Land North West of Junipers | Land at Harbolets Road

SuDS Assessment

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Acronym	Definition
AOD	Above Ordnance Datum
BRE	Building Research Establishment
CBR	California Bearing Ratio
CIRIA	Construction Industry Research and Information Association
EA	Environment Agency
FEH	Flood Estimation Handbook
GI	Ground Investigation
LLFA	Lead Local Flood Authority
LPA	Local Planning Authority
NPPF	National Planning Policy Framework
NSS	National Standards for Sustainable Drainage Systems (Defra, 2025)
PPG	Planning Practice Guidance
SuDS	Sustainable Drainage Systems

Executive Summary

This report presents a Surface Water and Foul Drainage Strategy for the proposed development at Land North West of Junipers, West Chiltington, RH20 2LG (also known as Land at Harbolets Road). The development comprises the change of use of land to a two pitch Gypsy and Traveller site, including associated hardstanding, access and dayroom accommodation.

The site is located within Flood Zone 1 and is therefore at low risk of flooding from rivers and the sea. The proposed development is appropriate in flood risk terms and will not increase flood risk on-site or elsewhere.

Surface water runoff will be managed using a permeable paving system across the developed areas. The system will provide distributed attenuation within the underlying sub-base, allowing runoff to be stored and gradually discharged to ground. Infiltration testing undertaken in accordance with BRE365 has confirmed that infiltration is viable at the site, with consistent results obtained across multiple test cycles.

The drainage system has been designed to accommodate the 1 in 100 year rainfall event including a 40% climate change allowance. Surface water will be managed entirely within the site boundary, with exceedance flows directed safely away from built development in accordance with the existing site topography.

In the absence of any available connection to a public sewer or viable off-site outfall, infiltration represents the preferred and most appropriate method of surface water disposal in accordance with the drainage hierarchy. The permeable paving system also provides an appropriate level of water quality treatment in line with CIRIA C753.

Foul drainage will be managed via a sealed cesspool. This approach has been adopted due to the absence of a public sewer connection and the constrained nature of the site, which prevents the provision of a compliant drainage field. The system will be maintained by the site owner and emptied periodically by a licensed contractor.

The proposed drainage strategy provides a suitable, sustainable and policy-compliant solution for the site.

Drainage Strategy Compliance Summary

Item	Summary
Development Type	Two pitch Gypsy and Traveller site with associated hardstanding, access and dayroom accommodation
Site Area	Approx. 2,315m² (0.232ha)
Flood Zone	Flood Zone 1 (low risk)
Surface Water Strategy	Permeable paving providing distributed attenuation within sub-base with infiltration to ground
Discharge Destination	Infiltration to ground (no off-site discharge)
Infiltration	Confirmed viable through BRE365 testing with consistent results across multiple cycles
Design Standard	1:100 year rainfall event +40% climate change
Attenuation Method	Storage within permeable paving sub-base
Exceedance Routing	Managed on-site following existing topography, directed away from buildings
Water Quality	Treatment via permeable paving filtration in accordance with CIRIA C753
Drainage Hierarchy	Infiltration selected as preferred and only feasible option; no sewer or watercourse connection available
Foul Drainage	Sealed cesspool due to absence of sewer and constrained site conditions
Maintenance	Private management with routine inspection and maintenance of permeable paving system
Policy Compliance	NPPF, PPG, Non-Statutory SuDS Standards (2025), CIRIA C753, West Sussex LLFA Policy (2018), Horsham Policy 38

Introduction

Flume Consulting Engineers have been appointed to undertake a Sustainable Drainage Systems (SuDS) Assessment for the proposed development at Land North West of Junipers, West Chiltington, RH20 2LG.

This report has been prepared in accordance with the National Planning Policy Framework (NPPF) and the Planning Practice Guidance 'Flood Risk and Coastal Change' (PPG). It also incorporates relevant guidance from the Environment Agency (EA), the West Sussex County Council Strategic Flood Risk Assessment (SFRA), the West Sussex LLFA Policy for the Management of Surface Water (2018), Horsham District Council guidance, and CIRIA C753 – The SuDS Manual.

This report has been compiled in response to the planning authority's latest comments requiring confirmation that the proposed drainage strategy accords with the NPPF, PPG, the Non-Statutory Technical Standards for SuDS (March 2015), the West Sussex LLFA Policy for the Management of Surface Water (2018), and Policy 38 of the Horsham District Planning Framework (2015).

