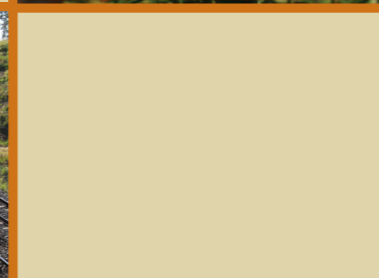
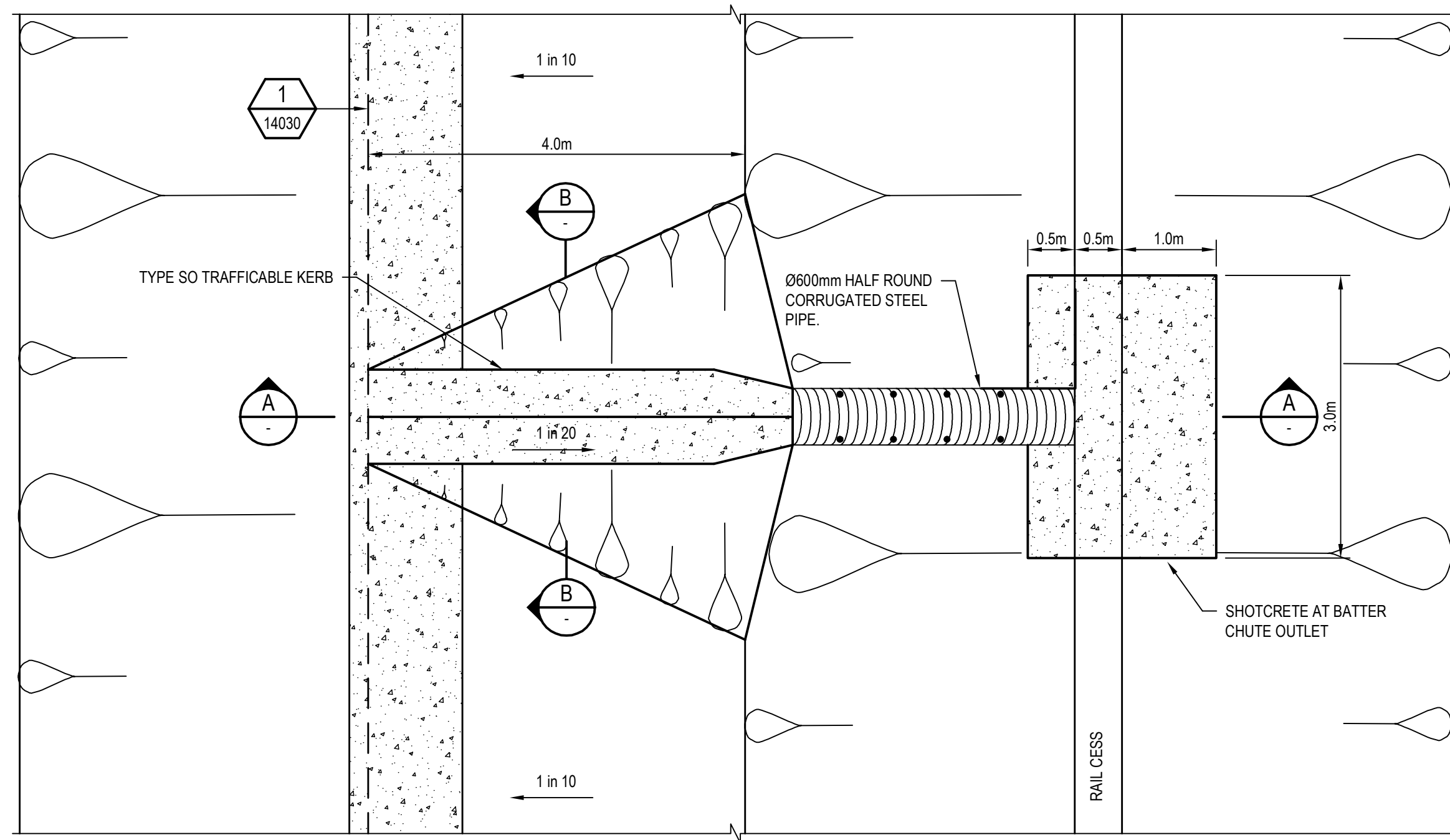




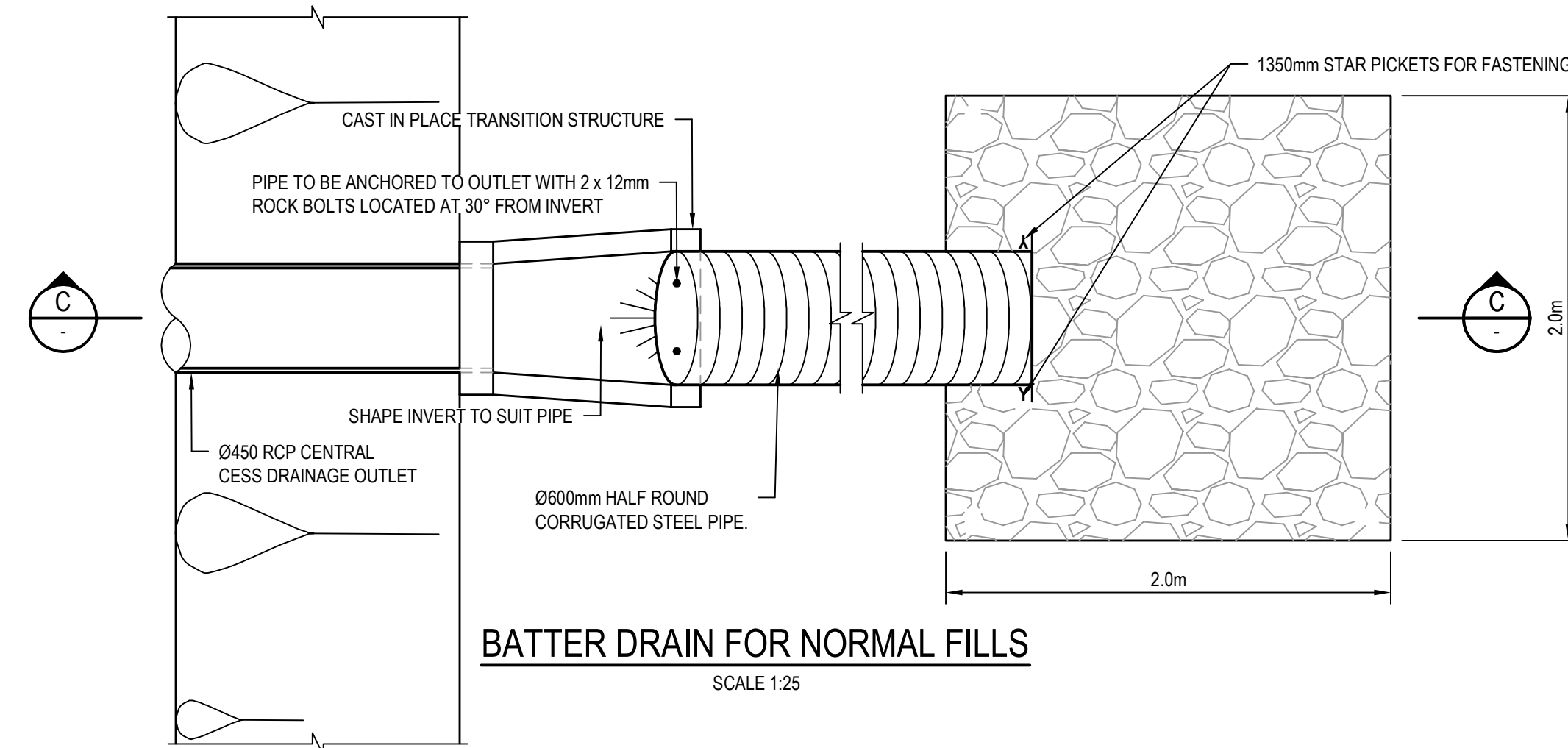
Maitland to Minimbah Third Track Project
Submissions Report
Including Preferred Project Report
Appendix G - Revised Project Drawings
September 2010





