINTAIN DUST CONTROL THROUGHOUT THE DURATION OF THE PROJECT.

24.

CATCH DRAINS TO BE CONSTRUCTED AS REQUIRED BY THE SITE SUPERINTENDENT AND/OR COUNCIL'S ENGINEER.

25.

CONDUIT TRENCHES, SUB-SOIL DRAINS AND STORMWATER DRAINAGE LINES TO BE BACKFILLED WITH APPROVED WASHED RIVER SAND, FLOODED AND VIBRATED. CONDUIT TRENCHES TO BE GRADED AT A MINIMUM ONE PERCENT (1%). GRADE TO EITHER SUB-SOIL OR STORMWATER DRAINAGE LINES.

26.

SUB-GRADE IN ROCK IS TO BE RIPPED, SCARIFIED, SPREAD AND COMPACTED TO A MINIMUM DEPTH OF 300mm BELOW THE FINISHED SUB-GRADE LEVEL.

27.

DETAILS OF ALL SOIL TESTS AND THE PAVEMENT DESIGN ARE TO BE SUBMITTED TO PRINCIPAL CERTIFYING AUTHORITY (PCA) PRIOR TO INSPECTION OF SUBGRADE.

28.

NO BUILDING MATERIALS, MACHINERY OR THE LIKE ARE TO BE STORED ON THE ROAD OR FOOTPATH. THE PATHWAY IS TO BE KEPT IN A CLEAN, TIDY & SAFE CONDITION DURING THE CONSTRUCTION PERIOD.

29.

ALL NEW WORKS SHALL MAKE SMOOTH JUNCTION WITH EXISTING CONDITIONS.

30.

THE SITE IS TO BE SURROUNDED BY A SECURITY FENCE & THE GATE MUST BE LOCKED OUTSIDE THE OPERATING HOURS. NOTICES COMPLYING WITH AS 1319-1994 AND DISPLAYING THE WORDS "DANGER - DEMOLITION IN PROGRESS", OR SIMILAR MESSAGE SHALL BE FIXED TO THE FENCING AT APPROPRIATE PLACES TO WARN THE PUBLIC.

31.

THE CONTRACTOR SHALL PROVIDE A MINIMUM 24 HOURS NOTICE TO SUPERINTENDENT OR COUNCIL'S ENGINEER FOR ALL INSPECTIONS.

32.

THE CONTRACTOR SHALL UNDERTAKE TRAFFIC CONTROL MEASURES IN ACCORDANCE WITH COUNCIL'S TRAFFIC MANAGEMENT POLICY AND SHALL DISPLAY ALL APPROPRIATE WARNING SIGNS THROUGHOUT THE DURATION OF CONSTRUCTION.

33.

ALL TRAFFIC CONTROL DEVICES SHALL REMAIN ERECTED OUTSIDE WORKING HOURS WITH FLASHING YELLOW LIGHTS ON BARRIER BOARDS TO BE IN OPERATION AFTER DARK.

34.

ROADS ADJOINING THE SITE MUST BE KEPT CLEAN AND FREE OF ALL EXCAVATED/TRANSPORTED SPOIL MATERIAL.

35.

SITE FILLING AND COMPACTION IS TO BE CARRIED OUT UNDER THE SUPERVISION OF A CHARTERED GEOTECHNICAL ENGINEER AND SHALL BE IN ACCORDANCE WITH NORTHERN BEACHES COUNCIL. "WORKS SPECIFICATION - CIVIL (CURRENT REVISION)", MINIMUM STANDARD COMPACTION OF 95% MUST BE ACHIEVED AND CERTIFIED BY "NATA" REGISTERED LAB AND DETAILS SUBMITTED TO COUNCIL.

36.

RESIDENTIAL LOTS TO BE INDIVIDUALLY CLASSIFIED.

37.

AGRICULTURAL LINES TO BE PLACED AS DIRECTED

38.

STRUCTURAL CERTIFICATION IS REQUIRED FOR CONSTRUCTION OF MAJOR AND NON-STANDARD STRUCTURES

39.

DRIVEWAYS/LAYBACKS TO HAVE MINIMUM 1.0m CLEARANCE FROM ANY PROPOSED & EXISTING UTILITIES, INCLUDING: ELECTRICAL TURRETS, LIGHT POLES, TELECOMMUNICATION PITS, STORMWATER GULLY PITS & STREET TREES. DRIVEWAYS/LAYBACKS TO HAVE A 6.0m CLEARANCE FROM KERB-RETURN TANGENT POINTS

40.

VEHICULAR CROSSINGS ARE TO BE 4.0 METERS WIDE AT KERB AND GUTTER.

41.

SUBSOIL DRAINAGE SHALL BE PROVIDED ALONG THE CUT SIDE OF ALL NEW ROADS WHERE NO DRAINAGE IS PROVIDED, ALONG THE CENTRE LINE OF HALF ROAD CONSTRUCTION WORKS, AT LOW SPOTS, WHERE REQUIRED BY THE PAVEMENT DESIGN REPORT, AND WHERE DIRECTED BY COUNCIL'S ENGINEER.

42.

LIGHT POLES STREET NAMES POLES AND BUS SHELTERS IN THIS SUBDIVISION WILL BE BLACK POWDER COATED TO THE SATISFACTION OF NORTHERN BEACHES COUNCIL. FURTHER THAT THESE LIGHT POLES WILL COMPLY WITH COUNCIL SPECIFICATIONS.

23.

UNLESS SPECIFIED OTHERWISE ALL DRAINAGE PITS TO BE CAST INSITU, THE GRADE OF CONCRETE TO BE USED SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 32MPa. STEEL REINFORCING BARS SHALL COMPLY WITH THE REQUIREMENTS OF AS1302 (LATEST EDITION). WELDED WIRE REINFORCING SHALL COMPLY WITH AS1304 (LATEST EDITION).

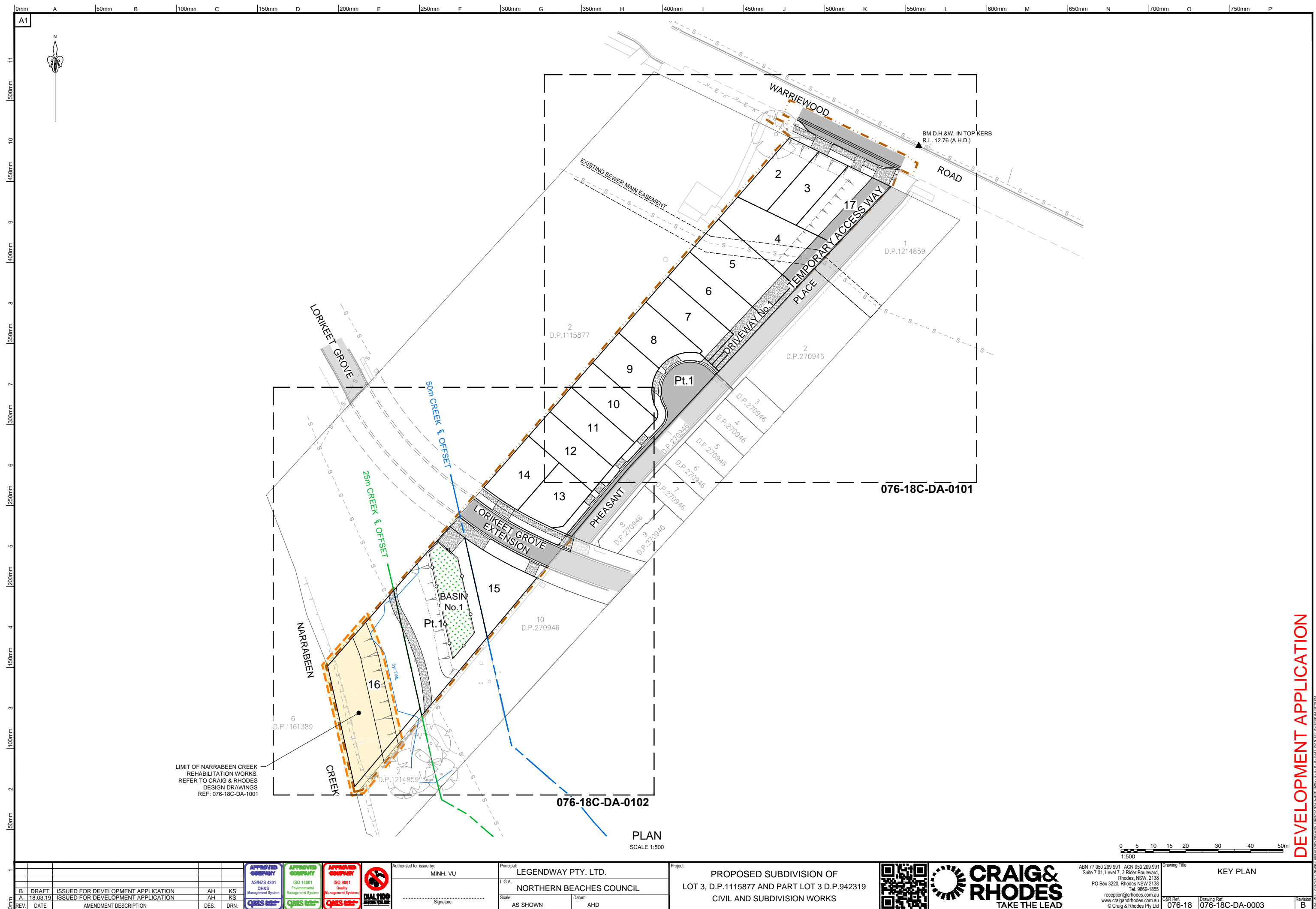
24.

UNLESS SPECIFIED ALL DRAINAGE GRATES TO BE CLASS 'C' GALVANISED MILD STEEL TO AS 3996 (LATEST EDITION).

