

LEGEND:

- DES 7.080 X PROPOSED DESIGN SPOT LEVEL
- EX 7.080 X EXISTING SURFACE SPOT LEVEL
- REFER SURVEY PLANS TO BE CONFIRMED PRIOR TO CONSTRUCTION.
- CHAINAGES
- PROPOSED DRIVEWAY/FOOTPATH OUTLINE

NOTES:

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- PRIOR APPROVAL MAY BE REQUIRED WITH RELEVANT AUTHORITIES PRIOR TO RETAINING WALLS, SHORING, BATTERS & DRAINAGE IMPACTING NEIGHBORING PROPERTIES AND INFRASTRUCTURE BEYOND BOUNDARIES.
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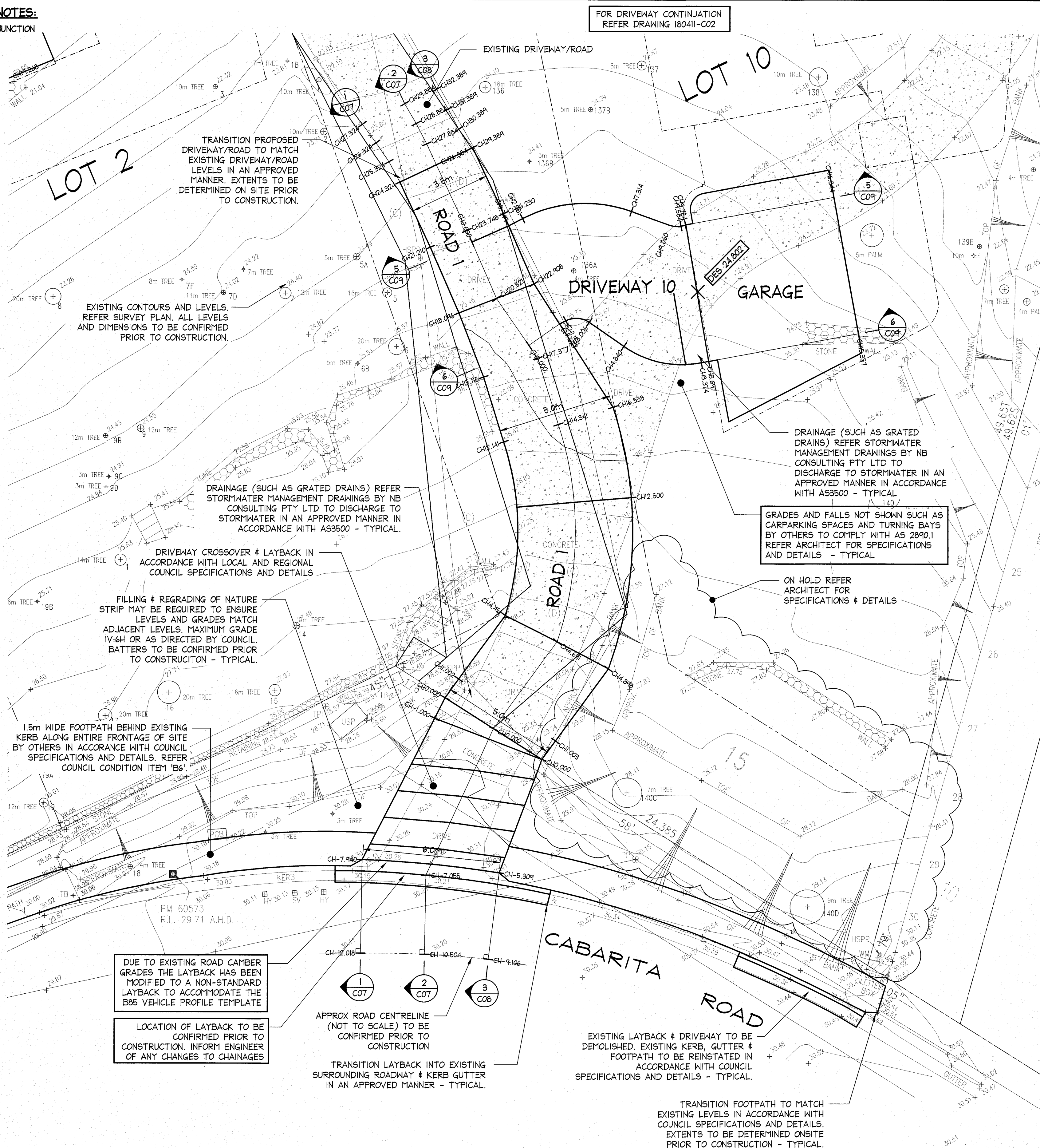
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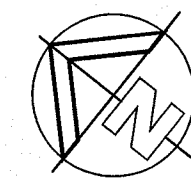


ROAD/DRIVEWAY ACCESS PLAN

SCALE = 1 : 100

NOTES:

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<p>28/11/2018</p> <p>Date: 28/11/2018</p> <p>Issue: A</p> <p>Description: ISSUED FOR DA SUBMISSION ONLY - NOT FOR CONSTRUCTION</p>	<p>DOCUMENT CERTIFICATION</p> <p>Date: Rick G Wray</p> <p>BE(Civil), CPENG, MIEAust., NER, RPEQ 06293</p> <p>(Director: NB Consulting Engineers)</p> <p>By: Review:</p>	<p>NB Consulting Engineers</p> <p>STRUCTURAL - CIVIL - STORMWATER - REMEDIAL</p> <p>A.C.N. 078 121 616 A.B.N. 24 076 121 616</p> <p>Sydney: Ph: (02) 9984 7000 Fax: (02) 9984 7444</p> <p>Suite 207, 30 Fisher Road Dee Why N.S.W. 2099</p> <p>Gold Coast: Ph: (07) 5631 4744</p> <p>Unit 8, 1728 Gold Coast Highway Burleigh Heads QLD 4220</p> <p>E: nb@nbconsulting.com.au W: www.nbconsulting.com.au</p>	<p>Architect: MARK HURCUM DESIGN PRACTICE PTY LTD</p> <p>Client: MERAKI DEVELOPMENTS PTY LTD</p>	<p>Project: PROPOSED ROADS AND DRIVEWAYS AT 96-104 CABARITA RD, AVALON BEACH</p> <p>Drawing Title: ROAD & DRIVEWAY ACCESS PLAN (1:100) - SHEET 1</p>	<p>Date: SEP 2018</p> <p>Design: D.K.</p> <p>Drawn: D.K.</p> <p>Job No: 180411</p> <p>Drawing No: C01</p> <p>Issue: A</p>
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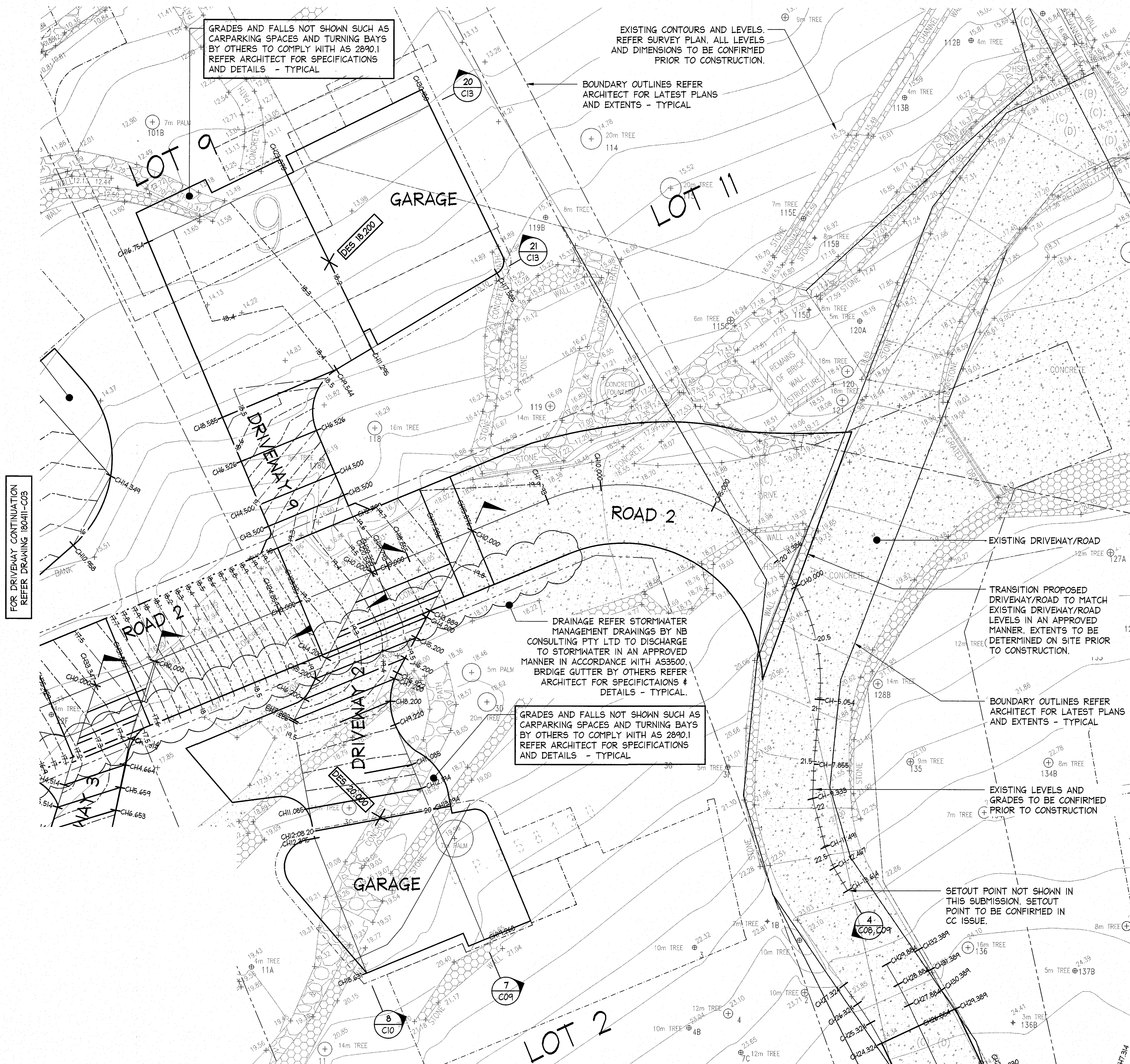
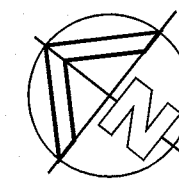
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ROAD/DRIVEWAY ACCESS PLAN

SCALE = 1 : 100

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DOCUMENT CERTIFICATION				Architect:		Project:		Date:	Design:	Drawn:
Date: Rick G Wray BE(Civil), CPEng, MIEAust, NER, RPEQ 08293 (Director NB Consulting Engineers) <small>The copyright of this drawing remains with Northern Beaches Consulting Engineers Pty Ltd. Trading as NB Consulting Engineers</small>				MARK HURCUM DESIGN PRACTICE PTY LTD		PROPOSED ROADS AND DRIVEWAYS AT 96-104 CABARITA RD, AVALON BEACH		SEP 2018	D.K.	D.K.
Client:				Drawing Title:		Job No:		Drawing No:		Issue:
MERAKI DEVELOPMENTS PTY LTD				ROAD & DRIVEWAY ACCESS PLAN (1:100) - SHEET 3		180411		C03		A
Date:	Issue:	Description:		By:	Review:					
28/11/2018	A	ISSUED FOR DA SUBMISSION ONLY - NOT FOR CONSTRUCTION								

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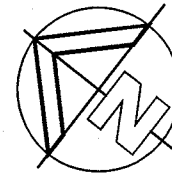
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ROAD/DRIVEWAY ACCESS PLAN

