

ERECTION OF INSULATED HOARDING SCREENS

HOARDING MATERIAL

The insulated hoarding consists of a 10mm thick layer of Foamex PVC bolted with M12 nylon bolts to a fibreglass scaffold frame. The panels will be 2.4m x 2.2m to suit the size of the scaffold framework. Each fibreglass panel is connected to the steel scaffold with fibreglass connection couplers every metre.

IDENTIFICATION AND MANAGEMENT OF HAZARDS

Falls from heights

The hoarding screen is to be erected by a qualified scaffolder. Edge boards and handrails are to be incorporated into the perimeter scaffold as it is erected.

The work is to be done sequentially so that edge protection is the first component to be installed and the last to be removed, and scaffolders always work from fully completed decks.

The fibreglass screens are to be lifted into position by two scaffolders and securely fixed in place.

The fibreglass screens will be fully assembled off site into

Falling objects

The area underneath the hoarding is to be barricaded to form an exclusion zone and ensure there are no members of the public in the area. A Protection Officer is to ensure that the works stop when a train approaches the platform. Danger tags and warning signs are to be positioned in the work area to warn people of the hazards.

All hoarding, scaffold components and tools are to be 'handballed' according to AS4576 i.e. all components are to be securely held by each worker until the adjacent worker that the component is being passed to takes a secure hold of the component. Under no circumstances are any components are to be thrown or dropped.

Electrical hazard

The fibreglass hoarding screen is to be erected in stages and each panel is fixed in position prior to the installation of the scaffold. The fibreglass screen will therefore form a barrier between the 1500V overhead power lines and the metal scaffold. The fibreglass screen will form a rigid barrier that will act as protection should a scaffold standard fall towards the direction of the tracks.

The fibreglass screen is to remain in position until all the works are completed on the platform.

The gaps between the panels will not exceed 3mm in accordance with SMS-06-GD-0282.

Railcorp scaffolding system guide SMS-06-GD-0282 point 3.5.4.3 provides the following condition:

"The horizontal rigid barrier must be so erected that:

- a) Its horizontal distance ('X' in Diagram C) from exposed electrical equipment must not be less than the minimum horizontal SADs of Table B / Diagram B

In other words the hoarding screen cannot be closer than structure gauge +0.6m to the overhead power lines. The structure gauge is 2.06m which gives a total distance of $2.06 + 0.6 = 2.66\text{m}$. The minimum distance to the overheads that our screens will be erected is 3.2m.

- b) Its vertical limits must not be less than the minimum vertical SAD from exposed electrical equipment of Table B / Diagram B for both the upwards and downwards direction.

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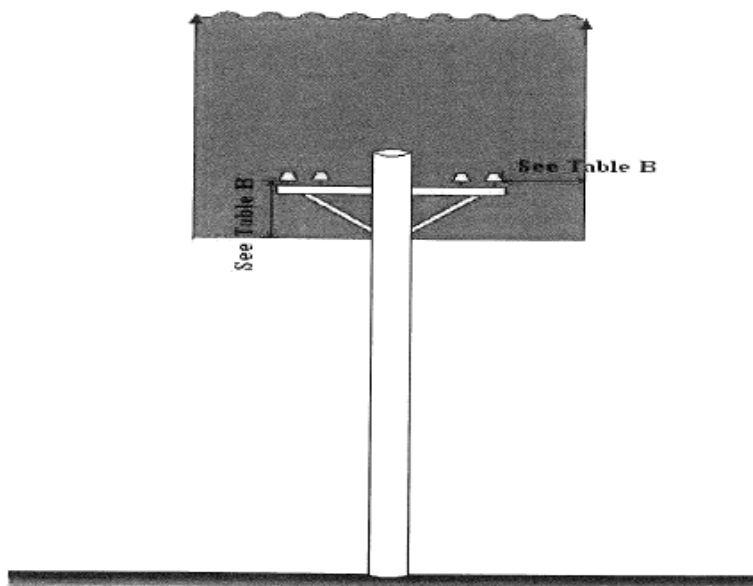
In other words the hoarding screen will need to extend a minimum of 2.7m above the Overhead power lines.

