Concrete Sleeper Retaining Wall			
Business Name:		ABN:	
Business Address:			
Contact Person:	Phone:	Email:	

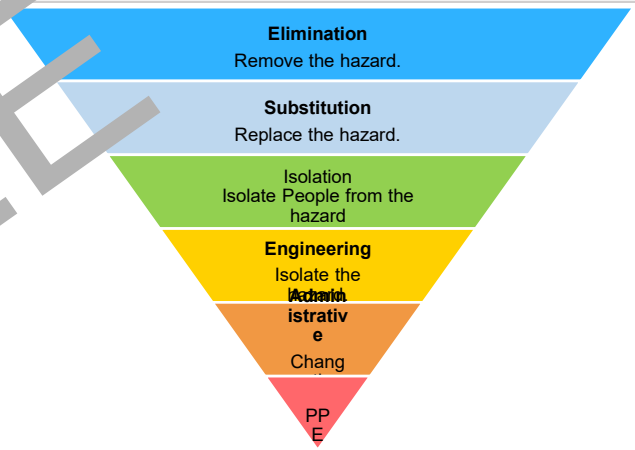
THIS RISK ASSESSMENT IS APPROVED BY THE PCBU OF THE PROJECT		
Under the Work Health and Safety Regulation (WHS Regulation), a person conducting a business or undertaking (PCBU) is required to ensure that a RISK ASSESSMENT is prepared before the proposed work starts.		
Full Name:		
Signature:	Title:	Date:

CLIENT OR PRINCIPAL CONTRACTOR DETAILS	SCOPE OF WORKS
Client:	
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. Governance, WHS Duty of Care and Legal Compliance	• Failure to understand and implement primary duty of care obligations under WHS Act 2011 and WHS Regulation in relation to concrete sleeper retaining walls • No clear allocation of WHS responsibilities between PCBUs, principal contractor, designers, engineers, installers and maintenance parties • Inadequate consultation, cooperation and coordination arrangements between multiple PCBUs on site (e.g. civil contractor, landscaper, structural engineer) • Lack of documented WHS policies and procedures specific to retaining wall design, construction and lifecycle management • Poor management oversight of contractor selection, approvals and performance monitoring for retaining wall works • Inadequate review of relevant Australian Standards, codes of practice and local council requirements (e.g. structural, drainage, geotechnical, working near services)	High	• Develop and implement a WHS management system that explicitly addresses design, installation, inspection and maintenance of concrete sleeper retaining walls and aligns with WHS Act 2011 and WHS Regulation • Define and document WHS duties, responsibilities and accountabilities for officers, managers, supervisors, designers, engineers and contractors involved with retaining walls • Establish formal consultation, cooperation and coordination procedures between all PCBUs involved in the project, including documented pre-start coordination meetings and interface agreements • Ensure legal and standards register includes current versions of relevant legislation, Australian Standards (e.g. AS 4678, AS 3600, AS 3798, AS 2870 as applicable), codes of practice and council or utility authority conditions • Implement a contractor management procedure requiring prequalification, WHS capability assessment and verification of licences, professional registrations and insurances for retaining wall designers and installers • Require documented safe design reports and certifications from competent structural and geotechnical professionals for walls at or above trigger heights or where ground or loading conditions warrant • Conduct periodic management audits and leadership walks focused on retaining wall risks, design decisions, and compliance with WHS legal duties • Establish a formal management of change process to assess WHS risk implications of any variation in wall design, height, alignment, loading or ground conditions before approval	Medium
2. Design and Engineering Governance	• Retaining wall system not designed or certified by a competent structural or geotechnical engineer • Insufficient consideration of soil type, bearing capacity, groundwater, surcharge loads and adjacent structures in the design brief and design process • Reliance on generic supplier details without site-specific engineering verification for height, loading and ground conditions • Absence of safe design documentation describing residual risks, design	High	• Implement a design management procedure requiring all structural retaining walls above council or regulatory thresholds, or subject to vehicle or building loads, to be designed and certified by a competent engineer • Require a documented design brief that addresses wall height, retained height, soil conditions, drainage, surcharge loads, vehicle barrier requirements, adjoining structures, property boundaries and utilities • Mandate geotechnical investigation and reporting appropriate to risk, with design assumptions clearly recorded and linked to engineering calculations • Require safe design reports in accordance with WHS Regulations, including residual WHS risks, inspection regimes, maintenance requirements and constraints on future loads or earthworks • Implement a formal design review and verification process, including independent checking or peer review for higher-risk or high-consequence walls	Medium