The EA Flood Map for Planning indicates that the site is located within Flood Zone 1 and is therefore at low risk of fluvial flooding. Notwithstanding this, a SuDS assessment has been undertaken to identify an appropriate and sustainable drainage strategy for the proposed development.

In the absence of a viable connection to a public sewer or off-site surface water outfall, the drainage strategy has been developed to manage surface water within the site boundary. The approach is based on permeable paving providing distributed attenuation within the sub-base, with discharge occurring via infiltration in accordance with site-specific ground investigation.



FIGURE 1. ENVIRONMENT AGENCY FLOOD RISK FROM RIVERS OR SEA MAP (GOV.UK, 2026)

Site Description and Location

The site occupies an area of approximately 2,315m² (0.232ha) and currently comprises an undeveloped parcel of land which was historically Greenfield and is more recently surfaced with compacted gravel. The site is bounded by Harbolets Road to the east, residential dwellings to the north and south, and open Greenfield land to the west.

The nearest watercourse is located at the junction of Broadford Bridge Road and Harbolets Road, approximately 200m from the site, and flows in a south west to north east direction. This feature does not influence flood risk at the site, which is located within Flood Zone 1 (less than 0.1% annual probability of fluvial or tidal flooding) in accordance with the Environment Agency Flood Map for Planning. Development within this flood zone is considered appropriate subject to ensuring that surface water runoff is managed without increasing flood risk on-site or elsewhere.

Topographically, the site is broadly level with a gentle fall across the site. Levels range from approximately 26.6mAOD in the north-western part of the site to approximately 26.0mAOD towards the south-east, with a localised fall directing surface water towards Harbolets Road. The proposed drainage strategy has been developed to respond to this existing topography and to manage runoff within the site boundary.

The site is located at postcode RH20 2LG and is centred at approximately OS Grid Reference 509777, 121417.



FIGURE 2. SITE LOCATION

Existing Drainage

Southern Water asset location records have been reviewed to identify existing drainage infrastructure in the vicinity of the site. These records, included in Appendix A, confirm that there are no surface water or foul sewers available within or adjacent to the site.

In the absence of any available sewer connections or viable off-site discharge points, surface water and foul drainage must be managed on-site. The drainage strategy has therefore been developed accordingly, with a SuDS-based approach to surface water management and an independent on-site solution for foul drainage.

Development Proposal

The proposed development comprises the change of use of land to form a two pitch Gypsy and Traveller site, including the siting of one mobile home, one touring caravan and one dayroom per pitch. The development also includes associated access arrangements, parking and areas of hardstanding.

The layout has been designed to provide functional access and circulation within the site, with areas of hardstanding serving each pitch and forming the primary impermeable surfaces requiring drainage. The remaining areas of the site will comprise soft landscaping and amenity space.

For the purposes of the drainage design, surface water runoff will arise predominantly from the proposed hardstanding areas and roof surfaces associated with the mobile homes and dayroom buildings. These areas will be managed using a permeable paving system, which will provide both surface drainage and sub-surface attenuation within the underlying granular sub-base.

The proposed development has been designed to work with the existing site levels, allowing surface water runoff to be managed within the site boundary in accordance with the natural topographic fall. The drainage strategy has been integrated into the site layout to ensure that runoff is controlled at source and does not increase flood risk on-site or to surrounding land.

Foul drainage arising from the development will be managed independently via an on-site system, with details provided in the relevant section of this report.



FIGURE 3. PROPOSED SITE LAYOUT

Flood Risk Assessment

The Environment Agency Flood Map for Planning confirms that the site is located within Flood Zone 1, defined as land having a less than 0.1% annual probability of fluvial or tidal flooding. The site is therefore considered to be at low risk from rivers and the sea and is suitable for all development types.

There are no watercourses within or immediately adjacent to the site that would present a risk of flooding. The nearest watercourse is located approximately 200m from the site and does not influence flood risk at this location.

The site is not located within an area identified to be at risk from reservoir flooding or other artificial sources of flooding.

In terms of surface water flood risk, the site is not identified as being at significant risk of ponding or overland flow in the Environment Agency's Risk of Flooding from Surface Water mapping. The site is relatively level and currently drains via informal overland flow across the gravelled surface.

