LEVEL 2 INTEGRATED WATER MANAGEMENT STRATEGY

West Northamptonshire Council

BUKL project no. 4082482

Prepared for:

West Northamptonshire Council

October 2026

Revision P01

Enhancing lives, communities and the environment

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Details of document preparation and issue:

Version	Prepared	Checked	Reviewed	Approved	Issue date	Status
P01	KA	MH	SB	SB	02 Oct 2026	S5

BUKL project no. 4082482 Client's reference no.

File name: 4082482-BUK-ZZ-00-RP-FR-00029

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Glossary

Annual Exceedance Probability - is the probability of a flood event of a specified magnitude being equalled or exceeded in any given year.

Epoch - is a specific period marked by distinctive events, developments, or characteristics.

Exception test - is a planning assessment, detailed in the National Planning Policy Framework, used to demonstrate that a development can be permitted in a flood risk area when it provides wider sustainability benefits to the community that outweigh the flood risk, and it can be shown that the development will be safe for its lifetime without increasing flood risk elsewhere.

Finished Floor Levels - is the designed level of the finished floor of a building, typically expressed relative to a site datum or Ordnance Datum (mAOD), and set to ensure the building remains safe from flooding during a specified flood event.

Flood Zone - is a geographical area classified according to its probability of flooding from rivers or the sea, helping to inform planning decisions and flood risk management.

Internal Drainage Board - is a local public authority responsible for managing water levels and land drainage in areas that have a special need for drainage and flood-risk management.

QMED – is the flow rate (typically in m^3/s) that has a 50% chance of being exceeded in any given year, roughly equivalent to the 2-year return period flood.

Risk of Flooding from Surface Water - is the risk of flooding that occurs when rainfall is unable to drain away or infiltrate into the ground quickly enough, causing water to flow or pond on the land surface.

Sequential test - is a risk-based approach, detailed in the National Planning Policy Framework, that aims to steer new development to areas with the lowest probability of flooding, ensuring that development is in areas of higher flood risk only where there are no reasonably available sites in areas of lower flood risk.

SuDS treatment train - is a sequence of drainage components designed to manage surface water runoff by progressively reducing pollutants, controlling flow rates, and providing storage as water moves through a development site.

Water Framework Directive - is the main European Union law for protecting and improving the quality of rivers, lakes, groundwater, estuaries, and coastal waters.

Acronyms

AEP – Annual Exceedance Probability

BOD – Biochemical Oxygen Demand

CIA – Cumulative Impact Assessment

DO – Dissolved Oxygen

EA – Environment Agency

FRA – Flood Risk Assessment

GEP – Good Ecological Status

GES – Good Ecological Status

IWMS – Integrated Water Management Strategy

IWMS1 – Integrated Water Management Strategy Level 1

IWMS2 – Integrated Water Management Strategy Level 2

LFRMS – Local Flood Risk Management Strategy

LLFA – Lead Local Flood Authority

NPPF – National Planning Policy Framework

QGIS - Quantum Geographical Information System

RAG – Red Amber Green

RWBS – River Water Body Catchment

SFRA – Strategic Flood Risk Assessment

SLAA – Strategic Land Allocation Area

STWs – Sewage Treatment Works

SuDS – Sustainable Drainage Systems

WFD – Water Framework Directive

WNC – West Northamptonshire Council

Executive Summary

West Northamptonshire Council (WNC) commissioned Binnies to prepare a Level 2 Integrated Water Management Strategy (IWMS2) to inform the emerging Local Plan and support sustainable growth across the authority area.

The Level 2 Strategic Flood Risk Assessment (SFRA) evaluated 57 proposed development sites against a range of flood risk sources, including river flooding, surface water flooding, groundwater flooding, reservoir inundation, and the impacts of climate change. The assessment found that 48 sites are potentially suitable for development, provided appropriate mitigation measures are implemented through site-specific Flood Risk Assessments, drainage strategies, and Sustainable Drainage Systems (SuDS). However, nine sites were identified as unsuitable for allocation due to significant flood risk constraints.

The Cumulative Impact Assessment (CIA) was undertaken to understand how future development could collectively influence flood risk across the catchment. The results indicate that while the impacts vary between sites and catchments, certain locations are more sensitive to development pressure and climate change. The Upper Nene Catchment was identified as the area of greatest concern due to the concentration of proposed growth and the potential increase in flood-affected land. Other catchments, including the Avon Rural Rivers and Lakes and the Upper Welland, were also recognised as requiring careful management to ensure that cumulative flood risks do not increase over time.

To address these challenges, the study recommends the continued application of enhanced drainage standards across West Northamptonshire, particularly within the Upper Nene Catchment. New development should incorporate SuDS that restrict runoff rates and volumes to greenfield conditions wherever possible, account for future climate change impacts, and deliver wider benefits such as improved biodiversity, enhanced water quality, and increased amenity value. Effective long-term maintenance arrangements will also be critical to ensuring drainage systems continue to perform as intended throughout the lifetime of development.

The study also assessed the potential impacts of growth on wastewater infrastructure and receiving watercourses through water quality modelling. While no deterioration in Water Framework Directive classification was predicted, several wastewater treatment works and catchments were identified as having reduced environmental capacity as development progresses. Long Buckby, Great Billing and Bugbrooke wastewater treatment works were highlighted as the most sensitive locations and may require further engagement with regulators and water companies to confirm future capacity requirements and infrastructure improvements. Updated growth projections indicate that the overall impact on receiving waters is lower than previously anticipated, providing greater confidence that planned development can be accommodated without compromising statutory water quality objectives.

Overall, the IWMS2 concludes that the majority of West Northamptonshire's planned growth can be delivered safely and sustainably, provided flood risk, drainage, and wastewater considerations are effectively managed. The findings provide a robust evidence base for the Local Plan and support a strategy that balances future development with climate resilience, flood risk reduction, and the protection and enhancement of the water environment.

1. Level 2 Strategic Flood Risk Assessment

1.1 Introduction

The Level 2 SFRA is a site-specific study for strategic land allocations where development is being considered in areas of high or complex flood risk. The Level 2 SFRA is commissioned when the Sequential Test alone cannot direct all development to low-risk areas and builds upon the broader, borough-wide Level 1 SFRA by providing a depth of site-specific evidence needed for the local plan to evidence whether development can pass the exception test required by national planning policy.

The scope of the Level 2 SFRA is to:

- Examine all sources of flooding at a site-specific scale;
- Provide the technical evidence needed for the Sequential Test and the Exception Test for local plan allocations in flood risk areas;
- Support planning decisions, emergency planning, and the design of site-specific Flood Risk Assessments for future applications.

1.2 Summary of Level 1 SFRA Findings

A Level 1 SFRA was undertaken as part of The Integrated Water Management Strategy (IWMS) Level 1[1], which was published in 2025 to support the emerging West Northamptonshire Local Plan.

The Level 1 SFRA was supported by a flood risk sequential analysis and a cumulative impact assessment of flood risk, the findings of which are summarised below.

The Level 1 Strategic Flood Risk Assessment collated information to define flood risk within the West Northamptonshire Council Planning Authority area. Specifically, the Level 1 SFRA determined the extents of the functional floodplain, including an allowance for climate change, and identified areas that need to be safeguarded for future flood management. The Level 1 report provided an assessment of existing flood risk, and the impact of climate change, within West Northamptonshire, a summary of which is provided below:

Fluvial Flood Risk

Fluvial flooding occurs when the volume and rate of water flowing through the channel exceeds the capacity of the channel, causing water to flow out of bank towards low lying areas.

The extents of fluvial flooding represent a small proportion of the total land within the West Northamptonshire boundary. During the Level 1 SFRA it was identified from inspection of the existing Environment Agency Flood Zone 3[2] and Flood Zone 2[3] extents that 4.10% of the area of West Northamptonshire is located within Flood Zone 3 and 5.17% is located within Flood Zone 2.

[1] https://www.westnorthants.gov.uk/local-plan

[2] Flood Zone 3 is land with a high probability of flooding, having a 1.0% AEP or greater annual chance of river flooding.

[3] Flood Zone 2 is land with a medium probability of flooding, having between a 1.0% AEP and 0.1% AEP annual chance of river flooding.

Using the Ordnance Survey Open Built-Up areas dataset[4], the proportion of the main settlements within West Northamptonshire were compared with the extent of Flood Zone 3, the results of which are summarised below:

- Brackley: 0.96%
- Daventry: 0.03%
- Northampton: 4.15%
- Towcester: 3.02%

Pluvial Flood Risk

Pluvial (surface water) flooding occurs when rainfall of extreme intensity or prolonged duration exceeds the capacity of the drainage infrastructure, formed of private drainage, public sewers, highway drainage and other surface water drainage assets.

During the Level 1 SFRA, 3.71% of the total area of West Northamptonshire was identified as being at risk of surface water flooding during a 3.3% AEP[5] event (high risk). Furthermore 5.80% of West Northamptonshire was identified as at risk during a 1.0% AEP event (medium risk), and 13.23% during a 0.1% AEP event (low risk), with the remainder of the area at very low risk of flooding from surface water.

Using the Ordnance Survey Open Built-Up areas dataset[6], the proportion of the main settlements within West Northamptonshire were compared with the 1.0% AEP surface water extent, the results of which are summarised below as follows:

- Brackley: 3.46%
- Daventry: 4.92%
- Northampton: 5.53%
- Towcester: 5.45%

Groundwater Flood Risk

Usually as a result of prolonged wet weather, groundwater levels rise sufficiently to either emerge at surface or to cause flooding of below ground infrastructure, such as basements. West Northamptonshire Council have published a study called Groundwater Flood Risk Study for Northamptonshire[7]. The study shows that groundwater flood risk across West Northamptonshire is most prevalent along main river corridors as well as in locations of changing geology that represent potential spring lines.

[4] https://osdatahub.os.uk/downloads/open/BuiltUpAreas?_gl=1*1cqn49w*_gcl_au*NDIxNDY3ODguMTcyOTUxNzA0OA..*_ga*MjQzODIwMDA3LjE3Mjg0NjY3OTY.*_ga_59ZBN7DVBG*MTcyOTUxNzA0OC4zLjEuMTcyOTUxNzA0OS41OS4wLjA.

[5] Annual Exceedance Probability

[6] https://osdatahub.os.uk/downloads/open/BuiltUpAreas?_gl=1*1cqn49w*_gcl_au*NDIxNDY3ODguMTcyOTUxNzA0OA..*_ga*MjQzODIwMDA3LjE3Mjg0NjY3OTY.*_ga_59ZBN7DVBG*MTcyOTUxNzA0OC4zLjEuMTcyOTUxNzA0OS41OS4wLjA.

[7] https://www.westnorthants.gov.uk/flooding-and-flood-risk-management/statutory-and-project-documents-flood-risk

Reservoir Flood Risk

Although the likelihood of reservoir failure resulting in widespread flooding is extremely low[8] , the consequences of such an event need to be considered to inform appropriate emergency planning. The risk of flooding from reservoirs in West Northamptonshire broadly follows the route of the River Nene.

(a) Flood Risk Sequential Analysis findings

A sequential analysis was undertaken as part of the Level 1 IWMS, to rank feasible development sites using flood extents. The Sequential Analysis was based on the 608 Strategic Land Availability Assessment (SLAA) identified by West Northamptonshire Council in January 2025.

The Sequential Analysis identified that majority of the SLAA sites assessed had less than 10% of the site area at risk of flooding from any source. On the basis that several of the potential sites were located within Flood Zone 2 and 3, or were over 1 Ha in size, it was recommended that a Level 2 SFRA should be prepared to support the Local Plan.

(b) Flood Risk Cumulative Impact Assessment findings

The NPPF requires Local Planning Authorities to consider cumulative impacts to local areas at risk of flooding, as future development and changing land use has the potential to significantly increase and/or change flood risk in the local area.

To identify potential cumulative impacts, the number of buildings impacted by the 1.0% AEP risk of flooding from surface water extent were compared to the number impacted by the 0.1% AEP risk of flooding from surface water extent, to identify where an increase in flood risk extent would have greatest impact. Where a building was not at risk during the 1.0% AEP event but was at risk of the 0.1% AEP event it was added to the count of buildings. The total number of buildings affected within each Water Framework Directive (WFD) Operational Catchment were tallied.

The Level 1 Cumulative Impact Assessment identified that the top five WFD catchments most sensitive to the cumulative impacts of future development and changing land use were:

1. Brampton Branch – Lower
2. Nene – contributing catchments Brampton Branch to contributing catchments Ise
3. Billing Brook (Northampton)
4. Welton Village Tributary, Whilton branch of R. Nene
5. Tove (Downstream Greens Norton)

1.3 Legislation and Policy Drivers for Level 2 SFRA

The Level 2 SFRA is driven by a set of national legislation and policy requirements:

National Planning Policy Framework[9]

[8] *Environment Minister Richard Benyon said: "While the risk of a reservoir failure is extremely low the safety of the public must remain our top priority and where there is even a small risk we need to make sure that we are prepared."*

[9] https://assets.publishing.service.gov.uk/media/67aafe8f3b41f783cca46251/NPPF_December_2024.pdf

The National Planning Policy Framework (NPPF) is the central national policy document governing how flood risk must be considered in the planning system. It requires local planning authorities to ensure that development is directed away from areas at highest flood risk and that flood risk is not increased elsewhere. To achieve this, the NPPF mandates that Local Plans must be informed by a SFRA that is "appropriate to the scale and nature of the development proposed." The SFRA provides the evidence needed to apply the Sequential Test, which prioritises allocating land in the lowest-risk areas, and the Exception Test, which requires demonstration that development in higher-risk areas will be safe and deliver wider sustainability benefits. The NPPF therefore drives the SFRA by establishing its purpose, its role in plan-making, and the requirement for it to be based on the best available flood-risk information, including climate-change allowances and all sources of flooding.

Planning Practice Guidance[10]

The Planning Practice guidance (PPG) provides the detailed technical framework that underpins the NPPF's high-level policy requirements. It sets out what an SFRA must include, how it should be prepared, and how it should be used to inform planning decisions. The PPG requires SFRAs to assess flood risk from all sources to consider the impacts of climate change, flood-defence performance, residual risks, and safe access and egress. It also explains the different levels of SFRA (Level 1 and Level 2), when each is required, and how they support the Sequential and Exception Tests. The PPG drives the SFRA by defining its scope, methodology, and technical expectations, ensuring that the assessment is robust and capable of supporting sound Local Plan site allocations.

Flood and Water Management Act 2010[11]

The Flood and Water Management Act (FWMA) establishes the framework for managing flood risk in England and defines the responsibilities of the Environment Agency, Lead Local Flood Authorities (LLFAs), and other risk management authorities. While it does not directly mandate SFRAs, it requires LLFAs to understand local flood risk and coordinate flood risk management activities. This legislative duty drives the SFRA by ensuring that local authorities maintain an evidence base on flood risk, work with partners, and integrate flood risk information into planning policy.

Government Guidance[12]

The Government, through the Department for Levelling Up, Housing and Communities (DLUHC), sets national planning policy that shapes the scope and expectations of SFRAs and ensures consistency with wider flood-risk management objectives Environment Agency Guidance.[13]

EA standing advice also sets out when site-specific Flood Risk Assessments are required and what they must address, which directly influences the level of detail an SFRA must provide to

[10] https://www.gov.uk/government/collections/planning-practice-guidance
[11] https://www.legislation.gov.uk/ukpga/2010/29/contents
[12] https://www.gov.uk/guidance/flood-risk-and-coastal-change
[13] https://www.gov.uk/guidance/flood-risk-assessment-standing-advice

support future planning applications. The EA's datasets, such as Flood Map for Planning, Risk of Flooding from Surface Water, reservoir inundation mapping, and flood-defence information, form the core evidence base for the SFRA. As a result, EA guidance drives the SFRA by setting the technical parameters, ensuring the use of best available data, and aligning local planning evidence with national flood risk management policy and practice.

1.4 Data Sources

The following data sources were used to undertake the Level 2 SFRA. Table 5 details the data source, data name, date downloaded and where the data was accessed from.

Table 1: SFRA Data

Data Source	Data Name	Date Downloaded	Link
EA	Flood Map for Planning Flood Zones	21/11/2025	https://environment.data.gov.uk/dataset/04532375-a198-476e-985e-0579a0a11b47
	Flood Map for Planning Flood Zones plus Climate Change	18/02/2026	https://www.data.gov.uk/dataset/77931470-ee6b-4f8e-8868-82842aed2e5d/flood-map-for-planning-flood-zones-plus-climate-change
	Risk of Flooding from Surface Water	09/09/2025	https://environment.data.gov.uk/dataset/b5aaa28d-6eb9-460e-8d6f-43caa71fbe0e
	Risk of Flooding from Surface Water plus Climate Change	27/08/2025	https://environment.data.gov.uk/dataset/e5b38de2-99b3-44ee-b10c-b244926878ef
	Reservoir Flooding Extent Dry Day	26/08/2025	https://environment.data.gov.uk/dataset/c66ee97f-49d2-454e-9a19-d48a47bd22ad
	Reservoir Flooding Extent Wet Day	26/08/2025	https://environment.data.gov.uk/dataset/d81646cf-37e5-4e71-bbcf-b7d5b9ca3a1c
	Reservoir Flooding Extent Fluvial Contribution	26/08/2025	https://environment.data.gov.uk/dataset/db114020-465a-412b-b289-be393d995a75
	Management Catchment Name	18/02/2026	https://environment.data.gov.uk/catchment-planning
	Flood Defences	26/08/2025	https://www.data.gov.uk/dataset/cc76738e-fc17-49f9-a216-977c61858dda/aims-spatial-flood-defences-inc-standardised-attributes
	Flood Storage Areas	09/09/2025	https://www.data.gov.uk/dataset/cae4e24c-0342-48aa-8a93-d727ce582b3c/flood-map-for-planning-rivers-and-sea-water-storage-areas
	EA Historic Flood Extent	26/08/2025	https://www.data.gov.uk/dataset/76292bec-7d8b-43e8-9c98-02734fd89c81/historic-flood-map1

Data Source	Data Name	Date Downloaded	Link
	Main River	09/09/2025	https://www.data.gov.uk/dataset/4ae8ba46-f9a4-47d0-8d93-0f93eb494540/statutory-main-river-map
	Fluvial Depth (0.6m)	22/04/2026	https://environment.data.gov.uk/dataset/96ab4342-82c1-4095-87f1-0082e8d84ef1
	Pluvial Depth (0.6m)	22/04/2026	https://environment.data.gov.uk/dataset/b5aaa28d-6eb9-460e-8d6f-43caa71fbe0e
	Pluvial Hazard (0.75)	22/04/2026	https://environment.data.gov.uk/dataset/4e51df30-8437-4a56-92c2-ab14ff6e565b
	Overland Flow Pathways	22/04/2026	https://www.data.gov.uk/dataset/c9dd994d-9649-4041-96d4-cdc0f1a53152/overland-flow-pathways
	Flood Warning Areas	22/04/2026	https://www.data.gov.uk/dataset/0d901c4a-6e1a-4f9a-9408-73e0c1f49dd3/flood-warning-areas3
	LiDAR	12/09/2025	https://www.data.gov.uk/dataset/f0db0249-f17b-4036-9e65-309148c97ce4/national-lidar-programme
	EA Flood Model – Billing Defended Product 6	22/09/2025	Provided by the Environment Agency
	EA Flood Model – Dallington Defended Product 6	22/09/2025	Provided by the Environment Agency
	EA Flood Model – Heyford Defended Product 6	22/09/2025	Provided by the Environment Agency
	EA Flood Model – Upper Nene Defended Product 6	22/09/2025	Provided by the Environment Agency
	EA Flood Model – Wootton Defended Product 6	22/09/2025	Provided by the Environment Agency
OS	Ordinary Watercourse	09/09/2025	https://osdatahub.os.uk/data/downloads/open/OpenRivers?_gl=1*1q4lged*_gcl_au*MjU2OTgwOTg2LjE3NzE1Nzc2NDU.*_ga*OTM5NDkyODE1LjE3NzE1Nzc0NTU.*_ga_59ZBN7DVBG*czE3NzQ5NTgzMDUkbzQkZzAkdDE3NzQ5NTgzMDYkajU5JGwwJGgw*_ga_E5T3PCFCG7*czE3NzQyNTgxNDIkbzMkZzAkdDE3NzQyNTgxNDIkajYwJGwwJGgw
	Parish boundary	26/08/2025	https://www.ordnancesurvey.co.uk/products/os-boundaries

Data Source	Data Name	Date Downloaded	Link
BGS	Hydrogeology	02/02/2026	https://www.bgs.ac.uk/datasets/hydrogeology-625k/
WNC	Strategic Land Availability Assessment (SLAA) Sites	26/01/2026	N/A
	Historic Flooding Records	18/11/2024	N/A
ADA	IDB	09/09/2025	https://www.ada.org.uk/member_type/idbs/

1.5 Level 2 SFRA Site Overview and Selection

Following a sequential analysis, which ranked 749 sites in accordance with available flood risk mapping, West Northamptonshire Council selected a shortlist of 57 SLAA sites for inclusion in the emerging Local Plan. The 57 potential site allocations were selected to meet WNC's development need.

All 57 sites were progressed to the Level 2 SFRA to ensure site-specific assessments were undertaken for all sites in Flood Zone 2, Flood Zone 3 and sites at risk of surface water flooding.

These sites have been categorised according to their proposed development use, comprising:

(i) Housing
(ii) Employment
(iii) Mixed Regeneration allocations.

Details of the SLAA sites progressed to the Level 2 SFRA can be found below.

Table 2: Proposed Housing Allocations

Site Ref	Site Name
_006	Hill Farm Rise
542	Land west of Northampton South SUE
546	Pineham
552	Former Lings Upper School
541	Ryland Soans Ford Garage
551	The Farm, Hardingstone
543	Land north of Milton Ham
549	Watering Lane, Collingtree
563	Land at Middlemore, Daventry
433	Land to the West of Towcester Road
003	Northampton Land off Harlestone Road
004	Northampton North of Buckton Fields
005	Northampton West of A43

Site Ref	Site Name
013	Brackley - East of Radstone Road
008	Micklewell Park extension
010	Daventry North East
011	Brackley West of Brackley
014	Towcester - North of Burcote Road
007	Northampton - East of A43
_009	The Green, Great Houghton
012	Brackley North of Radstone Fields
557	Land at Brackley East
009	Daventry North of Middlemore
_008	Northampton - North of Newport Pagnell Road
_007	Northampton East of Wooldale Road
001	Northampton - South of Grange Park
015E	Long Buckby - South of Long Buckby Station (east)
006	Northampton West (remaining)
002	Northampton Collingtree Golf Course

Table 3: Proposed Employment Allocations

Site Ref	Site Name
556	Land at Waterside Way
553	Sixfields East
554	Crow Lane North
_010	Martin's Yard Extension
559	Land at Woolgrowers Field, Towcester
560	Land at Tiffield Lane, Towcester
558	Land at Bell Plantation
567	Land at former Furtho Pit, Old Stratford / Cosgrove
564	Land off Newnham Drive, Daventry
566	Land at Shacks Barn
565	South East Gateway, Daventry
_001	Northampton Gateway, south of J15
019	Upper Heyford - south of Junction 16 M1
018	DIRFT Phase IV
015	Long Buckby - South of Long Buckby Station

Table 4: Proposed Mixed Regeneration Allocations

Site Ref	Site Name
_002	Cattlemarket Road, the Plough and surrounding area

Site Ref	Site Name
519	33 - 45 Abington Street
_004	St Peter's Way
534	Lodge Road, Daventry
515	Four Waterside
531	Market Walk
523	St Edmund's Hospital
514	Castle House
512	Railway station - Railfreight
016	Daventry N and W of Town Centre
513	Railway station - car park
_005	Railway station
_003	Greyfriars/Mayorhold/Lady's Lane

1.6 Level 2 SFRA Methodology

A site-specific data sheet and supporting maps have been generated for each of the 57 SLAA sites included within the Local Plan. Together this information supports appraisal of development suitability and identifies where mitigation may be required to ensure flood compatible development.

Site-specific data sheets and mapping can be found in Appendix A – A.3.

Data Sheets

The datasheets present a concise analysis of all relevant flood sources, including an allowance for the impact of climate change. Data is accompanied by classification statements, qualitative analysis commentary and conclusions for each potential site allocation. Data sheets also include potential design considerations including surface water attenuation provision and finished floor level requirements.

The data sheets provide the evidence to assess if development can be delivered safely in relation to flood risk.

Mapping

Each site-specific data sheet is accompanied by 10 supporting maps:

- Flood Map for Planning
- Historic Flood Records
- Risk of Flooding from Surface Water + Climate Change
- Hydrogeology
- Pluvial Hazard (0.75)

- Pluvial Depth (0.6m)
- Fluvial Depth (0.6m) and Flood Warning Areas
- Overland Flow Paths
- Reservoir Flood Extents
- LiDAR

Data Sheet Generation

Data sheets were initially populated using a data transfer spreadsheet derived from a GIS-based assessment process. Site polygons provided by WNC were analysed in QGIS using an overlap analysis with relevant flood risk datasets to extract site-specific attributes. The outputs from this analysis were exported to an analysis spreadsheet, where a series of predefined logic rules were applied to classify and interpret each site's flood risk profile. The processed results were then used to populate the SFRA data sheets in a consistent and auditable manner.

Data Input

The data sheets were populated using the results of the Overlap Analysis and further analysis in QGIS, using the data sources outlined below.

(b) Basic Site Identification

These fields define the site and its planning context.

- Site ID and Reference
- Site Name
- Proposed Allocation Use
- Site Area
- Easting and Northing
- River Catchment

(c) Fluvial Flood Risk

This quantifies what percentage of the site is at risk of fluvial flooding, both in the present-day and under a climate change scenario.

- Flood Zone 2
- Flood Zone 3
- Flood Zone 2 + Climate Change
- Flood Zone 3A + Climate Change
- Flood Zone 3B + Climate Change

The climate change allowances are based on the latest UK Climate Projections (UKCP18) from the Met Office, using the Representative Concentration Pathway (RCP) 8.5. For fluvial climate change scenario, the central allowance 2040-2069 ("2050s" epoch)[14] was used.

[14] https://environment.data.gov.uk/api/file/download?fileDataSetId=dfa63c12-bbde-43df-a71d-37b7e12d7111&fileName=RoFRS%20Product%20Description.pdf

Table 5: Flood Zone Definitions

Flood Zone	Definition
1	For the purposes of the SFRA, Flood Zone 1 incorporates all land that is outside of Flood Zone 2, 3a and 3b, as defined below. It generally comprises land that would not be affected by tidal or fluvial flooding because of a storm event with a 1 in 1,000 chance of happening in any one year. The likelihood of tidal or fluvial flooding within **Flood Zone 1 is Very Low**.
2	This SFRA uses the Environment Agency Flood Zone Map to define Flood Zone 2. The definition of Flood Zone 2 ignores the presence of flood defences. It generally comprises land that would not be affected by fluvial flooding as a result of a storm event with a 1.0% AEP chance of happening in any one year, or a tidal event with a 2.0% AEP chance of happening, but would be affected during a 0.1% AEP event. The likelihood of tidal or fluvial flooding within **Flood Zone 2 is Low.**
3a	Flood Zone 3a is defined as those areas that are situated within the fluvial 1.0% AEP of happening in any one year, or within a tidal event with a 2.0% AEP chance of happening. The flood outlines for Flood Zone 3a as used in this SFRA are reflected in the current Environment Agency Flood Maps for Planning. The definition of Flood Zone 3a ignores the presence of flood defences. The likelihood of tidal or fluvial flooding within **Flood Zone 3a is Medium.**
3b	For the purposes of determining the extent of the Functional Floodplain the 3.3% AEP fluvial flood extent are normally used. The current guidance for the preparation of Strategic Flood Risk Assessments (May 2024)[15], states; *"You may decide to assess the potential impacts of climate change on the future extent of functional floodplain. This will help inform the sequential approach."* The Environment Agency's current flood models do not include sufficient data coverage to define the Functional Floodplain across West Northamptonshire. In accordance with the Level 1 SFRA, the functional floodplain is therefore defined on the extent of flooding attributable to the 1.0% AEP (or Flood Zone 3a) with Areas at Reduced Risk of Flooding (Environment Agency data) removed. The likelihood of fluvial flooding within **Flood Zone 3b is High.**

(d) Pluvial Flood Risk

This quantifies what percentage of the site lies within areas of surface water flood risk, both in the present-day and under a climate change scenario.

- RoFSW High present-day (3.3% AEP extent)
- RoFSW Medium present-day (1.0% AEP extent)
- RoFSW Low present-day (0.1% AEP extent)
- RoFSW High + Climate Change (3.3% AEP extent)
- RoFSW Medium + Climate Change (1.0% AEP extent)
- RoFSW Low + Climate Change (0.1% AEP extent)

The climate change allowances are based on the latest UK Climate Projections (UKCP18) from the Met Office, using the Representative Concentration Pathway (RCP) 8.5. A near-term epoch

[15] https://www.gov.uk/guidance/local-planning-authorities-strategic-flood-risk-assessment

(2040 – 2060 "2050s" epoch) and central allowances are being used to support short and medium-term decisions informed by the highest flood likelihood projections.[16]

(e) Historic Flood Records

This provides evidence of known historic flooding within the vicinity of the site.

- LLFA flood records
- EA flood extent (fluvial)

(f) Hydrogeology

This provides a classification of the underlying ground water characteristics.

- Highly productive aquifer
- Moderately productive aquifer
- Low productivity aquifer
- Rocks with essentially no groundwater

(g) Reservoir Flood Risk

This quantifies potential inundation extents should a reservoir breach.

- Reservoir Flood Extent Dry (the extent of reservoir inundation should a reservoir breach when rivers are in normal flow conditions)
- Reservoir Flood Extent Wet (the extent of reservoir inundation should a reservoir breach when rivers are in flood conditions)
- Reservoir Flood Extent Fluvial (the % of the Reservoir Flood Extent Wet extent which can be attributed to river contribution, rather than rainfall, local runoff, groundwater or other causes)

(h) Presence of Flood Defences

This provides a summary of any defences that the site benefits from.

- Defence type
- Distance of defence to site
- Standard of protection (SOP)

Data Sheet Analysis

The initial data identified using the data transfer sheet was utilised to generate classification statements for each site using the IF function.

(i) Fluvial Flood Risk

Table 6: Fluvial Risk Classification Present Day

Percentage Range	Classification
Less than 30%	Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

[16] https://environment.data.gov.uk/dataset/e5b38de2-99b3-44ee-b10c-b244926878ef

Percentage Range	Classification
Less than 60%	Less than 60% of the site is at risk of fluvial flooding during a present-day scenario, therefore delivery of a flood risk compatible development is considered feasible.
More than 60%	More than 60% of the site is indicated to be at risk of fluvial flooding during a present-day scenario, therefore development is unlikely to be viable.

Table 7: Fluvial Risk Classification Climate Change

Percentage Range	Classification
Less than 30%	Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.
Less than 60%	Less than 60% of the site is at risk of fluvial flooding during a climate change scenario, therefore delivery of a flood risk compatible development is considered feasible.
More than 60%	More than 60% of the site is indicated to be at risk of fluvial flooding during a climate change scenario, therefore development is unlikely to be viable.

(j) Pluvial Flood Risk

Table 8: Pluvial Risk Classification Present Day

Percentage Range	Classification
Less than 30%	Less than 30% of the site is at risk of pluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.
Less than 60%	Less than 60% of the site is at risk of pluvial flooding in a present-day scenario, therefore delivery of a flood risk compatible development is considered feasible.
More than 60%	More than 60% of the site is at risk of pluvial flooding in a present-day scenario, therefore development is unlikely to be viable.

Table 9: Pluvial Risk Classification Climate Change

Percentage Range	Classification
Less than 30%	Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.
Less than 60%	Less than 60% of the site is at risk of pluvial flooding during a climate change scenario, therefore delivery of a flood risk compatible development is considered feasible.
More than 60%	More than 60% of the site is at risk of pluvial flooding during a climate change scenario, therefore development is unlikely to be viable.

(k) Reservoir Flood Risk

Table 10: Reservoir Flood Risk Classification

Percentage Range	Classification
0%	The site is not indicated to be at risk of reservoir flooding.
More than 0%	Although the site is in an area at risk of reservoir flooding, this risk could be managed through appropriate consideration of flood resilience measures.

(l) Groundwater Flood Risk

Table 11: Groundwater Flood Risk Classification

Hydrogeological Classification	Classification
Highly productive aquifer	The site is at medium risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.
Moderately productive aquifer	The site is at medium risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.
Low productivity aquifer	The site is at low risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.
Rocks with essentially no groundwater	The site is at low risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

(m) Flood Records

Table 12: Flood Records within 500m Classification

Value	Classification
Number of LLFA Flood Records within 500m	There are (Value) WNC recorded flood events within 500m of the site.
Within EA Flood Extent	The site is within an EA recorded flood extent.
Within 500m of EA Flood Extent	The site is within 500m of an EA recorded flood extent.
Not within 500m of EA Flood Extent	This site is not located within 500m of an EA recorded flood extent.

(n) Flood Defences

Table 13: Flood Defences Classification

Flood Defences within 500m of the site	Classification
No	It is unlikely that the site will be affected by a breach of flood defences as the nearest defences are more than 500m away.

If flood defences were identified within 500m of the site, further assessment of the data was undertaken to confirm:

- If the site benefits from defences (if any part of the site is in Flood Zone 2 or 3);
- The type of flood defence present;
- The standard of protection (if known).

Furthermore, an assessment of the defence crest height and the ground level at the site benefitting from the defence was undertaken to determine the hazard should the defence breach, in line with the methodology detailed in Table 4.4 of the Environment Agency's Flood Risk to People FD2321/TR2[17] (Figure 1). This identified if the breach hazard was 'danger for some', 'danger for most', or 'danger for all'.

Figure 1: Danger to people from overtopping relative to distance from defence (Table 4.4.) taken from the Environment Agency's Risk to People FD321/TR2 document[18].

Distance from breach (m)	Head above floodplain (m)						
	0.5	1	2	3	4	5	6
100							
250							
500							
1000							
1500							
2000							
2500							
3000							
3500							
4000							
4500							
5000							

Key: Danger for some; Danger for most; Danger for all

Additional Data Sheet Considerations

Additional data was included within each data sheet, to add further context to the sources of flood risk identified through the data transfer sheet.

(o) Fluvial Flood Risk – Commentary

A fluvial flood risk commentary describes the proportion of each site located within Flood Zone 2 and 3 and discusses any significant changes to fluvial flood risk under the impact of climate change. The commentary also includes discussion on the presence of known main rivers, ordinary watercourses and canals and the implications on site master planning, floodplain compensation and further detailed modelling requirements.

[17] https://assets.publishing.service.gov.uk/media/602bbc3de90e07055f646148/Flood_risks_to_people_-_Phase_2_Guidance_Document_Technical_report.pdf

[18] https://assets.publishing.service.gov.uk/media/602bbc3de90e07055f646148/Flood_risks_to_people_-_Phase_2_Guidance_Document_Technical_report.pdf

(p) Pluvial Flood Risk – Commentary

A pluvial flood risk commentary provides analysis of the surface water flood risk to the site, specifically regarding whether pluvial risk was caused by prominent offsite/onsite flow paths, or localised ponding and whether existing landforms or drainage features may be influencing local flood risk.

The pluvial commentary also includes discussion on the alignment of surface water flow paths with known watercourses and the implications on site master planning and further detailed modelling requirements.

(q) Finished Floor Levels

An assessment of likely finished floor level (FFL) requirements was undertaken for sites in Flood Zone 2 or 3 using EA model data (where available) to determine the maximum flood level at the site.

FFLs are recommended to be 600mm higher than the maximum predicted Flood Level for a 1.0% AEP fluvial scenario, in line with the current guidance provided by the Environment Agency[19]. The models listed below were used to determine maximum flood levels.

Table 14: Environment Agency Product 6 Data

Location	Product	Scenario	Data Used
Billing Brook	6	Defended	Billing Brook Winter Nodes shapefile
Dallington Brook	6	Defended	Dallington Brook Winter Nodes shapefile
Heyford Brook	6	Defended	Heyford Brook Winter Nodes shapefile
Upper Nene	6	Defended	NW_UN_Def_100Yr27Hr_19_d_Max.asc
Wootton Brook	6	Defended	Wootton Brook Winter Nodes shapefile

Where EA model data was not available, an analysis of the spatial extent of Flood Zone 2 was compared to LiDAR to estimate the likely maximum flood level.

For sites entirely in Flood Zone 1, a statement was added to recommend that FFLs are at least 150mm above external ground levels, in accordance with Building Regulations Part M[20].

(r) Surface Water Attenuation Provision

Surface water attenuation provision was estimated utilising the HR Wallingford Surface Water Storage Design Tool[21]. The HR Wallingford tool was used to estimate the average surface water attenuation provision required per impermeable hectare within Northamptonshire. A series of assumptions were made, and are detailed below:

- Site characteristics
    - Greenfield
    - 1ha

[19] https://www.gov.uk/guidance/flood-risk-assessment-standing-advice

[20] https://assets.publishing.service.gov.uk/media/66f6c5eec71e42688b65ee11/ADM_V2_with_2024_amendments.pdf

[21] https://www.uksuds.com/tools/surface-water-storage-volume-estimation

    - 100% impermeable
- Catchment descriptors
    - SAAR9120 (mm) = 680
    - BFIHOST19scaled = 0.481
- Rainfall
    - Rainfall – FEH statistical (2025)
    - Climate change allowance = 40%
- Blockage risk
    - Minimum discharge rate to prevent blockage = 1l/s
- Storage design parameters
    - Storage base shape – rectangular/square
    - Storage base length to width ratio = 3:1
    - Storage design depth (m) = 0.6
    - Storage side slope = 1 in 3
    - Storage voids ratio (%) = 100
    - Storage volume design return period (years) = 1:100
    - Depth of storage (m) = 1
    - Sump (m) = 1
    - Working attenuation depth (m) = 600
    - Freeboard (mm) = 300

The following values were calculated for attenuating runoff from an average 1ha of impermeable area:

Storage Base Area (m^2) = 1396

Storage Total Volume (m^3) = 933

The values for Storage Base Area and Storage Total Volume were pro-rated against each site area utilising assumptions based on site impermeability, which reflect the average relative density of each development type:

Table 15: Site impermeability for each site type

Site Type	Site impermeability (%)
Residential	60
Commercial	85
Regeneration	90

An estimated surface water attenuation provision (m^3) and estimated site area (ha) required for Sustainable urban Drainage Systems (SuDS) attenuation features were then calculated for each site using the impermeability assumptions presented above. For site specific assessment use of local FEH catchment descriptors should be used, to improve the determination of the required volume of surface water attenuation needed. The assessment has assumed relatively flat ground without the need for significant earthworks to achieve levels.

(s) Viable SuDS features

While the Level 2 SFRA can confirm that a site is theoretically capable of accommodating SuDS, compliance with the national standards[22] relies on site-specific ground conditions, layout, levels, exceedance routing, maintenance arrangements and adoption, all of which can only be demonstrated through comprehensive drainage design. As such, SuDS must be fully integrated into the site layout at an early stage of master planning to ensure that surface water runoff is managed sustainably, flood risk is not increased elsewhere, and the development can be made safe for its lifetime.

To provide an indicative assessment of SuDS features, the matrix in Table 16 can be utilised to determine which SuDS features may be viable for each site, dependent on geology and site slope.

Table 16: SuDS Matrix

SuDS Component	Good Infiltration[23]	Poor Infiltration[24]	Low Groundwater[25]	High Groundwater[26]	Flat Topography[27]	Steep Topography[28]
Rainwater Harvesting	n/a*					
Infiltration devices	✓	✗	✓	✗	✓	✗
Filter Drains and Filter Strips	✓	✓	✓	✓	✓	✓
Pervious Surfaces	✓	✓	✓	✓	✓	✗
Swales	✓	✓	✓	✓	✓	✓
Rills and Channels	✓	✓	✓	✓	✓	✓
Bioretention Systems	✓	✓	✓	✗	✓	✗
Retention Ponds and Wetlands	✗	✓	✓	✗	✓	✗

[22] https://www.gov.uk/government/publications/national-standards-for-sustainable-drainage-systems/national-standards-for-sustainable-drainage-systems-suds

[23] Better than $1x10^{-6}$ m/s

[24] Less than $1x10^{-6}$ m/s

[25] More than 3m below finished ground or basement level

[26] Less than 3m below finished ground or basement level

[27] Flat Topography has a general gradient less steep than 1 in 40

[28] Steep Topography has a general gradient more steep than 1 in 40

SuDS Component	Good Infiltration[23]	Poor Infiltration[24]	Low Groundwater[25]	High Groundwater[26]	Flat Topography[27]	Steep Topography[28]
Detention Basins	✓	✓	✓	✗	✓	✗
Geo-cellular storage	✓	✓	✓	✗	✓	✗
Proprietary Treatment Systems	✓	✓	✓	✓	✓	✓

Rainwater Harvesting is usually not limited by site constraints. It should be included in all developments, unless specific justification is possible. Rainwater Harvesting reduced potable water demand as well as reducing flood risk.

(t) Dry access and egress

For the purposes of this SFRA, dry access and egress are defined as a route where there is no fluvial or pluvial flooding, with no flood depth or associated hazard identified during the 1.0% AEP event. This was assessed qualitatively through a QGIS assessment of existing road infrastructure and fluvial and pluvial flood extents.

It should be noted that the presence of dry access and egress does not account for any requirement for highway infrastructure upgrades, which for many of the proposed development sites may be required to support development.

Dry access and egress classifications were populated using the below statements:

Table 17: Dry Access and Egress Classification

Yes/No	Classification
Yes	From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.
No	From a review of flood risk from all sources, including the impact of climate change, it is unlikely that dry access and egress will be possible during fluvial and pluvial events.

(u) Exception Test

The Exception Test is not required for sites situated entirely within Flood Zone 1. Where a site is situated within Flood Zone 2 or 3, the Exception Test is required in accordance with the NPPF.

Exception Test classifications were populated using the below statements:

Table 18: Exception Testing Classification

Flood Zone Area	Classification
Within Flood Zone 1	The site is located within Flood Zone 1. Therefore, the Exception Test is not required in accordance with the National Planning Policy Framework.

Flood Zone Area	Classification
Within Flood Zone 2 or 3	The site is located within Flood Zone 2 or 3. Therefore, the Exception Test is required in accordance with the National Planning Policy Framework.

(v) Conclusion

An assessment of fluvial and pluvial flood extents, depths and hazards was undertaken to confirm if the exception test is likely to be passable.

It should be noted that the Environment Agency present-day flood mapping predicts the extent of flooding ignoring the presence of flood defences. When considering appropriate allocations for future development, sites which do not rely on the presence of existing flood defences are considered more sustainable. For this reason, site-specific conclusions are determined by ignoring the presence of flood defences.

Conclusion classifications were populated using the below statements:

Table 19: Conclusion Classification

Exception Test Passable	Classification
Yes	Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.
No	Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of this site is not compatible with the level of flood risk identified.

Map Production

Each data sheet is supported by ten map grids, to provide a visual display of the information provided in the data sheets.

- **Flood Map for Planning**

  This data includes extents for Flood Zone 2, Flood Zone 3, Flood Zone 2+Climate Change, Flood Zone 3A+Climate Change and Flood Zone 3B+Climate Change. For the purposes of determining the extent of the Flood Zone 3B+Climate Change, the 3.3% AEP fluvial flood extent is used.

  The Flood Map for Planning also represents main rivers, some ordinary watercourse, the presence of flood defences and flood storage areas, and extents of Internal Drainage Board (IDB) watercourse management.

- **Historic Flood Records**

  Historic flood records are represented using LLFA flood records and historic Environment Agency flood extents.

- **Risk of Flooding from Surface Water + Climate Change**

Risk of Flooding from Surface Water (RoFSW) + Climate Change extents are represented for the high (3.3% AEP), medium (1.0% AEP) and low (0.1% AEP) risk scenarios. Present-day RoFSW extents are not mapped due to their similarity to climate change extents, however the data is included within the data sheets.

- **Hydrogeology**

  Hydrogeology extents represent the likelihood of groundwater presence. The hydrogeology represents the productivity of the aquifer and the extent of aquifer type.

- **Pluvial Hazard (0.75)**

  Hazard data shows how dangerous surface water flooding might be. It is calculated using combination of flood depth and speed. Higher depths and speed mean more significant flooding and a higher flood hazard rating. It helps identify areas where flooding could threaten people walking or driving through floodwater, make evacuation difficult, increase risks to vulnerable individuals and require specific mitigation measures in planning and flood risk assessments.

  Pluvial Hazard extent of 0.75 represents the extent of each site at a pluvial hazard of 'danger for some' under a low (0.1% AEP), medium (1.0% AEP) and high (3.3% AEP) scenario in accordance with Figure 2.1[29] of the Environment Agency's Flood Risk to People FD2321/TR2.

- **Pluvial Depth (0.6m)**

  Pluvial depth extent for a depth of 0.6m represents the extent of each site flooding to a depth of 0.6m under a low (0.1% AEP), medium (1.0% AEP) and high (3.3% AEP) pluvial scenario. A depth of 0.6m was presented on the mapping as property flood resilience measures may be utilised to provide resilience for flood depths of up to 0.6m.

- **Fluvial Depth (0.6) and Flood Warning Areas**

  Fluvial depth extent for a depth of 0.6m represents the extent of each site flooding to a depth of 0.6m under a low (0.1% AEP), medium (1.0% AEP) and high (3.3% AEP) fluvial scenario. A depth of 0.6m was represented as property flood resilience measures can be utilised to provide resilience for flood depths of up to 0.6m.

  Flood Warning Areas represent specific geographic zones where the Environment Agency expects flooding to occur and therefore issues official Flood Warnings to people and properties within that area.

- **Overland Flow Paths**

  The EA overland flow pathways show where rainfall is expected to flow across the ground and pond in low areas when drainage is overwhelmed. The degrees represent the mean slope of each flow path segment. Higher slope values generally indicate that water could flow faster and have greater potential to cause erosion or transport

[29] https://assets.publishing.service.gov.uk/media/602bbc3de90e07055f646148/Flood_risks_to_people_-_Phase_2_Guidance_Document_Technical_report.pdf

sediment, whereas low-slope pathways are more likely to be associated with slower flow and ponding.

Flow paths are based of LiDAR Digital Terrain Model, with runoff from at least 1ha of land contributing to each mapped overland flow path.

- **Reservoir Flood Extents**

  Reservoir flood extents for wet-day and dry-day scenarios are represented. The wet-day extent shows the flood area that would result if a reservoir breached while it was full and rivers within the catchment were already in flood conditions, producing the largest and fastest floodwaters and representing the worst-case scenario. The dry-day scenario shows the smaller flood area that would occur if a reservoir breached when water levels were low and rivers within the catchment were in normal flow conditions.

- **LiDAR**

  LiDAR data represents fine terrain details that control how water flows in accordance with local topography.

1.7 Assessment Findings

Detailed site-specific narratives for all 57 sites taken forward to Level 2 SFRA are provided in Appendix A – A.1.

Table 20 provides a summary of conclusions for each site, to confirm if the Exception Test is required and if development is viable for each SLAA site, ie. if the Exception Test is likely passable.

Table 20: Assessment Finding Summary

Site Reference	Site Name	Exception Test Required	Viable Development
556	Land at Waterside Way	Yes	No
553	Sixfields East	No	Yes
554	Crow Lane North	Yes	No
_010	Martin's Yard Extension	Yes	No
559	Land at Woolgrowers Field, Towcester	Yes	Yes
560	Land at Tiffield Lane, Towcester	No	Yes
558	Land at Bell Plantation	No	Yes
567	Land at former Furtho Pit, Old Stratford / Cosgrove	Yes	Yes
564	Land off Newnham Drive, Daventry	No	Yes
566	Land at Shacks Barn	No	Yes
565	South East Gateway, Daventry	No	Yes
_001	Northampton Gateway, south of J15	Yes	Yes
019	Upper Heyford - south of Junction 16 M1	Yes	Yes
018	DIRFT Phase IV	Yes	Yes

Site Reference	Site Name	Exception Test Required	Viable Development
015	Long Buckby - South of Long Buckby Station	No	Yes
_006	Hill Farm Rise	No	Yes
542	Land west of Northampton South SUE	Yes	No
546	Pineham	Yes	Yes
552	Former Lings Upper School	No	Yes
541	Ryland Soans Ford Garage	No	Yes
551	The Farm, Hardingstone	No	Yes
543	Land north of Milton Ham	Yes	No
549	Watering Lane, Collingtree	No	Yes
563	Land at Middlemore, Daventry	No	Yes
433	Land to the West of Towcester Road	Yes	Yes
003	Northampton Land off Harlestone Road	No	Yes
004	Northampton North of Buckton Fields	Yes	Yes
005	Northampton West of A43	Yes	Yes
013	Brackley - East of Radstone Road	No	Yes
008	Micklewell Park extension	No	Yes
010	Daventry North East	Yes	Yes
011	Brackley West of Brackley	No	Yes
014	Towcester - North of Burcote Road	Yes	Yes
007	Northampton - East of A43	Yes	Yes
_009	The Green, Great Houghton	No	Yes
012	Brackley North of Radstone Fields	No	Yes
557	Land at Brackley East	Yes	Yes
009	Daventry North of Middlemore	No	Yes
_008	Northampton - North of Newport Pagnell Road	No	Yes
_007	Northampton East of Wooldale Road	Yes	Yes
001	Northampton - South of Grange Park	No	Yes
015E	Long Buckby - South of Long Buckby Station (east)	Yes	Yes
006	Northampton West (remaining)	No	Yes
002	Northampton Collingtree Golf Course	No	Yes
_002	Cattlemarket Road, the Plough and surrounding area	Yes	No
519	33 - 45 Abington Street	No	Yes
_004	St Peter's Way	Yes	No
534	Lodge Road, Daventry	No	Yes

Site Reference	Site Name	Exception Test Required	Viable Development
515	Four Waterside	Yes	No
531	Market Walk	No	Yes
523	St Edmund's Hospital	No	Yes
514	Castle House	No	Yes
512	Railway station - Railfreight	Yes	Yes
016	Daventry N and W of Town Centre	No	No
513	Railway station - car park	No	Yes
_005	Railway station	Yes	Yes
_003	Greyfriars/Mayorhold/Lady's Lane	No	Yes

1.8 Advice to Applicants

Each site greater than 1ha or located in Flood Zone 2 or 3 will require a site-specific Flood Risk Assessment and Drainage Strategy as part of the planning process in accordance with the National Planning Policy Framework and supporting Planning Practice Guidance.

Section 11 of the Level 1 IWMS outlines a range of considerations which planning applicants should consider when preparing a Flood Risk Assessment to support development proposals. However, the new National SuDS Standards[30] were published in June 2025, after the Level 1 IWMS was published in March 2025.

Therefore, the section below summarises implications of the 2025 National SuDS Standards for developers, when undertaking a Flood Risk Assessment with supporting Drainage Strategy.

