Health, Safety & Environment Risk Assessment

Company Name:	ALTRAD Pty Ltd	**Location of Work:**	Darwin, NT
Address:	2 Mettam Road, Berrimah, Northern Territory 0822	**Version:**	V.3
Reviewer:	Anthony Loyden	**Date:**	06 February 2023
Approver:	Matt Hajdic	**Date:**	02 March 2023

Notes:

1. This risk assessment is developed to meet Altrad Management System Requirements, legislation and tailored to reflect hazards relevant to site
2. The risk matrix and risk levels are shown on Page 2.
3. Hazards or Aspects with an inherent risk rating of 'extreme' (16-25) or 'high' (10-15) are considered a significant risk to persons conducting the work.
4. For risk appetite, a residual risk rating of "extreme (16-25)" is not acceptable. Work must be suspended until the residual risk is reduced to a lower level. The hierarchy of risk control measures is applied to reduce risks to "as low as reasonably practicable." In many cases, a combination of control measures will provide the best solution.
5. For each hazard, our objective is to comply with legal and other requirements to which Altrad subscribes. Our target is to eliminate fatalities and permanent disabilities, and to systematically reduce all other injuries / disease. For environment, we aim to avoid any major environment incident.

Health, Safety & Environment Risk Assessment

Risk Matrix

Severity (Harm potential)	Safety	Health	Environment						
	Major Risk of a fatality	**Major** Risk of fatality	**Major** Risk of a catastrophic environmental incident	5	5	10	15	20	25
	High Risk of a broken bone	**High** Permanent impairment w ith significant impact to quality of life (Cancer/ asbestosis/ industrial deafness)	**High** Risk Major Environmental incident	4	4	8	12	16	20
	Medium Risk of a medical treatment	**Medium** Major impairment to health (Noise induced hearing loss/ HAVs)	**Medium** Risk of serious environmental damage i.e. large spill	3	3	6	9	12	15
	Low Risk of a minor/First aid injury	**Low** Minor Impairment to health (dermatitis/ tinnitus)	**Low** Risk of minor environmental damage i.e. small spill	2	2	4	6	8	10
	Negligible Scratch/Bruise	**Negligible** rash/ redness	**Negligible** No risk of environmental damage	1	1	2	3	4	5
				Score	1	2	3	4	5
					Remote	**Unlikely**	**Probable**	**Likely**	**Almost certain**
					Likelihood				

Risk Levels

Risk Level	Score	Escalation
Low	0 -2	Local management controls apply
Medium	3 – 9	To Site Supervisor / Manager / Supervisor:
High	10 - 15	To management level, equivalent to Regional Director
Extreme	16 - 25	Work suspended until risk can be controlled to a lower level

Index of Hazards / Aspects

Item	Category	Reasonably foreseeable hazards	Residual Risk
1.	Physical	Amenities	Low
2.	Physical	Abrasive Blasting	High
3.	Physical	Electricity	High
4.	Physical	Extreme weather (heat, cold, cyclone)	Medium
5.	Physical	Work at Height a) Scaffolding b) Fall arrest system c) Ladders d) Falling objects e) Open hole	Medium
6.	Physical	Manual Tasks, including Hand-Arm Vibration	Medium
7.	Physical	Lifting Equipment (chains, slings, shackles etc.)	Medium
8.	Physical	Noise	Medium
9.	Physical	Plant (Mobile)	High
10.	Physical	Plant (Fixed)	Medium
11.	Physical	Road Freight Transport (unloading / loading)	Medium
12.	Physical	Traffic Management (vehicles / pedestrian interface)	Medium
13.	Physical	Vehicles and occupational road use	Medium
14.	Chemical	Airborne Contaminants	High
15.	Chemical	Hazardous Chemicals	High
16.	Chemical	Spray Painting	Medium
17.	Ergonomic	Workstation set-up	Medium
18.	Ergonomic	Confined Space	Medium
19.	Psychosocial	Alcohol and Other Drugs	Medium
20.	Psychosocial	Fatigue Management	Medium
21.	Psychosocial	Stress	Medium
22.	Psychosocial	Violence / Aggression / Bullying	Medium
23.	Psychosocial	Remote or isolated work	Medium
24.	Biological	Infectious disease (bacteria, viruses, fungi etc.)	Medium
25.	Environmental	Waste Management	Medium

Hazard	Legal or Other Requirement	Inherent Risk (C x L)	Risk Treatment (with accountability as risk owner)		Residual Risk (C x L)
			Control Measures	Monitor & Review	
1. Amenities Failing to provide amenities for the welfare or personal hygiene needs of persons. Such amenities include: • toilets; • rest rooms; • shelter sheds, • seating; • dining rooms; • change rooms; • drinking water; • washing facilities. Other hazards include inappropriately discarded needles and syringes at site creating a risk to people who find them. Occupational infection occurs mainly from transmission via contaminated needles and sharp objects in the workplace which have been handled incorrectly. Hepatitis B and hepatitis C are not usually transmitted by casual contact between persons. Workers exposed to cleaning toilets may require inoculations to prevent them contacting disease.	Work Health and Safety Act 2011 Work Health and Safety Regulations 2011, Regulation 40 and 41 Code of Practice: Managing the Work Environment and Facilities AS 1319-1994 Safety signs for the occupational environment	6 (Medium C = 2 L= 3	**Manager / Supervisor:** Facilities • Provide adequate facilities for workers, including toilets, clean drinking water, hand washing facilities, eating facilities. Maintain facilities in good working order, clean, safe and accessible. *(Refer to Approved Code of Practice, Appendix A – Checklist, to assess compliance).* Layout • The layout of the workplace allows for persons to enter and exit and to move about without risk to health and safety, both under normal working conditions and in an emergency • Work areas have space for work to be carried out without risk to health and safety • Floors and other surfaces are designed, installed and maintained to allow work to be carried out without risk to health and safety Lighting • Each worker to carry out work without risk to health and safety; and Persons to move within the workplace without risk to health and safety; and Safe evacuation in an emergency. Ventilation - enables workers to carry out work without risk to health and safety Air Temperature - workers carrying out work in extremes of heat or cold can carry out work without risk to health and safety. First Aid • Provide first aid equipment for the workplace; and each worker has access to the equipment; • An adequate number of workers are trained to administer first aid at the workplace; or • Workers have access to persons trained to administer first aid. Emergency Plan • Prepare an emergency plan that meets requirements of WHS Regulations, regulation 43(a) • Provide information, training and instruction to relevant workers to respond to emergency event • Test the emergency procedures, including the frequency of testing • Maintain the emergency plan for the workplace so that it remains effective. Warning Signs – Hazard warning signs are displayed for hazards at the workplace that may not be readily apparent. The signs must comply with AS1319 Managing needles or syringes • Purchase a sharps medical disposal container and arrange for safe disposal when full (containers must comply to AS/NZS 4031). Use tongs to pick-up sharps and dispose into non-reusable container, do not pick-up discarded needles using hands as potential for personal injury from needle	**Manager / Supervisor:** • Conduct workplace inspection to assess compliance Review workplace requirements if a significant change to: • the nature of the work being carried out at the workplace, • nature of the hazards at the workplace, • the size and location of the workplace, • the number & composition of workers and other persons at the work place **Workers** Reports any concerns, hazards or suggestions for improvement to Manager / Supervisor	4 (Low C = 2 L= 2

Hazard	Legal or Other Requirements	Inherent Risk (C x L)	Risk Treatment (with accountability as risk owner)		Residual Risk (C x L)
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2. Abrasive Blasting Abrasive blasting means propelling a stream of abrasive material at high speed against a surface using compressed air, liquid, steam, centrifugal wheels or paddles to clean, abrade, etch or otherwise change the original appearance or condition of the surface Hazards associated with abrasive blasting work activities include but are not limited to: <u>Radioactive material</u> Some abrasive blasting mediums such as garnet and staurolite may contain trace levels of thorium While the concentration of thorium or other radioactive materials is low, mineral extraction may concentrate naturally occurring radioactive material. Exposure to naturally occurring radioactive material is through inhaled dust. Exposure to radioactive materials may increase the risk of cancer. <u>Dust</u> One of the main hazards in abrasive blasting is dust which in many cases can be toxic. Crystalline silica and lead are typical examples of toxic dusts that can be generated during abrasive blasting activities.	Work Health and Safety Act Work Health and Safety Regulations, regulation. 32 to 38 Code of Practice: Abrasive Blasting Abrasive Blasting Abrasive Blasting Vacuum Blasting Slurry Blasting Blast Helmet Inspection Form Face Fit Testing	16 (Extreme) C = 4 L= 4	**Manager / Supervisor:** <u>Before starting work</u> – Confirm any surface paint or coating does not contain lead, asbestos or other hazardous chemicals. If in any doubt, arrange for samples to be taken and sent for NATA laboratory testing. If any hazardous chemical found, discuss action with Client and follow legislative requirements. <u>Elimination</u> • Where reasonably practical, avoid abrasive blasting in a confined space. If this cannot be avoided, refer to hazard 'work in a confined space.' <u>Substitution</u> • Actively source material with <u>less than 1% crystalline silica</u>, to minimise the risk of toxic dusts generated during abrasive blasting activities. • Actively source material where the level of radiation is <u>below 1 becquerels per gram</u> (Bq/g) to minimise the risk of radiation. <u>Isolation</u> • Abrasive blasting activities must be isolated from other workplace activities to minimise the possibility of workers being struck by particulate matter and exposed to dust. This can be done by using blasting chambers, blasting cabinets, temporary enclosures (encapsulated areas) and exclusion zones <u>Engineering</u> • Use a less hazardous surface preparation method such as Wet abrasive blasting, Water jetting or Vacuum blasting method • Abrasive blasting equipment should be fitted with an automatic cut-off device (Deadman control) near the blast nozzle to allow the operator to quickly stop the flow of abrasive material to the nozzle. • To prevent uncontrolled release of air, stop-flow values to be installed to compressors for tool air. • If insufficient natural lighting at work front, provide lighting towers / stands • Hoses should be constructed with anti-static rubber linings or fitted with an earth wire or similar mechanism to prevent electric shock. • Extraction fans to be installed as required • Use vibration-reduced equipment such as vibration isolating handles incorporated into blasting nozzles and/or supports to reduce the pressure of the hand to control the nozzle • Use mechanical aids e.g. trolleys to transport bags of abrasive blast material • Use vacuum recovery equipment to collect spent abrasive material.	**Manager /Supervisor:** Ensure pre-employment medical examination including audiometric testing is completed for all workers Refer to asbestos and biological hazards in this risk assessment for health monitoring. For example, workers exposed to lead may require biological monitoring to measure the level of lead in their blood. **Manager /Supervisor:** • Conduct workplace inspection to assess compliance • Implement maintenance schedule for equipment in use • Faulty equipment to tagged out of service and arrange to fix or dispose of **Workers:** • Report any concerns, hazards or suggestions for improvements to Manager / Supervisor • Report any equipment faults	12 (High) C = 4 L= 3

Hazard	Legal or Other Requirements	Inherent Risk (C x L)	Risk Treatment (with accountability as risk owner)		Residual Risk (C x L)
			Control Measures	Monitor and Review	
Abrasive Blasting (continued) <u>Particulate matter</u> Workers struck by particulate matter. Common injuries include eye damage, severe lacerations, burn, skin penetration. <u>Heat stress</u> Due to working in hot, poorly ventilated or confined spaces <u>Vibration</u> The force of the abrasive moving through the blast hose transmits vibration to the hands and arms of operators holding the equipment. Prolonged use of abrasive blasting equipment may lead to a condition known as occupational Raynaud's disease (also called white finger or dead finger). <u>Musculoskeletal disorders</u> • Back strain from lifting or pushing • Muscle strain from working in awkward positions • Strain from hose whip • Occupational overuse syndrome from controlling the blast hose <u>Whip check</u> Use whip checks to help prevent injuries or accidents resulting from hose or coupling failure.	Work Health and Safety Act 2011 Work Health and Safety Regulations, regulation. 32 to 38 Code of Practice: Abrasive Blasting Abrasive Blasting Abrasive Blasting Vacuum Blasting Slurry Blasting Blast Helmet Inspection Form Face Fit Testing	16 (Extreme) C = 4 L= 4	<u>Administrative</u> • All personnel are trained and understand how to use the equipment safely • Workers involved must have read the manufacturer's SDS for health hazard information on the abrasive blasting material to be used. • Affix appropriate hazard warning signs at entry of the work area to prevent unauthorised people accessing the work area.  • Inspect pathway to work area. Remove or stack aside any materials that may prevent or obstruct safe access and egress. • Clearly identify breathing airlines and tool air lines to avoid mixing of lines • Drift from abrasive blasting can be harmful to workers. Good housekeeping (clean up as you go) must be completed. • Conduct daily pre-start checks before use of plant and equipment • When blasting, the nozzle should only be pointed at the work. A blast nozzle should never be pointed at any person. Blast hoses should be uncoiled when in use and operators should be adequately trained in the use and maintenance of this equipment • Reducing the amount of time an operator is required to operate a blast nozzle by job rotation or frequent breaks, to reduce musco-skeletal injury. • Maintenance and servicing of equipment as per manufacturer requirement • All pressure in the water lines to be released when blasting completed • Whip checks to be attached to the water line attached to pressure washer • Eye wash Bottles / Stations are located close to the work area • Waste material must be disposed of in accordance with local laws <u>PPE</u> • An airline respirator (hood or helmet) - with cooling device to air supply • Eye protection. Double eye protection such as a face shield and safety glasses must be worn when mixing and cleaning of brushes and rollers • Protective clothing (such as overalls, long trousers, blast suits, aprons) • Cut resistant gloves to be used. Vibration absorbing gloves may assist in dampening vibration. • Steel capped footwear, • Hearing protection, class 5	**Manager / Supervisor:** Ensure pre-employment medical examination including audiometric testing is completed for all workers Refer to asbestos and biological hazards in this risk assessment for health monitoring. For example, workers exposed to lead may require biological monitoring to measure the level of lead in their blood. **Manager / Supervisor:** • Conduct workplace inspection to assess compliance • Conduct monitoring of SWMS • Faulty equipment to tagged out of service and arrange to fix or dispose of **Workers:** • Report any concerns, hazards or suggestions for improvements to Manager / Supervisor • Inspect PPE before use (e.g. Blast Helmet inspection) • Report any equipment faults	<u>12 (High)</u> C = 4 L= 3

