

# Installing Cable Tray

Issue date: 01/04/09

Review date: 31/03/12

<b>SWMS number:</b> SMS-06-SW-0679	<b>SWMS Name:</b> Installing Cable Tray			<b>SWMS Team:</b> <ul style="list-style-type: none"><li>Renato Dovecer – Safety Coordinator</li><li>Geoff Wiggins – Supervisor Comms Field Construction</li><li>Kevin Rosser – Technical Officer Construction</li></ul>
<b>Custodian (Position):</b> Safety Coordinator	<b>Assumptions:</b> N/A			
<b>Approving Authority (Position):</b> Manager Communications Field Resources	<b>Plant/Equipment/Tools:</b> <ul style="list-style-type: none"><li>Drill/Hammer Drill</li><li>Angle Grinder</li><li>Hand Tools</li><li>Ladder</li></ul>	<b>Records/Reporting:</b> <ul style="list-style-type: none"><li>Installing Cable Tray Risk Assessment</li></ul>	<b>Permits/licences required:</b> <ul style="list-style-type: none"><li>Registered cabler under the ACMA Cabling Provider Rules</li><li>Hot Work Permit (if required)</li></ul>	<b>Content reviewed by Technical expert (SME) and RailCorp safety professional</b> (position including Div/Group) <ul style="list-style-type: none"><li>Supervisor Comms Field Construction – C&amp;CS, Asset Management</li><li>Safety Coordinator – C&amp;CS, Asset Management</li></ul>
<b>Applicable Standards, Codes of Practice and guidance:</b> <ul style="list-style-type: none"><li>OHS Act 2000</li><li>OHS Regulation 2001</li><li>Rail Safety Act 2002</li><li>AS/ACIF S008 Requirements for Authorised Cabling Products</li><li>AS/ACIF S009 Installation Requirements for Customer Cabling (Wiring Rules)</li><li>AS 3084 Telecommunications installations – Telecommunications pathway and spaces for commercial buildings</li><li>Manual Handling Resource WorkCover NSW 2004</li><li>WorkCover NSW Plant Guide</li><li>WorkCover Code of Practice – Cutting and drilling concrete and other masonry products</li><li>WorkCover Code of Practice - Electrical practices for construction work</li><li>AS/NZS 1892.5: 2000 Portable ladders - Selection, safe use and care</li><li>WorkCover NSW Code of Practice - Noise Management &amp; Protection of Hearing at Work</li></ul>				<b>Inspection requirements</b> <ul style="list-style-type: none"><li>Electrical inspecting &amp; tagging – monthly</li><li>Ladder – Inspected every 6 months.</li><li>Maintain inspection and test records in accordance with SMS-16-SR-0057 Inspection and Testing and SMS-05-SR-0027 Records Management.</li></ul>
		<b>MIMS or METRE Ref:</b> N/A		

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1	Check location	Exposure to Hazardous Materials (eg. Asbestos, lead dust, etc)	B+	Check Hazardous Materials Register If hazardous materials are present do not proceed with work and notify your Line Manager.	C-	Line Manager	SMS-06-GD-0228 Hazardous Materials SMS-06-GD-0223 Hazardous Rail Corridor Locations
		Contact with hidden services/cables (eg. electrical cables, gas pipes, water pipes & water sprinkler systems)	B+	Contact local electrician/plumber to gain understanding of service locations. Conduct cable/service search and mark out path. Use appropriate detectors to establish the presence of all services and mark out location. Use insulated tools. If not sure do not start job.	C-	Line Manager	SMS-06-GD-0268 Working Around Electrical Equipment SMS-06-SW-0269 Electrical Shock Protocol
		Exposure to gases (if fire sensors are disturbed).	C+	De-activate fire alarm system. If in critical infrastructure or stations, this must be done in consultation with site controller. A permit may be required in underground stations.	D	Line Manager	SMS-06-GD-0199 Dangerous Goods and Hazardous Substances
2	Setup equipment	Manual Handling	B-	Follow the correct bending and lifting techniques: keep back straight, elbows in and bend at the knees. If required use assistance when lifting. Adequate staff to help with the transporting of equipment.	C-	Line Manager	SMS-06-GD-0001 Guide to Manual Handling