SCALE = 1 : 100

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DOCUMENT CERTIFICATION				Architect:		Project:		Date:	Design:	Drawn:
Date: Rick G Wray BE(Civil), CPEng, MIEAust., NER, RPEQ 08293. (Director NB Consulting Engineers)				MARK HURCUM DESIGN PRACTICE PTY LTD		PROPOSED ROADS AND DRIVEWAYS AT 96-104 CABARITA RD, AVALON BEACH		SEP 2018	D.K.	D.K.
By: Review:				Client:		Drawing Title:		Job No:		Drawing No:
The copyright of this drawing remains with Northern Beaches Consulting Engineers Pty Ltd. Trading as NB Consulting Engineers				MERAKI DEVELOPMENTS PTY LTD		ROAD & DRIVEWAY ACCESS PLAN (1:100) - SHEET 4		180411		C04
Date: Issue: Description:								Issue:		A
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DOCUMENT CERTIFICATION

Date: Rick G Wray

BE(Civil), CPENG, MIEAust, NER, RPEQ: 08293
(Director NB Consulting Engineers)

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STRUCTURAL - CIVIL - STORMWATER - REMEDIAL
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Sydney: Ph: (02) 9984 7000 Fax: (02) 9984 7444
Suite 207, 30 Fisher Road Dee Why N.S.W. 2099
Gold Coast: Ph: (07) 5631 4744
Unit 8, 1726 Gold Coast Highway Burleigh Heads QLD 4220
E: nb@nbconsulting.com.au W: www.nbconsulting.com.au

Architect:

MARK HURCUM DESIGN
PRACTICE PTY LTD

Client:

MERAKI DEVELOPMENTS PTY LTD

Project:

PROPOSED ROADS AND DRIVEWAYS
AT 96-104 CABARITA RD, AVALON BEACH

Drawing Title:

ROAD & DRIVEWAY ACCESS
PLAN (1:100) - SHEET 5

Date:

SEP 2018

Design:

D.K.

Drawn:

D.K.

Job No:

180411

Drawing No:

C05

Issue:

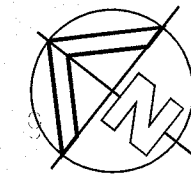
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By: D.K. Review: L.G.



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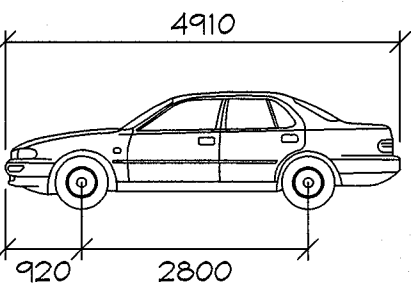
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B85 PROFILE:

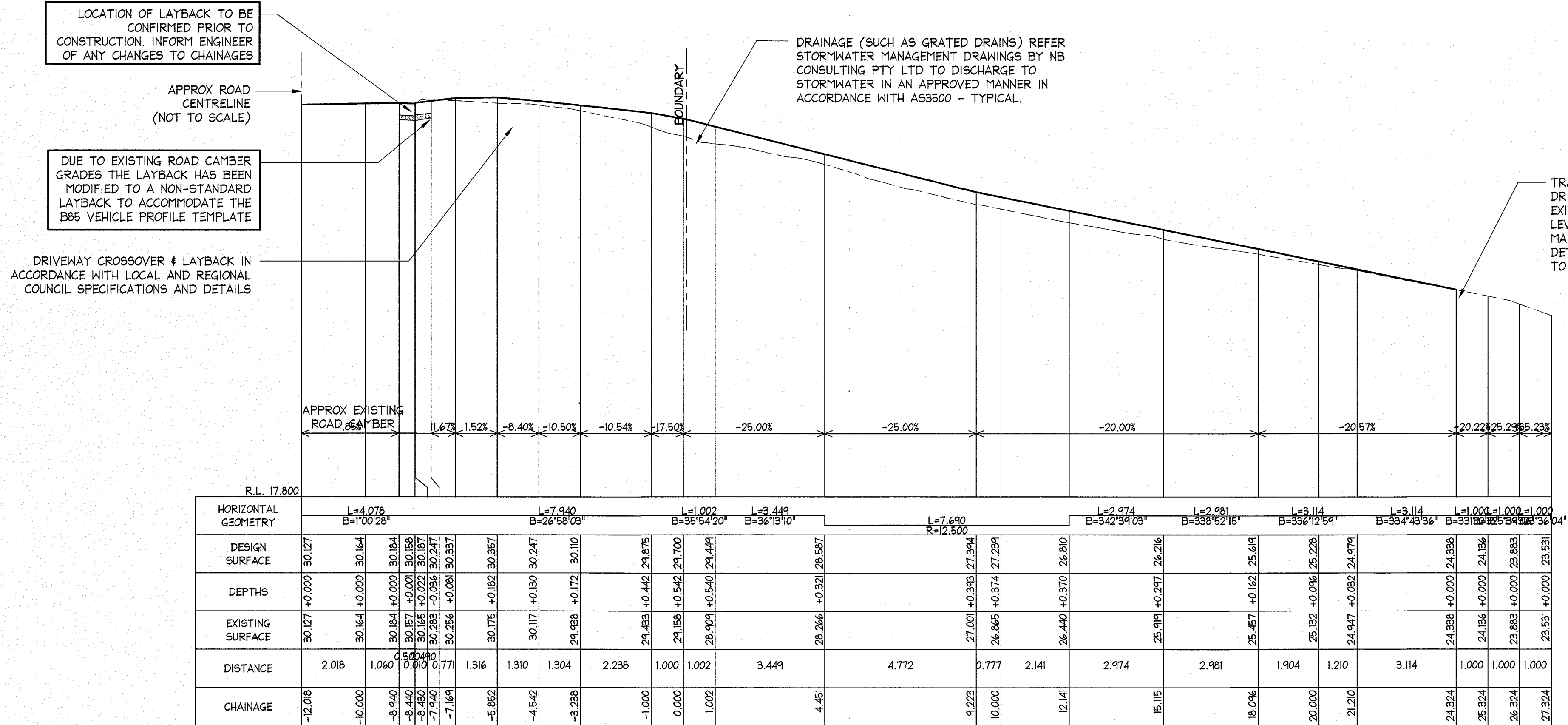


Width : 1870
Track : 1770
Lock to Lock Time : 6.0
Steering Angle : 34.1

GENERAL NOTES:

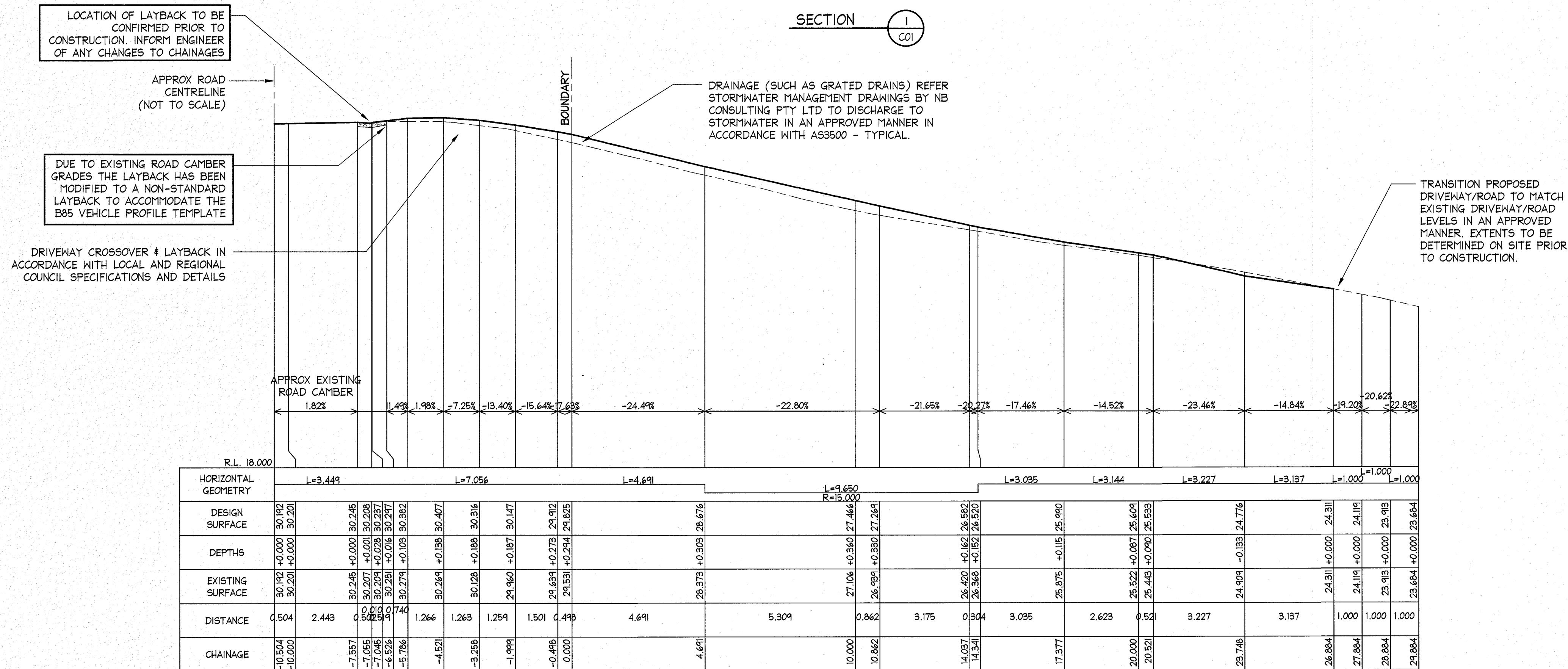
1. REFER AS/NZS 2840.1

DRAINAGE (SUCH AS GRATED DRAINS) REFER STORMWATER MANAGEMENT DRAWINGS BY NB CONSULTING PTY LTD TO DISCHARGE TO STORMWATER IN AN APPROVED MANNER IN ACCORDANCE WITH AS3500 - TYPICAL.



LONGITUDINAL SECTION ROAD 1 LH
FROM CH: -12.018 TO CH: 27.324
SCALES: HORIZONTAL 1:100 VERTICAL 1:100

SECTION 1
C01



LONGITUDINAL SECTION ROAD 1 CL
FROM CH: -10.504 TO CH: 29.884
SCALES: HORIZONTAL 1:100 VERTICAL 1:100

SECTION 2
C01

ISSUED FOR D.A. SUBMISSION ONLY
NOT FOR CONSTRUCTION

IF IN DOUBT ASK

AI

28/11/2018		A	ISSUED FOR DA SUBMISSION ONLY - NOT FOR CONSTRUCTION	D.K.	L.G.	DOCUMENT CERTIFICATION		NB Consulting Engineers		Architect: MARK HURCUM DESIGN PRACTICE PTY LTD		Project: PROPOSED ROADS AND DRIVEWAYS AT 96-104 CABARITA RD, AVALON BEACH		Date: SEP 2018	Design: D.K.	Drawn: D.K.		
Date:		Issue:	Description:	By:	Review:	The copyright of this drawing remains with Northern Beaches Consulting Engineers Pty Ltd. Trading as NB Consulting Engineers		STRUCTURAL - CIVIL - STORMWATER - REMEDIAL A.C.N. 076 121 616 A.B.N. 24 076 121 616 Sydney: Ph: (02) 9984 7000 Fax: (02) 9984 7444 Suite 207, 30 Fisher Road Dee Why N.S.W. 2099 Gold Coast: Ph: (07) 5631 4744 Unit 6, 1726 Gold Coast Highway Burleigh Heads QLD 4220 E: nb@nbconsulting.com.au W: www.nbconsulting.com.au		Client: MERAKI DEVELOPMENTS PTY LTD		Drawing Title: LONGITUDINAL SECTION - SHEET 1		Job No: 180411		Drawing No: C07		Issue: A

NB Consulting Engineers

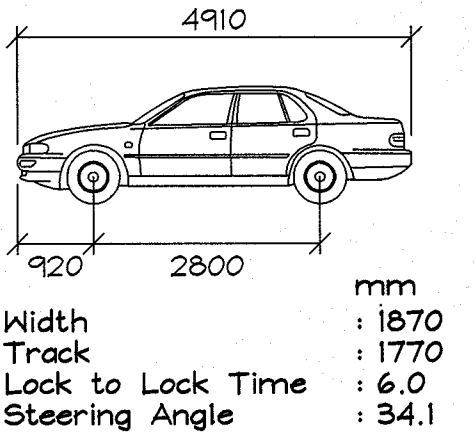
NOTES:

1. ALL DIMENSIONS TO BE VERIFIED ON SITE BY BUILDER BEFORE COMMENCING WITH WORK.
2. FOR GENERAL NOTES REFER TO DRAWING NUMBER: C01.

