



REFER TO ROADWORKS &
DRAINAGE PLAN - SHEET D07
FOR DETAILS

EVANS HEAD
INDUSTRIAL ESTATE

REFER TO ROADWORKS &
DRAINAGE PLAN - SHEET D06
FOR DETAILS

EVANS HEAD
INDUSTRIAL ESTATE

REFER TO ROADWORKS &
DRAINAGE PLAN - SHEET D05
FOR DETAILS



WOODBURN-EVANS HEAD ROAD

EXISTING
RESIDENTIAL
ESTATE

EXISTING
RESIDENTIAL
ESTATE

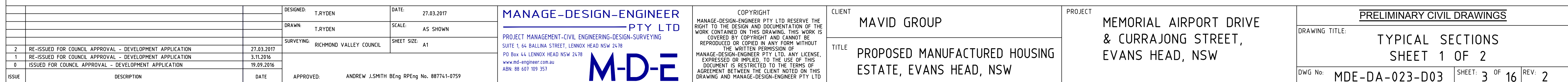
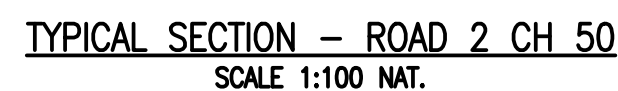
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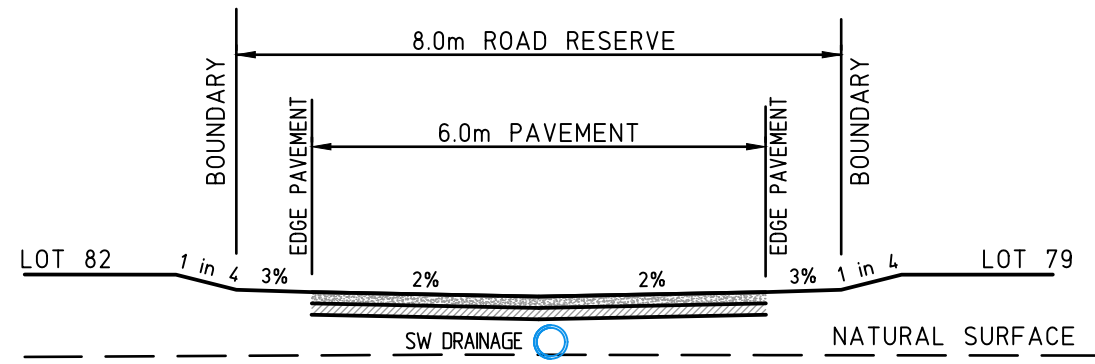
-  SITE BOUNDARY - MODULAR HOUSING ESTATE
 CADASTRAL PROPERTY BOUNDARY
 NATURAL SURFACE CONTOURS 0.2m INTERVAL
 PROPOSED CONCRETE PAVEMENT
 PROPOSED EARTH MOUND SOUND BARRIER
 PROPOSED DETENTION BASINS
 PROPOSED MHE ALLOTMENT
 PROPOSED COMMUNITY LAWN

Horizontal Scale 1:1000 (A1)
1:2000 (A3)

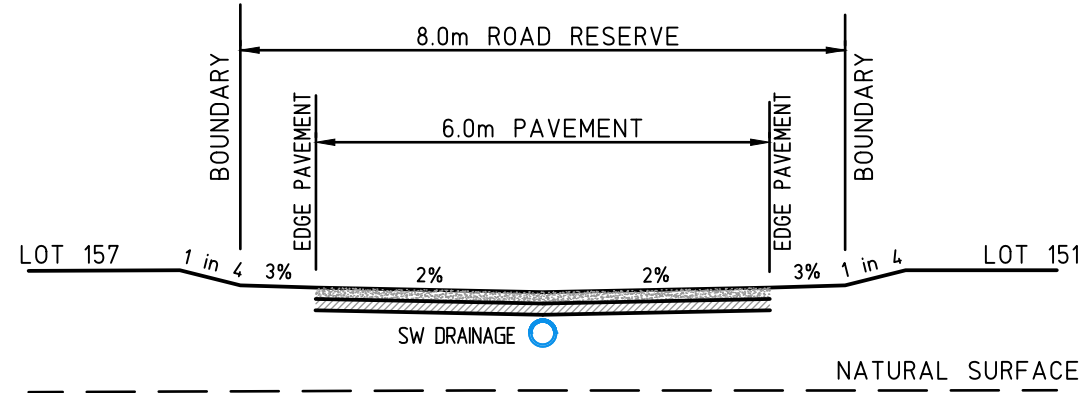
SITE PLAN
SCALE 1:1000

		DESIGNED: T.RYDEN	DATE: 27.03.2017	MANAGE-DESIGN-ENGINEER PTY LTD PROJECT MANAGEMENT-CIVIL, ENGINEERING-DESIGN-SURVEYING SUITE 1, 64 BALLINA STREET, LENNOX HEAD NSW 2478 PO Box 44 LENNOX HEAD NSW 2478 www.md-engineer.com.au ASDL 88 647 109 327 M-D-E	COPYRIGHT MANAGE-DESIGN-ENGINEER PTY LTD RESERVE THE RIGHT TO THE DESIGN AND DOCUMENTATION OF THE WORK CONTAINED ON THIS DRAWING. THIS WORK IS COVERED BY COPYRIGHT AND CANNOT BE REPRODUCED OR COPIED IN ANY FORM WITHOUT THE WRITTEN PERMISSION OF MANAGE-DESIGN-ENGINEER PTY LTD. ANY LICENSE, EXPRESSED OR IMPLIED, TO THE USE OF THIS DOCUMENT IS RESTRICTED TO THE TERMS OF AGREEMENT BETWEEN THE CLIENT AND THIS DRAWING AND MANAGE-DESIGN-ENGINEER PTY LTD	CLIENT	PROJECT	PRELIMINARY CIVIL DRAWINGS DRAWING TITLE: SITE PLAN DWG No: MDE-DA-023-D02 SHEET: 2 OF 16 REV: 2	
		DRAWN: T.RYDEN	SCALE: AS SHOWN			TITLE	MAVID GROUP		MEMORIAL AIRPORT DRIVE CURRAJONG STREET, EVANS HEAD, NSW
		SURVEYING: RICHMOND VALLEY COUNCIL	SHEET SIZE: A1				PROPOSED MANUFACTURED HOUSING ESTATE, EVANS HEAD, NSW		
2	RE-ISSUED FOR COUNCIL APPROVAL - DEVELOPMENT APPLICATION	27.03.2017							
0	ISSUED FOR COUNCIL APPROVAL - DEVELOPMENT APPLICATION	19.09.2016							
ISSUE	DESCRIPTION	DATE	APPROVED: ANDREW J.SMITH BEng RPEng No. 887741-0759						

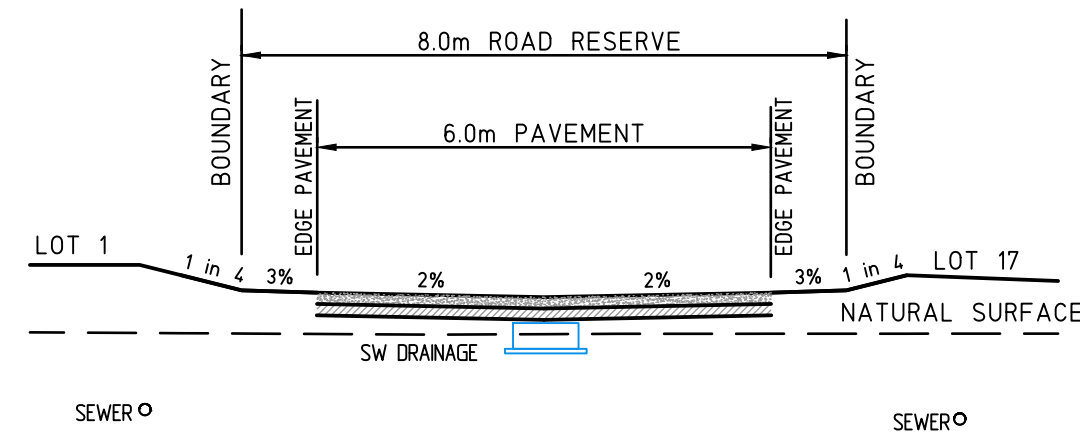




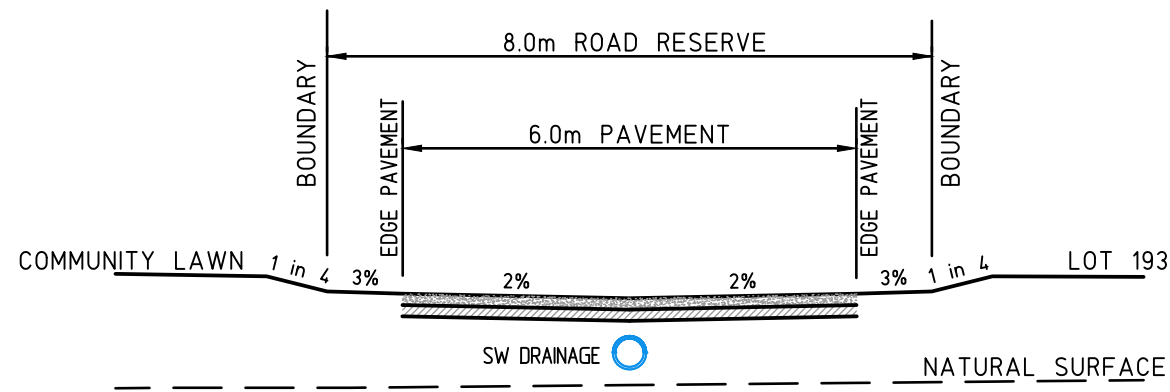
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SCALE 1:100 NAT.



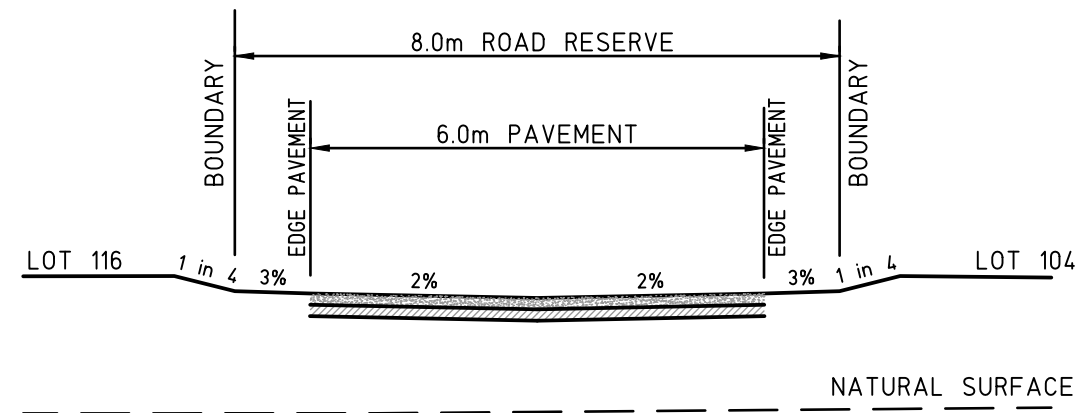
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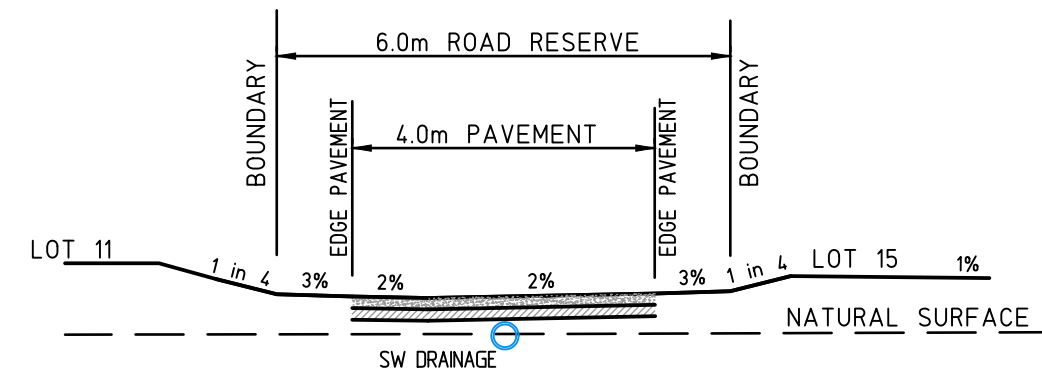
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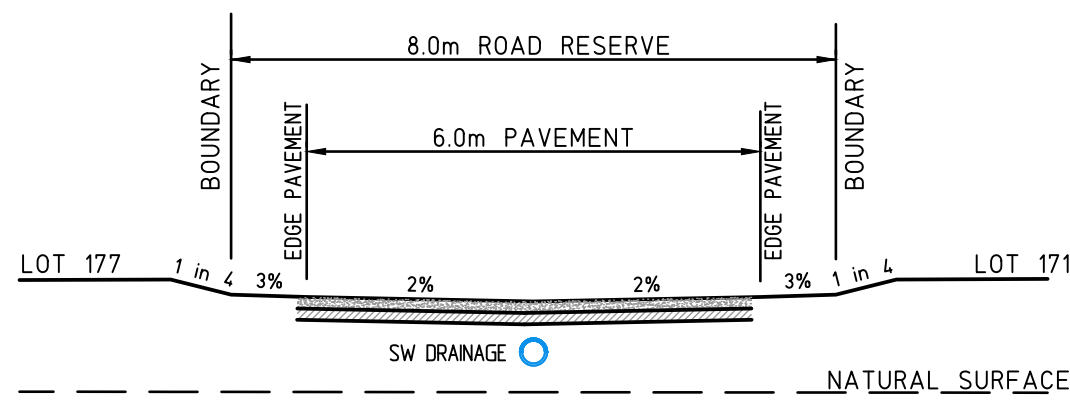
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SCALE 1:100 NAT.



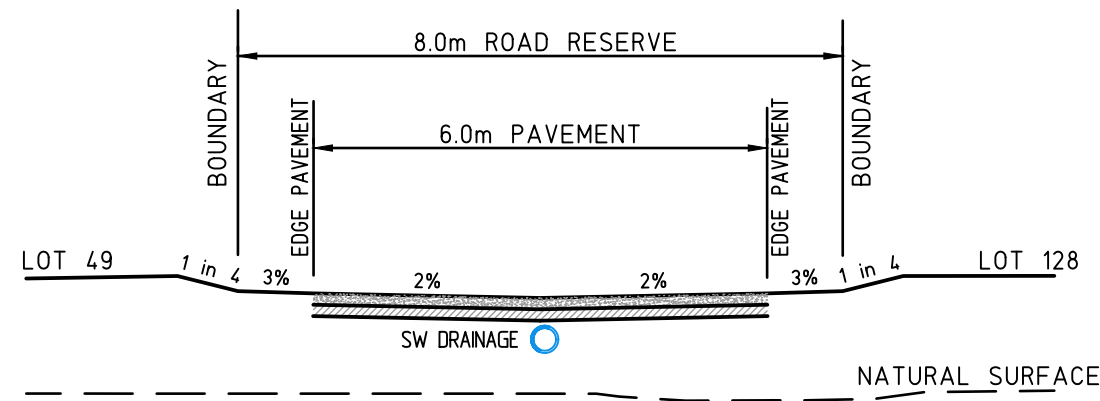
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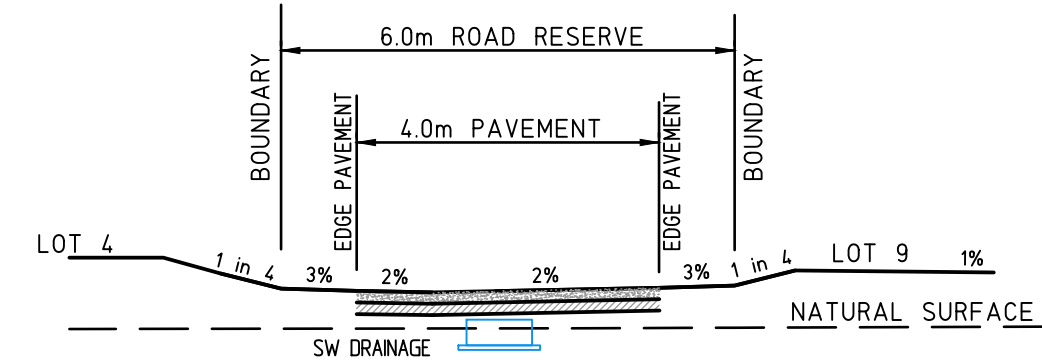
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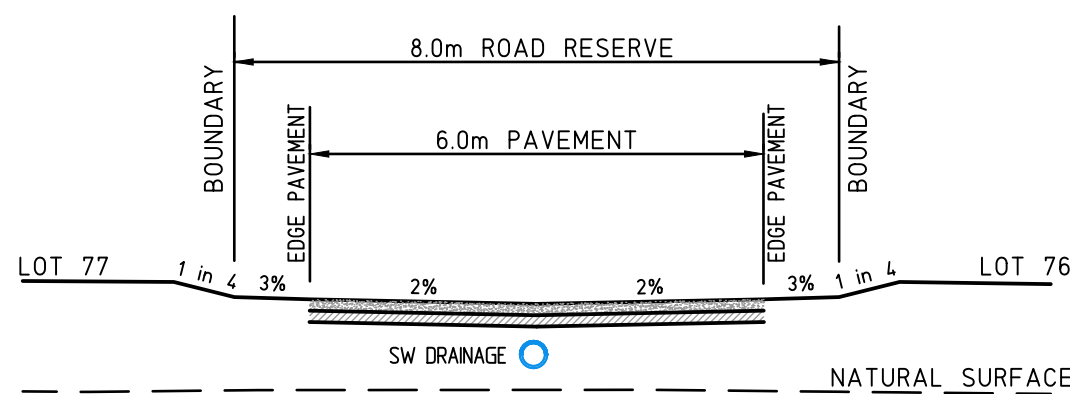
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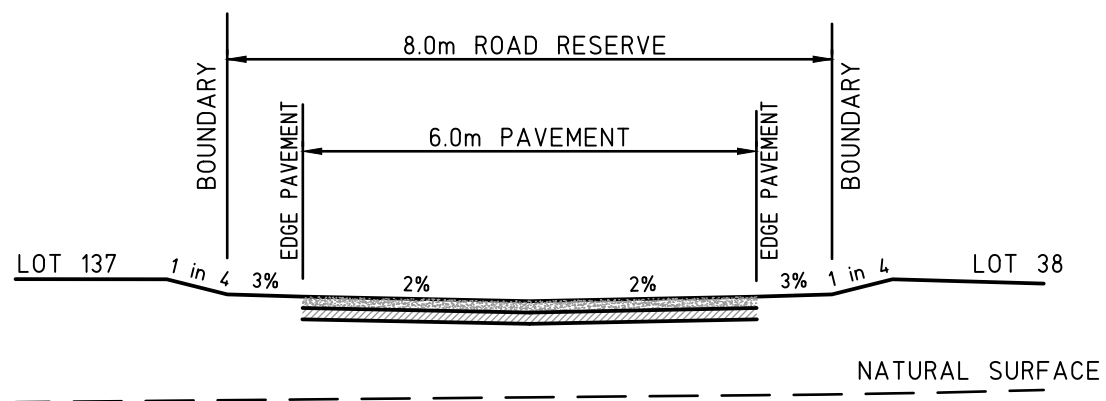
TYPICAL SECTION - ROAD 9 CH 60
SCALE 1:100 NAT.