New National SuDS Standards 2025

The 2025 National SuDS Standards introduce a new framework for how surface water drainage must be designed, delivered, and maintained for most new developments in England. These standards shift drainage away from traditional piped systems and towards sustainable, nature based approaches that manage rainfall at source, reduce flood risk, improve water quality and create wider amenity and biodiversity benefits. Under the new standards, developers must demonstrate that their drainage strategies follow the SuDS hierarchy, control runoff to greenfield rates and volumes, incorporate appropriate treatment stages and provide robust long-term maintenance arrangements. The following requirements set out what site-specific Flood Risk Assessments should include to comply with these standards to support safe, sustainable development.

A Flood Risk Assessment and supporting drainage strategy should:

- **Assess interaction with all sources of flooding;**

  A Flood Risk Assessment should consider fluvial, surface water, groundwater, sewer, reservoir, and artificial sources, and show how SuDS design interacts with these risks.

[30] https://www.gov.uk/government/publications/national-standards-for-sustainable-drainage-systems/national-standards-for-sustainable-drainage-systems-suds

Consideration should be taken of how offsite surface water flows could be maintained or managed to not pose a risk to the development and not increase flood risk to others. Furthermore, consideration should be taken to ensure that surface water attenuation is not located in areas at risk of surface water or fluvial flooding.

Proposed developments should not principally rely on existing flood defences being available over the lifetime of the development, and suitable flood resiliency measures should be included within development layout and design. Where sites benefit from flood defences, these should be subject to a proportionate assessment of breach over lifetime of development including an assessment of the impact of climate change.

- **Provide greenfield runoff rate and volume calculations;**

  A Flood Risk Assessment should calculate pre-development runoff rates and volumes and demonstrate that the post-development drainage strategy does not exceed them for all relevant storm events, including the 1.0% AEP event with climate change allowances.

- **Include a SuDS strategy compliant with the National Standards;**

  A Flood Risk Assessment should set out the proposed SuDS components, their function, location, hydraulic performance, exceedance routing, and how they deliver the four statutory SuDS objectives of (i) flood risk, (ii) water quality, (iii) amenity and (iv) biodiversity.

  All new developments should restrict to greenfield QMED to limit the cumulative impact of development.

- **Demonstrate compliance with the SuDS hierarchy;**

  A Flood Risk Assessment should show that infiltration has been prioritised, followed by surface based SuDS, then sub-surface systems, with conventional drainage only used as a last resort. Any deviation must be justified with evidence (such as infiltration testing, groundwater constraints).

- **Include climate change sensitivity testing;**

  A Flood Risk Assessment should apply the relevant climate change allowances for peak river flows and rainfall intensity and demonstrate that the SuDS system and site layout remain safe and functional. Climate change allowances should be utilised for the latest epoch possible (up to 2142 if required, as the West Northamptonshire Local Plan has a plan length until 2042, and this would provide 100 years of climate change allowance).

- **Demonstrate safe access and egress;**

  Access and egress routes should not be subject to flood risk, and the development should be appropriately guided outside the floodplain in accordance with the National Planning Policy Framework (NPPF).

- **Provide water quality treatment assessment;**

A Flood Risk Assessment should identify pollution hazard levels and demonstrate that the SuDS treatment train provides sufficient treatment stages to meet the required water-quality performance.

- **Demonstrate safe management of exceedance flows;**

  A Flood Risk Assessment should show how flows above the design standard will be safely routed through the site without increasing flood risk to people, property, or critical infrastructure.

- **Set out finished floor level (FFL) recommendations;**

  A Flood Risk Assessment should confirm appropriate minimum FFLs, including freeboard above design flood levels and any additional allowances for uncertainty. In accordance with Building Regulations Approved Doc C[31], the damp-proof course (and consequently the finished floor levels (FFLs)) should be set a minimum of 150 mm above surrounding external landscaped areas to reduce the risk of exceedance flooding. Where detailed flood modelling is undertaken on a main river or ordinary watercourse, Environment Agency guidance[32] dictates that a minimum of 600mm freeboard should be provided between finished floor levels and maximum flood level. For any site at risk of flooding from surface water, FFLs should be a minimum of 300mm above the estimated flood level.

- **Provide compensatory floodplain storage calculations (if applicable);**

  Where development affects functional floodplain or flood storage areas, a Flood Risk Assessment should demonstrate floodplain compensation that does not increase risk elsewhere.

- **Provide a long-term maintenance and adoption plan;**

  A Flood Risk Assessment should identify who will own, inspect, and maintain each SuDS component for the lifetime of the development, consistent with the 2025 SuDS Standards' requirement for secure maintenance arrangements.

- **Include construction phase surface water management;**

  A Flood Risk Assessment should outline temporary drainage and pollution control measures to prevent increased flood risk or water quality impacts during construction.

- **Identify opportunities for flood risk betterment.**

  A Flood Risk Assessment should highlight where SuDS or site layout can reduce existing flood risk, improve conveyance, or contribute to wider catchment-scale benefits.

For specific advice on what to include in a Flood Risk Assessment for developers can be found in the Environment Agency 'Flood Preparing a flood risk assessment: standing advice' Guidance.

[31] https://assets.publishing.service.gov.uk/media/5a8192a0e5274a2e8ab54b5f/BR_PDF_AD_C_2013.pdf

[32] https://www.gov.uk/guidance/preparing-a-flood-risk-assessment-standing-advice

Conclusion

The Level 2 SFRA provides a detailed site-specific review of flood risk across the proposed strategic allocations within West Northamptonshire. Building on evidence presented in the Level 1 SFRA, the assessment has assessed all relevant sources of flooding and considered the implications of flood risk for future development. The results support the application of Sequential and Exception Tests in accordance with the NPPF.

The assessment findings indicate that most sites assessed are considered viable for development, subject to site-specific Flood Risk Assessments and detailed drainage design. Of the 57 sites assessed, 48 have been identified as viable for development and 9 sites are considered unsuitable for development due to flood risk constraints that could not be satisfactorily mitigated at this stage.

To pass the Exception Test it must be proven that the development provides wider sustainability benefits to the community that outweigh the flood risk. Therefore, for sites where development is likely unviable due to identified flood risk, wider sustainability benefits would need to be delivered to enable development to take place.

Table 21: Sites unsuitable for development due to flood risk constraints

Site Reference	Site Name	Reason Development is Unviable
556	Land at Waterside Way	Fluvial and pluvial flood risk identified.
554	Crow Lane North	Fluvial and pluvial flood risk identified.
_010	Martin's Yard Extension	The site is unlikely to have dry access and egress during a fluvial flood event.
542	Land west of Northampton South SUE	The site has no known dry access and egress.
543	Land north of Milton Ham	The site has no known dry access and egress.
_002	Cattlemarket Road, the Plough and sounding area	The site is not compatible with the level of pluvial and fluvial flood risk identified.
_004	St Peter's Way	The site is not compatible with the level of fluvial flood risk identified.
515	Four Waterside	The site is not compatible with the level of fluvial flood risk identified.
016	Daventry N and W of Town Centre	The site is not compatible with the level of pluvial flood risk identified. It should be noted that for Site 016, the Exception Test is not triggered as the site is within Flood Zone 1.

The Level 2 SFRA therefore provides West Northamptonshire Council with a robust evidence base to inform Local Plan preparation, supports the allocation of sites away from areas affected by flood risk and ensures that future development is directed and designed in a manner consistent with national policy.

2. Level 2 Cumulative Impact Assessment

2.1 Introduction

Under the National Planning Policy Framework[33] (NPPF), the sequential approach promotes the delivery of development in areas at lowest risk of flooding. Development should preferentially be directed away from areas at risk of flooding wherever possible. When it is not possible to deliver all development in low flood risk zones, development can be considered in incrementally higher flood risk zones. Where development proposals are in areas at risk of flooding from surface water, there is potential for cumulative impacts to exacerbate existing flood risk. This is most significant in greenfield areas, where development will increase impermeable surfaces which may alter runoff rates and volumes in the wider catchment.

As a result, there is a need to assess how developments influence surface water flood risk through a Cumulative Impact Assessment (CIA). This understanding can help support informed policy making decisions, including the implementation of surface water management measures. The approach used considers the potential for development to displace surface water flood extents, within the catchment using geo-spatial analysis, and has not been informed by detailed surface water flood modelling.

Note: The CIA represents a strategic "worst-case sensitivity assessment" and does not imply development should occur within flood risk areas.

Surface Water and Climate Change

Surface water flood risk mechanisms are driven by extreme rainfall events, where rainfall exceeds the capacity of drainage infrastructure, watercourses, and natural infiltration processes. This can lead to increased runoff, overland flow pathways, and localised flooding, particularly within urbanised catchments.

Climate change is expected to increase the frequency and intensity of heavy rainfall events across the UK. More intense rainfall will generate greater volumes of surface runoff, increasing the likelihood of surface water flooding, placing additional pressure on drainage systems, and increasing the extent of overland flow pathways. Consequently, future development must consider both current and future flood risk conditions to ensure long-term resilience.

Level 1 Cumulative Impact Assessment

The Level 1 CIA was completed in March 2025 as part of the Integrated Water Management Strategy 1 (IWMS1). The Level 1 CIA compared the number of buildings affected by surface water flooding in a 1.0% AEP and 0.1% AEP events, to demonstrate which catchments are most sensitive to the effects of climate change. The total number of buildings affected within each Water Framework Directive (WFD) Operational Catchment were tallied. To determine sensitivity to cumulative impacts, catchments were ranked from highest to lowest based on the increase in properties at risk between the two flood scenarios. Catchments with the greatest increase were identified as the most sensitive to cumulative surface water flood impacts.

[33] https://www.gov.uk/government/publications/national-planning-policy-framework--2

The results indicated that the greatest increases in risk are concentrated within and around the main urban settlements of Northampton, Daventry, Towcester and Brackley, highlighting these areas as the most sensitive to increased rainfall intensity and future climate change. The assessment identified the top five Water Framework Directive (WFD) catchments most sensitive to the cumulative impacts are:

1. Brampton Branch – Lower,
2. Nene – conf Brampton Branch to conf Ise,
3. Billing Brook (Northampton),
4. Welton Village Trib, Whilton branch of R. Nene,
5. Tove (DS Greens Norton).

These catchments account for the largest increases in the number of properties affected when moving from the 1% AEP event to the more extreme 0.1% AEP event, demonstrating a high sensitivity to changing rainfall conditions.

Level 2 Cumulative Impact Assessment

The Level 1 CIA is progressed to a Level 2 CIA to move from a strategic, catchment-scale screening assessment to a more detailed evaluation of the cumulative impacts associated with specific development allocations. The primary aim of the Level 2 CIA is to build upon the strategic findings of the Level 1 CIA by identifying which proposed development sites and their receiving catchments are most sensitive to the cumulative impacts of future growth.

The objectives of the Level 2 CIA are:

1. Identify catchments most sensitive to cumulative surface water flooding;
2. Understand where proposed growth is located relative to sensitive catchments;
3. Inform strategic planning policy;
4. Support application of enhanced surface water drainage requirements; and
5. Assist in directing development and mitigation efforts towards the lowest risk locations.

The assessment examines how the location, scale and distribution of proposed development could influence surface water flood risk at both the site and catchment scale. It seeks to identify those catchments where the concentration of future growth has the greatest potential to exacerbate existing flood risk pressures, overwhelm drainage systems, or increase runoff to receiving watercourses. The assessment also considers how these impacts may be amplified by climate change and more intense rainfall events. In the Level 2 CIA, the 0.1% Annual Exceedance Probability (AEP) storm event is used as a climate change scenario.

The Level 2 CIA therefore enables the West Northamptonshire to understand which catchments containing proposed development allocations are most sensitive to future development and which sites have the greatest potential to contribute to cumulative flood risk impacts. By ranking the sensitivity of individual development sites and their associated catchments, the Level 2 CIA provides an evidence base to support Local Plan preparation, site allocation decisions and infrastructure planning.

Upper Nene Enhances Drainage Standards

As part of the Level 2 CIA, there will be a review of the existing Local Plan Policy regarding enhanced drainage standards within the Upper Nene Catchment. This review will consider

whether the spatial extent of this policy should be expanded, based on updated evidence of flood risk.

Enhanced drainage standards currently apply within the Upper Nene Catchment, where development is required to manage surface water runoff up to the 0.5% AEP rainfall event including an allowance for climate change. These requirements were originally introduced in response to historical flooding, rapid growth pressures and evidence that cumulative increases in runoff from multiple developments could increase flood risk within the catchment. The policy recognises that, although individual developments may comply with standard drainage requirements, the combined effect of multiple developments can progressively increase runoff volumes, place additional pressure on drainage infrastructure and reduce catchment resilience to extreme rainfall events. By requiring a higher standard of surface water management, the policy seeks to minimise cumulative runoff impacts and maintain or improve existing levels of flood risk.

The Level 2 CIA has been undertaken to determine whether similar conditions exist elsewhere within West Northamptonshire and to assess whether the enhanced drainage requirements should be extended to other catchments.

2.2 Level 2 Cumulative Impact Assessment

The locations of the 57 proposed development sites are represented in Appendix A – A.1.

Using QGIS, the 57 proposed development sites were overlaid onto Management Catchments, Operational Catchments and River Water Body Catchments to identify which proposed development sites were within which catchment.

The proportion of each development site located within areas at risk of surface water flooding was calculated, using QGIS Overlap Analysis, for both the 1.0% AEP and 0.1% AEP flood extents, representing a present day and climate change scenario. The area and percentage increase for each site subject to flood risk from the 1.0% AEP storm event and 0.1% AEP storm event were calculated to provide a comparable measure.

Additionally, the results were tabulated for management, operational and water body catchment and the data was sorted by highest to lowest percentage increase to provide a clear indication of which catchments are most sensitive to cumulative impacts arising from planned growth.

- **Management Catchments** are large-scale hydrological units used to understand flood risk and water management issues at a strategic level across a river basin. They encompass multiple tributaries and sub-catchments, providing an overview of how cumulative development, land use change and catchment processes may influence flood risk across a wider river network. Management catchments are particularly useful for identifying broad spatial patterns.

- **Operational Catchments** are smaller hydrological units nested within management catchments and represent more localised drainage areas. They provide a finer level of detail by enabling the assessment of flood risk impacts within individual parts of a river system, helping to identify specific locations where cumulative development may have a greater influence on flood behaviour. Operational catchments are therefore valuable for targeting flood risk management interventions, prioritising drainage improvements

and identifying areas where measures such as Sustainable Drainage Systems (SuDS) and runoff attenuation could provide the greatest benefit.

- **River Water Body Catchments** (RWBCs) are the catchment areas that drain to individual Water Framework Directive water bodies. A water body is a discrete section of river, stream, lake, estuary or groundwater that has been defined by the Environment Agency (EA) for monitoring, reporting and management purposes under the Water Environment (Water Framework Directive) Regulations[34]. Assessing impacts at the RWBC scale enables differences in sensitivity between neighbouring watercourses to be identified.

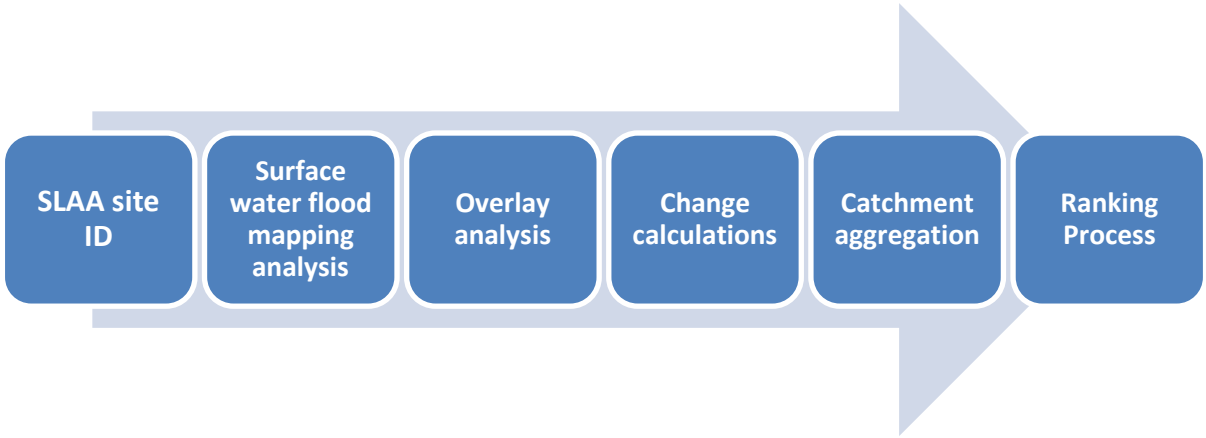


Figure 2: Level 2 CIA Workflow

Data Sources

The data used in the assessment is detailed in Table 1.

Table 22: Level 2 CIA Data Source

Data Provider	Data Name	Date Downloaded	Link
EA	WFD River Water Body Catchments Cycle 2	08/06/2026	https://www.data.gov.uk/dataset/298258ee-c4a0-4505-a3b5-0e6585ecfdb2/wfd-river-waterbody-catchments-cycle-2
EA	WFD Surface Water Operational Catchment Cycle 2	27/05/2026	https://www.data.gov.uk/dataset/71581966-1935-411e-ab66-f32d960497e8/wfd-surface-water-operational-catchments-cycle-2
EA	WFD Surface Water Management Catchment Cycle 2	18/02/2026	https://www.data.gov.uk/dataset/1a494e3e-e414-456c-9c2e-ca367a2945b6/wfd-surface-water-management-catchments-cycle-2

[34] https://www.legislation.gov.uk/uksi/2017/407/contents

Data Provider	Data Name	Date Downloaded	Link
EA	Risk of Flooding from Surface Water	27/08/2025	https://environment.data.gov.uk/dataset/b5aaa28d-6eb9-460e-8d6f-43caa71fbe0e
EA	Risk of Flooding from Surface Water Climate Change	20/11/2025	https://environment.data.gov.uk/dataset/e5b38de2-99b3-44ee-b10c-b244926878ef

Key Assumptions

The key assumptions of the Level 2 CIA are:

- Development would be evenly distributed across the site area;
- No mitigation measures, such as floodplain compensation, would be implemented;
- National-scale flood mapping has been used rather than hydraulic modelling;
- No assessment of flow routing changes between development sites;
- No consideration of drainage infrastructure capacity;
- No consideration of sewer flooding interactions; and
- Strategic rather than site-specific applicability.

These assumptions mean that the Level 2 CIA should be interpreted as a high-level strategic screening exercise rather than a prediction of actual flood risk impacts.

2.3 Results

The results indicate that cumulative flood risk sensitivity is highly variable across the study area with percentage changes between the 1% AEP event and the 0.1% AEP event ranging from -54% to 1269% across the 57 sites. Most sites show a positive increase in flood risk extent between the 1% AEP event and the 0.1% AEP event, suggesting that additional development would generally increase the area potentially affected by flooding.

The results show that Cumulative flood risk sensitivity is likely to be dependent on site characteristics, topography and flood risk meaning that sites in close proximity may have varying levels of sensitivity.

Most Sensitive Development Sites

The top 5 Strategic Land Allocated Areas (SLAA) that are most sensitive to the cumulative impact of surface water flood risk are detailed in Table 23.

Table 23: Most sensitive SLAA sites

CIA Rank	SLAA Name	Management Catchment Name	Operational Catchment	Site Area (Ha)	Site Area With Increased Risk Between 1% AEP and 0.1% AEP Event (Ha)	Percentage Change of Site Area With Increased Risk
1	Land off Newnham Drive, Daventry	Nene	Upper Nene	1.2	0.19	1269%

CIA Rank	SLAA Name	Management Catchment Name	Operational Catchment	Site Area (Ha)	Site Area With Increased Risk Between 1% AEP and 0.1% AEP Event (Ha)	Percentage Change of Site Area With Increased Risk
2	Castle House	Nene	Brampton Branch	0.8	0.02	902%
3	Micklewell Park Extension	Avon Warwickshire	Upper Nene/Avon Rural River and Lakes	23.8	0.25	657%
4	Railway Station – Car Park	Nene	Brampton Branch	2.1	0.02	543%
5	Land at Shacks Barn	Upper and Bedford Ouse	Upper Great Ouse	10.3	0.11	516%

The highest-ranked sites in the cumulative impact assessment demonstrate substantial percentage increases in flood extent and can therefore be considered highly sensitive to development under the assessment assumptions. However, interpretation of these results requires consideration of both the percentage change and the absolute increase in flood-affected area, as very large percentage increases can occur where baseline flood extents are small:

- Land off Newnham Drive recorded the highest sensitivity in the assessment, with a 1269% increase in flood extent. Although the absolute increase in flood-affected area is relatively modest (0.19 ha) across a 1.2 ha site, the result indicates that development could result in a substantial proportional increase compared with baseline conditions.
- Castle House exhibits a 902% increase in flood extent despite only 0.02 ha of additional flood-affected area being predicted across the 0.8 ha site.
- Micklewell Park Extension records a 657% increase in flood extent with an associated increase of 0.25 ha across a 23.8 ha site.
- The Railway Station Car Park shows a 543% increase in flood extent, with only 0.02 ha of additional flood-affected area across a 2.1 ha site.
- Land at Shacks Barn records a 516% increase in flood extent, corresponding to an absolute increase of 0.11 ha across a 10.3 ha site.

In summary, high sensitivity is likely attributable to:

- A very small baseline flood extent,
- Site characteristics,
- Location within operational catchment.

Across the highest-ranked sites, the primary driver of elevated sensitivity is generally small baseline flood extents, meaning that relatively modest increases in flood-affected area result in very large percentage changes. However, the clustering of highly sensitive sites within the Upper Nene and Brampton Branch operational catchments suggests that catchment characteristics also play an important role in controlling sensitivity. Site-specific factors, including proximity to existing flood pathways, hydrological connectivity, and urban drainage conditions may further amplify responses to development.

The top 10 most sensitive sites to cumulative flood risk are represented in Appendix A – A.2

Lowest Sensitivity Development Sites

A small number of sites exhibit relatively low sensitivity to cumulative flood risk, with percentage changes of less than 20%. Notable examples include Sixfields East (15%), Land at Middlemore, Daventry (3%), and Lodge Road, Daventry (1%). These results suggest that development at these locations has a limited influence on the extent of flooding predicted by the strategic assessment:

- Sixfields East recorded a 15% increase in flood extent, corresponding to an absolute increase of only 0.07 ha across a site area of 10.2 ha.
- Land at Middlemore shows one of the lowest sensitivities within the assessment, with a 3% increase in flood extent and an absolute change of just 0.03 ha across a 3.7 ha site.
- Lodge Road recorded the lowest positive sensitivity in the assessment, with only a 1% increase in flood extent and an absolute increase of 0.01 ha on a 0.5 ha site.

Low sensitivity appears to be primarily driven by:

- Small absolute changes in flood extent,
- Site characteristics,
- Limited existing flood extent,
- Catchment characteristics.

The low sensitivity observed at Sixfields East, Land at Middlemore, and Lodge Road is principally associated with very small absolute increases in flood extent, rather than an absence of impact. In each case, the area of additional flooding generated is less than 0.1 ha, lower than that observed at many higher-sensitivity sites. The results also suggest that local site characteristics and limited interaction with existing flood-prone areas play a greater role in controlling sensitivity than catchment-scale factors. Consequently, these sites are likely to represent a lower priority for cumulative flood risk management when compared with the highly sensitive locations identified elsewhere in the study area.

Sites with No Identified Sensitivity

Three sites within the assessment showed no increase in flood extent under the cumulative development scenario:

- St Edmund's Hospital,
- Market Walk,
- Greyfriars/Mayorhold/Lady's Lane.

For each site, the assessment recorded 0.00 ha of additional area at increased flood risk between a 1% AEP event and a 0.1% AEP event, resulting in a percentage change classified as N/A.

The most likely explanation for these results is that the cumulative flood extents generated by the assessment do not intersect these sites. The modelled flood footprint within these sites remains the same before and after the cumulative development scenario is applied.

Site size may partially influence the results but is unlikely to be the primary reason for the absence of change. For very small sites such as Market Walk and St Edmund's Hospital, there is inherently less opportunity for flood extents to expand within the site boundary. However, site

size alone does not explain the outcome, as several similarly sized sites elsewhere in the assessment recorded substantial percentage increases.

All Development Sites

Table 24 details the sensitivity to the cumulative impact of surface water flood risk for all SLAA sites.

Table 24: CIA Results

Site Ref	SLAA Site Name	Management Catchment	River Basin District	Operational Catchment	River Water Body Catchment	Site Area (Ha)	Site Area With Increased Risk Between 1% AEP and 0.1% AEP Event (Ha)	Percentage Change of Site Area With Increased Risk
564	Land off Newnham Drive, Daventry	Nene	Anglian	Upper Nene	Welton Village Trib, Whilton branch of R. Nene	1.2	0.19	1269%
514	Castle House	Nene	Anglian	Brampton Branch	Brampton Branch - Lower	0.8	0.02	902%
008	Micklewell Park extension	Avon Warwickshire & Nene	Severn & Anglian	Upper Nene & Avon Rural Rivers and Lakes	Welton Village Trib, Whilton branch of R. Nene & Leam - source to conf Rains Bk	23.8	0.25	657%
513	Railway station - car park	Nene	Anglian	Brampton Branch	Brampton Branch - Lower	2.1	0.02	543%
566	Land at Shacks Barn	Upper and Bedford Ouse	Anglian	Upper Great Ouse	Silverstone Brook	10.3	0.11	516%
_002	Cattlemarket Road, the Plough and surrounding area	Nene	Anglian	Middle Nene	Nene - conf Brampton Branch to conf Ise	2.2	0.66	474%
542	Land west of Northampton South SUE	Nene	Anglian	Upper Nene	Wootton Brook	18.8	0.15	390%
_006	Hill Farm Rise	Nene	Anglian	Upper Nene	Wootton Brook	5.7	0.12	332%
_001	Northampton Gateway, south of J15	Nene	Anglian	Upper Nene	Wootton Brook	68.8	5.43	316%
015 E	Long Buckby - South of Long Buckby Station (east)	Nene	Anglian	Upper Nene	Whilton Branch – Lower & Tributary of Whilton Branch	59.7	2.50	271%

Site Ref	SLAA Site Name	Management Catchment	River Basin District	Operational Catchment	River Water Body Catchment	Site Area (Ha)	Site Area With Increased Risk Between 1% AEP and 0.1% AEP Event (Ha)	Percentage Change of Site Area With Increased Risk
012	Brackley North of Radstone Fields	Upper and Bedford Ouse	Anglian	Upper Great Ouse	Ouse US Brackley	19.9	0.34	268%
010	Daventry North East	Nene	Anglian	Upper Nene	Welton Village Trib, Whilton branch of R. Nene & Whilton Branch - Lower	248.0	1.85	247%
007	Northampton - East of A43	Nene	Anglian	Brampton Branch & Middle Nene	Billing Brook (Northampton) & Malton Arm of the Brampton Branch	100.3	0.74	227%
433	Land to the West of Towcester Road	Nene	Anglian	Upper Nene	Wootton Brook	9.3	0.36	213%
558	Land at Bell Plantation	Upper and Bedford Ouse	Anglian	Upper Great Ouse	Tove (DS Greens Norton)	45.3	0.70	206%
_005	Railway station	Nene	Anglian	Brampton Branch	Brampton Branch - Lower	7.8	0.71	200%
512	Railway station - Railfreight	Nene	Anglian	Brampton Branch	Brampton Branch - Lower	5.7	0.69	197%
019	Upper Heyford - south of Junction 16 M1	Nene	Anglian	Upper Nene	Nene - conf Whilton Branch to conf Brampton Branch	48.2	2.44	186%
556	Land at Waterside Way	Nene	Anglian	Middle Nene	Nene - conf Brampton Branch to conf Ise	1.0	0.42	181%

Site Ref	SLAA Site Name	Management Catchment	River Basin District	Operational Catchment	River Water Body Catchment	Site Area (Ha)	Site Area With Increased Risk Between 1% AEP and 0.1% AEP Event (Ha)	Percentage Change of Site Area With Increased Risk
557	Land at Brackley East	Upper and Bedford Ouse	Anglian	Upper Great Ouse	Ouse US Brackley	21.0	0.32	170%
014	Towcester - North of Burcote Road	Upper and Bedford Ouse	Anglian	Upper Great Ouse	Silverstone Brook	66.5	1.59	167%
_009	The Green, Great Houghton	Nene	Anglian	Middle Nene & Upper Nene	Wootton Brook & Nene - conf Brampton Branch to conf Ise	46.6	0.41	163%
018	DIRFT Phase IV	Avon Warwickshire	Severn	Avon Rural Rivers and Lakes	Clifton Bk - source to conf R Avon & Claycoton-Yelvertoft Bk - source to conf R Avon	245.0	13.83	158%
009	Daventry North of Middlemore	Avon Warwickshire & Nene	Severn & Anglian	Upper Nene & Avon Rural Rivers and Lakes	Welton Village Trib, Whilton branch of R. Nene & Leam - source to conf Rains Bk	44.9	0.54	151%
_008	Northampton - North of Newport Pagnell Road	Nene	Anglian	Middle Nene & Upper Nene	Wootton Brook & Nene - conf Brampton Branch to conf Ise	43.3	0.49	148%
554	Crow Lane North	Nene	Anglian	Middle Nene	Nene - conf Brampton Branch to conf Ise	2.9	0.50	140%
543	Land north of Milton Ham	Nene	Anglian	Upper Nene	Wootton Brook	7.0	0.34	139%
541	Ryland Soans Ford Garage	Nene	Anglian	Brampton Branch	Brampton Branch - Lower	1.9	0.07	132%

Site Ref	SLAA Site Name	Management Catchment	River Basin District	Operational Catchment	River Water Body Catchment	Site Area (Ha)	Site Area With Increased Risk Between 1% AEP and 0.1% AEP Event (Ha)	Percentage Change of Site Area With Increased Risk
003	Northampton Land off Harlestone Road	Nene	Anglian	Brampton Branch	Brampton Branch - Lower	5.6	0.18	130%
015	Long Buckby - South of Long Buckby Station	Nene	Anglian	Upper Nene	Whilton Branch – Upper & Whilton Branch - Lower	10.9	0.18	126%
006	Northampton West (remaining)	Nene	Anglian	Brampton Branch & Upper Nene	Nene - conf Whilton Branch to conf Brampton Branch & Brampton Branch - Lower	20.6	0.20	119%
559	Land at Woolgrowers Field, Towcester	Upper and Bedford Ouse	Anglian	Upper Great Ouse	Tove (DS Greens Norton)	4.4	0.05	112%
016	Daventry N and W of Town Centre	Nene	Anglian	Upper Nene	Welton Village Trib, Whilton branch of R. Nene	9.0	1.06	106%
560	Land at Tiffield Lane, Towcester	Upper and Bedford Ouse	Anglian	Upper Great Ouse	Tove (DS Greens Norton) & Shutlanger Brook	27.4	1.10	105%
011	Brackley West of Brackley	Upper and Bedford Ouse	Anglian	Upper Great Ouse	Hinton Stream & Ouse US Brackley	35.4	0.26	105%
552	Former Lings Upper School	Nene	Anglian	Middle Nene	Billing Brook (Northampton)	1.4	0.04	104%
551	The Farm, Hardingstone	Nene	Anglian	Middle Nene	Nene - conf Brampton Branch to conf Ise	2.2	0.06	100%

Site Ref	SLAA Site Name	Management Catchment	River Basin District	Operational Catchment	River Water Body Catchment	Site Area (Ha)	Site Area With Increased Risk Between 1% AEP and 0.1% AEP Event (Ha)	Percentage Change of Site Area With Increased Risk
565	South East Gateway, Daventry	Nene	Anglian	Upper Nene	Whilton Branch - Lower	20.6	0.37	96%
004	Northampton North of Buckton Fields	Nene	Anglian	Brampton Branch	Brampton Branch – Lower & Malton Arm of the Brampton Branch	100.5	0.37	94%
005	Northampton West of A43	Nene	Anglian	Brampton Branch & Middle Nene	Billing Brook (Northampton) & Malton Arm of the Brampton Branch	189.4	1.91	92%
001	Northampton - South of Grange Park	Nene	Anglian	Upper Nene	Wootton Brook	43.6	0.38	86%
002	Northampton Collingtree Golf Course	Nene	Anglian	Upper Nene	Wootton Brook	15.8	0.34	79%
013	Brackley - East of Radstone Road	Upper and Bedford Ouse	Anglian	Upper Great Ouse	Ouse US Brackley	7.9	0.18	78%
567	Land at former Furtho Pit, Old Stratford / Cosgrove	Upper and Bedford Ouse	Anglian	Upper Great Ouse	Ouse (Buckingham to Cosgrove) & Potterspury Brook	40.9	0.26	75%
549	Watering Lane, Collingtree	Nene	Anglian	Upper Nene	Wootton Brook	11.0	0.23	75%
515	Four Waterside	Nene	Anglian	Brampton Branch	Brampton Branch - Lower	1.6	0.04	49%
_004	St Peter's Way	Nene	Anglian	Brampton Branch & Middle Nene	Nene - conf Brampton Branch to conf Ise &	2.1	0.07	48%

Site Ref	SLAA Site Name	Management Catchment	River Basin District	Operational Catchment	River Water Body Catchment	Site Area (Ha)	Site Area With Increased Risk Between 1% AEP and 0.1% AEP Event (Ha)	Percentage Change of Site Area With Increased Risk
					Brampton Branch - Lower			
_010	Martin's Yard Extension	Nene	Anglian	Brampton Branch	Brampton Branch - Lower	2.1	0.02	32%
_007	Northampton - East of Wooldale Road	Nene	Anglian	Upper Nene	Wootton Brook	98.2	1.45	28%
519	33 - 45 Abington Street	Nene	Anglian	Middle Nene	Nene - conf Brampton Branch to conf Ise	0.5	0.20	19%
553	Sixfields East	Nene	Anglian	Brampton Branch	Brampton Branch - Lower	10.2	0.07	15%
563	Land at Middlemore, Daventry	Nene	Anglian	Upper Nene	Welton Village Trib, Whilton branch of R. Nene	3.7	0.03	3%
534	Lodge Road, Daventry	Nene	Anglian	Middle Nene	Welton Village Trib, Whilton branch of R. Nene	0.5	0.01	1%
546	Pineham	Nene	Anglian	Upper Nene	Wootton Brook & Nene - conf Whilton Branch to conf Brampton Branch	3.4	-0.01	-54%
531	Market Walk	Nene	Anglian	Middle Nene	Nene - conf Brampton Branch to conf Ise	0.1	0.00	N/A
523	St Edmund's Hospital	Nene	Anglian	Middle Nene	Nene - conf Brampton Branch to conf Ise	0.9	0.00	N/A

Site Ref	SLAA Site Name	Management Catchment	River Basin District	Operational Catchment	River Water Body Catchment	Site Area (Ha)	Site Area With Increased Risk Between 1% AEP and 0.1% AEP Event (Ha)	Percentage Change of Site Area With Increased Risk
_003	Greyfriars/Mayorhold/Lady's Lane	Nene	Anglian	Brampton Branch & Middle Nene	Nene - conf Brampton Branch to conf Ise & Brampton Branch - Lower	8.0	0.00	N/A

Management Catchment Analysis

See Section 2.2 for the definition of management catchments.

Assessing cumulative flood risk at the management catchment scale enables identification of strategic patterns in flood sensitivity that may not be apparent at individual site level.

The results show that catchment size influences interpretation but does not directly determine sensitivity. Larger catchments such as the Nene can contain the greatest absolute area of increased flood risk whilst recording a relatively modest percentage affected because impacts are distributed across a larger area. Conversely, smaller catchments such as Avon Warwickshire can record higher percentages affected because even modest increases in flood extent represent a larger proportion of the catchment.

Furthermore, the Welland catchment demonstrates that catchment size is not the sole controlling factor. Despite being the smallest catchment assessed, it records the lowest proportion affected. This indicates that the location of development relative to floodplains, flow routes and existing flood extents is likely a more significant driver of sensitivity than catchment size alone.

The results of the cumulative impact across management catchments are detailed in Table 25 and Figure 3, with discussion in sections (a) to (e).

Table 25: Management Catchment Cumulative Impact

Management Catchment	Management Catchment Area (Ha)	Management Catchment Area With Increased Risk Between 1% AEP and 0.1% AEP Event (Ha)	Percentage Change of Management Catchment With Increased Risk
Avon Warwickshire	15089	98.4	3.72%
Cherwell and Ray	19871	473.9	3.14%
Nene	68287	1481.9	2.17%
Upper and Bedford Ouse	32241	665.9	2.06%
Welland	2647	374.1	1.88%

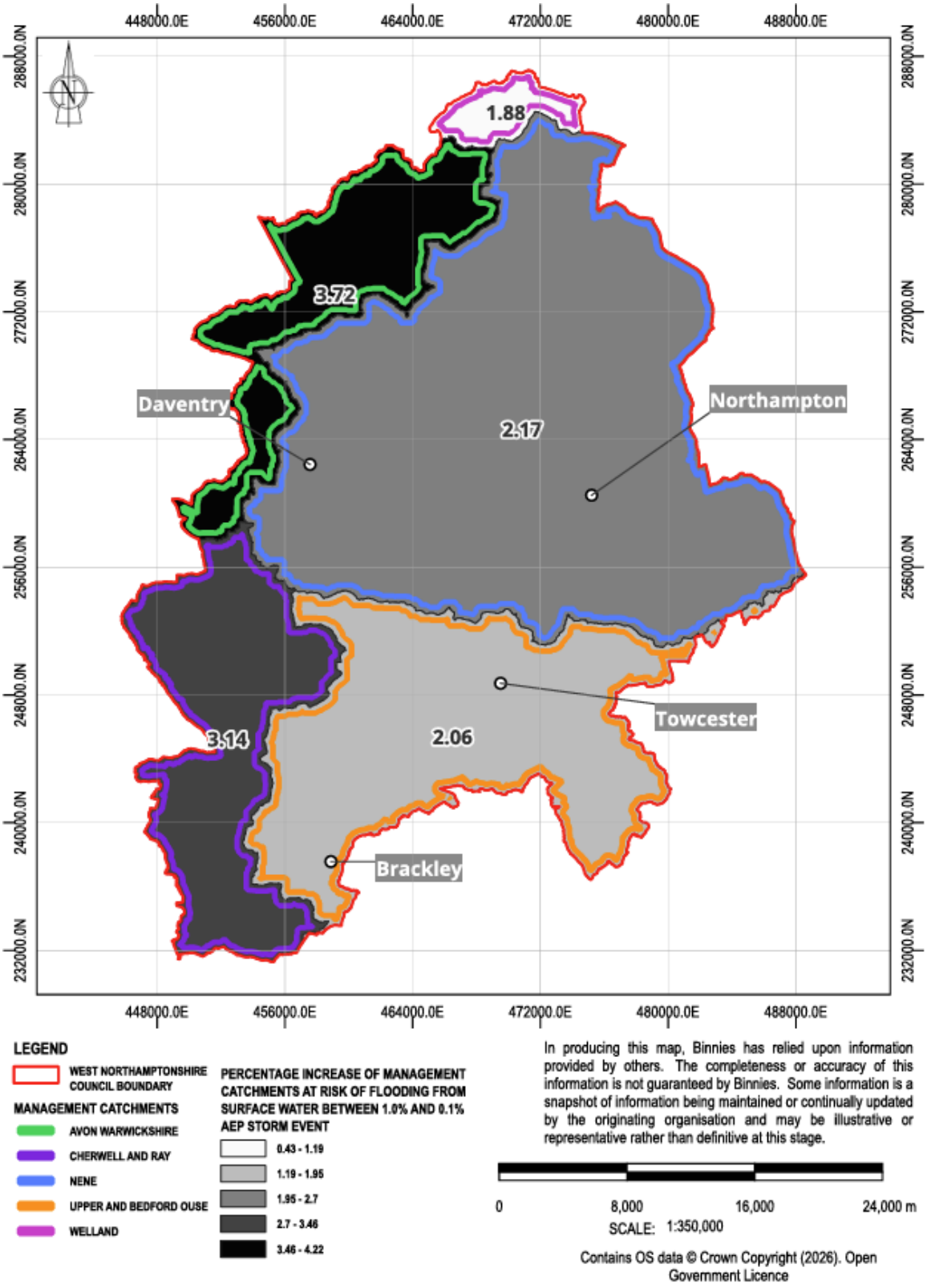


Figure 3: Level 2 Cumulative Impact Assessment for Management Catchments

Figure 3 presents the percentage increase in surface water flood risk across the management catchments within West Northamptonshire under the cumulative development scenario. The map uses a graduated greyscale shading to indicate the magnitude of cumulative impact:

- White/light grey (0.43%–1.19%) – Negligible to low increase in flood risk.
- Light grey (1.19%–1.95%) – Low sensitivity to cumulative development.
- Mid-grey (1.95%–2.70%) – Moderate sensitivity and increase in flood risk.
- Dark grey (2.70%–3.46%) – High sensitivity to cumulative development pressures.
- Black (3.46%–4.22%) – Very high sensitivity and the highest cumulative increase in flood risk.

Management catchments are identified by coloured boundaries:

- Avon Warwickshire (green),
- Cherwell and Ray (purple),
- Nene (blue),
- Upper and Bedford Ouse (orange), and
- Welland (pink).

a) Avon Warwickshire Management Catchment

The Avon Warwickshire Management Catchment records the highest level of cumulative impact, with **98.4 ha** experiencing increased flood risk, equivalent to **3.72%** of the management catchment area. Although Avon Warwickshire contains the smallest area of increased flood risk in absolute terms, it has the highest percentage affected because the management catchment itself is relatively small compared with the Nene and Upper and Bedford Ouse catchments. As a result, increases in flood extent represent a larger proportion of the total catchment area. The catchment also contains several highly sensitive development allocations, including Micklewell Park Extension and DIRFT Phase IV, which recorded relatively large percentage increases in flood extent within the site-level assessment.

b) Cherwell and Ray Management Catchment

The Cherwell and Ray Management Catchment is the second most sensitive catchment, with **473.9 ha** of increased flood extent, representing **3.14%** of the catchment area. Although a substantially larger area of flood extent increase is predicted than within Avon Warwickshire, the larger catchment area reduces the overall percentage affected. The results indicate a relatively high degree of sensitivity across the catchment and suggest that future development could generate notable cumulative effects if not appropriately managed.

c) Nene Management Catchment

The Nene Management Catchment records the largest absolute increase in flood extent between a 1% AEP event and a 0.1% AEP event, with **1,481.9 ha** affected. However, because the catchment is by far the largest within the study area (68,287 ha), this equates to **2.17%** of the catchment area. This demonstrates that the Nene catchment experiences substantial cumulative impacts in absolute terms but a more moderate impact when normalised against catchment size. The catchment contains the largest number of development allocations and many of the most sensitive sites identified in the assessment, particularly within the Upper Nene and Brampton Branch operational catchments. The results suggest widespread but spatially variable impacts across the catchment.

d) Upper and Bedford Ouse Management Catchment

The Upper and Bedford Ouse Management Catchment records **665.9 ha** of increased flood extent, equivalent to **2.06%** of the total catchment area. This indicates a moderate sensitivity to cumulative development pressures, when compared to the Nene Management Catchment. Site-level results showed a relatively consistent response across the catchment, with fewer extreme increases than observed within the Nene and Avon Warwickshire catchments. This suggests that cumulative impacts are more evenly distributed and less concentrated in specific hotspots.

e) Welland Management Catchment

The Welland Management Catchment records the lowest percentage affected, with **374.1 ha** experiencing increased flood risk between a 1% AEP event and a 0.1% AEP event, representing **1.88%** of the catchment area. The lower percentage suggests that the catchment is comparatively less sensitive to cumulative development pressures under the assessment assumptions. The results indicate that increases in flood extent are relatively limited when compared with the overall catchment area.

The lower sensitivity may reflect fewer interactions between development allocations and existing flood-prone areas, lower concentrations of highly sensitive sites and a more limited extent of floodplain affected by cumulative development.

Operational Catchment Analysis

See Section 2.2 for the definition of operational catchments.

The operational catchment analysis assesses the proportion of each operational catchment affected by increased flood extent under the cumulative development scenario. This provides a more detailed understanding of local sensitivities and helps identify areas where enhanced drainage controls may provide the greatest benefit.

The operational catchment results demonstrate that catchment size has a significant influence on the interpretation of operational catchment sensitivity. Smaller catchments can record high percentages affected from relatively small increases in flood extent. This is most evident in the Ouzel and Milton Keynes catchment, where only 0.2 ha of increased flood extent results in 6.29% of the catchment being affected. Larger catchments can experience substantial increases in flood extent whilst recording relatively low percentages affected. The Upper Nene and Brampton Branch catchments show this effect, with 744.1 ha and 427.0 ha affected, but lower proportional impacts. Therefore, percentage affected should always be considered alongside the absolute area of increased flood extent. Catchments with moderate percentages but large affected areas may represent a greater strategic flood risk management priority than smaller catchments with very high percentage values.

The operational catchment assessment identifies Ouzel and Milton Keynes, Upper Welland, and Avon Rural Rivers and Lakes as the most sensitive catchments when assessed on a proportional basis. However, the Upper Nene emerges as the most significant catchment strategically, recording the largest absolute increase in flood extent and containing many of the highest-ranked sensitive development sites. The greatest benefits from enhanced drainage standards (already in place), runoff controls and implementation of the Upper Nene Catchment Rules are likely to be realised within the Upper Nene operational catchment, where cumulative development pressures are most extensive.

The results of the cumulative impact across operational catchments are detailed in Table 26 and Figure 4, with discussion in sections (f) to (j).

Table 26: Operational Catchment Cumulative Impact

Operational Catchment	Operational Catchment Area (Ha)	Catchment Area With Increased Risk Between 1% AEP and 0.1% AEP Event (Ha)	Percentage Change of Operational Catchment With Increased Risk
Ouzel and Milton Keynes	3	0.2	6.29%
Upper Welland	2647	98.4	3.72%
Avon Rural Rivers and Lakes	15089	473.9	3.14%
Ise	3706	97.7	2.64%
Middle Nene	8425	213.2	2.53%
Upper Nene	31588	744.1	2.36%
Upper Great Ouse	31666	654.4	2.07%
Bedford Great Ouse	572	11.0	1.93%
Cherwell	19871	374.1	1.88%
Brampton Branch	24567	427.0	1.74%

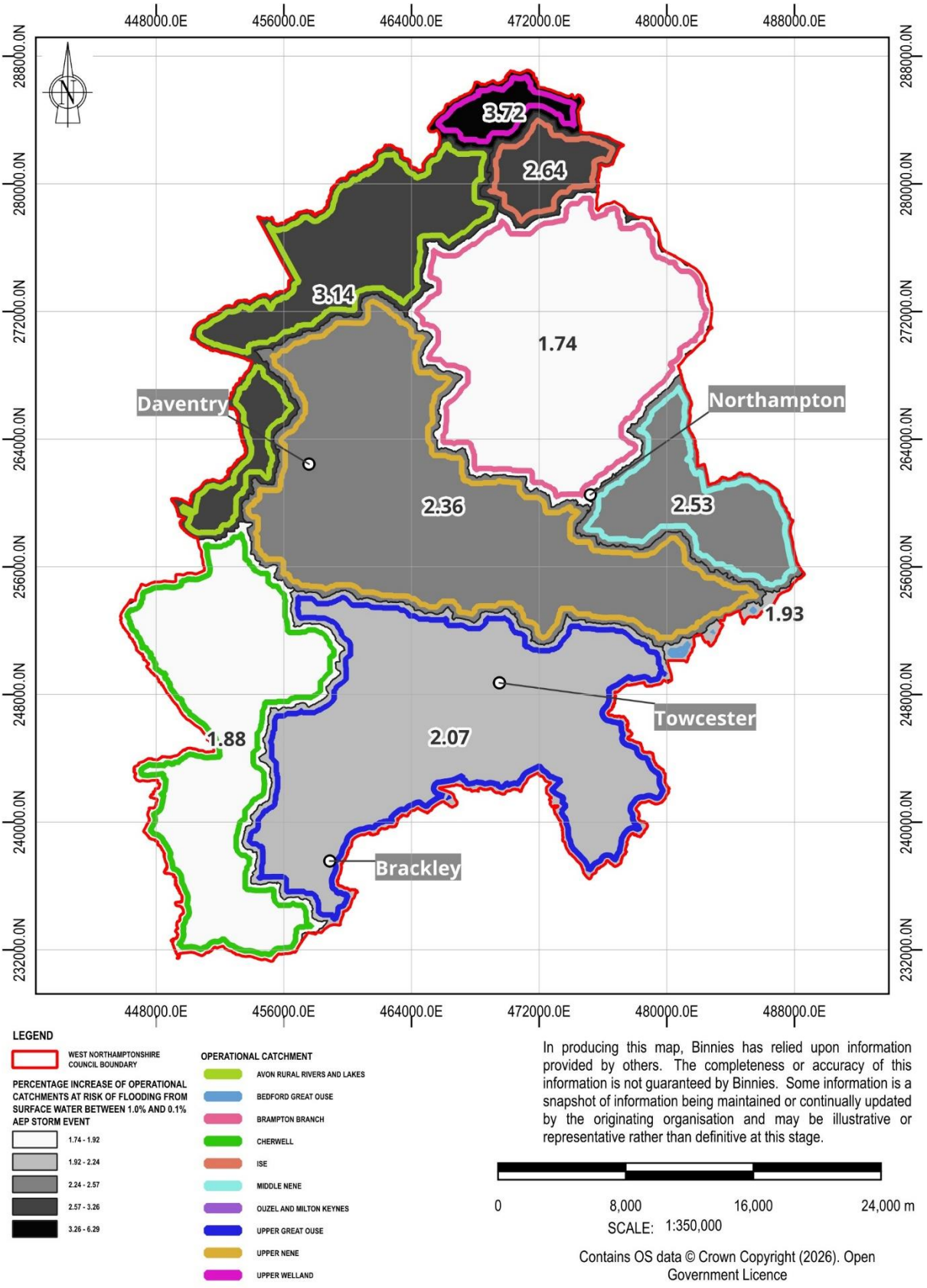


Figure 4: Level 2 Cumulative Impact Assessment for Operational Catchments

Figure 4 presents the percentage increase in surface water flood risk across the operational catchments within West Northamptonshire under the cumulative development scenario. The map uses a graduated greyscale shading to indicate the magnitude of cumulative impact:

- White/light grey (1.74%–1.92%) – Low increase in flood risk and relatively low catchment sensitivity.
- Light grey (1.92%–2.24%) – Moderate-low increase in flood risk.
- Mid-grey (2.24%–2.57%) – Moderate increase in flood risk.
- Dark grey (2.57%–3.26%) – High increase in flood risk.
- Black (3.26%–6.29%) – Very high sensitivity and the greatest cumulative increase in flood risk.