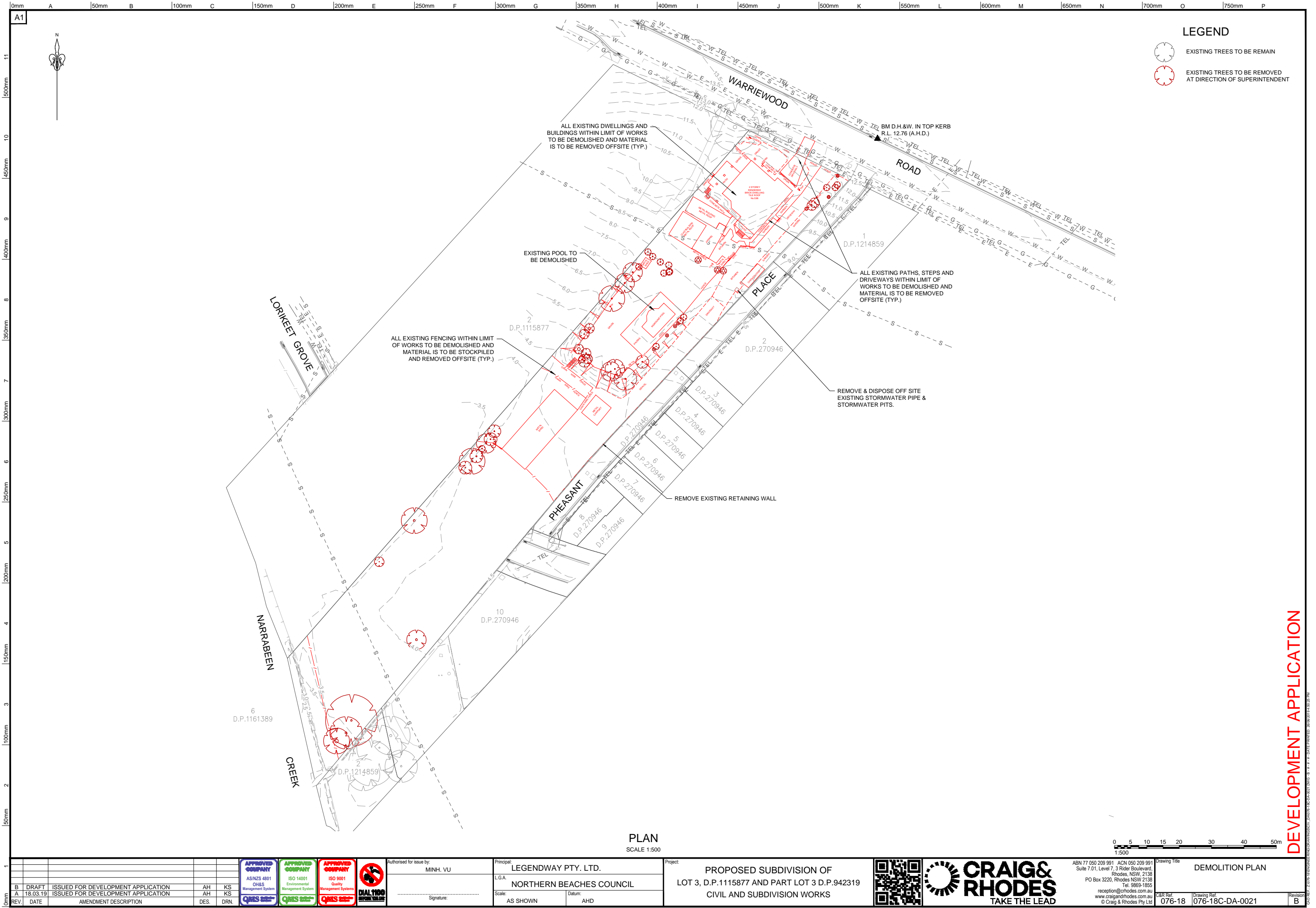
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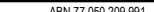
uPVC PIPES SHALL BE SUPPLIED WITH SUFFICIENT QUANTITIES OF SOLVENT FOR MAKING OF THE PIPE JO

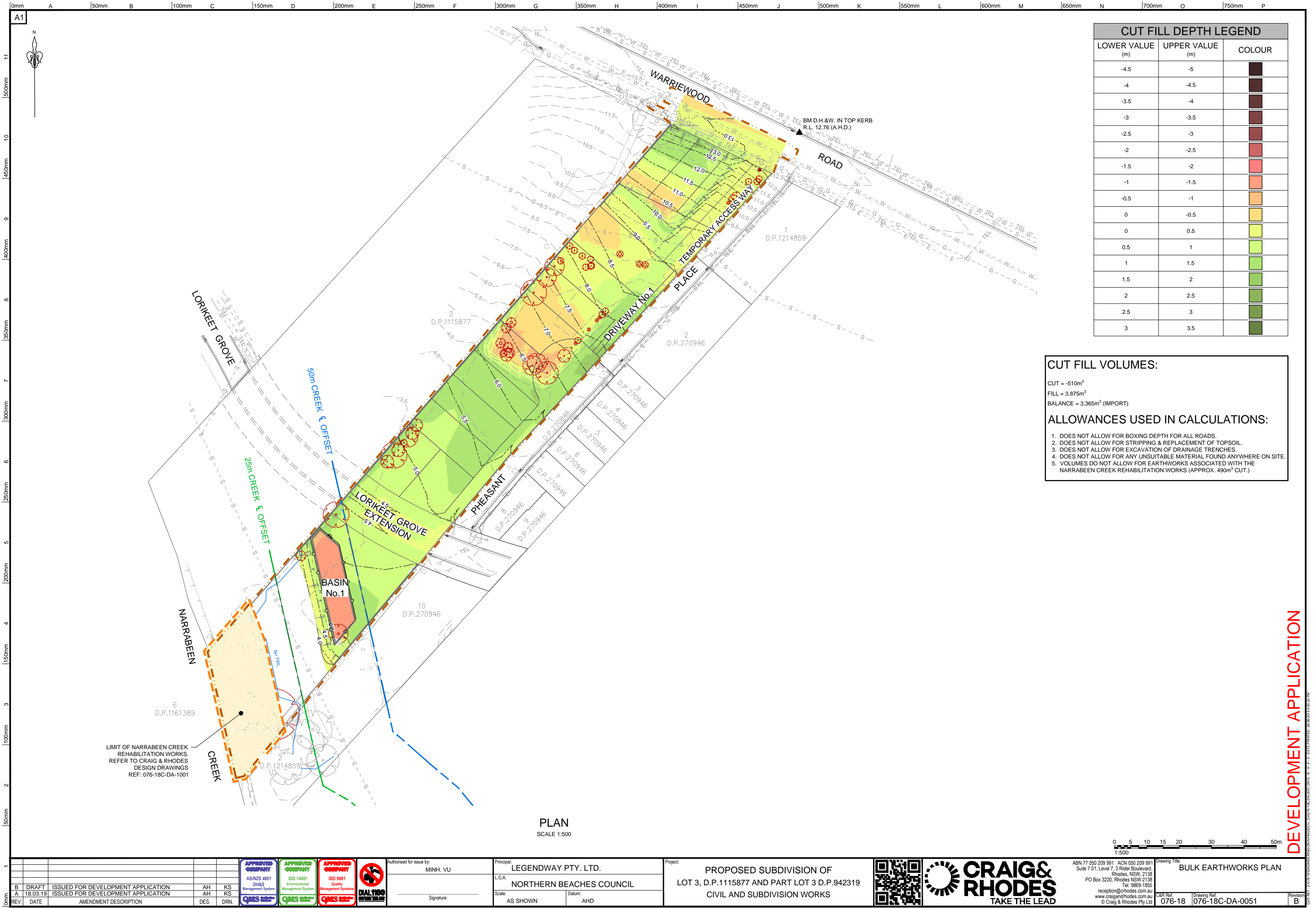




## DEVELOPMENT APPLICATION



					<div>APPROVED COMPANY AS/NZS 4801 OH&amp;S Management System QMS</div>		<div>APPROVED COMPANY ISO 14001 Environmental Management System QMS</div>		<div>APPROVED COMPANY ISO 9001 Quality Management Systems QMS</div>		<div> DIAL 1100 BEFORE YOU DIE</div>		Authorised for issue by: MINH. VU  Signature: .....		Principal: LEGENDWAY PTY. LTD.  L.G.A. NORTHERN BEACHES COUNCIL  Scale: AS SHOWN      Datum: AHD		Project: PROPOSED SUBDIVISION OF LOT 3, D.P.1115877 AND PART LOT 3 D.P.942319 CIVIL AND SUBDIVISION WORKS				 <b>CRAIG &amp; RHODES</b> TAKE THE LEAD		ABN 77 050 209 991    ACN 050 209 991 Suite 7.01, Level 7, 3 Rider Boulevard, Rhodes, NSW, 2138 PO Box 3220, Rhodes NSW 2138 Tel. 9669-1855 reception@crohodes.com.au www.craigandrhodes.com.au © Craig & Rhodes Pty Ltd		Drawing Title DEMOLITION PLAN  C&R Ref. 076-18      Drawing Ref. 076-18C-DA-0021      Revision B																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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CUT FILL DEPTH LEGEND		
LOWER VALUE (m)	UPPER VALUE (m)	COLOUR
-4.5	-5	
-4	-4.5	
-3.5	-4	
-3	-3.5	
-2.5	-3	
-2	-2.5	
-1.5	-2	
-1	-1.5	
-0.5	-1	
0	-0.5	
0	0.5	
0.5	1	
1	1.5	
1.5	2	
2	2.5	
2.5	3	
3	3.5	

**CUT FILL VOLUMES:**

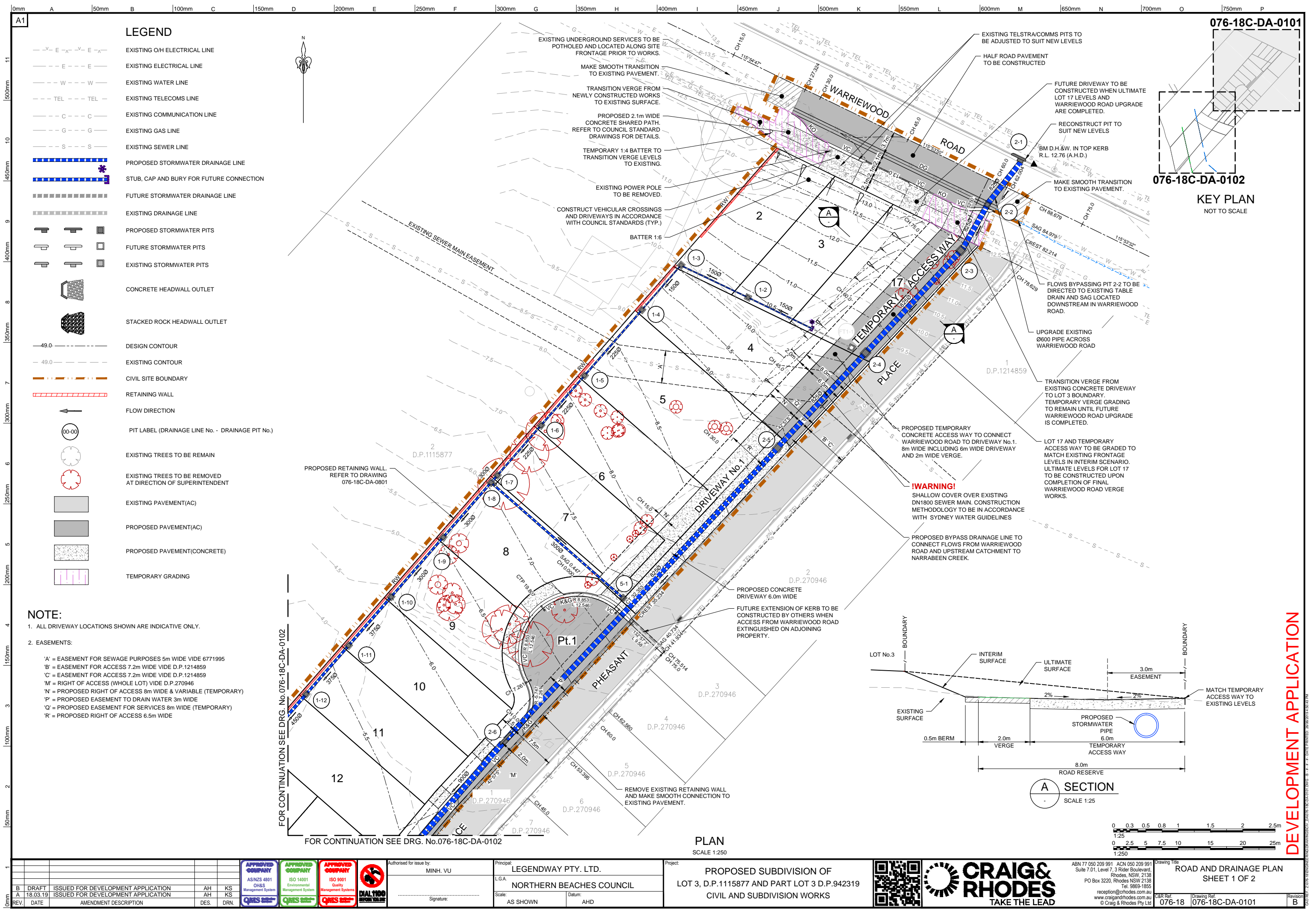
CUT = -510m<sup>3</sup>  
FILL = 3,875m<sup>3</sup>  
BALANCE = 3,365m<sup>3</sup> (IMPORT)

