Safety, Quality & Environment (SQE) contract requirements

Project name: <ID – Name>

SQE Contract Requirements (Project specific version) revision status

Rev	Date	Changes by	Change Management
1	20/02/2018	M.Grove K.Dubberley	Update Occupational Health and Safety Regulations 2017
2	04/11/2019	Aurecon/ David McKinnis / Giles Flower	Update to environmental sections, as per consultation with Aurecon
3	08/07/2020	Roman Paraska	Appendix 7 – COVID-19 included.
4	27/08/2020	Kelly Dubberley	Pressure Testing Added
5	12/11/20	Roman Paraska	Update Protection of Services.
6	16/12/2020	Rachael Raby	Update Excavations & Trenching to including Ground Penetrating Permit detail
7	18/12/2020	Paul O'Reilly	Update Protection of Services
8	10/08/2021	Rachael Raby	Update Sections 2.1 and 3.11.22
9	7/10/2021	Roman Paraska	Update Appendix 7 - COVID vaccination expectations. Update SQE Expectations - Public Health - vaccination expectations.
10	23/05/2022	Karina Pierotti	Update 5.3 Roles and Responsibilities - notifying authorities.
11	20/09/2023	HSW / SQE	Updating to align to IMS - integrating SQE components, updating information.
12	7/12/2023	HSW / Enviro - A. Donaldson, K. Pierotti and G. Flower	Update of former chapter 5 (Environmental requirements – Context, Purpose, Roles & Responsibilities, Enviro Management, Enviro Performance requirements)
13	14/5/2024	HSW	Incident information
14	June 2024	HSW	Links and other activities (HP water jetting, lead) Signage wording

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Appendices

1 Overview

1.1 PURPOSE

Barwon Water's core values include the health, safety and wellbeing of employees, contractors and visitors, delivering high quality products and services and understanding and controlling the direct and indirect impact on the environment, including air, land, water, heritage and biodiversity.

Barwon Water expects the same commitment from its contractors and requires its contractors to adopt, implement and enforce practices necessary for protecting the health and safety of people, effectively managing environmental risks and impacts and providing a high-quality service bound by the contract work scope.

This document details Barwon Water's safety, quality and environmental contract requirements (SQECR) that must be met by the contractor.

This document is to be read in conjunction with other guidance and specifications provided by Barwon Water.

1.2 SCOPE

This document is applicable to all contract work scopes and contractor personnel performing work for Barwon Water.

It is referred to as 'the SQECR'.

2 SQE requirements

2.1 SQE POLICY AND LEADERSHIP

Barwon Water is committed to delivering excellence in safety, quality and environmental (SQE) performance. This commitment encompasses all employees, contractors and members of the public who visit Barwon Water facilities. This is supported by our certified SQE management system that includes policies, procedures and other guidance information.

The contractor shall demonstrate commitment to:

- SQE – their own and Barwon Water's processes
- Determining hazards and appropriate controls
- Providing information to Barwon Water as requested.

Barwon Water promotes the following guiding principles:

Start safe: stop and think
Be safe: assess the risk and follow your plan
Home safe: work together to go home safe.

2.2 SQE EXPECTATIONS

All contractors must comply with applicable OHS, environmental, other legislation and guidance as relevant to their tasks and services and be able to demonstrate how they comply with legal and other requirements as a minimum:

- Contractor and their personnel shall understand how they will meet their General Environmental Duty (GED).
- Contractor and their personnel shall understand that they have the right to stop work when they consider it unsafe to continue. All employees, contractors and subcontractors have the right to refuse to do unsafe work.
- Note: If stage or component of works must be completed continually and cannot be stopped safely these works must continue until the area can be made safe.
- If the contractor believes that the work cannot be completed safely or that continuing work may result in hazardous situation, immediately cease the works and notify the Barwon Water contact.

Contractors must note that the following will be subject to scrutiny and may result in suspension of work or termination of contract:

- Causing, permitting or tolerating an unsafe / unhealthy workplace
- Causing, permitting or tolerating unsound environmental condition

- Causing, permitting or tolerating poor quality work or methods where the end product is inferior to what was specified.

2.3 LIFE SAVING RULES

Barwon Water has established a set of Life Saving Rules to support and strengthen the management system and drive good behaviours and practices.

The Life Saving Rules are included in the high-risk induction and the contractor must comply with all Life Saving Rule requirements where applicable.

3 Resourcing

Resourcing includes:

- Roles and responsibilities
- Supervision
- Training / competency
- Induction.

3.1 ROLES & RESPONSIBILITIES

Barwon Water's Contractor Safety Management Framework (CSMF) details the responsibilities in using the term **RACI**: **R**esponsible, **A**ccountable, **C**onsulted and **I**nformed.

For the purpose of this SQECR document, the following applies:

Role	Responsibility
Barwon Water	Safety components: Outline scope of work that enables the Contractor to realise potential safety risks Outline HSW expectations Provide support within reason to the work and role in the delivery of the work. Quality components: Develop the detailed scope of work and provide all supporting specifications, drawings, information to set up the Contractor to meet the contract expectations. Environmental components: • Conduct planning and due diligence activities (e.g. cultural heritage, contaminated land, and ecology) • Obtain applicable statutory approvals, as required, generally including Planning Scheme Amendments, Cultural Heritage Management Plans, Planning Permits (other than approvals to be obtained by the Contractor) • Communicate any specific planning approvals, permitting or general site requirements to the Contractor • Review all Environmental Plans developed by the Contractor, and conduct site inspections to check compliance • Notify the appropriate authority following a notification of an environmental incident by the Contractor.
Contractor	Where applicable, the Safety, Quality and Environmental responsibilities include: • Comply with all legislative and approvals requirements • Obtain any additional permits, consents or approvals from regulatory authorities (other than approvals already obtained by Barwon Water) • Demonstrate understanding against the SQE requirements set out in this document by developing and submitting Project Plans and other relevant documentation that addresses safety, quality and environmental risks and controls on the project

	• Develop an organisation structure to ensure adequate responsibility for, attention to and resourcing of safety, quality and environmental controls as part of the contracted works • Ensure all site workers, contractors and sub-contractors are aware of the Project Management Plan or other documentation as applicable and how it applies to their individual work activities, including the hazards, risks and controls in place • Implementation and maintenance of control measures to manage risks identified • Undertake relevant occupational and environmental monitoring and reporting in accordance with the required scope of works to be undertaken and the requirements of this document as applicable • Report and record any hazards, incidents or non-compliance/ non-conformance to Barwon Water, for action and notification of the appropriate authority. Environmental incidents may include, but not be limited to death or injury to protected native wildlife, sedimentation or contamination of waterways, or unapproved removal of native vegetation. • Provide Barwon Water with industrial waste data via their Waste Collection and Reporting Tool. • Adequately and promptly address corrective actions and non-compliance to the satisfaction of Barwon Water during construction works (where applicable) • Not take any action(s) that will put Barwon Water or the Principal in breach of its obligations under legislative requirements.

3.2 CONTRACTOR SUPERVISION & SQE REPRESENTATIVE

Any high-risk (safety) activity (based on the CSMF) must be appropriately supervised at all times. This person must be supervising and not themselves performing the work. Other work must be adequately supervised.

The Contractor shall also ensure that competent and / or appropriately qualified person(s) is nominated to manage the project in accordance with the SQE elements outlined in this document. This person(s) must:

- Develop, review and endorse documents and records
- Provide advice and support.
- Be available to participate in planning and risk management activities with Barwon Water as required.

It is the responsibility of the contractor to ensure that all employees and sub-contractors undertaking works for the Project are aware of their compliance obligations and have the necessary competence to fulfil these requirements.

The Contractor must be able to demonstrate to Barwon Water in the Project Management Plan (where applicable) that they have appropriate awareness and training systems to meet this requirement. The contractor may implement the following:

- site induction – outlining site SQE requirements
- toolbox / pre-start meetings
- activity specific training.

3.3 TRAINING AND COMPETENCY

Personnel must be trained, competent and licenced (as applicable) in the task they are assigned to perform.

Records of training may be requested for review as part of inspections, audits and in the event of an incident.

Training includes:

3.3.1 Construction industry general OHS induction

Any person performing work on a project site shall have Construction induction training (white card). Persons not holding a current General OHS Induction shall only be permitted on the Project as a 'Visitor'. As a visitor they will be limited to observation of task and must be escorted at all times by a person holding a white card.

Information: https://www.worksafe.vic.gov.au/construction-induction-training-white-card.

3.3.2 Accredited training

The contractor must provide employees with sufficient information, training, instruction and supervision to perform their work safely. Due to the nature of risk, accredited training is required for the following; confined space, working at height and excavation and trenching.

3.3.3 High risk work training

Contractors performing any of the 29 classes of high risk work will be training and hold the appropriate licence: https://www.worksafe.vic.gov.au/high-risk-work-licence.

3.3.4 Competency based training

The Contractor must be able to demonstrate successful completion of relevant operator skills training.

3.4 INDUCTIONS

3.4.1 Barwon Water high risk induction

All contractor (and sub-contractor) personnel working on Barwon Water project sites must be registered into Rapid Global and complete the High Risk Induction.

3.4.2 Site specific induction

Site specific induction must be developed by the Contractor. All personnel working at the project site are required to be inducted and records maintained.

The site-specific induction will include the following key elements where applicable:

1. Project overview
2. Incident / injury reporting and management process (including first aid support)
3. Issue resolution process
4. Communication and consultation arrangements
5. Minimum PPE requirements
6. Rules around alcohol, drugs and smoking
7. SQE risk management process (WRA, AMS, SWMS, ITP and Start Card)
8. Key workplace hazards/risks and control requirements
9. Site safety rules
10. Emergency management
11. Site Environmental Plan (SEP) requirements (where applicable).

4 Communication and consultation

Communication methods with Barwon Water will be established, along with the frequency and form of communication. Communication could be with the project management, safety team, Barwon Water Management and Barwon Water operational personnel.

Contractors will also establish their own communication and consultation method that should be made known to Barwon Water so that details or records can be verified / reviewed.

For field-based projects, Barwon Water does expect some form of daily prestart meeting with the workers (and any Barwon Water visitors) that includes:

- overview of the work to be performed during the shift
- review of the Safe Work Method Statement for the task
- review of any permit restrictions/requirements
- highlight any new hazards
- health and safety issues from the previous day
- interfaces with other work or between work crews
- work restrictions – time or place
- emergency planning or provisions.

The expectation is that information will be documented for viewing as part of audits or in the event of an incident.

Barwon Waters also expects some form of toolbox meeting be held for field-based projects. The frequency will be determined and records kept on file for viewing.

The aim of the toolbox meeting is for the project management team to consult with employees and sub-contractors' on hazard identification, risk mitigation strategies, any changes that may affect the health or safety of employees, site safety issues ,safety alerts safety awareness topics and, where required, provide a forum for issues to be communicated and discussed.

5 Risk Management Documentation

Prior to commencing work, Contractors shall demonstrate to the satisfaction of Barwon Water that the Contractor has performed appropriate SQE hazard and risk assessment of the work to be performed.

Contractors must:

- Ensure the assessment(s) evaluates all risks specific to the workplace and nature of the work
- Maintain documentation about the hazards and controls
- Review and keep documentation up to date.

5.1 SQE RISK MANAGEMENT DOCUMENTATION

The level of documentation required is reflected by the nature of the work to be conducted. The following table is to be used for determining minimum documentation to be developed.

	Contract & work type				
SQE Risk Management Documentation	**Consultants and Contract workers**	**Deliveries (drivers normally spend less than 1 hour on site)**	**Chemical deliveries**	**Minor works – including non-contract work and Maintenance Services Panel**	**Major works – contract work**
Project Management Plans SMP - Safety Management Plan, QMP - Quality Management Plan, EMP - Environmental Management Plan					✓
HSCP – Health & Safety Coordination Plan					**✓ (where applicable)**

	Contract & work type				
SQE Risk Management Documentation	**Consultants and Contract workers**	**Deliveries (drivers normally spend less than 1 hour on site)**	**Chemical deliveries**	**Minor works – including non-contract work and Maintenance Services Panel**	**Major works – contract work**
WRA – Workplace Risk Assessment				✓ **(where applicable)**	✓
AMS – Activity Method Statement				✓ **(where applicable)**	✓
SWMS – Safe Work Method Statement			✓ **(where applicable)**	✓ **(where applicable)**	✓
Start Cards (or equivalent)	✓ **(?)**		✓	✓	✓
ITPs – Inspection & Test Plan				✓ **(where applicable)**	✓
CEMP – Construction Environmental Management Plan				✓ **(where applicable)**	✓**(where applicable)**
SEP – Site Environmental Plan				✓ **(where applicable)**	✓

5.1.1 Project Management plans

When required the Contractor must prepare and submit SQE Management Plans, either as individual documents or as part of a consolidated Project Management Plan:

- Safety Management Plan (SMP)
- Quality Management Plan (QMP)
- Environmental Management Plan (EMP). **NOTE:** some projects will require a standalone EMP where it needs to be submitted for approval by Council and, in some cases, DEECA, Parks Victoria and/or DCCEEW.

The Management Plan(s) must be project specific and demonstrate how the Contractor manages safety, quality and environment with respect to their management system processes and specific to the hazards relevant to the project.

The aim of the management plan is to overview systems and management controls to be implemented on the project to provide an oversight of the safety culture, environmental and quality values. A good guide is to follow the ISO Management System standards and cover:

- Commitment and policy
- Planning (objectives / targets, identifying hazards – controlling risk)
- Implementation (capabilities and support mechanisms)
- Measurement and evaluation (how to determine effectiveness of risk management)
- Review and improve (always looking at how SQE performance can be improved).

The Plan(s) must submitted to the Contract Administrator as soon as reasonably practicable following Contract award (but no later than 10 business days prior to proposed site mobilisation) to allow for review, comments and re-submission where required.

Copies of Contractor SQE Management Plans must be retained on the Contractor's file on site, to be used as the basis for audits and reviews carried out by Barwon Water or the Contract Administrator.

5.1.1.1 Safety management plan (SMP)

Will outline the processes for managing safety risks applicable to the project, the controls in place, including resourcing, monitoring and review. It will also outline the training, competency, communication methods, emergency response and what types of safety records will be produced.

