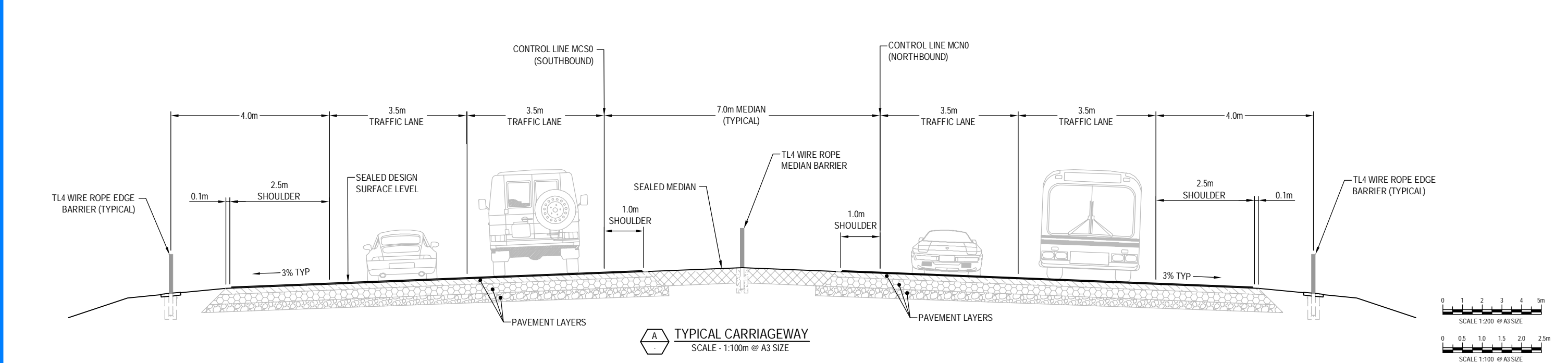
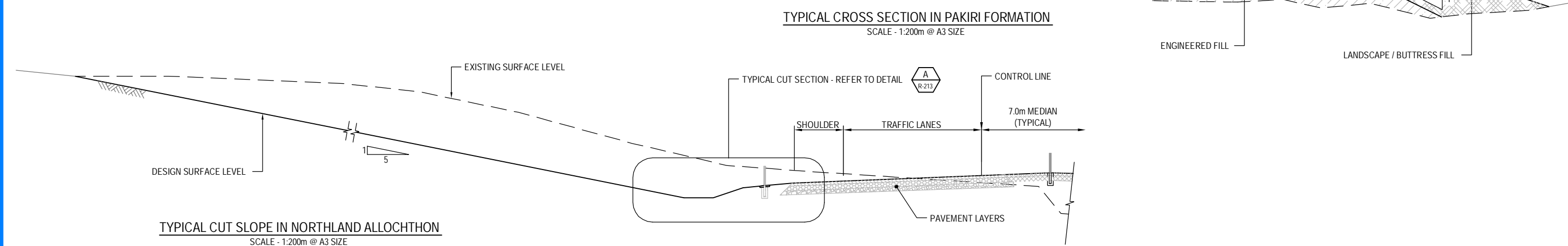
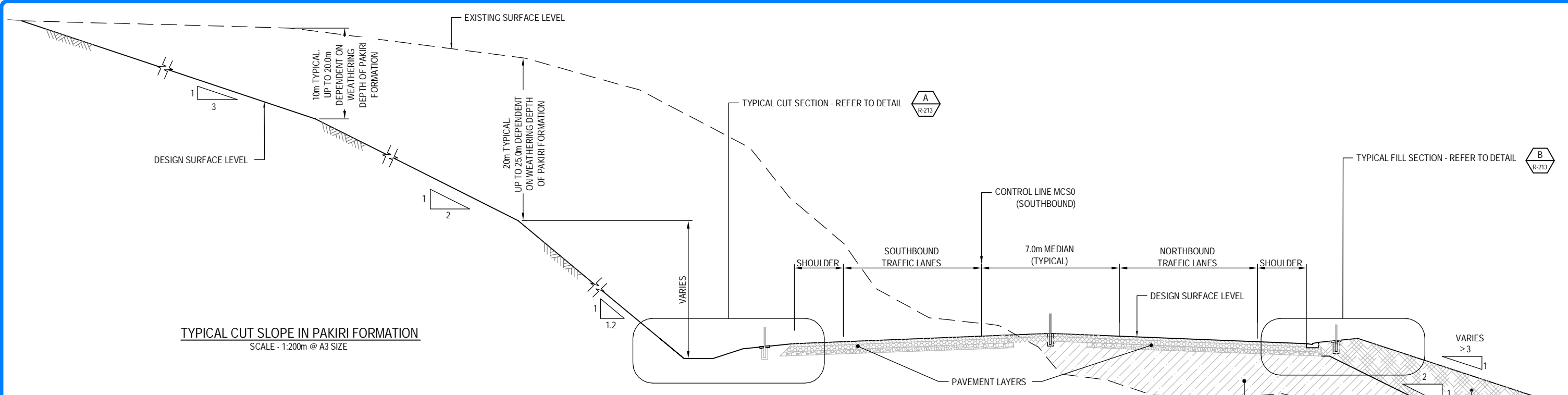


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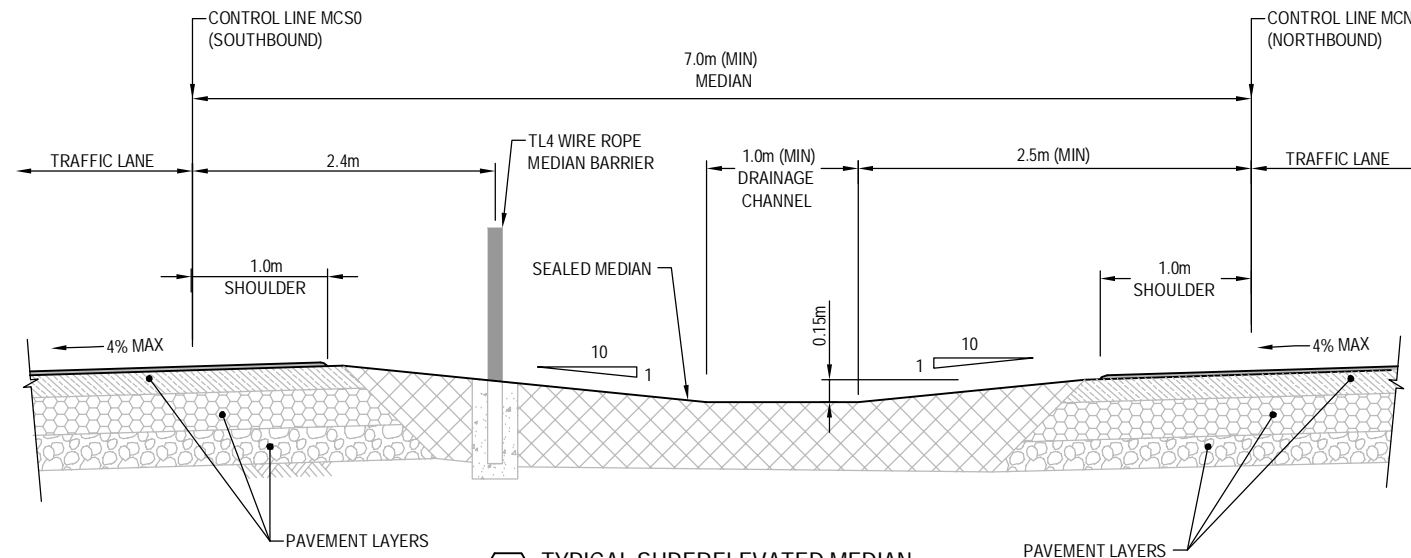
AMD	DATE	DESIGN REVIEW	REVD D. MGR	APPD A. MGR	PURPOSE OF ISSUE / AMENDMENT
0	30/08/13	RET	MRH	TI	ISSUE FOR NOR / CONSENT



