Manual Demolition Jackhammering and Concrete Breaking

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

THIS RISK ASSESSMENT IS APPROVED BY THE PCBU OF THE 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:

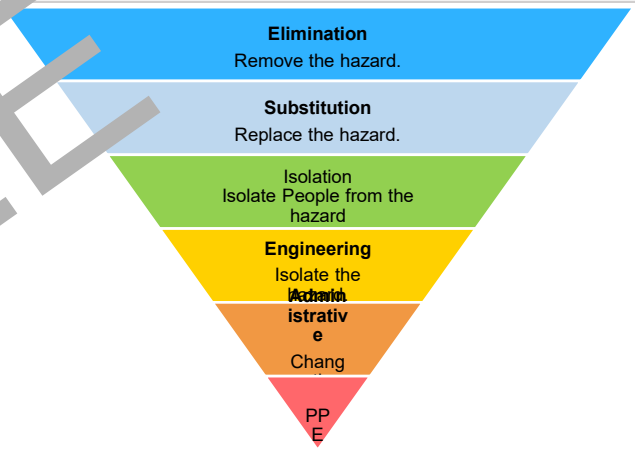
CLIENT OR PRINCIPAL CONTRACTOR DETAILS

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
ALMOST CERTAIN	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4 ACUTE		
LIKELY	2 MODERATE	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4A ACUTE	DO NOT PROCEED
POSSIBLE	1 LOW	2 MODERATE	3 HIGH	4 ACUTE	4 ACUTE	3H HIGH	Rev before work
UNLIKELY	1 LOW	1 LOW	2 MODERATE	3 HIGH	4 ACU	2M MO RATE	Ensure control measures in place.
RARE	1 LOW	1 LOW	2 MODERATE	3 HIGH	3 H	1L LOW	Monitor and keep records.

HIERARCHY OF CONTROLS



Risk Rating & Required Action:

4A	Stop work. The risk is intolerable. E inate the hazar redesign the activity before proceeding. A Safe Work Method Statement (SWMS) or hi er-level authorisati is required.
3H	Review and approve additional c rols b ask arts. Senior supervisor sign-off needed.
2M	Ensure all nominated controls are in ace and effe ive. 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. WHS Management, Roles and Legislative Compliance	• Lack of clear WHS responsibilities for demolition and concrete breaking activities under WHS Act 2011 • Inadequate understanding of duties of PCBUs, officers and workers regarding jackhammering and concrete breaking • Absence of documented WHS policy specific to demolition, pneumatic drilling and chipping activities • Failure to apply relevant Codes of Practice (Demolition work, Managing noise and preventing hearing loss at work, Hazardous manual tasks, Construction work) • Inadequate consultation with workers and Health and Safety Representatives (HSRs) on high-risk demolition tasks • No formal process to verify and monitor contractor compliance with WHS legislative requirements	4A	• Establish and implement a documented WHS Management System (WHSMS) that explicitly covers manual demolition, jackhammering, pneumatic drills and concrete breaking in line with WHS Act 2011 and WHS Regulation 2011 • Define and document WHS roles, responsibilities and accountabilities for officers, managers, supervisors, leading hands and workers involved in demolition work • Ensure senior management due diligence processes include regular review of high-risk construction and demolition activities and associated risk controls • Incorporate relevant Safe Work Australia Codes of Practice and Australian Standards into company procedures for demolition, plant, noise management, tasks and silica • Implement a formal worker consultation and HSR engagement procedure for planning and reviewing concrete breaking activities and related controls • Develop a contractor management procedure requiring pre-qualification, WHS system review and evidence of compliance with WHS Act and Regulation • Schedule periodic internal audits and management reviews of WHSMS effectiveness specifically focusing on demolition and concrete breaking risks	2M
2. Project and Demolition Planning Integration	• Demolition and concrete breaking works not adequately scoped during project planning • Inadequate structural assessment prior to using jackhammers and demolition hammers on slabs, beams or walls • Failure to identify underground or embedded services (electricity cables, water, post-tension cables) before breaking concrete • Poor scheduling leading to overlapping high-risk activities (e.g. simultaneous hot works, crane operations, or mobile plant) in same area • No formal change management process when demolition methodology or equipment is varied • Insufficient planning for restricted access areas, confined spaces, or working at heights during concrete breaking	4A	• Implement a formal project risk planning process that requires early identification of all manual demolition, jackhammering and pneumatic drilling tasks • Require structural engineering assessment and written instructions for any concrete breaking that may affect structural integrity or stability of adjacent elements • Establish a service location and isolation procedure including Dial Before You Dig, service scanning and verification before any concrete breakout • Integrate demolition and concrete breaking tasks into the Construction Project Management Plan and WHS Management Plan with clearly defined interfaces and exclusions • Use a permit-to-work or high-risk activity authorisation system for structural demolition, work near services and concrete removal at heights or edges • Apply a formal management of change procedure when demolition sequence, plant type, or access arrangements are altered, ensuring review of risk controls • Coordinate work sequencing to avoid concurrent incompatible activities and document in a site-specific staging and scheduling plan	2M

