



STATUE HOMES

LAND OFF STATION ROAD

MARKET BOSWORTH

CV13 ONP

FLOOD RISK ASSESSMENT

DECEMBER 2024

FW2526_FRA_001_V1

REVISION HISTORY

Revision	Reason for Issue	Author	Checker	Approved	Date
V1	First Issue	JR	JD	EC	13.12.2024

EXECUTIVE SUMMARY

1. The site is at **NO** quantifiable risk of flooding from tidal events.
2. The area designated for the proposed golf wellness spa & leisure centre is identified within the Environment Agency Flood Risk mapping as being at **Low** risk of flooding from Rivers and Seas. Whilst the area designated for the proposed holiday lodges is identified within the Environment Agency Flood Risk mapping as being at **High** risk of flooding from Rivers and Seas.
3. The area designated for the proposed golf wellness spa & leisure centre is identified by the Environment Agency as having a **Low** chance of flooding from overland Surface Water. Whilst the area designated for the proposed holiday lodges is identified by the Environment Agency as having **High** chance of flooding from overland surface water.
4. Both the areas proposed for the golf wellness spa & leisure centre and the holiday lodges are considered to be at a **Medium** quantifiable risk of flooding from groundwater sources.
5. Both the areas proposed for the golf wellness spa & leisure centre and the holiday lodges are identified by the Environment Agency as being at **NO** quantifiable risk of flooding from manmade lakes within the topographical catchment of the site.
6. Both the areas proposed for the golf wellness spa & leisure centre and the holiday lodges are at a negligible risk of flooding from the existing sewerage network in the vicinity of the site.
7. The site is at a negligible risk of flooding from its own private drainage connections however this can be mitigated by regular maintenance to ensure the ongoing performance of the system.

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1.0 INTRODUCTION

1.1 BRIEF

- 1.1.1 Farrow Walsh Ltd have been commissioned by Statue Homes, the applicant, to undertake the Flood Risk Assessment in support of a hybrid planning application for a golf wellness spa & leisure centre with associated works and up to 126 holiday lodges off Station Road in Market Bosworth. The purpose of this document is to report on the Flood Risk for the proposed development.
- 1.1.2 The proposals for the site include for the construction of a new 25,000ft golf wellness spa & leisure centre with associated works and up to 126 new holiday lodges. A hybrid site location plan is included within Appendix A and the development proposals can be found within Appendix B.
- 1.1.3 This report considers the flood risk associated with a development proposal of this type and considers mitigation measures to ensure user safety.
- 1.1.4 The Flood Risk Assessment (FRA) report has been informed by the guidance contained within The National Planning Policy Framework (December 2023, Department for Levelling Up, Housing & Communities) (NPPF).
- 1.1.5 Reference has been made to basic flood maps contained within the Environment Agency websites and the Environment Agency Standing Advice for Local Planning Authorities.
- 1.1.6 In consulting the Environment Agency website this report examines the following:
- Assessment of Flood risk and the likely sources of flooding
 - Managing Residual Flood Risk
 - Managing surface water
 - Remedial Measures
- 1.1.7 This FRA examines the flood implications of the proposed development based on the following objectives, set out within the NPPF.
- Appraising risk
 - Managing risk
 - Reducing risk
 - A partnership approach

1.1.8 This report has been prepared using the following guidance documentation:

- National Planning Policy Guidance (NPPG)
- Ciria C753 – The SUDs Manual
- Flood and coastal risk projects, schemes and strategies: climate change allowances (EA – May 2022)
- Non-Statutory Technical Standards 2015
- Written Ministerial Statement regarding Sustainable Drainage (HCWS161) 2014
- The Water Framework Directive (2000)
- Building Regulations Part H 2015
- Hinckley & Bosworth Local Plan 2020 – 2041 (July 2024)
- Strategic Flood Risk Assessment for Hinckley & Bosworth Borough Council Level 1 (July 2019)
- Hinckley & Bosworth Borough Council Level 2 Strategic Flood Risk Assessment (May 2020)

1.1.9 In consulting with key stakeholders and policies this report aims to assess the risk of flooding both to the site and the impact of any development on the downstream network.

1.1.10 The flood management strategy, including consideration of safe access / egress to and from the site and flood resilience measures, is based on relevant British Standards (BS8533), the standing advice provided by the Environment Agency and on best engineering judgement. The approach for the FRA is based on the requirements of the Environment Agency and Hinckley & Bosworth Borough Council.

1.1.11 Any comments and opinions expressed in this report, including any conclusions are based on the information available to Farrow Walsh Limited at the time of writing. The conclusions therefore could differ if the information is found to be inaccurate, incomplete or misleading. Farrow Walsh Limited accepts no liability should this be proven to be the case, or, if additional information is made available with respect to this site.