Operational catchments are grouped within wider river systems and are identified by coloured boundaries:

- Avon Rural Rivers and Lakes (lime green),
- Bedford Great Ouse (light blue),
- Brampton Branch (pink),
- Cherwell (green),
- Ise (orange),
- Middle Nene (turquoise),
- Ouzel and Milton Keynes (purple),
- Upper Great Ouse (blue),
- Upper Nene (yellow), and
- Upper Welland (magenta).

f) Ouzel and Milton Keynes Operational Catchment

The Ouzel and Milton Keynes operational catchment records the highest percentage affected, with **6.29%** of the catchment experiencing increased flood risk. However, this result should be interpreted with caution because the catchment area within West Northamptonshire is extremely small (3 ha) and the total area affected is only **0.2 ha**. Consequently, a relatively minor increase in flood extent results in a disproportionately high percentage value. The result therefore reflects the influence of the small catchment size rather than a widespread increase in flood risk.

Development proposals should continue to incorporate appropriate SuDS measures, although the catchment is unlikely to represent a strategic priority for cumulative flood risk management.

g) Upper Welland Operational Catchment

The Upper Welland catchment records the second highest sensitivity, with **98.4 ha** affected, representing **3.72%** of the catchment area. Unlike Ouzel and Milton Keynes, the Upper Welland catchment is substantially larger (2,647 ha), suggesting that the result reflects a genuine catchment-scale response to development rather than a mathematical effect of catchment size.

The relatively high proportion affected indicates that development has the potential to alter flood extents across a notable part of the catchment, potentially reflecting the relationship between allocated development sites and existing flood pathways.

h) Avon Rural Rivers and Lakes Operational Catchment

The Avon Rural Rivers and Lakes catchment records the third highest sensitivity, with **473.9 ha** of increased flood extent affecting **3.14%** of the catchment area. The catchment contains

several highly sensitive development allocations identified in the site-level assessment, including Micklewell Park Extension and Daventry North of Middlemore. These sites contribute to the relatively high proportion of catchment area affected. The results indicate that cumulative development pressures have the potential to generate measurable catchment-wide changes in flood extent.

i) Upper Nene Operational Catchment

The Upper Nene operational catchment records **744.1 ha** of increased flood extent, equivalent to **2.36%** of the catchment area. Although ranked sixth by percentage affected, it records the largest absolute increase in flood extent of any operational catchment. While several smaller catchments have higher proportional impacts, the Upper Nene experiences the greatest overall increase in affected land area and contains many of the most sensitive development allocations identified in the assessment. The concentration of high-ranking sites suggests that cumulative development pressure within the Upper Nene is more spatially extensive than elsewhere in the study area.

Application of the Upper Nene Catchment Rules limits, post-development runoff volumes, increases on-site attenuation and improves and provides catchment-wide consistency in drainage design standards.

j) Brampton Branch Operational Catchment

The Brampton Branch catchment records the lowest proportion affected **(1.74%)** despite experiencing a substantial increase in flood extent of **427.0 ha**. This contradiction is explained by the relatively large catchment area of 24,567 ha. When the increase in flood extent is distributed across the entire catchment, the percentage affected becomes comparatively low. This indicates that although catchment-wide sensitivity appears relatively low, localised flood risk changes may still be significant. However, site-level analysis identified several highly sensitive sites within the Brampton Branch catchment, including Castle House, Railway Station Car Park and Railway Station Railfreight Site.

2.4 River Water Body Catchment Analysis

See Section 2.2 for the definition of river water body catchments.

River water body catchments provide a more detailed representation of how water moves through the landscape and how specific activities can influence flow regimes, water quality and ecological status. They enable a better understanding of the interactions between land use, development, drainage networks and the receiving water environment.

Overall, the water body catchment assessment indicates that the cumulative development scenario is expected to increase surface water flood risk across the majority of catchments, although the magnitude of impact varies considerably. Most catchments experience increases of between 1% and 3%, suggesting moderate sensitivity to additional runoff generated by future development.

The highest proportional increases are concentrated within Tathall Brook, Clayton and Wormleighton Brook and Clifton Brook, identifying these catchments as the most sensitive to cumulative development pressures and where enhanced drainage controls, Sustainable Drainage Systems (SuDS) and runoff attenuation measures may provide the greatest benefit. While some larger catchments, such as the Nene, Tove and Avon systems, experience lower

percentage increases, they contribute substantial absolute increases in area at risk due to their size, highlighting the importance of strategic flood risk management across wider river networks.

In contrast, one catchment, the Itchen demonstrates no change in flood extent. This suggests that existing drainage capacity, local catchment characteristics or embedded mitigation measures may help offset the effects of development in this location.

The results of the cumulative impact across river water body catchments are detailed in Table 27 and Figure 5, with discussion in sections (k) to (n).

Table 27: River Water Body Catchment Cumulative Impact

River Water Body Catchment	River Water Body Catchment Area (Ha)	Catchment Area With Increased Risk Between 1% AEP and 0.1% AEP Event (Ha)	Percentage Change of RWB Catchment With Increased Risk
Tathall Brook	3	0.2	5.80%
Clayton and Wormleighton Brook, Source to Highfurlong Brook	823	34.8	4.22%
Clifton Bk - source to conf R Avon	2087	87.2	4.18%
Welland - headwaters to conf Jordan	2191	87.3	3.98%
Rains Bk - source to conf R Leam	1751	62.5	3.57%
Nene - conf Brampton Branch to conf Ise	3218	112.1	3.48%
Cherwell (Nell Bridge to Bletchingdon)	185	6.4	3.47%
Nene - conf Whilton Branch to conf Brampton Branch	4076	139.7	3.43%
Avon - ClaycotonYelvertoft Bk to conf R Sowe	125	4.2	3.32%
Ouse (Buckingham to Cosgrove)	825	25.5	3.09%
Claycoton-Yelvertoft Bk - source to conf R Avon	3279	101.1	3.08%
Highfurlong Brook (to Cherwell)	1495	43.4	2.91%
Welton Village Trib, Whilton branch of R. Nene	4240	119.5	2.82%
Avon (Warks) - source to Claycoton-Yelvertoft Bk	4414	124.6	2.82%

River Water Body Catchment	River Water Body Catchment Area (Ha)	Catchment Area With Increased Risk Between 1% AEP and 0.1% AEP Event (Ha)	Percentage Change of RWB Catchment With Increased Risk
Welton Village Trib, Whilton branch of R. Nene	4240	119.5	2.82%
Brampton Branch - Lower	3544	99.7	2.81%
Leam - source to conf Rains Bk	3427	94.4	2.76%
Ise - Upper	3635	96.7	2.66%
Nene - headwaters to conf Whilton Branch	2229	56.7	2.54%
Tove (DS Greens Norton)	7450	189.1	2.54%
Billing Brook (Northampton)	1595	40.2	2.52%
Slade Brook	20	0.5	2.52%
Helmdon Brook	1093	27.4	2.51%
Cottesbrooke Brook	2161	53.6	2.48%
Tributary of Whilton Branch	1452	35.7	2.46%
Jordan (Welland)	455	11.1	2.44%
Tove (US Greens Norton)	2800	65.0	2.32%
Kislingbury Arm of Wootton Brook	1158	26.4	2.28%
Shutlanger Brook	1391	31.2	2.25%
Hardwick Brook	7	0.1	2.23%
Wootton Brook	7763	170.8	2.20%
Syresham Stream	1720	36.5	2.12%
Brampton Branch - Mid	441	9.3	2.10%
Sulgrave Brook	1316	27.0	2.06%
Holdenby Arm of Spratton Brook	1106	22.2	2.01%
Whilton Branch - Lower	2829	56.1	1.98%
Radstone Brook	1194	23.5	1.97%
Whilton Branch - Upper	2122	41.4	1.95%
Farthinghoe Stream (Source to Cherwell) and tributaries	3112	60.7	1.95%
Ravenstone Brook	366	7.2	1.95%
Whilton Branch - Upper	2122	41.4	1.95%
Brampton Branch - Upper	3608	69.0	1.91%
Cherwell (Source to Trafford Bridge)	3539	66.8	1.89%

River Water Body Catchment	River Water Body Catchment Area (Ha)	Catchment Area With Increased Risk Between 1% AEP and 0.1% AEP Event (Ha)	Percentage Change of RWB Catchment With Increased Risk
Ashby Brook (Source to Cherwell)	2693	51.0	1.89%
Deanshanger Brook	1177	22.3	1.89%
Silverstone Brook	2633	49.6	1.89%
Ouse (Newport Pagnell to Roxton)	205	3.9	1.88%
Leckhampstead Brook	529	10.0	1.88%
Ouse (Newport Pagnell to Roxton)	205	3.9	1.88%
Blakesley Brook	3635	67.6	1.86%
Grendon Brook	1179	21.5	1.82%
Everdon Brook	2298	41.6	1.81%
Cherwell (Cropredy to Nell Bridge)	2658	46.2	1.74%
Sywell Brook	1	0.0	1.74%
Bugbrooke	3421	56.3	1.64%
Potterspury Brook	1995	32.8	1.64%
Church Brampton Arm	2950	48.2	1.63%
Pytchley Brook	5	0.1	1.63%
Chacombe Brook (Source to Cherwell)	385	6.1	1.58%
Cherwell (Ashby Brook to Cropredy)	2568	39.6	1.54%
Ouse US Brackley	714	11.0	1.54%
Cherwell (Ashby Brook to Cropredy)	2568	39.6	1.54%
Castle Ashby Arm (Grendon Brook)	1293	18.8	1.45%
Hinton Stream	2667	33.5	1.26%
Pitsford Arm of the Brampton Branch	5264	64.9	1.23%
Ravensthopre arm of Spratton Brook	2217	25.2	1.14%
Malton Arm of the Brampton Branch	1685	19.0	1.13%
Stowe Brook	1	0.0	1.06%
Hollowell Arm of Spratton Brook	1590	16.0	1.01%

River Water Body Catchment	River Water Body Catchment Area (Ha)	Catchment Area With Increased Risk Between 1% AEP and 0.1% AEP Event (Ha)	Percentage Change of RWB Catchment With Increased Risk
Ockley Brook and Croughton Brook (Source to Cherwell)	2413	19.1	0.79%
Padbury Brook	41	0.3	0.74%
Loddington Arm (Ise)	39	0.3	0.74%
Ouse (Brackley to Buckingham)	486	2.1	0.43%
Itchen - source to conf with R Stowe	5	0.0	0.00%
Ouse (Wolverton to Newport Pagnell)	0	n/a	n/a
Swanspool Brook	0	n/a	n/a

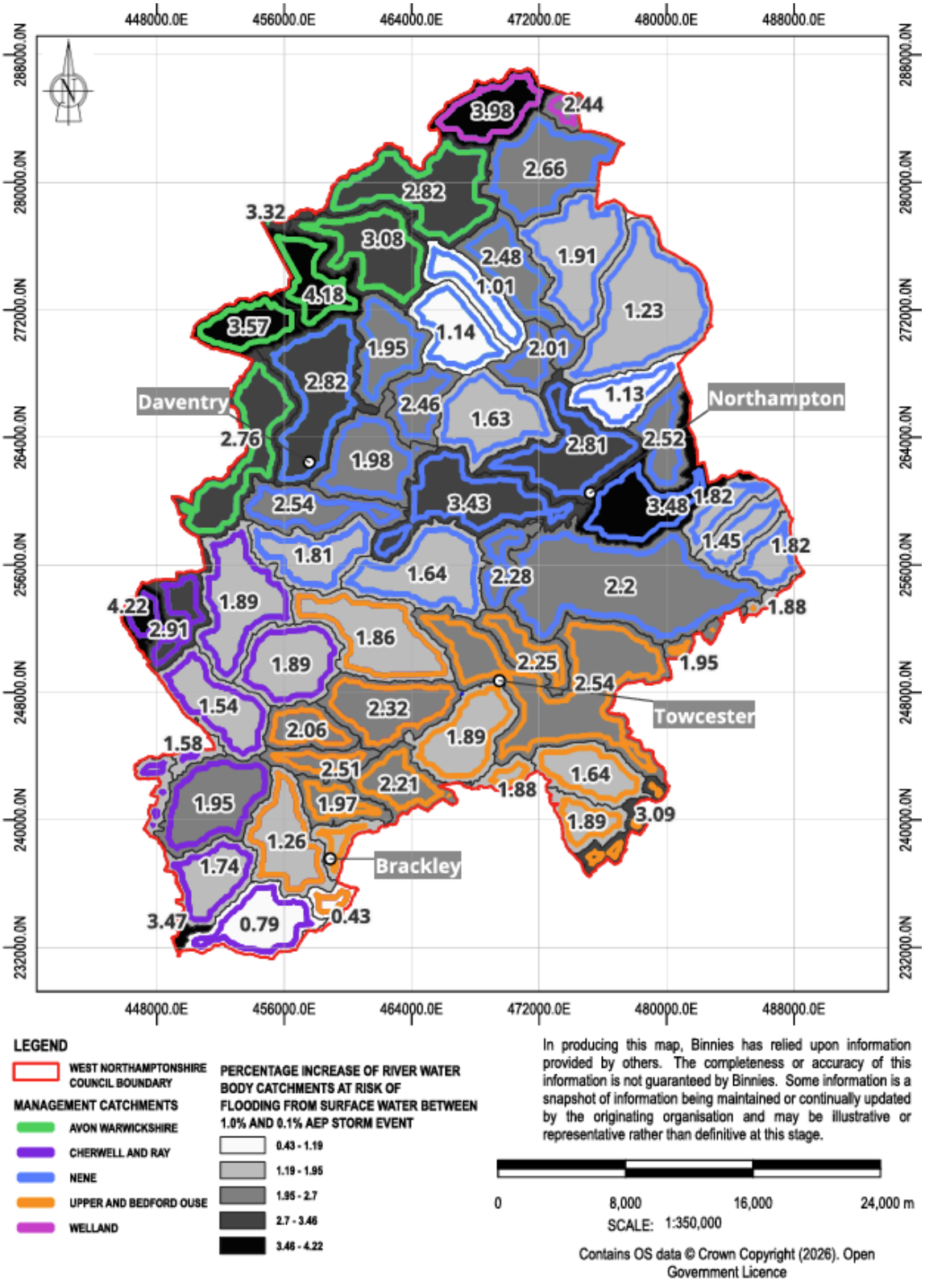


Figure 5: Level 2 Cumulative Impact Assessment for River Water Body Catchments

Figure 5 presents the percentage increase in surface water flood risk across river water body catchments. The map uses a graduated greyscale shading to indicate the magnitude of cumulative impact:

- White/light grey (-0.9% to 0.5%) – Negligible or no increase in flood risk.
- Light grey (0.5% to 1.8%) – Low sensitivity.
- Mid-grey (1.8% to 3.1%) – Moderate sensitivity.
- Dark grey (3.1% to 4.5%) – High sensitivity.
- Black (4.5% to 5.8%) – Very high sensitivity and highest cumulative flood risk increase.

River water body catchments are grouped within five management catchments, identified by coloured boundaries:

- Avon Warwickshire (green),
- Cherwell and Ray (purple),
- Nene (blue),
- Upper and Bedford Ouse (orange),
- Welland (pink).

k) Tathall Brook Catchment

Tathall Brook experiences the highest proportional increase in area at risk, with a **5.8%** increase (**0.2 ha)** across a very small catchment area of 3 ha. Although the total area affected is limited, the high percentage indicates that a relatively large proportion of the water body catchment becomes exposed to increased flood extent under the cumulative development scenario. This suggests that Tathall Brook is particularly sensitive to changes in runoff and drainage patterns, with even small-scale development pressures resulting in a noticeable increase in flood risk.

l) Clayton and Wormleighton Brook, Source to Highfurlong Brook

This catchment has the second-highest percentage increase, with **34.8 ha** of additional area at risk across an 823 ha catchment. The results indicate a relatively high level of sensitivity to cumulative development impacts, with **4.22%** of the catchment affected. The increase suggests that development could lead to greater runoff volumes entering the watercourse, increasing the likelihood of floodplain expansion.

m) Clifton Brook – Source to Confluence with the River Avon

Clifton Brook records **87.2 ha** of additional area at risk representing **4.18%** of the total catchment area. While the proportional impact is slightly lower than Clayton and Wormleighton Brook, the absolute area affected is considerably larger. This indicates that cumulative development has the potential to influence flood risk across a substantial area of the catchment.

n) Itchen – Source to Confluence with River Stowe

The Itchen catchment records **no increase** in area at risk. This indicates a high degree of resilience to the cumulative development scenario assessed, with no modelled expansion of flood extent across the catchment. The absence of predicted change suggests that current flood pathways and drainage systems remain largely unaffected by the level and distribution of proposed development within the catchment.

2.5 Policy Implications

The management and operational catchment assessments provide a strategic evidence base for considering whether additional flood risk management requirements may be justified through planning policy. Whilst the results should not be used in isolation to justify new policy requirements, they do identify catchments where cumulative development appears to have a greater influence on flood risk and where enhanced scrutiny may be beneficial.

The findings should be considered alongside the NPPF, Local Flood Risk Management Strategies (LFRMS), Strategic Flood Risk Assessments (SFRAs), and existing Lead Local Flood Authority (LLFA) guidance.

The assessment identifies several operational catchments where cumulative effects are sufficiently pronounced to justify additional scrutiny at the development management stage. However, the results do not currently provide equally strong justification for immediate expansion of Upper Nene-style requirements across all operational catchments. The assessment supports a targeted rather than blanket approach. Expansion beyond the Upper Nene may ultimately be justified within the Avon Rural Rivers and Lakes and Upper Welland catchments, but further technical assessment would be required to demonstrate that additional planning requirements would be proportionate, evidence-based and effective.

Upper Nene Catchment

As per the existing enhanced drainage requirements, the Upper Nene operational catchment should continue to be regarded as the highest priority catchment for enhanced scrutiny because it:

- Contains the largest absolute increase in flood extent (**744.1 ha**);
- Contains the greatest concentration of highly sensitive sites;
- Includes the highest-ranked sites within the CIA, including Newnham Drive, Micklewell Park Extension and Northampton Gateway; and
- Forms the focus of existing Upper Nene Catchment Rules.

Whilst the percentage of catchment affected is not the highest recorded, the scale and distribution of impacts indicate that development pressures are likely to have the greatest strategic influence within this catchment.

Avon Rural Rivers and Lakes Catchment

The Avon Rural Rivers and Lakes catchment records one of the highest proportions of operational catchment affected (3.14% equating to 473.9ha) and contains several highly sensitive allocations around Daventry and the western part of the study area. Enhanced drainage requirements may be justified for:

- Strategic urban extensions.
- Large employment allocations.
- Developments located close to catchment boundaries.

There may also be merit in considering enhanced drainage requirements for larger developments within the Avon Rural Rivers and Lakes catchment. The relatively high proportion of catchment affected suggests that stricter runoff controls could help mitigate future cumulative impacts, particularly where multiple strategic allocations are proposed.

Upper Welland Catchment

The Upper Welland records the second-highest proportion affected (3.72% equating to 98.4ha). Although the total area affected is smaller than within the Upper Nene, the results suggest a relatively high degree of sensitivity at catchment scale and so enhanced drainage requirements could be explored further. However, the evidence is less compelling than for the Upper Nene because absolute flood extent increases are considerably smaller. Consequently, any policy enhancement should be supported by additional evidence before implementation.

Policy Recommendations

The Cumulative Impact Assessment findings suggest that it may be advisable to include two surface water drainage policies within the West Northamptonshire Local Plan:

1. It is recommended that the existing Upper Nene Policy is retained, whereby enhanced drainage standards require developments to manage surface water runoff up to and including the 0.5% Annual Exceedance Probability (AEP) rainfall event (1 in 200-year event), with an appropriate allowance for climate change.

2. It is recommended that development proposals incorporate the 2025 National SuDS Standards to ensure that development does not result in an increase in flood risk or adverse impacts elsewhere. Given the anticipated effects of climate change on rainfall intensity and runoff rates, adherence to the National Standards is considered necessary to promote sustainable water management, reduce flood risk, and enhance the resilience of future development.

2.6 Conclusion

This Level 2 CIA forms part of the wider IWMS2 and has been undertaken to evaluate the potential cumulative effects of planned growth on surface water flood risk across West Northamptonshire. The assessment builds upon the findings of the Level 1 CIA by moving from a strategic catchment-scale screening exercise to a more detailed assessment of individual development allocations and their receiving catchments. Its primary purpose is to identify the locations most sensitive to cumulative increases in surface water flood risk, support Local Plan preparation and site allocation decisions, and provide evidence to inform the future application of drainage policy and surface water management requirements.

It is important to recognise that this assessment is strategic in nature. The analysis is based on national-scale flood mapping, simplified assumptions regarding future development, and does not incorporate detailed hydraulic modelling, drainage network capacity assessments or site-specific mitigation measures. Consequently, the results should not be interpreted as predictions of future flood risk but as an evidence-based screening assessment designed to identify relative sensitivities and areas where further investigation may be required.

The assessment demonstrates that cumulative flood risk sensitivity varies significantly across West Northamptonshire. Whilst most sites show some increase in flood extent between the 1% AEP and 0.1% AEP events, the overall proportion of catchment area affected remains relatively modest, indicating that cumulative impacts are generally localised rather than uniformly distributed across entire catchments:

- At the management catchment scale, Avon Warwickshire was identified as the most sensitive catchment, followed by Cherwell and Ray, Nene, Upper and Bedford Ouse, and Welland. However, the assessment also demonstrated that catchment size strongly influences interpretation and that percentage values should be considered alongside absolute increases in flood extent.
- At the operational catchment scale, Ouzel and Milton Keynes recorded the highest proportional increase, although this result is heavily influenced by its very small catchment area. More strategically significant findings were observed within Upper Nene, Avon Rural Rivers and Lakes, and Upper Welland, which recorded substantial areas of increased flood extent and contained concentrations of sensitive development sites. In particular, the Upper Nene operational catchment recorded the largest absolute increase in flood extent and contained many of the highest-ranked development allocations.
- At the water body catchment scale, Tathall Brook was identified as the most sensitive catchment, followed by Clayton and Wormleighton Brook and Clifton Brook, which recorded the highest proportional increases in flood extent under the cumulative development scenario. However, the assessment also demonstrated that catchment size strongly influences interpretation, with larger catchments such as the Nene, Tove and Avon systems contributing some of the greatest absolute increases in area at risk despite experiencing lower percentage increases.

The most sensitive development sites identified by the assessment were Land off Newnham Drive - Daventry, Castle House, Micklewell Park Extension, Railway Station – Car Park and Land at Shacks Barn. These sites demonstrate the greatest relative increases in flood extent and represent locations where cumulative development impacts may warrant consideration as part of future planning applications and drainage strategies. Sites such as St Edmund's Hospital, Market Walk and Greyfriars/Mayorhold/Lady's Lane exhibited no change in flood extent. Sixfields East, Land at Middlemore and Lodge Road displayed comparatively low sensitivity.

Overall, the Level 2 CIA demonstrates that cumulative development has the potential to increase surface water flood risk across West Northamptonshire, although impacts are generally localised and highly dependent on catchment and site characteristics. The strongest evidence for enhanced drainage policy remains within the Upper Nene catchment, while Avon Rural Rivers and Lakes and Upper Welland warrant further investigation. The assessment therefore supports a targeted, evidence-led approach to future drainage policy, combined with ongoing monitoring and periodic review to ensure flood risk management measures remain proportionate and effective as growth and climate pressures continue to evolve.

2.7 Further Recommendations

In addition to the policy recommendations listed in Section 4.4, to improve understanding of cumulative flood risk and support future policy development, the following actions are recommended:

- Applicants should undertake detailed hydraulic modelling, as part of a planning application, for development proposals on allocation sites which are located in catchments identified as potentially sensitive to cumulative growth.
- The LPA should require site-specific investigations for strategic development allocations located within all highly sensitive operational catchments including Ouzel and Milton Keynes, Upper Welland, Avon Rural Rivers and Lakes and Upper Nene.
- The LLFA should monitor cumulative impacts as allocations are delivered and development patterns evolve.

- The LLFA should review the effectiveness of existing Upper Nene drainage requirements as additional evidence becomes available.
- The LPA should periodically reassess drainage policy boundaries to determine whether expansion into Avon Rural Rivers and Lakes, Upper Welland or other catchments is justified.
- The LPA should continue to update the evidence base as improved flood mapping, climate change guidance and development forecasts become available.

The findings of this assessment support a hierarchical approach to cumulative flood risk management:

Avoidance
Development should be directed away from areas susceptible to surface water flooding wherever possible through application of the sequential approach and careful site layout design. Development layouts should seek to avoid existing flow routes, areas of flood storage and locations identified as highly sensitive to cumulative impacts.

Mitigation
Where avoidance is not possible, schemes should incorporate mitigation measures that maintain and manage exceedance flows, preserve overland flow pathways and provide appropriate flood storage. Development proposals should demonstrate how runoff will be safely conveyed during events exceeding design standards.

Enhance Drainage Controls
Within the Upper Nene catchment, continued application of the enhanced drainage standards should form a key component of flood risk management. Development should demonstrate compliance with the Upper Nene Catchment enhanced drainage standards and provide robust attenuation and runoff control measures designed to minimise cumulative impacts.

Site-Specific Assessment

All major development proposals should be supported by site-specific Flood Risk Assessments and drainage strategies prepared in accordance with national SuDS standards, CIRIA SuDS Manual guidance and local planning requirements. These assessments should demonstrate that flood risk will not be increased on-site or elsewhere and that cumulative impacts have been appropriately considered.

3. SIMCAT

3.1 Methodology

This section outlines the methodology Binnies have used to assess the potential impacts of the development proposals on the water environment, specifically the additional flows generated for sewage treatment works, making use of the existing calibrated SIMCAT model where appropriate.

The SIMCAT model has been updated to reflect the anticipated development proposals based on the data provided by the client. This updated model has formed the 'proposed' scenario, representing a pragmatic single worst-case assessment. Outputs from this scenario have been compared with those from the existing 'baseline' scenario. The SIMCAT modelling does not include testing of alternative scenarios or the assessment of potential mitigation measures.

The assessment methodology described in this section was shared with and agreed by the client prior to undertaking the assessment.

Data and Information Sources

The data and information used in this work are outlined below. All inputs were supplied by the client, with the exception of the West Northamptonshire Local Plan and Housing and Economic Assessment, and the Flows and Loads guidance, which were obtained from publicly accessible online sources.

(a) Environment Agency's existing calibrated SIMCAT models:

- Trent (T_Baseline_Storm.dat)
- Wash (Model07112022.dat)
- Thames (PR24_Thames_Calibn_19Jul22.dat)

(b) Parcels of land which WNC have shortlisted for potential development:

(c) GIS files: r18_regen_allocations.shp, r18_housing_allocations.shp, r18_employment_allocations.shp.

(d) West Northamptonshire Sewer Catchments GIS file (these predominantly cover the Anglian Water sewerage service area – see Figure 6).

(e) West Northamptonshire Council boundary GIS file.

(f) Sewerage Services Areas GIS file (WNC is predominantly served by Anglian Water – see Figure 6).

(g) Assumed dwelling densities for the housing allocations (dph) spreadsheet (r18_housing_allocations v2.xlsx).

(h) British Water Flows and Loads – 4 Sizing Criteria, Treatment Capacity for Sewage Treatment Systems (revised 2013) (flows and loads bw cop 18..pdf).

(i) West Northamptonshire Local Plan Consultation Draft (January 2026) (https://cms.westnorthants.gov.uk/media/27906/download).

West Northamptonshire Housing and Economic Needs Assessment – Executive Summary (December 2025) (https://cms.northnorthants.gov.uk/media/10773/download).

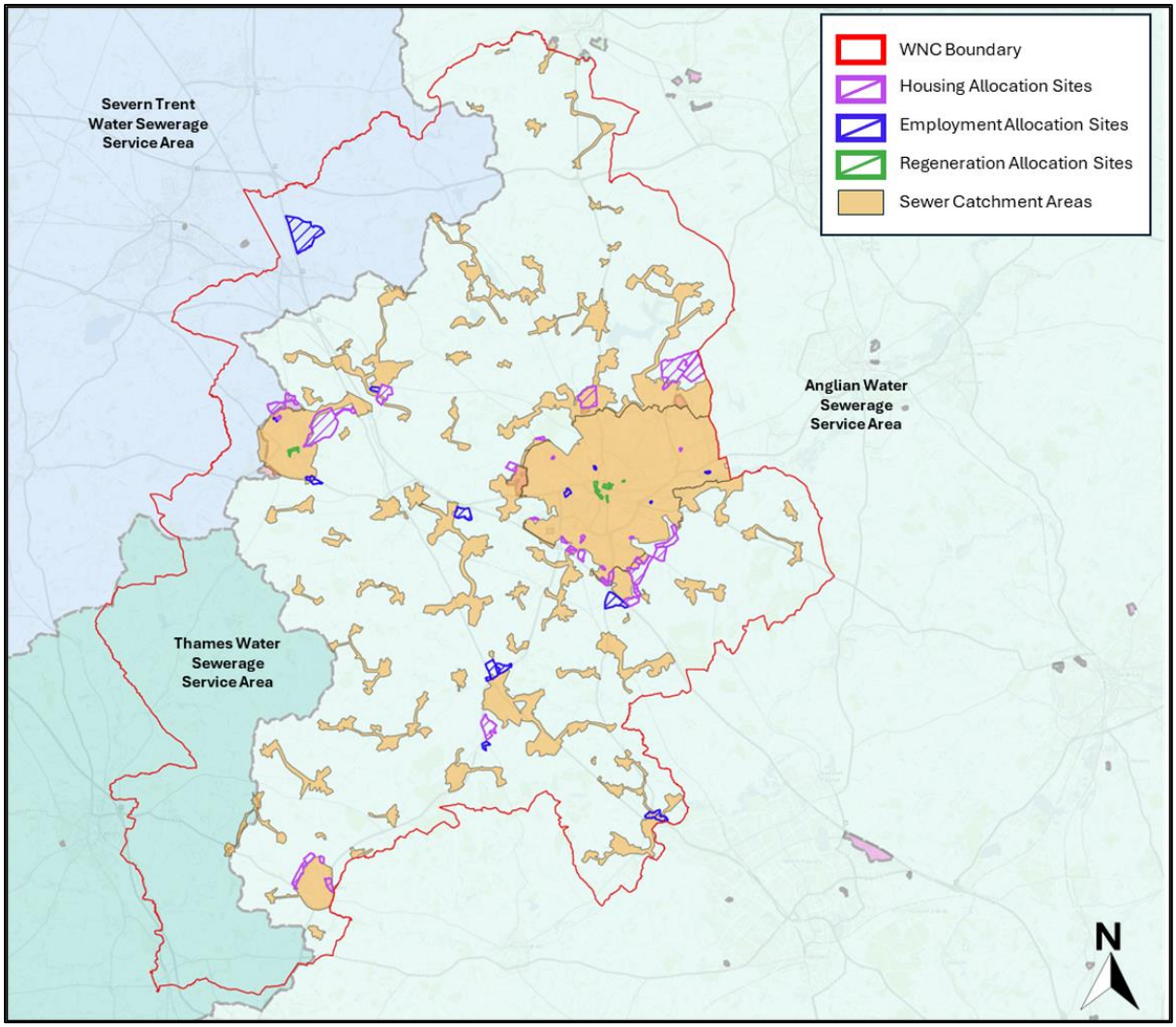


Figure 6: Overview of GIS files provided by client

Approach

Two assessment approaches were required:

(a) a quantitative assessment of housing allocations, and

(b) a qualitative assessment of employment and regeneration allocations.

The need for two approaches reflected differences in the information available. Sufficient data (development densities) was available for the housing sites, allowing their flows to be quantified and incorporated into the SIMCAT model. However, equivalent data was not available for the employment and regeneration sites. In the absence of this information, quantitative modelling was not feasible, so a qualitative assessment was therefore undertaken.

Both approaches are described below.

Quantitative Assessment of Housing Allocations

Step 1 - Assign Development Density

Use the development densities (dwellings per hectare) provided by the client (spreadsheet r18_housing_allocations_v2.xlsx) for each of the 25 housing allocation sites. Each site has been assigned a density of either 35 or 40 dwellings per hectare by West Northamptonshire Council.

Sites with no assigned development density, which the client has advised do not need to go through the SFRA Level 2 process because planning permission has already been granted and/or construction has commenced, have been excluded from the assessment:

(a) Ryland Soans Ford Garage

(b) Daventry Land at Middlemore

(a) Brackley West of Brackley

(b) Land at Brackley East

These sites were excluded on the basis that flood risk considerations have already been addressed through the planning application process and associated permissions. Consequently, they were not considered further within this assessment.

Step 2 - Estimate Additional Flow per Hectare

Use the British Water Flows and Loads guidance to estimate the additional flow per hectare. This guidance represents the standard best-practice approach where no site-specific local values are available. The guidance recommends a minimum population of five persons (5P) for dwellings with up to and including three bedrooms. Therefore, for the purposes of this assessment, each dwelling has been assumed to be a three-bedroom property occupied by five persons as agreed with the client.

(a) Assume each dwelling is a 3-bed house occupied by 5 persons.

(b) Calculate daily flow per dwelling:

5 persons × 150 L/person/day = 750 L/day

(c) Convert to megalitres per day:

750 L/day = 0.00075 ML/day

(d) Calculate additional flow per hectare:

Additional flow (ML/day per ha) = dwelling density (per ha) × 0.00075

Step 3 - Calculate Total Site Area

Use the GIS dataset supplied (r18_housing_allocations.shp) to calculate the total area (ha) for each housing allocation.

Step 4 - Calculate Additional Flow from Each Site

Additional flow (ML/day) = Additional flow per ha (step 2) × total site area (step 3).

Step 5 - Identify Receiving WwTW

Housing allocation polygons were overlaid with the sewer catchment boundaries to determine the wastewater treatment works that would receive the additional load. The following assumptions were applied:

(a) Where multiple housing allocation sites drain to the same sewer catchment, additional flows from all relevant housing allocations were summed.

(b) If a housing allocation site is located outside any mapped sewer catchments, the additional flow was assigned to the nearest catchment.

(c) Where a site spans more than one sewer catchment, the additional flow was assigned to the largest catchment. For example, the site 'Northampton – South of Grange Park' (ID 56) overlaps both the Quinton and Great Billing sewer catchments. As Great Billing is the larger catchment and therefore assumed to have greater capacity to accommodate extra flows, the flows from this site have been allocated to Great Billing.

Step 6 - Update the SIMCAT Model Inputs for the Proposed Scenario

Locate the relevant wastewater treatment works in the 07112022 DAT model file (all sewer catchments fall within the Wash model, so this is the only model used) and for each affected works:

(a) Add the additional total flow (ML/day) directly to the mean flow, as the assessment considers the increase in daily dry weather flow and therefore requires a simple additive adjustment.

(b) All other model parameters remain unchanged.

Step 7 - Run the Proposed Scenario

Run the model with updated flows for all relevant wastewater treatment works.

Step 8 - Compare Baseline vs Proposed

Undertake a comparison of baseline and proposed results, evaluating the effects of the increased flows from discharge on the water environment and any associated impacts on WFD compliance.

Qualitative Assessment of Employment and Regeneration Allocations

Completion of the qualitative assessment was based on estimates of the likely occupancy/ number of people linked to each employment and regeneration site. These estimates were based on information provided by the client.

The files provided by the client include:

(a) 15 employment allocation sites.

(b) 13 regeneration allocation sites.

Approach

(a) The Flows & Loads guidance was used to derive broad estimates of additional wastewater flows associated with the employment and regeneration allocations based on the anticipated number of people linked to each site.

(b) Estimated additional flows were assigned to the relevant sewer catchment and wastewater treatment works based on the location of each allocation site.

(c) The estimated non-housing flow uplifts were then considered alongside the quantitative housing assessment results to determine whether employment and regeneration growth could materially affect water quality outcomes or Water Framework Directive (WFD) compliance.

Interpretation

The assessment considered whether employment and regeneration growth, when combined with the proposed housing growth, could materially affect the water environment with respect to WFD objectives. In essence, this sought to answer the question: "Would the additional non-housing sites materially affect the ability to meet WFD requirements?".

The outcomes were communicated using a RAG rating, defined as follows:

(a) Red – Significant risk that including these inputs would result in a failure to achieve WFD objectives.

(b) Amber – Moderate risk that these inputs could contribute to a failure to achieve WFD objectives.

(c) Green – No change in risk; the non-housing sites do not alter the ability to achieve or maintain compliance with WFD objectives.

Assumptions and Exclusions

Most assumptions are outlined in the methodology above; however, the following additional points should also be noted:

(a) There is no shared ID between the GIS sewer catchments and the SIMCAT file. Although most catchments appear to correspond directly, some matches were made using professional judgement.

(b) As set out in the project scope, there was no scope for sensitivity/ scenario modelling or mitigation testing. Only one proposed model run was undertaken.

(c) Calculations rely on the West Northamptonshire provided datasets and development density assumptions.

3.2 Results and Discussion

This section presents the results and discussion of the assessment of the potential impacts of the development proposals on water quality. The assessment focuses specifically on the additional flows generated to sewage treatment works and makes use of the existing calibrated SIMCAT model where appropriate, assuming no further upgrades to treatment capacity beyond the current baseline.

Although climate change effects have not been quantified as part of this assessment, it is recognised that future climate-driven changes in flow and water quality could increase risk where results lie close to Water Framework Directive (WFD) class boundaries.

As outlined in the methodology, the assessment comprised two approaches:

(a) a quantitative assessment of housing allocation sites, and

(b) a qualitative assessment of employment and regeneration allocation sites.

Quantitative Assessment

A quantitative assessment of the housing allocation sites was undertaken by updating the Environment Agency's existing calibrated SIMCAT model to reflect the anticipated housing numbers and proposed site locations in relation to sewerage catchment areas provided by the client. British Water's Flows & Loads guidance[35] was used to estimate the additional total flows generated by each housing allocation site, which were subsequently added to the relevant wastewater treatment works in the model to form the proposed scenario.

This updated model represents a single, pragmatic worst-case 'proposed' scenario. Model outputs from the proposed scenario were compared against the existing 'baseline' scenario to assess the effects of increased discharge flows on the receiving water environment and any associated implications for Water Framework Directive (WFD) compliance. The SIMCAT results shown reflect housing proposals only; the potential influence of employment and regeneration development is considered separately through the qualitative assessment, described below.

In accordance with the agreed project scope (4082482-BUK-ZZ-PM-CN-PM-00001), the SIMCAT modelling does not include testing of alternative scenarios or the assessment of potential mitigation measures. As such, the assessment is based on a single proposed model scenario, representing the cumulative impact of the anticipated development proposals.

Qualitative Assessment

For the qualitative assessment of employment and regeneration allocation sites, the Flows & Loads guidance was used to derive high-level estimates of additional wastewater flows. These estimates were based on the anticipated population associated with each allocation site, and corresponding flow uplifts were applied to the relevant sewage catchments.

The assessment then considered whether the inclusion of employment and regeneration growth alongside the housing proposals would materially affect the water environment with respect to the WFD objectives. Specifically, the assessment focused on the two key WFD drivers: the risk of deterioration in water body status and the potential for additional growth to prevent the achievement of Good Ecological Status (GES) or Good Ecological Potential (GEP), including whether failures against these objectives could occur. In effect, this assessment addresses the question: *"Would additional non-housing development materially affect the ability to meet WFD requirements?"*
The outcomes of the qualitative assessment are presented using a Red-Amber-Green (RAG) rating, defined as follows:

(a) Red – Significant risk that including these inputs would result in a failure to achieve WFD objectives.

[35] British_Water_flows_and_loads.pdf

(b) Amber – Moderate risk that these inputs could contribute to a failure to achieve WFD objectives.

(c) Green – No change in risk; the non-housing sites do not alter the ability to achieve or maintain compliance with WFD objectives.

The RAG rating is intended to describe the potential additional impact of employment and regeneration allocation sites on water quality over and above the impacts of housing growth. Impacts associated with housing allocations are assessed quantitatively through the SIMCAT modelling and are illustrated directly in the model results.

The RAG rating therefore relates solely to the extent to which non-housing development (employment and regeneration sites) could materially affect the risk of failure to achieve WFD objectives when considered alongside housing. It should not be interpreted as a measure of housing impacts.

Results

Table 7 summarises the key outcomes of the assessment for both the quantitative and qualitative approaches. It presents the pre- and post-development WFD classifications for ammonia, biochemical oxygen demand (BOD) and phosphorus, which are the three determinands most directly influenced by discharges from sewage treatment works (STWs). While BOD is not directly linked to WFD classification, it is included as an indicator of potential knock-on effects on dissolved oxygen (DO), which may influence overall WFD status.

The table also sets out the percentage change in concentration for each determinand and indicates the direction of change (i.e. deterioration, improvement or no change). Results are presented separately for each of the seven sewer catchments affected by the proposed development. The assessment is limited to allocation sites for which data has been provided by the client; sites without available data are excluded as previously agreed.

Figure 7: Summary of assessment outputs

			Quantitative Assessment of Housing [2]												
			Ammonia				BOD				Phosphorus				
Site type[4]	Sewer catchment	Sample point reference	Class		% change	Change Direction	Class		% change	Change Direction	Class		% change	Change Direction	Qualitative RAG Rating[3]
			Pre	Post			Pre	Post			Pre	Post			
H	BRACKLEY STW (NEW)	WQ 01M05	High	High	7%	Deterioration	High	High	0%	No Change	Poor	*Poor*	4%	*Deterioration*	N/A
		WQ 01M14	High	High	7%	Deterioration	High	High	0%	No Change	Poor	*Poor*	4%	*Deterioration*	N/A
		WQ 01M07	High	High	2%	Deterioration	High	High	0%	No Change	Moderate	*Moderate*	4%	*Deterioration*	N/A
H, E	TOWCESTER STW	WQ 04M05	High	High	***29%***	**Deterioration**	High	High	2%	Deterioration	Poor	*Poor*	6%	*Deterioration*	G
		WQ 04M06	High	High	***15%***	**Deterioration**	High	High	2%	Deterioration	Poor	*Poor*	2%	*Deterioration*	G
		WQ 04M27	High	High	***15%***	**Deterioration**	High	High	1%	Deterioration	Poor	*Poor*	2%	*Deterioration*	G
		WQ 04M08	High	High	6%	Deterioration	High	High	1%	Deterioration	Poor	*Poor*	1%	*Deterioration*	G
H, E	LONG BUCKBY STW	WQ WHIL050S	Good	Good	***55%***	**Deterioration**	High	High	5%	Deterioration	Poor	*Poor*	***59%***	***Deterioration***	R
H, E, R	WHILTON (DAVENTRY) STW	WQ WHIL060W	Good	Good	***47%***	**Deterioration**	High	High	***20%***	**Deterioration**	Poor	*Poor*	***43%***	***Deterioration***	G
		WQ WHIL100W	High	High	***54%***	**Deterioration**	High	High	***13%***	**Deterioration**	Poor	*Poor*	***28%***	***Deterioration***	G
		WQ NENE040F	High	High	***32%***	**Deterioration**	High	High	8%	Deterioration	Poor	*Poor*	***26%***	***Deterioration***	G
		WQ NENE060K	High	High	***18%***	**Deterioration**	High	High	8%	Deterioration	Poor	*Poor*	***17%***	***Deterioration***	G
		WQ NENE080D	High	High	7%	Deterioration	High	High	2%	Deterioration	Poor	*Poor*	***18%***	***Deterioration***	G
		WQ NENE110N	High	High	1%	Deterioration	High	High	1%	Deterioration	Poor	*Poor*	***16%***	***Deterioration***	G
		WQ NENE170B	High	High	3%	Deterioration	High	High	1%	Deterioration	Poor	*Poor*	***17%***	***Deterioration***	G
H, E, R	GREAT BILLING STW	WQ NENE220H	Good	Good	***12%***	**Deterioration**	High	High	5%	Deterioration	Poor	*Poor*	***13%***	***Deterioration***	R
		WQ NENE240W	Good	Good	***16%***	**Deterioration**	High	High	3%	Deterioration	Poor	*Poor*	***11%***	***Deterioration***	G
		WQ NENE300I	Good	Good	5%	Deterioration	High	High	3%	Deterioration	Poor	*Poor*	9%	*Deterioration*	G
E	COTTON VALLEY STW	WQ 11M02	Good	N/A	N/A	N/A	High	N/A	N/A	N/A	Poor	N/A	N/A	N/A	G
E	BUGBROOKE STW	WQ BUGB250N	Good	N/A	N/A	N/A	High	N/A	N/A	N/A	Poor	N/A	N/A	N/A	R

[2] Quantitative assessment relates to the SIMCAT modelling of housing sites only.

[3] RAG rating relates solely to the qualitative assessment of employment and regeneration development.

[4] Site allocation type (H= Housing, E= Employment, R= Regeneration).

3.3 Discussion

Brackley Sewage Treatment Works (STW) (New)

The Brackley STW catchment includes two housing allocation sites, set out below.

Housing:

- Brackley - East of Radstone Road
- Brackley North of Radstone Fields

As demonstrated in Table 1, the proposed housing growth results in minor in-class deterioration in Ammonia and Phosphorus concentrations at downstream monitoring points, typically less than 10%. No significant change in BOD concentrations is predicted.

Importantly, these changes do not result in a change in WFD class for any determinand. WFD class remains unchanged across the catchment, with Ammonia and BOD classified as High and Phosphorus classified as Poor or Moderate before and after development.

The magnitude of change is small and reflects the relative capacity of the receiving water within this catchment. As there are no non-housing allocations, no additional qualitative assessment is required.

From a WFD perspective, development within the Brackley STW catchment is therefore unlikely to introduce a material constraint, with only minor in-class deterioration and sufficient headroom remaining within the receiving waterbody.

Towcester

The Towcester STW catchment includes one housing allocation and one employment allocation, set out below.

Housing:

- Towcester - North of Burcote Road

Employment:

- Land at Shacks Barn

Housing growth drives a notable in-class deterioration in Ammonia, with increases of up to 29% at downstream monitoring points. Smaller in-class deteriorations (up to 6%) are also predicted for BOD and Phosphorus. Despite in-class deterioration, WFD classifications for Ammonia and BOD remain High and Phosphorus remains Poor at all downstream monitoring points.

The employment allocation at Shacks Barn contributes an estimated additional flow of approximately 0.1 Ml/d. When considered qualitatively alongside housing growth, this additional input is not expected to materially alter the WFD compliance outcome, and the overall risk associated with non-housing development is therefore assessed as Green.

From a WFD perspective, development within the Towcester STW catchment does not constitute an immediate material constraint, however, the observed in-class deterioration reduces available headroom and increases sensitivity to future pressures, including climate change.

Long Buckby

The Long Buckby STW catchment includes one housing allocation and two employment allocations, set out below.

Housing:

- Long Buckby - South of Long Buckby Station (east)

Employment:

- Long Buckby - South of Long Buckby Station
- DIRFT Phase IV

In the Long Buckby STW catchment, the proposed housing growth results in significant in-class deterioration for both Ammonia (55%) and Phosphorus (59%) at the first downstream monitoring point (WQ WHIL050S). Although notable in-class deterioration is predicted, WFD class remains unchanged, with Ammonia remaining Good, BOD High, and Phosphorus Poor downstream of the STW.

This first monitoring location represents the only available water quality monitoring point downstream of Long Buckby STW prior to the Whilton STW outfall. Water quality at this location does not recover before flows and discharges from Whilton STW enter the watercourse, noting that Whilton STW is also subject to increased flows arising from additional development. As a result, the deterioration observed further downstream of Whilton STW reflects an in-combination effect associated with discharges from both STWs, rather than the influence of the Long Buckby STW catchment in isolation.

Qualitative consideration of employment growth indicates that additional non-housing flows could contribute to a heightened risk of class deterioration, particularly for Ammonia. This is therefore flagged as Red, indicating a meaningful constraint without further mitigation or capacity intervention.

From a WFD perspective, development within the Long Buckby STW catchment represents a significant potential constraint, as substantial in-class deterioration and limited downstream recovery reduce available headroom and increases the risk of future WFD non-compliance, including under climate change pressures.

Whilton (Daventry) STW

The Whilton (Daventry) STW catchment includes proposals for housing, employment, and regeneration development, set out below.

Housing:

- Daventry North of Middlemore

- Daventry Micklewell Park extension
- Daventry North East

Employment:

- Land off Newnham Drive, Daventry
- South East Gateway, Daventry

Regeneration:

- Lodge Road, Daventry
- Daventry N and W of Town Centre

In the Whilton (Daventry) STW catchment, the three housing allocation sites result in a significant (>10%) in-class deterioration for Ammonia, BOD and Phosphorus within the Whilton Branch - Lower water body. Across all assessed locations, WFD class remains unchanged, with Ammonia High or Good, BOD High, and Phosphorus Poor before and after development.

The employment and regeneration allocations are unlikely to result in a significant increased risk of deterioration as the increased flow from these sites is expected to be a small proportion of the total flow from the STW (< 3%) post housing development. As such, the risk associated with non-housing development is considered low and has been assigned a Green RAG rating.

From a WFD perspective, development within the Whilton (Daventry) STW catchment does not result in an immediate WFD constraint; however, the notable in-class deterioration reduces headroom and indicates increased sensitivity to future climate-driven impacts.

Great Billing STW

The Great Billing STW catchment includes a large number of housing, employment, and regeneration allocations, these are set out below.

Housing:

- The Farm, Hardingstone
- Hill Farm Rise
- Northampton North of Newport Pagnell Road
- Northampton East of Wooldale Road
- Watering Lane, Collingtree
- Northampton West of A43
- Northampton West (remaining)
- Land west of Northampton South SUE

- Pineham
- Former Lings Upper School
- Land north of Milton Ham
- Northampton Land off Harlestone Road
- Land to the West of Towcester Road
- Northampton North of Buckton Fields
- Northampton - East of A43
- Northampton - South of Grange Park
- The Green, Great Houghton
- Northampton Collingtree Golf Course

Employment:

- Sixfields East
- Northampton south of J15
- Land at Waterside Way
- Martin's Yard Extension
- Crow Lane North

Regeneration:

- St Edmund's Hospital
- Castle House
- Railway station – Railfreight
- Cattlemarket Road, the Plough and surrounding area
- St Peter's Way
- Four Waterside
- Greyfriars/Mayorhold/Lady's Lane

Housing growth results in significant in-class deterioration for Ammonia (12%) and Phosphorus (13%), with concentrations approaching WFD class boundaries at the first downstream monitoring point (WQ NENE220H). Whilst WFD class remains unchanged (with Ammonia remaining Good, BOD High, and Phosphorus Poor downstream), this indicates limited headroom within the catchment.

Given the already elevated concentrations, additional flows from employment and regeneration development could materially increase the risk of WFD class deterioration, particularly for Ammonia. This is reflected in the Red RAG rating. It is also noted that a newer Environment Agency monitoring point (AN-NENE185G)[36], located closer to the STW outfall, may indicate even greater sensitivity than represented in the current model.

From a WFD perspective, development within the Great Billing STW catchment represents a clear constraint, with significant in-class deterioration and limited headroom at key monitoring locations increasing the risk of future WFD class deterioration, particularly under climate change pressures.

Cotton Valley STW

The Cotton Valley STW catchment includes employment development only, set out below.