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3. Plant Procurement, Selection and Engineering Controls	• Procurement of jackhammers, demolition hammers and pneumatic drills that are not fit for purpose or non-compliant with Australian Standards • Lack of vibration-dampened tools leading to excessive hand–arm vibration exposure • Inadequate dust suppression capability for concrete and masonry breaking equipment • Use of non-insulated or inappropriate tools in wet environments creating electric shock risk • Absence of integrated safety features such as dead-man triggers, noise reduction shrouds, or anti-kickback systems • Incompatibility between compressors, hoses, couplings and pneumatic tools creating risk of hose whip or plant failu	4A	• Develop a documented plant procurement stand a that specifies compliance with relevant Australian Standards and WHS Regulation plant require nts • Specify selection criteria for jackhammers d demoli hammers including vibration-dampening handles, ergonomic design and appropriate w ht/ ver for the task • Mandate integrated dust control engineering, s as water-f systems or on-tool local exhaust ventilation for concrete breaki applications • Ensure all electricall vered ls are double-insu ed or appropriately rated and compatible with Residual Current vices CDs) anticipated ork environments • Require bu n safety feat es (dea man ntrols, trigger interlocks, noise suppression) as part of procurement s ification or demolitio ools • Star ise co sor and pneumatic hose systems with rated fittings, whip-checks and isolation valves u orted b OEM documentation • Maint a a c trolled ant register capturing all demolition tools and accessories, with specifications and afety fe ures corded	2M
4. Plant Inspection, Maintenance and Tagging Systems	• Lack of scheduled maint nce leading to unservicea jackhammers or pneumatic drills • Failure to detect maged couplings or power le leading to hose whip or electric shock • Inadequate test and tag egim or electrical demolition equipment • Use of bypassed safety devices (e.g. taped-down triggers, removed guards or mufflers) • No formal pre-start inspection process for demolition hammers and compressors • Poor record keeping resulting in unknown maintenance history and increased likelihood of plant failure	4A	[redacted]	2M

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5. Workforce Competency, Training and Supervision	• Workers operating jackhammers or pneumatic drills without adequate competency or verification of skills • Insufficient understanding of vibration, noise and silica dust health risks by workforce and supervisors • Lack of familiarisation training for specific models of demolition hammers or pneumatic drills • Inadequate supervision of new starters, labour hire workers or contractors on demolition tasks • No formal assessment of literacy, language and communication barriers affecting understanding of procedures • Failure to provide refresher training, leading to outdated knowledge of safe work procedures and controls	4A	[redacted]	2M
6. Site Access, Traffic and Work Area Segregation	• Uncontrolled access [redacted] demolition and con[redacted]e breaking zones • Interaction betwe[redacted] jackham[redacted] operators and mobi[redacted]uch as excavators, skid steers or forklifts • Inadequate exclusion zones lea[redacted]g to exposure of other worker[redacted]ng debris, noise and dust • Poorly defined material drop zones for broken concrete and rubble removal • Insufficient management of public interface where works occur near roads, footpaths or occupied buildings • Lack of clear signage indicating high-noise and demolition areas	3H	[redacted]	2M
7. Noise and Vibration Exposure Management	• Chronic exposure to high noise levels from jackhammers, pneumatic drills and	4A		2M

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	compressors leading to noise-induced hearing loss • Prolonged hand–arm vibration exposure causing long-term musculoskeletal and circulatory disorders • Whole-body vibration exposure where workers operate tools from mobile plant platforms or elevated surfaces • Inadequate monitoring of cumulative exposure time to noisy and vibrating tools • Lack of engineering controls leading to over-reliance on PPE • Neighbouring occupied premises subjected to excessive noise levels causing complaints and regulatory breaches		[redacted]	
8. Silica Dust and Airborne Contaminant Control	• Generation of respirable crystalline silica (RCS) from concrete breaking, chipping and drilling • Inadequate dust suppression systems leading to excessive airborne dust concentrations • Failure to identify and manage other airborne contaminants such as lead-based paint, asbestos or contaminated concrete • Lack of exposure monitoring resulting in unknown worker RCS exposure levels • Poor housekeeping leading to re-suspension of settled dust by wind or traffic • Inadequate ventilation in enclosed or semi-enclosed spaces where demolition hammering occurs	4A	[redacted]	2M
9. Hazardous Manual Tasks and Ergonomics Management	• Repetitive and sustained holding of heavy jackhammers leading to musculoskeletal disorders	3H	[redacted]	1L