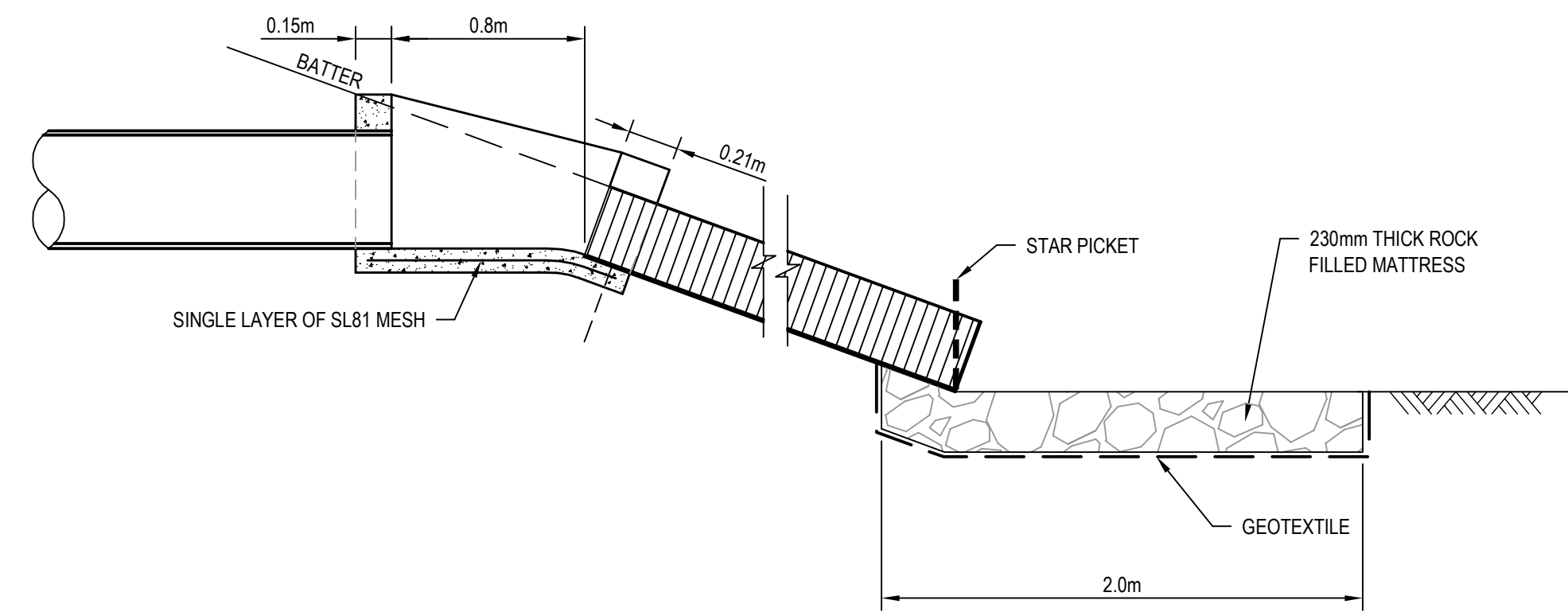
BATTER DRAIN FOR CUT BENCHES IN ROCK

SCALE 1:50



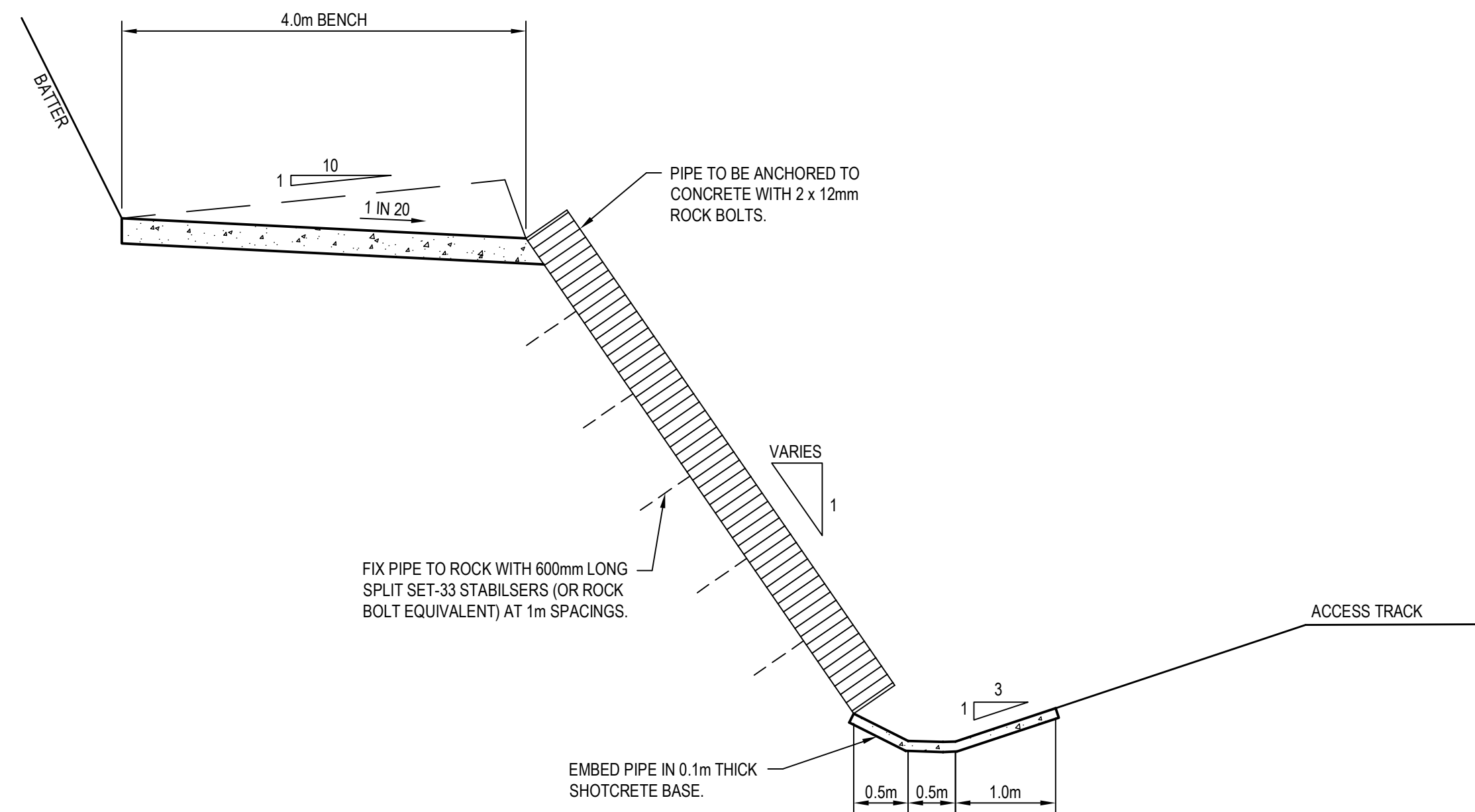
BATTER DRAIN FOR NORMAL FILLS

SCALE 1:25



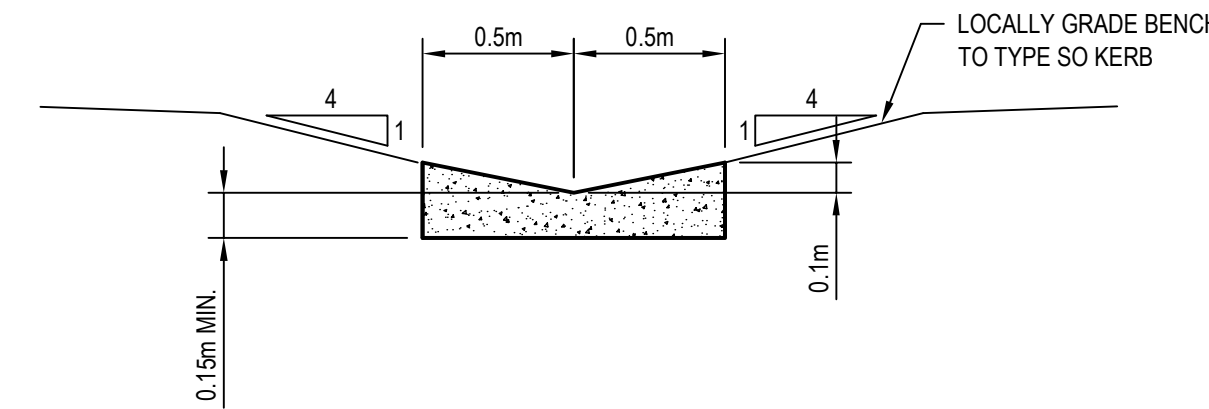
C SECTION

SCALE 1:25



A SECTION

SCALE 1:50

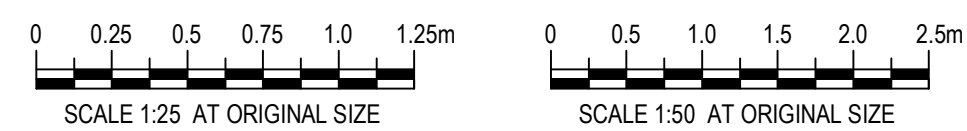


B SECTION

SCALE 1:25

NOTES:

1. TOP LIP OF HALF ROUND CORRUGATED STEEL PIPE TO BE INSTALLED FLUSH WITH THE COMPACTED BATTER SURFACE.
2. HALF ROUND CORRUGATED STEEL PIPE TO BE SECURELY FASTENED WITH 4mm WIRE TO 1350mm STAR PICKETS AT 4.0m INTERVALS BOTH SIDES DOWN BATTER SLOPE FROM TRANSITION STRUCTURE AND TWO 1350mm STAR PICKETS AT LOWER END OF CSP.
3. IN SITU CONCRETE TO BE MINIMUM N32 & PRECAST CONCRETE TYPICALLY N40. FOR GENERAL NOTES REFER TO DRG. ARTCN1100013020.
4. FOR GENERAL NOTES REFER TO DRG. ARTCN1100014021.
5. FOR TYPICAL SECTIONS REFER TO DRG. ARTCN1100014021.
6. FOR PAVEMENTS REFER TO DRG. ARTCN1100014031.
7. FOR CENTRAL AND CESS DRAINS REFER TO DRG. ARTCN1100014050.
8. BATTER PROTECTION IS TO BE MAINTAINED UNTIL ESTABLISHMENT OF VEGETATION.



