

Excavation and Trenching Risk Assessment

Business Name:	ABN:	
Business Address:		
Contact Person:	Phone:	Email:

THIS RISK ASSESSMENT IS APPROVED BY THE PCBU ON THIS PROJECT

Under the Work Health and Safety Regulation (WHS Regulation), a person conducting a business or undertaking (PCBU) is required to ensure that a RISK ASSESSMENT is prepared before the proposed work starts.

Full Name:		
Signature:	Title:	Date:

CLIENT OR PRINCIPAL CONTRACTOR DETAILS

Client:	SCOPE OF WORKS
Project Name:	
Project Address:	
Project Manager:	
Contact Phone:	
Date Risk Assessment supplied to Project Manager:	

RISK MATRIX									
LIKELIHOOD	INSIGNIFICANT	MINOR	MODERATE	MAJOR	CATASTROPHIC	SCORE	ACTION	HIERARCHY OF CONTROLS	
ALMOST CERTAIN	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4 ACUTE			Elimination Remove the hazard.	
LIKELY	2 MODERATE	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4A ACUTE	DO NOT PROCEED	Substitution Replace the hazard.	
POSSIBLE	1 LOW	2 MODERATE	3 HIGH	4 ACUTE	4 ACUTE	3H HIGH	Review before work starts.	Isolation Isolate People from the hazard	
UNLIKELY	1 LOW	1 LOW	2 MODERATE	3 HIGH	4 ACUTE	2M MODERATE	Ensure control measures in place.	Engineering Isolate the hazard	
RARE	1 LOW	1 LOW	2 MODERATE	3 HIGH	3 HIGH	1L LOW	Monitor and keep records.	Administrative Change	
								PPE	

Risk Rating & Required Action:

4A	Stop work. The risk is intolerable. Eliminate the hazard or redesign the activity before proceeding. A Safe Work Method Statement (SWMS) or higher-level authorisation is required.
3H	Review and approve additional controls before task starts. Senior supervisor sign-off needed.
2M	Ensure all nominated controls are in place and effective. Proceed with caution; monitor conditions.
1L	Proceed, following standard operating procedures. Monitor and keep records.

Consequence Scale:

Consequence	People (injury/illness)	Project / Assets	Compliance / Reputation
Catastrophic	Fatality or permanent total disability	project shutdown	Significant regulator intervention; criminal prosecution
Major	Serious injury/illness (hospital > 5 days)	critical delay	Improvement notice; major media coverage
Moderate	Medical-treatment injury; lost-time > 1 day	moderate delay	Minor breach; adverse client comment
Minor	First-aid only, no lost time	negligible delay	Isolated non-conformance
Insignificant	No injury	no schedule impact	Deviation caught and corrected on site

Notes on Hierarchy of Controls:

Remember to apply controls in the preferred order shown by the coloured pyramid:

1. **Eliminate**
2. Substitute
3. Isolate
4. Engineering
5. Administrative
6. PPE

Always document **why** a lower-order control is accepted if elimination or substitution is not reasonably practicable.

aligned with Safe Work Australia's Managing the risk of fatigue at work (2023) and ISO 45001:2018 clauses 6–8.

JOB STEP	POTENTIAL HAZARDS	IR	CONTROL MEASURES	RR
SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
1. Site Preparation	Uneven terrain, Underground services	4A	<ul style="list-style-type: none"> - Conduct a site survey to identify and mark underground services. - Level the terrain as much as possible to reduce trip hazards. - Provide clear signage and barriers around hazardous areas. - Ensure all workers are aware of the site conditions and hazards. - Use spotters to help avoid underground service damage. - Ensure all underground utilities are deactivated before work begins. - Develop and follow a site specific safety plan. - Begin work only under appropriate weather conditions.], <p>step:</p> <p>Control access to the site to prevent unauthorised entry.</p> <p>{'step': 'Digging with Machinery', 'hazards': ['Machinery collisions', 'Dust exposure'], 'initialRisk': '4A', 'residualRisk': '2M', 'controlMeasures': ['- Only qualified and competent operators should manage machinery.', '- Establish clear communication signals between ground and machine operators.', '- Ensure all machinery has regular maintenance and safety checks.', '- Use water or other dust suppression methods to manage dust.', '- Set up exclusion zones to limit pedestrian access during operation.', '- Provide operators with dust masks and eye protection.', '- Conduct a pre-operational check before machine use.']}</p> <p>5. Trench Construction</p> <p>hazards: ['Cave-ins', 'Falling into the trench'], 'initialRisk': '4A', 'residualRisk': '2M', 'controlMeasures': ['- Use trench shields or shoring to prevent trench collapse.', '- Ensure no workers are allowed to work in an unprotected trench.', '- Install trench edges and viewing barriers.', '- Educate workers on the importance of trench safety measures.', '- Train workers in fall arrest protocols if working close to edges.', '- Limit exposure time to avoid prolonged danger near edges.', '- Conduct daily inspection prior to each shift.', '- Avoid trenching work in adverse weather conditions.']}</p> <p>step: '6. Safety']</p>	2M
3. Digging with Machinery	Machinery collision, Dust exposure	3H	<ul style="list-style-type: none"> - Only trained and authorised personnel to operate machinery. - Establish and communicate exclusion zones around machinery operation. - Maintain regular machinery maintenance to prevent mechanical failure. - Wet surfaces as necessary to suppress dust. - Use appropriate PPE, such as dust masks and hearing protection. - Implement strict communication protocols for visibility. - Adjust work practices to minimise dust generation. - Ensure visibility aids such as mirrors and cameras are functional.']} 	2M

