

LAND AT KINGWAY NURSERIES, CHIPPENHAM ROAD, CORSTON

POLLUTION PREVENTION

1 Introduction

- 1.1 This report has been prepared on behalf of Corston Properties Ltd in support of an application to discharge Condition 11 attached to planning permission PL/2025/03530, granted on 15 January 2026
- 1.2 The Decision Notice is included in Appendix A, with Condition 11 replicated below:

No development, including demolition works, shall commence on site until:

a) details of measures to control pollution to existing watercourses and groundwater, during demolition and construction phases have been submitted to and approved in writing by the Local Planning Authority.

b) details of calculations which demonstrate that the drainage design provides a sufficient level of water treatment to prevent pollution to the receiving watercourse have been submitted to and approved in writing by the Local Planning Authority. The works must be carried out in accordance with approved details.

REASON: To prevent pollution of the water environment

- 1.3 This document addresses both elements of the condition and should be read in conjunction with the approved Flood Risk Assessment and Drainage Strategy for the site.

2 Site Context and Receiving Environment

- 2.1 The application site forms Phase 2 of the Kingway Nurseries redevelopment and comprises the remaining redundant horticultural nursery area to the north of the completed Phase 1 development. The proposals include demolition of existing structures and the erection of employment floorspace (Use Classes E, B2 and B8), together with associated access, parking, drainage and landscaping.
- 2.2 Surface water runoff from Phase 2 connects into the approved Phase 1 drainage system via a controlled discharge arrangement. The Phase 1 system ultimately discharges to the highway ditch at the site's access.
- 2.3 There are no Main Rivers within the site boundary. Ground conditions comprise Cornbrash Formation limestone, with previous investigations identifying shallow groundwater conditions. As such, both surface water and groundwater protection are material considerations.

3 PART A: Pollution Prevention During Demolition and Construction

Construction Environmental Management Framework

- 3.1 During the demolition and construction phases, pollution control will be managed through a site-specific Construction Environmental Management Plan (CEMP), to be implemented by the appointed Principal Contractor.
- 3.2 The CEMP will incorporate best practice measures consistent with:
- Environment Agency guidance on pollution prevention;
 - CIRIA C741 – Environmental Good Practice on Site;
 - CIRIA C753 – The SuDS Manual;
 - Relevant British Standards and Health & Safety guidance.
- 3.3 The overarching principle will be to prevent contaminated runoff, silty water, fuels, cementitious materials or other pollutants from entering surface water drainage systems, adjacent ditches or groundwater.

Control of Sediment and Surface Water Runoff

- 3.4 Demolition and groundworks present the greatest risk of sediment mobilisation. During these phases, exposed soils and disturbed areas will be carefully managed to minimise erosion and sediment transport.
- 3.5 Temporary drainage arrangements will be established where necessary to intercept and control surface water runoff. This may include shallow cut-off drains, temporary swales or bunding to divert runoff away from sensitive areas. Where water requires pumping from excavations, it will be discharged only after settlement and visual inspection to ensure turbidity levels are acceptable.
- 3.6 Silt control measures will include the installation of silt fencing or sediment control barriers at appropriate locations, particularly where works are undertaken near site boundaries or drainage features. If required, temporary settlement tanks or proprietary sediment control units will be installed prior to discharge. No silty water will be permitted to enter existing drainage systems or watercourses without appropriate treatment.
- 3.7 Vehicle movements will be controlled through the use of wheel washing facilities where necessary, and regular road sweeping will be undertaken to prevent sediment tracking onto the public highway and into surface water gullies.

Protection of Existing Watercourses and Drainage Infrastructure

- 3.8 Existing ditches and drainage features within or adjacent to the site will be protected throughout the construction period. These features will not be used for the disposal of construction runoff unless expressly permitted and appropriately treated.

- 3.9 Construction materials will not be stored within close proximity to watercourses or drainage outfalls. A minimum stand-off distance of 10 metres from any watercourse or drainage feature will be maintained for material storage, plant parking and fuel storage areas, unless otherwise agreed.
- 3.10 As the site compound area is expected to be well within the site boundary, there should be no storage within this 10m of any ditch or watercourse.

