

Rustington Golf Centre

19 January 2026

Drainage Technical Note: Compliance with National SuDS Standards

- 1.1 This Technical Note (TN) has been prepared at the request of Arun District Council (ADC) to support the drainage condition discharge application at Rustington Golf Centre, reference A/177/25/DOC. The aim of this technical note is to outline how the proposals comply with the National Standards for SuDS (NSS) as published by Defra on 19th of June 2025. Where a departure is required, justification is provided.
- 1.2 The key principles underpinning the NSS include a natural approach to managing water and an early and integrated design. It should be noted in this case that the planning permission for the driving range extension was granted prior to the implementation of the NSS (application reference A/163/24/PL, granted February 2025).

Standard 1: Runoff destinations

- 1.3 The NSS hierarchy sets the priority as collecting runoff for non-potable use. In this instance, Rustington Golf Centre already incorporates a series of irrigation ponds which are fed by the existing drainage network and used to meet the irrigation demands of the golf course. Two of those irrigation ponds are located downstream of the proposed point of connection for the proposals subject to this condition discharge application. The provision of additional standalone water butts/rainwater harvesting tanks service the driving range extension and retail unit alone would be of such a small scale compared to the irrigation requirements of the site as a whole that their efficiency would be greatly reduced. It is therefore considered appropriate to discharge to the downstream irrigation network.
- 1.4 The 2nd priority is to infiltrate runoff to ground. As outlined in the submitted Drainage Statement for the scheme, the infiltration in the shallow ground is poor. The chalk is only present from 3m depth below ground level. Groundwater monitoring found groundwater level at 3.93m below ground level; so whilst the infiltration potential in the chalk layer may be sufficient, it would not be possible to provide a suitable 1m standoff between the base of the soakaway and the top of the water table.
- 1.5 The next priority is to discharge to an above ground surface water body, followed by discharging to pipe surface water drainage system. There is no above ground surface water body directly adjacent to the proposed driving range extension. However, as described above and within the previously submitted drainage statement, it is proposed to discharge the runoff from the new impermeable areas to the existing drainage network feeding into the irrigation ponds within the golf course. This ultimately discharges to the Black Ditch (Main River) approximately 400m downstream.

Standard 2: Management of everyday rainfall (interception)

- 1.6 The proposed swale will help contribute towards interception of the first 5mm of rainfall, in accordance with the NSS's requirements. As the infiltration rates in the shallow ground are low, the swale can be considered to contribute to the interception of impermeable surface areas up to 5 times the vegetated surface area receiving the runoff, whether line or unlined. In this case, the swale would therefore provide interception benefits for 450m² (90x5m²) of impermeable areas, based on NSS's recommendations.
- 1.7 The remainder of the proposed impermeable areas (70m²) is not intercepted directly within the scheme's boundaries. This is due to the swale size being constrained by the following:
- Achieving a 3m buffer from the edge of the proposed driving range extension for maintenance access
 - Located outside of the mapped surface water flood risk area and root protection areas
 - Requirement to not impede the driving range extent and ball recovery system
- 1.8 This departure from full compliance is considered minimal and will not have a significant impact on the receiving environment. The proposed system drains towards the downstream irrigation basins, which are used to meet the golf course's significant irrigation demands throughout the year. Whilst the detailed irrigation calculations are not available at this stage to confirm the number of events this would provide compliance for, the additional small catchment area (70m²) is minimal compared to the wider golf course area irrigated by those 2 ponds (estimated 0.3km²).
- 1.9 This is further illustrated by running "first flush" calculations on Causeway flow. With no interception factored in (i.e. all rates set to 0), the maximum outflow from the system in the first flush in a 1 in 1000-year event would be 0.3 l/s (see Figure 1).

Show All		1 outfall has a positive discharge during the 1000 year return period (first 5mm)			
	US Node	DS Node	Link	Discharge Rate (l/s)	Event
●	PPCP3	SCP1	1.008	0.3	1000 year (first 5mm) 15 minute summer

Figure 1: First flush calculations - Causeway Flow

Standard 3: Management of extreme rainfall and flooding

- 1.10 The proposed network provides sufficient attenuation volume for all events, including the 1 in 30-year +40% climate change and 1 in 100-year +45% climate change events. The scheme's surface water runoff is attenuated via an orifice flow control (21mm), with the maximum discharge rate in the 1 in 100+45% climate change calculated as 0.9 l/s.
- 1.11 It is not recommended to specify smaller orifice flow control, as it would greatly increase the risks of blockage – making uncontrolled exceedance flows more likely and more frequent.

Standard 4: Water quality

- 1.12 The proposed swale will provide sufficient treatment for the expected pollution hazard level of the proposed development, in accordance with the Simple Index approach described in CIRIA SuDS Manual C753.

Table 1: Runoff Treatment - Simple Index Approach

Pollutant type	TSS	Metals	Hydrocarbons
Pollution hazard indices			
Other roofs – Low	0.3	0.2	0.05
SuDS mitigation indices (discharge to surface water)			
Swale	0.5	0.6	0.6

Standard 5: Amenity

- 1.13 There is little opportunity on a site of this scale, and due to the constraints outlined in section 1.7 above, to maximise amenity benefits from the proposed SuDS.

Standard 6: Biodiversity

- 1.14 There is little opportunity on a site of this scale, and due to the constraints outlined in section 1.7 above, to maximise biodiversity benefits from the proposed SuDS.

Standard 7: Design of drainage for construction, operation, maintenance, decommissioning and structural integrity

- 1.15 Construction of the surface water drainage scheme will be carried out in line with best practice methods and controls. The chosen contractor will produce a construction method statement and site management plan for the site. The following measures are to be included:
- Phasing of vegetation removal, earthworks and seeding to be coordinated to limit the duration that bare soils are exposed. Note: Stockpiles to be seeded or covered as timescales permit.
 - Outlets protected with geotextile or straw bales.
 - Silt fencing to reduce silt mobilisation. Locations as follows:
 - Uphill of ditches and ponds.
 - Across swales at intervals.
 - At the toe of stockpiles and slopes.
 - Use of biodegradable erosion control matting along above-ground flow routes.
 - Designated wheel and plant wash facilities.
 - Pumped discharges for dewatering, if required, to be:
 - filtered through a silt interceptor;
 - onto the ground rather than into watercourses wherever possible
 - Storage and filling points etc for oils, fuels or chemicals will be sited on impervious bases in a bunded compound with sump.
 - Tanks will be double-bunded, secured and sited away from drainage systems.

- Minimise fuel leaks by only using well-maintained plant.
- Designated refuelling, maintenance and plant washing areas isolated from groundwater and watercourses using an impermeable base located at least 10m away from drains or ditches.
- Keeping appropriate spill kits on hand for containment of spillages.
- Provide incident response training for all site personnel.
- Damaged, leaking or empty drums shall be removed from site immediately and disposed of via a registered waste disposal contractor.
- Regular inspections of all pollution control measures.

1.16 Ownership and maintenance: A SuDS Maintenance Plan (DMP) has been prepared and submitted to ADC to discharge planning condition 7.

- End of Technical Note -