

BLACK HILL INDUSTRIAL SUBDIVISION  
PROPOSED RESUBDIVISION OF LOT 1 DP 1260203  
JOHN RENSHAW DRIVE, BLACK HILL  
DEVELOPMENT APPLICATION

GENERAL NOTES:-

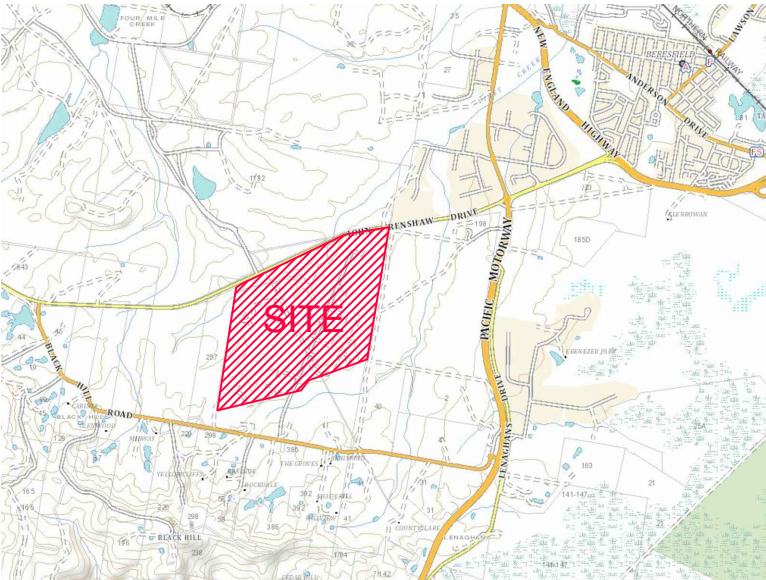
1. ALL DIMENSIONS OF EASEMENTS AND LOTS ARE SUBJECT TO REGISTRATION OF DEPOSITED PLAN.
2. ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE APPROVED CONSTRUCTION MANAGEMENT PLAN, AND COUNCIL'S ENGINEERING REQUIREMENTS FOR DEVELOPMENTS.
3. THE LOCATION OF ALL EROSION AND SEDIMENT CONTROL DEVICES ARE TO BE CONFIRMED ON SITE AFTER PEGGING OF ROAD LOCATION IN CONSULTATION WITH COUNCIL STAFF PRIOR TO THEIR INSTALLATION. EROSION & SEDIMENT CONTROL DEVICES ARE TO BE INSTALLED PRIOR TO CONSTRUCTION COMMENCING, AND MAINTAINED DURING THE CONTRACT PERIOD UNTIL 60% VEGETATIVE COVER ACHIEVED.
4. ALL CONCRETE STORMWATER DRAINAGE PIPES ARE TO BE RUBBER RING JOINTED REINFORCED CONCRETE PIPES (R.C.P.) OR APPROVED EQUIVALENT.
5. ALL INTERALLOTMENT DRAINAGE TO BE SEWER GRADE uPVC (UNLESS OTHERWISE SHOWN) OR AN APPROVED EQUIVALENT. THE MINIMUM SLOPE OF INTERALLOTMENT DRAINAGE LINES SHALL BE 1%. THE INTERALLOTMENT DRAINAGE UNLESS SHOWN OTHERWISE, SHALL BE A MINIMUM OF 0.75m FROM THE BOUNDARY AND LOCATED WITHIN EASEMENT AS SHOWN.
6. ALL EXISTING UNDERGROUND SERVICES MUST BE LOCATED AND EXPOSED PRIOR TO EARTHWORKS COMMENCING AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONFIRM BOTH POSITION & LEVEL OF THESE UTILITIES IN CONJUNCTION WITH THE APPROPRIATE AUTHORITY.
7. SUBSOIL DRAINS ARE TO BE PROVIDED AS LOCATED ON PLANS AND TO COUNCIL INSPECTOR'S SATISFACTION.
8. PAVEMENT THICKNESS AND ASSOCIATED EARTHWORKS TO BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT WITHIN ROADWAYS BY CARDNO GEOTECH SOLUTIONS.
9. EARTHWORKS SHOULD BE CARRIED OUT IN ACCORDANCE WITH THE RECOMMENDATIONS OUTLINED IN AS3798-2007 'GUIDELINES FOR EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS'. LEVEL 1 SUPERVISION REQUIRED FOR ALL LOT FILL AND FILL GREATER THAN 2M. FOR FILL LESS THAN 2M, LEVEL 2 SUPERVISION IS APPROPRIATE. FILL IS TO BE PLACED IN HORIZONTAL LAYERS WITH COMPACTION OF EACH LAYER TO A MINIMUM DRY DENSITY RATIO OF 95% STANDARD COMPACTION.
10. THE SOURCE OF ROCK FOR EMBANKMENT FACING, RETAINING WALLS, CATCH DRAINS, AND LINED SPILLWAYS SHOULD BE APPROVED BY CARDNO TO ENSURE THAT THE ROCK IS SUFFICIENTLY DURABLE FOR THE APPLICATION.
11. WORKING HOURS ON SITE SHALL BE IN ACCORDANCE WITH EPA REQUIREMENTS AND CCC CONDITIONS OF CONSENT.
12. VEHICULAR ACCESS AND ALL SERVICES ARE TO BE MAINTAINED AT ALL TIMES TO ADJOINING PROPERTIES AFFECTED BY CONSTRUCTION WORKS.
13. MAINTENANCE ON ALL SEEDED AREAS SHALL BE OVER A 3 MONTH PERIOD.
14. TRAFFIC CONTROL MEASURES TO BE IN ACCORDANCE WITH AS 1742.
15. ALL LEVELS MUST BE OBTAINED FROM ESTABLISHED BENCH MARKS AS DIRECTED BY THE SUPERINTENDENT.
16. THE CONTRACTOR IS TO ENSURE THAT ALL UNDESIRABLE MATERIAL (INCL. VEGETATIVE MATERIAL) IS REMOVED FROM THE SUBGRADE LEVEL OF THE PROPOSED ROAD PRIOR TO ANY ROAD PAVEMENT BEING PLACED.
17. THE CONTRACTOR IS TO ENSURE THAT ALL THE NECESSARY SERVICE PIPE CONDUITS AND FITTINGS ARE IN PLACE PRIOR TO THE KERB BEING PLACED.
18. ALL INTERALLOTMENT DRAINAGE PITS TO BE CONSTRUCTED IN ACCORDANCE WITH CESSNOCK CITY COUNCILS STANDARD DRAWINGS.
19. ALL KERB INLET PITS TO BE CONSTRUCTED IN ACCORDANCE WITH CESSNOCK CITY COUNCILS STANDARD DRAWINGS.
20. ANY STORMWATER PITS OVER 1200mm DEEP REQUIRE INSTALLATION OF STEP IRONS.
21. ALL PITS TO BE BENCHED AND STREAMLINED.
22. ALL HEADWALLS SHALL BE CAST INSITU AND CONSTRUCTED IN ACCORDANCE WITH RTA STD. DRAWING MD.R11.A02.A.1 (MIN. REQUIREMENT) AND CESSNOCK CITY COUNCIL'S STANDARD DRAWING SD12. UNLESS OTHERWISE STATED.
23. MAKE SMOOTH JOIN WITH EXISTING WORKS.
24. CLEARING AND GRUBBING - NO TREES ARE TO BE REMOVED WITHOUT PERMISSION UNLESS OTHERWISE IDENTIFIED OUTSIDE OF LIMIT OF WORKS.
25. SURVEY MARKS ARE TO BE CAREFULLY PRESERVED BY THE CONTRACTOR. DAMAGED DESTROYED OR LOST MARKS WILL BE REPLACED BY THE SUPERVISING SURVEYOR AT THE CONTRACTOR'S EXPENSE.
26. ALL SIGNPOSTING & LINEMARKING TO BE IN ACCORDANCE WITH AS 1742.2 - 1994 PART 2.
27. ALL WORKS ARE TO BE CARRIED OUT IN ACCORDANCE WITH THE:

- SOIL AND WATER MANAGEMENT PLAN.

- CONSTRUCTION MANAGEMENT PLAN.

- CESSNOCK CITY COUNCIL CONDITIONS OF DEVELOPMENT CONSENT.

TREES AND OTHER VEGETATION MAY ONLY BE REMOVED FROM THE SITE OF ROAD, DRAINAGE, BUSHFIRE MITIGATION AND REGRADING WORKS. AN APPLICATION SHALL BE MADE TO COUNCIL FOR THE REMOVAL OF ANY OTHER TREES.
28. TREES AND SHRUBS WHICH ARE FELLED SHALL BE SALVAGED FOR RE-USE, EITHER IN LOG FORM, OR AS A WOODCHIP MULCH FOR EROSION CONTROL AND/OR SITE REHABILITATION. NON-SALVAGEABLE MATERIAL SUCH AS ROOTS AND STUMPS SHALL BE DISPOSED OF IN AN APPROVED MANNER.
29. CONTRACTOR IS TO UNDERTAKE CCTV INSPECTION OF ALL CONSTRUCTED STORMWATER INFRASTRUCTURE, PREPARE FINDINGS AND REPORT TO COUNCIL.
30. SUBSOIL FLUSH POINTS SHOULD BE PROVIDED AT 80m INTERVALS IN ACCORDANCE WITH SECTION 6.8.2 OF COUNCIL'S ENGINEERING REQUIREMENTS FOR DEVELOPMENT.



LOCALITY SKETCH  
NOT TO SCALE

239590 CENG PLANS

Sheet Title	Sheet Description
239590-CENG-001(A)	TITLE SHEET, DRAWING INDEX & LOCALITY PLAN
239590-CENG-002(A)	EXISTING SITE PLAN
239590-CENG-003(A)	GENERAL ARRANGEMENT PLAN
239590-CENG-005(A)	PROPOSED SUBDIVISION PLAN - 16 INDUSTRIAL LOTS, 1 ENVIRONMENTAL LOT & 1 SUBSTATION LOT
239590-CENG-101(A)	DETAIL PLAN - SHEET 1
239590-CENG-102(A)	DETAIL PLAN - SHEET 2
239590-CENG-103(A)	DETAIL PLAN - SHEET 3
239590-CENG-104(A)	DETAIL PLAN - SHEET 4
239590-CENG-105(A)	DETAIL PLAN - SHEET 5
239590-CENG-106(A)	DETAIL PLAN - SHEET 6
239590-CENG-107(A)	DETAIL PLAN - SHEET 7
239590-CENG-108(A)	DETAIL PLAN - SHEET 8
239590-CENG-109(A)	INTERSECTION INTERFACE PLAN
239590-CENG-151(A)	CLEARING PLAN
239590-CENG-152(A)	ZONE 1 EROSION & SEDIMENT CONTROL PLAN
239590-CENG-153(A)	ZONE 2 EROSION & SEDIMENT CONTROL PLAN
239590-CENG-154(A)	ZONE 3 EROSION & SEDIMENT CONTROL PLAN
239590-CENG-155(A)	ZONE 4 EROSION & SEDIMENT CONTROL PLAN
239590-CENG-156(A)	PLAN OF AREAS FOR REMEDIATION
239590-CENG-201(A)	ROAD LONGITUDINAL SECTION: ROAD MC01 - SHEET 1
239590-CENG-202(A)	ROAD LONGITUDINAL SECTION: ROAD MC01 - SHEET 2
239590-CENG-203(A)	ROAD LONGITUDINAL SECTION: ROAD MC01 - SHEET 3
239590-CENG-204(A)	ROAD LONGITUDINAL SECTION: ROAD MC01 - SHEET 4
239590-CENG-205(A)	ROAD LONGITUDINAL SECTION: ROAD MC01 - SHEET 5
239590-CENG-206(A)	ROAD LONGITUDINAL SECTION: ROAD MC01 - SHEET 6
239590-CENG-207(A)	ROAD LONGITUDINAL SECTION: ROAD MC01 - SHEET 7
239590-CENG-208(A)	ROAD LONGITUDINAL SECTION: ROAD MC01 - SHEET 8
239590-CENG-209(A)	ROAD LONGITUDINAL SECTION: ROAD MC03 - SHEET 1
239590-CENG-210(A)	ROAD LONGITUDINAL SECTION: ROAD MC03 - SHEET 2
239590-CENG-211(A)	ROAD LONGITUDINAL SECTION: ROAD MC03 - SHEET 3
239590-CENG-212(A)	ROAD LONGITUDINAL SECTION: ROAD MC04
239590-CENG-213(A)	ROAD LONGITUDINAL SECTION: ROAD MC05
239590-CENG-214(A)	ROAD LONGITUDINAL SECTION: ROAD MC06
239590-CENG-215(A)	ROAD LONGITUDINAL SECTION: ROAD MC09
239590-CENG-216(A)	ROAD LONGITUDINAL SECTION: ROAD MC10
239590-CENG-221(A)	TYPICAL CROSS SECTION
239590-CENG-222(A)	SITE SECTIONS
239590-CENG-501(A)	CUT/FILL PLAN

FOR APPROVAL

REV.	DATE	AMENDMENT	DRAWN	CHECK	DESIGN	VERIFY	SCALES	CLIENT		PROPERTY DESCRIPTION		PROJECT			
A	15.10.2021	INITIAL ISSUE	A.M.	R.K.	Z.J.	R.K.						BLACK HILL CENG PLANS			
								BROADEN MANAGEMENT PTY LTD		BLACK HILL INDUSTRIAL SUBDIVISION PROPOSED SUBDIVISION OF LOT 1 DP 1260203, JOHN RENSHAW DRIVE, BLACK HILL DEVELOPMENT APPLICATION		PLAN TITLE TITLE SHEET, DRAWING INDEX & LOCALITY PLAN			
DESIGN FILE N:\239590\Design\12D\								ADW Johnson		A.H.D.		PROJECT No.	DISCIPLINE	NUMBER	REV.
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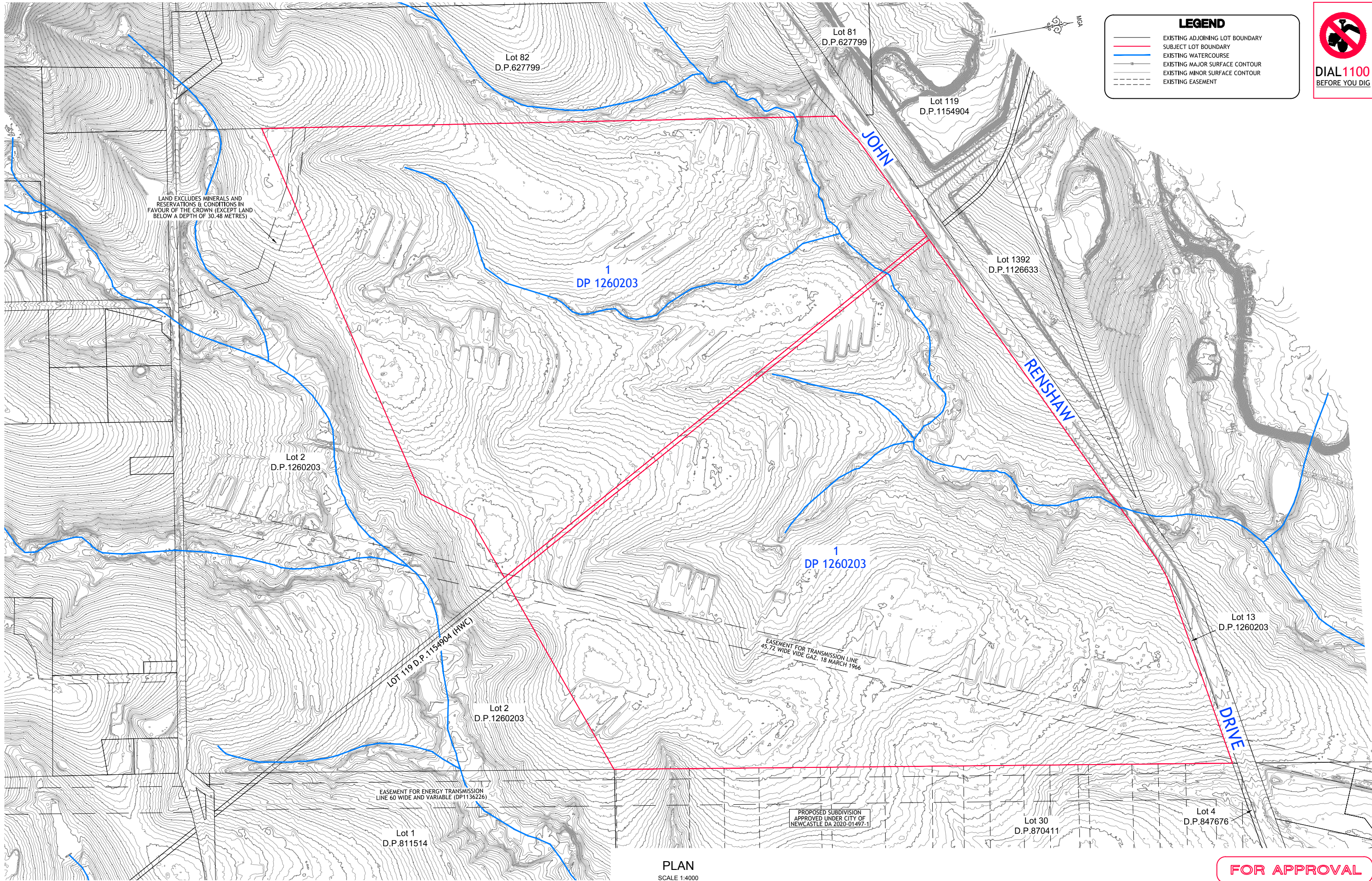
Hunter Office  
Unit 7/335 Hillsborough Rd  
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email: hunter@adwjohnson.com.au  
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ABN 62 129 445 398



239590-CENG-002(A)