Table B – Absolute Minimum Safe Approach Distances for a scaffold after completion of Scaffolding work (unless an Electrical Permit is current) – Scaffold Erected with a Continuous Rigid Barrier

Location	Around aerial lines		In substations
	Vertical (see Note 1)	Horizontal	Both Vertical and Horizontal
1500 Volt Equipment			
1500V DC Aerial feeders	2.7m	0.6m	N/A
1500V DC Overhead Wiring (clearance to OHW and extremity of pantographs)	2.7m	Structure Gauge + 0.6m (see Note 2)	N/A
Substation equipment	N/A	N/A	0.3m
High Voltage Equipment			
Above 1000V AC but not exceeding 33kV AC	3.5m	1.5m	0.3m
Above 33kV AC but not exceeding 66kV AC	4.0m	2.0m	0.6m
Above 66kV AC but not exceeding 132kV AC	4.0m	2.5m	1.1m
Low Voltage Equipment			
Not exceeding 1000V AC	2.7m	0.6m	0.3m

NOTE - 1. Vertical distances are measured from the highest part of the scaffold, including handrails.
2. Structure Gauge is the profile of the maximum allowable infrastructure limits in relation to track. Consult the track discipline representative for values of the Structure Gauge if there is any doubt.

Diagram B – Absolute Minimum Safe Approach Distances (to be used in conjunction with Table B)



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Title: Scaffolding
Number: SMS-06-GD-0282

Issue date: 06/10/10
Review date: 04/11/11

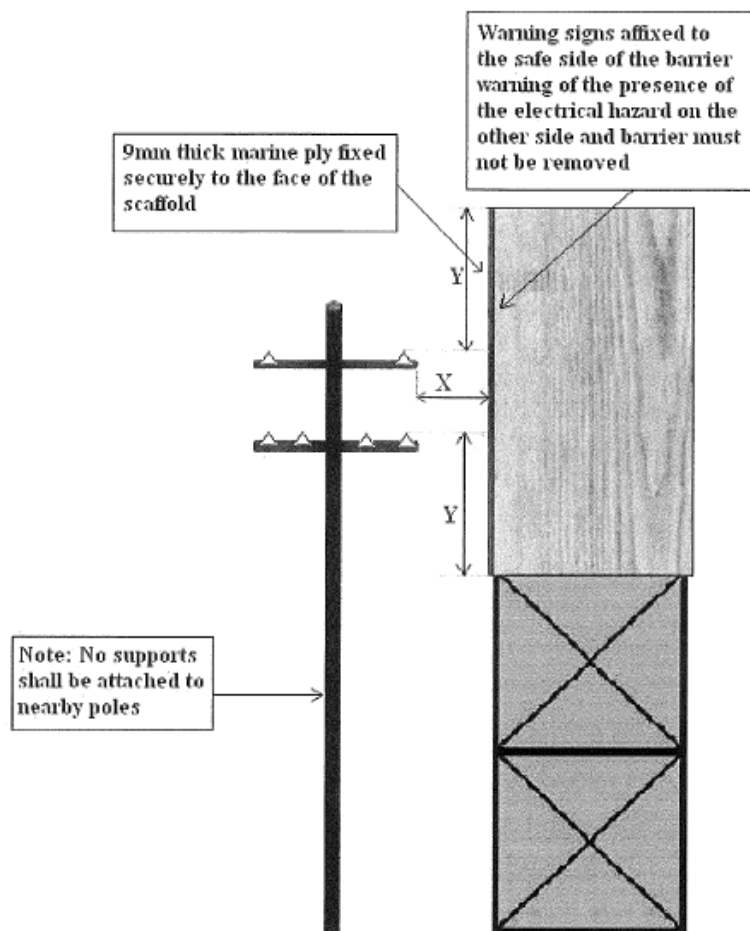


Diagram C – Scaffolding with continuous rigid barrier

Warning signs will be attached to the safe side of the hoarding screen warning of the presence of the electrical hazard on the other side of the barrier, and warning that the barrier must not be removed.

Regular Inspections

The Arenco site foreman is to visually inspect the hoarding screen on a daily basis to ensure it is in good condition and remain impenetrable.

Platform signage

No standing signs are to be fixed to the public side of the hoarding screen where the platform clearance is less than 2.7m. No standing signs will also be spray painted on the platform surface.

ERECTION OF INSULATED HOARDING SCREENS

INTERACTION WITH TRAIN COMMUTERS

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DISMANTLE AND REMOVAL OF HOARDING SCREEN

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INSPECTION AND CERTIFICATION

Upon completion of the hoarding screen the Structural design engineer is to carry out a site inspection and provide certification for the completed works.

ATTACHMENTS

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INTEGRATED MANAGEMENT SYSTEM MANUAL

HAZARD IDENTIFICATION AND RISK MANAGEMENT

PROJECT NAME:	PROJECT ADDRESS:	HIRM No.
WORK PROCESS: INSTALLATION OF INSULATED HOARDING SCREEN ON PLATFORM	REVIEWED BY:	Date:
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HIERARCHY OF HAZARD CONTROLS

Once a hazard has been identified and the risks assessed, the Hierarchy of Hazard Control should be applied in order to remove or minimise the risks.

