

# Guidelines for controlled activities

## Laying pipes and cables in watercourses

This guideline relates to the laying of pipes and cables in or across watercourses and the adjoining riparian corridor for utilities such as sewage, water, gas, electricity and communications.

Controlled activities carried out in, on or under waterfront land are now regulated by the *Water Management Act 2000* (WMA). The Department of Water and Energy is required to assess the impact of a controlled activity to ensure that minimal harm will be done to any waterfront land, ie the bed and a distance inland of 40 metres from a river, lake or estuary.

This means that a controlled activity approval must be obtained from the Department prior to carrying out a controlled activity.

When considering the placement of utilities in or across watercourses the design and construction footprint and the extent of disturbances proposed in the watercourse and riparian corridor should be minimised. Appropriate rehabilitation of disturbed areas post installation will be required to adequately restore bed and bank stability as well as the integrity of the vegetated riparian corridor.

The design and installation of utilities in or across a watercourse should consider, but not be limited to, the following:

- Identify the appropriate width of the riparian corridor in accordance with the Department's *Guidelines for controlled activities – Riparian corridors*. The location and installation of utilities should consider the full width of the riparian corridor and riparian functions including accommodating fully structured native vegetation.
- The design and construction footprint, and extent of disturbances to soil and vegetation within the watercourse and riparian corridor, should be minimised.
- Ideally, existing easements should be utilised. Utilities should be incorporated within existing cleared or disturbed areas with (or adjacent to) other crossing points such as roads, particularly if future maintenance and on-going access is required.
- Maintain existing or natural hydraulic, hydrologic, geomorphic and ecological functions of the watercourse. Demonstrate that the utility installations will not impact on these functions.
- Identify options for works and show rationale for the selection of preferred options.
- Directional boring under watercourses is preferred to trenching through a watercourse so that construction impacts are minimised.
- Directional boring considerations:
  - Minimise or avoid disturbance to channel bed and banks
  - Minimise or avoid rehabilitation, maintenance and on-going costs after construction
  - ensure depth is sufficient to avoid cave-ins
  - risk of bed collapse and frac-outs during boring
  - ensure depth does not result in exposure of assets if channel experiences bed or bank degradation
  - bore entry and exit locations should be located outside designated riparian corridors
  - recovery and removal of construction plant and materials (including drilling mud).
- Trenching considerations:
  - rehabilitation of disturbed bed and banks will be required
  - lay pipes and cables across the watercourse on the downstream side of channel bedrock outcrops (through the drop deposit zone if a plunge pool is present)



- avoid outside bends – choose a straight section of the watercourse to cross
- place infrastructure below calculated bankfull flow scour depths and allow a safety margin
- avoid concrete caps and casings at shallow depths which may become exposed by bed lowering
- backfilling should restore the channel shape and bed level to preconstruction condition
- trench is to be open for minimal length of time
- where flow in a watercourse is permanent consider staging the trench across part of the channel to maintain flows. Flows should not to be stopped unless essential; if necessary to stop flows it must be for a minimal time only.
- additional disturbances from temporary coffer dams or diverting flows around work site, vehicle and machinery access and crossings, material stockpiles, etc.
- potential water quality issues (turbidity, spills)
- recovery and removal of construction plant and materials.

When seeking approval to install utilities across a watercourse, information detailing the above should be submitted to the Department for assessment. Details of all works/activities within watercourses should be designed by suitably qualified persons.

Additional information will generally also be required and may include but not be limited to:

- Design drawings of proposed works/structures. Engineering certification may be required.
- Design drawings which include a surveyed plan, cross sections (across the watercourse) and a long section of the watercourse, showing the proposed works relative to existing and proposed bed and bank profiles and water levels. The cross section is to extend to the landward limit of the identified riparian corridor.
- A report detailing pre and post construction hydraulic, hydrologic and geomorphic conditions.
- Plans showing the extent and designs of bed and bank stabilisation works for scour protection.
- Photographs of the site should be supplied and photo points should be identified for future monitoring and reporting purposes. The photo points should be identified by GPS coordinates or by survey particularly for large scale earthworks or extractive industries.
- A Vegetation Management Plan prepared in accordance with the Department's *Guidelines for controlled activities – Vegetation Management Plans*
- A Site Management plan incorporating the schedule, sequence and duration of works, erosion and sediment controls, monitoring and reporting, etc.
- Costing of all works (ie materials, labour) and stages of works (eg channel stabilisation, rehabilitation)
- Other relevant approvals, eg. development consent.

## Further information

If you require more information about controlled activity approvals please contact your local DWE office or visit our website [www.dwe.nsw.gov.au](http://www.dwe.nsw.gov.au)

### Important notes

DWE has prepared these guidelines in good faith. In the case of any inconsistency between the guidelines and the controlled activity approval or legislation, the controlled activity approval or legislation will prevail to the extent of that inconsistency.

Nothing in these guidelines is taken to authorise a controlled activity. These guidelines are designed to provide information to assist in the design of any development or work that constitutes a controlled activity and the preparation of an application for a controlled activity approval. Users are advised to seek professional advice and to refer to the legislation and any relevant approvals, as necessary, before taking action in relation to any matters covered by the guidelines.

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DWE 07\_226c  
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