TYPICAL SECTION - ROAD 13 CH 20
SCALE 1:100 NAT.



TYPICAL SECTION - ROAD 6 CH 20
SCALE 1:100 NAT.

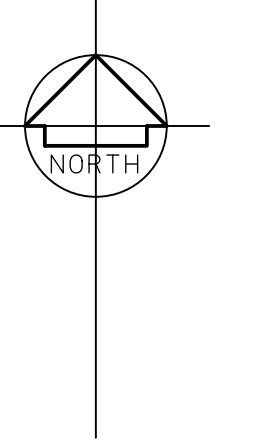


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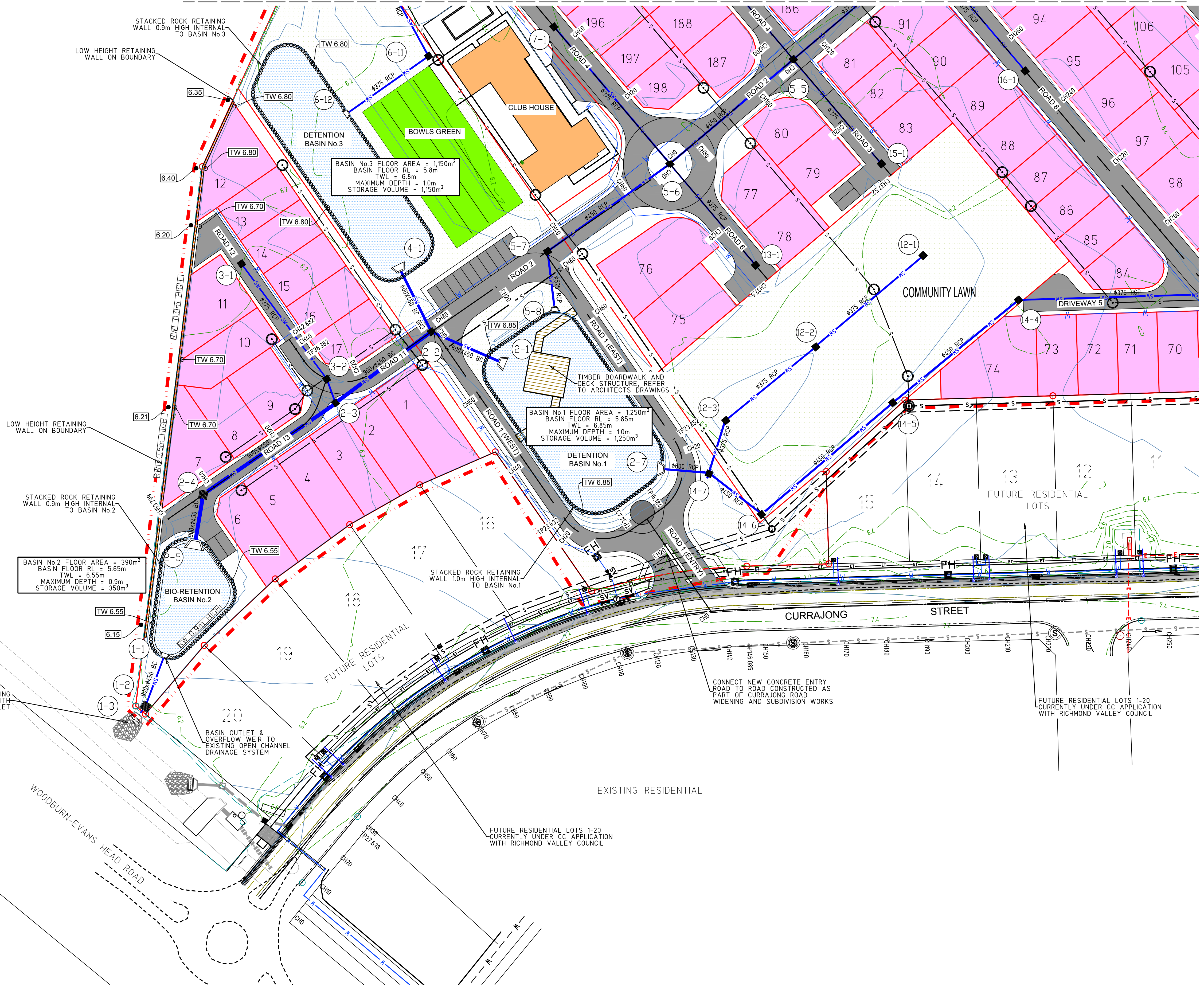
Horizontal Scale 1:100 (A1)
1:200 (A3)

		DESIGNED: T.RYDEN	DATE: 27.03.2017	MANAGE-DESIGN-ENGINEER PTY LTD PROJECT MANAGEMENT-CIVIL ENGINEERING-DESIGN-SURVEYING SUITE 1, 64 BALLINA STREET, LENNOX HEAD NSW 2478 PO Box 44 LENNOX HEAD NSW 2478 www.md-engineer.com.au ABN 88 607 109 357 M-D-E	COPYRIGHT	CLIENT	PROJECT	PRELIMINARY CIVIL DRAWINGS			
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		SURVEYING: RICHMOND VALLEY COUNCIL	SHEET SIZE: A1			TITLE	PROPOSED MANUFACTURED HOUSING ESTATE, EVANS HEAD, NSW				
2	RE-ISSUED FOR COUNCIL APPROVAL - DEVELOPMENT APPLICATION	27.03.2017									
1	RE-ISSUED FOR COUNCIL APPROVAL - DEVELOPMENT APPLICATION	3.11.2016									
0	ISSUED FOR COUNCIL APPROVAL - DEVELOPMENT APPLICATION	19.09.2016									
ISSUE	DESCRIPTION	DATE	APPROVED: ANDREW J.SMITH BEng RPEng No. 887741-0759								
					DWG No: MDE-DA-023-D04 SHEET: 4 OF 16 REV: 2						

REFER TO SHEET D07 FOR CONTINUATION



REFER TO SHEET D06 FOR CONTINUATION



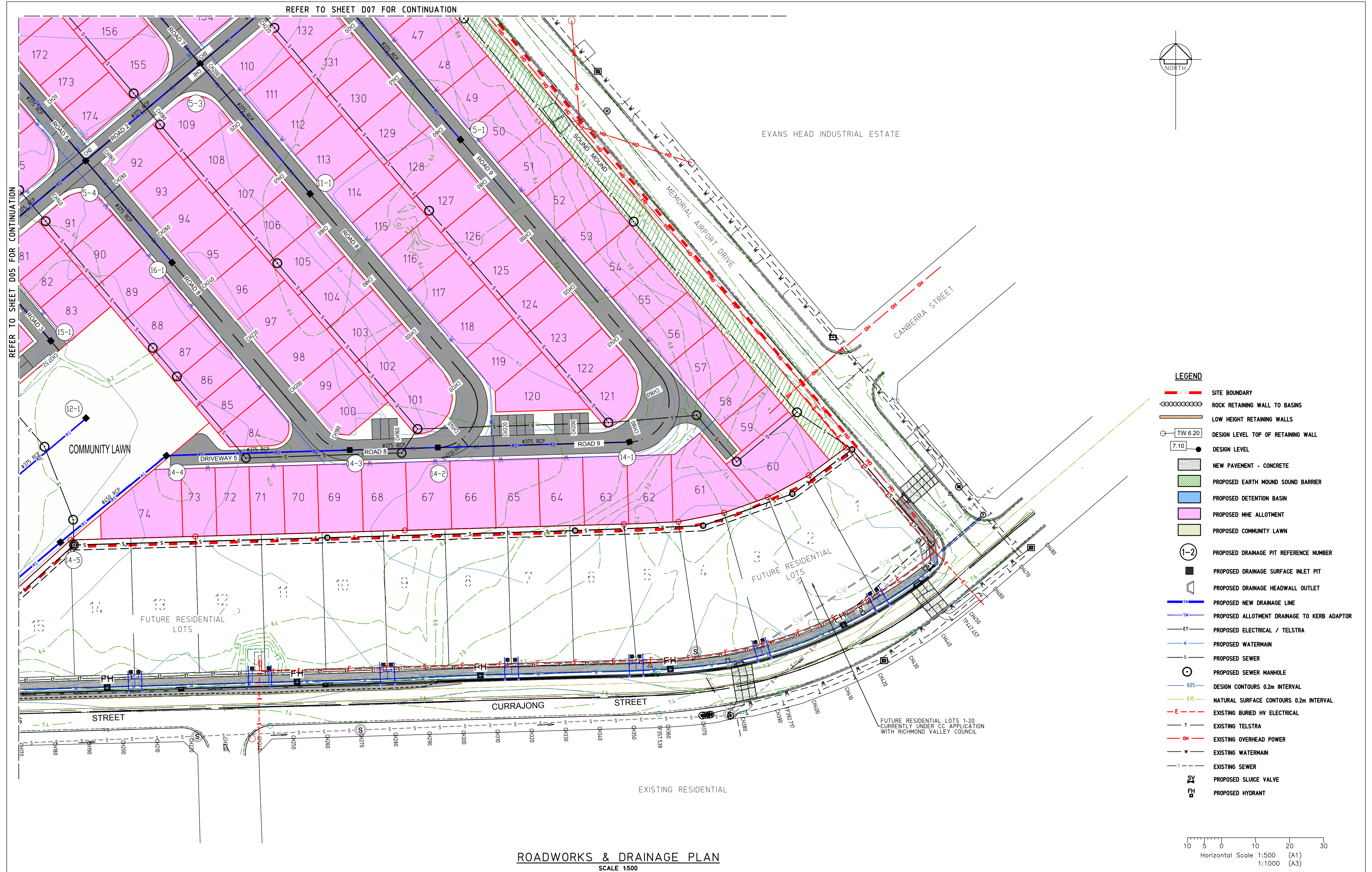
LEGEND

- SITE BOUNDARY
- ROCK RETAINING WALL TO BASINS
- LOW HEIGHT RETAINING WALLS
- DESIGN LEVEL TOP OF RETAINING WALL
- DESIGN LEVEL
- NEW PAVEMENT - CONCRETE
- PROPOSED EARTH MOUND SOUND BARRIER
- PROPOSED DETENTION BASIN
- PROPOSED MHE ALLOTMENT
- PROPOSED COMMUNITY LAWN
- PROPOSED DRAINAGE PIT REFERENCE NUMBER
- PROPOSED DRAINAGE SURFACE INLET PIT
- PROPOSED DRAINAGE HEADWALL OUTLET
- PROPOSED NEW DRAINAGE LINE
- PROPOSED ALLOTMENT DRAINAGE TO KERB ADAPTOR
- PROPOSED ELECTRICAL / TELSTRA
- PROPOSED WATERMAIN
- PROPOSED SEWER
- PROPOSED SEWER MANHOLE
- DESIGN CONTOURS 0.2m INTERVAL
- NATURAL SURFACE CONTOURS 0.2m INTERVAL
- EXISTING BURIED HV ELECTRICAL
- EXISTING TELSTRA
- EXISTING OVERHEAD POWER
- EXISTING WATERMAIN
- EXISTING SEWER
- PROPOSED SLUICE VALVE
- PROPOSED HYDRANT

Horizontal Scale 1:500 (A1)
1:1000 (A3)

ROADWORKS & DRAINAGE PLAN
SCALE 1:500

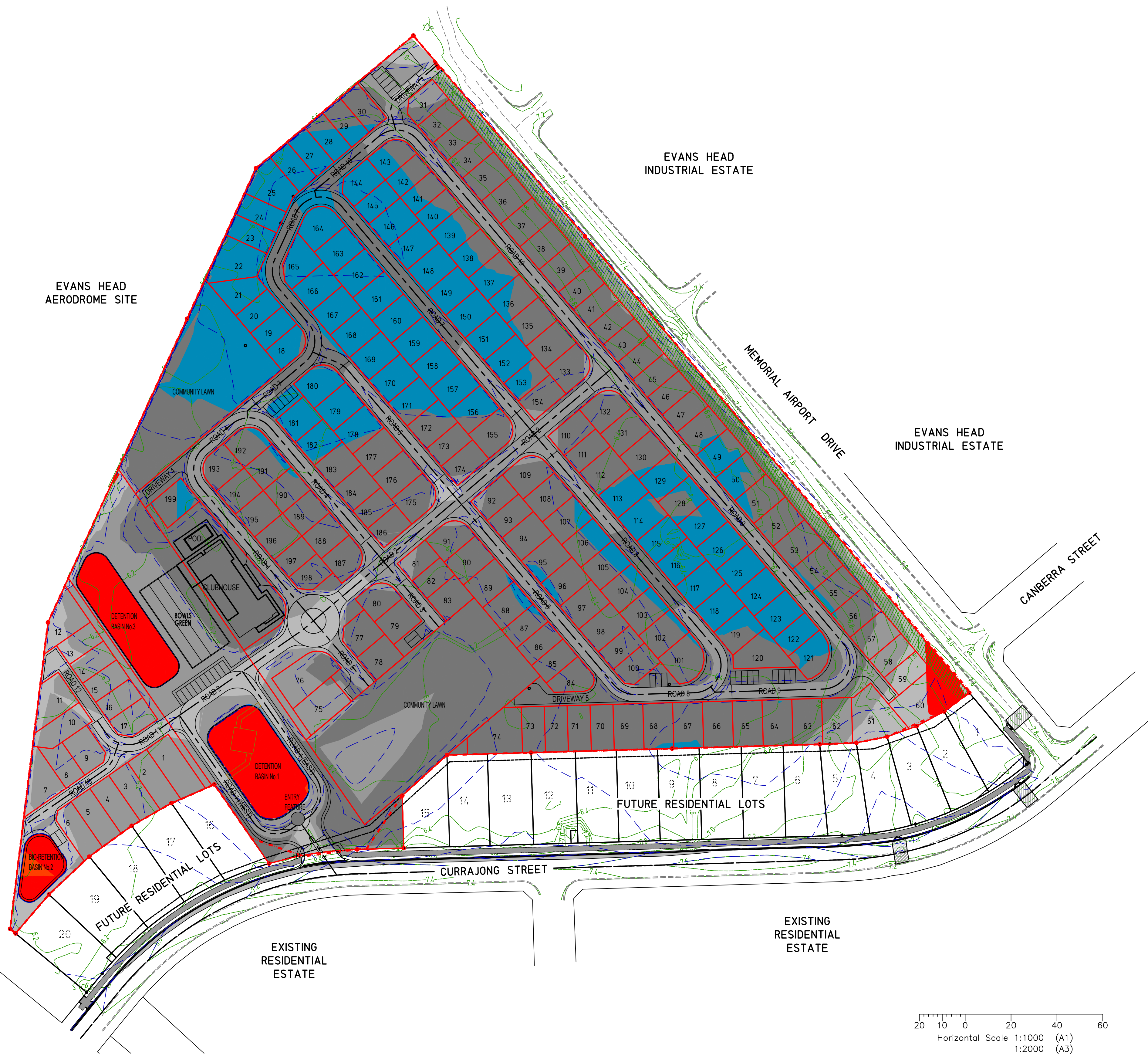
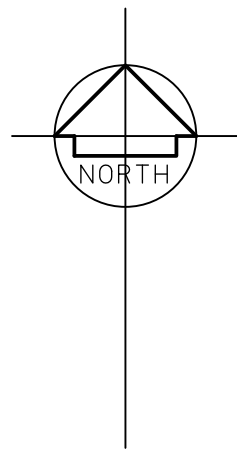
DESIGNED: T.RYDEN		DATE: 27.03.2017		MANAGE-DESIGN-ENGINEER PTY LTD		CLIENT: MAVID GROUP		PROJECT: MEMORIAL AIRPORT DRIVE & CURRAJONG STREET, EVANS HEAD, NSW		DRAWING TITLE: ROADWORKS & DRAINAGE PLAN SHEET 1 OF 3	
DRAWN: T.RYDEN		SCALE: AS SHOWN		PROJECT MANAGEMENT-CIVIL ENGINEERING-DESIGN-SURVEYING		TITLE: PROPOSED MANUFACTURED HOUSING ESTATE, EVANS HEAD, NSW		DWG No: MDE-DA-023-D05		SHEET: 5 OF 16	
SURVEYING: RICHMOND VALLEY COUNCIL		SHEET SIZE: A1		SUITE 1, 64 BALLINA STREET, LENNOX HEAD NSW 2478		COPYRIGHT: MANAGE-DESIGN-ENGINEER PTY LTD RESERVE THE RIGHT TO THE DESIGN AND DOCUMENTATION OF THE WORK CONTAINED ON THIS DRAWING. THIS WORK IS COVERED BY COPYRIGHT AND CANNOT BE REPRODUCED OR COPIED IN ANY FORM WITHOUT THE WRITTEN PERMISSION OF MANAGE-DESIGN-ENGINEER PTY LTD. ANY LICENSE, EXPRESSED OR IMPLIED, TO THE USE OF THIS DOCUMENT IS RESTRICTED TO THE TERMS OF AGREEMENT BETWEEN THE CLIENT NOTED ON THIS DRAWING AND MANAGE-DESIGN-ENGINEER PTY LTD		REV: 2			
ISSUE: 2		RE-ISSUED FOR COUNCIL APPROVAL - DEVELOPMENT APPLICATION		27.03.2017		M-D-E					
ISSUE: 1		RE-ISSUED FOR COUNCIL APPROVAL - DEVELOPMENT APPLICATION		3.11.2016							
ISSUE: 0		ISSUED FOR COUNCIL APPROVAL - DEVELOPMENT APPLICATION		19.09.2016							
APPROVED: ANDREW J.SMITH BEng RPEng No. 887741-0759		DATE:									



