Site SWMS & Risk Assessments

QR Code	432698
Principal Contractor	JMAC Constructions
Date Provided to PC	14/10/2024
Revision Due	14/10/2025
Project	Stuart Correctional Centre Installation of Underground Services
Construction Site Location / Address	22 Dawyer St, Townsville City QLD 4811
Person Responsible for Implementing SWMS Onsite	James Berryman 0401 279 997
After Hours Contact	James Berryman 0401 279 997

1 Purpose

The purpose of this document is to explicitly outline the Hazards and Risks associated with high-risk work activities and general construction site tasks. This Safe Work Method Statement (SWMS) must be maintained and accessible for inspection until the completion of the high-risk construction work it pertains to. In the event of a revision to the SWMS, all versions must be retained. Should a notifiable incident occur in relation to the high-risk construction work covered by this SWMS, it must be retained for a minimum of 2 years from the date of the incident.

2 Evaluation

Process effectiveness is evaluated through internal audits and site safety inspections. This document remains relevant until the specified review dates, unless it is found that controls may not be effective, new tasks or hazards/risks are introduced due to changes in the workplace, or in the event of a notifiable incident. In such cases, the SWMS will be reviewed and, if necessary, revised. Ultimately, everyone is responsible for upholding their duties regarding workplace safety.

The SWMS includes a provision at the end for adding or amending it. If these changes are implemented, workers must promptly notify James Berryman to ensure they are properly incorporated. Once the SWMS is amended and controls are deemed adequate for the identified hazards, all workers must re-sign the SWMS to confirm their awareness of the changes.

3 Doc Control Details

PCBU Name:	**Wentworth Electrical Pty Ltd**		**ABN:**	**66 897 448 203**	
PCBU Address:	**2/12 Vennard Street, Garbutt Townsville, QLD, Australia**			**Contact Number:**	**0401 279 997**
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Consulted By	**James Berryman & Erker Safety**			**Approved By**	**James Berryman**
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4 Definitions:

High Risk Work (As defined by WH&S Qld):

Work carried out at a workplace deemed as high risk by WH&S Regulation 2011 (s291):

1. involves a risk of a person falling more than 2m; or
2. is carried out on a telecommunication tower; or
3. involves demolition of an element of a structure that is load bearing or otherwise related to the physical integrity of the structure; or
4. involves, or is likely to involve, the disturbance of asbestos; or
5. involves structural alterations or repairs that require temporary support to prevent collapse; or
6. is carried out in or near a confined space; or
7. is carried out in or nearby—
   (i) a shaft or trench with an excavated depth greater than 1.5m; or
   (ii) a tunnel; or
8. involves the use of explosives; or
9. is carried out on or near pressurised gas distribution mains or piping; or
10. is carried out on or near chemical, fuel, or refrigerant lines; or
11. is carried out on or near energised electrical installations or services; or
12. is carried out in an area that may have a contaminated or flammable atmosphere; or
13. involves tilt-up or precast concrete; or
14. is carried out on, in or adjacent to a road, railway, shipping lane or other traffic corridor that is in use by traffic other than pedestrians; or
15. is carried out in an area at a workplace in which there is any movement of powered mobile plant; or
16. is carried out in an area in which there are artificial extremes of temperature; or
17. is carried out in or near water or other liquid that involves a risk of drowning; or
18. involves diving work.

5 Legislation that relates to this Safe Work Method Statement

Legislation

- Work Health and Safety Act 2011
- Work Health and Safety Regulation 2011
- Electrical Safety Act 2002
- Electrical Safety Regulation 2013
- Electrical Safety and Other Legislation Amendment Regulation 2024 (ESOLA Regulation)

Current Codes of Practice – relevant to the task undertaken

https://www.worksafe.qld.gov.au/laws-and-compliance/codes-of-practice

- How to Manage Work Health and Safety Risks Code of Practice 2021
- Electrical Safety Code of Practice 2020 - Working Near Overhead and Underground Electric Lines
- First Aid in the Workplace Code of Practice 2021
- Hazardous Manual Tasks Code of Practice 2021
- Managing Electrical Risks in the Workplace Code of Practice 2021
- Traffic Management for Construction or Maintenance Work Code of Practice 2008
- Work Health and Safety Consultation, Co-operation and Co-ordination Code of Practice 2021

6 PPE Requirements

PPE Requirements will be listed at the beginning of each activity with the recommended requirements using the below Pictograms:


Safety Glasses medium impact (clear indoor use and tinted outdoor use)


Safety Footwear with a steel cap toe or composite toe.


Safety Gloves suitable for the task


Ear Protection either plugs or muffs suitable to the task


Hard Hat for all work where there is work overhead


Hi Visibility Clothing, reflective tape is only recommended at nighttime


Respiratory Protection (RPE), specific to the task & as shown on fit test certificate


Protective Clothing, long sleeves and long pants


Clear High Impact Visor

Wide Brim Hat or ring worn over hard hats


Height Safety PPE specific to the task

7 Qualifications, Training Requirements

QBCC Licence – Electrical Contractor
Apprentice Training, if applicable
Industry White Card(s)
Spotter for mobile plant, as required. Competently trained for the type of machinery with a full understanding of the tasks being conducted.

