Cctv Pipe Inspection			
Business Name:		ABN:	
Business Address:			
Contact Person:	Phone:	Email:	

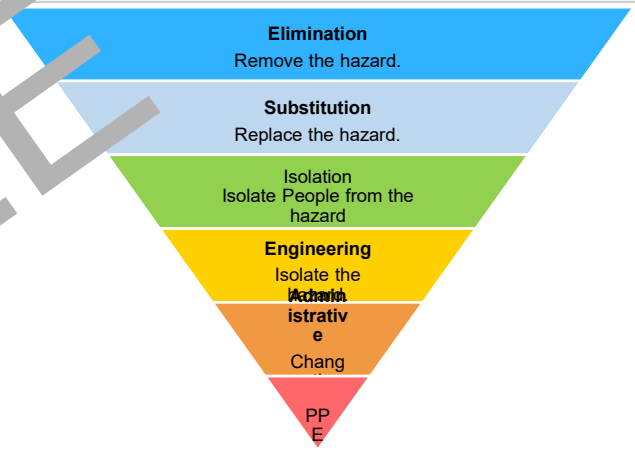
THIS RISK ASSESSMENT IS APPROVED BY THE PCBU OF THE PROJECT		
Under the Work Health and Safety Regulation (WHS Regulation), a person conducting a business or undertaking (PCBU) is required to ensure that a RISK ASSESSMENT is prepared before the proposed work starts.		
Full Name:		
Signature:	Title:	Date:

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. Governance, WHS Duties and Legal Compliance	• Inadequate understanding of PCBU primary duty of care under WHS Act 2011 regarding CCTV pipe inspection activities and associated mobile plant and electrical equipment • Absence of a documented WHS management system specific to CCTV pipe inspection operations (including consultation, planning, monitoring and review) • Poor delineation of WHS roles, responsibilities and accountabilities between client, principal contractor, subcontractors and workers • Failure to consider and manage overlapping duties where multiple PCBUs share or influence the same workplace or assets (e.g. utilities, councils, principal contractors) • Lack of documented due diligence processes for officers (e.g. directors, senior managers) in relation to CCTV pipe inspection risks • Insufficient integration of WHS risk controls into commercial contracts, tenders and service agreements • Inadequate consultation with workers, health and safety representatives (HSRs) and contractors about system-level risks and proposed controls • Failure to systematically identify and comply with relevant WHS Regulations, Codes of Practice and Australian Standards relevant to confined spaces, plant, hazardous atmospheres, traffic, electrical safety and excavation	High	• Establish and implement a formal WHS management system aligned to WHS Act 2011, WHS Regulations and relevant Codes of Practice, specifically referencing CCTV pipe inspection activities • Define and document WHS responsibilities, authorities and reporting lines for officers, managers, project supervisors, HSRs and workers involved in CCTV pipe inspection projects • Implement a due diligence framework for officers (regular WHS performance reporting, risk registers, audit schedule, incident and reviews, resourcing decisions) with explicit coverage of CCTV inspection operations • Develop a legal and standards register identifying all relevant WHS legislation, Codes of Practice and Australian Standards related to CCTV pipe inspection (e.g. confined spaces, plant, electrical equipment, excavation, traffic management) and schedule periodic review • Embed WHS requirements, including risk management expectations and consultation obligations, within contractor tenders and service level agreements for CCTV pipe inspection services • Implement a formal overlapping duties procedure to coordinate WHS arrangements with other PCBUs (e.g. utility owners, councils, principal contractors), including written interface agreements and site-specific WHS coordination plans • Establish a WHS consultation procedure requiring regular toolbox talks, pre-start meetings and HSR involvement focusing on systemic issues and trends from CCTV pipe inspection work • Require project WHS risk registers and management plans for CCTV inspection programs, reviewed and approved by a competent WHS advisor or manager prior to mobilisation • Schedule regular internal and external WHS audits that specifically examine governance, legal compliance and application of risk controls for CCTV pipe inspection systems	Medium
2. Risk Management Framework and Planning	• Inconsistent or absent formal risk assessment processes tailored to CCTV pipe inspection operations and environments (urban streets, industrial plants, sewers, stormwater, easements) • Reliance on generic SWMS or JSA documents that do not address system-	High	• Implement a formal risk management procedure consistent with WHS Regulations, requiring systematic identification, assessment, control and review of risks specifically for CCTV pipe inspection activities • Develop standardised, high-level WHS risk assessments and templates for CCTV pipe inspection projects that can be adapted to various environments (road corridors, easements, confined networks, treatment plants)	Medium

