



JOB SAFETY & ENVIRONMENT ANALYSIS (JSA) / SAFE WORK METHOD STATEMENT

ACTIVITY OR TASK:	Installation of Staircase and Hand Rails – Welding, Heights and Crane Usage
JSA Preparation	
Work Team	
Job Area	

Site Location:	
Project:	
Date:	
Job Number:	
JSA Number: CSI329	JSA Revision: 1.7

2. HAZARD IDENTIFICATION Identify hazards that may be present by ticking items on the list below.

WORK LOCATION	HAZARDOUS AREA	Food Safety	
Difficult Entry/Exit	Hazardous Substances - attach MSDS to JSA	Food Grade Lubricants	
Oxygen Deficiency		Approved Chemicals only	
Oxygen Excess	Working at Heights	Welding/Grinding Guidelines	x
Engulfment (trench collapse)	Remote Area	Loose items removed	
Poisonous Gas Present	Motor Room Hazards	Taints	
Temperature Extremes	Toxic Substances	Product Zones protected	
Defined Confined Space	Potential for Difficult Rescue	Pest control/doors	
Explosive Gas Present		Anti-contamination Guidelines	
Working Alone		Is consultation with QA required	
		Allergen Risk	

HIGH RISK HAZARDS			
Falling Objects	X	Flamm. Materials Present	
Poor Lighting		Sharp Materials	X
Slippery Surfaces		Suspended loads	X
Multiple Electrical Feeds		Poor Visibility	
Trip Hazards	X	Inhalable Dusts/Fibres	
Electrical Hazards - LV		High Noise Levels	
Electrical Hazards - HV		Use of Chemicals	
Fire/Smoke		Elevated Work Platform	X
Moving Machinery	X	Difficulty to Communicate amongst workers	X
Manual Handling	X	Tools & Equipment	X
Steam		Heat/ Sunlight/ Radiation	X
Ladders used in the task		Traffic Movement	X
Working at Heights	X	Working near Operation Processing Lines	
Working near Crane & Crane Runways	X	Live Rails	
Residual Pressure		Pneumatics	
Cutting/Drilling/Grinding	X	Uncontrolled Energy Release	
Welding	x	Oxy cutting	

3. PRECAUTIONS: hard hat, safety glasses, safety boots compulsory

ADDITIONAL PRECAUTIONS		PERMITS	
Gloves: type = Welding Gloves	x	Hot Work	x
Goggles/Glass's		Excavation	
Full Face Shield	X	Confined Space	
High Visibility Vest	X	Hazardous Work Clearance	
Harness	X	Access to Area	
Fire Extinguishers	X	High Voltage Access	
Barricades or Tape	X	Scaffolding	
Ventilation		Roof Access Ext	
Steel Cap Boots	X	Fire System	
Lighting		Lockout Removal	
Erect Scaffolding to access		Working at Heights	x
Respirator or Dust mask			
Erect Warning signs	X		
Personal Locks or Tag system			
Group isolation			
Welding screen	X		
Fall Arrest systems			
Welding Face Shield	X		
Hearing Protection	X		
Plastic Overalls			
Gas Watcher			
Safety Observer	X		
Acid Suit			
Phone/Radio/PA	X		
Procedure/SOP	X		
Waste Disposal			
MSDS			



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EMERGENCY CONTACT INFORMATION		Take 5 For Safety The Five Step risk management process:	
POLICE / FIRE / AMBULANCE	(0) - 000 OR 112 (MOBILES)	Preparation	1. Define the context
DEPARTMENTAL REP			2. Identify tasks, activities, work processes and practices for assessment
H & S OFFICER		Step 1	Identify Hazards
POISONS INFORMATION	13 11 26		
NATURAL GAS SUPPLIER	1300 763 106	Step 2	Assess and prioritise risks
INSTRUCTIONS: 1. Call (0) 000 and notify emergency personnel 2. Administer First Aid (DRABCD) 3. Notify Area Manager for all emergency events. 4. Notify Chief Fire Warden if Fire event 5. Notify H & S Manager/Officer and/or Injury Management Coordinator of all emergency Events 6. Secure the Work Area, LOTO Equipment if necessary.		Step 3	Decide on control measures including heirarchy of control
		Step 4	Implement control measures
		Step 5	Monitor and review

4. Risk Rating Table The objective of rating the risk is to lower the risk by initiating the risk control measures.
 The score is noted in the JSA risk score column on the next page – both before & after risk control measures have been nominated.

