

Rock Removal

Issue date: 09/04/08
Review date: 15/02/11

SWMS number: SMS-06-SW-0973	SWMS Name: Rock Removal	SWMS Team: Civil Construction Review Team
Custodian (Position): Services Manager Civil	Assumptions: Site specific risks are addressed and assessed in pre- work briefing	Content reviewed by Technical expert (SME) and RailCorp safety professional (position including Div/Group) GM Civil Services and SEQ Coordinator Asset Management, Commercial Renewals.
Approving Authority (Position): Safety and Quality Manager, Commercial / Renewals	Equipment/Plant/Tools: <ul style="list-style-type: none"> • Crane, Excavator, Backhoe, Bobcat, Hi-Rail Excavator, Trolley • Barricades, Demarcation Fencing, Signs, Markers, Plywood, Safety Tape, Shoring, Separation Fencing • Construction Equipment, Pelican Pick • Silt Fencing, Hay Bales, Bungs, sediment Cloth • No-Spill Fuel Cans, Spill Response Kit 	Records/Reporting: <ul style="list-style-type: none"> • Worksite Protection Plan • Pre-work Brief • Electrical Test Tags • Site Specific Management Plan • Services searches • Environmental Protection Plan Electrical Permits • Daily Plant Checklist • Pollution Control Approval Permits/licences required: <ul style="list-style-type: none"> • Electrical Permit Holder • Crane / Excavator / Backhoe / Bobcat / Hi-Rail Excavator Operator Certificate
Applicable Standards, Codes of Practice and guidance: <ul style="list-style-type: none"> • OH&S Act 2000 • OH&S Regulation 2001 • Rail Safety Regulation 2003 • RailCorp Network Rules & Procedures • RailCorp Safety Management System. • MSDS for all chemicals and hazardous Substances used on site • Working near Overhead Power Lines • National Code of Practice for Manual Handling [NOHSC:2005] • EC14 – Guide to Electrical Workers' Safety Equipment • WorkCover NSW Plant Guide 	Inspection requirements Nil	Service schedule: Nil MIMS or METRE Ref: Nil
		Training/Qualification required: <ul style="list-style-type: none"> • Construction Industry Induction • Track Safety Awareness or RISI (Rail Industry Safety Induction) Personal Protective Equipment required: <ul style="list-style-type: none"> • Safety Boots • High Visibility Vests • Hardhats • Protective Clothing • Safety Glasses or Face Shield And as specified below. <ul style="list-style-type: none"> • Gloves • During all Site Works a FIRST AIDER MUST be Present

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1	Delivery Of Materials	Manual handling injuries	B-	Correct manual handling techniques. Rotate staff on repetitive tasks. Use gloves if required	C+	All Staff	SSMP, Pre work Briefing SMS-06-FM-0163 Manual Handling SMS-060GD-0001
		Contact with live o/h wiring or other services	A	Maintain regulated clearances on wires at all times. Isolate power where required.	C+	All Staff, Permit Holder Qel29	Electrical equipment sms-06-gd-0268 Electrical permits sms-06-en-0577
		Personnel struck by machinery	B+	Implement exclusion zones. Use reversing beepers. Use ticketed operators. Plan work to avoid site congestion	C+	All Staff Team Leader Work Group Leader	SSMP, Pre work Briefing SMS-06-FM-0163 Plant SMS-06-GD-0225
		Oil/fuel leakage or loss	C-	Plant to be inspected daily. Use correct methods for filling machinery. Maintain spill response kits on-site.	D	All Staff	SSMP, Pre work Briefing SMS-06-FM-0163 ENVIRONMENTAL PROTECTION PLAN Plant SMS-06-GD-0225
2	Mark Out	Manual handling injuries	B-	Correct manual handling techniques. Rotate staff on repetitive tasks. Use gloves if required	C+	All Staff	SSMP, Pre work Briefing SMS-06-FM-0163 Manual Handling SMS-060GD-0001
3	Set-Up Of Machinery	Personnel struck by machinery	B+	Implement exclusion zones. Use reversing beepers. Use ticketed operators. Plan work to avoid site congestion	C+	All Staff Team Leader Work Group Leader	SSMP, Pre work Briefing SMS-06-FM-0163 Plant SMS-06-GD-0225
		Plant roll-over	B+	Plant fitted with roll-over-protection.	C-	Ticketed Operator	SSMP, Pre work Briefing SMS-06-FM-0163 Plant SMS-06-GD-0225
		Contact with live o/h wires	A	Maintain clearances at all times. Isolate power	C+	All Staff, Qel23, Qel29	Electrical equipment sms-06-gd-0268 electrical permits sms-06-en-0577