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	level hazards such as traffic interface, contaminated environments, and remote work • Inadequate pre-project planning for access, egress, emergency response, utilities, public interface and site constraints • Poor change management when scope, location, technology or work methods change (e.g. different crawler units, new control software, different host vehicle) • Failure to integrate design and engineering considerations (e.g. selection of intrinsically safe equipment, cable management systems) into planning stages • No structured method for prioritising and treating high-consequence risks (e.g. vehicle impacts, toxic gases, electrical faults, data loss on critical infrastructure) • Insufficient consideration of environmental conditi…ing risk, weather, high flows …ours, biohazards) at the planning sta…		• Mandate project-specific WHS planning documents (e.g. Project WHS Plan, Safe Work Methodology, Emergency Response Plan) before commencement, with sign-off by a competent supervisor or WHS advisor • Integrate design and engineering risk controls i… planning (e.g. selection of low-voltage or extra-low-voltage systems, intrinsically safe compone… where needed, cable management frames, ergonomic control stations) • Define and apply a risk rating matrix and risk …ance criteria for CCTV pipe inspection operations, ensuring high and extreme risks trigger escalati… additional c…ols or redesign of work methods • Establish a documented mar…ement of change (…C) …cess for modifications to equipment, vehicles, procedures or work en…nments, including …S review and re-assessment of risks • Include enviro…ental an… service …thority inf…nation (e.g. drainage catchments, sewer overflow points, flood …ps, utility pl…s) in pla…ing t… manage flooding and contamination risks • Req… pre-s… proje… planning mee…gs covering site access, public interface, utilities, traffic expos… emerg… access and communication systems, with documented outcomes • Revie… ri… assess…ents at defined intervals and following incidents, near misses or significant environ…ent… change… with updates communicated to all affected workers	
3. Procurement and Specification of CCTV Systems and Vehicles	• Purchase of CCTV pipe inspection equipment and vehicles that do not comply with Australian WHS, el…ical and plant safety requirements • Inadequate consideration of IP rating, voltage, ingress protection, explosion protection and corrosion resistance for wet and potentially explosive or corrosive environments • Selection of control systems, software and data storage solutions without appropriate cybersecurity, data integrity, redundancy or backup provisions • Ergonomically poor control stations and vehicle fit-outs leading to musculoskeletal disorders and fatigue	High	• Develop procurement specifications for CCTV pipe inspection systems and vehicles that explicitly incorporate WHS, plant safety, electrical safety and human factors requirements • Require suppliers to demonstrate compliance with relevant Australian Standards and WHS Regulations, including evidence of testing, certification, and safe use instructions for CCTV cameras, crawlers, cables and power supplies • Specify appropriate ingress protection (IP) ratings, corrosion resistance and, where applicable, explosion protection or intrinsically safe design for equipment used in sewers or potentially hazardous atmospheres • Include ergonomic design criteria in vehicle and control station procurement (adjustable seating, appropriate monitor positioning, lighting, temperature control) to minimise strain and fatigue for operators • Mandate integrated cable management systems (reels, guides, strain relief devices, protective covers) to reduce trip hazards and mechanical stress on cables • Assess and specify low-voltage or extra-low-voltage systems, residual current devices (RCDs) and isolation features for all electrical components powering CCTV equipment • Incorporate requirements for robust data logging, backup, encryption and secure transfer of CCTV footage to protect data integrity and client confidentiality	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
	• Lack of integrated cable and hose management systems causing trip hazards, manual handling strain and damage to equipment • Procurement driven solely by cost rather than a risk-based evaluation of safety performance, reliability and maintainability • Failure to ensure compatibility between new CCTV systems and existing vehicles, power supplies and data platforms		• Undertake a formal pre-purchase WHS risk assessment for new CCTV systems and vehicles, involving operators, maintenance personnel and WHS advisors in selection decisions • Include supplier support, training, documentation and spare parts availability as key evaluation criteria during procurement	
4. System Design, Integration and Engineering Controls	• Poor integration between cameras, crawlers, cables, power supplies, control consoles and vehicles leading to malfunction, electrical faults or unsafe operating conditions • Inadequate segregation of high-voltage components and user-accessible areas, increasing risk of electric shock or fire • Uncontrolled cable routing through vehicle and work area creating pinch points, trip hazards and potential entanglement with pla… t…ic • Insufficient physi… guarding of moving components (reels, winches, …) leading to entangle… crush inj…es • Lack of engineered failsafe feature… (e.g. emergency stop devices, ov… current protection, automa… shutdown on fault) in the CCTV system • Limited consideration of ventilation and temperature control within vehicles and control enclosures, causing overheating of equipment and discomfort for operators • Inadequate integration of lighting, cameras and navigation aids for work in low-visibility or submerged environments, increasing the likelihood of equipment damage or misjudged movements	High	[redacted]	Medium