8 Hierarchy of Control Measures

Level 1	Level 2	Level 3
• Eliminate the Hazard	• Substitute the Hazard • Isolate the Hazard • Engineer the Hazard out	• Administration Controls • PPE

9 Parties responsible for implementation of Controls

Supervisor

Worker

Operator

Engineer

Management

Spotter

10 Risk Calculator

HOW TO USE THIS RISK TABLE	Appendix B - Risk Calculator					
	RISK RATING CALCULATOR			Likelihood		
Step 1: Identify potential hazards.	**Consequence** What injury/damage could it cause?	**Rare - 3** Could only happen once in 25 years	**Unlikely - 2** Could happen, once in 5 years	**Possible - 1** Could happen each year	**Likely - 0** Could Happen more than once a year	**Almost Certain - 0** Could happen anytime
Step 2: Decide what a possible **Consequence** could be.	**Catastrophic - 0** Multiple Fatalities	3	2	1	0	0
	Major - 0 Death or serious disability	3	2	1	0	0
Step 3: Decide **How Likely?** it is to happen	**Moderate - 1** Long term illness or serious injury	4	3	2	1	1
Step 4: Line up your choices in the table to get a number	**Minor - 2** Medical attention & several days off work	5	4	3	2	2
Step 5: Use the Priority table to the right.	**Insignificant - 3** First aid needed	6	5	4	3	3

Risk Rating	Prioritisation
0, 1 or 2	Action to rectify must be done immediately before work may commence
3	Consider control measure as necessary and implement further controls to reduce risk
4, 5, 6	Continue to use correct controls selected and maintain communication

11 Workers Sign on and Consultation of SWMS

By signing the below I:

- **Acknowledge that I have had input into the development of the SWMS or have had opportunity to comment on the content**
- **Understand and agree to abide by all of the requirements stated within the SWMS**
- **Have appropriate certification, licences and/or training to competently undertake the task or, where permitted, will be directly supervised by persons with appropriate level of certification, licensing, training and competence**
- **Understand that where task changes or the controls stated are ineffective, that I will immediately notify my supervisor and cease work till the controls are modified and I re-sign an updated SWMS**

First & Last Name:	Signature:	Date:

High Risk Work Activity: 11. Electricity				
Activity	Hazards & Risks	PRE-Risk	Work Method Used	POST Risk
11A. Electrical - Prior to Work (Isolation)				
PPE Recommended			**Persons responsible for maintaining controls**	
1. Pre-electrical 2. Pre-Plan 3. Pre-Start at Worksite	Hazard: Inadequate preparation lack of awareness faulty wiring, unidentified power source e.g. (solar/ battery) **Risk: Electrocution, damage to equipment**	**1**	• Prior to commencement of work ensure the following: o Locations have been confirmed with the client o All workers are competent to carry out work o Tools and equipment are suitable to carry out the work and within test date. • Ensure that prior to work commencing a pre-start is carried out that covers, as a minimum o Planned activities for the day o All hazards for the activities are identified and that control measures for each hazard eliminate the risk or reduce the risk to an acceptable level. o Always test prior to touching (THIS IS MANDITORY). The circuitry labelling MAY BE WRONG, do not take chances.	**4**
Turning off power and Isolating prior to work.	Hazard: Inadequate preparation lack of awareness faulty wiring, unidentified power source e.g. (solar/ battery) **Risk: Electrocution,**	**1**	• **The following lock-out process is used:** o Shut down the machinery and equipment o Identify all energy sources and other hazards o Identify all isolation points o Isolate all energy sources o In the case of electrical equipment 'whole current isolation', such as the main isolator, should be used instead of 'control isolation' by way of the stop button on a control panel o Control or de-energise all stored energy o Lock-out all isolation points, using padlocks, multi- padlock hasps and danger tags o 'Danger tag' machinery controls, energy sources and other hazards. A tag should be attached to normal locks at all points of isolation used to de-energise electrical equipment from its electricity supply	**5**

High Risk Work Activity: 11. Electricity				
Activity	Hazards & Risks	PRE-Risk	Work Method Used	POST Risk

	damage to equipment		• **'TEST FOR 'DEAD' BEFORE YOU TOUCH'**
			• Before commencing any electrical work:
			  ○ Consult with management or person who has control of the workplace and notify any other affected persons as appropriate Identify circuit(s) requiring isolation.
			  ○ All electrical cables and assemblies must be disconnected from all sources of electricity supply
			  ○ All live testing must be undertaken by a competent & licenced electrician. With an LVR trained person nearby.
			  ○ Identify circuit(s) requiring isolation
			  ○ Circuits must be proven to be de-energised by a competent & licenced electrician.
			  ○ Fit DANGER TAGS and locks to ensure that circuits cannot be energised inadvertently
			• **Test for Dead** (Must be undertaken by a competent & licenced electrician):
			• Even if the electricity supply is believed to have been isolated, it must be assumed that all conductors and electrical components are energised until they have been proven de-energised.
			• The testing method (including the testing equipment used must be safe and effective.
			• Volt sticks or similar **are not** an acceptable testing device to confirm that power is OFF
			• Equipment-mounted voltmeters should not be used as the only method of determining whether an electrical part is de-energised.
			• Voltage testers are to be tested for correct operation immediately before use and again after use to confirm that the instrument is still working.	