100mm AT FULL SIZE

100mm



PLAN  
SCALE 1:4000

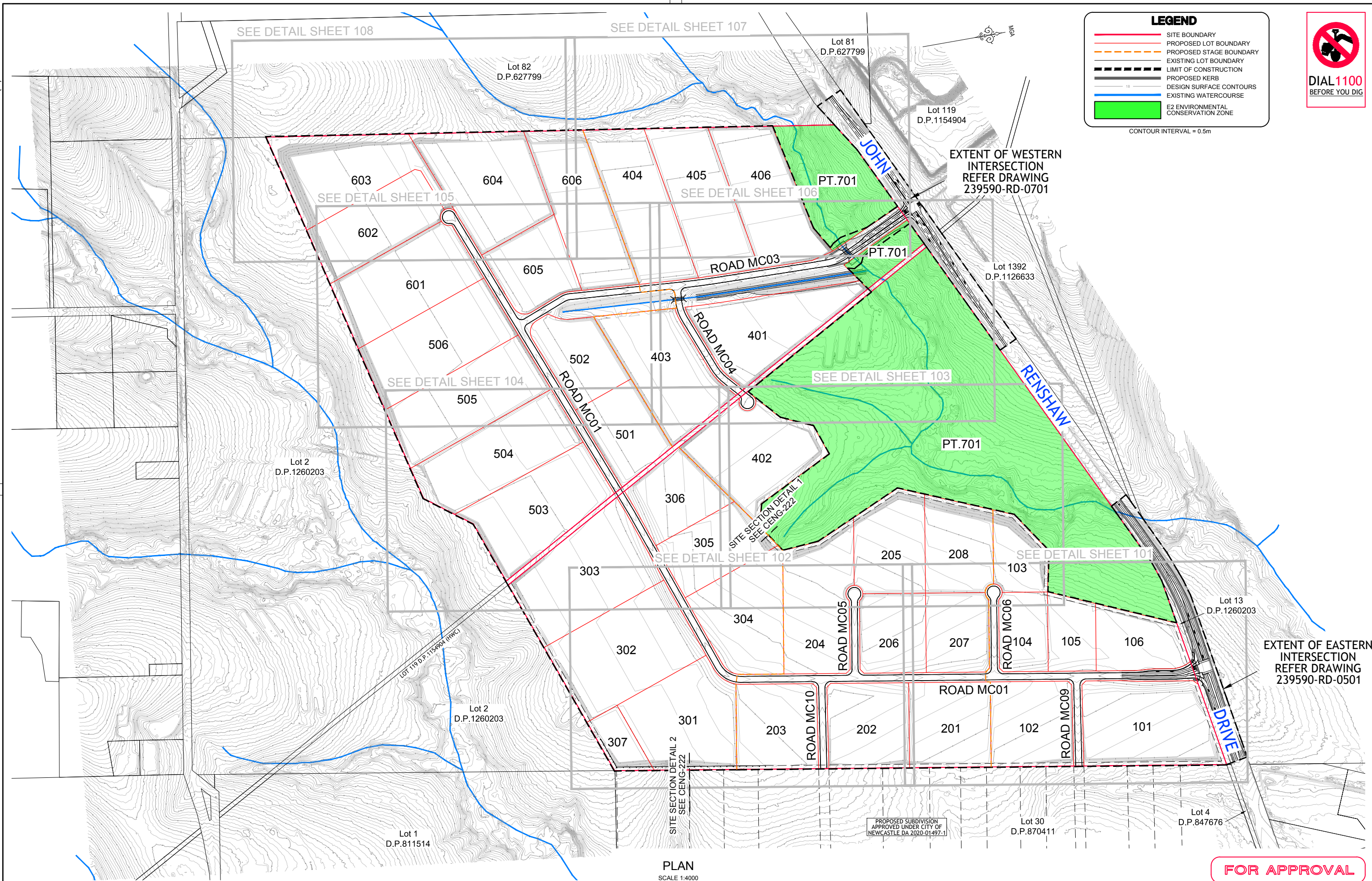
FOR APPROVAL

REV.	DATE	AMENDMENT	DRAWN	CHECK	DESIGN	VERIFY	SCALES	 <div>Hunter Office Unit 7/335 Hillsborough Rd Warners Bay N.S.W. 2282 Phone: (02) 4978 5100 Fax: (02) 4978 5199 email: hunter@adwjohnson.com.au www.adwjohnson.com.au ABN 62 129 445 398</div>	CLIENT	PROPERTY DESCRIPTION	PROJECT					
A	15.10.2021	INITIAL ISSUE	A.M.	R.K.	Z.J.	R.K.			BROADEN MANAGEMENT PTY LTD	BLACK HILL INDUSTRIAL SUBDIVISION PROPOSED SUBDIVISION OF LOT 1 DP 1260203, JOHN RENSHAW DRIVE, BLACK HILL DEVELOPMENT APPLICATION	BLACK HILL CENG PLANS					
DESIGN FILE N: \239590\Design\12D\									ALL DIMENSIONS ARE IN METRES. DO NOT SCALE			PLAN TITLE	EXISTING SITE PLAN			
											SURVEYED ADW Johnson	DATUM A.H.D.	PROJECT No. 239590	DISCIPLINE - CENG	NUMBER - 002	REV. A



239590-CENG-003(A)

100mm AT FULL SIZE



**LEGEND**

- SITE BOUNDARY
- PROPOSED LOT BOUNDARY
- PROPOSED STAGE BOUNDARY
- EXISTING LOT BOUNDARY
- LIMIT OF CONSTRUCTION
- PROPOSED KERB
- DESIGN SURFACE CONTOURS
- EXISTING WATERCOURSE
- E2 ENVIRONMENTAL CONSERVATION ZONE

CONTOUR INTERVAL = 0.5m



**FOR APPROVAL**

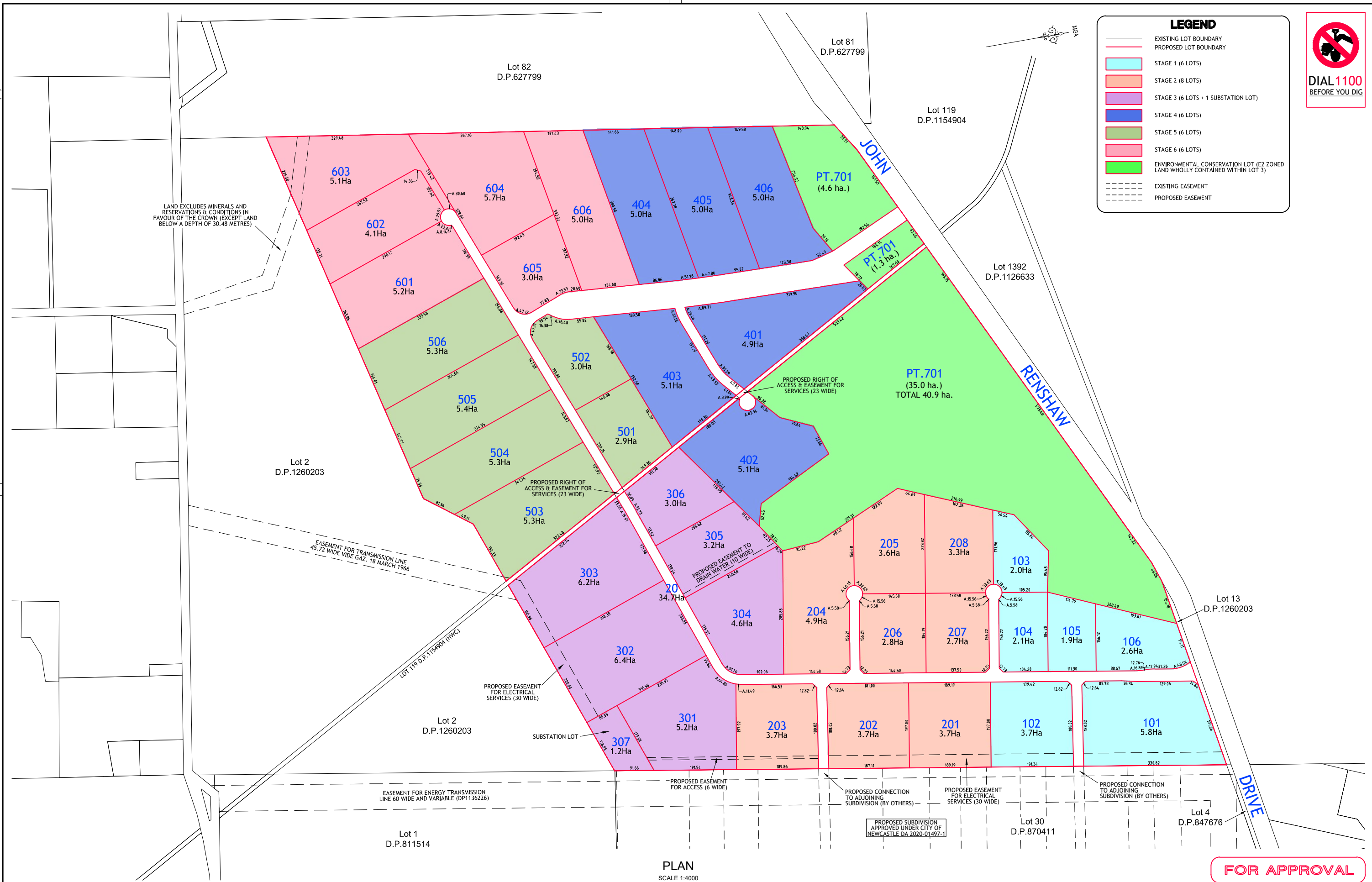
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Plotted By: anthonym Plot Date: 15/10/21 - 16:13 Cad File: N:\239590\Drawings\Engineering\Civil\CONCEPT\239590(2)-CENG\239590-CENG-003(A).dwg								SURVEYED ADW Johnson	DATUM A.H.D.	PROJECT No. 239590
								DISCIPLINE CENG		
								NUMBER 003		
								REV. A		



239590-SSK-001(A)

100mm AT FULL SIZE

100mm AT FULL SIZE

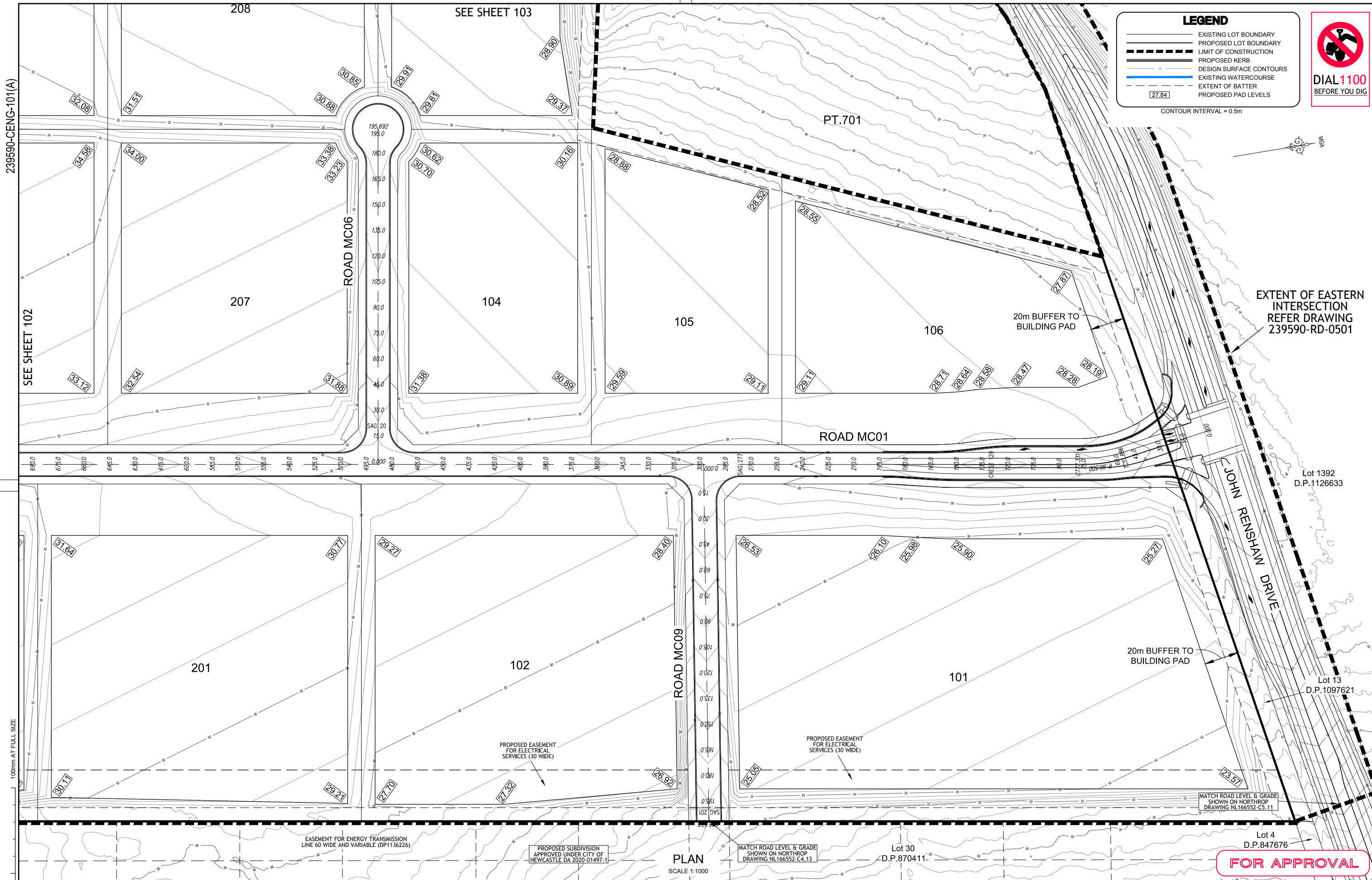


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REV.	DATE	AMENDMENT	DRAWN	CHECK	DESIGN	VERIFY	SCALES		Hunter Office Unit 7/335 Hillsborough Rd Warners Bay N.S.W. 2282 Phone: (02) 4978 5100 Fax: (02) 4978 5199 email: hunter@adwjohnson.com.au www.adwjohnson.com.au ABN 62 129 445 398	CLIENT  BROADEN MANAGEMENT PTY LTD	PROPERTY DESCRIPTION		PROJECT BLACK HILL CENG PLANS			
A	06.08.2021	INITIAL ISSUE	A.M.	R.K.	Z.J.	R.K.					PROPOSED SUBDIVISION OF LOT 1 DP 1260203, JOHN RENSHAW DRIVE, BLACK HILL DEVELOPMENT APPLICATION		PLAN TITLE PROPOSED SUBDIVISION PLAN 38 INDUSTRIAL LOTS, 1 ENVIRONMENTAL LOT & 1 SUBSTATION LOT			
B	07.10.2021	STAGING AMENDMENTS	A.M.	R.K.	Z.J.	R.K.					SURVEYED ADW Johnson	DATUM A.H.D.	PROJECT No. 239590	DISCIPLINE - CENG	NUMBER - 004	REV. B
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REV.	DATE	AMENDMENT	DRAWN	CHECK	DESIGN	VERIFY	SCALES			HUNTER OFFICE Unit 7/335 Hillsborough Rd Warners Bay N.S.W. 2282 Phone: (02) 4978 5100 Fax: (02) 4978 5199 email: hunter@adwjohnson.com.au www.adwjohnson.com.au ABN 62 129 445 398	CLIENT  BROADEN MANAGEMENT PTY LTD	PROPERTY DESCRIPTION		PROJECT					
A	15.10.2021	INITIAL ISSUE	A.M.	R.K.	Z.J.	R.K.	 A1 / A3 1:1000 / 1:2000					BLACK HILL INDUSTRIAL SUBDIVISION PROPOSED SUBDIVISION OF LOT 1 DP 1260203, JOHN RENSHAW DRIVE, BLACK HILL DEVELOPMENT APPLICATION		BLACK HILL CENG PLANS					
														PLAN TITLE  DETAIL PLAN - SHEET 1					
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239590-CENG-102(A)

LEGEND

- EXISTING LOT BOUNDARY
- PROPOSED LOT BOUNDARY
- LIMIT OF CONSTRUCTION
- PROPOSED KERB
- DESIGN SURFACE CONTOURS
- EXISTING WATERCOURSE
- EXTENT OF BATTER
- PROPOSED PAD LEVELS

CONTOUR INTERVAL = 0.5m

SEE SHEET 104



100mm AT FULL SIZE

REV.	DATE	AMENDMENT	DRAWN	CHECK	DESIGN	VERIFY
A	15.10.2021	INITIAL ISSUE	A.M.	R.K.	Z.J.	R.K.

SCALES
0 25 50 A1 / A3 1:1000 / 1:2000



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www.adwjohnson.com.au  
ABN 62 129 445 398

CLIENT  
**BROADEN MANAGEMENT PTY LTD**

PROPERTY DESCRIPTION  
**BLACK HILL INDUSTRIAL SUBDIVISION  
PROPOSED SUBDIVISION OF LOT 1 DP 1260203,  
JOHN RENSHAW DRIVE, BLACK HILL  
DEVELOPMENT APPLICATION**