		Likelihood Score							
		1. Rare	2. Unlikely	3. Possible	4. Likely	5. Almost Certain			
Consequence Score	5. Catastrophic Death or multiple life threatening injuries.	5	10	15	20	25			
	4. Major Life threatening injury or multiple serious injuries causing hospitalisation.	4	8	12	16	20		1 - 3	Low Risk
	3. Moderate Serious injury causing hospitalisation or multiple medical treatment cases.	3	6	9	12	15		4 - 6	Moderate Risk
	2. Minor Minor injury or First Aid Treatment Case.	2	4	6	8	10		8 - 12	High Risk
	1. Insignificant Injuries or ailments not requiring medical treatment.	1	2	3	4	5		15 - 25	Extreme Risk



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ACTIVITY OR TASK: Installation of Staircase and Hand Rails – Welding, Heights and Crane Usage

JSA Number: CSI329 **JSA Revision:** 1.7

Step No. <small>Logical sequence</small>	Sequence of Basic Job Steps Break down Job into steps. Each step should accomplish a major task and be logical. Environmental Aspects	Potential Safety & Environmental Hazards/Impacts Identify the hazards (health and safety or environmental) associated with each step, examine each to find all possible risk factors	Risk Rating <small>Use table on the previous page to score risk</small>			Recommended Corrective Action or Procedure Determine what actions are necessary to eliminate or minimise all hazards that could lead to an accident, injury, illness or environmental incident. The risk must be reduced or controlled to a level that is acceptable before work commences. Indicate who is to perform the action where applicable against each action	Risk Rating <small>Of the risk following corrective action</small>		
			C	L	#		C	L	#
1	Pre-job Meeting/Toolbox	Inexperience workers, inadequate consultation, inadequate understanding of job/equipment, Site hazards and emergency procedures not known	4	2	8	<ul style="list-style-type: none"> Competent work team to perform task (licenses & competencies) Adequate consultation with all relevant people, adequate competent supervision throughout task Proper job and equipment planning for task Ensure all approved controls and prevention measures are discussed and JSA is discussed with all persons involved in the work. Site induction for team all members as required by site. All personnel to wear mandatory PPE (Hard Hats, High Vis clothing, Safety Footwear, Safety Eyewear) Identification of Emergency equipment, procedures & contacts In the event of an emergency all persons must move to the nearest exit and muster point. 	2	2	4
2	Identify work area/Site Establishment	Risk of injury due to low awareness of work environment. Unauthorised access/egress Unsafe conditions	3	2	6	<ul style="list-style-type: none"> All personnel to attend daily toolbox Take 5, be aware of hazards. Ensure all site rules and guidelines are met. Consider other trade operations within the work area and maintain reasonable co-operation and communication. 	2	1	2
3	Notify other teams of the works	Noise / Traffic / area access / Fumes	3	2	6	<ul style="list-style-type: none"> Ensure adequate communication to team leaders and to work groups adjacent 	2	1	2
4	Assess if a Permit To Work is required	Injury / damage as a result of incorrect information	3	3	9	<ul style="list-style-type: none"> Obtain correct PTW for the task. Training in PTW system. 	3	1	3
5	Isolations	Injury / damage to plant as a result of incorrect isolations	4	3	12	<ul style="list-style-type: none"> Check isolations with operator at worksite before commencing work if isolations are required. Use personal safety locks. Ensure that line is de-energized before commencing work. Test for effective isolation. 	2	2	4



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6	Lift and carry materials, tools and equipment. Transport equipment and materials to job site. Job Site Establishment	<p>Over-exertion, potential body strain / sprain.</p> <p>Dropping materials / tools, crush injuries.</p> <p>Caught between surfaces, crush injuries to hand/fingers.</p> <p>Slip, trip, fall.</p> <p>Struck by other plant.</p> <p>UV exposure causing sunburn / heat stress.</p>	4	3	12	<ul style="list-style-type: none"> • At the start of any shift, basic warm up exercises should be conducted (as would be conducted for most sporting activities) before commencing the manual task. • Plan the task, identifying the route and ensure it is clear of any obvious slip and trip hazards. • Ensure no one is working below the work area and if necessary barricades/signage must be erected around the work area. A spotter maybe necessary and is to a hard hat if items could fall. • Stand as close to the load / object as possible to avoid reaching or over stretching. • Ensure a good grip before exerting force to lift, push or pull the object / tool. • Keep the load as close to the body as possible, this will reduce the strain on the lower back. • When turning, use the full body, rather than twisting at the waist. • Steel capped footwear must be worn at all times. • Gloves should be worn where hand injuries are possible from hot, sharp or rough surfaces. Site induction, wearing of hi vis clothing, isolate area if in a trafficable area by cones/bunting. • Two man lift for heavy equipment, use of vehicle loading crane for heavier equipment • Use of sunscreen, hardhats to be worn, work under shade where available, have regular rest breaks depending on weather 	4	1	4
7	Barricade off work area	Moving machinery with possibility of collisions or impact resulting in personnel injury or equipment damage. Slips, trips	4	2	8	<ul style="list-style-type: none"> • Create exclusion area. Check floor for water, oil, Be aware of other plant operating in the area (boom/scissor/fork/etc). • Clear all unrequired personnel from work area. 	3	1	6