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Approval Date	0	29.07.10	ISSUED FOR CONSTRUCTION	M.J.W.	D.W.*
Rev	Date	Revision Description	Drawn	Checked	Approved

Designing Company:	GHD	Address:	Level 3 GHD Tower, 24 Honeysuckle Drive Newcastle NSW 2300 Australia P 61 2 4941 2796 W www.hunter8alliance.com.au
GHD Job Number:	22-14630	Drawn:	D.GRIFFIN
		Designed:	D.GREEN
		Drafting Check:	M.DERWIN*
		Design Check:	P.PIGRAM*
Approved:	G.WICKENS*	Conditions of Use: This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.	
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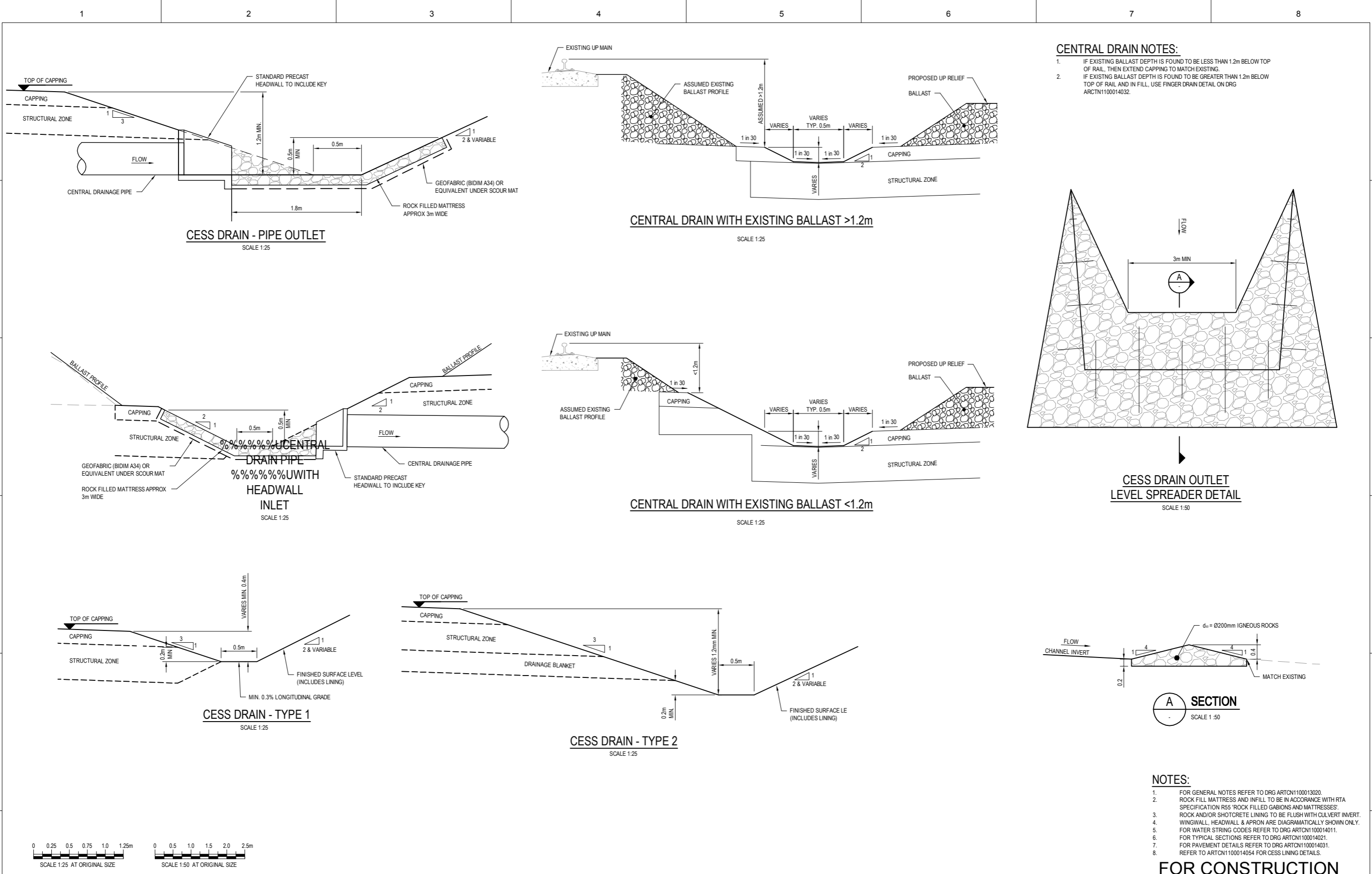
ARTCN1100014052

MAITLAND TO MINIMBAH - THIRD TRACK
TYPICAL DETAILS - WATER
BATTER DRAINS

Sheet No.

Scale (A1):
AS SHOWN

PLOT DATE: 24 August 2010 9:40 AM
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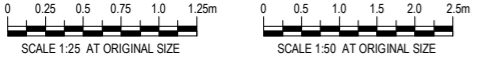
CENTRAL DRAIN NOTES:

- IF EXISTING BALLAST DEPTH IS FOUND TO BE LESS THAN 1.2m BELOW TOP OF RAIL, THEN EXTEND CAPPING TO MATCH EXISTING.
- IF EXISTING BALLAST DEPTH IS FOUND TO BE GREATER THAN 1.2m BELOW TOP OF RAIL AND IN FILL, USE FINGER DRAIN DETAIL ON DRG ARCTN1100014032.

