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

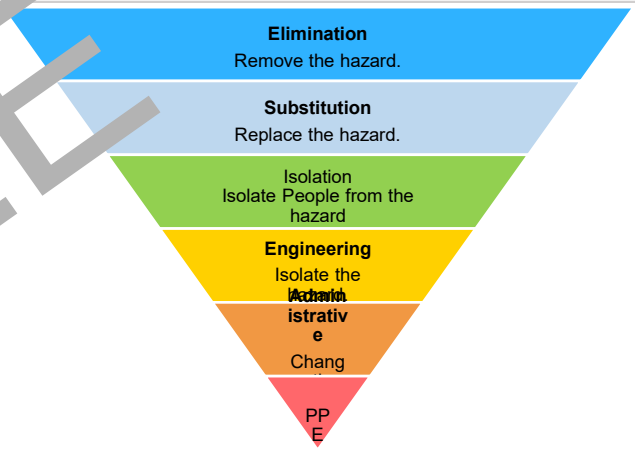
THIS RISK ASSESSMENT IS APPROVED BY THE PCBU OF THE PROJECT		
Under the Work Health and Safety Regulation (WHS Regulation), a person conducting a business or undertaking (PCBU) is required to ensure that a RISK ASSESSMENT is prepared before the proposed work starts.		
Full Name:		
Signature:	Title:	Date:

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 Governance, Roles & Consultation	• Unclear WHS responsibilities between Principal Contractor, head contractors, designers and multiple subcontractors • Inadequate WHS management plan for complex bridge and girder placement activities • Poor consultation and communication across multi-employer work groups including traffic controllers, crane crews and formworkers • Failure to establish clear escalation pathways for WHS issues and near misses during critical lifts • Inadequate worker participation in risk management for night works and possessions • Lack of effective HSR structure or committees for large projects spanning multiple work fronts	4A	• Develop and implement a project-specific WHS Management Plan compliant with WHS Act 2011 and WHS Regulations, covering all phases of bridge construction and girder placement • Define and document WHS roles, responsibilities and authorities for PCBU, officers, supervisors, engineers, crane coordinators, rigging supervisors and traffic management lead • Establish formal consultation mechanisms such as WHS committees, toolbox talks and pre-lift briefings for all work groups and shifts • Implement a structured issue-resolution procedure with defined timeframes, escalation triggers and communication back to workers • Ensure Health and Safety Representatives (HSRs) are elected where applicable and trained as per legislative requirements • Include WHS performance and critical risk review as a standing item in leadership and coordination meetings • Audit compliance with the WHS Management Plan at regular intervals using internal and external auditors	3H
2. Bridge & Girder Design Risk Management	• Design not fully considering constructability, crane access, lift paths and temporary works for girder placement • Insufficient structural design for temporary bracing, propping and stability during construction stages • Lack of coordination between design of bridge, girders, precast yards and lifting points • Inadequate consideration of fall protection anchorage and edge protection in design • Failure to incorporate traffic staging and road user safety into design for girder installation over live roads or rail • Poor integration of services, utilities and overhead power line clearances in design	4A	• Apply formal Safety in Design (SiD) processes with documented designer risk assessments and risk registers for bridge and girder elements • Conduct constructability reviews with designers, lifting engineers, crane companies and principal contractor prior to final design approval • Design and certify lifting points, rigging arrangements and temporary works (props, falsework, bracing) by a suitably qualified engineer • Incorporate permanent fall protection solutions and engineered anchor points into the bridge design wherever reasonably practicable • Ensure design includes detailed traffic staging and barrier systems for girder placement over live traffic or rail corridors • Maintain a design change control procedure so that any alterations (e.g. girder size, weight, lifting configuration) are assessed for WHS impacts and re-certified • Retain and share SiD reports and residual risk information with constructors and maintenance asset owners	2M
3. Procurement of Plant, Equipment & Girders	• Selection of cranes, EWPs, lifting gear and trucks without adequate capacity or safety features for bridge girders	4A	• Implement a procurement procedure requiring WHS and engineering review of all major plant and lifting equipment against project requirements and Australian Standards	2M