		DESIGNED: T.RYDEN		DATE: 27.03.2017		MANAGE-DESIGN-ENGINEER PTY LTD PROJECT MANAGEMENT-CIVIL ENGINEERING-DESIGN-SURVEYING SUITE 1, 64 BALLINA STREET, LENNOX HEAD NSW 2478 PO Box 44, LENNOX HEAD NSW 2478 www.md-engineer.com.au ABN: 88 607 109 357 M-D-E	COPYRIGHT MANAGE-DESIGN-ENGINEER PTY LTD RESERVE THE RIGHT TO THE DESIGN AND DOCUMENTATION OF THE WORK CONTAINED ON THIS DRAWING. THIS WORK IS COVERED BY COPYRIGHT AND CANNOT BE REPRODUCED OR COPIED IN ANY FORM WITHOUT THE WRITTEN PERMISSION OF MANAGE-DESIGN-ENGINEER PTY LTD. ANY LICENSE, EXPRESSED OR IMPLIED, TO THE USE OF THIS DOCUMENT IS RESTRICTED TO THE TERMS OF AGREEMENT BETWEEN THE CLIENT NOTED ON THIS DRAWING AND MANAGE-DESIGN-ENGINEER PTY LTD	CLIENT		MAVID GROUP		PROJECT		MEMORIAL AIRPORT DRIVE & CURRAJONG STREET, EVANS HEAD, NSW		PRELIMINARY CIVIL DRAWINGS	
		DRAWN: T.RYDEN		SCALE: AS SHOWN				TITLE		PROPOSED MANUFACTURED HOUSING ESTATE, EVANS HEAD, NSW		DRAWING TITLE: ROADWORKS & DRAINAGE PLAN SHEET 2 OF 3					
2		RE-ISSUED FOR COUNCIL APPROVAL - DEVELOPMENT APPLICATION		27.03.2017													
1		RE-ISSUED FOR COUNCIL APPROVAL - DEVELOPMENT APPLICATION		3.11.2016													
0		ISSUED FOR COUNCIL APPROVAL - DEVELOPMENT APPLICATION		19.09.2016													
ISSUE		DESCRIPTION		DATE		APPROVED: ANDREW J.SMITH BEng RPEng No. 887741-0759				DWG No: MDE-DA-023-D06		SHEET: 6 OF 16		REV: 2			



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			DRAWN: T.RYDEN	SCALE: AS SHOWN						DRAWING TITLE: ROADWORKS & DRAINAGE PLAN			
			SURVEYING: RICHMOND VALLEY COUNCIL	SHEET SIZE: A1				TITLE	PROPOSED MANUFACTURED HOUSING ESTATE, EVANS HEAD, NSW		SHEET 3 OF 3		
2	RE-ISSUED FOR COUNCIL APPROVAL - DEVELOPMENT APPLICATION												
1	RE-ISSUED FOR COUNCIL APPROVAL - DEVELOPMENT APPLICATION		27.03.2017										
0	ISSUED FOR COUNCIL APPROVAL - DEVELOPMENT APPLICATION		3.11.2016										
0	ISSUED FOR COUNCIL APPROVAL - DEVELOPMENT APPLICATION		19.09.2016										
ISSUE	DESCRIPTION		DATE	APPROVED: ANDREW J.SMITH BEng RPEng No. 887741-0759						DWG No:	MDE-DA-023-D07	SHEET: 7 OF 16	REV: 2

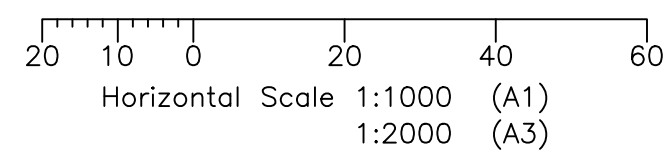


- LEGEND**
- CUT 0.5 - 1.0m DEPTH
 - CUT 0.0 - 0.5m DEPTH
 - FILL 0.0 - 0.5m DEPTH
 - FILL 0.5 - 1.0m DEPTH
 - FILL 1.0 - 1.5m DEPTH
 - FILL 1.5 - 2.0m DEPTH
 - EXISTING SITE CONTOURS 0.2m INTERVAL
 - PROPOSED RE-GRADING CONTOURS 0.2m INTERVAL
 - LIMIT OF WORKS - SITE EARTHWORKS

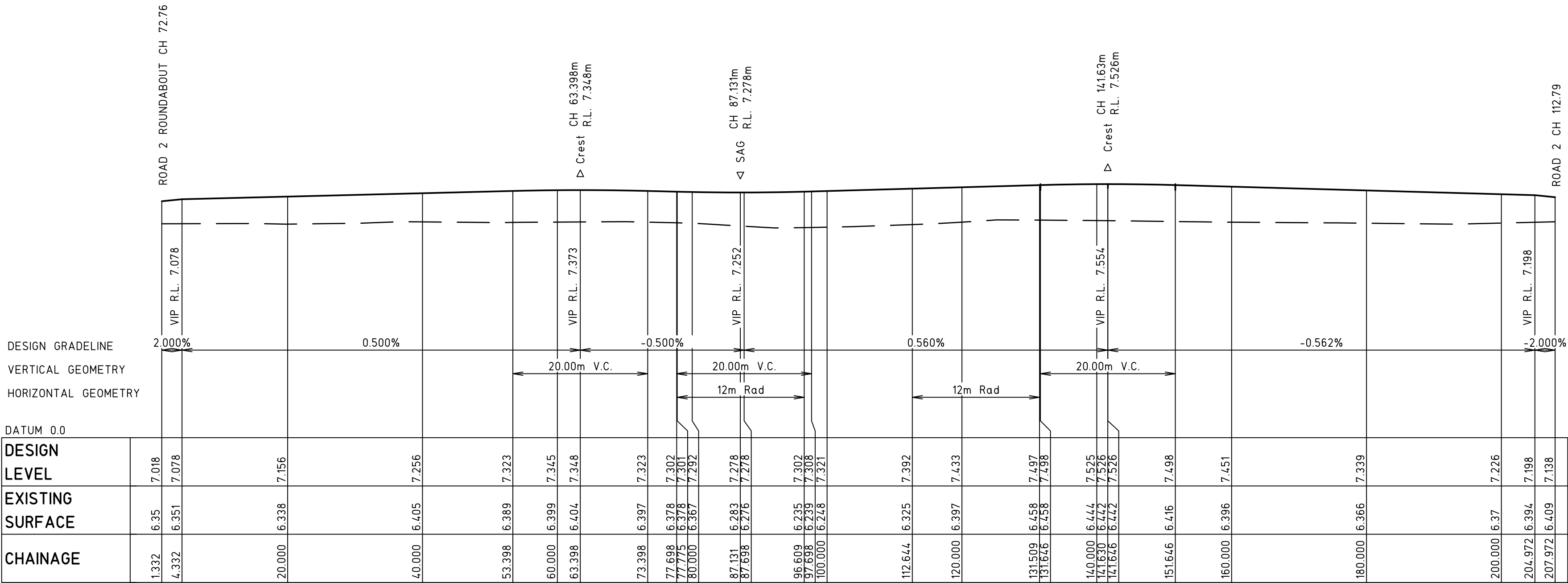
PRELIMINARY ESTIMATE EARTHWORKS CUT TO FILL
INCLUDING NOMINAL ROADWAY BOXING 400mm DEEP

TOTAL CUT = 1,500m³
TOTAL FILL = 89,800m³
TOTAL IMPORTED FILL REQUIRED = 88,300m³

SITE EARTHWORKS PLAN
SCALE 1:1000



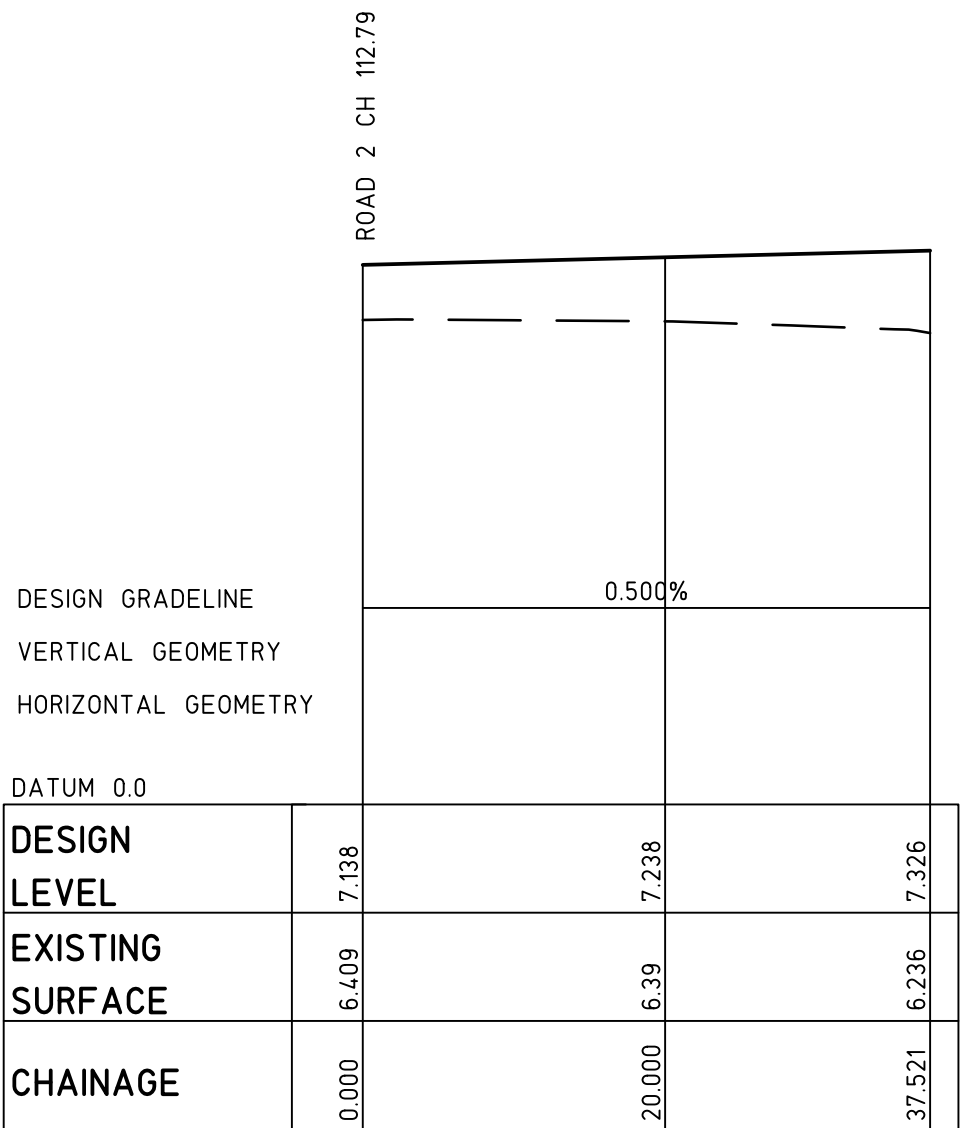
			DESIGNED: T.RYDEN	DATE: 27.03.2017	MANAGE-DESIGN-ENGINEER PTY LTD PROJECT MANAGEMENT-CIVIL ENGINEERING-DESIGN-SURVEYING SUITE 1, 64 BALLINA STREET, LENNOX HEAD NSW 2478 PO BOX 44 LENNOX HEAD NSW 2478 www.md-engineer.com.au ABN 88 607 109 357 M-D-E	COPYRIGHT MANAGE-DESIGN-ENGINEER PTY LTD RESERVE THE RIGHT TO THE DESIGN AND DOCUMENTATION OF THE WORK CONTAINED ON THIS DRAWING. THIS WORK IS COVERED BY COPYRIGHT AND CANNOT BE REPRODUCED OR COPIED IN ANY FORM WITHOUT THE WRITTEN PERMISSION OF MANAGE-DESIGN-ENGINEER PTY LTD. ANY LICENSE, EXPRESSED OR IMPLIED, TO THE USE OF THIS DOCUMENT IS RESTRICTED TO THE TERMS OF AGREEMENT BETWEEN THE CLIENT NOTED ON THIS DRAWING AND MANAGE-DESIGN-ENGINEER PTY LTD	CLIENT MAVID GROUP	PROJECT MEMORIAL AIRPORT DRIVE & CURRAJONG STREET, EVANS HEAD, NSW	PRELIMINARY CIVIL DRAWINGS		
			DRAWN: T.RYDEN	SCALE: AS SHOWN							
			SURVEYING: RICHMOND VALLEY COUNCIL	SHEET SIZE: A1							
			ISSUE	DESCRIPTION	DATE						
			2	RE-ISSUED FOR COUNCIL APPROVAL - DEVELOPMENT APPLICATION	27.03.2017	APPROVED: ANDREW J.SMITH BEng RPEng No. 889741-0759	DRAWING TITLE: SITE EARTHWORKS PLAN				
			1	RE-ISSUED FOR COUNCIL APPROVAL - DEVELOPMENT APPLICATION	3.11.2016						
			0	ISSUED FOR COUNCIL APPROVAL - DEVELOPMENT APPLICATION	19.09.2016						
						DWG No: MDE-DA-023-D08 SHEET: 8 OF 16 REV: 2					