2.0 SITE DETAILS

2.1 SITE LOCATION

- 2.1.1 The proposed development is located off Station Road, Market Bosworth. Which is situated west of Leicester and north of Hinckley.
- 2.1.2 A hybrid site location plan can be found within Appendix A and proposed development plans are included in Appendix B.

2.2 SITE DESCRIPTION

- 2.2.1 The site area for the proposed golf wellness spa & leisure centre is rectangular in shape and covers an area of approximately 0.315 Hectares or 3150m².
- 2.2.2 The site area for the proposed holiday lodges is irregular in shape and covers an area of approximately 10.711 Hectares or 107,105m².
- 2.2.3 Both the site area for the proposed holiday lodges and the golf wellness spa & leisure centre are currently classified as greenfield in their entirety with the land forming part of the existing golf course.
- 2.2.4 Access to the site is currently gained via the existing gated access road off the public highway, Station Road.

2.3 PLANNING HISTORY

- 2.3.1 The site has been previously subject to the following planning applications in the past five years.
- 2.3.2 19/01437/FUL - Erection of a multi-purpose golf clubhouse (D2), formation of new car parking areas and access roads and the erection of 6 Golf holiday homes (C1) and all associated ancillary works and landscaping. The application was permitted in June 2020.
- 2.3.3 24/00019/FUL - The proposed erection of a 50x room Golf and leisure accommodation facility with associated works (part revised scheme to that approved under 19/01437/FUL). The application was permitted in April 2024.

2.4 TOPOGRAPHY

- 2.4.1 The ground levels on the area for the golf wellness spa & leisure centre are recorded to OS datum as approximately 101.98 to 105.30mAOD with the topography within the area generally falling from south to north.
- 2.4.2 The ground levels on the area for the holiday lodges are recorded to OS datum as approximately 93.36 to 103.03mAOD with the topography within the area generally falling from east to west.

2.4.3 A copy of the topographical survey can be located within Appendix C.

2.5 HYDROLOGICAL CONTEXT

2.5.1 Online OS mapping indicates that the nearest watercourse to the site is an unnamed watercourse located adjacently to the northern boundary of the proposed holiday lodges and approximately 810m north of the proposed golf wellness spa & leisure centre and flows in a north west to south east direction and is believed to be a tributary of the river sense.

2.5.2 The nearest named watercourse to the site is the River Sense located approximately 3.40km north west of the proposed spa facility and 2.80km west of the proposed holiday lodges.

2.5.3 The River Sense is classified as a main river by the Environment Agency and generally flows in a north to south direction towards its tributary the River Trent.

2.6 GEOLOGICAL CONTEXT

2.6.1 Whilst no current valid intrusive GI has been made available. An historic GI will be used as a general guideline for the makeup of the existing ground in the area. The historic GI (IV.149.17), shows that TP4 was undertaken adjacently to the south of the proposed spa facility, shows that topsoil was encountered down to a depth of 0.55m, then very orange mottled grey very sandy clay down to a depth of 1.20m and finally firm blueish grey mottled brown clay to a depth of 3.00m.

2.6.2 A copy of the historic phase 1 & 2 geo-environmental assessment can be found within Appendix D.

2.7 GROUNDWATER VULNERABILITY

2.7.1 The bedrock stratum below both the area for the golf wellness spa & leisure centre and the holiday lodges is classified by the Environment Agency as a Secondary B aquifer by the Environment Agency with the superficial deposits classified as secondary (undifferentiated).

2.7.2 In terms of vulnerability, the ground is classified as Medium risk.

2.7.3 The site does not lie within a Source Protection Zone.

2.8 EXISTING DRAINAGE

2.8.1 Severn Trent Water are responsible for maintaining the public sewers within the area of Market Bosworth.

2.8.2 The historic sewer records indicate that a 300mm combined sewer runs in an east to west direction through the former golf course, passing the site at a distance of approximately 100m South of the site.

2.8.3 A copy of the Severn Trent Water sewer maps can be found within Appendix E.

2.9 ARTIFICIAL WATER BODIES

- 2.9.1 The Ashby de la Zouch Canal is the nearest artificial water body to the site and is located approximately 145m west of the area designated for the proposed holiday lodges.
- 2.9.2 The nearest reservoir to the site is the Thornton reservoir located 7.75km north east of the site.