These measures should be considered in sequence, commencing with the "most" through to the "least" effective methods, as listed below

HAZARD CONTROL MEASURES		RISK EVALUATION MATRIX							
MOST EFFECTIVE METHOD LEAST EFFECTIVE METHOD	Elimination	Consequence							
	Substitution	Probability	1	2	3	4	5	Consequence	
	Mitigation	Insignificant	Minor	Moderate	Major	Catastrophic			
	Isolation	A - Almost Certain	H	H	E	E	E	1	Costing less than \$5,000
	Administrative Controls	B - Likely	M	H	H	E	E	2	Costing between \$5,000 and \$50,000
	Personal Protection	C - Possible	L	M	H	E	E	3	Costing between \$50,000 and \$100,000
		D - Unlikely	L	L	M	H	E	4	Costing between \$100,000 and \$500,000
		E - Rare	L	L	M	H	E	5	Costing more than \$500,000

Risk Category

E = Extreme Risk H = High Risk M = Moderate Risk L = Low Risk

Number & list each process step in sequence - Identify potential hazards & risks that may cause harm or property damage against each process step - Evaluate the risk using the above matrix - List the control measures for each risk to allow the work to be carried out safely

No.	PROCESS STEPS	HAZARDS / RISKS	RISK CATEGORY			CONTROL MEASURE	RESIDUAL RISK		
1	Delivery of hoarding materials	1a. Hit by moving trucks	C	4	E	All site personnel to be inducted. Implement traffic control and traffic management plan. Wear approved mandatory PPE (Hard hat, gloves, safety lace up boots, high visibility vest – rail compliant, long sleeve shirt, long pants, safety glasses).	D	4	H

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No.	PROCESS STEPS	HAZARDS / RISKS	RISK CATEGORY			CONTROL MEASURE	RESIDUAL RISK		
						Use spotter when reversing trucks. Obey legal road rules when driving on local roads. Beware of pedestrians near access gates & give way.			
		1b. Stuck by loads when unloading/ Strain to back limbs	C	3	H	Stand clear of crane or truck when unloading. Use safety tape and bollards to delineate work area. Use tag line when unloading in windy conditions. Two people to carry heavy or awkward items. Proper lifting procedure to be followed Trolleys to be utilised whenever possible. All PPE to be worn.	D	2	M
		1c. Clashes with public	B	4	H	Deliveries to be made out of peak times. Use traffic controller to assist with traffic movements while entering site. Spotter to guide trucks into site unloading area watching out for pedestrians and other vehicles. Use safety tape and bollards to delineate work area.	D	3	M
2	Personnel working in and around rail corridor	2a. Unauthorised entry into the danger zone by worker. Personnel hit by train or electrocuted.	C	5	E	All personnel must hold RISI card and undergo site specific induction and daily Pre-Brief meeting prior to commencement of work. All personnel must wear approved mandatory PPE (Hard hat, gloves, safety lace up boots, high visibility vest – rail compliant, long sleeve shirt, long pants, safety glasses). Worksite traffic control plan to be followed. Works on platform to be under supervision by PO and	D	3	M

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No.	PROCESS STEPS	HAZARDS / RISKS	RISK CATEGORY			CONTROL MEASURE	RESIDUAL RISK		
						inducted into their Worksite Protection Plan. No crossing tracks from one platform to the other unless under the direct supervision of the P.O. Emergency Response Plan is to be in place and displayed in crib rooms.			
		2b. Drug & Alcohol Policy => personnel under the influence	C	5	E	Random testing will be carried out by RailCorp/Arenco. No personnel are to be on site if under the influence of illegal drugs or alcohol. If detected they will be removed from the project.	D	3	M
		2c. Using mobile phones	C	5	E	Workers must not wander when on mobile phone; remain in a safe place until call is finished. No use of mobile phone on tracks.	D	3	M
		2d. Interaction with station staff and commuters	B	4	E	Works to be carried out in demarcation zones. PO to act as lookout when working on platform.	C	2	M
		2e. Damage to existing services. Injury &/or electrocution to workers	C	5	E	All works to take place under the direction of a Protection Officer.	C	2	M
3	Transporting Materials through Station	3a. Manual handling => strain sprains	C	4	E	All material to be craned on to the platforms during a possession. Two people to carry heavy or awkward items. Proper lifting procedure to be followed. Trolleys to be utilised whenever possible.	D	3	M
		3b. Interaction with station staff and commuters	C	4	E	Spotters are to be used during all movement of materials. Staff and commuters have right of way at all times.	D	3	M

