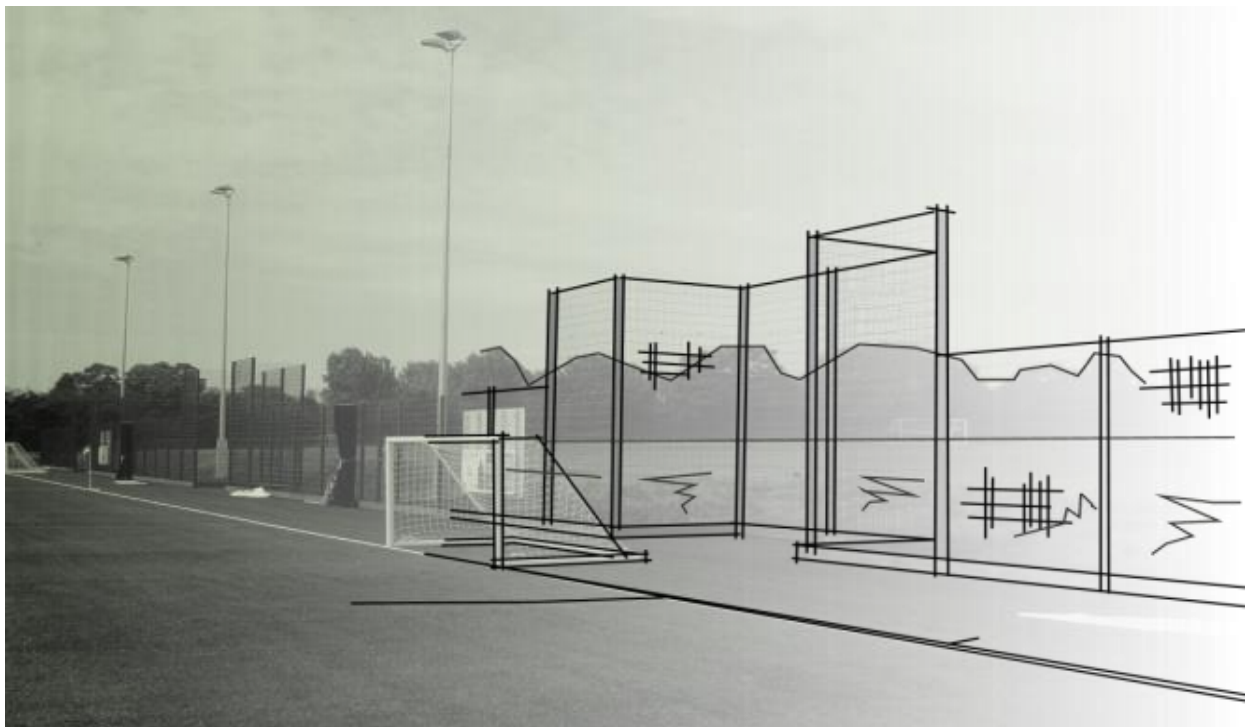


Britannia Road, Burbage

Creation of a 3G Artificial Grass Pitch (AGP) with perimeter fencing, hardstanding areas, storage container, floodlights, access footpath, acoustic barrier and overflow 'Grasscrete' parking area

Drainage Strategy



Client	Burbage Parish Council		
Project	Creation of a 3G Artificial Grass Pitch (AGP) with perimeter fencing, hardstanding areas, storage container, floodlights, access footpath, acoustic barrier and overflow 'Grasscrete' parking area		
SSL project code	G-227556		
Document title	Drainage Strategy		
Document control	Revision	By	Date
	First Issue	OP	17/12/2025

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1. Introduction

Surfacing Standards Limited has been appointed to consider and develop an application for full planning permission for the Creation of a 3G Artificial Grass Pitch (AGP) with perimeter fencing, hardstanding areas, storage container, floodlights, access footpath, acoustic barrier and overflow 'Grasscrete' parking area.

This Drainage Strategy document aims to set out the flood risk for the site, flooding/drainage policy & guidance, method of drainage & why this was the chosen option and maintenance of the proposed drainage system.