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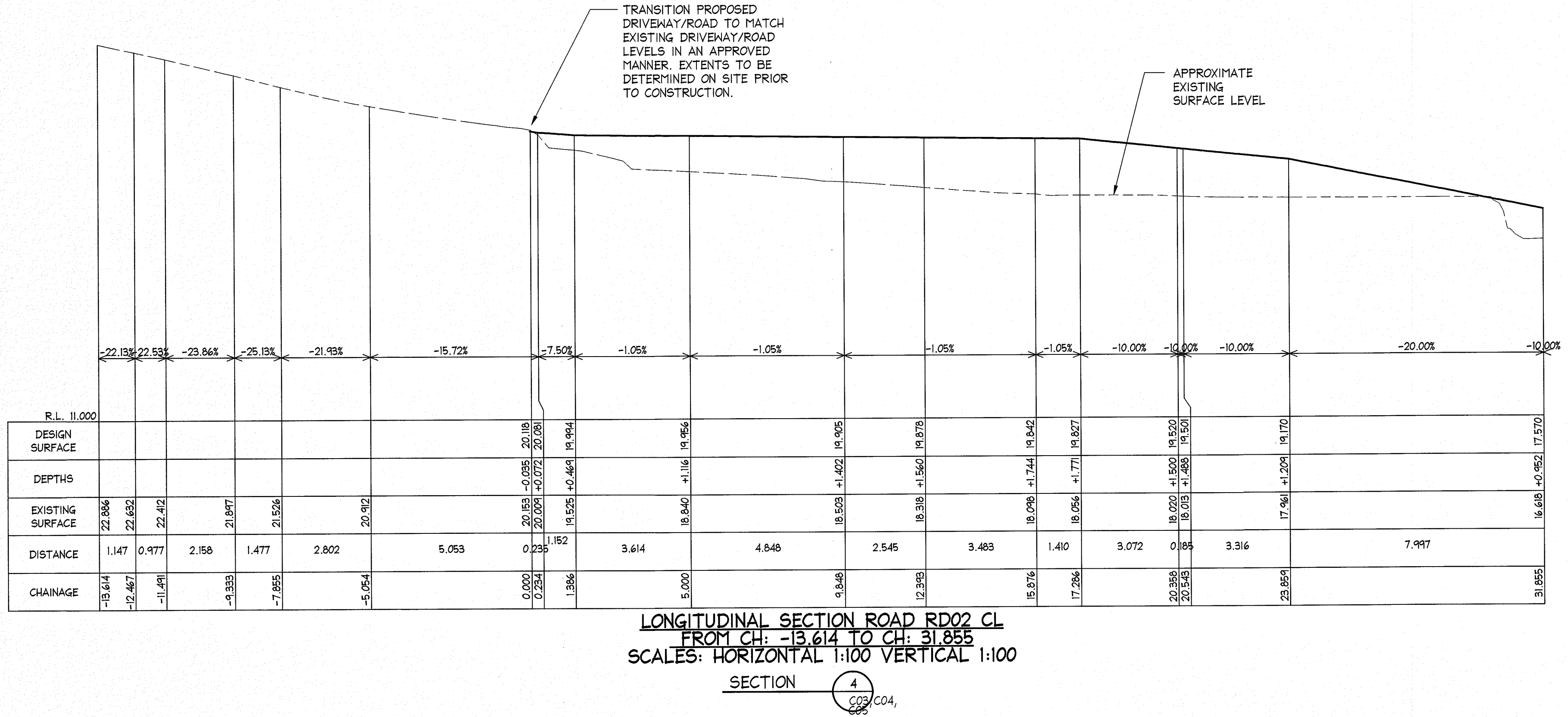
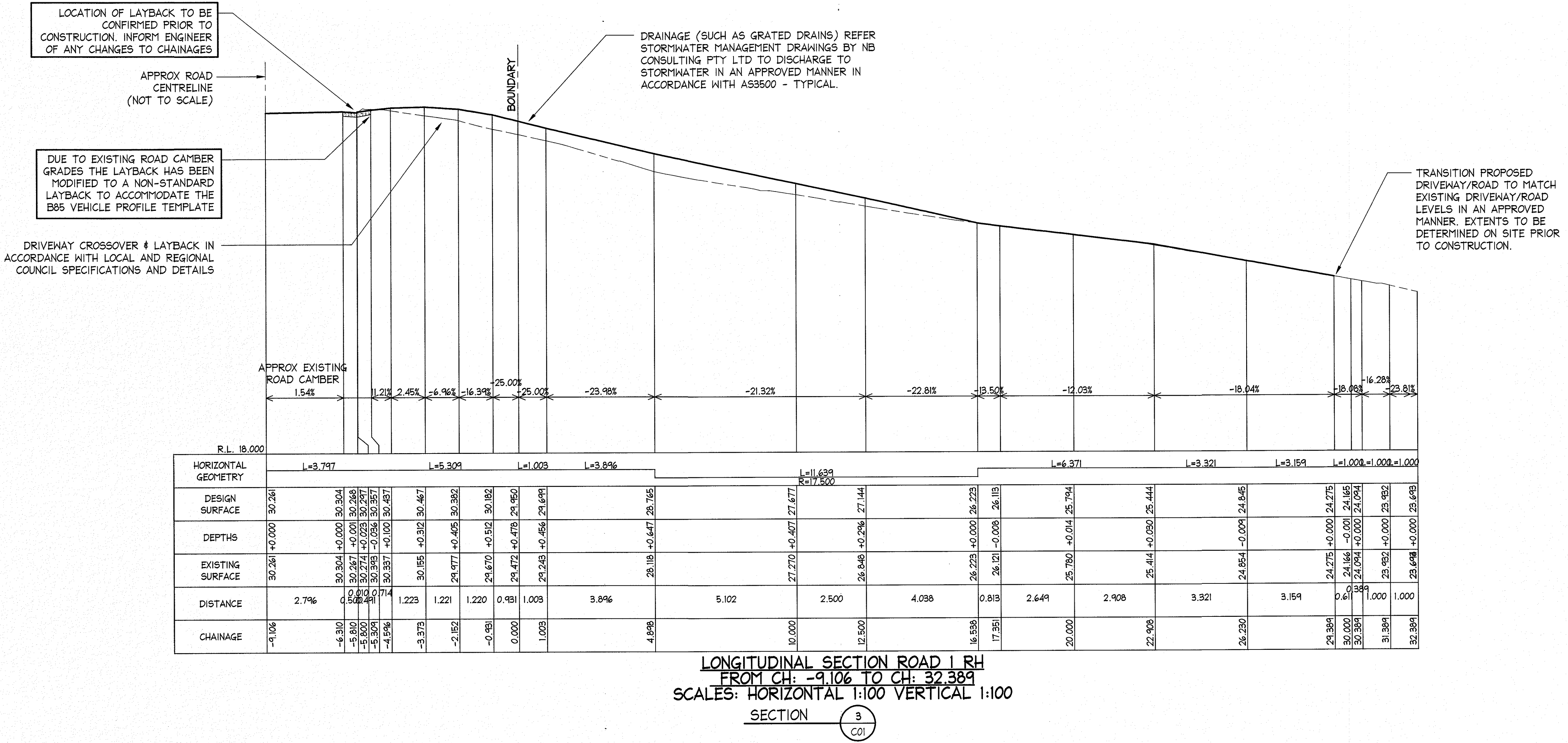
B85 PROFILE:



GENERAL NOTES:

1. REFER AS/NZS 2890.1

DRAINAGE (SUCH AS GRATED DRAINS) REFER STORMWATER MANAGEMENT DRAWINGS BY NB CONSULTING PTY LTD TO DISCHARGE TO STORMWATER IN AN APPROVED MANNER IN ACCORDANCE WITH AS3500 - TYPICAL.



ISSUED FOR D.A. SUBMISSION ONLY
NOT FOR CONSTRUCTION

IF IN DOUBT ASK

NB Consulting Engineers

AI

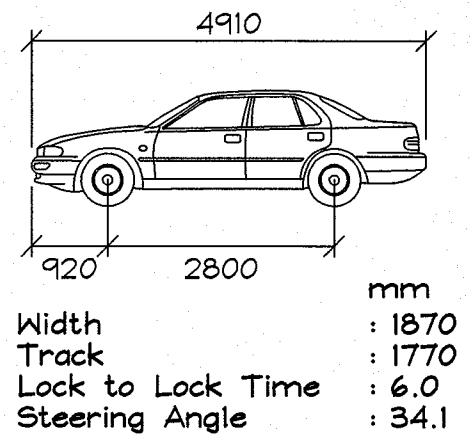
DOCUMENT CERTIFICATION				NB Consulting Engineers				Architect: MARK HURCUM DESIGN PRACTICE PTY LTD				Project: PROPOSED ROADS AND DRIVEWAYS AT 96-104 CABARITA RD, AVALON BEACH				Date: SEP 2018	Design: D.K.	Drawn: D.K.
Date: 28/11/2018				By: Rick G Wray				Client: MERAKI DEVELOPMENTS PTY LTD				Drawing Title: LONGITUDINAL SECTION - SHEET 2				Job No: 180411		Drawing No: C08
Issue: A				Description: ISSUED FOR DA SUBMISSION ONLY - NOT FOR CONSTRUCTION														Issue: A

NOTES:

- ALL DIMENSIONS TO BE VERIFIED ON SITE BY BUILDER BEFORE COMMENCING WITH WORK.
- FOR GENERAL NOTES REFER TO DRAWING NUMBER: C01.