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8	Operate power tool (cut, drill, grind material)	<p>Electricity, potential electrocution</p> <p>High speed moving parts, potential laceration and entanglement risks</p> <p>Noise</p> <p>Flying particles, including hot sparks</p> <p>Fire, potential burns</p>	4	3	12	<ul style="list-style-type: none"> Ensure all tool and extension leads have a current (within 3 months) test tag fitted to each lead. Conduct a visual inspection of the leads and tool prior to each use. If any defects are identified, do not use the tool and hand it to the site manager for repair. Ensure power tool is turned off prior to connecting power. Ensure a residual current device (RCD) is fitted to the electrical distribution board where the power lead is inserted. If not, use a portable RCD unit. If using a portable RCD unit, test to ensure it is working and then reset. Ensure all guards are fitted to the power, DO NOT use if guards are missing. Ensure all clothing is tucked in to avoid entanglement with any moving parts. Always wear eye protection and hearing protection when using all power tools. If necessary gloves should be worn to protect the hands from flying particles and hot materials. Ensure other site workers are not at risk from flying particles, if necessary, position screens to contain flying particles. Ensure all flammable materials are removed from the immediate work area and if necessary, ensure a fire extinguisher is available. 	4	1	4
9	Lifting hand rails and fixing into place.	<p>Over-exertion, potential body strain / sprain.</p> <p>Dropping materials / tools, crush injuries.</p> <p>Caught between surfaces, crush injuries to hand/fingers.</p> <p>Slip, trip, fall</p> <p>Prolonged poor posture, reaching, exposure to vibration</p>	4	3	12	<ul style="list-style-type: none"> At the start of any shift, basic warm up exercises should be conducted (as would be conducted for most sporting activities) before commencing the manual task. Plan the task, identifying the route and ensure it is clear of any obvious slip and trip hazards. Ensure no one is working below the work area and if necessary barricades/signage must be erected around the work area. A spotter maybe necessary and is to a hard hat if items could fall. Stand as close to the load / object as possible to avoid reaching or over stretching. Ensure a good grip before exerting force to lift, push or pull the object / tool. Keep the load as close to the body as possible, this will reduce the strain on the lower back. When turning, use the full body, rather than twisting at the waist. Steel capped footwear must be worn at all times. Gloves should be worn where hand injuries are possible from hot, sharp or rough surfaces. Rotate tasks within work group or take regular short breaks to prevent prolonged exposure to manual tasks. Maintain adequate work heights, approx. 900mm high. Avoid stooping, trunk twisting and exerting high forces with rotation. 	4	1	4



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10	Welding of hand rails	Electrocution:	4	3	12	<ul style="list-style-type: none"> • Ensure job is set up as per safe welding procedures. Only trained personnel to carry out welding. Fit earth clamp securely to job. • Welders must wear flame resistant work clothing and supplied leather PPE where applicable. Wear gloves if required to protect hands and arms. • Wear welders shield with filter shade No. 7 to 15 inclusive. Wear AS1337 safety spectacles under welding shields. • Use welding screens or blankets to shield arc from other personnel. Welders assistants MUST WEAR anti weld flash eye protection to AS1337 if assistant required to look at the arc, then the same protection as welder is required. • Ensure adequate fresh air is around weld area and that fumes are efficiently extracted away from the local work area. • A suitable fire extinguisher MUST BE ON HAND at all times welding is in progress. Check condition and date of extinguisher prior to starting job. • Complete hot work permit 	4	1	4
		Burns:	3	3	9		2	2	4
		Eye injury (weld flash):	3	3	9		2	2	4
		Radiation and sparks:	3	3	9		2	2	4
		Fumes:	2	4	8		2	2	4
		Fire:	3	3	9		2	2	4
		Communication failure –forms RQD	2	4	8		2	2	4
WORKING FROM EWP									
11	Inspect fall arrest equipment	Damaged fall arrest equipment	4	3	12	<ul style="list-style-type: none"> • A thorough inspection of all equipment must be conducted prior to its use. Inspections should check for; <ol style="list-style-type: none"> 1. General wear and tear 2. Cuts and tears to webbing 3. Signs of damage to stitching 4. Stretching of the lanyard. 5. Welding burns to webbing 	3	2	6
12	Pre-operation Inspection of EWP		3	3	9	<ul style="list-style-type: none"> • Conduct a visual inspection of the EWP and complete the EWP logbook prior to operation. • Any faults identified need to be reported to the Site Manager and the EWP NOT used until all faults have been repaired. 	3	1	3
13	Identify / Install an anchor point	Falls from height	4	3	12	<ul style="list-style-type: none"> • Person responsible to identify / install an anchor point must do so without risk of falling. Elevated work platforms, ladders or scaffold must be used to access the anchor point. • Only approved anchor points and slings can be used as an anchor point or attachment to the anchor point. • The anchorage point of the fall arrest system should be positioned to ensure that the static restraint line does not allow the person wearing the system to free-fall. • Fall prevention to be used when working under 6.4M, rather than only fall arrest. 	3	2	6