Hazard	Legal or Other Requirements	Inherent Risk (C x L)	Risk Treatment (with accountability as risk owner)		Residual Risk (C x L)
			Control Measures	Monitor and Review	
3. Electricity Electricity is a common workplace hazard, and is a frequent cause of electric shocks. Some of these shocks have been fatal. Electricity does not have to be high voltage for an electrocution to occur. Electrocution has resulted from • contact with faulty electrical equipment that has become live; or • contact with worn and damaged wiring and switches, or • Not isolating electricity before use and contact with live power An electrical current flowing through the body can cause: • muscle spasms • electrical burns • uncoordinated contraction of the heart (fibrillation) • respiratory arrest (breathing stops) • cardiac arrest (heart stops beating)	Work Health and Safety Act 2011. Work Health and Safety Regulations 2011, Part 4.7 Code of Practice: Managing electrical risks in the workplace AS/NZS 3000 Electrical installations - Buildings, structures and premises AS/NZS 3012 Electrical installations - Construction and demolition sites AS/NZS 61588 Safety of power transformers, power supply units and similar AS/NZS 3760 – In service safety inspection and testing Electrical Safety and Isolation Procedure for Low Voltage	16 (Extreme) C = 4 L= 4	**Manager / Supervisor** <u>Isolation</u> • Isolation of electricity completed before any work on live electric cables. • Personal Danger tags and Out of Service tags must be attached to each isolating device • Personal Danger tags must only be removed by the person whose name is on the tag. • Electrical appliances and equipment, which are deemed un-serviceable or restricted from use. should be isolated by padlock around the electrical plug, preventing its use and tagged accordingly.  <u>Engineering</u> • Electrical installation work must comply with AS3000: Electrical Installations • Only equipment that complies with AS/NZS3000 and AS/NZS3012 is to be allowed. • Approved earth leakage protection will be provided for all circuits. • All temporary distribution boards will have appropriate signage and be fixed to the ground, lockable (for isolation purposes) and weatherproof. • All mains boards include a system circuit map. Unique number visible on each board. <u>Administrative</u> • Electrical work only by a person who holds an electrical work licence • Records of electrical inspections available for equipment. leads, offices. • No electrical equipment to be used without a current test and tag. • Testing and tagging conducted by a competent person • All temporary electrical leads secured off the ground by insulated hooks and/or lead stands. • No leads running next to a water supply point or through water. • Leads enter/exit temporary power boards from underneath the board • RCD checks progressively completed with test tag attached to the boards • Any unsafe electrical equipment must be (a) disconnected (or isolated) from its electricity supply; and (b) once disconnected (or isolated) is not reconnected until it is repaired or tested and found to be safe; or is replaced or permanently removed from use. <u>PPE</u> • Use personal protective clothing provided e.g. safety helmet, long-sleeved collared shirt, long pants, safety footwear, safety glasses	**Electrician** Assess electrical equipment for suitable use and tag equipment checked and accepted For electrical works (e.g. installation or commissioning) provide electrical certificate of compliance **Manager / Supervisor:** Conduct workplace inspection to assess compliance **Workers:** Report any concerns, hazards or suggestions for improvements to Manager / Supervisor **Corporate HSE Manager** An electrical accident that may have caused or is likely to cause danger to life or property must be reported to relevant authority	<u>12 (High)</u> C = 4 L= 3

Hazard	Legal or Other Requirements	Inherent Risk (C x L)	Risk Treatment (with accountability as risk owner)		Residual Risk (C x L)
			Control Measures	Monitor and Review	
4. Extreme Weather (heat, cold, cyclone) Work involving hot or cold temperatures can lead to a range of symptoms from physical discomfort through to life threatening conditions. Air temperatures too high or too low can contribute to fatigue and heat or cold related illness. It is important to distinguish between a condition that threatens health and safety, and a feeling of discomfort. **4a) Heat Stress** Heat stress may occur as the result of a heat wave or a constant source of heat at the workplace. Six main factors include Air temperature, high humidity, low air movement, exposure to sun Intense physical activity, clothing impairing air movement and sweat evaporation	Work Health and Safety Act 2011 Work Health and Safety Regulations 2011 Code of Practice: Managing the Work Environment and Facilities AS/NZS 2604: Sunscreen products - Evaluation and classification Working Hot Climates	12 (High) C = 3 L= 4	**Manager / Supervisor:** If it is not possible to eliminate exposure to extreme heat, then the risk of heat-related illness must be minimised so as far as reasonably practicable. For example: Engineering • Provide mechanical aids to reduce physical demands of work • Increase air movement using fans Administrative • Provide opportunities for workers who are not used to working in hot conditions to acclimatise, for example job rotation • Provide a cool, well-ventilated area where workers can take rest breaks • Provide ready access to cool drinking water and encourage drinks up to 200ml of water at frequent intervals to replace fluids lost in sweating. • Provide SPF50+ sunscreen (AS 2064) • Workers to eat regular meals PPE • Use personal protective clothing provided e.g. safety helmet, wide brim hat, long-sleeved collared shirt, long pants, safety footwear, safety glasses and apply sunscreen.	**Manager/Supervisor:** • Conduct workplace inspection to assess compliance • Conduct monitoring of SWMS • Immediate first aid provided if any worker experiences any of the following symptoms / warnings Heat stress – dizziness, fatigue, headache, nausea, breathlessness, clammy skin or difficulty remaining alert. Hypothermia - numbness in hands or fingers, uncontrolled shivering, slurred speech and difficulty thinking clearly, irrational behaviour – such as person discarding clothing. **Workers:** • Reports any concerns, hazards or suggestions for improvements to Manager / Supervisor	9 (Medium C = 3 L= 3
4b) Cold Hypothermia arises when a person gets abnormally low body temperature because of exposure to cold environments	WHS Act 2011 WHS Regulations 2011 Code of Practice: Managing the Work Environment and Facilities Working in Cold Climates	12 (High) C = 3 L= 4	**Manager / Supervisor:** If it is not possible to eliminate exposure to extreme cold, the risks must be minimised so far as is reasonably practicable. For example: Isolation • Provide protection from wind and rain, such as a crib room or a vehicle. Administrative • Provide opportunities for workers who are not used to working in hot conditions to acclimatise, for example job rotation PPE • Provide protection through warm (and if necessary waterproof) clothing.		12 (High) C = 3 L= 4

Hazard	Legal or Other Requirements	Inherent Risk (C x L)	Risk Treatment (with accountability as risk owner)		Residual Risk (C x L)
			Control Measures	Monitor and Review	
4c) Cyclone The cyclone season officially runs from **1st November to 30th April** each year A cyclone is an area of extreme low pressure characterized by rotating winds around a central calm "eye". The most destructive winds are closest to the eye, with damaging winds sometimes extending over one hundred kilometers from the center of the cyclone. A cyclone often produces large amounts of rain. So, in addition to damage from wind gusts, flooding may occur within the affected area, associated catchment area and river basins The Bureau of Meteorology issues the following tropical cyclone services: **Tropical Cyclone OUTLOOK** Risk of cyclone formation within the next **three days** **Tropical Cyclone WATCH** Gales expected in **24-48 hours**, forecast updates every 6 hours **Tropical Cyclone WARNING** Gales expected within **24 hours**, forecast updates at least every 3 hour	Work Health and Safety Act 2011 Work Health and Safety Regulations 2011 Code of Practice: Managing the Work Environment and Facilities BOM -The meteorological bureau issues watches and warnings in response stages (see table) Depot – Office Emergency Response Plan	12 (High) C = 3 L= 4	**Manager / Supervisor:** Isolation / Engineering • Every accommodation unit and/or every transportable building on worksites and camps in cyclone sensitive regions should be adequately secured. • Workers remaining on site during the cyclone should be moved to a designated appropriate shelter well in advance of the arrival of the cyclone to avoid being injured during the transfer to the shelter • During the Blue and Yellow Alert Cyclone Warning phase, a safe and orderly evacuation of non-essential personnel from the worksite or camp should be considered prior to high intensity cyclones passing in close proximity to the site. Administrative • Develop an emergency management plan to include the following: - alert stages, activities and responsibilities of key persons at each stage - alignment of emergency response in accordance with local emergency planning groups and/or Clients where Altrad sites / personnel are located. - details ensuring the safety of personnel and for making the site safe This should include the removal / restraint of loose objects and structures and evacuation of personnel. - how each site will continuously monitor cyclone warnings issued on radio, television or via the internet connection to the Bureau of Meteorology or NTPFES websites. In the event of power interruptions on site battery powered radios should be available. - where workers are required to stay on site, how adequate stocks of food and other essential items will be available during the period when the site may be cut off due to high winds or flooding.	**Manager/Supervisor:** • Conduct workplace inspection to assess compliance **Workers:** • Reports any concerns, hazards or suggestions for improvements to Manager / Supervisor	9 (Medium C = 3 L= 3

Hazard	Legal or Other Requirements	Inherent Risk (C x L)	Risk Treatment (with accountability as risk owner)		Residual Risk (C x L)
			Control Measures	Monitor & Review	
5. Work at Height Persons are at risk of a fall from height or being struck from a falling object associated with work at height activities A fall by a person from one level to another that is reasonably likely to cause injury to the person or any other person. See over page for management of the following hazards: a) Scaffolding b) Fall-arrest system c) Use of ladders d) Falling objects e) Open hole Typical injuries from falls can include unconsciousness and occluded airway, impalement, serious head or abdominal injuries and fractures. A person using a fall-arrest system could suffer suspension intolerance as a result of a fall.	Work Health and Safety Act 2011. Work Health and Safety Regulations 2011, Part 4.4 – Fall Code of Practice: Managing the Risk of Falls at Workplaces AS/NZS 1576 Parts 1 to 6 Scaffold AS/NZS 4576:1995 Guidelines for scaffolding AS/NZS 1891 Parts 1 to 4 Industrial fall-arrest systems and devices— AS/NZS 1892 Portable ladders series AS/NZS 4488 Industrial rope access systems series AS/NZS 4488.2 Industrial rope access systems—Selection, use and maintenance Working at Height	12 (High) C = 3 L= 4	**Manager / Supervisor:** Elimination • Eliminating the need to work at height is the most effective way of protecting workers from the risk of falls. Engineering • Where this is not reasonably practicable to eliminate the need to work at height, minimising the risk of a fall by a person from one level to another will include the following - providing a fall prevention device (for example scaffolds elevating work platforms, mast climbers, workboxes, building maintenance units, portable or mobile fabricated platforms) if it is reasonably practicable to do so, or - providing a work positioning system (for example, an industrial rope access system) if it is not reasonably practicable to provide a fall prevention device, or - providing a fall-arrest system, so far as is reasonably practicable, if it is not reasonably practicable to provide a fall prevention device or a work positioning system. In some cases, a combination of control measures may be necessary, for example using a safety harness while working from an elevating work platform **Emergency Preparedness and Response** • Whenever there are risks from working at height, appropriate emergency procedures and facilities, including first aid, must be established and provided. • Selected rescue equipment should be kept in close proximity to the work area so that it can be used immediately. • Rescuers must be trained, sufficiently fit to carry out their task and capable of using any equipment provided for rescue.	**Manager / Supervisor:** • Conduct workplace inspection to assess compliance **Workers:** • Reports any concerns, hazards or suggestions for improvements to Manager / Supervisor	9 (Medium C = 3 L= 3

Rescue Plan

The quick rescue of a person suspended in a full body harness, as soon as is possible, is vital. For this reason, workers should be capable of conducting a rescue of a fallen worker and be familiar with onsite rescue equipment and procedures.

Workers and emergency response workers must be trained in the rescue procedures and be able to recognise the risks of suspension intolerance and act quickly in the rescue of a person.

