

Technical Note

Project	St Joan of Arc	Project No	12970/R01
Subject	Section 73 Drainage Note	Date	5 September 2023
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This technical note has been prepared in support of the Section 73 application for the St Joan of Arc School development. The scheme consists the erection of a new science block building with associated landscaping under the extant planning permission 21/2747/FUL.

The approved drainage strategy as noted under the Decision Notice was shown on drawing 12970-CRH-XX-00-DR-C-5050 Rev P5 under cover of corresponded of 23rd June 2022 (Section 5 of the Decision Notice). The drainage strategy included the use of a proprietary surface water treatment device, referenced as Manhole S9, Vortex Separator on the approved drawing. Following observations and constraints encountered during construction of the drainage system, the proposed vortex separator would be very difficult to install owing to the very high groundwater table. This note sets out to review the source and receptor pathway in support of the removal of the device from the approved strategy.

The device was incorporated to capture any residual silt prior and last defence prior to discharge via pumped outfall into the nearby moat. During construction groundwater has been observed to be higher than previously recorded by Soiltechnics for that part of the site where the vortex separator was indicated.

Construction work has progressed onsite with the building out of the ground which now has impacted on accessibility to get to the proposed location of the vortex separator. The precast concrete ring for the chamber is in place, but the base could not be set at the correct level due to rising groundwater washing the base away, see photo on following page.



Owing to the health and safety risk associated with deep excavation, confined space, we would not recommend attempts being made to remove the base to lower the unit to the required depth to fit the vortex separator in.

We have undertaken a review of the use of the proposed vortex separator in this instance in terms of the source of the runoff and any potential contaminant. The works involve primarily provision of new teaching/laboratory facilities with associated landscaping works around the building. The runoff is mainly from the roof area of the building, and the associated hard landscaping around the building. The source is classified as very low risk for source pollutants in accordance with CIRIA SuDS Manual C753 Table 26.2. The runoff is captured through combinations of ACO channels and gullies and routed through catch pits prior to the storage system, with further downstream catchpits before discharging into the pump sump. The effectiveness of the catch pits in series would trap and capture any small debris, making the use of the vortex separator an additional drainage component which could be considered superfluous. Any sediments or debris would be captured by the vortex flow control chamber's catch pit.

The attached revised drainage layout 12970-CRH-XX-00-DR-C-5050 Rev C5, shows manhole S9 being bypassed to connect the vortex flow control chamber directly to the pump sump. The proposed change does not alter previously approved drainage strategy, discharge volume or discharge rate, but simply seeks to remove one drainage component from the system.