



# Procedure: Excavation and surface penetration

## Purpose

The purpose of this procedure is to detail the process for obtaining permission to excavate, cut or core concrete, and cut or drill significant wall penetrations, and ensure that these activities are conducted in a safe and controlled manner on Australian National University property. This procedure meets the compliance requirements of the [Work Health and Safety Act 2011 \(Cth\)](#), the [Work Health and Safety Regulations 2011 \(Cth\)](#). This procedure is linked to the [University's Work health and safety policy](#) and is one of the Safe Work Procedures within the [WHS Management System](#). This procedure is based on the requirements in the Safe Work Australia [Code of Practice: Excavation Work](#).

## Definitions

**Clearance to excavate form** when completed and approved in full gives authority for approved types of excavation and/or penetration work to commence on University property.

**Concrete cutting and drilling** includes concrete slab cutting, concrete wall cutting, concrete pipe cutting, core drilling, chasing and asphalt cutting.

**Excavation** is the removal of the pre-existing surface at ground level or the penetration of the pre-existing surface at ground level, mass excavation, trenching, demolition, erection of any structure (temporary or permanent) which requires support from the ground (eg. tent pegs, fence posts, street signs, tree or significant plant) and the use of mechanical compaction equipment. It also includes the use of directional boring and high pressure water blasting equipment.

**Hand digging** is excavation done by non-powered hand tools (ie. shovels) except to break existing sealed surfaces.

**Project officer/coordinator** is the responsible University officer that must ensure that all the necessary checks are done to identify any services in the area of the excavation, and precautions have been undertaken (including the preliminary excavation if necessary) and that arrangements have been made to carry out the work safely, before an excavation permit is issued. This information must be provided to any person engaged to carry out excavation work.

**Services** in this procedure refers to any electrical cable (low voltage and high voltage), pipeline carrying fluids, gases or slurry, buried contaminant (such as chemicals,

radioactive substances, asbestos, etc.), or other services below the surface of the proposed excavation or penetration works.

## Procedure

### Scope

1. This procedure applies to all excavations and surface penetration undertaken on University property.

### Authority to issue clearances

2. All excavation on property owned by ANU must be cleared by the Director Facilities and Services. For the purposes of this procedure, the Director Facilities and Services delegates responsibility for approving clearances to the relevant ANU Project Officer/Coordinator.

3. Any person wishing to excavate on University grounds must follow the process detailed herein before the work can commence (also see ANU Procedure: [Alterations in or about University Buildings](#)).

### Process owner

4. The Facilities and Services officer responsible for the management of this process is the Space Manager.

### Responsibilities

5. The Director Facilities and Services, or delegate, is responsible for approving all excavations of ANU property.

6. The relevant University project officer/coordinator is responsible for oversight of the excavation clearance process (documented through the [Clearance to Excavate Form](#)) and providing final clearances.

7. Contractors are responsible for:

- obtaining the required '*Dial Before You Dig*' information from [www.1100.com.au](http://www.1100.com.au) and provide original electronic copies of this information to the University project officer/coordinator;
- liaising with various stakeholders and obtaining clearances from relevant organisations prior to commencement of planned works;
- conducting excavations in accordance with the clearance received and defined scope of works; and
- obtaining and maintaining the necessary competencies to undertake excavation

works.

## **Obtain a Clearance to Excavate Form (Planned Excavation)**

8. Clearance to excavate forms are available from the Facilities and Services Space and Drawing Office. They will also issue drawings detailing the known services located in the proposed area of excavation, or the floor slab, wall or road location. This form will only be issued to the University project officer/coordinator. The University project officer/coordinator must ensure that the contractor fully understands that the clearances and conditions must be obtained before work can commence.

9. The contractor is to be advised by the University project officer/coordinator that the University plans showing the position of underground services have been prepared solely for the University's own use. The plans may show the position of such services, other structures and equipment relative to fences, building walls, etc., as at the time the service was installed and may not take into account any subsequent change. The University accepts no liability for inaccuracies in the information or lack of information on plans provided to the contractor as part of this clearance process.

10. Persons excavating or carrying out other works are required to exercise due care in the completion of work and will be held responsible for any damage caused to services onsite at the University.

11. For all concrete cutting, drilling or coring activities, the contractor is required to prepare a Safe Work Method Statement (SWMS).

12. All Clearance to excavate forms require clearances to be obtained from '*Dial Before You Dig*' regardless of whether the drawings indicate that these services are located in the area of the proposed excavation.

13. If drawings show that there are services maintained by the University in the area of the proposed excavation, a clearance will also be required from the responsible University officer (see responsible officers detailed on the internal clearances section of the Clearance to excavate form).

14. The Clearance to excavate form must be completed in full.

15. In the case of an emergency it is expected that the contractor will take all care and responsibility to deal with emergencies as they occur. Any rectification or additional works that occur within normal business hours will be subject to the normal clearance to excavate form application and approval process.