**ALLOWANCES USED IN CALCULATIONS:**

1. DOES NOT ALLOW FOR BOXING DEPTH FOR ALL ROADS.
2. DOES NOT ALLOW FOR STRIPPING & REPLACEMENT OF TOPSOIL.
3. DOES NOT ALLOW FOR EXCAVATION OF DRAINAGE TRENCHES.
4. DOES NOT ALLOW FOR ANY UNSUITABLE MATERIAL FOUND ANYWHERE ON SITE.
5. VOLUMES DO NOT ALLOW FOR EARTHWORKS ASSOCIATED WITH THE NARRABEEN CREEK REHABILITATION WORKS (APPROX. 490m<sup>3</sup> CUT.)

DEVELOPMENT APPLICATION

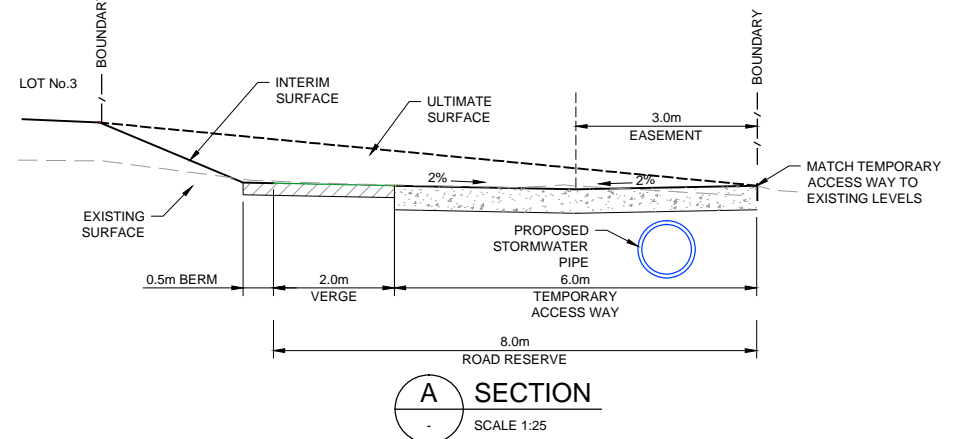
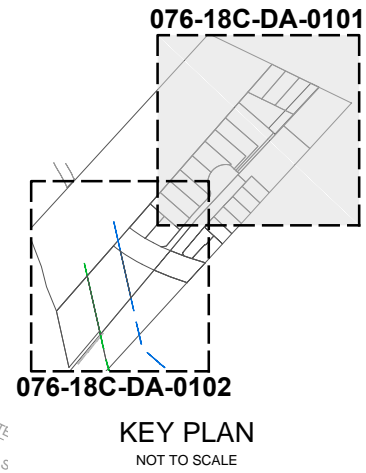




LEGEND

- EXISTING OH ELECTRICAL LINE
- EXISTING ELECTRICAL LINE
- EXISTING WATER LINE
- EXISTING TELECOMS LINE
- EXISTING COMMUNICATION LINE
- EXISTING GAS LINE
- EXISTING SEWER LINE
- PROPOSED STORMWATER DRAINAGE LINE
- STUB, CAP AND BURY FOR FUTURE CONNECTION
- FUTURE STORMWATER DRAINAGE LINE
- EXISTING DRAINAGE LINE
- PROPOSED STORMWATER PITS
- FUTURE STORMWATER PITS
- EXISTING STORMWATER PITS
- CONCRETE HEADWALL OUTLET
- STACKED ROCK HEADWALL OUTLET
- DESIGN CONTOUR
- EXISTING CONTOUR
- CIVIL SITE BOUNDARY
- RETAINING WALL
- FLOW DIRECTION
- PIT LABEL (DRAINAGE LINE No. - DRAINAGE PIT No.)
- EXISTING TREES TO BE REMAIN
- EXISTING TREES TO BE REMOVED AT DIRECTION OF SUPERINTENDENT
- EXISTING PAVEMENT(AC)
- PROPOSED PAVEMENT(AC)
- PROPOSED PAVEMENT(CONCRETE)
- TEMPORARY GRADING

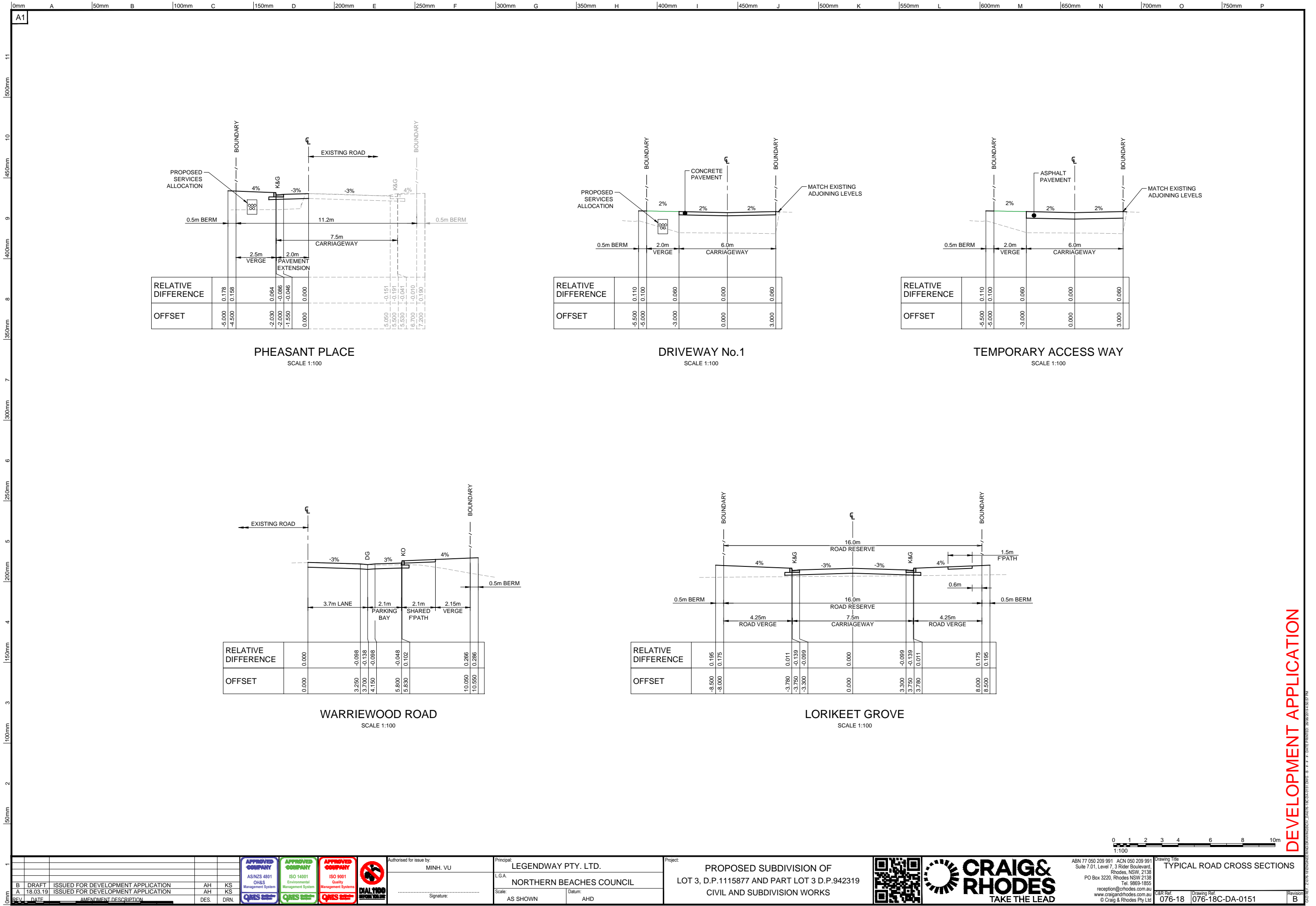
NOTE:  
1. ALL DRIVEWAY LOCATIONS SHOWN ARE INDICATIVE ONLY.  
2. EASEMENTS:  
'A' = EASEMENT FOR SEWAGE PURPOSES 5m WIDE VIDE 6771995  
'B' = EASEMENT FOR ACCESS 7.2m WIDE VIDE D.P.1214859  
'C' = EASEMENT FOR ACCESS 7.2m WIDE VIDE D.P.1214859  
'M' = RIGHT OF ACCESS (WHOLE LOT) VIDE D.P.270946  
'N' = PROPOSED RIGHT OF ACCESS 8m WIDE & VARIABLE (TEMPORARY)  
'P' = PROPOSED EASEMENT TO DRAIN WATER 3m WIDE  
'Q' = PROPOSED EASEMENT FOR SERVICES 8m WIDE (TEMPORARY)  
'R' = PROPOSED RIGHT OF ACCESS 6.5m WIDE