NOTES:

- FOR GENERAL NOTES REFER TO DRG ARCTN1100013020.
- ROCK FILL MATTRESS AND INFILL TO BE IN ACCORDANCE WITH RTA SPECIFICATION R55 'ROCK FILLED GABIONS AND MATTRESSES'.
- ROCK AND/OR SHOTCRETE LINING TO BE FLUSH WITH CULVERT INVERT.
- WINGWALL, HEADWALL & APRON ARE DIAGRAMMATICALLY SHOWN ONLY.
- FOR WATER STRING CODES REFER TO DRG ARCTN1100014011.
- FOR TYPICAL SECTIONS REFER TO DRG ARCTN1100014021.
- FOR PAVEMENT DETAILS REFER TO DRG ARCTN1100014031.
- REFER TO ARCTN1100014054 FOR CESS LINING DETAILS.

FOR CONSTRUCTION



PLOT DATE: 25 August 2010 10:41 AM PLOTTED BY: S. GORRI
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	Alternate DMS number:

ARTC APPROVAL		
Approved By		
Signed:		
Approval Date		
Rev	Date	Revision Description
0	29.07.10	ISSUED FOR CONSTRUCTION
		M.J.W

Designing Company:	GHD	Address:	Level 3 GHD Tower, 24 Honeysuckle Drive Newcastle NSW 2300 Australia P 61 2 4941 2799 W www.hunter8alliance.com.au
GHD Job Number:	22-14630	Drawn	D.GRIFFIN
		Designed	M.J.PIGGOTT
		Drafting Check	
		Design Check	
Approved		Date	

Hunter
ALLIANCE

MAITLAND TO MINIMBAH - THIRD TRACK
TYPICAL DETAILS - WATER
CENTRAL AND CESS DRAINS

ARTC DWG NUMBER	0
ARTCN1100014050	
Sheet No.	
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1 2 3 4 5 6 7 8

A

A

B

B

C

C

D

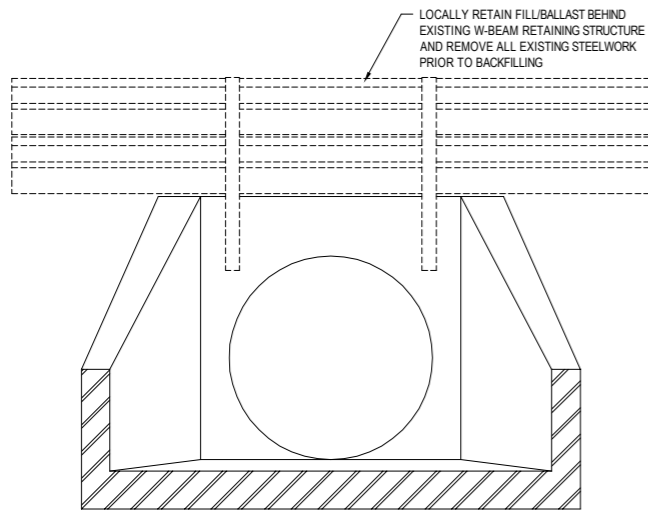
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E

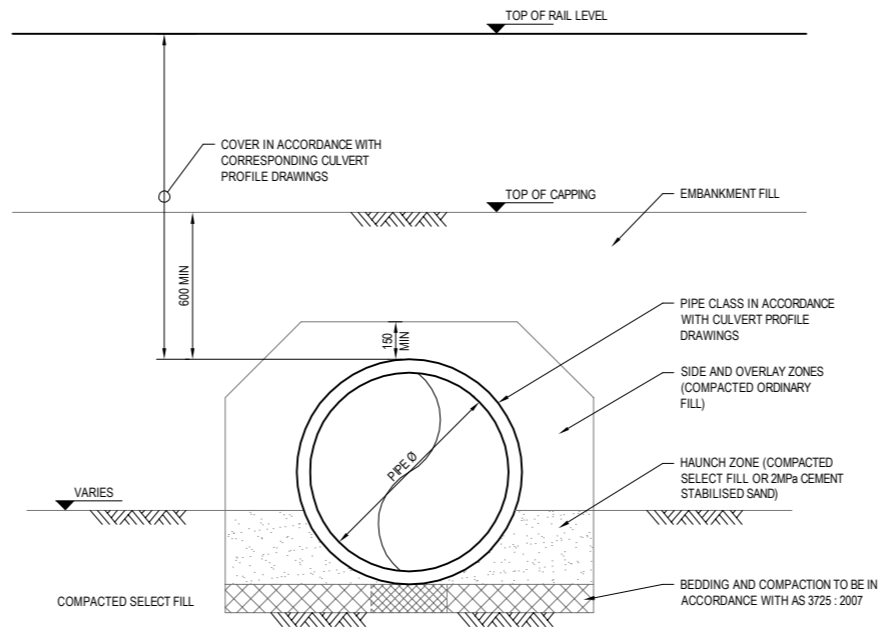
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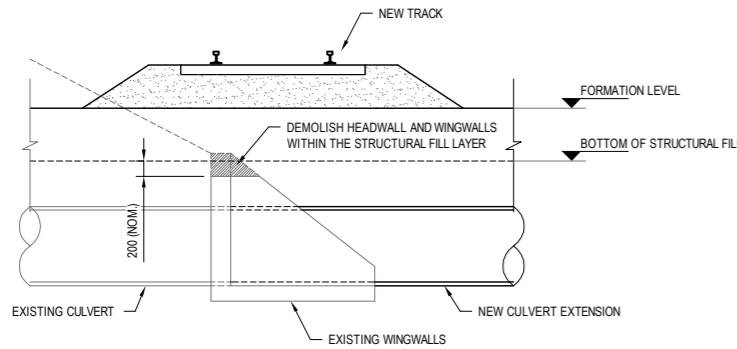
F



TYPICAL CULVERT ELEVATION WITH W-BEAM RETAINING STRUCTURE
SCALE 1:20



TYPICAL COMPACTION DETAIL AROUND RCP
SCALE 1:20



TYPICAL BACKFILL OVER EXISTING HEADWALL DETAIL
NTS

NOTES
1. REFER TO ARTCN1100013020 FOR GENERAL NOTES.

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0 200 400 600 800 1000mm SCALE 1:20 AT ORIGINAL SIZE

0 500 1000 1500 2000 2500mm SCALE 1:50 AT ORIGINAL SIZE

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Approval Date									
Rev	Date	Revision Description	ICG	TF*	GW*				
0	12.08.10	ISSUED FOR CONSTRUCTION							

Designing Company:
GHD
GHD Job Number:
22-14630

Drawn
I. GOULD
Drafting Check
R. GUTERRES*

Approved
G. WICKENS*
Date
12.08.10

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Designed
K. O'CONNOR
Design Check
J. PAUTASSO*