The proposed development will not increase flood risk on-site or elsewhere. Surface water runoff will be managed using a permeable paving system providing on-site attenuation within the sub-base layer, with discharge occurring via infiltration to ground. This approach ensures that runoff is controlled at source and that the post-development drainage regime reflects the existing Greenfield behaviour of the site.

Groundwater was encountered during site investigation at shallow depths, which is consistent with the underlying clay geology. The drainage strategy has therefore been developed to operate under low infiltration conditions, with storage provided within the permeable sub-base and gradual drain-down to ground. This ensures that the system remains effective without reliance on rapid infiltration or off-site discharge.

On this basis, the site is considered to be at low risk of flooding from all sources, and the proposed development can be delivered without increasing flood risk on-site or to surrounding land.

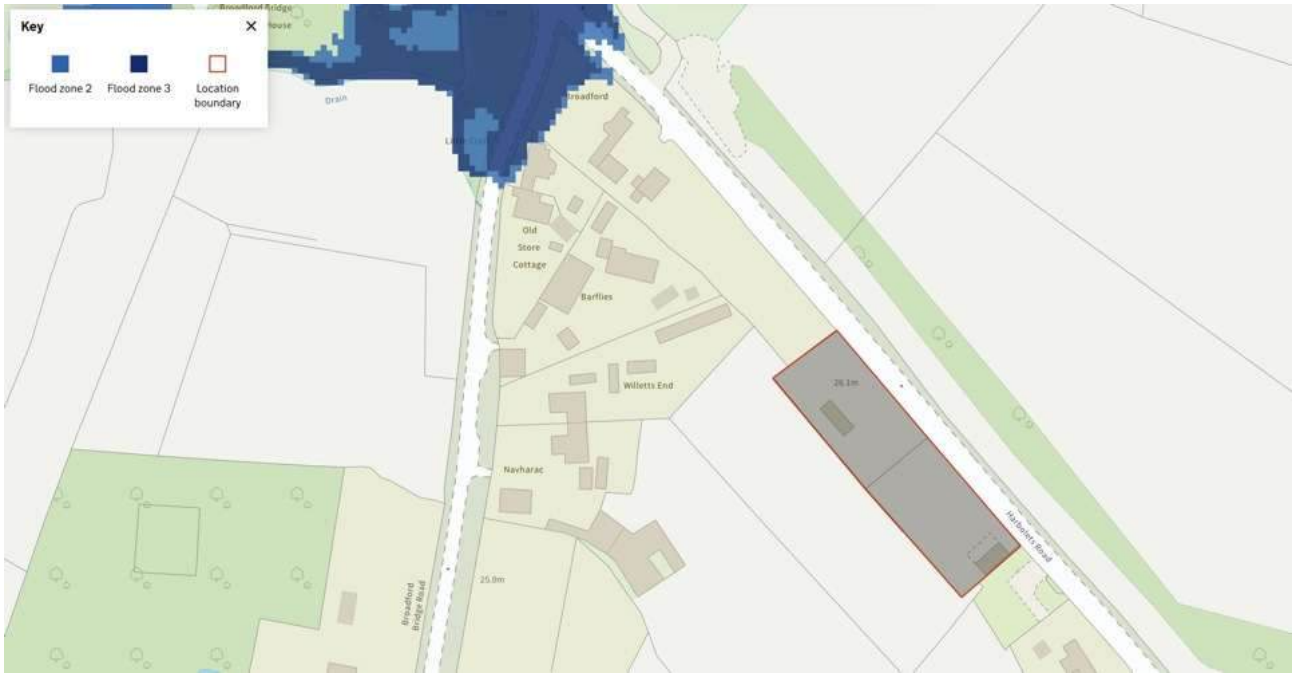

FIGURE 4. ENVIRONMENT AGENCY FLOOD RISK FROM SURFACE WATER (GOV.UK, 2026)

Surface Water Management Strategy

Existing Surface Water Run-Off Rates

Brownfield Run-off Rate

The total site area is approximately 2,315m² (0.2315ha), which is currently surfaced with compacted gravel and is therefore assumed to behave as impermeable hardstanding for the purposes of runoff estimation.