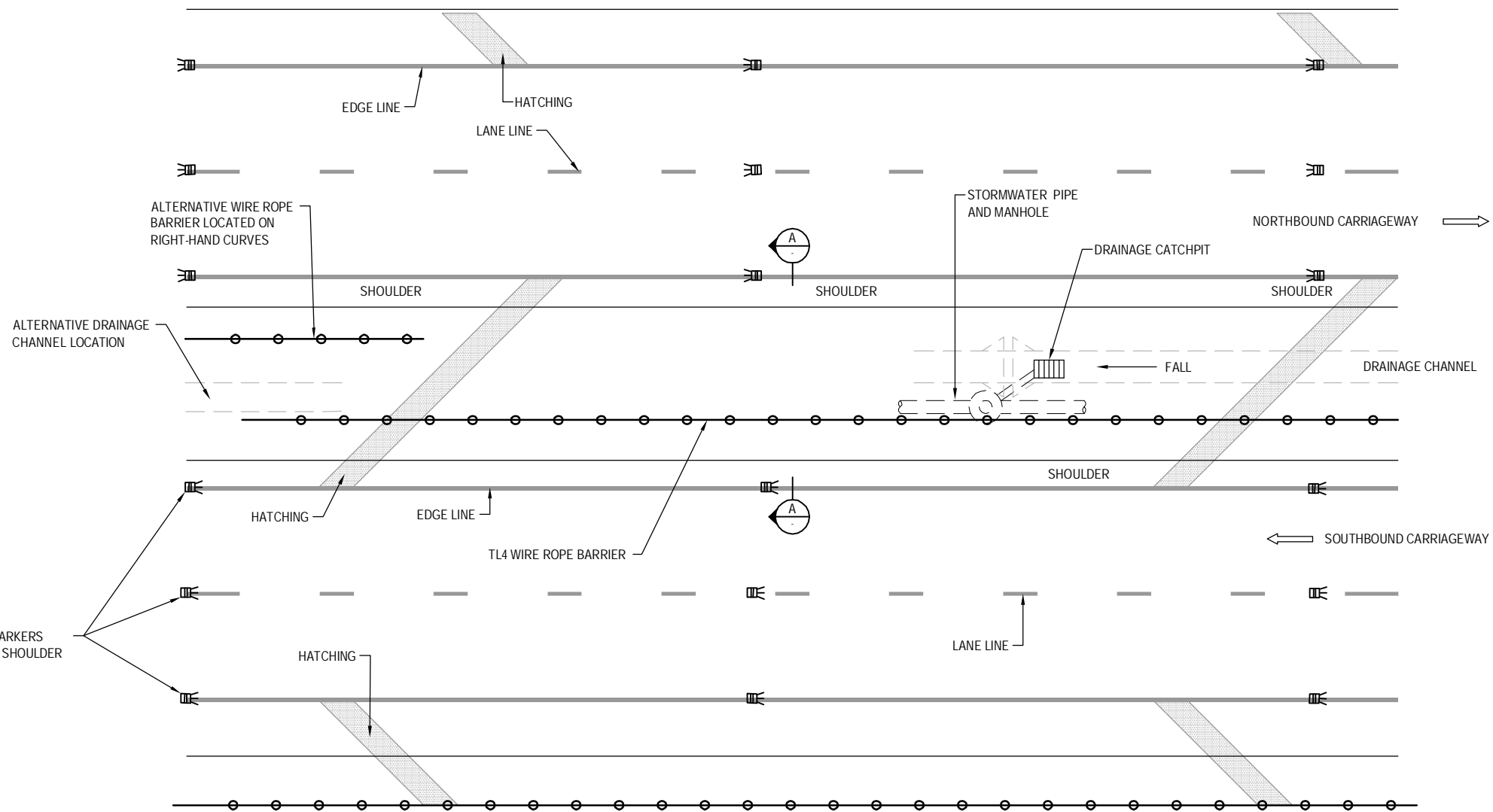
DISCLAIMER
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ARA TŪHONO - PŪHOI TO WELLSFORD			
PŪHOI TO WARKWORTH - FOR RMA APPROVALS			
DRAWN SP / AN	DRAFTING CHECK IH	REVIEWED DISCIPLINE MANAGER MRH	APPROVED ALLIANCE MANAGER TI
DESIGNED IH	DESIGN REVIEW RET		

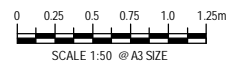
TYPICAL CROSS SECTIONS AND DETAILS			
SHEET 1 OF 8			
SCALE AS SHOWN	CONTRACT No PA3748	DRAWING No R-211	AMDT 0



A TYPICAL SUPERELEVATED MEDIUM
SCALE - 1:50m @ A3 SIZE



B TYPICAL MEDIUM - SUPERELEVATED CURVES
NOT TO SCALE - INDICATIVE



S:\Further North - PAA330 Design\330.5 Technical\01-Drawing Production\CADD Drawings\A-R-211_5-216.dwg Plot Date: 19 August, 2013 - 9:53 AM

AMD	DATE	DESIGN REVIEW	REVD D. MGR	APPD A. MGR	PURPOSE OF ISSUE / AMENDMENT
0	30/08/13	RET	MRH	TI	ISSUE FOR NOR / CONSENT