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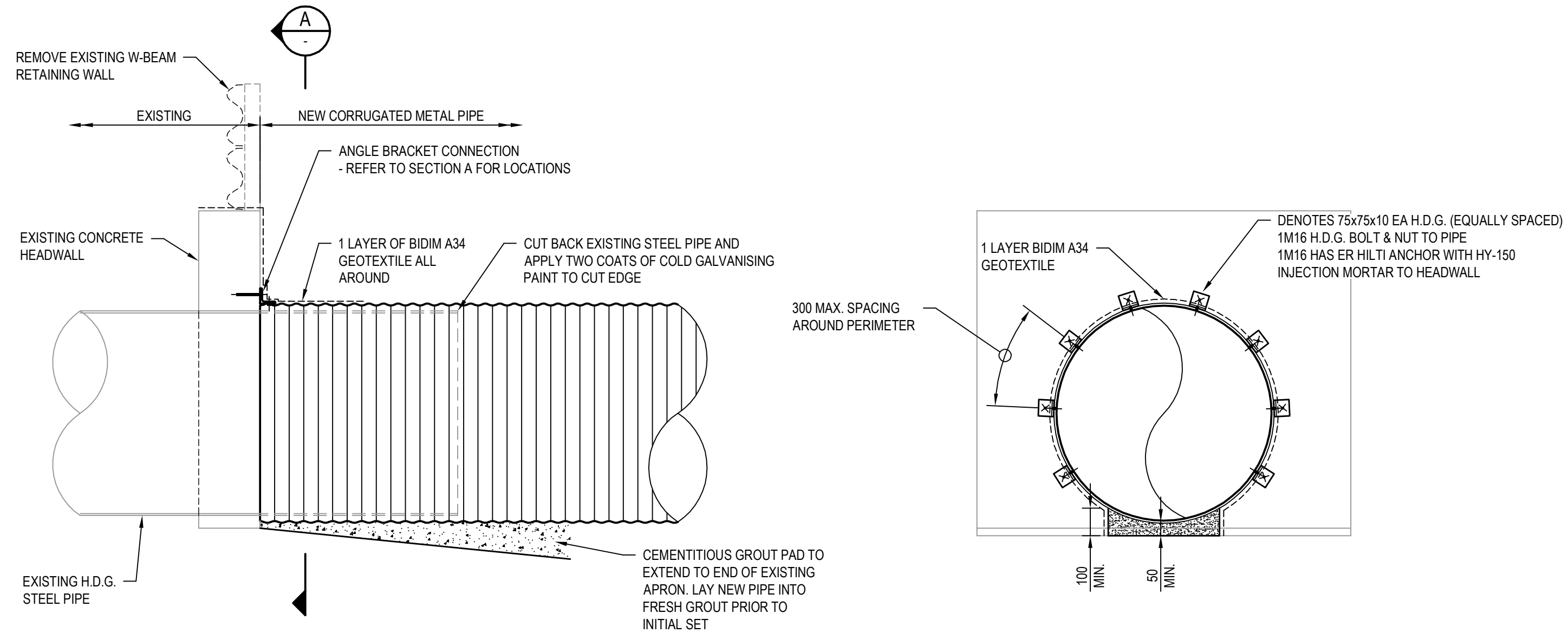
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MAITLAND TO MINIMBAH - THIRD TRACK
CULVERT EXTENSION CONNECTION DETAILS
TYPICAL DETAILS

Sheet No.

Scale (A1):
AS SHOWN

Plot Date: 26 August 2010 11:24 AM PLOTTED BY: SORR1
GHD FILE PATH: G:\2214630\Drawings\080810\ARTCN1100014454.dwg



CONNECTION TYPE H9
SCALE 1:20

SECTION A
SCALE 1:20

PIPE DIAMETER SHOWN IS
DIAGRAMMATIC ONLY

NOTES
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Approval Date																				
Rev	Date	Revision Description			ICG	TF*	GW*	Approved	Date											
					Drawn	Checked	Approv.	Date												

Designing Company:
GHD
GHD Job Number:
22-14630

Address:
Level 3 GHD Tower, 24 Honeysuckle Drive
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Drawn
I. GOULD

Designed
K. O'CONNOR

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Design Check

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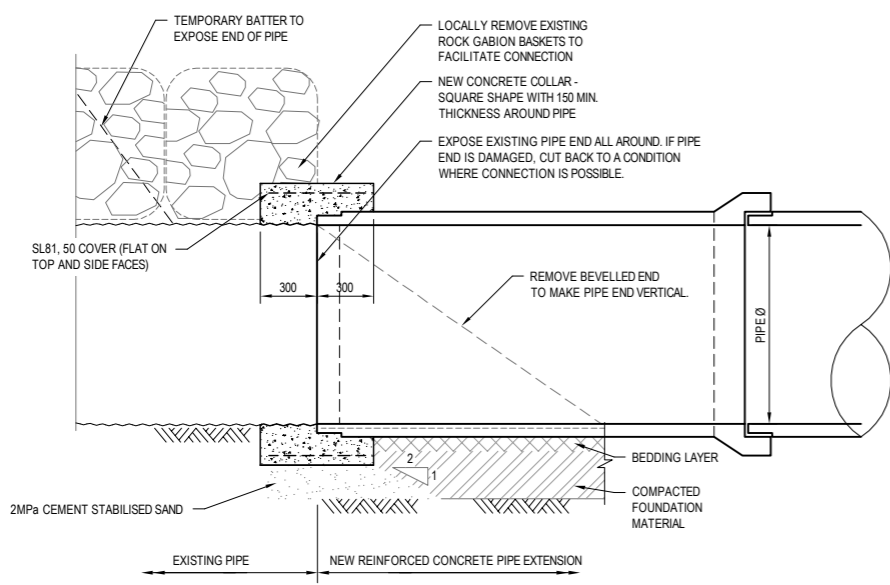


H8R DWG
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H8R-DWG-S2G-WAT-4453

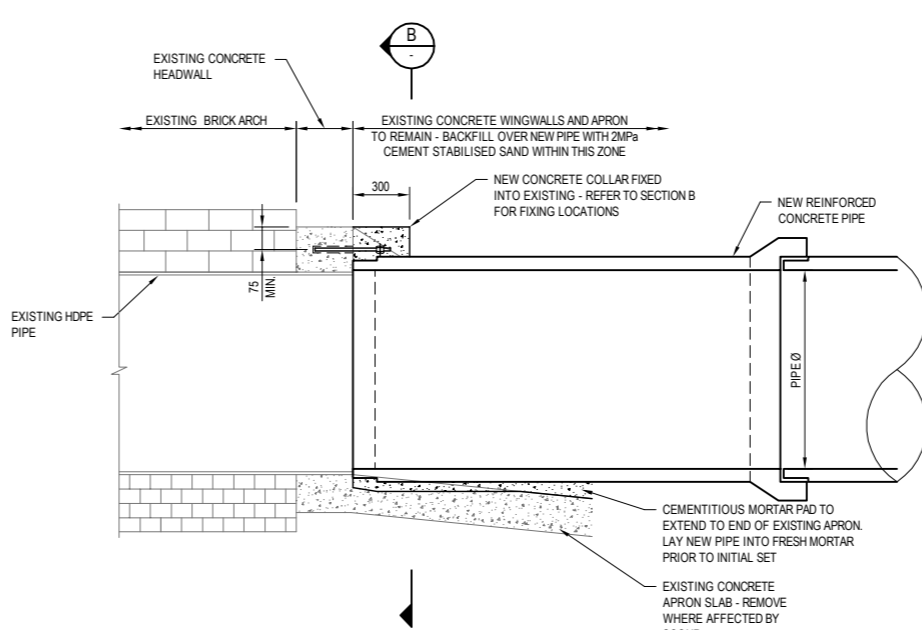
MAITLAND TO MINIMBAH - THIRD TRACK
CULVERT EXTENSION CONNECTION DETAILS
CONNECTION TYPE H9