The existing peak runoff rates for the 1 in 1, 1 in 30 and 1 in 100 year rainfall events have been estimated using the Modified Rational Method (Wallingford Procedure), as follows:

$Q = 2.78 \times i \times A$

Where:
A = catchment area (ha)
i = rainfall intensity (mm/hr)

Q1ex = 2.78 × 17.41 × 0.2315 = 11.20l/s
Q30ex = 2.78 × 40.99 × 0.2315 = 26.38l/s
Q100ex = 2.78 × 51.86 × 0.2315 = 33.38l/s

These values represent the current runoff response of the site under its existing condition.

Greenfield Run-off Rate

The site was historically Greenfield and baseline runoff rates have therefore also been estimated using the UK SuDS Greenfield Runoff Estimation Tool. Supporting outputs are provided in Appendix C.

Qbar = 1.34l/s
Q1 = 1.14l/s
Q30 = 3.08l/s
Q100 = 4.28l/s

Infiltration Testing

Infiltration testing has been undertaken in accordance with BRE365 to assess the suitability of the site for infiltration-based drainage.

Testing at location SA01, recorded infiltration rates of:

- 1.7×10^{-6}m/s (Cycle 1)
- 1.3×10^{-6}m/s (Cycle 2)
- 1.5×10^{-6}m/s (Cycle 3)

The test achieved three consecutive successful cycles with full drainage between each test, demonstrating that infiltration is viable at this location and that the results are compliant with BRE365 requirements.

SA01 is located within the primary area of proposed permeable paving, and is therefore considered representative of the ground conditions governing the performance of the surface water drainage system.

For the purposes of design, a conservative infiltration rate of **1.3×10^{-6}**m/s has been adopted**.**

While the measured rates are relatively low and reflect the underlying clay geology, they are sufficient to allow gradual exfiltration of stored runoff from the permeable sub-base. The drainage strategy has therefore been developed on an attenuation-led basis, with infiltration providing long-term drain-down rather than primary event control.

Proposed Surface Water Discharge Options

According to Planning Practice Guidance (PPG), *"generally the aim should be discharge surface runoff as high up the following hierarchy of drainage options as reasonably practicable: 1. Into the ground (infiltration) 2. To a surface water body; 3. To a surface water sewer, highway drain or another drainage system; 4. To a combined sewer",* whilst ensuring that surface water run-off is managed as close to its source as possible.

Infiltration

Infiltration testing has been undertaken in accordance with BRE365 and confirms that infiltration is feasible at the site. Testing within the Weald Clay Formation recorded infiltration rates in the order of 1.3×10^{-6}m/s to 1.7×10^{-6}m/s, with three consecutive successful test cycles achieved at the principal test location.

While the measured rates are relatively low, they are sufficient to allow gradual exfiltration of surface water to ground. On this basis, infiltration is considered to be a viable method of surface water disposal.

The proposed drainage strategy therefore utilises permeable paving across the site, providing distributed attenuation within the sub-base layer and allowing runoff to infiltrate to ground over time. The system is designed to operate under low infiltration conditions, with storage provided within the sub-base to accommodate the design rainfall event and infiltration providing long-term drain-down.

Infiltration to ground is therefore considered both feasible and appropriate for the site and represents the preferred drainage solution in accordance with the drainage hierarchy.

To Surface Water Body

The nearest watercourse is located approximately 200m from the site. Given the separation distance, third-party land constraints and the absence of a practical gravity connection, discharge to a surface water body is not considered to be a feasible option for the proposed development.

This option has therefore been discounted.



FIGURE 5. WATERCOURSE IN VICINITY OF PROPOSED SITE

Discharge to a Surface Water Sewer or Highway Drain

Southern Water records confirm that there are no surface water sewers or highway drainage systems available within the vicinity of the site.

This option is therefore not feasible.

Discharge to a Combined Sewer

No combined sewer infrastructure is present within the vicinity of the site and this option is not applicable.

Drainage Hierarchy Conclusion

Based on the above assessment, infiltration to ground represents the only feasible and policy-compliant method of surface water disposal for the site. The proposed permeable paving system has therefore been designed to manage surface water entirely within the site boundary in accordance with the drainage hierarchy and SuDS principles.

Climate Change Allowance

In accordance with Environment Agency guidance, the drainage system has been designed to accommodate the 1 in 100 year rainfall event including an appropriate allowance for climate change. A precautionary uplift of 40% has been applied to rainfall intensities to reflect current national guidance for residential development.