The provision of suitable rescue equipment will depend on the nature of the work and the control measures used, for example, an emergency rapid response kit with man-made fibre rope, according to AS/NZS 4142.3 Fibre ropes—Man-made fibre rope for static life rescue lines

Hazard	Legal or Other Requirements	Inherent Risk (C x L)	Risk Treatment (with accountability as risk owner)		Residual Risk (C x L)
			Control Measures	Monitor & Review	
5a) Scaffolding (Supply, Erecting, Changing, Inspecting and Dismantling Scaffolds) Scaffold means a temporary structure specifically erected to support access or working platforms. WHS Regulations 225 applies to: (a) a suspended scaffold; and (b) a cantilevered scaffold; and (c) a spur scaffold; (d) a hung scaffold; and (e) any other scaffold from which a person or thing could fall more than 4 meters. Scaffolders can be exposed to fall hazards: - during the placement or removal of scaffold planks (internal fall) - from the open sides or ends of the scaffold (external fall); and - - in climbing from one lift of the scaffold to the next lift (climbing fall)	Work Health and Safety Act 2011. Work Health and Safety Regulations 2011, Reg. 225 Code of Practice: Managing the Risk of Falls at Workplaces AS/NZS 1576 Parts 1 to 6 (Scaffold) AS/NZS 4576: Guidelines for scaffolding Scaffold Design Stacking and Storage of Scaffold Equipment Over the Side Working Scaffold Rescue and Retrieval of a Scaffolder Ladder Access in Scaffold Long Standing Scaffolds Erection and Dismantling of Scaffolds Scaffold Inspections Asbestos and Scaffolding	12 (High) C = 3 L= 4	**Manager / Supervisor:** <u>Administration</u> • Scaffold design procedure applies for scaffold requiring bespoke design which fall outside the range covered by national standards, industry guidance or manufacturer user manual. Submit a completed Scaffold Design Request form must be submitted to Altrad Design Engineer. • Supply, erection, maintenance and dismantling of scaffold must conform to AS/NZS 4576 and AS/NZS 1576 Scaffolding series • Scaffolding is erected, altered and dismantled by competent persons. Any scaffold from which a person or object could fall must be erected, altered and dismantled by or under the direct supervision of a licensed scaffolder. • Prefabricated scaffolds are of the same type and not mixed components, unless the mixing of components has been approved by the manufacturer • Safe access to and egress from the scaffold must be provided • Edge protection (hand rails, mid-rails and toe boards) must be provided at every open edge of a work platform • Scaffold must not be used written confirmation from a competent person that construction of the scaffold has been completed and is safe to use e.g. a Scaftag fully completed and affixed at entry to scaffold. • A person working who lowers any scaffolding equipment must do so carefully, without throwing or dropping scaffolding equipment from one level to another Where work is performed from a scaffold, relevant workers must understand: • what loads the scaffold can safely • not to make any unauthorised alterations to the scaffold (such as removing guard rails, planks, ties, toe boards and braces) • working platforms are kept clear of debris & obstructions along their length • that incomplete or defective scaffolds must never be accessed – example hazard warning signage below.  <u>PPE</u> • Scaffolders must wear a safety harness at all times when erecting, modifying or dismantling scaffolding. Twin tailed lanyards or inertia blocks must be used where fall prevention or collective fall arrest techniques cannot be suitably achieved. All harnesses and lanyards are issued. • Use personal protective clothing provided e.g. safety helmet, long-sleeved collared shirt, long pants, safety footwear, safety glasses	**Competent Person inspects:** (a) before the scaffold is used; and (b) after any alteration or modification (c) after any incident or event likely to have affected its integrity (e.g. after severe weather event, struck by plant); (d) at regular intervals not exceeding 28 days since the last inspection **Competent Person provides:** • Tagging in accordance with AS/NZS 1576.1 • If required by statutory body or end user, provide Handover Cert to AS4576 for scaffold before use. **Workers** • Any defective / suspect scaffolding component must be rejected and quarantined with Supervisor to decide what occurs with components • Reports any concerns, hazards or suggestions for improvements to Manager/Supervisor	9 (Medium C = 3 L= 3

Hazard	Legal or Other Requirements	Inherent Risk (C x L)	Risk Treatment (with accountability as risk owner)		Residual Risk (C x L)
			Control Measures	Monitor and Review	
5b) **Fall-Arrest System** If a person using an individual fall-arrest system falls, the system may act as a pendulum, and in some situations the user may hit the ground (called 'swing down') or swing back onto the building or structure (called 'swing back': A person using a fall-arrest system could suffer suspension intolerance as a result of a fall. Where this occurs, rescue must promptly prevent the onset of suspension trauma or orthostatic intolerance. This is a natural human reaction to being upright and immobile, where blood pools in the legs leading to unconsciousness. This may lead to renal failure and eventually death, depending on a person's susceptibility. This condition may be worsened by heat and dehydration.	Work Health and Safety Act 2011. Work Health and Safety Regulations 2011, Part 4.4 - Falls Code of Practice: Managing the Risk of Falls at Workplaces AS/NZS 1891.4 Industrial fall-arrest systems and devices—Selection, use (Appendix A) Rescue and Retrieval of a Scaffolder Management and Control of safety Harness and lanyards Safety Harness and Lanyard Issue Inspection Harness and Lanyard Issue and Inspection	12 (High) C = 3 L= 4	**Manager / Supervisor:** Elimination • A fall-arrest system is intended to safely stop a worker falling an uncontrolled distance and reduce the impact of the fall. This system must only be used if it is not reasonably practicable to use higher level controls or if higher level controls might not be fully effective in preventing a fall on their own. Engineering • All equipment used for fall-arrest should be designed, manufactured, selected and used in compliance with the AS1891 series of standards. • All anchor points to be used in work at heights must be clearly identified and tested by a competent person before use. This will include the use of tagging defining the Safe Working Load (SWL) of each anchor point. • Each anchorage point should be located so that a lanyard of the system can be attached to it before the person using the system moves into a position where the person could fall. • Fall-arrest systems, incorporating a lanyard, should be installed so that the maximum distance a person would free fall before the fall-arrest system takes effect is two meters. There should be sufficient distance between the work surface and any surface below to enable the system, including the action of any shock absorber to fully deployed. Administrative • Individual fall-arrest systems rely on persons wearing and using them correctly, and therefore workers who will use such a system must be trained in its safe use • Persons using fall-arrest systems must be provided with suitable and adequate information, instruction and training in relation to the emergency rescue plan. The rescue plan must be tested so it is effective. • Selected rescue equipment should be kept in close proximity to the work area so that it can be used immediately. • Are persons required to perform rescue must be trained, sufficiently fit to carry out their task and capable of using any equipment provided for rescue. • Persons using fall-arrest systems must inspect their equipment prior to use. If the equipment is faulty (as per AS1891) report it to Supervisor or Manager. • Persons must be have a relief strap attached to harness and be trained in its use PPE • Harnesses must be correctly fitted. Workers should connect the fall-arrest line to the attachment point on their harness (dorsal attachment point or the chest connection) that will provide the best protection in the situation it is being used.	**Manager / Supervisor:** • Verify person(s) working at height are competent • Obtain approval for anchor points installed • Conduct workplace inspection to assess compliance, **Competent Person** Anchorage Points - Each component of the system and its attachment to an anchorage must be inspected by a competent person: • after it is installed but before it is used • at regular intervals • immediately after it has been used to arrest a fall. Inspection of all components should be conducted in accordance with the manufacturer's specifications and the relevant standards. If any signs of wear or weakness are found during the inspection, the components or means of attachment should be withdrawn from use until they are replaced with properly functioning components.	9 (Medium C = 3 L= 3

Hazard	Legal or Other Requirements	Inherent Risk (C x L)	Risk Treatment (with accountability as risk owner)		Residual Risk (C x L)
			Control Measures	Monitor & Review	
5c) Use of Ladders A fall from a ladder by a worker that is reasonably likely to cause injury to the person or any other person. Ladders can be hazardous if they are not correctly maintained and used	Work Health and Safety Act 2011. Work Health and Safety Regulations 2011, Part 4.4 - Falls Code of Practice: Managing the Risk of Falls at Workplaces AS/NZS 4576:1995 Guidelines for scaffolding AS 1892.1 and 1892.2 Safe Use of Step Ladders Inspection and use of Ladders Inspections of ladders form	12 (High) C = 3 L= 4	**Manager / Supervisor:** Elimination: • Prevent persons working from an extension or single ladder. Extension and single ladders should be used as a means of access to or egress from a work area, not as a working platform Substitution: • Consider safer alternatives, such as scaffolding or an elevated work platform. Engineering / Administrative: **Platform Ladders**: Where it is not reasonably practicable to eliminate the necessity to work from a step ladder, a platform ladder is acceptable. Any platform ladder to be used must: - Have a load rating of at least 120kg; - Be manufactured for industrial use; - Be used only for the purpose for which it is designed; - Not used to support a weight greater than that for which it is designed; - Have all the locking devices on the ladder secured before use; and - Be set up on a solid and stable surface to prevent ladder from slipping. **Extension and Single Ladders used for access and egress** • Portable metal ladder meets AS/NZS 1892.1 • Portable wooden ladder meets AS 1892.2 • The ladder is not too close or too far from the support structure—the distance between the ladder base and the supporting structure should be about one meter for every four meters of working ladder height (4:1 ratio) • There is set up on firm, stable ground, free from obstructions on the floor, allowing workers to easily access and step onto the ladder • Materials or tools are not carried while climbing the ladder—use a tool belt, side pouch • The ladder extends at least one meter above the stepping-off point on the working platform • Worker inspects the ladder before use, maintains 3 points of contact whilst using the ladder and do not overreach which may lead to risk of fall. A person must not use a ladder-bracket scaffold at a workplace unless the ladder-bracket scaffold is set up and used as per clause 10.2.5 of AS/NZS 4576.	**Manager / Supervisor:** • Conduct workplace inspection to assess compliance **Workers:** • If any defects are found, these must be reported to Supervisor and ladder tagged out of service. • Reports any concerns, hazards or suggestions for improvements to Manager/Supervisor	9 (Medium C = 3 L= 3

Hazard	Legal or Other Requirements	Inherent Risk (C x L)	Risk Treatment (with accountability as risk owner)		Residual Risk (C x L)
			Control Measures	Monitor and Review	
5d) Falling Objects Potential for falling objects to hit people doing construction work and people in adjoining areas. Adjoining areas could include another work group, public footpath, building beside a workplace. Objects including equipment, material, tools and debris that can fall or be emitted sideways or upwards are considered as falling objects. Examples of falling objects include tools falling off a working platform	Work Health and Safety Act 2011. Work Health and Safety Regulations 2011, Div. 10 – Falling objects Code of Practice: Managing the Risk of Falls at Workplaces Management and Control of Dropped Objects	12 (High) C = 3 L= 4	**Manager / Supervisor:** Isolation • Provide an exclusion zone (barrier and appropriate signage) to prohibit persons from entering an area where there is risk of falling objects. Engineering • Ensure edge protection to all exposed edges of working platforms to prevent objects including equipment, material, tools and debris falling below. • Toolbelts are supplied and individual tools must be secured to a lanyard PPE • Workers to wear safety helmets in areas of the workshop where indicated by signage (sheet metal work areas are exempt and clearly delineated and sign posted). • When persons are working at height, the use of a safety chin strap or clip attachment to the safety helmet is recommended to prevent the safety helmet falling from one level to another	**Manager / Supervisor:** • Conduct workplace inspection to assess compliance **Workers:** • Reports any concerns, hazards or suggestions for improvements to Manager / Supervisor	Medium L = Unlikely C = Class 1
5e) Open Hole Person falling from height through an unguarded, uncovered or insufficiently secure (e.g. material covering the hole fails under heavy load) open penetration and potential for serious injury or fatality Falls can also occur at ground level into holes, for example trenches or service pits.	Work Health and Safety Act 2011. Work Health and Safety Regulations 2011, Part 4.4 - Falls Code of Practice: Managing the Risk of Falls at Workplaces	12 (High) C = 3 L= 4	**Manager / Supervisor:** Engineering • Floor opening or holes must be protected by approved guard rails or covers to prevent a risk of fall. If covers are used as a fall protection control measure, they must be: • Of a suitable size to properly cover the hole or opening; and • Able to withstand the impact of a fall onto it of any person who may reasonably be expected to fall onto it to ensure that the person does not fall; • Securely fixed in place to prevent it being moved or removed accidentally; Administration • Affix hazard warning signage (complying with AS1319) such as “Danger – Hole Below” or similar as below 	**Manager / Supervisor:** • Conduct workplace inspection to assess compliance **Workers:** • Reports any concerns, hazards or suggestions for improvements to Manager / Supervisor	9 (Medium C = 3 L= 3

Hazard	Legal or Other Requirements	Inherent Risk (C x L)	Risk Treatment (with accountability as risk owner)		Residual Risk (C x L)
			Control Measures	Monitor & Review	
6. Manual Tasks Manual tasks involve use of the body in work activities, such as lifting, pushing, pulling, using tools, operating equipment etc. Hazardous manual tasks include repetitive or sustained force; high or sudden force; repetitive movement; sustained or awkward posture, or exposure to vibration. These factors (known as characteristics of a hazardous manual task) directly stress the body and can lead to musculoskeletal disorder. Hand-arm vibration occurs when vibration is transferred through a vibrating tool, steering wheel or controls in heavy machinery to the hand and arm. This can disrupt blood circulation in the hand and forearm and damage nerves and tendons. Localised vibration contributes to 'vibration-induced white finger' and 'carpal tunnel syndrome' through gripping force needed to hold the vibrating tools (the tighter the grip, more vibration is absorbed) and the repetitive shock loads of some tools.	Work Health and Safety Act 2011 Work Health and Safety Regulations 2011. Part 4.2 Code of Practice: Hazardous Manual Tasks Manual Handling Assessment Office Manual Handling Managing the Use of Vibrating Hand Tools. Altrad Exposure Calculator Studies have indicated that there is a link between exposure to hand-arm vibration and hearing loss.	9 (Medium C = 3 L= 3	**Manager / Supervisor:** Elimination - If it is not reasonably practicable to eliminate the risk, then minimise the risks so far as is reasonably practicable by implementing the following: Substitution • Replace heavy items with those lighter, smaller and/or easier to handle • Replace hand tools with power tools to reduce level of force required for task • Where it is not possible to eliminate the need for vibrating equipment., the best strategy is to purchase tools and equipment that produce less vibration • Consider purchasing ergonomically designed tools and equipment that suit the work being carried out and the physical characteristics of the workers Engineering • Use mechanical lifting aids Administrative • Deliver goods to the point of use (work area) to eliminate multiple handling • Persons adjust their seats appropriately and equipment is operated within the speed suggested by the manufacturer or to a speed that reduces vibration • Rotate workers between different tasks • Provide information, instruction and training to persons involved in hazardous manual tasks • Team handling is manual handling of a load by two or more workers. Team handling brings its own risks and requires coordination. It should only be used as an interim control measure. PPE • Use appropriate gloves to minimise the risk of injury or disease working in hot, humid, cold environments or using vibrating tools for extended periods of time	**Manager / Supervisor:** • Consult with workers involved in manual tasks to identify improvements • Observe tasks • Review injury reports and monitor trends • Conduct workplace inspections Review to check: • Control strategies are effective? • If further risk assessment required • New strategies required?	6 (Medium C = 3 L= 2

What is a musculoskeletal disorder (MSD)?

