Excavation, Penetration and Demolition Procedure

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1 Objective
The objective of the Excavation, Penetration and Demolition Procedure is to provide guidance on measures that must be taken to control risks associated with excavation, penetration and demolition activities at University of Tasmania workplaces.

2 Scope
This Procedure applies to all workers and other persons performing excavation, penetration and demolition work at a University workplace.

This Procedure shall be read and used in conjunction with the Work Health and Safety Regulations and relevant Codes of Practice including Excavation Work, Construction Work, Demolition Work, Working in Confined Spaces and the Draft Code Working in the Vicinity of Overhead and Underground Electric Lines.

3 Procedure

3.1 Permits
For works being undertaken in occupied buildings, known permit requirements and risk issues shall be provided by the University to the contractor via the University’s Asset Management Information System (AMIS) Work Request communication system.

A Permit to Work (PTW) Issue Officer shall be assigned for each project/task involving excavation, penetration and/or demolition.

An Excavation, Penetration and Demolition Permit shall be completed and approved by the PTW Issue Officer prior to any of the following work being performed:
- excavation works exceeding 1.5 metres in depth, or for any tunnel
- penetration works (drilling, cutting, etc.) into or through any wall or building surface behind which any service, ducting, pipework or other supply may be present and
- demolition or dismantling of a structure, or part of a structure, that is load-bearing or otherwise related to the physical integrity of the structure.

Other permits that may be required prior to commencing excavation, penetration and/or demolition work include:
- Confined Space Entry Permit, if work is being carried out in a confined space (refer University Confined Space Entry Procedure)
- Hot Work Permit where the activity includes hot work (refer University Hot Work Procedure) and/or
- Working at Heights Permit, if there is a risk of a fall from a height of two metres or more, including works adjacent to trenches (refer to University Working at Heights Procedure).

Prior to commencing any excavation work to a depth of 200 millimetres and greater, Contractors must also:
- consultation with the nominated Infrastructure Services and Development (ISD) or Organisational Unit (OU) Contact Officer
- check relevant University site plans and
- perform an on-site services location check.
3.2 Risk Assessment
Permits to Work for excavation, penetration and demolition activities shall be issued subject to the provision of a current Safe Work Methods Statement (SWMS) for the work being undertaken and the completion of the University’s Take5 Safety Analysis (or similar).

Contractors shall ensure that risk assessment and control practices comply with the following Codes of Practice:
- *How to Manage Work Health and Safety Risks*
- *Construction Work*
- *Demolition Work* and
- *Excavation Work*.

A copy of the completed Take5 Safety Analysis shall be provided to the PTW Issue Officer for approval/retention before work commences.

3.3 Risk Control
The University shall, as far as is reasonably practicable, eliminate risk, or where not reasonably practicable shall minimise risk so far as is reasonably practicable in accordance with the hierarchy of control.

All excavation, penetration and demolition works undertaken at the University will comply with the *Work Health and Safety Regulations 2012*, Section 306, ‘Additional controls – trenches’.

3.3.1 Notification
ISD must be notified of all excavation, penetration and demolition works prior to such works commencing on University property.

Workplace Standards Tasmania must also be informed of any notifiable demolition works at least five days before commencement of the works, if the work involves:
- demolition of a structure, or a part of a structure that is loadbearing or otherwise related to the physical integrity of the structure, that is at least six metres in height
- load shifting machinery on a suspended floor and/or
- the use of explosives.

3.3.2 Signs and Barricades
The site of any excavation, penetration and/or demolition activities shall be secured from unauthorised access by physical barriers and/or warning signs.

In all cases of excavation, a barricade must be erected to prevent any person inadvertently falling into the work area.

Adequate public safety must also be maintained in public places and areas adjoining the work activities.

3.3.3 Essential Services
All risks associated with essential services at a work area must be managed prior to the commencement of any excavation, penetration and/or demolition works. Management of risks shall include:
- locating and identifying above-ground services, including electrical lines, that may impact on the work area
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- locating and identifying underground essential services that may be disturbed by the work and
- ensuring that the work is undertaken in compliance with the relevant sections of the *Work Health and Safety Regulations 2012*.

3.3.4 Work Methods and Safe Systems of Work
All excavation, penetration and demolition works undertaken at a University worksite shall be performed in a manner compliant with the relevant Codes of Practice.

The Codes of Practice outline various work methods and safety systems relevant to surface disturbance and demolition works, including:
- For excavation work - trenching, benching, battering and shoring.