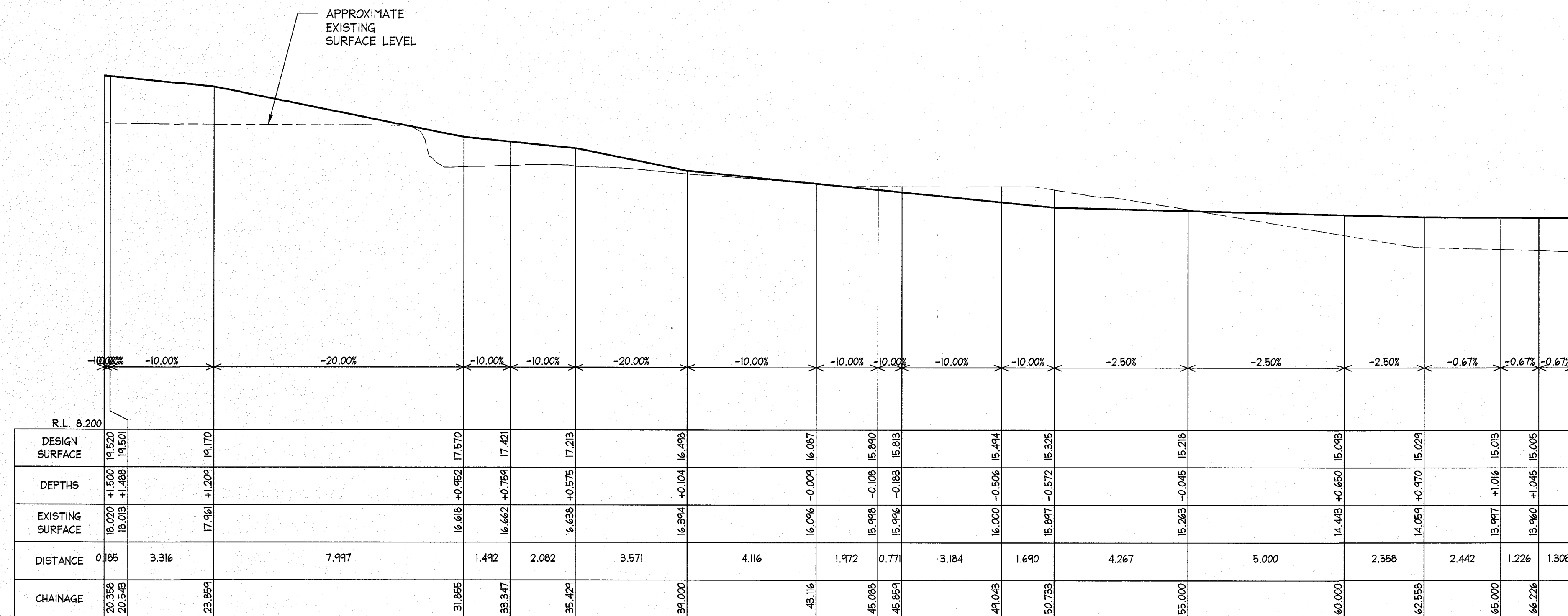


B85 PROFILE:



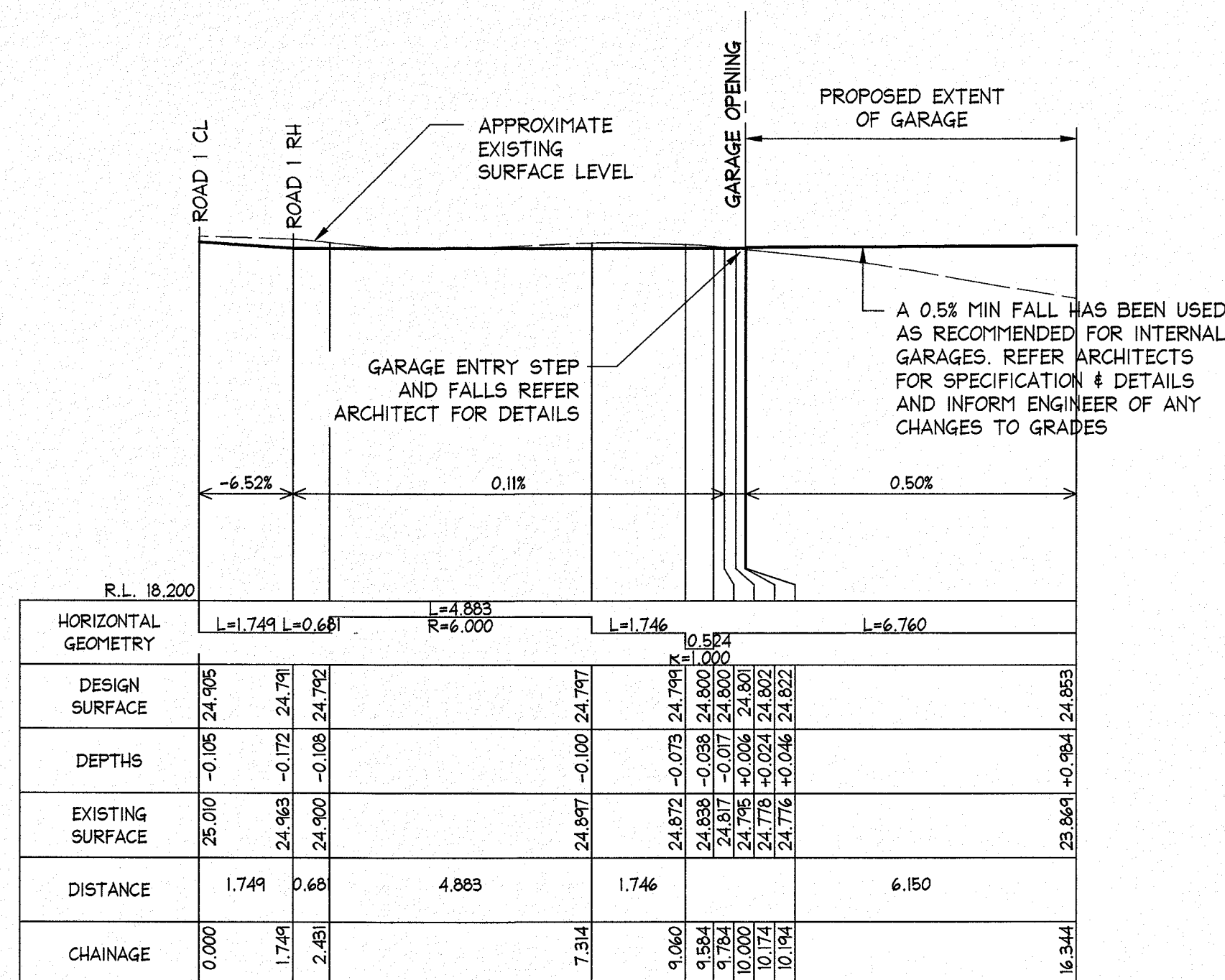
GENERAL NOTES:

DRAINAGE (SUCH AS GRATED DRAINS) REFER STORMWATER MANAGEMENT DRAWINGS BY NB CONSULTING PTY LTD TO DISCHARGE TO STORMWATER IN AN APPROVED MANNER IN ACCORDANCE WITH AS3500 - TYPICAL.



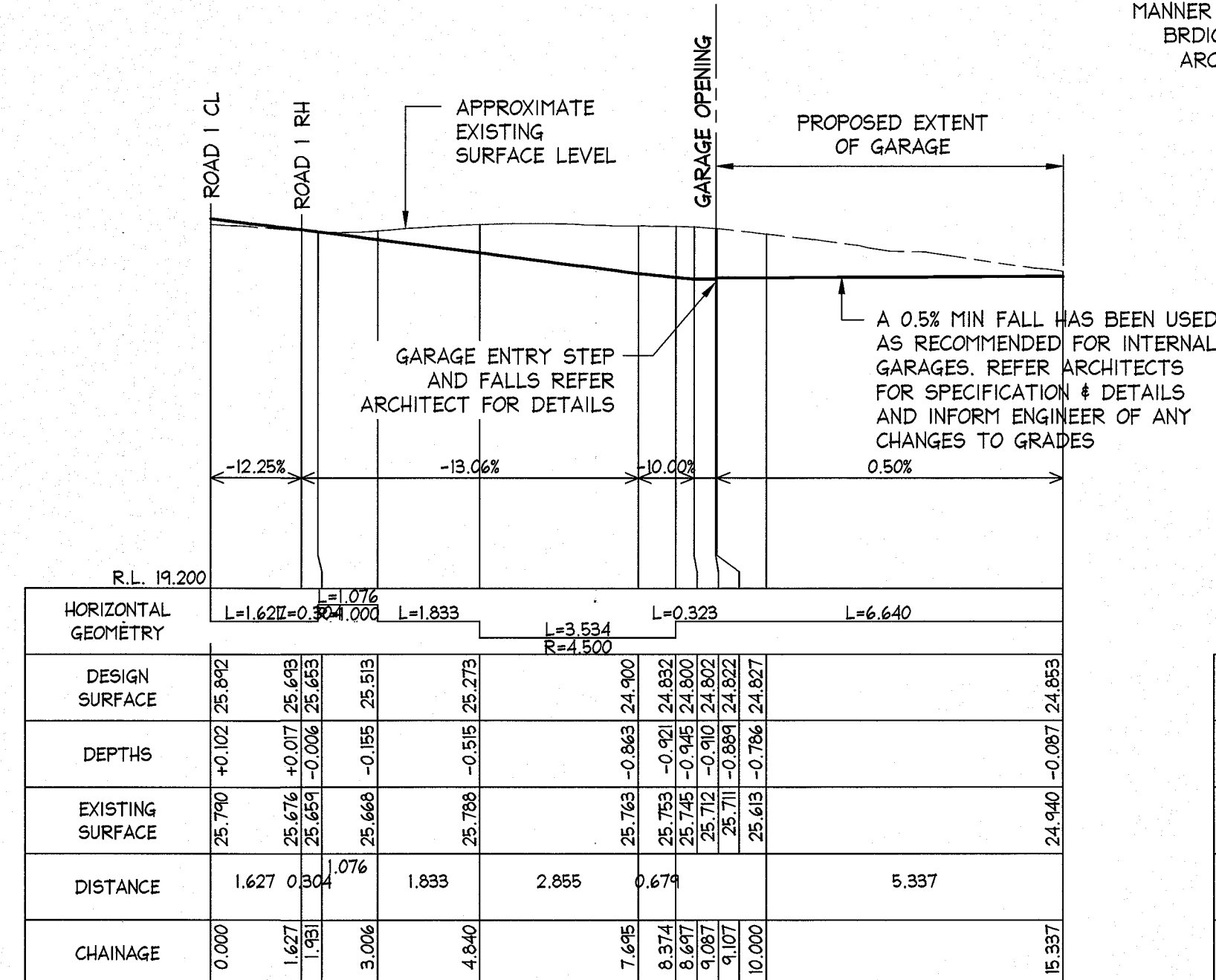
LONGITUDINAL SECTION ROAD RD02 CL
FROM CH: 20.358 TO CH: 67.534
SCALES: HORIZONTAL 1:100 VERTICAL 1:100