Epoch	Central allowance	Upper end allowance
2050s	20%	45%
2070s	25%	45%

FIGURE 6. ENVIRONMENT AGENCY PEAK RAINFALL CLIMATE CHANGE ALLOWANCE

SuDS Suitability Assessment

The following SuDS assessment has been carried out in accordance with the West Sussex LLFA Policy for the Management of Surface Water (2018), Horsham District Planning Framework (2015) Policy 38 and CIRIA C753.

SuDS Component	Description	Site Suitability	Comments
Green Roofs & Rainwater Reuse	Roof-based systems to attenuate, store or reuse rainfall at source	✗	Limited building footprint and scale of development means these measures are not necessary to achieve compliance
Soakaways	Subsurface structures designed to store and infiltrate runoff locally	✗	Low infiltration rates and shallow groundwater make traditional discrete soakaways less suitable than distributed systems
Filter Strips	Vegetated strips providing overland flow treatment and infiltration	✗	Limited space and site layout constraints reduce effectiveness compared to permeable paving
Infiltration Trenches	Linear subsurface infiltration features for runoff storage and discharge	✗	Less efficient than distributed permeable paving given site layout and drainage requirements
Swales	Shallow vegetated channels for conveyance, attenuation and treatment	✗	Site layout and limited available space do not allow effective integration
Bioretention Areas	Planted depressions providing filtration, attenuation and infiltration	✗	Not practical given site scale and layout constraints
Porous / Permeable Paving	Surface layer allowing runoff to pass into sub-base for storage and infiltration	✓	Primary drainage solution. Provides distributed attenuation with gradual discharge to ground via infiltration across the site
Infiltration Basins	Surface depressions storing water for infiltration over larger areas	✗	Not compatible with proposed layout or operational use of the site
Detention Basins	Surface storage areas providing temporary attenuation before discharge	✗	Not required as attenuation is provided within permeable paving sub-base
Ponds	Permanent water bodies providing storage and treatment	✗	Not appropriate for scale or nature of development
Stormwater Wetlands	Large vegetated systems providing treatment and storage	✗	Not suitable due to scale and land take requirements
Geocellular Attenuation Tanks	Underground storage structures for controlled discharge	✗	Not required as attenuation is achieved within permeable paving and no off-site discharge is proposed

FIGURE 7. SUDS SITE SUITABILITY

The proposed drainage strategy adopts permeable paving as a distributed SuDS solution, providing both attenuation and infiltration across the site, and representing the most appropriate and deliverable approach given the site constraints.

Permeable Paving

Surface water runoff from the proposed development will be managed using permeable paving, which will provide both attenuation and treatment of runoff at source. The permeable paving system will allow rainfall and runoff from hardstanding areas and roof drainage to pass through the surface into the underlying granular sub-base, where temporary storage will be provided.

The system will be constructed with a permeable geotextile layer to allow infiltration into the underlying ground. Based on site-specific infiltration testing, runoff will gradually exfiltrate from the sub-base to ground in accordance with the measured infiltration rates.

The drainage system has been designed on an attenuation-led basis, with the sub-base sized to accommodate the 1 in 100 year rainfall event including a 40% climate change allowance. Infiltration will occur progressively following storm events, providing long-term drain-down rather than primary control during peak rainfall.

No off-site discharge is proposed, and the system will operate entirely within the site boundary. Surface water will be retained within the permeable paving structure and discharged to ground via infiltration.

Permeable paving also provides an effective level of water quality treatment. As runoff passes through the surface and underlying aggregate layers, sediment and associated pollutants are filtered and retained within the structure, in accordance with CIRIA C753 guidance for low pollution hazard sites.

The depth of the permeable paving sub-base will be confirmed at detailed design stage, taking into account ground conditions and structural requirements including California Bearing Ratio (CBR). For the purposes of attenuation storage, the sub-base will be designed to provide sufficient void space to accommodate the design event, typically in the order of 400–500mm thickness or as required by the hydraulic design.

Water Quality

CIRIA C753 The SuDS Manual, Chapter 26, sets out the 'simple index approach' to water quality risk management. The proposed development comprises roof areas and hardstanding associated with a low intensity residential use. Step 1 of the simple index approach is to identify the pollution hazard indices for the proposed land use.

The proposed development is classified as having a low pollution hazard level. The associated pollution hazard indices, taken from Table 26.2 of the SuDS Manual, are set out below.

Land Use	Pollution Hazard Level	Total Suspended Solids (TSS)	Metals	Hydrocarbons
Residential roofs	Very Low	0.2	0.2	0.05
Residential driveways, access roads and low traffic areas	Low	0.5	0.5	0.4

FIGURE 8. POLLUTION HAZARD INDICES

Step 2 of the simple index approach is to select SuDS components that provide a pollution mitigation index equal to or greater than the hazard index.

The proposed drainage strategy utilises permeable paving as the primary SuDS component. Permeable paving provides treatment through filtration, sedimentation and adsorption within the surface and underlying granular sub-base layers. The relevant mitigation indices, taken from Table 26.3 of the SuDS Manual, are set out below.

Type of SuDS Component	Total Suspended Solids (TSS)	Metals	Hydrocarbons
Permeable paving	0.7	0.6	0.7

FIGURE 9. SURFACE WATER POLLUTION MITIGATION INDICES, TAKEN FROM TABLE 26.3 OF THE SUDS MANUAL

A comparison of the pollution hazard indices and mitigation indices is provided below.

Parameter	Total Suspended Solids (TSS)	Metals	Hydrocarbons
Total Pollution Hazard Indices	0.7	0.6	0.45
Total Pollution Mitigation Indices	0.7	0.6	0.7
Sufficiency of Mitigation	Sufficient	Sufficient	Sufficient

FIGURE 10: EVALUATION OF POLLUTION INDICES

The results demonstrate that the mitigation indices provided by the permeable paving system meet or exceed the pollution hazard indices associated with the proposed development.

Surface water runoff will be treated within the permeable paving structure prior to infiltration to ground. As runoff passes through the surface and sub-base layers, suspended solids and associated pollutants are removed through filtration and settlement processes, providing an appropriate level of treatment for the proposed land use.

Given the low pollution hazard of the development and the treatment provided by the permeable paving system, the proposed drainage strategy accords with CIRIA C753 and will not result in deterioration of water quality.

Surface Water Exceedance Flow Paths

Existing Flow Paths

Surface water runoff at the site currently drains via a combination of infiltration and informal overland flow. Based on LiDAR data, runoff generally flows towards the eastern and northern boundaries, following the existing site topography.



FIGURE 11. EXISTING SURFACE WATER FLOW PATHS

The Environment Agency's Risk of Flooding from Surface Water mapping indicates a localised medium risk of surface water flooding within the site. This is likely attributable to the absence of any formal drainage system and the presence of compacted gravel surfacing, which limits effective infiltration and promotes shallow surface ponding during intense rainfall events.

Proposed Flow Paths

The proposed development introduces a formal surface water management system based on permeable paving, which will intercept and manage runoff at source. Surface water will drain into the permeable paving and be stored temporarily within the underlying granular sub-base.

The system has been designed to accommodate all rainfall events up to and including the 1 in 100 year return period with a 40% allowance for climate change. Runoff will be retained within the permeable paving structure and will gradually discharge to ground via infiltration in accordance with the measured infiltration rates.

Finished levels will be designed to broadly reflect the existing site topography, ensuring that any exceedance flows arising from events greater than the design standard follow natural flow routes. In exceedance conditions, flows will be directed away from built development and will remain contained within the site, draining towards the lower northern and eastern parts of the site.

Vegetated boundary areas will provide additional interception and shallow storage of exceedance flows, ensuring that runoff is managed safely without increasing flood risk on-site or to surrounding land.



FIGURE 12. PROPOSED SURFACE WATER FLOW PATHS

Surface Water Maintenance Strategy

The drainage system has been designed to be simple, robust and maintainable in accordance with Building Regulations and CIRIA C753 – The SuDS Manual.

Responsibility for the operation and maintenance of the surface water drainage system will rest with the site owner or an appointed management company. All SuDS components will remain accessible for inspection and maintenance throughout the lifetime of the development.

The strategy is based primarily on permeable paving, which provides both attenuation and treatment of runoff at source. Routine inspection and maintenance will ensure that the system continues to function effectively and that infiltration and storage capacity are maintained.

Permeable Paving Surface

The permeable paving surface forms the primary drainage component and requires routine inspection to ensure continued permeability and structural performance.

An initial inspection will be undertaken following installation to confirm correct operation. Thereafter, the surface will be inspected periodically for evidence of sediment build-up, clogging, weed growth or surface deterioration.