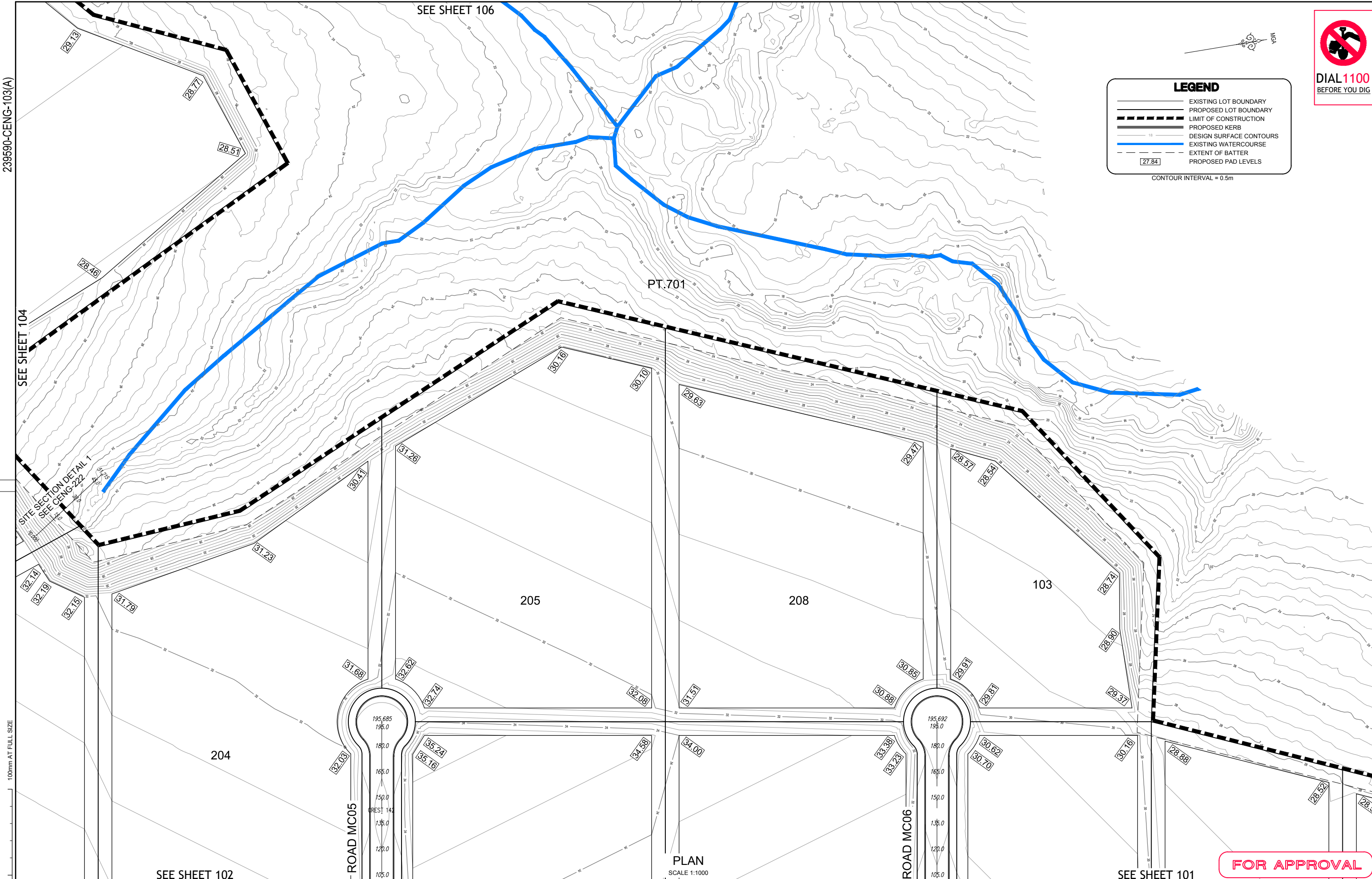
PROJECT  
**BLACK HILL CENG PLANS**

PLAN TITLE  
**DETAIL PLAN - SHEET 2**

PROJECT No. <b>239590</b>	DISCIPLINE <b>- CENG</b>	NUMBER <b>- 102</b>	REV. <b>A</b>
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A	15.10.2021	INITIAL ISSUE	A.M.	R.K.	Z.J.	R.K.	 A1 / A3 1:1000 / 1:2000				BLACK HILL INDUSTRIAL SUBDIVISION PROPOSED SUBDIVISION OF LOT 1 DP 1260203, JOHN RENSHAW DRIVE, BLACK HILL DEVELOPMENT APPLICATION		PLAN TITLE	DETAIL PLAN - SHEET 3			
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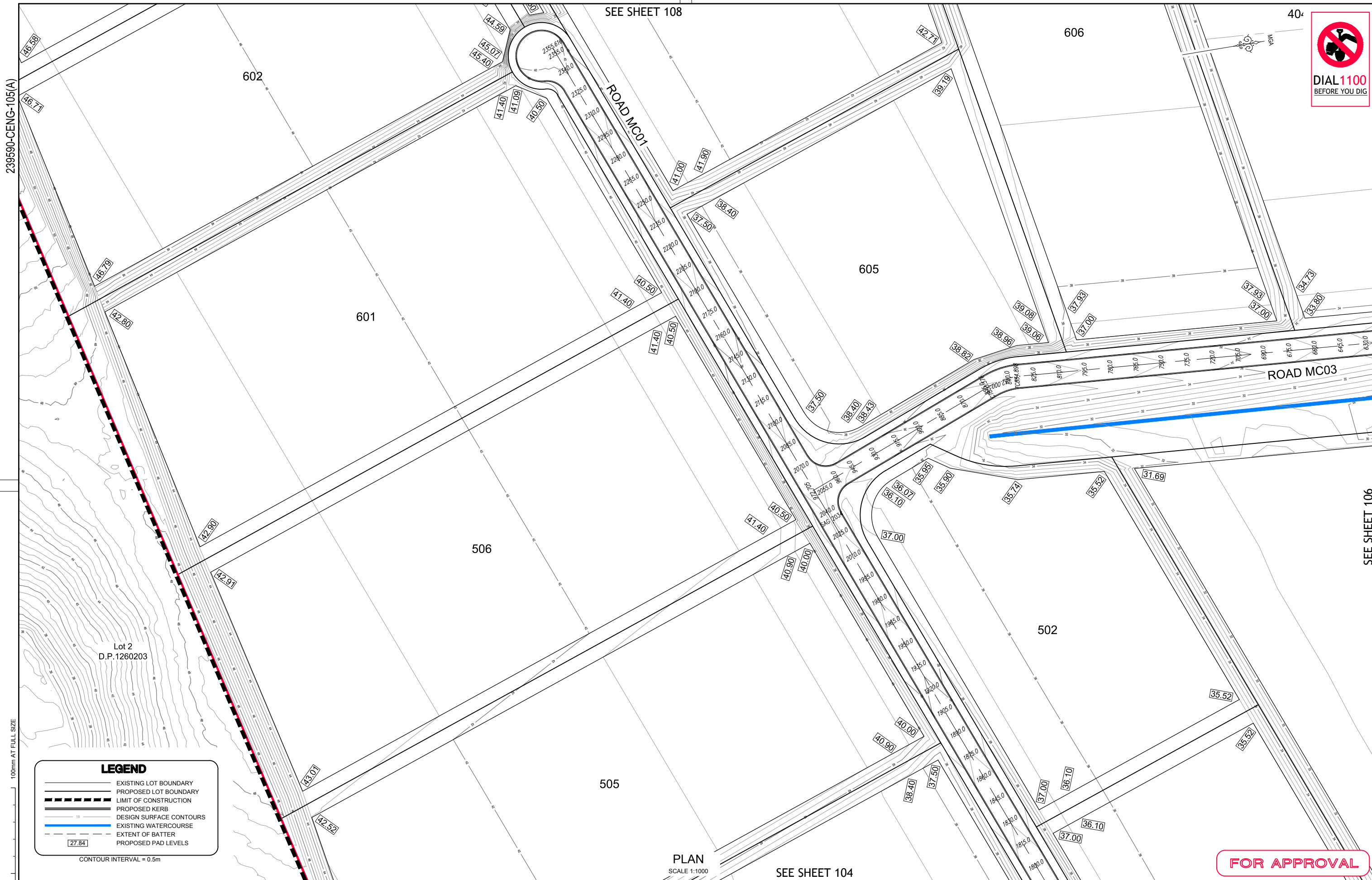
**LEGEND**

- EXISTING LOT BOUNDARY
- PROPOSED LOT BOUNDARY
- LIMIT OF CONSTRUCTION
- PROPOSED KERB
- DESIGN SURFACE CONTOURS
- EXISTING WATERCOURSE
- EXTENT OF BATTER
- PROPOSED PAD LEVELS

CONTOUR INTERVAL = 0.5m

REV.		DATE	AMENDMENT	DRAWN	CHECK	DESIGN	VERIFY	SCALES		Hunter Office Unit 7/335 Hillsborough Rd Warners Bay N.S.W. 2282 Phone: (02) 4978 5100 Fax: (02) 4978 5199 email: hunter@adwjohnson.com.au www.adwjohnson.com.au ABN 62 129 445 398	CLIENT  BROADEN MANAGEMENT PTY LTD	PROPERTY DESCRIPTION		PROJECT					
A		15.10.2021	INITIAL ISSUE	A.M.	R.K.	Z.J.	R.K.	 A1 / A3 1:1000 / 1:2000				BLACK HILL INDUSTRIAL SUBDIVISION PROPOSED SUBDIVISION OF LOT 1 DP 1260203, JOHN RENSHAW DRIVE, BLACK HILL DEVELOPMENT APPLICATION		BLACK HILL CENG PLANS					
												PLAN TITLE		DETAIL PLAN - SHEET 4					
DESIGN FILE N:\239590\Design\12D\								ALL DIMENSIONS ARE IN METRES. DO NOT SCALE				SURVEYED ADW Johnson		DATUM A.H.D.		PROJECT No. 239590	DISCIPLINE - CENG	NUMBER - 104	REV. A



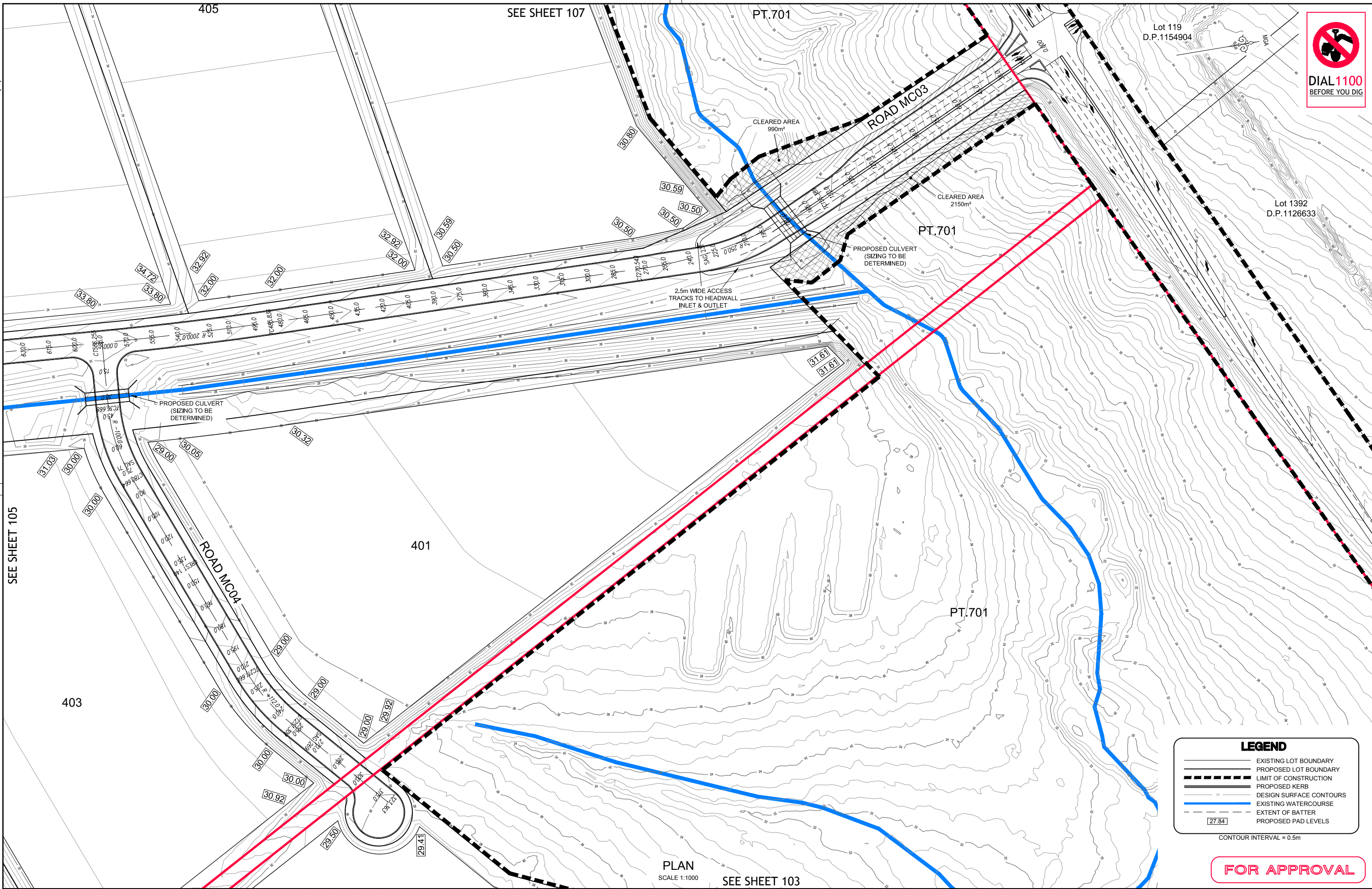


FOR APPROVAL

REV.	DATE	AMENDMENT	DRAWN	CHECK	DESIGN	VERIFY	SCALES	CLIENT	PROPERTY DESCRIPTION	PROJECT
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										PLAN TITLE
										DETAIL PLAN - SHEET 5
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										A



239590-CENG-106(A)



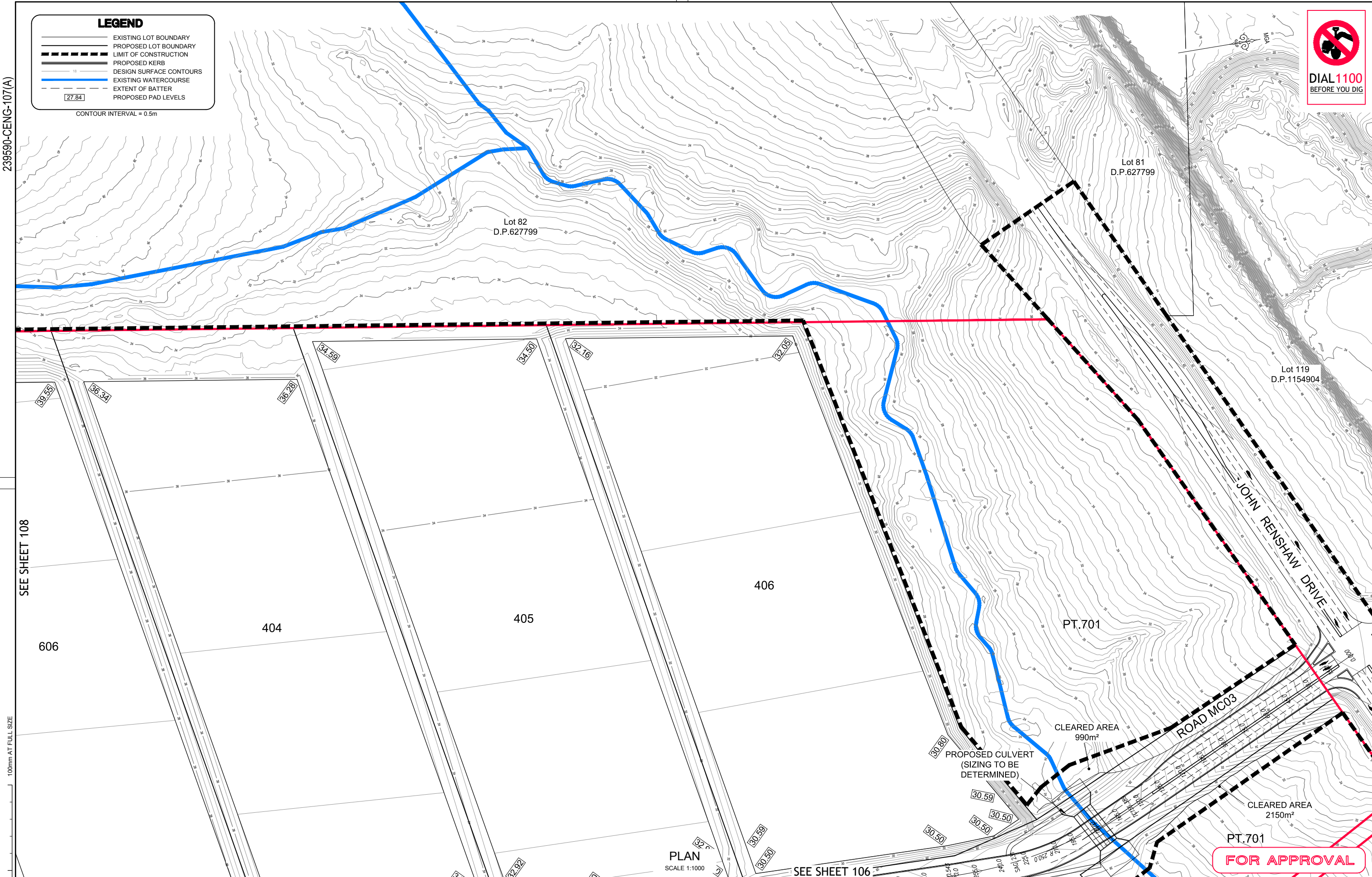
LEGEND	
	EXISTING LOT BOUNDARY
	PROPOSED LOT BOUNDARY
	LIMIT OF CONSTRUCTION
	PROPOSED KERB
	DESIGN SURFACE CONTOURS
	EXISTING WATERCOURSE
	EXTENT OF BATTER
	PROPOSED PAD LEVELS

CONTOUR INTERVAL = 0.5m

FOR APPROVAL

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A		15.10.2021	INITIAL ISSUE		A.M.	R.K.	Z.J.	R.K.	 1:1000 / 1:2000					BLACK HILL CENG PLANS													
														BROADEN MANAGEMENT PTY LTD		BLACK HILL INDUSTRIAL SUBDIVISION PROPOSED SUBDIVISION OF LOT 1 DP 1260203, JOHN RENSHAW DRIVE, BLACK HILL DEVELOPMENT APPLICATION		PLAN TITLE									
																		DETAIL PLAN - SHEET 6									
DESIGN FILE N:\239590\Design\120\														ALL DIMENSIONS ARE IN METRES. DO NOT SCALE		SURVEYED ADW Johnson		DATUM A.H.D.		PROJECT No. 239590		DISCIPLINE - CENG -		NUMBER 106		REV. A	

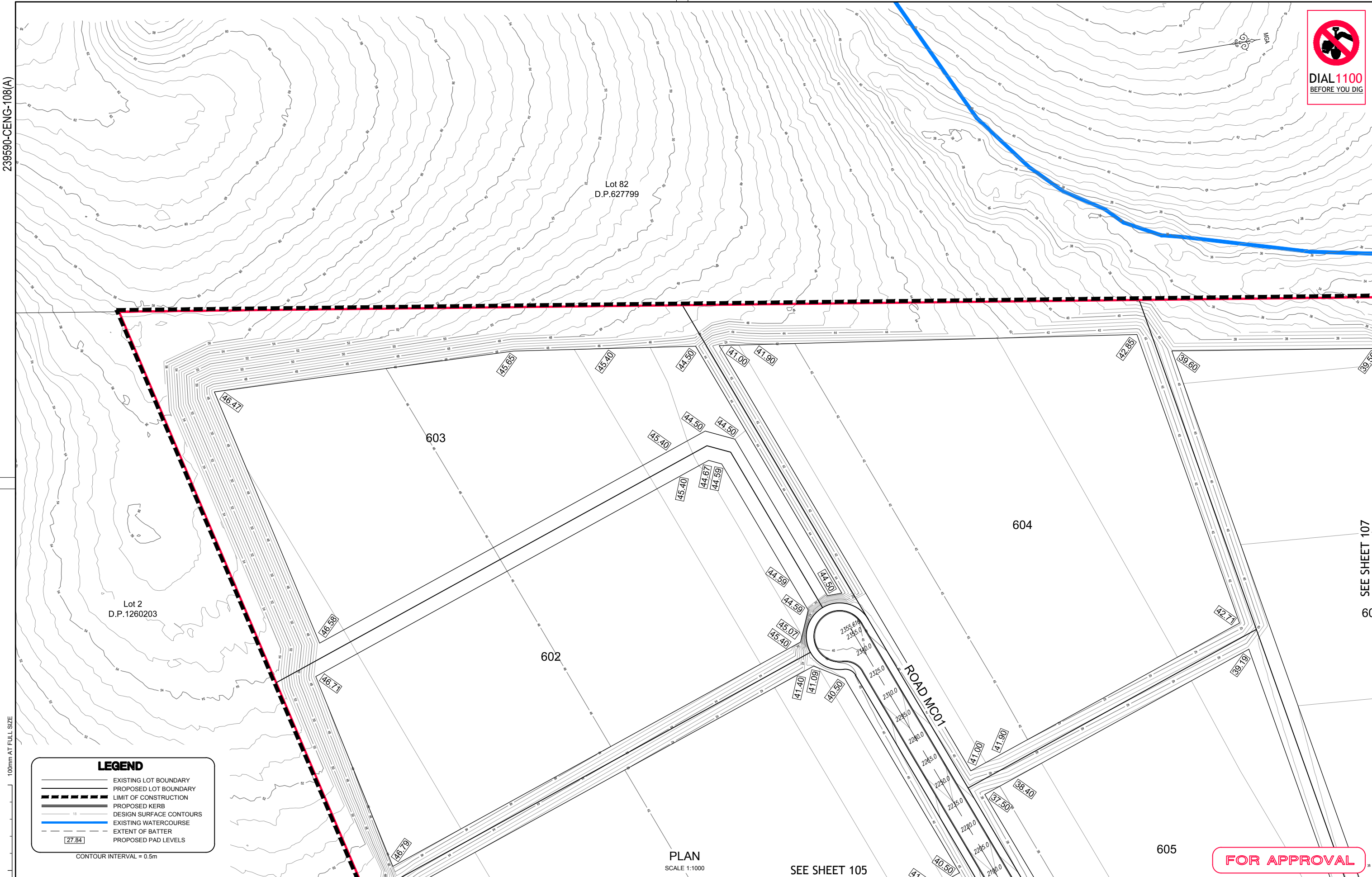




REV.				DRAWN				CHECK				DESIGN				VERIFY				SCALES				PROPERTY DESCRIPTION				PROJECT			
A				A.M.				R.K.				Z.J.				R.K.				0 25 50 A1 / A3 1:1000 / 1:2000				BLACK HILL INDUSTRIAL SUBDIVISION PROPOSED SUBDIVISION OF LOT 1 DP 1260203, JOHN RENSHAW DRIVE, BLACK HILL DEVELOPMENT APPLICATION				BLACK HILL CENG PLANS			
15.10.2021																												PLAN TITLE			
INITIAL ISSUE																												DETAIL PLAN - SHEET 7			
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																												NUMBER		REV.	
																												107		A	



239590-CENG-108(A)