SECTION 4
C09/C04



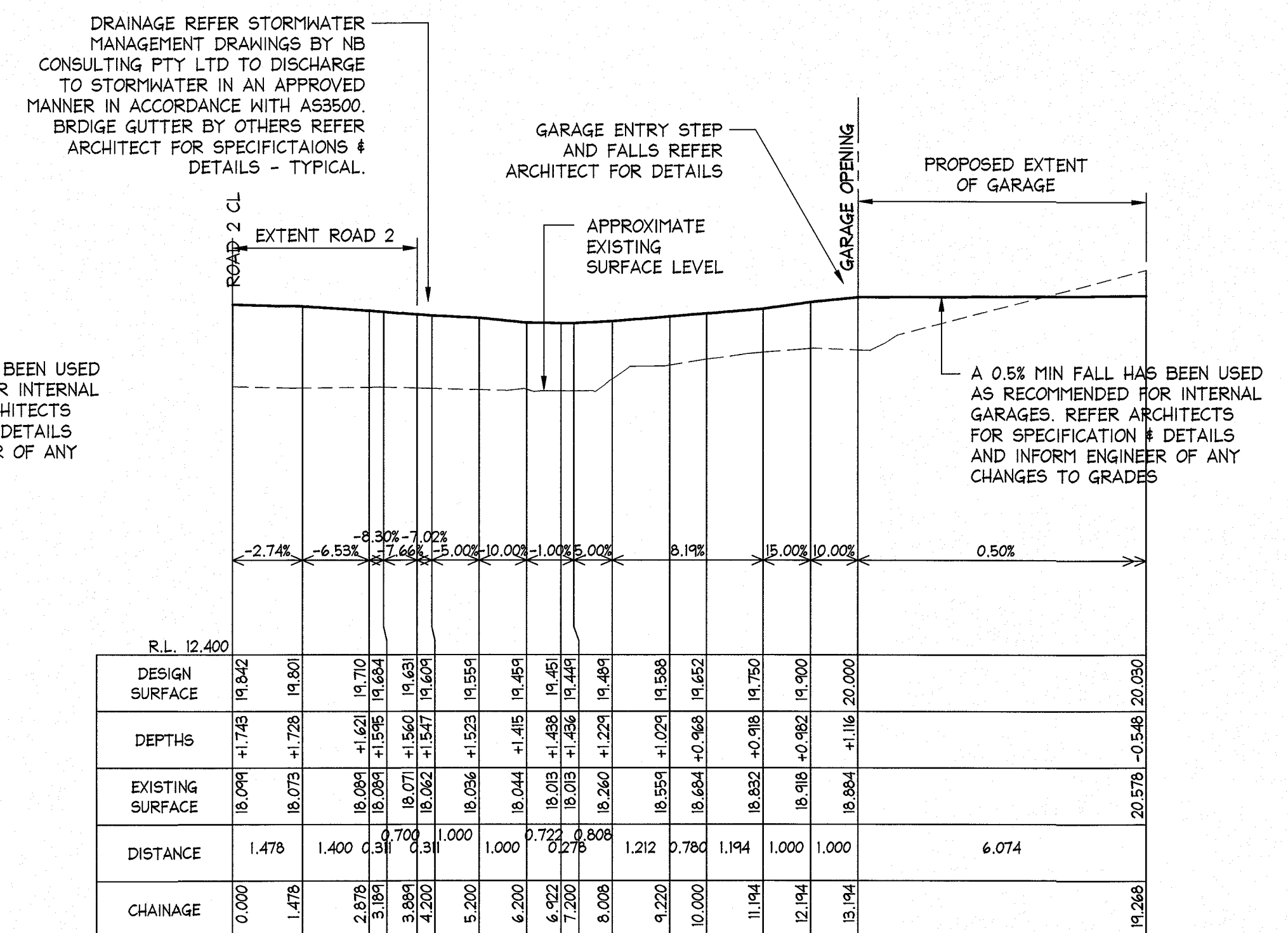
LONGITUDINAL SECTION DRIVEWAY 10 LH
FROM CH: 0.000 TO CH: 16.344
SCALES: HORIZONTAL 1:100 VERTICAL 1:100

SECTION 5
C01



LONGITUDINAL SECTION DRIVEWAY DR10 RH
FROM CH: 0.000 TO CH: 15.337
SCALES: HORIZONTAL 1:100 VERTICAL 1:100

SECTION 6
C01



LONGITUDINAL SECTION DRIVEWAY DR02 LH
FROM CH: 0.000 TO CH: 19.268
SCALES: HORIZONTAL 1:100 VERTICAL 1:100

SECTION 7
C03

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NOT FOR CONSTRUCTION

IF IN DOUBT ASK

NB Consulting Engineers

AI

28/11/2018			A			ISSUED FOR DA SUBMISSION ONLY - NOT FOR CONSTRUCTION			D.K.			L.G.		
Date:	Issue:	Description:	By:	Review:										
			DOCUMENT CERTIFICATION			NB Consulting Engineers			Architect:			Client:		
			Date: Rick G Wray			STRUCTURAL - CIVIL - STORMWATER - REMEDIAL			MARK HURCUM DESIGN			Proposed Roads and Driveways		
			BE(Civil), CPENG, MIEAust, NER, RPEQ 08293			A.C.N. 076 121 618 A.B.N. 24 076 121 616			PRACTICE PTY LTD			AT 96-104 CABARITA RD, AVALON BEACH		
			(Director NB Consulting Engineers)			Sydney: Ph: (02) 9984 7000 Fax: (02) 9984 7444						Drawing Title:		
			The copyright of this drawing remains with Northern Beaches Consulting Engineers Pty Ltd. Trading as NB Consulting Engineers			Suite 207, 30 Fisher Road Dee Why N.S.W. 2099						Job No:		
						Gold Coast: Ph: (07) 5631 4744			MERAKI DEVELOPMENTS PTY LTD			180411		
						Unit 8, 1726 Gold Coast Highway Burleigh Heads QLD 4220						Drawing No:		
						E: nb@nbconsulting.com.au W: www.nbconsulting.com.au						C09		
												Issue:		
												A		

LEGEND:

- DES 7.083** X PROPOSED DESIGN SPOT LEVEL
- EX 147.326** X EXISTING SURFACE SPOT LEVEL
REFER SURVEY PLANS. TO BE
CONFIRMED PRIOR TO CONSTRUCTION.
- FILL** **CUT** APPROXIMATE CUT/FILL LINE.
ALL LEVELS TO BE CONFIRM
PIROR TO CONSTRUCTION.
- APPROXIMATE EXTENT OF
GARAGES, INTERNAL
ROADWAYS AND DRIVEWAYS
- FFL 176.800** FINISHED FLOOR LEVEL REFER
ARCHITECT FOR LEVELS
- FFL 22.222**
BEL 38.925
(~200mm) BULK EARTHWORKS PAD LEVELS
(BEL) SETDOWNS BELOW
PROPOSED STRUCTURAL FLOOR
LEVELS (SFL) AND/OR FINISHED
FLOOR LEVELS (FFL). ALL
LEVELS TO BE CONFIRMED PIOR
TO CONSTRUCTION.
- APPROXIMATE
SETDOWN LEVEL
BELOW FFL
AND/OR SFL
- 23.6 BULK EARTHWORKS CONTOURS
APPROXIMATE 200 SETDOWN BELOW
PROPOSED STRUCTURAL LEVELS
AND/OR FINISHED LEVELS. UNLESS
NOTED OTHERWISE.

EARTHWORKS NOTES

- 1) ALL DIMENSIONS TO BE VERIFIED ON
SITE BY BUILDER BEFORE COMMENCING
WITH WORK.
- 2) ALL CUT & FILL BATTER SLOPES TO
BE CONFIRMED BY GEOTECHNICAL
ENGINEER PRIOR TO CONSTRUCTION.
- 3) ALLOTMENT DRAINAGE, FALLS AND
SEDIMENT CONTROLS BY OTHERS.
- 4) EXISTING CONTOURS, LEVELS TO BE
CONFIRMED PRIOR TO CONSTRUCTION
WORKS.
- 5) BULKING AND COMPACTION FACTORS
HAVE NOT BEEN INCLUDED IN
EARTHWORK VOLUME CALCULATIONS.
- 6) BUILDER TO DETERMINE EARTHWORK
VOLUMES.
- 7) PRIOR APPROVAL MAY BE REQUIRED
WITH RELEVANT AUTHORITIES PRIOR TO
RETAINING WALLS, SHORING, BATTERS
& DRAINAGE IMPACTING NEIGHBORING
PROPERTIES AND INFRASTRUCTURE
BEYOND BOUNDARIES.
- 8) IMPACT OF PROPOSED WORKS ON
EXISTING TREE/S. REFER ARCHITECT
AND/OR ARBORIST REPORT FOR
DETAILS AND SPECIFICATIONS.
- 9) PRIOR APPROVAL REQUIRED PRIOR TO
REMOVAL OF EXISTING TREE/S REFER
ARCHITECT AND/OR ARBORIST REPORT
FOR SPECIFICATIONS & DETAILS.
- 10) WET AREA SETDOWN CUT/FILL LEVELS
HAVE NOT BEEN SHOWN AND BULK
EARTHWORK VOLUME CALCULATIONS
HAVE NOT BEEN INCLUDED.
- 11) FOR ALL LANDSCAPING AND GRASSED
AREAS REFER ARCHITECT & LANDSCAPE
ARCHITECT FOR BULK EARTHWORK
LEVELS.
- 12) REFER ARCHITECT FOR LATEST PLANS
AND EXTENTS OF PROPOSED BUILDING
WORKS & STRUCTURES.
- 13) PRIOR APPROVAL MAY BE REQUIRED
WITH RELEVANT AUTHORITIES PRIOR TO
RETAINING WALLS, SHORING, BATTERS
& DRAINAGE IMPACTING NEIGHBORING
PROPERTIES AND INFRASTRUCTURE
BEYOND BOUNDARIES.
- 14) ADDITIONAL GRADES (FALLS) TO
ALLOW FOR DRAINAGE DURING AND
AFTER CONSTRUCTION HAS NOT BEEN
INCLUDED IN BULK EARTHWORK LEVELS
& VOLUMES. REFER ARCHITECT AND
HYDRAULIC ENGINEER FOR
SPECIFICATIONS AND DETAILS.

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

DEVELOPERS & EXCAVATORS MAY BE HELD
FINANCIALLY RESPONSIBLE BY THE ASSET OWNER
SHOULD THEY DAMAGE UNDERGROUND NETWORKS.

CARELESS DIGGING CAN:
- CAUSE DEATH OR SERIOUS INJURY TO
WORKERS AND THE GENERAL PUBLIC.
- INCONVENIENCE USERS OF ELECTRICITY,
GAS, WATER AND COMMUNICATIONS.
- LEAD TO CRIMINAL PROSECUTION AND
DAMAGES CLAIMS.
- CAUSE EXPENSIVE FINANCIAL LOSSES
TO BUSINESS.
- CUT OFF EMERGENCY SERVICES.
- DELAY PROJECT COMPLETION TIMES
WHILE THE DAMAGE IS REPAIRED.

MINIMISE YOUR RISK AND DIAL
BEFORE YOU DIG. - TEL. 1100

DUE TO TOLORANCES & DEPTH RANGES SOME
CUT/FILL VALUES MAY NOT BE SHOWN.
CUT/FILL BATTERS, DEPTHS & LEVELS TO
BE CONFIRMED PRIOR TO CONSTRUCTION.

CUT/FILL LINE NOTE:
CUT/FILL LINES ONLY SHOWN FOR GARAGE
AND INTERNAL ROADS AND DRIVEWAYS ONLY.

FOR DRIVEWAY CONTINUATION
REFER DRAWING 180411-B02



LEGEND:

- DES 7.080 X PROPOSED DESIGN SPOT LEVEL
- EX 147.326 X EXISTING SURFACE SPOT LEVEL
REFER SURVEY PLANS. TO BE
CONFIRMED PRIOR TO CONSTRUCTION.
- FILL
CUT
APPROXIMATE CUT/FILL LINE.
ALL LEVELS TO BE CONFIRM
PIROR TO CONSTRUCTION.
- APPROXIMATE EXTENT OF
GARAGES, INTERNAL
ROADWAYS AND DRIVEWAYS
- FFL 176.800 FINISHED FLOOR LEVEL REFER
ARCHITECT FOR LEVELS
- FFL 22.222
BEL 38.925
(-200mm) BULK EARTHWORKS PAD LEVELS
(BEL) SETDOWNS BELOW
PROPOSED STRUCTURAL FLOOR
LEVELS (SFL) AND/OR FINISHED
FLOOR LEVELS (FFL). ALL
LEVELS TO BE CONFIRMED PIOR
TO CONSTRUCTION.
- APPROXIMATE
SETDOWN LEVEL
BELOW FFL
AND/OR SFL
- BULK EARTHWORKS CONTOURS
APPROXIMATE 200 SETDOWN BELOW
PROPOSED STRUCTURAL LEVELS
AND/OR FINISHED LEVELS. UNLESS
NOTED OTHERWISE.

