

Installation Procedures

HydroCon permeable concrete pipes are intended for the management and treatment of stormwater 'at source'.

A HydroCon pipe system requires an inlet pit to which a number of pipes are connected. HydroCon pipelines are terminated with either an 'end-plated' pipe (Plates 10 & 11) or a standard stormwater pit. A terminating configuration ensures that flow velocities within a HydroCon pipeline are very low. HydroCon pipes should not be connected directly to outflow pipes.

An overflow mechanism is required to allow water to surcharge when flows exceed HydroCon pipeline storage capacities. Input pits provide this function. Where surcharge from more than one pit is desirable or where pipelines are longer than 40 m, stormwater pits may be used to terminate HydroCon pipelines. Using more pits will help to distribute stormwater more evenly across the surface of the bioretention or media filtration system.

HydroCon pipes are easily and swiftly installed by adopting the following procedures:

1. After excavation of a trench or basin, inlet pit(s) are constructed. The pits may be formed up on site (Plates 1 & 2) or placed in position as precast units. The trench or basin should then be filled with specified filtration media (eg sand, gravel or granular activated carbon) compacting in layers. Continue to fill until the level of the media is 50 mm above the bottom of the outlet hole of the inlet pit.
2. Pipes can be transferred to the site with lifting tyres (Plate 3) or manoeuvred into position with harness (Plate 11) or other equipment.
3. Position pipes, working out from the inlet pit and successively checking level and alignment of each pipe. Pipes are laid at zero gradient. Where an end-plated pipe is to be used to terminate the pipeline (Plates 10 & 11), make sure that the correct end of the initial pipe is inserted into the inlet pit (note Plates 4 & 5). To prevent media entering the joints between pipes during installations, it is advisable to place 100 mm wide geotextile strips (eg Geotex) externally around each joint. Strips should be cut to such a length that will wrap around the joint with at least a 200 – 300 mm overlap at the crown ie 2.25 m for DN500 pipes and 1.55 m for DN300 pipes (Plates 6 & 7).
4. Use a stiff mortar mix to seal the connection between the initial HydroCon pipe and the inlet pit. This operation may be undertaken at any time prior to back filling of the trench.
5. When pits and pipes have been placed in position, the trench/basin is backfilled with media to the depth specified in the system design. Ensure that the media is carefully tucked in and lightly compacted around the HydroCon pipes and in doing so that positioning of the pipes is not disturbed.



Plate 1



Plate 2



Plate 3



Plate 4



Plate 5



Plate 6



Plate 7



Plate 8



Plate 9



Plate 10



Plate 11



Plate 12