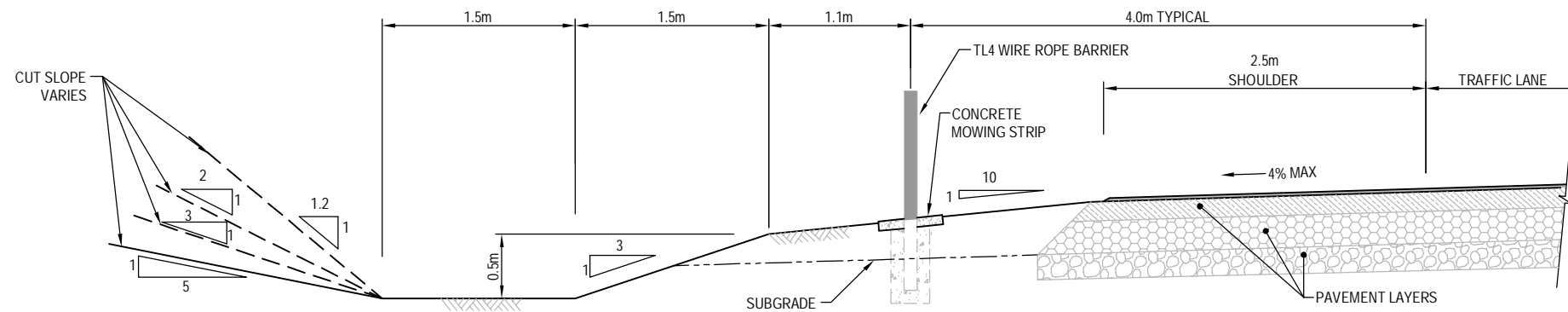


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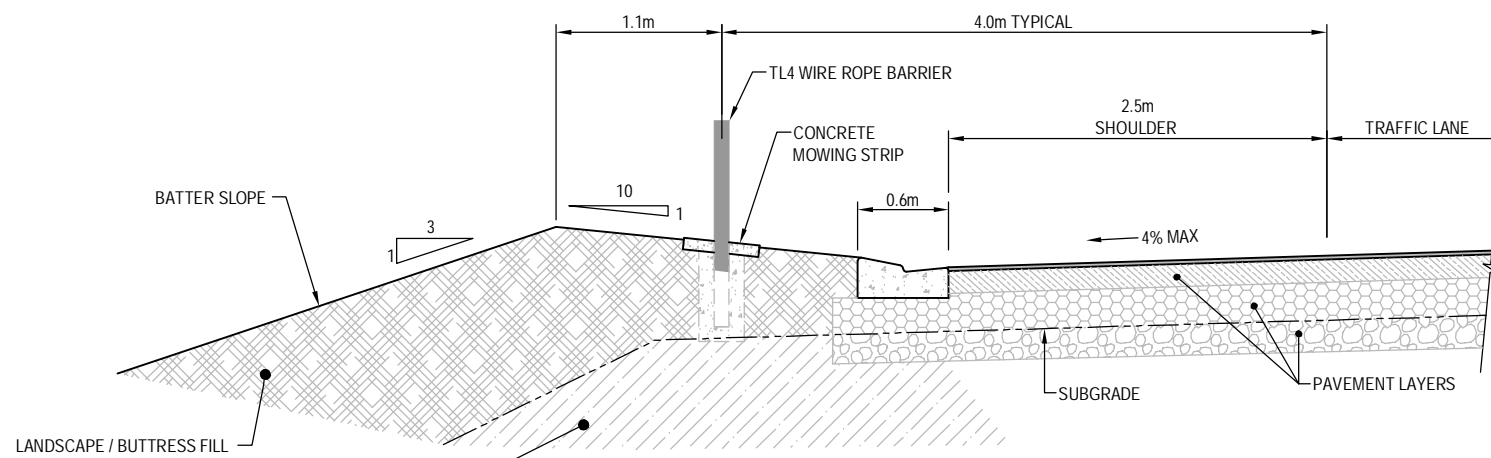
ARA TŪHONO - PŪHOI TO WELLSFORD			
PŪHOI TO WARKWORTH - FOR RMA APPROVALS			
DRAWN SP / AN	DRAFTING CHECK IH	REVIEWED DISCIPLINE MANAGER MRH	APPROVED ALLIANCE MANAGER TI
DESIGNED IH	DESIGN REVIEW RET		

TYPICAL CROSS SECTIONS AND DETAILS			
SHEET 2 OF 8			
SCALE AS SHOWN	CONTRACT No PA3748	DRAWING No R-212	AMDT 0

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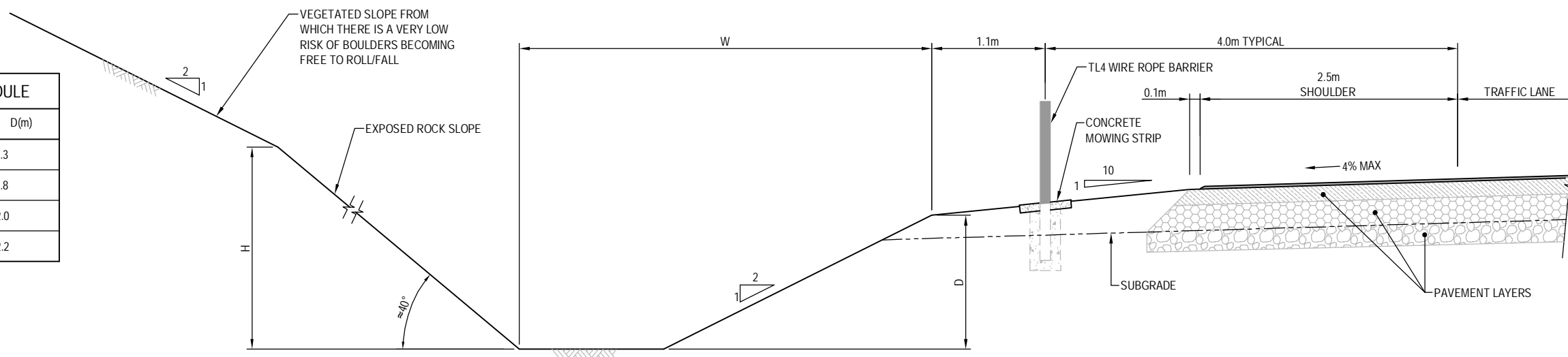


A TYPICAL CUT SECTION - DRAINAGE CHANNEL
SCALE - 1:50m @ A3 SIZE



B TYPICAL FILL SECTION - KERB AND CHANNEL
SCALE - 1:50m @ A3 SIZE

ROCK TRAP SCHEDULE		
H(m)	W(m)	D(m)
5.0-10.0	4.0	1.3
10.0-20.0	4.5	1.8
20.0-30.0	4.7	2.0
30.0-40.0	5.0	2.2



C ROCK TRAP - ADJACENT TO WIRE ROPE BARRIER
SCALE - 1:50m @ A3 SIZE



AMD	DATE	DESIGN REVIEW	REVD D. MGR	APPD A. MGR	PURPOSE OF ISSUE / AMENDMENT
0	30/08/13	RET	MRH	TI	ISSUE FOR NOR / CONSENT