Employment:

- Land at former Furtho Pit, Old Stratford / Cosgrove

Based on qualitative assessment, the scale of additional flow is small relative to the existing discharge and is unlikely to cause a material deterioration in water quality or WFD compliance. The proposed employment growth is not expected to alter the existing WFD status (Good for Ammonia, High for BOD, and Poor for Phosphorus) and, therefore, the overall risk is assessed as Green.

From a WFD perspective, the development within the Cotton Valley STW catchment is unlikely to result in significant in-class deterioration or reduction in headroom and is therefore not considered to pose a material risk to WFD compliance.

Bugbrooke STW

The Bugbrooke STW catchment includes a single employment allocation, set out below.

Employment:

- Upper Heyford - south of Junction 16 M1

Bugbrooke STW is a relatively small works with limited dilution capacity. Consequently, even modest additional flows could result in significant risk of deterioration in Ammonia and Phosphorus concentrations. This sensitivity is reflected in a Red RAG rating and indicates a clear constraint requiring further consideration.

From a WFD perspective, development within the Bugbrooke STW catchment represents a significant constraint, with limited dilution capacity meaning that even modest additional flows could materially reduce headroom and increase future risk to WFD compliance, particularly under climate change pressures.

[36] https://environment.data.gov.uk/water-quality/sampling-point/AN-NENE185G

3.4 Conclusions and Recommendations

Conclusions

This assessment has considered the potential in-combination effects of proposed development on water quality using a combination of quantitative SIMCAT modelling for housing allocations and a qualitative assessment of employment and regeneration development. The assessment considers the anticipated numbers and proposed location of development as provided by the client.

The SIMCAT modelling demonstrates that the housing proposals will have an impact on downstream water quality across all STW catchments assessed. In several catchments, including Towcester, Long Buckby, Whilton (Daventry) and Great Billing, housing growth results in notable in-class deterioration for one or more determinands, typically Ammonia and Phosphorus. However, in all cases assessed, the modelling indicates that WFD class boundaries are not crossed under the proposed housing numbers.

Although WFD class does not change, the results clearly show that in-class deterioration can be significant and, in some catchments, materially reduces available headroom. This is an important consideration when interpreting the findings, as reduced headroom increases vulnerability to future pressures, particularly climate-driven changes in flow, dilution capacity, and flood risk.

The qualitative assessment of employment and regeneration allocations shows that, in most catchments, this additional growth represents a relatively small proportion of total post-development flows and does not materially alter the WFD compliance outcomes indicated by the housing-only modelling. These catchments are therefore assessed as having a low additional risk associated with non-housing development (Green). In contrast, Long Buckby, Great Billing and Bugbrooke STWs are identified as more sensitive, where limited dilution and/or proximity to WFD class thresholds means that additional employment and regeneration development could increase the risk of deterioration. These catchments have accordingly been flagged as Red, reflecting a significant risk that inclusion of these inputs could result in a failure to achieve WFD objectives.

Drawing together the quantitative and qualitative assessments, Long Buckby, Great Billing and Bugbrooke STWs are identified as having a material WFD constraint. In these catchments, significant in-class deterioration, limited dilution capacity, and/or proximity to WFD class thresholds mean that development materially reduces headroom and increases the risk of future WFD class deterioration, particularly under climate-driven changes in flow, dilution, and flood risk. Other catchments, including Towcester and Whilton (Daventry), exhibit notable in-class deterioration but retain sufficient headroom such that they are not considered to represent material WFD constraints at this stage.

Overall, the assessment indicates that water quality impacts alone do not represent a blanket constraint to the proposed growth across the study area, but that specific STW catchments are demonstrably more constrained and will require closer consideration as development proposals progress.

This assessment therefore provides an initial, proportionate evidence base to support decision-making, highlighting where growth can be accommodated with a lower risk to water quality and where further work is required to ensure continued compliance with WFD objectives. For

the more constrained catchments, future plan-making should be supported by continued engagement with the Environment Agency and relevant wastewater undertaker to confirm infrastructure delivery requirements and demonstrate that planned growth, total and phasing, can be accommodated without resulting in deterioration of the water environment.

Recommendations

To support the Local Plan preparation and demonstrate that the proposed growth strategy can be delivered without causing deterioration of the water environment, the following actions are recommended beyond the scope of this assessment. These actions should be progressed by the Local Planning Authority in consultation with the Environment Agency and relevant wastewater undertakers:

(a) Climate change considerations have not been investigated through detailed or scenario-based analysis within this assessment. To support the Local Plan preparation and demonstrate plan deliverability, the Local Planning Authority should undertake further assessment, in consultation with the Environment Agency and relevant wastewater undertakers, to evaluate the potential influence of climate change on water quality outcomes, particularly in catchments where significant in-class deterioration has reduced available headroom. Such work should focus on Long Buckby, Great Billing and Bugbrooke STWs, where future changes in flows, dilution capacity and flood risk could exacerbate existing pressures and increase the likelihood of WFD class deterioration beyond that identified in this assessment. The assessment should also consider the timing of development and wastewater infrastructure improvements to ensure that treatment upgrades are delivered ahead of any potential deterioration.

(b) As part of the Local Plan evidence base, the Local Planning Authority should undertake further assessment, in consultation with the Environment Agency and relevant wastewater undertakers, to consider alternative cumulative worst-case scenarios, including different development phasing assumptions, growth trajectories and potential mitigation measures. This should include consideration of wastewater treatment capacity improvements and planned infrastructure upgrades, particularly for Long Buckby, Great Billing and Bugbrooke STWs, to ensure that planned growth can be accommodated without compromising WFD objectives.

(c) Update the SIMCAT model to incorporate additional and emerging monitoring data, including newly introduced Environment Agency sample points, to ensure that future assessments reflect the most up-to-date understanding of baseline water quality conditions.

(d) Consider this assessment alongside the wider Integrated Water Management Strategy evidence base, to support a coordinated and sustainable approach to growth planning.

(e) The Local Planning Authority should engage proactively with the Environment Agency and relevant wastewater undertakers to confirm capacity constraints, planned investment programmes, infrastructure upgrade requirements and potential mitigation measures for the more sensitive and constrained STW catchments. This engagement should inform Local Plan preparation and help align wastewater infrastructure delivery with development phasing.

4. Water Quality Impact Assessment

4.1 Methodology

Overview

This section outlines the methodology Binnies have used to assess the potential impacts of the development proposals on the water environment, specifically the additional flows generated for sewage treatment works, making use of the existing calibrated SIMCAT model where appropriate.

The SIMCAT model has been updated to reflect the anticipated development proposals based on the data provided by the client. This updated model has formed the 'proposed' scenario, representing a pragmatic single worst-case assessment. Outputs from this scenario have been compared with those from the existing 'baseline' scenario. The SIMCAT modelling does not include testing of alternative scenarios or the assessment of potential mitigation measures.

The assessment methodology described in this section was shared with and agreed by the client prior to undertaking the assessment. Following completion of the original assessment, a supplementary quantitative assessment was also undertaken using revised housing trajectory information supplied by West Northamptonshire Council; the methodology for this additional work is described in the Additional Quantitative Assessment Methodology.

Data and Information Sources

The data and information used in this work are outlined below. All inputs were supplied by the client, with the exception of the West Northamptonshire Local Plan and Housing and Economic Assessment, and the Flows and Loads guidance, which were obtained from publicly accessible online sources.

(a) Environment Agency's existing calibrated SIMCAT models:

- Trent (T_Baseline_Storm.dat)
- Wash (Model07112022.dat)
- Thames (PR24_Thames_Calibn_19Jul22.dat)

(b) Parcels of land which WNC have shortlisted for potential development.

a. GIS files: r18_regen_allocations.shp, r18_housing_allocations.shp, r18_employment_allocations.shp.

(c) West Northamptonshire Sewer Catchments GIS file (these predominantly cover the Anglian Water sewerage service area – see Figure 9).

(d) West Northamptonshire Council boundary GIS file.

(e) Sewerage Services Areas GIS file (WNC is predominantly served by Anglian Water – see Figure 9).

(f) Assumed dwelling densities for the housing allocations (dph) spreadsheet (r18_housing_allocations v2.xlsx).

(g) British Water Flows and Loads – 4 Sizing Criteria, Treatment Capacity for Sewage Treatment Systems (revised 2013) (flows_and_loads___bw_cop_18..pdf).

(h) West Northamptonshire Local Plan Consultation Draft (January 2026) (https://cms.westnorthants.gov.uk/media/27906/download).

(i) West Northamptonshire Housing and Economic Needs Assessment – Executive Summary (December 2025) (https://cms.northnorthants.gov.uk/media/10773/download).

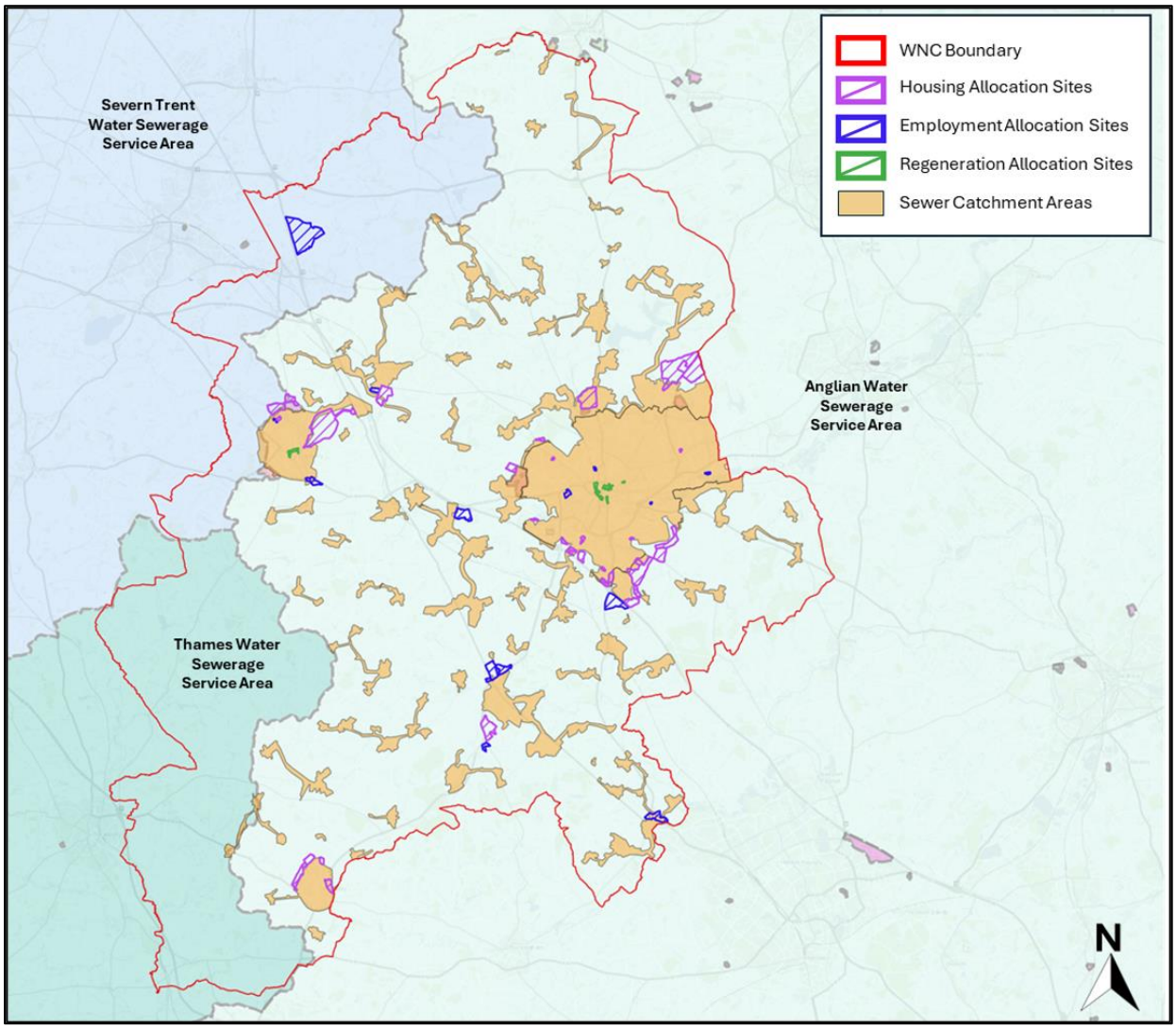


Figure 8: Overview of GIS files provided by client

Approach

Two assessment approaches were required:

(a) a quantitative assessment of housing allocations, and

(b) a qualitative assessment of employment and regeneration allocations.

The need for two approaches reflected differences in the information available. Sufficient data (development densities) was available for the housing sites, allowing their flows to be quantified and incorporated into the SIMCAT model. However, equivalent data was not available for the employment and regeneration sites. In the absence of this information, quantitative modelling was not feasible, so a qualitative assessment was therefore undertaken.

Both approaches are described below.

Quantitative Assessment of Housing Allocations

Step 1 - Assign Development Density

Use the development densities (dwellings per hectare) provided by the client (spreadsheet r18_housing_allocations_v2.xlsx) for each of the 25 housing allocation sites. Each site has been assigned a density of either 35 or 40 dwellings per hectare by West Northamptonshire Council.

Sites with no assigned development density, which the client has advised do not need to go through the SFRA Level 2 process because planning permission has already been granted and/or construction has commenced, have been excluded from the assessment:

(a) Ryland Soans Ford Garage

(b) Daventry Land at Middlemore

(c) Brackley West of Brackley

(d) Land at Brackley East

These sites were excluded on the basis that flood risk considerations have already been addressed through the planning application process and associated permissions. Consequently, they were not considered further within this assessment.

Step 2 - Estimate Additional Flow per Hectare

Use the British Water Flows and Loads guidance to estimate the additional flow per hectare. This guidance represents the standard best-practice approach where no site-specific local values are available. The guidance recommends a minimum population of five persons (5P) for dwellings with up to and including three bedrooms. Therefore, for the purposes of this assessment, each dwelling has been assumed to be a three-bedroom property occupied by five persons as agreed with the client.

(a) Assume each dwelling is a 3-bed house occupied by 5 persons.

(b) Calculate daily flow per dwelling:

$$5 \text{ persons} \times 150 \text{ L/person/day} = 750 \text{ L/day}$$

(c) Convert to megalitres per day:

$$750 \text{ L/day} = 0.00075 \text{ ML/day}$$

(d) Calculate additional flow per hectare:

$$\text{Additional flow (ML/day per ha)} = \text{dwelling density (per ha)} \times 0.00075$$

Step 3 - Calculate Total Site Area

Use the GIS dataset supplied (r18_housing_allocations.shp) to calculate the total area (ha) for each housing allocation.

Step 4 - Calculate Additional Flow from Each Site

Additional flow (ML/day) = Additional flow per ha (step 2) × total site area (step 3).

Step 5 - Identify Receiving WwTW

Housing allocation polygons were overlaid with the sewer catchment boundaries to determine the wastewater treatment works that would receive the additional load. The following assumptions were applied:

(a) Where multiple housing allocation sites drain to the same sewer catchment, additional flows from all relevant housing allocations were summed.

(b) If a housing allocation site is located outside any mapped sewer catchments, the additional flow was assigned to the nearest catchment.

(c) Where a site spans more than one sewer catchment, the additional flow was assigned to the largest catchment. For example, the site 'Northampton – South of Grange Park' (ID 56) overlaps both the Quinton and Great Billing sewer catchments. As Great Billing is the larger catchment and therefore assumed to have greater capacity to accommodate extra flows, the flows from this site have been allocated to Great Billing.

Step 6 - Update the SIMCAT Model Inputs for the Proposed Scenario

Locate the relevant wastewater treatment works in the 07112022 DAT model file (all sewer catchments fall within the Wash model, so this is the only model used) and for each affected works:

(a) Add the additional total flow (ML/day) directly to the mean flow, as the assessment considers the increase in daily dry weather flow and therefore requires a simple additive adjustment.

(b) All other model parameters remain unchanged.

Step 7 - Run the Proposed Scenario

Run the model with updated flows for all relevant wastewater treatment works.

Step 8 - Compare Baseline vs Proposed

Undertake a comparison of baseline and proposed results, evaluating the effects of the increased flows from discharge on the water environment and any associated impacts on WFD compliance.

Qualitative Assessment of Employment and Regeneration Allocations

Completion of the qualitative assessment was based on estimates of the likely occupancy/ number of people linked to each employment and regeneration site. These estimates were based on information provided by the client.

The files provided by the client include:

(a) 15 employment allocation sites.

(b) 13 regeneration allocation sites.

Approach

(a) The Flows & Loads guidance was used to derive broad estimates of additional wastewater flows associated with the employment and regeneration allocations based on the anticipated number of people linked to each site.

(b) Estimated additional flows were assigned to the relevant sewer catchment and wastewater treatment works based on the location of each allocation site.

(c) The estimated non-housing flow uplifts were then considered alongside the quantitative housing assessment results to determine whether employment and regeneration growth could materially affect water quality outcomes or Water Framework Directive (WFD) compliance.

Interpretation

The assessment considered whether employment and regeneration growth, when combined with the proposed housing growth, could materially affect the water environment with respect to WFD objectives. In essence, this sought to answer the question: "Would the additional non-housing sites materially affect the ability to meet WFD requirements?".

The outcomes were communicated using a RAG rating, defined as follows:

(a) Red – Significant risk that including these inputs would result in a failure to achieve WFD objectives.

(b) Amber – Moderate risk that these inputs could contribute to a failure to achieve WFD objectives.

(c) Green – No change in risk; the non-housing sites do not alter the ability to achieve or maintain compliance with WFD objectives.

Assumptions and Exclusions

Most assumptions are outlined in the methodology above; however, the following additional points should also be noted:

(a) There is no shared ID between the GIS sewer catchments and the SIMCAT file. Although most catchments appear to correspond directly, some matches were made using professional judgement.

(b) As set out in the project scope, there was no scope for sensitivity/ scenario modelling or mitigation testing. Only one proposed model run was undertaken.

(c) Calculations rely on the West Northamptonshire provided datasets and development density assumptions.

Additional Quantitative Assessment Methodology

Following completion of the quantitative assessment described in Quantitative Assessment of Housing Allocations Section, West Northamptonshire Council provided updated housing trajectory information to reflect the emerging Local Plan development programme. Additional analysis was therefore undertaken to assess the implications of the revised housing delivery assumptions on the water environment.

To inform this assessment, the Client provided the following additional information:

(a) WNLP Trajectory 2026-43 spreadsheet.

The assessment followed the same general approach described in the Quantitative Assessment of Housing Allocations Section, with revised housing trajectory information used in place of housing density assumptions. The updated dwelling forecasts were used to calculate revised wastewater flow contributions and update the proposed SIMCAT model inputs.

The supplementary assessment was undertaken for a subset of wastewater treatment works identified during the wider assessment process for further quantitative review.

Two forms of assessment were undertaken:

(a) A quantitative modelling assessment, comprising comparisons of baseline and proposed scenarios for the Interim Plan Period and End of Plan Period, to evaluate the effects of the revised growth assumptions on downstream water quality and WFD compliance.

(b) A permit requirement assessment, undertaken using the RQP tool to identify the discharge quality that may be required to achieve the river quality objectives specified within the model and thereby minimise future deterioration under the assessed growth scenarios.

Assessment Assumptions

The following assumptions were adopted:

(a) Only housing developments were included within the assessment. Employment and regeneration allocations were excluded, consistent with the quantitative modelling approach described in Quantitative Assessment of Housing Allocations Section.

(b) Housing developments completed before 2025 were excluded. Only developments forecast to be delivered between 2025 and the relevant assessment horizon were included. This approach was adopted to avoid potential double counting with growth already represented within the baseline model.

(c) The supplementary assessment incorporated two wastewater generation assumptions. The Interim Plan Period assessment was undertaken using a flow generation rate of 150 litres per person per day, consistent with the assumption adopted within the original assessment and therefore representing a relatively conservative assessment of potential wastewater flows. Subsequently, a flow generation rate of 110 litres per person per day was adopted for the End of Plan Period assessment to align with the assumptions underpinning the emerging Local Plan. The Interim Plan Period results have been retained for completeness and to provide an indication of potential impacts under the original flow generation assumptions.

(d) Housing density assumptions were not required for this assessment, as dwelling numbers were provided directly within the housing trajectory dataset.

Modelled Scenarios

Three supplementary scenarios were considered:

(a) Interim Plan Period (2025-2035), incorporating housing growth identified within the Council's housing trajectory between 2025/26 and 2034/35, and a wastewater generation rate of 150 litres per person per day.

(b) End of Plan Period (2025-2043), incorporating housing growth identified within the Council's housing trajectory between 2025/26 and 2042/43, and a wastewater generation rate of 110 litres per person per day.

(c) Permit requirement assessment scenarios, undertaken for selected STWs as described below.

Method

The revised housing trajectory data were reviewed to identify developments associated with the Long Buckby and Great Billing STW catchments. The cumulative dwelling numbers for each catchment were then calculated for the relevant assessment horizons.

For each assessment scenario:

(a) The total number of dwellings expected to be delivered within the relevant assessment period was calculated.

(b) Additional wastewater flows were derived using the revised housing trajectory data and the relevant wastewater generation assumptions for each scenario. A flow generation rate of 150 litres per person per day was applied within the Interim Plan Period assessment, whilst a flow generation rate of 110 litres per person per day was applied within the End of Plan Period assessment.

(c) The calculated flow uplift was incorporated into the relevant STWs within the SIMCAT model.

(d) The model was run to assess the effects of the revised growth assumptions on downstream water quality and WFD compliance.

(e) A permit requirement assessment was undertaken to determine the discharge quality required to achieve the river quality objectives specified within the model.

Scope of the Supplementary Assessment

The revised dwelling totals are lower overall than those adopted within the original assessment. In addition, the supplementary assessment considered both the original wastewater generation assumption of 150 litres per person per day and a revised flow generation rate of 110 litres per person per day. Compared with the original assumption, the lower flow generation rate results in lower estimated wastewater flow contributions and is considered to provide a more representative assessment of planned growth. Consequently, the original modelling assumptions are considered to represent a conservative assessment of potential impacts.

The supplementary assessment was therefore undertaken using the updated housing trajectory data and refined flow assumptions to provide a more representative assessment of planned growth and to further investigate and refine the understanding of potential WFD-related effects identified through the original assessment.

4.2 Results of the Original Assessment

Overview

This section presents the results and discussion of the original assessment of the potential impacts of the development proposals on water quality. The assessment focuses specifically on the additional flows generated to sewage treatment works and makes use of the existing

calibrated SIMCAT model where appropriate, assuming no further upgrades to treatment capacity beyond the current baseline.

Although climate change effects have not been quantified as part of this assessment, it is recognised that future climate-driven changes in flow and water quality could increase risk where results lie close to Water Framework Directive (WFD) class boundaries.

As outlined in Section 4.1, the original assessment comprised:

(a) a quantitative assessment of housing allocation sites, and

(b) a qualitative assessment of employment and regeneration allocation sites.

Following completion of the original assessment, West Northamptonshire Council provided updated housing trajectory information and a supplementary assessment was undertaken using revised growth assumptions. The findings of the supplementary assessment are presented separately in Section 4.4 and should be considered alongside the original assessment findings presented in Sections 4.2 and 4.3.

Quantitative Assessment

A quantitative assessment of the housing allocation sites was undertaken by updating the Environment Agency's existing calibrated SIMCAT model to reflect the anticipated housing numbers and proposed site locations in relation to sewerage catchment areas provided by the client. British Water's Flows & Loads guidance[37] was used to estimate the additional total flows generated by each housing allocation site, which were subsequently added to the relevant wastewater treatment works in the model to form the proposed scenario.

This updated model represents a single, pragmatic worst-case 'proposed' scenario. Model outputs from the proposed scenario were compared against the existing 'baseline' scenario to assess the effects of increased discharge flows on the receiving water environment and any associated implications for Water Framework Directive (WFD) compliance. The SIMCAT results shown reflect housing proposals only; the potential influence of employment and regeneration development is considered separately through the qualitative assessment, described below.

In accordance with the agreed project scope (4082482-BUK-ZZ-PM-CN-PM-00001), the SIMCAT modelling does not include testing of alternative scenarios or the assessment of potential mitigation measures. As such, the assessment is based on a single proposed model scenario, representing the cumulative impact of the anticipated development proposals.

Qualitative Assessment

For the qualitative assessment of employment and regeneration allocation sites, the Flows & Loads guidance was used to derive high-level estimates of additional wastewater flows. These estimates were based on the anticipated population associated with each allocation site, and corresponding flow uplifts were applied to the relevant sewage catchments.

The assessment then considered whether the inclusion of employment and regeneration growth alongside the housing proposals would materially affect the water environment with respect to the WFD objectives. Specifically, the assessment focused on the two key WFD drivers:

[37] British_Water_flows_and_loads.pdf

the risk of deterioration in water body status and the potential for additional growth to prevent the achievement of Good Ecological Status (GES) or Good Ecological Potential (GEP), including whether failures against these objectives could occur. In effect, this assessment addresses the question: *"Would additional non-housing development materially affect the ability to meet WFD requirements?"*
The outcomes of the qualitative assessment are presented using a Red-Amber-Green (RAG) rating, defined as follows:

(a) Red – Significant risk that including these inputs would result in a failure to achieve WFD objectives.

(b) Amber – Moderate risk that these inputs could contribute to a failure to achieve WFD objectives.

(c) Green – No change in risk; the non-housing sites do not alter the ability to achieve or maintain compliance with WFD objectives.

The RAG rating is intended to describe the potential additional impact of employment and regeneration allocation sites on water quality over and above the impacts of housing growth. Impacts associated with housing allocations are assessed quantitatively through the SIMCAT modelling and are illustrated directly in the model results.

The RAG rating therefore relates solely to the extent to which non-housing development (employment and regeneration sites) could materially affect the risk of failure to achieve WFD objectives when considered alongside housing. It should not be interpreted as a measure of housing impacts.

Results

Table 28 summarises the key outcomes of the assessment for both the quantitative and qualitative approaches. It presents the pre- and post-development WFD classifications for ammonia, biochemical oxygen demand (BOD) and phosphorus, which are the three determinands most directly influenced by discharges from sewage treatment works (STWs). While BOD is not directly linked to WFD classification, it is included as an indicator of potential knock-on effects on dissolved oxygen (DO), which may influence overall WFD status.

The table also sets out the percentage change in concentration for each determinand and indicates the direction of change (i.e. deterioration, improvement or no change). Results are presented separately for each of the seven sewer catchments affected by the proposed development. The assessment is limited to allocation sites for which data has been provided by the client; sites without available data are excluded as previously agreed.

Table 28: Summary of original assessment outputs

			Quantitative Assessment of Housing [2]												
			Ammonia				BOD				Phosphorus				
Site type[4]	Sewer catchment	Sample point reference	Class		% change	Change Direction	Class		% change	Change Direction	Class		% change	Change Direction	Qualitative RAG Rating[3]
			Pre	Post			Pre	Post			Pre	Post			
H	BRACKLEY STW (NEW)	WQ 01M05	High	High	7%	Deterioration	High	High	0%	No Change	Poor	*Poor*	4%	*Deterioration*	N/A
		WQ 01M14	High	High	7%	Deterioration	High	High	0%	No Change	Poor	*Poor*	4%	*Deterioration*	N/A
		WQ 01M07	High	High	2%	Deterioration	High	High	0%	No Change	Moderate	*Moderate*	4%	*Deterioration*	N/A
H, E	TOWCESTER STW	WQ 04M05	High	High	***29%***	**Deterioration**	High	High	2%	Deterioration	Poor	*Poor*	6%	*Deterioration*	G
		WQ 04M06	High	High	***15%***	**Deterioration**	High	High	2%	Deterioration	Poor	*Poor*	2%	*Deterioration*	G
		WQ 04M27	High	High	***15%***	**Deterioration**	High	High	1%	Deterioration	Poor	*Poor*	2%	*Deterioration*	G
		WQ 04M08	High	High	6%	Deterioration	High	High	1%	Deterioration	Poor	*Poor*	1%	*Deterioration*	G
H, E	LONG BUCKBY STW	WQ WHIL050S	Good	Good	***55%***	**Deterioration**	High	High	5%	Deterioration	Poor	*Poor*	***59%***	***Deterioration***	R
H, E, R	WHILTON (DAVENTRY) STW	WQ WHIL060W	Good	Good	***47%***	**Deterioration**	High	High	***20%***	**Deterioration**	Poor	*Poor*	***43%***	***Deterioration***	G
		WQ WHIL100W	High	High	***54%***	**Deterioration**	High	High	***13%***	**Deterioration**	Poor	*Poor*	***28%***	***Deterioration***	G
		WQ NENE040F	High	High	***32%***	**Deterioration**	High	High	8%	Deterioration	Poor	*Poor*	***26%***	***Deterioration***	G
		WQ NENE060K	High	High	***18%***	**Deterioration**	High	High	8%	Deterioration	Poor	*Poor*	***17%***	***Deterioration***	G
		WQ NENE080D	High	High	7%	Deterioration	High	High	2%	Deterioration	Poor	*Poor*	***18%***	***Deterioration***	G
		WQ NENE110N	High	High	1%	Deterioration	High	High	1%	Deterioration	Poor	*Poor*	***16%***	***Deterioration***	G
		WQ NENE170B	High	High	3%	Deterioration	High	High	1%	Deterioration	Poor	*Poor*	***17%***	***Deterioration***	G
H, E, R	GREAT BILLING STW	WQ NENE220H	Good	Good	***12%***	**Deterioration**	High	High	5%	Deterioration	Poor	*Poor*	***13%***	***Deterioration***	R
		WQ NENE240W	Good	Good	***16%***	**Deterioration**	High	High	3%	Deterioration	Poor	*Poor*	***11%***	***Deterioration***	G
		WQ NENE300I	Good	Good	5%	Deterioration	High	High	3%	Deterioration	Poor	*Poor*	9%	*Deterioration*	G
E	COTTON VALLEY STW	WQ 11M02	Good	N/A	N/A	N/A	High	N/A	N/A	N/A	Poor	N/A	N/A	N/A	G
E	BUGBROOKE STW	WQ BUGB250N	Good	N/A	N/A	N/A	High	N/A	N/A	N/A	Poor	N/A	N/A	N/A	R

[2] Quantitative assessment relates to the SIMCAT modelling of housing sites only.

[3] RAG rating relates solely to the qualitative assessment of employment and regeneration development.

[4] Site allocation type (H= Housing, E= Employment, R= Regeneration).

4.3 Discussion of Original Assessment Findings

Brackley Sewage Treatment Works (STW)

The Brackley STW catchment includes two housing allocation sites, set out below.

Housing:

- Brackley - East of Radstone Road
- Brackley North of Radstone Fields

As demonstrated in Table 28, the proposed housing growth results in minor in-class deterioration in Ammonia and Phosphorus concentrations at downstream monitoring points, typically less than 10%. No significant change in BOD concentrations is predicted.

Importantly, these changes do not result in a change in WFD class for any determinand. WFD class remains unchanged across the catchment, with Ammonia and BOD classified as High and Phosphorus classified as Poor or Moderate before and after development.

The magnitude of change is small and reflects the relative capacity of the receiving water within this catchment. As there are no non-housing allocations, no additional qualitative assessment is required.

From a WFD perspective, development within the Brackley STW catchment is therefore unlikely to introduce a material constraint, with only minor in-class deterioration and sufficient headroom remaining within the receiving waterbody.

Towcester

The Towcester STW catchment includes one housing allocation and one employment allocation, set out below.

Housing:

- Towcester - North of Burcote Road

Employment:

- Land at Shacks Barn

Housing growth drives a notable in-class deterioration in Ammonia, with increases of up to 29% at downstream monitoring points. Smaller in-class deteriorations (up to 6%) are also predicted for BOD and Phosphorus. Despite in-class deterioration, WFD classifications for Ammonia and BOD remain High and Phosphorus remains Poor at all downstream monitoring points.

The employment allocation at Shacks Barn contributes an estimated additional flow of approximately 0.1 Ml/d. When considered qualitatively alongside housing growth, this additional input is not expected to materially alter the WFD compliance outcome, and the overall risk associated with non-housing development is therefore assessed as Green.

From a WFD perspective, development within the Towcester STW catchment does not constitute an immediate material constraint, however, the observed in-class deterioration reduces available headroom and increases sensitivity to future pressures, including climate change.

Long Buckby

The Long Buckby STW catchment includes one housing allocation and two employment allocations, set out below.

Housing:

- Long Buckby - South of Long Buckby Station (east)

Employment:

- Long Buckby - South of Long Buckby Station
- DIRFT Phase IV

In the Long Buckby STW catchment, the proposed housing growth results in in-class deterioration for both Ammonia (55%) and Phosphorus (59%) at the first downstream monitoring point (WQ WHIL050S). Although notable in-class deterioration is predicted, WFD class remains unchanged, with Ammonia remaining Good, BOD High, and Phosphorus Poor downstream of the STW.

This first monitoring location represents the only available water quality monitoring point downstream of Long Buckby STW prior to the Whilton STW outfall. Water quality at this location does not recover before flows and discharges from Whilton STW enter the watercourse, noting that Whilton STW is also subject to increased flows arising from additional development. As a result, the deterioration observed further downstream of Whilton STW reflects an in-combination effect associated with discharges from both STWs, rather than the influence of the Long Buckby STW catchment in isolation.

Qualitative consideration of employment growth indicates that additional non-housing flows could contribute to a heightened risk of class deterioration, particularly for Ammonia. This is therefore flagged as Red, indicating a meaningful constraint without further mitigation or capacity intervention.

From a WFD perspective, development within the Long Buckby STW catchment represents a potential constraint requiring further consideration, as substantial in-class deterioration and limited downstream recovery reduce available headroom and increases the risk of future WFD non-compliance, including under climate change pressures. The supplementary assessment presented in Section 4.4 provides additional refinement of these findings using updated housing trajectory information.

Whilton (Daventry) STW

The Whilton (Daventry) STW catchment includes proposals for housing, employment, and regeneration development, set out below.

Housing:

- Daventry North of Middlemore
- Daventry Micklewell Park extension
- Daventry North East

Employment:

- Land off Newnham Drive, Daventry
- South East Gateway, Daventry

Regeneration:

- Lodge Road, Daventry
- Daventry N and W of Town Centre

In the Whilton (Daventry) STW catchment, the three housing allocation sites result in in-class deterioration for Ammonia, BOD and Phosphorus within the Whilton Branch - Lower water body, exceeding the 10% threshold adopted within this assessment. Across all assessed locations, WFD class remains unchanged, with Ammonia High or Good, BOD High, and Phosphorus Poor before and after development.

The employment and regeneration allocations are unlikely to materially increase the risk of deterioration as the increased flow from these sites is expected to be a small proportion of the total flow from the STW (<3%) post housing development. As such, the risk associated with non-housing development is considered low and has been assigned a Green RAG rating.

From a WFD perspective, development within the Whilton (Daventry) STW catchment does not result in an immediate WFD constraint; however, the notable in-class deterioration reduces headroom and indicates increased sensitivity to future climate-driven impacts. Further consideration of discharge permit requirements at Whilton STW is provided in Section 4.4 as part of the supplementary assessment.

Great Billing STW

The Great Billing STW catchment includes a large number of housing, employment, and regeneration allocations, these are set out below.

Housing:

- The Farm, Hardingstone
- Hill Farm Rise
- Northampton North of Newport Pagnell Road
- Northampton East of Wooldale Road
- Watering Lane, Collingtree
- Northampton West of A43
- Northampton West (remaining)
- Land west of Northampton South SUE
- Pineham
- Former Lings Upper School
- Land north of Milton Ham
- Northampton Land off Harlestone Road
- Land to the West of Towcester Road
- Northampton North of Buckton Fields
- Northampton - East of A43
- Northampton - South of Grange Park
- The Green, Great Houghton
- Northampton Collingtree Golf Course

Employment:

- Sixfields East
- Northampton south of J15
- Land at Waterside Way
- Martin's Yard Extension
- Crow Lane North

Regeneration:

- St Edmund's Hospital
- Castle House
- Railway station – Railfreight
- Cattlemarket Road, the Plough and surrounding area
- St Peter's Way
- Four Waterside
- Greyfriars/Mayorhold/Lady's Lane

Housing growth results in in-class deterioration for Ammonia (12%) and Phosphorus (13%), with concentrations approaching WFD class boundaries at the first downstream monitoring point (WQ NENE220H). Whilst WFD class remains unchanged (with Ammonia remaining Good, BOD High, and Phosphorus Poor downstream), this indicates limited headroom within the catchment.

The assessment represents a conservative appraisal of potential impacts, incorporating a single worst-case growth scenario and assuming no additional mitigation or treatment capacity improvements beyond the existing baseline. The greatest deterioration is observed close to the STW discharge. Downstream monitoring locations indicate progressive dilution and attenuation of impacts, with predicted changes reducing to 5% for ammonia and 9% for phosphorus by WQ NENE300I. These values fall below the 10% threshold adopted within this assessment to identify locations warranting further consideration and indicate that the magnitude of deterioration reduces with distance downstream. As a result, further downstream locations are not discussed in detail within this report.

The Red RAG rating reflects the qualitative assessment of employment and regeneration growth within the Great Billing catchment. Housing growth alone results in in-class deterioration at downstream monitoring locations and limited environmental headroom within the receiving watercourse. In this context, the inclusion of additional employment and regeneration growth was considered to present a significant risk of materially increasing the likelihood of future WFD deterioration, particularly for Ammonia.

It is also noted that a newer Environment Agency monitoring point (AN-NENE185G)[38], located closer to the STW outfall, may indicate even greater sensitivity than represented in the current model.

From a WFD perspective, development within the Great Billing STW catchment represents one of the more sensitive locations identified within the assessment. Whilst no deterioration in WFD class is predicted, the observed in-class deterioration and reduced environmental headroom indicate that future growth and associated wastewater infrastructure requirements should continue to be considered as the Local Plan progresses. The supplementary assessment presented in Section 4.4 provides additional refinement of these findings using updated housing trajectory information.

[38] https://environment.data.gov.uk/water-quality/sampling-point/AN-NENE185G

Cotton Valley STW

The Cotton Valley STW catchment includes employment development only, set out below.

Employment:

- Land at former Furtho Pit, Old Stratford / Cosgrove

Based on qualitative assessment, the scale of additional flow is small relative to the existing discharge and is unlikely to cause a material deterioration in water quality or WFD compliance. The proposed employment growth is not expected to alter the existing WFD status (Good for Ammonia, High for BOD, and Poor for Phosphorus) and, therefore, the overall risk is assessed as Green.

From a WFD perspective, the development within the Cotton Valley STW catchment is unlikely to result in significant in-class deterioration or reduction in headroom and is therefore not considered to pose a material risk to WFD compliance.

Bugbrooke STW

The Bugbrooke STW catchment includes a single employment allocation, set out below.

Employment:

- Upper Heyford - south of Junction 16 M1

Bugbrooke STW is a relatively small works with limited dilution capacity. Consequently, even modest additional flows could increase the risk of deterioration in Ammonia and Phosphorus concentrations. This sensitivity is reflected in a Red RAG rating and indicates a clear constraint requiring further consideration.

From a WFD perspective, development within the Bugbrooke STW catchment represents a potential constraint requiring further consideration, with limited dilution capacity meaning that even modest additional flows could materially reduce headroom and increase future risk to WFD compliance, particularly under climate change pressures.

Summary of Original Assessment Findings

Drawing together the quantitative and qualitative assessments, Long Buckby, Whilton (Daventry), Great Billing and Bugbrooke STWs were identified as the catchments with the greatest potential for WFD-related constraints. Long Buckby, Whilton (Daventry) and Great Billing were identified through the quantitative housing assessment, where in-class deterioration in one or more determinands exceeded the 10% threshold adopted within this assessment to identify locations warranting further consideration. Bugbrooke was identified through the qualitative assessment, reflecting the limited dilution capacity within the receiving watercourse and the potential influence of additional employment growth.

Long Buckby and Great Billing STWs were identified as the locations where revised housing trajectory information could be incorporated into a further quantitative assessment and therefore represented suitable candidates for supplementary modelling.

Although Bugbrooke STW was also identified as a potentially constrained catchment, the associated risk related solely to employment development considered through the qualitative assessment. No housing growth was allocated to the catchment and therefore no further quantitative assessment was required.

In addition, a targeted permit requirement assessment was undertaken for Whilton (Daventry) STW. Although the original assessment predicted in-class deterioration exceeding the 10% threshold adopted within this assessment, sufficient environmental headroom remained and the works was not considered to represent a material WFD constraint. As such, no further quantitative growth assessment was undertaken. However, given the degree of deterioration observed, a limited review of permit requirements was undertaken to provide additional understanding of the discharge quality that may be required to minimise future deterioration under the assessed growth scenarios.

4.4 Supplementary Assessment Findings

Overview

As summarised in the Summary of Original Assessment Findings Section, Long Buckby STW, Whilton (Daventry) STW, Great Billing STW and Bugbrooke STW were identified as the catchments with the greatest potential for WFD-related constraints. Of these, Long Buckby STW and Great Billing STW were identified as suitable candidates for further quantitative assessment, as revised housing trajectory information was available to support additional modelling of housing growth within these catchments.

Following completion of the original assessment, West Northamptonshire Council provided updated housing trajectory data to support the emerging Local Plan. A supplementary assessment was subsequently undertaken using the revised dwelling forecasts together with the wastewater generation assumptions described in the Additional Quantitative Assessment Methodology Section to provide a more refined assessment of planned housing growth within these catchments.

Although Bugbrooke STW was identified as a potentially constrained catchment within the original assessment, the identified risk related to employment development considered through the qualitative assessment. As no housing growth was allocated to the catchment within the updated housing trajectory information, no further quantitative assessment was undertaken.

In addition, a targeted permit requirement assessment was undertaken for Whilton (Daventry) STW. Whilst the original assessment identified in-class deterioration, sufficient environmental headroom remained and the works was not considered to represent a material WFD constraint. As such, no further quantitative growth assessment was undertaken, although a limited review of permit requirements was completed to provide additional understanding of the discharge quality that may be required to minimise future deterioration and maintain available environmental headroom.

Compared to the original assessment, the revised housing growth assumptions resulted in lower estimated wastewater flow contributions and consequently reduced downstream water quality impacts. Consistent with the original assessment, no deterioration in WFD class was predicted for any determinand. However, the magnitude of in-class deterioration predicted within the most sensitive catchments was notably reduced.

Long Buckby STW

Revised Growth Assessment

In the original assessment, housing growth within the Long Buckby STW catchment resulted in a 55% increase in ammonia concentration and a 59% increase in phosphorus concentration at the first downstream monitoring point (WQ WHIL050S).

Table 29 presents a comparison of the original assessment and the two supplementary growth scenarios.

Table 29: Comparison of original and supplementary assessment results for Long Buckby STW

Scenario	Ammonia deterioration	Phosphorus deterioration	WFD class change
Original assessment	55%	59%	None
Interim Plan Period	11%	12%	None
End of Plan Period	21%	22%	None

The Interim Plan Period assessment predicted a substantial reduction in deterioration relative to the original assessment, with ammonia and phosphorus concentrations increasing by 11% and 12% respectively. The End of Plan Period assessment predicted deterioration of 21% for ammonia and 22% for phosphorus.

Although the End of Plan Period scenario predicts a greater level of deterioration than the Interim Plan Period scenario, this reflects the larger cumulative housing growth forecast by 2043. Importantly, both supplementary scenarios predict substantially lower levels of deterioration than the original assessment.

Across all scenarios, WFD class remains unchanged, with ammonia remaining Good, BOD remaining High and phosphorus remaining Poor. Predicted BOD deterioration remains minimal within both supplementary scenarios (approximately 1%) and does not influence the assessment conclusions.

The supplementary assessment therefore indicates that the original assessment was conservative and that the revised housing trajectory information results in a materially reduced impact on the receiving water environment.

Permit Requirement Assessment

A permit requirement assessment was undertaken to identify the discharge quality that may be required to minimise future deterioration under the revised growth assumptions.

The assessment indicates that an annual mean phosphorus permit in the range of approximately 1.7-3.0 mg/l may be required. Long Buckby STW does not currently have a phosphorus permit limit and therefore the results suggest that future phosphorus controls may warrant consideration.

For ammonia, the assessment indicates a potential 95-percentile permit limit in the range of approximately 1-4 mg/l, compared to the current permit limit of 5 mg/l. This suggests that tighter ammonia controls may be necessary to minimise the risk of deterioration under the assessed growth scenario.

Great Billing STW

Revised Growth Assessment

In the original assessment, housing growth within the Great Billing STW catchment resulted in ammonia deterioration of between 5% and 16% and phosphorus deterioration of between 9% and 13% at downstream monitoring locations.

Table 30 presents a comparison of the original assessment and the two supplementary growth scenarios. For Great Billing STW, deterioration is presented as the range observed across the downstream monitoring locations represented within the model.

Table 30: Comparison of original and supplementary assessment results for Great Billing STW

Scenario	Ammonia deterioration	Phosphorus deterioration	WFD class change
Original assessment	5-16%	9-13%	None
Interim Plan Period	1-4%	3-5%	None
End of Plan Period	2-6%	5-7%	None

The Interim Plan Period assessment predicted ammonia deterioration of between 1% and 4% and phosphorus deterioration of between 3% and 5%. Under the End of Plan Period scenario, ammonia deterioration increased slightly to between 2% and 6%, whilst phosphorus deterioration increased to between 5% and 7%.

No change in WFD classification is predicted under either supplementary scenario, with ammonia remaining Good, BOD remaining High and phosphorus remaining Poor throughout the catchment. Predicted BOD changes remain negligible across all assessed monitoring locations (0-1%) and do not materially influence the assessment conclusions.

Both supplementary scenarios demonstrate lower levels of deterioration than those predicted by the original assessment. Furthermore, deterioration remains below the 10% threshold adopted within this assessment to identify locations warranting further consideration, indicating that the revised housing trajectory assumptions result in a lower degree of pressure on the receiving water environment than originally predicted.

Permit Requirement Assessment

No permit requirement assessment was undertaken for Great Billing STW as part of the supplementary assessment. As the revised assessment demonstrated that deterioration was comfortably below the 10% threshold adopted within this assessment to identify locations warranting further consideration, further permit requirement assessment was not considered necessary at this stage.

Whilton (Daventry) STW

Permit Requirement Assessment

Whilst Whilton (Daventry) STW was not identified as a material WFD constraint within the original assessment, a targeted permit requirement assessment was undertaken due to the in-class deterioration predicted within the catchment.

The assessment indicates that an annual mean phosphorus permit limit in the range of approximately 1-2 mg/l may be required. This is broadly consistent with the existing phosphorus permit of 2 mg/l.

For ammonia, the assessment produced a range of potential permit limits between 1-18 mg/l (95-percentile). The broad range reflects the relatively limited sensitivity of the receiving watercourse to ammonia from the works under the modelled conditions. Given that the existing ammonia permit is 3 mg/l, the assessment does not indicate that more stringent controls would be required to minimise the risk of future deterioration under the assessed growth scenarios.

The permit assessment therefore provides additional confidence that, despite the in-class deterioration predicted within the original assessment, sufficient environmental headroom remains within the catchment.

Summary

Overall, the supplementary assessment demonstrates that the revised housing trajectory data result in a lower level of impact than predicted by the original assessment. Both the Interim Plan Period and End of Plan Period assessments predict substantially lower levels of deterioration than the original assessment, despite differences in cumulative housing growth and wastewater generation assumptions.

The findings therefore support the conclusion that the original assessment represented a conservative assessment of potential water quality impacts. Whilst the supplementary assessment reduces the magnitude of predicted deterioration at both Long Buckby and Great Billing STWs, the overall conclusions remain unchanged, namely that no WFD class deterioration is predicted, but that these catchments remain among the more sensitive locations within the study area and may require continued consideration as the Local Plan progresses.

4.5 Conclusions

This assessment has considered the potential in-combination effects of proposed development on water quality using a combination of quantitative SIMCAT modelling for housing allocations and a qualitative assessment of employment and regeneration development. The assessment considers the anticipated scale and location of development provided by the Client.

The original SIMCAT modelling demonstrated that housing growth would result in some degree of downstream water quality deterioration across all assessed STW catchments. In several catchments, including Towcester, Long Buckby, Whilton (Daventry) and Great Billing, housing growth resulted in notable in-class deterioration for one or more determinands, most commonly ammonia and phosphorus. However, in all cases assessed, the modelling indicated that WFD class boundaries were not crossed and no deterioration in WFD status was predicted.

Although WFD class does not change, the results clearly show that in-class deterioration can occur and, in some catchments, materially reduce available environmental headroom. This is an important consideration when interpreting the findings, as reduced headroom increases vulnerability to future pressures, particularly climate-driven changes in flow, dilution capacity, and flood risk.

A supplementary assessment was subsequently undertaken using revised housing trajectory information provided by West Northamptonshire Council together with refined wastewater flow generation assumptions. This assessment demonstrated that the original assessment represented a conservative estimate of potential impacts. Whilst in-class deterioration remained evident within the more sensitive catchments, the revised assumptions substantially reduced the magnitude of deterioration predicted at both Long Buckby STW and Great Billing STW.

The qualitative assessment of employment and regeneration allocations demonstrated that, in most catchments, additional non-housing development represents a relatively small proportion of total post-development flows and is unlikely to materially alter the WFD outcomes identified through the housing-only modelling. These catchments were therefore assessed as having a low additional risk associated with non-housing development (Green).

In contrast, Long Buckby STW and Bugbrooke STW remain the catchments exhibiting the greatest potential for WFD-related constraints. At Long Buckby STW, notable in-class deterioration remains evident despite the refined growth assumptions and permit assessment results indicate that tighter ammonia controls, and potentially the introduction of phosphorus permit limits, may be required to minimise the risk of future deterioration under the assessed growth scenarios. At Bugbrooke STW, the catchment remains sensitive due to limited dilution capacity and the potential influence of additional non-housing growth.

Great Billing STW continues to represent a relatively sensitive catchment; however, the supplementary assessment showed that the revised housing trajectory assumptions reduced deterioration to below the 10% threshold adopted within this assessment to identify locations warranting further consideration. Whilst continued consideration of this catchment is warranted, the revised assessment indicates that the level of constraint is lower than suggested by the original assessment.

Whilton (Daventry) STW exhibited in-class deterioration within the original assessment; however, sufficient environmental headroom remained and no deterioration in WFD class was predicted. The targeted permit assessment similarly indicated that existing permit conditions are broadly consistent with minimising future deterioration under the assessed growth scenario.

Overall, the assessment indicates that water quality impacts alone do not represent a blanket constraint to the proposed growth across the study area. Whilst several catchments exhibit varying degrees of in-class deterioration, no deterioration in WFD class is predicted under the assessed growth scenarios. The supplementary assessment provides additional confidence that planned growth can be accommodated without resulting in WFD class deterioration, although continued engagement with the Environment Agency and relevant wastewater undertakers will be required within the more sensitive catchments as the Local Plan progresses.

This assessment therefore provides a proportionate evidence base to support Local Plan preparation, helping to identify where growth can be accommodated with a lower risk to water quality and where further consideration of wastewater infrastructure requirements may be needed to minimise future deterioration under future growth scenarios.