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14	Start-up and positioning of EWP	<p>Unstable or uneven ground surface, potential rollover of EWP.</p> <p>Underground services, potential damage to services.</p> <p>Overhead power lines, potential electrocution.</p> <p>Overhead obstructions, crush / impact injuries.</p> <p>General Public / Traffic interaction, potential collision and crush injuries</p>	4	3	12	<ul style="list-style-type: none"> Ground surfaces must be inspected to ensure sufficient compaction to operate on, if in doubt seek advice from the Site Manager. When operating on sloping ground, outriggers need to be fully extended and pinned/locked into position. Outrigger stabilising pads may need to be supported by concrete or timber beams in a pigsty packing structure. Check with Site Manager to ensure work area is clear of underground services before operating EWP. Check for and ensure no overhead power lines are within the following distances; 2 meters from distribution lines and 6m from transmission lines. Additional control measures are required if the work is within the above distances and the task is NOT to continue until adequate controls are in place. Check for and ensure no overhead obstructions or protruding hazards are within the work area. If identified, ensure all occupants of the EWP are aware of the hazard and the EWP is positioned and operated well clear of the hazard. Ensure all workers are well clear of the EWP. EWP operator is to stop if obstructions or workers are in close proximity to travel route. A spotter / traffic controller must be positioned in the immediate work area for the duration of the task. Where required, barricading and signage must be positioned to warn pedestrians and drivers of the EWP activity. EWP operator is to give way to all other traffic and pedestrians, unless managed by a traffic controller. 	4	1	4
15	Operate and Mobilise EWP	<p>Fall from Boom Lift basket</p> <p>Tools and materials falling from basket/platform, potential struck by injuries to other workers.</p>	4	3	12	<ul style="list-style-type: none"> All occupants must wear a full body harness and be attached to the designated anchor point at all times when operating a EWP. All tools must be stored in an adequate storage box to ensure they are kept off the basket floor and cannot fall from the basket. Ensure no one is working below the raised platform/basket and if necessary barricades and signage must be erected around the work area. Materials (pipes, steel, etc) should be secured adequately to prevent movement during operation and not simply laid over hand rails of EWP 	4	1	4
	WORKING WITH CRANE								



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16	Arrive on site and review work conditions	<p>Conditions not suitable for type of work, increasing the danger / risk of work hazards.</p> <p>Unsafe Access</p> <p>Insufficient lighting</p> <p>Windy Conditions</p> <p>Raining</p>	4	3	12	<ul style="list-style-type: none"> Ensure conditions for carrying out works are suitable. Safe access to be provided to working area at all times including adequate lighting to all areas. Lighting towers to be positioned as required. All plant to complete daily pre-start inspection. 	4	1	4
17	Setup & erection of cranes	<p>Hit by moving plant</p> <p>Damage to services</p> <p>Crane overturn</p>	4	4	16	<ul style="list-style-type: none"> Crane to be positioned as per lifting plan provided by crane company. Crane supervisor to check crane position. Ticketed crane operators to operate crane. Ensure crane set-up does not clash with services. Crane set up as per manufactures guidelines. Ensure overhead and underground services are located prior to set up. Refer to crane company SWMS for full details 	3	2	6
18	Lifting of staircase	<p>Crane overturn</p> <p>Crushed/ hit by structure</p>	5	4	20	<ul style="list-style-type: none"> Staircase is to be lifted within the cranes safe working radius and in accordance with SWMS and Lift plan. SWL not to be exceeded Only licensed dogman to sling and unhook loads. Lifting equipment to be inspected prior to use and certified as per Australian Standards/ crane safety specifications. No person to be under suspended structure when positioning load. 	3	2	6
19	Locating staircase into position	Crushed/ hit by structure	4	3	12	<ul style="list-style-type: none"> Keep body away from underneath of structure till it is located just above its final position (fingers,body etc) Use tag lines to locate and assist placement of staircase Crane dogman to control staircase. Two way radios to be used by all. 	3	2	6
19	Release of crane load	Hit by falling objects	5	4	12	<ul style="list-style-type: none"> No person or plant to be under the load when it is released. 	5	1	5
20	Demobilisation of cranes and truck	<p>Hit by moving plant</p> <p>Damage to services</p> <p>Crane overturn</p>	4	4	16	<ul style="list-style-type: none"> Crane to be positioned as per lifting plan provided by crane company. Crane supervisor to check crane position. Ticketed crane operators to operate crane. Ensure crane set-up does not clash with services. Crane set up as per manufactures guidelines. Ensure overhead and underground services are located prior to set up. Refer to crane company SWMS for full details 	3	2	6



