



SOUTH OF M4 STRATEGIC DEVELOPMENT LOCATION
SHINFIELD WEST NORTHERN SPORT PITCHES, SHINFIELD

DRAINAGE STATEMENT

UNIVERSITY OF READING

22 JULY 2025





Abley Letchford
3 Tealgate
Charnham Park
Hungerford
RG17 0YT

T: 01488 684390
E: contact@ableyletchford.co.uk
W: www.ableyletchford.co.uk

Quality Management:

Prepared by:	Leigh Abley
Authorised by:	Shaun Letchford
Date:	22 July 2025
Document Reference:	A243-R008C

**COPYRIGHT © ABLEY LETCHFORD PARTNERSHIP
LIMITED t/a ABLEY LETCHFORD**

The material presented in this report is confidential.
This report has been prepared for the exclusive use of
UNIVERSITY OF READING within the terms of the
contract and shall not be distributed or made available
to any other company or person without the knowledge
and written consent of Abley Letchford.
Any such party relies on the report at their own risk.



Contents

1.0 Introduction 1

2.0 Baseline Environmental Conditions 3

3.0 Flood Risk 6

4.0 Drainage Strategy 9

5.0 Development Suitability 14

Appendices

- Appendix A – Site Plan
- Appendix B – Supporting Information



1.0 Introduction

1.1 Context

- 1.1.1 This report has been prepared by Abley Letchford, on behalf of the University of Reading, in relation to a reserved matters submission for the creation of new sports pitches attributed to the consented South of M4 Strategic Development Location at Shinfield West, to the south of Reading.
- 1.1.2 The proposals centre around the provision of 2 No. Youth football pitches on land to the north of the main sports pitch provision and associated pavilion building. A copy of Barton Willmore's Overall Landscape General Arrangement Plan is included within **Appendix A**.
- 1.1.3 Outline planning permission for the Shinfield West development was granted by the Secretary of State on 8th November 2012. In conjunction with the development proposals for up to 1,350 dwellings, a local centre and a primary school, the outline planning consent also allowed for the promotion of playing fields, and sports pavilion in the southern portion of the site.

1.2 Report Aim and Formation

- 1.2.1 The aim of this report is to demonstrate that a suitable Drainage Strategy will be delivered as part of the proposals, and that any strategy is consummate to the overarching Flood Risk Assessment which formed part of the Outline permission and subsequent Primary Infrastructure Reserved Matters submission (WBC Ref 160183) upon which the Sport Pitches rely upon.
- 1.2.2 This Report draws upon supporting work undertaken through the outline and subsequent reserved matters stages in respect to landscape, ecology and drainage, in particular in reference to the approved Flood Risk Assessment (FRA) by RPS.
- 1.2.3 The presented Drainage Strategy ensures that the guiding principles of Sustainable Drainage Systems (SuDS) are central to the disposal of surface water drainage from the proposals ensuring a viable robust solution is implementable.

1.3 Report Structure

- 1.3.1 This report considers the following aspects:
 - Section 2: Baseline Environmental Conditions – a description of the site location, its topography, geology and hydrology.
 - Section 3: Flood Risk – the effect of flooding within the existing site layout from all sources.
 - Section 4: Drainage Strategy – offers appropriate mitigation measures to protect the site in the post development scenarios in respect to surface water drainage provision.
 - Section 5: Summary and Conclusions – a review of the suitability of the development proposals.

1.4 Basis of Report

- 1.4.1 This study has been undertaken in accordance with the National Planning Policy Framework (February 2025) (NPPF), and the Planning Practice Guidance (February 2024) (PPG).



- 1.4.2 Abley Letchford follows accepted procedure in providing professional services, but given the residual risk associated with any prediction and the variability which can be experienced in flood condition, Abley Letchford takes no liability for and gives no warranty against actual flooding of any property (client's or third party) or the consequences of flooding in relation to the performance of the service. This report has been prepared for the purposes of planning approval only and is to assist our client and the local Planning authority to make an informed decision on the flood risks associated with the development of the site under consideration.



2.0 Baseline Environmental Conditions

2.1 Introduction

2.1.1 This chapter provides a description of the site location, its topography, geology and hydrology.

2.2 Site Location

2.2.1 The overall site lies approximately 1.0km southwest of Shinfield village centre.

2.2.2 The site is located to the east of Hyde End Lane, north of Bolton Drive between Croft Gardens and Shinfield Meadows residential developments. The site itself amounts to approximately 5.06 hectares (Ha).

2.2.3 The site is centred on OS grid reference 472629E 167371N. The nearest postcode is RG2 1ES.

2.3 Topography

2.3.1 The topographical survey indicates the site to gently sloping, with general ground levels ranging between 50.00m AOD and 48.70m AOD as it falls north-west to south-east. This equates to an approximate slope gradient of 1:325.

2.4 Watercourses and Ditches

2.4.1 The River Loddon lies some 1.0km to the east of the site, this being the nearest Main River as classified by the Environment Agency.

2.4.2 A series of large attenuation basins lie to the east of the proposals, these features being attributed to the Shinfield West residential development (Basins 01 to 03). These attenuation features were created as part of the consented primary infrastructure provisions, which connects into surface water sewers and open swales which convey flows eastwards to Hyde End Road.

2.4.3 No other open features are presented within or immediately adjacent to the site.

2.5 Surface and Foul Water Sewers

2.5.1 Sewer Asset Records obtained from Thames Water show the site to be bisected by a public foul water sewer which conveys flows from Hyde End Lane to Hyde End Road. A private surface water pipe lies to the south of the public foul sewer, which conveys land drainage eastwards through open watercourses to Hyde End Road.

2.5.2 Newly laid surface water and foul water drainage assets are located within the confines of the Shinfield West residential development and these are in the process of being vested by Thames Water under a Section 104 Agreement. These sewers lie wholly outside of the site boundary.

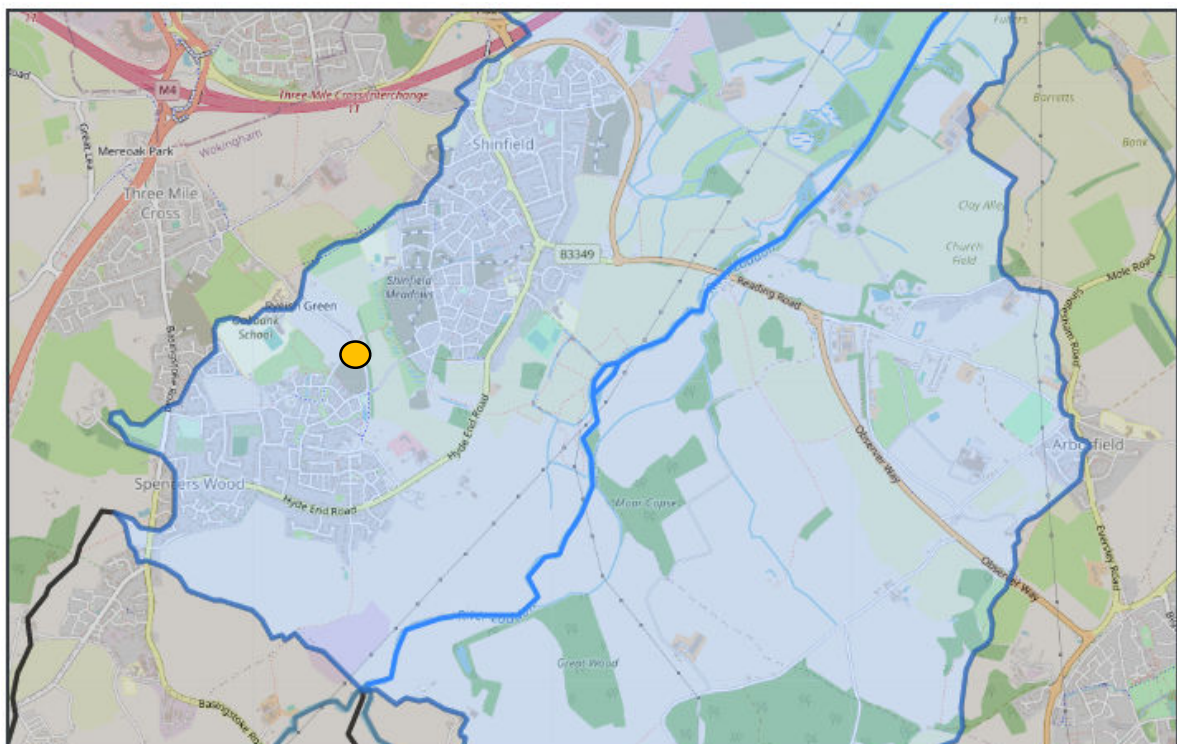
2.6 Geology

- 2.6.1 British Geological Survey mapping indicates that the geology underlying the site comprises of London Clay Bedrock over Reading Beds and Upper Chalk. This is considered to be an impermeable layer.
- 2.6.2 The Cranfield University Soilscales maps indicate the site overlies loamy soils with naturally high groundwater.
- 2.6.3 MAGIC mapping confirms that the site lies within a medium-low Groundwater Vulnerability Area. The site is also outside of the primary or secondary bedrock aquifer designation zone. The site is not within a Groundwater Source Protection Zone (SPZ).

2.7 Hydrology

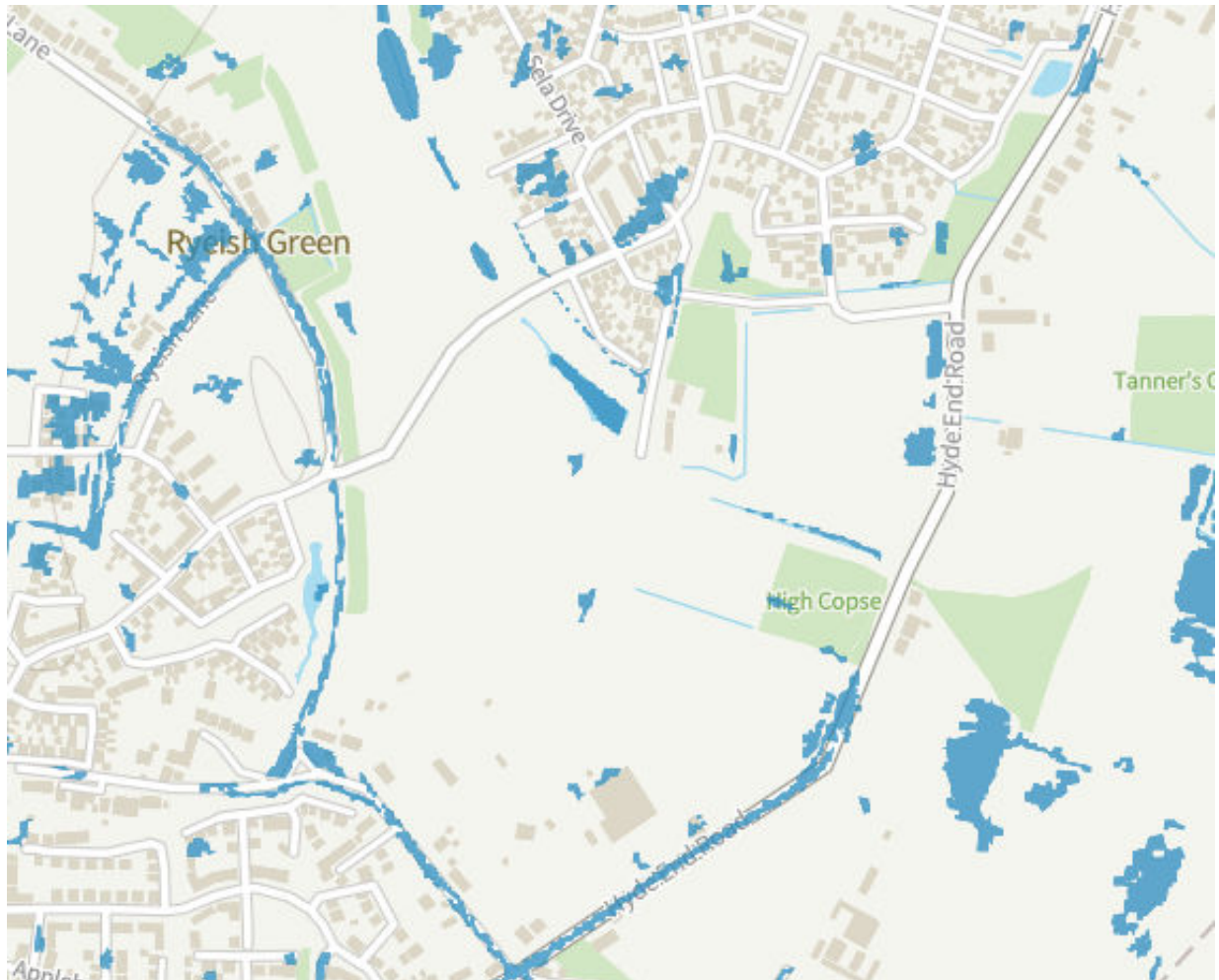
- 2.7.1 The Catchment Data Explorer online facility provided by the Environment Agency indicates that the site is wholly located within the Thames Basin Catchment, and more specifically within the Loddon operational catchment.
- 2.7.2 The River Loddon is classed as a Main River, which proceeds northwards to its confluence with the River Thames at Lower Shiplake north of Reading. **Figure 2** below provides an overview of the Thames Basin catchment with the approximate site extent in orange.

Figure 2 – EA Catchment Data Explorer Extract



2.7.3 The surrounding pluvial flood extent in the context of the site is depicted in **Figure 3**.

Figure 3 – Flood Map for Planning Service (Pluvial – July 2025)



3.0 Flood Risk

3.1 Introduction

3.1.1 This chapter provides an update on flood risk attributed to the site from all sources as required by relevant National and Local planning policy.

3.2 Flood Risk to the Site from Tidal Sources

3.2.1 The site is at a low risk from tidal flooding due to its inland elevated location.

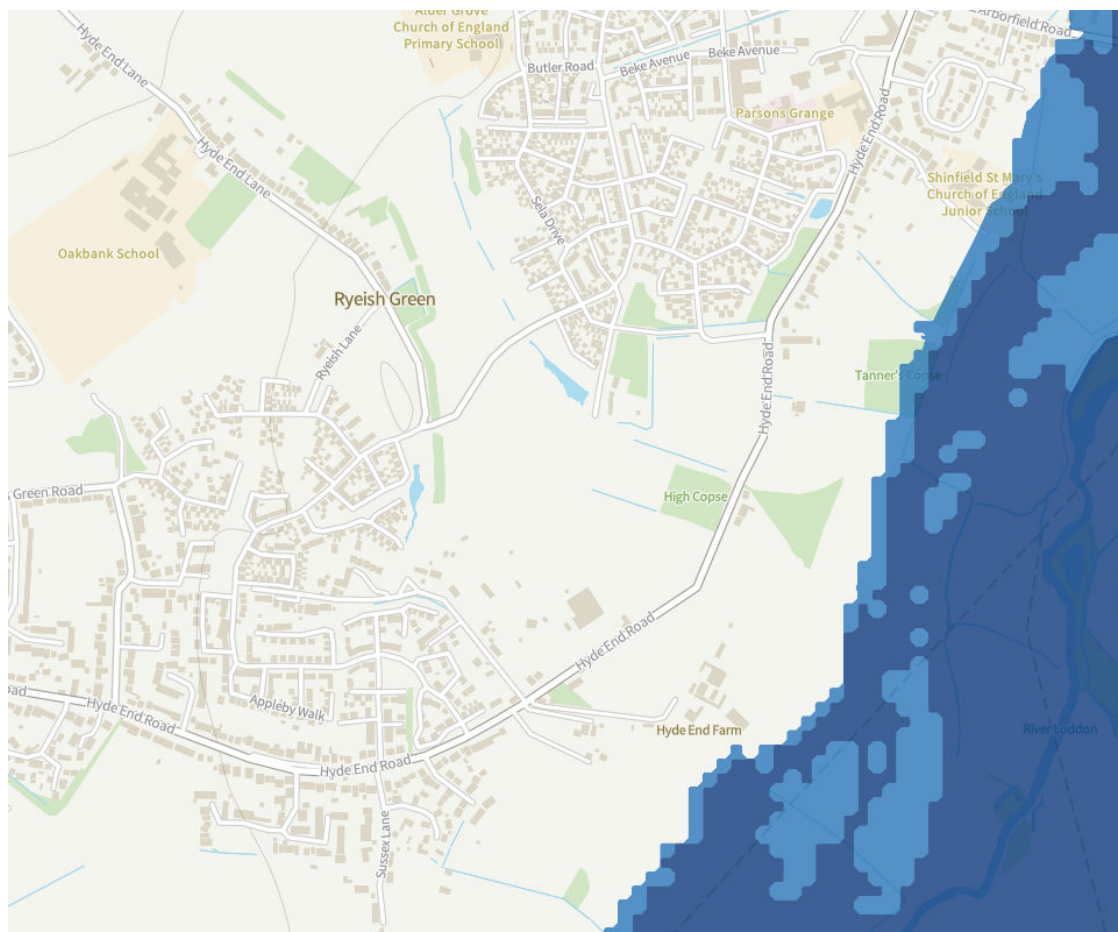
3.3 Flood Risk to the Site from Fluvial Flooding Sources

3.3.1 A review of the Flood Map for Planning Service maps show the site to be located entirely within Flood Zone 1.

3.3.2 This zone comprises land where flooding from rivers and the sea (fluvial) is very unlikely. There is less than a 0.1% (1 in 1000) chance of flooding occurring each year. The Site is at a low risk of flooding from fluvial sources.

3.3.3 Extracts from the EA Flood Map are included below in **Figure 4**.

Figure 4 – Flood Map for Planning Service (Tidal/Fluvial – July 2025)



3.3.4 Wokingham Borough Council's SFRA shows no records of fluvial flooding events within the boundary of the site.



3.4 Flood Risk to the Site from Pluvial Flooding Sources

- 3.4.1 The Flood Map for Planning Service website identifies where land is subject to minor flooding from surface water (pluvial) wherein excess run off flows over the ground surface following the natural topography to nearby rivers and streams.
- 3.4.2 Wokingham Borough Council's SFRA shows no records of pluvial flooding events within the boundary of the site.
- 3.4.3 Pluvial flooding is shown entering the site from the north and western boundary. It is unclear if such flood extent represents an accurate representation of existing topography due to the considerable increased built form in the surrounding area. That said, given that the proposed pitch layouts respect existing ground levels, any surface water flooding will be able to continue its path offsite to nearby open attenuation basins and within adjacent carriageways.
- 3.4.4 The site is therefore considered to be a low risk of pluvial flooding.

3.5 Flood Risk to the Site from Groundwater

- 3.5.1 Groundwater flooding has the potential to occur after prolonged periods of unusually high rainfall. During such periods, more water than usual infiltrates through the ground, raising the water table above its normal depth below the surface. Where the water table is at shallow depth in any case, the water table can reach the surface. This can cause ground water to merge with rainfall and cause localised flooding.
- 3.5.2 The site is underlain by the London Clay Bedrock Formation, which is deemed to be highly impermeable.
- 3.5.3 Intrusive investigations reported by RPS as part of the outline application for Shinfield West residential development identified shallow groundwater levels across the development. Groundwater was observed as being slow to rapid between 0.6m and 4.3m below prevailing ground levels.
- 3.5.4 Given there is no known evidence of flooding from groundwater affecting the site the risk of flooding from groundwater sources is considered low.

3.6 Flood Risk to the Site from Sewers

- 3.6.1 When exceeded, surcharged sewer networks can lead to flooding from backed up manholes and gully connections.
- 3.6.2 There is no known evidence of either the nearby residential drainage network or existing public foul sewer/private surface water pipe causing sewer flooding.
- 3.6.3 The risk of flooding from this source is considered low.

3.7 Flood Risk to the Site from Other Sources

- 3.7.1 The Flood Map for Planning Service website indicate the site does not fall within the extent of flooding from reservoirs, canals or other artificial sources.
- 3.7.2 The site is deemed of low risk of flooding from these sources.



3.8 Flood Risk Summary

3.8.1 An overall summary of the risk of flooding from all sources is provided in **Figure 5** below.

Figure 5 – Flood Risk Summary

Source of Flooding	High	Medium	Low	Comments
Tidal			✓	The site is elevated and inland.
Fluvial			✓	The site is located wholly within Flood Zone 1.
Pluvial			✓	The site allows for the continuation of pluvial flooding to continue beyond the boundary of the site.
Groundwater			✓	Groundwater levels have been shown as being below existing ground level.
Sewers			✓	The site has limited exposure to existing sewer assets, with no evidence of flooding.
Reservoirs, canals and other artificial sources			✓	Flood Map for Planning Service mapping does not indicate the Site to be at risk.

3.8.2 Based upon the above information, the site is deemed to be at **LOW RISK OF FLOODING**. The proposals are therefore in full accordance with National and Local planning policy concerning Flood Risk and as such is suitable for recreational/water compatible use.



4.0 Drainage Strategy

4.1 Introduction

- 4.1.1 This chapter provides details on the surface water drainage strategy and measures to drain the site. Given the nature of the proposals, foul effluent discussions are not applicable.

4.2 Overall Surface Water Strategy

- 4.2.1 The proposed drainage strategy utilises the nearby above ground attenuation basins in order to meet the requirements of the NPPF by providing a surface water drainage system which embraces the SuDS philosophy and key principles. The utilisation of Sustainable Drainage Systems (SuDS) not only provides the benefit of controlling waters at source but also online treatment of collected surface water.
- 4.2.2 The alteration of natural surface water flow patterns through developments can lead to problems elsewhere in the catchment, particularly flooding downstream. Changes to land uses can have significant downstream impacts where existing drainage systems may not have sufficient capacity for any additional surface water flow.
- 4.2.3 A surface water management strategy is therefore required to manage and reduce the flood risk posed by the surface water runoff from the site, albeit the proposals effectively change 'greenfield' to positively drained 'greenfield' by virtue of the introduction of a positive drainage system attributed to the sports pitch design.
- 4.2.4 The surface water drainage arrangements should be such that the volumes and peak flow rates of surface water leaving a developed site are no greater than the rates to the pre-development scenario, unless specific off-site arrangements are made and result in the same net effect.
- 4.2.5 Sustainable water management measures (SuDS) should be introduced to control the surface water runoff from the proposed site therefore, managing the flood risk to the site and surrounding areas from the surface water runoff. By directing surface water flows into the nearby above ground attenuation feature, such controls are afforded with minimal disruption.
- 4.2.6 The use of existing SuDS features, and connectivity will ensure that flood risk downstream is not increased due to the proposals. These features will also provide positive improvements to the quality of surface water runoff from the site.

4.3 Pre and Post Development Areas/Rates

- 4.3.1 The site is classed as Greenfield, although given the nature of the proposals, there will be no increase in impermeable area or surface water runoff volume.
- 4.3.2 The existing Greenfield/Pre-Development runoff rate has been determined using the HR Wallingford UKSUDS web service.



- 4.3.4 An assessment of existing surface water runoff has been undertaken utilising the following parameters.
- Average Annual Rainfall (SAAR): 649mm
 - Soil: 0.470
 - Region No.: 6
- 4.3.5 An assessment of the overall northern Sports Pitch provision has derived a total site area of 5.20 hectares (ha). Whilst the current agricultural field will be improved in order to provide the formal playing surfaces, this area will remain wholly permeable as per the pre-development condition.
- 4.3.6 It is acknowledged that not all of this 5.20ha area currently conveys surface water towards the existing above ground attenuation basins which lie downhill to the east due to existing topographic falls. As depicted on Abley Letchford General Arrangement drawing A243-NSP-101 (within **Appendix B**), some 1.00ha of playing surface will be positively drained through the provision of slot drainage, which derives less runoff.
- 4.3.7 The calculated Greenfield run off discharge rates for both scenarios are as presented in **Figure 6**. The corresponding runoff output created from within the UKSUDS Website can be found within **Appendix B**.

Figure 6 – Pre-Development Runoff Rates

Annual Probability	Greenfield/Pre-Development Runoff Rate for 5.20ha (l/s)	Greenfield/Pre-Development Runoff Rate for 1.00ha (l/s)
1 in 1 year event	19.54	3.76
QBar	22.98	4.42
1 in 30 year event	52.84	10.16
1 in 100 year event	73.29	16.53

4.4 Surface Water Proposals

- 4.4.1 As depicted on Abley Letchford General Arrangement drawing A243-NSP-101 (within **Appendix B**), a series of parallel slot drains are introduced below the playing surfaces to dispose of excess surface water. These drains run longitudinally with the direction of play on the football fields.
- 4.4.2 These slot drains convey surface water to a carrier drain along the extremities of the formal sports pitches, which in turn conveys excess surface water to the nearby above ground attenuation basins via new brick headwalls or connection to existing chambers.
- 4.4.3 A new brick outfall headwall will be introduced to the existing attenuation infrastructure which lie to the east of the pitches.
- 4.4.4 The proposed outfall will connect downstream of Basin 03 directly into the existing manhole (US Manhole SA135).



- 4.4.5 The existing attenuation provision attributed to the Shinfield West residential development has sufficient spare capacity to receive excess surface water runoff from the northern sports pitches due to the fact its excavation volume exceeds the volume of water it receives during the 1:100 return period plus 30% climate change allowance it was designed for.
- 4.4.6 As modelled within the approved Sports Pitches Reserved Matters submission (WBC Ref: 221439) Drainage Statement A243-R003A Appendix 1, maximum water levels at the appropriate outfall node are set out below.

Figure 7 – Phase 2 Drainage Statement Water Level

Outfall Point	Upstream Node/Pipe Number	Maximum Water Level
South	SA135	46.830

- 4.4.7 In order to provide an assessment of additional surface water runoff stemming from the northern Sports Pitch provision (1.0ha), a theoretic maximum unrestricted rate of 16.53 litres/sec (the 1:100 year event) has been modelled entering the three outfall points.
- 4.4.8 Updated Network Output from MicroDrainage are shown below in **Figure 8** showing this additional flow into the drainage node increases the maximum water level in SA135 from 46.830m AOD to 47.024m AOD; these are all below the cover level or top of bank level whilst retaining approximately 300mm freeboard.



Figure 8 – Extract from Updated MicroDrainage Network Outputs

Abley Letchford Partnership Ltd									Page 167	
Search House				SHINFIELD WEST						
Charnham Lane				SURFACE WATER						
Hungerford RG17 0EY				PHASE 1						
Date 08/08/2023				Designed by SL						
File Site Design V11 with New Pitch...				Checked by LPA						
XP Solutions				Network 2020.1.3						
100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm NWK A										
PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)
S86.014	SA100	30 Winter	100	+30%					48.357	-1.355
S101.000	SK52	15 Winter	100	+30%	100/15 Winter				49.483	0.172
S101.001	SK53	15 Winter	100	+30%	100/15 Winter				49.462	0.234
S101.002	SK54	15 Winter	100	+30%	100/15 Winter				49.414	0.269
S101.003	SK55	15 Winter	100	+30%	100/15 Winter				49.312	0.277
S101.004	SK56	15 Winter	100	+30%	100/15 Winter				49.209	0.242
S102.000	SK57	15 Winter	100	+30%	100/15 Winter				48.956	0.011
S101.005	SK58	15 Winter	100	+30%	100/15 Winter				48.934	0.076
S101.006	SK59	15 Winter	100	+30%	100/15 Winter				48.827	0.034
S86.015	SA100A	30 Winter	100	+30%					48.345	-1.155
S103.000	SA101	60 Winter	100	+30%	100/15 Winter				51.703	0.103
S103.001	SA102	60 Winter	100	+30%	100/15 Winter				51.678	0.547
S103.002	SA103	60 Winter	100	+30%					50.457	-0.955
S86.016	SA104	30 Winter	100	+30%					48.330	-1.170
S86.017	SA105	30 Winter	100	+30%	100/15 Winter				48.290	0.142
S86.018	SA106	360 Winter	100	+30%	100/360 Winter				47.989	0.010
S86.019	SA107	240 Winter	100	+30%	100/30 Winter				48.076	0.269
S2.032	SA108	240 Winter	100	+30%	100/30 Winter				48.098	0.373
S2.033	SA109	1440 Winter	100	+30%					47.236	-0.377
S2.034	SA110	1440 Winter	100	+30%					47.203	-0.332
S104.000	SK60	15 Winter	100	+30%	100/15 Winter				48.924	1.389
S105.000	SK61	15 Winter	100	+30%	100/15 Winter				48.960	1.425
S104.001	SA111	15 Winter	100	+30%	100/15 Winter				48.908	1.463
S106.000	SK62	15 Winter	100	+30%	100/15 Winter				48.819	1.491
S107.000	SK63	15 Winter	100	+30%	100/15 Winter				48.813	1.485
S104.002	SA112	15 Winter	100	+30%	100/15 Winter				48.787	1.548
S108.000	SA114	15 Winter	100	+30%	100/15 Winter	100/15 Winter			48.890	1.508
S109.000	SK64	15 Winter	100	+30%	100/15 Winter				48.773	1.499
S108.001	SA115	15 Winter	100	+30%	100/15 Winter				48.717	1.524
S110.000	SK65	15 Winter	100	+30%	100/15 Winter				48.620	1.411
S104.003	SA116	15 Winter	100	+30%	100/15 Winter				48.597	1.456
S111.000	SA117	15 Winter	100	+30%	100/15 Winter				48.408	1.281
S104.004	SA118	15 Winter	100	+30%	100/15 Winter				48.304	1.274
S112.000	SA120	15 Winter	100	+30%	100/15 Winter				48.071	1.039
S113.000	SA125	15 Winter	100	+30%	100/15 Winter				48.076	1.021
S104.005	SA127	15 Winter	100	+30%	100/15 Winter				48.061	1.070
S114.000	SA128	15 Winter	100	+30%	100/15 Winter				47.965	0.861
S104.006	SA129	15 Winter	100	+30%	100/15 Winter				47.946	0.991
S115.000	SA130	15 Winter	100	+30%	100/15 Winter				47.671	0.704
S104.007	SA131	15 Winter	100	+30%	100/15 Winter				47.671	0.840
S116.000	SK66	15 Winter	100	+30%	100/15 Winter				48.107	1.086
S116.001	SA132	15 Winter	100	+30%	100/15 Winter				47.810	0.948
S104.008	SA133	15 Winter	100	+30%	100/15 Winter				47.508	0.767
S117.000	SK67	15 Winter	100	+30%	100/15 Winter				48.263	0.913
S117.001	SK68	15 Winter	100	+30%	100/15 Winter				48.206	0.978
S118.000	SK69	15 Winter	100	+30%	100/15 Winter				48.208	1.045
S117.002	SK70	15 Winter	100	+30%	100/15 Winter				48.122	1.112
S117.003	SK71	15 Winter	100	+30%	100/15 Winter				48.015	1.047
S117.004	SK72	15 Winter	100	+30%	100/15 Winter				47.563	0.776
S104.009	SK73	15 Winter	100	+30%	100/15 Winter				47.256	0.589
S2.035	SA134	1440 Winter	100	+30%	100/30 Winter				47.104	0.733
S2.036	SA135	1440 Winter	100	+30%	100/240 Winter				47.024	0.673
S119.000	SA136	15 Winter	100	+30%	100/15 Winter				48.000	0.100
S120.000	SA137	15 Winter	100	+30%	100/15 Winter				47.972	0.172
S120.001	SA138	15 Winter	100	+30%	100/15 Winter				47.927	0.166
S119.001	SA139	15 Winter	100	+30%	100/15 Winter				47.854	0.221
S121.000	SK74	15 Winter	100	+30%	100/15 Winter				48.582	0.916
S121.001	SA140	15 Winter	100	+30%	100/15 Winter				47.735	0.248
S122.000	SC2-59	15 Winter	100	+30%	100/15 Winter				47.631	0.110
©1982-2020 Innovyze										



4.5 SuDS Maintenance Strategy/Ownership

- 4.5.1 For the water treatment effects of SuDS features to remain effective, a comprehensive maintenance strategy should be implemented.
- 4.5.2 Given the reliance upon the constructed attenuation infrastructure attributed to the Shinfield West residential development, no 'additional' maintenance is required for the northern sports pitches themselves beyond that approved for the Shinfield West SuDS features.
- 4.5.3 The sports pitch slot drains and carrier drain systems including the brick headwalls will remain in private ownership. During construction, maintenance of sports drainage features would be undertaken by the Contractor. Upon completion, the assets would be passed over to the University of Reading to maintain the features in perpetuity.
- 4.5.4 As part of the strategy, a regular maintenance regime will be created, which consists of several primary measures required to ensure the longevity of the system. These should be undertaken on a regular basis to ensure consistent performance. Typical maintenance activities consist of:
- Inspecting and reporting; relatively regular review of the condition identifying issues and providing resolutions. Periodic review from the maintenance contractor;
 - Litter and debris removal;
- 4.5.5 A remedial maintenance schedule would be recommended as part of the handover of the headwall feature, remedial maintenance is required to provide repairs to the system and monitor long term damage ensuring the system remains consistently productive. the schedule could consist of;
- Structure rehabilitation and repair;
 - Air pressure treatment.



5.0 Development Suitability

5.1 Introduction

5.1.1 This chapter assesses the suitability of the development proposals.

5.2 Assessment

5.2.1 This Drainage Strategy demonstrates that the northern sports pitches satisfies the requirements of the approved Flood Risk Assessment and latest NPPF advice and can be justified in the proposed location by:

5.2.2 assessing the risk posed to the site from flood events;

5.2.3 assessing the risk posed to the site from the site storm water generation and the site storm water runoff management; and

5.2.4 assessing the risk the site poses to increase in flooding elsewhere.

5.3 Conclusion

5.3.1 The proposed surface water drainage strategy will manage the flood risk posed by surface water runoff from the site. Any increase in surface water run-off can be managed using existing SuDS features to provide storage in extreme storm events.

5.3.2 All surface water drainage systems will be designed to maintain pre-development greenfield runoff rates, and there is no increase in impermeable areas due to the nature of the proposals.

5.3.3 Overall, the site should not be precluded on flood risk/drainage grounds as the development will be at low risk from existing sources and more importantly, will not result in an increase in flooding downstream.



Appendices



Appendix A – Site Plan

Barton Willmore Site Plan Drawing 24262-RG-L-550

Irish Green

EG1 – GENERAL PURPOSE MEADOW GRASS MIXTURE		
EG1 is a simple combination of low growing grasses that produce a short, open 'flower-friendly' sward. This grass mixture used alone has many applications in low maintenance naturalistic landscaping.		
Wild Flowers		
%	Latin name	Common name
10	<i>Agrostis capillaris</i>	Common Bent
35	<i>Cynosurus cristatus</i>	Crested Dogtail
30	<i>Festuca rubra</i>	Red Fescue
5	<i>Phleum bertolonii</i>	Smaller Cat's-tail
20	<i>Poa pratensis</i>	Smooth-stalked Meadow-grass

Maintenance Operations - Establishment Period 1- Years 1 to 2 Following Planting
Undertake maintenance operations as required in order to ensure the successful establishment

1. **Low Maintenance Amenity Grass Areas** - Remove litter and debris prior to each cut.
- During the first year of establishment for seeded area undertake regular management of the sward to no longer than 200mm.
- Regular management of any perennial weeds (e.g. via spot spraying / manual pulling) will be essential during the establishment phase.
- Year 2 - Mowing regimes to be adjusted depending on site location, as instructed by client (m of regular amenity cuts and twice annual cuts)
3. **Weding** - Maintain areas outside plots in a weed free condition.
4. **Protection/Reinstatement** - Regularly inspect all planting and grassed areas, eg, once a month, for any pest damage or vandalism/damage caused by others. Any damaged to be reported to the Employer immediately and if not recoverable season by replacement planting or resurfacing/repair, and protective measures if required.

2. Sports Pitches - Maintenance of sports pitches to be carried out as per guidelines provided by the sports consultants.

Ownership Boundary

Application Boundary

Existing trees retained

SPORTS PITCH SPECIFICATION
Pitch Construction - To specialist contractors construction details and specification.

- 2x Youth U13/U14 Football 73x46m + 3m safety area
- 1x Senior Rugby Pitch 98x68 + 10m in Goals + 5m safety Area
- 2x Youth U11/U12 Football 82x50m + 3m safety area

The sports pitches are not floodlit.

It is the purpose of this scheme to construct the facilities detailed above to meet the "standard" Performance Quality Standards stipulated by Sport England/Institute of Groundsmanship.

FOR PLANNING

Project
University of Reading
South of M4

Drawing Title			
Shinfield Northern Pitches			
Overall Landscape GA Plan			
Date	Scale	Drawn by	Check by
17.10.2022	1:500 @A0 1:1000 @A2	PM	D5
Project No	Drawing No	Revision	
35440	RG-L-550	H	



Stantec UK Limited
The Blade
Abbey Square
Reading
RG1 3BE
T: 0118 9430 000

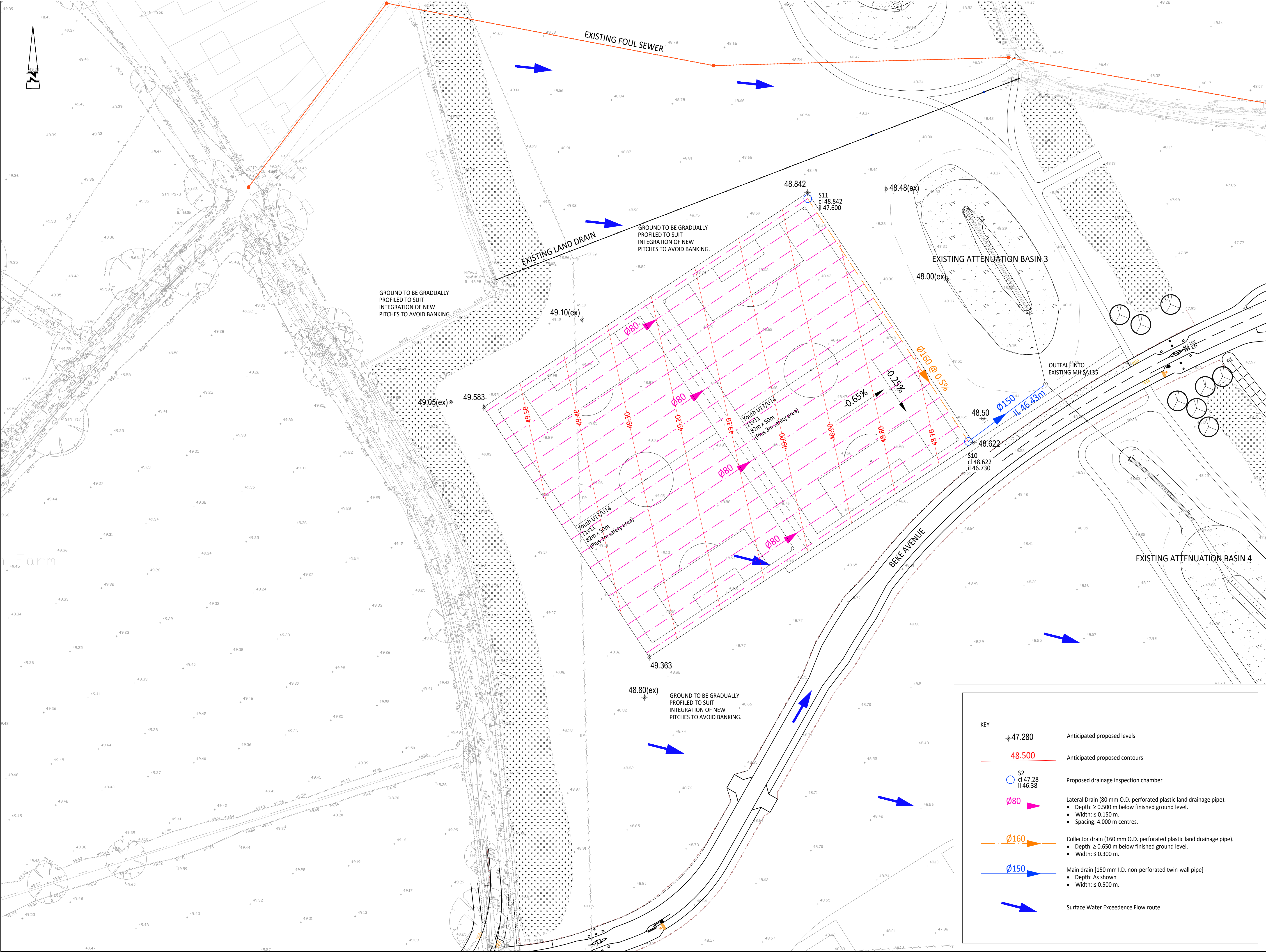


Appendix B – Supporting Information

General Arrangement drawing A253-NSP-101

Construction Details drawing A253-NSP-710

UKSUDS Greenfield Runoff calculations



© ABLEY LETCHFORD PARTNERSHIP LTD.
This drawing should not be reproduced without consent.

1. All dimensions are in metres unless otherwise stated.
2. This drawing is to be read in conjunction with all other project drawings and notes. The Contractor is to satisfy themselves that there are no discrepancies within the design pack before commencing on site. If in doubt ask.
3. Sand slot slits at 500mm centres removed for clarity.

P4	07.25	UPDATED DESIGN WITH PATH ADDED. DRAWING BORDER UPDATED.	LC	LPA
P3	08.23	UPDATED IN LINE WITH REVISED LAYOUT	TA	KLW
P2	10.22	DESIGN UPDATED TO SUIT LATEST LAYOUT	LPA	LPA
P1	10.22	FIRST ISSUE	KLW	LPA
Rev	Date	Description	Drawn	Checked

www.ableyletchford.co.uk

Client

UNIVERSITY OF READING

Project

NORTHERN SPORTS PITCHES SHINFIELD

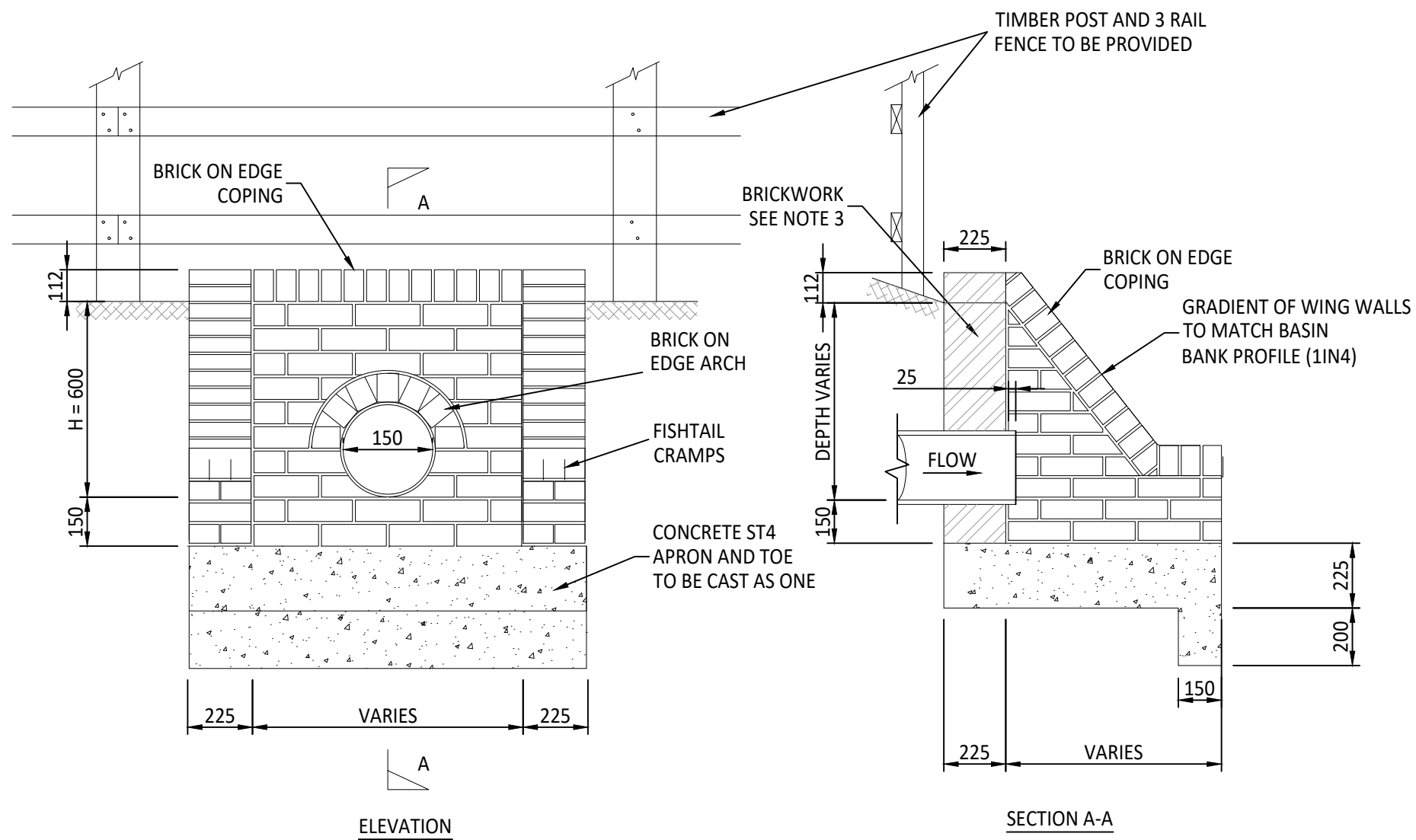
Title

GENERAL ARRANGEMENT

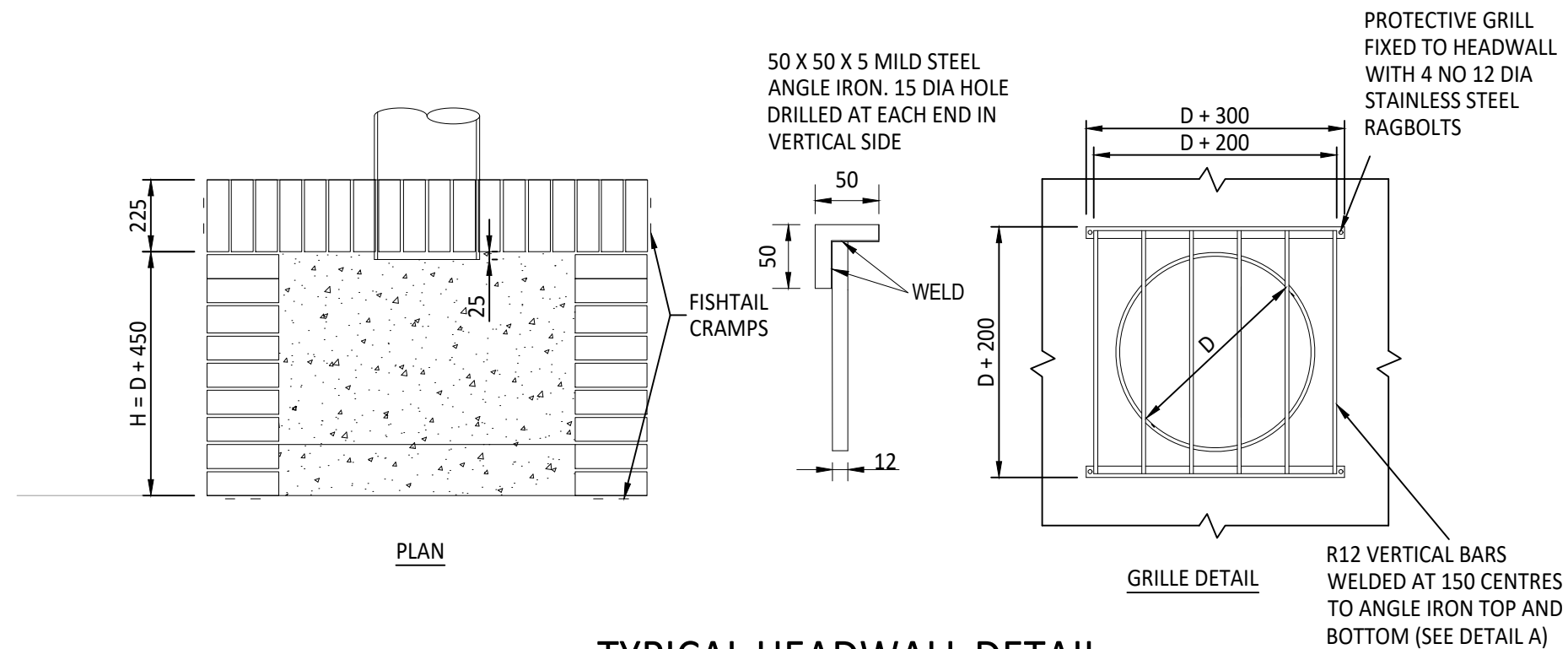
Status

Scale	Date	Drawn	Checked
1:500 @ A1	OCT 2022	KLW	LPA

Drawing No.	Revision
A243-NSP-101	P4



- TYPICAL HEADWALL NOTES:**
1. All dimensions are in millimetres unless shown otherwise.
 2. Brickwork constructed in English Bond in Class B engineering bricks to BS 3921: 1985 & BS EN 772 flush pointed with mortar to designation (i) SHW Series 2400.
 3. Brickwork to be:
225 Thick for H < 1.2m
337 Thick for H > 1.2m
 4. Concrete to be grade ST4.
 5. Unformed surfaces to be U2 plain finish.
 6. All concrete below ground shall have Class 2 sulphate resistance.



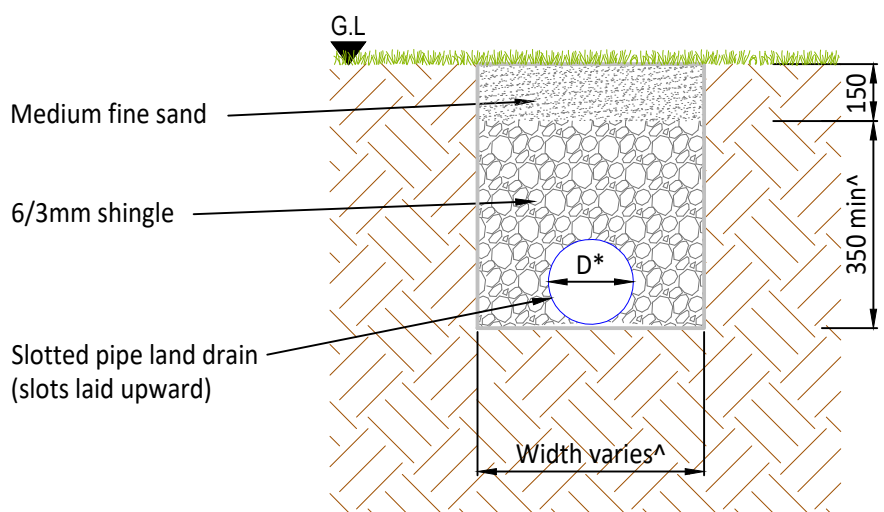
TYPICAL HEADWALL DETAIL
SCALE NTS

TYPICAL INSPECTION CHAMBER DETAIL
Maximum depth from cover level to soffit of pipe 2 m, non-entry
Plastic chambers and rings shall comply with BS EN 13598-1 and BS EN 13598-2 or have equivalent independent approval

Sited near pavilion

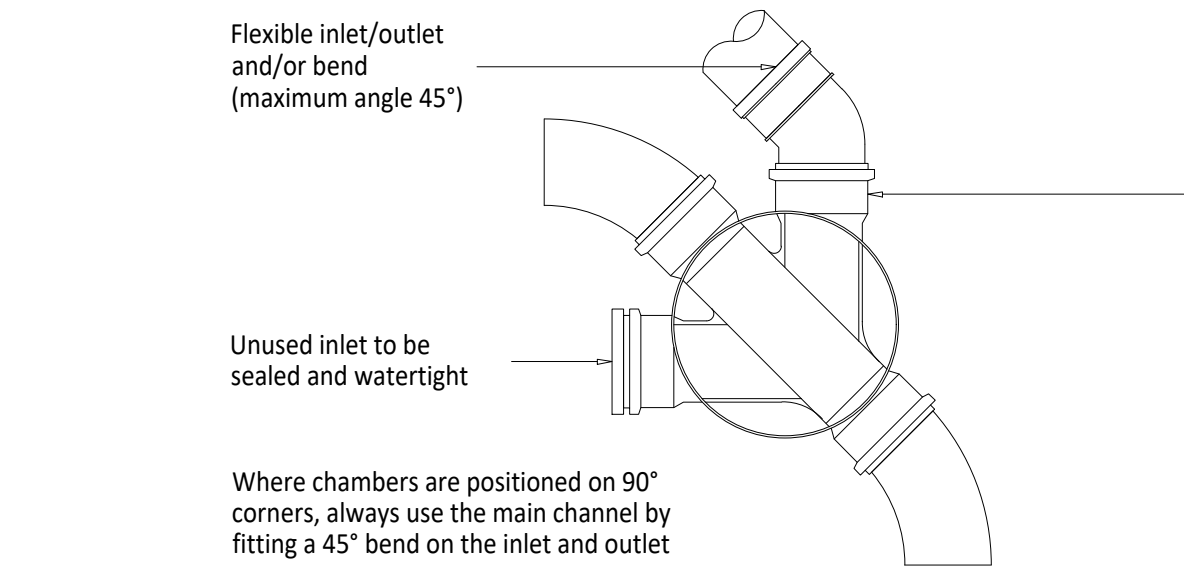
Mortar bedding and haunching to cover and frame to Clause E6.7
Topsoil
Minimum radius to be 500 mm for a 100 mm diameter pipe and 600 mm for a 150 mm diameter pipe to allow entry of maintenance equipment
Joints between base and shaft and shaft components to be fitted with watertight seals

Cover complying with BS EN 124 and BS 7903 Gardens - Class A15 See Clause E2.32
Minimum internal dimensions 180 mm diameter or 225 mm x 100 mm
DOT Type 1 sub base (thickness varies) or concrete surround
Base unit to have all connections with soffit levels set no lower than that of the main pipe



* Refer to General Arrangement drawing for size of land drain pipe.
^Refer to General Arrangement drawing for width and depth of trench

TYPICAL SLOT DRAIN DETAIL
SCALE 1:25



TYPICAL CARRIER DRAIN BEDDING
(Verges & Landscaping)

GRANULAR BEDDING

Nominal bore of pipe (mm)	Alternative Aggregate sizes (mm)	
	Single sized	Graded
100	10	-
150	10 or 14	14-5
225-300	14 or 20	14-5 or 20-5
375-525	14 or 20	14-5 or 20-5
>525	14, 20 or 40	14-5, 20-5 or 40-5

Granular bedding for pipes and backfilling material for temporary drains (trench sub-drains) shall consist of aggregates from natural sources to BS EN 13242 and BS EN 1744-1 or sintered pulverised fuel ash complying with the relevant provisions of BS 3892; sized in accordance with the above table

Selected fill material, whether selected from locally excavated material or imported, shall consist of uniform, readily compactible material, free from vegetable matter, building rubbish and frozen material, or materials susceptible to spontaneous combustion, and excluding clay of liquid limit greater than 80 and/or plastic limit greater than 55 and materials of excessively high moisture content. Clay lumps and stones shall be retained on 100mm and 40mm sieves respectively.

TRENCH WIDTHS & KEY DIMENSIONS

Dia Dn (mm)	Width Bc (mm)		Y(mm)		L(mm)	Z MIN (mm)
	Max	Min	Y1 (Uniform Soil)	Y2 (Rock)		
100	550	450	100	200	18	150
150	600	490	150	200		150
225	700	580	150	200		150
300	750	680	150	200	36	150
375	1050	950	150	200		150
450	1150	1030	150	200		150
525	1200	1120	150	200	54	150
600	1350	1240	150	200		150
675	1450	1330	150	200		225
750	1500	1400	150	200	54	225
825	1600	1490	150	225		225
900	2100	1900	150	225		225
975	2150	1950	175	250	54	300
1050	2250	2050	175	275		300
1200	2500	2250	200	300		300
OVER 1200	O.D.+1000	O.D.+800	I.D./6	I.D./4	54	400

NOTES

1. All dimensions are in metres unless otherwise stated.
2. This drawing is to be read in conjunction with all other project drawings and notes. The Contractor is to satisfy themselves that there are no discrepancies within the design pack before commencing on site. If in doubt ask.

P2	07.25	Title block updated	LC	DS
P1	10.22	First Issue	CS	LPA
Rev	Date	Description	Drawn	Checked



www.ableyletchford.co.uk

Client

UNIVERSITY OF READING

Project

NORTHERN SPORTS PITCHES SHINFIELD

Title

CONSTRUCTION DETAILS

Status

Scale	Date	Drawn	Checked
AS SHOWN @ A1	OCT 2022	CS	LPA

Drawing No	Revision
A243-NSP-710	P2

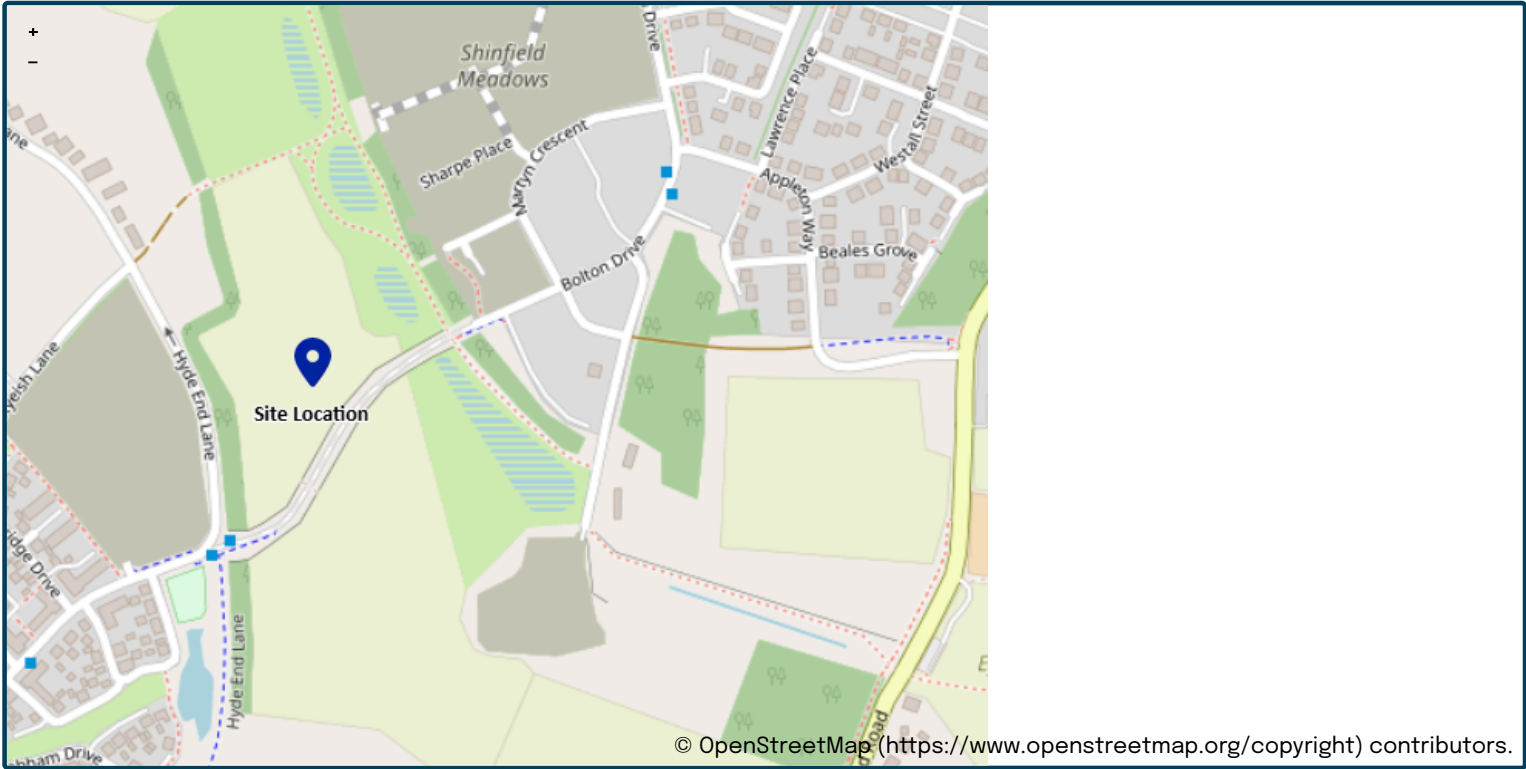
This is an estimation of the greenfield runoff rates that are used to meet normal best practice criteria in line with Environment Agency guidance “Rainfall runoff management for developments”, SC030219 (2013), the SuDS Manual C753 (CIRIA, 2015) and the non-statutory standards for SuDS (Defra, 2015). This information on greenfield runoff rates may be the basis for setting consents for the drainage of surface water runoff from sites.

Project details

Date	22/07/2025
Calculated by	Leigh Abley
Reference	A243
Model version	2.0.1

Location

Site name	A243 Shinfield Northern Pitches
Site location	Shinfield, Wokingham



Site easting	472639
Site northing	167262

Site details

Total site area (ha)	1	ha
----------------------	--------------------------------	----

Greenfield runoff

Method

Method	IH124	
IH124		
	<u>My value</u>	<u>Map value</u>
SAAR (mm)	649mm	649
How should SPR be derived?	WRAP soil type	
WRAP soil type	4	4
SPR	0.47	
QBar (IH124) (l/s)	4.4l/s	

Growth curve factors

	<u>My value</u>	<u>Map value</u>
Hydrological region	6	6
1 year growth factor	0.85	
2 year growth factor	0.88	
10 year growth factor	1.62	
30 year growth factor	2.3	
100 year growth factor	3.19	
200 year growth factor	3.74	

Results

Method	IH124	
Flow rate 1 year (l/s)	3.8l/s	
Flow rate 2 year (l/s)	3.9l/s	
Flow rate 10 years (l/s)	7.2l/s	
Flow rate 30 years (l/s)	10.2l/s	
Flow rate 100 years (l/s)	14.1l/s	
Flow rate 200 years (l/s)	16.5l/s	

Disclaimer

This report was produced using the Greenfield runoff rate estimation tool (2.0.1) developed by HR Wallingford and available at [uksuds.com](https://www.uksuds.com) (<https://www.uksuds.com/>).

The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at [uksuds.com/terms-conditions](https://www.uksuds.com/terms-conditions) (<https://www.uksuds.com/terms-conditions>). The outputs from this tool have been used to estimate Greenfield runoff rates. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, Centre for Ecology and Hydrology, Wallingford Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.



Transport Planning | Flood & Water Management | Civil Engineering

Hungerford Office

3 Tealgate, Charnham Park,
Hungerford RG17 0YT

01488 684 390

Reading Office

6th Floor, Reading Bridge House,
George Street, Reading, RG1 8LS

0118 237 1736

www.ableyletchford.co.uk