3.3.5 Work Health and Safety Management Plan
A work health and safety (WHS) management plan will be prepared by the head contractor for all works where there are more than two contractors or subcontractors involved.

3.3.6 Construction/High Risk Construction Work
Any work deemed to be ‘construction work’ and/or ‘high risk construction work’ under the *Work Health and Safety Regulations 2012*, shall be performed in accordance with the requirements of the Regulations. This includes the preparation of a SWMS for ‘high risk construction work’.

3.3.7 Training
Workers and other persons performing, approving and supervising excavation, penetration and demolition work shall receive appropriate information, instruction and training for the type of PTW activities they may be performing or supervising.

All workers carrying out excavation, penetration and demolition work must have successfully completed general construction induction training (‘White Card’ training).

Workers performing activities requiring specialist training must also be licensed to perform that work (e.g. to operate specific types of plant or equipment, undertake high risk work or use explosives).

3.4 Responsibilities

**Officers** are responsible for ensuring that:
- this *Procedure* is implemented effectively within their area of responsibility, including the provision of adequate supervision of workers and
- risk assessments are reviewed, including review of control measures for risk reduction, implementation and effectiveness.

**PTW Issue Officers (Project Managers/Works Supervisors)** are responsible for:
- authorising and co-ordinating permits for PTW activities over which they have direct control
- retaining copies of authorised permits and risk assessments in accordance with the provisions of the University *Work Health Safety Record Management Guidelines*
Excavation, Penetration and Demolition Procedure

• controlling the risk of excavation, penetration and demolition works as far as is reasonably practicable
• establishing emergency and rescue procedures as required
• ensuring that workers and other persons are provided with appropriate information, training and instruction, including emergency and rescue procedures
• preparing, or ensuring preparation of, a SWMS for the proposed work prior to commencement of the work and
• reviewing, revising and approving Take5 Safety Analysis risk control measures.

ISD is responsible for:
• issuing Permits to Work
• ensuring execution, recording and retention of risk assessments for all excavation, penetration and demolition works
• notifying Workplace Standards Tasmania of relevant works
• retaining records of authorised permits and risk assessments and any other records arising from the conduct of this Procedure in accordance with the provisions of the University Work Health Safety Record Management Guidelines and Records Management Policy and
• implementing and monitoring the effectiveness of this Procedure, including worker compliance.

Workers are responsible for undertaking excavation, penetration and demolition work in accordance with:
• this Procedure and
• any information, training or instruction they have received.

4 Definitions and Acronyms

Academic Unit  Means the secondary organisational unit in the academic structure of the University, reporting directly to the College Executive Deans, as per Ordinance 14 – Academic Structure.

College  Means
(a) the primary organisational unit in the academic structure of the University, as per Ordinance 14 – Academic Structure
(b) the University College

Contractor  For the purposes of this Procedure, any worker engaged by the University to perform work for gain or reward other than an employee.

Construction work  In accordance with the Work Health and Safety Regulations, Section 289: any work carried out in connection with the construction, alteration, conversion, fitting-out, commissioning, renovation, repair, maintenance, refurbishment, demolition, decommissioning or dismantling of a structure, including any work connected with an excavation.

Employee  For the purposes of this Procedure, any University staff member.

Essential services  Services that supply:
• gas, water, sewerage, telecommunications, electricity, etc. or
• chemicals, fuel and refrigerant in pipes or lines.
Excavation work | Work that is undertaken to:
- make an excavation or
- fill or partly fill an excavation.

Executive Dean | Means:
(a) the Executive Dean of the relevant College, or
(b) in relation to the University College, the Principal of the University College

Head of Academic Unit | Means the head of the relevant Academic Unit

Height of a structure | Measured from the lowest level of the ground immediately adjacent to the base of the structure at the point at which the height is to be measured to its highest point.

Hierarchy of control | A ranking of risk control measures from the highest level of protection and reliability to the lowest, as follows:

<table>
<thead>
<tr>
<th>Level</th>
<th>Risk Control Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Eliminate the hazard;</td>
</tr>
<tr>
<td></td>
<td>Substitute the hazard with something safer</td>
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<tr>
<td></td>
<td>Isolate the hazard from people</td>
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<tr>
<td></td>
<td>Implement engineering controls to reduce risk</td>
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<tr>
<td></td>
<td>Implement administrative actions to reduce the level of harm</td>
</tr>
<tr>
<td></td>
<td>Use Personal Protective Equipment.</td>
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<tr>
<td>2</td>
<td></td>
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</tbody>
</table>
| 3     | If it is not reasonably practicable to eliminate a hazard, risk must be minimised by working through the remaining alternatives in the hierarchy.