The SMP is to be updated as required.

5.1.1.2 Environmental management plan (EMP)

The EMP component must outline measures for managing environmental risk applicable to the project and evaluating environmental.

Details are not limited to:

- daily site environmental checks
- weekly contractor site environmental inspections
- Barwon Water site inspection(s)
- air quality monitoring
- surface water monitoring
- noise/ vibration monitoring
- complaints register.

The EMP is a "live" document and Barwon Water expects the EMP will be regularly reviewed and updated (where required) at least every 3-months, or in the event of the following:

- significant change in construction scope of works or site activities
- changes in roles/ responsibility of key personnel

- environmental incident or non-conformance.

5.1.1.3 Project Quality Plan

The Quality Management Plan (QMP) component will include the following details (as appropriate).

- Design, document and record management - outline drawing and document control, RFI process, filing and archiving
- Work Breakdown Structure (WBS) - a diagram or table showing the proposed breakdown of the construction and delivery of the project's major components. This section should also include:
    - Listing of Activity Method Statements (AMS) to be prepared
    - Lot management structure and Inspection and Test Plans list
    - Quality Policy - either a copy of the policy or a statement of the company management's commitment to quality
- Audits, Inspections and Reviews - A schedule of proposed internal audits for the project to be provided
- Management of non-conforming products/ processes
- Defects Management (Punch Listing)
- Procedures and forms – a list of the Contractor's procedures and forms which will be used on the project.
- Temporary Works Design Verification
- Calibration Management – Provide details on how the calibration of specific testing equipment will be managed.
- Competency and training management – Provide details on how the competencies and training of staff are tracked and managed.
- Commissioning and handover - provide a summary of the deliverables required for Completion.

5.1.2 Health & Safety Coordination Plan (HSCP)

A Health & Safety Coordination Plan (HSCP) applies to the Principal Contractor of a construction project when the value is $350,000 or more.

HSCP must include as a minimum:

- a list of names, positions and responsibilities of all persons who have responsibilities for safety
- the arrangements for the coordination of the health and safety of persons engaged to perform construction work
- the arrangements for managing safety incidents
- any site safety rules.

The Contractor will document and keep it up to date and communicated to the entire workforce engaged on the project.

5.1.3 Workplace Risk Assessment (WRA)

A Workplace Risk Assessment (WRA) shall be developed collaboratively by the Contractor's Workplace Manager, SQE representative(s) and subject matter experts prior to:

- the commencement of any work
- site mobilisation
- commissioning of plant and equipment.

The WRA shall provide a full overview of the high (strategic) level hazards, their risks and ranking, and the control measures that will be taken to eliminate or reduce the likelihood of harm to persons (including the public), property or the environment from the works undertaken at the project site.

The WRA shall be provided to the Contract Administrator (Superintendent) for review and comment at least 10 business days before works commence on site.

5.1.4 Activity Method Statement (AMS)

Activity Method Statements (AMS) shall be developed by the Contractor for each broad project activity as identified through the WRA process.

The AMS shall consist of, as a minimum:

- detailed description of the nature/scope of the activity
- activity methodology
- identification of hazards associated with the activity
- identification of appropriate physical & administrative controls
- plant, equipment & materials to be used
- engineering drawings and calculations
- permits / approvals required
- tasks requiring a SWMS or other form of assessment
- list of relevant Inspection and Test Plans (ITPs)
- site Environmental Plans
- verified attachments which are also listed and checked (i.e. ITP's, Forms, Plans, Permits, Approvals, SWMS).

AMSs must be submitted to the Contract Administrator no later than 10 business days prior to commencement of related works to allow for review, comments and re-submission where required.

5.1.5 Safe Work Method Statements (SWMS)

The Contractor shall ensure any task identified in the AMS and any other work deemed to be high risk (as detailed in section 5.1.3 of the *Occupational Health and Safety Regulations 2017*) shall have a site and task specific Safe Work Method Statement (SWMS) developed.

SWMS shall be developed and maintained in accordance with Worksafe requirements: https://www.worksafe.vic.gov.au/safe-work-method-statements-swms.

Note: Risk assessments developed for tasks not including high risk work activities may be referred to as SWMS or JSA or JSEA as part of a contractor's management system.

5.1.6 Start cards or similar

A Start Card, or take 5 or other similar process is an individual's task assessment. It is used to raise situational awareness and empower workers to determine whether it is safe to start a task.

The Contractor shall ensure Start Cards (or equivalent) are completed as a minimum:

- daily
- prior to each new task
- where there are changes to the work environment.

Start card forms/ booklets can be provided by Barwon Water if the Contractor does not have an equivalent process in place.

5.1.7 Inspections and test plans (ITPs) /checklists

The Contractor will develop Inspection and Test Plans (ITPs) / checklists for each type of work activity to be carried out. ITPs are to cover all the steps of a work element (as identified in the work breakdown structure (WBS) of the project) that have an impact on the overall quality of the project. ITP's shall identify:

- specification requirements
- hold and witness points as listed in Appendix 3 or under the Contractual Agreement
- key safety and environmental items.

Inspection and test plans are to be submitted to the Contract Administrator for review prior to mobilisation and/ or commencement of each main activity.
ITPs shall provide the following details as a minimum:

- **activity description** and lot reference(s)
- **work steps** – suggested break up the tasks into preliminary/setup items, actual works/ construction items and closeout items
- **hold and witness points** in Appendix 3. A clear distinction must be made between Barwon Water hold and witness points and the Contractor's own hold and witness points, with space provided for both to sign
- **specification/ reference details** – referring to specific clauses or drawing Nos.
- **acceptance criteria** – including the specific target values or criteria which must be achieved
- test/inspection methods and frequency
- **responsibilities for signoff** – clearly indicate the responsibility level required for the Contractor's own ITP items. Specific role responsibilities for Barwon Water hold and witness point signoff are not required.
- **reference to supporting checklists and records.** Use of checklists as records is

strongly encouraged for repetitive work items such as pipe installation, welding or flange/ valve installation. Sample checklists for these items are available on request.

Pipe lay documentation
The contractor shall ensure that individual pipe batch and number information is capture in a daily lay sheet. Information required includes:

- date
- chainage
- pipe material, size, joint.

ITPs must be submitted to the Contract Administrator no later than 5 business days prior to commencement of related works to allow for review, comments and re-submission where required.

5.1.8 Construction Environmental Management Plan (CEMP)

A Construction Environmental Management Plan (CEMP) must be provided to Barwon Water prior to works commencing that is project specific and includes:

1. Description of the Project
2. Description of EMP context and Project environmental objectives
3. Environmental Policy (the Contractor's)
4. Contractor's environmental management structure & responsibility (including onsite management and relevant contract details)
5. Environmental training
6. Identification of all site-specific environmental risks (Table Format) with an accompanying risk assessment
7. Environmental mitigation measures to meet the objectives outlined in the EMP
8. Processes to address each Project EPR to the satisfaction of Barwon Water
9. Contractor environmental management procedures/ processes for any specific activities
10. Performance evaluation (i.e. monitoring and auditing) and non-conformance processes

Planning approvals may require CEMP to be endorsed by Council or other regulators prior to commencement of work. Where this is required, it is the responsibility of the contractor to meet regulatory standards and do so in a timely manner to avoid project delays.

5.1.9 Site Environmental Plan (SEP)

A detailed Site Environmental Plan (SEP) must be provided to Barwon Water prior to commencement of work. The SEP shall include an annotated aerial photograph of the work site, with a table of mitigation measures. The SEP must be displayed on site and shall identify the location of and briefly describe the key controls associated with the project, which may include:

1. Approved works activity boundary, including laydown areas (where any works are planned outside of approved boundary, the Contractor must seek permission from Barwon Water prior to works occurring);
2. Site access points;

3. Any sensitive environmental receptors in vicinity of site (e.g. waterways, native vegetation, wetlands, heritage values and residential/ community areas);
4. Site amenities, sewerage facilities, dangerous goods storage and waste areas;
5. Spoil or soil stockpiles
6. Concrete wash out areas
7. Refuelling or servicing of plant areas
8. All sediment and erosion controls
9. Any defined "No Go Zones" (e.g. cultural heritage sites, native vegetation to be protected)
10. Any areas of noxious weeds within the project areas
11. Spill kits.

5.1.10 Hazard reporting

Hazards identified through the course of works and general site observations by Contractor personnel should be recorded and reported.

CMO for Barwon Water or where the Contractor has equivalent processes they are encouraged to use their own.

6 Safety & environmental management requirements

This section outlines key safety information that must be addressed where applicable to the works being conducted in the **safety and environmental components of the PMP**.

6.1 ALCOHOL AND OTHER DRUGS

The contractor with management and control of the workplace must have documented measures in place to manage drug and alcohol issues, including measures that help to ensure that no person undertaking work at the workplace does so under the influence of alcohol or other drugs, and where a person is found to be under the influence of alcohol or other drugs the measures to be taken to manage the issue.

Possession or consumption of alcohol or a drug of addiction is prohibited.

Be aware that Barwon Water has the following types of alcohol and drug testing:

- for cause testing – shall be undertaken where suspicion exists that the person may be under the influence of alcohol and/or drugs
- random testing shall be undertaken at any time and can include the entire project site including site crews, management and any other inducted person present at the time
- post incident testing – any person involved in any incident may be required to undergo D&A testing at the discretion of the incident investigation team leader once the scene has been made safe.

6.2 SMOKING

Smoking shall only be permitted in designated smoking areas.

The Contractor will outline how smoking (including vaping) and its impacts to others will managed at the project site (e.g. no smoking in buildings, vehicles, waste disposal, etc).

6.3 WORKPLACE AMENITIES

Contractors are to provide adequate and hygienic amenities for onsite workers including subcontractors.

The Worksafe Victoria Compliance Code – Workplace facilities and the working environment (https://content-v2.api.worksafe.vic.gov.au/sites/default/files/2023-12/Compliance-code-Workplace-facilities-working-environment-2023-12.pdf) outlines requirements for:

- toilets
- fresh drinking water

- hand washing facilities
- work environment
- emergency planning
- First aid – refer to: Worksafe's Compliance Code – First aid in the workplace (https://www.worksafe.vic.gov.au/resources/compliance-code-first-aid-workplace).

For construction projects, the Compliance Code: Facilities in construction applies (https://content-v2.api.worksafe.vic.gov.au/sites/default/files/2020-02/ISBN-Compliance-code-facilities-in-construction-2018-03.pdf).

The Contractor is expected to comply with the Codes, and these will be referred to by Barwon Water during audits and inspections.

6.4 FATIGUE MANAGEMENT AND FITNESS FOR WORK

All persons are required to present fit for work.

The Contractor shall have a process in place to assess and manage circumstances where a person presents or is deemed unfit for work and to manage fatigue.

The following Worksafe guide should be referred to when assessing fatigue risks: https://content-v2.api.worksafe.vic.gov.au/sites/default/files/2020-10/ISBN-Work-related-fatigue-guide-for-employers-2020-08.pdf and https://content-v2.api.worksafe.vic.gov.au/sites/default/files/2019-02/Fatigue%20-%20Risk%20Assessment%20.pdf.

Standard requirements to manage fatigue shall include:

- standard working day - 14-hours including travel to/from office/site
- maximum 7 consecutive working days
- minimum 10 hour break between shifts.

In exceptional circumstances a person may work beyond 14-hours provided written authorisation is given by the Contractor's Senior Management Representative and the works are carried out under a Fatigue Management Plan.

Where fatigue has been identified through the Workplace Risk Assessment, works are beyond 14 hours or presents as a risk during the project, a fatigue management plan shall be implemented to control the risks.

6.5 LONE WORKERS

The Contractor shall as far as reasonably practicable ensure that employees do not work alone in isolated areas.

Where practicality requires an employee to work alone, the Contractor's supervisor shall provide means of communication and establish a means of contacting the employee regularly to ensure their well-being.

Under no circumstances shall an employee undertake high risk works whilst working alone.

6.6 PERMIT TO WORK

The Contractor shall have the appropriate permit to work procedures and forms in place to manage hazardous activities.

Where part of the work, the Contractor shall have permits to work covering the following activities:

- hot works
- confined space entry
- excavation and trenching
- isolation – Lock out/tag out.

Permits must be completed and authorised by competent personnel.

6.7 MINIMUM PPE REQUIREMENTS

Although PPE is the least preferred hazard control, it still plays an important role.

Barwon Water requires long-long clothing based on our own practices and exposures to flora, fauna, cuts / abrasions, UV and chemicals. If wearing long-long is identified as a hazard (e.g. entanglement), this will be recorded in risk management document noting the appropriate alternatives.

Operational site PPE must be complied with: long sleeves (high visibility), long pants, safety footwear, safety glasses and gloves carried on person.

Construction site PPE must be complied with: long sleeves (high visibility), long pants, safety footwear, safety glasses, hard hat (safety helmet), gloves carried on person.

Additional PPE shall be in accordance with the SWMS or other risk assessment conducted for the activity to be undertaken.

PPE needs to be identified, communicated, appropriate to the work and must be compliant with the relevant AS/NZS standard. E.g.:

- hard hats – *AS/NZ1801*
- hi-visibility safety vests – *AS/NZ 4602*
- safety boots – *AS/NZ 2210.3*
- safety glasses – *AS/NZ 1337*

The Principal Contractor shall be responsible for supplying their personnel with the required minimum and any additional PPE, and ensuring that all, subcontractors, short-

term workers and visitors wear and/or are provided with mandatory personal protective equipment.

6.8 SITE SECURITY

Site security must ensure the public is not at risk from exposure to the site risks. A risk assessment should be used to determine the level of site security required giving consideration to the following:

- site location (e.g. near houses, shops, playgrounds or schools)
- paths or other public access routes passing the site
- the type of work being done
- the mobile plant being used
- materials stored on site
- the need for site security may change if the risk level increases (e.g. when trenching begins).

6.8.1 Public safety

The Contractor shall ensure appropriate guards, barriers and notifications are in place to ensure the risks to members of the public are controlled to an acceptable level.

Public safety shall be incorporated into relevant risk assessments (WRA, AMS, SWMS) with due consideration to items such as:

- preventing un-authorised persons from entering within the boundaries of a site by fencing, signs and other means
- signs/fences around hazards within the site
- securing of equipment and materials, backfilling excavations, and covering of holes when unattended (especially after working hours).