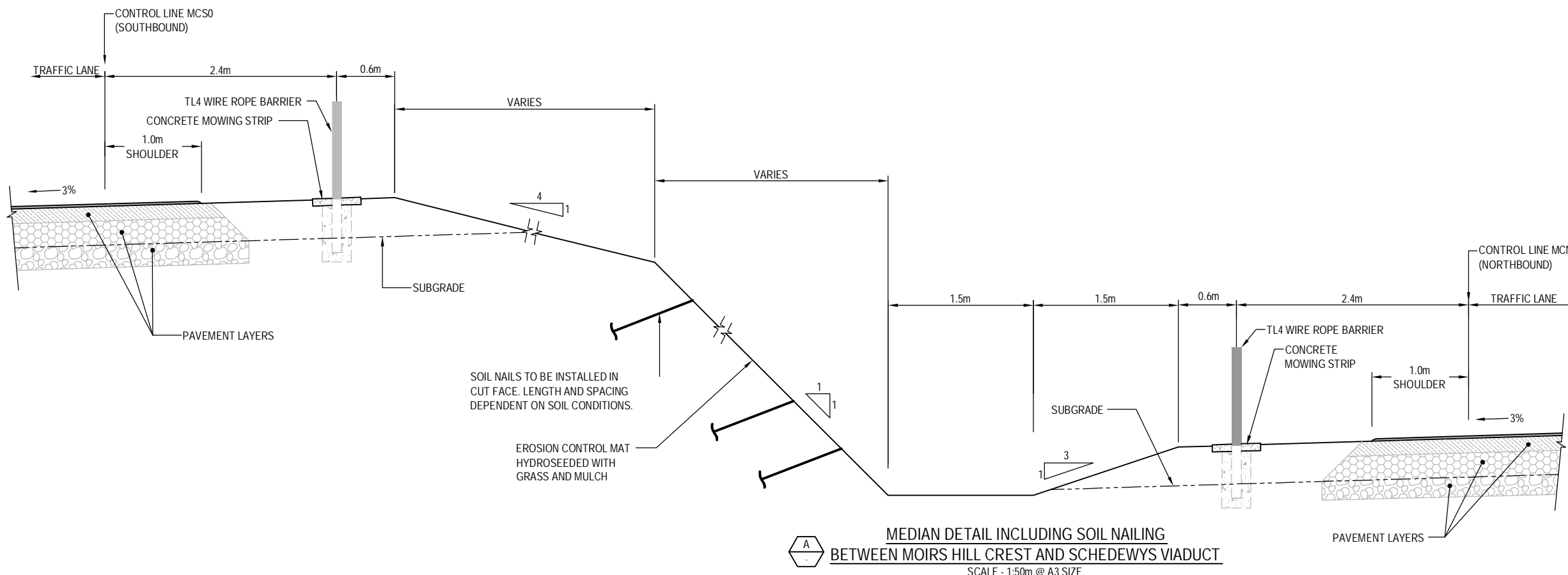


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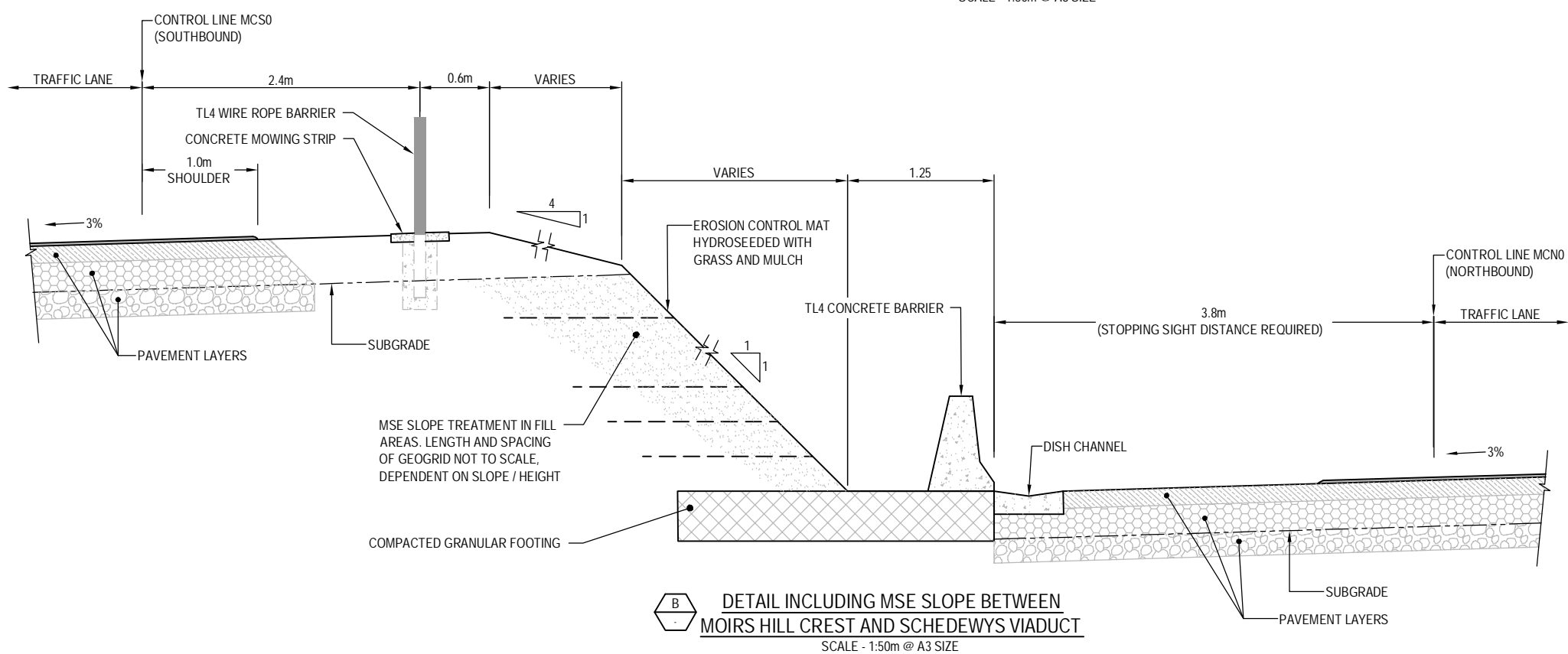
ARA TŪHONO - PŪHOI TO WELLSFORD			
PŪHOI TO WARKWORTH - FOR RMA APPROVALS			
DRAWN SP / AN	DRAFTING CHECK IH	REVIEWED DISCIPLINE MANAGER MRH	APPROVED ALLIANCE MANAGER TI
DESIGNED IH	DESIGN REVIEW RET		

TYPICAL CROSS SECTIONS AND DETAILS			
SHEET 3 OF 8			
SCALE AS SHOWN	CONTRACT No PA3748	DRAWING No R-213	AMDT 0

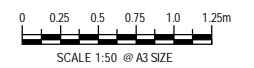
S:\Further North - PAA330 Design\330.5 Technical\01-Drawing Production\CADD Drawings\A-R-214_2-16.dwg Plot Date: 19 August, 2013 - 11:47 AM



