

Bulldozer

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:	

SAMPLE

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. Vehicle Procurement and Fleet Governance	<ul style="list-style-type: none"> Bulldozer selected or hired without formal risk-based specification for intended site conditions (slope, ground conditions, visibility, climate) Absence of documented procurement criteria for safety-critical features (ROPS/FOPS, seat restraints, reversing cameras, proximity detection, fire suppression, rollover alarms) Inconsistent standards between owned and hired dozers leading to variable safety performance and operator confusion Engagement of suppliers who do not provide evidence of compliance with Australian Standards, manufacturer requirements and WHS Act 2011 duties (designer, manufacturer, supplier duties) Failure to consider whole-of-life risks at procurement stage, including maintenance access, guarding, isolation systems and transport requirements Lack of documented acceptance inspection and commissioning process for new or hired bulldozers 	High	<ul style="list-style-type: none"> Establish a formal plant procurement procedure that requires documented safety specifications for crawler dozers, aligned with the WHS Act 2011, WHS Regulations and relevant Australian Standards (e.g. AS 5327, AS 4024 series) Specify mandatory engineered safety features in procurement criteria (certified ROPS/FOPS, compliant access ways and handrails, seat belts, emergency stop systems, isolators, reversing alarms and lights, cameras, fire extinguishers or suppression where warranted, guard rails, fall protection) Require suppliers to provide documented evidence of compliance (declarations of conformity, test certificates, ROPS/FOPS certification, noise data, vibration data, braking performance) and retain this in the plant safety file Implement a pre-acceptance inspection checklist for all new and hired bulldozers before first use, including verification of safety controls, manuals, logbooks and emergency equipment Include contractual clauses with hire and purchase suppliers that require compliance with WHS legislation, timely provision of safety bulletins and recall notices, and support for defect rectification Standardise key controls and safety systems across the bulldozer fleet, as far as reasonably practicable, to reduce operator confusion and training burden Incorporate whole-of-life cost and safety considerations into procurement decisions, including ease of maintenance, accessibility for inspection, guarding, isolation points and availability of OEM support Ensure procurement sign-off includes WHS representative or competent person for plant risk assessment input 	Medium
2. Plant Risk Management and Change Control	<ul style="list-style-type: none"> Lack of a formal plant risk assessment for bulldozers, or assessments that are out-of-date, generic, or not site-specific Uncontrolled modifications to bulldozers (e.g. aftermarket attachments, guarding changes, electronic systems) without engineering assessment Failure to consider interaction between bulldozers and other plant or systems of work in the risk management process No structured process to review risks following incidents, near misses, plant failures or site condition changes Inadequate consultation with operators, maintenance personnel and health and 	High	<ul style="list-style-type: none"> Develop and maintain a formal plant risk assessment for each bulldozer type and typical application, conducted by a competent person and reviewed at defined intervals or when circumstances change Implement a plant change management procedure that requires engineering review and documented risk assessment prior to any modifications (attachments, control changes, guarding alterations, software changes) Integrate bulldozer risk assessments into the broader site traffic management and operational risk assessments, addressing interactions with other mobile plant, trucks, light vehicles and pedestrians Establish triggers for risk assessment review (e.g. incident, near miss, significant defect, change in site layout, new material type, change in operating hours or roster pattern) Consult workers and HSRs during hazard identification and risk assessment, documenting input and feedback in accordance with WHS consultation requirements Ensure risk assessments are accessible, communicated and referenced in related procedures, training materials and toolbox talks Maintain a centralised plant risk register capturing key bulldozer risks, existing controls, and actions with assigned responsibilities and due dates 	Medium

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	safety representatives when identifying hazards and controls			
3. Management of Operator Competency and Training	<ul style="list-style-type: none"> Bulldozer operators lacking formal competency assessment for specific dozer models and site conditions (e.g. steep slopes, confined areas, working near edges) No structured induction on site-specific procedures, traffic rules, exclusion zones and emergency protocols Reliance on informal or on-the-job training without documentation, leading to variable practices and unsafe habits Inadequate verification of high risk work licences or relevant tickets (where required by jurisdiction or client standards) No ongoing refresher training, re-assessment or performance management for operators following incidents, near misses or long absences Insufficient training on human factors such as fatigue management, distraction, and cognitive overload in complex work areas 	High	<ul style="list-style-type: none"> Implement a formal bulldozer operator competency framework that includes pre-employment screening, verification of qualifications, model-specific familiarisation and site-based assessment by a competent person Require documented induction for all operators covering WHS responsibilities, site rules, traffic management plans, communication protocols, emergency procedures and reporting requirements Develop and deliver structured training modules for crawler dozer operation that emphasise hazard awareness, interactions with other plant, working near drop-offs, services and people, rather than just machine controls Maintain a training and competency register that records licences, assessments, model endorsements, refresher training and any restrictions or conditions for individual operators Introduce periodic refresher training and re-assessment based on risk, including targeted training after incidents, near misses or significant changes in equipment or procedures Include training on fatigue management, impairment (including drugs and alcohol), situational awareness and defensive driving principles for heavy plant Supervisors to be trained in how to monitor operator behaviour, intervene early where unsafe practices are observed, and document coaching and corrective actions 	Medium
4. Safe Systems of Work and Procedures	<ul style="list-style-type: none"> Absence of documented operating procedures (SOPs) or safe work method statements (SWMS) for bulldozer use in high-risk environments Procedures that are overly generic, not reflective of actual site practices or not understood by operators and supervisors Inconsistent application of operating rules across shifts and supervisors, leading to unsafe precedents and "custom and practice" behaviours Inadequate integration of bulldozer operating rules into overall production planning and scheduling, resulting in time pressure and unsafe shortcuts Failure to specify clear rules for working near edges, stockpiles, 	High	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	Medium

