

Chapter 12

Utilities Installation and Trenching

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**EROSION AND SEDIMENT
CONTROL GUIDELINES**

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12 NON-SEDIMENT CONTAMINANTS

12.1 Introduction

Unless correctly planned and managed, the installation of services and utilities such as electricity, gas, water, sewer and telecommunications can result in significant disturbance to the ground surface. Soil erosion and sedimentation are common environmental impacts of trenching and dewatering of trenches.



Figure 12-1 Pipe installation being dewatered to decanting earth bund

Installation of these utilities and services in a residential subdivision generally takes place towards the end of the bulk earthworks phase. Trenching works may, therefore, traverse areas that have already been stabilised, and, in some cases, areas where sediment control measures have already been decommissioned. The trenches are often long and can cut across different water catchments. The earthworks are usually fairly minor in any one area but have a cumulative effect. The works are often undertaken along roads and close to stormwater inlets.

Pumping groundwater and rainwater out of trenches generates sediment-laden water that can be difficult to treat, particularly in the roadway where these works are usually done. Refer to Chapter 9, section 9.6 for advice on dewatering.

12.2 Planning and design requirements

Consider the following points when planning for installation of utilities:

- Install reticulation systems for water supply, stormwater and sanitary services and for other services and utilities at the same time as the road works.
- Co-ordinate installation of services and utilities with all relevant service providers and authorities, and, where possible, use common trenching.
- Make sure that trenching operators working in a larger site are aware of the erosion and sediment control plan for the overall site and understand that they should comply with its provisions, as well as with any specific erosion and sediment control requirements for their work.
- Installing utilities across flowing watercourses will require specific design and use of directional boring or waterway diversion methods outlined in Chapter 11.

- In areas where ephemeral water is likely to concentrate, create a dam above the site with sandbags or similar, carry out the works and reinstate and stabilize the surface.
- Plan the works so as to minimise both the extent and duration of site disturbance, particularly in high-risk areas close to watercourses and on slopes steeper than 10%.
- When trenching has been completed independent of other activities onsite, plan for progressive stabilisation and restoration of disturbed areas.
- Where practicable, plan and undertake works in appropriately sized stages so that trenching is not open for a period longer than three days and can be stabilised in a rolling manner.

12.3 Construction requirements

Address the aspects below when undertaking installation of utilities:

- If trenching works affect pre-existing erosion and sediment control measures, those measures should be carefully removed and then immediately reinstated at completion of the works.
- Additional erosion and sediment control contingency measures will usually be needed for the duration of trenching activities, and until the original measures are reinstated or replaced.
- Avoid opening trenches when there is a forecast risk of high rainfall.
- Divert above-site water away from work areas with temporary contour drains (Chapter 8, section 8.2.2); don't allow the trench excavation to concentrate or convey runoff.
- Topsoil and spoil should be stockpiled separately on the upslope side of the trench. Do not put stockpiles of topsoil, spoil or bedding material in overland flow paths or within 1m of a hazard area such as kerb and channels, stormwater inlets, paved footpaths or driveways.
- Minimise soil loss by protecting all stockpiles with covers such as geotextile fabric.
- Dewatering of trenches should not pollute any stormwater system or downstream watercourse; use appropriate dewatering methods (refer Chapter 9, section 9.6) or pump sediment-laden water to a tanker for appropriate offsite disposal.
- Leave the final level in the back filled trench slightly above that of the adjacent ground to allow for subsequent settlement, but make sure this does not cause concentration of overland flow.
- Remove excess spoil and/or bedding material from the site as soon as work is completed, or immediately incorporate into other works onsite.

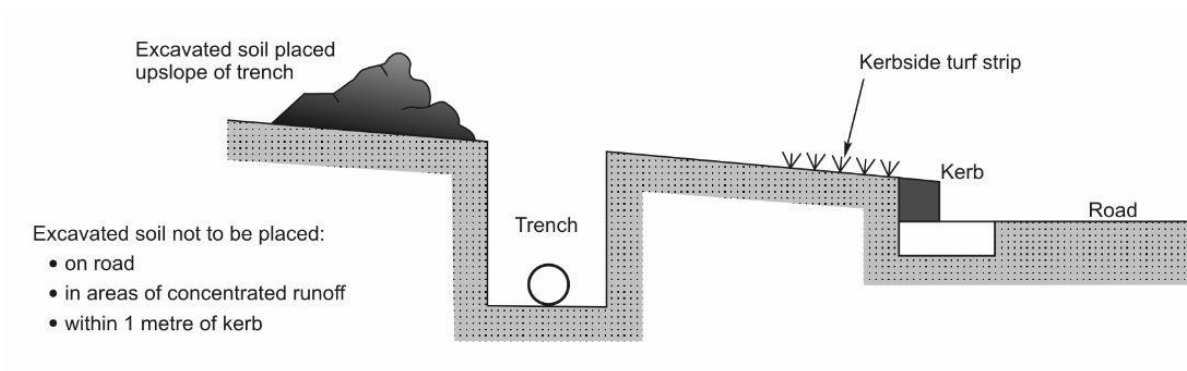


Figure 12-2 Typical trenching methodology