MEDIAN DETAIL INCLUDING SOIL NAILING
BETWEEN MOIRS HILL CREST AND SCHEDEWYS VIADUCT
 SCALE - 1:50m @ A3 SIZE



DETAIL INCLUDING MSE SLOPE BETWEEN
MOIRS HILL CREST AND SCHEDEWYS VIADUCT
 SCALE - 1:50m @ A3 SIZE



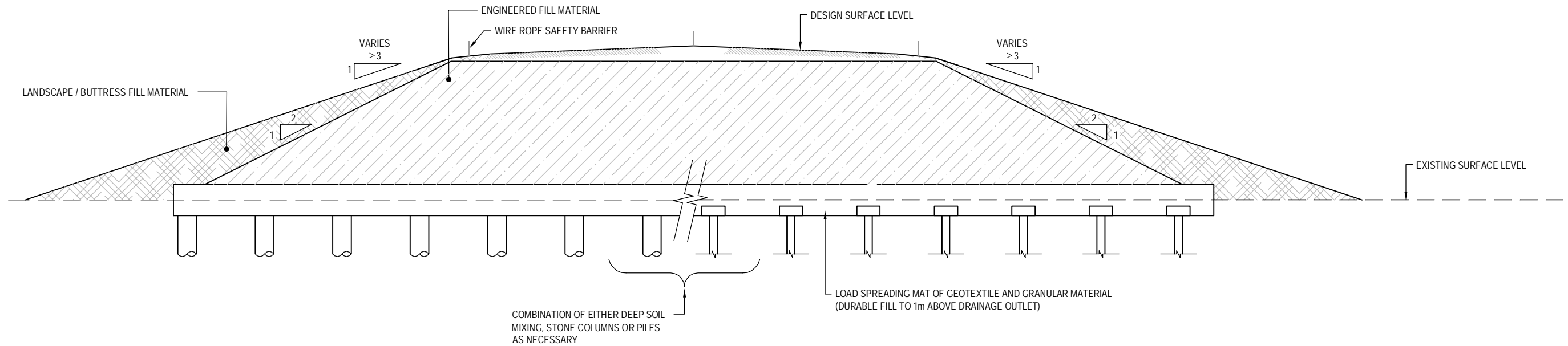
AMD	DATE	DESIGN REVIEW	REVD D. MGR	APPD A. MGR	PURPOSE OF ISSUE / AMENDMENT
0	30/08/13	RET	MRH	TI	ISSUE FOR NOR / CONSENT



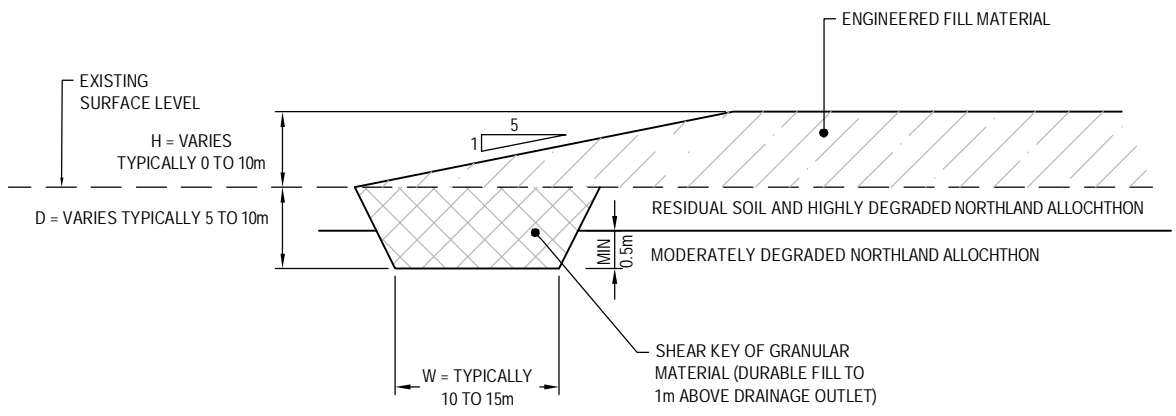
DISCLAIMER
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ARA TŪHONO - PŪHOI TO WELLSFORD			
PŪHOI TO WARKWORTH - FOR RMA APPROVALS			
DRAWN SP / AN	DRAFTING CHECK IH	REVIEWED DISCIPLINE MANAGER MRH	APPROVED ALLIANCE MANAGER TI
DESIGNED IH	DESIGN REVIEW RET		

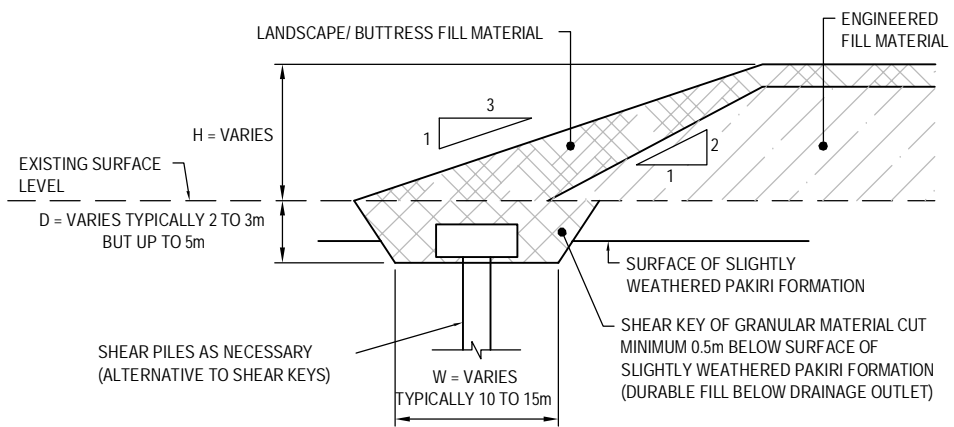
TYPICAL CROSS SECTIONS AND DETAILS			
SHEET 4 OF 8			
SCALE AS SHOWN	CONTRACT No PA3748	DRAWING No R-214	AMD 0



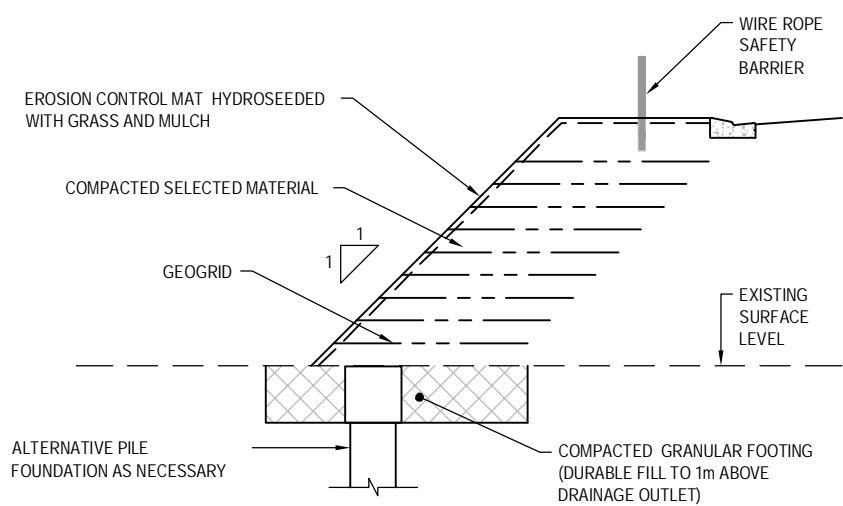
A TYPICAL FILL EMBANKMENT ON ALLUVIUM
SCALE - 1:200m @ A3 SIZE