Fuel, Oil and Chemical Management

- 3.11 All fuels, lubricants and chemicals stored on site will be kept within appropriately bunded containers, with a bund capacity of not less than 110% of the largest container or 25% of the total storage capacity, whichever is greater.
- 3.12 Refuelling will take place in designated areas on impermeable surfaces, away from drainage features. Drip trays will be used beneath static plant and refuelling points. Spill kits will be provided in accessible locations across the site and site operatives will receive toolbox talks regarding pollution prevention and emergency response procedures.
- 3.13 In the event of a spill, works will cease immediately in the affected area and containment and clean-up measures will be implemented. Where required, the Environment Agency will be notified in accordance with statutory reporting requirements.

Concrete and Cementitious Materials

- 3.14 Special care will be taken during works involving concrete or cementitious materials. Designated washout areas will be established for concrete wagons and tools. Washout water will not be discharged to surface water drains or directly to ground.
- 3.15 All mixing, pouring and curing operations will be managed to prevent alkaline runoff entering drainage systems.

Dewatering and Groundwater Protection

- 3.16 Should groundwater be encountered during excavation works, any dewatering activities will be undertaken in a controlled manner. Extracted water will be passed through settlement facilities prior to discharge.
- 3.17 No discharge will take place without prior visual inspection to ensure that water is free from excessive suspended solids or contamination. Where contamination is suspected, water will be tankered off site to a licensed disposal facility.

Inspection and Monitoring

- 3.18 Routine environmental inspections will be undertaken by the Principal Contractor throughout the construction period. These inspections will include review of:
- Sediment control measures;

- Fuel and chemical storage areas;
- Drainage protection measures;
- Evidence of silty runoff or oil sheen.

3.19 Inspection records will be maintained and made available to the Local Planning Authority upon request.

4 PART B: Operational Water Quality and Treatment Calculations

Overview of Approved Drainage Strategy

4.1 The approved surface water drainage strategy for Phase 2 incorporates sustainable drainage features designed in accordance with CIRIA C753. The strategy includes:

- A perimeter filter trench providing conveyance and initial treatment of runoff;
- Permeable block paving to parking areas, incorporating 375mm deep sub-base storage with approximately 30% void ratio;
- Additional attenuation storage within a shallow crate system;
- A hydrobrake flow control limiting discharge to Qbar (6.4 l/s);
- Controlled connection into the Phase 1 drainage system.

4.2 The drainage network has been hydraulically modelled to accommodate the 1 in 100 year return period rainfall event, including a 45% climate change allowance, without off-site flooding.

Treatment Train Philosophy

4.3 The drainage design follows the SuDS “treatment train” approach set out within CIRIA C753 (The SuDS Manual). The treatment train principle ensures that surface water runoff receives appropriate and proportionate levels of treatment prior to discharge, with the level of treatment reflecting the pollution hazard associated with each runoff source.

4.4 The principal runoff sources within the development comprise:

- Roof areas (low pollution hazard); and
- Car parking and access areas (moderate pollution hazard).

Roof Runoff

4.5 A portion of the roof runoff is directed to a filter trench prior to entering the wider drainage network. The filter trench provides initial interception and filtration through granular media, allowing removal of any incidental particulates prior to discharge into the permeable paving system or downstream attenuation features.

- 4.6 The remaining roof areas discharge directly to the permeable paving system. As roof runoff is classified as low pollution hazard under CIRIA C753, pre-treatment beyond filtration within the permeable paving sub-base is not required to achieve water quality compliance.

Trafficked Areas

- 4.7 Runoff from car parking and access areas discharges directly to permeable block paving. The permeable paving is designed as a full-depth system incorporating a granular sub-base, which provides both attenuation storage and water quality treatment.
- 4.8 Within the permeable paving structure, sediments are trapped within the surface and sub-base layers, while hydrocarbons and dissolved metals are removed through adsorption to aggregate surfaces and microbial breakdown processes. This form of SuDS is recognised within CIRIA C753 as providing a high level of pollutant removal for trafficked surfaces.
- 4.9 Attenuation crates and the hydrobrake flow control provide flow regulation only and are not relied upon for water quality treatment.

Overall Treatment Strategy

- 4.10 The drainage strategy therefore provides:
- Proportionate treatment for low-hazard roof runoff;
 - Adequate treatment for moderate-hazard trafficked areas via permeable paving filtration;
 - Controlled discharge at greenfield runoff rates.
- 4.11 The design reflects a source-control led approach, with treatment occurring as close as practicable to the point of runoff generation, in accordance with CIRIA C753 guidance.

Simple Index Approach – Water Quality Assessment

- 4.12 A water quality assessment has been undertaken using the Simple Index Approach set out within CIRIA C753 (The SuDS Manual). The assessment distinguishes between runoff from roof areas (low pollution hazard) and runoff from trafficked parking and manoeuvring areas (moderate pollution hazard).
- 4.13 It is noted that both the filter trench and the permeable paving system are designed as lined attenuation features, with no reliance on infiltration to ground due to site constraints. Treatment is therefore provided through filtration, sedimentation and adsorption processes within the granular media prior to controlled discharge.

Pollution Hazard Indices

- 4.14 For commercial parking and light industrial areas, the typical pollution hazard indices are included in **Table 4.1** overleaf:

Table 4.1: Pollution Hazard Indices (CIRIA C753 Simple Index Approach)

Pollutant	Hazard Indices
Total Suspended Solids (TSS)	0.5
Metals	0.4
Hydrocarbons	0.5

Mitigation Indices Provided

Roof Areas (Low Pollution Hazard):

- 4.15 Roof runoff is classified as low pollution hazard under CIRIA C753. A portion of the roof runoff is directed to a filter trench, which provides interception and filtration through granular media. The remainder of the roof runoff discharges directly to the permeable paving system.
- 4.16 Given the low pollution hazard classification of roof runoff, permeable paving systems are recognised within CIRIA C753 as providing more than sufficient treatment through filtration within the sub-base layers. The filter trench therefore provides additional precautionary treatment but is not relied upon to achieve compliance.

Car Parking and Trafficked Areas (Moderate Pollution Hazard)

- 4.17 Runoff from car parking and manoeuvring areas is classified as moderate pollution hazard.
- 4.18 The permeable paving system, although lined, provides water quality treatment through:
- Filtration of suspended solids within the surface and sub-base layers;
 - Sedimentation within the attenuation storage voids;
 - Adsorption of hydrocarbons and dissolved metals onto aggregate surfaces;
 - Microbial degradation processes within the granular media.
- 4.19 In accordance with CIRIA C753, full-depth permeable paving systems provide the following indicative mitigation indices:

Permeable Paving (lined attenuation system):

- Total Suspended Solids (TSS): 0.7
 - Metals: 0.6
 - Hydrocarbons: 0.6
- 4.20 The typical pollution hazard indices for commercial parking areas are:

- TSS: 0.5
 - Metals: 0.4
 - Hydrocarbons: 0.5
- 4.21 When assessed using the Simple Index Approach, the cumulative mitigation index exceeds the corresponding pollution hazard index for Total Suspended Solids, Metals and Hydrocarbons.
- 4.22 The permeable paving system therefore provides sufficient water quality treatment for moderate hazard trafficked areas prior to discharge to the receiving watercourse.
- 4.23 The long-term performance of the drainage system depends upon appropriate maintenance. Maintenance will be undertaken in accordance with CIRIA C753 and the approved Drainage Strategy.
- 4.24 Permeable paving will be vacuum swept at least annually, with additional sweeping if required. The filter trench will be inspected quarterly and following significant storm events. Sediment accumulation and vegetation management will be undertaken as required to maintain design performance.
- 4.25 Maintenance responsibility will rest with the site owner / appointed management company in accordance with the approved Drainage Strategy.

5 Conclusion

- 5.1 This report demonstrates that:
- Robust and proportionate pollution prevention measures will be implemented during demolition and construction to protect surface water and groundwater;
 - The approved surface water drainage design incorporates a treatment train providing sufficient mitigation in accordance with CIRIA C753;
 - Water quality calculations demonstrate that pollutant mitigation indices meet or exceed hazard indices;
 - Long-term maintenance arrangements will ensure continued protection of the water environment.