3.0 ASSESSMENT OF FLOOD RISK

3.1 FLUVIAL

- 3.1.1 The site lies within the management and operational catchment of Tame Anker Mease – secondary combined and within the Humber River Basin district.
- 3.1.2 The Environment Agency have derived flood maps of England from which it is possible to initially identify whether a site is located within an area that is at risk of fluvial flooding. The maps, which are available on the Environment Agency's website, categorise land as being within Flood Zone 1, Flood Zone 2, or Flood Zone 3, with Flood Zone 1 being all land falling outside of the flood plain and Flood Zones 2 and 3 being all land within the floodplain. Flood Zone 3 is split into two further categories, namely Flood Zone 3a and Flood Zone 3b with Flood Zone 3b considered to be the functional floodplain.
- 3.1.3 The definitions of the Flood Zones extracted from the National Planning Policy Framework (NPPF) are described below:
- Flood Zone 1 – low probability. This zone comprises land assessed as having a less than 1 in 1000 annual probability of river or sea flooding (<0.1%).
 - Flood Zone 2 – medium probability. This zone comprises land assessed as having between a 1 in 100 and 1 in 1000 annual probability of river flooding (15 – 0.1%) or between a 1 in 200 and 1 in 1000 annual probability of sea flooding (0.5% - 0.1%) in any year.
 - Flood Zone 3a – high probability. This zone comprises land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%), or a 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year.
 - Flood Zone 3b – the functional floodplain. This zone comprises land where water must flow or be stored in times of flood. Typically, land which would flood with an annual probability of 1 in 20 (5%) or greater in any year or is designed to flood in an extreme (0.1%) flood.
- 3.1.4 The extent of flooding on main rivers is indicated on the Environment Agency web site and an extract from the indicative flood maps can be seen in Figure 1. The areas of dark blue identify flooding probability of 1 percent (1 in 100 year) and the light blue areas are areas of extreme flood between the 1 percent and 0.1 percent (1 in 1000 year) probability.

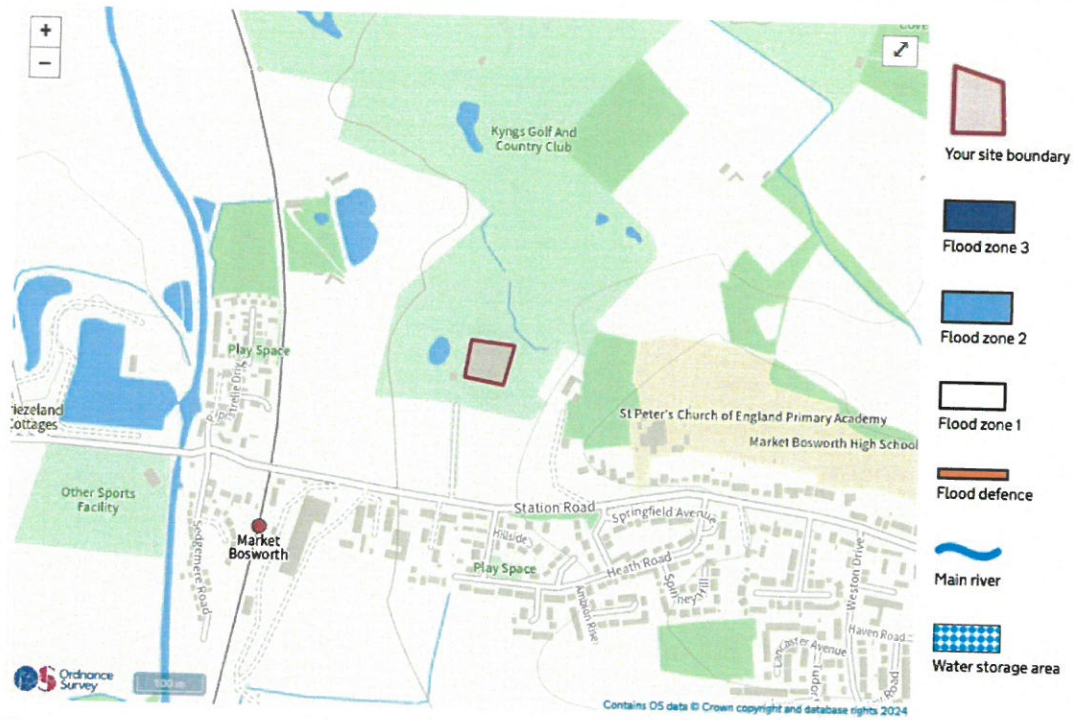


Figure 1 – Extract from EA Flood Map for Planning (December 2024)

- 3.1.5 Given the proximity of the site to the predicted flood outline, it is identified on the EA indicative planning flood mapping that the proposed spa facility lies within Flood Zone 1.

