

Design Note Ref: 220112 – DN01

Project: Pontardawe Arts Centre – Cinema Extension Building

Title: SUDS management and maintenance plan

Date: September 2023

Rev: 00

1. Introduction

This maintenance plan is designed to give the Arts Centre information on the recommended maintenance of the surface water SUDS drainage elements for the extension building to ensure that the systems remain functioning efficiently.

2. Description of the proposed drainage scheme

The proposed cinema extension building is to be built in place of the existing pedestrian paved area to the south of the existing Pontardawe Arts Centre building. The existing paved areas and the Arts Centre drain without attenuation or SUDS components to the Dwr Cymru Welsh Water combined sewer systems.

The proposed system will collect the surface water flows from the new building and drain via an attenuation tank located beneath the cinema extension. The cinema building is to be part green roof over the auditorium area and part conventional flat roof over the lobby and toilets. The system discharges to the Neath Port Talbot Council Highway surface water drain in the footway of Herbert Street.

The design has been modelled in Microdrainage for a range of storm durations and return periods. No surface flooding is predicted in the 1:30 year or 1:100 year event plus 40% climate change allowance.

The existing combined drainage serving part of the Arts Centre Building would have clashed with the proposed extension. This drainage has been diverted around the proposed extension as separate foul and surface water systems. The foul outfalls to the DCWW combined sewer and the surface water to the Neath Port Talbot Council Highway surface water drain.

The design layout of the SUDS surface water drainage system for the extension is shown on KB2 Consulting Engineers drawing 220112-301 with details on sheets 310 to 312.

The SUDS elements included are green roof, attenuation tank storage and gravity flow control (hydrobrake)

3. Maintenance

Maintenance responsibility

The Arts Centre will be responsible for maintenance of all elements of the surface water drainage systems on site. No adoption is proposed for any element on site.

The Arts Centre will arrange and manage maintenance work, and bring in specialist contractors as required.

Maintenance Plan

To be read in conjunction with recommendations of Ciria C753 The SUDS Manual, Environment Agency guidance and manufacturers requirements.

Drainage Element	Inspection requirements	Frequency of inspection	Maintenance requirements	Frequency of maintenance	Comments
Attenuation tanks	Inspect all inlets, outlets, overflows and vents to ensure all are in good condition and operating as required	Monthly for 3 months and then annually	Clear any blockages or debris. Repair any defects as found by inspections	As required	Access is provided to the tank via the inlets and outlets, and via two access points on the west end of the extension building. These points can be used for inspection and for washing any accumulated sediment down to the low flow channel for clearance to the manholes
	Survey inside of tank with CCTV for sediment buildup	Every 5 years or as required if performance is affected	Remove sediments from tank by jetting or other means	As required	Do not enter below ground chambers without the correct safety equipment and procedures

Drainage Element	Inspection requirements	Frequency of inspection	Maintenance requirements	Frequency of maintenance	Comments
Chambers and piped network	Inspect chambers for integrity and silt accumulation	Monthly for 3 months then annually as required	Empty collected silts from catchpits and chambers either manually from the surface or using a 'gully sucker' lorry	Annually, adjust to more or less frequently as needed depending on silt build up.	Inspect chambers and pipes after future construction works in area to confirm building debris has not entered system.
	Inspect pipe network by CCTV inspection for blockages or structural issues	As required when performance is reduced	Jet or rod pipes when performance is affected	As needed	Do not enter below ground chambers without the correct safety equipment and procedures
Vortex flow control	Inspect chamber for integrity, silt and detritus accumulation	Monthly for 3 months then 6 monthly or annually as required	Debris should be cleared and sediment removed either manually from the surface or using a 'gully sucker' lorry	Immediately if there is any evidence of blockage, especially following heavy rain. Otherwise, annually, adjust to more or less frequently as needed depending on silt build up.	Do not enter below ground chambers without the correct safety equipment and procedures
	Check operation of bypass door in the flow control	6 monthly or annually	If the bypass door has become jammed or stiff, it should be freed off and lubricated in accordance with the manufacturers literature	As required	

Drainage Element	Inspection requirements	Frequency of inspection	Maintenance requirements	Frequency of maintenance	Comments
Green roof	Inspect all components including soil substrate, vegetation, drains, membranes and roof structure for proper operation, integrity of waterproofing and structural stability	Annually and after severe storms	During establishment period (1 st year) replace any dead plants After establishment, replace dead plants as required (normally where >5% roof coverage)	Monthly Annually (in autumn)	Do not go on roofs without the correct safety equipment and procedures
	Inspect underside of roof for evidence of leakage.	Annually and after severe storms	Remove debris and litter to prevent clogging of drain inlets	Six monthly or as required	
	Inspect drain inlets to ensure unrestricted discharge from the drainage layers. Check drains have not moved or cracked.	Annually and after severe storms	Remove fallen leaves and debris of deciduous plants	Six monthly or as required	
			Remove nuisance and invasive vegetation	Six monthly or as required	

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Revision	Description	Issued by	Issue Date
00	First issue	TJG	08.09.2023