

Concrete Boom Pump

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. Governance, Legal Compliance and WHS Duties	<ul style="list-style-type: none"> Failure of officers and PCBUs to understand and discharge due diligence obligations under the WHS Act 2011 in relation to concrete boom and line pumping operations Inadequate WHS management system specific to concrete pumping activities, leading to inconsistent risk controls across sites Lack of documented policies and procedures for safe operation, set-up, and supervision of concrete pumps Poor integration of concrete pumping risks into the organisation's overall risk register and business planning Failure to verify that subcontractors (including owner-drivers) have compliant systems, insurances and competencies Inadequate consultation and coordination with principal contractors, host PCBU, and other duty holders on shared WHS responsibilities No formal process for reviewing incidents and legislative changes affecting concrete pumping activities 	High	<ul style="list-style-type: none"> Develop and implement a WHS Management System that explicitly addresses concrete boom and line pumping risks, aligned with the WHS Act 2011, WHS Regulations and relevant Codes of Practice (e.g. Managing the Risks of Plant in the Workplace (Construction Work)) Define and document WHS roles, responsibilities and accountabilities for officers, managers, supervisors, schedulers, and operators involved in concrete pumping Maintain a legal register capturing current WHS legislation, Australian Standards and guidance notes relevant to concrete pumps (e.g. AS 1418 series, AS 4500 series), with a documented review cycle Establish a documented Concrete Pumping Safety Policy covering selection of equipment, competency requirements, communication, exclusion zones and emergency response expectations Integrate concrete pumping risks into the organisation-wide risk register and ensure regular review at management meetings, including trend analysis of incidents and near misses Implement formal arrangements for consultation, cooperation and coordination with principal contractors and other PCBUs, including written WHS agreements and pre-start coordination meetings Introduce a documented contractor management system requiring pre-qualification, verification of competencies, licences, maintenance regimes, insurances and WHS documentation for all concrete pump providers Conduct periodic due diligence reviews by officers (e.g. site safety walks, document audits, performance reporting) focused on concrete pumping activities Schedule annual management reviews of the concrete pumping risk controls, including review of audits, incident data and worker consultation feedback 	Medium
2. Procurement, Design and Specification of Concrete Pumps	<ul style="list-style-type: none"> Purchasing or hiring concrete boom or line pumps that are not fit for purpose for the intended loads, reach, site conditions or product characteristics Acquiring pumps without proper design registration, plant registration (where required), or compliance with relevant Australian Standards Insufficient consideration of stability, ground pressure, outrigger span and wind loading during equipment selection Lack of safety features such as interlocks, emergency stop systems, guarding, boom limit systems, and safe access/egress Unclear or unavailable manufacturer's instructions, load charts and technical 	High	<ul style="list-style-type: none"> Develop and apply a formal plant procurement procedure that includes WHS and functional specifications for concrete boom and line pumps, incorporating consultation with operators, maintenance personnel and safety advisors Require written confirmation of compliance with relevant Australian Standards, manufacturer requirements and any regulatory registrations prior to purchase or hire Include in procurement criteria the need for up-to-date design registration, plant registration (as required), and full documentation of rated capacity, boom configuration and stability performance Specify mandatory safety features (e.g. emergency stops, interlocks, anti-entrapment controls, boom limiting devices, guarding of moving parts, fall prevention for access points) in tender and supplier contracts Require suppliers to provide comprehensive operator manuals, load charts, set-up diagrams, and maintenance schedules in English and keep them readily available to workers and supervisors Undertake a pre-acceptance risk assessment for new or significantly altered pumps to verify suitability for organisational work types and typical site conditions 	Medium