APPENDICES

Appendix A Level 2 SFRA

A.1 SLAA Sites Relative to Management Catchment Boundaries Map

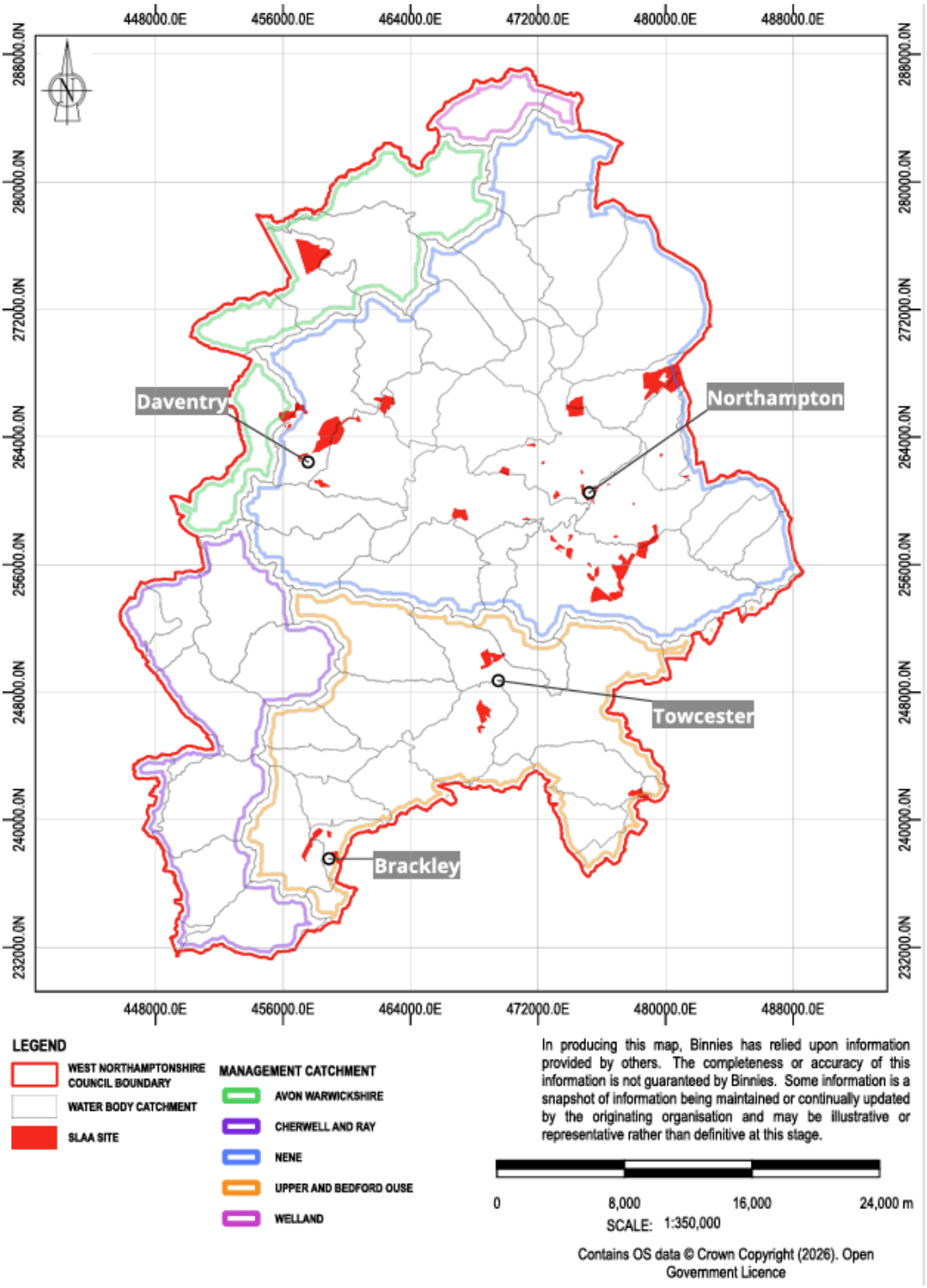


Figure 9: SLAA sites relative to catchment boundaries

A.2 SLAA Sites Relative to Management Catchment Boundaries Map

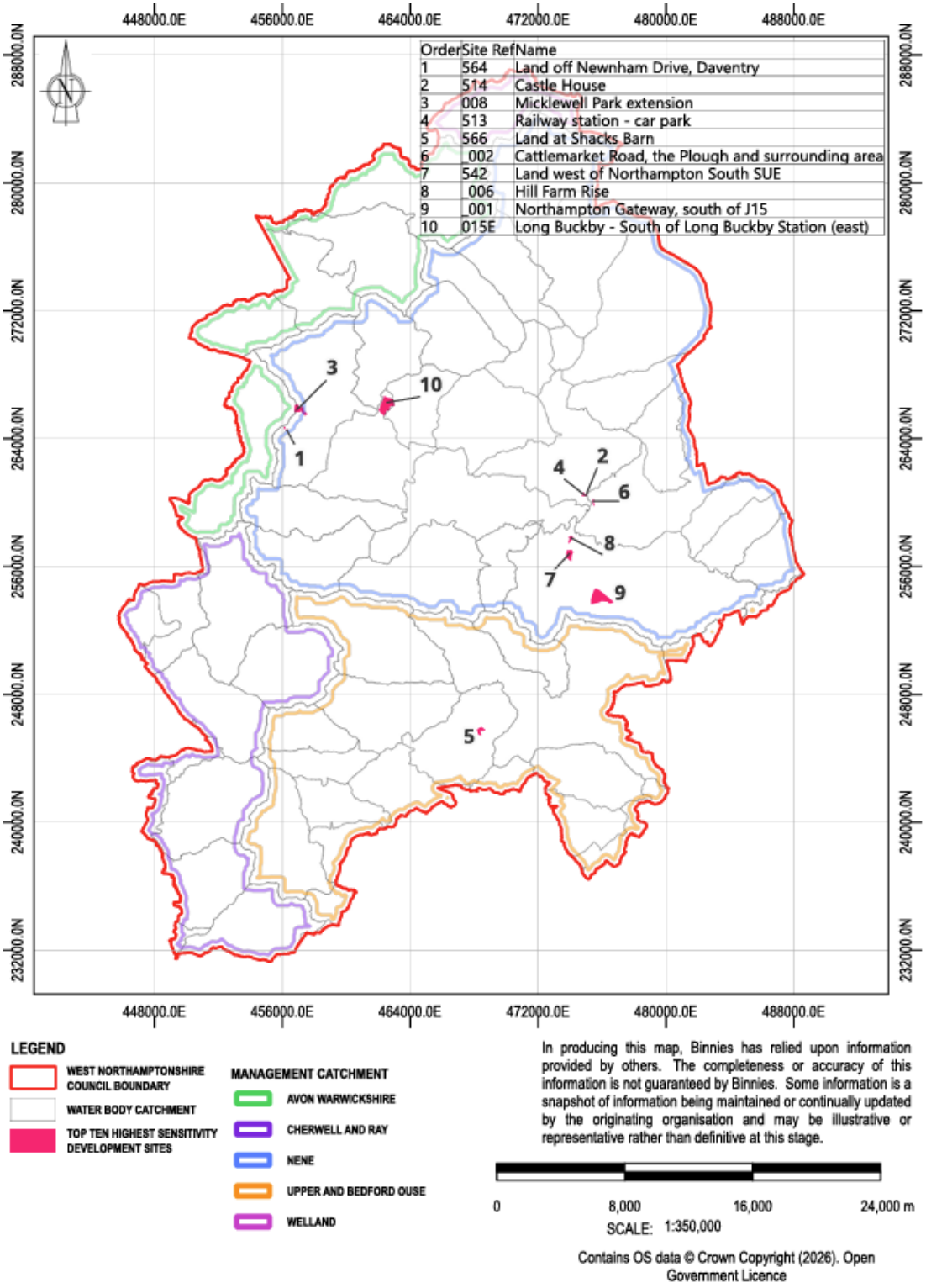


Figure 10: Top 10 Highest Sensitivity Development Sites

A.3 Specific Data Sheets and Mapping

Site Reference:	556
Site Name	Land at Waterside Way
Proposed Development	Employment
Site Area	0.98 Ha
Site NGR	477992 mE, 259820 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
0.0 %	100.0 %

More than 60% of the site is indicated to be at risk of fluvial flooding during a present-day scenario, therefore development is unlikely to be viable.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
1.3 %	0.0 %	0.0 %	1.3 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Commentary

The site is entirely situated within Flood Zone 3 in a present-day scenario. During a climate change scenario, only a small area of the site is within Flood Zone 3B, however this is because the data utilised to represent Flood Zone 3B+CC is a defended layer, and therefore the data accounts for the presence of defences. Should development be proposed for this site, as the site borders a main river, site specific modelling may be required to inform mitigation measures as part of a future Flood Risk Assessment.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
4.7 %	23.8 %	66.8 %	95.3 %

More than 60% of the site is at risk of pluvial flooding during a present-day scenario, therefore development is unlikely to be viable.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
22.8 %	65.3 %	7.3 %	95.4 %

More than 60% of the site is at risk of pluvial flooding during a climate change scenario, therefore development is unlikely to be viable.

Pluvial Flood Risk – Commentary

The site experiences a similar level of pluvial flood risk during a present-day and climate change scenario. The site and the surrounding area are subject to multiple surface water flow paths and associated ponding in topographic lows. Should development be proposed for this site, due to pluvial flood extents across the site and surrounding area, site specific modelling may be required to inform mitigation measures as part of a future Flood Risk Assessment.

Flood History

There are ten WNC recorded flood events within 500m of the site. The site is located within an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at low risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
100.0 %	100.0 %	100.0 %	100.0 %

Although the site is in an area at risk of reservoir flooding, this risk could be managed through appropriate consideration of flood resilience measures.

Flood Defences – Residual Risk

Flood defences, in the form of natural high ground located along the eastern site boundary, offer a standard of protection equivalent to a 1 in 75 year storm event, assuming the ground level is maintained. As the site benefits from flood defences, should development be proposed for this site, a proportionate assessment of the likelihood of a defence breach over the lifetime of the development (including the impact of climate change) should be undertaken as part of a future Flood Risk Assessment. Using the Environment Agency's simplified method (FD2321/TR2), a breach in the flood defence at this site could result in 'danger for all'.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water

(RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is unlikely that dry access and egress will be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 3. Therefore the Exception Test is required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 3, should development be proposed for this site, finished floor levels should be set no lower than 55.6 mAOD, 600mm above the maximum predicted flood level of 55.0 mAOD. In accordance with the EA guidance, freeboard allowances could be reviewed, and where appropriate reduced to 300mm. An appropriate freeboard allowance should also be considered for other sources of flooding. This should be confirmed by a site specific assessment as part of the detailed design for development, which should include consideration of proposed ground levels.

Surface Water Attenuation Provision – Design Considerations

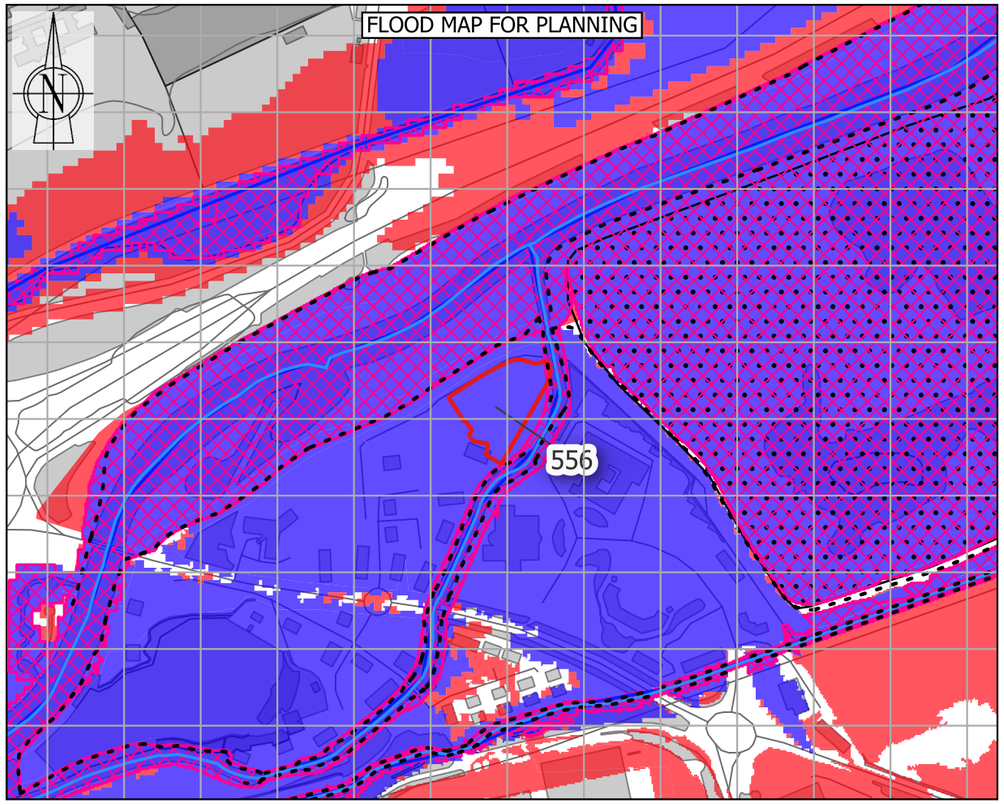
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

Should development be proposed for this site, it is estimated that 778 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 0.12 Ha should be set aside for appropriate SuDS techniques.

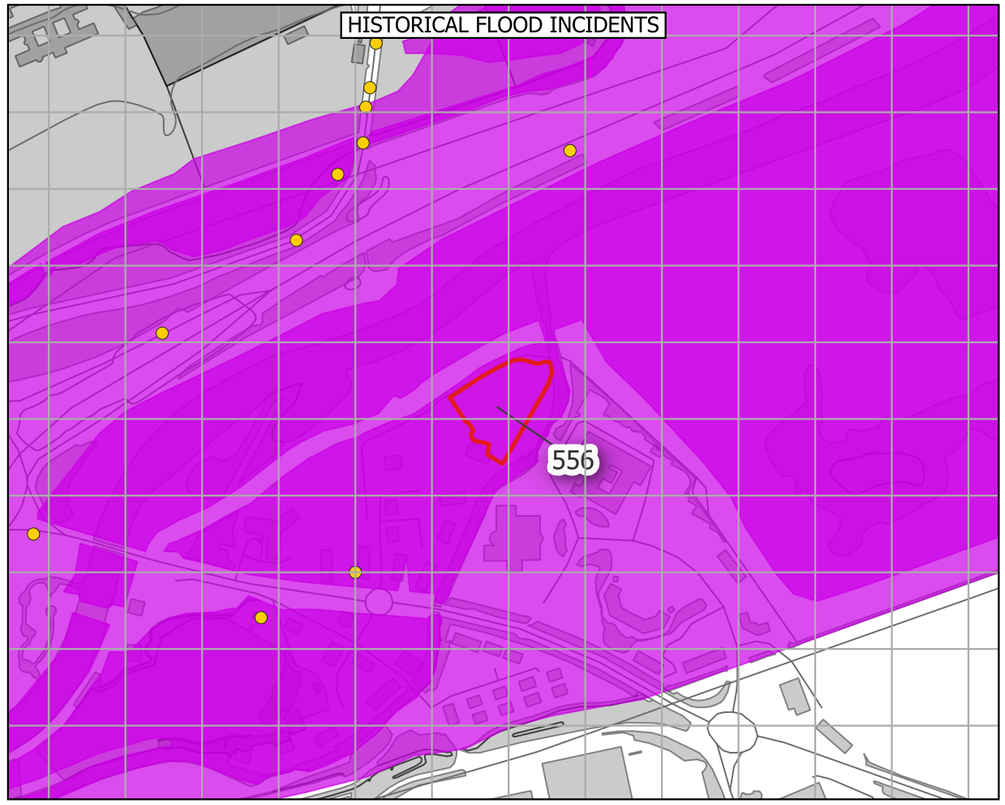
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of this site is not compatible with the level of fluvial and pluvial flood risk identified.

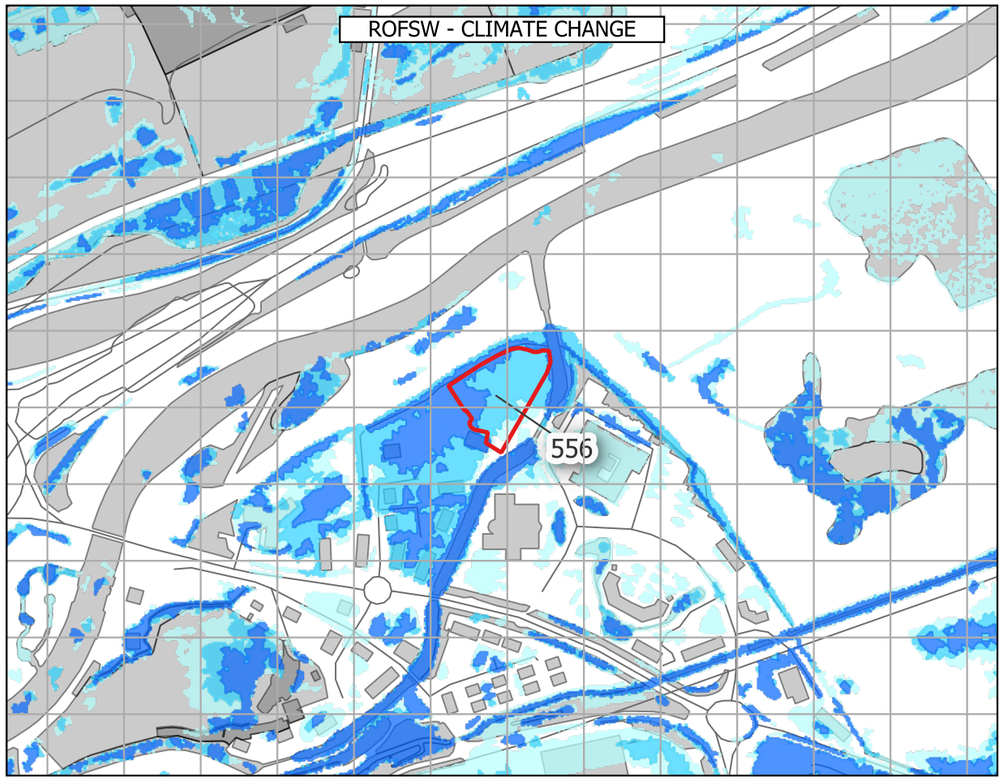
FLOOD MAP FOR PLANNING



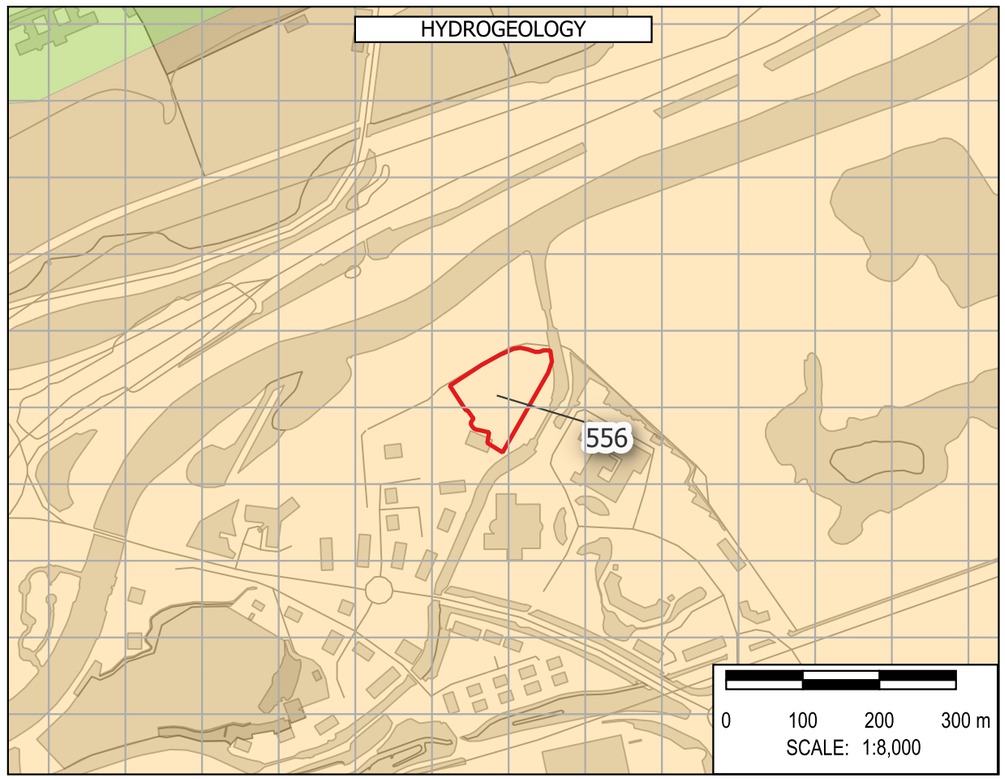
HISTORICAL FLOOD INCIDENTS



ROFSW - CLIMATE CHANGE



HYDROGEOLOGY



Note: The limits, including the height and depths of the Works, shown in this drawing are not to be taken as limiting the obligations of the contractor under Contract.

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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
  - WEST NORTHANTS BOUNDARY
- FLOOD MAP FOR PLANNING
  - FLOOD DEFENCES
  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
- ROFSW WITH CLIMATE CHANGE
  - HIGH
  - MEDIUM
  - LOW
- HYDROGEOLOGY
  - AQUIFER TYPE
  - HIGHLY PRODUCTIVE AQUIFER
  - MODERATELY PRODUCTIVE AQUIFER
  - LOW PRODUCTIVITY AQUIFER
  - ROCKS WITH ESSENTIALLY NO GROUNDWATER

SAFETY HEALTH AND ENVIRONMENT INFORMATION
IN ADDITION TO THE HAZARDS OR RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, THE FOLLOWING SIGNIFICANT RESIDUAL RISKS SHOULD BE NOTED. FURTHER DETAILS ARE INCLUDED IN THE CDM DESIGN RISK MANAGEMENT REGISTERS
CONSTRUCTION
NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS
MAINTENANCE / CLEARING / OPERATION
NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS
DECOMISSIONING AND DEMOLITION
NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS

Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 556
Land at Waterside Way

Drawing Scale: 1:8,000 Sheet Size: A3

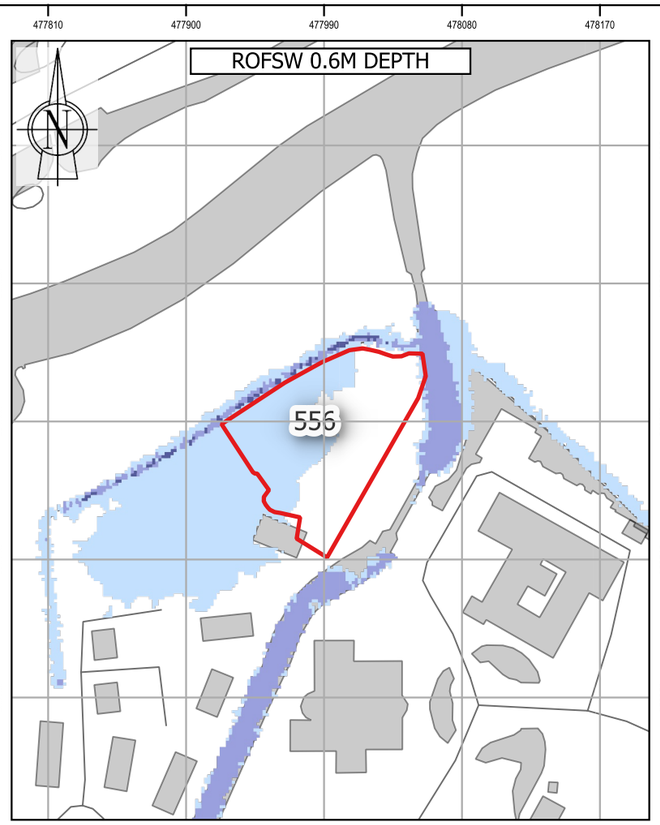
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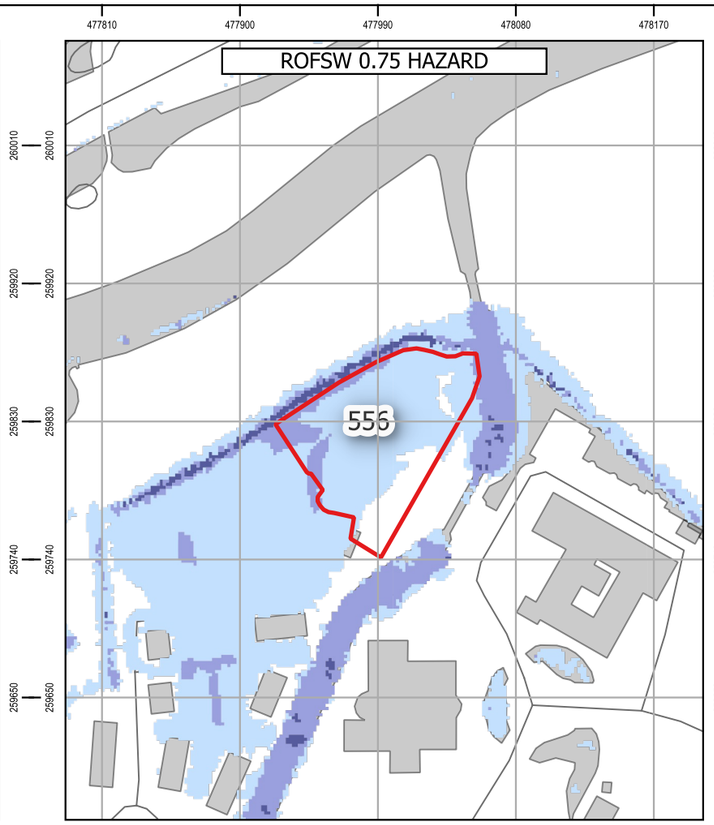
Revision: P01

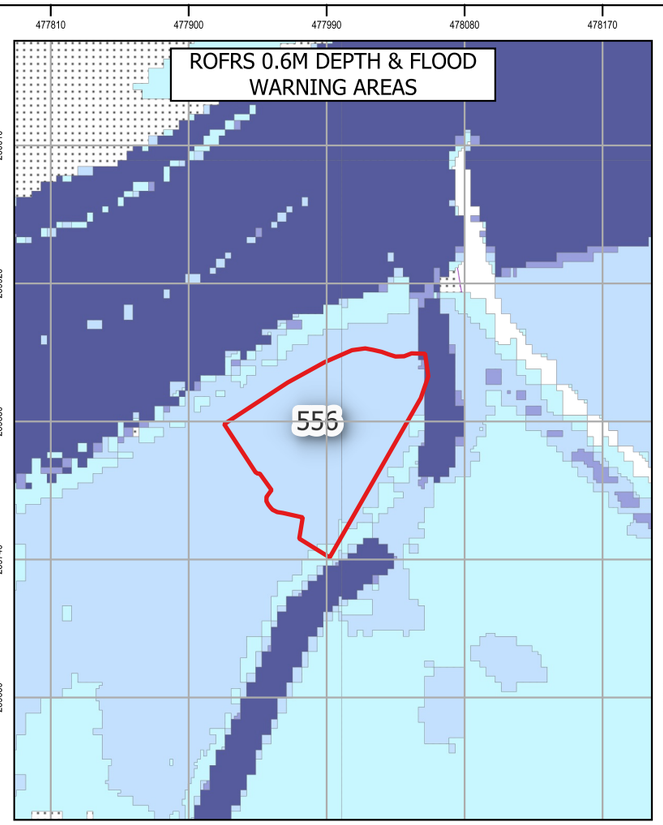
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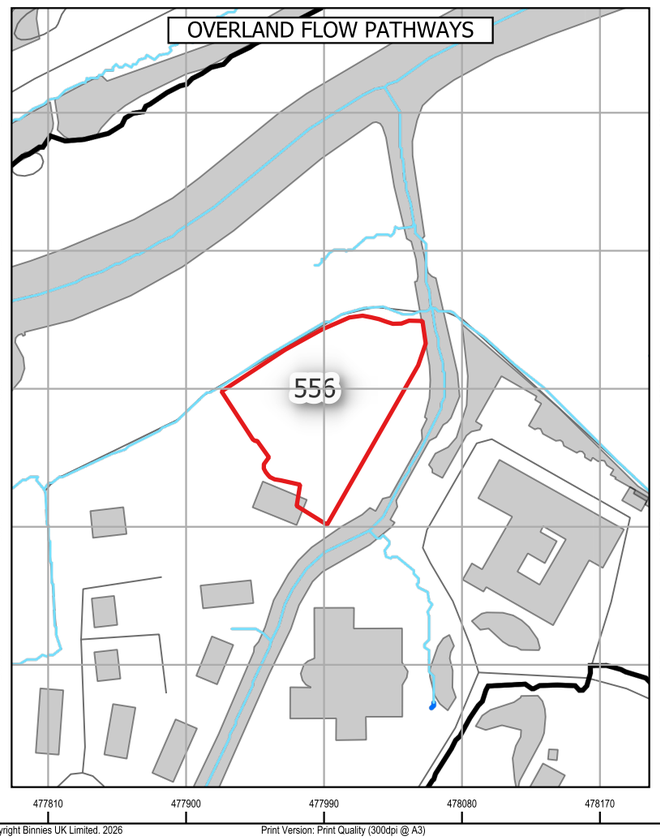
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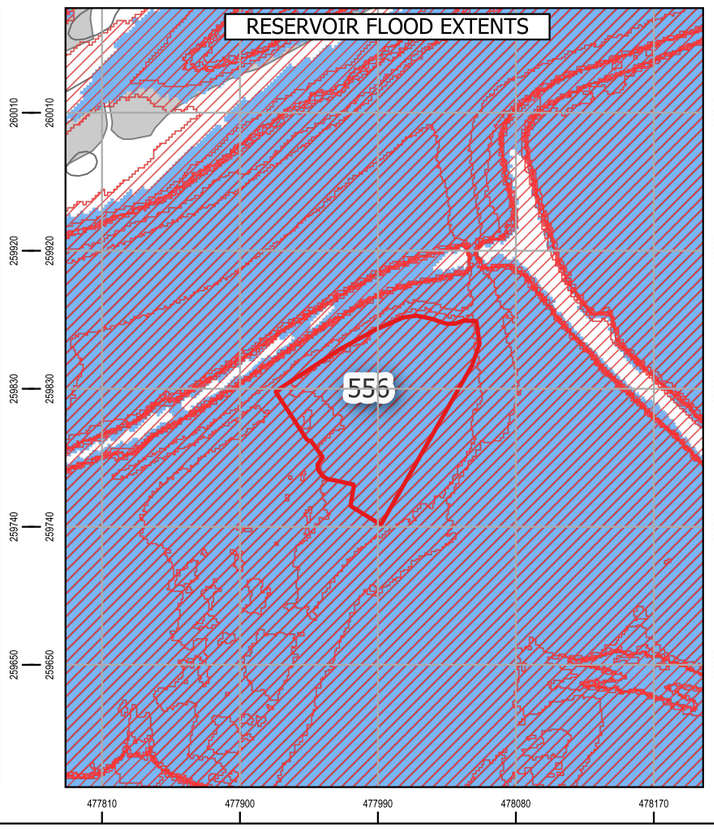
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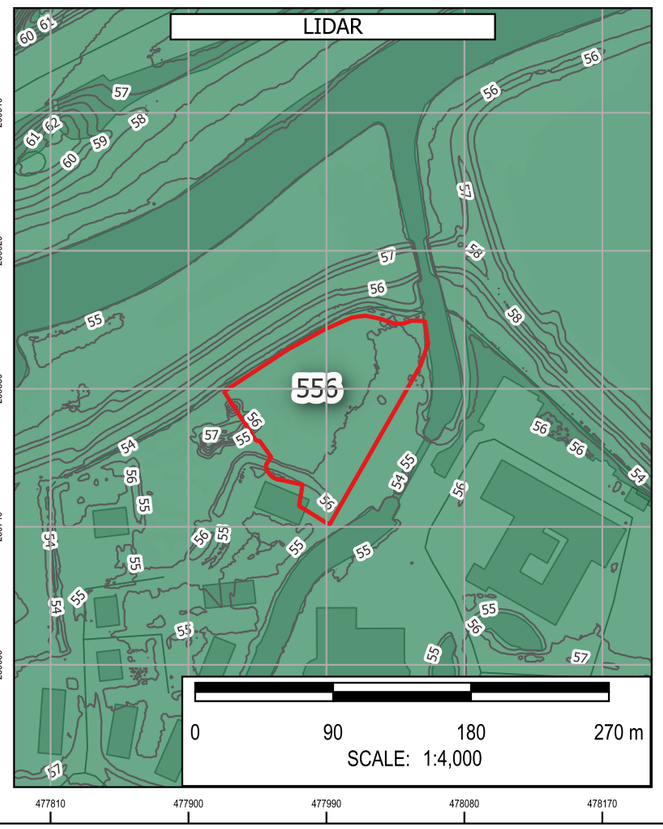












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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
  - WEST NORTHANTS BOUNDARY
- ROFSW
  - 0.6M DEPTH
    - High
    - Medium
    - Low
    - Unavailable
  - 0.75 HAZARD
    - High
    - Medium
    - Low
    - Unavailable
- ROFRS
  - 0.6M DEPTH
    - High
    - Medium
    - Low
    - Very low
    - Unavailable
- FLOOD WARNING AREAS
- OVERLAND FLOW PATHWAYS
  - PROBABLE OVERLAND FLOW PATHWAYS
    - < 3 Degrees
    - 3 - 7 Degrees
    - 7 - 12 Degrees
    - > 12 Degrees
  - DETAILED WATERSHEDS
- RESERVOIR FLOOD EXTENT
  - DRY DAY
  - WET DAY
- LIDAR
  - 1M CONTOURS
  - ELEVATION
    - Band 1 (Gray)
    - 230
    - 50

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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MAINTENANCE / CLEARING / OPERATION
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DECOMISSIONING AND DEMOLITION
NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS

Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	01/05/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE | Revision: -

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Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 556 Land at Waterside Way

Drawing Scale: 1:4,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00229 | Revision: P01

G:\Projects\4082482_WNC\4_Workspaces\0_Working\ SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR Print Date:01/05/2026

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	553
Site Name	Sixfields East
Proposed Development	Employment
Site Area	10.19 Ha
Site NGR	473144 mE, 260367 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
0.0 %	0.0 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
6.9 %	4.8 %	5.5 %	17.2 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
10.4 %	4.5 %	6.1 %	21.0 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

The site experiences a similar level of pluvial flood risk during a present-day and climate change scenario. There is an area of high surface water flood risk in the south western part of the site. Analysis of mapping suggests this may be associated with a topographic low. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Flood History

There are ten WNC recorded flood events within 500m of the site. The site is within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at medium risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.0 %	1.2 %	2.1 %	2.1 %

A small area of the site is in an area at risk of reservoir flooding, this risk could be managed through appropriate consideration of flood resilience measures.

Flood Defences – Residual Risk

Whilst the nearest defences are less than 20m from the site, the site does not benefit from these defences, and therefore an assessment of a defence breach over the lifetime of the development (including the impact of climate change) is unlikely to be required.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 1. Therefore the Exception Test is not required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 1, finished floor levels should be at least 150mm above external ground levels. An appropriate freeboard allowance should also be considered for other sources of flooding.

Surface Water Attenuation Provision – Design Considerations

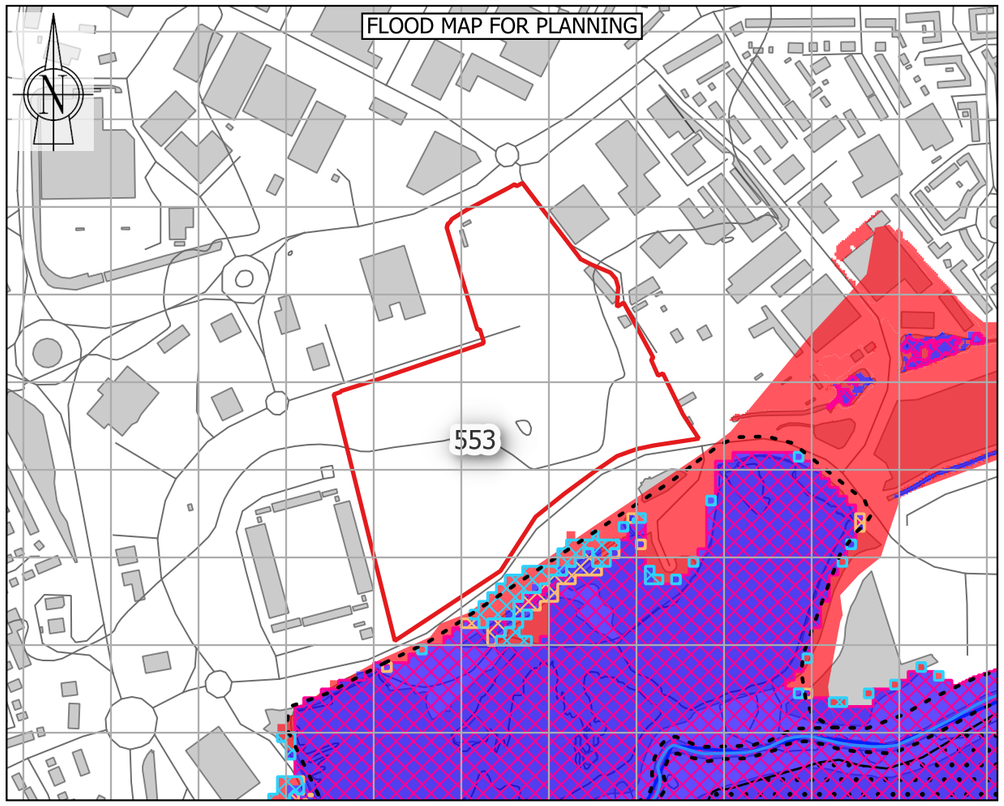
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

It is estimated that 8081 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 1.21 Ha should be set aside for appropriate SuDS techniques.

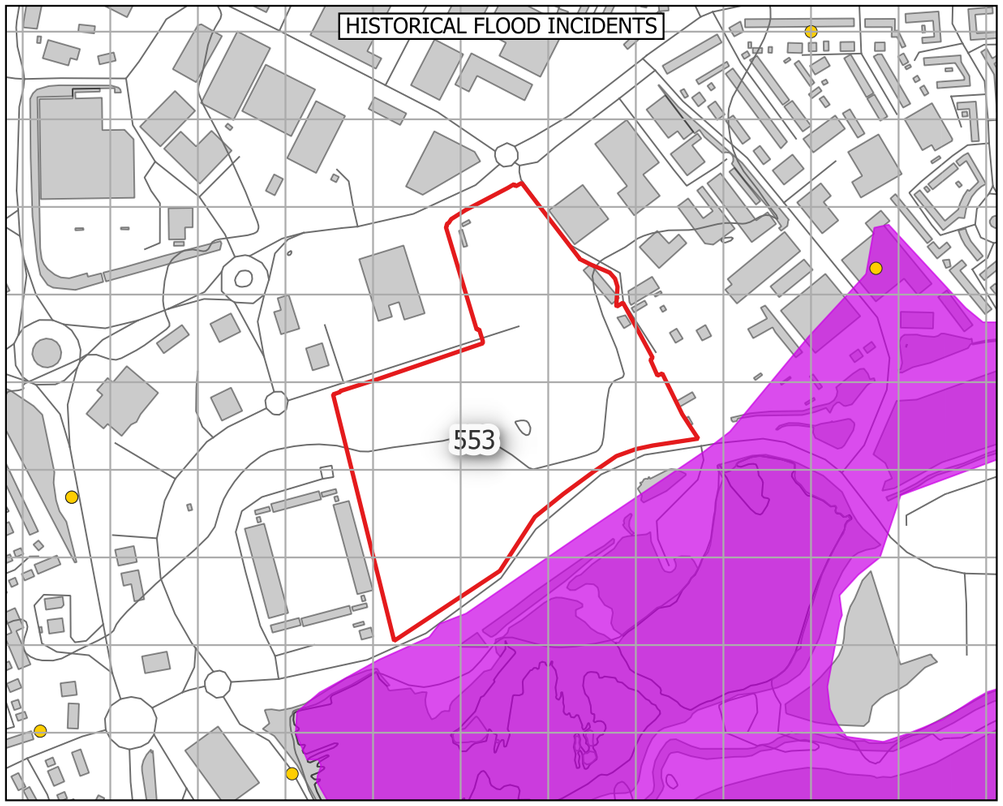
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.

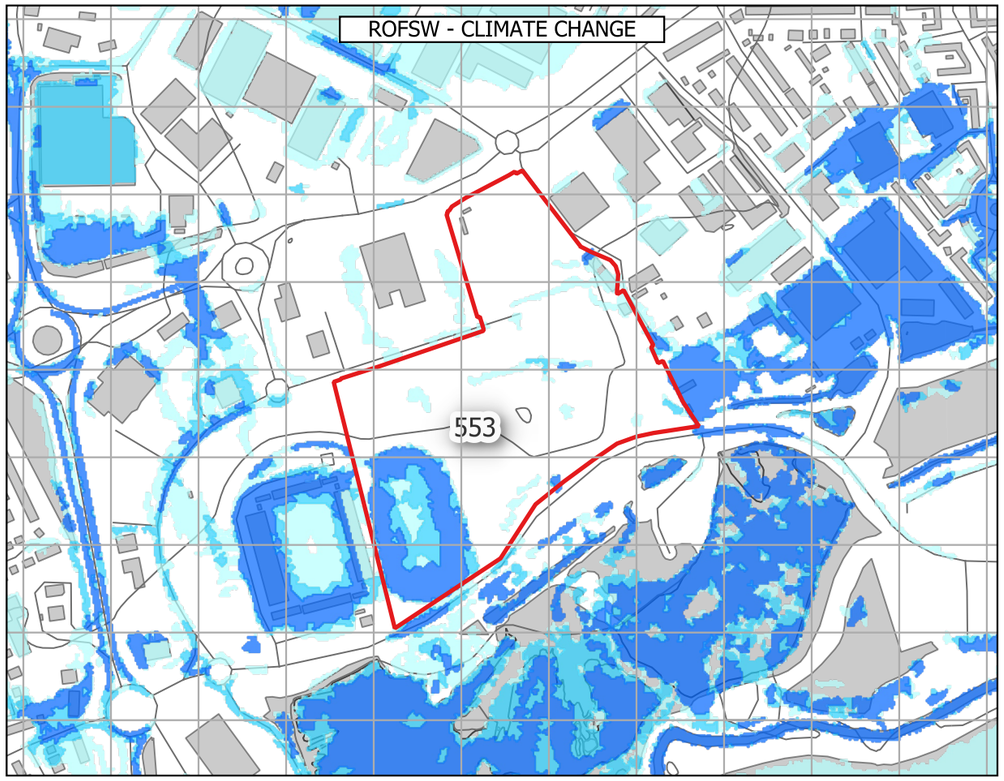
FLOOD MAP FOR PLANNING



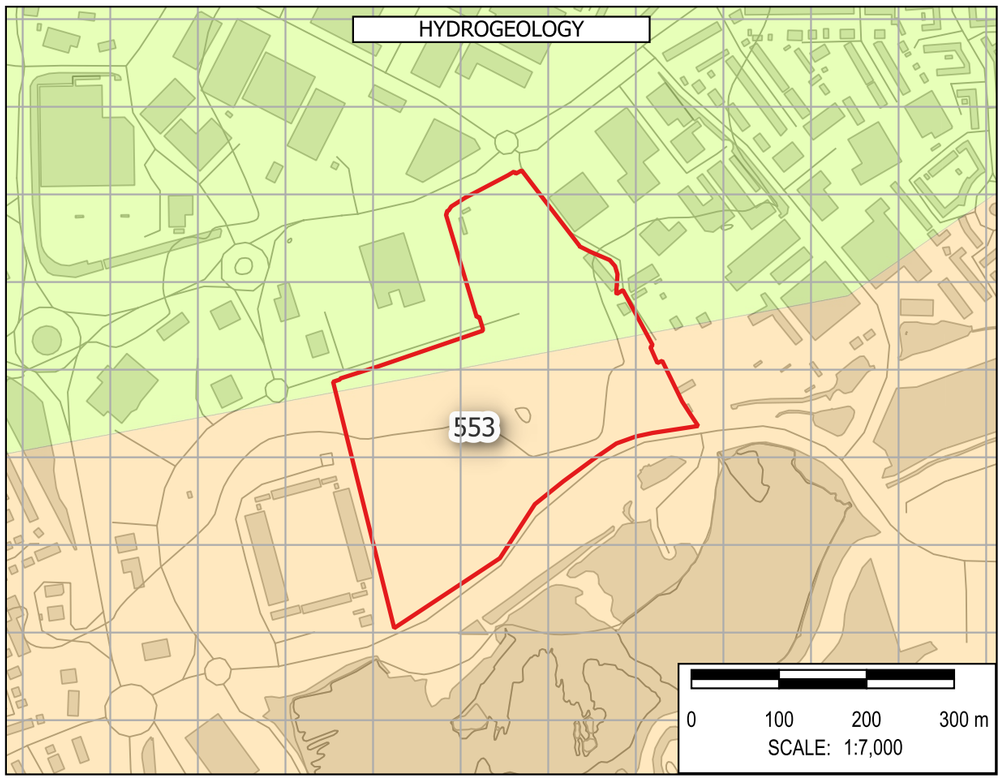
HISTORICAL FLOOD INCIDENTS



ROFSW - CLIMATE CHANGE



HYDROGEOLOGY



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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY

FLOOD MAP FOR PLANNING

- FLOOD DEFENCES
- MAIN RIVER
- ORDINARY WATERCOURSE
- FLOOD STORAGE AREAS
- FLOOD ZONE 2
- FLOOD ZONE 3
- FLOOD ZONE 2 + CC
- FLOOD ZONE 3A + CC
- FLOOD ZONE 3B + CC
- IDB

HISTORIC FLOOD INCIDENTS

- WNC FLOOD HISTORY
- EA HISTORIC FLOOD EXTENT

ROFSW WITH CLIMATE CHANGE

- HIGH
- MEDIUM
- LOW

HYDROGEOLOGY

AQUIFER TYPE

- HIGHLY PRODUCTIVE AQUIFER
- MODERATELY PRODUCTIVE AQUIFER
- LOW PRODUCTIVITY AQUIFER
- ROCKS WITH ESSENTIALLY NO GROUNDWATER

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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DECOMISSIONING AND DEMOLITION
NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS

Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 553 Sixfields East

Drawing Scale: 1:7,000 Sheet Size: A3

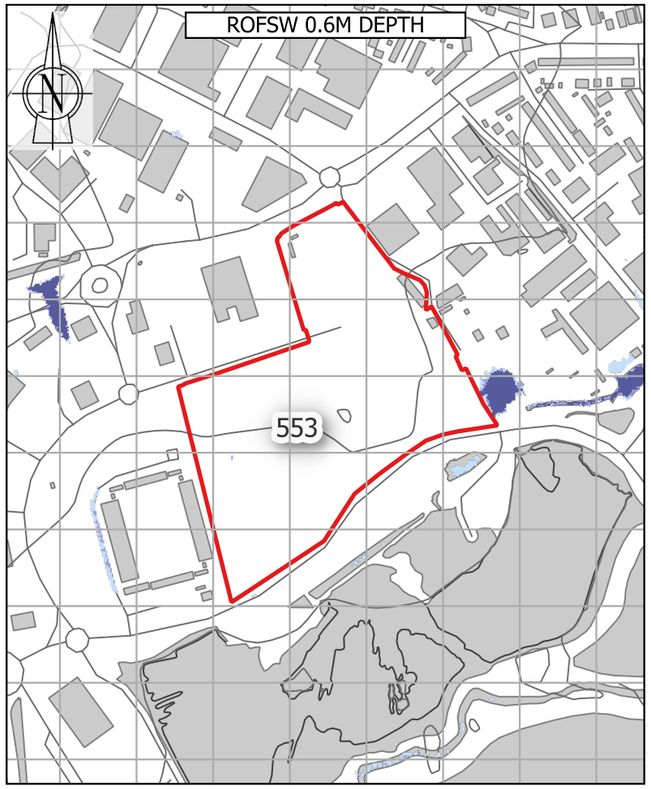
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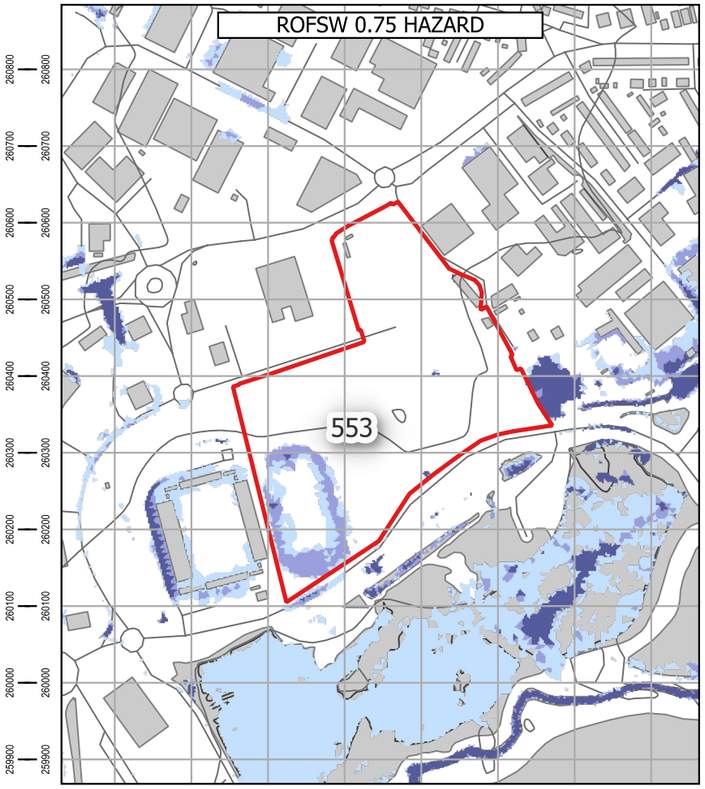
Revision: P01

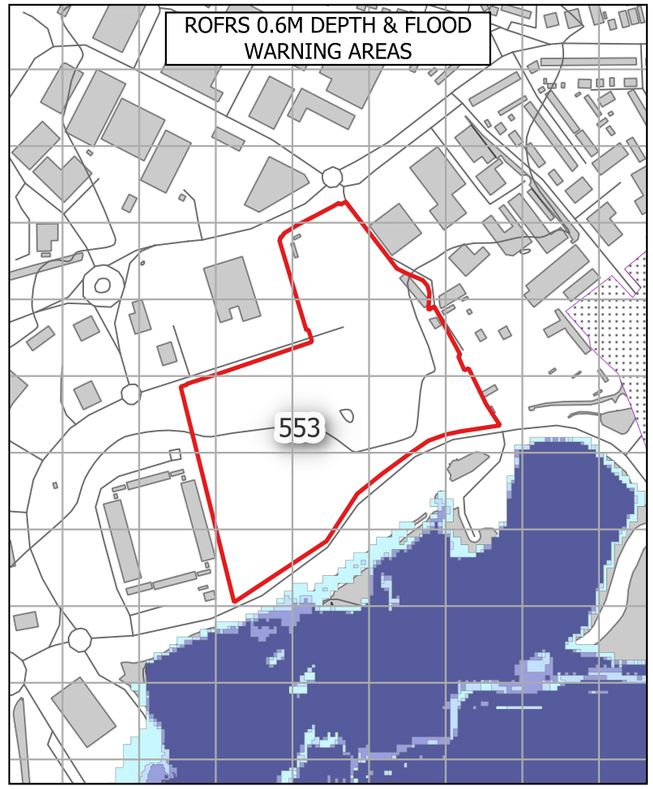
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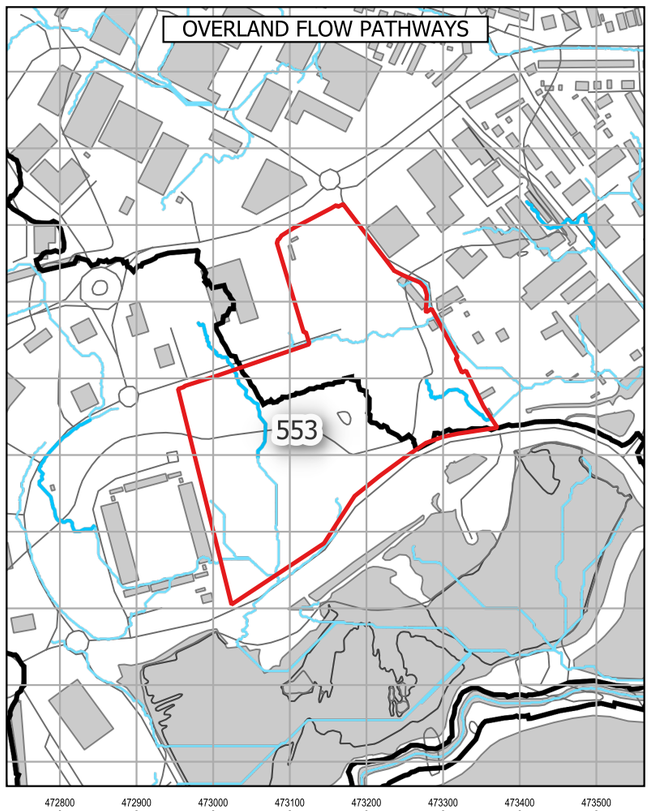
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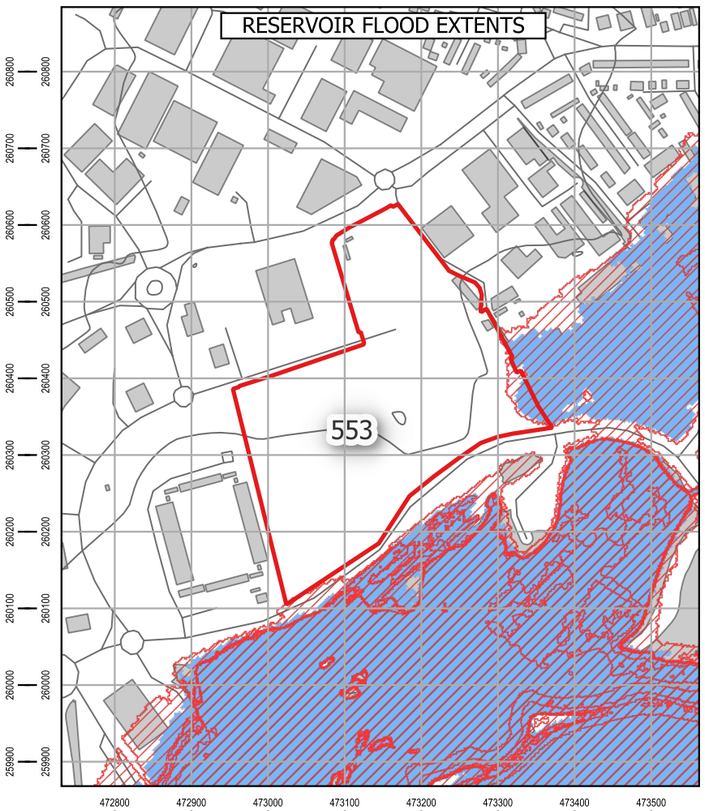
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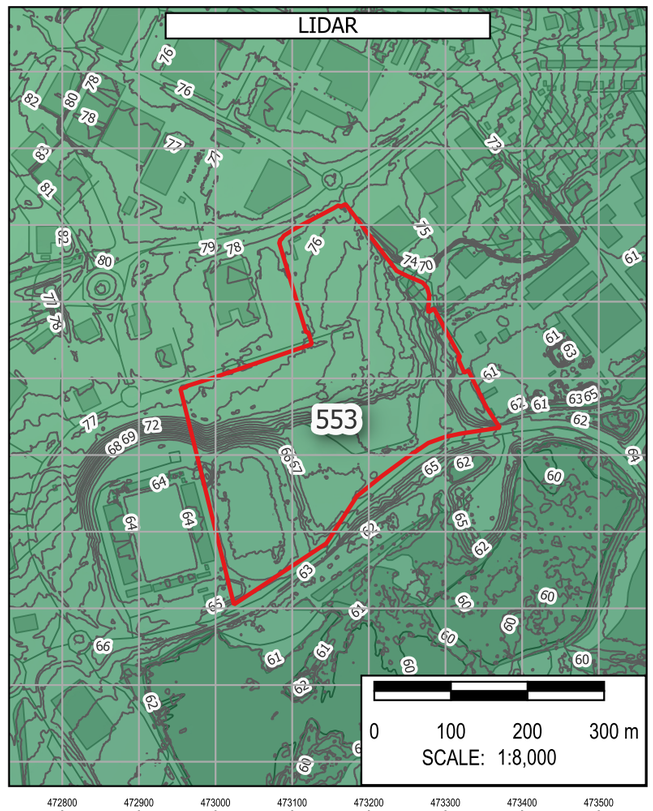












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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY

ROFSW
0.6M DEPTH
- High
- Medium
- Low
- Unavailable

0.75 HAZARD
- High
- Medium
- Low
- Unavailable

ROFRS
0.6M DEPTH
- High
- Medium
- Low
- Very low
- Unavailable

FLOOD WARNING AREAS

OVERLAND FLOW PATHWAYS
PROBABLE OVERLAND FLOW PATHWAYS
- < 3 Degrees
- 3 - 7 Degrees
- 7 - 12 Degrees
- > 12 Degrees

DETAILED WATERSHEDS

RESERVOIR FLOOD EXTENT
DRY DAY
WET DAY

LIDAR
1M CONTOURS
ELEVATION
Band 1 (Gray)
230
50

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	01/05/26	First Issue
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-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 553 Sixfields East

Drawing Scale: 1:8,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00206

Revision: P01

G:\Projects\4082482_WNC\4_Workspaces\0_Working\ - SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR Print Date:01/05/2026

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	554
Site Name	Crow Lane North
Proposed Development	Employment
Site Area	2.92 Ha
Site NGR	481290 mE, 261546 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
5.6 %	94.4 %

More than 60% of the site is indicated to be at risk of fluvial flooding during a present-day scenario, therefore development is unlikely to be viable.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
84.8 %	0.0 %	0.0 %	84.8 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. More than 60% of the site is indicated to be at risk of fluvial flooding during a climate change scenario, therefore development is unlikely to be viable.

