

F/22/93194 Ageas development

Ecology Comments 16.11.23

We require further information primarily regarding the modification of the pond and lakes to provide sufficient filtration for treatment of surface water, the area of infiltration (temporary car park) and additional treatment of surface water at the residential home and canopy.

CHARACTER AREA 5

Interception/ source control is a fundamental part of good SuDS. In particular, Character Area 5 of the proposal does not demonstrate this. The proposed drainage scheme is a more traditional system with an extensive underground pipe network leading to a basin(s) just upstream of the discharge point. This is not ideal and the underground pipe network should be minimised with the water brought to the surface in vegetated features and pervious paving wherever possible. Unfortunately, the layout was planned prior to a SuDS being designed (rather than the layout being led by conceptual SuDS planning) and therefore there are now limited opportunities to integrate SuDS throughout the development.

Southern area of residential parcel (drainage strategy sheets 4, 3, 2)

Proposed drainage from this area passes through two attenuation basins (Basin 1 and Basin 2) before being discharged to the realigned Telegraph Brook.

Surface water from two car parks for two blocks of flats at the eastern side will pass through an additional form of filtration (pervious paving) for these areas.

This level of filtration satisfies the SuDS manual criteria regarding WQ. However, EBC's Policy DM7 requires a further form of treatment of the surface water prior to discharge from the site (three forms in total) which previously has been agreed to be provided through the modification of the existing downstream ponds/ lakes. These modifications must form part of the drainage proposals and must be shown to be capable of acting as an effective filtration component.

As source control is limited in the scheme, the design of Basin 1 is crucial. A sediment trap at the inlet end of the basin is required to enable easier maintenance to ensure the effective working of the basin to maintain the WQ of the discharge.

Northern area of residential parcel (drainage strategy sheets 2, 1)

The majority of run off from this area will pass through one attenuation basin (Basin 2) before being discharged into the realigned Telegraph Brook.

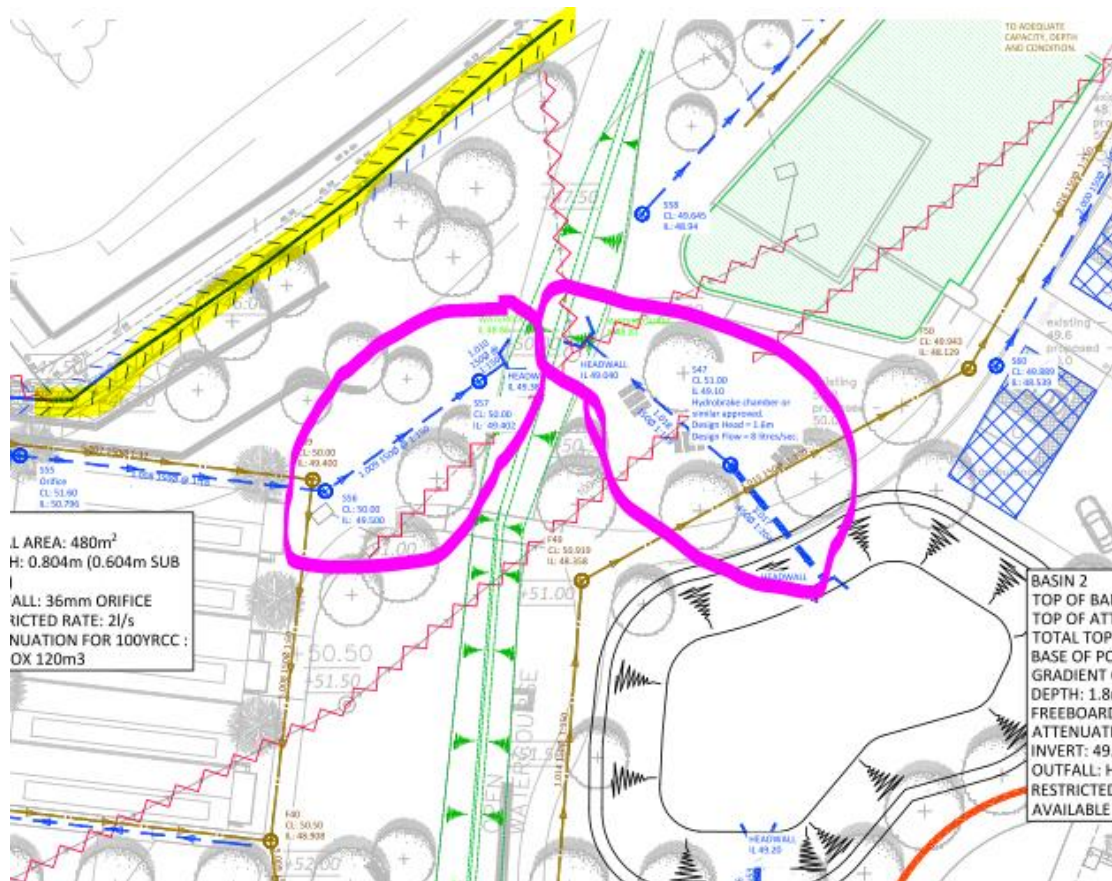
Run off from the remainder of the area will pass through the pervious paving of the car park of a block of flats prior to discharge to the realigned Telegraph Brook.