SEE SHEET 107

FOR APPROVAL

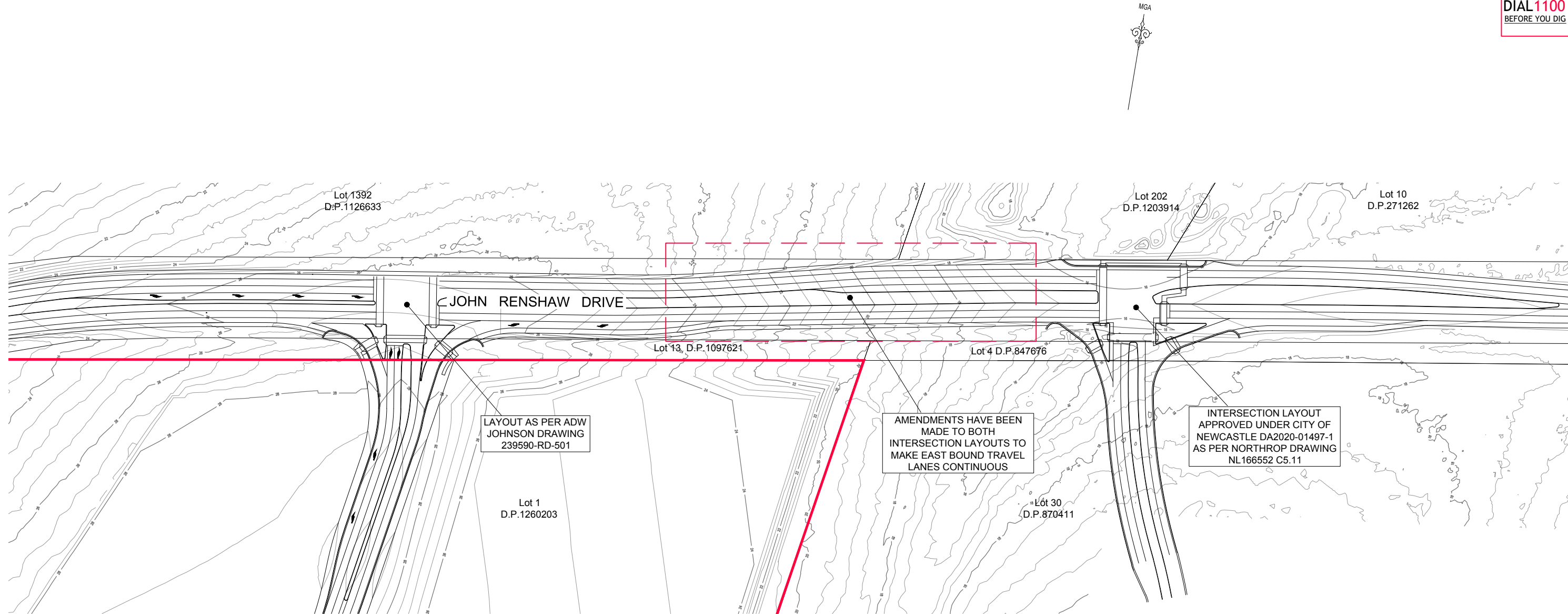
**LEGEND**

- EXISTING LOT BOUNDARY
- PROPOSED LOT BOUNDARY
- LIMIT OF CONSTRUCTION
- PROPOSED KERB
- DESIGN SURFACE CONTOURS
- EXISTING WATERCOURSE
- EXTENT OF BATTER
- PROPOSED PAD LEVELS

CONTOUR INTERVAL = 0.5m

REV.	DATE	AMENDMENT	DRAWN	CHECK	DESIGN	VERIFY	SCALES		Hunter Office Unit 7/335 Hillsborough Rd Warners Bay N.S.W. 2282 Phone: (02) 4978 5100 Fax: (02) 4978 5199 email: hunter@adwjohnson.com.au www.adwjohnson.com.au ABN 62 129 445 398	CLIENT  BROADEN MANAGEMENT PTY LTD	PROPERTY DESCRIPTION		PROJECT BLACK HILL CENG PLANS						
A	15.10.2021	INITIAL ISSUE	A.M.	R.K.	Z.J.	R.K.	 A1 / A3 1:1000 / 1:2000				BLACK HILL INDUSTRIAL SUBDIVISION PROPOSED SUBDIVISION OF LOT 1 DP 1260203, JOHN RENSHAW DRIVE, BLACK HILL DEVELOPMENT APPLICATION		PLAN TITLE	DETAIL PLAN - SHEET 8					
DESIGN FILE N:\239590\Design\120\							ALL DIMENSIONS ARE IN METRES. DO NOT SCALE				SURVEYED	DATUM	PROJECT No.	DISCIPLINE	NUMBER	REV.			
												ADW Johnson	A.H.D.	239590	-	CENG	-	108	A





PLAN  
SCALE 1:1000

FOR APPROVAL

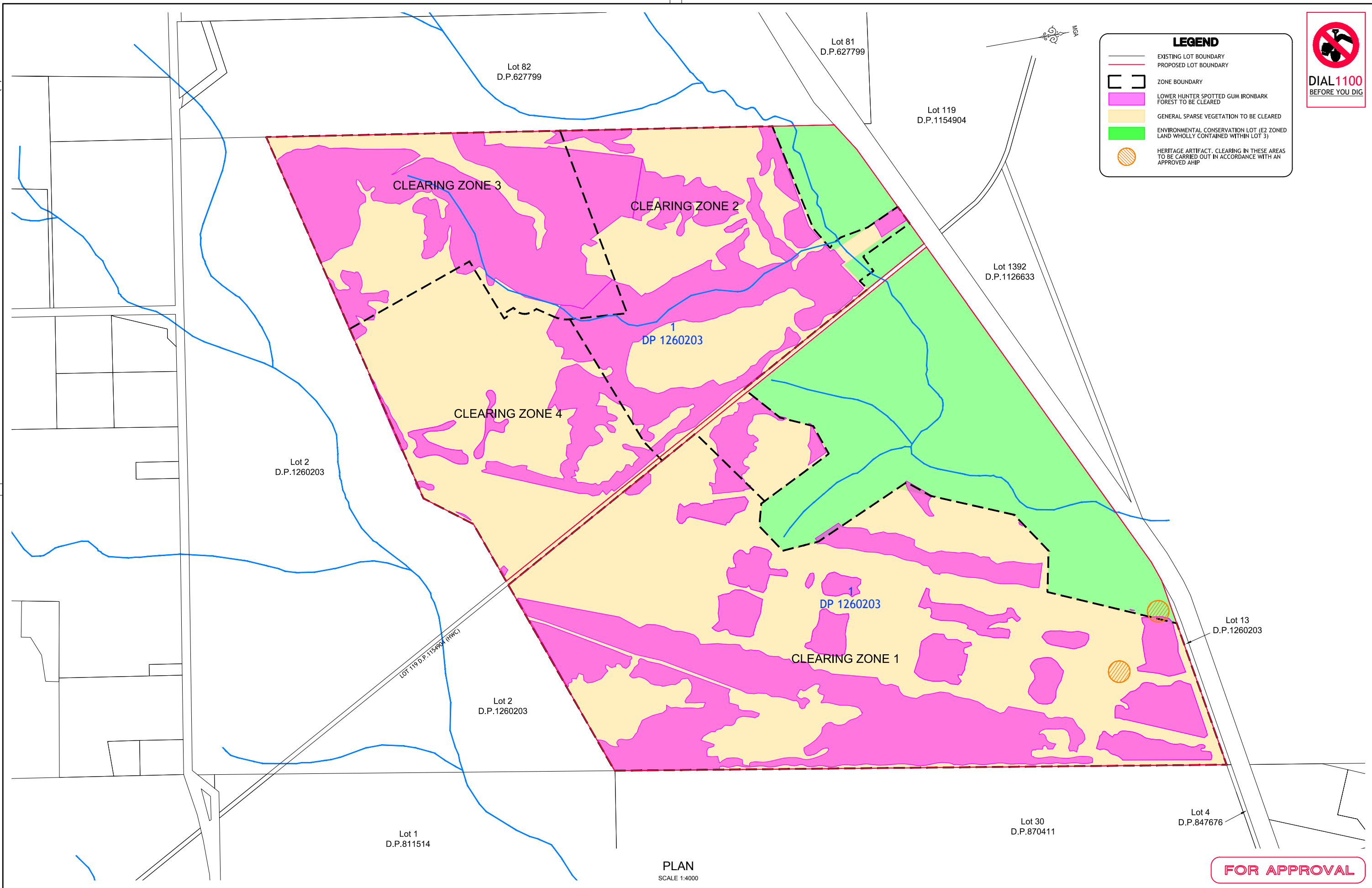
REV.	DATE	AMENDMENT	DRAWN	CHECK	DESIGN	VERIFY	SCALES		Hunter Office Unit 7/335 Hillsborough Rd Warners Bay N.S.W. 2282 Phone: (02) 4978 5100 Fax: (02) 4978 5199 email: hunter@adwjohanson.com.au www.adwjohanson.com.au ABN 62 129 445 398	CLIENT  BROADEN MANAGEMENT PTY LTD	PROPERTY DESCRIPTION		PROJECT				
A	15.10.2021	INITIAL ISSUE	A.M.	R.K.	Z.J.	R.K.					BLACK HILL INDUSTRIAL SUBDIVISION PROPOSED SUBDIVISION OF LOT 1 DP 1260203, JOHN RENSHAW DRIVE, BLACK HILL DEVELOPMENT APPLICATION		BLACK HILL CENG PLANS				
DESIGN FILE N:\239590\Design\12D\								ALL DIMENSIONS ARE IN METRES. DO NOT SCALE				SURVEYED ADW Johnson	DATUM A.H.D.	PROJECT No. 239590	DISCIPLINE - CENG	NUMBER - 109	REV. A



239590-CENG-151(A)

100mm AT FULL SIZE

100mm AT FULL SIZE



**LEGEND**

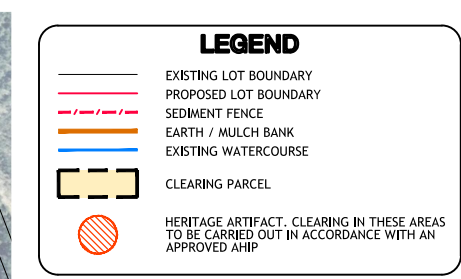
- EXISTING LOT BOUNDARY
- PROPOSED LOT BOUNDARY
- ZONE BOUNDARY
- LOWER HUNTER SPOTTED GUM IRONBARK FOREST TO BE CLEARED
- GENERAL SPARSE VEGETATION TO BE CLEARED
- ENVIRONMENTAL CONSERVATION LOT (E2 ZONED LAND WHOLLY CONTAINED WITHIN LOT 3)
- HERITAGE ARTIFACT. CLEARING IN THESE AREAS TO BE CARRIED OUT IN ACCORDANCE WITH AN APPROVED AHIP



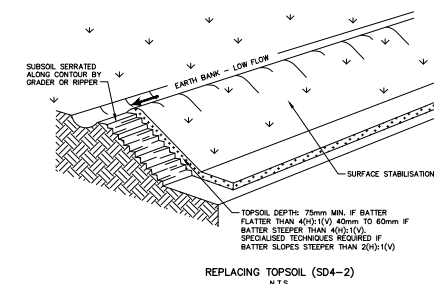
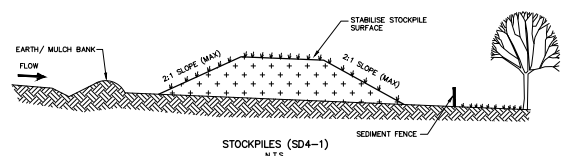
**FOR APPROVAL**

REV.	DATE	AMENDMENT	DRAWN	CHECK	DESIGN	VERIFY	SCALES	CLIENT	PROPERTY DESCRIPTION	PROJECT
A	15.10.2021	INITIAL ISSUE	A.M.	R.K.	Z.J.	R.K.	0 100 200 A1 / A3 1:4000 / 1:8000	BROADEN MANAGEMENT PTY LTD	BLACK HILL INDUSTRIAL SUBDIVISION PROPOSED SUBDIVISION OF LOT 1 DP 1260203, JOHN RENSHAW DRIVE, BLACK HILL DEVELOPMENT APPLICATION	BLACK HILL CENG PLANS
										PLAN TITLE
										CLEARING PLAN
										PROJECT No.
										239590
										DISCIPLINE
										CENG
										NUMBER
										151
										REV.
										A





1  
DP 1260203



- CONSTRUCTION NOTES:**
1. PLACE STOCKPILES MORE THAN 2 (PREFERABLY 5) METRES FROM EXISTING VEGETATION, CONCENTRATED WATER FLOW, ROADS AND HAZARDOUS AREA.
  2. CONSTRUCT ON THE CONTOUR AS LOW, FLAT, ELONGATED MOUNDS.
  3. WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2 METRES IN HEIGHT.
  4. WHERE THEY ARE TO BE IN PLACE FOR MORE THAN 10 DAYS, STABILISE FOLLOWING THE APPROVED ESCP OR SMP TO REDUCE EROSION LESS THAN 0.1%.
  5. STOCKPILE EARTH, MULCH BANKS (STANDARD DRAWING 5-8) TO THE UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES AND SEDIMENT FIELDS (STANDARD DRAWING 6-5) TO 1 TO 2 METRES DOWNSLOPE.

- CONSTRUCTION NOTES:**
1. BUILD WITH GRADIENTS BETWEEN 1 PERCENT AND 5 PERCENT.
  2. AVOID REMOVING TREES AND SHRUBS IF POSSIBLE - WORK AROUND THEM
  3. ENSURE THE STRUCTURES ARE FREE OF PROJECTIONS OR OTHER IRREGULARITIES THAT COULD IMPIDE WATER FLOW.
  4. BUILD THE DRAINS WITH CIRCULAR, PARABOLIC OR TRAPEZOIDAL CROSS SECTIONS, NOT V SHAPED.
  5. ENSURE THE BANKS ARE PROPERLY COMPACTED TO PREVENT FAILURE.
  6. COMPLETE PERMANENT OR TEMPORARY STABILISATION WITHIN 10 DAYS OF CONSTRUCTION.

- CONSTRUCTION NOTES:**
1. SCARIFY THE GROUND SURFACE ALONG THE LINE OF THE CONTOUR TO A DEPTH OF 50mm TO 100mm TO BREAK UP ANY HARDESTTING SURFACES AND TO PROVIDE A GOOD BOND BETWEEN THE RESPAED MATERIAL, AND SUBSOIL.
  2. ADD SOIL AMELIORANTS AS REQUIRED BY THE ESCP OR SMP.
  3. RIP TO A DEPTH OF 300mm IF COMPACTED LAYERS OCCUR.
  4. WHERE POSSIBLE, REPLACE TOPSOIL TO A DEPTH OF 40 TO 60mm ON LANDS WHERE THE SLOPE EXCEEDS 4:1(V) AND TO AT LEAST 75mm ON LOWER GRADIENTS.

0 100 200 A1 / A3  
1:4000 / 1:8000



**Hunter Office**  
Unit 7/335 Hillsborough Rd  
Warners Bay N.S.W. 2282  
Phone: (02) 4978 5100  
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[www.adwjohnson.com.au](http://www.adwjohnson.com.au)  
ABN 62 129 445 398

CLIENT
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BROADEN MANAGEMENT  
PTY LTD

PROPERTY DESCRIPTION	
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BLACK HILL INDUSTRIAL SUBDIVISION  
PROPOSED SUBDIVISION OF LOT 1 DP 1260203,  
JOHN RENSHAW DRIVE, BLACK HILL  
DEVELOPMENT APPLICATION

PROJECT	BLACK HILL CENG PLANS
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PLAN TITLE	ZONE 1 EROSION & SEDIMENT CONTROL PLAN
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SURVEYED	ADW Johnson
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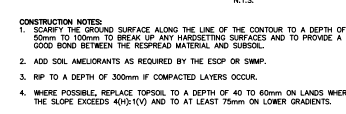
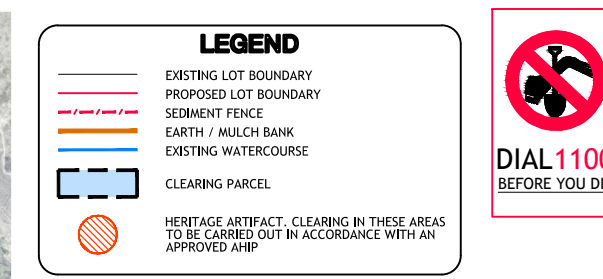
DATUM	A.H.D.
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PROJECT No.	239590
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DISCIPLINE	NUMBER
CENG	152

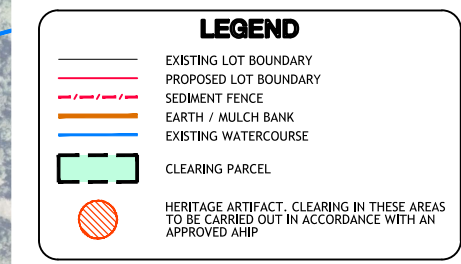
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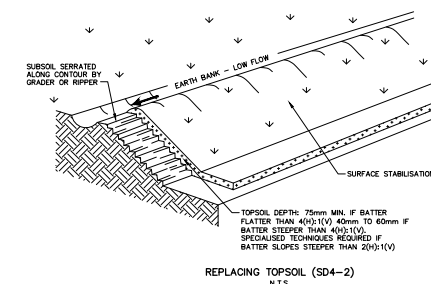
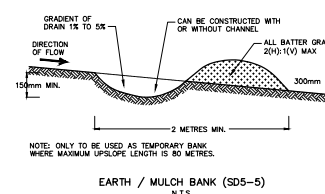
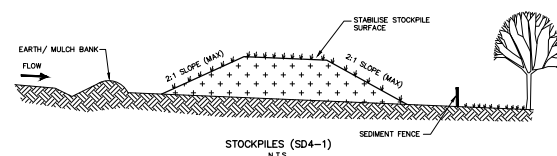
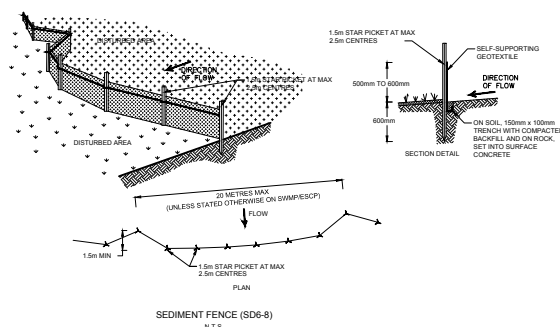


## ZONE 3

1  
DP 1260203

1  
DP 1260203

PLAN  
SCALE 1:2500



1. CONSTRUCTION NOTES:
  - 1.1. CONSTRUCT SEDIMENT FENCE AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE, BUT WITH SMALL RETURNS AS NECESSARY TO FOLLOW THE DRAINAGE OF THE CATCHMENT AREA OF ANY ONE SECTION. THE CATCHMENT AREA SHOULD BE SMALL ENOUGH TO LIMIT THE FLOODING OF ANY ONE POINT TO 10 FEET PER HOUR IN THE DESIGN FLOOD EVENT. USUALLY THE 10-20 ACRE FLOOD
  - 1.2. CUT A 150MM DEEP TRENCH ALONG THE LOCATION LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
  - 1.3. DRIVE 1.5m LONG STAR PICKETS INTO GROUND AT 2.5 METRE INTERVALS (MAX) AT DOWNSLOPE EDGE OF THE TRENCH. ENSURE ANY STAR PICKETS ARE FITTED WITH SAFETY CAPS.
  - 1.4. FIX BELT-SUPPORTING GEOTEXTILE TO THE UPSLOPE SIDE OF THE PICKETS ENSURING IT GOES TO THE BASE OF THE TRENCH. FIX THE GEOTEXTILE WITH WIPES OR AS RECOMMENDED BY THE MANUFACTURER. ONLY USE GEOTEXTILE SPECIFICALLY PROVIDED FOR SEDIMENT FENCE. DO NOT USE A BARGE CLOTH OR ANY OTHER TYPE OF SATISFACTORY.
  - 1.5. JOIN SECTIONS OF FABRIC AT A SUPPORT POINT WITH A 150mm overlap.
  - 1.6. RAKE THE TRENCH UNDER THE EDGE OF THE FABRIC AND COMPACT TO FIRM SURFACE OVER THE GEOTEXTILE.

**CONSTRUCTION NOTES:**

1. PLACE STOCKPOLES MORE THAN 2 (PREFERABLY 5) METRES FROM EXISTING VEGETATION, CONCENTRATED WATER FLOW, ROADS AND HAZARD AREAS.
2. CONSTRUCT ON THE CONTOUR AS LOW, FLAT, ELONGATED MOUNDS.
3. WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2 METRES IN HEIGHT.
4. WHERE THEY ARE TO BE IN PLACE FOR MORE THAN 10 DAYS, STABILISE FOLLOWING THE APPROVED ESCP OR SWMP TO REDUCE THE C-FACTOR TO LESS THAN 0.10.
5. CONSTRUCT EARTH MULCH BANS (STANDARD DRAWING 5-5) ON THE UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES, AND STORM FENCES (STANDARD DRAWING 5-5) ON THE DOWN-SLOPE SIDE OF STOCKPILES.