6.8.2 Site closure checklist

A site closure checklist is to be completed prior to sites being closed for holiday / period of 4 or more days. It must be recompleted immediately prior to recommencement.

A copy of the completed checklist is to be sent to the Barwon Water contact.

6.9 TRAFFIC MANAGEMENT

The Contractor shall ensure appropriate management of traffic movement is in place. Designated pedestrian routes must be physically separated from mobile plant and vehicle movements.

Where there is potential to impact public traffic, the Contractor shall obtain the appropriate approvals from Vic Roads or the relevant local government agency.

Traffic management plans and associated permits shall be onsite for the duration of works and available for inspection at all times.

Traffic Management Plans (TMP's) shall be generated by appropriately qualified persons and personnel implementing Traffic Management Plans shall hold the appropriate competency.

6.9.1 Delivery of plant and materials

The Contractor shall provide a nominated unloading area that provides a firm level surface and sufficient space for the unloading of items.

Loading/unloading zones must be clearly delineated with controls to prevent un-authorised access.

Processes need to cover:

- Directions to site
- Where to park
- Any reporting before unloading requirements
- PPE
- Information / induction.

6.10 BARRICADING, SIGNAGE & INFORMATION

The Contractor shall ensure appropriate barricading and signage is utilised that represents the risk and communicates the desired actions and behaviour.

Preference shall be given to solid or hard barricading (e.g. cyclone fencing, hoarding, scaffold tubing, temporary fencing, jersey barriers, etc.) over soft barricading (plastic tape, flagging, chain, parawebbing, etc.). The particular type of barricading chosen shall be determined through risk assessment.

Signage erected shall accurately represent the hazards and or the requirements of the work area. Signage shall comply with Australian Standard *1319 Safety Signs for the Occupational Environment*.

Please note variable message signage (VMS) should not include Barwon Water's name; use "water works" or "sewer works" instead.

Barricading should be accompanied by appropriate signage or notification (e.g. information tag) to indicate the nature of the hazard beyond the barricade.

6.10.1 Acknowledgement of Country signage

Barwon Water have developed Acknowledgement of Country signs for all EPD construction sites. Two versions are available, one for Wadawurrung Country and one for Eastern Maar Country.

These will be provided to construction contractors by Barwon Water for installation to increase the cultural awareness and safety for First Nations peoples and all site visitors.

6.11 ISOLATION REQUIREMENTS & OUT OF SERVICE TAGS

The Contractor must ensure wherever a hazardous situation exists due to energy sources or hazardous materials that a process is in place to manage the risks.

6.11.1 Out of service tagging

'Out of service' tags shall be utilised to ensure that defective plant and equipment that requires servicing or repair is correctly identified as 'Out of service'. Where minor plant and equipment is tagged 'Out of service' the plant or equipment is to be removed from service and placed in the nominated quarantine area to prevent inadvertent use of such plant or equipment.

Information required on all 'Out of service' tags shall include date, name, plant/ equipment tagged out, reason for being tagged out and contact details of person that has tagged it out. 'Out of service' tags can be used on water, electrical, lifting or any other area that has the potential to cause injury from energy release.

6.12 HAZARDOUS MANUAL HANDLING

Hazardous manual handling requirements are outlined in the compliance code: https://www.worksafe.vic.gov.au/resources/compliance-code-hazardous-manual-handling.

The Contractor shall identify, assess and control the risks associated with hazardous manual handling. Hazardous manual handling control measures should include:

- task modification
- mechanical handling equipment
- swaps or rotation of employees, etc.

Controls for hazardous manual handling risks should be specifically detailed on the SWMS for the task.

6.13 DANGEROUS GOODS & HAZARDOUS MATERIALS

The Contractor must ensure that hazardous materials shall be managed in accordance with Part 4.1 of the *Occupational Health and Safety Regulations, Environment Protection Regulations* and EPA bunding guidelines (EPA Publication 1658).

The Contractor is responsible for the appropriate storage, handling and disposal of hazardous substances and dangerous goods on site and comply with the following requirements:

- Maintaining hazardous materials register and SDSs
- Listing hazardous substances used in the activity on the relevant Safe Work Method Statement
- Handling hazardous substances in accordance with SDS
- Store in accordance with the relevant legislation, relevant Australian Standards and or Code of Practice
- Store in a bunded area

- Portable bunds and/or drip trays are to be used
- Having appropriately sized spill kits to be located at the designated areas where there is potential for spill.

6.13.1 Asbestos management

The Contractor is expected to comply with the Worksafe compliance codes for managing asbestos and removing asbestos, and EPA guide for managing asbestos waste. This includes Class A asbestos removalists, air monitoring, hygienists and clearance certificates. Details are in the following Worksafe and EPA publications:

- https://www.worksafe.vic.gov.au/resources/compliance-code-managing-asbestos-workplaces
- https://www.worksafe.vic.gov.au/resources/compliance-code-removing-asbestos-workplaces
- https://www.epa.vic.gov.au/for-business/find-a-topic/manage-industrial-waste/asbestos-waste

The Contractor must ensure that existing asbestos containing materials shall only be handled and removed by Licenced and authorised asbestos removal contractors in accordance with Part 4.4 of the *Occupational Health and Safety Regulations 2017*.

In the event that asbestos containing material (or material suspected of containing asbestos) is unexpectedly discovered, the area should be barricaded, and the site supervisor notified of the material and arrangements made for the safe management of the issue.

6.13.2 Lead management

If work involves Lead Processes or Lead-Risk work, contractors must comply with specific duties and obligations under the OHS legislation including Part 4.3 of the *Occupational Health and Safety Regulations 2017*. Details are available in the Worksafe compliance code for managing Lead: https://www.worksafe.vic.gov.au/resources/compliance-code-lead.

6.14 WORK AT HEIGHT

For all work at height, effective control measures must be implemented to prevent the fall of persons from any height, and the risk posed by falling materials.

The Contractor must ensure that all work at height is carried out by trained personnel and in accordance with *Occupational Health and Safety Regulations 2017 – Part 3.3 Prevention of Falls*. Further guidance can be obtained from the *Compliance Code Prevention of Falls in General Construction* (https://content-v2.api.worksafe.vic.gov.au/sites/default/files/2020-02/ISBN-Compliance-code-prevention-falls-general-construction-2019-12.pdf).

Issues that will be monitored:

- perimeter of structures, edges and working platforms being protected by screens, guardrails and/or scaffolding
- edge protection, with exclusion zones and/or overhead protection provided
- penetrations, shafts and risers (including manholes) must be protected to prevent the fall of people and materials.

6.14.1 Ladders

All ladders must be inspected prior to use and be of industrial grade conforming to *AS 1892 – Portable Ladder series*.

The Compliance Code: Prevention of falls in general construction (https://content-v2.api.worksafe.vic.gov.au/sites/default/files/2020-02/ISBN-Compliance-code-prevention-falls-general-construction-2019-12.pdf) has a section on ladder safety.

6.15 GRIDMESH

If existing grid mesh is temporarily removed, an effective protective barrier or exclusion zone must be immediately put in place. When grid mesh is reinstated it must be thoroughly inspected to ensure it is installed correctly and poses no risk.

If new grid mesh is installed as part of a new or modified asset, it must be thoroughly inspected to ensure it meets the designed specification and is installed correctly and poses no risk.

6.16 HOT WORKS

Hot work includes any of the following work activities as a minimum:

- All forms of welding (including poly welding of HDPE pipe)
- Oxy acetylene cutting
- Grinding or cutting using abrasive tools.

A hot work permit shall be issued for any task that generates heat or spark.

Hot work shall not be undertaken on days of total fire ban unless in accordance with a Section 40 Permit.

Hot works during the rest of the fire danger period must be completed under applicable fire services or Scheule 14 permit conditions,

6.16.1 Welding

Information about welding that needs to be considered and controlled is outlined in: https://www.worksafe.vic.gov.au/welding and https://www.worksafe.vic.gov.au/controlling-exposure-welding-fumes.

6.17 CONFINED SPACE

All works associated with confined spaces shall be done in accordance with the relevant Confined Space Entry Procedure and with Part 3.4 of the *Occupational Health and Safety Regulations 2017*.

Classification of confined spaces shall be consistent with the *Compliance Code – Confined Spaces* (https://www.worksafe.vic.gov.au/resources/compliance-code-confined-spaces).

It is the Contractor's responsibility to assess the space in accordance with the confined space classification criteria. The Contract Administrator will be informed of CSE work at least 2 days prior to the planned entry.

All works that are conducted in a confined space with a fall from height risk greater than 2m requires all personnel to be trained in working at height as well as confined space entry.

6.18 EXCAVATION AND TRENCHING

Excavation work generally means work involving the removal of earth (for example, soil or rock) from a site to form an open face, hole or cavity using hand tools, machinery or explosives and involves the relocation of earth from one position to another.

Excavation methods include trenching, tunnelling, shafts and bulk excavations.

Excavation must be conducted in accordance with the Compliance Code including:

- Hazard identification
- Planning the work (identifying overhead powerlines and underground services)
- Controlling risks associated with excavation work (securing area, safe entry / exit, use of plant, falls prevention)
- Reducing the risk of ground collapse (shields, benching / battering, shoring).

Reference: Compliance Code: Excavation (https://content-v2.api.worksafe.vic.gov.au/sites/default/files/2020-02/ISBN-Compliance-code-excavation-2019-12.pdf).

6.18.1 WorkSafe notification

Notify Worksafe at least 3 days before starting construction excavation work involving:

- A trench (if the excavated depth is more than 1.5m)
- As shaft (if the excavated depth is more than 2m)
- A tunnel.

Refer to the Worksafe website: https://www.worksafe.vic.gov.au/excavating-and-trenching.

Completed permits and inspections shall be retained and filed on site for inspection and auditing purposes.

6.18.2 Temporary works design

All temporary works shall be designed in conformity with relevant codes and regulations and shall consider constructability and eliminate hazards.

Temporary works (e.g. formwork, falsework, precast, shoring, back propping, work platforms, temporary structures, water supply bypass systems, etc.) must be designed by appropriately qualified persons and installed by competent personnel with relevant experience and qualifications.

The design of temporary works must also be verified by an appropriately qualified person who is independent of the design.

The designer must provide certification of the temporary works design that as a minimum takes into account the intended use, load tolerances, lifting calculations, access/egress, installation and dismantling.

No changes to installed temporary works are to be made without prior acceptance of the designer, and if considered necessary, further design certification and independent verification of the changes.

Temporary works must be physically protected and secured where there is risk of collision or damage through adverse weather conditions, adjacent work practices or anywhere pipe thrust or joint movement may be present.

6.18.3 Formwork and false work

The Contractor must identify, register, risk assess formwork and implement controls prior to work commencement. Contractor will ensure that all formwork and false work: complies with AS 3610 Formwork for Concrete is designed, constructed and maintained to support safely all loads that are to be placed on it.

High risk formwork (which includes false work) requires design certification by a structural engineer registered with the Building Licensing Authority of Victoria. Both the engineer and the Contractor must be experienced in the design and erection of formwork and false work of similar complexity.

All suspended concrete formwork and false work shall have the design verified by an appropriately registered third party.

In addition, a suitably qualified person shall be used to validate that temporary works have been constructed in accordance with design documentation via a documented site inspection process.

6.18.4 Protection of underground services

Hazards and risks associated with working near underground services must be effectively managed to prevent damage.

The Worksafe Victoria and Energy Safe Victoria Guidebook Undertaking work near underground services will be followed and complied with: https://content-v2.api.worksafe.vic.gov.au/sites/default/files/2022-12/ISBN-Guide-to-undertaking-work-near-underground-services-2022-12.pdf.

All underground services shall be identified initially through Before You Dig Australia (BYDA) - https://www.byda.com.au/. BYD plans shall form part of the excavation Permit and must be current within 28 days of the permit being issued.

6.18.4.1 Ground penetrating permit

Completing a ground penetration permit is a Barwon Water specific requirement.

The ground penetrating permit applies directly to BW employees as well as contractors working under BW supervision or BW safe systems of work. The ground penetrating permit needs to be signed and approved daily.

Prior to any ground penetration deeper than 300mm an administrative control must be completed that identifies the controls in place to prevent damage to underground assets.

These controls must be validated by a competent person and signed off by the supervisor in charge of the works.

Prior to the driving of any item, including but not limited to star pickets, into the ground regardless of intended depth an administrative control must be completed that identifies the controls in place to prevent damage to underground assets.

6.18.5 Overhead services

Overhead services must be identified and controls such as physical or mechanical barriers be put in place to maintain approved safe distances to the powerline or other service.

Contractors will refer to the Energy Safe Victoria / Worksafe guide for Using powered mobile plant near overhead assets: https://content-v2.api.worksafe.vic.gov.au/sites/default/files/2018-06/ISBN-Guidebook-using-powered-mobile-plant-near-overhead-assets-editionn1-2018-06.pdf

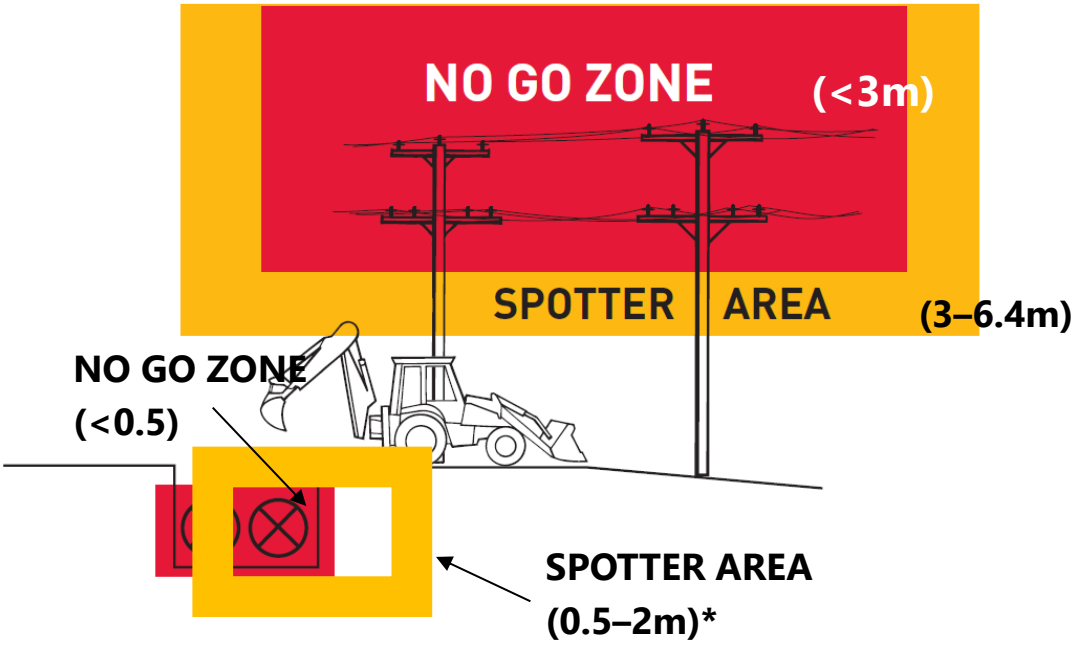
Contractors will comply with Energy Safe Victoria's rules for no go zones and working around powerlines: https://www.esv.vic.gov.au/industry-guidance/electrical/electrical-network-infrastructure/working-around-powerlines

6.18.6 Spotters

Contactor personnel working as spotters must meet the general requirements outlined by Energy Safe Victoria: https://www.esv.vic.gov.au/sites/default/files/2022-12/GeneralRequirementsForSpotters-2022-update.pdf and https://www.esv.vic.gov.au/industry-guidance/electrical/electrical-network-infrastructure/working-around-powerlines#spotters.