Provided both the attenuation basin and pervious paving are designed to function effectively to filter all of the receiving surface water runoff, then this satisfies the SuDS manual criteria regarding WQ. However, EBC's Policy DM7 requires a further two forms of treatment of the surface water prior to discharge from the site (three forms in total) which previously has been agreed to be provided through the modification of the existing downstream ponds/ lakes. These modifications must form part of the drainage proposals and must be shown to be capable of acting as effective filtration components.

As source control is limited in the scheme, the design of Basin 2 is crucial. A sediment trap at the inlet end of the basin is required to enable easier maintenance to ensure the effective working of the basin to maintain the WQ of the discharge.

The pervious paving will receive run off from impermeable areas several times its size. Therefore, the levels and flow paths within the pervious paving must be designed to ensure sufficient filtration is provided.

The underground pipe network should be minimised as much as possible. Could these two pipes circled pink below become open surface channels?



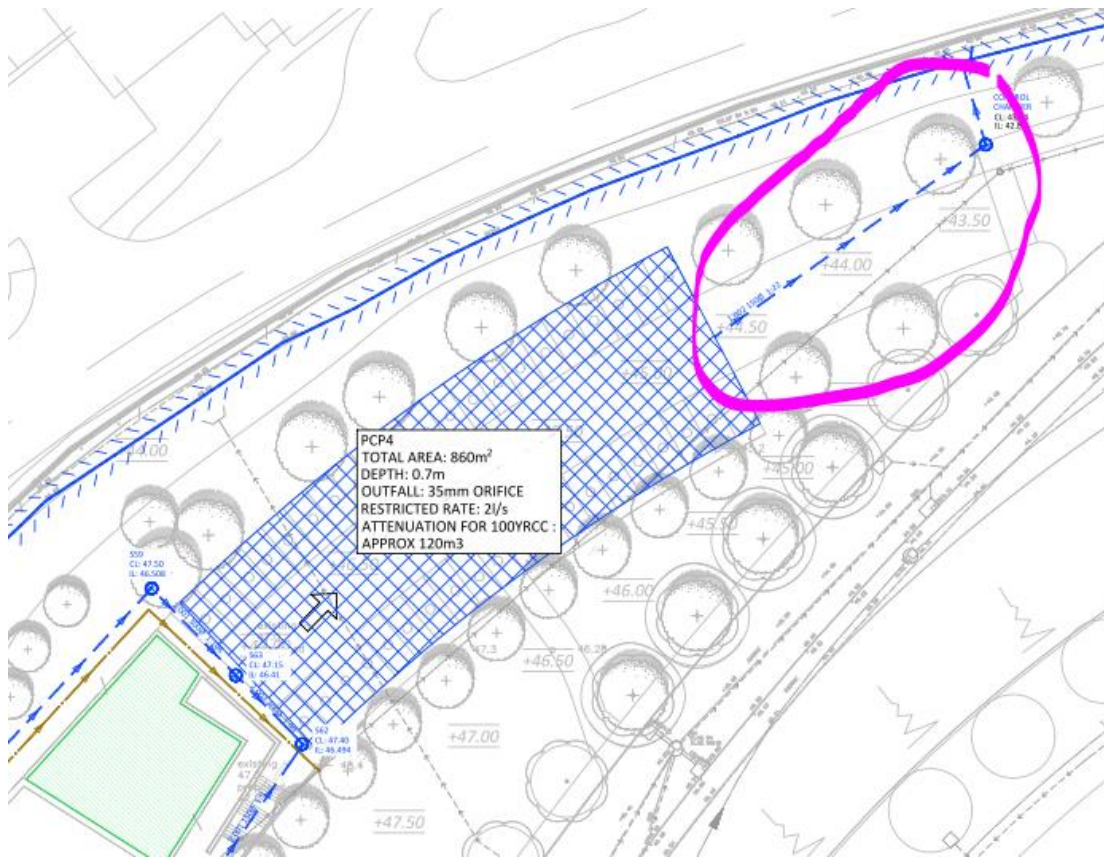
As the upstream culvert of the Telegraph Brook will be realigned, the highlighted stretch of watercourse above will no longer take upstream flows and will only take very localised runoff. It may also act as a backwater dependent on its bed levels and the water levels in the realigned and retained connected stretches of the Telegraph Brook.