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	assumptions, limitations and inspection requirements • Poor change control when site conditions differ from assumptions (e.g. unexpected rock, soft spots, undocumented services) • Design fails to consider constructability, temporary works stability and staged construction sequencing from a WHS perspective • Inadequate design for long-term stability, drainage performance, corrosion of steel posts and concrete durability		• Embed a design change management protocol so that any field variation (wall height, alignment, footing depth, sleeper type, post section size, drainage layout) must be reviewed and approved by the designer • Include constructability and temporary works considerations in design documentation (e.g. sequence of excavation, propping or staged installation, exclusion zones, access for machinery and lifting systems) • Specify long-term durability requirements and design criteria including corrosion protection, concrete cover, drainage performance and inspection access • Maintain an engineering document control system to ensure only current, approved drawings and specifications are used on site	
3. Procurement of Materials, Systems and Contractors	• Procurement of concrete sleepers, steel posts and proprietary components that are not compliant with applicable Australian Standards or design specifications • Use of low-quality or untested retaining wall systems due to lowest-price purchasing practices • Inadequate verification that suppliers provide engineering data, product testing and installation instructions consistent with the certified design • Engagement of contractors without demonstrated experience in engineered retaining walls or without an effective WHS management system • Lack of traceability of material batch records, certificates of compliance and mill test certificates for structural elements • Substitution of specified products (e.g. change in sleeper grade, post section, footing concrete strength) without engineering approval	High	• Develop procurement procedures that require verification of product compliance with design documents, relevant Australian Standards and supplier technical data sheets for concrete sleepers and posts • Specify minimum technical and certification requirements in contracts, including structural certifications, material specifications, test reports and design loads for proprietary systems • Include WHS performance criteria and evidence of competency (e.g. project history, references, incident statistics, licences) in selection of retaining wall contractors and installers • Require suppliers to provide installation manuals, engineering span tables, product limitations and maintenance requirements as part of procurement documentation • Implement a formal product substitution and deviation process requiring written justification, risk assessment and approval from the project engineer before any change is accepted • Ensure procurement records capture batch numbers, concrete strength certificates, galvanising records and certificates of compliance for structural steel and proprietary elements • Audit key suppliers and contractors periodically against WHS, quality and engineering performance requirements for retaining wall projects	Medium
4. Planning, Design Interface and Site Layout Management	• Inadequate pre-construction planning for retaining wall locations, staging and interaction with other trades and earthworks	High	[redacted]	Medium

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	• Walls located too close to boundaries, existing structures, roads or services without proper design consideration • Poor coordination between civil design, stormwater design, landscaping plans and retaining wall engineering leading to incompatible levels or loads • Insufficient planning for safe access, lifting paths, storage and handling of concrete sleepers and posts within restricted sites • Lack of defined exclusion zones around excavation and wall construction areas, increasing potential for collapse or struck-by incidents • Unplanned loading of walls during or shortly after construction, such as stockpiled materials or plant operating above newly constructed walls		[redacted]	
5. Contractor Management, Supervision and Competency	• Contractors undertaking retaining wal works without adequate training or competency in engine d retaining wal systems • Insufficient super ion of subcontractors and re work performing critical tasks that affect structural stability • Poor communication of d gn requirements, tolerances and critical hold points from engineer to site supervisors and crews • Absence of systematic verification that key personnel (e.g. site supervisor, leading hand) understand the design drawings and engineering details • Inadequate monitoring of contractor WHS performance, including incident reporting and corrective actions • Use of inexperienced operators for lifting and installation of concrete	High	[redacted]	Medium

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	sleepers and posts without appropriate high risk work licences where required		[redacted]	
6. Training, Information, Instruction and Consultation	• Workers and supervisors unaware of the specific structural and WHS risks associated with concrete sleeper retaining walls • Lack of understanding of design assumptions, limitations and prohibited activities near the wall during and after construction • Inadequate consultation with workers about site-specific hazards such as groundwater, unstable ground or interface with adjacent properties • Poor communication of changes to design, staging or access arrangements that affect wall stability or safety • Insufficient training on emergency response related to wall movement, excavation collapse or discovery of uncharted services	Medium	[redacted]	Low
7. Excavation, Ground Conditions and Geotechnical Risk Management (Systems Level)	• Inadequate asse[illegible]ment and [illegible]g management of ge[illegible]l risks s[illegible]h as unstable excavations, variable so[illegible] strength, groundwater and reactive [illegible]ays • Excavation systems tha[illegible] incorporate engineering input for deeper cuts or where adjoining structures could be undermined • No formal process to reassess risks when actual ground conditions differ from geotechnical report findings • Lack of system for managing excavation permits, shoring design approvals and inspections • Failure to consider cumulative impact of multiple adjacent retaining walls or tiered walls on overall slope stability	High	[redacted]	Medium