Competency is proven by having completed an endorsed spotter training course as well as holding a current First Aid and CPR Certificate.

Figure **1** - Spotter area for plant or equipment



* Check with underground asset owner as greater clearances may be required.

6.19 ELECTRICAL INSTALLATIONS

Electrical work and supervision of electrical work must only be carried out by competent licenced electrical workers and/or electrical engineers.

An electrical works management plan must be developed prior to any electrical works (including decommissioning) with *AS/NZS4836:2011 (Safe Working on or Near Low-Voltage Electrical Installations and Equipment*) outlining the minimum safe work principles and procedures.

All electrical installations shall comply with AS/NZS 3012:2010 Electrical installations – Construction and Demolition Sites and with guidance from the industry standard for Electrical Installations on Construction Sites.

Electrical testing and tagging

Portable electrical equipment, portable tools, extension leads, generators, welders, etc. used on construction work, other than offices and crib rooms, shall be tested and inspected quarterly and appropriately tagged.

A register shall be maintained of portable electrical equipment in use on site. This shall indicate record of inspection and tagging.

All electrical testing shall be carried out by a licenced electrical contractor.

6.20 PLANT AND EQUIPMENT REQUIREMENTS

Plant is to be managed in line with the Compliance code: Plant https://www.worksafe.vic.gov.au/resources/compliance-code-plant.

This code applies to:

- plant that lifts or moves persons or materials, including objects and substances such as empty receptacles, bins landfill rubbish, metals and soil (eg lifts, escalators, cranes, hoists, powered mobile plant, elevated work platforms),
- pressure equipment, tractors, earthmoving machinery, lasers, scaffolds, temporary access equipment, explosive-powered tools, turbines, and
- plant that processes material by way of a mechanical action.

Key requirements to be met by the Contractor include:

- Processes to identify hazards and control risks
- Checking, pre-starts, inspections and maintenance (including records retention)
- Operating in accordance with manufacturer's guidelines
- Only being operated by licenced (e.g. forklift, scaffolding, crane) and competent personnel
- Mobile plant being fitted with visual and audible safety warning devices, fire extinguishers and seatbelts.

6.20.1 Rigging gear

All lifting accessories such as wire and chain slings, shackles etc. shall be clearly marked with their safe working load (SWL). Rigging equipment shall not be used other for its intended purpose.

The Contractor is responsible for establishing and maintaining a process to monitor and inspect lifting equipment and accessories.

6.20.2 Scaffolding

All scaffolding must be supervised, erected and dismantled by a certified and competent scaffolder and meet, as a minimum, *AS/NZ 1576 Scaffolding – General Requirements* and *AS/NZS 4576 Guidelines for Scaffolding*.

An overview of requirements that are expected to be complied with are overviewed in: https://content-v2.api.worksafe.vic.gov.au/sites/default/files/2018-11/ISBN-Construction-safety-focus-scaffolding-2018-10.pdf.

6.20.3 Calibration and control of measuring and testing equipment

All inspection, measuring and testing equipment (including newly acquired test equipment) used for inspection and acceptance purposes, must be controlled, calibrated and maintained.

A register of such equipment and its calibration status must be maintained.

Calibration will be completed in accordance with Australian Standards and other guidelines.

6.20.2 Portable tools

All portable tools shall be fit for use and shall be used only for the job they were designed, and in accordance with the manufacturer's instructions.

Due to the increased risk of injury, **nine-inch grinders are not permitted** for use on site.

6.20.3 Concrete pumps

In accordance with Occupational Health and Safety Regulations 2017 (Schedule 2), registration of plant design for concrete-placing booms applies.

All persons required to operate a concrete pump must hold the appropriate competency certification (PB) for the plant item being used.

In ensuring the safe use:

- Risks associated with the set-up and use of concrete pumping equipment is controlled
- Appropriate inspection and maintenance regimes are in place
- Response in the event of an emergency is identified and understood.

6.20.4 Craneage and EWP

Crane operation is specialised and to be performed by licenced and competent personnel.

This General Guide provides information on how to manage the risks of cranes at a workplace. This Safe Work Australia guide will be referred to when reviewing contractor processes: General guide to cranes | Safe Work Australia. This includes:

- hazards and risk controls to be applied
- the type of crane or cranes to be used
- the loads to be lifted including the mass of the lifting equipment e.g. slings and spreader beams
- verification that the crane standing will support the maximum ground bearing pressure to be imposed by the crane during operations
- the position of the crane, loads to be lifted and where e.g. a diagram showing a plan view of the site
- the maximum wind speed for the crane and lower wind speeds for specified loads e.g. where the load has a large surface area, for example large pressure vessels and tanks
- the load working radius range with confirmation the loads are within the crane's capacity at the maximum radius
- allowance for the factors that may require de-rating of the crane e.g. for multiple crane lifts, extra radius caused by tilting of tilt-up panels
- when a spotter is needed e.g. to prevent a collision or contact with overhead electric lines—the tasks required, who is responsible for performing them and what communication system is to be used should also be documented

- the slinging and lifting sequence, and
- the rigging requirements of the job.

Safe Work Australia's Guide to inspecting and maintaining cranes will be referred to when reviewing contractor processes. This includes pre-operational checks, routine inspections, and record keeping.

Other information that will be referred to is: https://www.worksafe.vic.gov.au/cranes-and-lifting-equipment.

6.20.3.1 Earthmoving equipment used as a crane

The following Worksafe guidance note will be referred to when using earthmoving equipment as a crane: https://content-v2.api.worksafe.vic.gov.au/sites/default/files/2018-06/ISBN-Earthmoving-equipment-used-as-a-crane-2017-06.pdf.

6.20.5 Pipeline pressure testing

Contractors shall follow the hydrostatic pressure and vacuum testing requirements listed in AS/NZS 2566.2 Buried Flexible Pipelines Part 2 Installation.

The Principal Contractor is responsible for managing all risks associated with pressure testing.

6.21 HIGH PRESSURE WATER JETTING

High-pressure water cleaning, hydro jetting or drain cleaning uses a stream of pressurised water to remove material, debris or other things from surfaces, including drains and pipes.

Worksafe outlines the following risks that must be controlled:

- the water jet may pierce the skin
- contaminated material may be injected into the body
- flying debris may hit and injure a person (including eye injuries)
- a flailing hose, an out of control nozzle or a separated hose coupling may hit a person.

The Australian Standard for high-pressure water jetting systems (AS4233.1) defines classes of high-pressure water jetting systems. It also gives guidance for maintenance, repair and use of high-pressure water jetting systems and details training for safe operation and personal protection.

Contractors performing high pressure water jetting will comply with the requirements of the Australian Standard as referenced by Worksafe Victoria.

7 Quality management requirements

This section outlines specific information that must be addressed where applicable to the works being conducted in the **quality management component of the PMP**.

7.1 HOLD AND WITNESS POINTS

7.1.1 Interpretations and definitions

NOTIFICATION: Provide the Contract Administrator a minimum of 48 hours (i.e. 2 full business days) notice of any of the listed items reaching a hold point and 24 hours (i.e. 1 full business day) for any listed items reaching a witness point.

HOLD POINT: No further work shall be completed on the hold point item until the Contract Administrator has been given the opportunity to review or inspect the work. If the Contract Administrator does not respond to the Contractor's notice within 2 full business days, the Contractor may proceed with the work the subject of the hold point. In any case the Contractor remains fully responsible for all items of work.

WITNESS POINT: If the Contract Administrator does not attend the test or verification process and does not respond to the Contractor's notice, the Contractor may proceed with the work associated with the item if appropriate. The Contractor shall advise the Contract Administrator that the test or verification process has been satisfactorily passed and they intend to proceed with the work associated with the item. In any case the Contractor remains fully responsible for all items of work.

ADDITIONAL POINTS: The Contract Administrator reserves the right to acquire additional Hold Points and Witness Points prior or subsequent to review of the project Quality Management Plan (QMP) and/or Inspection & Test Plans (ITPs). No additional payments shall be made of such additional points.

7.1.2 General

The stages of work listed in Appendix 3 shall be regarded as Hold Points (H) and Witness Points (W), as nominated and must be incorporated into the Contractor's Quality Management Plan (QMP) and Inspection & Test Plans (ITPs) where appropriate.

The nominated Project Quality Representative will ensure Hold Points are released by the responsible person as indicated on the ITP's. The PQR will also verify all the quality records against the acceptance criteria set up in respective ITP's and raise non-conformance reports in the case of records not matching with acceptance criteria. The signatures of the persons authorised to sign off documents will be held on an Authorised Signature Register.

7.1.3 Transition from hold to witness points

Where the option is present in the table in Appendix 3, a hold point can only transition to a witness point when the Contract Administrator is satisfied that the person undertaking the works has proven their understanding of the requirements of the work and has witnessed their capability to meet them.
The Contract Administrator may at any time decide to revert a witness point to a hold point.

7.2 SPECIFIC QUALITY MANAGEMENT REQUIREMENTS

7.2.1 Work breakdown structure

A broad Work Breakdown Structure (WBS) will be established for the project in consultation with the Contract Administrator. The WBS is the identification and dissection of the Works, as prescribed by the Contract and should be specific and relevant to the type of activities to be carried out. WBS shall be utilised to assist in determining programme events and the Activity Method Statements (AMS) for each key project activity (i.e. mobilisation, installation works, testing and commissioning).
A Work Lot management system is a sub-set to the Work Breakdown Structure which will break work into daily (or section) portions to effectively control each work element to comply with design requirements. Work Lots will capture quality information such as ITPs, checklist and records (welding records, delivery dockets, completed forms, test results) in preparation for handover at project completion. All structures, earthworks, electrical, telemetry, tanks, coating, pavements, finishing, and pipeline testing works shall be managed via lot identification which will be broken down and supplied for review by the Contract Administrator prior to commencement of the work.

An example work breakdown structure table is available on request and is also included in the sample QMP Template.

7.2.2 Requests for information (RFIs)

In case of any clarification or ambiguity regarding design, scope of work, material and technical specification the Contractor will raise a formal Request for Information and maintain a register for such requests. A sample RFI form is available on request.

7.2.3 Management of non-conformance

Identification and management of non-conforming work will be managed by the Contractor. Where the Contractor intends to rework, repair, re-grade, or deliver “as is” non-conforming work, the Contractor shall advise the Contract Administrator of the relevant details in writing so the disposition is assessed prior to incorporation of a non-conforming product into the work.

Commencement of next stage will only occur when the Non-Conformance Report (NCR) is successfully resolved to the satisfaction of the Contract Administrator.

NCRs shall be raised in writing and records shall be maintained and their status tracked on an NCR register.

7.2.4 Materials control

The Contractor shall layout the site to adequately manage access to, handling and storage of materials. Areas shall be designated and clearly marked for the segregation and quarantine of non-conforming, damaged or oversupplied products.

Items with limited shelf life or which could be damaged by exposure to particular environmental conditions shall be stored appropriately, with their validity and condition periodically checked.

Materials and equipment delivery dockets, relevant MSDSs, material certificates and factory/ supplier warranties and certifications shall be kept and filed.

The Contractor shall perform planned, periodic off-site inspections/ audits of suppliers and manufacturers of critical, custom items or for new or untested suppliers where the Contractor needs to ascertain certainty of their assurance and control program.

7.2.5 Work processes control

The Contractor shall control special work processes (such as welding or application of surface coatings etc.) to ensure:

- clear work procedures are established meet the Contract Technical Specifications and relevant product manufacturers/ suppliers requirements
- operators undertaking these works are appropriately qualified and experienced in the established procedures and evidence of the qualification/s is available on site
- equipment used for execution or testing of works is tested and checked as appropriate to the particular procedure, instruction or use.

7.2.6 Commissioning and handover

In addition to achieving successful completion of physical works under the scope of the project, the Contractor must complete the requirements set out in the Barwon Water Contract Completion Requirements document (available on request).

The section titled “Handover” within the above-mentioned document lists the documentation submission requirements in order to perform commissioning and to achieve completion for the contract. These requirements must be incorporated into the Contractor’s Quality Management Plan.

7.2.7 Defect liability management

The Contractor will specify the defect liability management process and designate a person for future contact in the case a defect is detected by Barwon Water. A defect ‘punch list’ shall be available throughout the course of work to track status of minor defects and omissions.
The Contractor must retain the following quality assurance documents for 7 years from the expiry of the defects liability period:

- records of all inspections and test plans, checklists and test reports
- records of non-conformance
- records of corrective action.