**CONSTRUCTION NOTES:**

1. BUILD WITH GRADIENTS BETWEEN 1 PERCENT AND 5 PERCENT.
2. AVOID REMOVING TREES AND SHRUBS IF POSSIBLE - WORK AROUND THEM.
3. ENSURE THE STRUCTURES ARE FREE OF PROJECTIONS OR OTHER IRREGULARITIES THAT COULD IMPEDE WATER FLOW.
4. BUILD THE DRAINS WITH CIRCULAR, PARABOLIC OR TRAPEZOIDAL CROSS SECTIONS, NOT V SHAPED.
5. ENSURE THE BANKS ARE PROPERLY COMPACTED TO PREVENT FAILURE.
6. COMPLETE PERMANENT OR TEMPORARY STABILISATION WITHIN 10 DAYS OF CONSTRUCTION.

**CONSTRUCTION NOTES:**

1. SCARIFY THE GROUND SURFACE ALONG THE LINE OF THE CONTOUR TO A DEPTH OF 50mm TO 100mm TO BREAK UP ANY HARDSTENING SURFACES AND TO PROVIDE A GOOD BOND BETWEEN THE RESPAVED MATERIAL AND SUBSOIL.
2. ADD SOIL AMELIORANTS AS REQUIRED BY THE ESCP OR SIMP.
3. RIP TO A DEPTH OF 300mm IF COMPACTED LAYERS OCCUR.
4. WHERE POSSIBLE, REPLACE TOPSOIL TO A DEPTH OF 40 TO 60mm ON LANDS WHERE THE SOIL PROFILE EXCEEDS 400/1/10 AND TO AT LEAST 75mm ON LOWER GRADIENTS.

FOR APPROVAL

CHECK THE BASIS OF THE FABRIC AND COMPLY IT THOROUGHLY OVER THE SUBJECT FILE																
REV.	DATE	AMENDMENT	DRAWN	CHECK	DESIGN	VERIFY	SCALES		Hunter Office Unit 7/335 Hillsborough Rd Warners Bay N.S.W. 2282 Phone: (02) 4978 5100 Fax: (02) 4978 5199 email:hunter@adwjohnson.com.au www.adwjohnson.com.au ABN 62 129 445 398	CLIENT  BROADEN MANAGEMENT PTY LTD	PROPERTY DESCRIPTION		PROJECT			
A	15.10.2021	INITIAL ISSUE	A.M.	R.K.	Z.J.	R.K.	 A1 / A3 1:4000 / 1:8000				BLACK HILL INDUSTRIAL SUBDIVISION PROPOSED SUBDIVISION OF LOT 1 DP 1260203, JOHN RENSHAW DRIVE, BLACK HILL DEVELOPMENT APPLICATION		BLACK HILL CENG PLANS			
													PLAN TITLE  ZONE 3 EROSION & SEDIMENT CONTROL PLAN			
DESIGN FILE N:\239590\Design\12D\							ALL DIMENSIONS ARE IN METRES. DO NOT SCALE				SURVEYED ADW Johnson	DATUM A.H.D.	PROJECT No. 239590	DISCIPLINE - CENG	NUMBER - 154	REV. A





Diagram illustrating the cross-section of a temporary bank. The bank is constructed with or without a channel. The gradient of the bank is 1% to 5%. The depth of the ditch is 150mm MIN. The width of the ditch is 2 METRES MIN. The all-batter gradient is 2H:1V MAX.

NOTE: ONLY TO BE USED AS TEMPORARY BANK

Diagram illustrating the process of replacing topsoil on a slope:

- SUBSOIL, SERRATED ALONG CONTOUR BY GRADER OR RIPPER**: The subsoil layer is shown being serrated along the contour.
- EARTH BANK - LOW FLOW**: The main body of the earth bank.
- SURFACE STABILIZATION**: The layer of topsoil being replaced.
- TOPSOIL DEPTH 75mm MIN. IF BATTER FLATTER THAN 40:1(V) 40mm TO 100mm IF BATTER STEEPER THAN 40:1(V). SPECIALIZED TECHNIQUES REQUIRED IF BATTER SLOPES STEEPER THAN 20:1(V)**: The diagram specifies the required topsoil depth based on the batter slope.

**REPLACING TOPSOIL (SD4-2)**  
N.S.

Diagram illustrating the cross-section of a temporary bank. The bank is constructed with or without a channel. The gradient of the bank is 1% to 5%. The depth of the ditch is 150mm MIN. The width of the ditch is 2 METRES MIN. The all-batter gradient is 2H:1V MAX.

NOTE: ONLY TO BE USED AS TEMPORARY BANK

Diagram illustrating the cross-section of a stockpile stabilization system (SD4-1). The system includes an Earth/Mulch Bank, a Stabilise Stockpile Surface, a 2:1 Slope (Max), a Segment Fence, and a NUGS layer. The diagram shows the flow of water over the stockpile surface and the placement of the segment fence and NUGS layer.

The image contains three technical drawings of a sediment fence (SD6-8):

- Perspective View:** Shows a sediment fence installed in a "DISTURBED AREA". The fence is labeled "SEDIMENT FENCE AT MAX 2.5m CENTRES". A "1.5m STAR PICKET AT MAX 2.5m CENTRES" is shown along the top edge. A "50mm MIN" gap is indicated between the fence and the ground.
- SECTION DETAIL:** A cross-section of the fence. It shows a "1.5m STAR PICKET AT MAX 2.5m CENTRES" on the left. The fence is a "SELF-SUPPORTING GEOTEXTILE" that is "500mm TO 600mm" high. The base is a "TRENCH WITH COMPACTED BACKFILL AND ON ROCK, SET INTO SURFACE CONCRETE". The "DIRECTION OF FLOW" is indicated by an arrow pointing right. The trench depth is "600mm".
- PLAN:** A top-down view of the fence. It shows a line of "1.5m STAR PICKET AT MAX 2.5m CENTRES" with a "50 METRES MAX (UNLESS STATED OTHERWISE ON SWIMPS/SCP)" length. The "FLOW" direction is indicated by an arrow pointing right. A "1.5m MIN" gap is indicated between the fence and the ground.

**SEDIMENT FENCE (SD6-8)**  
NTS

**CONSTRUCTION NOTES:**

1. PLACE STOCKPILES MORE THAN 2 (PREFERABLY 5) METRES FROM EXISTING VEGETATION, CONCENTRATED WATER FLOW, ROADS AND HAZARDOUS AREAS.
2. CONSTRUCT ON THE CONTOUR AS LOW, FLAT, ELONGATED MOUNDS.
3. WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2 METRES IN HEIGHT.
4. WHERE THEY ARE TO BE IN PLACE FOR MORE THAN 10 DAYS, STABILISE FOLLOWING THE APPROVED ESPOR OR SMP TO REDUCE EROSION TO LESS THAN 0.1%.
5. STOCKPILE EARTH, MULCH BANKS (STANDARD DRAWING 5-5) ON THE UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES AND SEDIMENT FENCES (STANDARD DRAWING 6-8) 1 TO 2 METRES DOWNSLOPE.

**CONSTRUCTION NOTES:**

1. BUILD WITH GRADIENTS BETWEEN 1 PERCENT AND 5 PERCENT.
2. AVOID REMOVING TREES AND SHRUBS IF POSSIBLE - WORK AROUND THEM
3. ENSURE THE STRUCTURES ARE FREE OF PROJECTIONS OR OTHER IRREGULARITIES THAT COULD IMPIDE WATER FLOW.
4. BUILD THE DRAINS WITH CIRCULAR, PARABOLIC OR TRAPEZOIDAL CROSS SECTIONS, NOT V SHAPED.
5. ENSURE THE BANKS ARE PROPERLY COMPACTED TO PREVENT FAILURE.
6. COMPLETE PERMANENT OR TEMPORARY STABILISATION WITHIN 10 DAYS OF CONSTRUCTION.

**CONSTRUCTION NOTES:**

1. SCARIFY THE GROUND SURFACE ALONG THE LINE OF THE CONTOUR TO A DEPTH OF 50mm TO 100mm TO BREAK UP ANY HARDESTTING SURFACES AND TO PROVIDE A GOOD BOND BETWEEN THE RESPAED MATERIAL, AND SUBSOIL.
2. ADD SOIL AMELIORANTS AS REQUIRED BY THE ESCP OR SIMP.
3. RIP TO A DEPTH OF 300mm IF COMPACTED LAYERS OCCUR.
4. WHERE POSSIBLE, REPLACE TOPSOIL TO A DEPTH OF 40 TO 60mm ON LANDS WHERE THE SLOPE EXCEEDS 40:1(V) AND TO AT LEAST 75mm ON LOWER GRADIENTS.

Plotted By: anthonym    Plot Date: 15/10/21 - 16:19    Cad File: C:\Users\anthonym\appdata\local\temp\AcPublish\_13280\239590-CENG-155(A).dwg



239590-CENG-156(A)

100mm AT FULL SIZE



### LEGEND

- SITE BOUNDARY
- AREA FOR REMEDIATION REFERENCED IN REMEDIATION ACTION PLAN 54892-116888 PREPARED BY JBS&G DATED AUGUST 2018.
- PROPOSED ON-SITE CONTAINMENT AREA IN DEEP FILL AREA OF STAGE 1 AS PER JBS&G REMEDIATION ACTION PLAN 54892-116888



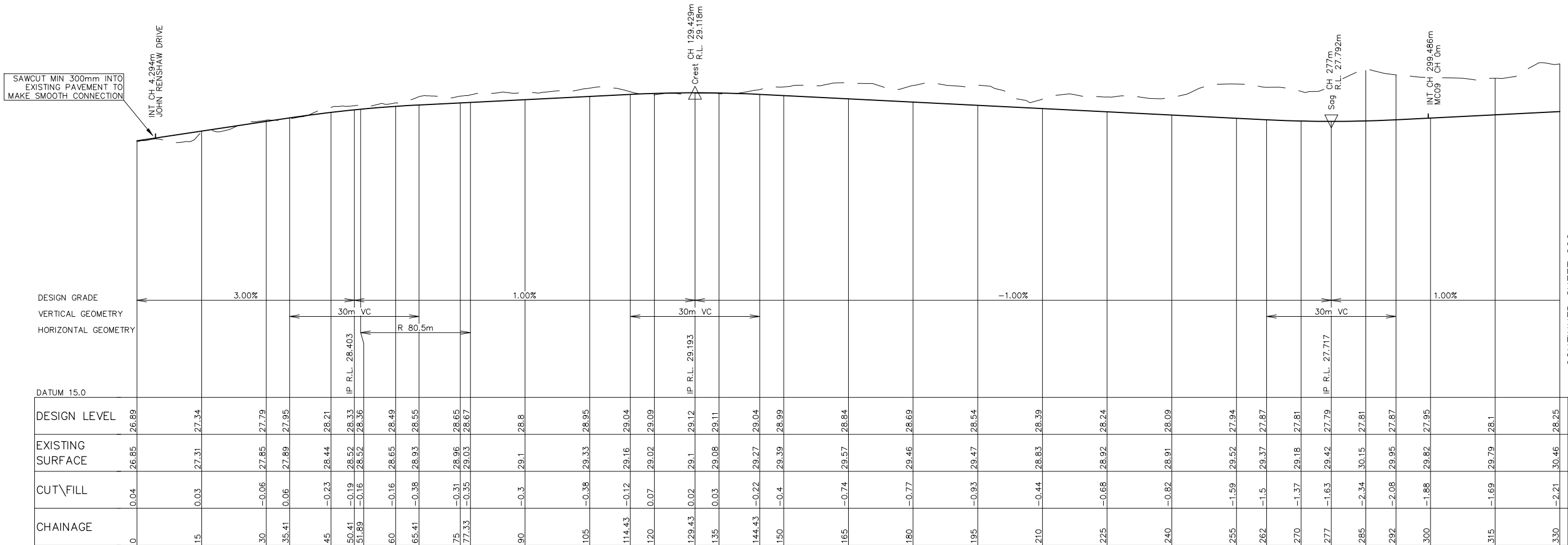
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FOR APPROVAL

REV.	DATE	AMENDMENT	DRAWN	CHECK	DESIGN	VERIFY	SCALES		Hunter Office Unit 7/335 Hillsborough Rd Warners Bay N.S.W. 2282 Phone: (02) 4978 5100 Fax: (02) 4978 5199 email: hunter@adwjohnson.com.au www.adwjohnson.com.au ABN 62 129 445 398	CLIENT  BROADEN MANAGEMENT PTY LTD	PROPERTY DESCRIPTION		PROJECT				
A	06.08.2021	INITIAL ISSUE	A.M.	R.K.	Z.J.	R.K.					BLACK HILL INDUSTRIAL SUBDIVISION PROPOSED SUBDIVISION OF LOT 1 DP 1260203, JOHN RENSCHAW DRIVE, BLACK HILL DEVELOPMENT APPLICATION		BLACK HILL CENG PLANS				
DESIGN FILE N:\239590\Design\120\											PLAN TITLE		PLAN OF AREAS FOR REMEDIATION				
ALL DIMENSIONS ARE IN METRES. DO NOT SCALE								SURVEYED ADW Johnson		DATUM A.H.D.		PROJECT No. 239590	-	DISCIPLINE CENG	-	NUMBER 156	REV. A

Plotted By: anthonym Plot Date: 15/10/21 - 16:19 Cad File: N:\239590\Drawings\Engineering\Civil\CONCEPT\239590(2)-CENG\239590-CENG-156(A).dwg



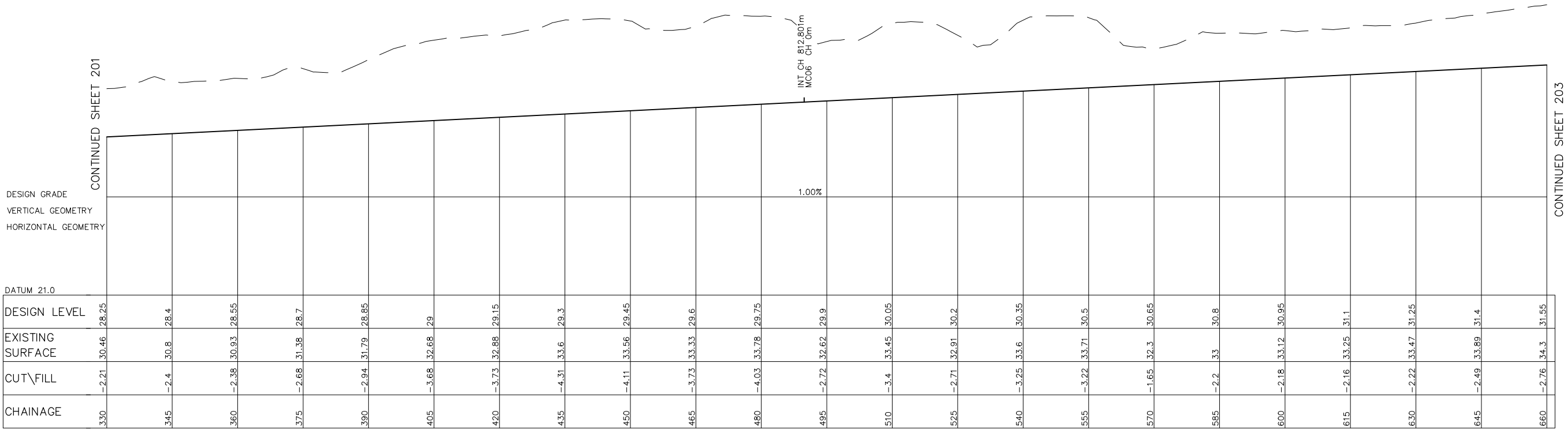


LONGITUDINAL SECTION MC01  
HORIZONTAL SCALE 1:500  
VERTICAL SCALE 1:100

FOR APPROVAL

REV.	DATE	AMENDMENT	DRAWN	CHECK	DESIGN	VERIFY	SCALES		<p>Hunter Office Unit 7/335 Hillsborough Rd Warners Bay N.S.W. 2282 Phone: (02) 4978 5100 Fax: (02) 4978 5199 email: hunter@adwjohnson.com.au www.adwjohnson.com.au ABN 62 129 445 398</p>	CLIENT	PROPERTY DESCRIPTION		PROJECT							
A	15.10.2021	INITIAL ISSUE	A.M.	R.K.	Z.J.	R.K.	PLAN TITLE						ROAD LONGITUDINAL SECTION: ROAD MC01 - SHEET 1							
							<p>VERT  A1 / A3 1:100 / 1:200</p> <p>HORIZ  A1 / A3 1:500 / 1:1000</p>				BROADEN MANAGEMENT PTY LTD		BLACK HILL INDUSTRIAL SUBDIVISION PROPOSED SUBDIVISION OF LOT 1 DP 1260203, JOHN RENSHAW DRIVE, BLACK HILL DEVELOPMENT APPLICATION		SURVEYED	DATUM	PROJECT No.	DISCIPLINE	NUMBER	REV.
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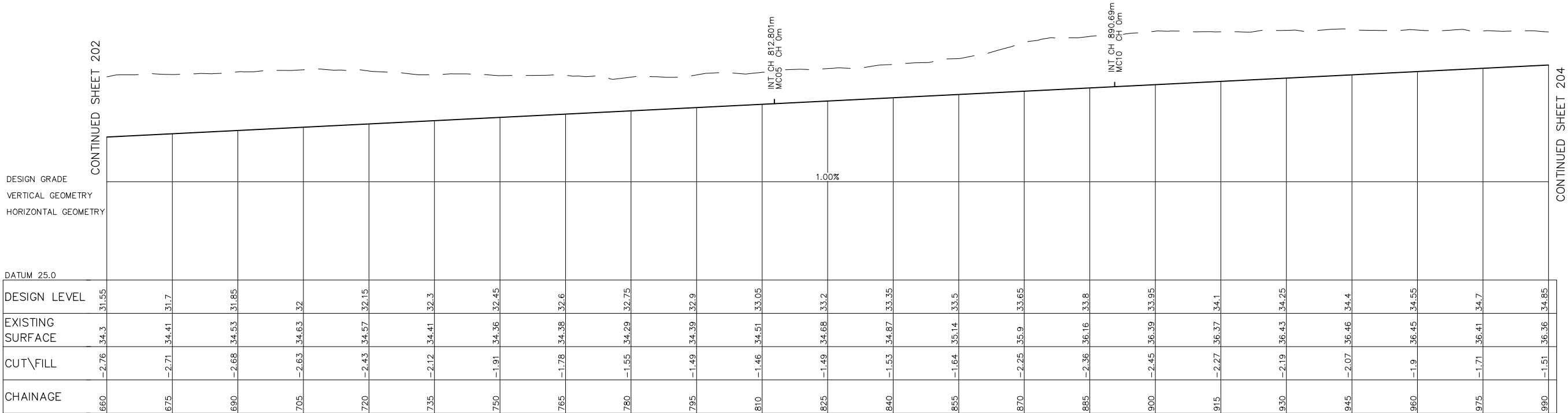