Sheet No.
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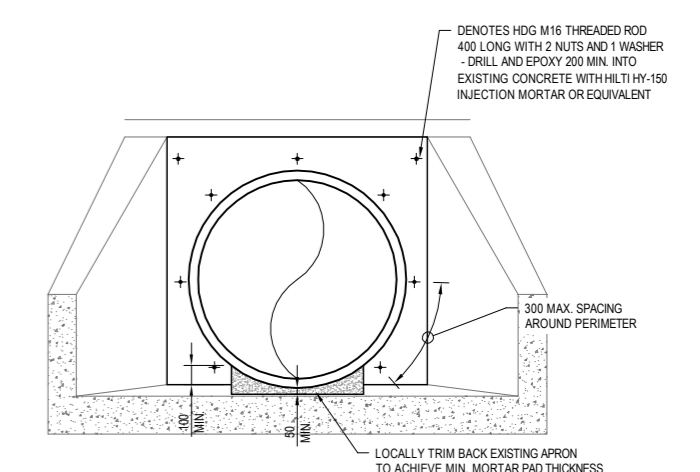
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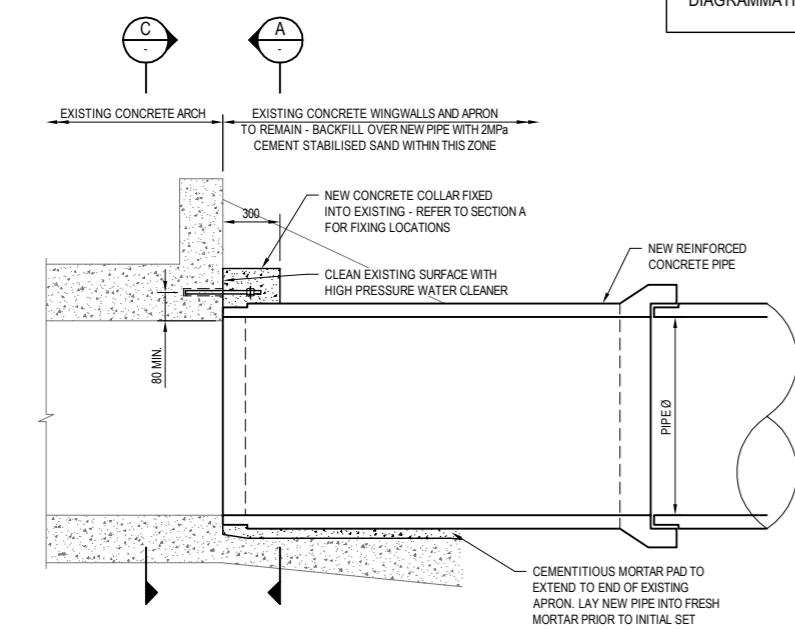


CONNECTION TYPE C8
SCALE 1:20

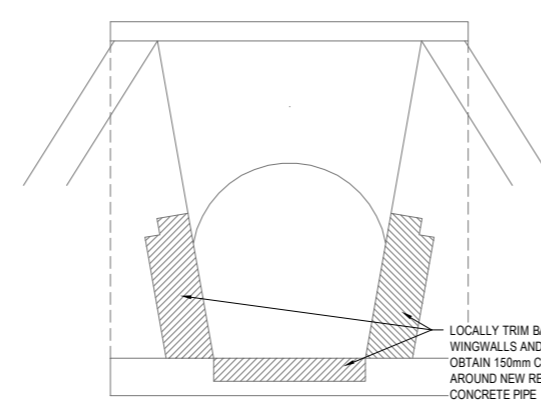


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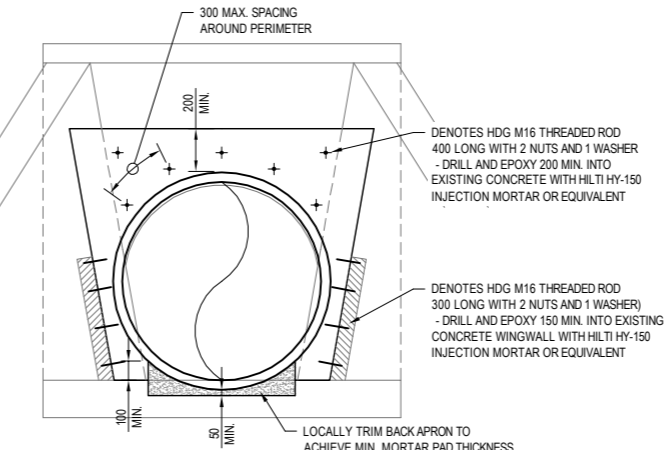
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DIAGRAMMATIC ONLY



CONNECTION TYPE C7
SCALE 1:20



EXTENSION AND COLLAR NOT SHOWN



EXTENSION AND COLLAR SHOWN

LOCALLY PROVIDE AND SHAPE LOW SHRINK CEMENTITIOUS MORTAR TO PROVIDE SMOOTH TRANSITION BETWEEN ARCH AND PIPE WHERE NOTED

C SECTION
SCALE 1:20

- NOTES**
- REFER TO ARTCN1100013020 FOR GENERAL NOTES.
 - REFER TO ARTCN1100014454 FOR COMPACTION DETAILS.

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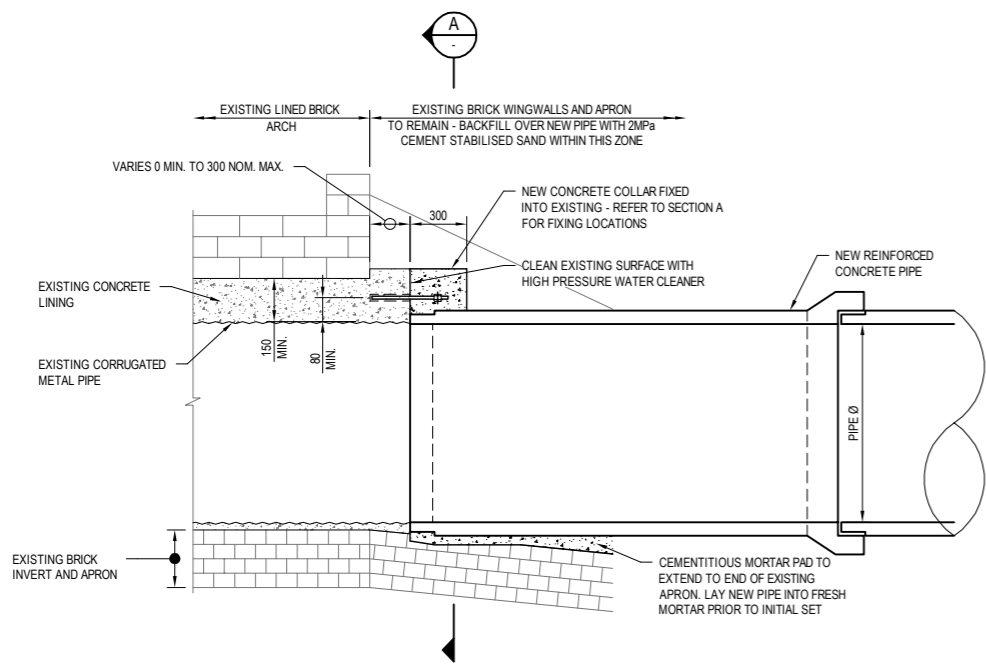
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Signed:					
Approval Date:					
Rev	Date	Revision Description	ICG	TF*	GW*
0	12.08.10	ISSUED FOR CONSTRUCTION			

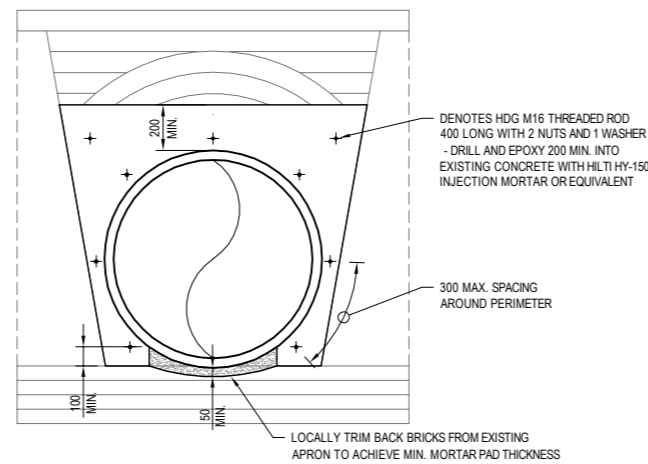
Designing Company: GHD GHD Job Number: 22-14630	Address: Level 3 GHD Tower, 24 Honeysuckle Drive Newcastle NSW 2300 Australia P 61 2 4941 2799 W www.hunter8alliance.com.au
Drawn: I. GOULD	Designed: K. O'CONNOR
Drafting Check: R. GUTERRES*	Design Check: J. PAUTASSO*
Approved: G. WICKENS*	Date: 12.08.10