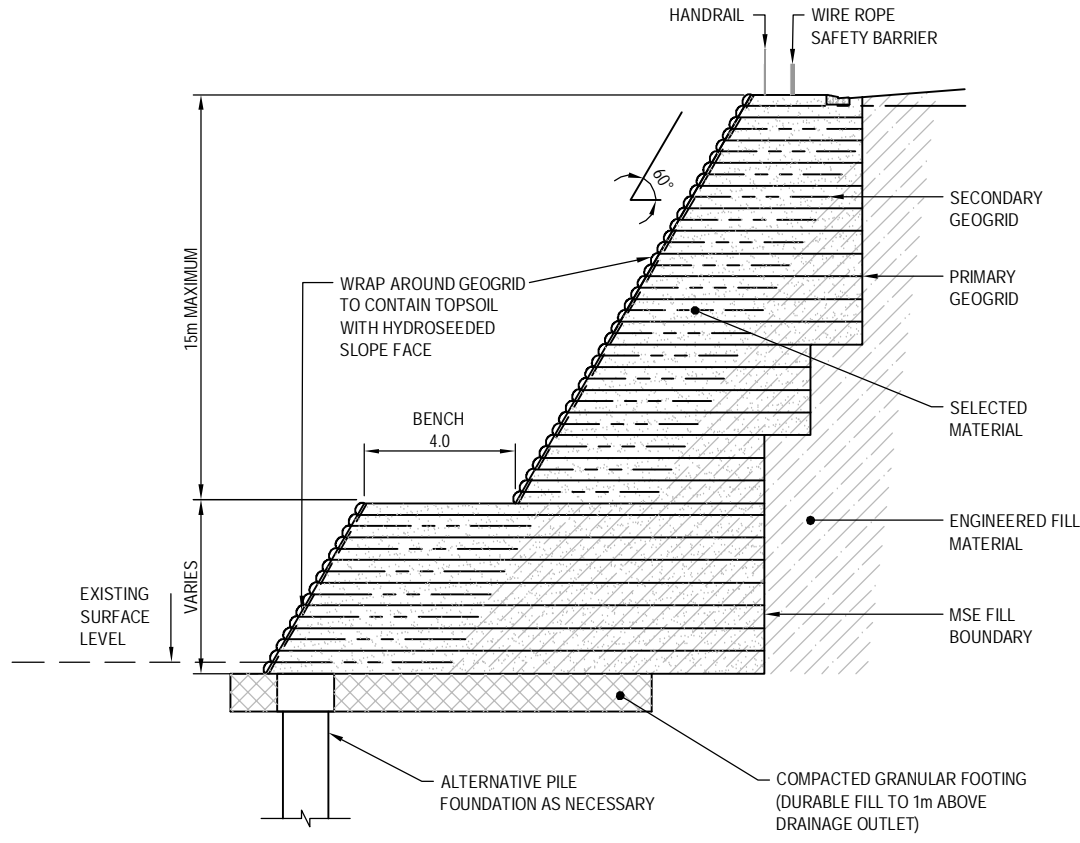
B TYPICAL FILL EMBANKMENT OVER NORTHLAND ALLOCHTHON
SCALE - 1:100m @ A3 SIZE



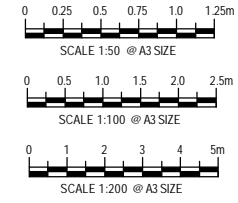
C TYPICAL FILL EMBANKMENT OVER PAKIRI FORMATION
SCALE - 1:100m @ A3 SIZE



D TYPICAL MSE SLOPE (UP TO 45°)
SCALE - 1:100m @ A3 SIZE



E TYPICAL MSE SLOPE (45° TO 60°)
SCALE - 1:200m @ A3 SIZE



S:\Further North - PAA3300 Design\330.5 Technical\01-Drawing Production\CADD Drawings\R-211_5-216.dwg Plot Date: 19 August, 2013 - 9:53 AM

AMD	DATE	DESIGN REVIEW	REV'D D. MGR	APP'D A. MGR	PURPOSE OF ISSUE / AMENDMENT
0	30/08/13	RET	MRH	TI	ISSUE FOR NOR / CONSENT

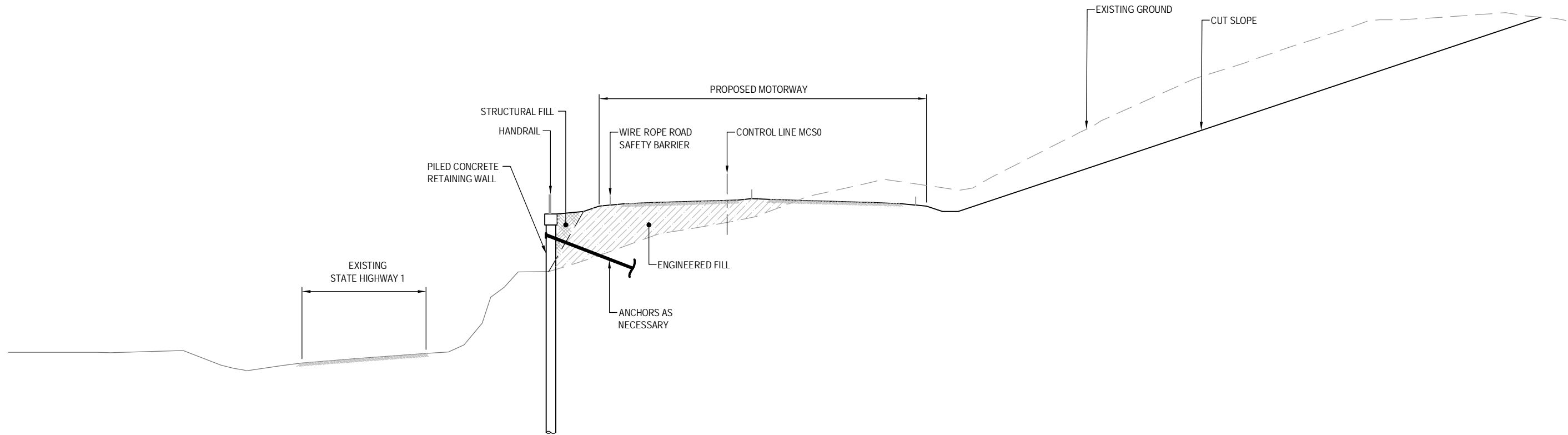


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ARA TŪHONO - PŪHOI TO WELLSFORD			
PŪHOI TO WARKWORTH - FOR RMA APPROVALS			
DRAWN SP / AN	DRAFTING CHECK IH	REVIEWED DISCIPLINE MANAGER MRH	APPROVED ALLIANCE MANAGER TI
DESIGNED IH	DESIGN REVIEW RET		