The assessment has been carried out in accordance with the guidance set out in the National Planning Policy Framework (NPPF) and National Planning Practice Guidance (NPPG). The document should be read in conjunction with the Drainage Layout and Drainage Strategy submitted with this planning submission.

2. Site Details

2.1. The Proposal

The proposed development will include the creation of an Artificial Grass Pitch (AGP) with new fencing and hard standing pathways as shown within table 1.

Table 1 – Area of pitch and associated development

Aspect	Area
3G artificial grass pitch area	5,917m ²
Porous Asphalt surfaced areas	695m ²
Proposed Grasscrete car park	1,277m ²
Total Development Area	7,889m²

2.2. Subject Area

The proposed development is situated at:

Britannia Road Playing Fields, Britannia Road, Burbage, LE10 2HF

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Figure 1 – Site Location

2.3. Site Description

The site comprises of large open grass playing fields used for football, general recreation, and community events. The site also hosts Millennium Hall, a well-used community building supporting sports and recreational activities and serves as a central hub for local events. Vehicular access is via Britannia Road, with parking provision located adjacent to the hall. There are residential properties to the north and to the east, as well as to the west beyond the existing grass playing fields. The fields also extend to the south of the proposed development beyond a hedge line.

2.4. Site History

During the medieval period, the land was part of Burbage's ancient three-field system. The western hedgerow of Britannia Fields is over 600 years old, marking historic field boundaries.

The site was part of open agricultural land south of the main Burbage settlement. Historical mapping from 1901 records a "Hosiery Manufactory" to the north, with surrounding land divided into small enclosures, likely used for grazing or crop cultivation. Nearby features include Cambria Well, Fieldgate Pit, and White House. No built development was recorded within the site itself. By 1938, the site had begun to develop recreational uses. A "Football Ground" is marked centrally within the site, with allotment gardens on the western boundary. Hosiery manufacturing remains present to the north. A distinct increase in linear residential development is evident to the north and northwest, suggesting growing settlement pressure.

By 1999 aerial imagery shows the site clearly laid out as grassed playing fields. Field boundaries are still visible, and the site is largely open. Built development has extended to the north and west edges of the site, but the central portion remains undeveloped. Some evidence of informal recreational use is visible. The 2022 aerial imagery indicates more formalised recreational use. Markings for pitches, hardstanding areas, and boundary treatments are clearer. Housing development has further intensified along the site's northern and eastern edges, although the majority of the site remains open space, consistent with use for sport or community recreation.

2.5. Site Topography

The topographical survey shows there to be a gentle fall across the playing fields from north to south. Further information on existing levels can be seen within G-227556 01 – Existing Site Plan.

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2.6. Local Watercourses

There is a local watercourse located outside of the site boundary to the south of the site.

2.7. Coal Mining

Coal Authority mapping data shows the site does not lie within a Coal Mining Reporting area or High Risk for Development Area.

2.8. Ground Conditions Encountered

Made ground was encountered in the majority of boreholes and comprised brown slightly gravelly clayey sand with rare brick and ceramic fragments. This was considered to be reworked topsoil that extended to a maximum depth of 0.80mbgl. The made ground was generally immediately underlain by soft to stiff light yellowish brown slightly gravelly sandy clay over firm to stiff grey slightly gravelly slightly sandy clay.

2.9. Groundwater

Significant groundwater was not encountered in any of the exploratory holes undertaken. However, occasional perched volumes were encountered in conjunction with localised sand bands. This is not considered to be representative of the underlying groundwater table.

2.10. Infiltration Potential

Indicative infiltration testing was carried out. The testing targeted at the shallow natural cohesive deposits was undertaken in areas designated as potentially suitable for infiltration, however insufficient drainage was recorded in the natural cohesive deposits. Based on this soakaway drainage is not considered to be suitable for the site.

2.11. Assessment Context

The proposed development area is approximately 0.8ha.

2.12. Flood Map

A desktop review has been carried out with the Environment Agency to determine whether the site is, in their classification, at risk of flooding. This could impact on any planning application and the preferred location of the development.

The sites fall within a Flood zone 1. Land within flood zone 1 has a low probability of flooding from rivers and the sea.