	ARTC DWG NUMBER 0
	ARTCN1100014452
MAITLAND TO MINIMBAH - THIRD TRACK CULVERT EXTENSION CONNECTION DETAILS CONNECTION TYPES C6, C7 & C8	
Sheet No.	Scale (A1): AS SHOWN

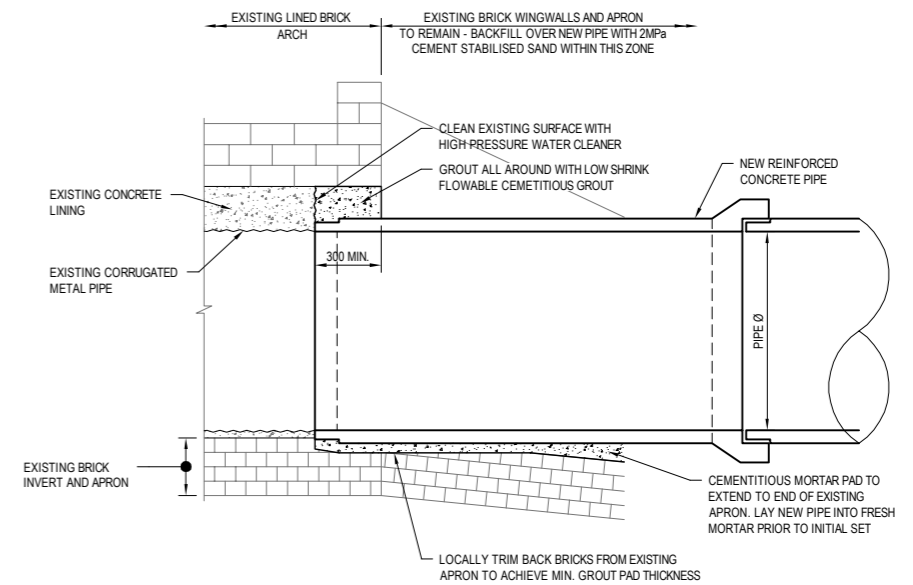
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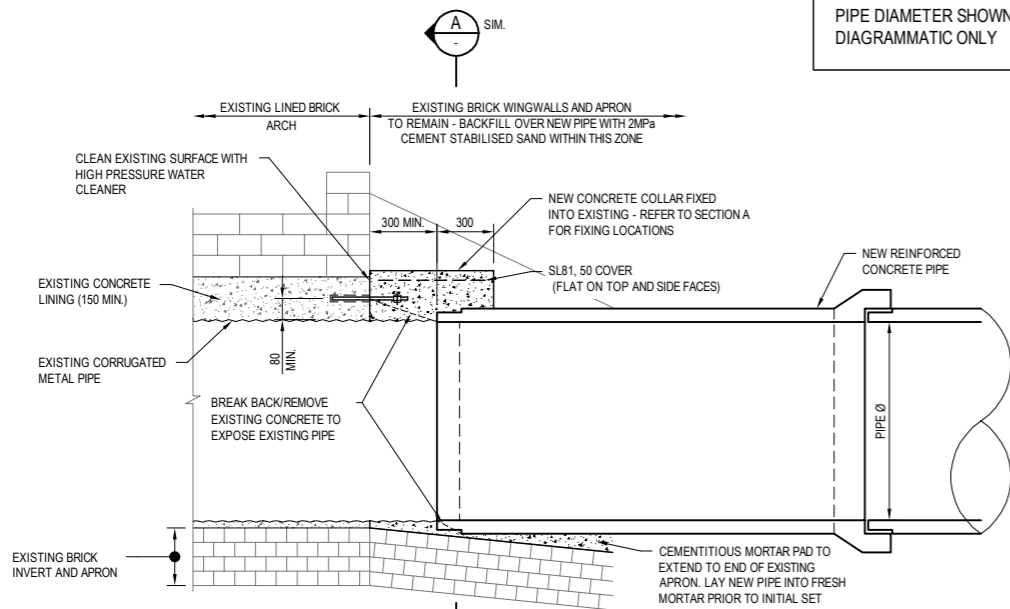
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SCALE 1:20



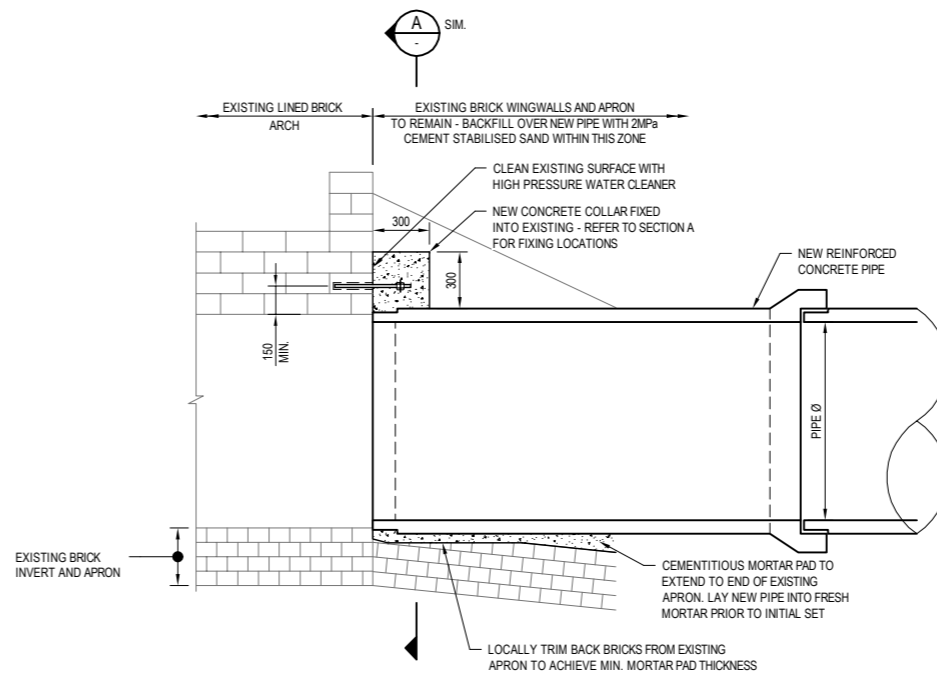
A SECTION
SCALE 1:20



CONNECTION TYPE C4
SCALE 1:20



CONNECTION TYPE C3
SCALE 1:20



CONNECTION TYPE C5
SCALE 1:20

PIPE DIAMETER SHOWN IS DIAGRAMMATIC ONLY

NOTES

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- REFER TO ARTCN1100014454 FOR COMPACTION DETAILS.

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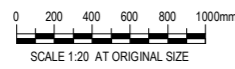
MAITLAND TO MINIMBAH - THIRD TRACK
CULVERT EXTENSION CONNECTION DETAILS
CONNECTION TYPES C2, C3, C4 & C5