During electrical works (Exposed wires)	Hazard: Hanging wires, exposed wires, running wires **Risk: Tripping, eye injury,**	**2**	• During works exposed wires that are left from shift to shift will be twisted and capped to prevent injury. In some cases where work is being conducted on a multitude of systems live power and deadlines will be clearly identified with tags along the lines • Keep the leads and wires off the ground and out of the way of pedestrian traffic onsite. If this is not possible some form of barricading will be required to prevent other trades from interacting with the leads or wires.	**5**
Turning power back on and removing isolation	Hazard: Missed wires, faulty leads **Risk: Electrocution, damage to equipment.**	**1**	• Upon completion of all onsite electrical work, supervisor will identify all power sources effected prior to re-energizing a system • A Trades Apprentice will never be solely responsible for re-energizing a system • On completion of job: ○ Make safe - terminate and test all conductors before re-energising - must be undertaken by a competent & licenced electrician	**5**

High Risk Work Activity: 11. Electricity				
Activity	Hazards & Risks	PRE-Risk	Work Method Used	POST Risk
			○ Notify all workers working on the electrical equipment and other affected workers at the workplace that electricity is to be restored. ○ Remove tags and locks (each person removes their danger tag and/or lock). ○ Carry out a visual inspection to ensure tools, surplus materials and waste has been removed. • Once electricity is restored tests must be carried out to confirm that polarity is correct (must be undertaken competent & licenced electrician), actives are switched and, where applicable, phase sequences are correct before electrical equipment is used.	
11C. Electrical - Installation of Wiring and Fittings				
PPE Recommended			**Persons responsible for maintaining controls**	
Accessing roof space to undertake works when power is live to the house	Hazard: Electric shock **Risk:** **Electrocution**	**1**	• For isolation process Refer to 11A Prior to Work – Isolation • **Prior to Accessing the Roof Space**: ○ Before starting any work, turn off all electricity to the property at the main switchboard (must be undertaken competent & licenced electrician) and take steps to prevent the electricity from being turned back on while work is in progress (tag/lock-out). • **Accessing Roof Space:** ○ Be aware that heat and humidity may cause heat stress, so make sure fluid intake is sufficient to ensure you do not become dehydrated. Avoid accessing roof space in hot weather conditions (early morning starts better on high temperature days). ○ Take additional lighting (e.g., torch) with you as the lighting is generally poor in ceiling spaces. ○ Take care accessing and traversing the work area, avoiding tripping over debris, material, and the ceiling trusses. ○ Step carefully on ceiling joists or other beams – not the ceiling material (i.e., Gyprock sheeting). To avoid risk of falling or injury maintain three points of contact (foot on each truss and hand on girder). ○ Be aware of the location of electrical cables, fittings and equipment and avoiding contact with them. Solar hot water piping can be very hot if not covered by the insulation. ○ If the roof space is dusty wear a P2 dust mask.	**4**

High Risk Work Activity: 11. Electricity				
Activity	Hazards & Risks	PRE-Risk	Work Method Used	POST Risk
Cable and ladder tray installation	Hazard: Exposed nails manual handling **Risk:** **Personal injury**	**2**	• Check layout and mark out • Secure fixings and supports using correct size bolts and fixings • Cut ladders or trays to fit using drop saw or 100mm angle grinder with guard attached • Secure ladders or trays to support • Ensure area walkways are clear • Remove sharp edges and protruding fixings.	**5**
Installing light fittings	Hazard: Falling objects, manual handling, electricity, working at heights **Risk:** **Personal injury**	**1**	• For isolation process Refer to 11A Prior to Work – Isolation • Check layout and mark out • Receive lights on site and confirm correct numbers and types • Confirm cabling requirements • Install light fitting base or bracket and terminate cabling or plug into lighting socket • Complete the fitting of any other parts • Confirm fitting is secure and installed to specifications • Test and confirm cables before commencing work. Isolate and fit danger tags as appropriate • Ensure power tools (if applicable) and leads are tagged.	**4**
Installation of Switch boards	Hazard: Falling objects, manual handling, electric shock, explosion **Risk:** **Personal injury**	**1**	• For isolation process Refer to 11A Prior to Work – Isolation • Confirm installation specifications • Prepare installation area and confirm adequate space including door swing for maintenance • Arrange for crane or other mechanical handling equipment if needed • Receive switchboard on site including test certificates • Transfer switchboards to installation location • Mark out location ensuring coordination with other services • Install switchboard to manufactures and client's specifications • Commission switchboard.	**4**
Installation of pyrotenax (mims) cable	Hazard: Exposed nails, working at height, sharp edges **Risk:** **Personal injury**	**1**	• Check location to drawing and specification layout and mark out • Confirm cable specification and condition • Confirm cable supports on conduits have been installed to specifications • Install rollers or other protection to client's specifications • Install cable stands to client's specifications • Install cable manually with rope or winch as appropriate to client's specification	**4**

High Risk Work Activity: 11. Electricity				
Activity	Hazards & Risks	PRE-Risk	Work Method Used	POST Risk
			• Cut any excess cable and seal exposed ends to manufacturer's recommendations • Locate/dress cable to fix in position to client's specification.	
Installation of lighting looms	Hazard: Falling object, sharp edges, electricity, unstable ladders **Risk:** **Personal injury**	**1**	• For isolation process Refer to 11A Prior to Work – Isolation • Check drawings to confirm loom locations and specifications • Receive cable and sockets bases on site and confirm correct types, sizes, and numbers • Construct lighting looms to client's specifications • Label each loom with distribution board and circuit number • Install looms to client's specifications • Confirm socket locations and fixings to client's specification • Install circuit feeds and switch wires to client's specifications.	**4**
Installation of cable supports	Hazard: Falling object, sharp edges, electricity, unstable ladders **Risk:** **Personal injury**	**1**	• For isolation process Refer to 11A Prior to Work – Isolation • Check location to drawing and specifications • Receive cable supports on site confirming correct type, size, and number. • Mark out route of cable supports to specifications confirming clearance of other services • Install supports, as necessary, to client's specifications and using correct size bolts • Confirm tightness of fixings • Install cable supports.	**5**
Installation of mains power	Hazard: Electricity, explosion, incorrect isolation **Risk:** **Personal injury**	**1**	• **Must be undertaken by a competent & licenced electrician** • Liaise with Supply Authority to coordinate to supply • Obtain Supply Authority Certificates and check drawings • Coordinate shutdowns with client • For isolation process Refer to 11A Prior to Work – Isolation • Receive mains on site • Shut down and install 'DANGER TAGS' • Remove existing mains terminations if applicable • Install mains to specifications • Terminate new mains to specifications • Confirm DEAD and identify cables before commencing work • Wear suitable gloves • Confirm installation to drawings and specifications and ensure connections are tight • Clean area	**4**