A musculoskeletal disorder, as defined in the WHS Regulations, means an injury to, or a disease of, the musculoskeletal system, whether occurring suddenly or over time. It does not include an injury caused by crushing, entrapment (such as fractures and dislocations) or cutting resulting from the mechanical operation of plant. MSDs may include conditions such as:

- sprains and strains of muscles, ligaments and tendons
- back injuries, including damage to the muscles, tendons, ligaments, spinal discs, nerves, joints and bones
- joint and bone injuries or degeneration, including injuries to the shoulder, elbow, wrist, hip, knee, ankle, hands and feet
- nerve injuries or compression (e.g. carpal tunnel syndrome)
- muscular and vascular disorders as a result of hand-arm vibration
- soft tissue hernias and chronic pain.

MSDs occur in two ways (i) gradual wear and tear to joints, ligaments, muscles and inter-vertebral discs caused by repeated or continuous use of the same body parts, including static body positions and (ii) sudden damage caused by strenuous activity, or unexpected movements such as when loads being handled move or change position suddenly. Injuries can also occur due to a combination of these mechanisms, for example, body tissue that has been weakened by cumulative damage may be vulnerable to sudden injury by lower forces

Hazard	Legal or Other Requirements	Inherent Risk (C x L)	Risk Treatment (with accountability as risk owner)		Residual Risk (C x L)
			Control Measures	Monitor and Review	
7. Lifting Equipment Lifting equipment is a general term used to describe the various items of equipment including pull lifts, chain blocks, tirfors, winches, webbing slings, wire rope slings and chain slings used in rigging and lifting tasks involving a load suspended from or pulled by the equipment. Load restraint equipment items are rigging item such as webbing straps, chains, load binders, chain tensioners, ropes, etc that are used to secure a load prior to movement of a vehicle (including but not limited to utilities, trucks, and forklifts) or to secure a load onto a pallet. **Note:** Working Load Limit (WLL) replaces Safe Working Load (SWL) in describing the capacity of items such as hooks, slings and shackles etc.; that is for lifting devices below the crane hook, as referenced in AS4991:2004 Lifting devices.	Work Health and Safety Act 2011 Work Health and Safety Regulations 2011 General Lifting Operations Overhead Crane and Winching Operations AS4991 Lifting devices. AS 4497 - Round slings - Synthetic Fibre - Product Specification, Care and Use	9 (Medium C = 3 L= 3	**Manager / Supervisor:** Isolation • All persons are to keep well clear of suspended loads and never pass under or work under a suspended load. Administrative • Load restraint equipment is not designed for and must never be used for lifting loads • Employees who use lifting and load restraint equipment must be trained in the correct use of the equipment • A register of all lifting and load restraint equipment items must be maintained • All lifting and load restraint equipment and accessories must be correctly stored in a clean, dedicated area. All items of equipment should be stored off the ground, and slings stored on frame, categorised by SWL. • Chains and wire rope slings should be lightly oiled. Accessories should be stored on a peg board. • Proof loading, if required, shall be carried out by an authorised organisation. • Lifting and load restraint equipment must be serviced, and tested, by a Competent Person to the manufacturer's specifications – see below • Hard hats to be worn inside workshop during OHTC movements/use. ***In-service*** - A visual inspection prior to each use. This implies that prior to each lift, the user has a good look over the equipment (sling, hook, lifting points) to ensure that there is no significant damage or wear, and that the WLL tag or markings are fitted and legible. At this point, if any defects are noted, the equipment should be withdrawn from service, and inspected by a competent person who decides whether to use, repair or discard the equipment. ***Periodic*** - Periodic inspections refer to a more careful and detailed inspection, where the equipment is cleaned, and inspected in an adequately lit location by an inspector who has been both trained and has verifiably good vision (this is specifically discussed in the Chain Sling standard). These inspections also need to be adequately documented. ***Common inspection frequencies*** • Synthetic slings – 3 monthly, mandated by AS4497.2 • Winches, Blocks and Hoists – 12 monthly for general use, 3 monthly for intensive use • Chain and Wire Rope Slings – 12 monthly for general use, 3 monthly for intensive use	**Manager / Supervisor:** • Conduct workplace inspection to assess compliance of lifting equipment stored and in use **Workers:** • Reports any concerns, hazards or suggestions for improvements to Manager / Supervisor • Inspecting lifting and load restraint equipment before each use, • Ensuring any damaged or defective lifting or load restraint equipment is immediately tagged with an Out of Service tag and taken out of service. • Reporting any damaged or defective lifting or load restraint equipment to the Manager / Supervisor **Competent Person** • Inspection in accordance with the manufacturer's specifications and the relevant standards.	6 (Medium C = 3 L= 2

Hazard	Legal or Other Requirements	Inherent Risk (C x L)	Risk Treatment (with accountability as risk owner)		Residual Risk (C x L)
			Control Measures	Monitor and Review	
8. Noise Hazardous noise can destroy the ability to hear clearly and can also make it more difficult to hear sounds necessary for working safely, such as instructions or warning signals. Noise / vibration sources could be generated from the following: • Increase vehicle and truck movements • Plant and equipment operation, • Material handling equipment and operations • Power tools equipment operation. • Abrasive blasting Occupational health risks to the workforce include: noise induced hearing loss; stress and communication problems <u>Chronic noise exposure</u> Noise induced hearing loss as a result of prolonged exposure over a number of years to high noise levels. <u>Acute noise exposure</u> Hearing damage as a result of exposure to extremely high noise events, which occur over very short durations, (micro-seconds) e.g. cartridge type power tools A 3 dB increase in noise level, though barely perceptible, corresponds to a doubling of sound energy. A noise 3 dB greater has twice the energy output and causes the same damage in half the time.	Work Health and Safety Act 2011 Work Health and Safety Regulations 2011. Part 4.1 Code of Practice: Managing Noise and Preventing Hearing Loss at Work AS2436 – Guide to Noise Control on Construction, Maintenance and Demolition Sites AS/NZS 1269.3. Exposure to some chemicals can result in hearing loss. These chemicals are known as ototoxic substances – refer to Hazardous Substances section Noise Management	<u>9 (Medium</u> C = 3 L= 3	**Manager / Supervisor:** <u>Elimination</u> • Ensure noise that a worker is exposed to at the workplace does not exceed the exposure standard for noise. • The most effective control measure is to eliminate the source of noise completely, for example by ceasing to use a noisy machine, changing the way work is carried out so hazardous noise is not produced or by not introducing the hazard into the workplace. If it is not reasonably practicable to eliminate the source of noise, minimise the risk associated with hearing loss so far as is reasonably practicable. This includes ensuring noise does not exceed the exposure standard by choosing one or more of the following measures. <u>Substitute</u> • The hazard with plant or processes that are quieter <u>Isolate</u> • The source of noise from people by using distance, barriers, enclosures and sound-absorbing surfaces. <u>Engineering</u> - • Modify plant and processes to reduce the noise to a lower level <u>Administrative</u> • Regular maintenance of plant and equipment is essential as it will deteriorate with age and can become noisier. • Organising schedules so noisy work is done when only a few workers are present • Notifying workers and others in advance of noisy work so they can limit their exposure to it • Sign-posting noisy areas and restricting access • Providing quiet areas for rest breaks for workers exposed to noisy work • Limiting the time workers spend in noisy areas by moving them to quiet work before their daily noise exposure levels exceed exposure standard. <u>PPE</u> Personal hearing protectors, such as ear-muffs or ear-plugs (AS/NZS 1269.3, Class 5) should be used in the following circumstances: • When the risks arising from exposure to noise cannot be eliminated or minimised by other more effective control measures, • As an interim measure until other control measures are implemented • Where extra protection is needed above what has been achieved using other noise control measures.	**Manager / Supervisor:** • Employees to attend pre-employment medical examination including audiometric testing. • Conduct workplace inspection to assess compliance • Health monitoring as WHS Regulations Part 4.1 – Noise The WHS Regulations set the exposure standard for noise at an LAeq,8h of 85 dB(A) and a peak noise level at 140 dB(C), which protects most but not all people. **Workers:** • Report hazards, concerns or suggestions for improvement to reduce noise and vibration levels to Manager / Supervisor:	<u>6 (Medium</u> C = 3 L= 2

Hazard	Legal or Other Requirements	Inherent Risk (C x L)	Risk Treatment (with accountability as risk owner)		Residual Risk (C x L)
			Control Measures	Monitor & Review	

9. Plant (Mobile) Plant operating on-site in close proximity to workers and other hazards i.e. other plant, fixed infrastructure, overhead or under-ground services. Powered Mobile Plant includes but is not limited to: • Concrete Trucks • Cranes • Forklift • Elevated Work Platform (EWP) • Excavator • Grader • Loader • Tele-handlers • Trucks • Vacuum Truck Powered Mobile Plant is a major cause of workplace death and injury. There are significant risks associated with using plant and severe injuries can result from the unsafe use of plant e.g. • Loss of containment during vacuum unit vessel wash out activities. • Limbs amputated by unguarded moving parts of machines. • Being crushed by mobile plant • sustaining fractures from falls while accessing, operating or maintaining plant. • Electric shock from plant that is not adequately protected or isolated, and • Burns or scalds due to contact with hot surfaces, or exposure to flames or hot fluids. Other risks include hearing loss due to noisy plant and musculoskeletal disorders caused by manually handling or operating plant that is poorly designed.	Work Health and Safety Act 2011 Work Health and Safety Regulations 2011, Part 5.1 to 5.3 Overhead Crane and Winching Operations Code of Practice: Managing risks of plant in the workplace AS 1418: Cranes, hoists and winches AS 2359 (Series) Powered industrial trucks Safe Operation of Mobile Plant & Vehicles Management and Control of Work Equipment Vacuumation and Waste Handling	12 (Medium C = 4 L= 3	**Manager / Supervisor:** Elimination • Every effort must be made to eliminate personnel to work in and around the area of operating mobile plant. Examples may include removing plant and people from the same work area by changing work schedule. Substitution • Consider replacing an item of mobile plant, which has a restricted field of vision to one that has a clear field of vision or select a smaller item of plant • All Vacuum vessel washout activities will be completed at licensed waste transfer stations i.e. Veolia Waste transfer station. No vacuum vessel washing activities will be completed at any unlicensed locations. Isolation • All plant movements must be managed to avoid potential collision and/or personal damage - particularly in relation to multiple plant movements, reversing plant and personnel present on ground. • Travel under overhead power lines, that may be impacted, must have high visibility warning signage / height barriers to avoid being struck. Engineering • For excavators, quick-hitches must be of fully automatic double locking hydraulic type, preventing attachments from falling and swinging, • For Mobile Cranes, a Rated Capacity Limiter must be fitted • Audible warning devices activated when the plant is reversing • Amber flashing light is activated when the plant is operating. Administration • Certain items of plant must be registered e.g. Concrete placing booms, Vacuum Trucks, Boom type elevating work platforms, Building maintenance units, Mast climbing work platforms, Mobile cranes with a rated capacity of greater than 10 tonnes. • Vacuum Truck training must be completed by vacuum operators MSMSS00006 – Operate a Vacuum Loading System. Vacuum operators off siders must complete a VOC on the vacuum equipment. • All waste volume movements will be recorded with Altrad Waste Tracking Certificates and further recorded on Altrad WTC Volume & Classification Annual Tracking Sheet for Altrad NT EPL. • All mobile powered plant must have an individual plant risk assessment • A reliable means of communication must be in place and in use to manage mobile plant movements and ensure personnel are safe. • Only mobile plant operators who are trained & deemed competent must operate any powered mobile plant. Records of operator competency must be readily available. • Mobile Plant must only be operated in accordance with manufacturer's instructions and engineering design parameters • Light vehicle drivers and pedestrians must maintain a safe distance from operating mobile equipment due to the risk of a fatality / serious incident. Machine operators must stop their machine when unsure about the location of ground personnel. • Movement of plant is restricted to speed restrictions displayed on road/site	**Manager / Supervisor:** So far as is reasonably practicable, prevent unauthorised alterations to or interference with the plant Ensure all safety features, warning devices, guarding, operational controls, emergency stops are used in accordance with instructions Conduct workplace inspection to assess compliance Verify records of service and maintenance for plant Ensure ALL vacuum operators are trained to understand all environmental controls in place for vacuum units **Workers:** Reports any concerns, hazards or suggestions for improvements	9 (Medium C = 3 L= 3

			• Daily pre-start checks must be completed and recorded. • Each person involved in the maintenance, cleaning or repair of the plant should have a lock, tag and key for each isolation point. Tags should only be used as a means of providing information to others. A tag must not be used on its own as an isolation device; only a lock is effective at isolating the energy source.	to Manager / Supervisor Ensure all washing of vacuum unit vessels is completed at licensed waste stations.	

Hazard	Legal or Other Requirements	Inherent Risk (C x L)	Risk Treatment (with accountability as risk owner)		Residual Risk (C x L)
			Control Measures	Monitor and Review	
10. Plant (Fixed) Fixed plant includes but is not limited to the following: • Pressure Vessels • Boilers • Spray Painting Booths • Cutting machines There are significant risks associated with using plant and severe injuries can result from the unsafe use of plant, for example: • cause injury due to entanglement, falling, crushing, trapping, cutting, puncturing, shearing, abrasion or tearing • create hazardous conditions due to harmful emissions, fluids or gas under pressure, electricity, noise, radiation, friction, vibration, fire, explosion, moisture, dust, ice, hot or cold parts, and • cause injury due to poor ergonomic design, for example if operator controls are difficult to reach or require high force to operate.	Work Health and Safety Act 2011 Work Health and Safety Regulations 2011, Part 5.1 to 5.3 Code of Practice: Managing risks of plant in the workplace AS1210 Pressure Vessels AS 4343 (Pressure equipment—Hazard levels) AS 4024 (Series) – Safeguarding of machinery – general principles AS 2971 Serially produced pressure vessels AS/NZS 3788 Boiler and pressure vessels – In service inspection AS/NZS 4114.2 Spray painting booths. Part 2: Installation and maintenance Management and Control of Work Equipment	12 (Medium C = 4 L= 3	**Manager / Supervisor:** Plant should be positioned so that: • Risks from hot plant (such as friction, hot material, hot gases) are controlled through restricted access, guarding or insulation • There is sufficient space (suggested 600 mm, the minimum width of a walkway) for safe access to the plant for operation, cleaning, maintenance, inspection and emergency evacuation • The plant does not obstruct doorways and emergency exits • The proximity to other plant does not have a negative effect on the operation of the plant or work processes Engineering • Guards must be fitted to plant as per manufacturer instructions Administration • Certain items of plant and types of plant designs must be registered • Daily pre-start checks must be completed and recorded. • Workers who operate plant should be competent, or suitably supervised during training, so that they do not put themselves or others at risk. It is important to retain all operating manuals and instructional material provided by the manufacturer to correctly operate and maintain the plant once it is in the workplace. • Ensure all safety features, warning devices, guarding, operational controls, emergency stops are used in accordance with instructions and information provided • Any emergency instructions relating to an item of plant should be clearly displayed on or near it • Each person involved in the maintenance, cleaning or repair of the plant should have a lock, tag and key for each isolation point. Tags should only be used as a means of providing information to others. A tag must not be used on its own as an isolation device; only a lock is effective at isolating the energy source PPE • Provide workers with appropriate PPE such as hard hat, safety footwear, gloves, safety eyewear / face shield, earmuffs / ear plugs and dust mask	**Manager / Supervisor:** • So far as is reasonably practicable, prevent unauthorised alterations to or interference with the plant • Ensure all safety features, warning devices, guarding, operational controls, emergency stops are used in accordance with instructions • Conduct workplace inspection to assess compliance • Ensure that maintenance, inspection, and if necessary testing, of plant is carried out by a competent person in accordance with manufacturer's recommendations • Verify records of service and maintenance for plant **Workers:** • Reports any concerns, hazards or suggestions for improvements to Manager / Supervisor	9 (Medium C = 3 L= 3

Hazard	Legal or Other Requirements	Inherent Risk (C x L)	Risk Treatment (with accountability as risk owner)		Residual Risk (C x L)
			Control Measures	Monitor and Review	

11. Road Freight Transport (incl. loading & unloading) When mobile plant and vehicles are physically moving within workplaces there is a high risk of injury or even death is the hazards and associated risks are not managed correctly. The most common workplace vehicle accidents happen when reversing, loading, unloading and during pedestrian movements. Of all mobile plant equipment forklifts represent the most significant materials handling equipment in the workplace	Work Health and Safety Act 2011 Work Health and Safety Regulations 2011 Vehicle Loading and Unloading Vacuumation and waste handling Vehicle Maintenance and Inspection Environmental Emergencies and Spill Response Under the Heavy Vehicle National Law (HVNL), all parties who have control or influence over the transport task are deemed responsible for complying with the Chain of Responsibility obligations. All parties must take all reasonable steps to prevent breaches of mass, dimension, loading, speed and fatigue laws.	12 (Medium C = 4 L= 3	**Manager / Supervisor:** Isolation • Ensure size of zone can accommodate all activities associated with the loading / unloading operations, including: product characteristics and equipment in use. • The most effective method to establish an exclusion zone is the use of physical barriers. These can include: fences, cages, Armco barriers, jersey barriers, truck gates, barricades, bollards, tape, chains etc. Administrative • All personnel other than the loading / unloading operator must not be within the area during the process of loading / unloading. • Prior to loading/unloading taking place, agreement in relation to how the load/product is to be loaded / unloaded must be established between operator and driver. • Ensure the Forklift is suitable for the work to be done and is in a safe condition • Clear and effective systems of communication between the operator and the driver which are fit for purpose for the nature of the loading environment and the equipment/vehicles involved, i.e. a system of hand signals might be adequate for some environments, but two-way radio might be more appropriate in others; • That authority for the area in which the loading/unloading activity is occurring should reside with the forklift operator; • All personnel who may be exposed to loading/unloading operations must be trained and deemed competent prior to being exposed to the activity. • In an emergency situation. all loading / unloading activities must cease immediately upon making safe the equipment and product / load. Emergency site procedures are to be followed. • Only personnel who have been authorised and deemed competent can operate the liquid vacuum unit. • In the event of a spill, follow Emergency and Spill Response procedures. Under the HVNL, you are generally classified as a loader/ unloader of goods when you engage in the process of loading or unloading a heavy vehicle or any container that is part of its load As a person unloading or loading, must ensure: • loads do not exceed vehicle mass or dimension limits* • goods carried are appropriately secured* • you provide reliable weight information to drivers* • load documentation is accurate* • delays in loading and unloading are prevented • your loading and unloading do not require or encourage drivers to: exceed the speed limits, exceed regulated driving hours, fail to meet the minimum rest requirements, drive while impaired by fatigue. * not relevant to an unloader. PPE • Provide workers with appropriate PPE such as hard hat, safety footwear, gloves, safety eyewear / face shield, earmuffs / ear plugs and dust mask	**Manager / Supervisor:** • Conduct workplace inspection to assess compliance **Workers:** • Reports any concerns, hazards or suggestions for improvements to Manager / Supervisor • If a spill occurs follow Emergency procedures	9 (Medium C = 3 L= 3

Hazard	Legal or Other Requirements	Inherent Risk (C x L)	Risk Treatment (with accountability as risk owner)		Residual Risk (C x L)
			Control Measures	Monitor and Review	

12. Traffic Management Traffic at a workplace includes: • vehicles such as cars, trucks, vacuum trucks, vans and buses • powered mobile plant such as forklifts and trucks, and • cyclists.	Work Health and Safety Act 2011 Work Health and Safety Regulations 2011 Code of Practice Managing the Work Environment and Facilities Safe Work Australia- General guide for workplace traffic management	12 (Medium C = 4 L= 3	**Manager / Supervisor:** Elimination • The best way to protect pedestrians is to make sure people and vehicles cannot interact. This can be achieved by not allowing vehicles / plant in pedestrian spaces or not allowing pedestrians in vehicle operating areas Engineering If people and vehicles cannot be separated you should consider the following controls: • Barriers or guardrails at building entrances and exits to stop pedestrians walking in front of vehicles; • High impact traffic control barrier; • Temporary physical barrier; and/or • Separate, clearly marked footpaths or walkways e.g. using lines painted on the ground or different colored surfacing. Pedestrian routes and intersections should be clearly marked, unobstructed, well maintained and well lit. Administrative • Speed limits should be implemented and enforced and traffic calming devices like speed humps considered • Parking for workers, visitors, trucks and other vehicles used in the workplace should be l clearly marked and sign-posted, well-lit and unobstructed. • If reasonably practicable eliminate the need for reversing by using drive-through loading and unloading systems, multi-directional mobile plant or rotating cabins • Clear road markings like reflective paint and signs should be used to alert pedestrians and vehicle operators to traffic hazards in the workplace. • Signs should be provided to indicate exclusion and safety zones, parking areas, speed limits, vehicle crossings and hazards like blind corners, steep gradients and where forklifts are in use – see example below 	**Manager / Supervisor:** • Conduct workplace inspection to assess compliance **Workers:** • Reports any concerns, hazards or suggestions for improvements to Manager / Supervisor	9 (Medium C = 3 L= 3

Hazard	Legal or Other Requirements	Inherent Risk (C x L)	Risk Treatment (with accountability as risk owner)		Residual Risk (C x L)
			Control Measures	Monitor and Review	

13. Vehicles and occupational road use Road crashes make up the most common types of work related deaths in Australia and also the largest cause of injury and absence from work. Two out of three vehicles on the road are making a work-related trip (Wheatley, 1997) Factors to fatal and serious vehicle crashes included: • Speed • Wildlife • Fatigue • Boredom • Alcohol • Dirt roads • High center of gravity vehicles • Narrow roads • Cyclists • Pedestrians Death or serious bodily injury resulting from unsafe driving or failure to maintain vehicles Traffic accidents involving employees on their way to work and back home result in huge economic losses as they can involve lost time injuries for most employers and the ramifications certainly impact on the community.	Work Health and Safety Act 2011 Work Health and Safety Regulations 2011 Australian Design Rules (2nd and 3rd editions); Fitness for Work Policy Driving Safely Policy Vehicle Maintenance and Inspection Transport of Hazardous Substances in Vehicles Environmental Emergencies and Spill Response Australian Dangerous Goods Code	12 (Medium C = 4 L= 3	**Manager / Supervisor:** Administration • Vehicles must be serviced and maintained in accordance with manufacturer recommendations to ensure vehicle roadworthiness **Employees:** • Compliance to road rules, including but not limited to: - Daily vehicle inspection (pre-start) for vehicles - Do not drink and drive - Do not operate a vehicle under the influence of alcohol or illicit drugs - Do not operate a vehicle under the influence of prescribed drugs unless safe to do so (Doctor's advice) - Do not use a hand-held mobile phone in control of a motor vehicle - Do not operate a motor vehicle if fatigued - Always wear your seat belt - Drive to road rules and weather conditions • All persons required to operate a motor vehicle must hold a valid Driver's licence recognised in Australia • In the event of a spill, follow Emergency and Spill Response procedures. **Transport of Hazardous Chemicals by Vehicle** You may be allowed to transport by road certain quantities of dangerous goods used as 'tools of trade' or for personal use without a dangerous goods driver licence or vehicle licence. • Altrad procedure states the maximum quantity of paint and thinners etc that may be carried on any one vehicle is 200 litres. • Hazardous Chemicals must not be transported in a passenger compartment of a vehicle or enclosed space not separated from the passenger compartment of a vehicle. • Before any containers are placed on a vehicle, they must be checked to ensure that they are in good condition, free from leaks and that all lids/caps are properly secured • All containers must be adequately stored and secured in position to prevent accidental displacement during transit.	**Manager / Supervisor:** Ensure any faults which are reported affect the safe operation of the vehicle are addressed by a mechanic and fixed, as necessary to ensure roadworthiness **Employees:** For breakdown and roadside repairs to hired vehicles the car hire company should be contacted If a spill occurs follow Emergency procedures	9 (Medium C = 3 L= 3