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3	Mark, drill and install anchors	Fall from heights	B+	Use only industrial rated ladders Do not exceed 120kg SWL of ladder. Inspect ladder before use for damage. Use appropriate ladder and maintain 3 points of contact. Position ladder to ensure stability – step ladders to be fully opened with locks in place. Don't over reach – move the ladder as you work.	C-	Line Manager	SMS-06-GD-0240 Working At Heights SMS-06-SW-0264 Portable Ladders, Step Ladders and Step Platforms
		Injury from power tools (Drill)	B-	Individual competent with use of tool Make sure drill is in good condition Isolate work area 3m from plant Use tool only for purpose it was designed for. Secure handling. Keep hands out of the path of drill bits. Avoid awkward hand positions where a sudden slip could cause your hand to move into the drill bit. Don't overreach. Keep proper footing and balance at all times. Wear proper apparel; loose clothing or jewellery can become caught in moving parts. PPE: Safety Glasses	C-	Line Manager	SMS-06-GD-0225 Plant SMS-06-SW-0479 Power Drills SMS-06-GD-0323 Personal Protection Equipment
		Muscular strain	B-	Follow the correct bending and lifting techniques: keep back straight, elbows in and bend at the knees. Avoid reaching and stretching Use assistance if required	C-	Line Manager	SMS-06-GD-0001 Guide to Manual Handling

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3	Mark, drill and install anchors (Cont.)	Contact with electricity	A	Electrical leads & equipment tested and tagged. Use insulated tools. Switch off, isolate and tag supply. Prove supply is dead by testing.	C-	Line Manager	SMS-06-GD-0268 Working Around Electrical Equipment SMS-06-SW-0269 Electrical Shock Protocol SMS-06-SW-0479 Power Drills
		Slips, trips and falls	B-	Make sure work area is clear of obstacles. Keep electrical leads elevated. Awareness of terrain. PPE: Safety Boots	C-	Line Manager	SMS-06-GD-0323 Personal Protection Equipment
		Exposure to Dust	C-	PPE: Safety Glasses, Face Mask (P1 Industrial Low Tox)	D	Line Manager	SMS-06-GD-0323 Personal Protection Equipment
		Exposure to noise	B-	PPE : Hearing Protection (Ear muffs or Earplugs)	D	Line Manager	SMS-06-GD-0273 Noise Management SMS-06-GD-0323 Personal Protection Equipment
		Hit by projectiles	B-	PPE: Safety Glasses	C-	Line Manager	SMS-06-GD-0323 Personal Protection Equipment
		Cuts and abrasions	C+	Be aware of sharp edges. PPE: Protective Gloves (Cut Resistant or Leather).	D	Line Manager	SMS-06-GD-0323 Personal Protection Equipment

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4	Installing brackets and cable tray	Fall from heights	B+	Use only industrial rated ladders Do not exceed 120kg SWL of ladder. Inspect ladder before use for damage. Use appropriate ladder and maintain 3 points of contact. Position ladder to ensure stability – step ladders to be fully opened with locks in place. Don't over reach – move the ladder as you work.	C-	Line Manager	SMS-06-GD-0240 Working At Heights
		Slips, trips and falls	B-	Make sure work area is clear of obstacles. Keep electrical leads elevated. Awareness of terrain. PPE: Safety Boots	C-	Line Manager	SMS-06-GD-0323 Personal Protection Equipment
		Muscular strain	B-	Follow the correct bending and lifting techniques: keep back straight, elbows in and bend at the knees. Avoid reaching and stretching Use assistance when lifting.	C-	Line Manager	SMS-06-GD-0001 Guide to Manual Handling
		Cuts and abrasions	C+	Be aware of sharp edges. PPE: Protective Gloves (Cut Resistant or Leather).	D	Line Manager	SMS-06-GD-0323 Personal Protection Equipment