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No.	PROCESS STEPS	HAZARDS / RISKS	RISK CATEGORY			CONTROL MEASURE	RESIDUAL RISK		
						No material to be transported though public area during peak times. Bollards and blue and white rail safety tape to be used to delineate work areas.			
		3c. Falling panels => striking injuring public Material falling onto tracks Damaging station property	B	4	E	Ensure all items are placed flat during storage. Do not place materials near edge of platform. Ensure all materials are stored within delineated work areas All PPE to be worn All panels are stacked neatly when in storage	D	3	M
4	Establish work area	Interaction with station staff and commuters	C	4	E	All work to commence behind the timber hoardings. Adequate signage to be placed on both sides of the hoarding advising other workers and the public of the works being carried out.	D	3	M
5	Erect insulated hoarding screen	3c. Falling panels => striking injuring public Material falling onto tracks Damaging station property	B	4	E	Only ticketed scaffolders are to erect the screen and t he scaffold. Work under the direct of the protection officer at all times. Sign on to the protection officer's pre work brief before commencing work. Insulated panels are to be lifted into position only	D	3	M

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No.	PROCESS STEPS	HAZARDS / RISKS	RISK CATEGORY			CONTROL MEASURE	RESIDUAL RISK		
		Chaining of materials Missing boards, falling objects				between trains. The P.O. will advise when a train is approaching and work is to stop until all pedestrians have left the immediate work area. The P.O. will advise that work can recommence. Ensure the insulated panels are lifted into position by two persons at all times. Ensure the insulated panel is securely fixed to the scaffold standards before proceeding with the next lift of panels. Ensure that an insulated hoarding panel is first erected before the scaffold standards are fixed in position behind the screen. Make sure workers spaced at regular intervals on the scaffold, not too far apart. Only 1 piece of material chained at a time. Qualified scaffolders on platforms only, ensure correct safety gear is worn Ensure all loose ends are tied off. Inspect the nuts and bolts on the clamps to ensure they are safe and have been tightened correctly, only qualified scaffolders to install and fix off ladders.			
6	Install hoarding	6a. Using electrical tools => electrocution	C	5	E	Ensure Correct PPE is worn Ensure tools are currently tagged for use	D	3	M

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No.	PROCESS STEPS	HAZARDS / RISKS	RISK CATEGORY			CONTROL MEASURE	RESIDUAL RISK		
						Only use the tool for its intended use.			
		6d. Materials handling/ manual handling	C	4	E	Assess load before lifting. Use two man lift or mechanical devices if required. Correct PPE including gloves must be worn. Do not rest any materials against Framework.	D	3	M
7	Engineers sign off of hoarding	Incomplete hoarding	C	4	E	Structural Engineer to inspect and sign off completed hoarding.	D	3	M
8	Clean up and secure area	7a. Trip hazards on site.	C	3	H	7a. Clean off public areas thoroughly. Remove all materials and trip hazards from public areas. Secure all boundary fencing and gates	D	2	L

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No .	PROCESS STEPS	HAZARDS / RISKS	RISK CATEGORY			CONTROL MEASURE	RESIDUAL RISK		

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QUALIFICATIONS / EXPERIENCE	PLANT / EQUIPMENT / CHEMICALS	TRAINING REQUIRED	OH&S LEGISLATION, CODES OF PRACTICE, STANDARDS AND GUIDELINES
Truck driving licence	Hand tools	WorkCover General Induction	
	Modular scaffolding	Trade Induction	OH&S Act 2000 & Regulation 2001
Traffic Controller	Scaffolding and claw hammers	Site Induction	COP/Guides re Working at Height, Plant, Excavation
Ticketed scaffolders and labourers	Scaffolding ratchets and shifter spanners	WorkCover Plant Competency	Consultation, Electrical Practices, Low Voltage,
	Spirit level, Tape measure, Tube and fittings	RISI ticket	Portable Ladders, Amenities, Induction, PPE,
Protection Officer			Skin Cancer, High Visibility Clothing, Railway
			Construction, Overhead Protective Structures, Rail Safety (Drug & Alcohol testing) Regulation 2008
Inspection & Maintenance checks required for Plant & Equipment:			
Structural Engineers sign off for the completed hoarding			Rail Safety (General) Regulation 2008
Daily inspection by the site foreman			Rail Safety Act 2008
			AS 1576.3:1995 prefabricated and tube and coupler scaffolding AS/NZS- 1576.1:1995 scaffolding part I general requirements
			Noise Mgt, Manual Handling, Hazardous Sub, Etc.

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SUPERVISOR'S NAME (Person responsible for implementing Controls) :					
Having read and understood this HIRM / SWMS, enter your site induction number then print your name then sign					
Induction No:	Name & Company:	Date:	Induction No:	Name & Company:	Date: