

Project: Clover Fields, Shipley Road, Southwater Horsham, West Sussex	Date: 17/05/2026 Doc Ref: 5960/002/001
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Introduction

Background

1. Robert West (RW) is instructed by Bellway Homes Limited to prepare a drainage maintenance strategy for a residential development in relation to the Shipley Road, Southwater, Horsham, West Sussex.
2. This drainage strategy has been prepared to support an application to discharge conditions relating to the Planning Permission.
3. The purpose of this document is to set out the basis of the development's drainage maintenance requirements as well ensuring that those who will be responsible for maintenance tasks and activities have a detailed programme for both inspection and maintenance. This is to ensure that the surface water and foul water drainage networks can operate effectively, and as designed. This document will assist in ensuring that the surface water drainage network is continually maintained for the lifetime of the development to help prevent an increased risk of flooding both on and off-site in accordance with the National Planning Policy Framework (NPPF).
4. The tasks detailed herewith are specific to the components applicable to the development and represent the minimum maintenance and inspection requirements. Additional tasks or varied maintenance frequencies may be deemed appropriate. The specific maintenance needs of the drainage infrastructure implemented on site should be monitored and maintenance schedules adjusted as necessary.
5. Those responsible for maintenance should adhere to current Health and Safety Legislation enforced at the time of the work(s) being undertaken.

Proposed Drainage Strategy

Surface Water

6. A detailed drainage design for surface water run off was prepared by Robert West for the development.
7. The below ground surface water drainage system at the site comprises a traditional piped system which discharges to the watercourse present on the eastern boundary of the site. The surface water system is split into two networks, a network serving the northeast of the site and one serving the southwest of the site. Attenuation for each system is provided by crated attenuation tanks and attenuation basins.
8. Each system works independently of the other and provides adequate storage to accommodate the 1 in 100-year storm event plus 45% to account for future climate change.
9. Flows will be restricted by Hydrobrake manholes installed at the outfall for each system before being discharged to the watercourse via a swale outfall.

10. System 1 serves the northeastern area of the site and comprises two crate storage structures (Tank 2 and Tank 3), together with an attenuation basin (Basin A). The system cascades down the network utilising Hydrobrake flow control devices to hold back flows allowing upstream storage structures to fill. The pipe network then discharges into Basin A before being discharged at a rate of 13.4l/s into the watercourse eastern site boundary.
11. System 2 serves the southwestern area of the site and comprises one crate storage structure (Tank 1), together with an attenuation basin (Basin B). The system cascades down the network utilising a Hydrobrake flow control device to hold back flows allowing upstream storage structures to fill. The pipe network then discharges into Basin B before being discharged at a rate of 8.2l/s into the watercourse on the eastern site boundary.
12. This is shown on drawing '5960-002-5001 to 5003 - Proposed Drainage' located at the rear of this document.

Foul Drainage

13. A detailed drainage design for foul water was prepared by Robert West for the development.
14. Foul Water from the site is proposed to drain via gravity to a Type 3 Adoptable Pumping Station located on the northern boundary of the site. Foul water is then pumped via a rising main to the existing Southern Water Public Foul Sewer at manhole Ref: FW5201 located approximately 280m to the northwest of the site beneath Shipley Road.
15. This is shown on drawing '5960-002-5001 to 5003 - Proposed Drainage' located at the rear of this document.

Drainage Maintenance Arrangements

Maintenance During Construction

16. Once appointed the Contractor will prepare a site-specific method statement for the control of silt and other pollutants during construction. CIRIA Report C532 'Control of Water Pollution from Construction Sites' provides further guidance on this.
17. It is recommended that the construction of the attenuation basins, the flow control and outfall connection are completed prior to the commencement of construction of the buildings and hardstanding areas. This will ensure that flows are controlled and treated during construction. The proposed drainage systems will need a complete maintenance check upon completion of the development and any required remedial tasks undertaken.
18. By constructing these drainage components first, runoff from the construction site and the hardstanding areas will travel overland into the storage. This will ensure that run-off from the site receives the level of treatment required in accordance with CIRIA Report C532.

19. Should the above not be feasible should hardstanding areas be constructed prior to the completion of the proposed drainage scheme, surface water flow will be temporarily channelled into localised storage structures before being discharged to the water course at the southern boundary of the site ground at no greater discharge rate than 2 l/s.
20. The temporary storage structures will be sized to accommodate a 1:10 year storm event. Appropriate water quality mitigation in accordance with CIRIA Report C532 will be provided. This approach allows for surface water to be attenuated and sediments captured during the construction phase.
21. The Contractor will maintain the proposed drainage system during construction and until the site is handed over to the Management Company.

Adoption, Management and Maintenance of Proposed SuDS and Foul Water Drainage Systems

22. The main foul and surface water systems will be offered for adoption to a Local Drainage Authority via a Section 104 or New Appointment & Variation (NAV) agreement.
23. Any drainage features or systems which are not adopted will be maintained by the individual property owner or through a Management Company.
24. The intended ownership of each element of the drainage systems is indicated on drawings '5960-002-5001 to 5003 - Proposed Drainage' located at the rear of this document.
25. Upon completion and prior to occupation of the development, the applicant will form a Management Company who will own, manage and maintain the development in perpetuity including but not limited to the building, footpaths, communal landscape areas and any communal structures and services (including underground drainage) in order to protect the integrity and appearance of the site.
26. The Management Company will be set up prior to the occupation of the development.
27. All maintenance will be carried out by an appointed specialist retained by the Management Company on a fixed contract (of at least 1 year) paid for by the Management Company in perpetuity via an annual maintenance fee for the upkeep of the communal areas including the SuDS network.
28. The Management Company will appoint a Managing Agent, who shall be responsible for the day-to-day maintenance of the site, and will appoint relevant subcontractors, arranging Public Liability Insurance and look after the financial arrangements, establishing a budget for the maintenance and upkeep of the site, and setting up and collecting service charges from the Residents.
29. The Developer is obliged to pay the service charge for any unsold units to the Managing Agent until the last plot on the site has been sold.
30. The regular and corrective maintenance of all non-adopted shared (i.e. serving more than a single plot and / or falling outside of any individual plot's curtilage) elements of the drainage systems, including the pipework, infiltration structures, catchpits and manholes / inspection chambers will be managed and funded through the Management Company on behalf of the Occupiers.
31. The Management Company is obliged to provide the services listed however individual Occupiers are obliged to contribute to the Reserved Fund Contribution and any expenses the Management Company may have incurred.

32. Provisions will be made to replace any infrastructure that has reached the end of its serviceable design life and will be replaced on a like for like basis as far as reasonably practicable.
33. In the event that the Management Company becomes unable to discharge its duties within 2 years of first appointment the Developer will endeavour to appoint an alternative on behalf of the Occupiers.
34. Collection of all litter and debris from communal areas is to be undertaken on a monthly basis by the Management Company.
35. For non-adopted drainage which is not shared (i.e. serving a single plot and / or falling inside any individual plot's curtilage) responsibility for the ongoing maintenance of drainage network will fall to the end user(s) / property owner. Regular maintenance of all non-shared connections will be the responsibility of the individual homeowner and should be undertaken every 3 months.

Flow Control Chamber

36. A flow control chamber (such as a HydroBrake) or device is self-activating, relying on upstream hydraulic head to generate an air-filled vortex within the centre of the casing. Once the vortex is initiated water drains down through a small opening in the back of the device at the designed restricted flow rate.
37. The flow control device includes a bypass valve for use should it become blocked. A valve is situated in the front of the unit which is operated from the surface by a release cable situated just under the chamber cover. The valve also provides access of rodding of the downstream pipework.
38. The flow control chamber will require the following maintenance:
 - The sump within the flow control chamber should be monitored for build-up of silts and should be emptied as a minimum on the same regime as specified for catchpits previously within this document.
 - The drain down door located on the centre of the unit will require inspection, greasing and opening annually, to ensure it is operating as intended.

Attenuation Basin

39. The inlets and outlets to the dry pond should be checked regularly for blockages to ensure free flowing conditions into and through the structure. Excessive silt, detritus and vegetation building should be removed and disposed of.
40. Whilst the basin liner is covered to protect it from elements and accidental damage, it should be inspected periodically and if found to be defective it should be replaced or repaired. The inspection/repair should take place when groundwater is expected to be at its lowest and the mass removal of the fill over the liner should be undertaken with caution.
41. It is recommended that regular maintenance is undertaken in accordance with the following schedule overleaf:

Maintenance Schedule	Required Action	Frequency
Regular Maintenance	Remove litter and debris	Monthly
	Cut grass in and around structure	Monthly or as required
	Manage other vegetation and remove nuisance plants – aesthetics	Annually (or as required based on inspection)
	Inspect for sediment and debris in inlets and outlets and clear blockages	Monthly
	Cleaning of gutters and any filters on down pipes.	Annually (or as required based on inspection)
	Trim any roots that may be cause blockages to the system.	Annually (or as required based on inspection)
	Remove debris from the catchment surface (where it may cause risks to performance)	Monthly for 3 months, then annually
	Inspect inlets and structure surface for silt accumulation. Establish silt removal frequency	Monthly for first year then annually or as required
	Tidy all dead growth before start of growing season. Remove tree saplings.	Annually
Occasional Maintenance	After monthly inspection, reseed areas of poor growth	As required
	After monthly inspection trim overhanging trees and remove cuttings	Annually (or as required based on inspection)
Corrective Maintenance	Repair erosion or other damage by reseeding or returfing	As required based on inspection
	Repair inlets and outlets	As required based on inspection

	Reconstruct storage structure if performance deteriorates or failure occurs	As required based on inspection
	Replacement of defective geotextile (will require reconstruction of storage structures) and any root barrier	As required based on inspection
	Relevel uneven surfaces and reinstate design levels	As required based on inspection
	Removal of any blockages by rodding or jetting through an access point	As required based on inspection
	If erosion channels are evident, these should be stabilised with extra soil substrate similar to the original material, and sources of erosion damage should be identified and controlled.	As required based on inspection
	If drain inlet has settled, cracked or moved, investigate and repair as appropriate.	As required based on inspection
Monitoring	Inspect inlet, outlet to basin for blockages, standing water and clear	Monthly
	Inspect silt traps and note the rate sediment has Accumulated	Monthly in the first year and then annually
	Inspect storage structures to ensure they are fully emptying	After heavy rainfall

Table 1: Schedule of Regular and Corrective Maintenance for the Attenuation Basin

Geocellular Storage

42. The inlets and outlets to the geocellular storage should be checked regularly for blockages to ensure free flowing conditions into and through the structure. Excessive silt, detritus and vegetation building should be removed and disposed of.
43. It is recommended that regular maintenance is undertaken in accordance with the following schedule overleaf:

Drainage Maintenance Schedule

Maintenance Schedule	Required Action	Frequency
Regular Maintenance	Inspect for sediment and debris in pre-treatment components and floor of storage structure inspection tubes or chambers.	Monthly (or as required based on inspection)
	Inspect inlets and outlets for blockages and clear as required	Monthly (or as required based on inspection)
	Remove debris from the catchment surface (where it may cause risks to performance)	Annually (or as required based on inspection)
Occasional Maintenance	Remove sediment and debris from pre-treatment components and floor of soakaway structures inspection tubes or chambers and inside of concrete manhole rings.	Annually (or as required based on inspection)
	Reconstruct storage structure if performance deteriorates or failure occurs	As required based on inspection
	Replacement of defective geotextile (will require reconstruction of storage structures)	As required based on inspection
	Removal of any blockages by rodding or jetting through an access point	As required based on inspection
	If drain inlet has settled, cracked or moved, investigate and repair as appropriate.	As required based on inspection
Corrective Maintenance	Repair / rehabilitate inlets, outlets, overflows and vents	As required based on inspection
	Inspect / check all inlets, outlets, vents and overflows to ensure that they are in good condition and operating as designed	Annually (or as required based on inspection)
	Relevel uneven surfaces and reinstate design levels	As required based on inspection
	Survey inside of tank for sediment build-up and remove if necessary	Every 5 years (or as required based on inspection)
Monitoring	Inspect inlet, outlet to storage structure for blockages, standing water and clear	Monthly

	Inspect silt traps and note the rate sediment has Accumulated	Monthly in the first year and then annually
	Inspect storage structures to ensure they are fully emptying	After heavy rainfall

Table 2: Schedule of Regular and Corrective Maintenance for the Geocellular Storage