DEVELOPMENT APPLICATION

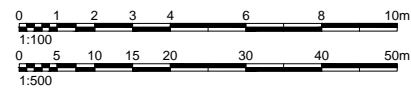
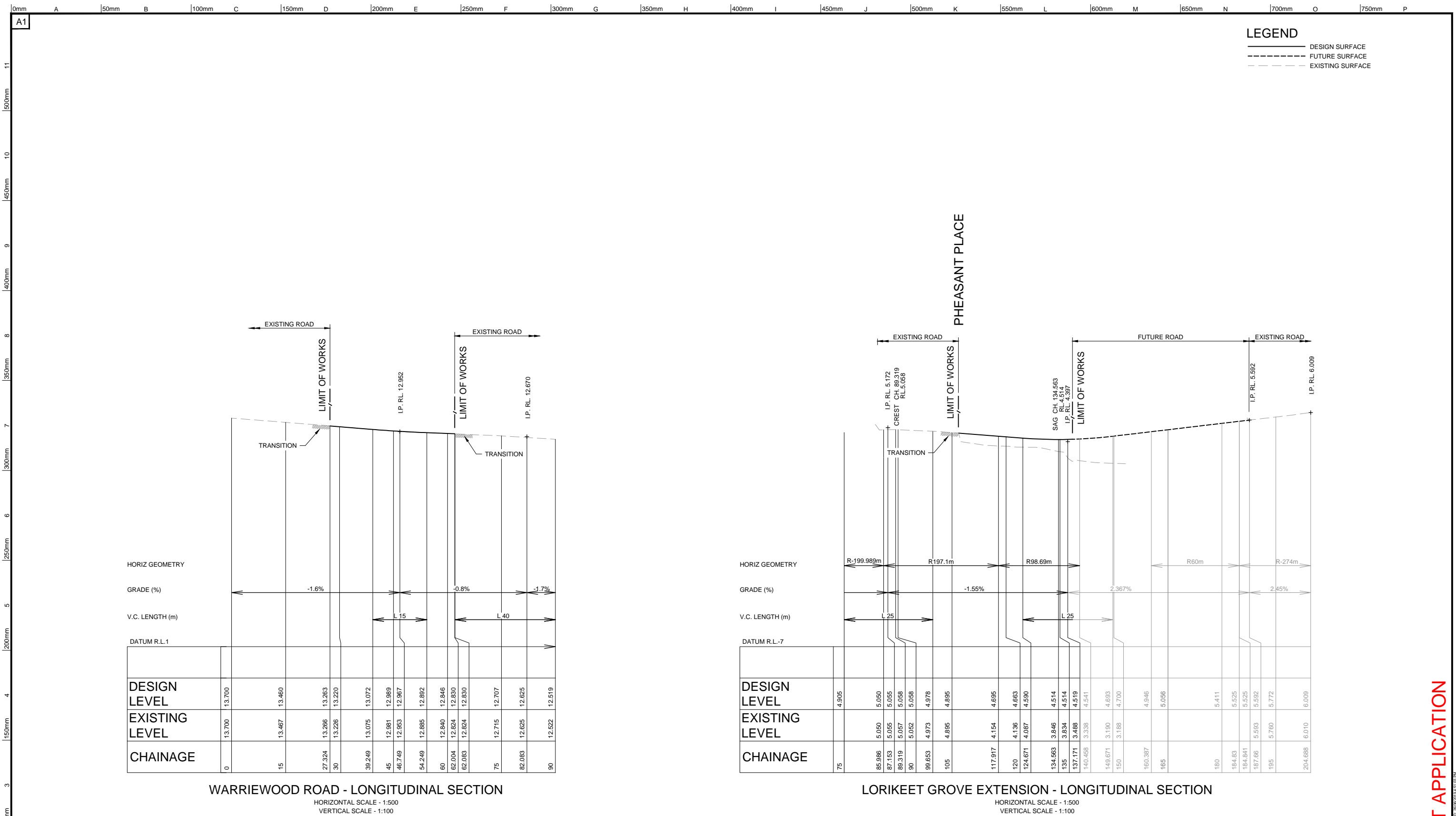