EARTHWORKS NOTES

- 1) ALL DIMENSIONS TO BE VERIFIED ON SITE BY BUILDER BEFORE COMMENCING WITH WORK
- 2) ALL CUT & FILL BATTER SLOPES TO BE CONFIRMED BY GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION.
- 3) ALLOTMENT DRAINAGE, FALLS AND SEDIMENT CONTROLS BY OTHERS.
- 4) EXISTING CONTOURS, LEVELS TO BE CONFIRMED PRIOR TO CONSTRUCTION WORKS.
- 5) BULKING AND COMPACTION FACTORS HAVE NOT BEEN INCLUDED IN EARTHWORK VOLUME CALCULATIONS.
- 6) BUILDER TO DETERMINE EARTHWORK VOLUMES.
- 7) PRIOR APPROVAL MAY BE REQUIRED WITH RELEVANT AUTHORITIES PRIOR TO RETAINING WALLS, SHORING, BATTERS & DRAINAGE IMPACTING NEIGHBORING PROPERTIES AND INFRASTRUCTURE BEYOND BOUNDARIES.
- 8) IMPACT OF PROPOSED WORKS ON EXISTING TREE/S. REFER ARCHITECT AND/OR ARBORIST REPORT FOR DETAILS AND SPECIFICATIONS.
- 9) PRIOR APPROVAL REQUIRED PRIOR TO REMOVAL OF EXISTING TREE/S REFER ARCHITECT AND/OR ARBORIST REPORT FOR SPECIFICATIONS & DETAILS.
- 10) WET AREA SETDOWN CUT/FILL LEVELS HAVE NOT BEEN SHOWN AND BULK EARTHWORK VOLUME CALCULATIONS HAVE NOT BEEN INCLUDED.
- 11) FOR ALL LANDSCAPING AND GRASSED AREAS REFER ARCHITECT & LANDSCAPE ARCHITECT FOR BULK EARTHWORK LEVELS.
- 12) REFER ARCHITECT FOR LATEST PLANS AND EXTENTS OF PROPOSED BUILDING WORKS & STRUCTURES.
- 13) PRIOR APPROVAL MAY BE REQUIRED WITH RELEVANT AUTHORITIES PRIOR TO RETAINING WALLS, SHORING, BATTERS & DRAINAGE IMPACTING NEIGHBORING PROPERTIES AND INFRASTRUCTURE BEYOND BOUNDARIES.
- 14) ADDITIONAL GRADES (FALLS) TO ALLOW FOR DRAINAGE DURING AND AFTER CONSTRUCTION HAS NOT BEEN INCLUDED IN BULK EARTHWORK LEVELS & VOLUMES. REFER ARCHITECT AND HYDRAULIC ENGINEER FOR SPECIFICATIONS AND DETAILS.

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

DEVELOPERS & EXCAVATORS MAY BE HELD FINANCIALLY RESPONSIBLE BY THE ASSET OWNER SHOULD THEY DAMAGE UNDERGROUND NETWORKS.

CARELESS DIGGING CAN:
- CAUSE DEATH OR SERIOUS INJURY TO WORKERS AND THE GENERAL PUBLIC.
- INCONVENIENCE USERS OF ELECTRICITY, GAS, WATER AND COMMUNICATIONS.
- LEAD TO CRIMINAL PROSECUTION AND DAMAGES CLAIMS.
- CAUSE EXPENSIVE FINANCIAL LOSSES TO BUSINESS.
- CUT OFF EMERGENCY SERVICES.
- DELAY PROJECT COMPLETION TIMES WHILE THE DAMAGE IS REPAIRED.

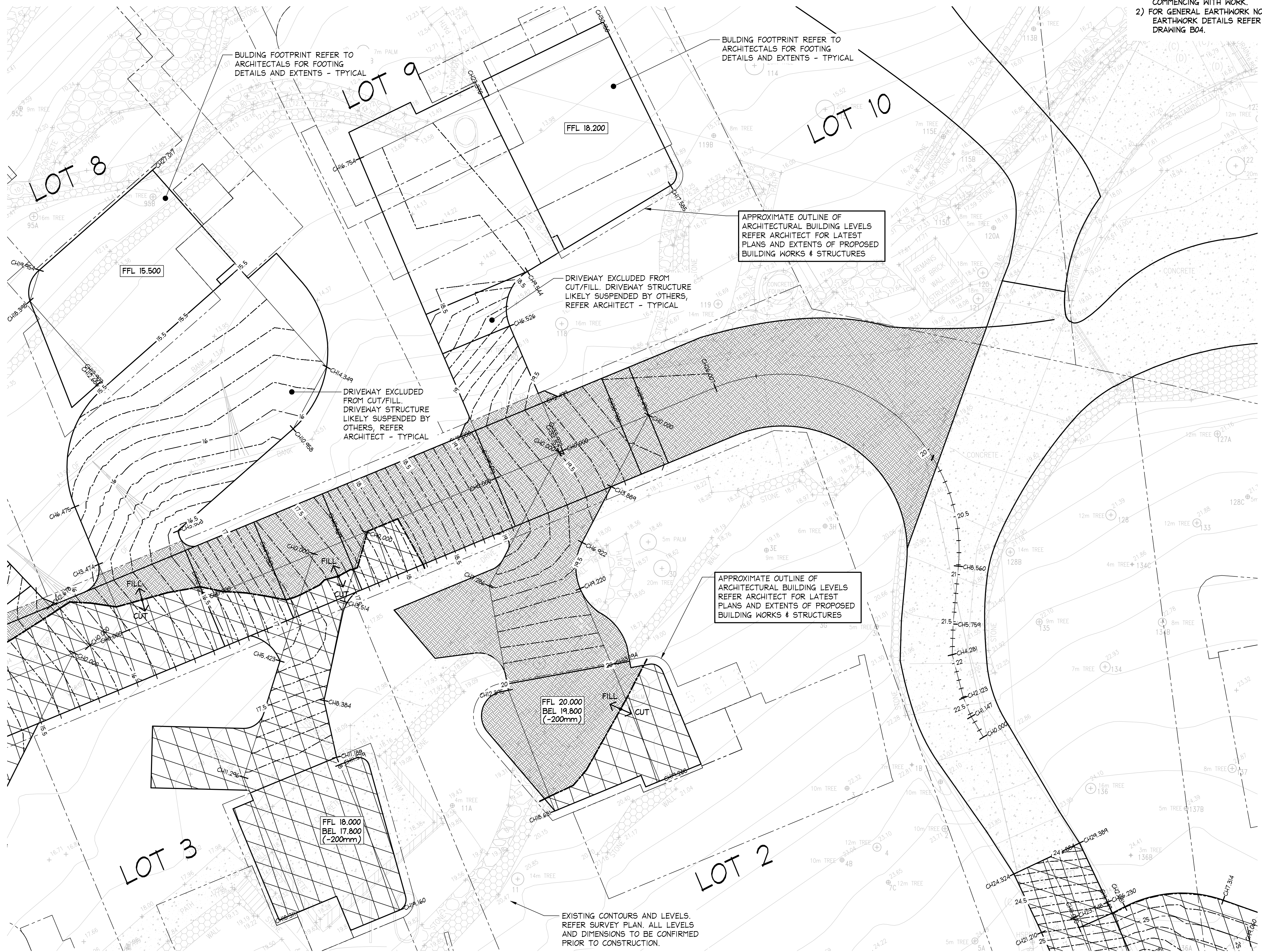
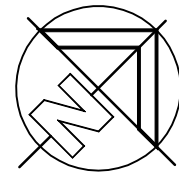
MINIMISE YOUR RISK AND DIAL BEFORE YOU DIG. - TEL. 1100

DUE TO TOLORANCES & DEPTH RANGES SOME CUT/FILL VALUES MAY NOT BE SHOWN. CUT/FILL BATTERS, DEPTHS & LEVELS TO BE CONFIRMED PRIOR TO CONSTRUCTION.

CUT/FILL LINE NOTE:
CUT/FILL LINES ONLY SHOWN FOR GARAGE AND INTERNAL ROADS AND DRIVEWAYS ONLY.

NOTES:

1. ALL DIMENSIONS TO BE VERIFIED ON SITE BY BUILDER BEFORE COMMENCING WITH WORK.
- 2) FOR GENERAL EARTHWORK NOTES AND EARTHWORK DETAILS REFER DRAWING B04.



CIVIL CUT/FILL LAYOUT PLAN (APPROXIMATE)

SCALE = 1 : 100

ISSUED FOR
CONSTRUCTION
CERTIFICATE
SUBMISSION ONLY

IF IN DOUBT ASK

A1

DOCUMENT CERTIFICATION				Architect:		Project:	Date:	Design:	Drawn:
Date : Rick G Wray BE(Civil), CPEng, MIEAust., NER., RPEQ. 08293. (Director NB Consulting Engineers)				MARK HURCUM DESIGN PRACTICE PTY LTD		PROPOSED CUT/FILL AT 96-104 CABARITA RD, AVALON BEACH	SEP 2018	D.K.	D.K.
By: Review:				Client:		Drawing Title:	Job No:	Drawing No:	Issue:
The copyright of this drawing remains with Northern Beaches Consulting Engineers Pty Ltd. Trading as NB Consulting Engineers				MERAKI DEVELOPMENTS PTY LTD		ROAD & DRIVEWAY ACCESS PLAN - SHEET 2	180411	B02	A
15/11/2018 A ISSUED FOR CONSTRUCTION CERTIFICATE SUBMISSION ONLY									
Date:	Issue:	Description:		By:	Review:				

NB Consulting Engineers

DES 7,080 X

EX 147,582 X

FILL

CUT

APPROXIMATE EXTENT OF GARAGES, INTERNAL ROADWAYS AND DRIVEWAYS

FFL 176,800

BULK EARTHWORKS PAD LEVELS (BEL) SETDOWNS PAD LEVELS (SFL) AND/OR FINISHED FLOOR LEVELS (FFL). ALL LEVELS TO BE CONFIRMED PIROR TO CONSTRUCTION.

FFL 22,222
BEL 38,425
(-200mm)

APPROXIMATE SETDOWN LEVEL BELOW FFL AND/OR SFL

23.6

BULK EARTHWORKS PAD LEVELS (BEL) SETDOWNS PAD LEVELS (SFL) AND/OR FINISHED FLOOR LEVELS (FFL). ALL LEVELS TO BE CONFIRMED PIROR TO CONSTRUCTION.

BULK EARTHWORKS CONTOURS APPROXIMATE 200 SETDOWN BELOW PROPOSED STRUCTURAL LEVELS AND/OR FINISHED LEVELS. UNLESS NOTED OTHERWISE.

- 1) ALL DIMENSIONS TO BE VERIFIED ON SITE BY BUILDER BEFORE COMMENCING WITH WORK.
- 2) ALL CUT & FILL BATTER SLOPES TO BE CONFIRMED BY GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION.
- 3) ALLOTMENT DRAINAGE, FALLS AND SEDIMENT CONTROLS, BY OTHERS.
- 4) EXISTING CONTOURS, LEVELS TO BE CONFIRMED PRIOR TO CONSTRUCTION WORKS.
- 5) BULKING AND COMPACTION FACTORS HAVE NOT BEEN INCLUDED IN EARTHWORK VOLUME CALCULATIONS.
- 6) BUILDER TO DETERMINE EARTHWORK VOLUMES.
- 7) PRIOR APPROVAL MAY BE REQUIRED WITH RELEVANT AUTHORITIES PRIOR TO RETAINING WALLS, SHORING, BATTERS & DRAINAGE IMPACTING NEIGHBORING PROPERTIES AND INFRASTRUCTURE BEYOND BOUNDARIES.
- 8) IMPACT OF PROPOSED WORKS ON EXISTING TREE/S, REFER ARCHITECT AND/OR ARBORIST REPORT FOR DETAILS AND SPECIFICATIONS.
- 9) PRIOR APPROVAL REQUIRED PRIOR TO REMOVAL OF EXISTING TREE/S REFER ARCHITECT AND/OR ARBORIST REPORT FOR SPECIFICATIONS & DETAILS.
- 10) NET AREA SETDOWN CUT/FILL LEVELS HAVE NOT BEEN SHOWN AND BULK EARTHWORK VOLUME CALCULATIONS HAVE NOT BEEN INCLUDED.
- 11) FOR ALL LANDSCAPING AND GRASSED AREAS REFER ARCHITECT & LANDSCAPE ARCHITECT FOR BULK EARTHWORK LEVELS.
- 12) REFER ARCHITECT FOR LATEST PLANS AND EXTENTS OF PROPOSED BUILDING WORKS & STRUCTURES.
- 13) PRIOR APPROVAL MAY BE REQUIRED WITH RELEVANT AUTHORITIES PRIOR TO RETAINING WALLS, SHORING, BATTERS & DRAINAGE IMPACTING NEIGHBORING PROPERTIES AND INFRASTRUCTURE BEYOND BOUNDARIES.
- 14) ADDITIONAL GRADES (FALLS) TO ALLOW FOR DRAINAGE DURING AND AFTER CONSTRUCTION HAS NOT BEEN INCLUDED IN BULK EARTHWORK LEVELS & VOLUMES. REFER ARCHITECT AND HYDRAULIC ENGINEER FOR SPECIFICATIONS AND DETAILS.