## **Obtain clearances**

16. The University project officer/coordinator must obtain signatures from all of the

areas indicated on the [Clearance to excavate form](#).

17. The contractor must obtain all '*Dial Before You Dig*' information from [www.1100.com.au](http://www.1100.com.au) and provide original electronic copies of this information to the ANU project officer/coordinator.

### **Clearance to excavate**

18. Once the required signatures have been obtained, the Clearance to excavate form must be returned to the designated ANU Project Officer/Coordinator for final clearance. Clearances are only valid for a maximum period of three months from the date of final approval.

19. The University project officer/coordinator will return the original form to the contractor, place a copy on the relevant file and provide a copy and original (electronic) '*Dial Before You Dig*' documentation to the Facilities and Services Space and Drawing Office.

20. Note: The clearance / approval does not absolve the contractor of their responsibility to exercise due care during the excavation.

### **Action required before excavation work**

21. Prior to commencing the work, the contractor will ensure that the location of all services in the area of excavation (within 2m) is marked on site. The identification of services will be done by the organisations detailed in Table 1 or their nominated representatives.

Table 1: Services identification organisations

<b>Service</b>	<b>Organisation</b>
Gas Mains	ActewAGL / Jemena
High and Low Voltage Cables	ActewAGL
Water, Sewer and Stormwater Mains	ICON Water
Street Lighting (local electrical services) Cables/Wiring	Facilities and Services (ANU)
Communication Cabling	Information Technology Services (ANU)

Building management Systems Cable	Facilities and Services (ANU)
Water, Chilled Water, Sewer and Stormwater Service Lines	Facilities and Services (ANU)
Irrigation pipes	Facilities and Services (ANU)
Gardens and Grounds	Facilities and Services (ANU)

22. The contractor must organise the work program to ensure that sufficient notice is given to these areas prior to the commencement of work. Excavation cannot commence until these individual clearances have been obtained and services have been marked on site.

23. Where the scope of works covers concrete slab cutting, coring or drilling penetrations the contractor will ensure:

- that the building's electrical power, gas and water services associated with the concrete slab are identified and appropriately isolated and documented in a hazard assessment and or Safe Work Method Statement (SWMS);
- all disconnections are confirmed and physically locked and tagged out by each individual working at risk and the details recorded in the SWMS; and
- all cut surfaces of the slab penetrations are checked for evidence of unidentified services prior to reconnecting or re-energising the locked out services.

### **Method of excavation**

24. The preference of the University is for all excavation to be completed by Hydro Excavation/HydroVac, direction boring or hand digging.

### **Validity of clearance**

25. Approved clearances to excavate are only valid for the proposed excavation detailed on the [Clearance to excavate form](#).

26. Any subsequent excavations in the same area require a separate approval.

27. Special conditions apply to approvals issued by [ActewAGL](#), [ICON Water](#) and [Jemena](#), including a time limit on the validity of the clearance. These conditions are detailed on the clearance form issued by the relevant organisation.

## Reporting of unrecorded services

28. Where a worker identifies underground services which have not been recorded on the current drawings of the proposed excavation area, the worker is to forward the details to the Manager Drawing Office. The Manager Drawing Office will advise the relevant ANU worker when the drawings have been updated.

## Training

29. Training specific to the excavation work and to the site should be provided to workers by a competent person. Workers operating certain types of plant at the workplace must possess a valid licence to operate that plant.

30. Workers in a supervisory role (for example leading hand or foreman) should be experienced and trained in excavation work to ensure the work is carried out in accordance with the relevant SWMS.

31. Further information on general construction induction training and other training is available in Chapter 6 of the Code of Practice: [Construction Work](#).

## Sources

Legal and other requirements
<i>Work Health and Safety Act 2011 (Cth)</i>
<i>Work Health and Safety Regulations 2011 (Cth)</i>
<i>Australian Capital Territory (Planning and Land Management) Act 1988 (ACT)</i>
<i>Work Health and Safety Excavation Work Code of Practice 2015</i>
<i>Work Health and Safety Construction Work Code of Practice 2015</i>

## Document information

Title	Excavation and surface penetration
Document Type	Procedure
Document Number	ANUP_018010
Version	4
Purpose	To detail the process for obtaining permission to excavate, cut or core concrete, and cut or drill significant wall penetrations, and ensure that these activities are conducted in a safe and controlled manner on Australian National University property.
Audience	Staff
Category	Administrative
Topic	Health, Safety & Environment
Subtopic	Occupational Health & Safety
Effective Date	15 May 2018
Review Date	31 Dec 2023
Responsible Officer	Chief People Officer
Approved By	Chief Operating Officer (COO@anu.edu.au)
Contact Area	Human Resources Division (director.hr@anu.edu.au)
Authority	National Self-Insurer WHS Audit Tool Work Health & Safety Act 2011 Work Health and Safety Regulations 2011
Printed On	29 May 2023

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