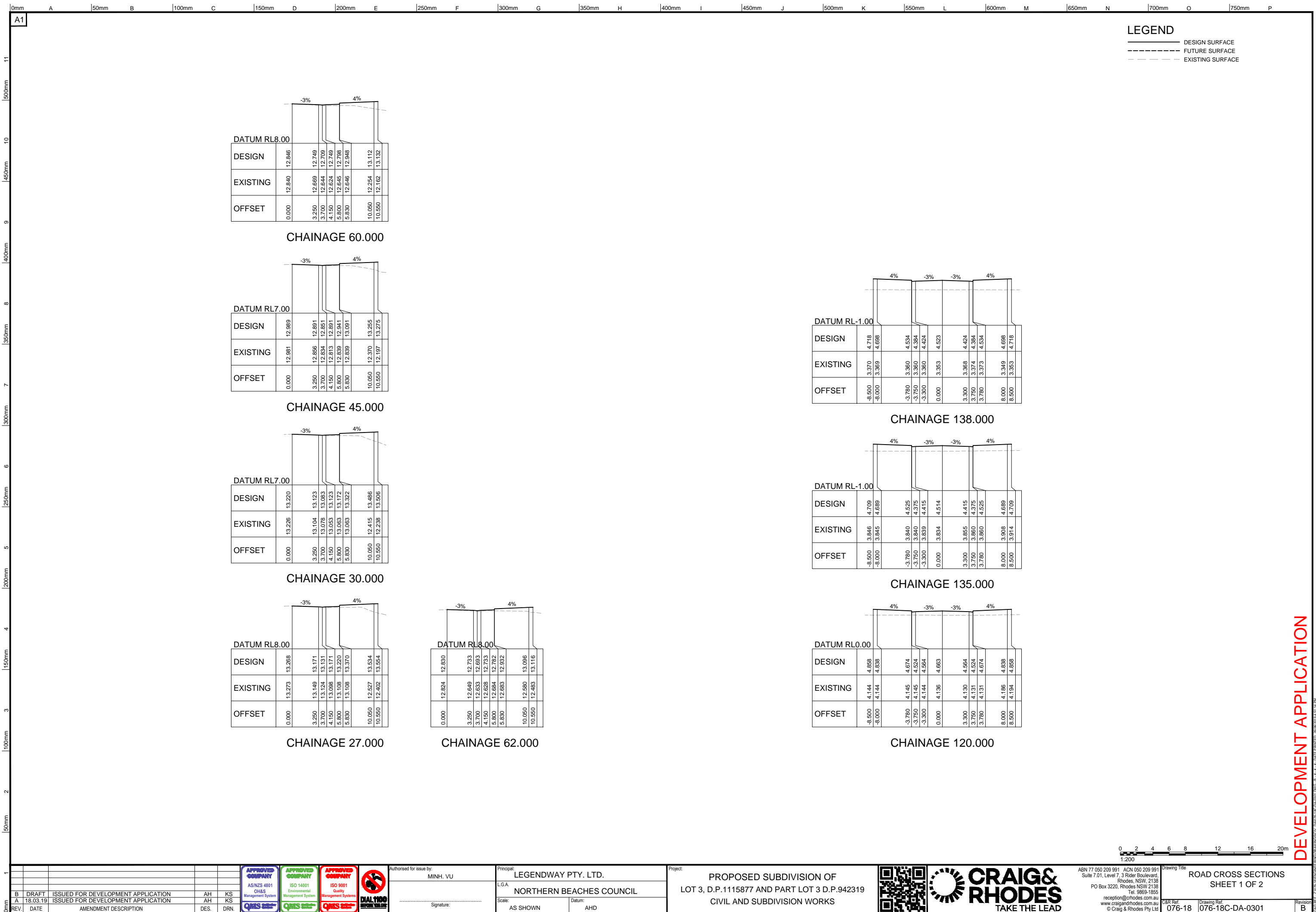
DEVELOPMENT APPLICATION

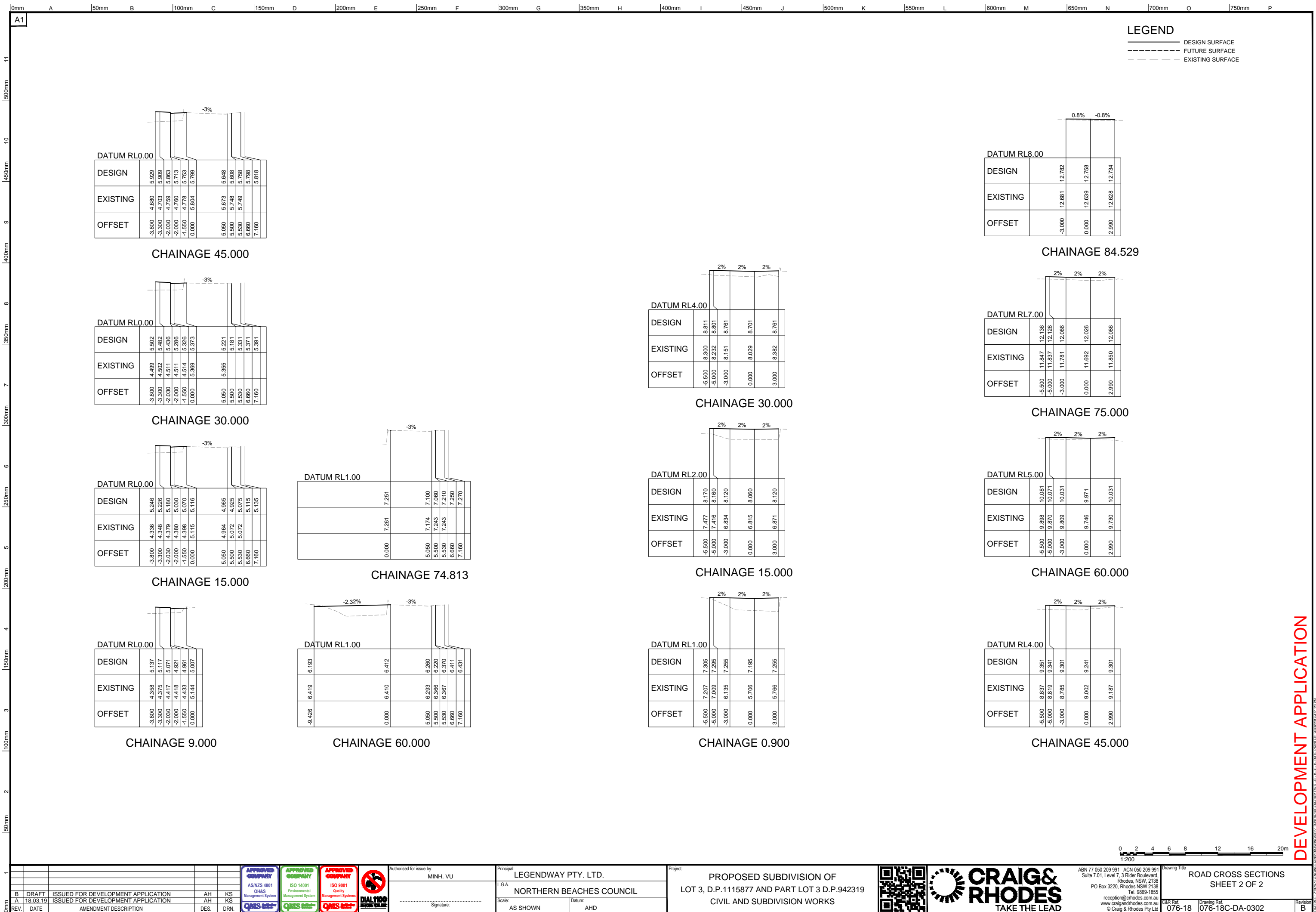




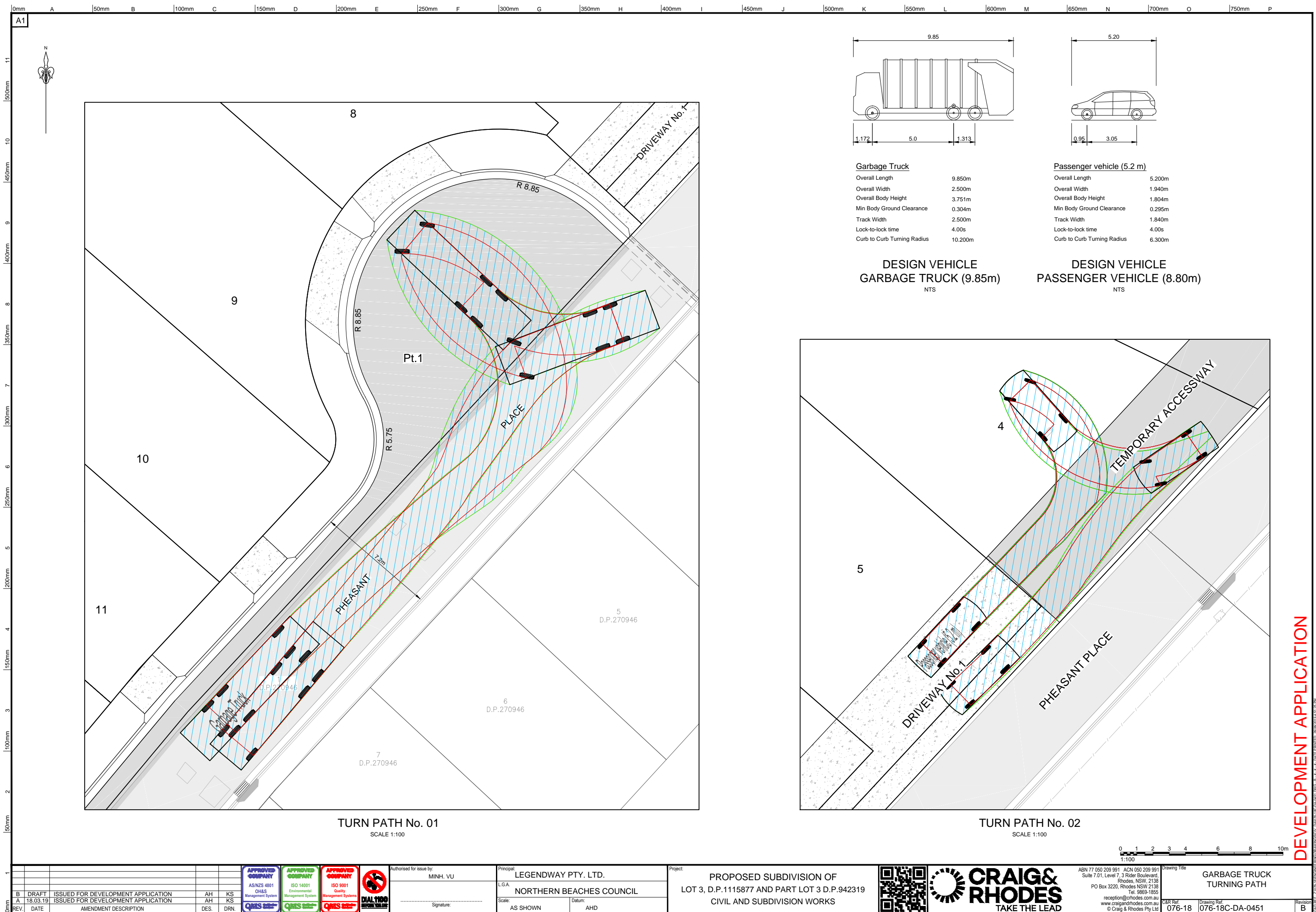


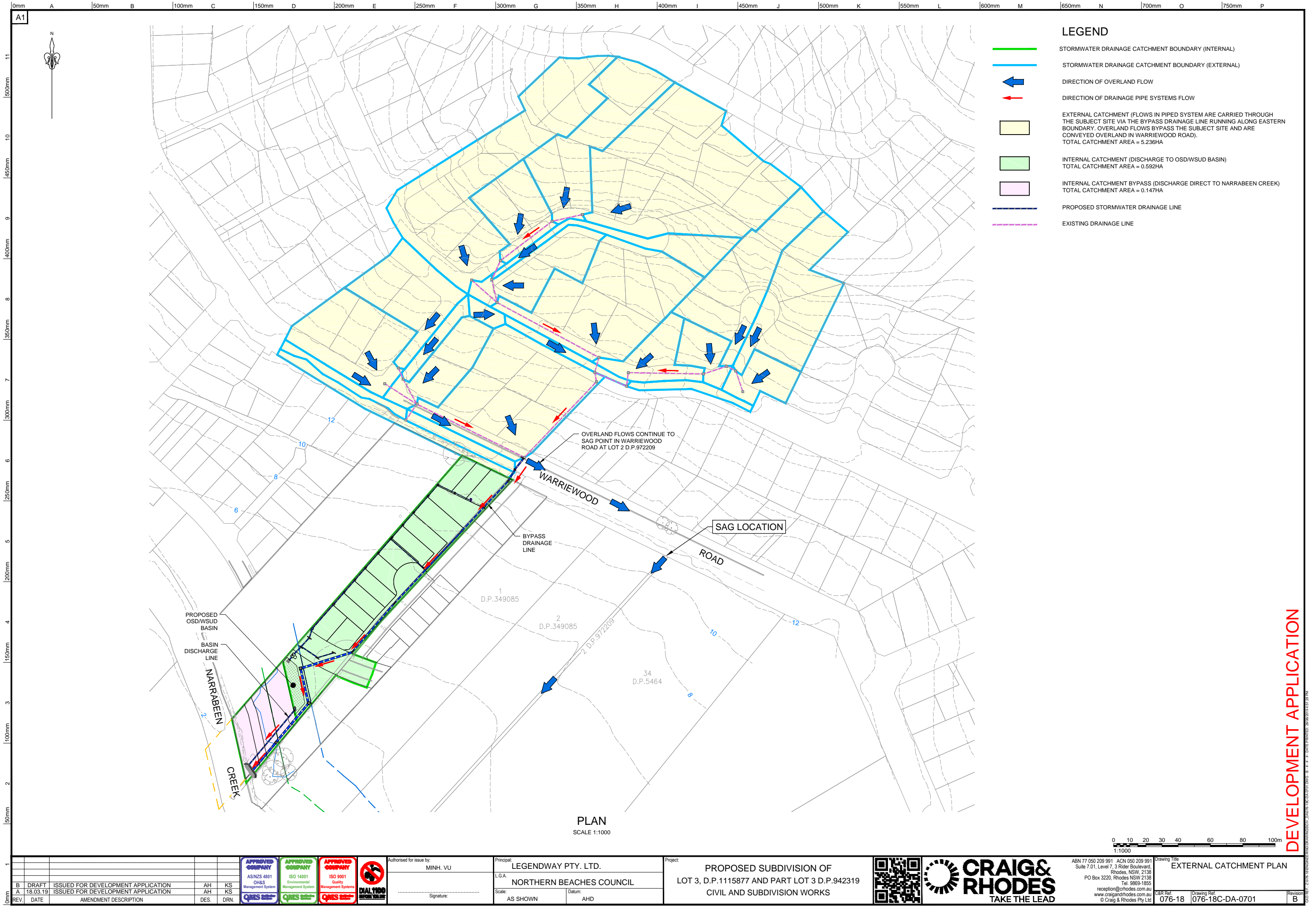




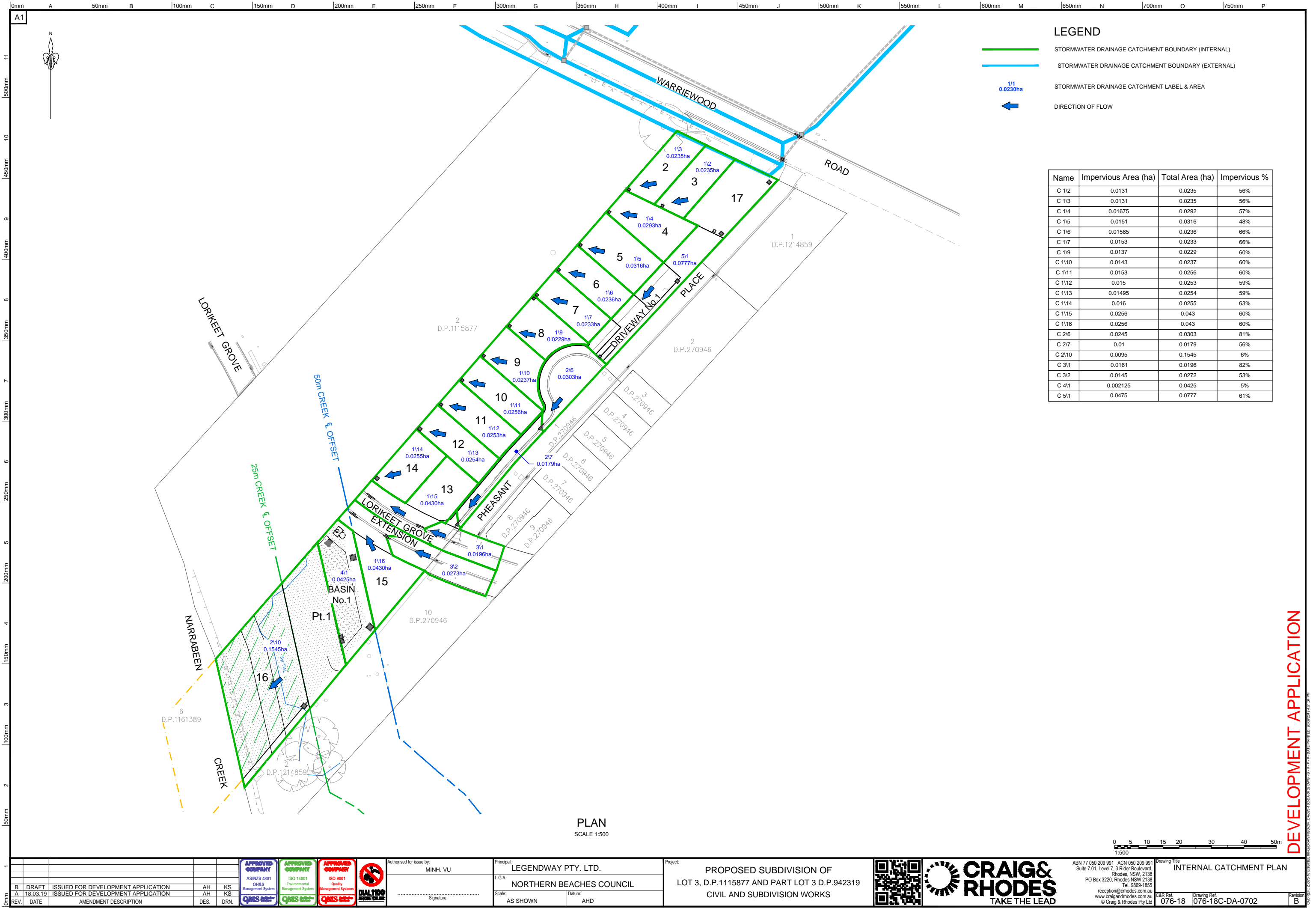












DEVELOPMENT APPLICATION

18.03.19

DRAFT

ISSUED FOR DEVELOPMENT APPLICATION

AH

KS

18.03.19

ISSUED FOR DEVELOPMENT APPLICATION

AH

KS

AMENDMENT DESCRIPTION

DES.

DRN.

APPROVED COMPANY

AS/NZS 4801

QMS

APPROVED COMPANY

ISO 14001

QMS

APPROVED COMPANY

ISO 9001

QMS

DIAL 1100

1100

1100

Authorised for issue by:

MINH. VU

Signature:

Principal:

LEGENDWAY PTY. LTD.

LGA:

NORTHERN BEACHES COUNCIL

Scale:

AS SHOWN

Datum:

AHD

Project:

PROPOSED SUBDIVISION OF LOT 3, D.P.1115877 AND PART LOT 3 D.P.942319 CIVIL AND SUBDIVISION WORKS

QR CODE

CRAIG & RHODES

TAKE THE LEAD

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ACN 050 209 991

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Tel: 9669-1855

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© Craig & Rhodes Pty Ltd

Drawing Title:

INTERNAL CATCHMENT PLAN

C&R Ref:

076-18

Drawing Ref:

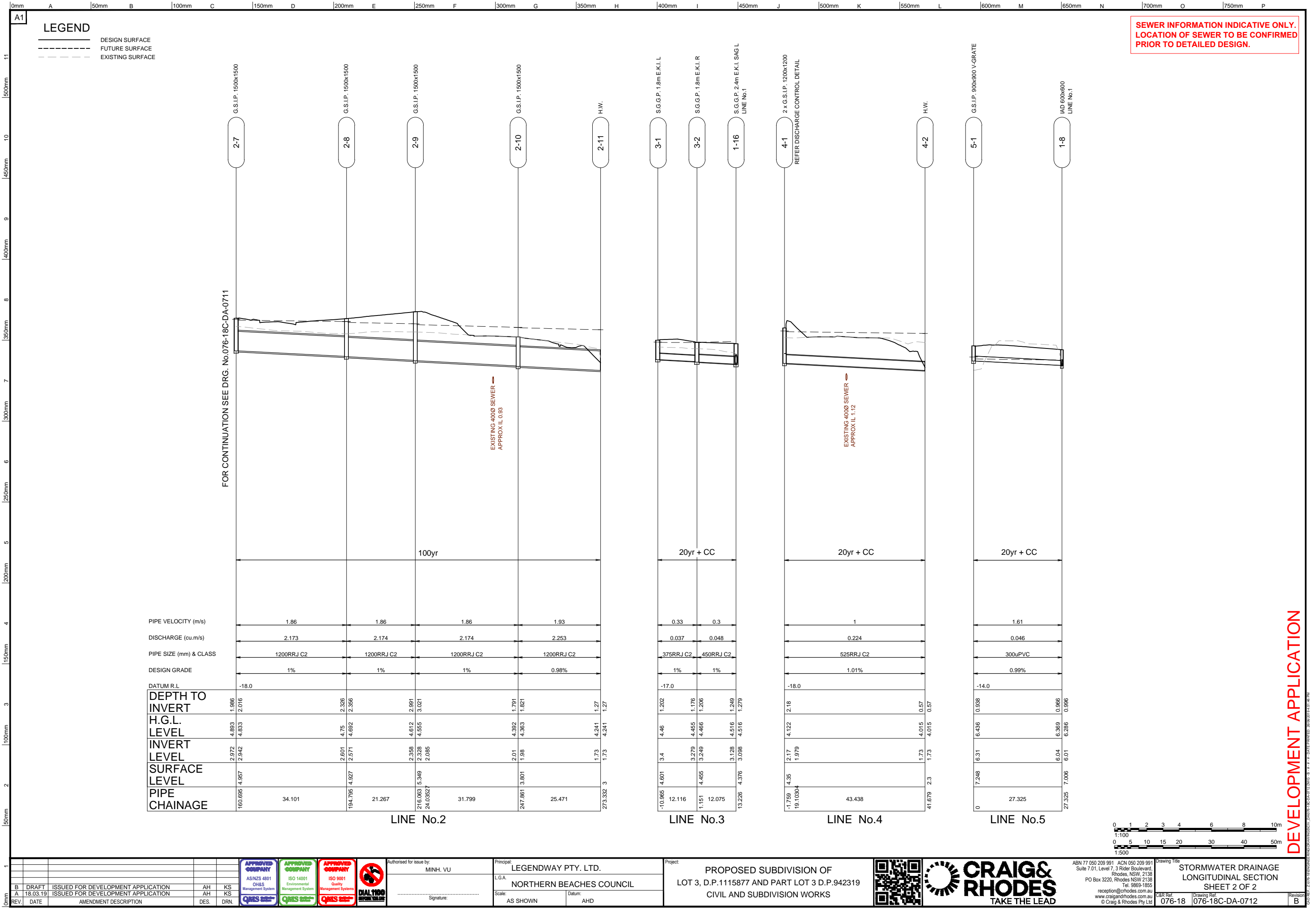
076-18C-DA-0702

Revision:

B







5-1

G.S.I.P. 900x900 V-GRADE

1-8

IAD 600x600  
LINE No.1

20yr + CC

1.61

0.046

300uPVC

0.99%

-14.0

0.938

0.966

6.436

6.369

6.286

6.31

6.04

6.01

7.248

27.325

LINE No.5

076-18

076-18C-DA-0712

0

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4

6

8

10m

1:100

0

5

10

15

20

30

40

50m

1:500

SEWER INFORMATION INDICATIVE ONLY.  
LOCATION OF SEWER TO BE CONFIRMED  
PRIOR TO DETAILED DESIGN.

DEVELOPMENT APPLICATION

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Authorised for issue by:

MINH. VU

Signature:

Principal:

LEGENDWAY PTY. LTD.

LGA:

NORTHERN BEACHES COUNCIL

Scale:

AS SHOWN

Datum:

AHD

Project:

PROPOSED SUBDIVISION OF  
LOT 3, D.P.1115877 AND PART LOT 3 D.P.942319  
CIVIL AND SUBDIVISION WORKS

QR CODE

CRAIG & RHODES

TAKE THE LEAD

ABN 77 050 209 991

ACN 050 209 991

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PO Box 3220, Rhodes NSW 2138

Tel. 9669-1855

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Drawing Title

STORMWATER DRAINAGE  
LONGITUDINAL SECTION  
SHEET 2 OF 2

C&R Ref.