LONGITUDINAL SECTION MC01  
HORIZONTAL SCALE 1:500  
VERTICAL SCALE 1:100

FOR APPROVAL



REV.	DATE	AMENDMENT	DRAWN	CHECK	DESIGN	VERIFY	SCALES		Hunter Office Unit 7/335 Hillsborough Rd Warners Bay N.S.W. 2282 Phone: (02) 4978 5100 Fax: (02) 4978 5199 email: hunter@adwjohnson.com.au www.adwjohnson.com.au ABN 62 129 445 398	CLIENT  BROADEN MANAGEMENT PTY LTD	PROPERTY DESCRIPTION		PROJECT BLACK HILL CENG PLANS				
A	15.10.2021	INITIAL ISSUE	A.M.	R.K.	Z.J.	R.K.	VERT 0 2 4 1:100 / 1:200 HORIZ 0 10 20 1:500 / 1:1000				BLACK HILL INDUSTRIAL SUBDIVISION PROPOSED SUBDIVISION OF LOT 1 DP 1260203, JOHN RENSHAW DRIVE, BLACK HILL DEVELOPMENT APPLICATION		PLAN TITLE ROAD LONGITUDINAL SECTION: ROAD MC01 - SHEET 2	SURVEYED ADW Johnson	DATUM A.H.D.	PROJECT No. 239590	DISCIPLINE - CENG -
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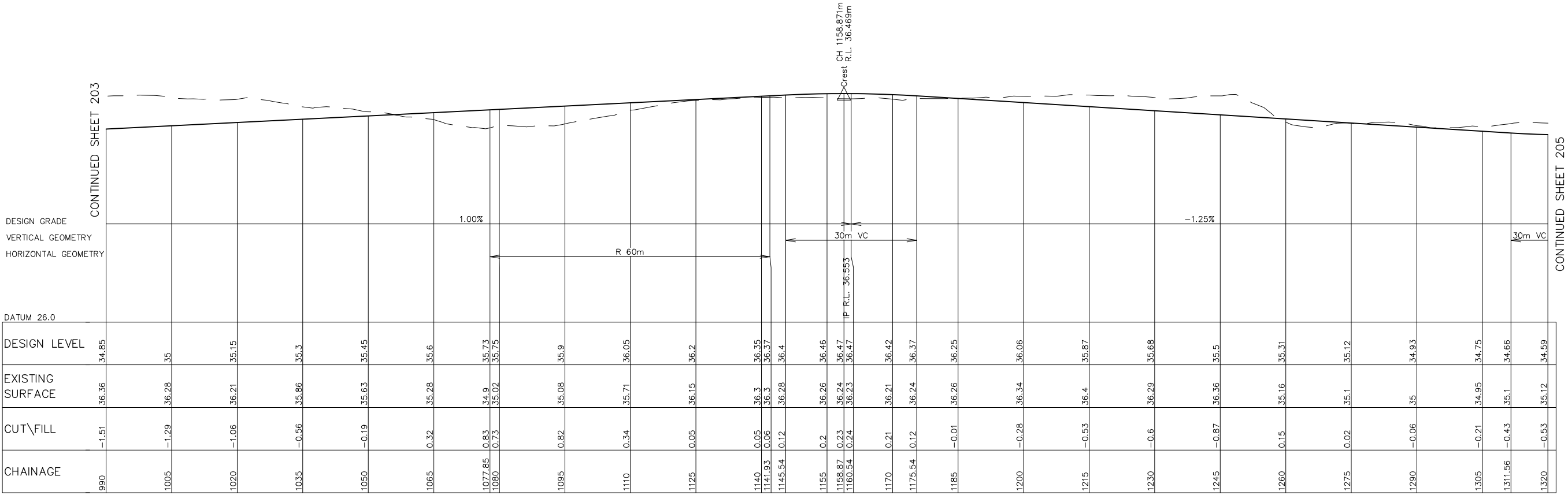


LONGITUDINAL SECTION MC01  
HORIZONTAL SCALE 1:500  
VERTICAL SCALE 1:100

FOR APPROVAL

REV.	DATE	AMENDMENT	DRAWN	CHECK	DESIGN	VERIFY	SCALES			Hunter Office Unit 7/335 Hillsborough Rd Warners Bay N.S.W. 2282 Phone: (02) 4978 5100 Fax: (02) 4978 5199 email: hunter@adwjohnson.com.au www.adwjohnson.com.au ABN 62 129 445 398	CLIENT  BROADEN MANAGEMENT PTY LTD	PROPERTY DESCRIPTION		PROJECT BLACK HILL CENG PLANS			
A	15.10.2021	INITIAL ISSUE	A.M.	R.K.	Z.J.	R.K.	<div>VERT  A1 / A3 1:100 / 1:200</div> <div>HORIZ  A1 / A3 1:500 / 1:1000</div>	PLAN TITLE ROAD LONGITUDINAL SECTION: ROAD MC01 - SHEET 3									
DESIGN FILE N:\239590\Design\12D\							ALL DIMENSIONS ARE IN METRES. DO NOT SCALE					SURVEYED ADW Johnson	DATUM A.H.D.	PROJECT No. 239590	DISCIPLINE - CENG -	NUMBER 203	REV. A



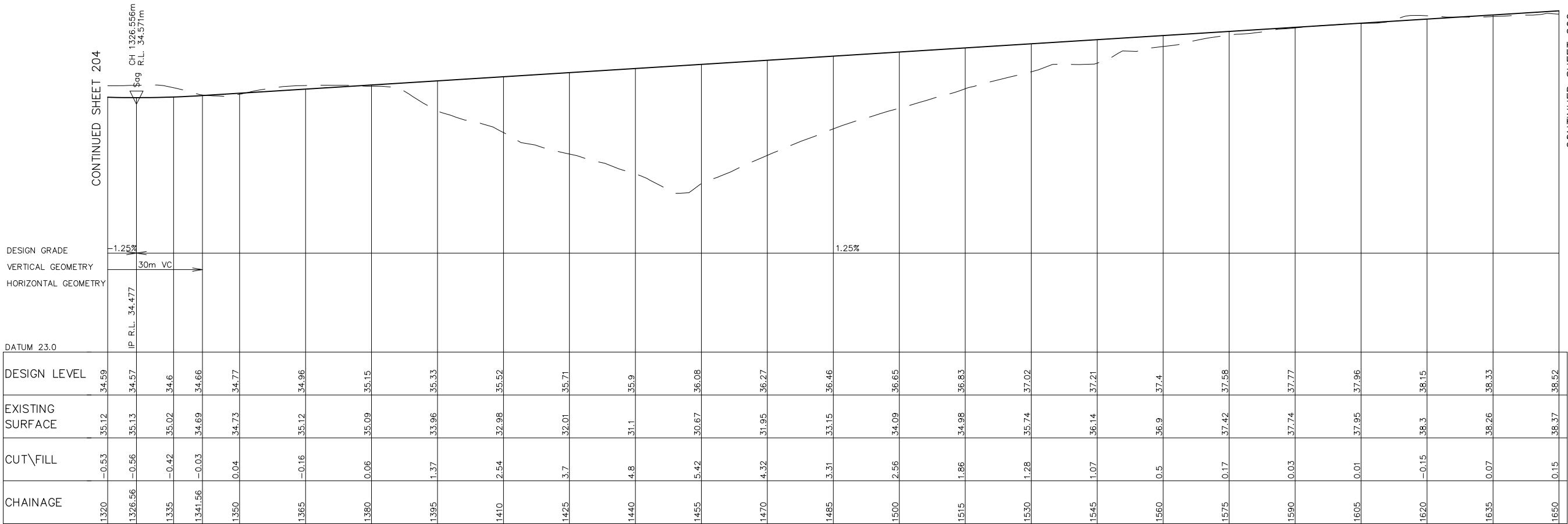


LONGITUDINAL SECTION MC01  
HORIZONTAL SCALE 1:500  
VERTICAL SCALE 1:100

FOR APPROVAL



REV.	DATE	AMENDMENT	DRAWN	CHECK	DESIGN	VERIFY	SCALES	 <div>Hunter Office Unit 7/335 Hillsborough Rd Warners Bay N.S.W. 2282 Phone: (02) 4978 5100 Fax: (02) 4978 5199 email: hunter@adwjohnson.com.au www.adwjohnson.com.au ABN 62 129 445 398</div>	CLIENT  BROADEN MANAGEMENT PTY LTD	PROPERTY DESCRIPTION  BLACK HILL INDUSTRIAL SUBDIVISION PROPOSED SUBDIVISION OF LOT 1 DP 1260203, JOHN RENSHAW DRIVE, BLACK HILL DEVELOPMENT APPLICATION	PROJECT BLACK HILL CENG PLANS			
A	15.10.2021	INITIAL ISSUE	A.M.	R.K.	Z.J.	R.K.	VERT  1:100 / 1:200 HORIZ  1:500 / 1:1000				PLAN TITLE ROAD LONGITUDINAL SECTION: ROAD MC01 - SHEET 4			
DESIGN FILE N:\239590\Design\12D\							ALL DIMENSIONS ARE IN METRES. DO NOT SCALE				SURVEYED ADW Johnson	DATUM A.H.D.	PROJECT No. 239590	DISCIPLINE - CENG



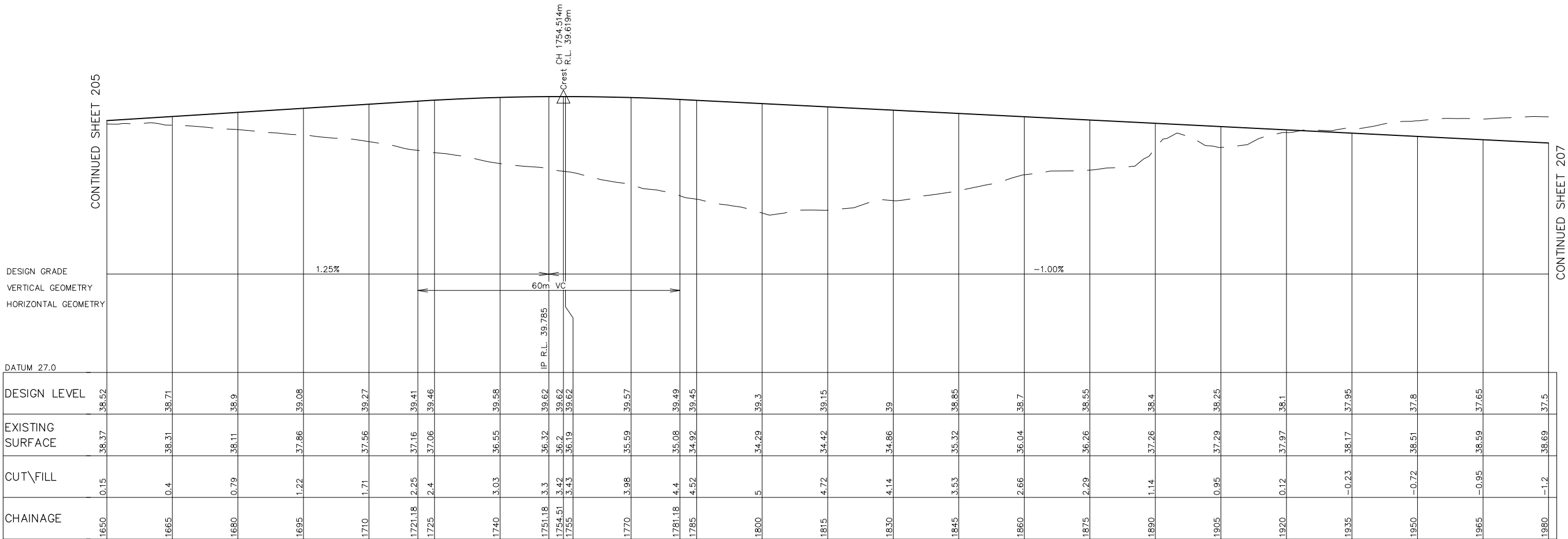


LONGITUDINAL SECTION MC01  
HORIZONTAL SCALE 1:500  
VERTICAL SCALE 1:100

FOR APPROVAL

REV.	DATE	AMENDMENT	DRAWN	CHECK	DESIGN	VERIFY	SCALES		Hunter Office Unit 7/335 Hillsborough Rd Warners Bay N.S.W. 2282 Phone: (02) 4978 5100 Fax: (02) 4978 5199 email: hunter@adwjohnson.com.au www.adwjohnson.com.au ABN 62 129 445 398	CLIENT  BROADEN MANAGEMENT PTY LTD	PROPERTY DESCRIPTION		PROJECT BLACK HILL CENG PLANS			
A	15.10.2021	INITIAL ISSUE	A.M.	R.K.	Z.J.	R.K.	<div>VERT  HORIZ </div>				BLACK HILL INDUSTRIAL SUBDIVISION PROPOSED SUBDIVISION OF LOT 1 DP 1260203, JOHN RENSHAW DRIVE, BLACK HILL DEVELOPMENT APPLICATION		PLAN TITLE ROAD LONGITUDINAL SECTION: ROAD MC01 - SHEET 5			
DESIGN FILE N:\239590\Design\12D\							ALL DIMENSIONS ARE IN METRES. DO NOT SCALE				SURVEYED ADW Johnson	DATUM A.H.D.	PROJECT No. 239590	DISCIPLINE - CENG	NUMBER - 205	REV. A



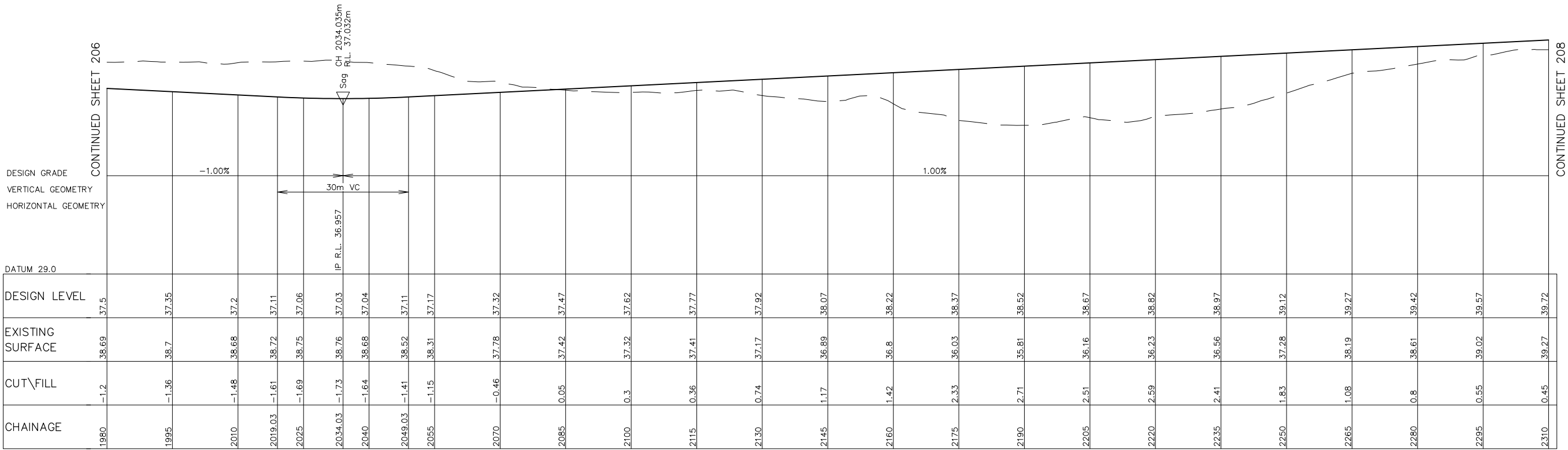


LONGITUDINAL SECTION MC01  
HORIZONTAL SCALE 1:500  
VERTICAL SCALE 1:100

FOR APPROVAL

REV.	DATE	AMENDMENT	DRAWN	CHECK	DESIGN	VERIFY	SCALES		Hunter Office Unit 7/335 Hillsborough Rd Warners Bay N.S.W. 2282 Phone: (02) 4978 5100 Fax: (02) 4978 5199 email: hunter@adwjohnson.com.au www.adwjohnson.com.au ABN 62 129 445 398	CLIENT  BROADEN MANAGEMENT PTY LTD	PROPERTY DESCRIPTION		PROJECT BLACK HILL CENG PLANS			
A	15.10.2021	INITIAL ISSUE	A.M.	R.K.	Z.J.	R.K.	<div><div>VERT</div><div><div>0</div><div>2</div><div>4</div></div><div>A1 / A3 1:100 / 1:200</div></div> <div><div>HORIZ</div><div><div>0</div><div>10</div><div>20</div></div><div>A1 / A3 1:500 / 1:1000</div></div>				BLACK HILL INDUSTRIAL SUBDIVISION PROPOSED SUBDIVISION OF LOT 1 DP 1260203, JOHN RENSHAW DRIVE, BLACK HILL DEVELOPMENT APPLICATION		PLAN TITLE ROAD LONGITUDINAL SECTION: ROAD MC01 - SHEET 6			
DESIGN FILE N:\239590\Design\12D\							ALL DIMENSIONS ARE IN METRES. DO NOT SCALE				SURVEYED ADW Johnson	DATUM A.H.D.	PROJECT No. 239590	DISCIPLINE - CENG -	NUMBER 206	REV. A





LONGITUDINAL SECTION MC01  
HORIZONTAL SCALE 1:500  
VERTICAL SCALE 1:100

FOR APPROVAL

REV.	DATE	AMENDMENT	DRAWN	CHECK	DESIGN	VERIFY	SCALES		Hunter Office Unit 7/335 Hillsborough Rd Warners Bay N.S.W. 2282 Phone: (02) 4978 5100 Fax: (02) 4978 5199 email: hunter@adwjohnson.com.au www.adwjohnson.com.au ABN 62 129 445 398	CLIENT  BROADEN MANAGEMENT PTY LTD	PROPERTY DESCRIPTION		PROJECT BLACK HILL CENG PLANS			
A	15.10.2021	INITIAL ISSUE	A.M.	R.K.	Z.J.	R.K.	<div><div>VERT</div><div><div>0</div><div>2</div><div>4</div></div><div>A1 / A3 1:100 / 1:200</div></div> <div><div>HORIZ</div><div><div>0</div><div>10</div><div>20</div></div><div>A1 / A3 1:500 / 1:1000</div></div>				BLACK HILL INDUSTRIAL SUBDIVISION PROPOSED SUBDIVISION OF LOT 1 DP 1260203, JOHN RENSHAW DRIVE, BLACK HILL DEVELOPMENT APPLICATION		PLAN TITLE  ROAD LONGITUDINAL SECTION: ROAD MC01 - SHEET 7			
DESIGN FILE N:\239590\Design\120\							ALL DIMENSIONS ARE IN METRES. DO NOT SCALE				SURVEYED ADW Johnson	DATUM A.H.D.	PROJECT No. 239590	DISCIPLINE - CENG	NUMBER - 207	REV. A



CONTINUED SHEET 207

DESIGN GRADE  
VERTICAL GEOMETRY  
HORIZONTAL GEOMETRY

DATUM 32.0

DESIGN LEVEL	39.72	39.87	40.02	40.17	40.17
EXISTING SURFACE	39.27	39.65	39.99	40.51	40.53
CUT\FILL	0.45	0.22	0.03	-0.34	-0.36
CHAINAGE	2310	2325	2340	2355	2355.62