Maintenance will include removal of litter and debris as required, together with periodic sweeping or vacuum cleaning to prevent clogging of the surface. This is typically undertaken annually, particularly following autumn leaf fall.

Localised repairs will be carried out where necessary to address rutting or settlement. Periodic rejuvenation of the surface through specialist cleaning may be required at intervals of approximately 10–15 years, depending on usage and observed performance.

Sub-base Storage Layer

The underlying granular sub-base provides attenuation storage and facilitates gradual infiltration to ground.

Direct access to the sub-base is not typically required; however, its performance will be monitored indirectly through inspection of the surface condition and drainage behaviour. Any signs of prolonged ponding or reduced infiltration performance will be investigated and addressed as necessary.

Inlets and Diffuser Points

Where runoff enters the permeable paving system via localised inlets or diffuser points, these will be subject to periodic inspection to ensure that they remain free from obstruction.

Any debris, sediment or blockage will be removed to maintain effective drainage into the permeable paving structure. Inspections will typically be undertaken on a six-monthly basis and following significant rainfall events.

Exceedance Flow Routes

The site layout has been designed to direct exceedance flows away from built development and along natural flow paths within the site.

These exceedance routes will be inspected periodically to ensure that they remain unobstructed and free-draining. Any build-up of debris, vegetation or other obstructions that could impede flow will be removed as required.

General Maintenance Responsibility

All maintenance activities will be undertaken by the site owner or a suitably appointed management company. Routine inspection and maintenance will ensure that the drainage system continues to operate effectively for the lifetime of the development without increasing flood risk on-site or elsewhere.

Compliance with National SuDS Standards

The proposed drainage strategy accords with the National Standards for Sustainable Drainage Systems (Defra, 2025). The approach is proportionate to the scale and context of the development and reflects the site layout, ground conditions and receiving environment.

Hierarchy and Runoff Destination (Standard 1)

The drainage hierarchy has been applied by prioritising infiltration through permeable paving and open-graded sub-base storage.

Infiltration testing undertaken in accordance with BRE365 has confirmed that discharge to ground is viable at the site. In the absence of any available connection to a public sewer or feasible off-site outfall, surface water will be managed entirely within the site boundary via infiltration.

No discharge to public sewer infrastructure or watercourses is proposed.

Interception and Everyday Rainfall (Standard 2)

Source control is provided through permeable paving across the development. Runoff from roof areas and hardstanding is directed into the permeable system, where it is intercepted and stored within the sub-base.

This ensures that small and moderate rainfall events are managed close to source, with rainfall either infiltrating directly or being temporarily stored and subsequently discharged to ground.

Management of Extreme Rainfall (Standard 3)

The permeable sub-base storage has been designed to accommodate the 1 in 100 year rainfall event including a 40% climate change allowance.

Exceedance flows arising from events greater than the design standard, or from partial system blockage, will be routed across the site in accordance with existing topography. Flows will be directed away from buildings and retained within the site boundary, ensuring that flood risk to property and surrounding land is avoided.

Water Quality (Standard 4)

Water quality treatment is achieved through the permeable paving system. Runoff from roofs and hardstanding is filtered through the permeable surface and underlying granular sub-base prior to infiltration.

This provides an appropriate level of treatment for the low pollution hazard associated with the proposed development, in accordance with CIRIA C753.

Amenity and Biodiversity (Standards 5 and 6)

The SuDS measures are integrated within the site layout through permeable hardstanding and surrounding landscaped areas.

These features maintain the usability and visual character of the site while allowing for soft landscaping and potential habitat enhancement along site boundaries.

Maintenance and Structural Integrity (Standard 7)

The drainage system comprises simple, passive components including permeable paving and granular sub-base storage. The system operates via gravity and infiltration, avoiding reliance on complex mechanical or control structures.

All elements are accessible for inspection and maintenance, and the system is suitable for long-term operation under routine maintenance regimes.

Conclusion

On this basis, the proposed drainage strategy meets the requirements of the National SuDS Standards and provides a practical and deliverable approach to managing surface water runoff from the development.

Foul Water Assessment

The proposed foul drainage strategy has been developed in response to Condition 2 of the planning permission and confirms that a sealed cesspool will be installed to serve the development. In the absence of a public sewer connection and given the constrained nature of the site, this represents the only feasible and appropriate solution.

The cesspool will be installed, operated and maintained in accordance with relevant guidance and will be retained for the lifetime of the development.

Foul drainage arising from the proposed development will be managed independently of the surface water drainage system.

The application site is located in a rural area where no public foul sewer network is available within the vicinity of the development, as confirmed by statutory undertaker records. Connection to a public sewer is therefore not feasible.



FIGURE 13. SOUTHERN WATER ASSET LOCATION PLAN

Alternative on-site treatment options, including septic tanks and package treatment plants with drainage fields, have been considered. However, due to the confined nature of the site, limited available land and the proposed layout, there is insufficient space to accommodate a compliant drainage field. In addition, the

underlying clay geology and shallow groundwater conditions would further constrain the performance of infiltration-based foul drainage systems.

On this basis, a sealed cesspool is proposed as the most appropriate and deliverable foul drainage solution for the development.

The proposed development comprises two Gypsy and Traveller pitches, each with associated accommodation. For the purposes of foul drainage design, a conservative occupancy assumption will be applied to ensure adequate storage capacity within the cesspool.

The cesspool will be constructed as a watertight tank in accordance with relevant standards and will receive all foul flows from the development via a gravity drainage network. The tank will be fitted with a high-level alarm to alert the site owner when emptying is required.

The cesspool will be emptied periodically by a licensed waste contractor, with access provided for tanker vehicles to undertake routine maintenance. Responsibility for maintenance and operation will rest with the site owner. The foul drainage system will be entirely separate from the surface water drainage system.

Foul Drainage Summary

Item	Summary
Foul Drainage Strategy	Sealed cesspool serving both pitches
Discharge Destination	Off-site removal by licensed contractor (no discharge to ground or watercourse)
Public Sewer Connection	Not available within vicinity of site
Alternative Options	Septic tank / package treatment plant not feasible due to limited site area and lack of space for compliant drainage field
Ground Conditions	Clay soils and shallow groundwater unsuitable for infiltration-based foul drainage systems
Design Basis	Conservative occupancy applied for sizing and storage capacity
Storage Capacity	Sized to provide appropriate storage between emptying cycles
Emptying Regime	Periodic tanker emptying by licensed waste contractor
Access	Tanker access provided via site access for maintenance
System Type	Watertight tank with high-level alarm
Separation	Foul drainage system entirely separate from surface water drainage
Maintenance Responsibility	Site owner or management company
Policy Compliance	NPPF, PPG, Building Regulations Part H, Horsham Policy 38

Conclusions

A surface water and foul drainage strategy has been developed for the proposed development at Land North West of Junipers, West Chiltington.

The site is located within Flood Zone 1 and is therefore at low risk of flooding from rivers and the sea. The proposed development will not increase flood risk on-site or elsewhere.

Surface water runoff will be managed using a permeable paving system, providing distributed attenuation within the sub-base layer. Infiltration testing undertaken in accordance with BRE365 has confirmed that infiltration is viable at the site, with consistent results obtained across multiple test cycles. Runoff will be managed entirely within the site boundary via gradual infiltration to ground.

The system has been designed to accommodate the 1 in 100 year rainfall event including a 40% climate change allowance, with exceedance flows directed safely across the site away from built development.

The proposed drainage strategy accords with the drainage hierarchy, with infiltration representing the preferred and most appropriate method of surface water disposal given the absence of any available sewer connection or viable off-site outfall. The use of permeable paving also provides an appropriate level of water quality treatment in accordance with CIRIA C753.

Foul drainage will be managed via a sealed cesspool. This approach has been adopted due to the absence of a public sewer connection and the constrained nature of the site, which prevents the provision of a compliant drainage field. The system will be maintained by the site owner and emptied periodically by a licensed contractor.

Overall, the proposed drainage strategy provides a suitable and sustainable solution for the site, ensuring that both surface water and foul drainage are managed effectively without increasing flood risk.

Note:

This report has been prepared for the purposes of reviewing the possibility of incorporating SuDS into the proposed development and uses the most up-to-date information available to us at the time. It should not be relied upon by anyone else or used for any other purpose. This report is confidential to our Client; it should only be shown to others with their permission. We retain copyright of this report which should only be reproduced with our permission.

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Date	30 March 2026	30 March 2026	30 March 2026