High Risk Work Activity: 11. Electricity				
Activity	Hazards & Risks	PRE-Risk	Work Method Used	POST Risk
			• Test installation • Liaise with Supply Authority for inspection and test • Remove 'DANGER TAGS' / locks (each person removes their danger tag and/or lock) • Energise supply • Install signs or labels as required.	
Installation of switchboard connections	Hazard: Falling objects, manual handling, electric shock, explosion **Risk:** **Personal injury**	**1**	• **Must be undertaken by a competent & licenced electrician** • Confirm switchboard meets Australian Standards and has been installed to specifications • Confirm cables to be connected meet specifications and all cables have been installed. Check any specific requirements have been met • For isolation process Refer to 11A Prior to Work – Isolation • Group cables together as they enter switchboard and fix with cable ties • Separate cables into groups of like destination. Seal or plug any unused cable entries • Mark each conductor prior to removing any secondary insulation • Group conductors of like destinations and fix into a loom system • Align and terminate each conductor into its correct location • Check and tighten all terminations and connections • Confirm installations meet specifications • Install labels, signs or markings as required • Clean switchboard • Confirm all circuits have been completed and DANGER TAG any incomplete circuits • Test and commission switchboard using relevant procedures. Confirm phase rotation of all 3-phase equipment • Complete records.	**5**
Installation of new work in existing switchboards	Hazard: Electricity, explosion, incorrect isolation **Risk:** **Personal injury**	**1**	• **Must be undertaken by a competent & licenced electrician** • Check drawings and specifications • For isolation process Refer to 11A Prior to Work – Isolation • Arrange isolation of section of, or complete switchboard with client • Isolate section of, or complete switchboard, install insulating barriers • Fit 'DANGER TAGS' to isolation devices • Test that works area has been safely isolated • Complete installations to client's specification • Check and tighten all terminations and connections	**4**

High Risk Work Activity: 11. Electricity				
Activity	Hazards & Risks	PRE-Risk	Work Method Used	POST Risk
			• Confirm installation to client's specifications • Fit 'DANGER TAGS' to any incomplete work • Install labels, signs or markings as required • Clean work area • Test and commission new installation following relevant procedures. Confirm phase rotation of all 3-phase equipment • Complete records.	
Installation of sub-mains	Hazard: Electricity explosion incorrect isolation **Risk: Personal injury**	**1**	• **Must be undertaken by a competent & licenced electrician** • For isolation process Refer to 11A Prior to Work – Isolation • Check location to drawings and specification layout and mark out • Plan installation to work towards the main switchboard • Confirm cable specifications and condition • Install cable to client's specifications • Terminate sub mains to specifications • Clean area • Test installation • Remove 'DANGER TAGS' • Energise main switchboard • Install signs or labels are required.	**4**
Installation of power and light cabling	Hazard: Falling objects, manual handling electric shock, explosion **Risk: Personal injury**	**1**	• **Must be undertaken by a competent & licenced electrician** • For isolation process Refer to 11A Prior to Work – Isolation. • Check location to drawings and specification layout and mark out. • Plan installation to work towards the main switchboard. • Confirm cable specifications and condition. • Install cable to client's specifications. • Terminate submains to specifications. • Clean area. • Test installation. • Remove 'DANGER TAGS' (each person removes their danger tag and/or lock). • Energise main switchboard. • Install signs or labels are required.	**4**

High Risk Work Activity: 11. Electricity				
Activity	Hazards & Risks	PRE-Risk	Work Method Used	POST Risk
Installation of power points	Hazard: Electric shock, manual handling **Risk:** **Personal injury**	**2**	• **Must be undertaken by a competent & licenced electrician** • Check layout to drawings and specifications and confirm with client. • Check walls, cavities and ceilings for other services and confirm location of any water pipes, gas lines, power, or telephone cables. • Check equipment is tagged. • Fit power point mounting brackets as required. • Tape or insulate ends of new cable to prevent electrical contact. • Run cables. • Connect power points. • Confirm fittings are secure and installed to specifications. • Clear area and remove Isolation or 'DANGER TAGS' (each person removes their danger tag and/or lock).	**4**
11F. Electrical - Installing Temp Site Power				
PPE Recommended			**Persons responsible for maintaining controls**	