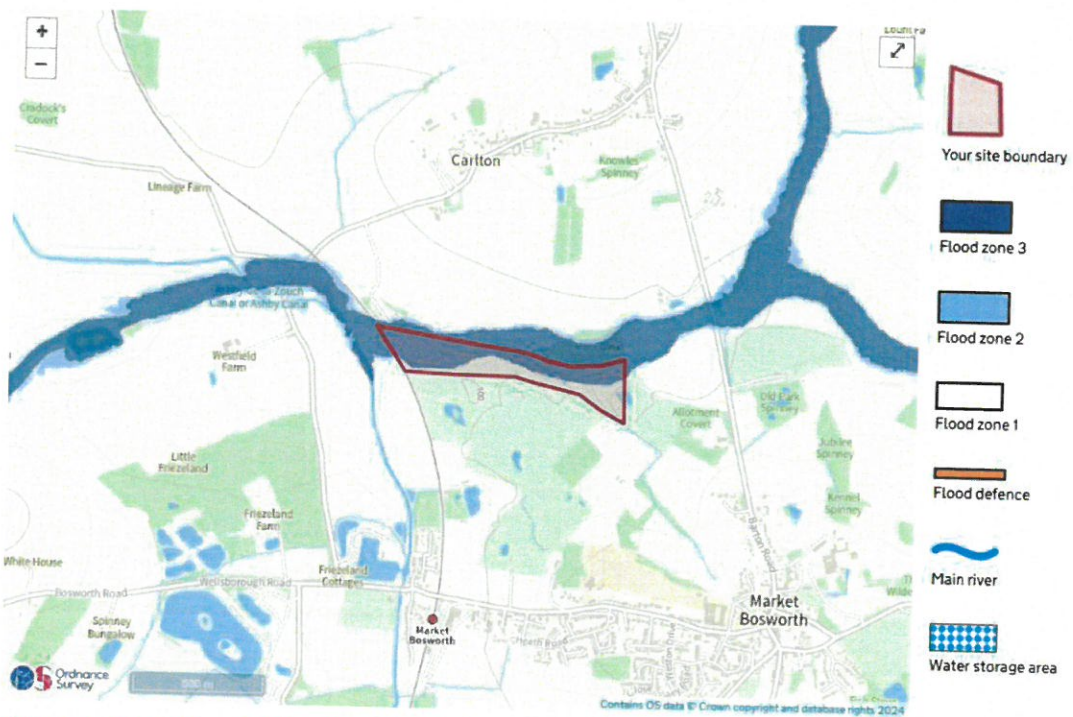


Figure 2 – Extract from EA Flood Map for Planning (December 2024)

3.1.6 Given the proximity of the site to the predicted flood outline, it is identified on the EA indicative planning flood mapping that the proposed holiday lodges lie predominantly within Flood Zone 3 with the southern portion of the site being located within Flood Zone 1.

3.1.7 The SFRA indicates that no historic fluvial flood events have been recorded within the vicinity of the site.

3.1.8 Based on Table 1 of the NPPF the area proposed for the golf wellness spa & leisure centre has a low probability of flooding due to main rivers within the extents outlined within Figure 1 whilst the area for the proposed holiday lodges has a high probability of flooding due to main rivers.

3.1.9 As the proposed development area for the holiday lodges is located within flood zone 3 detailed flood data has been requested from the Environment Agency and is currently awaited.

3.2 TIDAL OR COASTAL

3.2.1 The ground levels on the area for the golf wellness spa & leisure centre are recorded to OS datum as approximately 101.98 to 105.98mAOD with the topography within the area generally falling from south to north.

3.2.2 The ground levels on the area for the holiday lodges are recorded to OS datum as approximately 93.36 to 103.03mAOD with the topography within the area generally falling from east to west.

3.2.3 A copy of the topographical survey can be located within Appendix C.

3.2.4 The site is geographically remote from any coastline. The site lies within the management and operational catchment of the Tame Anker and Mease and lies within the Humber River Basin district.

3.2.5 The site is indicated by mapping as being remote from the areas at risk of tidal flooding with the existing coastal defences intact or removed.

3.2.6 The site is therefore considered comprehensively free from risk from tidal or coastal flooding effects, being horizontally and vertically remote from such influences at present, and after consideration of climate change effects.

3.3 GROUNDWATER FLOODING

3.3.1 Groundwater flooding occurs because of rising water from underlying aquifers or from water flowing from abnormal springs. This tends to occur after long periods of sustained high rainfall, and the areas at most risk are often low-lying where the water table is more likely to be at a shallow depth. Groundwater flooding is known to occur in areas underlain by major aquifers, although it is increasingly being associated with localised floodplain sand and gravels.

3.3.2 The site is classed as being at medium risk from groundwater flooding. This will be mitigated by raising the levels so that any groundwater drains away from the properties.

3.4 ARTIFICIAL WATER BODIES FLOODING

3.4.1 There are no reservoirs or manmade lakes within the vicinity of the site.

3.4.2 The EA online mapping indicates that there are no areas within the vicinity of the site at risk of flooding from reservoirs.

3.4.3 The failure of the water mains running along Station Road is considered statistically remote.

3.4.4 We conclude that the risk of failure of the water main is remote. It must however be noted that for a failure adjacent to the site the nature of the escape and probable pressurized column of water could itself cause some local flood damage, but this is beyond practical mitigation.