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	<ul style="list-style-type: none"> documentation for site risk assessment and planning Selecting control systems (e.g. remote controls) that are prone to interference, poor ergonomics or misuse Inadequate assessment of compatibility between pump, pipelines, hoses, clamps and concrete mix designs 		<ul style="list-style-type: none"> Ensure that procurement considers standardisation of hose, clamp and pipeline systems to reduce compatibility and failure risks across the fleet Include verification of remote-control integrity (e.g. frequency management, fail-safe design, emergency stop functionality) in selection criteria Maintain a plant register capturing all concrete pumps. List specifications, design/plant registrations, and critical safety features for ongoing risk management 	
3. Organisational Structure, Supervision and Competency Management	<ul style="list-style-type: none"> Insufficient supervision of concrete pumping operations, especially during complex pours or when multiple trades are present Lack of clearly appointed responsible person / leading hand for each pump operation to coordinate with principal contractor and pour supervisor Inadequate verification of operator competency, high risk work licences, and qualifications for boom and line pump operators and line hands No formal training pathways for new less experienced workers (e.g. dogmer line hands, trainees) for concrete pumping roles Poor evaluation of competency, hazard identification, communication, emergency procedures and response to abnormal conditions (e.g. blockages, near-miss events) Use of labour hire or subcontract workers without checking WHS induction, plant familiarisation and site-specific competency Inadequate competency for supervisors and schedulers in risk-based decision making around weather, ground conditions and site constraints 	High	<ul style="list-style-type: none"> Define and document organisational roles for concrete pumping operations, including a designated supervisor/responsible person for each job with clear authority to stop work if unsafe Implement a competency management system that records licences, training, verification of competency (VOC), and experience for all pump operators and line hands Require and verify appropriate high risk work licences and qualifications for boom pump operators and ensure all pump operators hold relevant training and experience aligned to industry best practice Develop and deliver structured induction and ongoing training programs covering hazard identification, communication protocols, emergency procedures, and site coordination for concrete pumping Introduce a formal VOC process for operators and line hands, including practical assessment on each type of pump and review after incidents or significant near misses Include supervision competencies in selection, appointment and performance reviews of supervisors, ensuring they understand WHS obligations, plant capabilities, and site risk management requirements Establish a procedure for assessing and onboarding labour hire and subcontract workers that includes verification of training, licences, medical fitness (where relevant) and WHS expectations Maintain up-to-date training and competency matrices and schedule refresher training at defined intervals or when new equipment or procedures are introduced 	Medium
4. Planning, Job Assessment and Coordination with Site Management	<ul style="list-style-type: none"> Inadequate pre-job planning for pump set-up locations, boom reach, line routes, and interaction with other plant and trades Failure to obtain and review site information such as underground and 	High	[REDACTED]	Medium

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	<p>overhead services, ground conditions and traffic movements</p> <ul style="list-style-type: none"> • Poor coordination with principal contractor or site manager leading to congestion, time pressure and unsafe compromises in pump positioning or line layout • Lack of formalised pre-pour meetings to clarify responsibilities, exclusion zones, communication channels and emergency arrangements • Inadequate assessment of environmental conditions (e.g. high winds, storms, extreme heat) affecting boom stability and worker safety • No systematic assessment of pour complexity (e.g. height, distance, pump pressures, vertical rises) to inform plant selection and resourcing • Failure to plan for cleaning, waste management, slurry containment and environmental impacts in consultation with the site 		<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	
5. Ground Conditions, Structural Support and Stability Management	<ul style="list-style-type: none"> • Pump roll-over or outrigger failure due to inadequate assessment of ground bearing capacity, underground voids or unstable fill • Setting up pumps or lines on suspended slabs, pits, basement structures not designed to support loads from outriggers or vehicles • Failure to coordinate with structural engineer or principal contractor regarding load limits and temporary works for pump set-up areas • Insufficient organisation-level guidance on use of outrigger pads, cribbing or mats to distribute loads across varying ground conditions • Inconsistent collection and communication of information about ground hazards between sites, schedulers, and operators 	High	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	Medium

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	<ul style="list-style-type: none"> Pressure changes or water ingress undermining support surfaces during extended or wet weather pours 		[REDACTED]	
6. Traffic Management, Delivery Logistics and Public Interface	<ul style="list-style-type: none"> Uncontrolled interaction between concrete delivery trucks, concrete pumps, other mobile plant and pedestrians Inadequate logistics planning leading to queuing of agitators and dangerous reversing manoeuvres around the pump Pump set-up encroaching onto public roads, footpaths or neighbouring properties without adequate traffic control arrangements Lack of a coordinated system between the pump crew, concrete supplier, and site traffic controller for scheduling and staging trucks Insufficient consideration of emergency vehicle access while pumps and trucks occupy constrained access ways Inconsistent control of public interface where pumping occurs adjacent to live traffic or public walkways 	High	[REDACTED]	Medium
7. Technical Systems for Plant Inspection, Maintenance and Integrity	<ul style="list-style-type: none"> Failure of booms, pipelines, clamps or valves due to inadequate inspection and maintenance regimes Lack of scheduled major inspections, non-destructive testing or condition assessments for ageing booms and high-hour pumps Use of incompatible or damaged hoses, clamps, reducers and line components leading to bursts, line failures and exposure to high-pressure concrete Absence of formal defect reporting and lock-out procedures, resulting in continued use of unsafe plant Inadequate maintenance records, making it difficult to verify compliance 	High	[REDACTED]	Low