LONGITUDINAL SECTION - ROAD 4

Horizontal scale 1:500

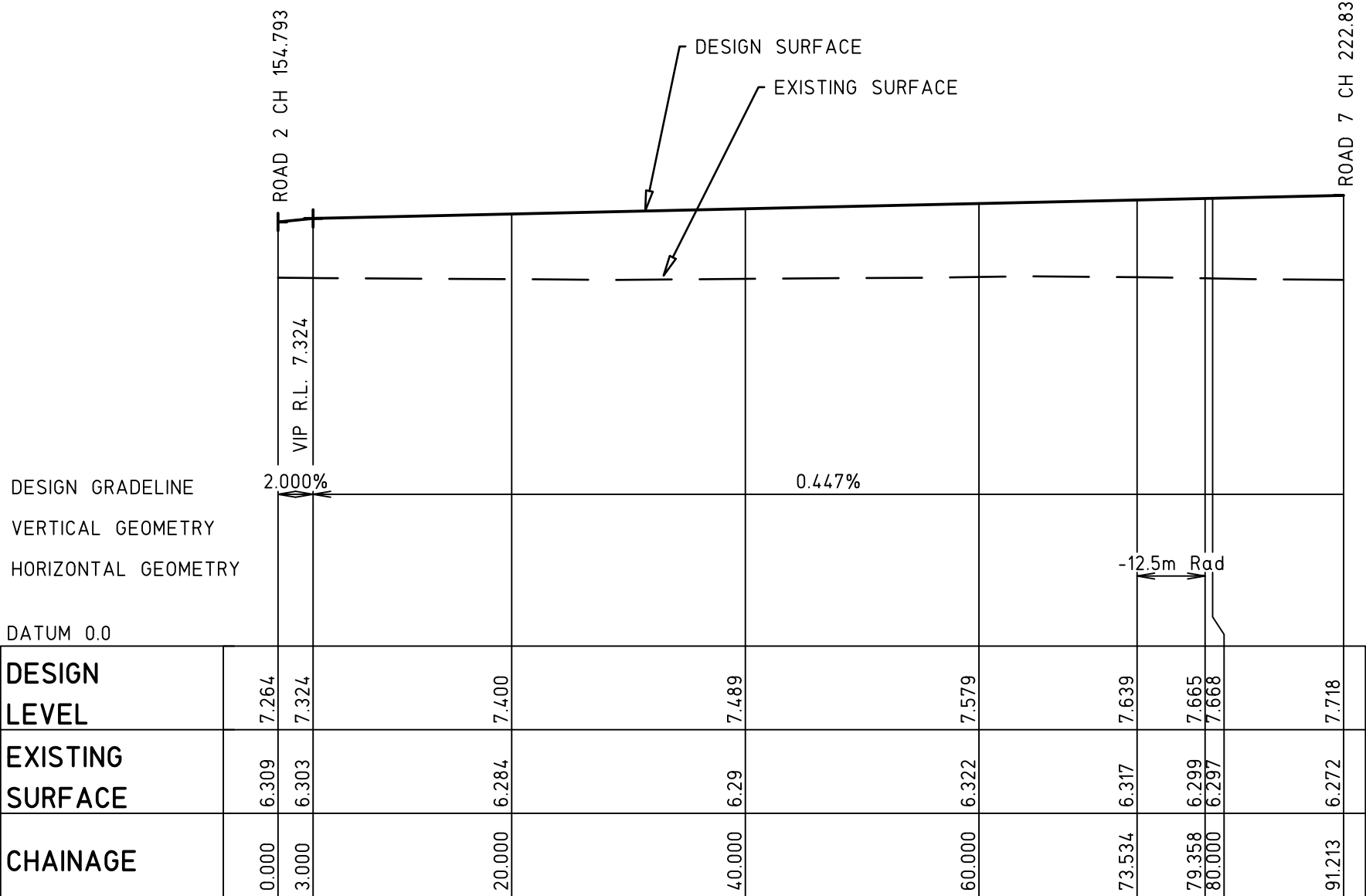
Vertical scale 1:100



LONGITUDINAL SECTION - ROAD 3

Horizontal scale 1:500

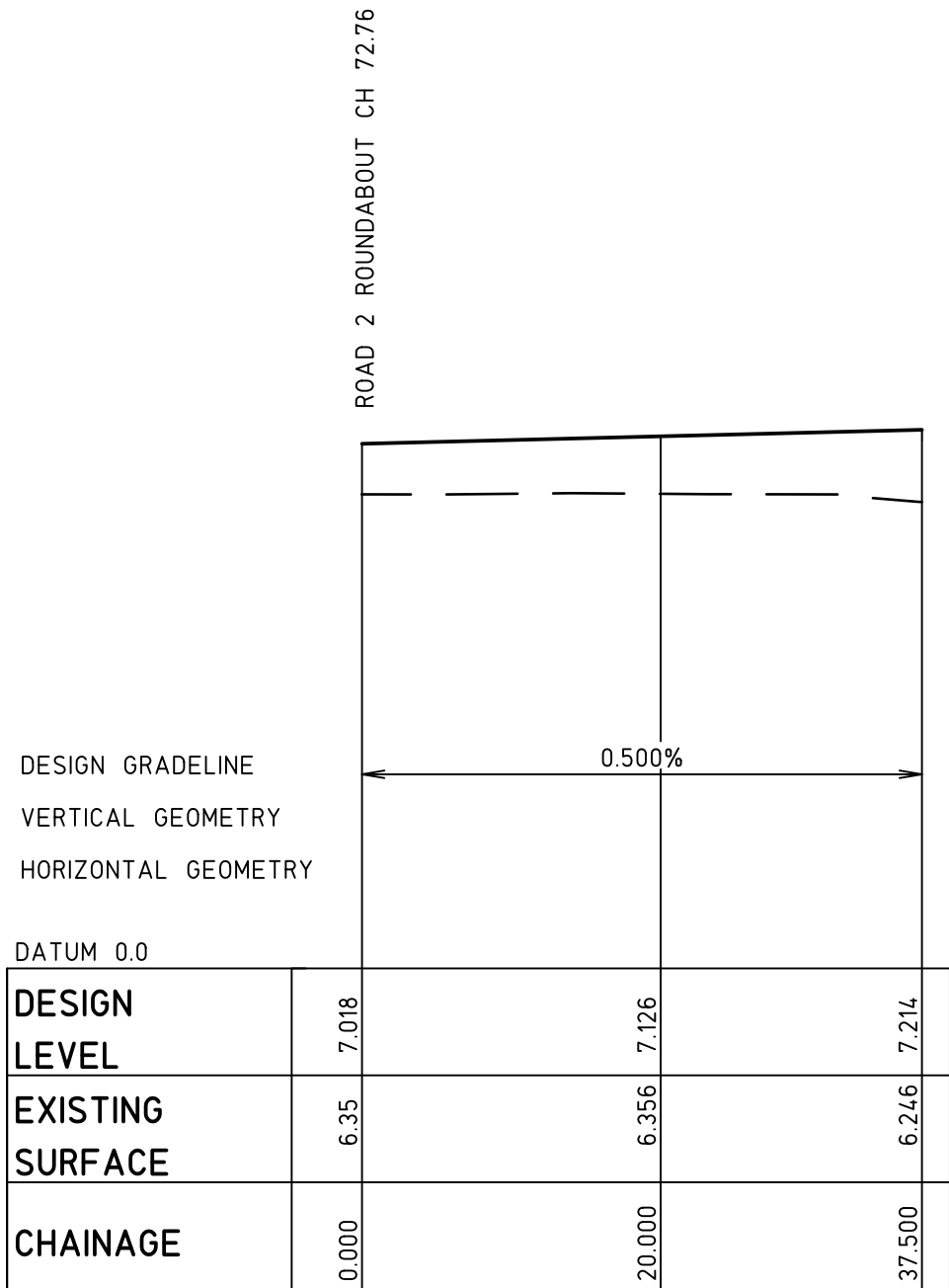
Vertical scale 1:100



LONGITUDINAL SECTION - ROAD 5

Horizontal scale 1:500

Vertical scale 1:100

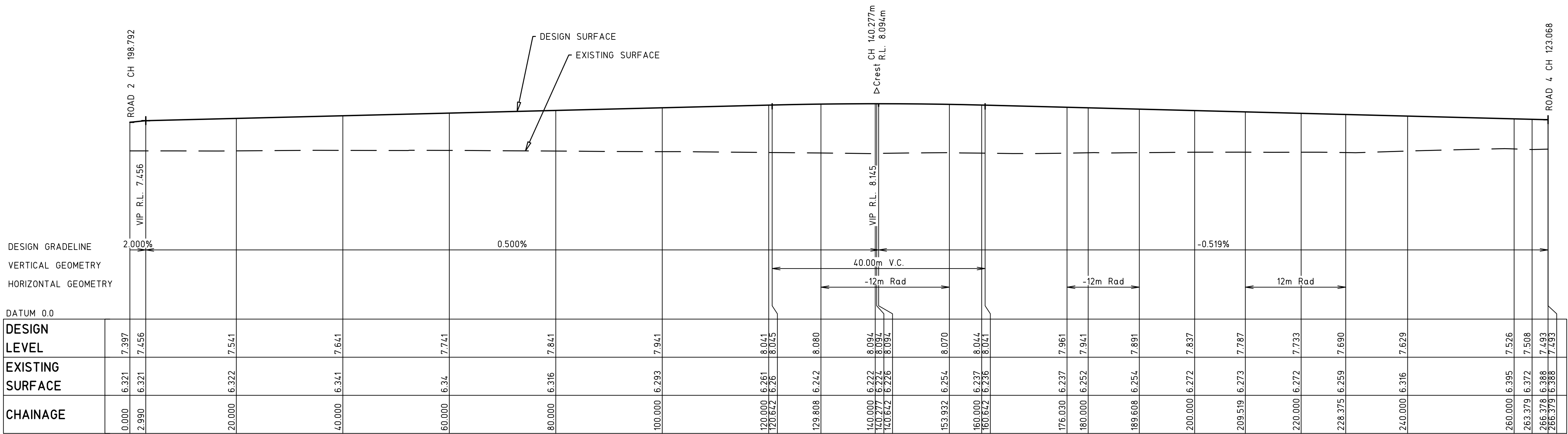


LONGITUDINAL SECTION - ROAD 6

Horizontal scale 1:500

Vertical scale 1:100

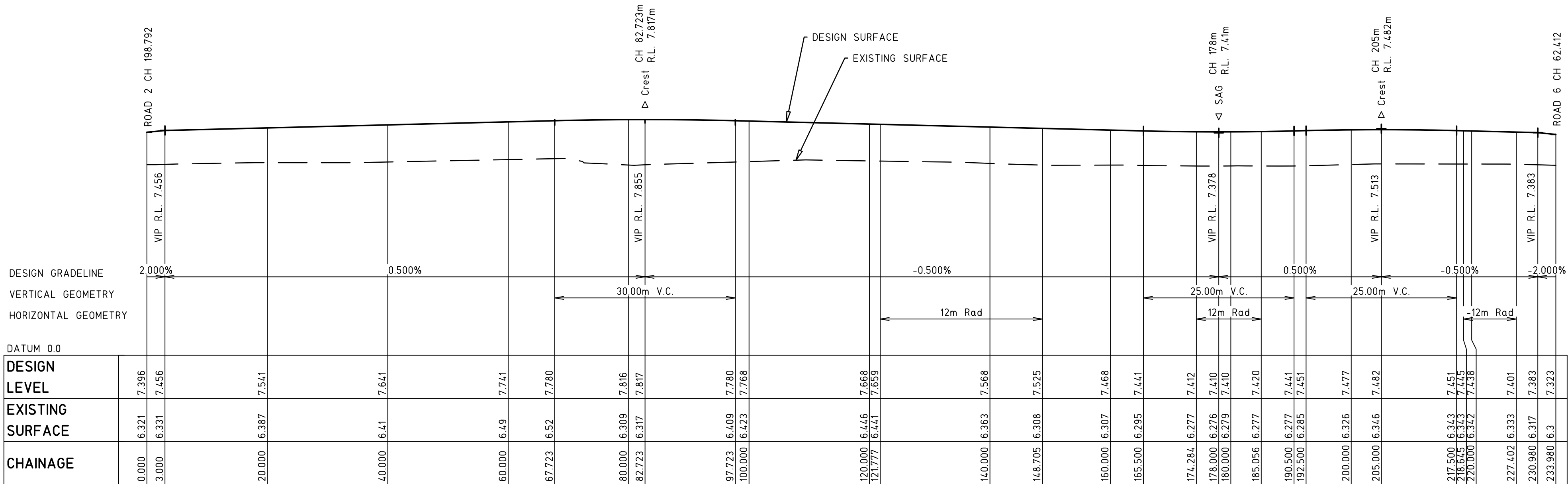
			DESIGNED: T.RYDEN	DATE: 27.03.2017	MANAGE-DESIGN-ENGINEER PTY LTD PROJECT MANAGEMENT-CIVIL ENGINEERING-DESIGN-SURVEYING SUITE 1, 64 BALLINA STREET, LENNOX HEAD NSW 2478 PO Box 44 LENNOX HEAD NSW 2478 www.md-engineer.com.au ABN: 88 607 109 357 M-D-E	COPYRIGHT MANAGE-DESIGN-ENGINEER PTY LTD RESERVE THE RIGHT TO THE DESIGN AND DOCUMENTATION OF THE WORK CONTAINED ON THIS DRAWING. THIS WORK IS COVERED BY COPYRIGHT AND CANNOT BE REPRODUCED OR COPIED IN ANY FORM WITHOUT THE WRITTEN PERMISSION OF MANAGE-DESIGN-ENGINEER PTY LTD. ANY LICENSE, EXPRESSED OR IMPLIED, TO THE USE OF THIS DOCUMENT IS RESTRICTED TO THE TERMS OF AGREEMENT BETWEEN THE CLIENT NOTED ON THIS DRAWING AND MANAGE-DESIGN-ENGINEER PTY LTD	CLIENT MAVID GROUP	PROJECT MEMORIAL AIRPORT DRIVE & CURRAJONG STREET, EVANS HEAD, NSW	PRELIMINARY CIVIL DRAWINGS		
		DRAWN: T.RYDEN	SCALE: AS SHOWN	DRAWING TITLE: ROAD LONGITUDINAL SECTIONS ROADS 3, 4, 5 & 6							
		SURVEYING: RICHMOND VALLEY COUNCIL	SHEET SIZE: A1	DWG No: MDE-DA-023-D10							
2	RE-ISSUED FOR COUNCIL APPROVAL - DEVELOPMENT APPLICATION	27.03.2017									
1	RE-ISSUED FOR COUNCIL APPROVAL - DEVELOPMENT APPLICATION	3.11.2016									
0	ISSUED FOR COUNCIL APPROVAL - DEVELOPMENT APPLICATION	19.09.2016									
ISSUE	DESCRIPTION	DATE	APPROVED: ANDREW J.SMITH BEng RPEng No. 887741-0759								



LONGITUDINAL SECTION - ROAD 7

Horizontal scale 1:500

Vertical scale 1:100

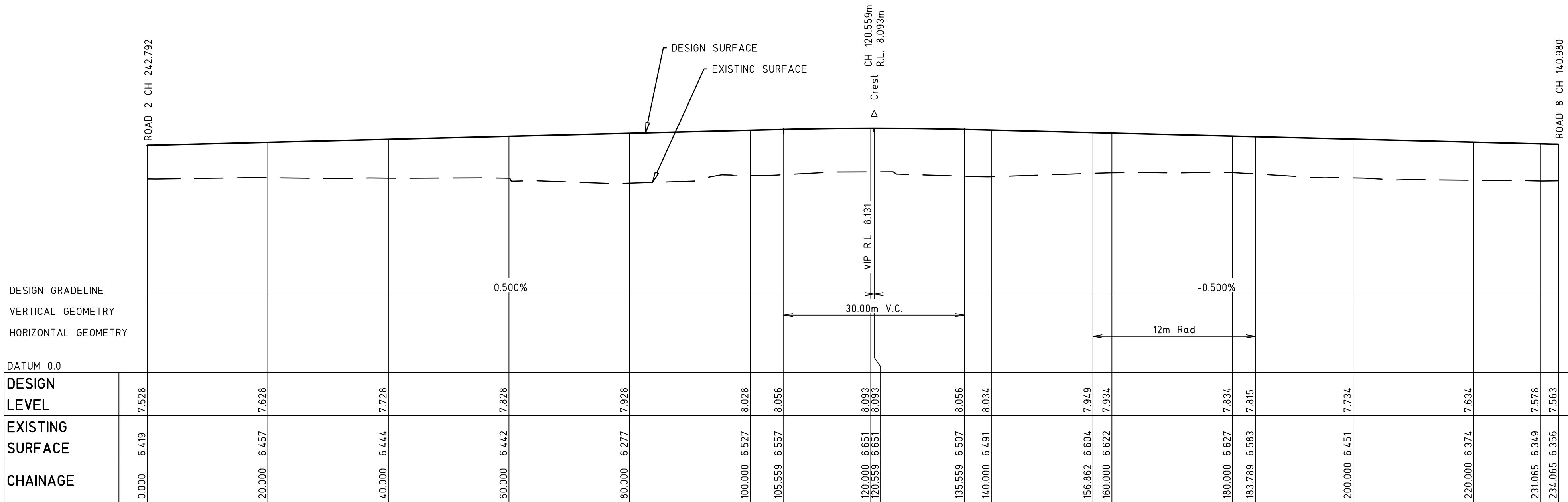


LONGITUDINAL SECTION - ROAD 8

Horizontal scale 1:500

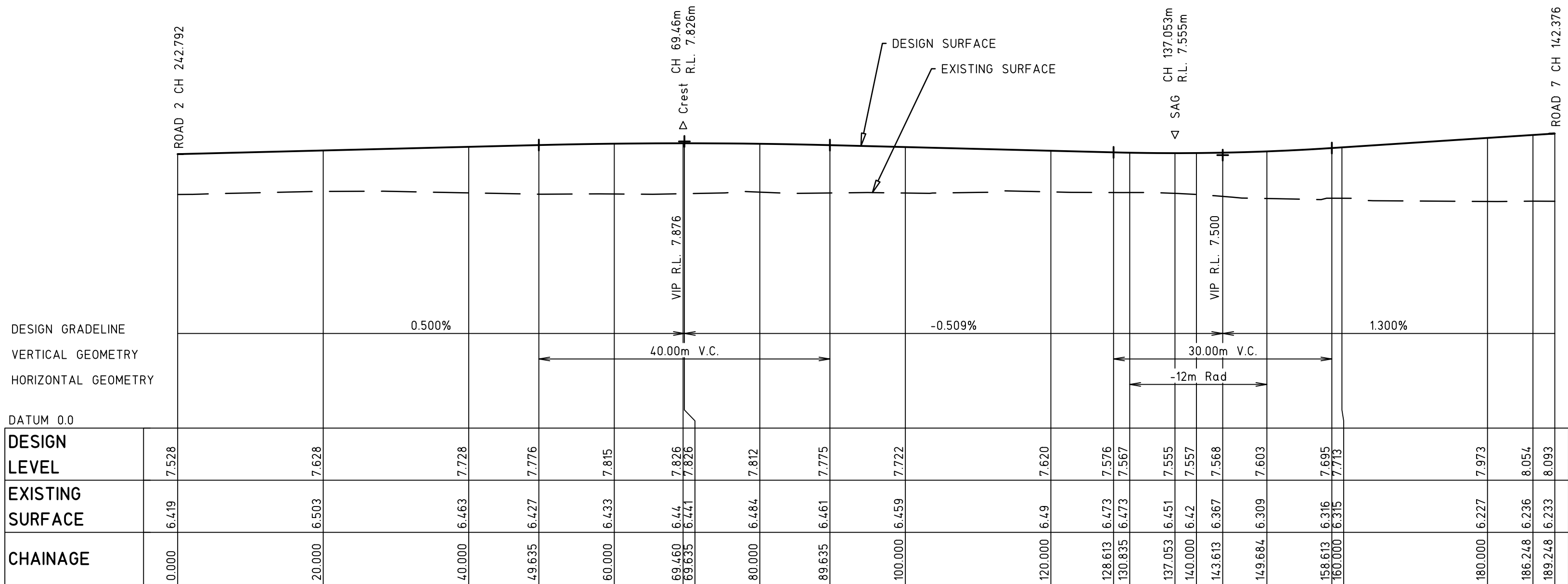
Vertical scale 1:100

			DESIGNED: T.RYDEN	DATE: 27.03.2017	MANAGE-DESIGN-ENGINEER PTY LTD PROJECT MANAGEMENT-CIVIL ENGINEERING-DESIGN-SURVEYING SUITE 1, 64 BALLINA STREET, LENNOX HEAD NSW 2478 PO Box 44 LENNOX HEAD NSW 2478 www.md-engineer.com.au ABN: 88 607 109 357 M-D-E	COPYRIGHT MANAGE-DESIGN-ENGINEER PTY LTD RESERVE THE RIGHT TO THE DESIGN AND DOCUMENTATION OF THE WORK CONTAINED ON THIS DRAWING. THIS WORK IS COVERED BY COPYRIGHT AND CANNOT BE REPRODUCED OR COPIED IN ANY FORM WITHOUT THE WRITTEN PERMISSION OF MANAGE-DESIGN-ENGINEER PTY LTD. ANY LICENSE, EXPRESSED OR IMPLIED, TO THE USE OF THIS DOCUMENT IS RESTRICTED TO THE TERMS OF AGREEMENT BETWEEN THE CLIENT NOTED ON THIS DRAWING AND MANAGE-DESIGN-ENGINEER PTY LTD		CLIENT MAVID GROUP	PROJECT MEMORIAL AIRPORT DRIVE & CURRAJONG STREET, EVANS HEAD, NSW	PRELIMINARY CIVIL DRAWINGS			
			DRAWN: T.RYDEN	SCALE: AS SHOWN		DRAWING TITLE: ROAD LONGITUDINAL SECTIONS							
			SURVEYING: RICHMOND VALLEY COUNCIL	SHEET SIZE: A1		ROADS 7 & 8							
2	RE-ISSUED FOR COUNCIL APPROVAL - DEVELOPMENT APPLICATION			27.03.2017									
1	RE-ISSUED FOR COUNCIL APPROVAL - DEVELOPMENT APPLICATION			3.11.2016									
0	ISSUED FOR COUNCIL APPROVAL - DEVELOPMENT APPLICATION			19.09.2016									
ISSUE	DESCRIPTION			DATE	APPROVED: ANDREW J.SMITH BEng RPEng No. 887741-0759			TITLE PROPOSED MANUFACTURED HOUSING ESTATE, EVANS HEAD, NSW			DWG No: MDE-DA-023-D11	SHEET: 11 OF 16	REV: 2



