

Perform Survey Work on a Construction Site

Issue date: 27/02/08

Review date: 21/02/11

SWMS number: SMS-06-SW-1113	SWMS Name: Perform Survey Work on a construction Site			SWMS Team: Graeme Gaggin Mick Athorn Richard Plokstys Alex Martinov Terry Wood Robert Thyer David Lang Fab De-Luca Andrew Gell Ray Brookes Michael Aldama Steve Sciglitano
Custodian (Position): Senior Surveyor	Assumptions: <ol style="list-style-type: none"> 1. A construction site can be a designated area of major construction eg PRL; or a location managed by possession eg reconditioning, ballast top conversion 2. This statement examines the hazards and controls likely to be encountered when performing survey work on a construction site. This statement is a supplement to SMS-06-SW-1110 Perform Survey Work and MUST be used in conjunction with that SWMS, which outlines generic risks for performing survey work in any location. 3. Job Step 1 to 4 and 7 to 8 are obtained from SMS-06-SW-1110 Perform Survey Work 4. Depending on the type of survey being performed, the sequence of Job Step 5 & 6 is interchangeable 			Content reviewed by Technical expert (SME) and RailCorp safety professional (position including Div/Group) Graeme Gaggin, Principal Surveyor
Approving Authority (Position): Principal Surveyor	Plant/Equipment/Tools: <ul style="list-style-type: none"> • Survey equipment, tools materials, • Horn, • Detonators, flags, lamps • Witches' hats (cones) • Barrier tape • Hand drill • Warning time calculator • Signal box contact list 	Records/Reporting: SMS-06-TP-0312 Site-Specific Safety management SMS-06-FM-0163 Pre-work briefing SMS-06-FM-0774 Worksite Protection Plan	Permits/licences required: NA	PPE required: <ul style="list-style-type: none"> • Safety boots, • High visibility vests, • Safety helmet, bump hat • Safety glasses • Gloves • P2 dust mask
Applicable Standards, Codes of Practice and guidance: <ul style="list-style-type: none"> • SPC 211 Survey Specification • TMC212 Survey Manual • Surveying Act 2002 • Surveying (Practice) Amendment Regulation 2006 • OHS Regulation 2001 (particularly Ch 8) • WorkCover Code of Practice for Moving Plant on Construction Sites 	Inspection requirements <ul style="list-style-type: none"> • SMS-16-RG-0229 Plant Equipment Inspection Testing Register 	Service schedule: NA	Training/Qualifications required: <ul style="list-style-type: none"> • Rail Safety Induction Certificate • OHS General Induction • Electrical awareness • Surveying Certificate of Competency (Engineering Authority) • Protection Officer Level 1 (min) • Regional Induction 	MIMS or METRE Ref: NA

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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)
5	Marking up for survey	As identified in SWMS SMS-06-SW-1110 Perform Survey Work		As identified in SWMS SMS-06-SW-1110 Perform Survey Work		Team Leader	SPC 211 Survey Specification TMC212 Survey Manual
5		Hazards specific to the individual construction site and not readily determined by different work groups	various	<ul style="list-style-type: none"> • Site induction 	various	"	"
5		Moving plant and machinery	B+	<ul style="list-style-type: none"> • Identify who is controlling or directing plant • Identify traffic "paths" • Communicate with drivers and operators to: <ol style="list-style-type: none"> 1) ensure that they know you are there; 2) stop driving while you obtain measurements • Be aware of reversing "beepers" • Stay on the uphill side of traffic where possible • Stay clear of the sides of tipper trucks and dumpers as they can become unbalanced • Utilise lookouts • Notify construction site supervisor if there are concerns with traffic movement • Ensure that the survey team complies with the worksites Traffic Management Plan 	C-	Moving plant and machinery	"

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		Moving loads on cranes or pettibones	C+	<ul style="list-style-type: none"> Ensure all personnel are kept clear of slinging or dragging operations Be aware of the slew area of moving plant Communicate with plant operators to cease work while obtaining measurements 	D	Team Leader	"
5		Contact with moving objects eg dust and wind-blown particles	C+	<ul style="list-style-type: none"> Wear safety glasses Move to a safe place and shield face when plant or machinery passes Wear P2 dust mask 	D	"	"
5		Reduced air quality – particularly due to fumes from plant and machinery	C-	<ul style="list-style-type: none"> Wear safety mask Cease work if plant or machinery is operating without adequate ventilation Do not enter an area if there is concern about air quality Notify construction site supervisor of any concerns with air quality 	C-	"	"
5		Other work groups	B-	<ul style="list-style-type: none"> Site induction Liaise with other work group leaders to "cross-identify" hazards 	D	"	"
6	Collect survey data	As per Job Step 5 above		<ul style="list-style-type: none"> As per Job Step 5 above 		Team Leader	As per Step 5

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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

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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	
Consequence		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	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.
			F1	F2	F3	F4	F5	F6	
Consequence		Incredible	Improbable	Remote	Occasional	Probable	Frequent		To score the risk, follow the steps:
>10 Fatalities	C6	Disastrous	B-	B+	A	A	A	A	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).
2-10 Fatalities	C5	Catastrophic	C+	B-	B+	A	A	A	2. Identify the likelihood of this level of consequence occurring. (This is done after considering the effectiveness of the current controls in place)
1 Fatality (2-10 Major Injuries)	C4	Critical	C-	C+	B-	B+	A	A	3. Score the risk using the combination of likelihood and consequence ranking.
1 Major Injury	C3	Major	D	C-	C+	B-	B+	A	Note: Where there are a range of credible consequences which may lead to a different level of risks and/or where the controls may be different. It may be useful to score the risk more than once.
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-	