7.2.8 Management of change

Alteration to work scope (variation), arising risk or opportunity, changed or unanticipated conditions (including defects) are required to be assessed for risk and managed in accordance with this document. The contractor is to ensure any change is managed and consultation takes place with the relevant parties in preparing for and performing the works. The WRA, AMS, SWMS, ITP, ECP (or any other pertinent documentation) must be reviewed, updated and approved by the Project or Workplace Manager. Work is not to proceed if change has occurred from the contract scope until an instruction or variation has been issued by the Contract Administrator.

8 Specific environmental management requirements

This section outlines environmental information that must be addressed where applicable to the works being conducted in the **environmental component of the PMP**. This section provides further detail on environmental risk management controls specific to construction projects.

8.1 ENVIRONMENTAL PERFORMANCE REQUIREMENTS

#	Aspect	Potential Risks/ Impacts	Relevant Legislation & Guidance Material	Barwon Water Minimum Requirements
Environmental Management				
EM1	Construction Environmental Management Plan (CEMP)	Impacts on the environment due to lack of clarity in how control measures will be implemented for project risks and clearly defined roles for person(s) taking these actions	*Environmental Management Systems – Requirements with Guidance for use AS/NZS ISO 14001:2015* *EPA Publication 1834.1: Civil, construction, building and demolition guide* *Environment Protection Act 2017* *Environment Protection Regulations 2021*	A Construction Environmental Management Plan (CEMP) must be provided to Barwon Water prior to works commencing that is project specific and includes: 1. Description of the Project 2. Description of EMP context and Project environmental objectives 3. Environmental Policy (the Contractor's) 4. Contractor's environmental management structure & responsibility (including onsite management and relevant contract details) 5. Environmental training 6. Identification of all site-specific environmental risks (Table Format) with an accompanying risk assessment 7. Environmental mitigation measures to meet the objectives outlined in the EMP 8. Processes to address each Project EPR to the satisfaction of Barwon Water 9. Contractor environmental management procedures/ processes for any specific activities 10. Performance evaluation (i.e. monitoring and auditing) and non-conformance processes Planning approvals may require CEMP to be endorsed by Council or other regulators prior to commencement of work. Where this is required, it is the responsibility of the contractor to meet regulatory standards and do so in a timely manner to avoid project delays.

#	Aspect	Potential Risks/ Impacts	Relevant Legislation & Guidance Material	Barwon Water Minimum Requirements
EM2	Site Environmental Plan (SEP)	Impacts on the environment due to lack of understanding of onsite control measures	*EPA Publication 1834.1: Civil, construction, building and demolition guide* Appendix 4: Barwon Water SEP Example	A detailed Site Environmental Plan (SEP) must be provided to Barwon Water prior to commencement of work. The SEP shall include an annotated aerial photograph of the work site, with a table of mitigation measures. The SEP must be displayed on site and shall identify the location of and briefly describe the key controls associated with the project, which may include: 1. Approved works activity boundary, including laydown areas (where any works are planned outside of approved boundary, the Contractor must seek permission from Barwon Water prior to works occurring); 2. Site access points; 3. Any sensitive environmental receptors in vicinity of site (e.g. waterways, native vegetation, wetlands, heritage values and residential/ community areas); 4. Site amenities, sewerage facilities, dangerous goods storage and waste areas; 5. Spoil or soil stockpiles 6. Concrete wash out areas 7. Refuelling or servicing of plant areas 8. All sediment and erosion controls 9. Any defined "No Go Zones" (e.g. cultural heritage sites, native vegetation to be protected, phytophthora free zones/ phytophthora contaminated zones) 10. Any areas of noxious weeds within the project areas 11. Spill kits.
EM3	Environmental Reporting	Lack of oversight of a Contractors environmental management performance	Contractor Monthly Project Report (Appendix 1) Barwon Water Waste Collection and Reporting Tool (Barwon Water website)	The contractor must meet their environmental reporting obligations to Barwon Water on request. This may include providing details on: 1. Environmental inspections. 2. Environmental incidents, hazards or near-misses which may result in harm to the environment. 3. Environmental incidents or non-conformances (and corrective actions that were implemented). The Contractor must report industrial waste data to Barwon Water monthly using the Barwon Water Waste Collection and Reporting Tool accessed via the Barwon Water website. Contractors will be allocated a username and password upon commencement of the contract. Further details of reporting requirements in section W2.

#	Aspect	Potential Risks/ Impacts	Relevant Legislation & Guidance Material	Barwon Water Minimum Requirements
Site mobilization				
SM1	Concrete Washout	Impacts to land or water from onsite concrete washout areas due to inadequate set-up or operation	*Environment Protection Act 2017* *Environment Reference Standard (Part 4)* *Environment Protection Regulations 2021*	The Contractor is responsible for the establishment, management and disposal of all concrete wash out facilities on site. It is the preference of Barwon Water that washout occur at the offsite concrete batching plant. However, where onsite washout areas are necessary – they must meet the following specifications to minimise the potential for contamination of the surrounding environment: 1. Located in a designated area that is accessible and encourages usage but away from drainage lines, stormwater inlets, waterways, areas of significant flora and fauna and other sensitive receptors 2. Appropriately lined with impervious liner and bunded to contain all contaminated water. Once water has evaporated concrete residue can be disposed of as solid waste 3. Appropriately sized according to the estimated volume of waste concrete 4. Provision of a cover for the washout area to prevent filling up with rainwater when not in use 5. Provision of clear signage/demarcation onsite and display the location of concrete washout basin on the SEP.
SM2	Site access and laydown areas	Ancillary works outside of main works that may impact on heritage, ecological or natural values of the site.	*Environment Protection and Biodiversity Conservation Act 1999* *Flora and Fauna Guarantee Act 1988* *Planning and Environment Act 1987*	Contractor must ensure that all works, including access tracks, laydown areas and ancillary activities are within designated areas. Any works outside of these designated areas, including laydown creep or impacts on native vegetation, must be approved by Barwon Water prior to works being carried out. The Contractor is also responsible for maintaining temporary construction access points for the project. 1. Use only designated works activity areas identified in SEP and approved by Barwon Water 2. Clearly define truck routes, site parking, laydown areas and entry/exit points within the works area 3. Install suitable controls (i.e. rumble grids, crushed rock) to minimise the transportation of mud, dust onto roads resulting from all construction activities 4. Maintain entry/exit points to ensure dirt/mud is not transported onto public roads. Regularly sweep driveways and/or use street sweeper as required or directed by Barwon Water 5. Provide adequate allowance of area for site parking

#	Aspect	Potential Risks/ Impacts	Relevant Legislation & Guidance Material	Barwon Water Minimum Requirements
				6. Ensure waste is segregated appropriately and contaminated wastes bunded according to EPA Regulations 7. Ensure all site staff are informed of these requirements.
SM3	Reinstatement	Inadequate reinstatement of a site, that may impact on air, land, water or natural values of the site	General Reinstatement Requirements	The Contractor is required to comply with General Reinstatement Requirements document as provided in Appendix 5, as well as any Property Construction and Reinstatement Plans (in the Contract Stakeholder Engagement Requirements document) and the following project specific requirements: <insert requirements here or delete 'and the project specific requirements'>
SM4	Stockpile Management	Inadequate management of stockpiles, that may impact on air, water or sensitive receptors	Environment Protection Act 2017 Environment Protection Regulations 2021 EPA Publication 1895: Managing stockpiles	The Contractor is required to comply with the following guidelines and requirements relating to topsoil and stockpile management: 1. All stockpiles to be managed in accordance with EPA Publication 1895 2. All topsoil shall be stripped from the Construction footprint (such as site compounds, pipelines, haulage roads, etc.) for reuse back onsite during reinstatement 3. Topsoil shall be stockpiled separately to minimise potential site contamination from external sources 4. Locate all soil stockpiles at least 10m away from drainage lines and outside defined flood zones (or in accordance with relevant permit conditions) 5. Locate stockpiles so that they do not impede on natural or constructed surface drainage channels or roads 6. Sediment fencing to be installed around all soil stockpiles (unless otherwise specified) 7. Stockpiles that will remain bare for more than 28 days shall be covered with mulch or anchored fabrics or be seeded with sterile grass to minimise dust and erosion 8. Ensure topsoil stockpiles are weed free prior to reinstatement.
Air Quality				
AQ1	Air Quality	Emissions to air (dust, fumes, odour) from	*Environment Protection Act 2017*	The contractor must meet the following requirements: 1. Comply with the Environment Reference Standard (Section 2 – Ambient Air). 2. Stage construction activities to minimise exposed soil areas (e.g. topsoil striping areas

#	Aspect	Potential Risks/ Impacts	Relevant Legislation & Guidance Material	Barwon Water Minimum Requirements
		works impacts on sensitive receptors and or the environment	*Environment Reference Standard (Part 2)* *Environment Protection Regulations 2021* *EPA Publication 1834.1: Civil, construction, building and demolition guide*	progressively) 3. Speed restrictions to be utilised onsite to minimise the generation of dust on the works site (Limits of 15-20km can be used as a general guide). 4. Minimise activities that are likely to generate dust under dry, windy conditions where dust cannot be sufficiently suppressed using other measures. 5. Use daily weather updates from the Bureau of Meteorology to provide information on likely strong wind forecasts to assist in daily management of dust. 6. Use dust suppression controls (e.g. water trucks or hoses to wet down dust prone areas). Ensure any runoff generated from dust suppression is controlled onsite and does not enter drainage systems or watercourses. Water used should be of an appropriate water quality and not lead to contamination of soil or surface water. Water should not be sprayed at access points to roads as this may lead to mud generated and transported onto roads; 7. Maintain all plant and equipment to manufacture specifications. Retain log book records for servicing of all construction plant; 8. Pre-start checklist for all construction plant and equipment; 9. Ensure suitable compaction is achieved on exposed surfaces of spoil stockpiles to minimise dust; 10. Reinstate and revegetate areas after the completion of works to minimise generation of dust on exposed areas; and, 11. Cover loads during transportation of material to minimise potential for dust or deposition of material onto roads.
Noise and Vibration				
NV1	Noise and Vibration	Emissions of noise or vibration from construction works that impacts on sensitive receptors.	*Environment Protection Act 2017* *Environment Reference Standard (Part 3)* *Environment Protection Regulations 2021*	The Contractor must, at all times, take adequate measures to control noise and vibration during construction activities. The Contractor shall be considerate of the surrounding stakeholders and comply with the following requirements: 1. Comply with the Environment Reference Standard (Section 3 – Ambient Sound) and EPA Publication 1254.2. 2. Undertake works during 'Normal Working' hours in accordance with EPA Victoria guidelines. Normal Working hours are Monday to Friday 7:00am - 6:00pm and Saturday between 7am – 1pm. 3. Schedule noisy activities for the least sensitive times of the day, (mid-morning to mid-afternoon) where possible. Construction activities (including scheduled deliveries) shall be planned to

#	Aspect	Potential Risks/ Impacts	Relevant Legislation & Guidance Material	Barwon Water Minimum Requirements
			EPA Publication 1834.1: Civil, construction, building and demolition guide *EPA Publication 1254.2: Noise control guidelines*	minimise disruption to local amenity and traffic. 4. Where necessary, noise suppression devices for vehicles, powered machinery and mechanical plants to be installed. All equipment must be maintained to the manufacturer's specifications. 5. Utilise portable enclosures around mobile and fixed plant installed where noise impacts are likely to exceed noise objectives. 6. Record all complaints and provide information this to Barwon Water. Where works (other than emergency or unforeseen repairs) are required outside of normal working hours, including operation of generators, vehicular and truck movements. The contractor must conduct the following prior to **ANY** works: 7. Request permission from Barwon Water to undertake this work. 8. Notify any potentially impacted stakeholders in accordance with the Contract Stakeholder Engagement Requirements document (Generally a 2-week notification period for impacted stakeholders). 9. The Contractor is responsible for obtaining background data over a period of no less than 5 consecutive and representative days. Noise shall not be above those background levels inside any adjacent residence between 10pm and 7am. 10. Where construction activities take place within 50m of a building, the effects of vibration shall be managed and minimised. A study on the impact of ground vibration from construction activities where these operations occur within 50m of a building.
Excavation & Earthworks				
EE1	Acid Sulphate Soils (ASS)	Encountering ASS, where acid or metals are formed through inadequate management that can impact on sensitive receptors	*EPA Publication 655.1 Acid sulfate soil and rock* *EPA Waste disposal categories – characteristics and thresholds (Publication 1828.2)* *EPA Soil sampling (IWRG702)*	Where Potential Acid Sulfate Soils (PASS) may be present in the project area the contractor must provide a Management Plan prior to construction commencing. Where, ASS are identified during works, a management plan must be provided by the Contractor to Barwon Water before works continue. The management plan or procedure will include the following requirements: 1. Compliance with EPA Publication 655.1 Acid sulfate soil and rock. 2. Provide details on the management of PASS in accordance with guidelines. 3. Provide details on the licensed disposal site for PASS prior to the commencement of works. 4. Provide a methodology for the tracking of soil samples and testing requirements in accordance with EPA Publication 1828.2.

#	Aspect	Potential Risks/ Impacts	Relevant Legislation & Guidance Material	Barwon Water Minimum Requirements
		(aquatic life, vegetation, etc.).	*Department of Sustainability and Environment - Victorian Best Practice Guidelines for Assessing and Managing Coastal Acid Sulphate Soils*	5. Use the EPA Waste Tracker to track volumes of PASS disposed from the site (i.e. maintain a register of all trucks and volumes disposed of to landfill). 6. Record the quantity of PASS disposed in the Barwon Water Waste Collection and Reporting Tool via the Barwon Water website as part of monthly reporting. Where testing has been conducted for Potential Acid Sulfate soils (PASS), Barwon Water will provide a copy of the results in **Appendix 6**.
EE2	Contaminated Land	Encountering contaminated soil or groundwater, which through inadequate management can impact on sensitive receptors (aquatic life, vegetation, etc.).	*Environment Protection Act 2017* *Environment Reference Standard (Part 4)* *Environment Protection Regulations 2021* *Contaminated Land Policy (Publication 1915)* *NEPM (Assessment of Site Contamination)* *EPA Waste disposal categories – characteristics and thresholds (Publication 1828.2)* *EPA Soil sampling (IWRG702)*	The contractor must comply with the following requirements: 1. Where possible, excess soil material categorised as Category D in accordance with relevant EPA Guidelines (Publication 1828.2 & IWRG702) may be reused on site with an A17 Permit obtained from the EPA. 2. All excess soil material to be disposed offsite to be managed in accordance with all relevant EPA Guidelines (Publication 1828.2 & IWRG702) including characterisation, transport and disposal. 3. If waste soil material is categorised as a Reportable Priority Waste, movement from the site to lawful disposal facility must be tracked using the EPA Waste Tracker. 4. Identify any potential sites for reuse, management or disposal of any soil. 5. All records must be retained (permissions and Waste Tracker records) associated with the disposal and provided to Barwon Water on request. 6. Quantity and type of waste soil material disposed (reuse, recycle or landfill) to be recorded in the Barwon Water Waste Collection and Reporting Tool via the Barwon Water website as part of monthly reporting.