LONGITUDINAL SECTION - ROAD 9

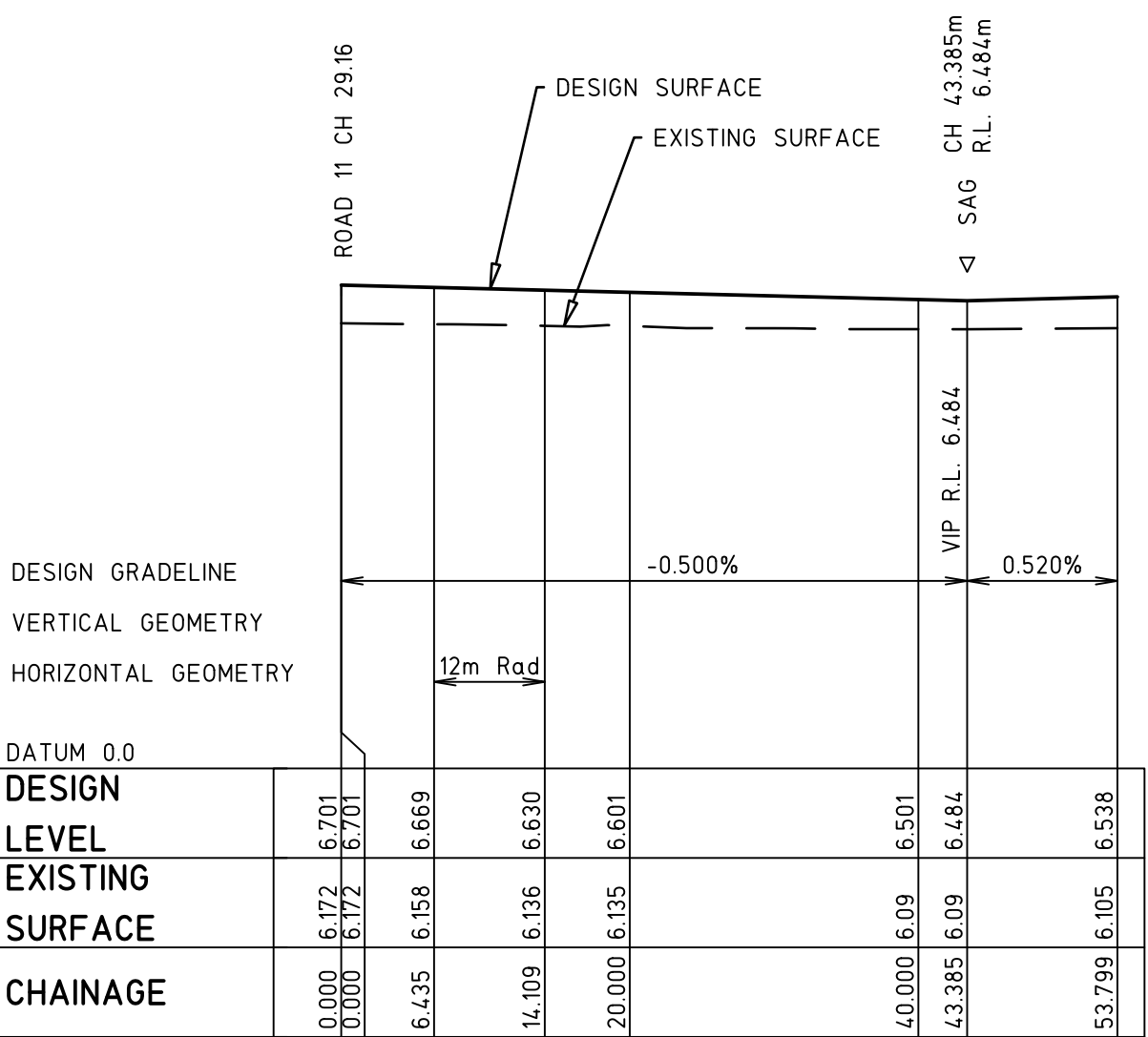
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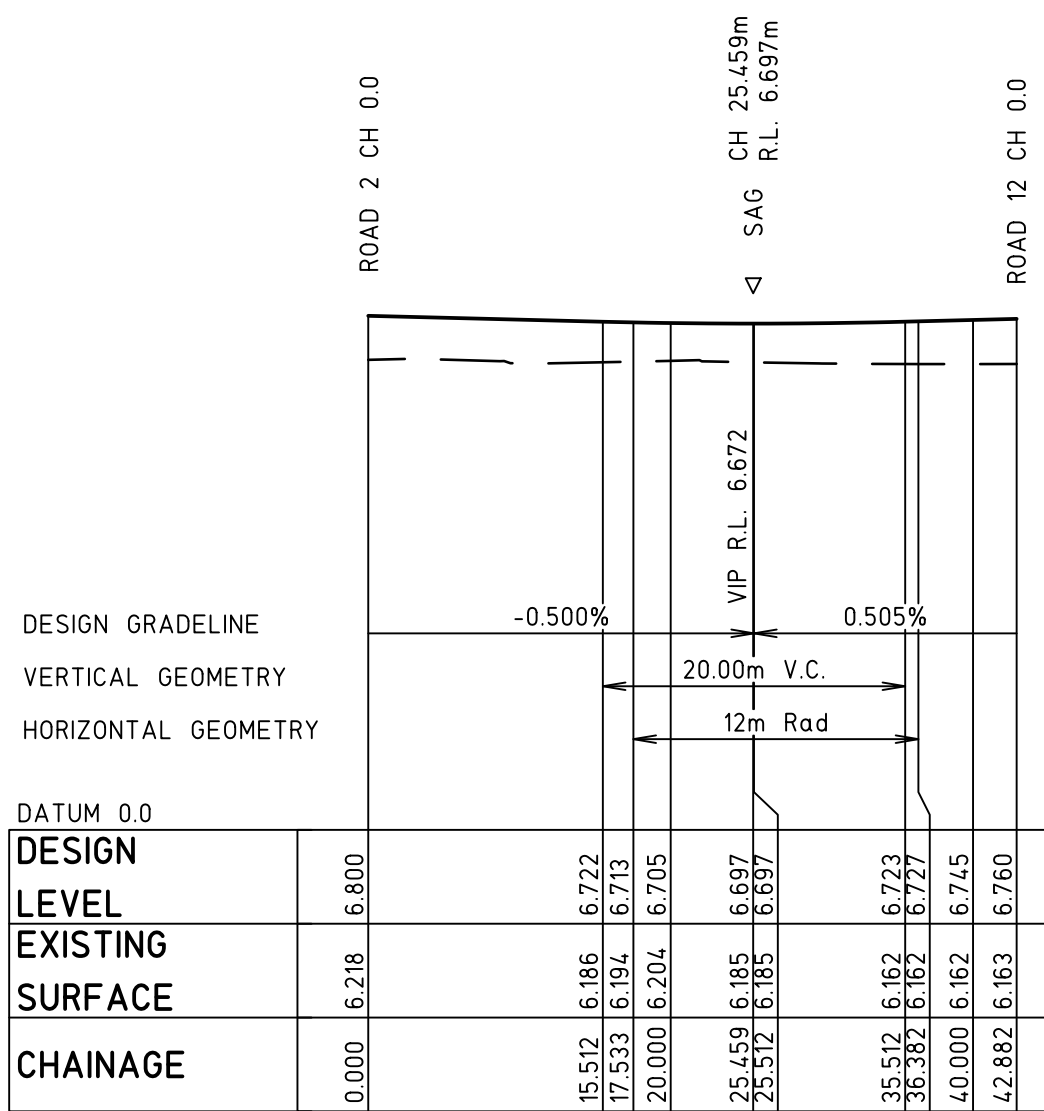
LONGITUDINAL SECTION - ROAD 10

Horizontal scale 1:500
Vertical scale 1:100

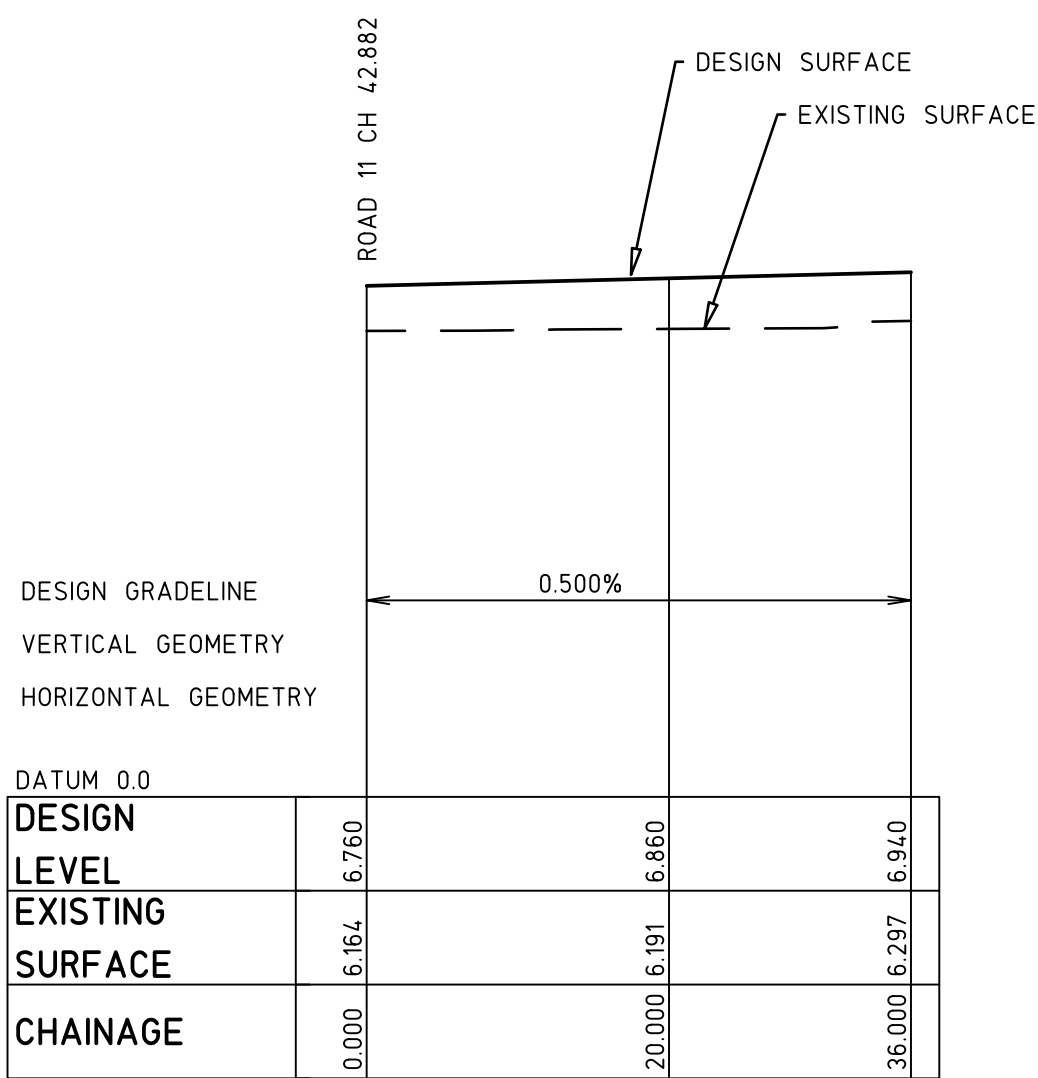
			DESIGNED: T.RYDEN	DATE: 27.03.2017	MANAGE-DESIGN-ENGINEER PTY LTD PROJECT MANAGEMENT-CIVIL ENGINEERING-DESIGN-SURVEYING SUITE 1, 64 BALLINA STREET, LENNOX HEAD NSW 2478 PO Box 44 LENNOX HEAD NSW 2478 www.md-engineer.com.au ABN: 88 607 109 357 M-D-E	COPYRIGHT MANAGE-DESIGN-ENGINEER PTY LTD RESERVE THE RIGHT TO THE DESIGN AND DOCUMENTATION OF THE WORK CONTAINED ON THIS DRAWING. THIS WORK IS COVERED BY COPYRIGHT AND CANNOT BE REPRODUCED OR COPIED IN ANY FORM WITHOUT THE WRITTEN PERMISSION OF MANAGE-DESIGN-ENGINEER PTY LTD. ANY LICENSE, EXPRESSED OR IMPLIED, TO THE USE OF THIS DOCUMENT IS RESTRICTED TO THE TERMS OF AGREEMENT BETWEEN THE CLIENT NOTED ON THIS DRAWING AND MANAGE-DESIGN-ENGINEER PTY LTD	CLIENT MAVID GROUP	PROJECT MEMORIAL AIRPORT DRIVE & CURRAJONG STREET, EVANS HEAD, NSW	PRELIMINARY CIVIL DRAWINGS			
			DRAWN: T.RYDEN	SCALE: AS SHOWN					DRAWING TITLE: ROAD LONGITUDINAL SECTION			
			SURVEYING: RICHMOND VALLEY COUNCIL	SHEET SIZE: A1					ROAD 9 & 10			
2	RE-ISSUED FOR COUNCIL APPROVAL - DEVELOPMENT APPLICATION	27.03.2017										
1	RE-ISSUED FOR COUNCIL APPROVAL - DEVELOPMENT APPLICATION	3.11.2016										
0	ISSUED FOR COUNCIL APPROVAL - DEVELOPMENT APPLICATION	19.09.2016										
ISSUE	DESCRIPTION	DATE	APPROVED: ANDREW J.SMITH BEng RPEng No. 887741-0759						TITLE PROPOSED MANUFACTURED HOUSING ESTATE, EVANS HEAD, NSW			
						DWG No: MDE-DA-023-D12			SHEET: 12 OF 16	REV: 2		



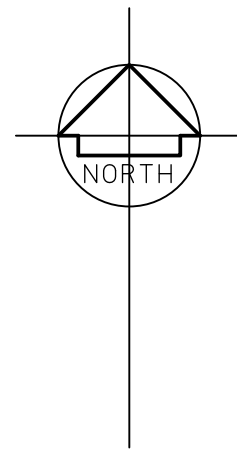
LONGITUDINAL SECTION - ROAD 13 CL
Horizontal scale 1:500
Vertical scale 1:100



LONGITUDINAL SECTION - ROAD 11
Horizontal scale 1:500
Vertical scale 1:100



LONGITUDINAL SECTION - ROAD 12 CL
Horizontal scale 1:500
Vertical scale 1:100



EVANS HEAD
AERODROME SITE

EVANS HEAD
INDUSTRIAL ESTATE

EVANS HEAD
INDUSTRIAL ESTATE

CANBERRA STREET

SEWER CONNECTION AT
PROPOSED MH S1/2 FROM
CURRAJONG STREET
SUBDIVISION WORKS.

EXISTING
RESIDENTIAL
ESTATE

PROPOSED RESIDENTIAL LOTS

CURRAJONG STREET

EXISTING
RESIDENTIAL
ESTATE

PROPOSED RESIDENTIAL LOTS

WOODBURN-EVANS HEAD ROAD

CONNECTION TO EXISTING 100mm
WATERMAIN IN MEMORIAL
AIRPORT DRIVE, UNDERBORE FOR
200mm SLEEVE

CONNECTION TO 100mm
WATERMAIN FROM
CURRAJONG ROAD
SUBDIVISION WORKS

SEWER CONNECTION AT
PROPOSED MH S1/8 FROM
CURRAJONG STREET
SUBDIVISION WORKS.

WATER CONNECTION FOR PROPOSED
RESIDENTIAL LOTS 1 - 20, CURRENTLY
UNDER CC ASSESSMENT WITH COUNCIL.