Wellbeing centre (drainage strategy sheet 5)

The green roof will provide good interception and run off will enter the adjacent pervious paving of the car park prior to discharge into the Telegraph Brook providing one form of filtration for the car park.

This level of filtration satisfies the SuDS manual criteria regarding WQ. However, EBC's Policy DM7 requires two further forms of treatment of the surface water prior to discharge from the site (three forms in total) which previously has been agreed to be provided through the modification of the existing downstream ponds/ lakes. These modifications must form part of the drainage proposals and must be shown to be capable of acting as effective filtration components.

The underground pipe network should be minimised as much as possible. Is there scope to change the pipe circled pink below to an open surface channel?



CHARACTER AREA 1

New hotel (drainage strategy sheet 6 or 8)

Drainage from the roof of new hotel and pedestrianised areas will pass through pervious paving (with storage tank underneath) prior to discharge to the realigned Telegraph Brook.

This level of filtration satisfies the SuDS manual criteria regarding WQ. However, EBC's Policy DM7 requires two further forms of treatment of the surface water prior to discharge from the site (three forms in total) which previously has been agreed to be provided through the modification of the existing downstream ponds/ lakes. These modifications must form part of the drainage proposals and must be shown to be capable of acting as effective filtration components.

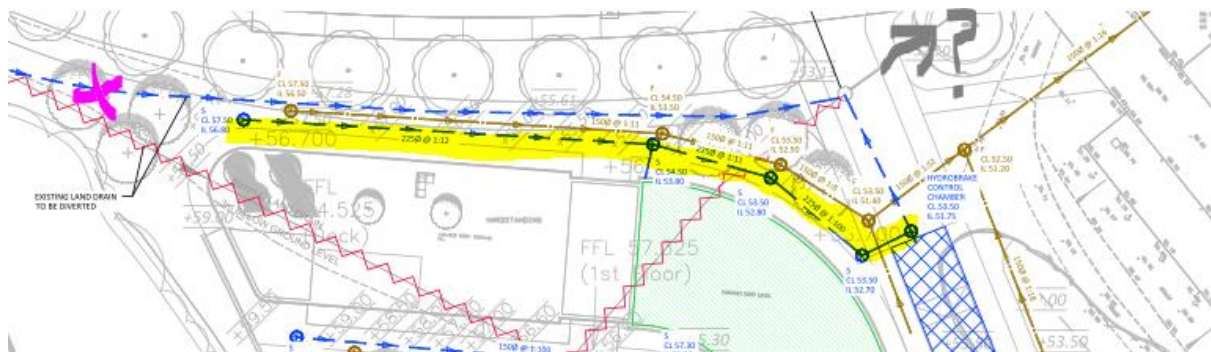
Overflow car park (drainage strategy sheet 7)

Discharge by infiltration is proposed. Turfmesh and cellweb is proposed and therefore much of the surface will be surfaced with natural vegetated material with an infiltrating filter strip at the north/north-east edge. Which hazard and mitigation indices have been attributed to the area? Has site investigation been carried out to establish the groundwater level to ensure there is a sufficient depth of unsaturated substrate (a minimum of 1m)? Does the existing substrate meet the required design specifications for infiltration (soil with a good attenuation potential of at least 3000mm in depth) or is replacement substrate proposed?

Residential home (drainage strategy sheet 9)

This level of filtration does not satisfy EBC's Policy DM7 which requires two further forms of treatment of the surface water prior to discharge from the site (three forms in total). It is not shown to where the existing surface water drain discharges to but presumably it does not enter the ponds/lakes (proposed to be modified to become effective filtration features) and the surface water entering this drain will be carried from the site with no further treatment. This needs to be corrected to ensure sufficient treatment of the surface water prior to discharge.

It is unclear where the surface water pipe marked with a pink x below is from. Is this taking runoff from the new development and what treatment has this runoff undergone prior to discharge?



Canopy (drainage strategy sheet 10)

Although the proposed drainage scenario is effectively the same as the existing, we seek a betterment. The inclusion of a rain garden for example, could provide WQ, biodiversity, amenity and attenuation benefits.

Ecologist