High risk construction work | In accordance with the *Work Health and Safety Regulations*, Section 291: construction work that –

- involves a risk of a person falling more than 2 metres; or
- is carried out on a telecommunication tower or
- involves demolition of an element of a structure that is load-bearing or otherwise related to the physical integrity of the structure or
- involves, or is likely to involve, the disturbance of asbestos; or
- involves structural alterations or repairs that require temporary support to prevent collapse or
- is carried out in or near a confined space or
- is carried out in or near –
  - a shaft or trench with an excavated depth greater than 1.5 metres or
  - a tunnel or
- involves the use of explosives or
  - is carried out on or near pressurised gas distribution mains or piping or
i) is carried out on or near chemical, fuel or refrigerant lines or
j) carried out on or near energised electrical installations or services or
k) is carried out in an area that may have a contaminated or flammable atmosphere or
l) involves tilt-up or precast concrete or
m) is carried out on, in or adjacent to a road, railway, shipping lane or other traffic corridor that is in use by traffic other than pedestrians or
n) is carried out in an area at a workplace in which there is any movement of powered mobile plant or
o) is carried out in an area in which there are artificial extremes of temperature or
p) is carried out in or near water or other liquid that involves a risk of drowning or
q) involves diving work.

Officer
Any person at the University who makes, or participates in making, decisions that affect the whole, or a substantial part, of the University, including:
- members of University Council, boards and committees
- members of the Senior Management Team
- Executive Deans
- Heads of Organisational and Academic Units and
- Heads of Divisions

Organisational Unit
College, Faculty, School, Centre, University Institute, other University entity, Division, Section or University Business Enterprise.

Other person
For the purposes of this Procedure, all other persons that may be at the University who are not workers, including students and visitors.

Permit to Work (PTW) Issue Officer
Normally the Project Manager or Supervisor who is in direct control of the work and responsible for coordinating and authorising permits and associated PTW activities.

Safe Work Method Statement (SWMS)
A document that:
- lists the types of high risk construction work being done;
- states the health and safety hazards and risks arising from that work;
- describes how the risks will be controlled; and
- describes how the risk control measures will be put in place and maintained.

Surface Disturbance
Any work that involves excavating, penetrating or disturbing the ground 30 centimetres below the surface, including but not limited to:
- digging with a shovel, spade, pick or crowbar;
- digging or drilling with a mechanical device;
• driving of poles, piles or stakes;
• spiking; and
• explosive work.

Permit
A University form that authorises a particular Permit To Work activity (e.g. hot work). Permits are available from ISD and must be authorised by a PTW Issue Officer prior to work commencing.

Underground essential services
In accordance with the Work Health and Safety Regulations, any essential services that use pipes, cables or other associated plant located underground.

Underground essential services information, in relation to proposed excavation work
In accordance with the Work Health and Safety Regulations, information relating to underground essential services that may be affected by the excavation, including:
  a) the essential services that may be affected;
  b) the location, including the depth, of any pipes, cables or other plant associated with the affected essential services; and
  c) any conditions on the proposed excavation work.

Worker
Any person carrying out work in any capacity at the University as an employee, contractor or sub-contractor, employee of a labour hire company, outworker, apprentice or trainee, work integrated learning or work experience student and volunteer.

5 Supporting Documentation
• Codes of Practice including:
  o Excavation Work
  o Construction Work
  o Confined spaces
  o Demolition Work
• Confined Space Entry Procedure
• Hot Work Procedure
• Minimum Standard – Work Health and Safety Project and Task Risk Management
• Permit to Work Procedure
• Working at Heights Procedure
• University Work Health Safety Record Management Guidelines
• University Records Management Policy

6 Versioning

<table>
<thead>
<tr>
<th>Former Version(s)</th>
<th>Current Version</th>
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<tbody>
<tr>
<td>Version 1</td>
<td>Version 2</td>
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<tr>
<td>Excavation, Penetration and Demolition Procedure; approved by Responsible Officer, November, 2014, amended in December 2016 to incorporate Colleges.</td>
<td>Excavation, Penetration and Demolition Procedure (current document); approved by Responsible Officer, November, 2014, amended in December 2017 to reflect academic structures and nomenclature.</td>
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