## LONGITUDINAL SECTION MC01

HORIZONTAL SCALE 1:500  
VERTICAL SCALE 1:100

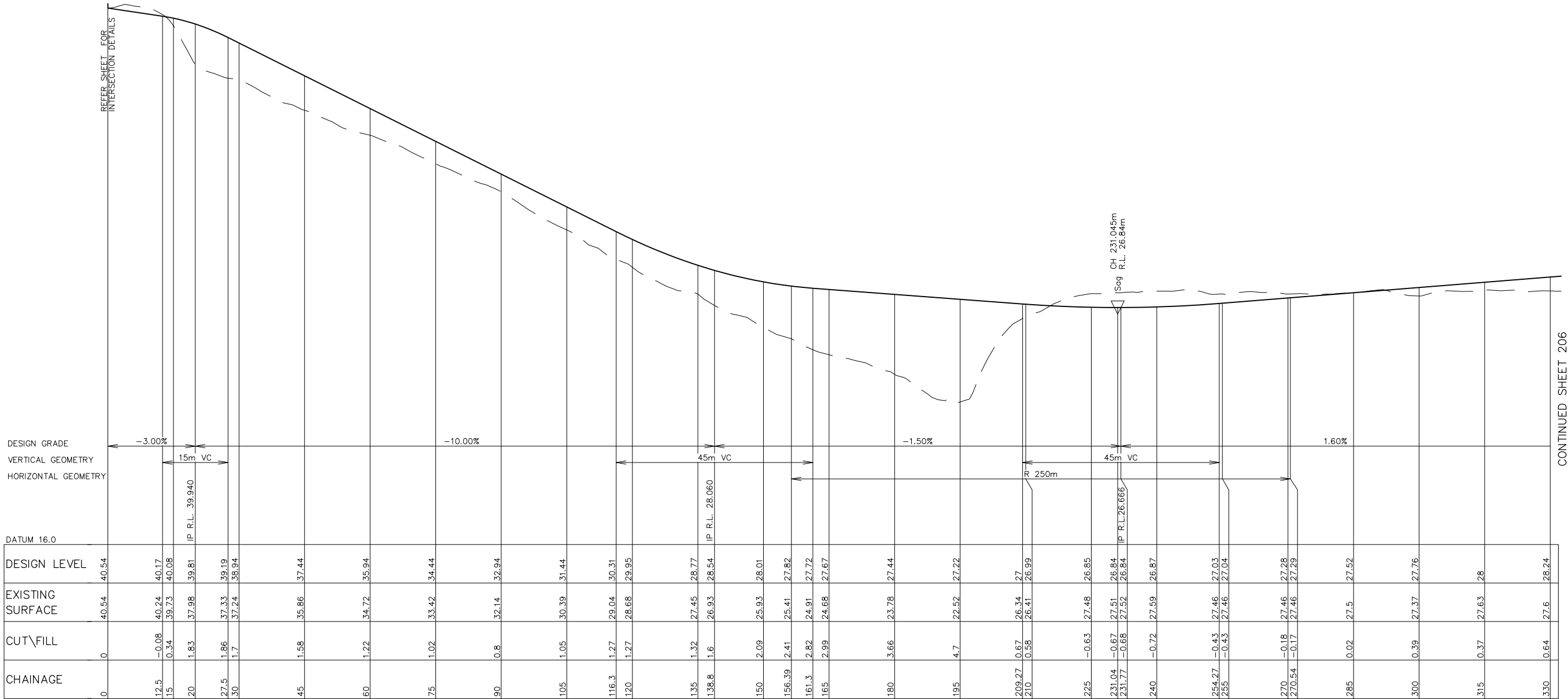
REV.	DATE	AMENDMENT	DRAWN	CHECK	DESIGN	VERIFY	SCALES		Hunter Office Unit 7/335 Hillsborough Rd Warners Bay N.S.W. 2282 Phone: (02) 4978 5100 Fax: (02) 4978 5199 email: hunter@adwjohnson.com.au www.adwjohnson.com.au ABN 62 129 445 398	CLIENT  BROADEN MANAGEMENT PTY LTD	PROPERTY DESCRIPTION  BLACK HILL INDUSTRIAL SUBDIVISION PROPOSED SUBDIVISION OF LOT 1 DP 1260203, JOHN RENSHAW DRIVE, BLACK HILL DEVELOPMENT APPLICATION	PROJECT BLACK HILL CENG PLANS			
A	15.10.2021	INITIAL ISSUE	A.M.	R.K.	Z.J.	R.K.	VERT  A1 / A3 1:100 / 1:200 HORIZ  A1 / A3 1:500 / 1:1000					PLAN TITLE  ROAD LONGITUDINAL SECTION: ROAD MC01 - SHEET 8			
DESIGN FILE N: \\239590\Design\120\							ALL DIMENSIONS ARE IN METRES. DO NOT SCALE					SURVEYED ADW Johnson	DATUM A.H.D.	PROJECT No. 239590	DISCIPLINE - CENG -

FOR APPROVAL



INT. CH. 0m  
JOHN RENSHAW DRIVE CH ?

REFER SHEET FOR  
INTERSECTION DETAILS



CONTINUED SHEET 206

LONGITUDINAL SECTION MC03  
HORIZONTAL SCALE 1:500  
VERTICAL SCALE 1:100

FOR APPROVAL

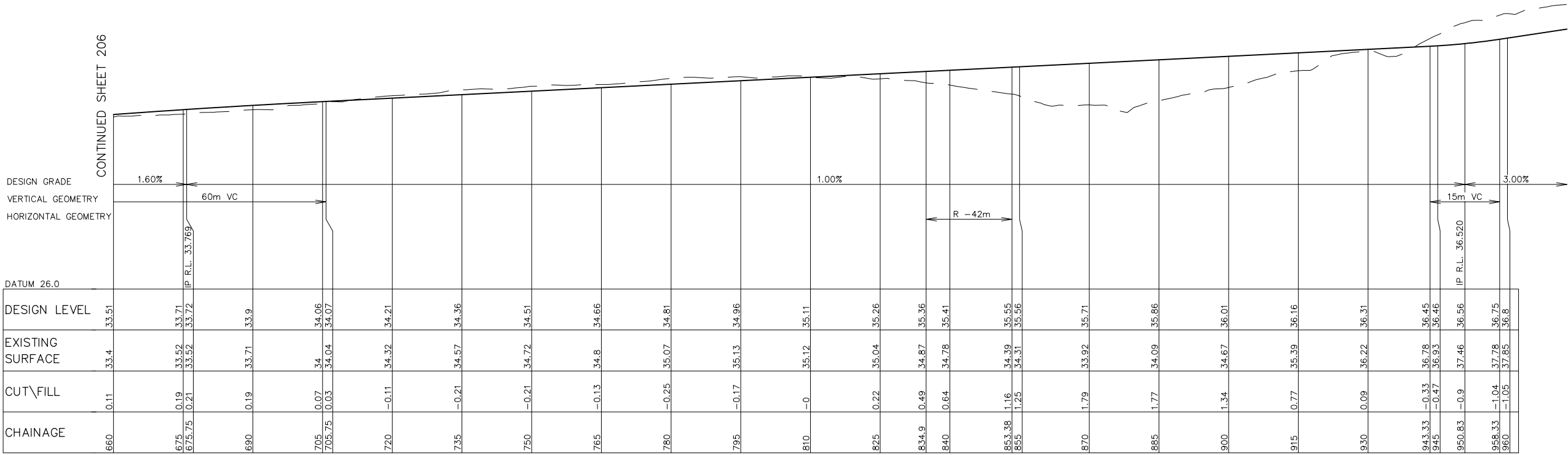
REV.	DATE	AMENDMENT	DRAWN	CHECK	DESIGN	VERIFY	SCALES		Hunter Office Unit 7/335 Hillsborough Rd Warners Bay N.S.W. 2282 Phone: (02) 4978 5100 Fax: (02) 4978 5199 email: hunter@adwjohnson.com.au www.adwjohnson.com.au ABN 62 129 445 398	CLIENT  BROADEN MANAGEMENT PTY LTD	PROPERTY DESCRIPTION		PROJECT BLACK HILL CENG PLANS			
A	15.10.2021	INITIAL ISSUE	A.M.	R.K.	Z.J.	R.K.	VERT 0 2 4 1:100 / 1:200  HORIZ 0 10 20 1:500 / 1:1000				BLACK HILL INDUSTRIAL SUBDIVISION PROPOSED SUBDIVISION OF LOT 1 DP 1260203, JOHN RENSHAW DRIVE, BLACK HILL DEVELOPMENT APPLICATION		PLAN TITLE ROAD LONGITUDINAL SECTION: ROAD MC03 - SHEET 1			
DESIGN FILE N:\239590\Design\120\							ALL DIMENSIONS ARE IN METRES. DO NOT SCALE				SURVEYED ADW Johnson	DATUM A.H.D.	PROJECT No. 239590	DISCIPLINE - CENG	NUMBER - 209	REV. A







REV.	DATE	AMENDMENT	DRAWN	CHECK	DESIGN	VERIFY	SCALES	 <p><b>Hunter Office</b>  Unit 7/335 Hillsborough Rd  Warners Bay N.S.W. 2282  Phone: (02) 4978 5100  Fax: (02) 4978 5199  email: hunter@adwjohnson.com.au  www.adwjohnson.com.au  ABN 62 129 445 398</p>	CLIENT	PROPERTY DESCRIPTION	PROJECT			
A	15.10.2021	INITIAL ISSUE	A.M.	R.K.	Z.J.	R.K.	 				PLAN TITLE	ROAD LONGITUDINAL SECTION: ROAD MC03 - SHEET 2		
DESIGN FILE N:\239590\Design\12D\							ALL DIMENSIONS ARE IN METRES. DO NOT SCALE				SURVEYED ADW Johnson	DATUM A.H.D.	PROJECT No. 239590	DISCIPLINE - CENG



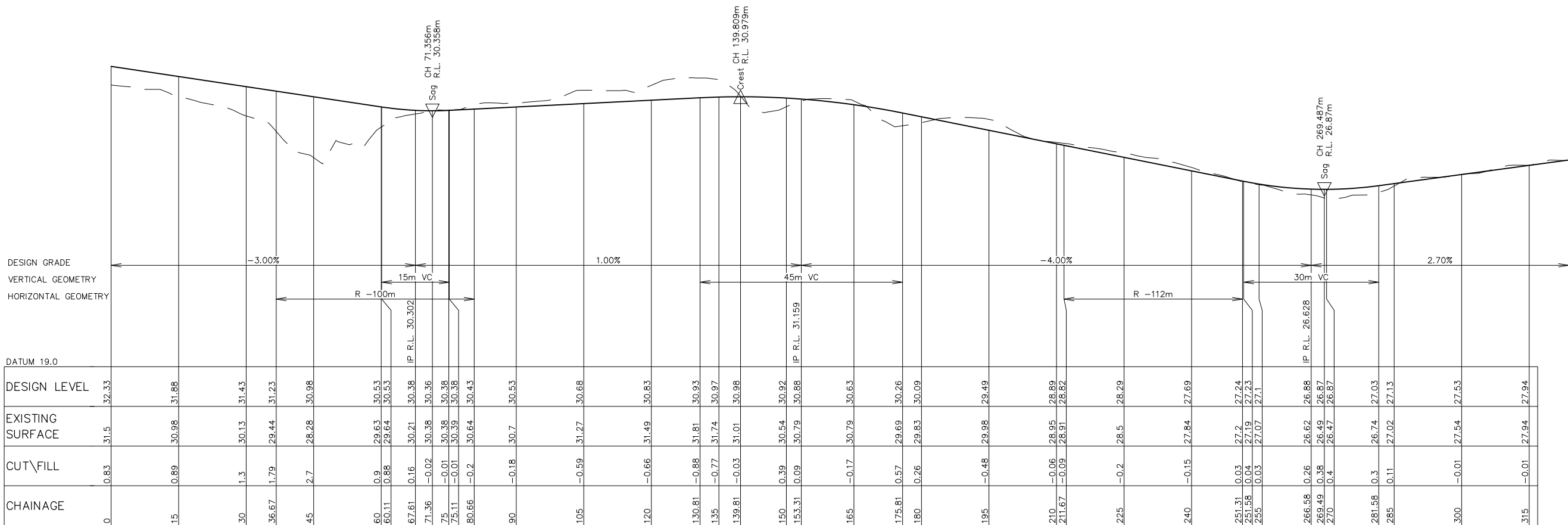


LONGITUDINAL SECTION MC03  
HORIZONTAL SCALE 1:500  
VERTICAL SCALE 1:100

FOR APPROVAL

REV.	DATE	AMENDMENT	DRAWN	CHECK	DESIGN	VERIFY	SCALES		Hunter Office Unit 7/335 Hillsborough Rd Warners Bay N.S.W. 2282 Phone: (02) 4978 5100 Fax: (02) 4978 5199 email: hunter@adwjohnson.com.au www.adwjohnson.com.au ABN 62 129 445 398	CLIENT  BROADEN MANAGEMENT PTY LTD	PROPERTY DESCRIPTION		PROJECT BLACK HILL CENG PLANS			
A	15.10.2021	INITIAL ISSUE	A.M.	R.K.	Z.J.	R.K.	VERT  1:100 / 1:200 HORIZ  1:500 / 1:1000				BLACK HILL INDUSTRIAL SUBDIVISION PROPOSED SUBDIVISION OF LOT 1 DP 1260203, JOHN RENSHAW DRIVE, BLACK HILL DEVELOPMENT APPLICATION		PLAN TITLE ROAD LONGITUDINAL SECTION: ROAD MC03 - SHEET 3			
DESIGN FILE N:\239590\Design\12D\							ALL DIMENSIONS ARE IN METRES. DO NOT SCALE				SURVEYED ADW Johnson	DATUM A.H.D.	PROJECT No. 239590	DISCIPLINE - CENG	NUMBER - 211	REV. A





LONGITUDINAL SECTION MC04  
HORIZONTAL SCALE 1:500  
VERTICAL SCALE 1:100

FOR APPROVAL

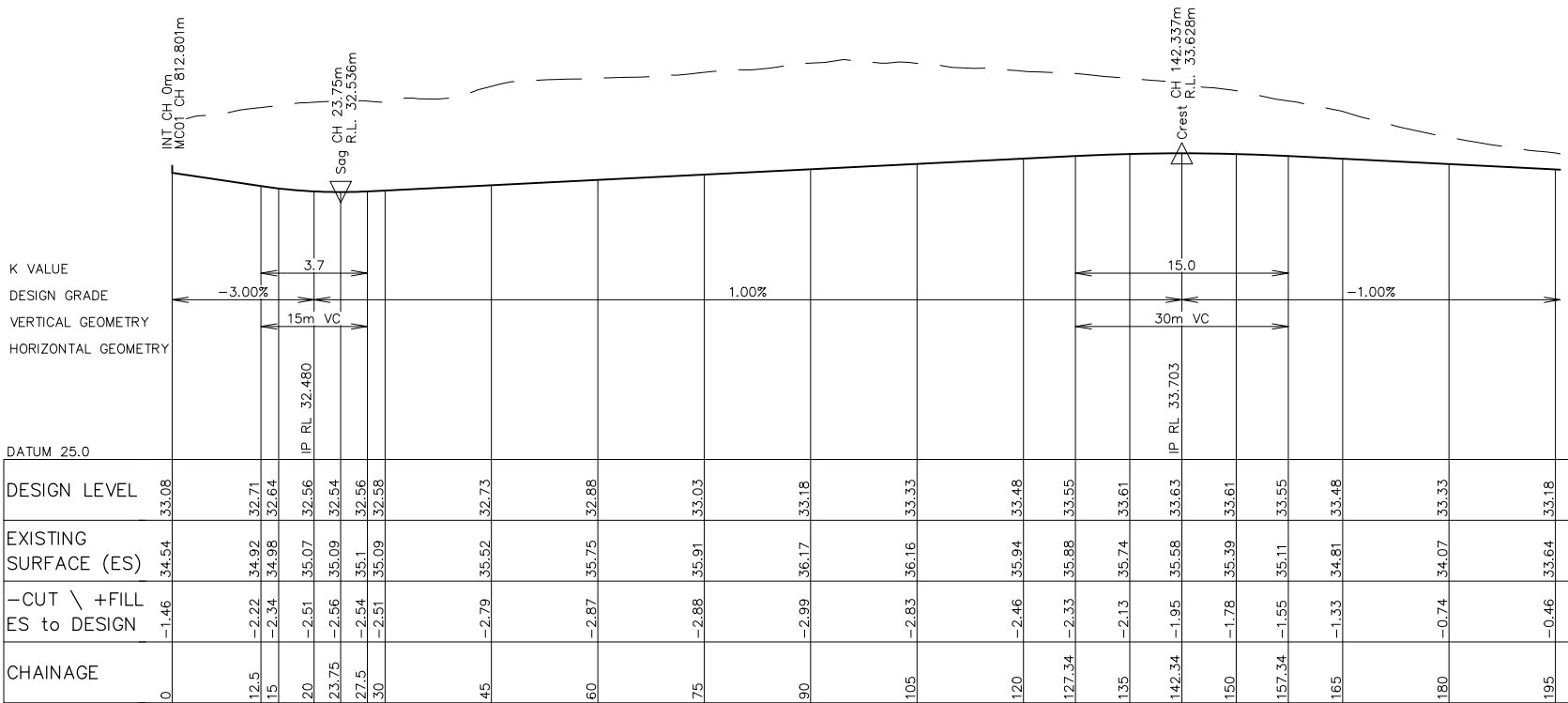
REV.	DATE	AMENDMENT	DRAWN	CHECK	DESIGN	VERIFY	SCALES		Hunter Office Unit 7/335 Hillsborough Rd Warners Bay N.S.W. 2282 Phone: (02) 4978 5100 Fax: (02) 4978 5199 email: hunter@adwjohnson.com.au www.adwjohnson.com.au ABN 62 129 445 398	CLIENT  BROADEN MANAGEMENT PTY LTD	PROPERTY DESCRIPTION  BLACK HILL INDUSTRIAL SUBDIVISION PROPOSED SUBDIVISION OF LOT 1 DP 1260203, JOHN RENSHAW DRIVE, BLACK HILL DEVELOPMENT APPLICATION	PROJECT BLACK HILL CENG PLANS			
A	15.10.2021	INITIAL ISSUE	A.M.	R.K.	Z.J.	R.K.	PLAN TITLE ROAD LONGITUDINAL SECTION: ROAD MC04					PROJECT No. 239590	DISCIPLINE - CENG	NUMBER - 212	REV. A

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ALL DIMENSIONS ARE IN METRES. DO NOT SCALE





LONGITUDINAL SECTION MC05  
HORIZONTAL SCALE 1:500  
VERTICAL SCALE 1:100

FOR APPROVAL

REV.	DATE	AMENDMENT	DRAWN	CHECK	DESIGN	VERIFY	SCALES		Hunter Office Unit 7/335 Hillsborough Rd Warners Bay N.S.W. 2282 Phone: (02) 4978 5100 Fax: (02) 4978 5199 email: hunter@adwjohnson.com.au www.adwjohnson.com.au ABN 62 129 445 398	CLIENT  BROADEN MANAGEMENT PTY LTD	PROPERTY DESCRIPTION  BLACK HILL INDUSTRIAL SUBDIVISION PROPOSED SUBDIVISION OF LOT 1 DP 1260203, JOHN RENSHAW DRIVE, BLACK HILL DEVELOPMENT APPLICATION		PROJECT BLACK HILL CENG PLANS			
A	15.10.2021	INITIAL ISSUE	A.M.	R.K.	Z.J.	R.K.	VERT 0 2 4 1:100 / 1:200 HORIZ 0 10 20 1:500 / 1:1000				PLAN TITLE  ROAD LONGITUDINAL SECTION: ROAD MC05		PROJECT No. 239590	DISCIPLINE - CENG	NUMBER - 213	REV. A

DESIGN FILE N:\239590\Design\120\

ALL DIMENSIONS ARE IN METRES. DO NOT SCALE

Plotted By: anthonym Plot Date: 15/10/21 - 16:19 Cad File: N:\239590\Drawings\Engineering\Civil\CONCEPT\239590(2)-CENG\239590-CENG-213(A).dwg