3.4.5 The SFRA indicates there have been no recorded historic incidents of flooding due to artificial sources.

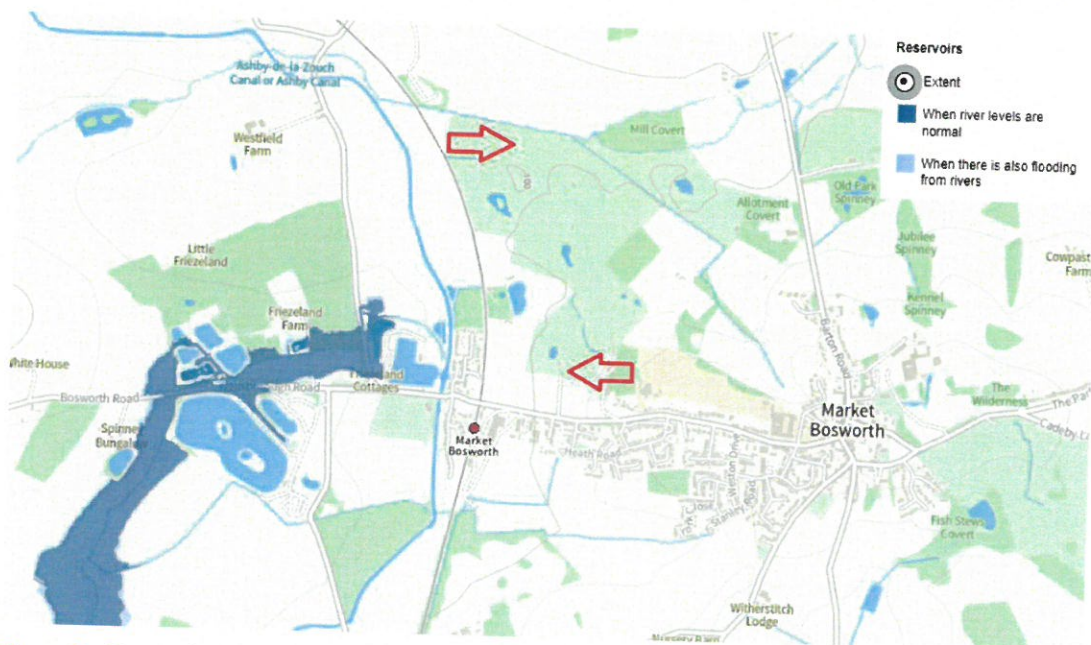


Figure 3 – Extract from EA Mapping Risk of Flooding from Reservoirs (December 2024)

3.5 SURFACE WATER FLOODING

3.5.1 Surface water flooding occurs when natural and engineered systems drainage network capacity is exceeded and thus cannot accommodate the volume of rainfall / runoff. Surface water flooding occurs often in urban areas during extreme, high intensity, low duration rainfall events which overwhelm the local surface water drainage systems. In rural areas this type of flooding can occur during medium intensity, long duration events where saturated ground conditions prevent natural infiltration into the subsoils

below the surface. Flood water arising from such events is then conveyed above ground following the topography of the surrounding land.

3.5.2 The Environment Agency have modelled locations along critical flow paths and areas situated in topographic depressions, which could flood following an extreme rainfall event when drainage capacity has been exceeded. Figure 4 indicates the predicted surface water flood risk map taken from the Environment Agency's website.

3.5.3 The area designated for the proposed golf wellness spa & leisure centre is considered to be at very low risk from overland flows by the EA, whilst the designated area for the proposed holiday lodges is considered to be at high risk from overland flows by the EA.

3.5.4 Generally, due to the site levels and those of the surrounding areas it is considered that surface water would follow the natural topography and drain towards the nearby unnamed watercourses and ditches.