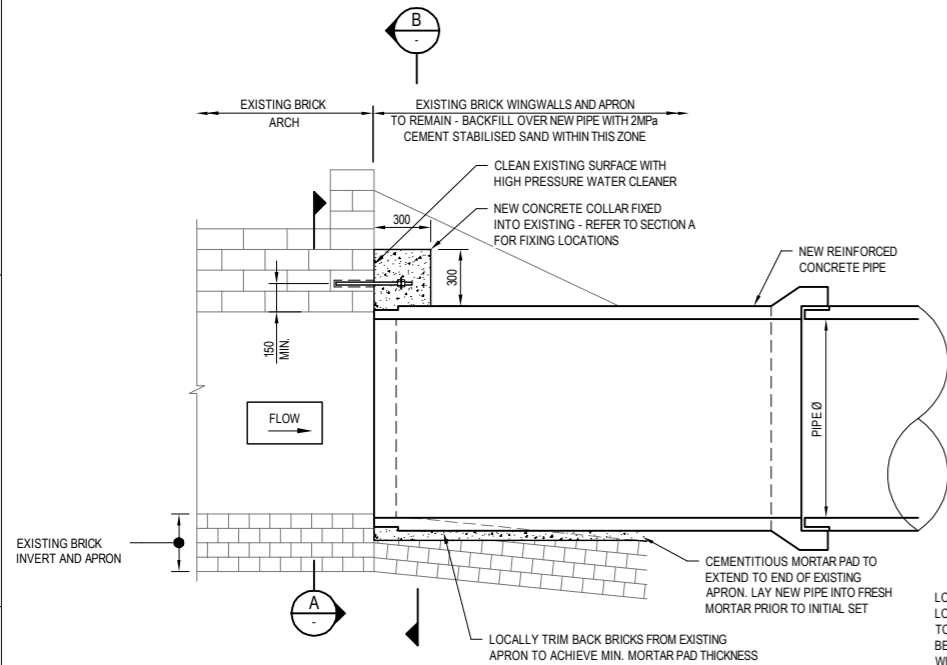
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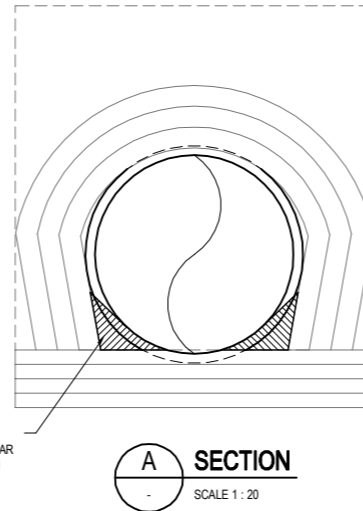
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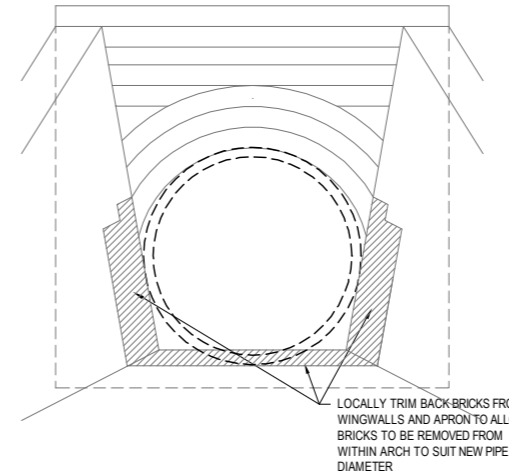




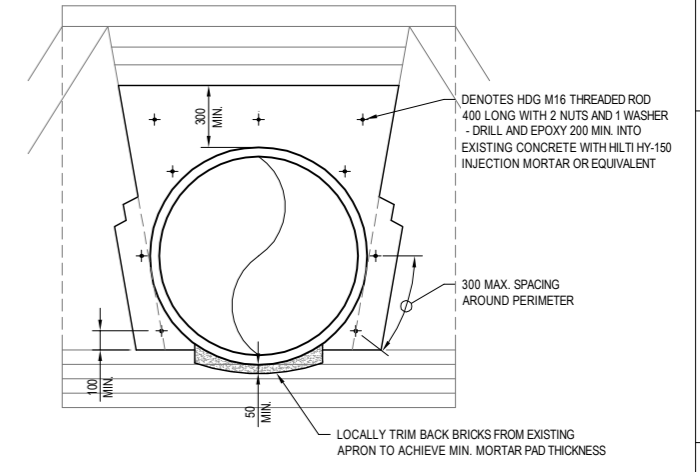
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SCALE 1:20



A SECTION
SCALE 1:20



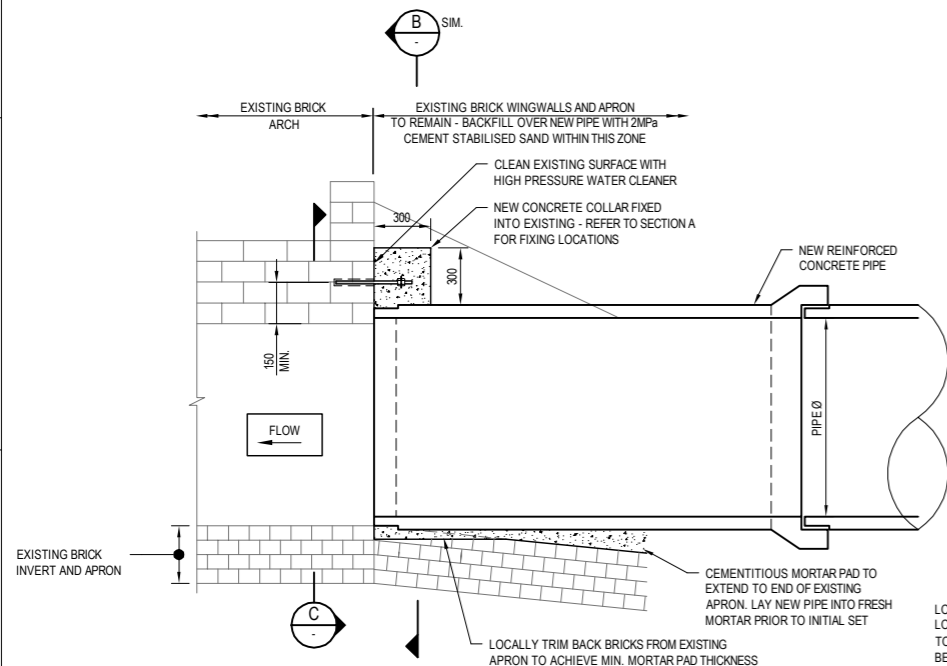
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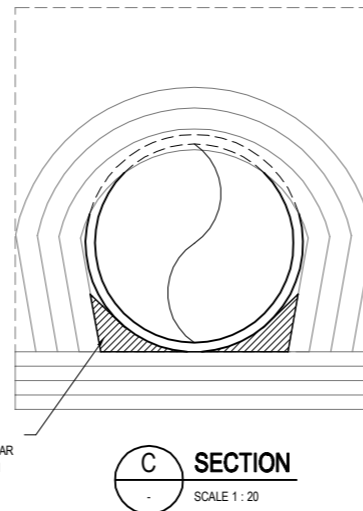
EXTENSION AND COLLAR SHOWN

B SECTION
SCALE 1:20

PIPE DIAMETER SHOWN IS
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CONNECTION TYPE C1b
SCALE 1:20



C SECTION
SCALE 1:20

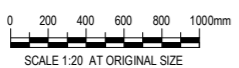
LOCALLY PROVIDE AND SHAPE
LOW SHRINK CEMENTITIOUS MORTAR
TO PROVIDE SMOOTH TRANSITION
BETWEEN ARCH AND PIPE
WHERE NOTED

- NOTES**
- REFER TO ARTCN1100013020 FOR GENERAL NOTES.
 - REFER TO ARTCN1100014454 FOR COMPACTION DETAILS.

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Signed:					
Approval Date	0	12.08.10	ISSUED FOR CONSTRUCTION	ICG	TF*
Rev	Date	Revision Description	Drawn	Checked	Approv.

Designing Company:	GHD	Address:	Level 3 GHD Tower, 24 Honeysuckle Drive Newcastle NSW 2300 Australia P 61 2 4941 2700 W www.hunter8alliance.com.au
GHD Job Number:	22-14630	Designed:	K. O'CONNOR
Drawn:	I. GOULD	Design Check:	J. PAUTASSO*
Drafting:	R. GUTERRES*	Approved:	G. WICKENS*
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	ARTC DWG NUMBER	0
	ARTCN1100014450	
MAITLAND TO MINIMBAH - THIRD TRACK CULVERT EXTENSION CONNECTION DETAILS CONNECTION TYPES C1a & C1b		Sheet No.
		Scale (A1): AS SHOWN

PLOT DATE: 26 August 2010 11:24 AM PLOTTED BY: SORR1
 GHD FILE PATH: G:\2214630\Drawings\ASB\ARTCN1100014450.dwg