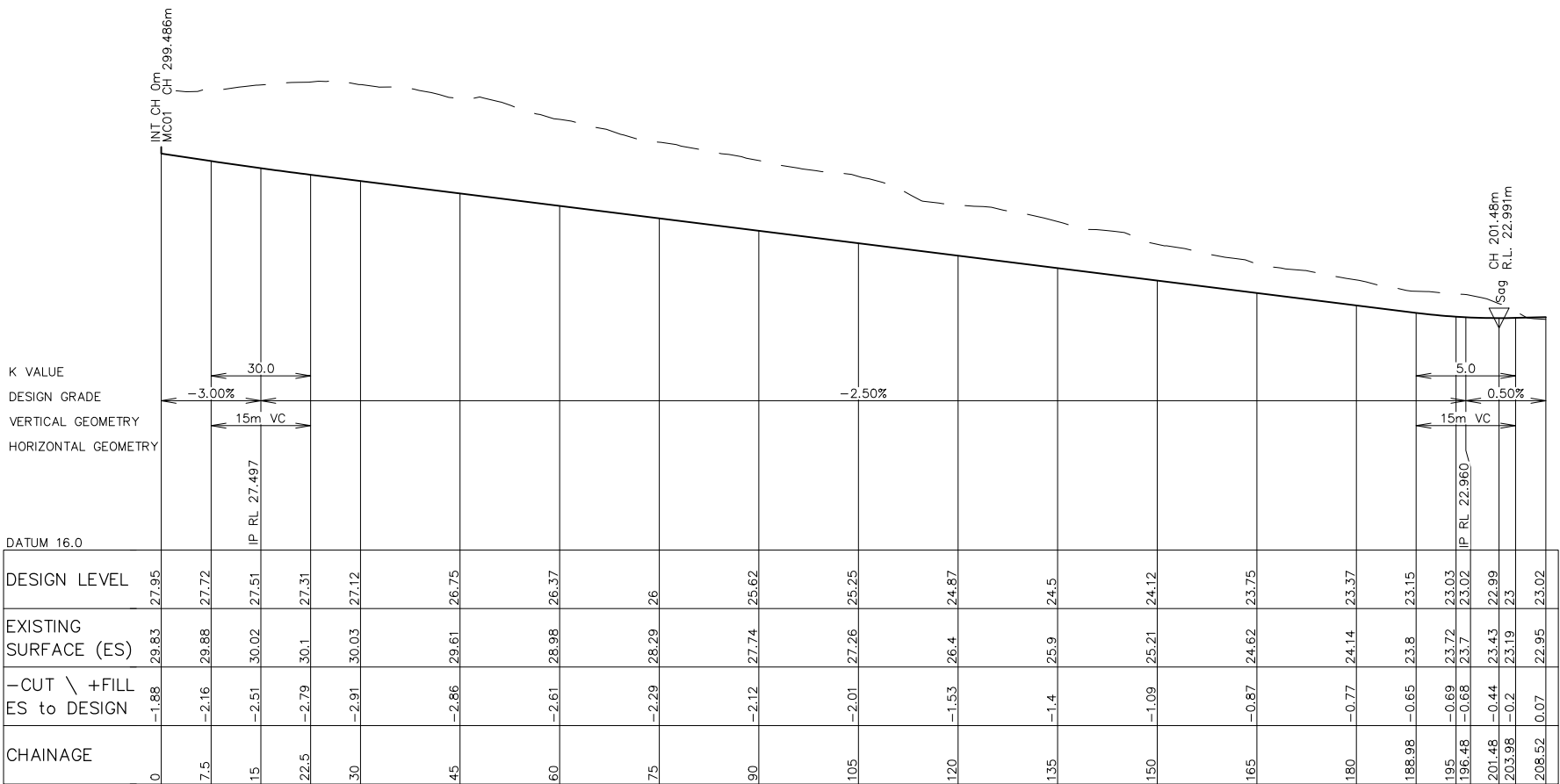




HORIZONTAL SCALE 1:500  
VERTICAL SCALE 1:100

Plotted By: anthonym    Plot Date: 15/10/21 - 16:19    Cad File: N:\239590\Drawings\Engineering\Civil\CONCEPT\239590(2)-CENG\239590-CENG-214(A).dwg



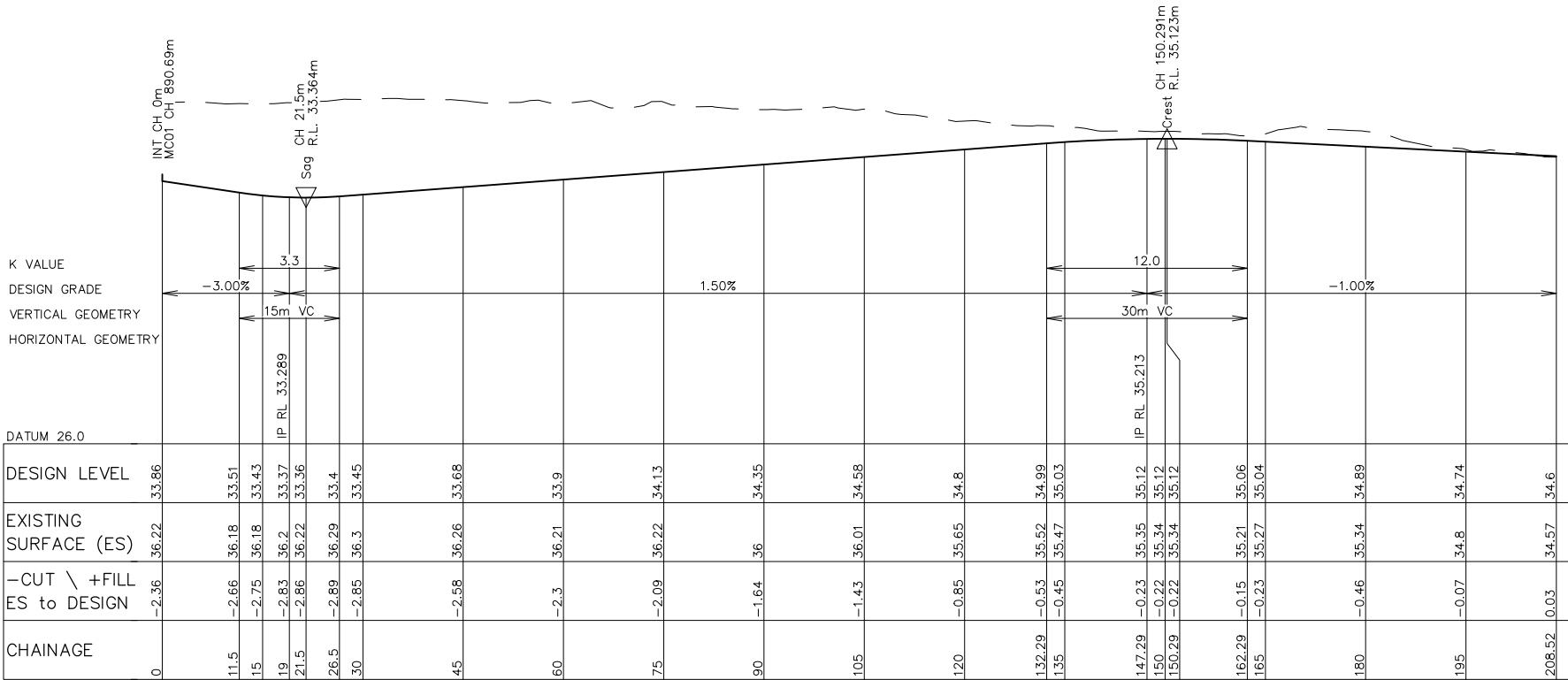


LONGITUDINAL SECTION MC09  
HORIZONTAL SCALE 1:500  
VERTICAL SCALE 1:100

FOR APPROVAL

REV.	DATE	AMENDMENT	DRAWN	CHECK	DESIGN	VERIFY	SCALES		Hunter Office Unit 7/335 Hillsborough Rd Warners Bay N.S.W. 2282 Phone: (02) 4978 5100 Fax: (02) 4978 5199 email: hunter@adwjohnson.com.au www.adwjohnson.com.au ABN 62 129 445 398	CLIENT  BROADEN MANAGEMENT PTY LTD	PROPERTY DESCRIPTION		PROJECT BLACK HILL CENG PLANS					
A	15.10.2021	INITIAL ISSUE		A.M.	R.K.	Z.J.	R.K.				BLACK HILL INDUSTRIAL SUBDIVISION PROPOSED SUBDIVISION OF LOT 1 DP 1260203, JOHN RENSHAW DRIVE, BLACK HILL DEVELOPMENT APPLICATION		PLAN TITLE  ROAD LONGITUDINAL SECTION: ROAD MC09					
							VERT  HORIZ 											
DESIGN FILE N:\239590\Design\12D\							ALL DIMENSIONS ARE IN METRES. DO NOT SCALE				SURVEYED ADW Johnson		DATUM A.H.D.		PROJECT No. 239590	DISCIPLINE - CENG	NUMBER - 215	REV. A





LONGITUDINAL SECTION MC10

HORIZONTAL SCALE 1:500

VERTICAL SCALE 1:100

FOR APPROVAL

REV.	DATE	AMENDMENT	DRAWN	CHECK	DESIGN	VERIFY	SCALES		Hunter Office Unit 7/335 Hillsborough Rd Warners Bay N.S.W. 2282 Phone: (02) 4978 5100 Fax: (02) 4978 5199 email: hunter@adwjohnson.com.au www.adwjohnson.com.au ABN 62 129 445 398	CLIENT  BROADEN MANAGEMENT PTY LTD	PROPERTY DESCRIPTION  BLACK HILL INDUSTRIAL SUBDIVISION PROPOSED SUBDIVISION OF LOT 1 DP 1260203, JOHN RENSHAW DRIVE, BLACK HILL DEVELOPMENT APPLICATION		PROJECT BLACK HILL CENG PLANS			
A	15.10.2021	INITIAL ISSUE	A.M.	R.K.	Z.J.	R.K.	VERT 0 2 4 1:100 / 1:200 HORIZ 0 10 20 1:500 / 1:1000				PLAN TITLE  ROAD LONGITUDINAL SECTION: ROAD MC10		PROJECT No. 239590	DISCIPLINE - CENG	NUMBER - 216	REV. A

DESIGN FILE N:\239590\Design\12D\

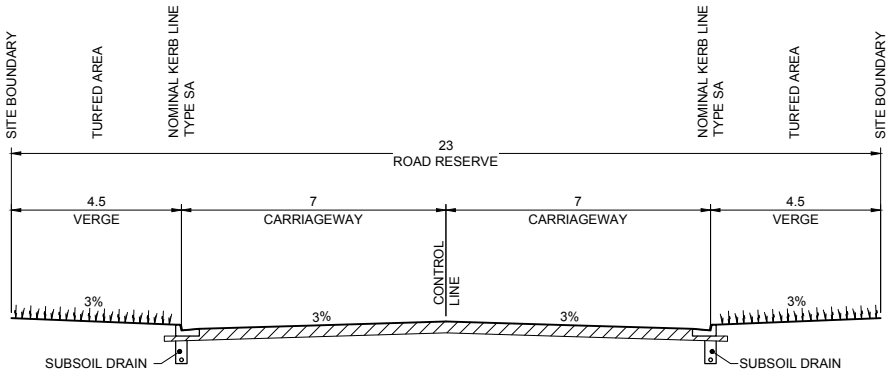
ALL DIMENSIONS ARE IN METRES. DO NOT SCALE

Plotted By: anthonym Plot Date: 15/10/21 - 16:19 Cad File: N:\239590\Drawings\Engineering\Civil\CONCEPT\239590(2)-CENG\239590-CENG-216(A).dwg





239590-CENG-221(A)

100mm AT FULL SIZE

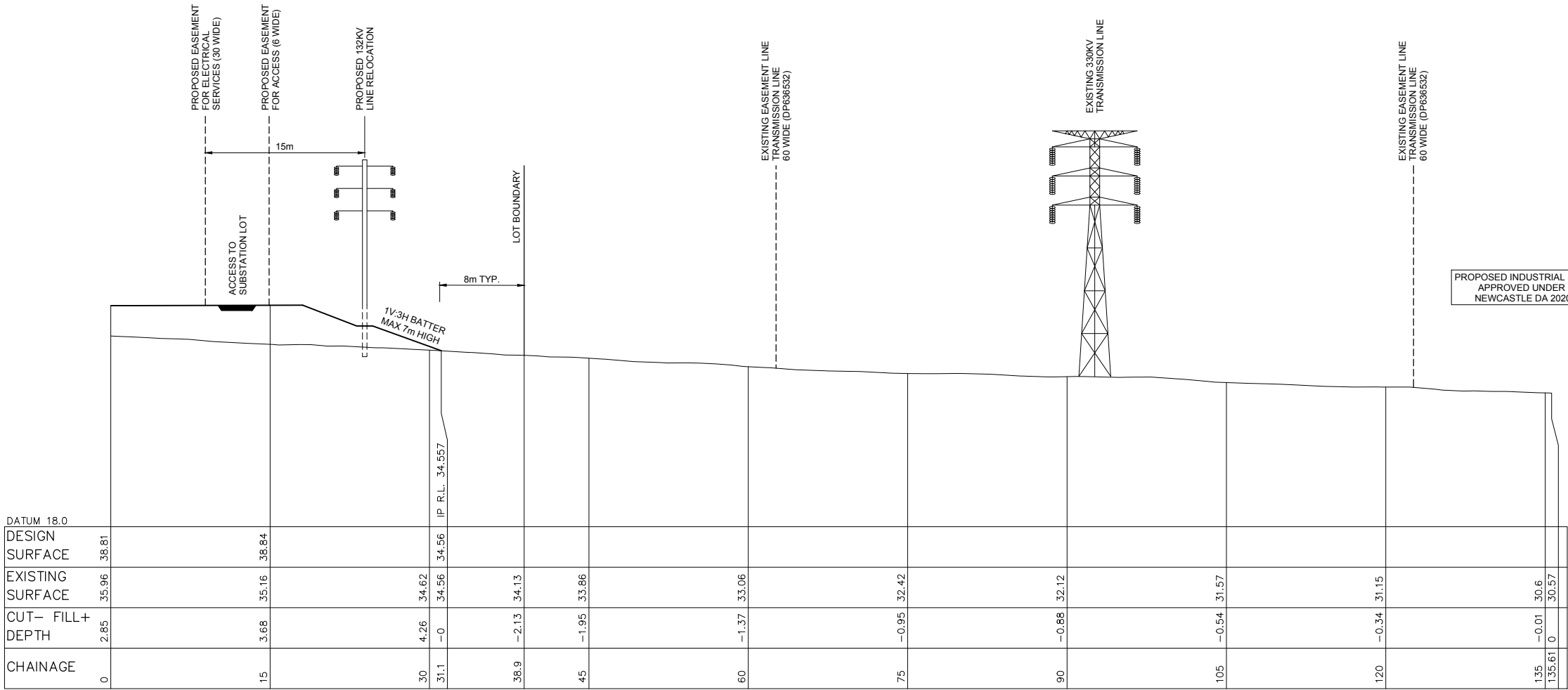


TYPICAL CROSS SECTION ROAD MC01, MC05,  
MC06, MC09, MC10  
SCALE 1:100 NATURAL

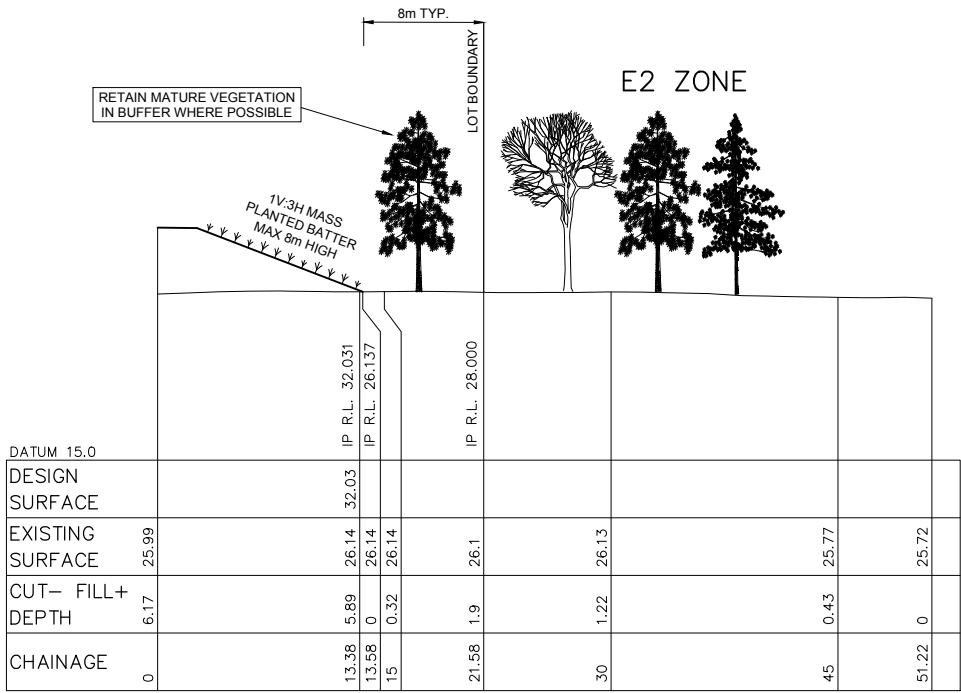
FOR APPROVAL

REV.	DATE	AMENDMENT	DRAWN	CHECK	DESIGN	VERIFY	SCALES		 <div>Hunter Office Unit 7/335 Hillsborough Rd Warners Bay N.S.W. 2282 Phone: (02) 4978 5100 Fax: (02) 4978 5199 email: hunter@adwjohnson.com.au www.adwjohnson.com.au ABN 62 129 445 398</div>	CLIENT	PROPERTY DESCRIPTION		PROJECT			
A	15.10.2021	INITIAL ISSUE	A.M.	R.K.	Z.J.	R.K.	BLACK HILL CENG PLANS									
											BROADEN MANAGEMENT PTY LTD		BLACK HILL INDUSTRIAL SUBDIVISION PROPOSED SUBDIVISION OF LOT 1 DP 1260203, JOHN RENSHAW DRIVE, BLACK HILL DEVELOPMENT APPLICATION		PLAN TITLE	
															TYPICAL CROSS SECTION	
DESIGN FILE N:\239590\Design\12D\							ALL DIMENSIONS ARE IN METRES. DO NOT SCALE		SURVEYED ADW Johnson		DATUM A.H.D.		PROJECT No. 239590	DISCIPLINE - CENG	NUMBER - 221	REV. A

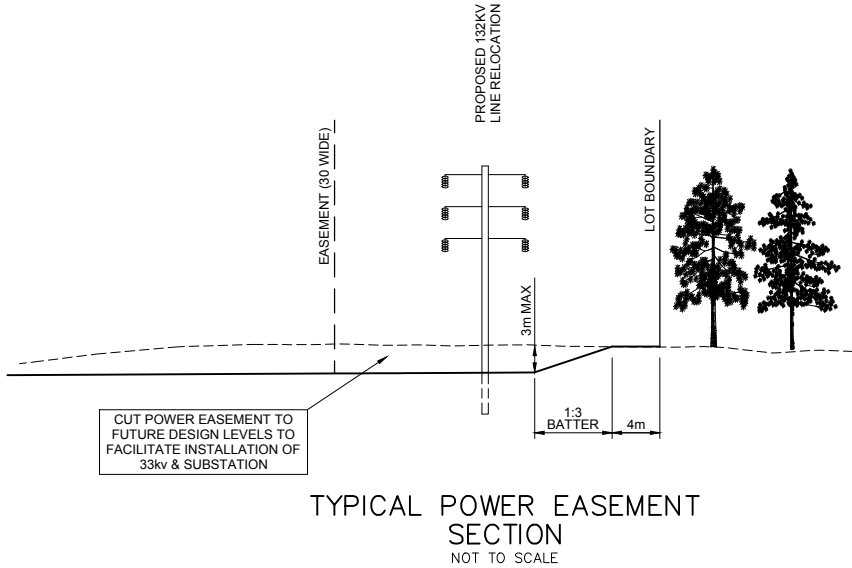




SITE SECTION DETAIL 2  
HORIZONTAL SCALE 1:250  
VERTICAL SCALE 1:250



SITE SECTION DETAIL 1  
HORIZONTAL SCALE 1:250  
VERTICAL SCALE 1:250



TYPICAL POWER EASEMENT SECTION  
NOT TO SCALE

FOR APPROVAL

REV.	DATE	AMENDMENT	DRAWN	CHECK	DESIGN	VERIFY	SCALES	CLIENT	PROPERTY DESCRIPTION	PROJECT
A	15.10.2021	INITIAL ISSUE	A.M.	R.K.	Z.J.	R.K.		BROADEN MANAGEMENT PTY LTD	BLACK HILL INDUSTRIAL SUBDIVISION PROPOSED SUBDIVISION OF LOT 1 DP 1260203, JOHN RENSHAW DRIVE, BLACK HILL DEVELOPMENT APPLICATION	BLACK HILL CENG PLANS
										PLAN TITLE
										SITE SECTIONS
DESIGN FILE N:\239590\Design\120\			ALL DIMENSIONS ARE IN METRES. DO NOT SCALE					SURVEYED	DATUM	PROJECT No.
Plotted By: anthonym			Plot Date: 15/10/21 - 16:19			Cod File: N:\239590\Drawings\Engineering\Civil\CONCEPT\239590(2)-CENG\239590-CENG-222(A).dwg		ADW Johnson	A.H.D.	239590
										DISCIPLINE
										CENG
										NUMBER
										222
										REV.
										A