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			<p>step: '7. Manual Handling('controlMeasures: [Trench Debris']</p> <p>step: '8. Slope Stabilisation','hazards':['Slope collapse','Soil erosion'],'initialRisk':'3H','residualRisk':'2M','controlMeasures':['- Establish proper slope angles based on soil type and condition.','- Use soil stabilisers or retaining systems to strengthen slopes.','- Ensure slopes are regularly inspected throughout project duration.','- Limit heavy equipment operation near slope edges.','- Employ adequate drainage systems to prevent erosion.','- Implement alert systems for early warning signs of slippage.','- Update all slope warning signs and notices as per ongoing inspection outcomes.'],</p>	
'10. Inspection of Equipment','hazards':['Equipment malfunction','Pressure variations due to force'],'initialRisk':'2M','residualRisk':'1L','controlMeasures':['- Conduct pre-use inspections on all excavation and trench equipment.','- Ensure all mechanical parts are serviced according to manufacturer specifications.','- Only authorised persons to perform equipment inspections and maintenance.','- Clearly mark faulty equipment and prevent use till rectified.','- Enforce shutdown procedures for faulty machinery immediately.','- Use certified equipment for specified operations.','- Introduce periodic safety audits for equipment used on-site.'],	Dust exposure, Noise pollution	4A	<p>- Assess noise levels regularly with appropriate equipment.</p> <p>- Enforce the use of hearing protection in high noise areas.','- Limit work duration in high decibel activity zones.</p> <p>- Establish site-wide noise reduction strategies.</p> <p>- Provide training on the dangers of long-term exposure to noise.</p> <p>- Install noise barriers where possible to isolate high noise areas.','- Adopt technologies that minimise noise during operations.'],</p> <p>Residual Risk: 2M</p> <p>Initial Risk: 4A: ['dustposurenoiseposure']</p> <p>hazards ['Fire risk due to utilities disturbances']</p> <p>Initial Risk: 3H', }</p> <p>Residual Risk: ":\['bely electric lin",\['firequipment malfunction ']</p> <p>hazards:['Worksite Disorganisation'],</p> <p>' - identify all noise hazards.',' - accurately label all potential hazards.'])</p> <p>Initial Risk: "':4A,(');','controlmesure equipment malfunction',[]</p> <p>residualRiskControl':'equipments to counteract malfunctions'];</p>	2M
	Structural instability, Inadequate barriers	4A	<div></div> <div></div> <div></div>	2M

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'4: Trench Ingress/Egres', 'hazards: ""Injury during access', 'Fallation, ""]	Structural failure, Str			2M
4'Risk Reduction Applications', 'hazards': ['Operator injury Potential', ', ', 'controlMeasures' -ess of-site rules", -Regular induction for all personnel', - 'Loss-of-side awareness training'. ')], [{, ""hazards entries'": "site-	Shift Foundation, Shifting earthquake exposure	3H		2M

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awareness risks", "initialRisk": [
12Post Safety Checks	Unmarked hazards, Incomplete work areas	3H		1L
10:Operator Fatigue Hazards', 'Initial Risk', 2M References; +Risk, "residualRisk", 3A: Control Measures: [-Rest, "	Hydraulic failure, Unseen machine operation Obstruction Risks and movement slippage	4A		2M