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	<ul style="list-style-type: none"> with manufacturer recommendations and legal requirements • Failure to keep safety-critical devices (e.g. limit switches, emergency stops, interlocks) calibrated and functional 		[REDACTED]	
8. Safe Systems of Work, Procedures and Documentation Control	<ul style="list-style-type: none"> • Workers not following consistent safe practices due to absence of clear, accessible safe operating procedures for concrete pumps • Procedures that focus only on basic start/stop tasks and fail to address complex or high-risk scenarios (e.g. high-rise pumping, long line runs, tight access) • Outdated or conflicting versions of procedures, checklists and forms in circulation across depots and sites • Lack of standardisation in key processes such as set-up approvals, pre-pour checks, pump down and line cleaning • Inadequate administrative controls around managing variations from standard procedures or dealing with non-typical pours • Over-reliance on informal discussions and verbal briefings that are not documented or verified 	High	[REDACTED]	Medium
9. Training, Induction, Communication and Consultation	<ul style="list-style-type: none"> • Workers unaware of specific hazards associated with pumping operations such as line blockages, hose whipping, boom strikes and entrapment • Inadequate site-specific induction for pump crews, leading to confusion about site rules, emergency arrangements and exclusion zones • Poor communication channels between pump operator, line hands, delivery drivers, spotters and site supervisors 	High	[REDACTED]	Medium

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	<ul style="list-style-type: none"> Limited worker participation in WHS decision-making, resulting in missed practical insights about system weaknesses Language, literacy or cultural barriers that prevent full understanding of instructions, signage and safety documentation Failure to reinforce learning and behavioural expectations after incidents or near misses 		[REDACTED]	
10. Change Management, Non-Standard Operations and Complex Pours	<ul style="list-style-type: none"> Uncontrolled change to pump type, set-up location, boom configuration or line routing without adequate reassessment of risks Undertaking non-standard or high-risk pours (e.g. high-rise, extreme reach, night works, confined areas) without additional planning and controls Last-minute changes to concrete mix, delivery sequence or pour methodology imposed by clients or suppliers without systematic WHS consideration Temporary modifications or bypassing of safety devices or interlocks to achieve production outcomes Use of pumps or lines outside manufacturer's specified limits or design envelope during unusual operations 	High	[REDACTED]	Medium
11. Emergency Preparedness, Incident Management and First Aid	<ul style="list-style-type: none"> Lack of organisational readiness for pump-related emergencies such as boom collapse, line rupture, hose whipping or entrapment incidents Inadequate emergency procedures specific to concrete pumping, including isolation of energy sources and stabilisation of the boom Pump crews and site personnel unsure of their roles during an emergency, causing delays or unsafe rescue attempts 	High	[REDACTED]	Medium

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	<ul style="list-style-type: none"> Insufficient first aid resources or training to manage injuries typical of pumping incidents (e.g. injection injuries, crush injuries, eye injuries) Failure to investigate incidents and near misses systematically, leading to repetition of systemic failures across jobs and sites 		[REDACTED]	
12. Health, Fatigue, Psychosocial and Environmental Factors	<ul style="list-style-type: none"> Long working hours, early starts and irregular shifts causing fatigue in pump operators, line hands and drivers, impairing decision-making Exposure to noise, vibration, diesel exhaust, silica dust and manual handling demands during set-up, line movement and cleaning Psychosocial risks such as time pressure, aggressive behaviours from other parties onsite, and production demands conflicting with safety procedures Inadequate systems for managing heat stress, dehydration and adverse weather impacts on workers during extended pours Insufficient organisational controls for environmentally responsible washoff, spill management and runoff leading to regulatory and reputational risk 	High	[REDACTED]	Medium
13. Monitoring, Audit, Performance Measurement and Continuous Improvement	<ul style="list-style-type: none"> Ineffective monitoring of WHS performance resulting in latent system weaknesses not being identified or addressed Absence of targeted audits focusing on high-risk concrete pumping activities and compliance with procedures Under-reporting of near misses, unsafe conditions and minor incidents, leading to missed opportunities for prevention Data on pump utilisation, defects, and incidents not being analysed to inform 	Medium	[REDACTED]	Low

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	strategic decisions on equipment, training and resourcing • Lack of feedback loops so that lessons learned from one site or project are not shared across the organisation • Performance metrics that prioritise productivity and output over safety, creating conflicting incentives		[REDACTED] [REDACTED] [REDACTED] [REDACTED]	

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 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>

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>

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-codes-of-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>

Northern Territory

Work Health and Safety (National Uniform Legislation) Act 2011
 Work Health and Safety (National Uniform Legislation) Regulation 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>

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>

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>

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

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.