Procedure

Penetrations

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Ver No.	Description	Document Owner		Document Approver		
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2	Amended Version	Programs & Systems Business Partner	Refer to supporting Info in REX	Manager Health, Safety & Quality	Refer to supporting Info in REX	19/08/2025

Contents

1. Purpose

The purpose of this Procedure is to define Seqwater's process and controls for managing the risks associated with Penetrations.

2. Scope

This Procedure applies to all workers working under Seqwater's WHS Management System.

It does not apply to Principal Contractors (PC)s unless otherwise stated, as they will follow their own Health and Safety Management Systems. However, Principal Contractor must comply with Seqwater's Principal Contractor Minimum Health, Safety and Environmental Requirements Guideline (GDE-00368) meet or exceed the objectives of Seqwater's Critical Controls documented in the Critical Control Handbook (MAN-00313).

3. What is the Risk?

The Hazard Identification and Risk Management Procedure (PRO-00657) must be followed to identify and manage the risks associated with penetrations through walls, ceilings and floors. The risks associated with penetrations include:

1. Contact with Services
2. Injury to workers via electric shock or other hazardous energy sources
3. Impact to structural integrity
4. Workers falling through penetrations e.g. ceilings and roofs
5. Exposure to hazardous materials disturbed during the penetration work, including Asbestos, Lead or Silica.

3.1. SWMS

A SWMS must be completed for any work activity where penetrations are made through walls, roofs, ceilings or floors.

4. Penetration Risk Controls

The hierarchy of controls must be used to identify the most appropriate risk control measure to manage the risks associated with penetrations. The goal is to control the risks in the most effective way possible, starting with the most reliable and preventative measures. The hierarchy of control is structured as follows, from most to least effective:

Hierarchy of Controls	Example of possible risk control
Elimination (Highest level)	• Eliminate the requirement to undertake penetration work
Substitution	• Replace the process, plant or equipment, use of x-ray or magnetic induction

Hierarchy of Controls	Example of possible risk control
Isolation	• Isolate workers from hazards by installing barriers to separate pedestrians from penetration work • Isolate services to protect workers from hazardous energies in the event of accidental contact.
Engineering	• Design or re-design the process, plant or equipment
Administrative	• Review site drawings and asset information • Develop SWMS for undertaking tasks that involve penetrating activities. • Erecting warning signage around the work area.
Personal Protective Equipment (PPE) (Lowest level control)	• Hard hat, gloves, safety goggles, protective clothing, etc.

4.1. Penetrations Permit

A Penetration Permit Form (FRM-00636) is required for all penetrations performed by Seqwater employees, contractors and Principal Contractors (PCs):

- where services could exist; or
- that may impact on structural integrity, including penetrations into walls, ceilings and floors that:
    - are deeper than 50mm and greater than 50mm diameter, or
    - penetrates all the way through materials in walls, ceilings and floors.

4.2. Positively Identify Services

Any services that may be impacted by penetrations work must be positively identified prior to commence work. This may be done by:

1. Review of site plans
2. Visual inspection of penetration area
3. Use of X-Ray or magnetic induction

4.3. Isolation of Services

Services in the vicinity of the penetration must be isolated prior to commencing penetrations work. Seqwater workers must refer to the Energy Tag and Lockout Procedure (PRO-00014). For electrical isolations Seqwater workers must refer to the Electrical - High and Low Voltage Procedure (PRO-00006)

4.4. Structural Integrity

To maintain the structural integrity when conducting penetration work:

1. Positively identify any existing reinforcements by checking drawings and getting engineering advice if needed before cutting.
2. Avoid cutting load-bearing parts
3. Never make holes in beams, columns, or load-bearing walls unless approved by an RPEQ engineer.

4. Use reinforcement around the opening
5. Add steel bars, plates, or framing to support the area around the hole so the load is safely carried.
6. Install temporary supports if needed

4.5. Fall Prevention

Should the structural integrity of a floor or walkway be impacted by penetration and/or workers are working near holes or openings where they could fall, a fall prevention device (like a fence, edge protection, platform, or cover) must be used—if it's reasonably practical. As soon as holes or openings are made, they must be made safe right away, using controls like covers, barricades, or mesh.

Refer to the Barriers and Demarcation Procedure (PRO-02644) for guidance on selection of barriers to manage the risk of falling.

5. Definitions

Term	Definitions
Penetration	Refers to any openings or holes made into surfaces, walls, floors or structures.
Principal Contractor	The person conducting a business or undertaking appointed by Seqwater as the principal contractor for a construction project and given the management and control of the workplace at which the construction project will be carried out and who discharges the duties of the principal contractor under the *Work Health Safety Act 2011 Qld* and *Work Health Safety Regulation 2011 (Qld)*. A principal contractor is to be appointed by Seqwater for construction project to the value of $250,000 or greater.
Worker(s)	Includes all permanent, temporary, and casual employees of Seqwater, and: • vocational and work experience placements • volunteers contractors and consultants employed by another entity but temporarily assigned to do work for or on behalf of Seqwater.
Works Coordinator	An appropriately trained and competent Worker who has responsibility for managing the completion of a Work Activity. A Work Coordinator may be either a Seqwater employee or a Contractor depending on the work being performed. A Work Coordinator may include the Project Manager responsible for the delivery of a Project or the supervisor of a team responsible for the completion of a Work Activity. The training and competency of the Work Coordinator will vary depending on the Work Activity they are managing i.e. a Work Coordinator managing an electrical Work Activity will require different training and competencies than a civil Work Coordinator.

6. Roles and Responsibilities

Role	Responsibility
Work Coordinator	• Complete all planning documentation and permits required to perform the work. • Confirm applicable service location and isolation requirements have been met by approve the Penetrations Permit (FRM-00636) prior to works commencing.
Workers	• Follow any instructions in relation to undertaking penetration work activities. • Request a worker, PC or contractor to stop work if there is an imminent risk to HSW, until that risk is eliminated or mitigated to an acceptable level as approved by the relevant manager. • Utilise a SWMS to identify and implement risk control measures prior to commencing any penetration work activities. • Wear and maintain Personal Protective Equipment (PPE) as per requirements in the SWMS and training and instruction.

7. References and Related Materials

Description	Location
FRM-00636 Penetration Permit Form	REX
GDE-00368 Principal Contractor Minimum Health, Safety and Environmental Requirements Guideline	REX
MAN-00313 Critical Control Handbook	
PRO-00006 Electrical - High and Low Voltage Procedure	REX
PRO-00014 Energy Tag and Lockout Procedure	REX
PRO-00657 Hazard Identification and Risk Management Procedure	REX
PRO-02644 Barriers and Demarcation Procedure	REX