Installing Temp Site power to Power Pole or secure stand.	Hazard:
	Non-competent workers
	Risk:
	Damage to work area, electrocution
		1	• **Must be undertaken by a competent & licenced electrician.**
			• Choose a suitable area for Temporary Main Power to be located. (Liaise with Site Authority or Supervisor).
			• Once a suitable location has been selected ensure the area is clean and ready with no housekeeping issues.
			• If the Mains power Board is to be installed onto a stand the structure must be secured so that is cannot be tipped over. Bolted to the ground or to a suitable base (e.g., large timber pallet in good condition).
			• Once the above has been completed then:
			  ○ Coordinate shutdown and isolations (for isolation process Refer to 11A Prior to Work – Isolation) followed by installation of DANGER Tags.
			  ○ Confirm cables to be connected meet specifications and all cables have been installed.
			• Cabling:
			  ○ Group cables together as they enter switchboard and fix with cable ties.
			  ○ Separate cables into groups of like destination. Seal or plug any unused cable entries.
			• Conductors:
			  ○ Mark each conductor prior to removing any secondary insulation.
			  ○ Group conductors of like destinations and fix into a loom system.
			  ○ Align and terminate each conductor into its correct location.
				4

High Risk Work Activity: 11. Electricity				
Activity	Hazards & Risks	PRE-Risk	Work Method Used	POST Risk
			• Check and tighten all terminations and connections. • Confirm installations to manufacturers and client's specifications. • Clean switchboard. • Confirm all circuits have been completed and DANGER Tag any incomplete circuits. • Test and commission switchboard. Confirm phase rotation of all 3-phase equipment. • Install signs or labels as required. • Complete appropriate documentation (switchboard schedules, update drawings and workbook).	
11I. Electrical - Working Around Underground Services				
PPE Recommended			**Persons responsible for maintaining controls**	

Establish and complete excavation permit	Hazard:
	Incorrect information identified
	Incorrect scope of works
	Risk:
	Damage of services
	Death or serious injury
		1	• Do not dig unless necessary
			• All reasonable steps will be taken to obtain current underground essential services information about any of the areas requiring excavation before directing or allowing the excavation work to commence
			• Contact Dial Before You Dig to request information about the infrastructure networks at the planned project site
			  ○ Online via the Dial Before You Dig website www.1100.com.au
			  ○ Mobile website or iPhone app
			  ○ By phone call 1100 (toll free, during business hours)
			• Use water pressure excavation over machines or shovels
			• Never drive star pickets in without knowledge of what is below
			• Plans to be attached to excavation permit if required
			• Obtain all relevant services plans by calling Dial before you Dig (1100). Allow 2 working days for plans
			• Examine Plans and assess all possible impacts on the services assets
			• Book appointment for certified locator to meet on site
			• Examples of services to consider:
			  ○ Oil, Gas, Water, Sewage, Electrical, Stormwater, Traffic Signals & Telecommunications
			  ○ All existing services to be potholed and marked for future reference
			  ○ Ensure all overhead services such as powerlines have been identified
			• Select the appropriate machinery to use around services
				4

High Risk Work Activity: 11. Electricity				
Activity	Hazards & Risks	PRE-Risk	Work Method Used	POST Risk

High voltage underground cables and sub-stations	Hazard:
	Contact with electrical cable
	Risk:
	Electrocution
	Fire
		1	• Underground High Voltage Cables & Sub-Stations:
			  ○ Most 'green field' work sites will not have underground services located on them. However, some sites which are located near electrical sub-stations or 'keys' do have areas which are covered by an exclusion zone which restrict excavation
			  ○ On any site where a sub-station or 'kiosk' is located on the block or a neighboring block determine where the power cables from the sub-station are running. This can be achieved by contacting Dial Before You Dig
			  ○ If excavation work is to occur within the exclusion zone, then a permit needs to be obtained from the relevant power authority. This permit to work needs to be communicated with the relevant trades and all trades need to review and abide by the permit prior to commencing works. To obtain written Safety Advice where it has been identified as being required, complete and submit or return by email the applicable Safety Advice Request Form which is accessible via the electricity entity website: https://www.ergon.com.au/network/safety/business-safety/the-outdoor-workplace/working-near-powerlines
			• In some cases, it may be necessary to hand dig to identify the location of the cable and/or the protective covering.
				4

Excavations and digging near underground power	Hazard: Contact with electrical cable **Risk:** **Electrocution**	**1**	• Trades to inspect site plans prior to the commencement of digging • Contact dial before you dig prior to undertaking excavation works on the nature strip and common areas of the site. Dial before you dig will only be able to identify power cables of the electrical distributor asset owner and are to be considered as a guide only • Plans outlining the location of the underground power lines within residential construction site can be found in the meter box once installed • Where underground power lines within a site cannot be identified the services of a cable locator will need to be engaged • Prior to the commencement of any digging examine these plans & determine if the intended excavation will impact these underground lines • Work can occur near live power lines if the powered mobile plant is 500mm from the underground power lines. Work in closer proximity should be undertaken via hand digging around the power lines if the cabling is live • The location of underground power cables also has warning tape installed mid-way between the cable and the surface. If discovered the trade should cease all operations & contact is to be made with the site Supervisor	**4**

High Risk Work Activity: 11. Electricity				
Activity	Hazards & Risks	PRE-Risk	Work Method Used	POST Risk
Installing electrical conduit	Hazard: Contact with electrical cable **Risk: Electrocution**	**1**	• Electrical companies installing electrical conduit must post a plan showing the location of underground cabling in the meter box of the site & identify distances to the underground conduit • Electrical companies are required to install warning tape at approximately mid-way between the underground conduit and ground surface • It is a requirement that the cable does not pass underneath the proposed location of the concrete slab. If site condition prevents this from occurring, contact must be made with the supervisor	**4**