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		Damage to rail infrastructure	B+	Vigilance/cover to protect. Report any damage.	C+	All Staff	SSMP, Pre work Briefing SMS-06-FM-0163
		Oil/fuel spillage	C-	Plant to be inspected daily. Use correct methods for filling machinery. Spill response kits on-site.	D	All Staff	SSMP, Pre work Briefing SMS-06-FM-0163 ENVIRONMENTAL PROTECTION PLAN
4	Rock Removal	Personnel struck by machinery	B+	Implement exclusion zones. Use reversing beepers. Use ticketed operators. Plan work to avoid site congestion	C+	All Staff Team Leader Work Group Leader	SSMP, Pre work Briefing SMS-06-FM-0163 Plant SMS-06-GD-0225
		Contact with services	B+	Locate services prior to starting work .mark services with paint, use qualified plant operators, hand digging in close proximity to services under supervision by appropriate services representative. Care to be exercised. Service searches to be on site and signed off.	C+	All Staff	SSMP, Pre work Briefing SMS-06-FM-0163 Excavation & Earthworks SMS-06-GD-0378
		Contact with live o/h wires	A	Power outage	C+	Qualified Permit Holder	Electrical equipment sms-06-gd-0268 electrical permits sms-06-en-0577
		Damage to rail infrastructure	B+	Vigilance/cover to protect	C+	Competent Person	SSMP, Pre work Briefing SMS-06-FM-0163
		Plant roll-over/collapse	B+	SWL of machinery not to be exceeded	C-	Ticketed Operator	Plant SMS-06-GD-0225
		Head injuries	C-	Hard hats to be worn at all times implement exclusion zone for workers not involved in tasks	D	Team Leader Work Group Leader All Staff	SSMP, Pre work Briefing SMS-06-FM-0163 PPE- SMS-06-GD-0323
		Excavation collapse	B+	Shoring, benching, keep plant and employees clear of edges.	C+	All Staff	SSMP, Pre work Briefing SMS-06-FM-0163 Excavation & Earthworks SMS-06-GD-0378
		Crushed by falling rock	B+	Implement exclusion zone for workers not involved in tasks equipment to have fops canopies where required	C+	All Staff	SSMP, Pre work Briefing SMS-06-FM-0163

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	Objects in eyes / face	C-	Implement exclusion zone Wear eye protection	D	Team Leader Work Group Leader All Staff	SSMP, Pre work Briefing SMS-06-FM-0163 PPE- SMS-06-GD-0323	
	Manual handling injuries	B-	Correct manual handling techniques. Rotate staff on repetitive tasks. Use gloves if required	C+	Team Leader Work Group Leader All Staff	SSMP, Pre work Briefing SMS-06-FM-0163 Manual Handling SMS-060GD-0001	
	Hand injuries (laceration, crush)	B+	Use correct technique gloves to be worn as necessary.	C-	Team Leader Work Group Leader All Staff	SSMP, Pre work Briefing SMS-06-FM-0163 PPE- SMS-06-GD-0323	
	Machine hit by train	B+	Operators to be made aware of extent of safe-working area	C+	Wha02, Wpo04	SSMP, Pre work Briefing SMS-06-FM-0163 Plant SMS-06-GD-0225	
	Contact with live o/h wires (high voltage)	A	Maintain clearances at all times. Isolate power	C+	All Staff, Qel23, Qel29	Electrical equipment sms-06-gd-0268 electrical permits sms-06-en-0577	
	Dirt tracking onto external roads	C-	Bobcats with sweepers to clean road. Brooms	D	Team Leader Work Group Leader All Staff	Pollution control approval	
	Runoff from stock piles	C-	Sediment traps placed around perimeter	D	Team Leader Work Group Leader All Staff	Environmental protection plan	
	Residual dirt on external roads flowing into stormwater	C-	Place hay bale around inlet	D	Team Leader Work Group Leader All Staff		