Fluvial Flood Risk – Commentary

The entirety of the site is situated within Flood Zone 2 and 3 during a present-day scenario, with much of the site within Flood Zone 3B during a climate change scenario. Should development be proposed for this site, as the site borders a main river, site specific modelling may be required to inform mitigation measures as part of a future Flood Risk Assessment.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
8.4 %	12.3 %	29.5 %	50.2 %

Less than 60% of the site is at risk of pluvial flooding during a present-day scenario, therefore delivery of a flood risk compatible development is considered feasible with regards to pluvial flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
14.9 %	16.7 %	25.2 %	56.8 %

Less than 60% of the site is at risk of pluvial flooding during a climate change scenario, therefore delivery of a flood risk compatible development is considered feasible with regards to pluvial flood risk.

Pluvial Flood Risk – Commentary

There are some localised areas of surface water ponding and a flow path along the southern boundary of the site. Should development be proposed for this site, a sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Flood History

There are eleven WNC recorded flood events within 500m of the site. The site is located within an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at low risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
97.5 %	98.5 %	100.0 %	100.0 %

Although the site is in an area at risk of reservoir flooding, this risk could be managed through appropriate consideration of flood resilience measures.

Flood Defences – Residual Risk

Flood defences, in the form of natural high ground located approximately 400m to the south of the site, offer a standard of protection equivalent to a 1 in 8 year storm event, assuming the ground level is maintained. As the site likely benefits from flood defences, should development be proposed for this site, a proportionate assessment of the likelihood of a defence breach over the lifetime of the development (including the impact of climate change) should be undertaken as part of a future Flood Risk Assessment. Using the Environment Agency's simplified method (FD2321/TR2), a breach in the flood defence at this site could result in 'danger for some'.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to

surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is unlikely that dry access and egress will be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 3. Therefore the Exception Test is required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 2 and 3, should development be proposed for this site, finished floor levels should be set no lower than 51.6 mAOD, 600mm above the maximum predicted flood level of 51.0 mAOD. In accordance with the EA guidance, freeboard allowances could be reviewed, and where appropriate reduced to 300mm. An appropriate freeboard allowance should also be considered for other sources of flooding. This should be confirmed by a site specific assessment as part of the detailed design for development, which should include consideration of proposed ground levels.

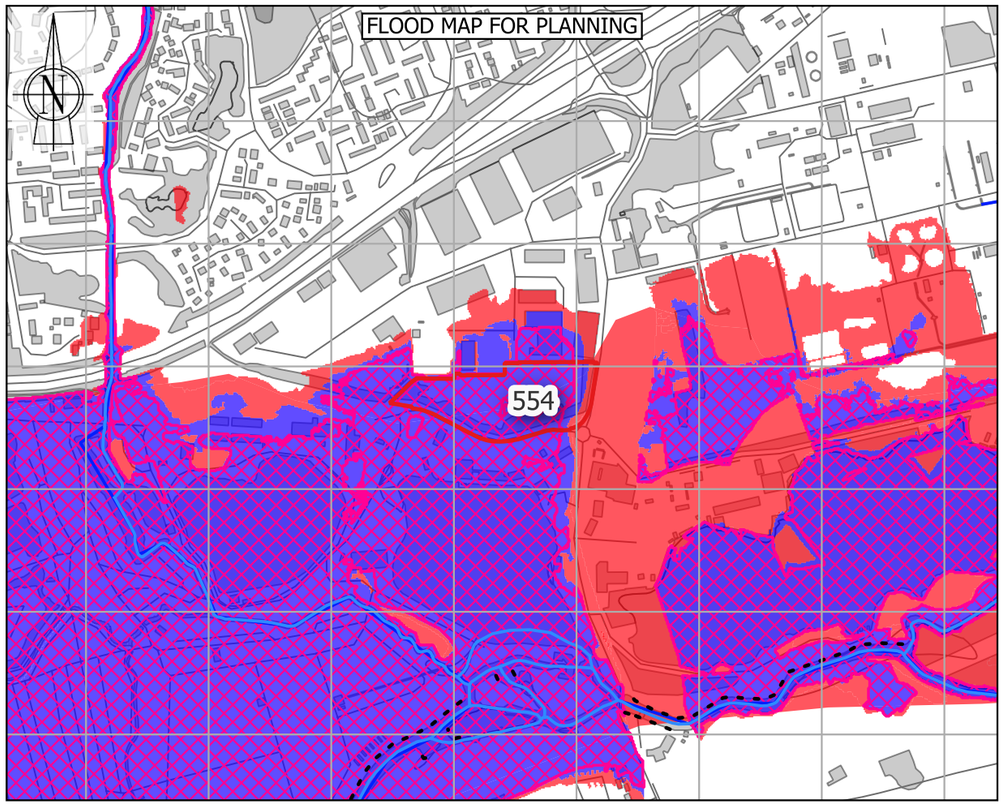
Surface Water Attenuation Provision – Design Considerations

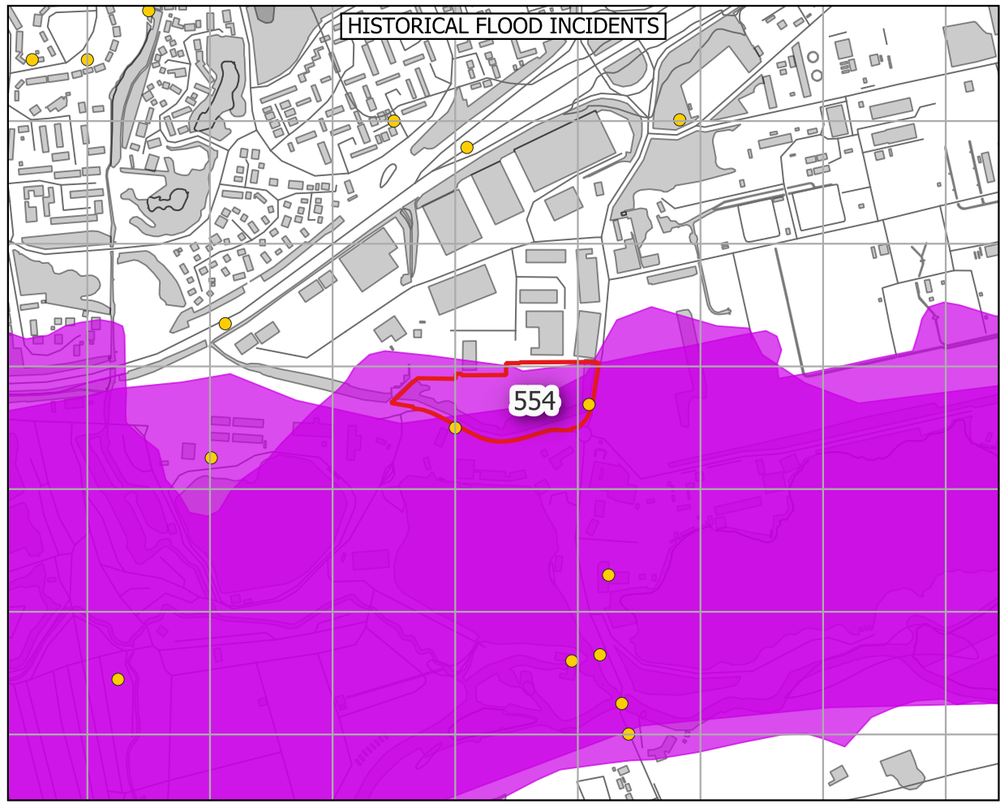
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

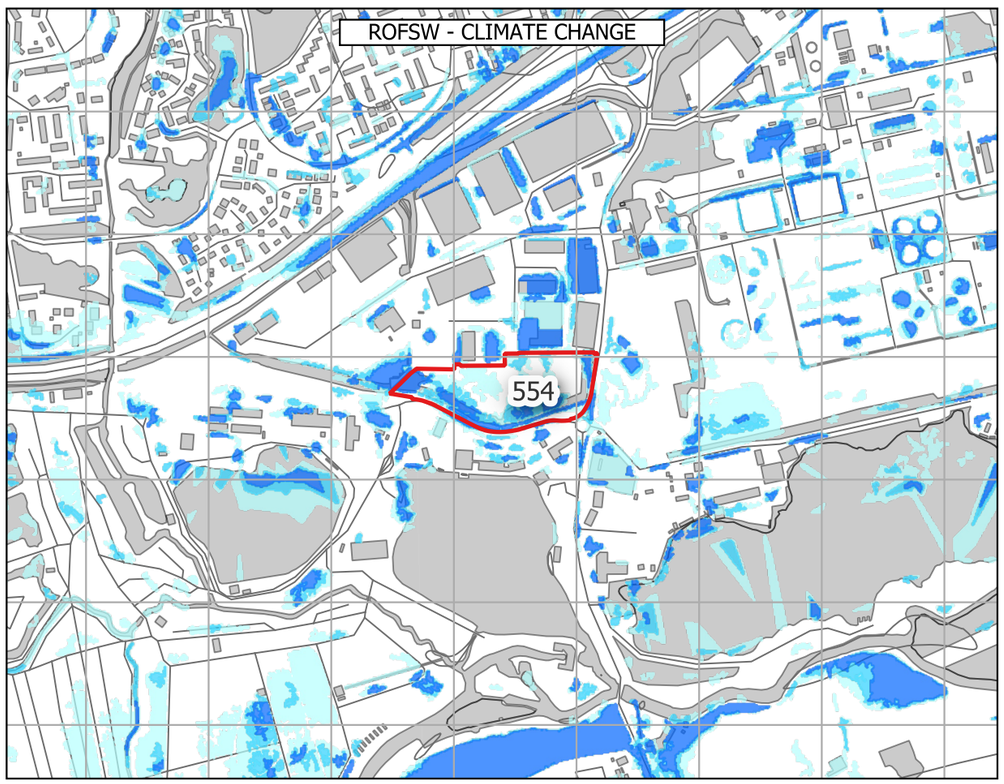
It is estimated that 2,316 m^3 of surface water attenuation provision may be required, should development be proposed for this site. This indicates that a minimum of 0.35 Ha should be set aside for appropriate SuDS techniques.

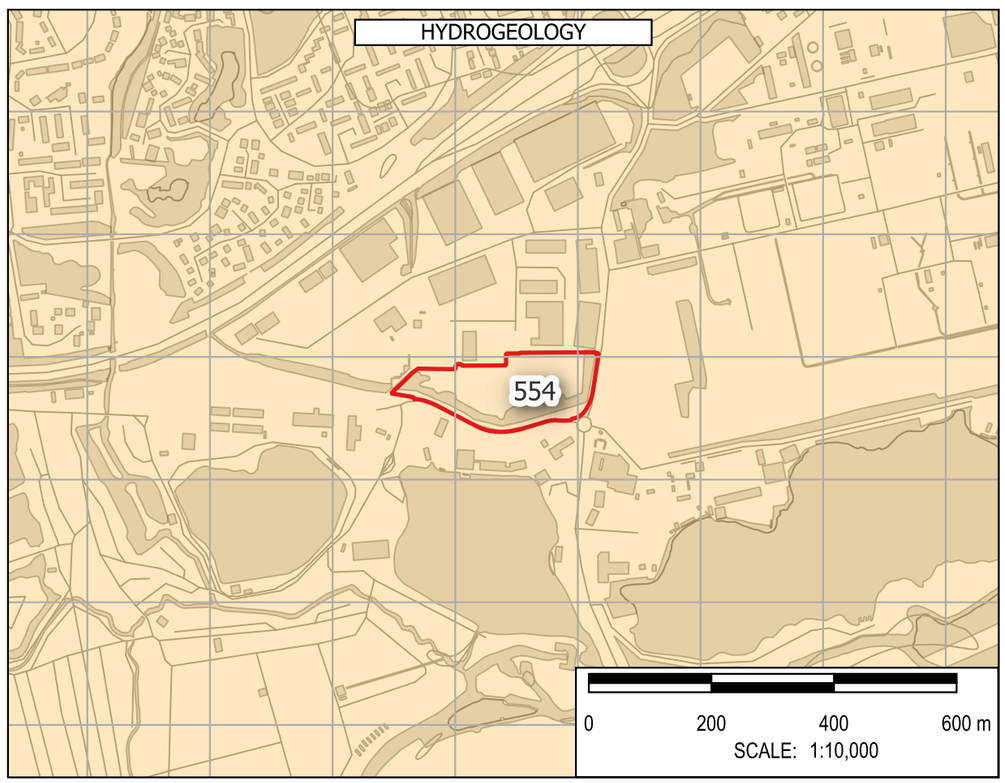
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of this site is not compatible with the level of pluvial and fluvial flood risk identified.









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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
  - WEST NORTHANTS BOUNDARY
- FLOOD MAP FOR PLANNING
  - FLOOD DEFENCES
  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
- ROFSW WITH CLIMATE CHANGE
  - HIGH
  - MEDIUM
  - LOW
- HYDROGEOLOGY
  - AQUIFER TYPE
  - HIGHLY PRODUCTIVE AQUIFER
  - MODERATELY PRODUCTIVE AQUIFER
  - LOW PRODUCTIVITY AQUIFER
  - ROCKS WITH ESSENTIALLY NO GROUNDWATER

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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DECOMISSIONING AND DEMOLITION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE | Revision: -

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Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 554 Crow Lane North

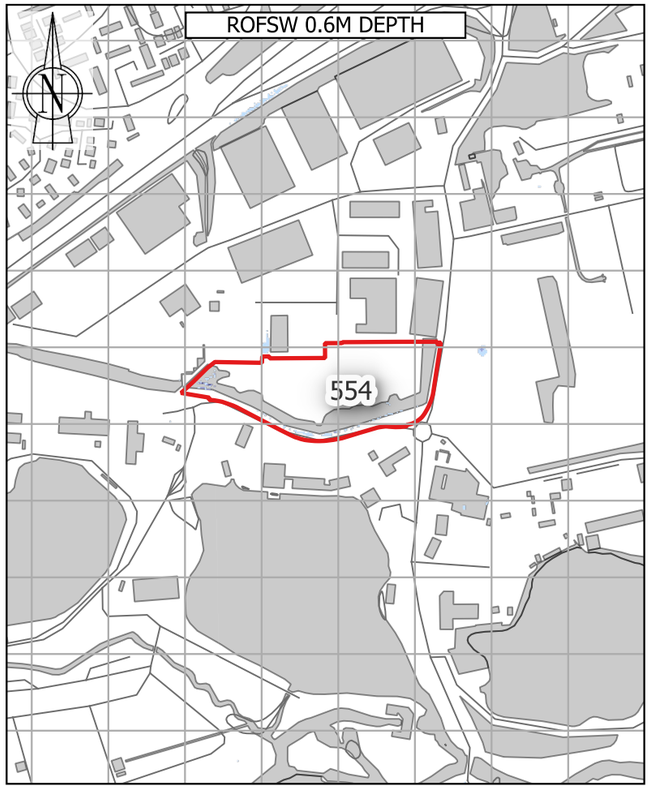
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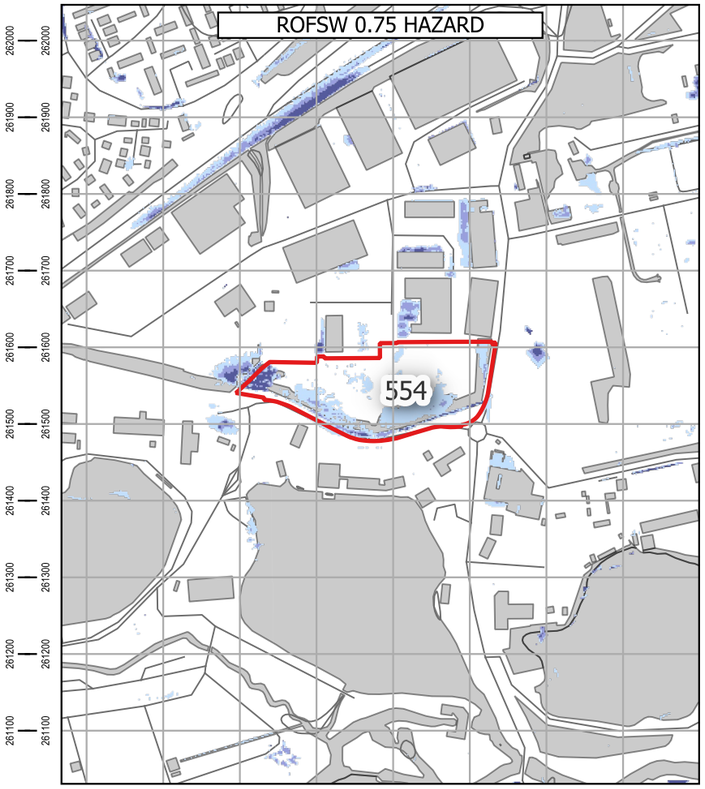
Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00161 | Revision: P01

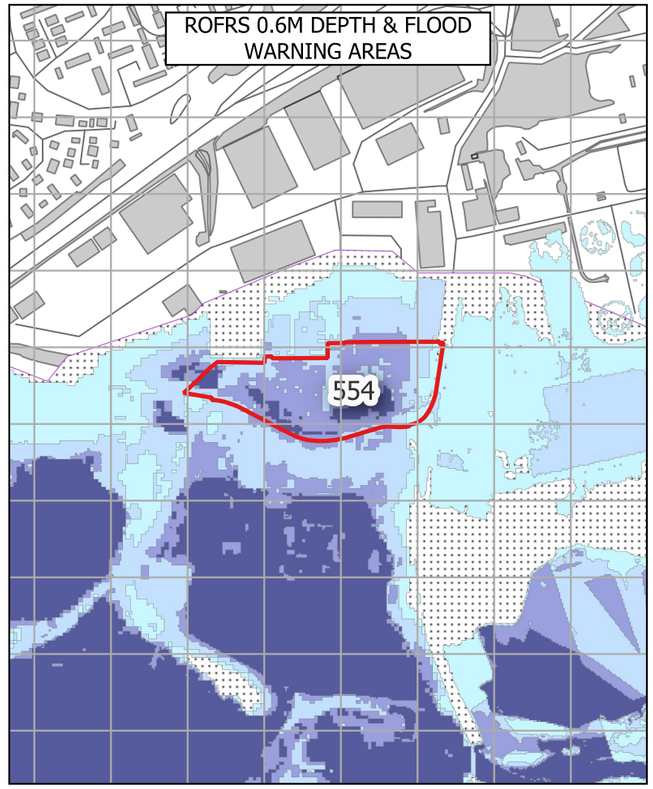
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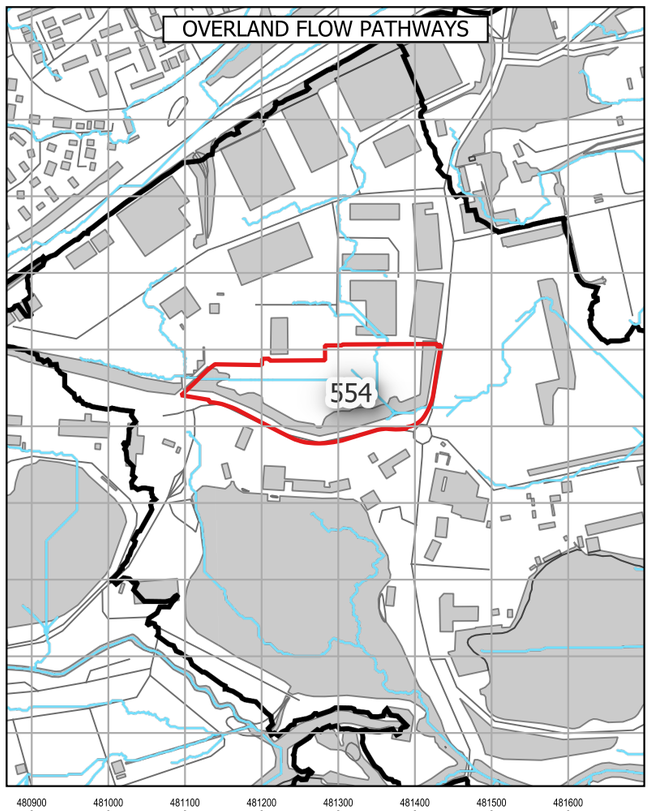
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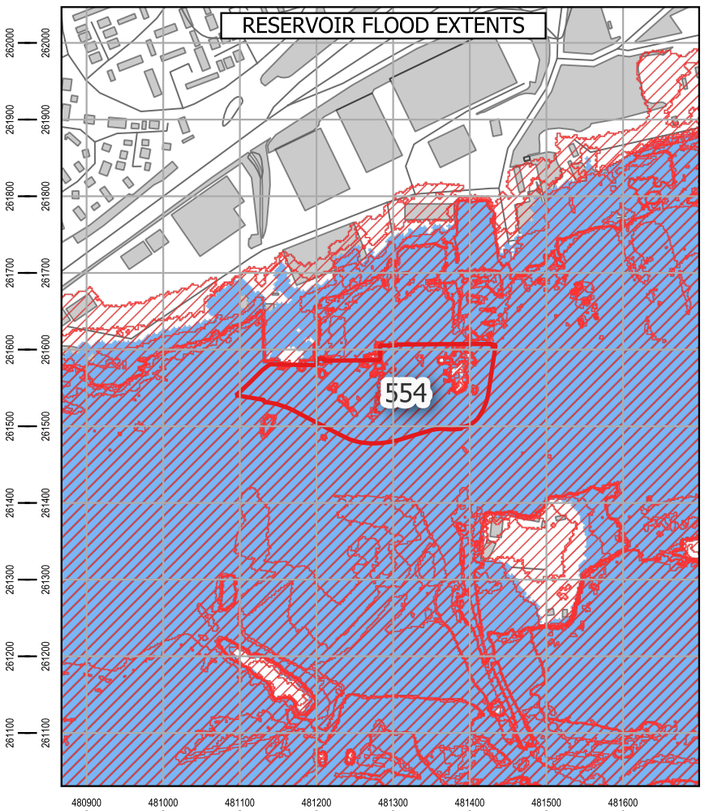
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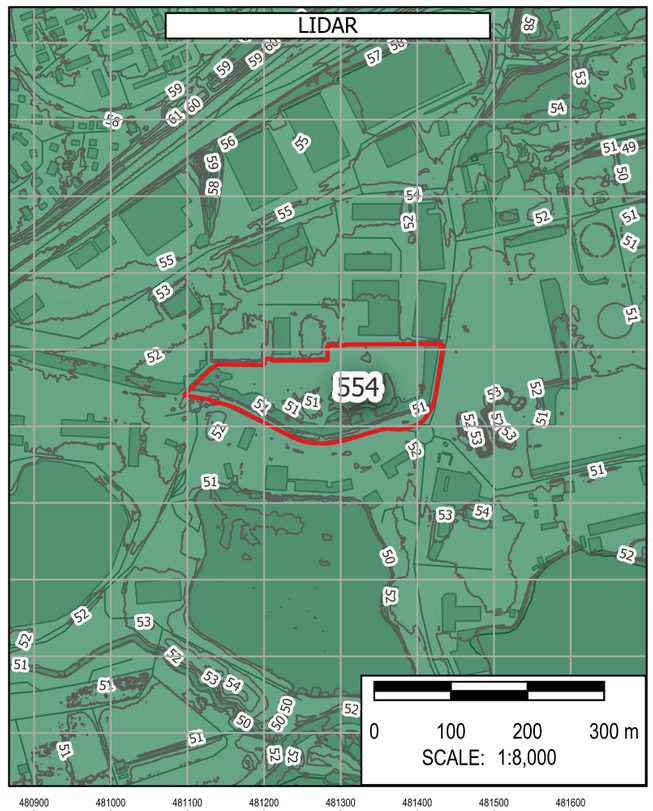












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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY

ROFSW

0.6M DEPTH
- High
- Medium
- Low
- Unavailable

0.75 HAZARD
- High
- Medium
- Low
- Unavailable

ROFRS

0.6M DEPTH
- High
- Medium
- Low
- Very low
- Unavailable

FLOOD WARNING AREAS

OVERLAND FLOW PATHWAYS

PROBABLE OVERLAND FLOW PATHWAYS
- < 3 Degrees
- 3 - 7 Degrees
- 7 - 12 Degrees
- > 12 Degrees

DETAILED WATERSHEDS

RESERVOIR FLOOD EXTENT

DRY DAY

WET DAY

LIDAR

1M CONTOURS

ELEVATION

Band 1 (Gray)
230
50

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	01/05/26	First Issue
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Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 554 Crow Lane North

Drawing Scale: 1:8,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00219

Revision: P01

G:\Projects\4082482_WNC\4_Workspaces\0_Working\ SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR Print Date:01/05/2026

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	_010
Site Name	Martin's Yard Extension
Proposed Development	Employment
Site Area	2.13 Ha
Site NGR	474741 mE, 261811 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
8.0 %	5.6 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
5.2 %	0.8 %	2.5 %	8.5 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Commentary

A small part of the eastern and southern boundaries are situated within Flood Zone 2 and 3 under a present-day and a climate change scenario.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
2.6 %	3.0 %	4.0 %	9.6 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
3.7 %	3.3 %	3.7 %	10.7 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

The site is subject to localised ponding at topographic low spots.

Flood History

There are seventeen WNC recorded flood events within 500m of the site. This site is located within an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at low risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
4.8 %	100.0 %	100.0 %	100.0 %

Although the site is in an area at risk of reservoir flooding, this risk could be managed through appropriate consideration of flood resilience measures.

Flood Defences – Residual Risk

Although the the nearest defences are less than 20m from the site, the site does not benefit from these defences, and therefore an assessment of a defence breach over the lifetime of the development (including the impact of climate change) is unlikely to be required.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is unlikely that dry access and egress will be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 3. Therefore the Exception Test is required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 2 and 3, should development be proposed for this site, finished floor levels should be set no lower than 62.5 mAOD, 600mm above the maximum predicted flood level of 61.9 mAOD. In accordance with the EA guidance, freeboard allowances could be reviewed, and where appropriate reduced to 300mm. An appropriate freeboard allowance should also be considered for other sources of flooding. This should be confirmed by a site specific assessment as part of the detailed design for development, which should include consideration of proposed ground levels.

Surface Water Attenuation Provision – Design Considerations

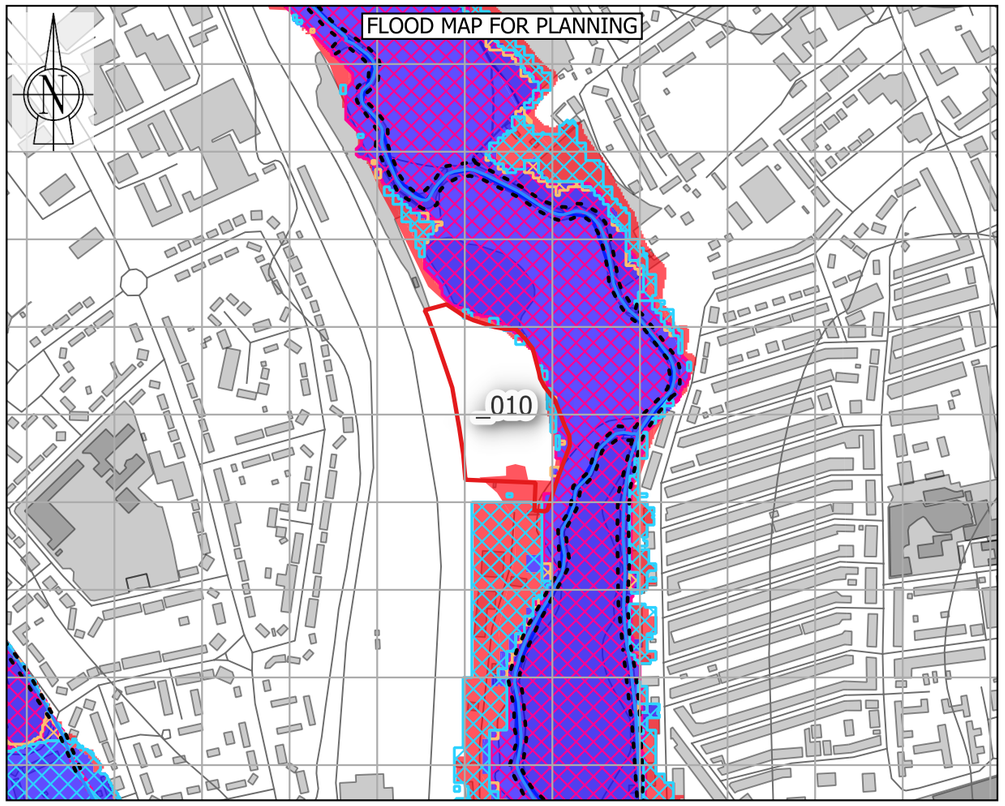
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

Should development be propsoed for this site, it is estimated that 1,688 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 0.25 Ha should be set aside for appropriate SuDS techniques.

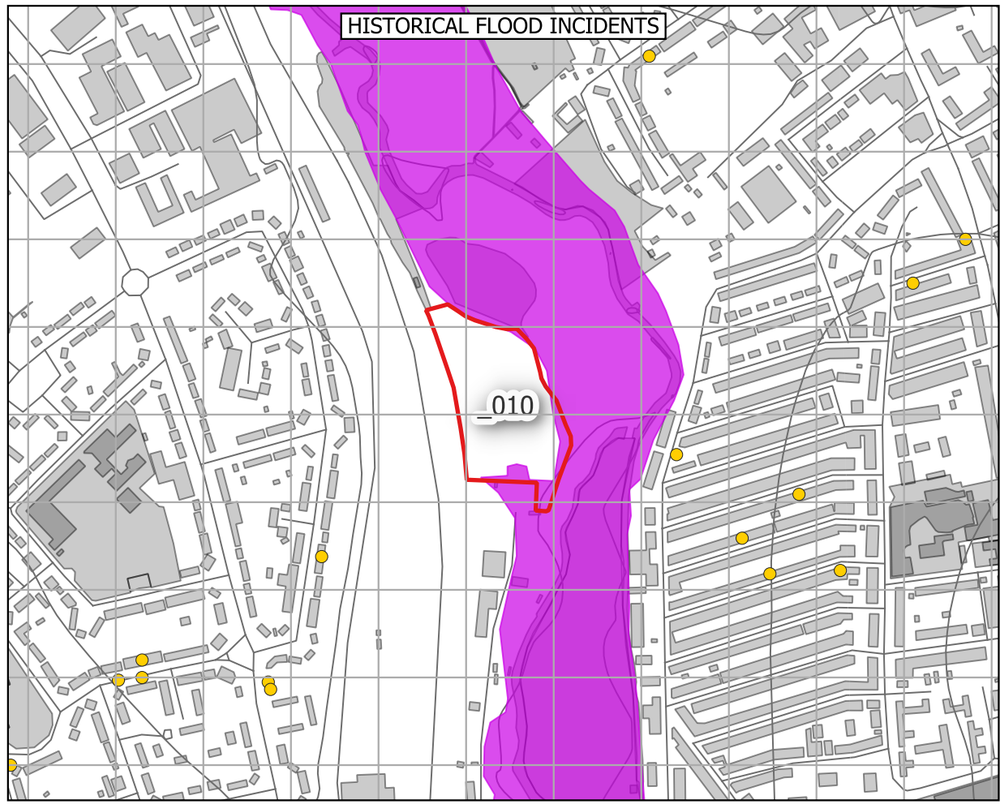
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of this site is not compatible with the level of flood risk identified, as the site is unlikely to have dry access and egress during a fluvial flood event.

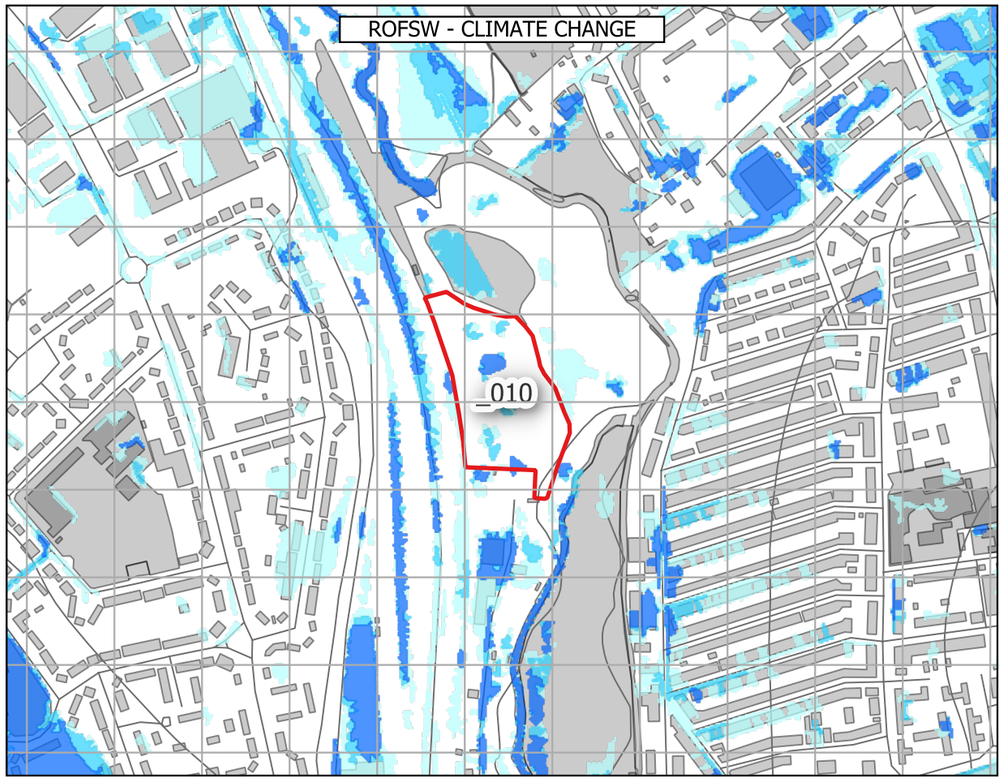
FLOOD MAP FOR PLANNING



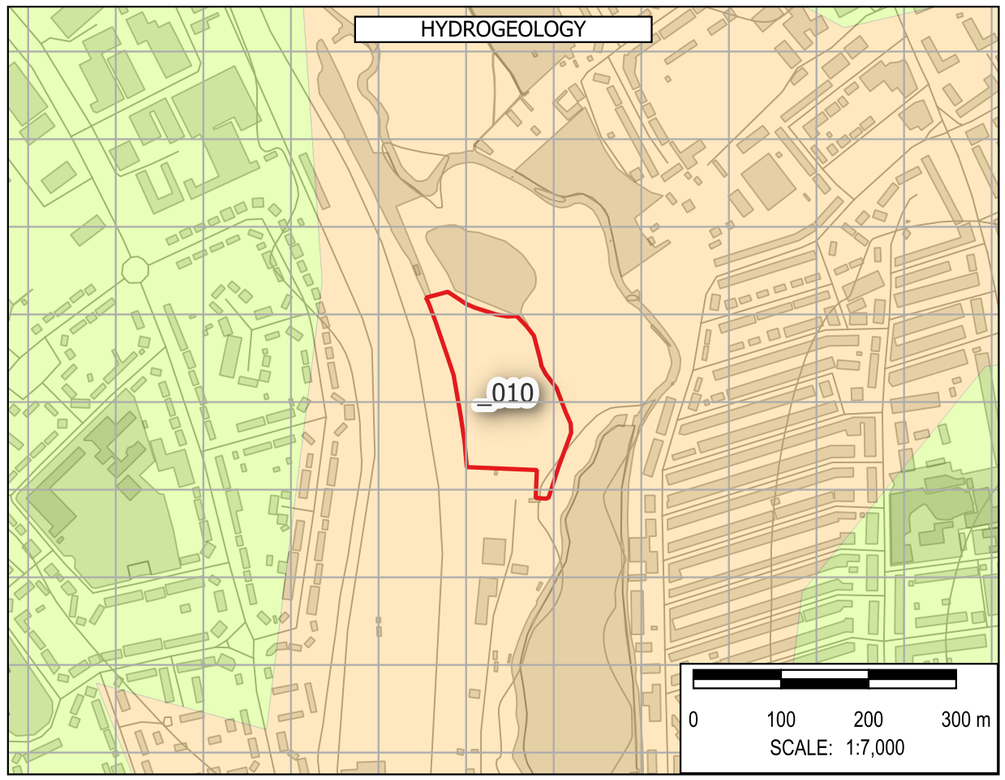
HISTORICAL FLOOD INCIDENTS



ROFSW - CLIMATE CHANGE



HYDROGEOLOGY



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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
  - WEST NORTHANTS BOUNDARY
- FLOOD MAP FOR PLANNING
  - FLOOD DEFENCES
  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
- ROFSW WITH CLIMATE CHANGE
  - HIGH
  - MEDIUM
  - LOW
- HYDROGEOLOGY
  - AQUIFER TYPE
    - HIGHLY PRODUCTIVE AQUIFER
    - MODERATELY PRODUCTIVE AQUIFER
    - LOW PRODUCTIVITY AQUIFER
    - ROCKS WITH ESSENTIALLY NO GROUNDWATER

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
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Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

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Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: _010 Martin's Yard Extension

Drawing Scale: 1:7,000 Sheet Size: A3

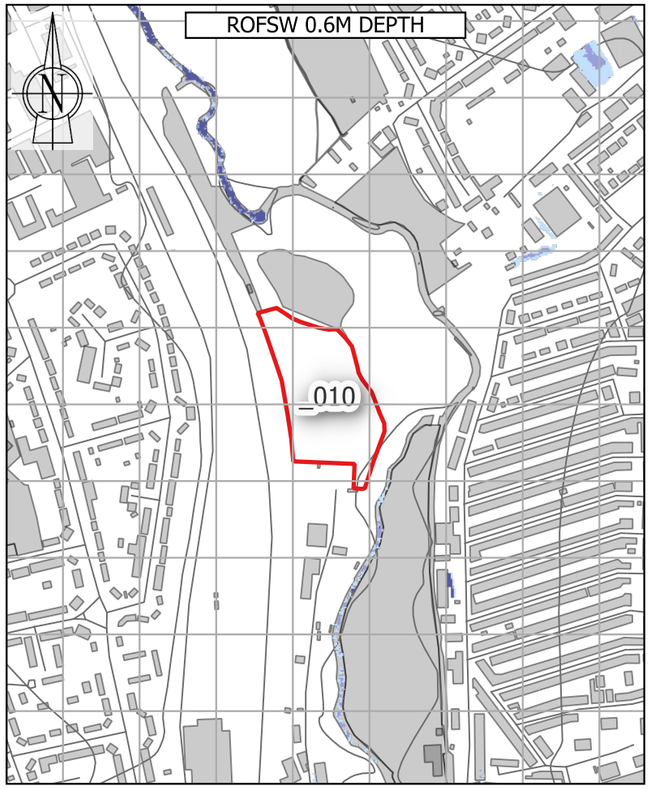
Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00164 | Revision: P01

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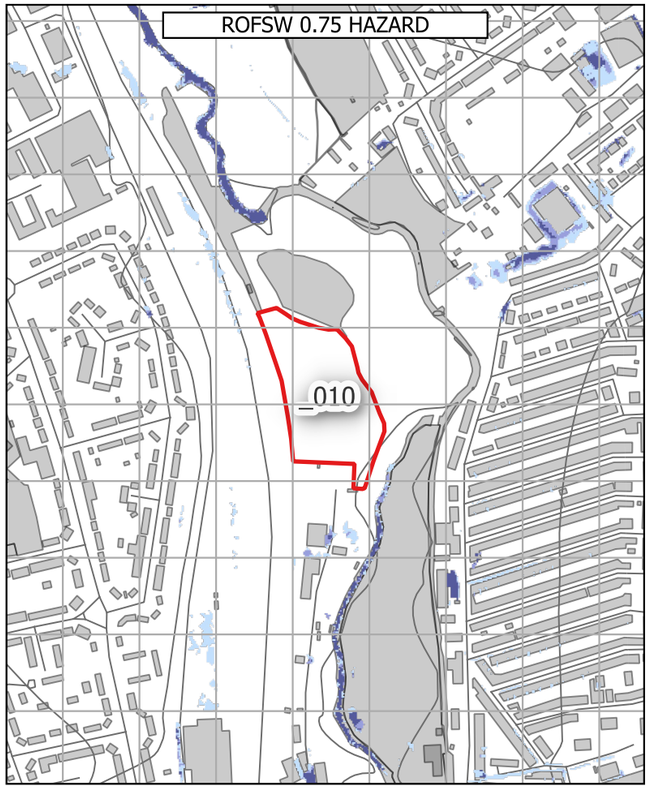
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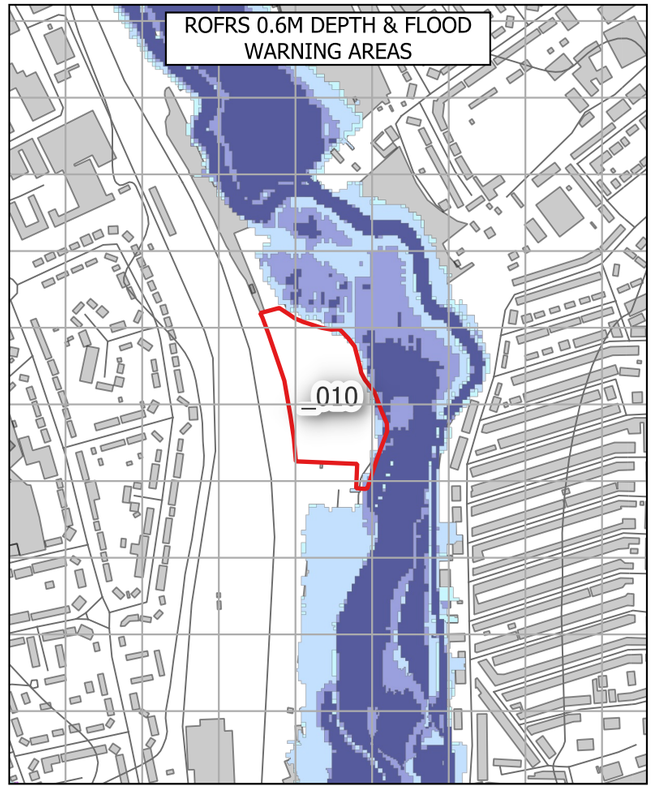
ROFSW 0.6M DEPTH



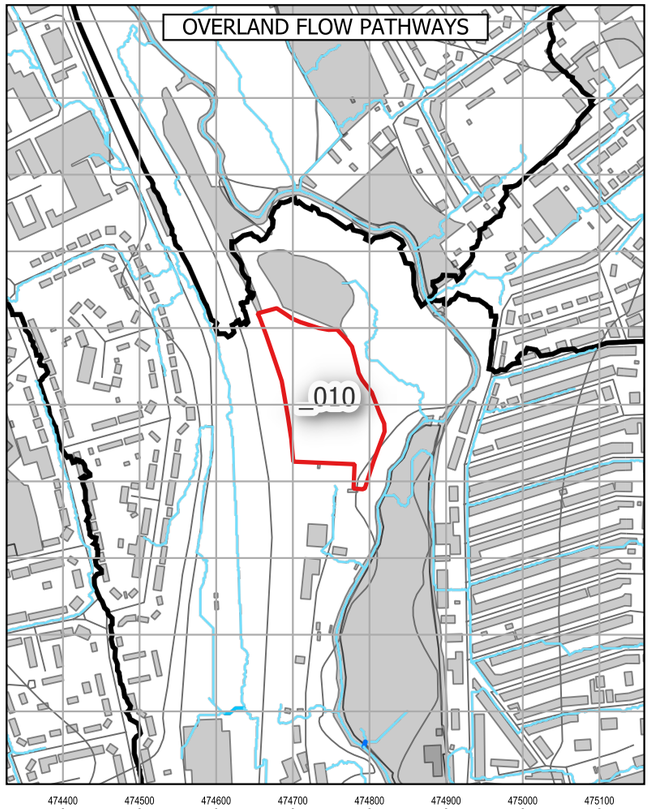
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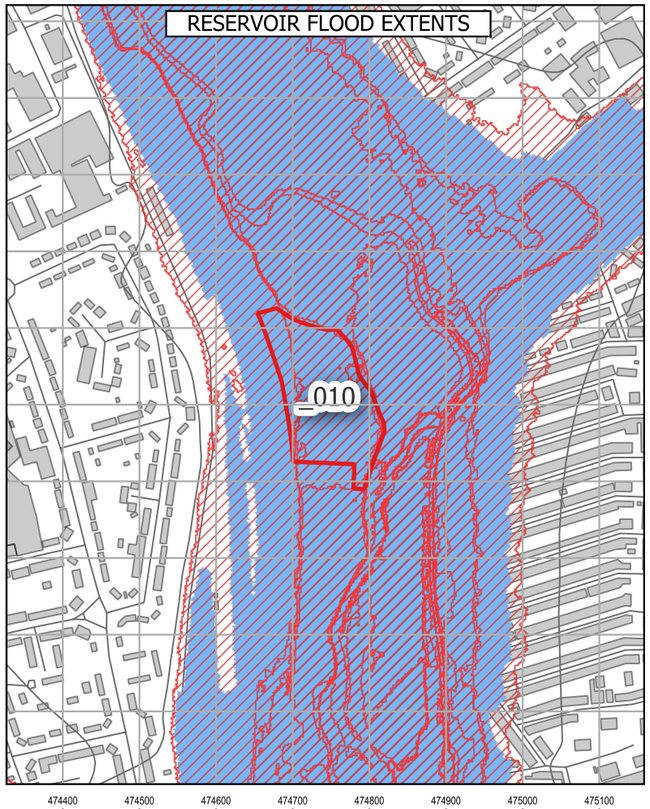
ROFRS 0.6M DEPTH & FLOOD WARNING AREAS



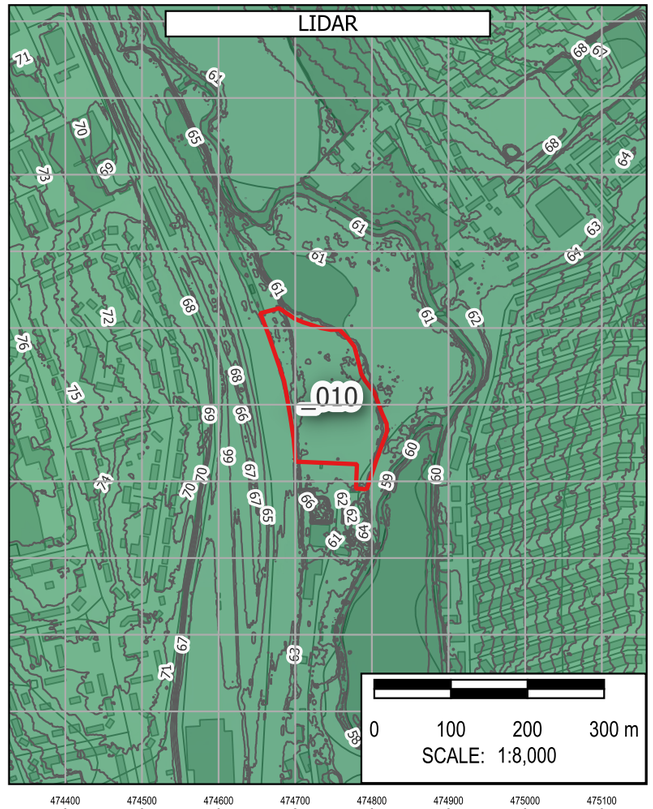
OVERLAND FLOW PATHWAYS



RESERVOIR FLOOD EXTENTS



LIDAR



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- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY
- ROFSW
  - 0.6M DEPTH
    - High
    - Medium
    - Low
    - Unavailable
  - 0.75 HAZARD
    - High
    - Medium
    - Low
    - Unavailable
- ROFRS
  - 0.6M DEPTH
    - High
    - Medium
    - Low
    - Very low
    - Unavailable
- FLOOD WARNING AREAS
- OVERLAND FLOW PATHWAYS
- PROBABLE OVERLAND FLOW PATHWAYS
  - < 3 Degrees
  - 3 - 7 Degrees
  - 7 - 12 Degrees
  - > 12 Degrees
- DETAILED WATERSHEDS
- RESERVOIR FLOOD EXTENT
  - DRY DAY
  - WET DAY
- LIDAR
  - 1M CONTOURS
- ELEVATION
  - Band 1 (Gray)
    - 230
    - 50

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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
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Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

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Client Drawing No.: NOT APPLICABLE

Revision: -

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Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: _010 Martin's Yard Extension

Drawing Scale: 1:8,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00222 Revision: P01

Print Date:01/05/2026

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	559
Site Name	Land at Woolgrowers Field, Towcester
Proposed Development	Employment
Site Area	4.45 Ha
Site NGR	468552 mE, 249586 mN.
River Management Catchment	Upper Bedford and Ouse

Fluvial Flood Risk – Present-day

FZ2	FZ3
0.8 %	10.1 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
10.0 %	0.0 %	0.0 %	10.0 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Commentary

The level of fluvial flood risk is similar between a present-day and climate change scenario. The western site boundary is situated within Flood Zone 2 and 3 in a present-day scenario, as an ordinary watercourse flows parallel to the western boundary. Therefore, site specific modelling may be required to inform mitigation measures as part of a future Flood Risk Assessment.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
1.2 %	0.9 %	2.0 %	4.1 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
1.7 %	1.1 %	2.0 %	4.8 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

There is a surface water flow path that originates offsite and follows a similar alignment to an existing ordinary watercourse along the western boundary of the site. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Flood History

There are sixteen WNC recorded flood events within 500m of the site. This site is located within an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at low risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

The site is not indicated to be at risk of reservoir flooding.