#	Aspect	Potential Risks/ Impacts	Relevant Legislation & Guidance Material	Barwon Water Minimum Requirements
EE3	Directional Drilling and hydro-excavation	Impacts associated with drilling boring activities, drilling mud management, and hydro-excavation	*Environment Protection Act 2017* *Environment Reference Standard (Part 4)* *Environment Protection Regulations 2021*	If directional drilling or hydro-excavation activities are being undertaken, drilling mud and hydro-slurry is to be managed in accordance with Environment Protection Regulations 2021. The contractor must provide a management plan or procedure to Barwon Water demonstrating compliance, and shall also meet the following: 1. Risk assess the land being excavated to determine if drilling mud or hydro-slurry is contaminated or not. Be able to provide this risk assessment to Barwon Water on request. 2. If contaminated, the slurry must be managed in accordance with EE2. 3. Manage slurry generated from drilling activities appropriately to minimise any impacts to the surrounding environment. 4. Assess the level of controls required around the bore entry/exit pits depending on the sensitivity of the surrounding environment (e.g. native vegetation or waterways). 5. Details appropriate levels of control (bunding) around the bore entry/exit pits. 6. Provide details of any chemicals to be used during the drilling works. 7. Controls in place to reduce risk of spillage during transportation (e.g. lined trucks, only filling trucks to two-thirds of their capacity. 8. Any excess mud spilt during loading slurry material onto trucks shall be routinely cleaned up to minimise mud being taken offsite. 9. Management process for environmental spills or incidents (e.g. frac-out incident, fuel spill). 10. Quantity and type of waste soil material disposed (reuse, recycle or landfill) to be recorded in the Barwon Water Waste Collection and Reporting Tool via the Barwon Water website as part of monthly reporting.
EE4	Biosecurity	The spread of plant pests or diseases within Victoria or into Victoria that may impact on plant production	*Environment Protection and Biodiversity Conservation Act 1999* *Plant Biosecurity Act 2010* *DPI (2006b). Biosecurity Guidelines for movement of Equipment (Contractors) between farms. AG Note*	The contractor must comply with the following requirements: 1. Comply with DPI (2006b) Biosecurity Guidelines for movement of equipment 2. Undertake decontamination activities on all plant and equipment prior to entering and leaving site. All equipment should be in a state of cleanliness and free of soil, plants, weeds, seeds and faeces. Adhere to an arrive clean, leave clean mindset. 3. Adhere to phytophthora risk management in high risk areas, including arrive clean/leave clean, review of the training video (see link), identification of contaminated zones & phytophthora free zones, carry disinfectant and use when arriving and leaving site. 4. Barwon Water will request the Contractor to provide the appropriate biosecurity procedures relevant to the works when operating in high risk areas.

#	Aspect	Potential Risks/ Impacts	Relevant Legislation & Guidance Material	Barwon Water Minimum Requirements
		or other natural values.	*AG1171. Department of Primary Industries.* *DSE (2008) Victoria's Public Land Phytophthora cinnamomi Management Strategy* *Arrive Clean phytophthora Risk Management_SQECR_2023* *Phytophthora Hygiene Training Video – https://youtu.be/3OZI62nXeeI*	
EE5	Weed Management	The spread of weeds within Victoria that may impact on plant production or other natural values.	*Catchment and Land Protection (CaLP) Act 1994 and CaLP Regulations 2002* *DEDJTR - Noxious Weed and Pest Animal Management Booklet 2016*	Before commencing work on a project site or accessing a new property boundary (linear projects); the Contractor must comply with the following requirements: 1. Comply with the CaLP Act and Regulations 2. Undertake decontamination activities on all plant and equipment prior to entering and leaving site. All equipment should be in a state of cleanliness and free of soil, plants, weeds, seeds and faeces. Adhere to an arrive clean, leave clean mindset. 3. Prior to soil stripping, any areas of heavy weed infestation are to be identified and mapped on the SEP. Any stripped topsoil from these areas should be kept separate from other materials and be disposed of as soon as possible. 4. Imported topsoil shall be either certified as weed-free or from a source approved by Barwon Water. 5. Implement weed control (using approved techniques) during any reinstatement or maintenance period.
Hazardous Substances & Environmental Incidents				

#	Aspect	Potential Risks/ Impacts	Relevant Legislation & Guidance Material	Barwon Water Minimum Requirements
HS1	Environmental Incident Response & Reporting	Lack of process before, during and after environmental incidents that causes impact to land, water, air or any other sensitive receptors.		The Contractor must provide Barwon Water with an environmental incident process for accidental or uncontrolled releases of hazardous substances, dangerous goods, frac-out events, slurry materials or other potentially harmful substances or processes to the environment. An environmental incident may also include any harm/ damage to native vegetation or heritage values, and/ or complaints from the public in relation to dust or noise. The process must address the following: 1. The Contractor must cease the activity, promptly ensure containment measures, clean-up and restoration of the environment and rectification of controls 2. The Contractor must report all environmental incidents to Barwon Water Site Supervisor and Project Manager 3. Undertake an adequate incident reporting and investigation process to ensure that mitigation measures are undertaken to prevent recurrence 4. Barwon Water may request to inspect the site and advise of any particular clean-up requirements; the Contractor shall undertake any clean-up and rehabilitation in accordance with this direction All incidents to be managed in accordance with Section 12 – Incident Reporting and Investigation.
HS2	Hazardous Substances & Dangerous Goods	Impacts to the environment from accidental or deliberate discharges of substances	*Dangerous Goods Act 1985 and Dangerous Goods Regulations 2012* *EPA Victoria Publication 1698: Liquid Storage and Handling Guidelines*	The Contractor is responsible for the appropriate storage, handling and disposal of hazardous substances and dangerous goods on site and comply with the following requirements: 1. All hazardous substances and dangerous goods to be managed in accordance with EPA regulations. 2. Current Material Safety Data Sheets (MSDS) are to be made available for all dangerous goods stored and handled at the premises. The MSDS are to be readily accessible to all persons working on the premises and to the emergency services authority as required. 3. All hazardous substances and dangerous goods to be in a bunded area in accordance with EPA bunding guidelines (EPA Publication 1698). 4. Portable bunds and/or drip trays are to be used when refuelling plant and machinery. 5. Servicing/ refuelling of plant and machinery to be conducted in a designated area with suitable bunding.

#	Aspect	Potential Risks/ Impacts	Relevant Legislation & Guidance Material	Barwon Water Minimum Requirements
				6. Appropriately-sized spill kits to be located at the designated areas where there is potential for spill. 7. The Contractor shall regularly inspect and record all plant and equipment to be used on site for leakage. 8. All plant and equipment to be maintained as per the manufacturer's specifications.
HS3	Hazardous Materials	Encountering asbestos containing material, lead containing paint, ozone depleting substances, polychlorinated biphenyls or synthetic mineral fibres that may cause impacts to human health or environment	*Victorian OHS Act 2004 and 2017 Victorian OHS Regulations* Barwon Water Asbestos Register	The contractor must meet the following requirements: 1. Prior to working on or adjacent to asbestos material, authorisation must be sought from the Barwon Water Responsible Officer. 2. Any work conducted on or with hazardous material must be carried out as per legislative requirements. 3. Comply with Section 6.13.1 of this document 4. The contractor must have in place an unexpected finds process, for management of asbestos or other Hazardous Materials. 5. All materials must be disposed as per EPA regulations.
Aquatic Ecology and Waterway Management				
AE1	Erosion and Sedimentation		*EPA Publication 1834.1: Civil, construction, building and demolition guide* *EPA Publication 1896: Working within or adjacent to waterways*	The contractor must meet the following requirements: 1. Erosion and sediment management in accordance with EPA Publications 1834.1, 1896 and 1893. 2. Erosion and sediment control measures are to be installed to prevent off site discharges, with daily checks to ensure controls remain effective. 3. Appropriate erosion controls need to be established (depending on flows within the watercourses) to ensure that construction works does not impact on the watercourse. 4. Site access points must have interception controls (e.g. wheel washes, rumble grids) to prevent dirt being tracked offsite. Vehicle tyres and tracks should be inspected for mud build-up to

#	Aspect	Potential Risks/ Impacts	Relevant Legislation & Guidance Material	Barwon Water Minimum Requirements
			EPA Publication 1893: Erosion, sediment and dust treatment train	prevent deposit on roadways, with any deposits removed immediately. 5. Sediment controls established shall be inspected and cleaned daily and removed only after works are completed to the satisfaction of the CCMA and Barwon Water.
AE2	Aquatic Ecology and River Health	Undertaking works on or within the vicinity of a waterway that causes impacts to water quality from discharges offsite or impacting sensitive receptors	*Environment Protection Act 2017* *Environment Reference Standard (Part 5)* *Environment Protection Regulations 2021* *By-Law No 4 Waterways protection 2014, Corangamite Catchment Management Authority (CCMA)*	The Contractor is required to comply with the relevant permits and requirements (ERS Part 5), including with all requirements of By-Law No 4 Waterways protection 2014, Corangamite Catchment Management Authority (CCMA) when undertaking any works on or with proximity of a designated waterway. These requirements include: **Approval Conditions** 1. Application for a permit from the CCMA (where applicable) to undertake works on a designated waterway or surrounds 2. Comply with all conditions of any CCMA permit 3. Notification of commencement and completion of the works to CCMA for which a permit has been issued at least 7 days' prior to undertaking any works directly within the watercourse **Controls** 4. No water is to be discharged offsite without the prior approval of Barwon Water. This includes water collected in excavation, concrete washout bins and sedimentation ponds. The Contractor shall comply with EPA water quality requirements and will be in accordance with *SEPP (Waters)* for any discharge of water off-site 5. Ensure adequate waterway protection control measures are put in place prior to the commencement of construction both upstream and downstream (e.g. in the event of any flow within the watercourses the Contractor shall ensure that bypass pumps or pipe diversion arrangements are sized according to flow rates expected in watercourse to undertake construction works without impacting on the watercourse). 6. Staging works to minimise timing of construction works that are directly in the watercourse. 7. Portable bunds required while refuelling of bypass pumps. 8. To minimise the risk of polluting a watercourse all cleaning, servicing and refuelling activities to be clear of stormwater drains/ swales/ watercourses (20m). 9. Construction plant must not be left after work hours within or near the watercourse (in the floodplain).

#	Aspect	Potential Risks/ Impacts	Relevant Legislation & Guidance Material	Barwon Water Minimum Requirements
				10. Any aquatic fauna found within the construction area that requires removal shall only be undertaken by qualified wildlife personnel. 11. Spoil and disturbed soils will be stockpiled above top of bank of watercourses, or, where no distinct channel exists, will be positioned at least 10m from watercourse. **Reinstatement** 12. Undertake reinstatement work immediately on completion of works within the watercourse. 13. Topsoil stripped from the watercourse shall be stockpiled separately and reinstated on the watercourse bed and banks.
AE3	Management of Chlorinated Water	Impacts to land or water from chlorinated water during the pipe commissioning process	*Environment Protection Act 2017* *Environment Reference Standard (Part 5)* *Environment Protection Regulations 2021* *Australian and New Zealand Environment Conservation Council (ANZECC) Guidelines for Fresh and Marine Water 2000* *Water Services Association of Australia (WSAA) Guideline: Dechlorination of Drinking Water Discharged to Waterways,*	The contractor must ensure that the water from all disinfected mains shall be treated (e.g. pH corrected, filtered and de-chlorinated, as required, to meet the relevant discharge quality requirements) before reuse or discharge to the environment. A Contractor must be able to demonstrate compliance with these discharges or reuse requirements. The WSAA Guideline: *Dechlorination of Drinking Water Discharged to Waterways* outlines several methods for management of chlorinated water. There are two broad categories for dechlorination, physical and chemical, and proven methods exist for a range of discharged chlorine concentrations. The contractor should use the Chlorinated Water Discharge Assessment Tool (CWDAT) referenced in the Guideline to assess the risk and select a dechlorination method based on this.

#	Aspect	Potential Risks/ Impacts	Relevant Legislation & Guidance Material	Barwon Water Minimum Requirements
			National Guidance for the Urban Water Industry 2019	
Waste Management				
W1	General	Decreased environmental performance due to poor waste management	*Environment Protection Act 2017* *Environment Protection Regulations 2021* *EPA Publication 1655 (May 2017) Toolkit for the management of solid waste from civil and construction and demolition sites* *EPA Industry guidance (Publication 1741.1) supporting you to comply with the general environmental duty.*	The contractor must meet the following requirements: 1. The waste management hierarchy (avoid, reuse, recycle) should be applied. 2. Unless otherwise agreed, the contractor is responsible for collection and disposal of wastes. 3. Movement of Reportable Priority Waste from site to lawful disposal facility must be tracked via the EPA Waste Tracker. 4. All waste must be appropriately contained (e.g. bins) at all times and disposed of in accordance with any EPA requirements. 5. Keep site neat and tidy at all times.
W2	Monthly Waste Reporting	Lack of oversight of a Contractors environmental management performance	*Environment Protection Act 2017* *Environment Protection Regulations 2021* *EPA Publication 1655 (May 2017) Toolkit for the management of solid waste*	The Contractor must report industrial waste data to Barwon Water each month using Barwon Water's Waste Collection and Reporting Tool via the Barwon Water website. Contractors will be allocated a username and password upon commencement of the contract. Reporting includes: 1. Date of waste data entry. 2. Industrial waste type (soil, bricks, concrete, plastic, glass, metal, pavement, asbestos, hydro-slurry etc.). 3. Amount of waste (tonnes, kilograms, m^3 or litres) per waste type. 4. Disposal method (reused, recycled or landfill) per waste type. 5. If no waste was produced for the month and reason why.