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5	Cut cable tray to correct length and install	Injury from power tools (angle grinder)	B+	Individual competent with use of tool Make sure grinder is in good condition and fitted with safety guards Electrical inspecting & tagging Isolate work area (5m from plant) Use tool only for purpose it was designed for. Use both hands to operate grinder. Keep end of grinder away from limbs Maintain a good footing and balance when operating tool. Avoid kickback situations. Do not operate in damp or wet locations, unless they are approved for that purpose. Make sure that cords do not present a tripping hazard. Disconnect tools when not in use. Wear proper apparel; loose clothing or jewellery can become caught in moving parts. PPE: Protective Gloves (Leather), Safety Glasses.	C-	Line Manager	SMS-06-GD-0225 Plant SMS-06-PR-0329 Hot Work SMS-06-SW-0474 Angle Grinder SMS-06-GD-0323 Personal Protection Equipment
		Exposure to noise	B-	PPE: Hearing Protection (Ear muffs or Earplugs)	D	Line Manager	SMS-06-GD-0273 Noise Management SMS-06-GD-0323 Personal Protection Equipment
		Exposure to sparks	B-	Clear the worksite in a 5 metre radius from the grinder. Keep fuels, people, site equipment and anything flammable well away. Certain locations may require a Hot Work Permit. De-activate fire alarm systems. PPE: Safety Glasses	C-	Line Manager	SMS-06-PR-0329 Hot Work SMS-06-GD-0323 Personal Protection Equipment

Custodian: Safety Coordinator  
Approver: Manager Communications Field Resources  
Number: SMS-06-SW-0679

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5	Cut cable tray to correct length and install (Cont.)	Exposure to heat	B-	Wait for freshly cut metal to cool, or use protective gloves to handle it.	C-	Line Manager	SMS-06-PR-0329 Hot Work SMS-06-GD-0323 Personal Protection Equipment
		Hit by projectiles	B-	Support the work piece to stop it moving while grinding.  Isolate other employees / public from the area.  PPE: Safety Glasses	D	Line Manager	SMS-06-GD-0323 Personal Protection Equipment
		Fall from heights	B+	Use only industrial rated ladders Do not exceed 120kg SWL of ladder. Inspect ladder before use for damage. Use appropriate ladder and maintain 3 points of contact. Position ladder to ensure stability – step ladders to be fully opened with locks in place. Don't over reach – move the ladder as you work.	C-	Line Manager	SMS-06-GD-0240 Working At Heights
		Slips, trips and falls	B-	Make sure work area is clear of obstacles. Make sure that cords do not present a tripping hazard. Keep electrical leads elevated. Awareness of terrain. PPE: Safety Boots	C-	Line Manager	SMS-06-GD-0323 Personal Protection Equipment
		Muscular strain	B-	Follow the correct bending and lifting techniques: keep back straight, elbows in and bend at the knees. Avoid reaching and stretching Use assistance when lifting.	C-	Line Manager	SMS-06-GD-0001 Guide to Manual Handling

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5	Cut cable tray to correct length and install (Cont.)	Cuts and abrasions	C+	Be aware of sharp edges. PPE: Protective Gloves (Cut Resistant or Leather).	D	Line Manager	SMS-06-GD-0323 Personal Protection Equipment
6	Drill or cut "cable access hole" in wall cavity	Contact with hidden services/cables (eg. electrical cables, gas pipes, water pipes & water sprinkler systems)	A	Make sure services such as electricity, gas, water are identified and clearly marked. If not sure do not start job.	D	Line Manager	SMS-06-GD-0268 Working Around Electrical Equipment SMS-06-SW-0269 Electrical Shock Protocol
		Slips, trips & falls	B-	Make sure that cords do not present a tripping hazard. Make sure work area is clear of obstacles. Work area isolated by means of barricade from other employees / public. PPE: Safety Boots	C-	Line Manager	SMS-06-GD-0323 Personal Protection Equipment
		Fall from heights	B+	Use only industrial rated ladders Do not exceed 120kg SWL of ladder. Inspect ladder before use for damage. Use appropriate ladder and maintain 3 points of contact. Position ladder to ensure stability – step ladders to be fully opened with locks in place. Don't over reach – move the ladder as you work.	C-	Line Manager	SMS-06-GD-0240 Working At Heights SMS-06-SW-0264 Portable Ladders, Step Ladders and Step Platforms
		Contact with electricity	A	Electrical leads & equipment tested and tagged. Use insulated tools. Observe safe work clearances when working in the proximity of electrical cables and outlets.	C-	Line Manager	SMS-06-GD-0268 Working Around Electrical Equipment SMS-06-SW-0269 Electrical Shock Protocol SMS-06-SW-0479 Power Drills