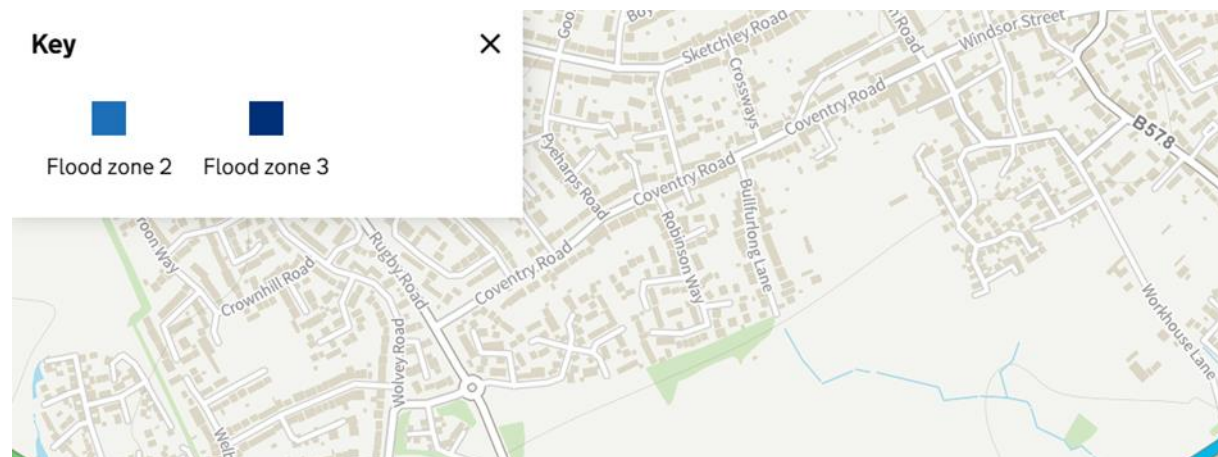


Figure 2 – Flood map for planning

2.13. Risk of Flooding from Surface Water

A search of the Government flood risk from surface water reveals the potential for a low chance of surface water flooding on a small section of the pitch, sometimes known as flash flooding. It also acknowledges that flooding from groundwater and reservoirs is unlikely in this area.

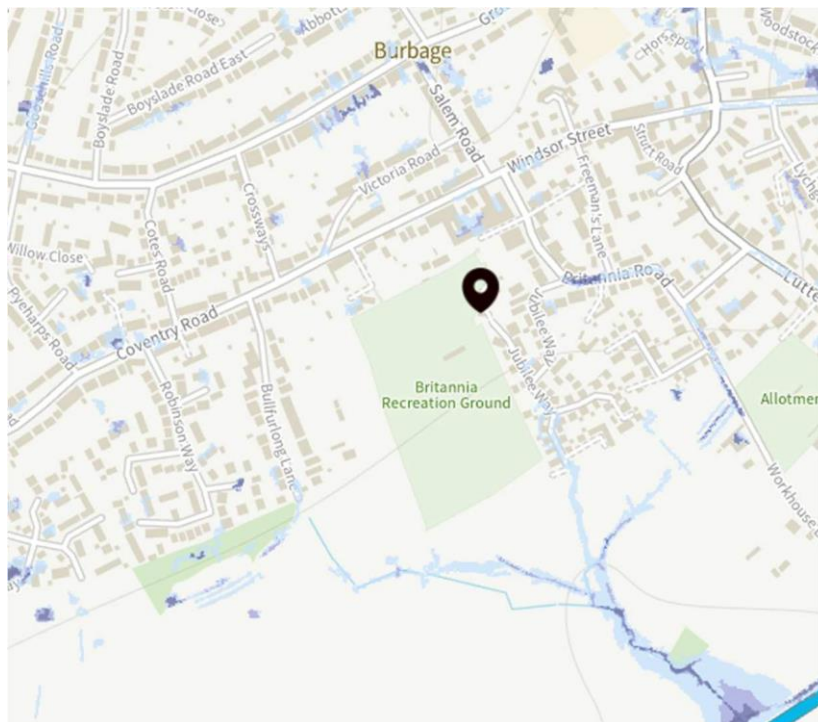
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Surface water map