TYPICAL CROSS SECTIONS AND DETAILS			
SHEET 5 OF 8			
SCALE AS SHOWN	CONTRACT No PA3748	DRAWING No R-215	AMD 0

S:\Further North - PAA330 Design\330.5 Technical\01-Drawing Production\CADD Drawings\R-216.dwg Plot Date: 19 August, 2013 - 9:53 AM



TYPICAL DETAIL - PILED CONCRETE RETAINING WALL
HUNGRY CREEK (APPROX. CH 60025 TO 60125)
 SCALE - 1:400m @ A3 SIZE



AMD	DATE	DESIGN REVIEW	REVD D. MGR	APPD A. MGR	PURPOSE OF ISSUE / AMENDMENT
0	30/08/13	RET	MRH	TI	ISSUE FOR NOR / CONSENT

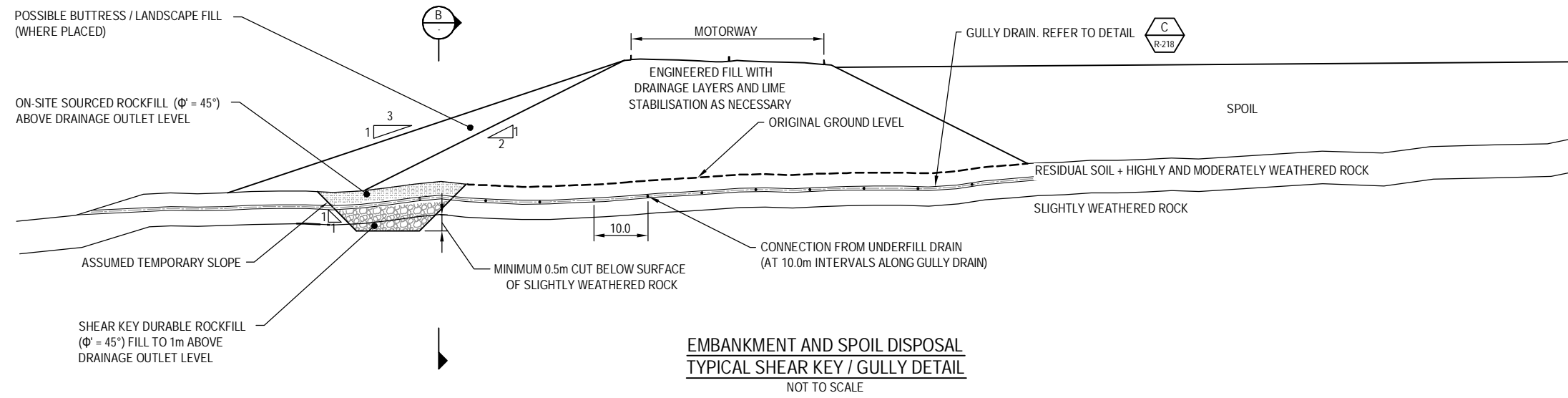


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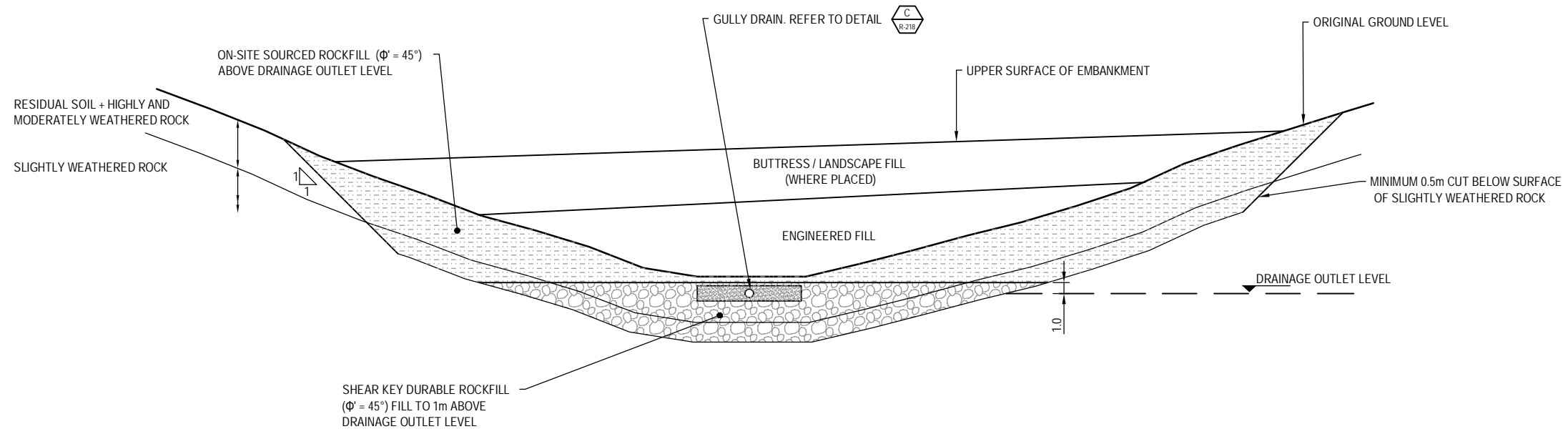
ARA TŪHONO - PŪHOI TO WELLSFORD			
PŪHOI TO WARKWORTH - FOR RMA APPROVALS			
DRAWN SP / AN	DRAFTING CHECK IH	REVIEWED DISCIPLINE MANAGER MRH	APPROVED ALLIANCE MANAGER TI
DESIGNED IH	DESIGN REVIEW RET		

TYPICAL CROSS SECTIONS AND DETAILS			
SHEET 6 OF 8			
SCALE AS SHOWN	CONTRACT No PA3748	DRAWING No R-216	AMDT 0

S:\Further North - PAA\300 Design\300.5 Technical\01-Drawing Production\CA00\Drawings\R-217_R-218.dwg Plot Date: 29 August, 2013 - 10:33 AM



EMBANKMENT AND SPOIL DISPOSAL
TYPICAL SHEAR KEY / GULLY DETAIL
NOT TO SCALE



EMBANKMENT AND SPOIL DISPOSAL
TYPICAL SHEAR KEY / GULLY DETAIL
NOT TO SCALE

AMD	DATE	DESIGN REVIEW	REVD D. MGR	APPD A. MGR	PURPOSE OF ISSUE / AMENDMENT
0	30/08/13	DJW	MRH	TI	ISSUED FOR NOR / CONSENT