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5. Training, Competency and Supervision	• Operators and supervisors using CCTV pipe inspection systems without adequate training in equipment capabilities, limitations and emergency procedures • Lack of competency in interpreting pipe conditions, recognising structural instability or service defects that may affect worker and public safety • Inadequate understanding of system-specific hazards such as electrical risks, cable tensions, potential for equipment entrapment and contaminated environments • Insufficient training in WHS risk management, including recognising early warning signs of confined space-like conditions or hazardous atmospheres near access points • Supervisors not competent to verify correct use of systems, review footage quality, or ensure adherence to safe systems of work • No formal process to [redacted] competency following introduction of new equipment, software or work methods	High	[redacted]	Medium
6. Operational Procedures and Safe Systems of Work	• Absence of standard operating procedures (SOPs) for the setup, use, relocation and pack-down of CCTV pipe inspection systems and associated vehicles • Inadequate documented guidance on managing work near live traffic, pedestrians, open pits and service covers in public spaces • Unclear instructions regarding safe operating limits for crawler range, cable tension, water depth and flow conditions • Procedures that do not address coordination with other work activities, increasing potential for interaction with excavation, jetting or maintenance crews	High	[redacted]	Medium

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	• Failure to include pre-use functional checks, isolation processes and verification of emergency stop systems within procedural documents • SOPs not updated to reflect equipment upgrades, software changes or new regulatory requirements		[redacted]	
7. Asset, Plant and Equipment Maintenance Management	• Failure or malfunction of CCTV equipment (cameras, crawlers, cables, reels, power supplies) due to inadequate scheduled maintenance • Use of damaged or untested electrical components and cables, increasing risk of electric shock, arcing or fire • Degraded mechanical systems (bearings, motors, drive systems) increasing likelihood of in-pipe failures, entrapment and manual recovery effo • Lack of formal inspection regimes for vehicles, lifting points, cable reel frames and support structures • Software faults, f ware issues or data corruption du to lack of patch management kups • Use of non-genuine parts or unapproved modifications comp ising equipment safety features certifications	igh	[redacted]	Medium
8. Traffic, Site Access and Public Interface Management	• CCTV inspection vehicles and equipment positioned in live traffic environments without adequate traffic management planning and controls • Uncontrolled interaction between workers, open access covers, cables and members of the public in streets, footpaths or easements	High	[redacted]	Medium

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	• Restricted access for emergency services due to poor vehicle placement or cable routing • Work in remote or difficult-to-access locations (easements, creek lines, back-of-lot connections) with no structured approach to personal safety, communication and rescue • Inadequate consideration of site security leading to unauthorised access to vehicles, control stations, data storage devices or open utilities		[redacted]	
9. Psychosocial, Fatigue and Work Scheduling Management	• Extended periods of highly visual, repetitive work at control screens leading to eye strain, fatigue and reduced attention • Long shifts, night work or irregular rosters for CCTV crews contributing to fatigue-related decision-making errors and reduced hazard per[redacted] • Working alone or [redacted]small teams in isolated environm[redacted]s, contributi[redacted]to stress, anxiety and [redacted] vulnerability to aggress[redacted]from the public • High workload and prod[redacted]ressure to complete inspection programs quickly, potentially leading to risk-taking and non-compliance with procedures • Insufficient organisational recognition of psychosocial hazards, resulting in limited reporting and support mechanisms for affected workers	Medium	[redacted]	Low
10. Information Management, Data Security and Reporting	• Loss, corruption or unauthorised access to CCTV inspection data, including footage of critical infrastructure and private properties • Inadequate version control and traceability of reports, leading to errors	Medium	[redacted]	Low

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	in asset condition assessment and subsequent work planning • Failure to report and analyse incidents, near misses and equipment failures related to CCTV pipe inspection operations • Limited integration of field learnings into continuous improvement of systems, procedures and training • Poor communication of inspection findings related to imminent safety risks (e.g. collapse risk, major obstruction) to asset owners and other PCBUs		[redacted]	
11. Emergency Preparedness and Incident Management	• Lack of coordinated emergency response planning for CCTV pipe inspection operations involving vehicle incidents, electrical faults, flooding, ga exposure or public interaction • No clear process for recovery of entrapped or failed CC equipment without exposing w kers to additional risks • Inadequate first ai ces, spil ts and decontamination measures for w k in contaminated or sewerage syste s • Poor incident notificatio escalation pathways, leading to delays in emergency assistance or regulatory reporting • Absence of post-incident review processes that examine system and management failures, not just operator behaviour	High	[redacted]	Medium

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