Yearly chance of flooding

- ☒ Flood area (extent)
- High chance
 - Medium chance
 - Low chance

Yearly chance of flooding between 2040 and 2060

- ☐ Flood area (extent)

Map details

- ☒ Show flooding
- ☒ Selected address

Figure 2 – Flood map for planning

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3. Framework & Flood Risk Policy

3.1. National Planning Policy Framework (2024)

Section 14 – Meeting the Challenge of Climate Change, Flooding and Coastal Change

Policy extract:

Paragraph 181:

When determining any planning applications, local planning authorities should ensure that flood risk is not increased elsewhere. Where appropriate, applications should be supported by a site-specific flood-risk assessment⁵⁵. Development should only be allowed in areas at risk of flooding where, in the light of this assessment (and the sequential and exception tests, as applicable) it can be demonstrated that:

- a) within the site, the most vulnerable development is located in areas of lowest flood risk, unless there are overriding reasons to prefer a different location;*
- b) the development is appropriately flood resistant and resilient such that, in the event of a flood, it could be quickly brought back into use without significant refurbishment;*
- c) it incorporates sustainable drainage systems, unless there is clear evidence that this would be inappropriate;*
- d) any residual risk can be safely managed; and*
- e) safe access and escape routes are included where appropriate, as part of an agreed emergency plan.*

Department for Environment, Food and Rural Affairs

Sustainable Drainage Systems

Non-statutory technical standards for sustainable drainage systems

March 2015

The surface water drainage scheme must be in accordance with the Non-Statutory Technical Standards for Sustainable Drainage Systems (March 2015) or any subsequent replacement national standards and unless otherwise agreed in writing by the Local Planning Authority, no surface water shall discharge to the public sewerage system either directly or indirectly.

To assist the application for full planning permission and to facilitate the satisfactory implementation and delivery of the project; an assessment of flood risk and a sustainable drainage proposal is required in accordance with national policies.

With reference to Table 2 of Planning Practice Guidance to the National Planning Policy Framework, the proposed development for an outdoor sports facility would be classified as Water Compatible Development.

Table 2 - Extract from Table 2 of the PPG for Flood Risk and Coastal Change is replicated below in Table 2.

Flood Risk Vulnerability Classification	
Vulnerability	Development types
Water Compatible Development	Flood control infrastructure Water transmission infrastructure and pumping stations Sewage transmission infrastructure and pumping stations Sand and gravel working Docks, marinas and wharves Navigation facilities Ministry of Defence installations Ship building, repairing and dismantling, dockside fish processing and refrigeration and compatible activities requiring a waterside location Water-based recreation (excluding sleeping accommodation) Lifeguard and coastguard stations Amenity open space, nature conservation and biodiversity, outdoor sports and recreation and essential facilities such as changing rooms Essential ancillary sleeping or residential accommodation for staff required by uses in this category, subject to a specific warning and evacuation plan

Source: Planning Practice Guidance - 2014

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3.2. Flood Risk Vulnerability and Flood Zone Compatibility

Based on the above assessment of the site being located within a flood zone 2 and classified as a 'water compatible development' and with reference to Planning Practice Guidance for 'Flood Risk and Coastal Change' to the National Planning Policy Framework (Table 3), the proposed development of this site would be considered "appropriate".

A copy of Table 3 is presented below to confirm the assessment above.

Table 3 - No exception test

Flood risk vulnerability and flood zone compatibility					
Flood risk vulnerability classification	Essential infrastructure	Water compatible	Highly vulnerable	More vulnerable	Less vulnerable
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	✓	Exception Test required	✓	✓
Zone 3A	Exception Test required	✓	✗	Exception Test required	✓
Zone 3B	Exception Test required	✓	✗	✗	✗
Key:					
✓Development is appropriate					
✗Development should not be permitted					

3.3. Sequential Test

As the site is located within a flood zone 1, a sequential test is not required, and it is worth noting the site is used (and historically designated) as a sports complex (active playing field) the development can be deemed to have passed the sequential test.

3.4. Current Conditions

The proposed development will replace part of an existing playing field.

3.5. Surface Water Disposal Requirements

In accordance with the National Planning Policy Framework (NPPF) and the National Planning Practice Guidance (NPPG), the site should be drained in the most sustainable way. No foul sewage will be created as part of this development.