High Risk Work Activity: 15. Mobile Plant				
Activity	Hazards & Risks	PRE-Risk	Work Method Used	POST Risk
15BA. Mobile Plant - Driving Work Vehicles Onsite				
PPE Recommended			**Persons responsible for maintaining controls**	
Driving work vehicles onto site	Hazard: Traffic **Risk:** **Uncontrolled contact between vehicles and people**	**1**	• Driver is responsible for conducting prestart vehicle checks • Only licensed drivers are permitted to drive vehicles • Always drive according to road and weather conditions • Driver to be aware of site instructions and any specific hazards/risks that may be relevant • Flashing lights are always used on mobile plant and vehicles • Adherence to site safety plan, exclusion zones, communication, consultation. • Follow the site safety plan relating to traffic control safety • Increase awareness of pedestrians if works are adjacent to the existing footpath • All pedestrians to be diverted around work area	**5**

Mobilising on site	Hazard:
	Obstruction
	Unauthorised access
	Risk:
	Crush death
	Inadequate PPE
	Crushing
		2	• Do not work within 3m of live traffic unless:
			  ○ A Traffic Management Plan is in place
			  ○ A Traffic Control system is in place – under the direction of ticketed traffic controllers
			  ○ There is a safety barrier in place (such as concrete new jersey curbs), water filled Triton barriers and or a shadow vehicle
			• Remove obstructions or reposition equipment
			• Ground condition and slope must be assessed prior to loading/unloading
			• Do not continue if you cannot confirm the stability of the machinery
			• Only those authorised may access site
			• Ensure work area is barricaded and signed to allow adequate exclusion zones. Depending on the height 45 degree from the top point down to the ground or 3m from edge of machine, whichever is greater
			• High visibility clothing to be always worn
			• Transport driver shall be responsible for tie down of load and removing tie downs, straps etc
			• Maintain visual contact between plant operators and other personnel at all times. Spotters to be used where required for reversing operations, tight areas etc.
			• Avoid unloading/loading plant under power lines
				4

High Risk Work Activity: 15. Mobile Plant				
Activity	Hazards & Risks	PRE-Risk	Work Method Used	POST Risk
Unloading of plant	Hazard: Plant and equipment falling off deck uneven ground **Risk:** **Damaged equipment, crush death**	**1**	• Qualified and competent operator to always unload vehicle • Warning signage and exclusion zones installed indicating hazard • Align machinery with ramps prior to unloading • Using a spotter when reversing • Adjust ramps to suit wheel width • Use winch cable and remote where possible • Remove excess personnel from the work area • Unloading to be done on level ground	**4**
Moving machinery around site	Hazard: Obstruction (Overhead, at ground level or underground), faulty equipment, plant tipping or rolling over **Risk:** **Crush death**	**1**	• Remove obstructions or reposition equipment • Do not continue if you cannot confirm the stability of the machinery • Check all electrical systems are operational • Check all warning systems and devices are operational • Only authorised personnel shall carry out maintenance checks • Only qualified person shall carry out repairs and maintenance • Check tyre tread and pressure are satisfactory (where applicable) • Provide tilt alarm system to advise operator of machine operating beyond safe working angles • Ensure the machine is an “outdoor rated” machine if operating where there is a risk of external wind • Operator is responsible to not exceed the safe working load and wind rating of the plant • Operator to be trained and competent in the safe operation of the plant	**5**
Stationary equipment	Hazard: Accidental movement of plant **Risk:** **Crush death**	**1**	• Ensure tools and equipment are stored appropriately • Ensure emergency stop switch is pushed in when equipment function completed and work to commence • Ensure shutdown procedures are followed as per the manufacture’s manual	**5**

High Risk Work Activity: 15. Mobile Plant				
Activity	Hazards & Risks	PRE-Risk	Work Method Used	POST Risk
15BB. Working Near Onsite Mobile Plant				
PPE Recommended			**Persons responsible for maintaining controls**	
Working near onsite mobile plant. (Under or beside)	Hazard: Road traffic **Risk:** **Contact between persons and vehicles**	**2**	• When establishing work areas consider mobile plant onsite has right of way • All personnel to have undergone site specific familiarisation • Erect any barriers & signage necessary to keep others safe and aware of the work being undertaken • Designated pedestrian routes to be established where required • Personnel not to enter the swing zone of equipment without positive communications with operator • Restrict access to work area. Ensure: ○ Exclusion zones surrounding work area using barricades and signage is in place ○ Any other workers within the exclusion zones are wearing PPE as required ○ Communicate with onsite mobile plant operators to get an understanding of their tasks and areas they need to access as well as times they operate. Work in with onsite operators and ensure tools, equipment and work doesn't unnecessarily block their work areas or travel paths • When new workers come to site ensure they understand the movements of onsite mobile plant as it may not be consistent and start up without notice • Mobile phones or personal entertainment devices (PEDS) are not to be used while working around mobile plant. If necessary to use such a device, move to a safe area. • **Never work under a load being lifted by any type of crane.**	**5**