 **DIAL 1100**
BEFORE YOU DIG

DEVELOPERS & EXCAVATORS MAY BE HELD
FINANCIALLY RESPONSIBLE BY THE ASSET OWNER
SHOULD THEY DAMAGE UNDERGROUND NETWORKS

CUT/FILL LINE NOTE:
CUT/FILL LINES ONLY SHOWN FOR GARAGE
AND INTERNAL ROADS AND DRIVEWAYS ONLY.

CARELESS DIGGING CAN:

- CAUSE DEATH OR SERIOUS INJURY TO WORKERS AND THE GENERAL PUBLIC
- INCONVENIENCE USERS OF ELECTRICITY, GAS, WATER AND COMMUNICATIONS
- LEAD TO CRIMINAL PROSECUTION AND DAMAGES CLAIMS
- CAUSE EXPENSIVE FINANCIAL LOSSES TO BUSINESS
- CUT OFF EMERGENCY SERVICES
- DELAY PROJECT COMPLETION TIMES
- WHILE THE DAMAGE IS REPAIRED

MINIMISE YOUR RISK AND DIAL BEFORE YOU DIG. – TEL. 1100

1. ALL DIMENSIONS TO BE VERIFIED ON SITE BY BUILDER BEFORE COMMENCING WITH WORK.
- 2) FOR GENERAL EARTHWORK NOTES AND EARTHWORK DETAILS REFER DRAWING B04.



CIVIL CUT/FILL LAYOUT PLAN (APPROXIMATE)

SCALE = 1 : 100

ISSUED FOR
CONSTRUCTION
CERTIFICATE
SUBMISSION ONLY

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Trading as NB Consulting Engineers										Client: MERAKI DEVELOPMENTS PTY LTD										Drawing Title: ROAD & DRIVEWAY ACCESS PLAN - SHEET 1										Job No: 180411										Drawing No: B03										Issue: A																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
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EARTHWORKS NOTES

- 1) EXCAVATIONS WITHIN 5m OF STRUCTURE FOOTINGS. MAY CAUSE UNDERMINING DESTABILIZATION OF STRUCTURE RESULTING IN FAILURE OR POTENTIAL COLLAPSE. CONTACT THIS OFFICE FOR FURTHER INFORMATION.
- 2) EXCAVATIONS ADJACENT TO BOUNDARIES OR WITHIN ZONE OF INFLUENCE OF NEIGHBOURING PROPERTIES MAY REQUIRE SHORING OR SOIL STABILISATION. REFER GEOTECHNICAL REQUIREMENTS FOR CUT & FILL BATTER SLOPES AND/OR CONSULT STRUCTURAL ENGINEER FOR SHORING REQUIREMENTS PRIOR TO CONSTRUCTION.
- 3) REFER AS1289 & AS3798 FOR CLARIFICATION AND FURTHER INFORMATION.
- 4) BUILDER TO ALLOW ACCESS FOR MAINTENANCE DURING CONSTRUCTION.
- 5) BEFORE FILLING STRIP TOPSOIL AND/OR ORGANIC MATTER BEFORE FILLING. MIN 150mm STRIPPED.
- 6) ALL COMPACTED DEPTHS ARE THOSE AFTER COMPACTION.
- 7) ALL DIMENSIONS TO BE VERIFIED ON SITE BY BUILDER BEFORE COMMENCING WITH WORK.
- 8) # (TBC) = DENOTES INDICATIVE BATTERS ONLY. GEOTECH ENGINEER TO ADVISE FINAL BATTER SLOPE SUBJECT TO SITE INVESTIGATION REPORT.
- 9) ALLOTMENT DRAINAGE, FALLS AND SEDIMENT CONTROLS BY OTHERS.
- 10) BULK EARTHWORKS PAD LEVELS (BEL) SETDOWNS BELOW PROPOSED STRUCTURAL FLOOR LEVELS (SFL) AND/OR FINISHED FLOOR LEVELS (FFL) AS SPECIFIED. ALL LEVELS TO BE CONFIRM PIOR TO CONSTRUCTION.
- 11) EXISTING CONTOURS, LEVELS TO BE CONFIRMED PRIOR TO CONSTRUCTION WORKS.
- 12) PRIOR APPROVAL REQUIRED WITH RELEVANT AUTHORITES PRIOR TO RETAINING WALL BATTERS, SHORING & DRAINAGE BEYOND BOUNDARIES.
- 13) LOCATION OF SERVICES TO BE LOCATED BY OTHERS PRIOR TO CONSTRUCTION. DIAL BEFORE YOU DIG.
- 14) ALL CUT & FILL BATTER SLOPES TO BE CONFIRMED BY GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION.
- 15) DETAILED EARTHWORKS HAVE NOT BEEN SHOWN WHICH MAY INCLUDE ADDITIONAL CUT/FILL VOLUMES.
- 16) NOT ALL EARTHWORKS HAVE BEEN SHOWN WHICH MAY INCLUDE THE FOLLOWING: FOOTINGS, STORMWATER STORAGE (INCLUDING OSD & RWT's), PITS & BASINS.
- 17) BULKING AND COMPACTION FACTORS HAVE NOT BEEN INCLUDED IN EARTHWORK VOLUME CALCULATIONS.
- 18) BUILDER TO DETERMINE EARTHWORK VOLUMES.
- 19) BATTER GRADES MAY VARY WHEN CUTTING/FILLING IS IN EXCESS OF 3m HIGH AND/OR WITHIN 6m OF CRITICAL INFRASTRUCTURE. CUT AND FILL VOLUMES AS SHOWN ARE APPROXIMATE ONLY.

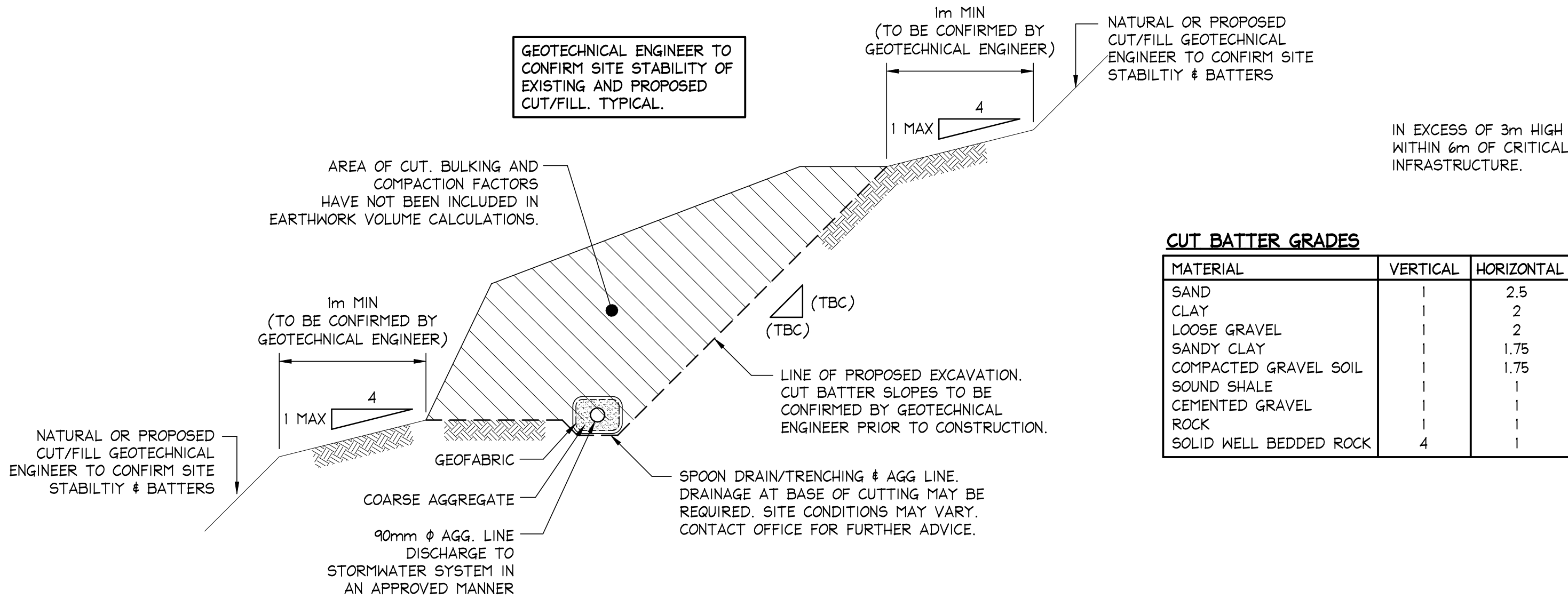


NO INVESTIGATION OF UNDERGROUND SERVICES HAS BEEN MADE. ALL RELEVANT AUTHORITIES SHOULD BE NOTIFIED PRIOR TO ANY EXCAVATION ON OR NEAR THE SITE.

DEVELOPERS & EXCAVATORS MAY BE HELD FINANCIALLY RESPONSIBLE BY THE ASSET OWNER SHOULD THEY DAMAGE UNDERGROUND NETWORKS.

- CARELESS DIGGING CAN:
- CAUSE DEATH OR SERIOUS INJURY TO WORKERS AND THE GENERAL PUBLIC
 - INCONVENIENCE USERS OF ELECTRICITY, GAS, WATER AND COMMUNICATIONS
 - LEAD TO CRIMINAL PROSECUTION AND DAMAGES CLAIMS
 - CAUSE EXPENSIVE FINANCIAL LOSSES TO BUSINESS
 - CUT OFF EMERGENCY SERVICES
 - DELAY PROJECT COMPLETION TIMES WHILE THE DAMAGE IS REPAIRED