The NPPG clearly outlines the hierarchy to be investigated by the developer when considering a surface water drainage strategy. As such, the developer must consider the following drainage options in the following order of priority:

- A. Into the ground (infiltration);
- B. To a surface water body;
- C. To a surface water sewer, highway drain, or another drainage system;
- D. To a combined sewer.

This is necessary to promote sustainable development, secure proper drainage and to manage the risk of flooding and pollution. This condition is imposed considering policies within the NPPF and NPPG.

3.6. Flood Compensation

Flood compensation measures will not be required as finished (floor) levels will not affect current flood plain storage onsite.

3.7. Overland Flows

There is a risk of the critical storm event being exceeded, albeit this risk is considered very low.

In such an event the proposed drainage systems will become overwhelmed and overland flows could occur.

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4. Surface Water Drainage Strategy

4.1. Surface Water Disposal Solution

In accordance with the National Planning Policy Framework (NPPF) and the National Planning Practice Guidance (NPPG), the site should be drained on a separate system with foul water draining to the public sewer and surface water draining in the most sustainable way.

The NPPG clearly outlines the hierarchy to be investigated by the developer when considering a surface water drainage strategy in the following order of priority:

- A. Into the ground (infiltration);
- B. To a surface water body;
- C. To a surface water sewer, highway drain, or another drainage system;
- D. To a combined sewer.

4.2. Surface Water Disposal Options

Surface Water Disposal Options

A. Collected for non-potable use

At the site there is no significant or continuous on-site water demand and therefore there is no scope for the reuse of surface water within the site, and so rainwater re-use is not proposed. Water collection systems rely on regular and sufficient rainfall. However, the periods when irrigation is most needed (e.g. summer months) typically coincide with low rainfall, meaning little or no water is available to collect when it is needed most. Further, collected rainwater typically cannot be stored for extended periods without significant treatment, due to the risk of stagnation, algal growth, and contamination. This makes long-term storage across seasons (e.g. from winter to summer) unviable without significant costly infrastructure, therefore, with the way that natural pitches are drained, collecting surface water for non-potable use is not viable.

B. Soak away

Soakaways are not a viable solution moving forwards, following on site testing.

C. Surface Water Body

There is no watercourse situated close to the proposed development.

D. Surface Water Sewer

There is a surface water sewer located to the east of the proposed development.

E. Combined Sewer

Not required due to Option D being possible.

4.3. Surface Water Drainage Strategy

FIFA's Quality Concept for Football Turf (Handbook of Requirements January 2015 Edition) requires a 3G artificial turf to provide water permeability (for outdoor uses) >180mm/hr and advises that to ensure adequate drainage of a field, all individual elements of the football turf should satisfy this requirement.

The granular pitch substrate (typically consisting of Type 3 unbound (SHW 800 Series) to comply with BSEN 13285) is intended to provide onsite containment and attenuation within the granular sub-base, before surface water enters the proposed surface water connection.

The designed surface water drainage solution should be based upon the following criteria, to maintain satisfactory system performance:

- Provide adequate functionality over a period of twenty years.
- Prevent the risk of uncontrolled flooding elsewhere (to land adjacent to the development).
- Comply with all applicable Sustainable Urban Drainage System (SUDS) requirements with attenuated flows (containment within the granular pitch sub-base) incorporated wherever necessary, without affecting the performance of the pitch.

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Storage is provided within the sub-base of the AGP sub base. The surface of the synthetic turf area shall be permeable with the underlying stone sub-base acting as an attenuation/storage area for surface water. This is combined with a perforated drainage system being installed underneath the pitch base to connect to the existing outfall chamber at the south east of the development site.

It is intended that a positive drainage scheme; shall be installed beneath the development area comprising UPVC perforated carrier and lateral pipe drains. The granular pitch substrate (typically consisting of Type 3 unbound (SHW 800 Series) to comply with BSEN 13285) is intended to provide onsite containment and Only natural surface water is being dealt with. The new development will not increase the volume of water that the existing site area is currently subjected to. The area is in a Category 1 flood zone and as such is at a low risk of flooding.