Site Risk Assessments – Listed Alphabetically by Non-High-Risk Activities

Activity	Hazards & Risks	PRE-Risk	Work Method Used	POST Risk
Ladders – Under 2m				
PPE Recommended			**Persons responsible for maintaining controls**	
Using Ladders	Hazard: Using Ladders **Risk:** **Falling**	3	• Tie offs, base support, gutter anchors, levelers to be considered • All ladders used on site will be rated 'Industrial' with 120kg (minimum) load rating • Persons using the ladder must have 3 points of contact always (i.e., 2 hands and 1 foot or 2 feet and 1 hand or be holding a stable object e.g., gutter, wall frame) • Ladders are to be maintained in a sound working condition and be appropriate for the task to be undertaken • Tools requiring two handed operations, or a high degree of leverage force should not be used while on ladders • A ladder is not a work platform.	5
Manual Handling				
PPE Recommended			**Persons responsible for maintaining controls**	
Manual Handling	Hazard: Locations of the loads and distances to be moved **Risk:** **Musculoskeletal strain, Fatigue**	**3**	• Use mechanical handling equipment where possible • Correct lifting technics will be used whenever a lift is required • **Preparation**: The first step in any lifting operation is preparation. Plan how you will carry out the lift and clear away any obstacles. By visualising the lift, you will automatically make your stomach muscles contract. These muscles brace your back and will significantly contribute to injury prevention • **Size up to load**: By moving the load sideways and forwards you will be able to ascertain whether it is within your capacity. Always imagine that the object you are about to lift is much heavier than it is • **Proper foot position**: As a general rule the front foot should be beside the object. The back foot should be slightly behind and be hip width from the front foot. This achieves a stable base and allows for even distribution of weight • **Proper hold**: Ideally with the proper hold the hands should be diagonally opposite for security and comfort. Use the full length of the fingers and where possible the palms to avoid fatigue • **Bend at the knees**: Bend your knees to get down to the load and use the legs to lift it. This way thigh and leg muscles are used, and these are the strongest part of your body (your back muscles are only for bracing) • **Straight back**: Keep your back as near to straight as possible, raise your head, keeping your chin in. This will keep your spine straight and enable you to see where you are going	**5**

Site Risk Assessments – Listed Alphabetically by Non-High-Risk Activities

Activity	Hazards & Risks	PRE-Risk	Work Method Used	POST Risk
			• **Keep the load close to you**: During the lift, keep the arms as straight as possible, and the elbows into the side. Don't change your grip while carrying and directly face the spot on which the load will rest. Never combine lifting with the twisting of your body. If you must turn, do it by moving your feet. Twisting causes the worst type of back injuries • **When a team lift is required, good communication will be used to co-ordinate the lift**: Whenever team lifting is used, it is essential to co-ordinate and carefully plan the lift. When organising a lift, ensure: o An adequate number of employees are chosen to help in the lift o Team members are of similar height. o One person is appointed "leader" of the team to perform the lift. o There is enough area for the team members to maneuver as a group. o Team members know their roles and responsibilities. o Training in team lifting has been provided and the lift is rehearsed	
Use of Hand and Power Tools				
PPE Recommended			**Persons responsible for maintaining controls** 	
Prestart check at site	Hazard: Site hazards may impair works **Risk:** **Personal injury**	**3**	• Undertake pre-site inspection verify conditions on site will enable works to be carried out in accordance with the SWMS. • Discuss site specific works with the Site Supervisor reviewing site signage, Safety Management Plan, for site specific hazards • Ensure all employees are made aware of any site specific hazards to works and these SWMS • Construction Inducted employees are only allowed to undertake construction works • Ensure all leads tagging & testing are up to date, if applicable	**5**
Use of drills, saws, planner, sander, hand tools	Hazard: Untrained workers **Risk:** **Personal injury**	**3**	• Workers are to use the right type and right size of tool for the job • Workers to follow the correct procedure for using every tool • Worker to check the condition of tool prior to use • Always carry pointed tools by your side with the points and heavy ends down • Never carry tools in your pockets • Keep cutting tools sharp and in good condition • Always check the rear side of the surface where the drill bit will emerge when drilling right through. Secure and cordon off the area and make sure that no one can be injured or material damaged	**5**

Site Risk Assessments – Listed Alphabetically by Non-High-Risk Activities				
Activity	Hazards & Risks	PRE-Risk	Work Method Used	POST Risk
			• Cut away from yourself when using chisels and other edged tools • Handle sharp-edged and pointed tools with care • Handles must have no sharp edges or areas that dig into the fingers or palm of the hand • Do not use tools which are loose or cracked • When power tools are used follow the manufacturer's instructions for the correct PPE to be worn and the safe use instructions • Workers to be competent in the use of the PPE and risk assessments must be undertaken prior to using PPE to show that the hierarchy of control was used in determining if to use PPE • If an item of plant or equipment creates excessive noise, that is where you need to raise your voice to talk, wear appropriate hearing protection • If there is a risk of injury to the head by falling objects then wear hard hats	
	Hazard: Contaminated atmosphere **Risk: Respiratory illness**	**3**	• If you don't know or you suspect area being worked on may contain crystalline silica, STOP work and talk to supervisor for further directives • Assess whether to wet down areas to reduce dust emission from works conducted • Where the risk of dust production, worker will wear appropriate PPE	**5**
	Hazard: Flying debris **Risk: Personal injury**	**3**	• Guards on tools and equipment will be maintained and working effectively before being used on site • Guarding on tools will not be removed to perform any work activity • All tools and equipment will be inspected prior to work activity for any faults or defects • If a fault or defect is found the item will be removed from services and reported to the supervisor as soon as practicable • All persons performing work where there is a risk of a foreign object striking the eye, eye protection must be worn	**5**
	Hazard: Poorly maintained electrical tools **Risk: Electrocution**	**3**	• All corded tools will be tested and tagged in accordance with current legislation and conducted every **three months** on construction sites • All corded tools will be connected directly to an RCD switch box which is also inspected and tagged in accordance with current legislation	**5**