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	excavations, water, underground services and overhead hazards		[REDACTED]	
5. Traffic Management and Interaction with People and Plant	<ul style="list-style-type: none"> Inadequate traffic management plan governing interactions between bulldozers, trucks, light vehicles, pedestrians and other mobile plant Poor delineation of work zones, haul roads and no-go areas, leading to people entering blind spots or high-risk zones around the dozer Reliance solely on operator vigilance for collision avoidance without supporting systems or engineered separation Uncontrolled access of contractors, surveyors or supervisors into active bulldozer operating zones No structured communication protocols for working around bulldozers (e.g. radio channels, call-up procedure, identification of people in foot) 	High	[REDACTED]	Medium
6. Maintenance, Inspection and Defect Management Systems	<ul style="list-style-type: none"> Lack of a planned preventative maintenance program consistent with OEM specifications and site operating conditions Inadequate daily and periodic inspection systems, or checklists that are not used, not understood or not acted upon Defects reported but not prioritised or rectified in a timely manner, resulting in continued operation of unsafe plant Poor record keeping for maintenance history, safety-critical component replacements and inspection outcomes 	High	[REDACTED]	Medium

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	<ul style="list-style-type: none"> Use of non-genuine or incompatible parts leading to reduced reliability or safety performance 		[REDACTED]	
7. Isolation, Lockout and Tagout Management	<ul style="list-style-type: none"> Unclear or inconsistent isolation procedures for bulldozers during maintenance, cleaning, inspection or recovery activities Reliance on informal practices such as simply turning the key off without verifying isolation points Multiple workers or contractors working on the same dozer without coordinated lockout/tagout, leading to inadvertent start-up Inadequate training of operators and maintenance personnel in site isolation procedures and responsibilities Poorly identified or inaccessible isolation points and emergency stop devices 	High	[REDACTED]	Medium
8. Contractor and Hire Equipment Management	<ul style="list-style-type: none"> Contract bulldozer operators or hire units introduced onto site without adequate verification of competency, safety systems or maintenance status Inconsistent safety standards between principal contractor and sub-contractors leading to confusion and lowest-common-denominator practices Poor communication of site-specific bulldozer risks, rules and emergency procedures to short-term contractors Limited oversight of contractor adherence to site isolation, traffic management and reporting requirements 	High	[REDACTED]	Medium

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			[REDACTED]	
9. Fit for Work, Fatigue and Impairment Management	<ul style="list-style-type: none"> Operators working long or irregular hours on bulldozers, leading to fatigue, reduced vigilance and slower reaction times Impairment due to alcohol, drugs (including prescription medication) or medical conditions affecting judgment and coordination Inadequate rest breaks or unrealistic production targets driving extended continuous operation Limited management capability to identify and address signs of fatigue or impairment in operators 	High	[REDACTED]	Medium
10. Emergency Preparedness and Incident Response	<ul style="list-style-type: none"> Lack of clear emergency response plans for bulldozer related incidents such as rollovers, tip overs or medical events Operators and nearby workers unsure how to raise the alarm, communicate location or provide initial response Inadequate provision of suitable fire protection equipment and first aid for remote or dispersed bulldozer work areas Poor post-incident scene control resulting in contamination of evidence and missed learning opportunities 	High	[REDACTED]	Medium

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11. Governance, Monitoring and Continuous Improvement	<ul style="list-style-type: none"> Lack of senior management oversight of bulldozer-related risks, leading to under-resourcing of critical controls Inadequate safety performance indicators specific to mobile plant and bulldozer operations Poor communication of lessons learned from incidents and near misses within and across sites Failure to consult workers regularly about bulldozer safety issues, contrary to WHS Act consultation duties 	High	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	Low

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.