SEWER & WATER PLAN

SCALE 1:1000

Horizontal Scale 1:1000 (A1)
1:2000 (A3)

LEGEND

— SV — SV —

PROPOSED NEW DRAINAGE LINE

— T — T —

PROPOSED ELECTRICAL / TELSTRA

— V — V —

PROPOSED WATERMAIN

— S — S —

PROPOSED SEWER

— 7.1 —

DESIGN CONTOURS 0.2m INTERVAL

— E — E —

EXISTING BURIED HV ELECTRICAL

— T — T —

EXISTING TELSTRA

— OH — OH —

EXISTING OVERHEAD POWER

— W — W —

EXISTING WATERMAIN

— S — S —

EXISTING SEWER

SV

PROPOSED SLUICE VALVE

FH

PROPOSED SPRINT TOP HYDRANT

M

PROPOSED WATER METER

T

PROPOSED WATERMAIN TEE

S

EXISTING SEWER MANHOLE

C

PROPOSED SEWER MANHOLE

		DESIGNED: T.RYDEN	DATE: 27.03.2017	MANAGE-DESIGN-ENGINEER PTY LTD PROJECT MANAGEMENT-CIVIL ENGINEERING-DESIGN-SURVEYING SUITE 1, 64 BALLINA STREET, LENNOX HEAD NSW 2478 PO Box 44, LENNOX HEAD NSW 2478 www.md-engineer.com.au ABN: 88 607 109 357 M-D-E	COPYRIGHT MANAGE-DESIGN-ENGINEER PTY LTD RESERVE THE RIGHT TO THE DESIGN AND DOCUMENTATION OF THE WORK CONTAINED ON THIS DRAWING. THIS WORK IS COVERED BY COPYRIGHT AND CANNOT BE REPRODUCED OR COPIED IN ANY FORM WITHOUT THE WRITTEN PERMISSION OF MANAGE-DESIGN-ENGINEER PTY LTD. ANY LICENSE, EXPRESSED OR IMPLIED, TO THE USE OF THIS DOCUMENT IS RESTRICTED TO THE TERMS OF AGREEMENT BETWEEN THE CLIENT NOTED ON THIS DRAWING AND MANAGE-DESIGN-ENGINEER PTY LTD	CLIENT MAVID GROUP	PROJECT MEMORIAL AIRPORT DRIVE & CURRAJONG STREET, EVANS HEAD, NSW	PRELIMINARY CIVIL DRAWINGS		
		DRAWN: T.RYDEN	SCALE: AS SHOWN							
		SURVEYING: RICHMOND VALLEY COUNCIL	SHEET SIZE: A1							
		APPROVED: ANDREW J.SMITH BEng RPEng No. 887741-0759								
		2 RE-ISSUED FOR COUNCIL APPROVAL - DEVELOPMENT APPLICATION	27.03.2017	DRAWING TITLE: SEWER & WATER LAYOUT PLAN						
		1 RE-ISSUED FOR COUNCIL APPROVAL - DEVELOPMENT APPLICATION	31.10.2016							
		0 ISSUED FOR COUNCIL APPROVAL - DEVELOPMENT APPLICATION	19.09.2016							
ISSUE	DESCRIPTION	DATE		DWG No:	MDE-DA-023-D14	SHEET: 14 OF 16	REV: 2			



EROSION & SEDIMENT CONTROL NOTES:

1. SOIL STOCKPILES TO BE NO HIGHER THAN 2.0 METRES (10m PREFERABLE) IN LOCATIONS DIRECTED BY THE SUPERINTENDENT.
2. CONSTRUCT SEDIMENT FENCE AT LOCATIONS SHOWN AND AS DIRECTED BY SITE SUPERINTENDENT. SEDIMENT FENCE OR EQUIVALENT TO BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH TRC ENGINEERING REQUIREMENTS.
3. UPON COMPLETION OF FINAL EARTHWORKS OR AFTER WRITTEN DIRECTION OF COUNCIL, IMMEDIATE SOIL CONSERVATION TREATMENTS SHALL BE APPLIED SO AS TO RENDER AREAS THAT HAVE BEEN DISTURBED, EROSION PROOF IN 14 DAYS.
4. ALL PERIMETER AND SILTATION CONTROL MEASURES ARE TO BE THE FIRST STEP IN CLEARING OR EARTHWORKS.
6. TEMPORARY SEDIMENTATION BASIN TO BE FLOCCULATED AND PUMPED OUT AFTER EVERY STORM EVENT. ALL FLOCCULATED SEDIMENT TO BE REMOVED FROM THE BASIN AT THE CONCLUSION OF THE CONTRACT PERIOD.
7. ALL TEMPORARY EARTH BERMS AND DIVERSION BANKS ARE TO BE TRACK ROLLED AND SEEDED OR MULCHED FOR TEMPORARY VEGETATION COVER AS SOON AS THEY HAVE BEEN FORMED.
8. PROVIDE FILTER SAUSAGE KERB INLET SEDIMENT TRAPS OR EQUIVALENT (TO THE SATISFACTION OF THE SUPERINTENDENT) TO ALL CONSTRUCTED INLET PITS AND STORMWATER PIPING.
9. ALL TOPSOIL IS TO BE STOCKPILED ON SITE FOR RE-USE (AWAY FROM TREES AND DRAINAGE LINES). MEASURES SHALL BE APPLIED TO PREVENT EROSION FROM THE STOCKPILES.

CONSTRUCTION SEQUENCE/SILT MANAGEMENT PROGRAM

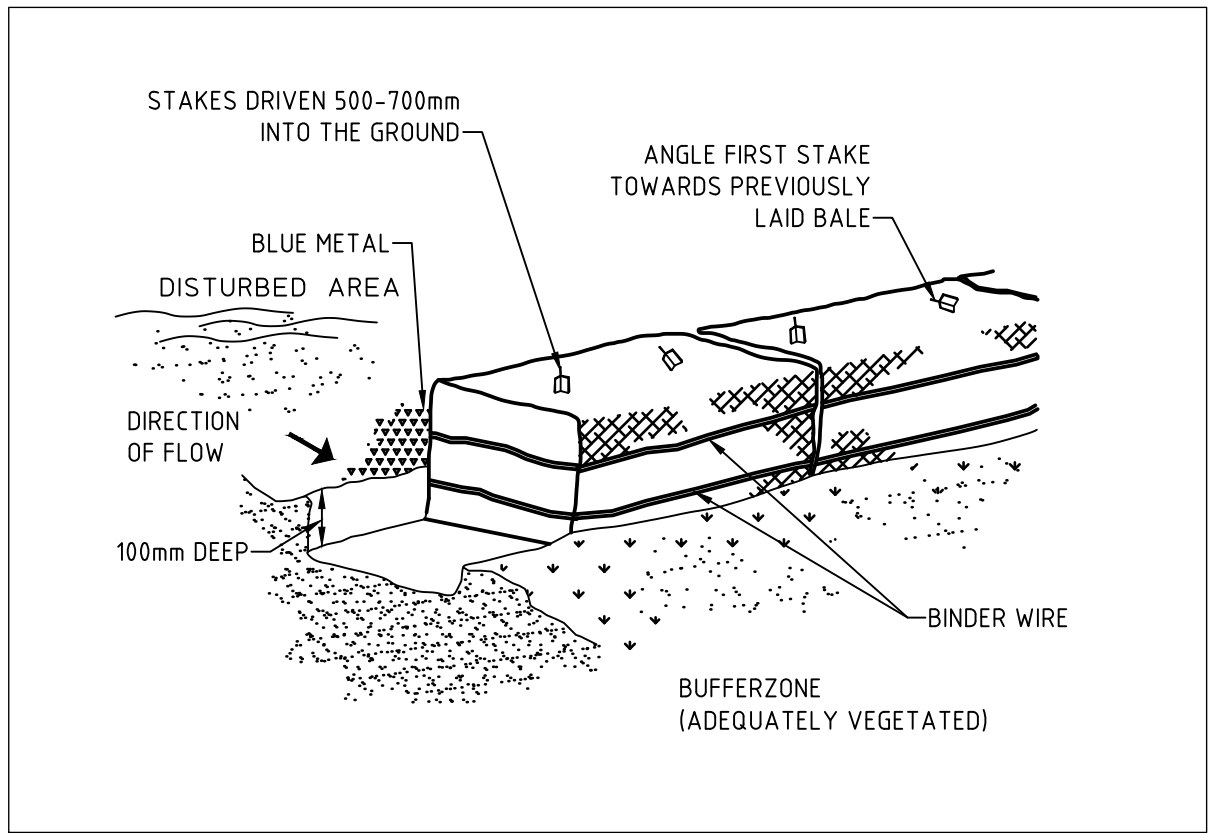
1. **PRE START**
ERECT SITE SIGNAGE. CONSTRUCT ENTRY AND EXIT POINT AS INDICATED.
CONSTRUCT VEHICLE WASHDOWN AREA AND ASSOCIATED SILT MANAGEMENT DEVICES.
CONSTRUCT SITE OFFICE AND STORAGE COMPOUND AREA.
ERECT SILT FENCE AT LOW POINTS OF THE SITE AS DEMONSTRATED.
ERECT TEMPORARY 3 STRAND WIRE FENCE TO EXISTING TREES TO BE RETAINED.
CONSTRUCT ROCK CHECK DAMS AND SILT FENCES DOWNSTREAM OF BASIN. CONSTRUCT BASIN TO FULL DEPTH.
CONSTRUCT BALANCE OF BASIN IN CONJUNCTION WITH CLEARING AND BULK EARTHWORKS OPERATIONS. BASIN TO BE UTILISED AS TEMPORARY SEDIMENT BASIN. DO NOT FILL IN FILTRATION MATERIAL UNTIL CONSTRUCTION OF DEVELOPMENT IS COMPLETE.
2. **CLEARING AND BULK EARTHWORKS**
SILT FENCE, SAND BAGS AND EARTH RILLS TO BE ERECTED AS INDICATED OR REQUIRED DURING CLEARING.
SUPERINTENDENT TO CONFIRM EXTENT OF CLEARING TO CONTRACTOR PRIOR TO COMMENCEMENT OF WORKS.
SILT FENCES AND EARTH RILLS WITHIN ROADS TO BE ERECTED AS INDICATED OR REQUIRED DURING EARTHWORKS.
3. **CONSTRUCTION OF SEWER/ROOFWATER/STORMWATER/SERVICES**
EXCAVATED MATERIAL TO BE PLACED ON HIGH SIDE OF TRENCH AND TO PROTECT PIPE WORK AND DIRECT SURFACE MATERIAL AWAY FROM EXCAVATIONS.
TOPSOIL AND GRASS SEED AREAS IN ALLOTMENTS IMMEDIATELY AFTER COMPLETING THE SEWER AND ROOFWATER DRAINAGE CONSTRUCTION.
DEPRESS GROUND AROUND TEMPORARY FIELD INLETS TO CREATE SILT POND.
4. **CONSTRUCTION - SEDIMENT BASINS**
SEDIMENT BASIN TO BE CONSTRUCTED TO THE EARTHWORK PROFILES SHOWN.
STORMWATER OUTLET PIPES TO BE TEMPORARILY BLOCKED OFF UNTIL DECOMMISSIONING OF SEDIMENT BASIN (SUBSEQUENT TO CONSTRUCTION OF ALL STAGES).
PLACE SPOIL FROM SEDIMENT BASIN INTO ALLOCATED AREA AS ENGINEERED FILL IN ACCORDANCE WITH THE STAGING ORDER.
5. **CONSTRUCTION - STOCKPILING**
TEMPORARY SILT FENCE TO BE ERECTED 5m FROM TOE OF BATTER ON LOW SIDE OF STOCKPILING.
STOCKPILE SITE TO BE CLEAR OF ADJACENT PROPERTY BOUNDARIES SO AS NOT TO CAUSE A NUISANCE TO ADJOINING PROPERTIES.
6. **CONSTRUCTION - ROADWORKS**
SILT FENCES TO ALLOTMENTS TO BE ERECTED.
KERB INLET PROTECTION TO BE PROVIDED TO ALL GULLIES.
7. **CONSTRUCTION - ALLOTMENTS**
TOPSOIL AND SEED ALLOTMENTS.
SILT FENCES TO ALLOTMENTS TO BE RE-ERECTED.
COVERS TO GULLY GRATES TO BE REMOVED IF THE SUPERINTENDENT INDICATED THE GRASS STRIKE IS SUFFICIENT (80% WITHIN 30 CALENDAR DAYS OF FINAL ALLOTMENT TRIMMING).
8. **POST CONSTRUCTION - ALLOTMENTS**
TOPSOIL AND GRASS SEED ALL ALLOTMENTS.
COVERS TO GULLY GRATES TO BE REMOVED IF THE SUPERINTENDENT INDICATES THE GRASS STRIKE IS SUFFICIENT (80% WITHIN 30 CALENDAR DAYS OF FINAL ALLOTMENT TRIMMING).
9. **POST CONSTRUCTION - BASIN**
BASIN TO CONTINUE ACTING AS SEDIMENT BASIN UNTIL COMPLETION OF ALL STAGES.
10. **POST CONSTRUCTION - ROAD RESERVES**
TOPSOIL AND TURFING IS TO BE PROVIDED BEHIND KERB.
11. **MAINTENANCE (PRE TO POST CONSTRUCTION)**
THE SILT FENCES ARE TO BE INSPECTED WEEKLY.
ANY REPAIRS REQUIRED ARE TO BE EFFECTED IMMEDIATELY.
SILT AFTER RAIN IS TO BE CLEANED FROM STREETS AND ALLOTMENTS IMMEDIATELY AND CORRECTIVE ACTION TAKEN TO AVOID A RE-OCCURRENCE OF THE FAILURE.
12. **BASIN CONSTRUCTION**
SEDIMENT BASIN SHALL ONLY BE REMOVED AFTER APPROVAL BY SUPERINTENDENT AND COUNCIL.
NO PLANTING OF VEGETATION FOR THE BASIN SHALL PROCEED UNTIL THE SEDIMENT BASIN HAS BEEN DECOMMISSIONED.

LEGEND

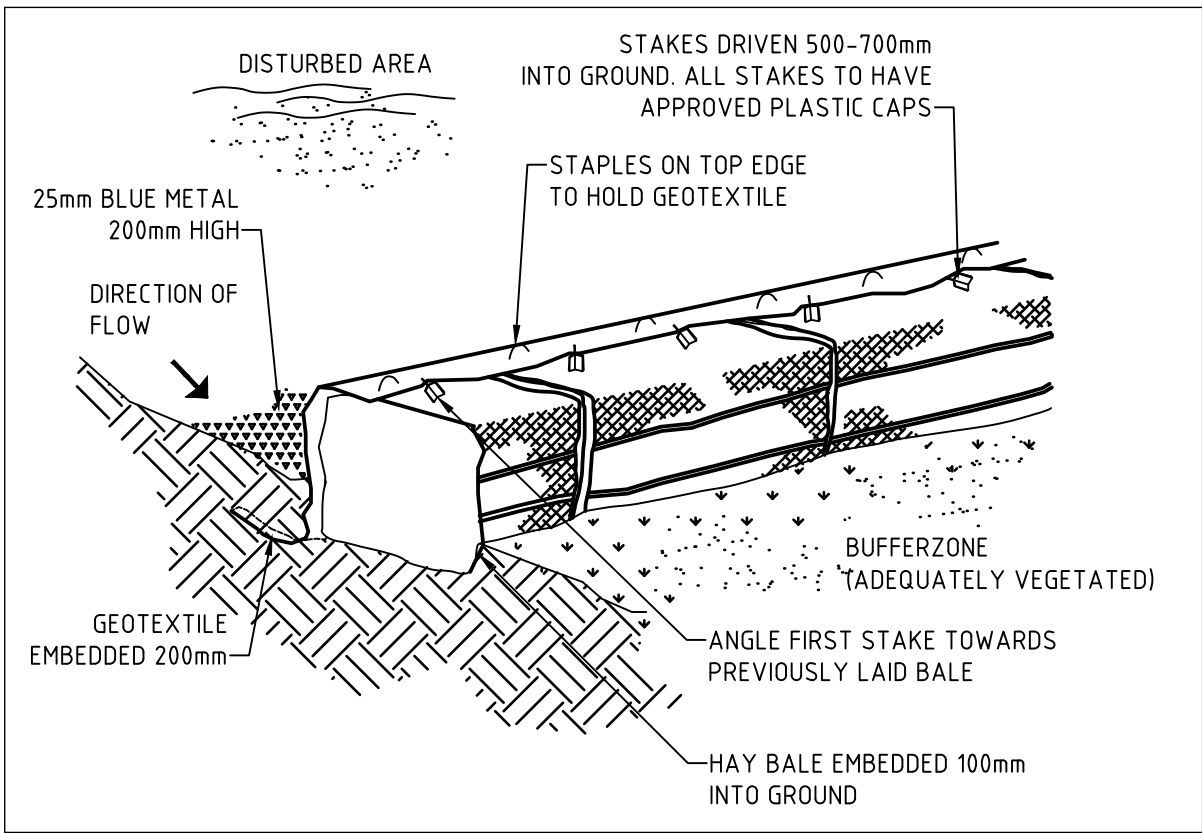
- SITE BOUNDARY
- 7.1- DESIGN SURFACE CONTOURS 0.2m INTERVAL
- SEDIMENT FENCE - REFER TO SED 6-8 & 01.01 ON SHEET D16
- HAY BALE SEDIMENT TRAP
- INLET FILTER - INLET DRAINAGE PIT - REFER TO SED 11.05 ON SHEET D16
- MESH & GRAVEL GRAVEL INLET FILTER - REFER TO SED 11.03 ON SHEET D16
- TOPSOIL WINDROW & DESIGN SWALE
- FLOW DIRECTION
- SUGGESTED STOCKPILE SITE - REFER TO SED 4-1 ON SHEET D16
- STABILISED SITE ACCESS - REFER TO SED 09.01 ON SHEET D16
- TEMPORARY SEDIMENT BASIN



