



Essential guide: our Critical Risk expectations

Underground

The word **MUST** means it is a mandatory requirement. Where you see the words **YOUR CALL** it means you are strongly advised to do this, but you can use your judgement.



What does it mean to dig or break ground?

Before digging or breaking ground you **MUST** identify all existing or temporary underground services.

This **MUST** include all essential services that are at or near the work location and **MUST** be done prior to undertaking any work.

If your work involves any of the following you are likely to be digging or breaking ground:

- use of waratahs, pegs, stakes etc
- planting trees and vegetation
- digging holes for fence posts
- probing for services
- earthworks
- trenching
- piling
- hand digging
- drilling wells.

Notifications

Asset owners **MUST** be consulted when work is being undertaken near any in-ground services.

You **MUST** implement controls when working:

- near underground assets within 3 metres of electrical conductors
- near any cables, gas transmission or high-pressure pipelines (closer than 2 metres).



Isolation of services

Where possible, essential services **MUST** be isolated prior to undertaking work that is in close proximity to those services. This includes all underground, concealed and overhead essential services that may be impacted by the work.

All asset owners **MUST** be consulted prior to any isolation or de-energisation of service.



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How do I locate services?

All essential services (permanent or temporary) at or near the work location **MUST** be identified prior to any work commencing. Consider using existing As Built drawings and undertaking a visual inspection of the area.

Where there is a need to verify the exact location of services, in-ground services location technologies **MUST** be used, ie, cable avoidance tools (CATs) or ground probing radar.

Current (in date) plans **MUST** be obtained and referred to when working in a business-as-usual projects and brownfield projects (already developed land) prior to commencing works.

For greenfield projects (bare undeveloped land), accurate As Built plans **MUST** be developed as services are installed throughout the project and made available to all on site.

Any temporary services **MUST** be considered e.g. temporary power sources for portacomms .

You can talk with people who have previously conducted underground works in the area, their knowledge may be very helpful. You can also check with the GIS Team at Contact by clicking on the 'Got Questions' on the website to see what services they have on record, but you **MUST** not rely on this information alone.

You can use [B4UDig](#) GIS Surveyor for the region or the area that you are working in.

Protection of services

All essential services **MUST** be protected from damage while work is being undertaken.

Where there is a risk of a collision with mobile plant, services **MUST** be physically protected through the use of:

- enclosures
- cable trays
- bollards.

Services **MUST** have visual identifiers to alert workers of their location, they include:

- tapes
- locations marked on walls
- accurate temporary or as built plans
- tapes placed above services to give an early warning
- marker posts.

Be careful not to damage or move any cables or pipes. Remember, if you expose any long lengths of pipe or cables you **MUST** provide support to those pipes or cables. Discuss this with the asset owner on how best to achieve this.



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Safe digging practices

All essential services at or near the work location **MUST** be identified prior to any work commencing.

All asset owners **MUST** be consulted prior to any isolation or de-energisation of service.

Any excavation or penetration of ground more than 300mm requires an excavation permit. Once a permit is obtained there **MUST** be trained and experienced person/s in charge of authorising digging.

A combination of service location methods **MUST** be used to help identify where and what the service might be. In conjunction with location technologies and plans, potholes dug by careful hand digging **MUST** be used to confirm exact location of strategic services before any excavation is commenced to ensure all services are found.

While hand digging use insulated spades and shovels. Horizontal digging is recommended as the force applied to hand tools can be controlled more effectively.

Once using mechanical digging practices, excavate to permissible minimum approach distance (MADs) of the service. Once reached hand dig or hydro excavate.

Use a spotter when working within or near MADs.

Consider if you can use hydro excavation?

If there is any doubt as to where the service are located, stop work, and consult with the asset owner.