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	• Poor posture from overhead or awkward angle concrete chipping activities • Manual handling of broken concrete and rubble without mechanical aids • Inadequate task design causing fatigue and increased risk of acute strains and sprains • Lack of systems to limit duration of high-force tasks for individual workers • Insufficient planning for safe access and working platforms to maintain ergonomic positions		[redacted]	
10. Structural Stability, Falling Objects and Collapse Prevention	• Uncontrolled weakening of structural elements due to localised jackhammering • Falling concrete pieces or debris striking workers or the public • Unexpected release of pre-tensioned or post-tensioned elements during concrete breaking • Progressive collapse of adjacent slabs, beams or walls due to poorly planned demolition sequence • Inadequate overhead protection in multi-level demolition environments • Failure to secure or brace partially demolished structures before continuing pneumatic drilling or chipping	4A	[redacted]	2M
11. Electrical, Pneumatic and Energy Isolation Systems	• Contact with live electrical services embedded in concrete or within demolition area • Failure of RCD protection for electric demolition equipment • Uncontrolled release of pneumatic energy causing hose whip or tool ejection	4A	[redacted]	2M

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	• Inadequate lock-out/tag-out for compressors and associated plant during maintenance or fault rectification • Use of unauthorised adaptors, splitters or daisy-chained leads for powering demolition tools • Lack of verification of isolation before commencing concrete breaking near known services		[redacted]	
12. Personal Protective Equipment (PPE) and Respiratory Protection Programs	• Over-reliance on PPE in lieu of higher-order controls for noise, dust and vibration • Incorrect selection of respiratory protective equipment (RPE) for silica dust generated by concrete breaking • Inadequate fit-testing and maintenance of tight-fitting respirators • Non-compliance with PPE requirements due to poor supervision o lack of replacement stock • Inadequate eye a face protection for high-velocity chipp g and demolition hammer tasks • No system to manage PPE hygiene replacement and storage	3H	[redacted]	1L
13. Environmental Conditions, Fatigue and Thermal Stress Management	• High physical exertion from sustained jackhammering leading to heat stress in hot or humid environments • Worker fatigue from repetitive, high-force demolition tasks and extended shifts • Slips, trips and falls due to poor underfoot conditions from slurry, rubble and hoses • Work conducted in adverse weather (heat, cold, rain, wind) without appropriate controls	3H	[redacted]	1L

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	• Inadequate planning for hydration, rest areas and scheduling for physically demanding tasks • No system to identify and manage individual health factors increasing vulnerability to thermal stress or fatigue		[redacted]	
14. Emergency Preparedness, Incident Response and First Aid	• Inadequate preparedness for serious injury arising from flying debris, crush injuries or structural collapse • Lack of site-specific emergency procedures for demolition and concrete breaking zones • Insufficient first aid coverage and equipment for likely injury types (eye injuries, lacerations, fractures, hearing trauma, dust inhalation) • Poor communication systems for summoning assistance in noisy environments • No structured incident reporting and investigation process leading to repeat events • Failure to coordinate emergency arrangements with building occupiers, neighbours or principal contractors	3H	[redacted]	1L
15. Contractor, Subcontractor and Labour Hire Management	• Inconsistent WHS standards between principal contractor and subcontractors conducting concrete breaking • Labour hire workers deployed without verification of training or competency in jackhammer use • Gaps in communication of site-specific risks and control measures to subcontractors and short-term workers • Failure to manage overlapping duties under WHS Act 2011 between PCBUs involved in demolition work	3H	[redacted]	2M

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	• Inadequate monitoring of contractor compliance with agreed WHS requirements • Subcontractors introducing unapproved plant or alternative demolition methods with unknown risk profiles		[redacted]	
16. Documentation, Communication and Continuous Improvement	• Outdated or inaccessible procedures for jackhammering and concrete breaking • Critical risk information not effectively communicated to supervisors and workers • Lessons from incidents and near misses not captured or used to improve systems • Poor version control leading to multiple conflicting demolition work instructions in circulation • Insufficient record keeping for training, inspections, exposure monitoring and maintenance • Failure to review WHS performance data to identify emerging risks relating to demolition activities	3H	[redacted]	1L

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 FOR 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 2025
Legislation NSW: https://www.safework.nsw.gov.au/legal-obligations/legislation
Codes of Practice NSW: https://www.safework.nsw.gov.au/resource-library/list-of-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/forms-and-resources/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