Flood Defences – Residual Risk

Although the nearest defences are less than 200m from the site, it is unlikely that the site benefits from these defences and therefore an assessment of a defence breach over the lifetime of the development (including the impact of climate change) is unlikely to be required.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 3. Therefore the Exception Test is required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 2 and 3, finished floor levels should be set no lower than 90.6 mAOD, 600mm above the maximum predicted flood level of 90.0 mAOD. In accordance with the EA guidance, freeboard allowances could be reviewed, and where appropriate reduced to 300mm. An appropriate freeboard allowance should also be considered for other sources of flooding. This should be confirmed by a site specific assessment as part of the detailed design for development, which should include consideration of proposed ground levels.

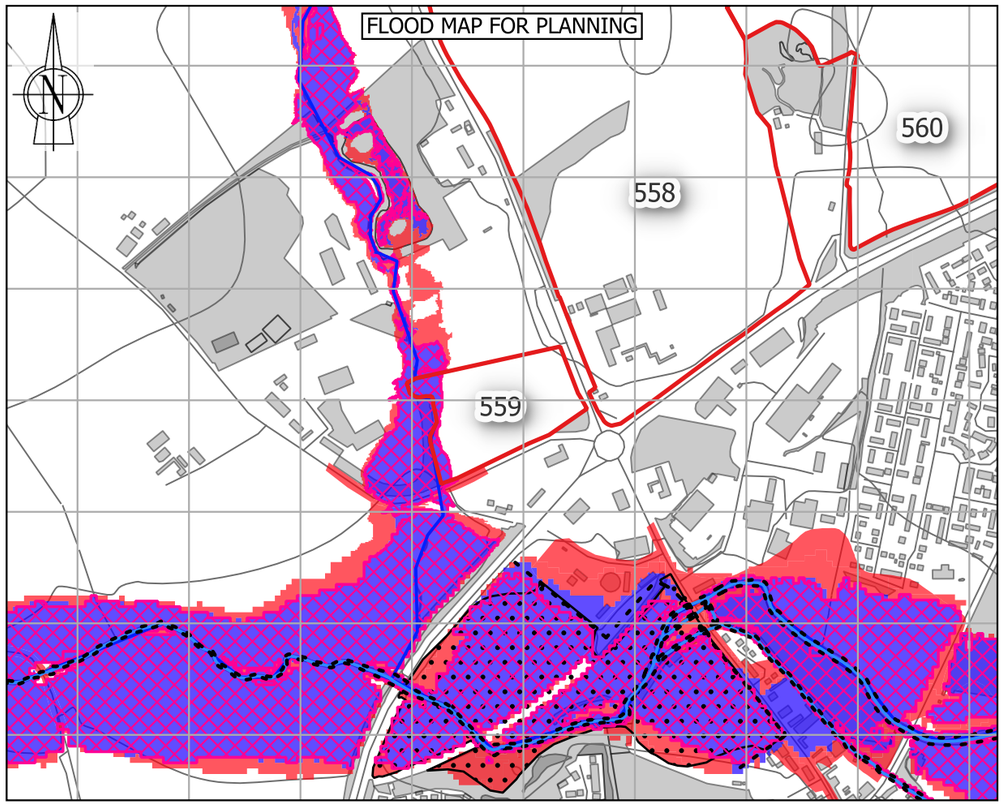
Surface Water Attenuation Provision – Design Considerations

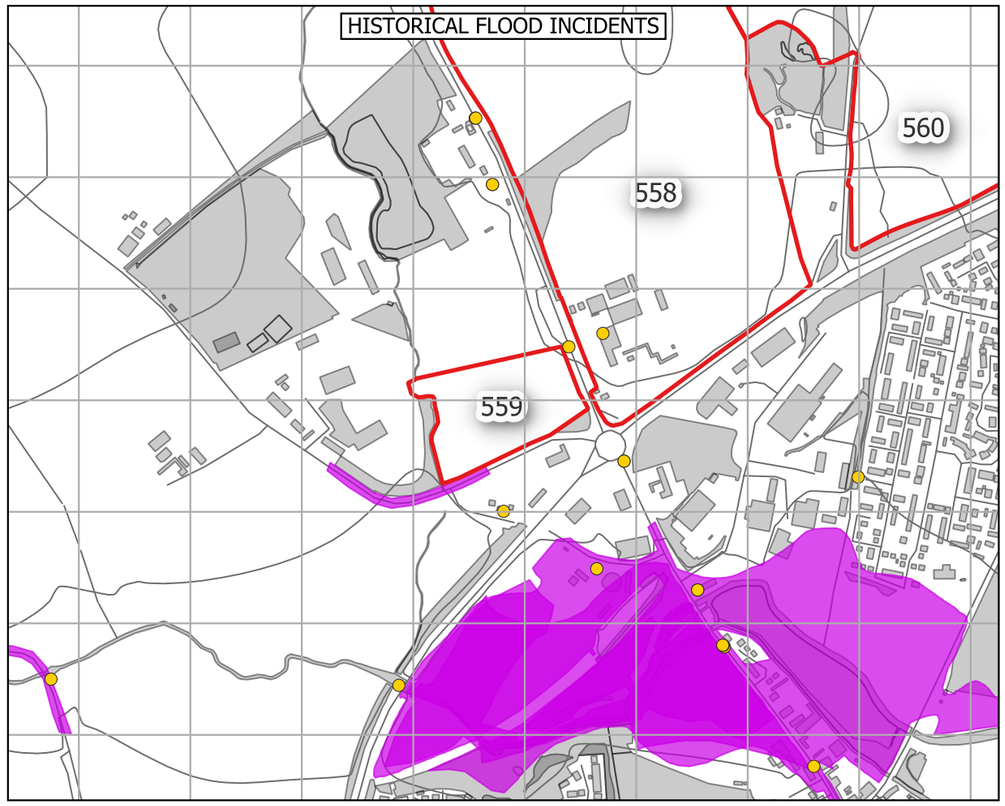
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

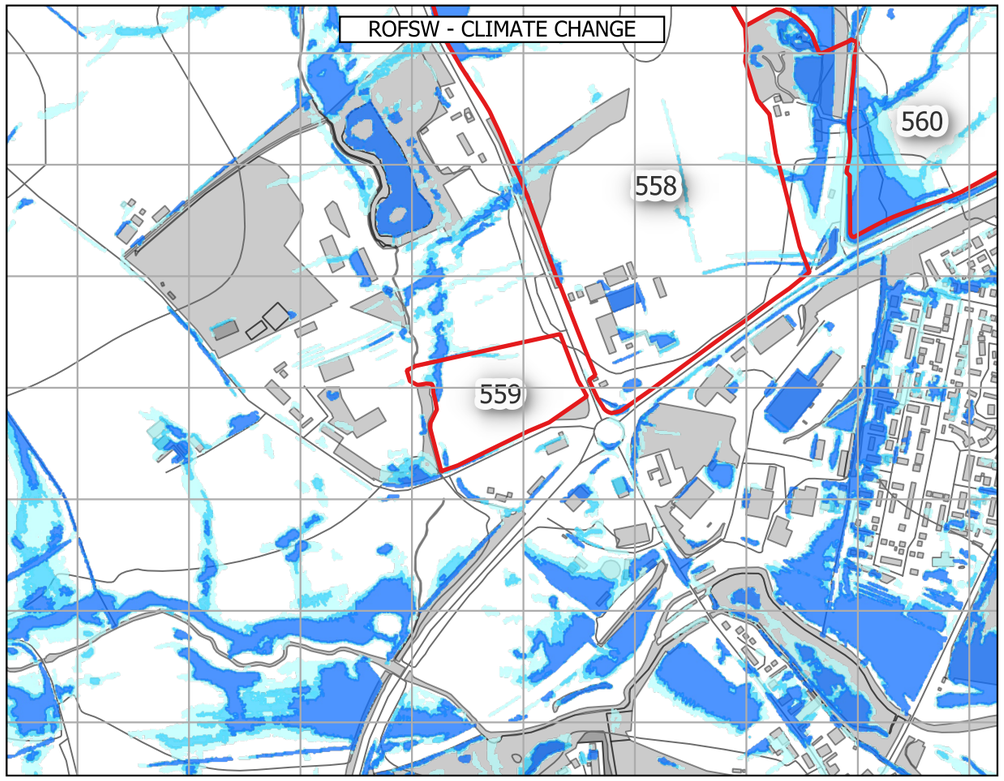
It is estimated that 3525 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 0.53 Ha should be set aside for appropriate SuDS techniques.

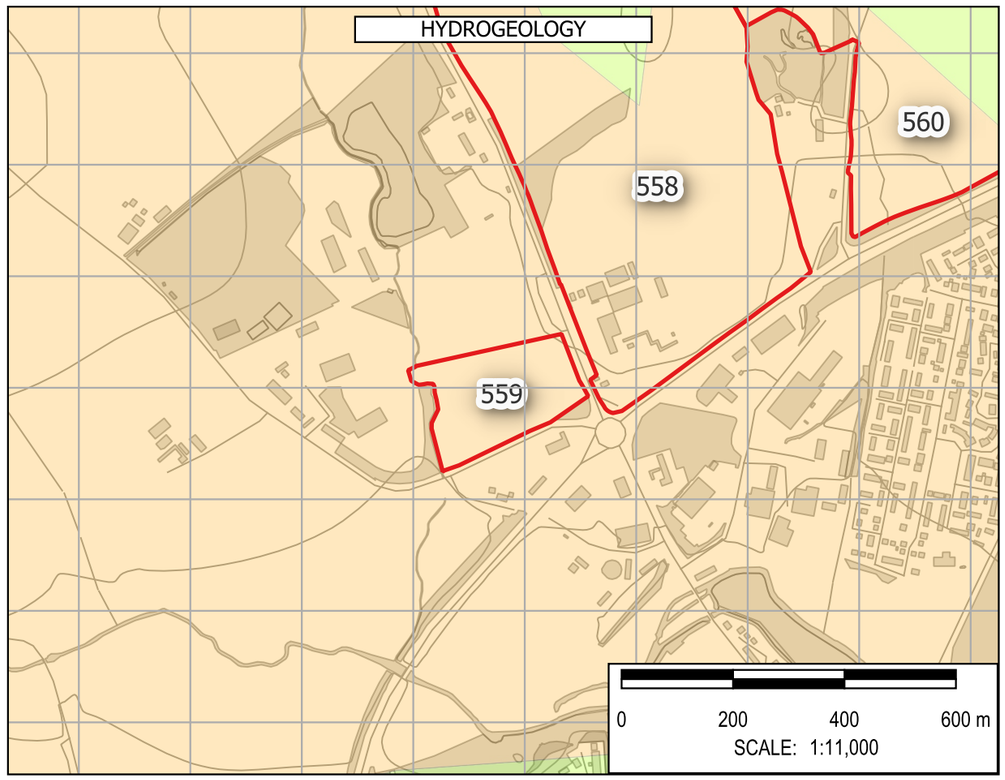
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.









Note: The limits, including the height and depths of the Works, shown in this drawing are not to be taken as limiting the obligations of the contractor under Contract.

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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
  - WEST NORTHANTS BOUNDARY
- FLOOD MAP FOR PLANNING
  - FLOOD DEFENCES
  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
- ROFSW WITH CLIMATE CHANGE
  - HIGH
  - MEDIUM
  - LOW
- HYDROGEOLOGY
  - AQUIFER TYPE
  - HIGHLY PRODUCTIVE AQUIFER
  - MODERATELY PRODUCTIVE AQUIFER
  - LOW PRODUCTIVITY AQUIFER
  - ROCKS WITH ESSENTIALLY NO GROUNDWATER

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DECOMISSIONING AND DEMOLITION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
-	--	--	--	--	DD/MM/YY	--
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Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 559
Land at Woolgrowers Field, Towcester

Drawing Scale: 1:11,000 Sheet Size: A3

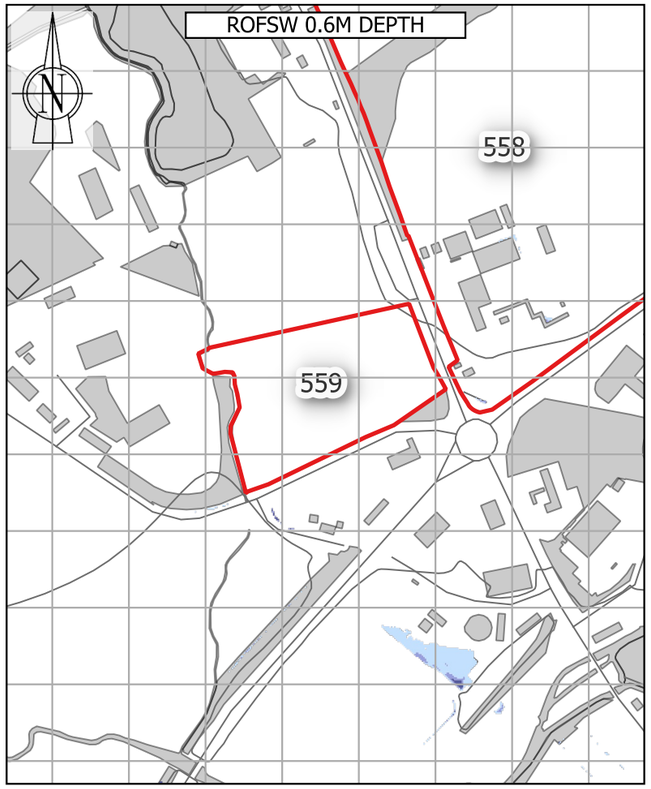
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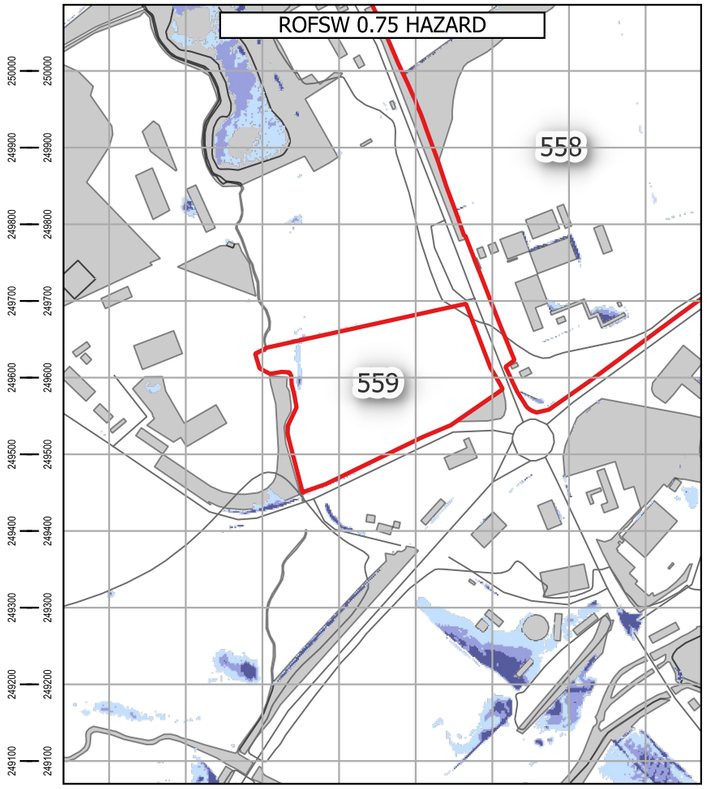
Revision: P01

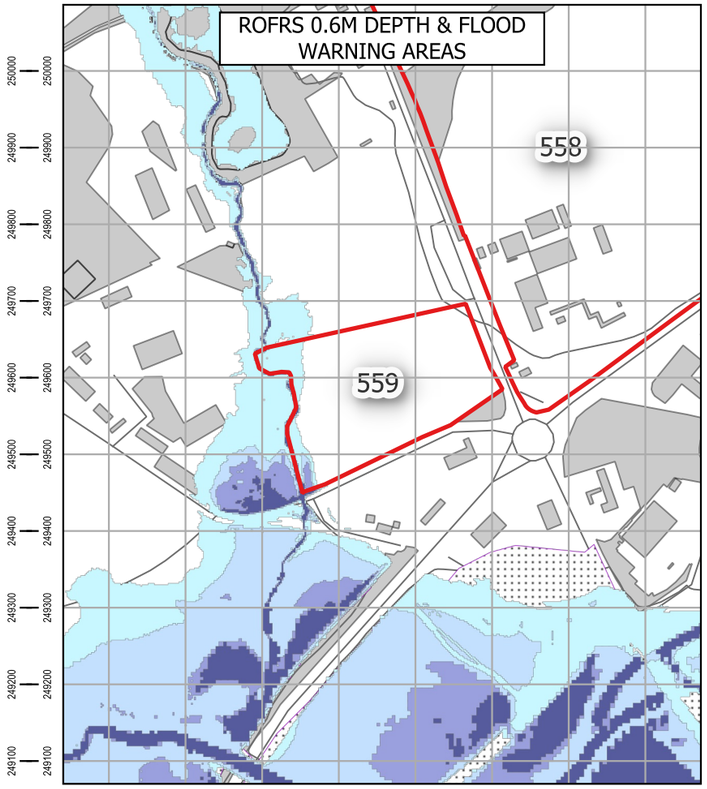
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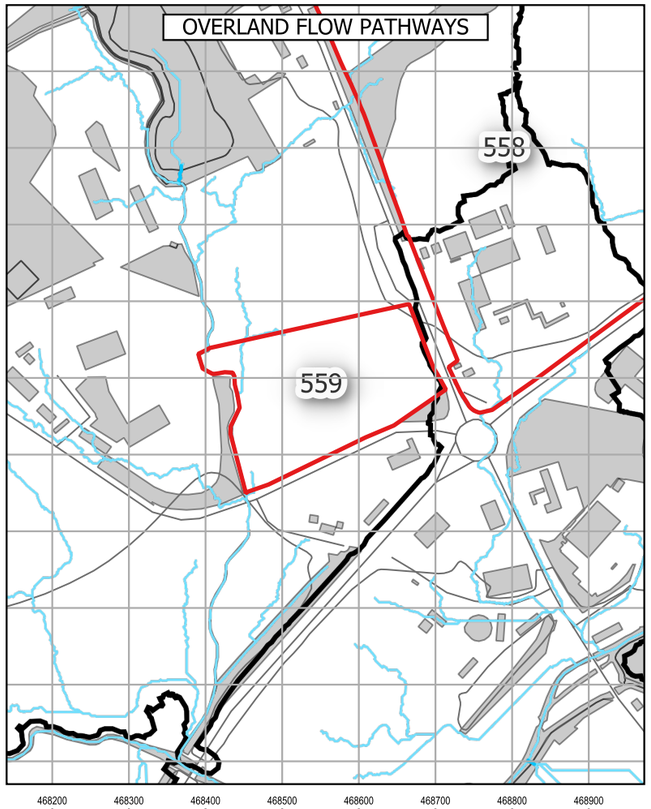
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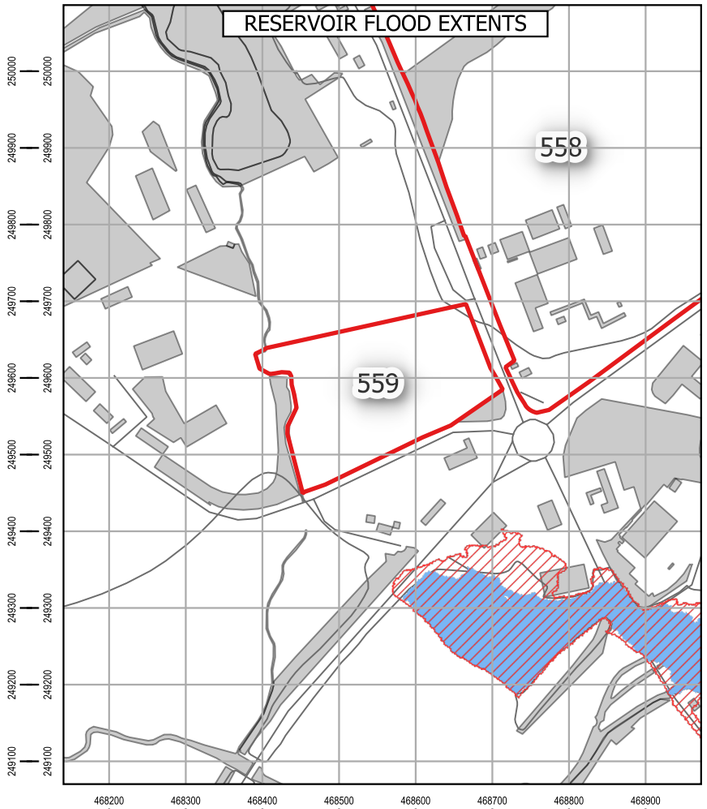
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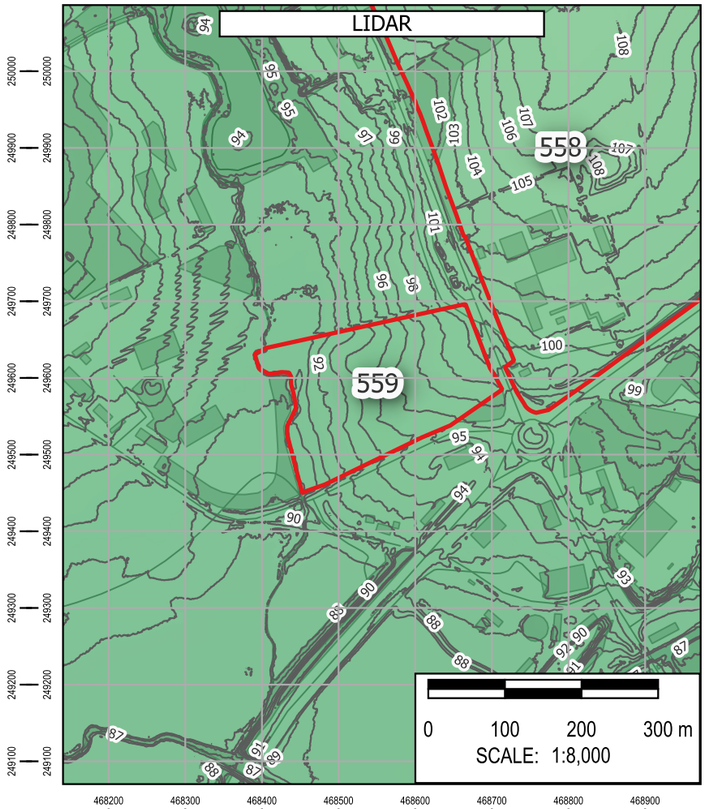












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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY
- ROFSW
- 0.6M DEPTH
  - High
  - Medium
  - Low
  - Unavailable
- 0.75 HAZARD
  - High
  - Medium
  - Low
  - Unavailable
- ROFRS
- 0.6M DEPTH
  - High
  - Medium
  - Low
  - Very low
  - Unavailable
- FLOOD WARNING AREAS
- OVERLAND FLOW PATHWAYS
- PROBABLE OVERLAND FLOW PATHWAYS
  - < 3 Degrees
  - 3 - 7 Degrees
  - 7 - 12 Degrees
  - > 12 Degrees
- DETAILED WATERSHEDS
- RESERVOIR FLOOD EXTENT
- DRY DAY
- WET DAY
- LIDAR
- 1M CONTOURS
- ELEVATION
- Band 1 (Gray)
  - 230
  - 50

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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P01	KA	MH	SB	SB	01/05/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 559
Land at Woolgrowers Field, Towcester

Drawing Scale: 1:8,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00216

Revision: P01

G:\Projects\4082482_WNC\4_Workspaces\0_Working\ SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR Print Date:01/05/2026

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	560
Site Name	Land at Tiffield Lane, Towcester
Proposed Development	Employment
Site Area	27.35 Ha
Site NGR	469397 mE, 250227 mN.
River Management Catchment	Upper Bedford and Ouse

Fluvial Flood Risk – Present-day

FZ2	FZ3
0.0 %	0.0 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
8.1 %	3.8 %	7.9 %	19.8 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
11.1 %	4.9 %	6.6 %	22.6 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

There are multiple surface water flow paths originating to the east of the site boundary and flowing across the site, with an area of high risk of pluvial flooding along the western boundary of the site. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Flood History

There are four WNC recorded flood events within 500m of the site. This site is not located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at medium risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

The site is not indicated to be at risk of reservoir flooding.

Flood Defences – Residual Risk

It is unlikely that the site will be affected by a breach of flood defences as the nearest defences are more than 500m away.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 1. Therefore the Exception Test is not required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 1, finished floor levels should be at least 150mm above external ground levels. An appropriate freeboard allowance should also be considered for other sources of flooding.

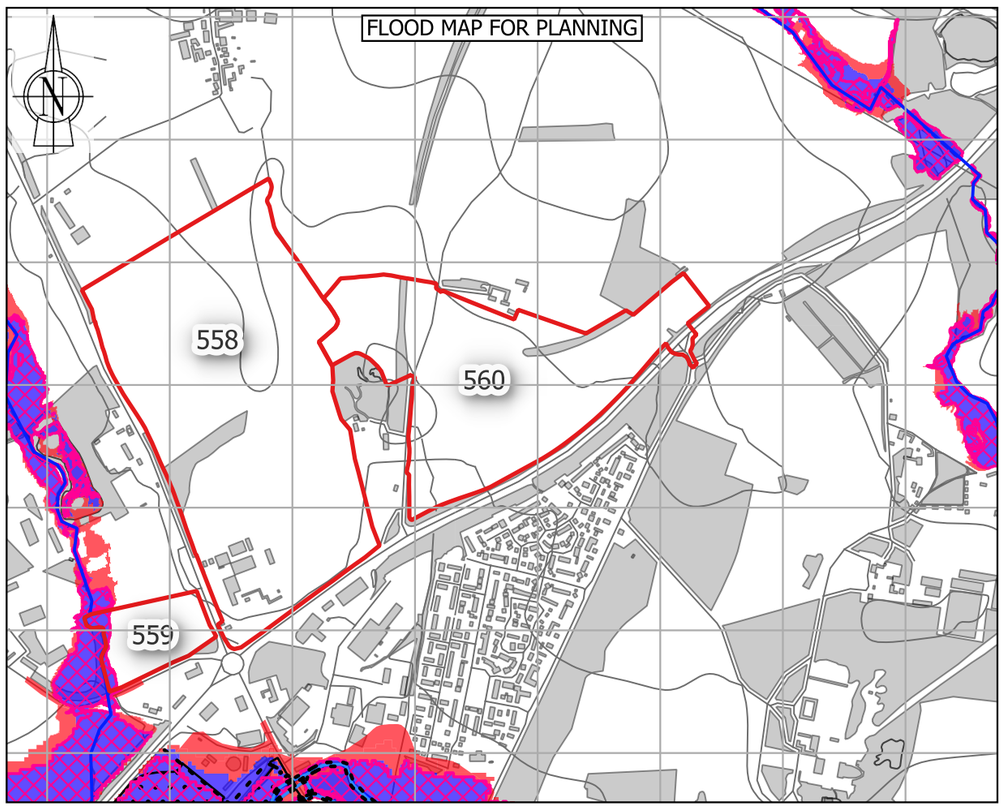
Surface Water Attenuation Provision – Design Considerations

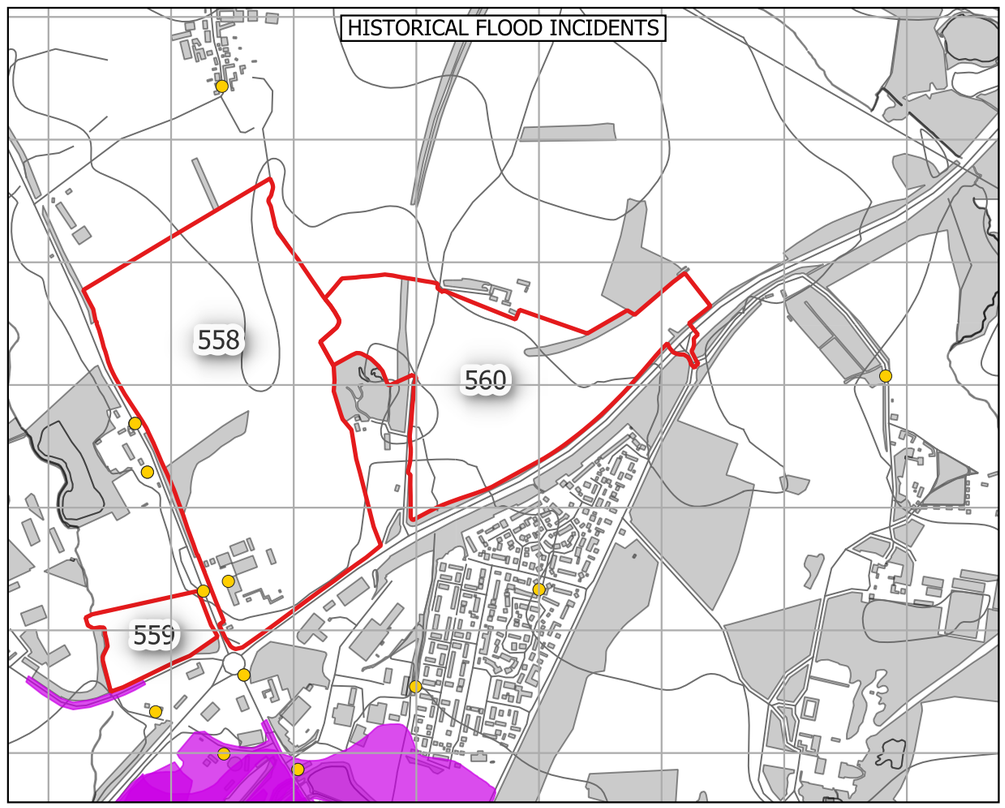
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

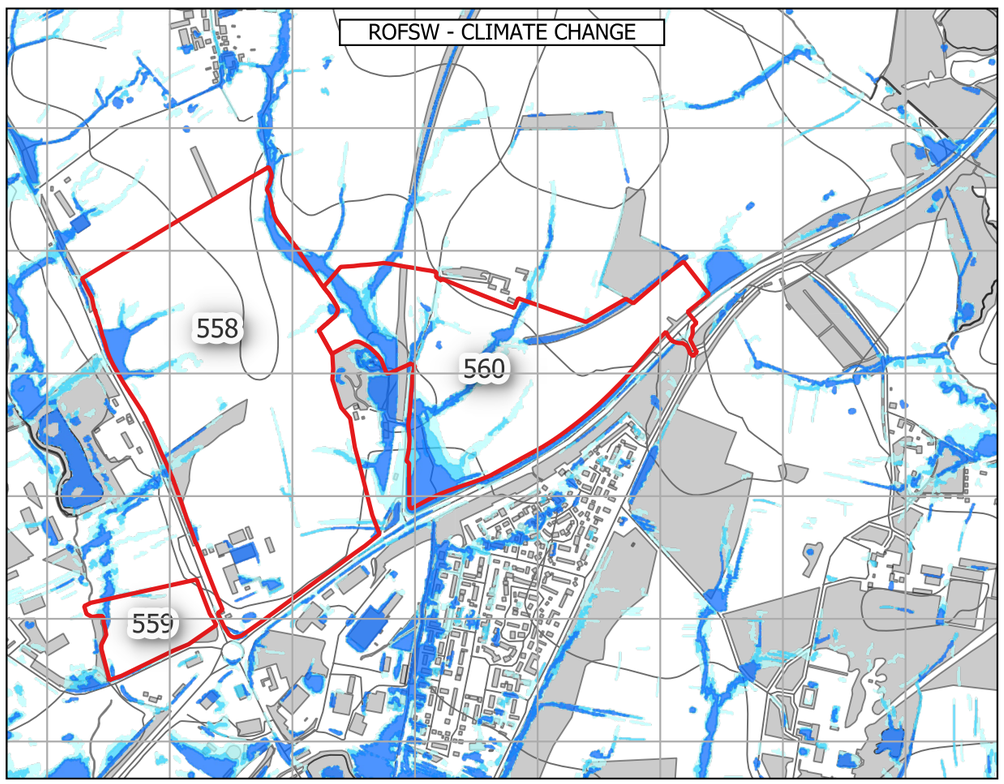
It is estimated that 21692 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 3.25 Ha should be set aside for appropriate SuDS techniques.

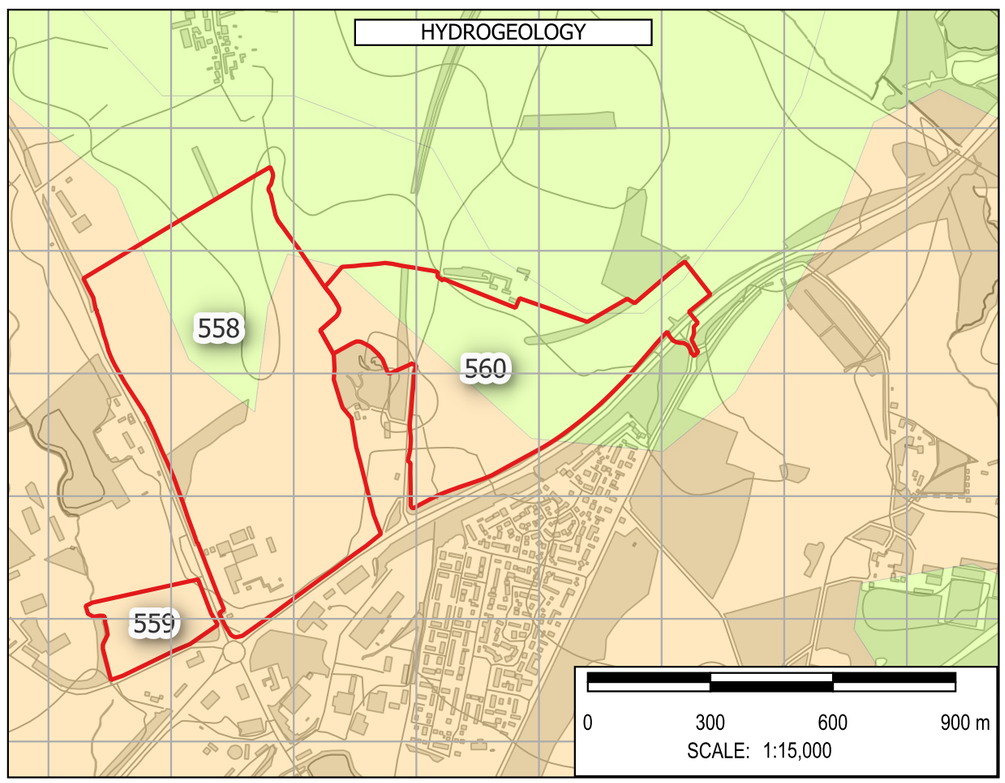
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.









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- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY

FLOOD MAP FOR PLANNING
- FLOOD DEFENCES
- MAIN RIVER
- ORDINARY WATERCOURSE
- FLOOD STORAGE AREAS
- FLOOD ZONE 2
- FLOOD ZONE 3
- FLOOD ZONE 2 + CC
- FLOOD ZONE 3A + CC
- FLOOD ZONE 3B + CC
- IDB

HISTORIC FLOOD INCIDENTS
- WNC FLOOD HISTORY
- EA HISTORIC FLOOD EXTENT

ROFSW WITH CLIMATE CHANGE
- HIGH
- MEDIUM
- LOW

HYDROGEOLOGY

AQUIFER TYPE
- HIGHLY PRODUCTIVE AQUIFER
- MODERATELY PRODUCTIVE AQUIFER
- LOW PRODUCTIVITY AQUIFER
- ROCKS WITH ESSENTIALLY NO GROUNDWATER

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
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Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 560 Land at Tiffield Lane, Towcester

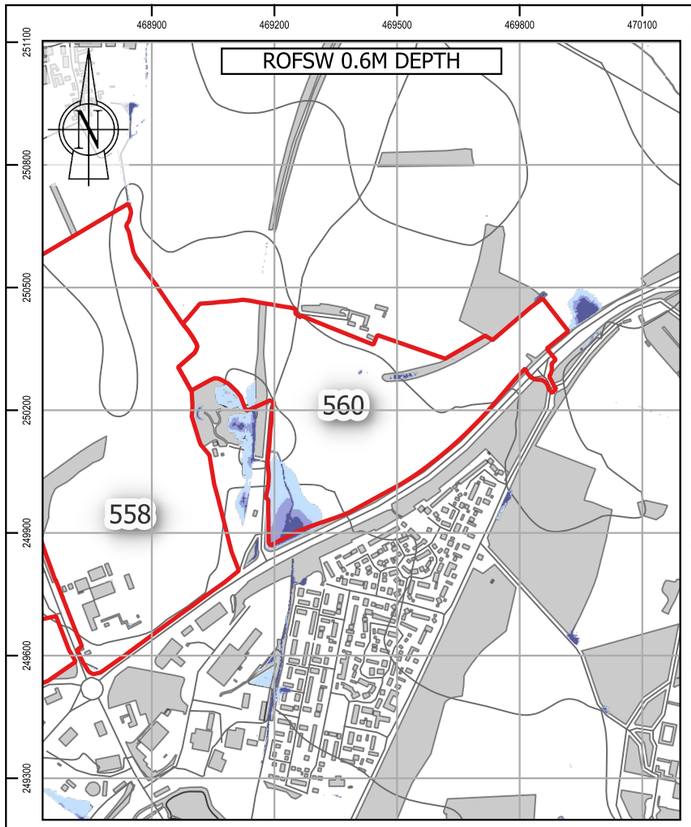
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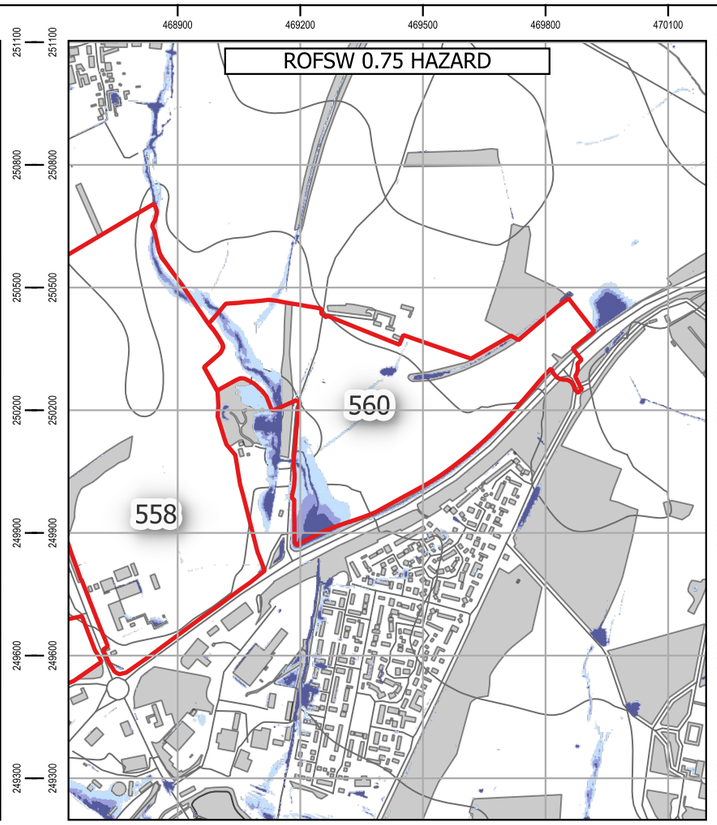
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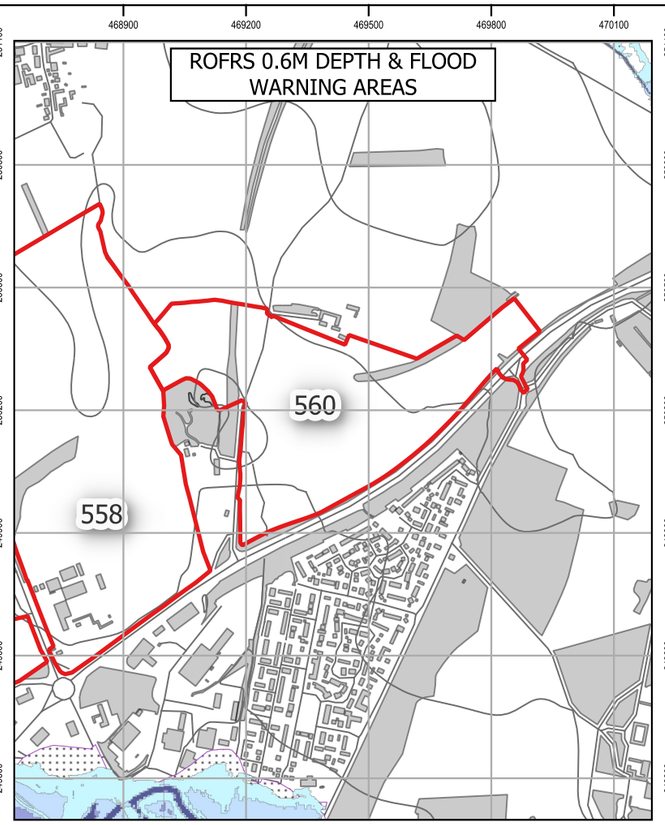
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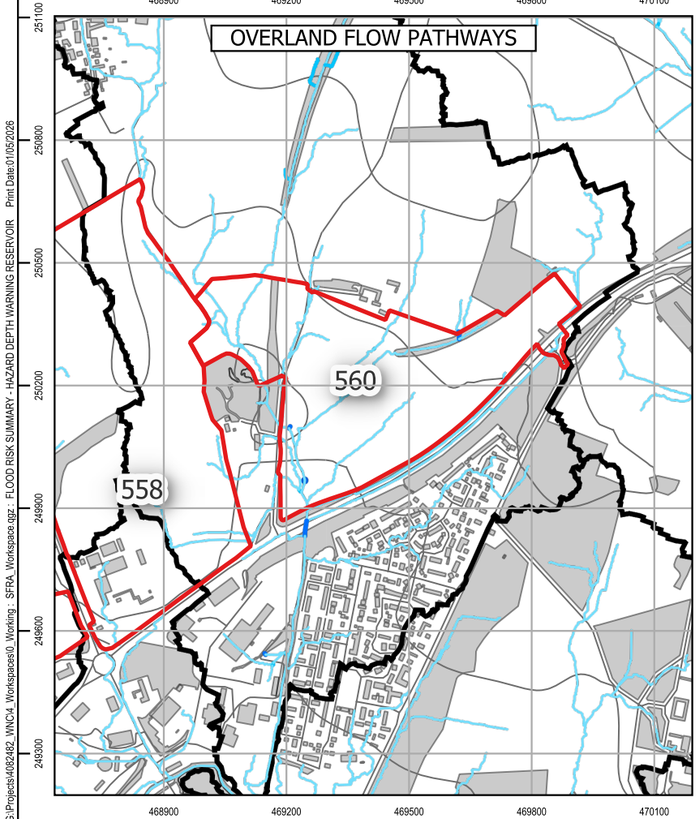
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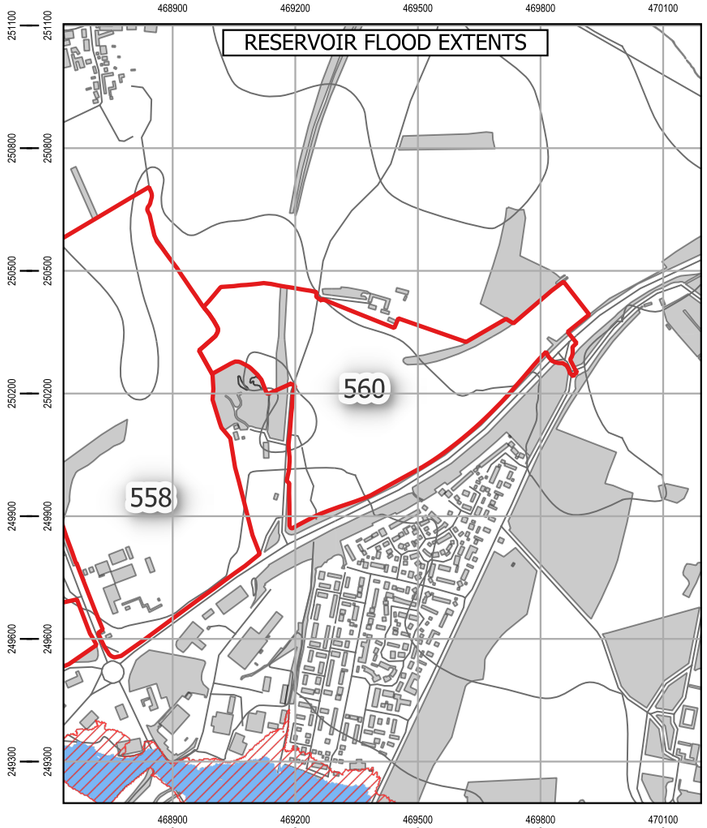
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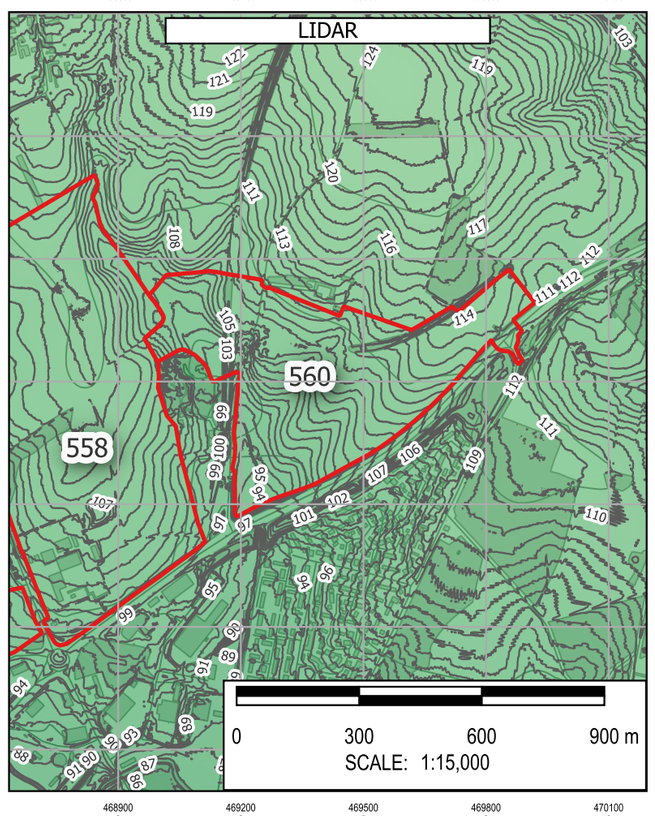












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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY

ROFSW

0.6M DEPTH
- High
- Medium
- Low
- Unavailable

0.75 HAZARD
- High
- Medium
- Low
- Unavailable

ROFRS

0.6M DEPTH
- High
- Medium
- Low
- Very low
- Unavailable

FLOOD WARNING AREAS

OVERLAND FLOW PATHWAYS

PROBABLE OVERLAND FLOW PATHWAYS
- < 3 Degrees
- 3 - 7 Degrees
- 7 - 12 Degrees
- > 12 Degrees

DETAILED WATERSHEDS

RESERVOIR FLOOD EXTENT
- DRY DAY
- WET DAY

LIDAR
- 1M CONTOURS

ELEVATION
Band 1 (Gray)
230
50

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Drawing title: FLOOD RISK SUMMARY: 560 Land at Tiffield Lane, Towcester

Drawing Scale: 1:15,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00195 Revision: P01

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	558
Site Name	Land at Bell Plantation
Proposed Development	Employment
Site Area	45.29 Ha
Site NGR	468772 mE, 250141 mN.
River Management Catchment	Upper Bedford and Ouse

Fluvial Flood Risk – Present-day

FZ2	FZ3
0.0 %	0.0 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
3.1 %	0.7 %	2.3 %	6.1 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
3.6 %	1.1 %	2.9 %	7.6 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

There is some ponding of surface water in the southern part of the site. On the western boundary of the site there is an area of high risk of pluvial flooding, comprising of three individual flow paths originating within the site boundary. Site specific modelling may further clarify surface water flood extents across the site, and surface water interaction with culverts beneath the A5.