		Inherent	Risk Treatment (with accountability as risk owner)	Residual

Hazard	Legal or Other Requirements	Risk (C x L)	Control Measures	Monitor and Review	Risk (C x L)
14. Air borne Contaminants **(inhalation, absorption, ingestion)** Exposure to substances or mixtures in the workplace can occur through inhalation, absorption through the skin or ingestion. Most exposure occurs through the inhalation of vapours, dusts, fumes or gases. For some chemicals, absorption through the skin may also be a significant source of exposure. The response of the body from exposure to substances and mixtures depends on the nature of the substance, the health effects it can cause and the amount of the substance or mixture absorbed by the body. Individuals also have differing abilities to metabolise chemicals which can cause considerable variation in the toxic effects between people Exposure to some chemicals can result in hearing loss. These chemicals are known as ototoxic substances. Hearing loss is more likely to occur if a worker is exposed to both noise and ototoxic substances than if exposure is just to noise or ototoxic substances alone.	Work Health and Safety Act 2011, Sections 17 and 19 Work Health and Safety Regulations 2011, Regulation 48 to 50, 420 SWA Guidance on the interpretation of workplace exposure Standards for airborne Contaminants	16 (Extreme) C = 4 L= 3	**Manager / Supervisor:** Eliminate, so far as is reasonably practicable, any exposure to airborne contaminants that are hazardous chemicals. If it is not reasonably practicable to eliminate the risk, measures to minimise it must be used. For example: • Substituting a hazardous chemical with a less hazardous one • Reducing the quantity of a hazardous chemical that is used, handled or stored at the workplace • Isolating the source of exposure to the hazardous chemical, for example, welding in isolation booths away from others Engineering • Installing ventilation systems to capture or remove airborne contaminants. Administration • Check the Safety Data Sheet to understand any contaminants which may be harmful to health • Manage risks associated with using, handling and storing hazardous chemicals safely including airborne contaminants and asbestos. • Ensures that no person at a workplace is exposed to a substance or mixture in an airborne concentration that exceeds the exposure standard for the substance or mixture. PPE • Provide appropriate safety footwear, respiratory protective devices, clothing, safety eyewear, gloves / goggles	**Manager / Supervisor:** • Conduct workplace inspection to assess compliance Exposure standards represent airborne concentrations of a particular substance or mixture that must not be exceeded. There are three types of exposure standard: • 8-hour time-weighted average • peak limitation • short term exposure limit. Exposure standards are based on the airborne concentrations of individual substances that, according to current knowledge, should not cause adverse health effects nor cause undue discomfort to nearly all workers	12 (High C = 4 L= 3

Hazard	Legal or Other Requirements	Inherent Risk (C x L)	Risk Treatment (with accountability as risk owner)		Residual Risk (C x L)
			Control Measures	Monitor & Review	

15. Hazardous Chemicals Under the WHS Regulations, a hazardous chemical is any substance, mixture or article that satisfies the criteria of one or more Globally Harmonised System of Classification and Labelling of Chemicals (GHS) hazard classes, including a classification in WHS Regulations, Schedule 6. Many chemicals have both health and physicochemical hazards Health hazards – These are properties of a chemical that have the potential to cause adverse health effects. Exposure usually occurs through inhalation, skin contact or ingestion. Adverse health effects can be acute (short term) or chronic (long term). Typical acute health effects include headaches, nausea or vomiting and skin corrosion while chronic health effects include asthma, dermatitis, nerve damage or cancer. Physicochemical hazards – These are physical or chemical properties of the substance, mixture or article that pose risks to workers other than health risks, as they do not occur as a consequence of the biological interaction of the chemical with people. They arise through inappropriate handling or use and can often result in injury to people and/or damage to property as a result of the intrinsic physical hazard. Examples of hazards include flammable, corrosive, explosive, chemically reactive and oxidising chemicals.	WHS Act 2011 WHS Regulations 2011, Part 7.1 Code of Practice: Labeling of Work place Hazardous Chemicals Code of Practice: Managing Risks of Hazardous Chemicals AS 1940 - Storage and Handling of Flammable and Combustible Liquids AS 4332 – The storage and handling of gases in cylinders AS 3780 – The storage and handling of corrosive substances AS/NZS 2906 - Fuel containers - Portable-plastic and metal Hazardous Substances Assessment Storage of Hazardous Substances Vacuumation and waste handling Liquid Ring Work Instruction	16 (Extreme) C = 4 L= 4	**Manager / Supervisor:** Elimination • The WHS Regulations prohibit or restrict the use, storage or handling of certain hazardous chemicals in certain situations. For example, substances containing arsenic must not be used in spray painting or abrasive blasting – refer WHS Regulation, Schedule 10. • Not using a hazardous chemical or by eliminating a handling activity and potential worker exposure by purchasing pre-mixed or diluted chemicals instead of manually mixing or diluting chemicals at the work Substitution • Replacement of a hazardous chemical with a chemical that is less hazardous and presents lower risks, • Substituting a highly flammable liquid with one that is less flammable or combustible Isolation • Distancing workers from hazardous chemicals and any potential hazards generated by their use. Engineering • Using intrinsically safe electrical equipment in hazardous areas • Natural ventilation can be used to control small amounts of relatively low toxicity contaminants including dusts, fumes, gases and vapours which have low and steady rates of generation Administration • Provide copy of Safety Data Sheets (less than 5 years old) for any hazardous chemical brought onto the site • Assess the risk associated with use, handling, storage and disposal of hazardous substances or dangerous goods (ChemAlert System) • Ensure that a hazardous chemical used, handled or stored at the workplace is correctly labelled this also applies if the chemical is decanted into another container. • Reduce the number of workers exposed to the chemical e.g. performing the task out of normal work hours or by restricting worker access to certain areas, reducing the duration and/or frequency of workers' exposure • Check storage and ventilation meets WHS Regulations • Current Safety Data Sheet is readily accessible to a worker who is involved in using, handling or storing the chemical at the workplace • Only personnel who have been authorised and deemed competent can operate the liquid vacuum unit. PPE • Appropriate to meet risk assessment and mitigate adverse health effect.	**Manager / Supervisor:** Maintain register of Safety Data Sheets (SDS) and copies of SDS records. Ensure no person at the workplace is exposed to a substance or mixture in an airborne concentration that exceeds the relevant exposure standard for the substance or mixture. Conduct workplace inspection, to assess compliance with storage, labeling etc. If you find a container that does not have a label or is incorrectly labelled, action must be taken to correctly label the container. Containers that have had chemicals transferred into them (decanted) in the workplace, and containers of chemical wastes need to be labelled correctly. If a spill occurs, follow Emergency procedures	12 (High) C = 4 L= 3

Hazard	Legal or Other Requirements	Inherent Risk (C x L)	Risk Treatment (with accountability as risk owner)		Residual Risk (C x L)
			Control Measures	Monitor & Review	
16. Spray Painting Hazards include: chemicals: 2-pack paint containing isocyanates (toxic, possible skin / respiratory sensitisation), thinners containing xylene (harmful by inhalation or through skin, skin irritant). Static electricity: potential contact of flammable solvents with static electricity may result in fire and explosion. Other issues: manual tasks, heat stress, visibility, noise from plant /injection injury. Spray painting including electrostatic spray painting is a process by which liquid paint is applied under pressure to an object. Spray painting may be carried out by hand or automatically. There are several methods used to automate the paint for spraying: • using a conventional air compressor – air is driven across the mouth of a small outlet under pressure to draw liquid paint out of the container and produce an air-paint mist from the nozzle of the spray-gun • airless spray painting – the paint container is pressurised pushing the paint to the nozzle where it is atomised by the spray gun, or • electrostatic spray painting – an electric pump drives the electrostatically charged liquid paint out of the nozzle which is then applied to the object which is earthed. Hazardous chemicals include paints, solvents, adhesives, resins, rust removers, rust converters, lacquers and degreasers. Potential harm from chemical use could lead to dermatitis, respiratory illnesses and cancers.	Work Health and Safety Act 2011 Work Health and Safety Regulations 2011 AS/NZS 4114.1: Spray painting booths, designated spray painting areas and paint mixing rooms – Design, construction and testing AS/NZS 4114.2: Spray painting booths, designated spray painting areas Paint Spraying	12 (High) C = 3 L= 4	**Manager / Supervisor:** Substitution • Use a water-based paint instead of an organic solvent based coating • Use a Tri glycidyl isocyanate-free (TGIC) powder coating instead of one containing TGIC • Use high volume low pressure (HVLP) spraying rather than airless spraying • Use a low hazard cleaning solvent Isolation • Conduct all spray painting in a spray booth ensures that other workers are not affected by the spray painting, and Engineering • Use ventilation systems including spray booths, to reduce exposure to vapours and aerosol • Prevent unnecessary powder build-up inside powder coating booths by minimising spray gun air pressure to prevent overspray Administrative • Whenever possible, the spray should be directed towards the exhaust air outlet of a booth. • Restricting access to spray painting areas • Keeping quantity of hazardous chemicals to a minimum in spray area. • SDS and labels should be read • Maintain a register of the hazardous chemicals used, handled or stored at the workplace **Spray booths** • To comply with AS/NZS 4114.1: and AS/NZS 4114.2: • Be fitted with an exhaust capture system and a ventilation system that includes a filter for removing airborne contaminants • Have ventilation systems capable of producing a minimum air movement of: - 0.3 m/s for a full downdraft booth - 0.4 m/s for electrostatic spraying - 0.5 m/s for any other booth • Be inspected at regular intervals and maintained according to manufacturer's specifications, and • Have a sign indicating the time people should allow for chemicals to clear before entering the spray booth	**Manager / Supervisor:** Conduct workplace inspection to assess compliance Health monitoring, which may include biological monitoring, can assist in: • establishing whether an identifiable disease or health effect known to be linked to exposure to dust, chemicals or noise has occurred, and • determining levels of toxic substances in the body so that informed decisions can be made about the effectiveness of control measures and whether any further action needs to be taken (e.g. a reduction in or cessation of exposure) **Qualified Hygienist** Air monitoring can be used: when there is uncertainty about the level of exposure to indicate whether the exposure standards are being exceeded or approached, and to test the effectiveness of the control measures.	9 (Medium) C = 3 L= 3

Hazard	Legal or Other Requirements	Inherent Risk (C x L)	Risk Treatment (with accountability as risk owner)		Residual Risk (C x L)
			Control Measures	Monitor & Review	
Spray Painting (cont'd) Hazardous Manual Tasks - repetitive spraying action, lifting and pushing objects into place. Potential muscular strain from overexertion, sustained awkward postures or repetitive movement Noise Exposure to high noise levels can cause permanent damage to hearing. Spray painting equipment including pumps and compressors, can generate varying levels and frequencies of noise that may cause workers to be exposed to noise that exceeds the exposure standard. Typical noise levels of plant and work practices used in spray painting range between 82 and 110dB(A). Injection Injury Paint injected into the body may initially appear harmless but may cause a lack of blood supply to the area, or cause chemical or thermal burns. Solvents and other substances may be injected in sufficient quantities to cause symptoms affecting the whole body. ll workers with injection injuries should be referred for immediate medical treatment to minimise the possibility of gangrene or tissue destruction, which could result in disability through amputation or death.	Work Health and Safety Act 2011 Work Health and Safety Regulations 2011 AS/NZS 4114.1: Spray painting booths, designated spray painting areas and paint mixing rooms – Design, construction and testing AS/NZS 4114.2: Spray painting booths, designated spray painting areas	12 (High) C = 3 L= 4	**Spray painting outside a booth** Where it is not reasonably practicable to do the spray painting in a booth and it is carried out in a building or structure other than a confined space, the building or structure should be of open construction or a mechanical exhaust system should be used to prevent the build-up of flammable or toxic fumes. In addition: Isolation • A spray painting exclusion zone should be designated around the area where the spray painting is carried out. In general, the exclusion zone should, as far as is reasonably practicable, have at least six meters horizontal and two meters vertical clearance above and below the place where the paint is being applied. Engineering • Place physical barriers and affix hazard warning signs to prevent unprotected persons from entering the exclusion zone Administrative • Removing stored wastes, like solvent-soaked rags and waste paint, to control fire or explosion risks • Persons other than the spray painter should not enter the exclusion zone during a spray painting operation PPE • Workers carrying out spray painting with two part epoxy or polyurethane paint, or some catalytic acrylic paints should be provided with either a full face piece supplied air respirator or half face piece supplied air respirator. • Respirators should be fitted for each person individually. The tightness of all connections and the condition of the face piece, headbands and valves should be checked before each use. Air supplied respirators may be required in some situations, for example confined spaces. Select air supplied respirators that generate less noise so the worker can hear warning signals and will not become easily tangled or caught on other objects. • Respirators should closely fit the wearer to provide its designed protection, it is essential that an adequate face seal is achieved. - They should be cleaned and disinfected with a broad spectrum disinfectant in accordance with the manufacturer's instructions after each use. - They should also be inspected for damage before and after each use. - Filters should be changed in accordance with manufacturer's instruction and stored to prevent contaminations, damage and deterioration. Airline filters should be changed as required	**Manager / Supervisor:** Conduct workplace inspection to assess compliance Health monitoring, which may include biological monitoring, can assist in: • establishing whether an identifiable disease or health effect known to be linked to exposure to dust, chemicals or noise has occurred, and • determining levels of toxic substances in the body so that informed decisions can be made about the effectiveness of control measures and whether any further action needs to be taken (e.g. a reduction in or cessation of exposure) **Qualified hygienist** Air monitoring can be used: when there is uncertainty about the level of exposure to indicate whether the exposure standards are being exceeded or approached, and to test the effectiveness of the control measures.	9 (Medium) C = 3 L= 3