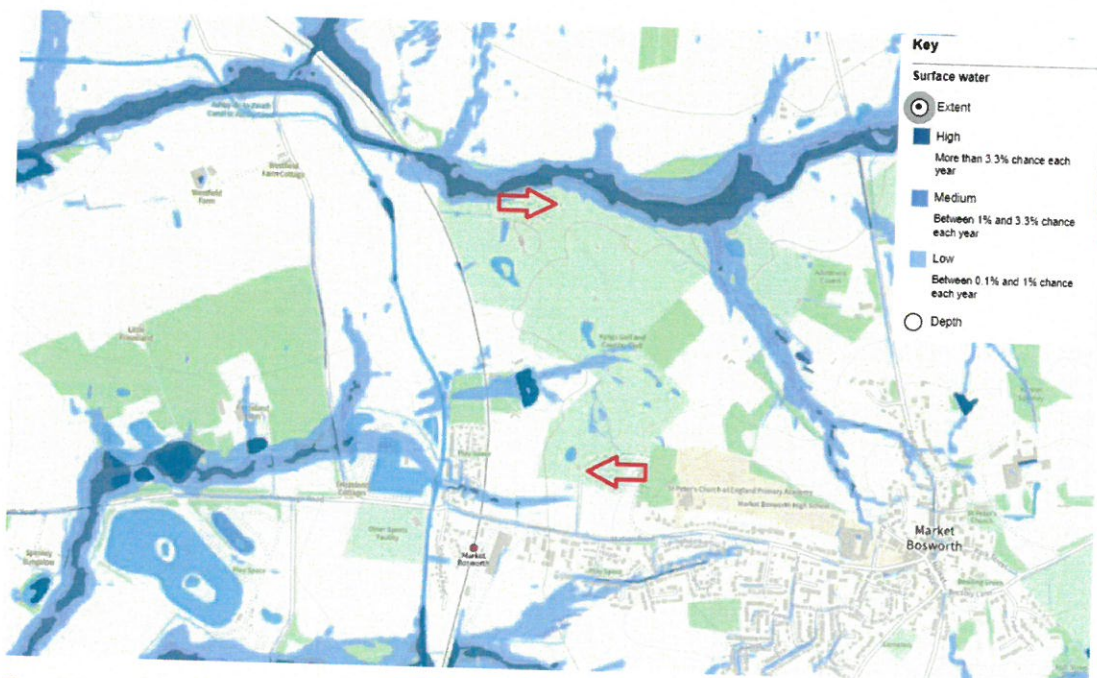


Figure 4 – Extract from EA Mapping Risk of Surface Water Flooding (December 2024)

3.6 EXISTING SEWER FLOODING

3.6.1 The sewer network surrounding the development is owned and maintained by Severn Trent Water. A copy of the sewer records for the area can be found within Appendix E.

3.6.2 Generally, due to the site levels and those of the surrounding areas it is considered that any breach of the sewers would follow the natural topography of the site and drain away from the site.

3.6.3 The site isn't considered as a critical drainage area by the SFRA.

3.6.4 No historic flooding within the vicinity of the site was recorded.

4.0 FLOOD MITIGATION STRATEGY

4.1 PRINCIPLES FOR MITIGATION STRATEGY

- 4.1.1 In accordance with Table 3 of NPPG (2023), a professional service use has a flood vulnerability classification of 'less vulnerable' whilst a residential use has a flood vulnerability classification of 'more vulnerable'.

Flood Zones	Flood Risk Vulnerability Classification				
	Essential Infrastructure	Highly Vulnerable	More Vulnerable	Less Vulnerable	Water Compatible
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	Exception Test Required	✓	✓	✓
Zone 3a	Exception Test Required	✗	Exception Test Required	✓	✓
Zone 3b	Exception Test Required	✗	✗	✗	✓

Table 1 – Extract from NPPG 2023 (Table 3)

- ✓ Denotes Development is appropriate.
- ✗ Development should not be permitted.

- 4.1.2 The findings of the FRA indicate that the area designated for the golf wellness spa & leisure centre to be located within FZ1. Whilst the area designated for the proposed holiday lodges to be located predominantly within FZ3 with the southern portion being located within FZ1. Therefore in accordance with NPPG the site is deemed appropriate for development. Subject to an exception test for the proposed holiday lodges.
- 4.1.3 The drainage design should account for any residual risk of flooding from surface water as a result of exceedance events.
- 4.1.4 The drainage will be designed to accommodate a surcharge outfall such that in extreme storm events the drainage system can accommodate the runoff.

4.2 SEQUENTIAL APPROACH

- 4.2.1 The designated area for the proposed spa facility is located within flood zone 1 and the area designated for the proposed holiday lodges is located predominantly within Flood Zone 3 with the southern portion being located within flood zone 1.

- 4.2.2 Surface water flooding is observed to the existing unnamed watercourse which runs adjacently to the northern boundary of the proposed holiday lodges and therefore all properties should be positioned outside of the existing surface water flood extents, where possible development is being located away from area of flooding and where this is not feasible, mitigation measures are provided.

4.3 FINISHED FLOOR LEVELS

- 4.3.1 Floor levels of the golf wellness spa & leisure centre are to be set that they are a minimum of 150mm above the finished ground levels. Floor levels of the lodges should be set such that they are a minimum of 600mm above the 100-year plus climate change peak flood levels. This will be achieved through the holiday lodges being set on stilts to the required levels.

4.4 SAFE ACCESS

- 4.4.1 In accordance with current guidance and DEFRA FD2320 safe access is to be provided for residents in the event of flooding. Where safe access cannot be provided measures are to be implemented to ensure the residents' safety until the emergency services have been able to reach them.
- 4.4.2 The EA online mapping indicates that the site access points lie within FZ1 and therefore have a low probability of flooding. The access points lie outside the mapped extents of flooding caused by rivers and seas.
- 4.4.3 The golf wellness spa & leisure centre is also outlined to be within FZ1 and have a low probability of flooding.
- 4.4.4 The lodges are deemed to be within FZ3 and therefore have a high probability of flooding. The floor levels of the lodges are to be set to be above the 1 in 100 year + climate change storm event flood level via the use of stilts which allow the lodges to be dry in the event of flood. This would enable the users to remain in place with a 'stay put' approach in extreme flooding events adopted until such time as the emergency services can reach the site.
- 4.4.5 In accordance with DEFRA FD2320 Table 13.1 shown in Figure 3 a flood depth of 300mm with a velocity of 0.25m/s would represent a danger to some, meaning the majority of users would be able to access and egress the site in all storm events with only the more vulnerable required to maintain a stay put approach.