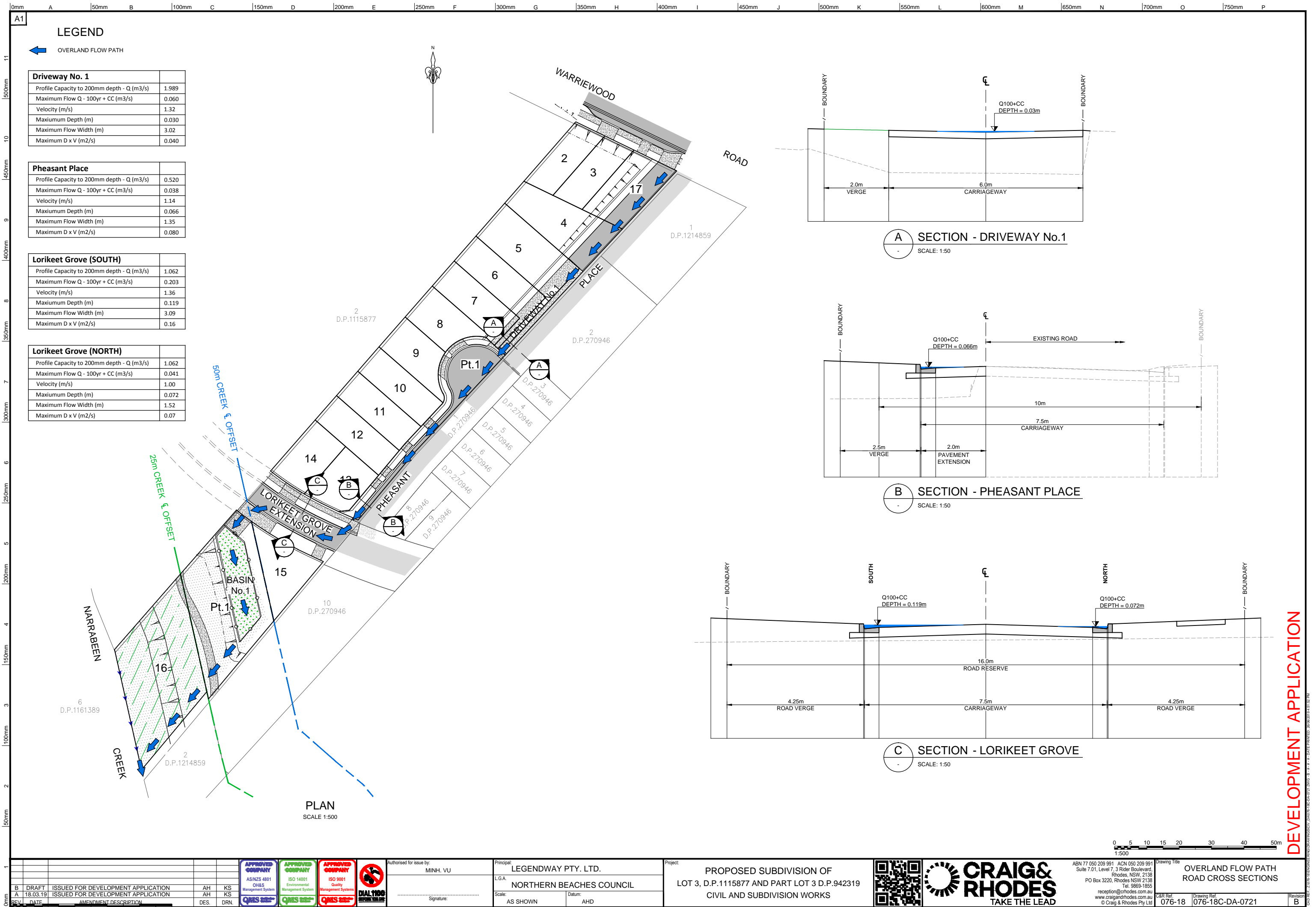
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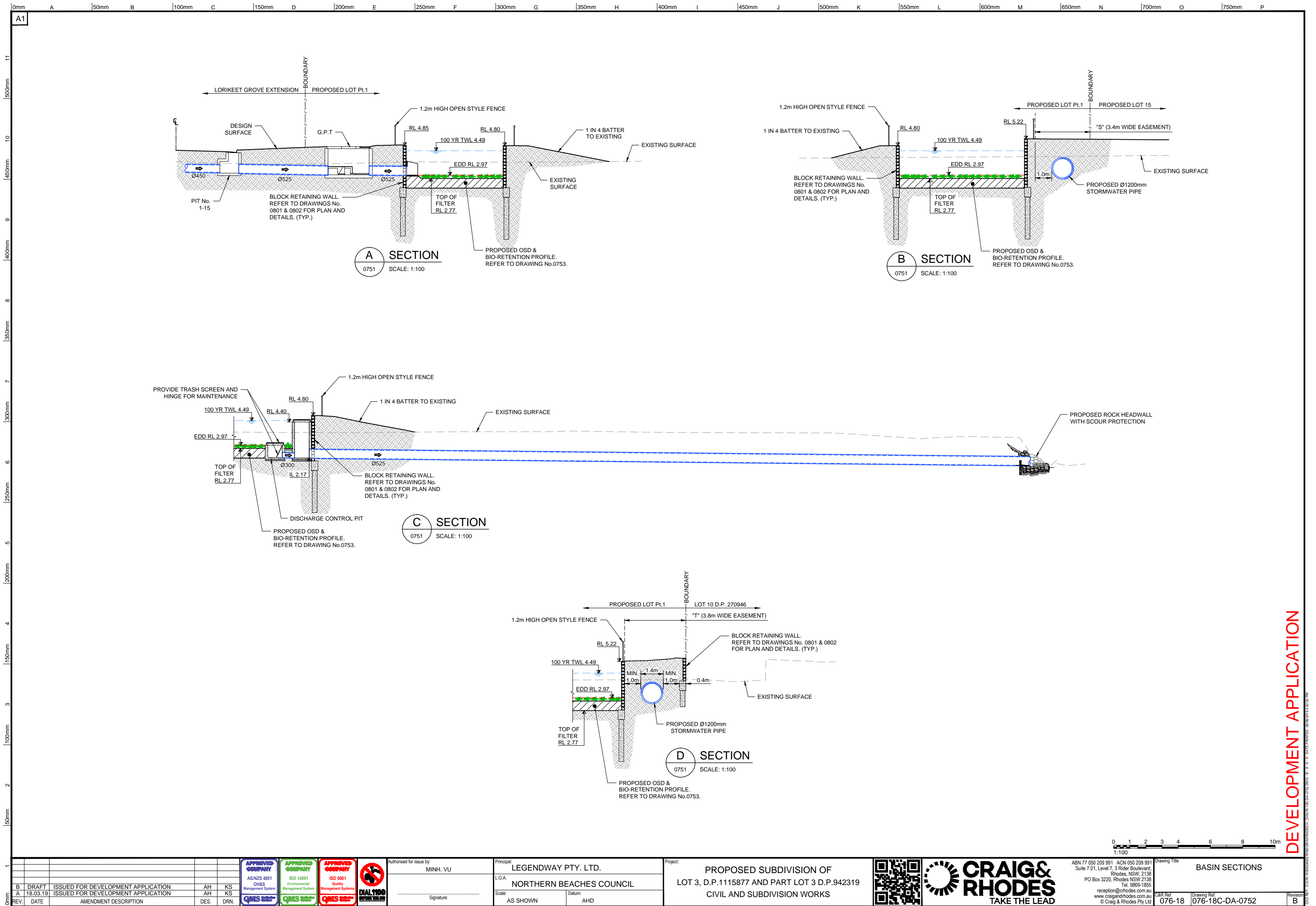


<b>BASIN CHARACTERISTICS</b>	<b>BASIN No.1</b>
TOP OF FILTER LEVEL (R.L.)	2.77
EXTENDED DETENTION LEVEL (R.L.)	2.97
DISCHARGE CONTROL PIT (R.L.)	2.97
HIGH LEVEL OUTLET PIT (R.L.)	4.40
TOP OF BASIN LEVEL	4.80
APPROXIMATE BASIN VOLUME REQUIRED (m3)	320
APPROXIMATE BASIN VOLUME PROVIDED (m3)	325
APPROXIMATE FILTER AREA REQUIRED (m <sup>2</sup> )	185
100Yr T.W.L.	4.49

ARI	PRE-DEVELOPMENT (m3/s)	POST-DEVELOPMENT (m3/s)
2	0.129	0.129
5	0.177	0.115
10	0.204	0.129
20	0.249	0.155
100	0.305	0.287