Drainage Network Components

44. It is recommended that regular maintenance is undertaken in accordance with the following schedule:

Maintenance Schedule	Required Action	Frequency
Regular Maintenance	Remove sediment and debris from silt trap chambers, gullies traps, channel drains, cut-off drains and inlet chambers	3 monthly
	Litter and debris removal – catch pits / gullies	Monthly or as required
	Surface and foul water pipework including cut-off drains – jetting / rodding	Every 2 years or as required
	Manage other vegetation and remove nuisance plants – aesthetics	Annually (or as required based on inspection)
	Cleaning of gutters and any filters on down pipes.	Annually (or as required based on inspection)
	Trim any roots that may be cause blockages to the system.	Annually (or as required based on inspection)
	Remove debris from the catchment surface (where it may cause risks to performance)	Monthly for 3 months, then annually
	Manhole and Inspection Chamber - Inspect and identify blockages, debris and litter. If required, take remedial action.	Annually (or as required based on inspection)
	Manhole and Inspection Chamber - Removal of sediments, debris and litter from the manhole and inspection chamber.	Annually (or as required based

		on inspection)
Occasional Maintenance	Remove sediment and debris inside of concrete manhole rings.	Annually (or as required based on inspection)
	Inspect gullies to determine whether they are operating correctly.	Annually (or as required based on inspection)
	Inspect all manholes and inspection chambers to determine whether they are operating correctly	3 monthly
Corrective Maintenance	Repairs to access chambers / manhole covers	As required based on inspection
	Remove debris / blockages to silt traps / channel Drains / cut-off drainage	As required based on inspection
	Repair gullies and any identified areas that are not operating correctly.	As required based on inspection
	Removal of any blockages by rodding or jetting through an access point	As required based on inspection
	If any drain inlet has settled, cracked or moved, investigate and repair as appropriate.	As required based on inspection
Monitoring	Inspect inlet, outlet from downpipes, channel drains and gullies for blockages, standing water and clear	Monthly
	Inspect silt traps and note the rate sediment has Accumulated	Monthly in the first year and then annually

Table 3: Schedule of Regular and Corrective Maintenance for the Drainage Network Components

Type 3 Pumping Stations

45. Maintenance of the adoptable Type 3 pumping station should be carried out in accordance with the manufacturers guidance. The responsibility for maintaining the Type 3 Pumping Station will fall to the adopting authority.

Repair Actions

46. Significant storm events may cause considerable damage to SuDS and their associated components. As such, it may be necessary to inspect and carry out essential recovery works to return the feature to full working order.

Design Life

47. The design life of the development is likely to exceed the design life of the components within the SuDS network. During the routine drainage inspections it may be determined that some components have reached the end of their functional life cycle. Where possible repairs should be the first option considered however if repairs are unviable, it will be necessary for the property owner / Management Company to replace the faulty component.

Emergency Plan

48. Potential flood and maintenance indicators:
- Manhole chambers / PPICs overflowing
 - Vent pipe overflowing
 - Gullies overflowing or ponding
 - Channel drains overflowing or ponding
 - Other visual indicators of the drainage system not performing as it should
49. Should any of the items above occur then immediate action as outlined below should be undertaken:
- Inspect for blockages in the problem area
 - Should the problem not be identified via an initial inspection and the drainage system is connected to Sothorn Water's network then make them aware and report the problem.
 - For Management Company controlled drainage a suitable drainage inspection engineer should be contacted to survey the system and jet any blockages.

Spillages

50. It is not envisaged that any materials are to be stored onsite once the development has been completed, which could cause major spills and potential pollution issues within the drainage system. If this situation alters in the future consultation with a specialist will be required in order to confirm if any upgrades to the existing system are necessary.
51. If a serious spillage in volume or toxicity occurs on site then the spillage should be isolated with soil, turf or specialist fabric and all downstream outlets should be bunged / blocked.
52. Once the major spillage is contained contact the Environment Agency immediately. Tel: 0370 850 6506
53. Minor spillages of fuels and oils from motor vehicles will be dealt with by the permeable paving and deep trapped gullies, by biodegrading / collecting the hydrocarbons respectively.

Future Alterations to the Development

54. Any future alterations to the drainage system should be confirmed by a specialist. If new services are required to run through areas of permeable paving, services should be installed below the permeable paving level with the permeable system reinstalled above.

Appendix A – Supporting Information