

Service corridors for Welsh Water assets in relation to SuDS features

Technical note

The implementation of Sustainable Urban Drainage Systems (SuDS) legislation and SuDS Approval Bodies (SAB) has increased the focus on the use of permeable paving systems as they become more prevalent.

Some surfaces are naturally porous and this is not to say that public assets cannot necessarily be located under such surfaces. Our concern is with engineered surfaces (and the supporting engineered sub-strata) not akin to traditional road surfaces, where the feature is being especially designed to convey, store or dispose of surface water. For example, a permeable paving system which relies on the integrity of a membrane layer will naturally impede access to any public asset underneath and add complexity to any excavation works.

In general Dŵr Cymru Welsh Water (DCWW) does not accept public assets located underneath surface water attenuation/disposal features, traditionally this has featured conventional tanks or soakaways.

If a SuDS feature is on a development requiring SAB consent, that feature will likely need to be formally registered. In such cases we cannot accept a public asset being located directly under a registered SuDS feature as this places undue constraint on our ability to access our assets in order to maintain and repair them.

The design of SuDS features, such as permeable paving systems, needs to take into account the design of buried utility services (e.g. public clean water and waste water assets). It has been more common place for service corridors to be provided where necessary for public clean water assets, and the principals for public waste water assets are the same. DCWW has proactively engaged with the SAB process to date and the points raised here are primarily with public clean and waste water assets in mind. However, the requirements of other utility providers should also be taken into account.

Section 9.3 in CIRIA report C753 (The SuDS Manual) states that the layout of buried utility services needs to be considered as part of the overall SuDS design. As far as possible the services should be located in corridors, and the choice of SuDS should recognise their presence. The example given is that pervious surfaces over such services may not be appropriate due to the excavation needed to maintain those services in future.

Section 10.2.9 in The SuDS Manual states that “wherever possible, services should be located in specific service corridors that are surfaced with normal construction.” If the design of the services (i.e. adoptable sewers) is being carried out in conjunction with the design of the SuDS then the opportunity to harmonise the overall design without compromising either element is maximised.

The SuDS Manual states that “Using an appropriate mix of permeable and impermeable surfacing can provide structure to the overall design layout – both visually and technically.... For example, an impermeable central carriageway might be employed to contain services, visually differentiating from pervious parking bays. Alternatively, impermeable service crossings could also be used as pedestrian ways, clearly differentiating from pervious areas intended for vehicle.”

In the first instance a design should avoid any clashes between SuDS features and buried utility services where practicable. For example, this could include routing adoptable sewers outside of highway areas as per Sewers for Adoption 7th edition.

If a clash cannot be avoided then a service corridor will need to be provided for the utility services. The design should minimise the length of assets affected and therefore the length of service corridor needed.

- The width of the service corridor should be enough to allow safe excavation to access any part of the service(s) it covers without the excavation affecting the SuDS feature. The service corridor width will therefore largely depend on the depth of the service(s).
- The service corridor construction should prevent water ingress from the SuDS feature it passes through. This can be achieved with the use of impermeable geomembrane or clay stanks.