Hazard	Legal or Other Requirements	Inherent Risk (C x L)	Risk Treatment (with accountability as risk owner)		Residual Risk (C x L)
			Control Measures	Monitor & Review	
17. Workstation set-up An ergonomically congenial work area is crucial to good working posture, without it, aches and pains, stiffness and headaches can eventually lead to staff needing to claim Work Cover assistance and take time off work. <u>OSS / RSI</u> Repetitive Strain Injuries occur from repeated physical movements doing damage to tendons, nerves, muscles, and other soft body tissues. Thousands of repeated keystrokes and long periods of clutching and dragging with the mouse accumulates damage to the body, especially if we adopt a poor posture which can place unnecessary stress on the tendons and nerves in the hand, wrist, arms, and even the shoulders & neck. The amount of time we spend in one position, lack of adequate rest and breaks will invariably result in injury. <u>Exposure</u> All staff exposed to potential injury. Employees spending many hours at a computer each day are at a greater risk of injury.	Work Health and Safety Act 2011 Work Health and Safety Regulations 2011 Code of Practice: Managing the Work Environment and Facilities Office Safety Display Screen Equipment Safety	<u>9</u> <u>(Medium)</u> C = 3 L= 3	**All Employees:** It may be necessary to determine whether the work is best carried out in a seated or standing position (or a combination of the two) To prevent injury: • A well designed workstation considers your chair, lighting, noise, and the position of the screen, keyboard and documents • Check your workstation is set-up correctly (see overleaf) • Ideally, place screens parallel to overhead fluorescent lights (to avoid rebound reflection). • Hold the mouse lightly, don't grip it hard or squeeze it, use a light touch on the keyboard, and don't hammer those keys. • Rest your eyes occasionally. Look out a window or at a wall poster. • Take breaks away from your computer, and be aware of what your body is telling you.	**All Employees:** • When using a computer, as with many activities, you may experience occasional discomfort in your hands, arms, shoulders, neck, or other parts of your body. • However, if you experience symptoms such as persistent or recurring discomfort, pain, throbbing, aching, tingling, numbness, burning sensation, or stiffness, DO NOT IGNORE THESE WARNING SIGNS. PROMPTLY SEE A QUALIFIED HEALTH PROFESSIONAL, even if symptoms occur when you are not working at your computer. • Symptoms like these can be associated with painful and sometimes permanently disabling injuries or disorders of the nerves, muscles, tendons, or other parts of the body. • These musculoskeletal disorders (MSDs) include carpal tunnel syndrome, tendonitis, tenosynovitis, and other conditions.	<u>6</u> <u>(Medium)</u> C = 3 L= 2

Whether you are working, it is important to avoid awkward postures and position your body comfortably. Not only can this improve your overall productivity, it may help you avoid musculoskeletal disorders (MSDs). Keep in mind that changing your posture during extended tasks may also help you avoid discomfort and fatigue.

To support your back, try the following:

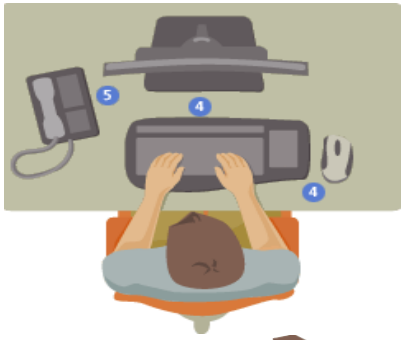
- Use a chair that supports your lower back (see detail 1).
- Adjust your work surface and chair height to assume a comfortable and natural body posture (see detail 2).

To promote comfortable leg postures, try the following:

- Clear away items from beneath your desk to allow comfortable leg positioning and movement.
- Use a footrest if your feet do not rest comfortably on the floor.

To minimize reaching and to promote comfortable shoulder and arm postures, try the following:

- Place your keyboard and mouse or trackball at the same height; these should be at about elbow level. Your upper arms should fall relaxed at your sides (see detail 3).
- When typing, center your keyboard in front of you with your mouse or trackball located close to it (see detail 4).
- Place frequently used items within arm's reach (see detail 5).



To promote proper wrist and finger postures, try the following:

- Keep your wrists straight while typing and while using a mouse or trackball. Avoid bending your wrists up, down, or to the sides. If your keyboard has legs, extend them if this helps you maintain a comfortable and straight wrist position.
- Type with your hands and wrists floating above the keyboard, so that you can use your whole arm to reach for distant keys instead of stretching your fingers.

To minimize neck bending and twisting, try the following:

- Position the top of the screen near eye level (see detail 6). Bifocal wearers may need to lower the screen or talk to a qualified health professional about glasses customized for computer work.
- Center your monitor in front of you. If you refer to your documents more frequently than your monitor, consider placing your documents directly in front of you and the monitor slightly to the side.
- Consider using a document holder to position your documents near eye level.

Hazard	Legal or Other Requirements	Inherent Risk (C x L)	Risk Treatment (with accountability as risk owner)		Residual Risk (C x L)
			Control Measures	Monitor & Review	
18. Confined Space Hazards associated with confined spaces include: • Oxygen deficient or enriched atmosphere • Flammable atmosphere • Toxic atmosphere • External hazards that may affect those in the confined space • Residual hazardous substances • Surfaces • Engulfment • Electric shock • Temperature extremes • Access and egress • Visibility • Noise • Psychological factors • Mechanical equipment.	Work Health and Safety Act 2011 Work Health and Safety Act 2011 Work Health and Safety Regulations 2011. Part 4.3 – Confined Spaces Code of Practice: Confined Spaces AS/NZS 2865 Safe working in a confined space Confined Space Working	9 (Medium) C = 3 L= 3	**Manager / Supervisor:** Elimination • Eliminate the need to enter or work in a confined space. • Explore an alternative work method by which the work can be done without persons entering the confined space Isolation • Isolation of energy sources, solids, fluids or gases into the confined space Administrative Where it is not possible to eliminate the need to enter the confined space, the following controls must be completed: • A Risk Assessment (SWMS) is completed before any entry or work in a confined space • A Permit to Work in a confined space is completed and authorised • A Confined Space Entry / Exit Register is maintained • All the persons involved with work in a confined space are appropriate trained to meet AS/NZS 2865 requirements • Work inside a confined space complies with AS/NZS 2865: Safe working in a confined space • Before any work in relation to a confined space starts, signs must be erected to prevent entry of persons not involved in the work. • A standby person is in the immediate vicinity of the confined space if there is a risk of injury to a person entering or working in the confined space • In the event of an Emergency – refer to the Workplace Emergency Plan for rescue	**Manager / Supervisor:** • Review compliance to ensure requirements of AS/NZS 2865 -:Safe working in a confined space; and WHS Regulations 2011 Division 3 are met • Conduct monitoring of SWMS for high-risk activities	6 (Medium) C = 3 L= 2

Definition of a Confined Space (AS/NZS 2865):

An enclosed or partially enclosed space that is at atmospheric pressure during occupancy and is not intended or designed primarily as a place of work, and

(a) is liable at any time to

(i) have an atmosphere which contains potentially harmful levels of contaminant;
(ii) have an oxygen deficiency or excess; or
(iii) cause engulfment; and

(b) could have restricted means for entry and exit.

Hazard	Legal or Other Requirements	Inherent Risk (C x L)	Risk Treatment (with accountability as risk owner)		Residual Risk (C x L)
			Control Measures	Monitor & Review	
19. Alcohol & Other Drugs Alcohol and other drug related problems can occur in any workplace. Estimates of the cost of injuries, absenteeism, lost production, workers compensation and rehabilitation services, arising from the misuse of alcohol and other drugs in the workplace vary in the current research data available. The abuse of alcohol and other drugs may damage physical and mental health. The impairment of behavior can cause affected employees to injure themselves or others. Company Drug and Alcohol requirements shall equally apply to all employees In the context of this policy the following definitions apply: • Substance – Alcohol, Illicit drugs, prescription drugs, over the counter medication, solvents or any other substance that when used can affect individuals perception / actions. • Abuse – the use of illegal drugs and the misuse, whether deliberate or unintentional	Work Health and Safety Act 2011 Work Health and Safety Regulations 2011 Fitness for Work Policy Fitness for Work Drug and Alcohol Acknowledgment Alcohol Testing Consent Form Failure to Comply with a Workplace Drug or Alcohol Test AS 4308 Procedures for the Collection, Detection and Quantification of Drugs of Abuse in Urine. AS 3547:1997 Breath alcohol testing devices for personal use. Blood Alcohol Content (BAC)	9 (Medium) C = 3 L= 3	**Manager / Supervisor:** Administrative: Company is committed to providing a safe and productive work environment with appropriate safeguards. Company reserves the right to require all employees to undergo alcohol or drug screening tests and searches as laid down in specific Company procedures. Failure of or refusal to take any such test will render the employee subject to disciplinary action. It is not permissible for any employee to be under the influence of alcohol or drugs while at work. Therefore, every employee shall not:- • Perform any work or attend a site while under the influence of alcohol or any controlled substance. • Misuse prescription drugs or possess, use, distribute or sell illicit drugs or substances on Company business or contracting site premises. • Consume, distribute or sell alcoholic beverages on Company business or contracting site premises. Employees taking prescription or over the counter medication, which may affect performance at work, must notify their supervisor in confidence. Refusal by an employee to submit to, or co-operate fully with the administration of a drug and alcohol test will be treated as a breach, recorded as a positive test and result in termination of employment. **Alcohol Breath Testing** Testing for the presence of alcohol will be by the use of an approved and calibrated breath test unit by a trained and authorised person. Persons in a Company workplace may self-test against the alcohol standard (BAC 0.00) if they are in any doubt as to their fitness prior to commencing work which is deemed as the commencement of the daily pre-start briefing. Any reading of greater than 0.00% BAC will be regarded as positive. NB. The reading will only be done to two decimal places. Readings will not be rounded up or down. A second confirmatory test will be taken 20 minutes after the first, this will the one used as the actual reading. Persons producing their first positive reading between 0.01 and 0.05 will not be allowed to start or stay at work and will be stood down without pay for the day and will receive a formal letter of Breach. This breach will remain on file for a period of 24 months. Persons producing their second positive reading between 0.01 and 0.05 will have their employment terminated. **Drugs** Testing for the presence of other drugs will be by urine testing according to the levels specified by the AS 4308. Once a positive test has been confirmed this will count as a strike as per the requirements of this standard and the persons employment shall be terminated with immediate effect.	**Manager / Supervisor:** The Company recognises that substance abuse can be a serious medical condition and will provide employees with appropriate guidance and reasonable assistance to obtain the necessary treatment. **Employee:** Any employee who feels he/she has an alcohol or drug problem, should notify their Supervisor, in all cases this will be dealt with in strict confidence, subject to the requirements of the law. **Employee Assistance Program (EAP):** Company provides employees and their immediate family with free 24/7 access to an Employee Assistance Program, namely BSS Corporate Psychology Services. The EAP is available 24/7 free call on 1800 30 30 90 An EAP is an effective early intervention service that provides professional and confidential counselling and referral services for employees to assist them resolve personal, health or work-related concerns.	6 (Medium) C = 3 L= 2

Hazard	Legal or Other Requirements	Inherent Risk (C x L)	Risk Treatment (with accountability as risk owner)		Residual Risk (C x L)
			Control Measures	Monitor & Review	
20. Fatigue Management Certain working hours arrangements have been linked to occupational safety and health risks, such as fatigue, impaired performance and increased exposure to some hazards. In the context of performance at the workplace, these health risks may have implications for safety standards and the prevention of incidents. Work life and personal life are inter-related, and both can impact on each other. Person's at greater risk include: **Working Hours Arrangement** • More than 12 hours a day • More than 56 hours a week • Daily work hours and work related travel of 13 hours or more • Irregular & unpredictable hours • Short notice of schedule • Extended overtime **Night Work** • Shift end (working 8 hours or more between 10pm and 6am) • Length of shift more than 12 hrs • Sequential night shifts (6 more than 8hrs, 5 more than 10hrs, 4 or more 12 hour shift) • Period of non-work less than 48 hrs following a sequence of night shifts **Demands of the Work tasks** • Highly repetitive work and/or high concentration with high demands • Highly physical demanding work that results in muscle fatigue • Long periods of high concentration and/or making critical decisions	Work Health and Safety Act 2011 Work Health and Safety Regulations 2011 Fitness for Work Policy Psychosocial hazards are aspects of the work environment and the way that work is organised can be associated with psychiatric, psychological and/or physical injury or illness.	9 (Medium) C = 3 L= 3	**Manager / Supervisor:** Elimination or Substitution • Review whether the type of work is suitable for the allocated time period and modify it, if practicable, if there are risks of employees developing fatigue. Administrative • Discuss with employees about Fatigue Management, their responsibilities for safety and health and relevant health and lifestyle choices. • Providing reasonable notice if working hours or roster changes are planned • Give 24 hour notice before night work • Keeping sequential night shifts to a minimum • Rotation of employees involved in highly repetitive work and/or high concentration with high demands • Ensuring shifts do not finish after 10am, so day sleep not restricted • Ensuring adequate period of non-work following a sequence of night shifts **Workers:** • The maximum number of working hours allowable in one 24 hour period shall not exceed 12 hours, including travel to and from work / place of hire • Take allocated work breaks	**Manager / Supervisor:** • Understand Fitness for Work Policy • Act upon self-reports of fatigue and undertake a Fatigue Risk Assessment with the employee involved • Act upon concerns raised by others in respect of identifying people who may be suffering from fatigue • Monitoring absenteeism and workload changes • Monitor incidents reported attributed to fatigue • Monitoring actual hours worked **Employees** • Report fatigue if affected	6 (Medium) C = 3 L= 2