MINIMISE YOUR RISK AND DIAL BEFORE YOU DIG. - TEL. 1100



TYPICAL EARTH CUT BATTER DETAIL

NOT TO SCALE

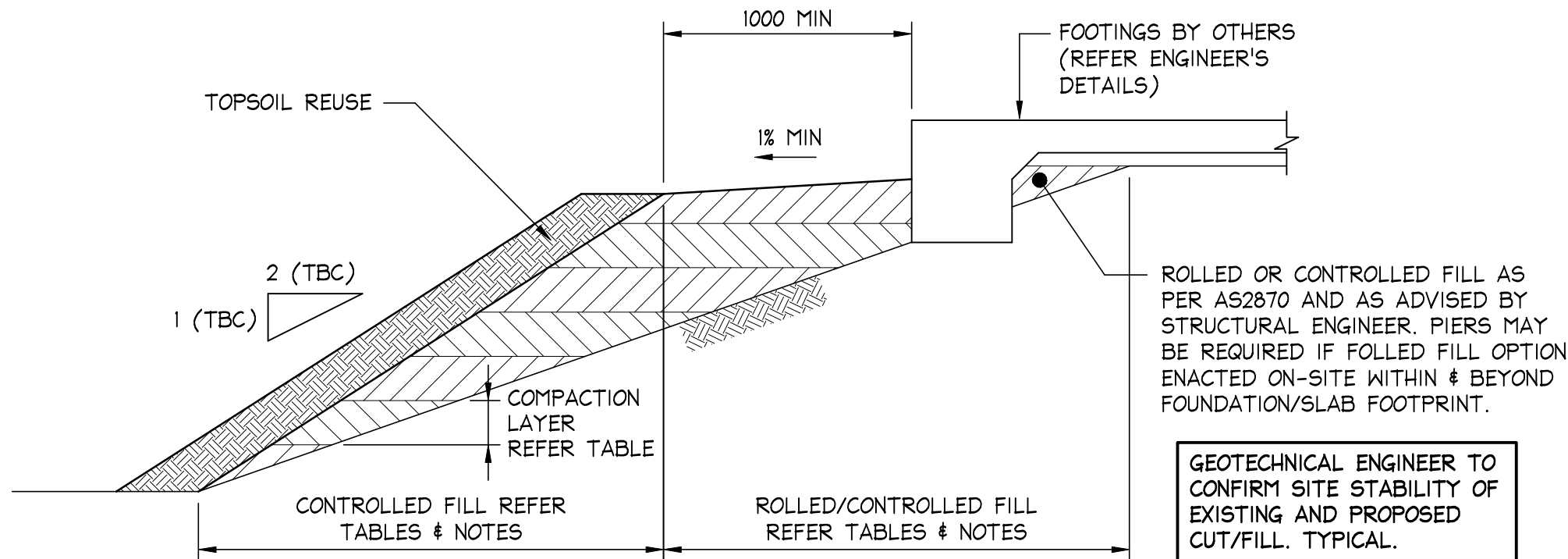
CUT BATTER GRADES

MATERIAL	VERTICAL	HORIZONTAL
SAND	1	2.5
CLAY	1	2
LOOSE GRAVEL	1	2
SANDY CLAY	1	1.75
COMPACTED GRAVEL SOIL	1	1.75
SOUND SHALE	1	1
CEMENTED GRAVEL	1	1
ROCK	1	1
SOLID WELL BEDDED ROCK	4	1

TABLE: CUT/FILL FOR FOUNDATIONS & SLABS

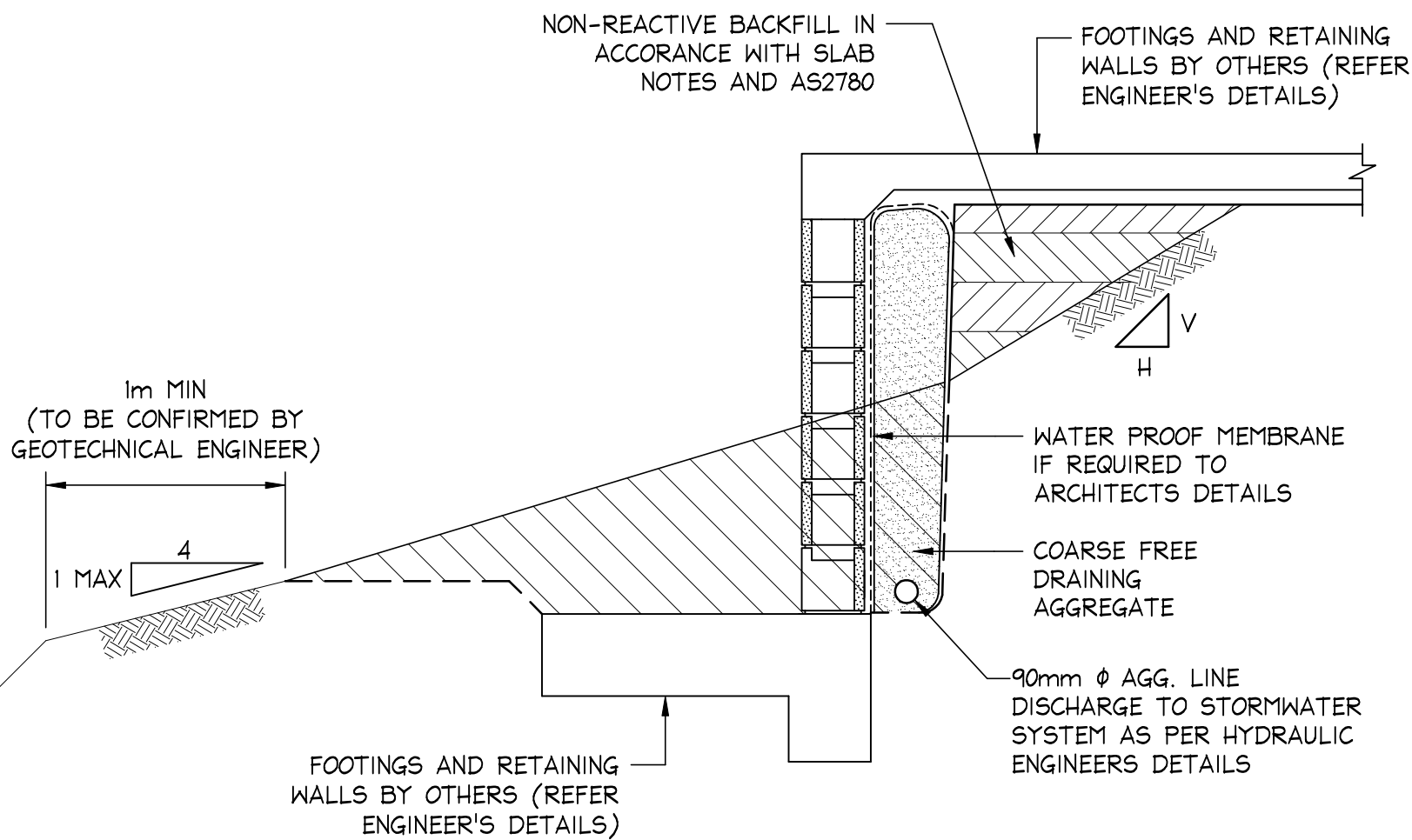
FILL TYPE	FILL	MAX DEPTH	LAYERS	BLOW COUNT
CONTROLLED	SAND	800mm	300mm	7
	CLAY	400mm	150mm	-
ROLLED	SAND	600mm	300mm	-
	CLAY	300mm	150mm	-

- 1) COMPACTED WITH VIBRATING PLATE OR ROLLER.
- 2) BLOW COUNTS AS PER PENTROMETER TEST IN AS1689.6.3.3 IN FILL WITHOUT GRAVEL SIZED MATERIAL.



CUT/FILL FOR FOUNDATIONS & SLABS

NOT TO SCALE



CUT BATTER WITH RETAINING WALL & FOOTING

NOT TO SCALE

STRATA	VERT (V)	HORIZ (H)
SAND	1	2
CLAY	1	1

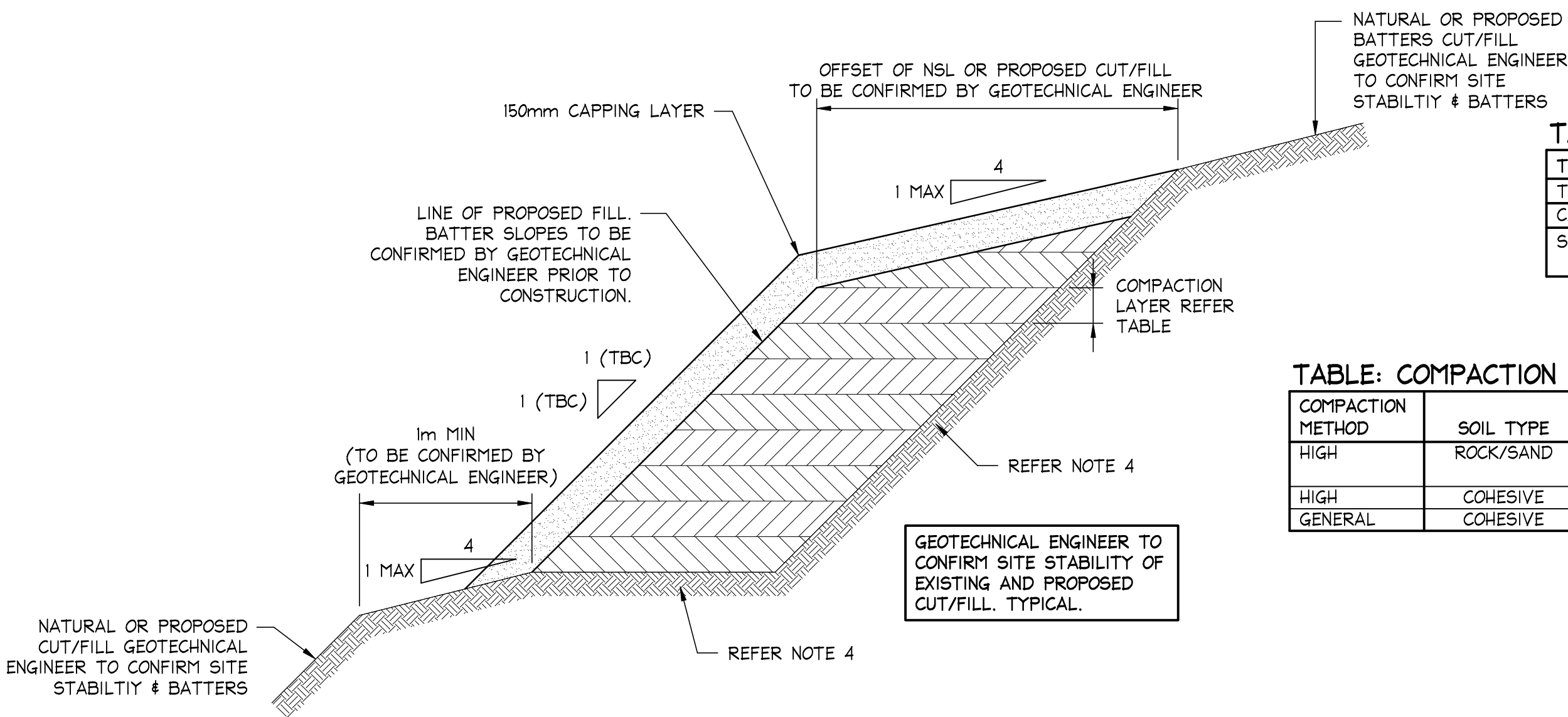
NOTES: BATTER SLOPES AS INDICATED ABOVE ARE SUBJECT TO CHANGE FROM GEOTECHNICAL ENGINEER ADVICE

TABLE: TYPE OF FILL FOR EARTH FILL

TYPE OF FILL	LAYER THICKNESS	CBR
TOPSOIL	50 MAX	-
CAPPING	150mm	-
STRUCTURAL	500mm	3-8%
	1000mm	1-3%

TABLE: COMPACTION METHOD FOR EARTH FILL

COMPACTION METHOD	SOIL TYPE	DRY DENSITY	NOTES/COMMENTS
HIGH	ROCK/SAND	-	NO VISIBLE DEFLECTION OF SURFACE UNDER 1.0 TONNE VIBRATION ROLLER AFTER 6-8 PASSES
HIGH	COHESIVE	100%	AS PER AS1289 SECTION 5.1.1 & 5.3.1
GENERAL	COHESIVE	95%	STANDARD COMPACTION



TYPICAL EARTH FILL DETAIL

NOT TO SCALE

NOTES:

1. ALL DIMENSIONS TO BE VERIFIED ON SITE BY BUILDER BEFORE COMMENCING WITH WORK.
2. FOR GENERAL NOTES REFER TO DRAWING NUMBER: B01 TO B03.



BUILDER TO DETERMINE EARTHWORK VOLUMES

ISSUED FOR CONSTRUCTION CERTIFICATE SUBMISSION ONLY

IF IN DOUBT ASK

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NB Consulting Engineers