Table 13.1 Danger to people for different combinations of depth and velocity

Velocity (m/s)	Depth of flooding (m)											
	0.05	0.10	0.20	0.30	0.40	0.50	0.60	0.80	1.00	1.50	2.00	2.50
0.00												
0.10												
0.25												
0.50												
1.00												
1.50												
2.00												
2.50												
3.00												
3.50												
4.00												
4.50												
5.00												

Key:
 Danger for some
 Danger for most
 Danger for all

Figure 5 – Extract from DEFRA FD2320 showing Table 13.1

- 4.4.6 In extreme flood events above the 1 in 1000-year (0.1%) storm event the development would operate a 'stay put' approach in extreme flooding events for users categorised as more vulnerable. They would be advised to stay within the development and await assistance from emergency services.

4.5 FLOOD WARNING & EVACUATION

- 4.5.1 Whilst the site is considered to have a low probability of flooding from all sources, and a stay put approach can be adopted, access and egress from the site in storm events above the 1 in 100-year probability will impact on the ability of some users to be able to access / egress the site. Therefore, it is important that all users of the development are made aware of the flood warning procedures.
- 4.5.2 By utilising the flood warning systems available it is anticipated that the residents will be able to egress from the site in a safe manner in advance of an extreme (1.0 – 0.1 percent probability) storm event occurring.
- 4.5.3 Flood warnings are published by the Met Office can be found here:

<https://flood-warning-information.service.gov.uk/warnings>

- 4.5.4 The Met Office Flood Forecasting Centre in conjunction with the Environment Agency publishes Flood Guidance Statements containing:

- General overview of the flood risk
- Assessment of the flood risk
- Weather warnings and flood warnings
- Specific area of concern map

4.5.5 The Met Office uses a Flood Risk Matrix (see Figure 4) to assess the likelihood against the potential impact and assigns a risk colour and level.

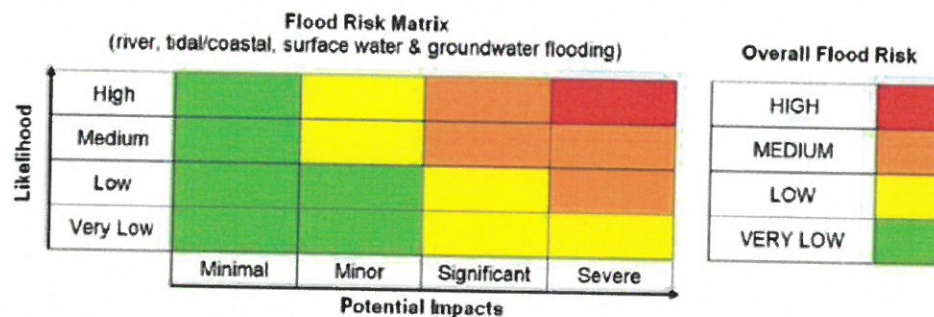


Figure 6 – Flood Risk Matrix

4.5.6 Typical examples of impacts from flooding aligned with the flood risk matrix are shown in Table 4.

Flood Impacts Table			
Minimal Impacts	Minor Impacts	Significant Impacts	Severe Impacts
Generally, no impact, however there may still be	Localised flooding of land and roads – risk of aquaplaning	Flooding affecting properties and parts of communities	Widespread flooding affecting significant numbers of properties and whole communities
Isolated and minor flooding of low-lying land and roads	Localised flooding could affect individual properties	Damage to buildings/structures is possible	Collapse of buildings/structures is possible
Isolated instances of spray/wave overtopping on coastal promenades	Individual properties in coastal location affected by spray and/or wave overtopping	Possible danger to life due to fast flowing/deep water/wave overtopping/wave inundation	Danger to life due to fast flowing/deep water/wave overtopping/wave inundation
Little or no disruption to travel although wet road surfaces could lead to difficult driving conditions	Localised disruption to key sites identified in flood plans (e.g. Railways, utilities)	Disruption to key sites identified in flood plains (e.g. railways, utilities, hospitals)	Widespread disruption or loss of infrastructure identified in flood plans (e.g. railways, utilities, hospitals)
	Local disruption to travel – longer journey times	Disruption to travel is expected. A number of roads are likely to be closed	Large scale evacuation of properties may be required
			Severe disruption to travel. Risk of motorists becoming stranded.