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6	Drill or cut "cable access hole" in wall (cont.)	Muscular strain	B-	Follow the correct bending and lifting techniques: keep back straight, elbows in and bend at the knees. Avoid reaching and stretching Use assistance if required	C-	Line Manager	SMS-06-GD-0001 Guide to Manual Handling
		Injury from power tools (Hammer Drill)	B-	Individual competent with use of tool Make sure drill is in good condition Isolate work area 3m from plant Use tool only for purpose it was designed for. Secure handling. Keep hands out of the path of drill bits. Avoid awkward hand positions where a sudden slip could cause your hand to move into the drill bit. Don't overreach. Keep proper footing and balance at all times. Wear proper apparel; loose clothing or jewellery can become caught in moving parts. PPE: Safety Glasses Make sure that drilling operations do not affect the structural integrity of the building or structure. (eg. drilling into reinforced steel)	C-	Line Manager	SMS-06-GD-0225 Plant SMS-06-SW-0479 Power Drills SMS-06-GD-0323 Personal Protection Equipment

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6	Drill or cut "cable access hole" in wall (cont.)	Injury from power tools (angle grinder)	B+	Individual competent with use of tool Make sure grinder is in good condition and fitted with safety guards Electrical inspecting & tagging Isolate work area (5m from plant) Use tool only for purpose it was designed for. Use both hands to operate grinder. Keep end of grinder away from limbs Maintain a good footing and balance when operating tool. Avoid kickback situations. Do not operate in damp or wet locations, unless they are approved for that purpose. Disconnect tools when not in use. Wear proper apparel; loose clothing or jewellery can become caught in moving parts. PPE: Protective Gloves (Leather), Safety Glasses. Make sure that cutting operations do not affect the structural integrity of the building or structure. (eg. cutting into reinforced steel)	C-	Line Manager	SMS-06-GD-0225 Plant SMS-06-PR-0329 Hot Work SMS-06-SW-0474 Angle Grinder SMS-06-GD-0323 Personal Protection Equipment
		Exposure to sparks (angle grinder)	B-	Clear the worksite in a 5 metre radius from the grinder. Keep fuels, people, site equipment and anything flammable well away. Certain locations may require a Hot Work Permit. De-activate fire alarm systems. PPE: Safety Glasses	C-	Line Manager	SMS-06-PR-0329 Hot Work SMS-06-GD-0323 Personal Protection Equipment

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6	Drill or cut "cable access hole" in wall (cont.)	Hit by projectiles	B-	PPE: Safety Glasses If using drill - Isolate work area 3m from plant If using angle grinder - Isolate work area 5m from plant. If necessary barricade work area.	C-	Line Manager	SMS-06-GD-0323 Personal Protection Equipment
		Exposure to Dust	C-	PPE: Safety Glasses, Face Mask (P1 Industrial Low Tox)	D	Line Manager	SMS-06-GD-0323 Personal Protection Equipment
		Exposure to noise	B-	PPE : Hearing Protection (Ear muffs or Earplugs)	D	Line Manager	SMS-06-GD-0273 Noise Management SMS-06-GD-0323 Personal Protection Equipment
7	Remove equipment and vacate site	Manual Handling	B-	Follow the correct bending and lifting techniques: keep back straight, elbows in and bend at the knees. Adequate staff to help with the transporting of equipment.	C-	Line Manager	SMS-06-GD-0001 Guide to Manual Handling
		Cuts and abrasions	C+	Be aware of sharp edges. PPE: Protective Gloves (Cut Resistant or Leather).	D	Line Manager	SMS-06-GD-0323 Personal Protection Equipment
		Slips, trips and falls	B-	Make sure work area is clear of obstacles. Awareness of terrain. PPE: Safety Boots	C-	Line Manager	SMS-06-GD-0323 Personal Protection Equipment

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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

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RailCorp Level 2 Risk Matrix - Regional & Local (Workplace)			Likelihood/Frequency							<u>Definition for Use - Regional &amp; Local level (Workplace)</u>  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.  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.  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.  To score the risk, follow the steps:  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.  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.
			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	Frequent		
>10 Fatalities	C6	Disastrous	B-	B+	A	A	A	A		
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-		

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Approver: Manager Communications Field Resources  
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