The collector drainage pipe to the synthetic pitch will connect to the existing surface water chamber within the site with a restricted outfall rate. In terms of the proposed restricted outfall rate, Leicestershire Council stipulate a greenfield runoff rate of 5.0 litres per second (l/s) should be used. We have, therefore, used 5l/s as the suggested limited discharge rate. Calculations have been based on a 1 in 100 year storm event with a 40% allowance for climate change. Surface water discharge rate will be restricted and the installation of the new drainage system to this area of the site will provide a more careful, managed control of discharge than the current arrangement.

The foundations of the new synthetic turf area (shown in drawing 'G-227556 07 - Proposed AGP Drainage Layout') includes a total build up of 380mm through the various layers of construction:

- Type 3 stone
- Macadam
- Shock Pad System
- Infill of sand and rubber on the carpet

The minimum 380mm deep aggregate base construction offers a wedge for surface water attenuation prior to filling and flooding the pitch surface or surrounding grassed areas. The available volume of the wedge is created through the following calculations:

- The pitch layer constructed at a 1 in 150 gradient offers a volume and capacity of 1133m³
- Based on a voidage space of 37% this offers 419m³ of water attenuation.
- The drainage system, shown in drawing 'G-227556 07 - Proposed AGP Drainage Layout', can also attenuate an additional 51m³

Minimum Storage Required:

415 m³

FACTOR	VALUE	SOURCE
Return Period (yrs):	100	Environment Agency, Water Authority, etc.
Limiting Discharge (l/s):	5	Environment Agency, Water Authority, etc.
Contributing Area (ha):	0.7808	Site plans
Impervious, PIMP (%):	100	Site plans
M5-60min (mm):	20	Volume 3 maps and site location
SAAR (mm/yr):	685	Volume 3 maps and site location
Ratio, r:	0.4	Volume 3 maps and site location
Soil Type:	4	Volume 3 maps and site location
SOIL:	0.45	Soil Type and Volume 1, Section 7.4
UCWI:	71	SAAR and Volume 1, Figure 9.7
Calculated PR	78.97	
Percentage Runoff =	78.97	

FACTOR	VALUE
Additional Inflow (l/s):	0
Calculate/Specify PR:	Calculate
Specify PR:	100
Climate Change Allowance	40

Duration, D (min)	M100-D (mm)	incl climate change	Area C (ha)	PR (%)	Runoff (m3)	Add. Runoff (m3)	Total Runoff (m3)	Limiting Discharge (m3/min)	Limiting Runoff (m3)	Storage Required (m3)
15	23.1	32.4	0.78	79	199.6	0.0	199.6	0.30	4.5	195.1
30	30.4	42.6	0.78	79	262.5	0.0	262.5	0.30	9.0	253.5
60	38.0	53.2	0.78	79	328.0	0.0	328.0	0.30	18.0	310.0
120	46.3	64.8	0.78	79	399.5	0.0	399.5	0.30	36.0	363.5
240	55.3	77.4	0.78	79	477.2	0.0	477.2	0.30	72.0	405.2
360	60.6	84.8	0.78	79	523.0	0.0	523.0	0.30	108.0	415.0
480	64.2	89.9	0.78	79	554.1	0.0	554.1	0.30	144.0	410.1
600	66.9	93.7	0.78	79	577.7	0.0	577.7	0.30	180.0	397.7
720	69.1	96.8	0.78	79	596.7	0.0	596.7	0.30	216.0	380.7
840	71.0	99.3	0.78	79	612.5	0.0	612.5	0.30	252.0	360.5
1440	77.4	108.4	0.78	79	668.5	0.0	668.5	0.30	432.0	236.5
2160	82.8	115.9	0.78	79	714.6	0.0	714.6	0.30	648.0	66.6
2880	87.2	122.1	0.78	79	753.0	0.0	753.0	0.30	864.0	-111.0
3000	87.9	123.1	0.78	79	759.1	0.0	759.1	0.30	900.0	-140.9
3300	89.7	125.6	0.78	79	774.2	0.0	774.2	0.30	990.0	-215.8
3600	91.4	127.9	0.78	79	788.8	0.0	788.8	0.30	1080.0	-291.2
3900	93.0	130.2	0.78	79	803.1	0.0	803.1	0.30	1170.0	-366.9
4200	94.7	132.5	0.78	79	817.1	0.0	817.1	0.30	1260.0	-442.9
4500	96.3	134.8	0.78	79	830.9	0.0	830.9	0.30	1350.0	-519.1
4800	97.8	137.0	0.78	79	844.6	0.0	844.6	0.30	1440.0	-595.4