Site Risk Assessments – Listed Alphabetically by Non-High-Risk Activities

Activity	Hazards & Risks	PRE-Risk	Work Method Used	POST Risk
Powered tools with discs: grinders	Hazard: Incorrect disc or fragmented disc resulting in flying parts striking people **Risk:** **Personal injury**	**3**	• If worker doesn't know or suspects area being worked on may contain silica then follow the steps listed in the crystalline silica component of this SWMS for specific controls of respirable crystalline silica • Grinders will always be inspected before use • If a cutting or grinding disk has been left on, carefully inspect disc prior to use • If damage to disc is noted, swap out for a new one • Never change any type of disk on a grinder without unplugging or removing battery • Checking for dead is also essential to prevent accidental operation during disk change • Never over tighten disk as this may also damage them • Guards are always manditory on a grinder. If the guard is in the way, the grinder is the wrong tool for the job • Do not remove guards for any reason while grinder is in use	**4**
Working in Hot/ Humid Environments (Excess 30°or +60% Humidity)				
PPE Recommended			**Persons responsible for maintaining controls**	

Working in excessively hot environments or during a heat wave (i.e., working on open fields, concrete structures, etc.	Hazard:
	Heat and high humidity on the body,
	Radiant heat,
	High humidity,
	Hot objects, or
	Strenuous physical activity
	Risk:
	Heat stress,
	Dehydration,
	Headaches,
	Nausea
		2	• Extended working hours, excessive heat and more strenuous activities will be carefully monitored
			• Have in place emergency procedures for heat stress
			• Supervisors to consider:
			  ○ Length of shifts - depends on physical and mental load of the work
			  ○ Previous hours and days worked
			  ○ Type of work being performed
			  ○ Level of physical and/or mental effort required to complete tasks
			  ○ Time of the day when the work is being performed.
			  ○ Rotating workers
			• Supervisors to implement, as far as is reasonably practicable:
			  ○ Increased supervision/monitoring of workers and regular communication with them
			  ○ Work to be carried out under shade/portable shade structure
			  ○ Increased work to rest ratio i.e., 1 hour work to 15 minutes, minimum, rest period
			  ○ Buddy system where workers keep an eye on each other for signs of heat effects
			  ○ Where possible schedule work for early morning, late afternoon or at night
			  ○ Utilize 5 min hydration breaks away from sun and work
				4

Site Risk Assessments – Listed Alphabetically by Non-High-Risk Activities

Activity	Hazards & Risks	PRE-Risk	Work Method Used	POST Risk
			▪ Hydration Stop: Is a controlled break facilitated by the supervisor or safety rep to bring the work crew together and re-hydrate, (water, sqwincher or hydrolytes.) will be used. This is not a normal break as the sole purpose of this is to re-hydrate • Shaded or cool area(s) for rest breaks with good ventilation - use fans if needed	
Hot/ Humid environments - Emergency Response Procedures	Hazard: Unidentified heat stress or exhausted worker **Risk: Dehydration, Collapse, Permanent disability, Death**	**1**	• Workers will: ○ Look after each other and ensure that there is drinking water, co-workers are taking breaks and not showing signs of heat stress ○ Ensure they have plenty of cool water to drink - not icy water ○ Use electrolyte icy blocks if not contra indicated ○ Take regular rest breaks in shade • If a worker shows symptoms: ○ Remove the worker from the heat or work area ○ Loosen their clothing, remove PPE including shirts and masks ○ Have them rest in a cool, well-ventilated area ○ Encourage them to drink cool (not cold) fluids ○ If symptoms do not reduce quickly, seek medical help immediately • As far as is reasonably practicable, sites to have available ice towels (i.e., esky, ice, water, and towels) as part of a first aid response. Ice towels have been shown to be an effective cooling method for heat related illness • To relieve acute symptoms, such as painful muscular cramps, hydrolytes may be used in the single serve • **DRSABCD** – Implement basic first aid • **See site First Aiders** • Each day ensure workers know who the onsite first aiders are	**4**

Site Risk Assessments – Listed Alphabetically by Non-High-Risk Activities				
Activity	Hazards & Risks	PRE-Risk	Work Method Used	POST Risk
End of Shift				
PPE Recommended			**Persons responsible for maintaining controls**	
Clean up and re-packing.	Hazard: Loading vehicle **Risk: Muscular strains**	**3**	• When cleaning up and repacking good manual handling techniques will be used, e.g., such as bending the knees and not the back, team lifts where possible and avoid carrying very heavy items	**5**
Leaving Site	Hazard: Environmental **Risk: Environmental damage**	**4**	• When leaving site, make sure to take away any of the left-over materials • When cleaning ensure that all environmentally sensitive products are disposed of correctly • Any leftover hazardous substances will be taken off site and disposed at the correct facility	**5**

Site Risk Assessments – Additional Tasks or Activities to be Added

Activity	Hazards & Risks	PRE-Risk	Work Method Used	POST Risk
Additional Tasks to Add to Job				
Task 1:	Hazard: **Risk:**	**0-6**	What did you do to make it safe?	**4-6**
Task 2:	Hazard: **Risk:**	**0-6**	What did you do to make it safe?	**4-6**
Task 3:	Hazard: **Risk:**	**0-6**	What did you do to make it safe?	**4-6**