

Installation of Bollards

Issue date: 11/04/08

Review date: 19/02/11

SWMS number: SMS-06-SW-1013	SWMS Name: Installation of Bollards			SWMS Team : Signal Review Team
Custodian (Position): Signal Services & External Resources Manager	Assumptions: Site specific risks are addressed and assessed in pre- work briefing			
Approving Authority (Position): Safety and Quality Manager Commercial / Renewals	Equipment/Plant/Tools: Vehicle Crane, Guide ropes <ul style="list-style-type: none">Excavator, Back Hoe, Post Hole DiggerShovels, Picks, Bars, Wheelbarrow, Concrete Mix, Hammers	Records/Reporting: <ul style="list-style-type: none">Worksite Protection PlanPre-work BriefElectrical Test TagsServices searches diagramsSignalling Design/ Construction StandardsRailCorp Regional Environmental OfficerMSDS for chemicals	Permits/Licences required: <ul style="list-style-type: none">Vehicle Loading Crane CertificateExcavator, Back Hoe Operators Certificate	Content reviewed by Technical expert (SME) and RailCorp safety professional (position including Div/Group) Signal Services & External Resources Manager & SEQ Coordinator Asset Management Group Commercial / Renewals
Applicable Standards, Codes of Practice and guidance: <ul style="list-style-type: none">OH&S Act 2000OH&S Regulation 2001Rail Safety Regulation 2003RailCorp Network Rules & ProceduresSignalling Maintenance ProceduresTechnical Maintenance PlanSignal Engineering StandardsRailCorp Safety Management System.MSDS for all chemicals and hazardous Substances used on siteWorkCover NSW Plant GuideNational Code of Practice for Manual Handling [NOHSC:2005]				Inspection requirements: Nil
		MIMS or METRE Ref: Nil		

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Number	Step	Hazard or human error (Safety/Environmental hazards identified, including physical environment, human errors, plant and equipment)	Risk ranking before controls	Control (to be Implemented to eliminate or reduce the risk to the lowest practicable level)	Risk ranking after controls	Responsibility	Job step to be completed in accordance with (name associated documentation)
1	Supervisor undertakes site pre-work briefing and gives local induction.	Staff not Listening to Pre-Work Brief	B -	Identify all hazards, Staff to ensure they are properly Briefed as to risks involving Worksite.	D	Team Leader / Work Group Leader / All Staff	Pre-Work Briefing SMS-06-FM-0163
2	Supervisor verifies competence of personnel doing the task and currency of permits for work.	Expired Competency Cards & Permits, Unqualified type of Personnel for the Task.	B -	Visual Inspection of Personnel Competency Cards & Currency of Permits	D	Team Leader / Work Group Leader	Safety Training & Competence SMS-11-SR-0128
3	Review SWMS and confirm it is current.	Use of a SWMS that is out of date	C -	Ensure SWMS is current and up to date.	D	Team Leader / Work Group Leader	SWMS & SWI's SMS-06-PR-0023
4	Verify that plant and equipment for the task is fit-for-purpose.	Plant & Equipment kept in poor working condition	C +	Conduct a Daily Plant Checklist	D	All Staff	Plant SMS-06-GD-0225
5	Access , Egress and Working on site	Hit by Train	A	Pre-work Brief including Worksite Protection Plan, Site Induction and Inspection	C+	Worksite Protection Officer	Network Rules & Procedures, Safety Knowledge Management SMS-18-SR-0098
		Slips, trips and falls	C-	Pre-work Brief to identify potential hazards	D	Worksite Protection Officer	Workplace Risk Management SMS-06-PR-0104
		Injury from vehicles and plant equipment	B+	Provide a Site Plan detailing safe access paths, parking and location of facilities	C-	Worksite Protection Officer	Plant SMS-06-GD-0225
6	Locate other Services	Injury from striking underground services	B+	Services search diagrams. Dial Before You Dig with Utilities.	C-	Work Group Leader	Services Search Checklist SMS-06-FM-0384
7	Excavate hole	Injury to Back from use of Shovels, Picks, Bars etc	B+	Use of PPE – Gloves Ensure tools are in good condition Do not overexert.	C-	All Staff	PPE SMS-06-GD-0323
		Injury by machine	B+	Establish eye contact with operator Operator to stop machine if workers are within reaches.	C-	Work Group Leader, All Staff	PPE SMS-06-GD-0323
		Fuel Spillage	C-	Fill machine in properly bundled area Spill kit on site. No smoking/naked flame or electronic device	D	All Staff	Hazardous Substances SMS-06-GD-0199

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8	Installation of Bollard	General Process Hazards					
		Injury while Loading / Unloading Equipment	B-	Ensure workers are kept well clear of lift path. Use competent crane operators Maintain control using guide wires/ropes	C-	Vehicle Crane certificate Holders	Lifting Equipment Inspection SMS-16-FM-0089
		Application of Protective Coatings					
		Injury from dust/ fumes	B-	Use of PPE – Masks, Gloves MSDS for chemicals	C-	All Staff	MSDS Hazardous Substances SMS-06-GD-0199
8	Installation of Bollard (Cont.....)	Concrete Mixing and Pouring					
		Strain Injuries from lifting/moving cement, concrete	B+	Use of PPE – Eye protection Backsafe techniques	C-	All staff	PPE SMS-06-GD-0323 Manual Handling Guide SMS-06-GD-0001
		Breathing difficulties from concrete dust	B-	Use of PPE-Dust Masks	C-	All Staff	PPE SMS-06-GD-0323

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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

Team member name (Please print)	Team Member signature	Instructor/ Briefer name	Date	Team member name (Please print)	Team Member signature	Instructor/ Briefer name	Date

RailCorp Level 2 Risk Matrix - Regional & Local (Workplace)			Likelihood/Frequency						Definition for Use - Regional & Local level (Workplace)	
			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
Consequence			F1	F2	F3	F4	F5	F6		
			Incredible	Improbable	Remote	Occasional	Probable	Frequent		
>10 Fatalities	C6	Disastrous	B-	B+	A	A	A	A	<p>Used for workplace hazards and safety risks that do not consider the whole of the network. Indicatively this matrix is appropriate for use where the hazards under consideration are up to 10% of the total network exposure. This includes regional and local workplace risk assessments.</p> <p>As an example, the Level 2 scale would be used when examining the risk of slips, trips and falls on specific RailCorp platforms within a region or at a particular station, or the risk of fire within a depot.</p> <p>There are 3 options for descriptors which can be used to determine the frequency category. One set of descriptors is provided for frequency, one for historical likelihood, and one for predictive likelihood in the workplace. Choose the most appropriate.</p> <p>To score the risk, follow the steps:</p> <ol style="list-style-type: none">1. Identify the magnitude of the credible consequence if the risk were to occur. If applicable, risks should be considered in terms of the safety (this matrix), commercial and environmental impact (using other matrices).2. Identify the likelihood of this level of consequence occurring. (This is done after considering the effectiveness of the current controls in place)3. Score the risk using the combination of likelihood and consequence ranking. <p>Note: Where there are a range of credible consequences which may lead to a different level or risks and/or where the controls may be different. It may be useful to score the risk more than once.</p>	
2-10 Fatalities	C5	Catastrophic	C+	B-	B+	A	A	A		
1 Fatality (2-10 Major Injuries)	C4	Critical	C-	C+	B-	B+	A	A		
1 Major Injury	C3	Major	D	C-	C+	B-	B+	A		
1 or more Minor Injuries	C2	Minor	D	D	C-	C+	B-	B+		
First aid treatment, or illness/injury not requiring treatment	C1	Negligible	D	D	D	C-	C+	B-		