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19'Communicate Site Updates"	Manual hazards, Limited information dissemination	4A		3H
13.Supervision and Coordination','hazards['	Inadequate communication, Lack of adequate supervision	3H		2M
Tunnelling?]' -['? kanilawe]],{'- Machine System','Emergency',' Lighting', hazarde'	, Inadequate personnel coverage, Stress ed job priorities	3H		2M

insufficient data, Gaps in
for analysis

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Blasting [Opt.: Equipment' hazards' "train swallowed improper equipment"]	Animal cubicles, Equipment overuse	3H		2M
11: Collect and Assess Safety Data', 'hazards': ['Record keeping accuracy, Retention of data'], initialRisk: '3H'],	Structural failure, Exposure to hazardous substances	4A		3H

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SAMPLE

EMERGENCY RESPONSE – CALL 000 FOR EMERGENCIES

Ensure to have an Emergency Management Plan in place as well as adequate numbers of trained first aid staff with easy access to fully stocked first aid kits, rescue equipment, material safety data sheets, adequate access to emergency communication equipment and fire-fighting equipment suitable for all classes of fire and ignition sources.

LEGISLATIVE REFERENCES

RELEVANT LEGISLATION AND CODES OF PRACTICE. DELETE THE LEGISLATIVE REFERENCES IF ANY STATE THAT ARE NOT APPLICABLE

Queensland & Australian Capital Territory

Work Health and Safety Act 2011

Work Health and Safety Regulations 2011

Legislation QLD: <https://www.worksafe.qld.gov.au/laws-and-compliance/work-health-and-safety-laws>

Codes of Practice QLD: <https://www.worksafe.qld.gov.au/laws-and-compliance/codes-of-practice>

Legislation ACT: <https://www.worksafe.act.gov.au/laws-and-compliance/acts-and-regulations>

Codes of Practice ACT: <https://www.worksafe.act.gov.au/laws-and-compliance/codes-of-practice>

New South Wales

Work Health and Safety Act 2011

Work Health and Safety Regulations 2017

Legislation NSW: <https://www.safework.nsw.gov.au/legal-obligations/legislation>

Codes of Practice NSW: <https://www.safework.nsw.gov.au/resource-library/list-codes-of-practice>

Northern Territory

Work Health and Safety (National Uniform Legislation) Act 2011

Work Health and Safety (National Uniform Legislation) Regulations 2011

Legislation NT: <https://worksafe.nt.gov.au/laws-and-compliance/workplace-safety-laws>

Codes of Practice NT: <https://worksafe.nt.gov.au/laws-and-compliance/codes-of-practice>

South Australia

Work Health and Safety Act 2012 (SA)

Work Health and Safety Regulations 2012 (SA)

Legislation for SA: <https://www.safework.sa.gov.au/resources/legislation>

Codes of Practice for SA: <https://www.safework.sa.gov.au/workplaces/codes-of-practice#COPs>

Tasmania

Work Health and Safety Act 2012

Work Health and Safety (Transitional and Consequential Provisions) Act 2012

Work Health and Safety Regulations 2012

Work Health and Safety (Transitional) Regulations 2012

Legislation for TAS: <https://worksafe.tas.gov.au/topics/laws-and-compliance/acts-and-regulations>

Codes of Practice for TAS: <https://worksafe.tas.gov.au/topics/laws-and-compliance/codes-of-practice>

Details of permits, licenses or access required by regulatory bodies (add or delete as required):

- Permits from local council
- Authorisation to commence work
- Any required documents.

Victoria

Occupational Health and Safety Act 2004

Occupational Health and Safety Regulations 2017

Legislation VIC: <https://www.worksafe.vic.gov.au/occupational-health-and-safety-act-and-regulations>

Codes of Practice VIC: <https://www.worksafe.vic.gov.au/compliance-codes-and-codes-practice>

Western Australia

Work Health and Safety Act 2020

Work Health and Safety Regulations 2022

Legislation Western Australia: <https://www.commerce.wa.gov.au/worksafe/legislation>

Codes of Practice WA: <https://www.commerce.wa.gov.au/worksafe/codes-practice>

Safe Work Australia Links

Law and Regulation (All States): <https://www.safeworkaustralia.gov.au/law-and-regulation>

Model Codes of Practice: <https://www.safeworkaustralia.gov.au/resources-publications/model-codes-of-practice>

Model Codes of Practice

- Managing noise and preventing hearing loss at work
- Confined spaces
- Labelling of workplace hazardous chemicals
- Managing risks of hazardous chemicals in the workplace
- Welding processes
- First aid in the workplace
- Managing the risk of falls at workplaces
- Hazardous manual tasks
- Managing the risk of falls in housing construction
- Managing electrical risks in the workplace
- Demolition work
- Excavation work
- Work health and safety consultation, cooperation and coordination
- Managing the work environment and facilities
- How to manage work health and safety risks
- Managing risks of plant in the workplace
- Construction work