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5	Reinstatement Of Ballast Profile	Contact with services	B+	Mark position of cables with high visibility marking paint. Be aware.	C+	Team Leader Work Group Leader All Staff	SSMP, Pre work Briefing SMS-06-FM-0163 Excavation & Earthworks SMS-06-GD-0378
		Personnel struck by machinery	B+	Implement exclusion zones. Use reversing beepers. Use ticketed operators. Plan work to avoid site congestion	C+	All Staff Team Leader Work Group Leader	SSMP, Pre work Briefing SMS-06-FM-0163 Plant SMS-06-GD-0225
		Struck by flying object	C-	Protective eye-wear must be worn	D	All Staff	SSMP, Pre work Briefing SMS-06-FM-0163 PPE- SMS-06-GD-0323
		High ballast shoulder	C-	Keep shoulder ballast below head of rail	D	Competent Person	SSMP, Pre work Briefing SMS-06-FM-0163
		Damage to rail infrastructure	B+	Be aware. Report any damage/disturbance.	C+	All Staff	SSMP, Pre work Briefing SMS-06-FM-0163
6	Demobilise Site And Remove Access Ramp	Personnel struck by machinery	B+	Implement exclusion zones. Use reversing beepers. Use ticketed operators. Plan work to avoid site congestion	C+	All Staff Team Leader Work Group Leader	SSMP, Pre work Briefing SMS-06-FM-0163 Plant SMS-06-GD-0225
		Contact with live o/h wiring or other services	A	Maintain regulated clearances on wires at all times. Isolate power where required.	C+	All Staff, Permit Holder Qel29	Electrical equipment sms-06-gd-0268 electrical permits sms-06-en-0577
		Contact with services	B+	Locate services prior to starting work. Service searches to be on site and signed off mark and/or isolate services as appropriate maintain regulated clearances on electrical services	C+	Permit Holder Qel29 Team Leader Work Group Leader	SSMP, Pre work Briefing SMS-06-FM-0163 Plant SMS-06-GD-0225 Electrical Equipment SMS-06-GD-0268

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NOTE: Each work group or team member must sign off on the SWMS to acknowledge they have been briefed about or instructed in the SWMS

RailCorp Level 2 Risk Matrix - Regional & Local (Workplace)			Likelihood/Frequency							<u>Definition for Use - Regional & Local level (Workplace)</u>			
			Event Frequency	Less than once every 1000 years	Once every 100 to 1,000 years	Once every 10 to 100 years	Once every 1 to 10 years	More than once per year up to and including 10 times per year	More than 10 times per year				
Historical (Likelihood)	Unheard of in the rail industry	Has occurred once or twice in the rail industry	Has occurred many times in the rail industry, but not in NSW	Has occurred once or twice in NSW	Has occurred frequently in NSW	Has occurred frequently at specific locations							
	Workplace Predictive (Likelihood)	Not expected to occur	May occur only in exceptional circumstances	Could occur at some time but not likely	You would expect it to occur at least once in the next 10 years performing similar activities	You would expect it to occur at least once this year performing similar activities	You would expect it to occur at least once this month performing similar activities						
	F1	F2	F3	F4	F5	F6							
Consequence		Incredible	Improbable	Remote	Occasional	Probable	Probable						
>10 Fatalities	C6	Disastrous	B-	B+	A	A	A						
2-10 Fatalities	C5	Catastrophic	C+	B-	B+	A	A						
1 Fatality (2-10 Major Injuries)	C4	Critical	C-	C+	B-	B+	A						
1 Major Injury	C3	Major	D	C-	C+	B-	B+						
1 or more Minor Injuries	C2	Minor	D	D	C-	C+	B-						
First aid treatment, or illness/injury not requiring treatment	C1	Negligible	D	D	D	C-	C+						