#	Aspect	Potential Risks/ Impacts	Relevant Legislation & Guidance Material	Barwon Water Minimum Requirements
			from civil and demolition sites *EPA Industry guidance (Publication 1741.1) supporting you to comply with the general environmental duty construction.*	
Planning				
P1	Cultural Heritage	Undertaking ground disturbance works (e.g. excavation, drilling) that causes impacts to heritage values	*Environment Protection and Biodiversity Conservation Act 1999* *Aboriginal Heritage Act 2006 and Aboriginal Heritage Regulations 2018*	**1. Where a Cultural Heritage Management Plan (CHMP) is required for the works:** Contractor to comply with the approved CHMP under the Aboriginal Heritage Act 2006 and prepared in accordance with the Aboriginal Heritage Regulations. The approved version must always be available onsite. Where a CHMP is required, Barwon Water has provided a copy of the CHMP in **Appendix 6**. **2. Where a Cultural Heritage Permit to Harm (CHP) is required for the works:** Contractor to comply with the approved CHP under the Aboriginal Heritage Act 2006 and prepared in accordance with the Aboriginal Heritage Regulations. The approved version must always be available onsite. Where a **CHP** is required, Barwon Water has provided a copy of the CHP in **Appendix 6.** **3. Where no CHMP or CHP is required for the works, a number of contingency actions are to be considered, as outlined below.**

#	Aspect	Potential Risks/ Impacts	Relevant Legislation & Guidance Material	Barwon Water Minimum Requirements
				Any contractor undertaking ground disturbance activities must have an unexpected finds process based on the following requirements, should works uncover any Aboriginal Heritage material (artefacts, ceremonial sites, burials, cooking mounds, scarred trees). *Note that these actions will need to be undertaken cooperatively between the Contractor, Barwon Water and the appropriate Authorities.* *Person must immediately notify Barwon Water Site Supervisor and Project Manager, cease all works in the immediate area and erect a fence to create an exclusion zone.* If any suspected **human remains** are found during any activity, works must cease. The Victoria Police and the State Coroner's Office should be notified immediately. If there are reasonable grounds to believe the remains are Aboriginal, the Coronial Admissions and Enquiries hotline must be contacted immediately on 1300 888 544. Any such discovery at the activity area must follow these steps: *Discovery* a) If suspected human remains are discovered during the activity, all ongoing work in the vicinity must cease immediately. b) The remains must be left in situ and safeguarded and protected from harm or damage. *Notification* a) If suspected human remains have been found, the State Coroner's Office and the Victoria Police must be notified immediately; b) If there are reasonable grounds to believe the remains are Aboriginal Ancestral Remains, the Coronial Admissions and Enquiries hotline must be immediately notified on 1300 888 544; c) All details of the location and nature of the human remains must be provided to the relevant authorities; and d) If it is confirmed by these authorities the discovered remains are Aboriginal Ancestral Remains, the person responsible for the activity must report the existence of them to the Victorian Aboriginal Heritage Council in accordance with Section 17 of the Aboriginal Heritage Act 2006.

#	Aspect	Potential Risks/ Impacts	Relevant Legislation & Guidance Material	Barwon Water Minimum Requirements

Impact mitigation or salvage

a) The Victorian Aboriginal Heritage Council, after taking reasonable steps to consult with any Aboriginal person or body with an interest in the Aboriginal Ancestral Remains, will determine the appropriate course of action as required by Section 18(2)(b) of the Aboriginal Heritage Act 2006; and
b) An appropriate impact mitigation or salvage strategy as determined by the Victorian Aboriginal Heritage Council must be implemented by the Sponsor.

Curation and further analysis

a) The treatment of any salvaged Aboriginal Ancestral remains must be in accordance with direction provided by the Victorian Aboriginal Heritage Council.

Reburial

a) Any reburial site (s) will be clearly marked and fully documented, by an experienced and qualified archaeologist. First Peoples – State Relations (FP-SR) will be provided with specific details of the reburial.
b) Appropriate management measures must be implemented to ensure the remains are not disturbed in the future.

If Aboriginal cultural heritage material **other than human remains** is identified within the activity area at any time before, during or after the activity, the Sponsor must fulfil the following conditions:

a) At any time during construction, if suspected Aboriginal cultural heritage materials, features and/or deposits are found in the activity area, all construction that could potentially harm the suspected cultural heritage must cease, and a 10m buffer must be established around the potential find.
b) The area must be protected from harm through the installation of temporary (mesh and wire, above ground) fencing. Only construction that is required to comply with occupational and environmental health and safety standards and/or to protect the cultural heritage can occur within this buffer zone.
c) If any Aboriginal cultural heritage material and/or deposits are found as above, a suitably qualified and experienced archaeologist must be engaged to investigate the extent, nature,

#	Aspect	Potential Risks/ Impacts	Relevant Legislation & Guidance Material	Barwon Water Minimum Requirements
				and significance of the deposit with the involvement of representatives from the Registered Aboriginal Party (to be organised by a Heritage Advisor through Barwon Water), record in detail the location and context of the material, notify First Peoples – State Relations and the Registered Aboriginal Party, and update and/or complete and submit information to First Peoples – State Relations. d) In order to fulfil requirements of the Legislation, Barwon Water must seek to avoid harm to any Aboriginal cultural heritage. This may include adjustments to the proposed Activity design, to avoid the extent of the site. If not possible to avoid harm, Barwon Water must seek to minimise harm to Aboriginal cultural heritage. This may include minimising depth of impact, adjusting the activity footprint to avoid a section of the Aboriginal cultural heritage, or utilising alternative construction techniques. If not possible to avoid or minimise harm, Barwon Water must work with the Registered Aboriginal Party to determine appropriate mitigation measures. e) Any mitigation measures must be agreed to in writing by the Registered Aboriginal Party. f) Construction may recommence when the Registered Aboriginal Party and the archaeologist have deemed appropriate damage avoidance action or salvage has occurred. This agreement must be documented in writing.
P2	Historical Heritage	Damage to historical heritage values (Commonwealth or State) from work activities involving buildings, infrastructure or ground disturbance (e.g.	*Planning and Environment Act 1987* *Heritage Act 2017 and Heritage Regulations*	Where construction work may disturb a heritage place or object, the contractor must comply with the following: 1. Understand and comply with all relevant permits and approval conditions 2. Identify heritage objects or places on the SEP, with appropriate "No Go Zone" buffers 3. Conduct any required consultation with Heritage Victoria (where requested by Barwon Water). Where there are any known heritage objects or places associated with the project, Barwon Water has provided the accompanying report in **Appendix 6**

#	Aspect	Potential Risks/ Impacts	Relevant Legislation & Guidance Material	Barwon Water Minimum Requirements
		demolition, excavation)		
P3	Biodiversity (Flora & fauna)	Undertaking works (e.g. tree lopping, laydown areas on grasslands, vehicular movements, working in vicinity of trees, excavation) that may cause direct impacts to flora and fauna	*Environment Protection and Biodiversity Conservation Act 1999* *Flora and Fauna Guarantee Act 1988* *State Planning Policy Framework (SPPF) – Clause 52.17 Native vegetation This clause outlines the requirement for a permit to remove, destroy or lop native vegetation, including dead native vegetation.* *AS4970-2009 Protection of Trees on Development Sites* *AS4373-2007 Pruning of Amenity Trees*	The Contractor shall comply with the following requirements onsite to manage and protect biodiversity values: 1. Understand and comply with all relevant permits and approval conditions for the project. 2. All vegetation to be potentially impacted by the works needs to be clearly identified prior to the commencement of construction works. The Contractor shall not destroy, remove or trim any vegetation (trees, shrubs or grasses) without an applicable permit and the consent of Barwon Water. 3. Site features are to be clearly identified in the SEP, including site laydown areas, car parking and soil stockpiles. Ground disturbing activities must be restricted to these zones to avoid damage to vegetated areas (e.g. car parking in vegetated areas). 4. Establish "No Go Zones" for all significant flora and fauna habitat to be retained. All "No Go Zones" are to be reviewed and approved by Barwon Water Site Environmental Advisor prior to construction commencing. 5. Erect protective fences or covers to reduce the risk of animals falling into open trenches or pits. 6. Native fauna is not to be handled or harmed. If an animal is injured or killed on the site, the incident will be reported to Barwon Water, for action and notification of the appropriate authority. The Contractor shall contact Wildlife Victoria 24-hour Wildlife Emergency Hotline 13000 94535 and organise for the care of the animal if required. 7. For trees to be maintained, 'Tree Protection Zones' must be maintained, as defined by *AS4970-2009 Protection of Trees on Development Sites*. Any pruning must be undertaken by suitably qualified personnel and in accordance with *AS4373-2007 Pruning of Amenity Trees* Where there are any known threatened ecological communities or species, or native vegetation, Barwon Water has provided the accompanying report in **Appendix 6.**

9 Emergency preparedness

This section applies to Contractors that trigger a PMP, and this will form part of the PMP.

Section 9.4 applies to all contractors.

9.1 EMERGENCY MANAGEMENT PLAN

The Contractor shall prepare and implement an appropriate Emergency Management Plan to allow a rapid and appropriate response. This plan, at a minimum, shall include:

- likely scenarios and processes to manage identified potential emergencies
- location of first aid facilities/equipment
- name and contact details of first aid qualified personnel
- name and contact details of nearest medical facilities
- any other information that may be useful
- a list of all contact numbers is to be provided prior to the commencement of work on site. The list should include all contacts that may be required in an emergency:
    - hospital
    - Emergency Services (Fire/Ambulance/Police/SES)
    - poisons
    - gas/electricity/water
    - first aid
    - Site Manager/Foreman.

9.2 FIRE EQUIPMENT

The Contractor shall ensure the appropriate type; number and size of fire extinguishers are available for use on site.
In making this determination, the Contractor shall consider:

- The type of fires possible during the scope of works
- The potential fuel load in the event of a fire.
- The positioning and access to fire extinguishers.

Fire extinguishers shall be inspected on a six-monthly basis by a competent person.

9.3 WORKS DURING THE DECLARED FIRE PERIOD

The fire danger period generally runs from October through to May each year and is declared by the CFA.

The period is different for each municipality and is dependent on the amount of rain, grassland curing rate and other local conditions.

The CFA has stipulated the minimum requirements when working during this period. The following shall be considered the minimum requirements:

where mobile plant is being used:

- plant shall be fitted with a spark arrester in working order (unless it is fitted with a turbocharger or an exhaust aspirated air-cleaner)
- Mobile plant shall carry fire suppression equipment comprising either:
- at least one knapsack spray pump, in working order, fully charged with water, with a capacity of not less than 9 litres
- at least one water (stored pressure) fire extinguisher, in working order, fully charged with water and maintained at the correct pressure, with a capacity of not less than 9 litres.
- where hot works are undertaken:
- a fire-resistant shield or guard is in place to stop sparks, hot metal or slag.
- an area at least 1.5 metres from the operation is clear of flammable material or wetted down sufficiently to prevent the spread of fire
- you have a reticulated water supply or water spray knapsack containing at least 9 litres of water.
- all cut-offs and hot materials from the operation are placed in fire-proof receptacles.
- a person is in attendance (i.e. a fire watcher) at all times while the hot works are undertaken and has the capacity and means to extinguish the fire.
- *Note that the spark arrester, the knapsack spray pump and the water fire extinguisher referred to above must comply with the applicable Australian Standards.

9.4 TOTAL FIRE BAN DAYS

On days of total fire ban where the fire danger rating is catastrophic (and also high-end extreme), there will be no access to project sites within nominated high fire danger areas.

No hot works can be undertaken on declared total fire ban days within high fire risk areas regardless of the fire danger rating.

No hot works can be undertaken in non-high fire danger areas on days catastrophic (and also high-end extreme).

On days of total fire ban a Total Fire Ban Checklist has been developed and must be completed and discussed at the prestart meeting prior to any works commencing. The Total Fire Ban Checklist is attached in Appendix 2.

10 Workplace inspection & audits

10.1.1 Workplace inspections by Barwon Water

Barwon Water representatives shall undertake workplace inspections.

The Contractor is required to provide necessary access and cooperation. The Contractor will be formally advised of any identified issues and expected to action them within stipulated timeframes.

10.1.2 Workplace inspections by the Contractor

Contractor personnel shall conduct workplace inspections to ensure their workforce are conducting the works in accordance with legislative, company and site requirements. Inspections shall be undertaken in accordance with the contractors own systems and procedures.

A guide is that workplace inspections be conducted by Supervisor level at the following frequency:

- daily - documented in site diary records
- weekly - documented inspection on an inspection form.

Inspection records shall be maintained onsite for auditing purposes.

10.2 AUDITS

10.2.1 SQE audits by Barwon Water

The Contractor shall be audited by Barwon Water to ensure compliance against the SQE contract requirements set out in this document (typically within the first month and then once every four months).

The Contractor is required to provide appropriate representatives and cooperation to complete the audits / reviews.

Following an audit, the Contractor will receive a copy of the report detailing outcomes and non-conforming items which are to be addressed in the prescribed time frame.

Corrective actions will be provided to the contractor as a result of audit. These will be advised through the Barwon Water online management system. Failure to complete actions may result in suspension of the works at the discretion of the Contract Administrator. Any costs will be borne by the Contractor in respect to correcting Actions and resulting suspension or delays. Key learning's from the results of audits may be shared with other contractors as a preventative measure in re occurrence.

10.2.2 Internal system compliance audits by the Contractor

Contractors are expected to undertake internal audits of their own performance against company management systems. Frequencies will be written into the Project

Management Plan as an audit schedule. Failure to adhere to the audit schedule/s may result in suspension of the works at the discretion of the Contract Administrator. Any costs will be borne by the Contractor in respect to delays arising from not performing audits.

Barwon Water may request records of internal audits.

11 Documentation & records management

Contractor must maintain documented information and the documents shall be properly and uniquely numbered with the latest revision. Superseded versions shall be identified and controlled.

Documents include the following, but not limited to:

- policy and plans
- procedures/ work instructions
- forms (blank)
- Inspection and Test Plan/ Checklist (blank)
- design/ drawing.