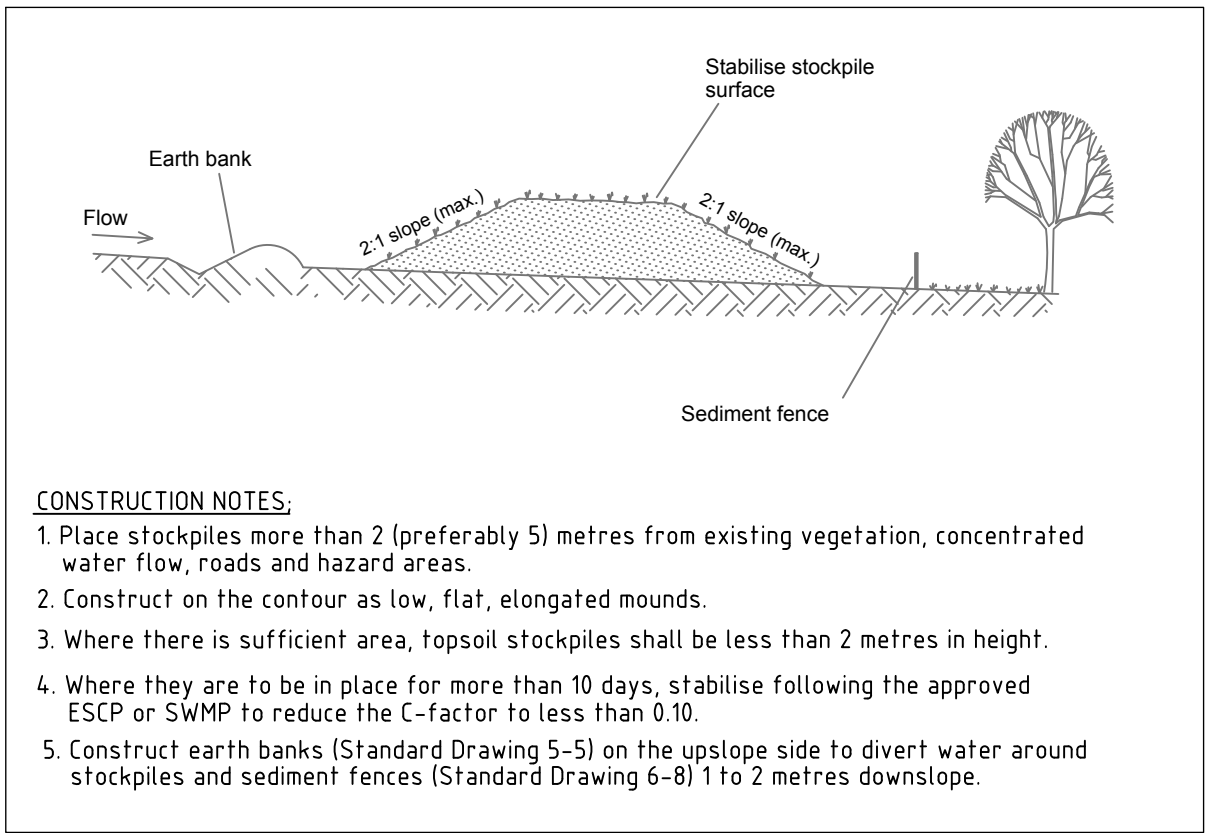
		DESIGNED: T.RYDEN	DATE: 27.03.2017	MANAGE-DESIGN-ENGINEER PTY LTD PROJECT MANAGEMENT-CIVIL ENGINEERING-DESIGN-SURVEYING SUITE 1, 64 BALLINA STREET, LENNOX HEAD NSW 2478 PO Box 44 LENNOX HEAD NSW 2478 www.md-engineer.com.au ABN: 88 607 109 357 M-D-E	COPYRIGHT MANAGE-DESIGN-ENGINEER PTY LTD RESERVE THE RIGHT TO THE DESIGN AND DOCUMENTATION OF THE WORK CONTAINED ON THIS DRAWING. THIS WORK IS COVERED BY COPYRIGHT AND CANNOT BE REPRODUCED OR COPIED IN ANY FORM WITHOUT THE WRITTEN PERMISSION OF MANAGE-DESIGN-ENGINEER PTY LTD. ANY LICENSE, EXPRESSED OR IMPLIED, TO THE USE OF THIS DOCUMENT IS RESTRICTED TO THE TERMS OF AGREEMENT BETWEEN THE CLIENT NOTED ON THIS DRAWING AND MANAGE-DESIGN-ENGINEER PTY LTD	CLIENT	MAVID GROUP	PROJECT	MEMORIAL AIRPORT DRIVE & CURRAJONG STREET, EVANS HEAD, NSW	PRELIMINARY CIVIL DRAWINGS		
		DRAWN: T.RYDEN	SCALE: AS SHOWN							DRAWING TITLE:	EROSION & SEDIMENTATION CONTROL PLAN	
		SURVEYING: RICHMOND VALLEY COUNCIL	SHEET SIZE: A1			DWG No: MDE-DA-023-D15						
		APPROVED: ANDREW J.SMITH BEng RPEng No. 887741-0759				SHEET: 15 OF 16 REV: 2						
ISSUE		DESCRIPTION		DATE								
2		RE-ISSUED FOR COUNCIL APPROVAL - DEVELOPMENT APPLICATION		27.03.2017								
1		RE-ISSUED FOR COUNCIL APPROVAL - DEVELOPMENT APPLICATION		3.11.2016								
0		ISSUED FOR COUNCIL APPROVAL - DEVELOPMENT APPLICATION		19.09.2016								



SED_02.01: HAY BALE BARRIERS

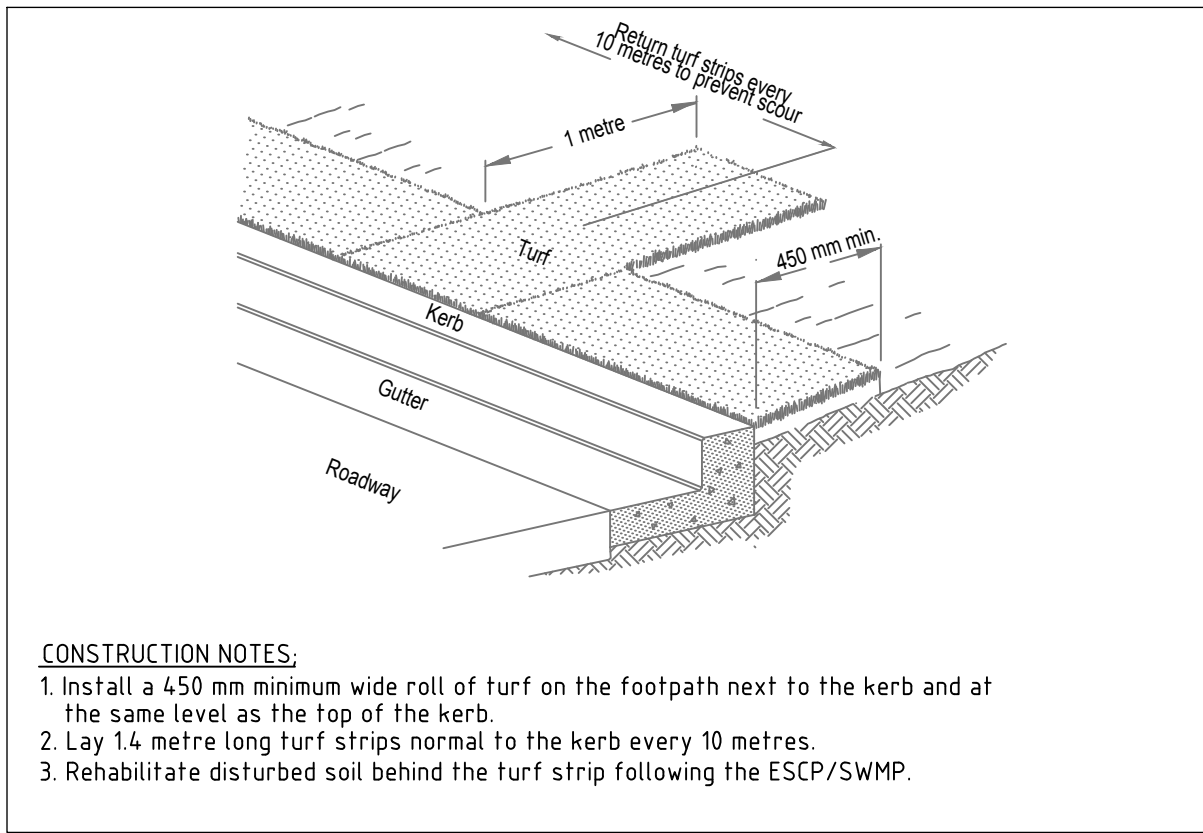


SED_02.02: HAY BALE & GEOTEXTILE FENCE



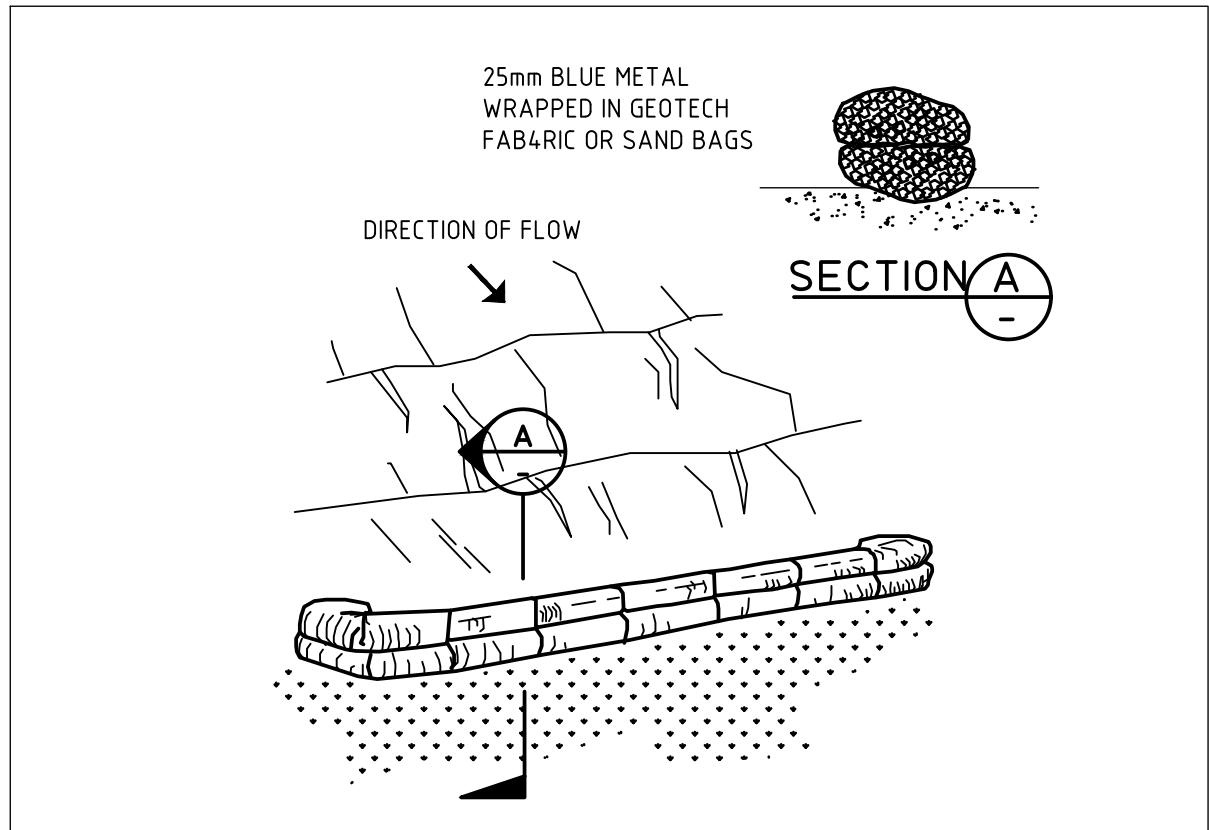
- CONSTRUCTION NOTES:**
1. Place stockpiles more than 2 (preferably 5) metres from existing vegetation, concentrated water flow, roads and hazard areas.
 2. Construct on the contour as low, flat, elongated mounds.
 3. Where there is sufficient area, topsoil stockpiles shall be less than 2 metres in height.
 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 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.

SED_4-1 STOCKPILES

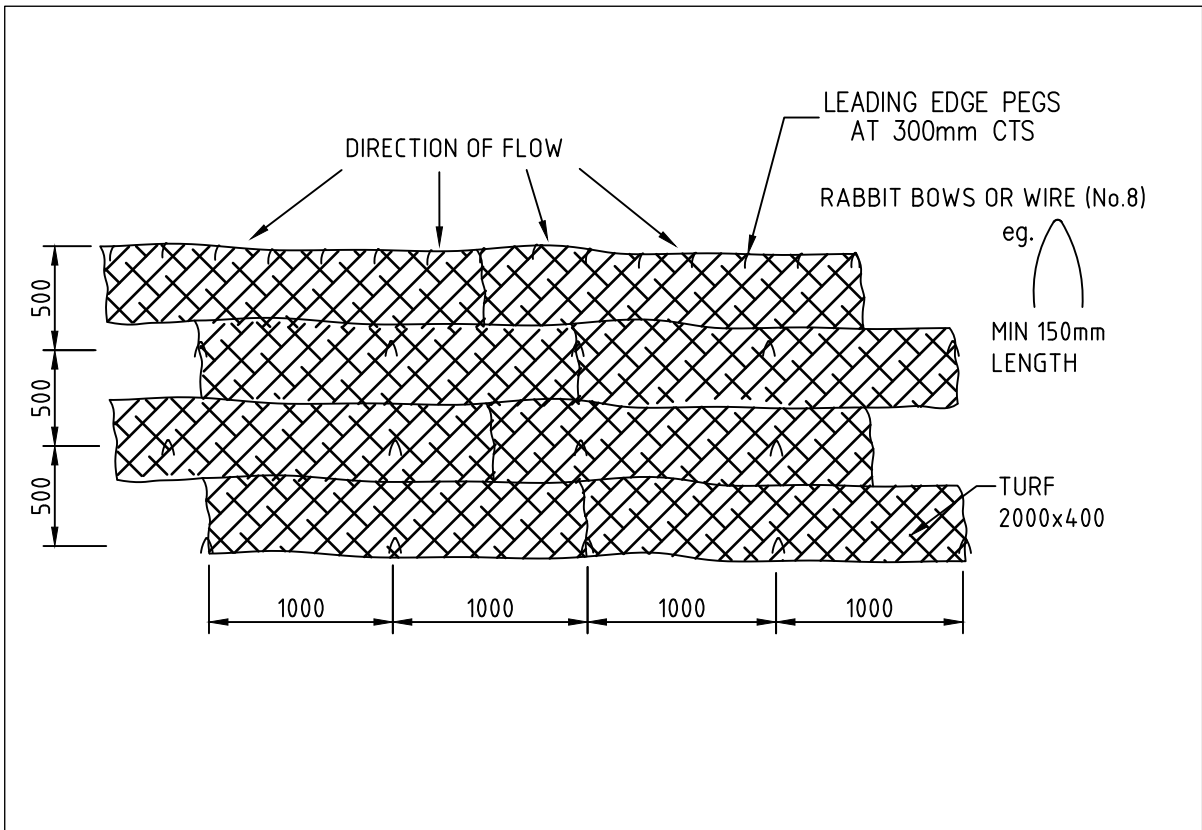


- CONSTRUCTION NOTES:**
1. Install a 450 mm minimum wide roll of turf on the footpath next to the kerb and at the same level as the top of the kerb.
 2. Lay 14 metre long turf strips normal to the kerb every 10 metres.
 3. Rehabilitate disturbed soil behind the turf strip following the ESCP/SWMP.