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	• Procurement of precast girders without certified lifting points or traceable quality documentation • Use of non-compliant rigging hardware, lifting beams, spreader bars or chains • Inadequate verification of supplier WHS systems for precast yards and transport companies • Failure to consider redundancy and backup plant for critical girder lifts and possessions		• Specify certification requirements for girders, lifting points, lifting beams and rigging gear, including load testing and inspection records • Ensure cranes and heavy plant are selected based on independent lift studies and crane charts with adequate safety margins for radius, height and ground conditions • Prequalify key suppliers and transport contractors based on documented WHS performance, maintenance systems and compliance with RMS/VR and road authority requirements • Require supply of manufacturer data, inspection certificates and maintenance history before plant is accepted onto site • Establish a register of critical lifting equipment and ensure only tagged, inspected and approved rigging equipment is available [redacted] and girder storage areas	
4. Contractor & Worker Competency, Training and Induction	• Inadequate competency of crane operators, dogmen, riggers and lift supervisors for complex girder lifts • Supervisors lacking experience in bridge construction staging, headstock works and night possessions • Insufficient training in project-specific hazards such as working over live traffic or rail • Inconsistent induction standards between subcontractors and labour hire providers • Lack of understanding of communication protocols in multi-crane or multiple work front operations	4A	[redacted]	2M
5. Planning of Critical Lifts & Girder Handling	• Inadequate lift planning for heavy, long-span or skewed girders • Insufficient assessment of crane position, outriggers, ground bearing capacity and nearby structures • Poorly defined load paths over live road, rail, water or sensitive assets • No contingency planning for incomplete lifts, equipment failure or weather-related interruptions • Multiple concurrent lifts or interactions between cranes, EWPs and delivery trucks without coordination	4A	[redacted]	2M

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			[redacted]	
6. Traffic, Rail and Public Interface Management	• Girder placement over or adjacent to live traffic lanes, rail corridors, waterways or public access routes • Inadequate isolation between work zones and the public during night or weekend possessions • Conflicting movements of delivery trucks, cranes, concrete agitators and public vehicles • Poorly designed detours, signage or speed restrictions leading to vehicle collisions near the bridge site • Insufficient coordination with rail operators, road authorities and emergency services	4A	[redacted]	2M
7. Site Layout, Access & Girder Storage Systems	• Congested laydown areas leading to plant-pedestrian interaction and poor visibility • Inadequate design of girder storage racks and supports leading to instability or collapse • Poor access routes for cranes and heavy trucks, including steep grades tight turns and soft ground • Uncontrolled public or non-essential worker access to girder storage and crane setup areas • Inadequate lighting for night works and early morning deliveries	3H	[redacted]	2M
8. Fall Prevention, Work Platforms & Edge Protection Systems	• Workers exposed to unprotected edges on decks, headstocks and piers during girder placement • Inadequate design or installation of scaffolds, work platforms and mobile access systems • Reliance on PPE-only approaches instead of higher-order fall prevention	4A	[redacted]	2M

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	• Lack of standardised anchor points and access for riggers when connecting and grouting girders • Inconsistent inspection regime for temporary access and edge protection systems		[redacted]	
9. Lifting, Rigging & Crane Management Systems	• Crane collapse or overturning due to overload, ground failure or misconfiguration • Dropped girders, rigging components or tools from height • Uncontrolled slewing or load swing impacting structures, workers or public assets • Use of uncertified rigging gear or incorrect rigging techniques for long, flexible girders • Ineffective communication between crane operator and dogman under noisy or low-visibility conditions	4A	[redacted]	2M
10. Environmental Conditions, Fatigue & Work Scheduling	• High winds or storms affecting crane stability and girder control during lifts • Heat stress, cold stress or poor visibility impacting worker decision-making and performance • Fatigue from extended night shifts, weekend possessions and compressed construction programs • Rushed work due to delays in delivery, traffic shutdown windows or rail possession time constraints • Inadequate weather monitoring and thresholds for suspending girder lifts	3H	[redacted]	2M

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11. Services, Utilities & Structural Stability Interfaces	• Contact with overhead or underground electrical services by cranes, EWPs or girders • Unidentified or poorly mapped utilities within crane pad or girder storage areas • Partial construction stages leaving piers, headstocks or girders unstable or insufficiently braced • Inadequate coordination of utility shutdowns or isolations during girder lifts • Induced vibrations or loading from cranes affecting adjacent structures or live services	4A	[redacted]	2M
12. Health, Welfare, Psychosocial & Emergency Preparedness	• Delayed emergency response for incidents occurring on elevated structures or within traffic-controlled work zones • Insufficient first aid coverage, rescue equipment or rescue plans for falls, crush injuries or entra[illegible] • Psychosocial stre[illegible] due to night work, high-risk tasks, pr[illegible]am pres[illegible] community scrutiny • Inadequate amenities and welfare facilities for remote bridge sites [illegible] temporary work compound[illegible] • Poor management of exposure to noise, dust, silica, welding fumes and vibration during associated works	3H	[redacted]	2M
13. Incident Reporting, Investigation & Continuous Improvement	• Under-reporting of near misses related to cranes, lifting, traffic and falls from height • Repeat incidents due to poor root cause analysis and ineffective corrective actions • Lack of feedback loops from precast yard, transport phase and site	3H	[redacted]	2M

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	installation back into design and planning • Failure to notify notifiable incidents to the regulator as required under WHS Act 2011		[redacted]	
14. Documentation, Permits & Change Management	• Work proceeding without current lift plans, permits or engineering certifications being available on site • Uncontrolled changes to sequence, crane type, girder configuration or traffic staging • Outdated drawings or design documents used for girder placement and temporary works installation • Permit fatigue leading to superficial approvals and missed conflicts betwe activities	3H	[redacted]	2M

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