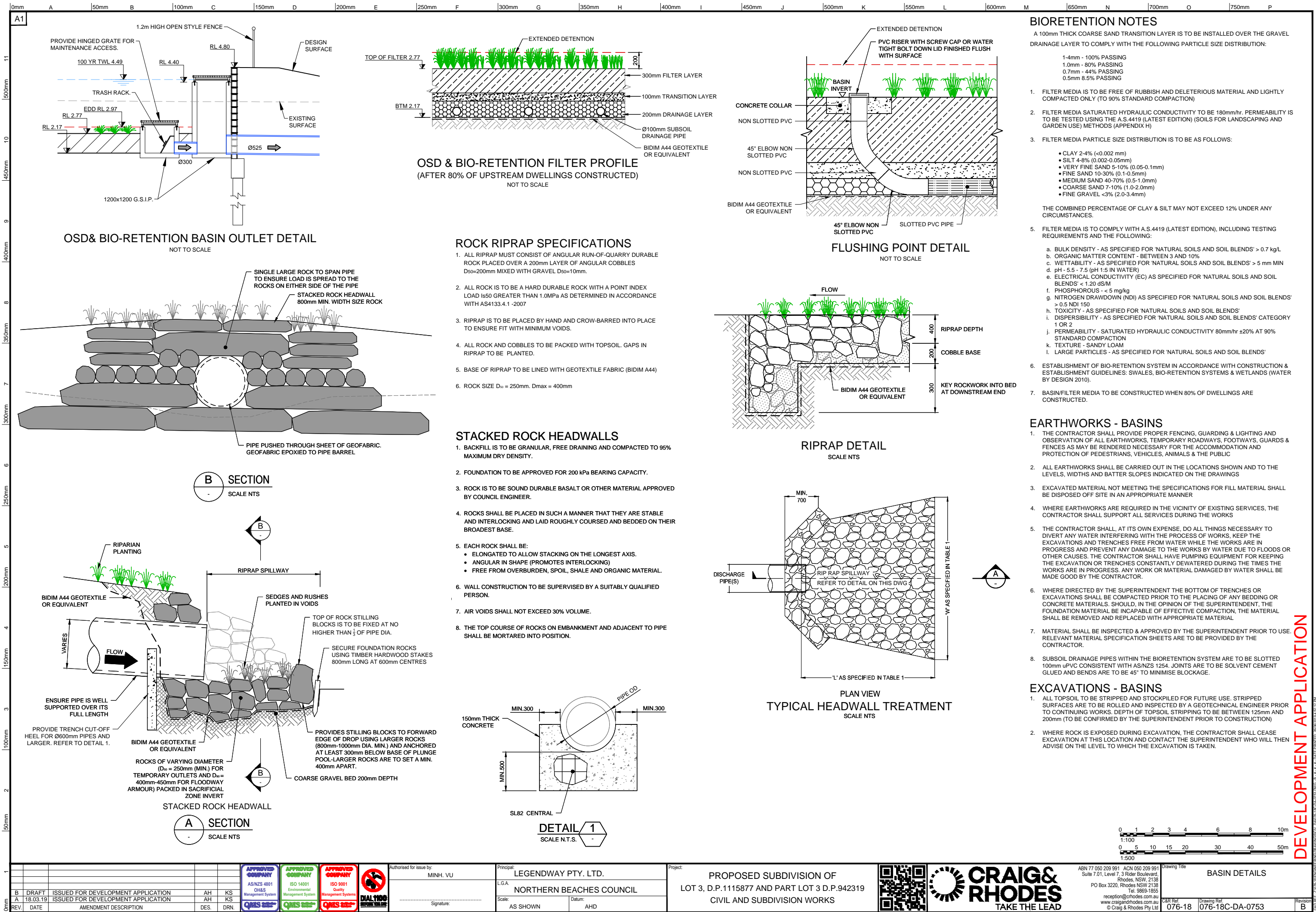


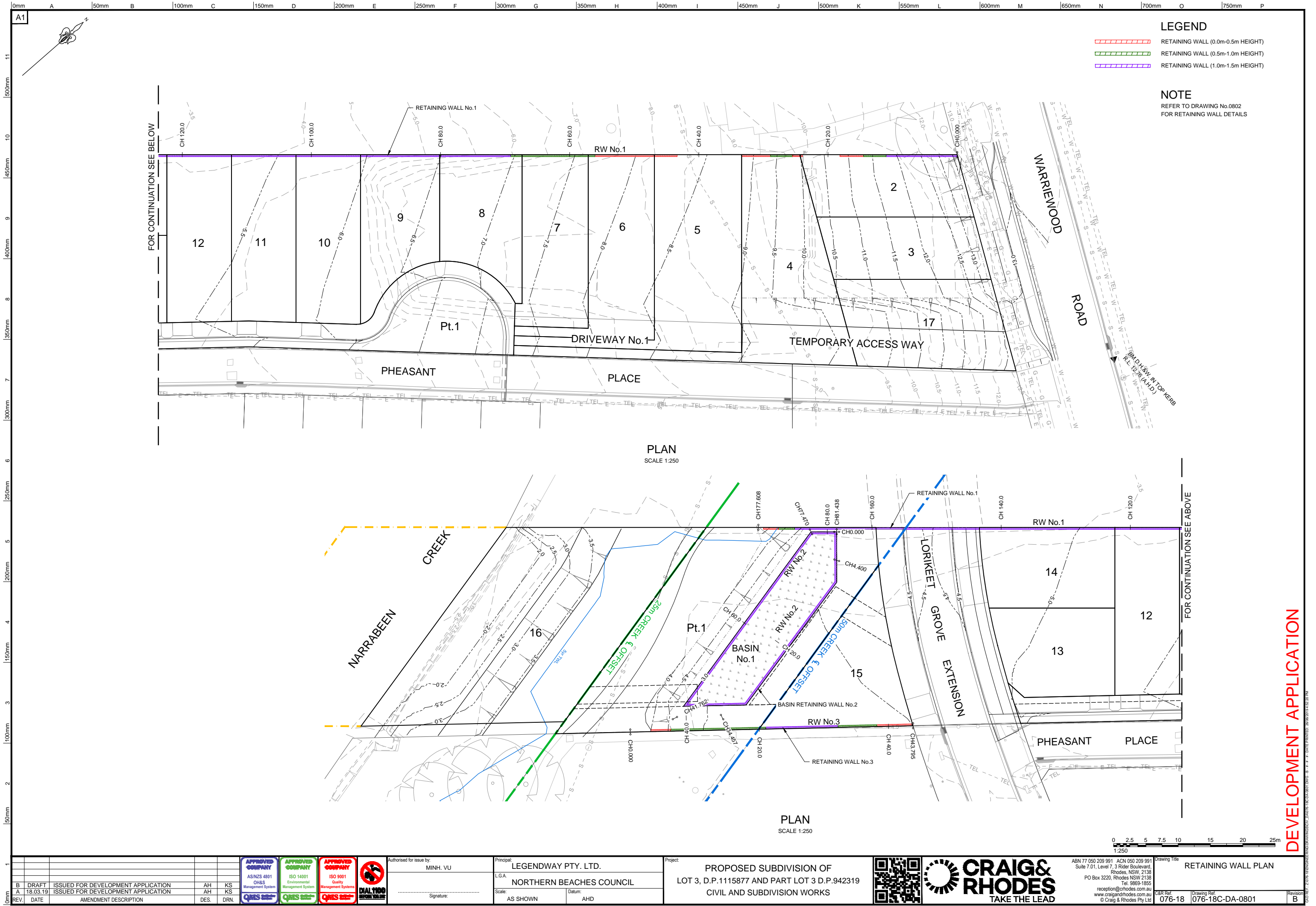




DEVELOPMENT APPLICATION

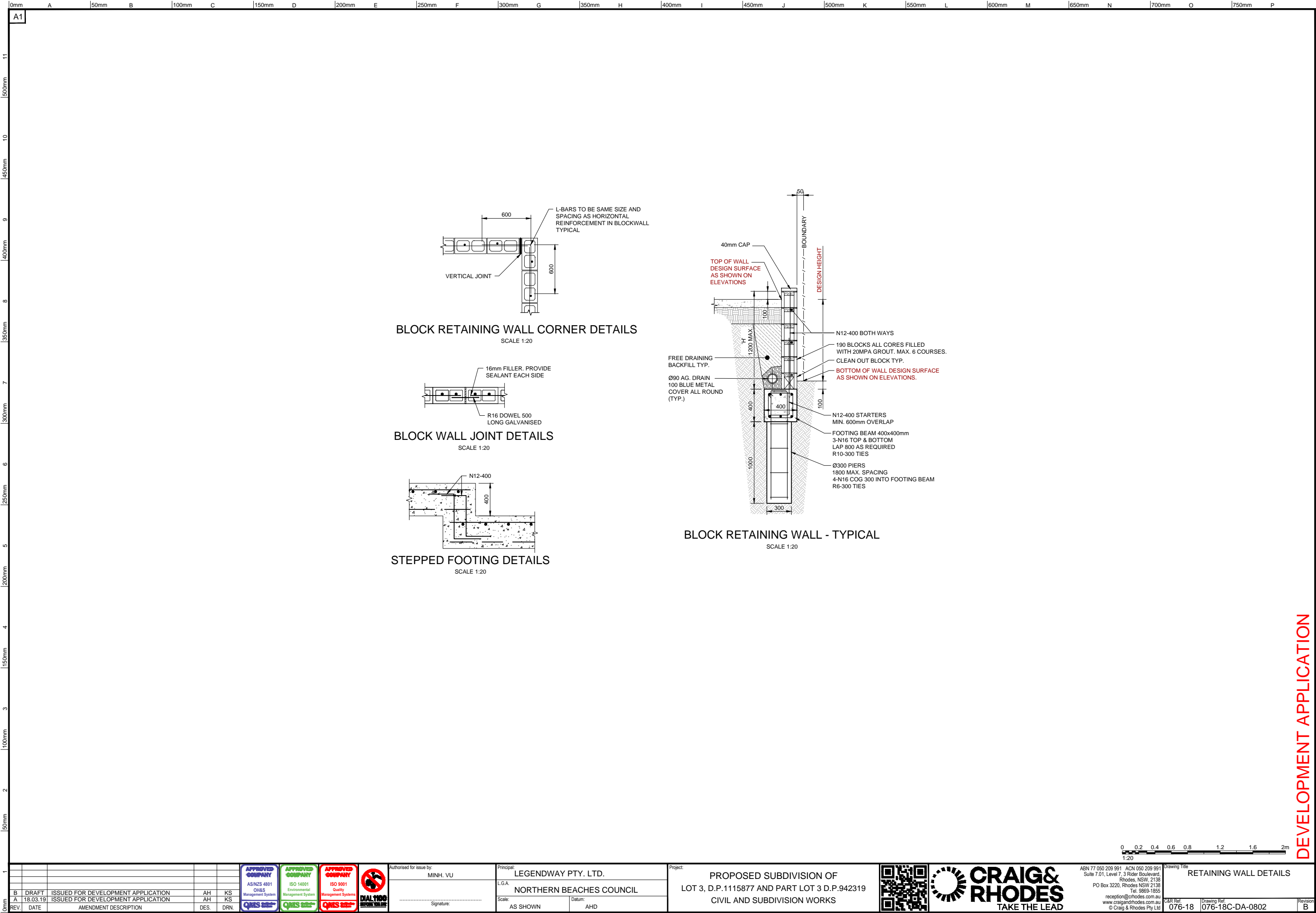
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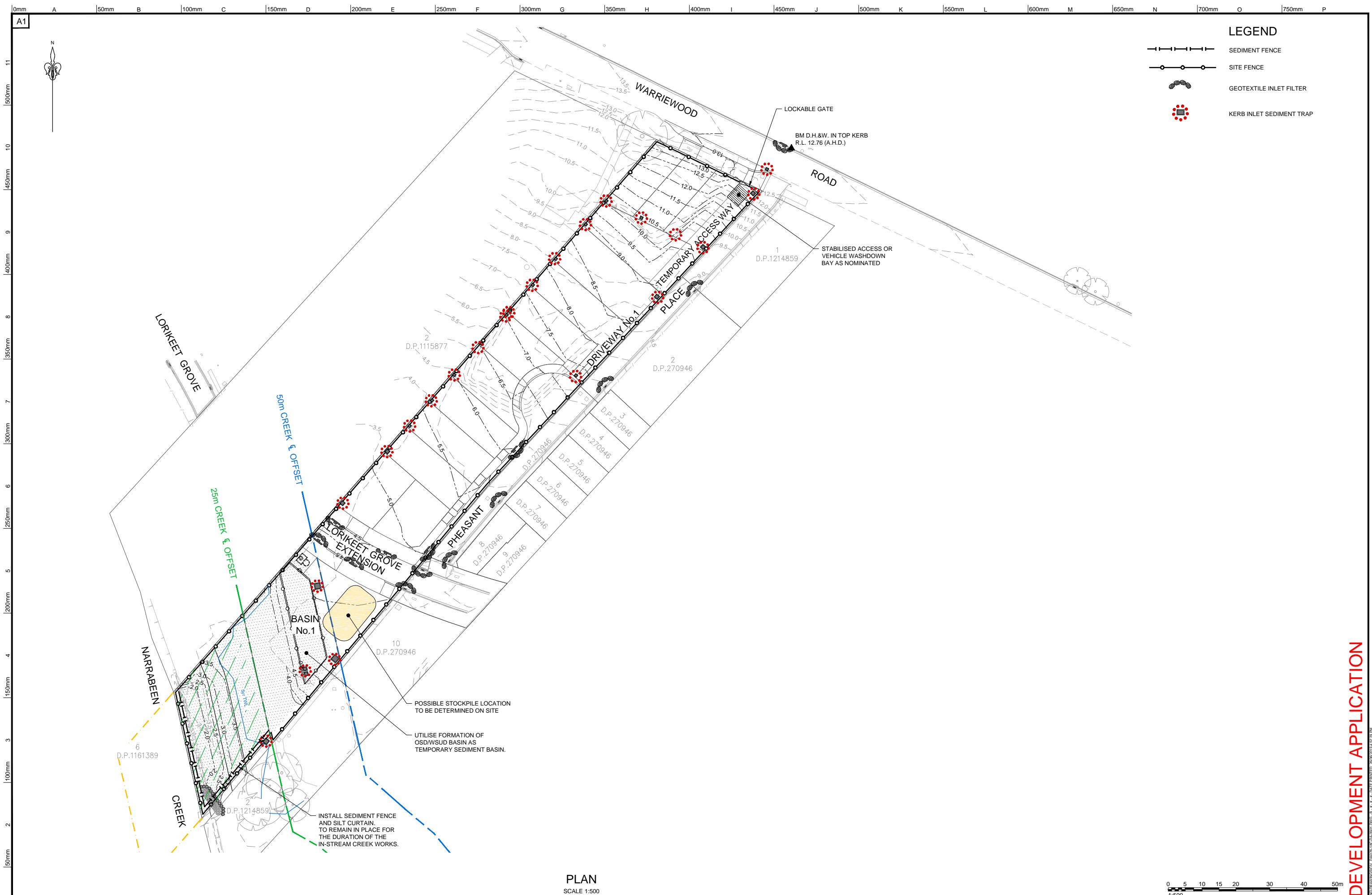




DEVELOPMENT APPLICATION







DEVELOPMENT APPLICATION

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