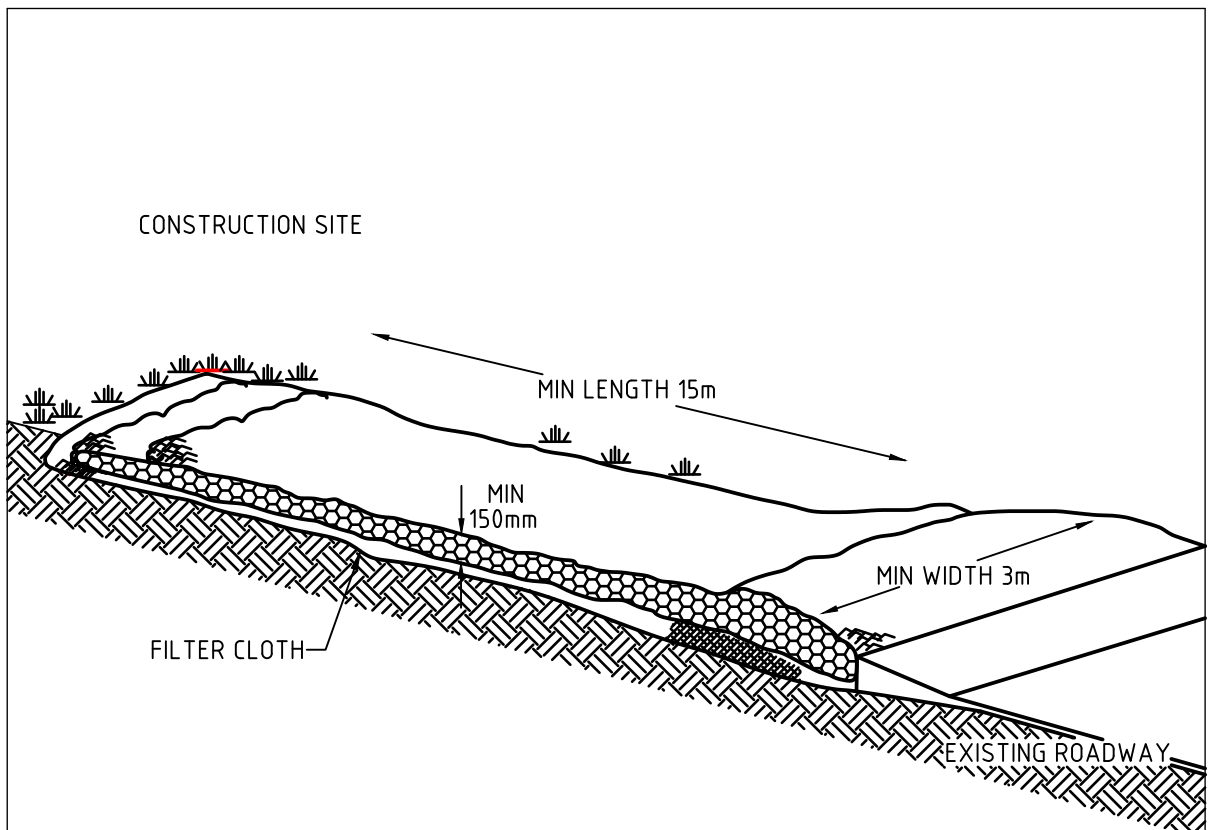
SED_6-13 KERBSIDE TURF STRIP



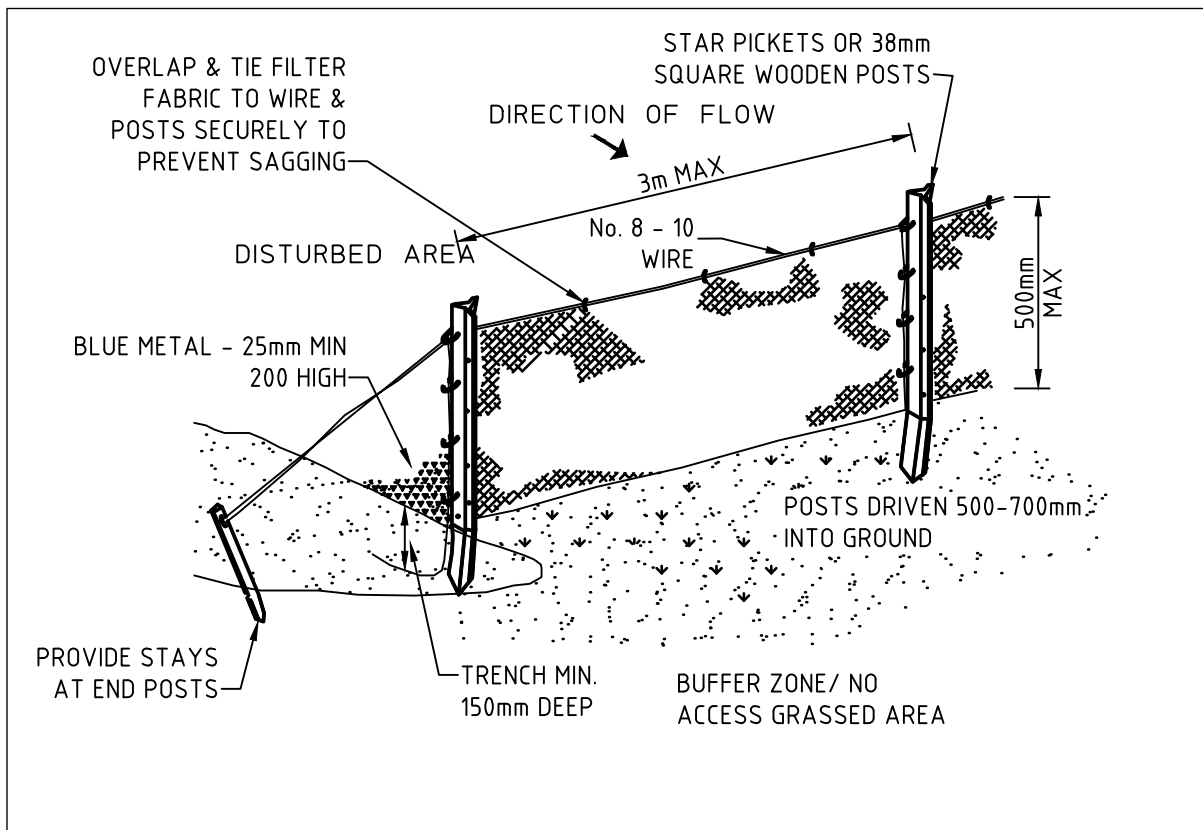
SED_03.01: ROCK GROYPNE OR SAUSAGE



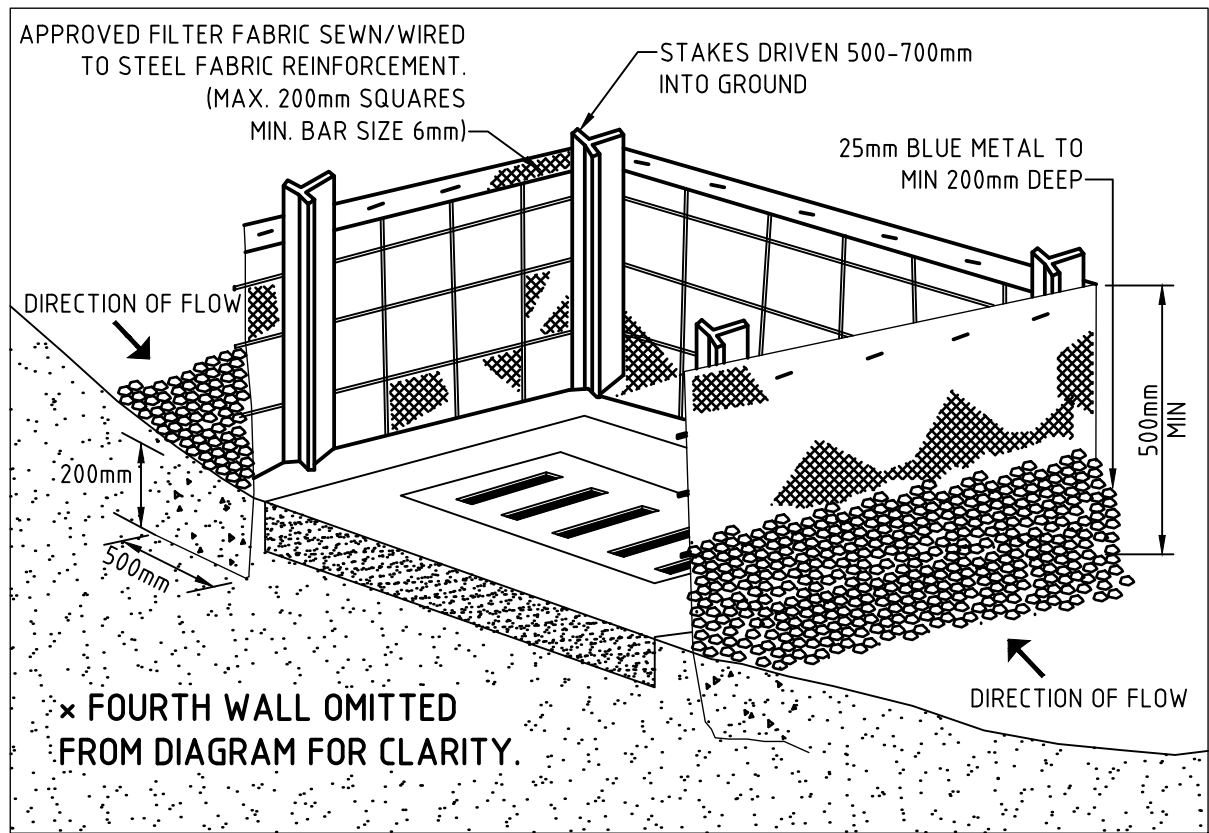
SED_07.02: TURF LAYING CONFIGURATION



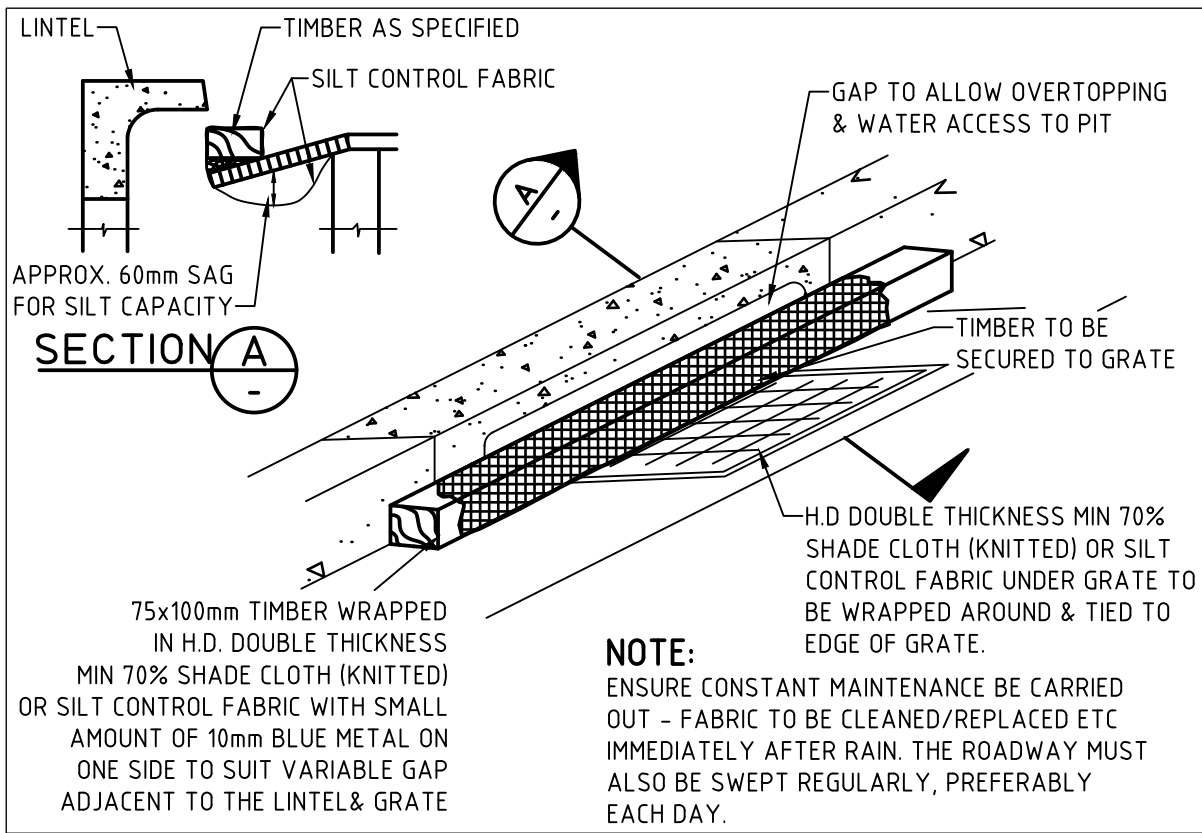
SED_09.01: STABILISED CONSTRUCTION ENTRANCE DETAILS



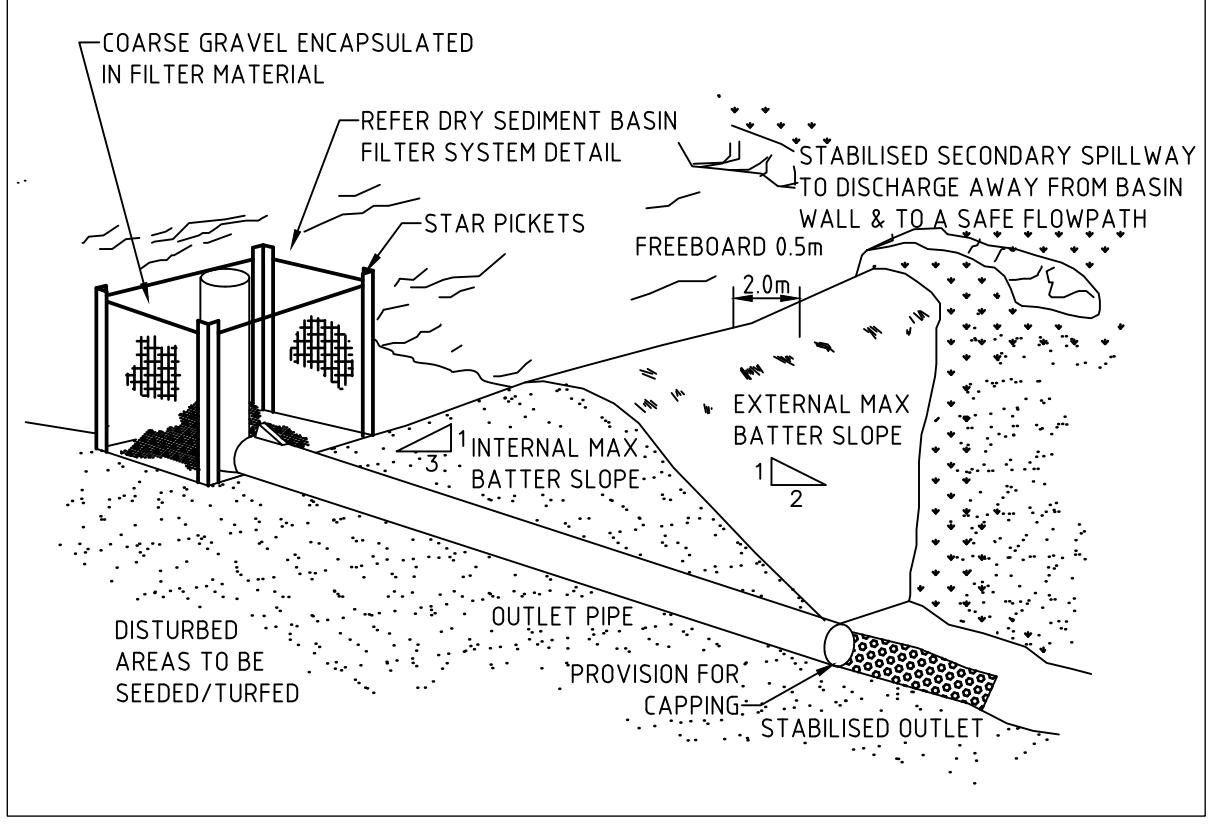
SED_01.01: SILT FENCE - TYPE 1



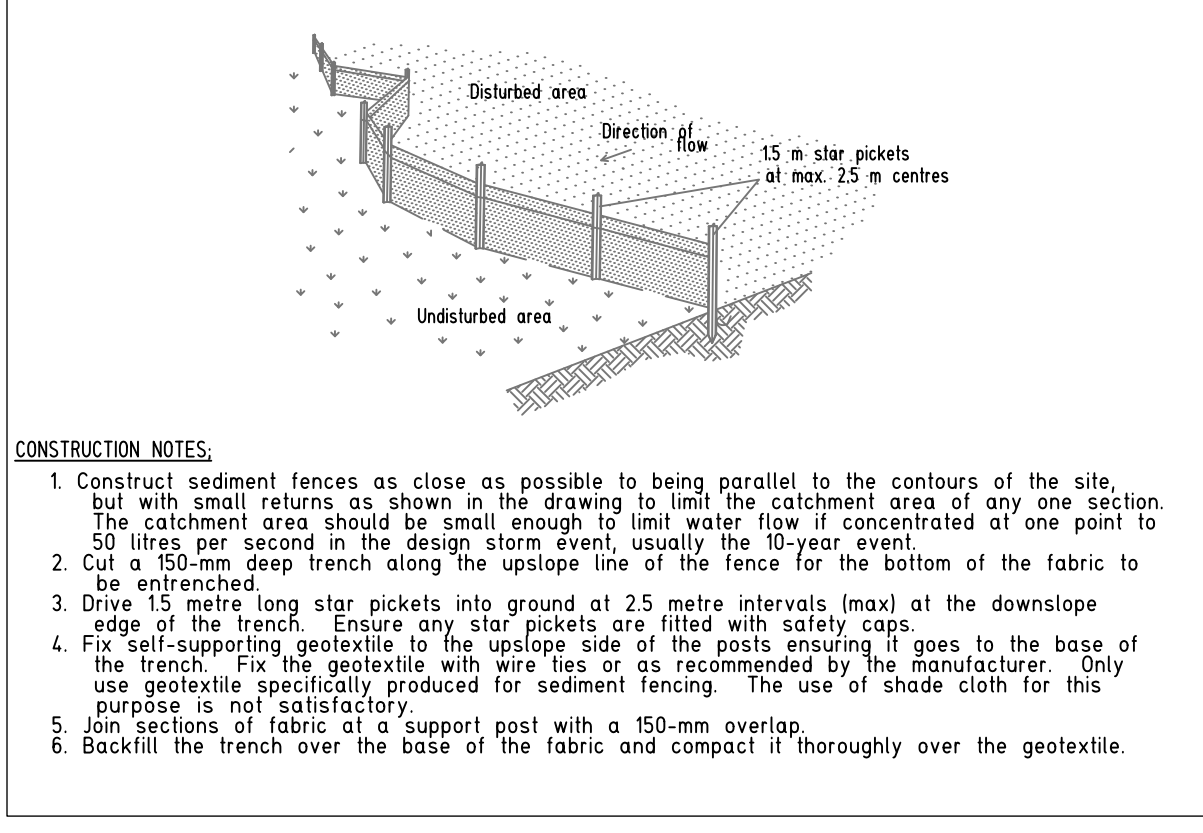
SED_11.05: STORM INLET SEDIMENT TRAP



SED_11.03: KERB INLET CONTROL



SED_10.01: SEDIMENT BASIN OUTLET



- CONSTRUCTION NOTES:**
1. Construct sediment fences as close as possible to being parallel to the contours of the site, but with small returns as shown in the drawing to limit the catchment area of any one section. The catchment area should be small enough to limit water flow if concentrated at one point to 50 litres per second in the design storm event, usually the 10-year event.
 2. Cut a 150-mm deep trench along the upslope line of the fence for the bottom of the fabric to be entrenched.
 3. Drive 15 metre long star pickets into ground at 25 metre intervals (max) at the downslope edge of the trench. Ensure any star pickets are fitted with safety caps.
 4. Fix self-supporting geotextile to the upslope side of the posts ensuring it goes to the base of the trench. Fix the geotextile with wire ties or as recommended by the manufacturer. Only use geotextile specifically produced for sediment fencing. The use of shade cloth for this purpose is not satisfactory.
 5. Join sections of fabric at a support post with a 150-mm overlap.
 6. Backfill the trench over the base of the fabric and compact it thoroughly over the geotextile.

SED_6-8 SEDIMENT FENCE NOTES

			DESIGNED: T.RYDEN	DATE: 27.03.2017
			DRAWN: T.RYDEN	SCALE: AS SHOWN
			SURVEYING: RICHMOND VALLEY COUNCIL	SHEET SIZE: A1
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CLIENT
MAVID GROUP
TITLE
PROPOSED MANUFACTURED HOUSING ESTATE, EVANS HEAD, NSW

PROJECT
MEMORIAL AIRPORT DRIVE & CURRAJONG STREET, EVANS HEAD, NSW

PRELIMINARY CIVIL DRAWINGS			
DRAWING TITLE: EROSION & SEDIMENTATION CONTROL DETAILS			
DWG No: MDE-DA-023-D16	SHEET: 16	OF: 16	REV: 2