Contractor must maintain records for the following, but not limited to:

- monitoring activities (internal audits, site inspections)
- incidents or non-conformances (safety and environmental)
- training records
- EPA waste tracker records
- Permissions for transportation of hazardous and Reportable Priority Waste
- Monthly industrial waste data
- EPR non-conformances.
- forms (filled)
- Inspection and Test Plan/ Checklist (filled)
- lab test records (e.g. Concrete, compaction, NDT)
- conformance (as built) survey records
- conformance certificates from suppliers
- mill certificate
- electrical and plumbing certificate of compliance
- permits, approvals, certificates, warranty and guarantee
- photographs.

All records shall be verified by the Project Quality Representative (PQR). A copy of all documents will be provided to the Client at Completion (refer to deliverables requirements section of Commissioning Requirements).

The Contractor shall ensure that all ITPs, checklists, test records and other supporting QA documentation are traceable and clearly cross referenced to a source document, ITP, Lot Number, Chainage or other clearly identifiable work component.

Barwon Water may request to see documentation and records during site walkthroughs or as part of a contractors reporting requirements. The Contractor will provide the information in a timely manner.

12 Incident reporting & investigation

The Contractor shall report all Safety, Quality or Environmental incidents, emergencies, non-conformances, near misses and unsafe acts/ behaviours or breaches.

12.1.1 Notification to Barwon Water

The Contractor shall verbally notify the Contract Administrator or Barwon Water HSW representative of incidents:

- Low severity - Verbal Report within 1hr / Written Report within 24hrs
- Medium severity - Verbal Report Immediately / Written Report within 24hrs
- High severity - Verbal Report Immediately / Written Report Within 24hrs.

12.1.2 Notification to authorities

Authorities such as WorkSafe, ESV and EPA Victoria shall be notified of incidents in accordance with the relevant Acts. Notification shall be undertaken by the Principal Contractor in management and control of the site. Barwon Water shall be immediately notified of any incident that requires notification to the authorities.

Where a notifiable incident occurs, the site/ scene shall be preserved until otherwise advised by the relevant Authority.

For details on what is required to be notified refer to:

- WorkSafe - https://www.worksafe.vic.gov.au/report-incident
- Energy Safe Victoria - https://www.esv.vic.gov.au/about-us/contact-us/lodge-incident-report
- Environment Protection Authority - https://www.epa.vic.gov.au/about-epa/laws/laws-and-your-business/reporting-a-notifiable-incident.

12.1.3 Incident reporting and investigation

The Contractors incident report shall include the following information:

- description and nature of incident
- who was involved
- when and where the incident occurred
- witness details
- immediate actions taken to manage the incident.

Barwon Water will inform the Contractor when they would like to be involved in discussions, and otherwise expect to be provided information as a learning and potentially raising an alert.

As a guide this is what Barwon Water would ask with respect to health and safety incidents:

Low Level Severity Incident occurring that **results in** or that has the realistic **potential** to lead to a minor injury or an injury requiring first aid. No time is lost from work. A 5Whys (or equivalent) should be completed.

Medium Severity Incident occurring that **results in** or that has the realistic **potential** to lead to an injury that requires medical treatment or results in time lost from work. A 5Whys (or equivalent) should be completed.

High Level Severity Incident occurring that **results in** or that has the realistic **potential** to lead to serious injury or death. ICAM (or equivalent) investigation is required.

13 Measurement of performance and continual improvement

Contractors shall be evaluated on their performance.

Assessment tools may include regular reporting, audits, reviews, inspections, tender evaluations, surveys and data.

Contractor shall, as requested, respond to events, actions requests and queries and use Barwon Water systems (such as CMO Compliance) and provide a suitable disposition of any arising query and ensure that any due by or action required by or closure date is adhered to.

13.1 CONTRACTOR MONTHLY PROJECT REPORT (SQE)

This section applies to Major Works – Construction projects.

The Contractor is required to complete the Contractors Monthly Project Report (SQE) Form (Appendix 1) and submit it monthly with their progress claim in satisfying one of the conditions precedent to payment.

13.2 POSITIVE PERFORMANCE INDICATOR FREQUENCY RATE

Key data submitted in the Contractor SQE Reports contribute towards a Positive Performance Indicator Frequency Rate (PPIFR) as a measure of the positive SQE activities undertaken by the Contractor over a period of time.

The following actions shall be considered in the calculation of the PPIFR:

Table 1 – Calculating the positive performance indicator frequency rate (PPIFR)

Action	Definition / Description
Hazard observations (Hazob) reported and closed out	Those physical or activity based hazards which have the potential to cause harm or property/environmental damage as reported by any form of hazard reporting/ recording process (e.g. HAZOB) during the reporting period.
Contractor documented workplace SQE inspections conducted	Informal and formal OHS, Quality or Environmental inspections. These do not include internal or external audits.
Toolbox talks developed and delivered	Targeted and specific SQE talks, discussions and/or presentations delivered at the workforce level with the aim to raise awareness and education on specific topics.
Documented leadership walks by senior management	A site visit by a senior representative of the Contractor who is not normally associated with the project works and who undertakes site observation, checks site culture and shows visible commitment to SQE.

Internal system compliance audits	Formal company internal or external audits conducted to a defined standard (e.g. OHSMS, SafetyMAP, Industry Standard audits, *ISO14001, ISO9001* or company audit tool). These do not include workplace SQE inspections.
Training hours	Number of resource hours assigned to attend recognised internal and external training courses and SQE development programs.
Attendance at SQE forums	At least one (1) company representative at Contractor SQE Forums as hosted by Barwon Water.
Achievement of specific environmental management requirements	As applicable in the table in section 8.

Furthermore, the following list of items/ details may be required to be provided at stages throughout the Project (as agreed mutually during the appointment phase – or at the request of an Auditor):

(a) a written report update of the quality program including key issues and Contractor performance
(b) audits, inspection and review outcomes
(c) status of outstanding action items (open RFI's, CAR's, NCR's, Audits)
(d) Lot management summary status – planned Lots to be open, Lots in progress, closed Lots
(e) any change management details a list of key project learning's/ legacy summary and any interaction issues.

Appendix 1 – Contractor Monthly Project Report (SQE)

Contractor Monthly Report

Page 1 of 2

Project:	**Contractor (Company):**
Month/ year:	**Date submitted:**
Contractor Representative (name):	**Signature:**

Submit to your Barwon Water Project Manager with monthly progress claim.

SQE statistics for Positive Performance Indicator Frequency Rate (PPIFR)	**Number**
Man-hours worked (including subcontractors)	
Hazards reported and closed out	
Documented workplace inspections undertaken (SQE, ITP, SWMS, Env, WRA/AMS)	
Toolbox talks developed and delivered	
Documented site leadership walks undertaken by Company senior management	
Internal compliance audits undertaken (QA)	

SQE incidents	**Number**
Number of incidents	

Incident reports already provided during month ☐ Yes ☐ No ☐ n/a If No provide details below

	Date	**Summary description**	**Classification**	**Rating (1,2,3)**

Quality	Number
Non-conformance reports (NCR's) raised	

NCR details already provided during month ☐ Yes ☐ No ☐ n/a If No provide details below

	Date	**Summary description**	**Status (open/closed)**	**Rating (1,2,3)**

Regulatory Agency interactions	**Date**
Details of any interactions, visits or infringements (e.g. WorkSafe, EPA Victoria etc.):	

Waste
Industrial waste produced for the month is to be recorded using the Barwon Water Waste Collection and Reporting Tool accessed via the Barwon Water website.
Comments/ General notes
Project summary/ monthly milestones. Details on any training, initiatives etc. Key changes to management plans, risk assessments, etc.

Appendix 2 – Total fire ban

Barwon Water	**Total Fire Ban Checklist**

Section 1: Project Details		
Project Name:	Contractor:	
Contractor Supervisor (print):	Contact No:	
Contractor Supervisor (sign):	Date:	Time:
Total number of persons on site:		
BW Representative:	Contact No:	
Is the Project in High Fire Risk Area: ☐ Yes ☐ No		
What CFA District is the Project in: ☐ Central ☐ South West		
Today's Fire Danger Rating: ☐ High ☐ Very High ☐ Severe ☐ Extreme ☐ Code Red		

Section 2: Emergency Management	
Method of monitoring fire outbreaks(describe): e.g. ABC Local Radio 774, www.cfa.vic.gov.au, www.dse.vic.gov.au	**Responsible Person:**
Method of raising alarm:	
If a fire is identified by an employee, it should be reported to **emergency services** by dialing **000.** When safe to do so BW to be notified on (03) 5246 7805	
Primary evacuation route:	
Secondary evacuation route:	
Muster point(s):	
Location of fire fighting equipment and other provisions:	

Section 3: Work Restrictions

Banned Activities:

1. Grinding, welding, soldering and gas cutting (unless exceptional circumstances and approved in Section 5 overleaf)
2. Flame torches
3. Lighting of fires
4. Using BBQ's on site

Activities to avoid:

1. Using chainsaws, tractors and slashers
2. Using generators
3. The use of general plant and machinery particularly in areas with dense vegetation and long dry grass
4. Driving vehicles off road particularly in areas with dense vegetation and long dry grass

Section 4: Sign Off

Contractor Representative (sign) :

Date and Time:

BW representative to be notified when works have been completed and all persons have departed site.

This information in this form is to be discussed at the daily prestart and retained onsite.

Notification to be sent to BW Fax: (03) 5221 0370 or Phone: (03) 5246 7805

Appendix 3 – Hold and witness points

Hold and witness points definitions, management and notification timeframes can be found in Section 7 in the main document.

Project Phase and Work Stage	Hold (H) or Witness (W) point type
Commencement	
Access to site and works commencement (This will be via issue of a letter confirming access to site – Clause 7.2(a))	H
Submission and review by Barwon Water of Inspection and Test Plans (including hold and witness points)	H
Post set-out of works	W
Concreting works	
Concrete mix design	H
Temporary works design (formwork)	H
Reinforcement and concrete pipework penetrations inspection (requires surveyed penetration location check)	H
Concrete pour/ shotcrete placement	W
Form stripping	W
Stressing operations (pre or post tensioning, etc.)	H
Submit tendon coil certificates	H
Grout strength/ properties test results confirmation	H
Pipe laying	
Excavation permit	H
Compaction method trial	H
Bedding materials grading curve	H
Trenching Permit submitted to WorkSafe	W
Drainage stops	W
Thrust blocks/ trench stops	W
Pre-installation pipe pressure test for directional drilling pipe	H
Air/ Scour valves and flange connections	
Torque wrench calibration	H
Gasket selection	H

Torque requirements established	H
Torque of flanges on site	H for first on project, then W thereafter
Coating/ wrapping of flanges	H for first on project, then W thereafter
Valve arrangement completion – pre-backfill	W
Welding	
Weld procedure pre-qualified	H
Welders are qualified to the weld procedure	H
Weld inspections (each initial weld type/ welder and material/ pipe type then at discretion of Barwon Water)	W
Welding consumables meet the procedure	W
Coatings	
Coating material selection	H
Coating application procedure	H
Surface preparation – pre application	H for first on surface type on project, then W thereafter
Coating thickness test	W
Coating Spark/ Jeep/ Holiday test	W
Steelwork	
Supply mill certificates prior to delivery	H
Provide 7 days' notice of galvanising	H
Building and tank	
Submit workshop drawings	H
Foundation inspections/ Bearing capacity	
A registered surveyor has verified that base levels for permanent structures are correct prior to the first pour/ lift	H
Pump station base/ floor	H
Pipe storage areas	W
Tank base	H
Building slabs/ footings	H
All permanent concrete pours (including permanent blinding)	W
Piling	

Pile Geotech requirements met	H
Pile design	H
Pile integrity test	H
Pile cut off inspection	H
Pre-pour/ cage inspection	H
Cut-ins / Pipe system shut-downs	
Cut-in Plan accepted	H
Isolation tagging complete	H
Approval to cut the main	H
Earthworks	
Earthworks compaction method	H
Subgrade inspection/ Confirmation of topsoil stripping and segregation	H
Proof roll each compaction layer	W
Electrical	
Commencement of the works – hold point	H
Approval of switchboards shop drawings prior to fabrication	H
Approval of acoustic enclosure shop drawings prior to fabrication	H
Switchboards factory acceptance test	H
Installation of all instruments	W
Inspection of flowmeter prior to backfill	W
Inspection of completed Telemetry Antenna System installation. This includes mounting of the antenna on mast and termination of all antenna cable connections.	W
Switchboard site acceptance test	H
Electrical/ control systems – equipment selection (pre-purchase)	H
Approval of conduits/ electrical cabling layout showing interface with pipework	H
Final commissioning	H
30 days prior to expiration of the Defects Liability Period	W
Stakeholder engagement and external permits	
Receipt of evidence of notification to property owners	H

Road opening and road occupancy permits	W
Traffic Management Plan	W
Receipt of Evidence of Notification to other Authorities including but not limited to Victrack, V/Line, Vicroads, Local Council, Powercor, Telstra and any other Authority where a permit is required	H
Safety, Quality, Environment & Risk	
Confined space applications for entry into existing Barwon Water assets	H
Confined space entry in all other areas	W
Above ground feature to identify underground services locations	W
Prior to removal/ trimming of vegetation	H
Approval of Dewatering Management Plan	H
Temporary works design review	H
Commissioning	
Pre-commissioning verification inspection by Tech Services Reps (Electrical and Telemetry required)	H
Approval of Final Commissioning Plan/ AMS	H
Pressure testing (including any isolations)	W
Flushing of pipeline prior to commissioning (potable water only)	H
Water quality testing	H
Any other pre-commissioning testing (including electrical)	W
All commissioning activities	W
Others	
Culvert excavation commencement	W
Approval of pumps prior to ordering	H
Approval of conduits/ electrical cabling layout showing interface with pipework	H
Note for Authors: *Insert project specific Hold & Witness points from the Technical Specifications, Barwon Water Operations and other sources as required.*	

Appendix 4 – Site Environmental Plan (SEP) example

An example Plan is available in PDF format on request from Barwon Water.

Appendix 5 – General reinstatement requirements

This document is available in PDF format on request from Barwon Water.

Appendix 6 - Approvals/ permits

Attach any external approvals here – for example technical assessments, planning permits, CMA approvals etc.