Hazard	Legal or Other Requirements	Inherent Risk (C x L)	Risk Treatment (with accountability as risk owner)		Residual Risk (C x L)
			Control Measures	Monitor & Review	
21. Stress Stress is the body's natural response to pressures or stressful situations that people perceive or experience and may not cope with effectively. Different people will perceive certain things or events as stressful while others will not perceive them as stressful. Research shows that certain situations and factors in the workplace are more likely to cause stress than others, for example • Workplace culture • Too little / much work; • Lack of control over work activities; • Lack of support from management and colleagues; • Work-family life balance; • Conflict in relationship; • Bullying; harassment; discrimination; role ambiguity / conflict; job insecurity; and uncertainty about changes happening in the workplace. Severe stress reactions may result from exposure to trauma or violence at work. When the body is under stress, the person's behavior and mood may be affected, including: • irritability / indecisiveness; • lack of or increased appetite; • increase in alcohol / drug misuse; • reduced performance; • deteriorating relationships; • absenteeism, job dissatisfaction; low morale. The physical symptoms of stress can result in, but not limited to increased heart rate; heavy breathing; increased muscle tension; headache	Work Health and Safety Act 2011 Work Health and Safety Regulations 2011 Psychosocial hazards are aspects of the work environment and the way that work is organised can be associated with psychiatric, psychological and/or physical injury or illness.	9 (Medium) C = 3 L= 3	**Managers / Supervisors:** • Reducing the causes of stress may be as simple as reallocating workloads or extending deadlines for projects. • Consultation with staff is an important part of reducing the causes of stress. • Obtaining or referral of an employee to seek specialist advice and support i.e. Mates in Construction (MIC) or Employee Assistance Program (EAP) **Employees** Learning to handle stress in healthy ways is very important Identify warning signs These vary from person to person, but might include tensing your jaw, grinding your teeth, getting headaches, or feeling irritable, short tempered. Identify triggers There are often known triggers which raise our stress levels and make it more difficult for us to manage. If you know what the likely triggers are, you can aim to anticipate them and practice calming yourself down beforehand, or even find ways of removing the trigger. Triggers might include late nights, deadlines, seeing particular people, hunger etc Establish routines Having predictable rhythms and routines in your day, or over a week, such as regular times for exercise and relaxation, meal times, waking and bedtimes can help you to manage your stress. Look after your health Make sure you are eating healthy food and getting regular exercise. Take time to do activities you find calming or uplifting, such as listening to music, walking or dancing. Avoid using alcohol, tobacco or other drugs to cope. Notice your 'self-talk' When we are stressed we sometimes say things in our head, over and over, that just add to our stress. This unhelpful self-talk might include things like: 'I can't cope', or 'I'm too busy', or 'I'm so tired', or 'It's not fair'. Try more helpful self-talk like 'I'm coping well given what's on my plate', or 'Calm down', or 'Breathe easy'. Spend time with people who care Spending time with people you care about, and who care about you, is an important part of managing ongoing stress in your life. Share your thoughts and feelings with others when opportunities arise. Don't 'bottle up' your feelings. Practice relaxation Make time to practice relaxation. This will help your body and nervous system to settle and readjust.	**Workers** If suffering from work-related stress. • Discuss any work-related issues that you consider to be a problem with your Manager / Supervisor. • Consult with your doctor **When to seek professional help** If high levels of stress continue for a long period of time, or are interfering with you enjoying a healthy life, it is worth seeking professional help. A mental health professional, like a psychologist, can help you identify behaviours and situations that are contributing to high stress, and help you to make changes to the things that are within your control.	6 (Medium) C = 3 L= 2

Hazard	Legal or Other Requirements	Inherent Risk (C x L)	Risk Treatment (with accountability as risk owner)		Residual Risk (C x L)
			Control Measures	Monitor & Review	
22. Violence, Aggression and Bullying at Work Violence and aggression are present in situations where workers and other people are threatened, attacked or physically assaulted at work. Psychological aggression also falls under this definition. Bullying at work can be defined as repeated, unreasonable or inappropriate behavior directed towards a worker, or group of workers, that creates a risk to health and safety. There are two types of bullying behavior, overt and covert. All workers and other people at workplaces are potentially at risk of experiencing some form of violence, aggression or bullying. Violence or aggression in the workplace can be harmful to organizations as well as individuals resulting in: • Reduced efficiency, productivity/profitability; • Increased absenteeism; • Increased staff turnover; • Increased counseling and mediation costs; • Increased workers' compensation claims; or • Possible legal action	Work Health and Safety Act 2011 Work Health and Safety Regulations 2011 Criminal Code Psychosocial hazards are aspects of the work environment and the way that work is organised can be associated with psychiatric, psychological and/or physical injury or illness.	9 (Medium) C = 3 L= 3	**General Managers:** • Convey to all workers that bullying is inappropriate and will not be tolerated • Provide strong leadership to address reports of violence, aggression and bullying at work • Make information and training available to workers. **Managers / Supervisors:** • Consult with workers and WHS Reps • Any behavior that has the potential to harm or offend someone should be identified as a hazard and assessed for its risk to safety and health. **Workers:** • Immediately report violence, aggression or repeated bullying to Manager • Physical violence or assault can and should be reported to the Police.	**General Managers:** • Monitor effectiveness of action taken to address reports of violence, aggression or bullying at work Review phase may include: - The workplace is safe; - First aid and medical assistance arranged as necessary; - Immediate support provided for affected workers; and - Ensuring the situation is under control Actions during recovery: - Providing clear info to all workers about the action that will be taken - Providing ongoing psychological first-aid support and support services for workers and their families - Allowing workers time to recover and manage early return to work; - Providing advice on reporting/workers comp. - Investigating incidents to reduce the risk of injury or harm in future.	6 (Medium) C = 3 L= 2

Hazard	Legal or Other Requirements	Inherent Risk (C x L)	Risk Treatment (with accountability as risk owner)		Residual Risk (C x L)
			Control Measures	Monitor & Review	
23. Remote or Isolated Work Remote or isolated work is work that is isolated from the assistance of other people because of the location, time or nature of the work being done. A person is alone at work when they are on their own, when they cannot be seen or heard by another person, and when they cannot expect a visit from another worker or member of the public for some time. As far as practical, the employer should be satisfied that the worker will work in a safe manner and can follow all emergency procedures when left alone. The risk of injury or harm for people who work alone may be increased because of difficulty contacting emergency services when they are required. Emergency situations may arise because of the sudden onset of a medical condition, accidental work-related injury or disease, attack by an animal or exposure to the elements e.g. dehydration or struck by lightning. The consequences may be very serious and the injury or disease may be fatal.	Work Health and Safety Act 2011 Work Health and Safety Regulations 2011, regulation 48 Psychosocial hazards are aspects of the work environment and the way that work is organised can be associated with psychiatric, psychological and/or physical injury or illness	9 (Medium) C = 3 L= 3	**Manager / Supervisor:** Elimination • In situations where a new worker who is not well known to the employer or, for any other reason, the employer is not sure of the person's ability to work alone, that worker should not be assigned to work alone. • To prevent suspension intolerance occurring as a result of an arrested fall, workers never work alone when using a harness as fall protection Administrative • Complete risk assessment for individual • As part of establishing a safe working environment, employers must provide adequate information, instruction and training for people who work alone. • Establish agreed means of communication in the event of an emergency, and agree system for regular contact between Supervisor/Manager and the person working alone. Note: caution should be used when choosing a mobile phone as the means of communication. Coverage in the area where the worker will work should be confirmed before work commences. • Supervision may need to be indirect if the person is alone for long periods of time. **Worker:** • Consulted, understands the hazards that may be associated with the work and the procedures be followed to reduce risk of injury. • Follow procedures to obtain emergency assistance if required; and follow procedures to make contact with nominated person. • Carry out all work activities safely without direct supervision	**Manager / Supervisor:** • Regular contact should be systematic contact at pre-determined intervals having regard for the hazards involved, location and means of communication. **Workers:** • Report any hazards, injuries or emergency events to Manager / Supervisor	6 (Medium) C = 3 L= 2

Hazard	Legal or Other Requirements	Inherent Risk (C x L)	Risk Treatment (with accountability as risk owner)		Residual Risk (C x L)
			Control Measures	Monitor & Review	
24. Infectious disease (bacteria, viruses, fungi etc.) Biological hazards are organic substances that pose a threat to the health of humans and other living organisms. Biological hazards include pathogenic micro-organisms, viruses, toxins (from biological sources), spores, fungi and bio-active substances. Biological hazards can also be considered to include biological vectors or transmitters of disease Exposure to biological hazards in the work environment can also occur when people are in contact with soil, clay and plant materials, organic dusts, food, and rubbish, wastewater and sewerage Influenza or 'the flu' is a highly contagious disease caused by infection from influenza type A or B (or rarely C) virus. These viruses infect the upper airways and lungs. Biohazard transmission of infection may be either: • Direct, which requires physical contact between an infected person and a susceptible person • Indirect, where the susceptible person is infected by contact with a contaminated surface, food-borne, droplet/airborne transmission or by vectors.	Work Health and Safety Act 2011 Work Health and Safety Regulations 2011 SWA - National hazard exposure Worker surveillance: Exposure to biological hazards and the provision of controls against biological hazards in Australian workplaces Occupational Health Management Control of Lead	9 (Medium) C = 3 L= 3	Location is an obvious predisposing factor for certain vector-borne diseases (e.g. rabies and malaria) that are endemic to particular regions, and for dangerous animals (e.g. crocodiles and venomous snakes). **Preventing Influenza or 'the flu'** Flu is usually spread through infected people coughing and sneezing, which temporarily contaminates the surrounding air and surfaces with infected droplets. You can reduce the risk of infection by getting vaccinated and practicing good hand and respiratory hygiene. Stay home when you are sick to reduce spreading flu to other workers. **Preventing skin penetrating injuries** Sharps (including needles and syringes) may be used at work or may be found discarded at workplaces. Sharps are a cause of skin penetrating (needle-stick or sharps) injuries, which can expose workers to blood-borne viruses such as hepatitis B, hepatitis C and human immunodeficiency virus (HIV). Skin penetrating injuries may also expose workers to other infection risks. Workers who are at risk of regular contact with sharps and/or blood and body substances are immunised against hepatitis B. **Preventing mosquito bites** The Aedes aegypti, mosquito (known as the dengue mosquito in north Queensland) is found in parts of Queensland. It is the main type of mosquito that transmits dengue, zika, chikungunya and yellow fever. Wear long, loose clothing to help protect yourself from bites (light coloured clothes are best). Use insect repellent containing DEET or Picaridin, to protect against mosquito bites. Check workplace for any containers; tip any water out, wipe out containers and dry store them if possible. **Preventing exposure to Hepatitis A** Sewage spills have posed serious health risks to workers at a number of construction sites recently. Contact with raw sewage or with sewage-contaminated areas can risk exposure to Hepatitis A and infectious bacteria such as Giardia. Workers undertaking activities such as plumbing, or persons cleaning toilet areas, are particularly at risk from these biological hazards. Workers with an increased chance of being infected with hepatitis A virus at work should be vaccinated against the disease.	**Manager / Supervisor:** • Conduct workplace inspection to assess compliance **Workers:** • Wounds and infections provide excellent routes for further infections. Any cut or abrasion should be treated immediately and covered with a waterproof dressing. Any infections, particularly of the respiratory or alimentary tracts or hand wounds, must be reported immediately.	6 (Medium) C = 3 L= 2

Environmental Aspect	Legal or Other Requirements	Inherent Risk (C x L)	Risk Treatment (with accountability as risk owner)		Residual Risk (C x L)
			Control Measures	Monitor & Review	
25. Waste Management Generated waste will be transported to an approved facility (for final disposition to avoid impact to the local community Waste includes any solid, a liquid or a gas, or any mixture of such substances, that is left over, surplus or an unwanted by-product from any activity (whether or not the substance is of value) and includes a prescribed substance or class of substances. • Impacts of not managing waste include but are not limited to: • Co-mingling of controlled and uncontrolled wastes • Attraction of terrestrial fauna to waste • Odour impacting the workforce or surrounding communities • Improper labelling during storage • Leaks or spills during collection / storage • Litter outside the site • Impacts to surface water, groundwater and soil • Waste transported by unauthorised vehicles or personnel	Waste Management and Pollution Control Act Waste Management and Pollution Control (Administration) Regulations Waste Management Waste Disposal	9 (Medium) C = 3 L= 3	**Manager / Supervisor:** • Engage licensed waste disposal contractors for the removal of waste from site **All personnel:** • If carrying out an activity that generates waste, take all reasonable and practicable measures to prevent or minimise environmental harm, and to reduce the amount of waste. • It is essential that reactive substances are not disposed of in general waste bins/ containers and flammable materials are not exposed to potential ignition sources during disposal. • Littering is prohibited at site • Used designated waste bins for disposal of waste generated at site • All work areas to be left clean, tidy and professionally presented – no hazards that may cause a person to slip, trip of fall to same level, or one level to another.	**Manager / Supervisor:** • Conduct workplace inspection to assess compliance • Incidents resulting during the Project will be recorded and reported in accordance with license and/or company procedures • NT EPA Pollution Hotline 1800 064 567	6 (Medium) C = 3 L= 2