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			[redacted]	
8. Plant, Equipment and Lifting Systems Management	• Use of unsuitable or poorly maintained lifting equipment for concrete sleepers and steel posts • Inadequate planning and control of crane or machinery operations near excavation edges and partially constructed walls • Lack of plant-specific procedures for working adjacent to unstable ground or steep batters • Insufficient verification that lifting points, lifting clutches or attachments for concrete sleepers are rated and compatible • Poor traffic management around retaining wall construction zones, leading to collision or surcharge loadi risks • Uncoordinated use of m le items o plant in confined wall nstruction areas	High	[redacted]	Medium
9. Structural Quality Assurance, Inspection and Testing	• Structural eleme (posts sleepers) not instal cordanc with engineering design and toleran • Lack of systematic inspection mes for critical stages such as ing excavation, reinforcement placement, concrete strength and backfilling • No formal hold points requiring engineer or competent person sign-off before progressing to subsequent stages • Inadequate documentation of as-built conditions, preventing future verification of wall capacity and performance • Hidden defects such as insufficient footing depth, incorrect spacing or misaligned posts that compromise long-term stability	High	[redacted]	Medium

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			[redacted]	
10. Drainage, Surface Water and Long-Term Stability Management	• Inadequate drainage design or construction behind the wall leading to hydrostatic pressure build-up and potential wall failure • Poor maintenance of surface water control measures causing erosion at the toe or crest of the wall • Blocking or clogging of agricultural drains, weep holes or outlets over time due to lack of inspection and cleaning arrangements • Changes in site grading, roof drainage or stormwater systems that increase water load on the wall beyond design assumptions • No system in place to monitor wall movement or signs of distress, especially after heavy rain events or nearby earthworks	High	[redacted]	Medium
11. Working Near Existing Services and Third-Party Assets	• Damage to underground services (electricity, gas, water, telecommunications, sewer, stormwater) during excavation for retaining works • Undermining or destabilising neighbouring properties, fences, driveways or structures due to inadequate assessment of third-party asset risks • Inadequate communication and coordination with service authorities, neighbouring property owners and local council • Lack of systems to update and verify service locating information as works progress	High	[redacted]	Medium

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12. Public Safety, Site Security and Interface with Occupied Areas	• Unrestricted public or occupant access to areas near open excavations or partially constructed retaining walls • Inadequate separation between retaining wall works and roadways, footpaths, schools, playgrounds or neighbouring properties • Poor signage and communication with tenants, residents or nearby businesses about retaining wall construction risks • Removal or failure of temporary barriers, fencing or edge protection without replacement or inspection	High	[redacted]	Medium
13. Operational Use, Alterations and Lifecycle Management	• Owners or occupants l[redacted] the retained ground bev[redacted] design limits (e.g. parking vehic[redacted]s, stockpiling materials, installin[redacted]structur[redacted] crest) • Uncontrolled excavation at the toe[redacted] behind the wall during later work[redacted] e.g. services installation, lands[redacted] changes, pools) • Lack of long-term maintenance and inspection regimes for structural components and drainage systems • No clear documentation or communication of residual risks and restrictions to future designers, contractors or property owners • Progressive deterioration of concrete sleepers, steel posts or backfill material not identified or addressed in time	High	[redacted]	Medium

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SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
14. Emergency Preparedness, Incident Response and Reporting	• No specific emergency response planning for retaining wall movement, partial collapse or excavation failure • Delayed recognition and reporting of early warning signs such as cracking, bulging, or soil slumping • Unclear roles, responsibilities and communication pathways during a structural or geotechnical incident involving a wall • Failure to notify relevant regulators of notifiable incidents related to retaining wall failures as required under WHS legislation • Inadequate investigation of incidents or near misses, leading to repeated systemic failures	Medium	[redacted]	Low

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