Figure 2 – 1 in 100 year + 40% CC attenuation volumes to 5 l/s

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A hydraulic model has not been developed to simulate the flows within and flooding from the piped drainage network. It is not possible to simulate the pitch drainage within the hydraulic modelling software to accurately simulate the flow within a perforated pipe network which uses the pitch sub-base as attenuation and storage, as is the case with this particular drainage network.

The design of the pitch sub-base and the associated drainage network is such that additional surface water flows that cannot be accommodated within the piped drainage network will enter the pitch sub-base via the perforated pipe network, and will be attenuated in the sub-base until such a time and the flows within the piped network have subsided to a level which will allow the surface water to re-enter the piped network and discharge downstream into the drainage ditch.

As such, in the case of surface water networks for pitches, which use the sub-base as a storage area, it is accepted that confirming that there is adequate storage within the pitch to accommodate any flooding, is an acceptable work-around for the shortfall.

Further information on the design and attenuation volumes within such events can be seen within:

G-227556 07 - Proposed AGP Drainage Layout
G-227556 08 - Proposed AGP Drainage Strategy

4.4. Foul Water Drainage Strategy

There will be no foul water produced as part of the site development.

4.5. Surface Drainage Maintenance

The drainage system will be designed to minimise maintenance requirements; however, a full maintenance scheme will be established for those elements not being offered for adoption.

Maintenance operations will be carried out by the stie grounds team in perpetuity post development and in accordance with the Drainage Maintenance and Management set out in section 5 of this document.

4.6. Site Drainage Proposals Conclusions

- The proposed development includes the creation of a new external artificial grass pitch with perimeter ball-stop fencing, and clean accesses.
- The proposed development area will occupy land and replace an existing sports area.
- Surface water is to be disposed of into the existing system to the east of the site;
- Adequate attenuation within pitch base and upper surface (comprising a permeable granular sub-base) to ensure that excess volumes, which would be experienced during a critical storm event, does not bypass the control system.
- This drainage strategy is designed to ensure no above ground flooding occurs up to and including the 1 in 100 year event + 40% allowance for climate change.
- The surface water drainage from this site, post development, is such that the surface water will be managed and disposed of within the site boundary, thus complying with the Planning Practice Guidance for 'Flood Risk and Climate Change' to the National Planning Policy Framework.
- Based on the above and providing the above strategies are adopted; the developed site will not contribute further to flood risk thus satisfying the principles of the National Planning Policy Framework.

4.7. Construction Surface Water Management

The existing surface is permeable, and the principal of the sports pitch uses the pitch sub-base as attenuation and storage. Due to the nature of the construction works, little onsite material storage is required. During the processes when it is required it will be for relatively short periods of time.

Below is a brief description of the key construction works for an Artificial Grass Pitch and associated activities:

- Once the base is put into place the new drainage system shall be installed with the process taking approximately 3 days to complete. The materials largely involve the delivery of pea shingle material stockpiled within the development footprint with 80mm and 150mm Ø UPVC perforated corrugated plastic carrier drainage pipes to EN1401-1:1998 laid into geotextile lined, gravel-filled trenches. The UPVC perforated corrugated plastic carrier pipes shall be stored onsite within the designated fenced and enclosed storage areas prior to being securely laid and covered within the ground.
- The boundary of the development shall be lined with PCC kerb edging detail and the necessary fence posts, floodlighting foundations that involves concrete foundations. These materials will be stored within the designated storage area in bulk delivery with each being heavily weighted with minimal risk of movement.
- At this stage the fencing system shall be erected and in place around the development footprint and any/all materials within the development will be safely secured.