Table 2 – Flood Impact Table

4.5.7 The Environment Agency constantly monitors rainfall, river levels and sea conditions to forecast the possibility of flooding. If necessary, the Environment Agency can be contacted:

Incident hotline 0800 80 70 60 (24hrs)

Floodline 0345 988 1188

4.5.8 The Environment Agency Flood Warning Levels:

Warning type		Meaning	When it is used
	Flood Alert	Flooding is possible. Be prepared.	Two hours to two days in advance of flooding
	Flood Warning	Flooding is expected. Immediate action required	Half an hour to one day in advance of flooding
	Severe Flood Warning	Severe Flooding. Danger to life.	When flooding poses a significant threat to life.

Table 3 – Environment Agency Flood Warning Levels

5.0 SEQUENTIAL AND EXCEPTION TESTS

5.1 SEQUENTIAL TEST

- 5.1.1 For clarity the aim of the sequential test is to steer new development to areas with the lowest probability of flooding. Furthermore, approval of the Sequential Test lies with the Local Planning Authority.
- 5.1.2 The NPPF indicates that for a less vulnerable land use within Flood Zone 1, development is appropriate. Environment Agency mapping and the Strategic Flood Risk Assessment both indicate that the area designated for the proposed golf wellness spa & leisure centre lies within Flood Zone 1.
- 5.1.3 The NPPF indicates that for a more vulnerable land use within flood zone 3, development is appropriate subject to an exception test. Environment Agency mapping and the Strategic Flood Risk Assessment both indicate that the area designated for the proposed holiday lodges lies predominantly within flood zone 3 with the southern portion located within flood zone 1.
- 5.1.4 On the basis of the above points a sequential test is deemed to apply to the area designated for the proposed holiday lodges.

5.2 EXCEPTION TEST

- 5.2.1 The NPPF defines what type of development is appropriate in an individual location and seeks to guide development generally away from areas of flood risk. It nevertheless accepts implicitly that some development in areas of higher potential risk may be appropriate or indeed essential, and seeks to classify zones of risk, types of development and development suitability.
- 5.2.2 In accordance with NPPF 2023 Table 3, the site for the golf wellness spa & leisure centre lies within FZ1 and therefore is not required to pass the exception test.
- 5.2.3 In accordance with NPPF 2023 Table 3, the site for the holiday lodges lies within FZ3 and therefore is required to pass the exception test.
- 5.2.4 Wider sustainable benefits to the community include:
- Potential for reduced risk of flooding elsewhere by increasing flood storage volume within the site.
 - Reduction in surface water runoff when compared to the existing situation delaying discharge into the watercourse and potentially providing a betterment downstream.
 - Provision of job's to the local community
 - Potential increase in tourism with wider benefit to the local community
- 5.2.5 The FRA demonstrates safety and flooding sustainability by:

- Maintaining floor level proud of surrounding ground level to reduce opportunity for surface water flows to run towards building.
- Controlling runoff on site to delay the discharge into the sewer network.
- Safe ingress and egress routes for pedestrians being available from the properties to the surrounding highways.

5.2.6 There will be a reduction in the level of surface water runoff rate over the current land use by reducing runoff to QBAR greenfield runoff rates.

5.2.7 In view of the above the exception test is deemed to have passed.

6.0 CONCLUSIONS & RECOMMENDATIONS

6.1 CONCLUSIONS

- 6.1.1 The site proposed for development is free of potential risk of flooding from tidal events.
- 6.1.2 The area designated for the proposed golf wellness spa & leisure centre is outside the extents of the mapped flood plain of main river systems while being classified as a low risk area. Whereas the area designated for the proposed holiday lodges is located within mapped flood plain of main river systems while being classified as a high risk area.
- 6.1.3 The area designated for the proposed golf wellness spa & leisure centre is at low risk of flooding from overland flow routing from surface water. Whereas the area designated for the proposed holiday lodges is at high risk of flooding from overland flow routing from surface water.
- 6.1.4 The site is at no risk of flooding from manmade lakes.
- 6.1.5 The escape flow route from the strategic water mains has also been considered. In the unlikely event of failure of the mains the flows would not reach the properties.
- 6.1.6 The site is at no risk of flooding from existing sewerage systems for the same reason as the water mains issue.
- 6.1.7 We therefore conclude the hybrid application site lies within Flood Zones 1 & 3 as defined in the NPPF Table 1 and both a less vulnerable and more vulnerable development use should be permitted.

APPENDICES

APPENDIX A – SITE LOCATION PLAN

APPENDIX B – DEVELOPMENT PROPOSALS

APPENDIX C – TOPOGRAPHICAL SURVEY

APPENDIX D – HISTORIC PHASE 1 & 2 GEO-ENVIRONMENTAL ASSESSMENT

APPENDIX E – SEVERN TRENT WATER SEWER RECORDS