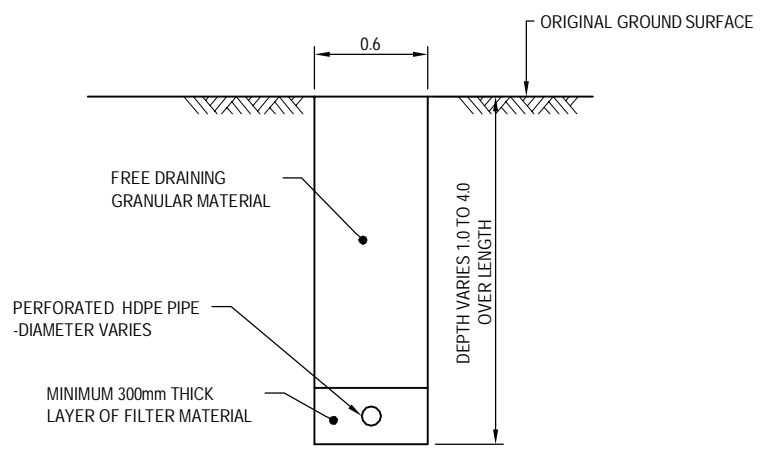
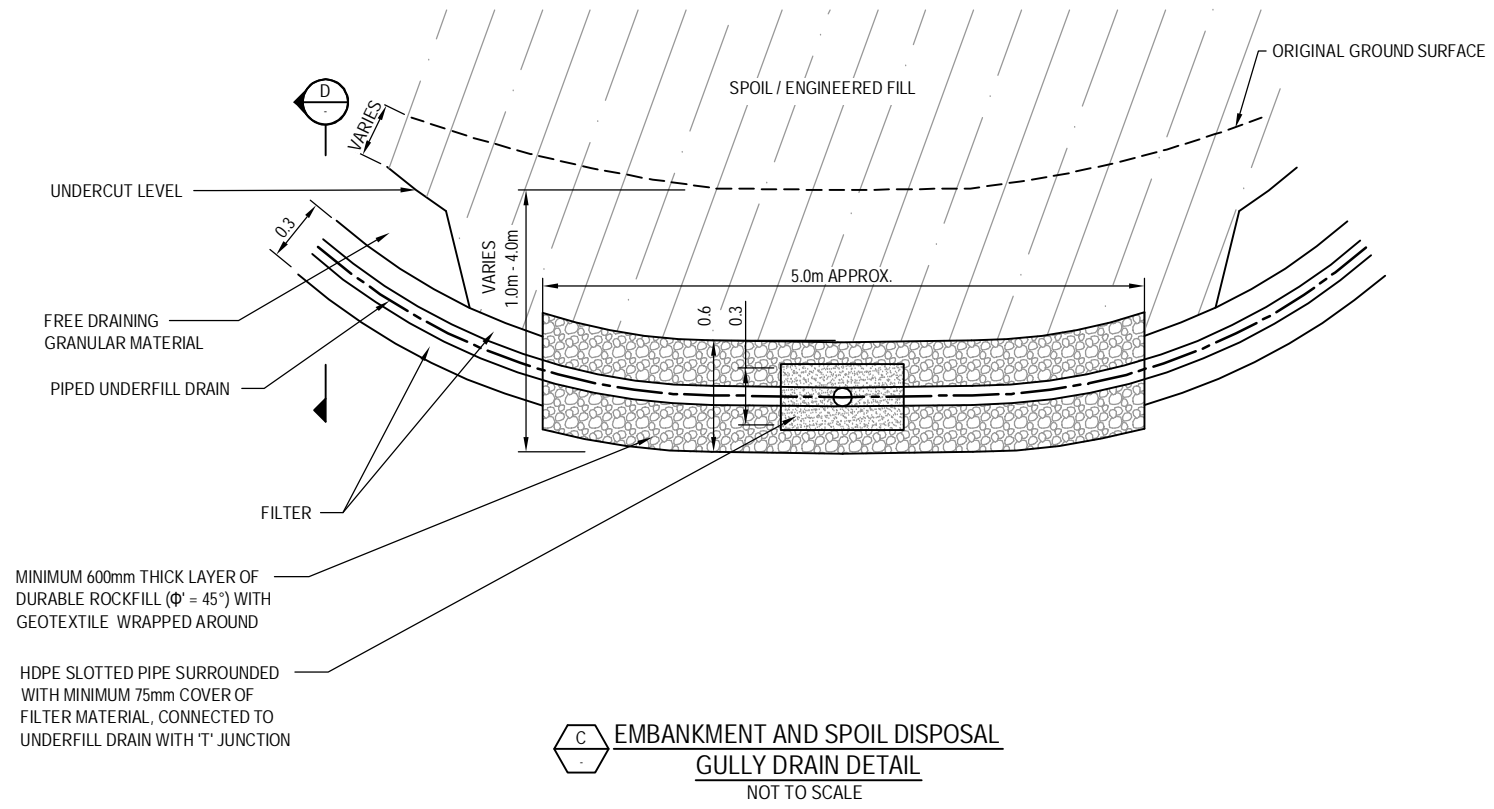


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ARA TŪHONO - PŪHOI TO WELLSFORD			
PŪHOI TO WARKWORTH - FOR RMA APPROVALS			
DRAWN SP/AN	DRAFTING CHECK OJH	REVIEWED DISCIPLINE MANAGER MRH	APPROVED ALLIANCE MANAGER TI
DESIGNED OJH	DESIGN REVIEW DJW		

TYPICAL CROSS SECTIONS AND DETAILS			
SHEET 7 OF 8			
SCALE NOT TO SCALE	CONTRACT No PA3748	DRAWING No R-217	AMDT 0

S:\Further North - PAA\300 Design\300.5 Technical\01-Drawing Production\CA00\Drawings\R-217_R-218.dwg Plot Date: 20 August, 2013 - 12:42 PM



AMD	DATE	DESIGN REVIEW	REVD. D. MGR	APPD. A. MGR	PURPOSE OF ISSUE / AMENDMENT
0	30/08/13	DJW	MRH	TI	ISSUED FOR NOR / CONSENT



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ARA TŪHONO - PŪHOI TO WELLSFORD			
PŪHOI TO WARKWORTH - FOR RMA APPROVALS			
DRAWN SP/AN	DRAFTING CHECK OJH	REVIEWED DISCIPLINE MANAGER MRH	APPROVED ALLIANCE MANAGER TI
DESIGNED OJH	DESIGN REVIEW DJW		

TYPICAL CROSS SECTIONS AND DETAILS SHEET 8 OF 8			
SCALE NOT TO SCALE	CONTRACT No PA3748	DRAWING No R-218	AMDT 0