

BARWELL PHASE 2

Drainage during construction

Construction Run-off Management

Installing the surface water and foul drainage system, whilst managing temporary run-off, are key aspects of the construction works involved in any development. The information provided below is in accordance with the 'C698 Site handbook for the construction of SuDS' (CIRIA, 2007).

Management of Construction (Including Drainage)

Drainage is typically an early activity in the construction stage of a development, taking form during the earthworks phase. However, final construction i.e. piped drainage system connections to the SuDS devices, should not take place until the end of site development work, unless a robust strategy for silt-removal is implemented prior to occupation of the site.

The following key points are general construction issues associated with SuDS which will need to be considered during the detailed design of these temporary drainage works:

Silt-laden waters from construction sites represent a common form of waterborne pollution;

These silt-laden waters cannot enter SuDS drainage systems unless specifically designed to accept this as it can clog the systems and pollute receiving waters. Therefore, piped drainage systems should not be connected to the attenuation SuDS devices until the late stages of construction.

Any gullies and piped systems should be capped off during construction and fully jetted and cleaned prior to connection to the attenuation SuDS devices.

Temporary Drainage During Construction

The three principal aspects of drainage control during construction are trapping sediment, conveying run-off, and controlling run-off.

Sediment traps and barriers can include basin traps and sediment fences (with any necessary boundary controls). The principal basins are to be installed after the construction site is accessed. Sediment fences and barriers will then be installed as needed during grading.

Conveyance of run-off can be achieved through small ditches/streams (also known as grips) and storm drains, all with sufficient inlet/outlet protection.

Slope stability needs to be considered when using any channels to convey run-off across the site into any basins etc. This will need to be confirmed by a Geotechnical Engineer.

Run-off control measures will need to be implemented in order not overwhelm the temporary system and cause flooding issues. Run-off rates from the site will be managed so they are no greater than pre-development or in keeping with the best practice guidance to minimise risk of blockage. Any additional conveyance measures are to be installed as needed during grading.

Run-off control to include provision of perimeter ditches or appropriate levels grading to direct any water from the construction site to remain on site.

Any necessary surface stabilisation measures are to be applied immediately on all disturbed areas where construction work is either delayed or incomplete.

Maintenance inspections are to be performed weekly, and maintenance repairs to be made immediately after periods of rainfall.

Protection of Drainage Infrastructure during Construction

All proposed and temporary drainage infrastructure should be protected from damage by construction traffic and heavy machinery through the implementation of measures such as temporary bridges, protective barriers, and storing construction materials away from the drainage infrastructure.