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16	Pack-up Clean up job site. Lift and carry materials, tools and equipment. Transport equipment and materials to workshop.	<p>Over-exertion, potential body strain / sprain.</p> <p>Dropping materials / tools, crush injuries.</p> <p>Caught between surfaces, crush injuries to hand/fingers.</p> <p>Slip, trip, fall.</p> <p>Struck by other plant.</p> <p>UV exposure causing sunburn / heat stress.</p>	4	2	8	<ul style="list-style-type: none"> • At the start of any shift, basic warm up exercises should be conducted (as would be conducted for most sporting activities) before commencing the manual task. • Plan the task, identifying the route and ensure it is clear of any obvious slip and trip hazards. • Stand as close to the load / object as possible to avoid reaching or over stretching. • Ensure a good grip before exerting force to lift, push or pull the object / tool. • Keep the load as close to the body as possible, this will reduce the strain on the lower back. • When turning, use the full body, rather than twisting at the waist. • Steel capped footwear must be worn at all times. • Gloves should be worn where hand injuries are possible from hot, sharp or rough surfaces. Site induction, wearing of hi vis clothing, isolate area if in a trafficable area by cones/bunting. • Two man lift for heavy equipment, use of vehicle loading crane for heavier equipment • Use of sunscreen, hardhats to be worn, work under shade where available, have regular rest breaks depending on weather • Leave the work area clean, tidy and safe, Return tools to workshop, rubbish in bins. 	2	1	2
17	Rescue of a fallen worker	Falls from height	4	3	12	<ul style="list-style-type: none"> • Access equipment must be available to access a fallen worker on site at all times when using a fall arrest system. • Adequate means of access include, elevated work platforms, forklift with approved man cage, and crane with man box or mobile scaffold. • Adequately trained workers must also be available to operate any access / rescue equipment. • Refer to Post Fall recovery Plan 	2	3	6



JOB SAFETY & ENVIRONMENT ANALYSIS (JSA)

CONSULTATION & SIGN-OFF RECORD

Points to Consider when Completing this JSEA: *(this list is not inclusive – simply a prompt)*

- Does a work procedure/ existing JSEA relate to this job?
- Have all relevant personnel been trained in the appropriate procedures?
- Do all relevant personnel hold the required competencies / authorisations required for the task(s)? – Have these been identified?
- Have all relevant parties been notified and included?
- Is signage required?
- Are there special PPE requirements?
- Is there an MSDS that needs to be referred to and made accessible?
- Is there a permit required for the job and is it available?
- Have all existing and recommended controls been noted on the above table and explained to those involved?
- Are any new hazards being introduced – if so, are they adequately controlled to ensure an acceptable level of risk is maintained?
- Are there any mechanical aids or special tools / equipment that need to be made available?
- Have the monitoring requirements been considered?
- Environmental Issues: Erosion and sediment controls/ chemical and oil spills/ fauna and flora/ dust/ noise/ vibration/ public complaints

I confirm by my signature below, that I have attended a briefing on the requirements of the attached Job Safety & Environment Analysis and agree to perform the work in the manner detailed on it. I confirm that copies of the relevant Permits, MSDS's, Isolation Plans etc. have been reviewed.

JSA NAME	Installation of Staircase and Hand Rails – Welding, Heights and Crane Usage	JSA No:	CSI329	Rev:	1.7
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CLIENT SIGN ON (Supervisor/Site Manager/Area Manager)		
NAME (Please print)	SIGNATURE	DATE
TASK WORK TEAM		
NAME (Please print)	SIGNATURE	DATE

THIS SAFE WORK BRIEFING / TRAINING WAS CARRIED OUT BY (responsible person at that location) :

Name:	Signature:	Date:

Client sign off (once complete)

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Site / Project Manager sign off (document reviewed)

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