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- The development area shall then be surfaced with tarmacadam. The process of tarmac surfacing requires material to be delivered and laid at set temperatures and therefore no materials will be storage onsite for this process and works and shall take approximately 5 days to complete.
- Upon completion of the base works the artificial surfacing shall be delivered in bulk to the pitch base within the secure fenced area. The material is rolled out and laid with the boundary of the surfacing being clamped and secured to the edging detail so that the material stays insitu and cannot be removed during any flood event or otherwise.

The development location itself acts as a sediment trap / barrier that retains surface water within the site boundary with any/all surface water run off going through the existing infrastructure of the hard-standing surfacing, stone foundation, geotextile membrane and entering into the existing and proposed drainage network that is lined with a geotextile membrane, pea shingle and drainage channels that each connect to a silt trap inspection chamber. This process will adequately trap and retain sediment throughout the construction process.

The existing and proposed levels and gradients of the site lead across the sports pitch. Whilst travelling across the development through the natural fall of levels the surface water will infiltrate through the stone foundation, geotextile membrane and entering into the existing and proposed drainage network that is lined with a geotextile membrane, shingle and drainage channels that each connect to a silt trap inspection chamber. This process will adequately trap and retain sediment throughout the construction process. Any run off that travels through the site prior to naturally infiltrating through the base would be retained within the development boundary. Surface water would sit within the development area until it naturally infiltrates through the existing hard-standing surfacing, stone foundation, geotextile membrane and entering into the existing and proposed drainage network that is lined with a geotextile membrane, shingle and drainage channels that each connect to a silt trap inspection chamber.

Throughout the development works the areas and development footprint will be cleared, cleaned and jet washed with the silt traps collecting all sediment and being emptied as / when required until all construction works are completed.

Run-off rates from the site will be managed so they are no greater than pre-development or in keeping with the best practice guidance to minimise risk of blockage.

Run-off control will include provision of appropriate levels / grading to direct any water from the construction site to remain on site.

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5. Drainage Management & Maintenance

GULLIES, PIPEWORK, INSPECTION CHAMBERS AND CONTROLS	
<u>Required Action</u>	<u>Frequency</u>
Regular Maintenance	
Remove cover and inspect chambers and pipework ensuring water is flowing freely and that the exit route for water is unobstructed.	Annually
Undertake inspection after leaf fall in autumn, remove leaves from gullies, chambers and pipes	Every autumn
Inspect silt traps and clear of silt	Every 6 months or as required
Inspect catchpits and clear of silt	Every 6 months or as required
Remedial work	
Remove debris, silt and leaves from inspection chambers and flow control chambers.	As required
Remove debris and silt from pipework through high pressure jet washing.	As required
Repair physical damage if necessary	As required
Monitoring	
CCTV survey to establish condition of pipe runs. Cleansing or repair of physical damage to be conducted if necessary	Every 5 years or as required

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PERMEABLE AND POROUS SURFACES	
<u>Required Action</u>	<u>Frequency</u>
Regular Maintenance	
Brushing and vacuuming (standard cosmetic sweep over whole surface)	Once a year, after autumn leaf fall, or reduced frequency as required, based on site-specific observations of clogging or manufacturer's recommendations – pay particular attention to areas where water runs onto pervious surface from adjacent impermeable areas as this area is most likely to collect the most sediment
Occasional Tasks	
Stabilise and mow contributing and adjacent areas	As required
Removal of weeds or management using glyphosate applied directly into the weeds by an applicator rather than spraying	As required and in accordance with manufacturer's recommendations
Remedial Work	

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Remedial work to any depressions, rutting and cracked or broken blocks considered detrimental to the structural performance or a hazard to users, and replace lost material.	As required
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Rehabilitation of surface and upper substructure by remedial sweeping	Every 10 to 15 years or as required
If efficiency of water percolating to the sub-base drops, jet washing and suction cleaning could substantially reinstate paving to 90% efficiency (as per recent experience).	As required
Monitoring	
Initial inspection	Monthly for three months after installation
Inspect for evidence of poor operation and/or weed growth – if required, take remedial action	Three-monthly, 48h after large storms in first six months
Inspect silt accumulation rates and establish appropriate brushing frequencies	Annually
Monitor inspection chambers	Annually

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