A separate surface water flow path originating outside of the site is present on the eastern site boundary. A sequential approach to development masterplanning should be undertaken to avoid development in surface water flood extents.

Flood History

There are eighteen recorded flood events within 500m of the site. This site is located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at medium risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

The site is not indicated to be at risk of reservoir flooding.

Flood Defences – Residual Risk

Whilst the nearest flood defences are less than 300m from the site, the site does not benefit from these defences and therefore an assessment of a defence breach over the lifetime of the development (including the impact of climate change) is unlikely to be required.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 1. Therefore the Exception Test is not required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 1, finished floor levels should be at least 150mm above external ground levels. An appropriate freeboard allowance should also be considered for other sources of flooding.

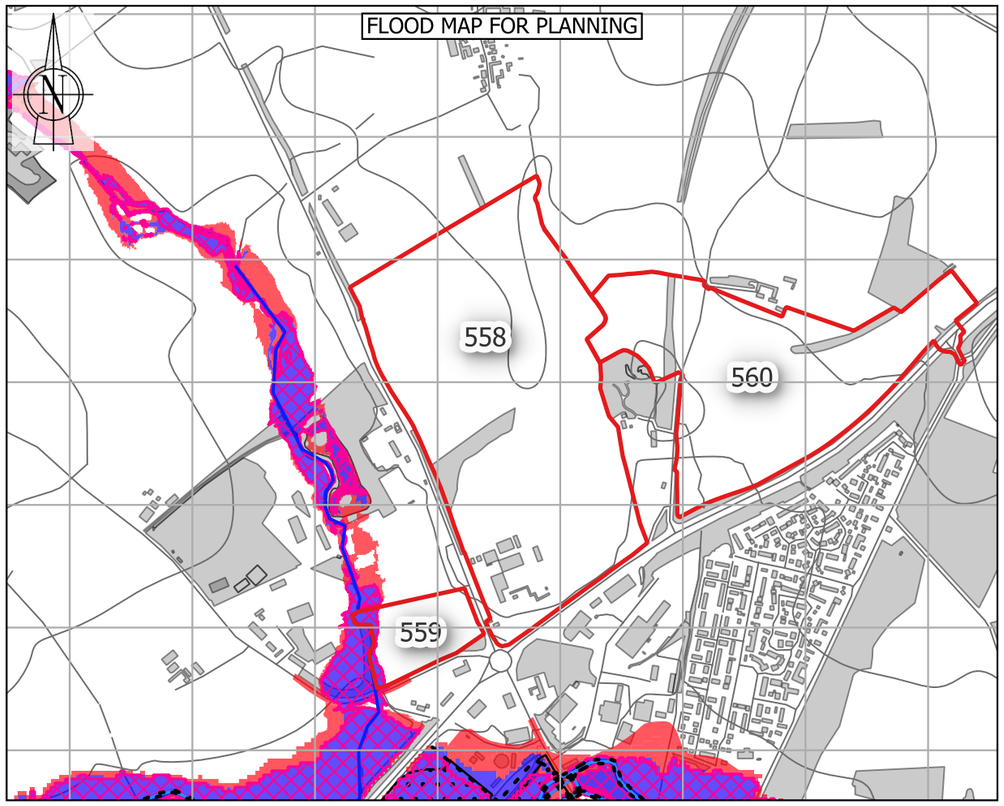
Surface Water Attenuation Provision – Design Considerations

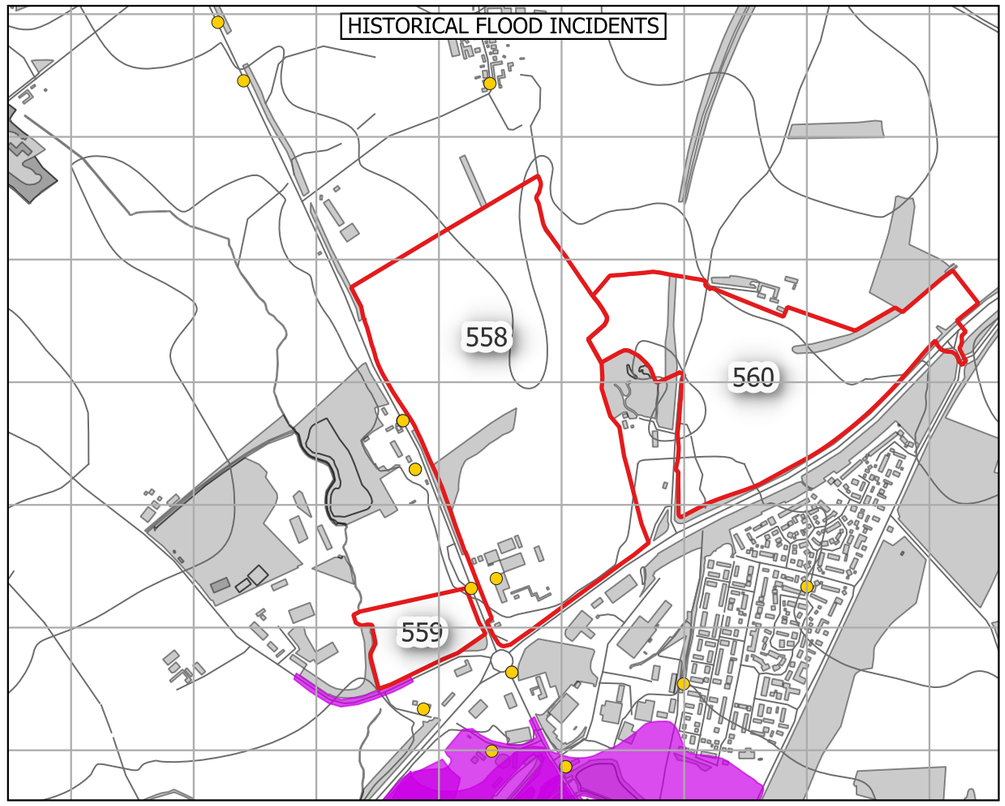
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

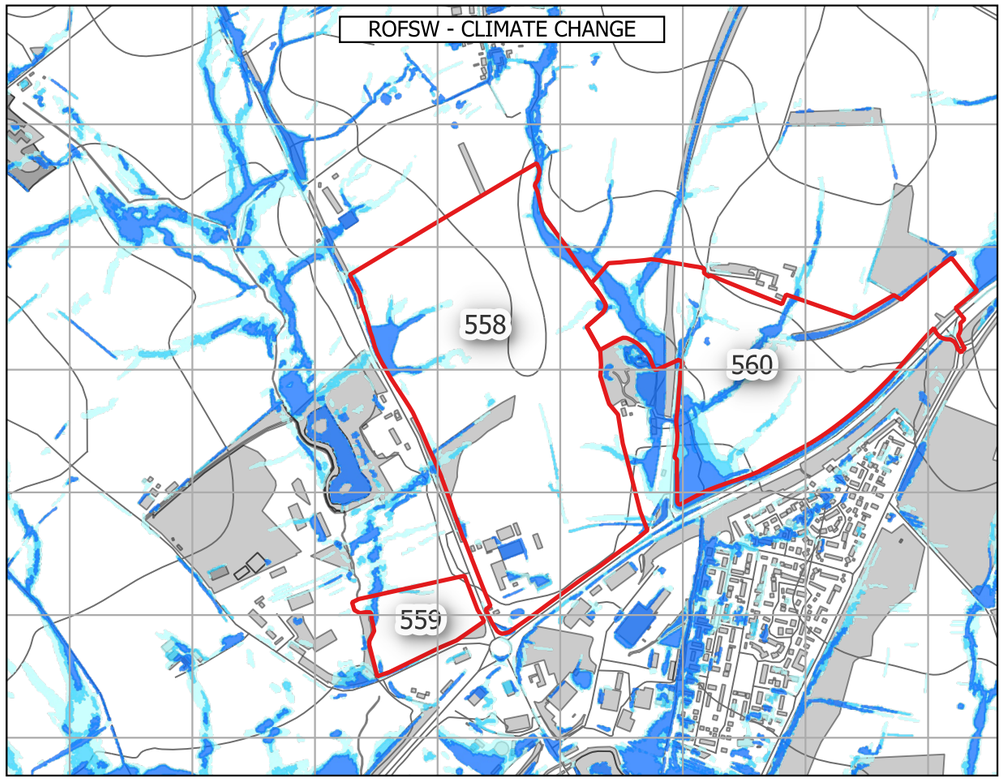
It is estimated that 35,918 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 5.37 Ha should be set aside for appropriate SuDS techniques.

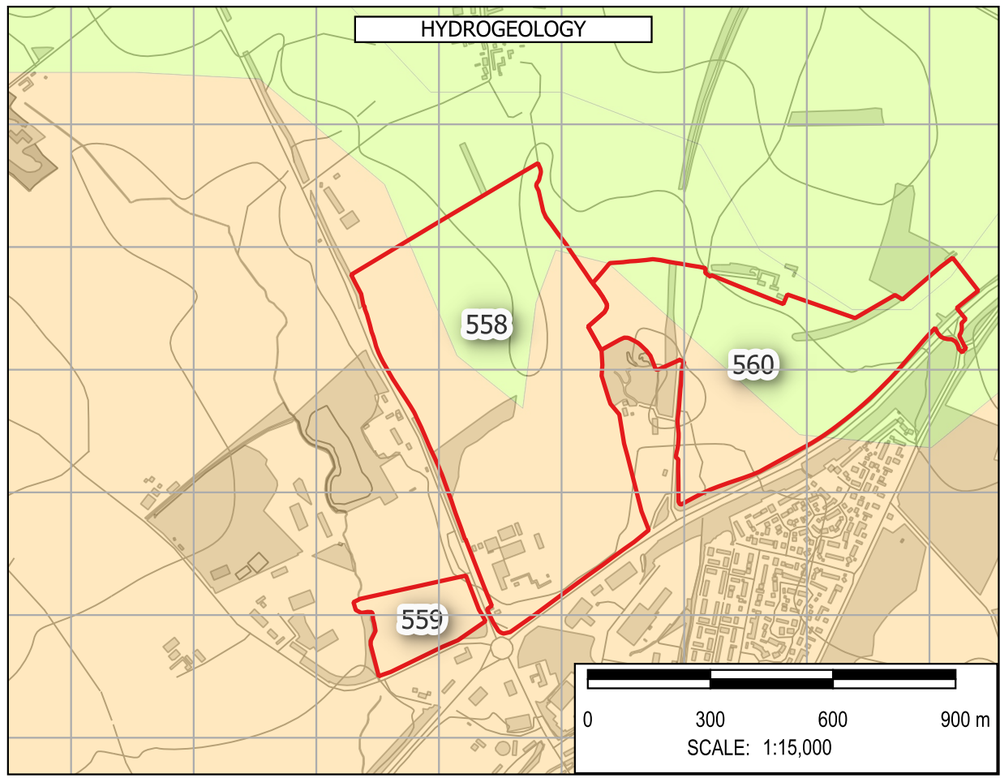
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.









Note: The limits, including the height and depths of the Works, shown in this drawing are not to be taken as limiting the obligations of the contractor under Contract.

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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
  - WEST NORTHANTS BOUNDARY
- FLOOD MAP FOR PLANNING
  - FLOOD DEFENCES
  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
- ROFSW WITH CLIMATE CHANGE
  - HIGH
  - MEDIUM
  - LOW
- HYDROGEOLOGY
  - AQUIFER TYPE
    - HIGHLY PRODUCTIVE AQUIFER
    - MODERATELY PRODUCTIVE AQUIFER
    - LOW PRODUCTIVITY AQUIFER
    - ROCKS WITH ESSENTIALLY NO GROUNDWATER

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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DECOMISSIONING AND DEMOLITION
NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS

Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Registered Office
Spring Lodge, 172 Chester Road, Helsby Cheshire, WA6 0AR, UK
Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 558 Land at Bell Plantation

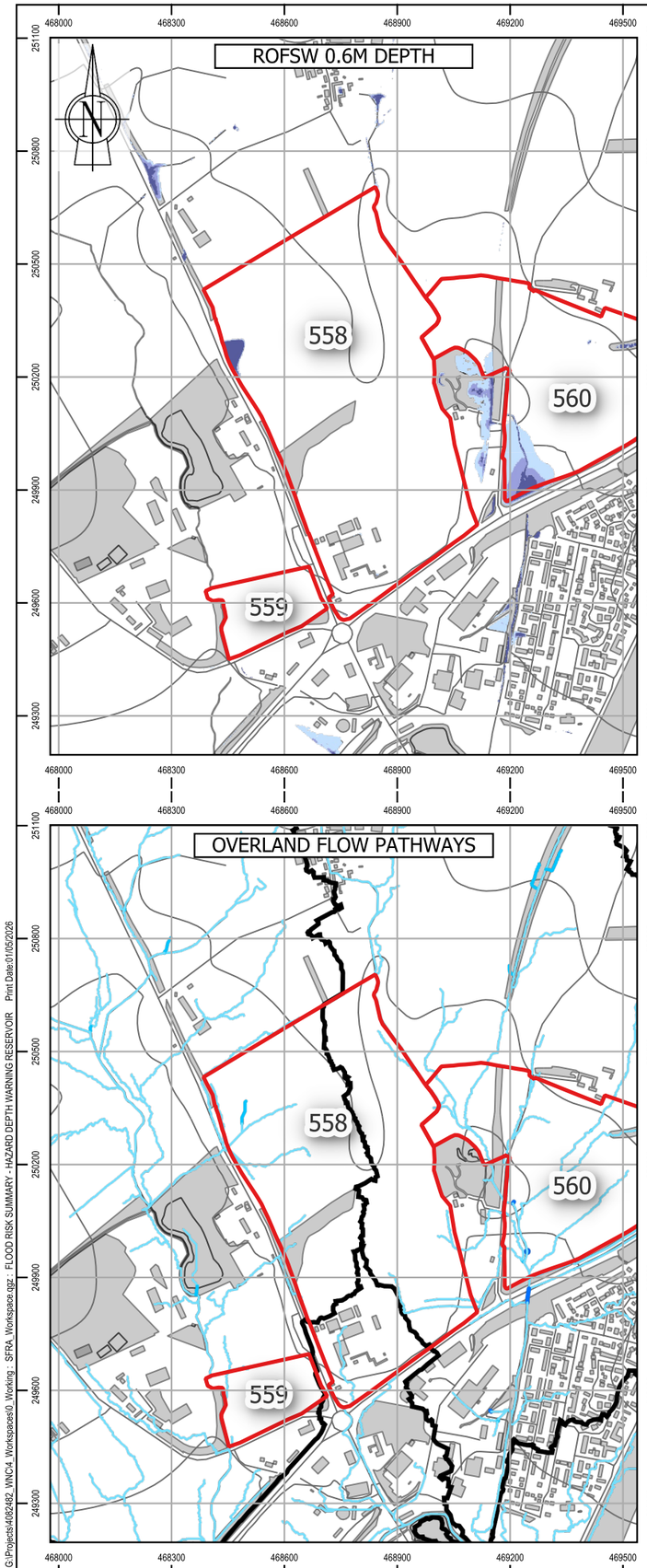
Drawing Scale: 1:15,000 Sheet Size: A3

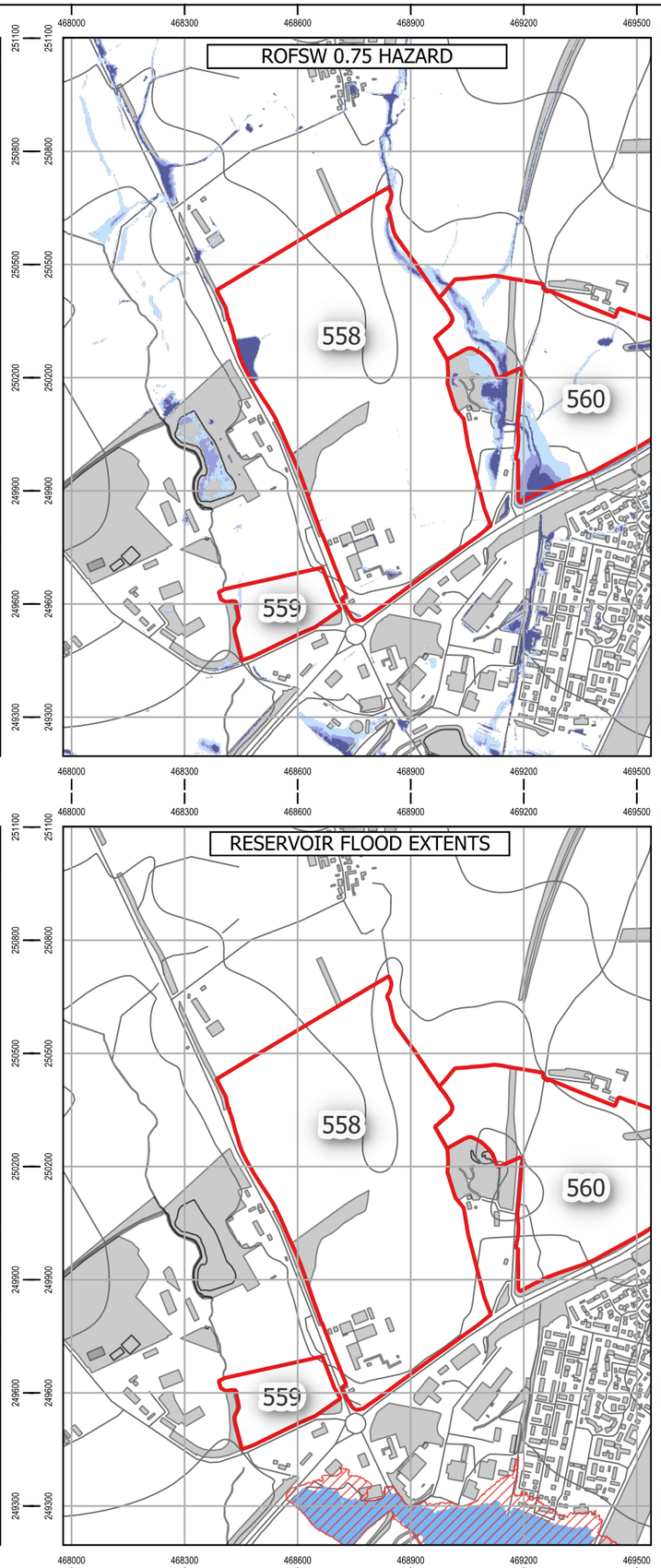
Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00131 Revision: P01

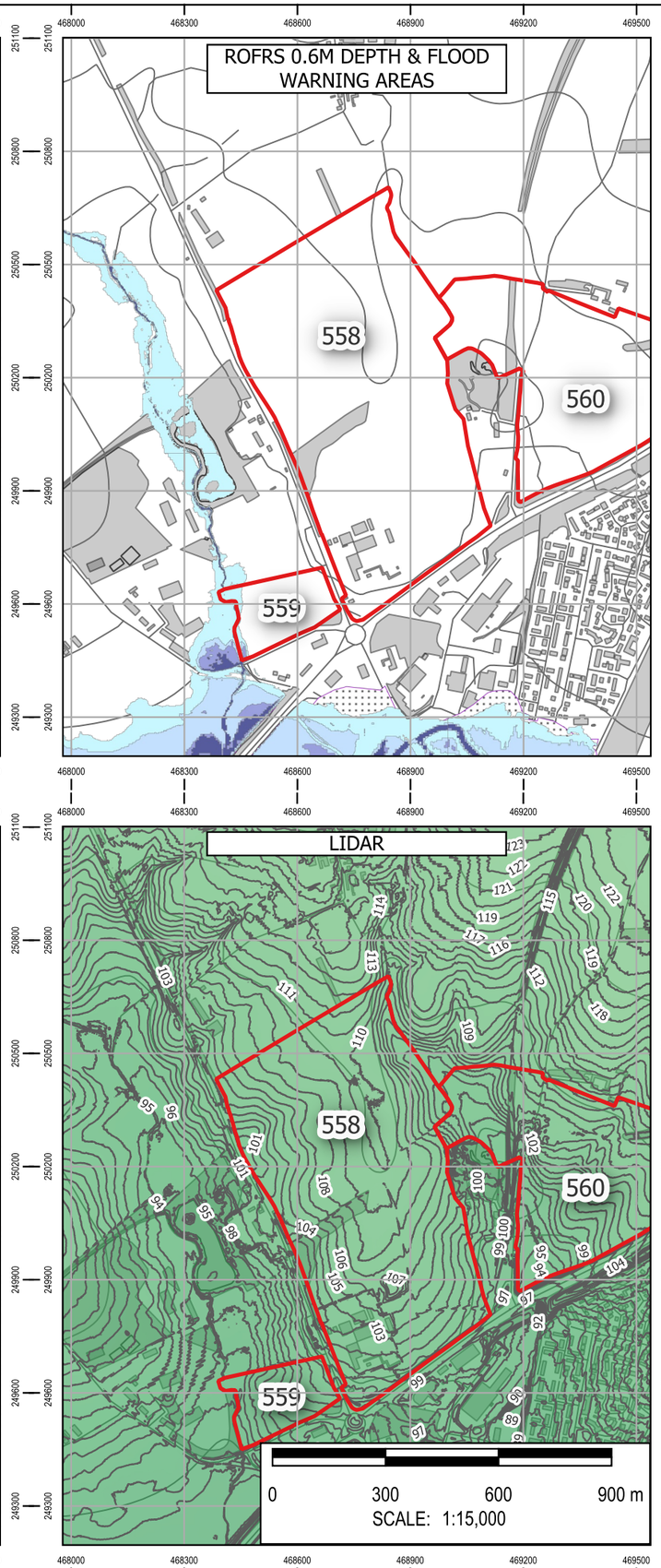
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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY
- ROFSW
  - 0.6M DEPTH
    - High
    - Medium
    - Low
    - Unavailable
  - 0.75 HAZARD
    - High
    - Medium
    - Low
    - Unavailable
- ROFRS
  - 0.6M DEPTH
    - High
    - Medium
    - Low
    - Very low
    - Unavailable
- FLOOD WARNING AREAS
- OVERLAND FLOW PATHWAYS
- PROBABLE OVERLAND FLOW PATHWAYS
  - < 3 Degrees
  - 3 - 7 Degrees
  - 7 - 12 Degrees
  - > 12 Degrees
- DETAILED WATERSHEDS
- RESERVOIR FLOOD EXTENT
  - DRY DAY
  - WET DAY
- LIDAR
  - 1M CONTOURS
- ELEVATION
  - Band 1 (Gray)
  - 230
  - 50

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	01/05/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 558 Land at Bell Plantation

Drawing Scale: 1:15,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00189

Revision: P01

G:\Projects\4082482_WNC\4_Workspaces\0_Working\ SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR Print Date:01/05/2026

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	567
Site Name	Land at former Furtho Pit, Old Stratford / Cosgrove
Proposed Development	Employment
Site Area	40.85 Ha
Site NGR	478320 mE, 241625 mN.
River Management Catchment	Upper Bedford and Ouse

Fluvial Flood Risk – Present-day

FZ2	FZ3
9.9 %	13.5 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
10.4 %	0.0 %	0.0 %	10.4 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Commentary

An ordinary watercourse intersects the site, which is believed to pass beneath a canal via a culvert. Site specific modelling may be required to inform mitigation measures as part of a future Flood Risk Assessment. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
1.1 %	0.9 %	1.5 %	3.5 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
1.8 %	0.8 %	1.6 %	4.2 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

There are some areas of surface water ponding across the site, with one flow path which is more defined. This flow path may align with the canal which intersects the site. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Flood History

There are thirteen WNC recorded flood events within 500m of the site. This site is located within an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at medium risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
20.2 %	13.8 %	25.5 %	25.5 %

Although the site is in an area at risk of reservoir flooding, this risk could be managed through appropriate consideration of flood resilience measures.

Flood Defences – Residual Risk

Flood defences, in the form of natural high ground, located along the south-eastern site boundary offer a standard of protection equivalent to a 1 in 2 year storm event, assuming the ground level is maintained. As the south eastern section of the site benefits from flood defences, should development be proposed for this site, a proportionate assessment of the likelihood of a defence breach over the lifetime of the development (including the impact of climate change) should be undertaken as part of a future Flood Risk Assessment. Using the Environment Agency's simplified method (FD2321/TR2), a breach in the flood defence at this site could result in 'danger for some'.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events. As the site is intersected by Flood Zone 2, Flood Zone 3 and a 1 in 30 year defended flood extent during a climate change scenario, site specific modelling may be required to inform and access and egress opportunities.

Exception Test

The site is located within Flood Zone 3. Therefore the Exception Test is required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 2 and 3, finished floor levels should be set no lower than 72.6 mAOD, 600mm above the maximum predicted flood level of 72.0 mAOD. In accordance with the EA guidance, freeboard allowances could be reviewed, and where appropriate reduced to 300mm. An appropriate freeboard allowance should also be considered for other sources of flooding. This should be confirmed by a site specific assessment as part of the detailed design for development, which should include consideration of proposed ground levels.

Surface Water Attenuation Provision – Design Considerations

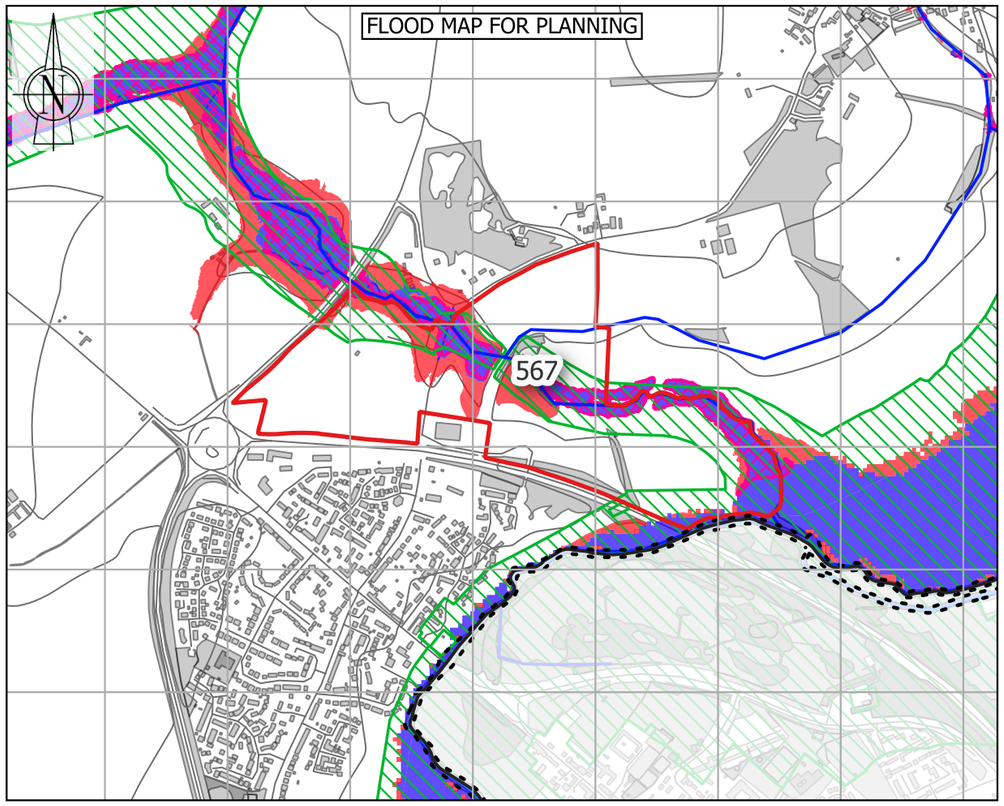
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

It is estimated that 32,400 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 4.85 Ha should be set aside for appropriate SuDS techniques.

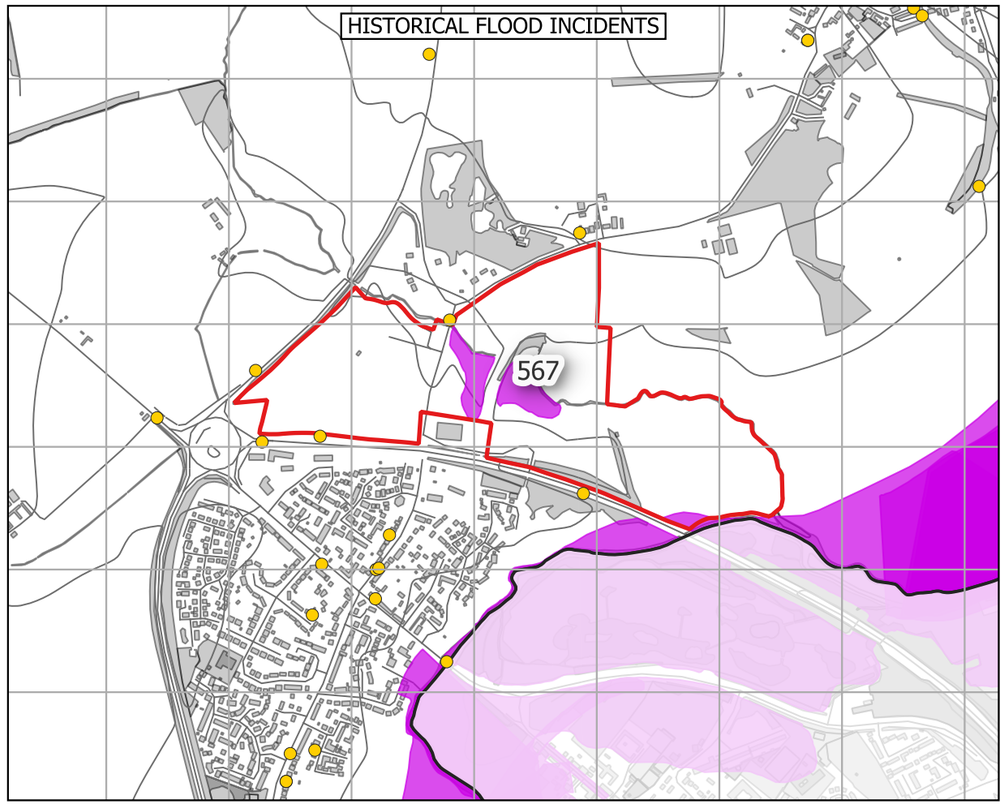
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.

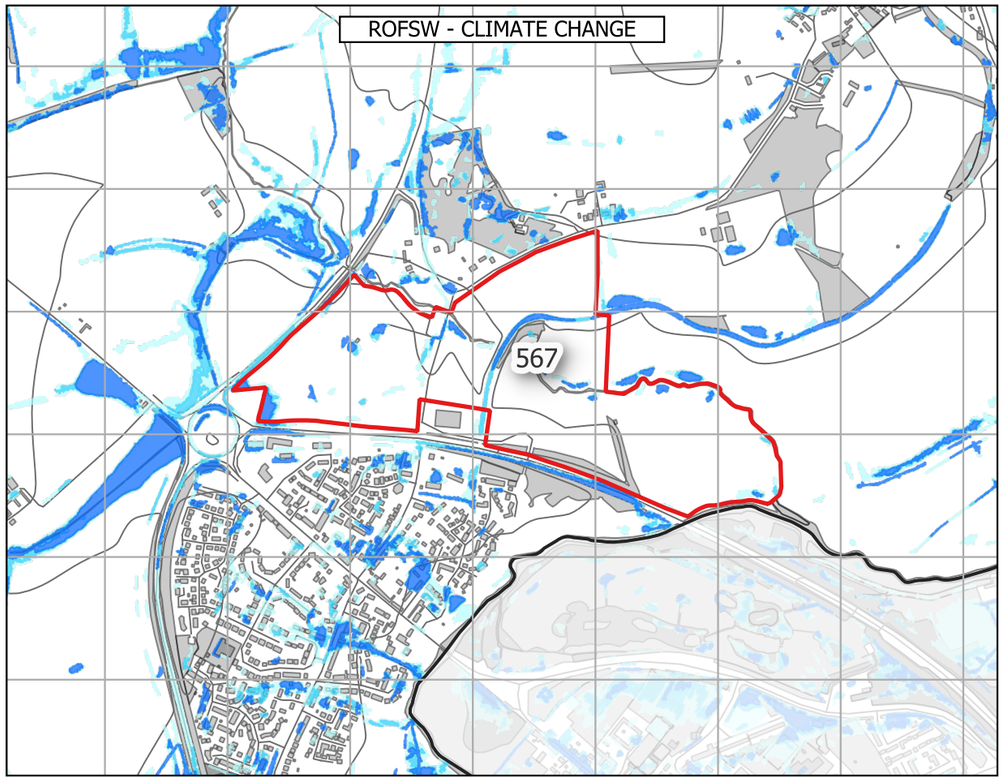
FLOOD MAP FOR PLANNING



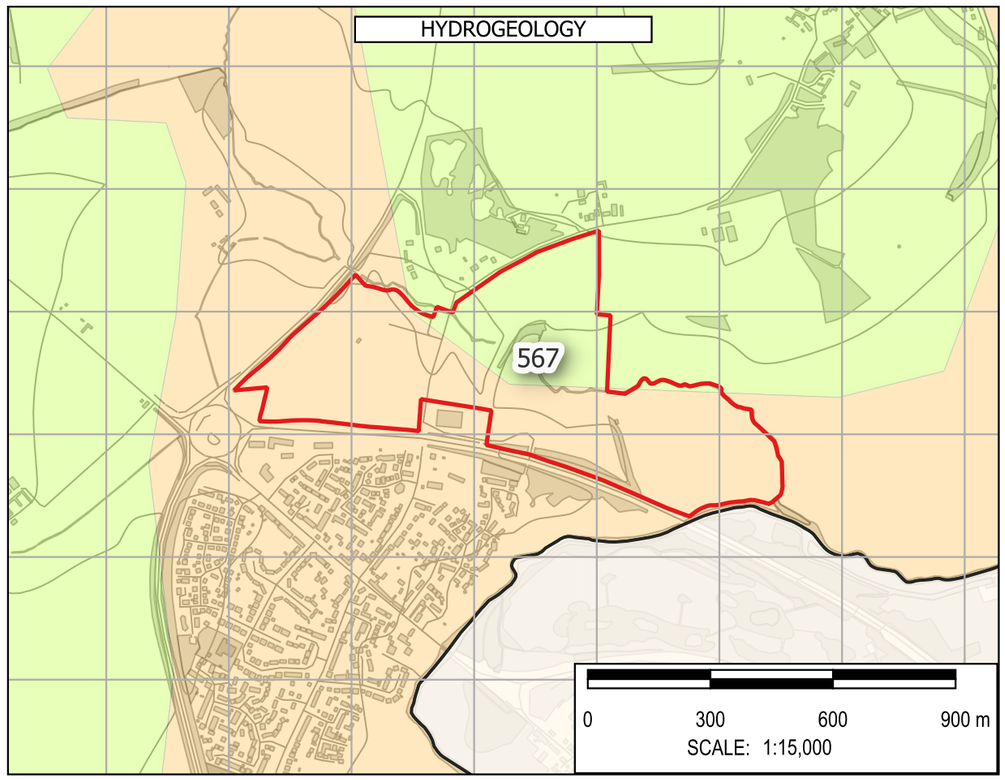
HISTORICAL FLOOD INCIDENTS



ROFSW - CLIMATE CHANGE



HYDROGEOLOGY



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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY

FLOOD MAP FOR PLANNING

- FLOOD DEFENCES
- MAIN RIVER
- ORDINARY WATERCOURSE
- FLOOD STORAGE AREAS
- FLOOD ZONE 2
- FLOOD ZONE 3
- FLOOD ZONE 2 + CC
- FLOOD ZONE 3A + CC
- FLOOD ZONE 3B + CC
- IDB

HISTORIC FLOOD INCIDENTS

- WNC FLOOD HISTORY
- EA HISTORIC FLOOD EXTENT

ROFSW WITH CLIMATE CHANGE

- HIGH
- MEDIUM
- LOW

HYDROGEOLOGY

AQUIFER TYPE

- HIGHLY PRODUCTIVE AQUIFER
- MODERATELY PRODUCTIVE AQUIFER
- LOW PRODUCTIVITY AQUIFER
- ROCKS WITH ESSENTIALLY NO GROUNDWATER

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE | Revision: -

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Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 567
Land at former Furtho Pit, Old Stratford / Cosgrove

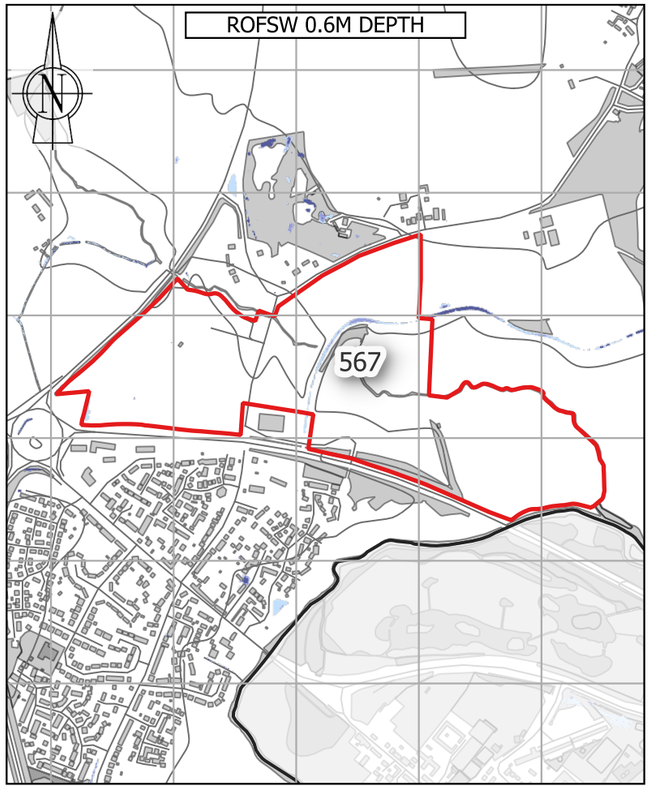
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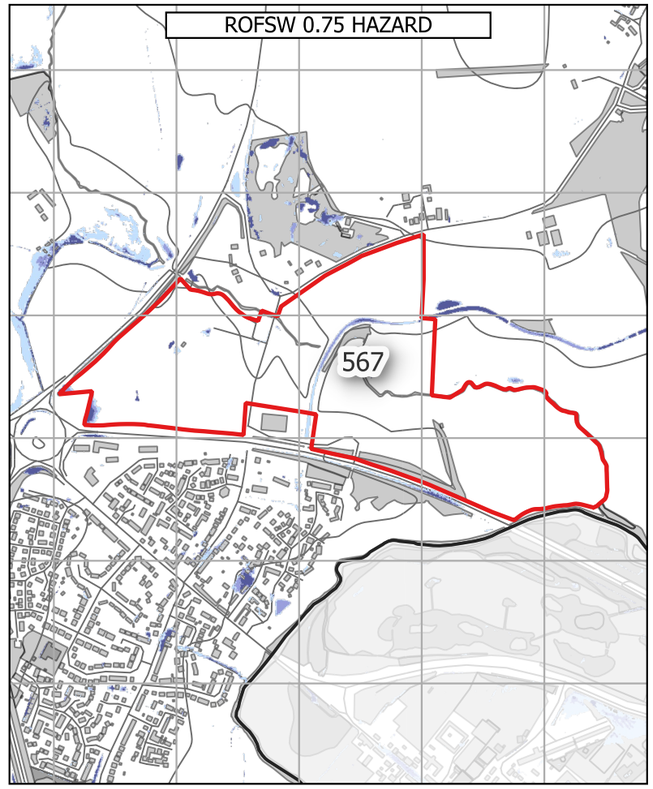
Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00135 | Revision: P01

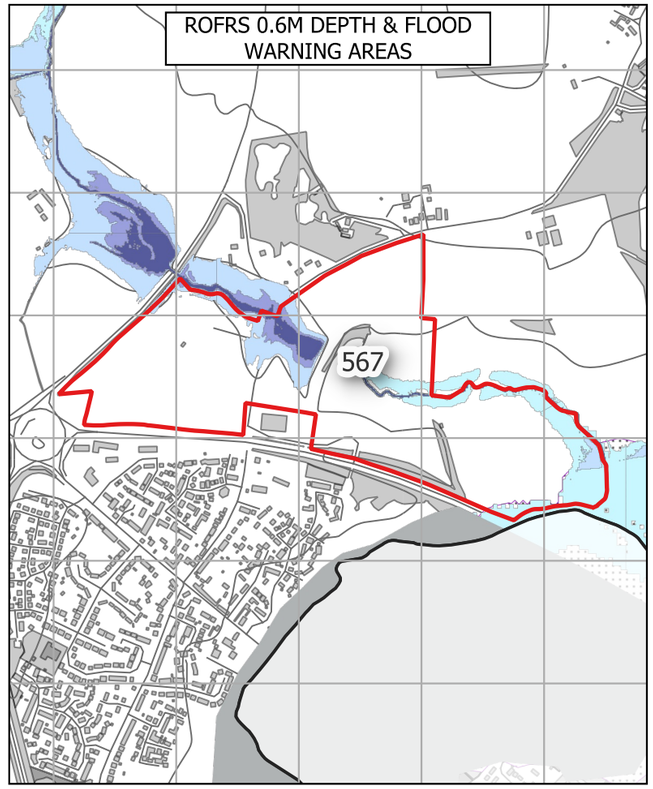
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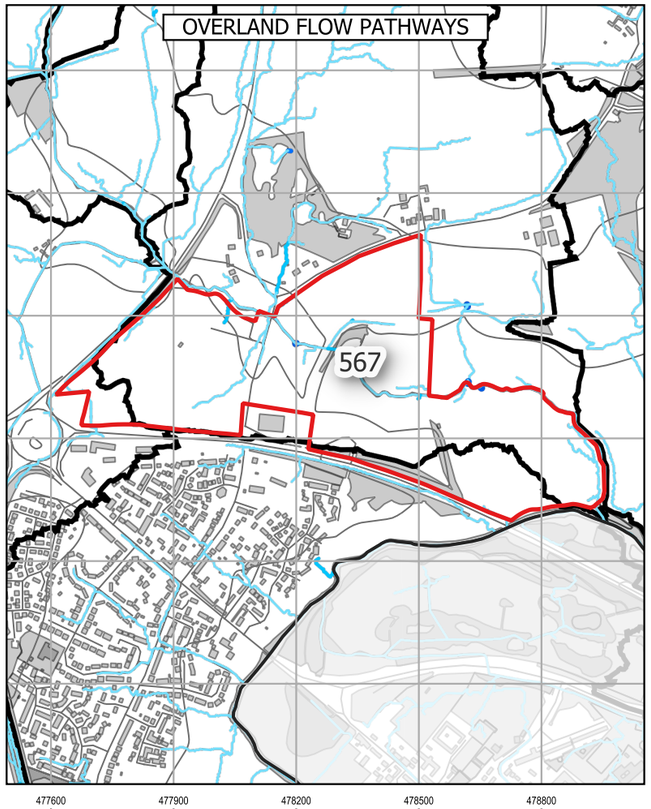
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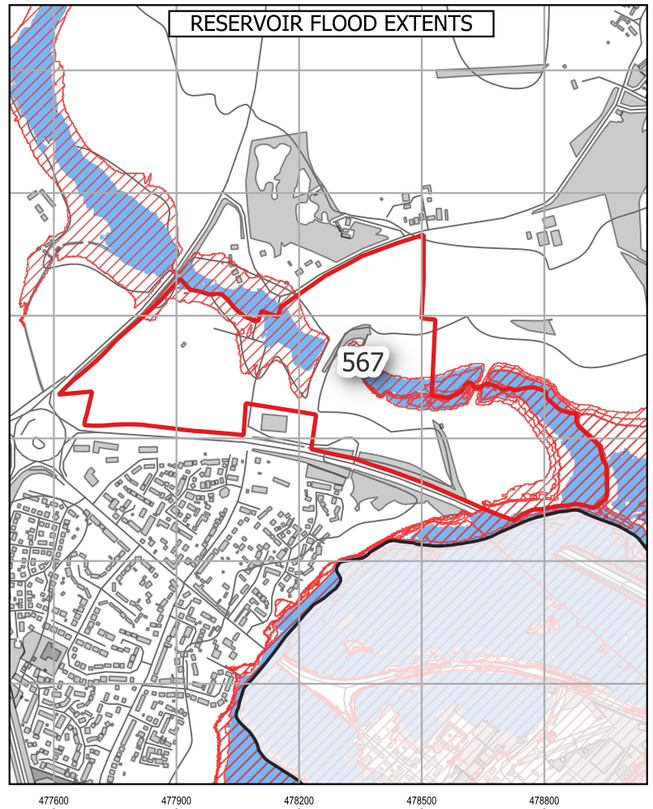
Print Version: Print Quality (300dpi @ A3)

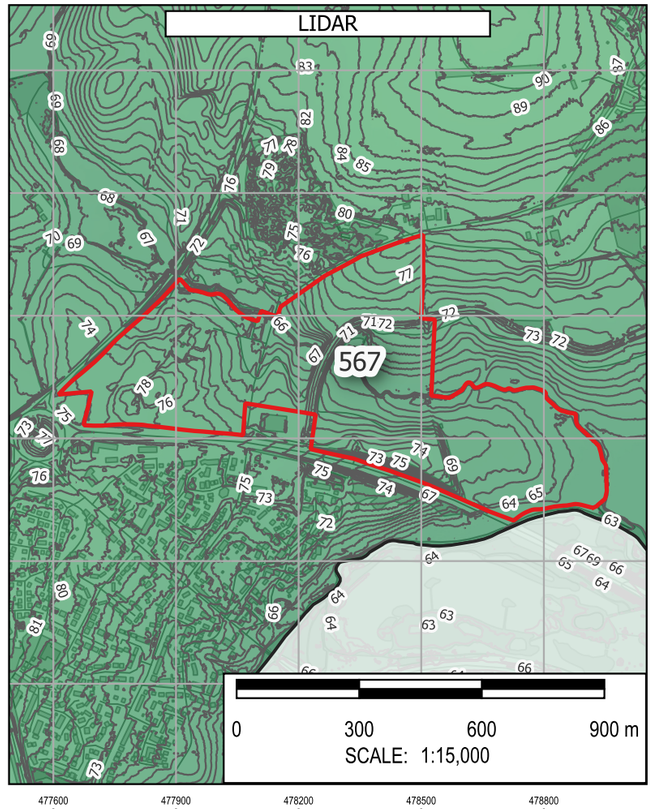












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LEGEND

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- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY
- ROFSW
  - 0.6M DEPTH: High, Medium, Low, Unavailable
  - 0.75 HAZARD: High, Medium, Low, Unavailable
- ROFRS
  - 0.6M DEPTH: High, Medium, Low, Very low, Unavailable
- FLOOD WARNING AREAS
- OVERLAND FLOW PATHWAYS
- PROBABLE OVERLAND FLOW PATHWAYS: < 3 Degrees, 3 - 7 Degrees, 7 - 12 Degrees, > 12 Degrees
- DETAILED WATERSHEDS
- RESERVOIR FLOOD EXTENT
  - DRY DAY
  - WET DAY
- LIDAR
  - 1M CONTOURS
  - ELEVATION: Band 1 (Gray) 230 50

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS
DECOMISSIONING AND DEMOLITION
NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS

Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	01/05/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

Binnies UK Limited
Registered Office
Spring Lodge, 172 Chester Road, Helsby Cheshire, WA6 0AR, UK
Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 567
Land at former Furtho Pit, Old Stratford / Cosgrove

Drawing Scale: 1:15,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00193

Revision: P01

G:\Projects\4082482_WNC\4_Workspaces\0_Working\ SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR Print Date:01/05/2026

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	564
Site Name	Land off Newnham Drive, Daventry
Proposed Development	Employment
Site Area	1.2 Ha
Site NGR	456196 mE, 264610 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
0.0 %	0.0 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
2.6 %	1.2 %	17.1 %	20.9 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
3.6 %	5.5 %	20.7 %	29.8 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

The eastern boundary of the southern parcel is in an area of high surface water flood risk. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Flood History

There are four WNC recorded flood events within 500m of the site. This site is not located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at low risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

The site is not indicated to be at risk of reservoir flooding.

Flood Defences – Residual Risk

It is unlikely that the site will be affected by a breach of flood defences as the nearest defences are more than 500m away.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 1. Therefore the Exception Test is not required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 1, finished floor levels should be at least 150mm above external ground levels. An appropriate freeboard allowance should also be considered for other sources of flooding.

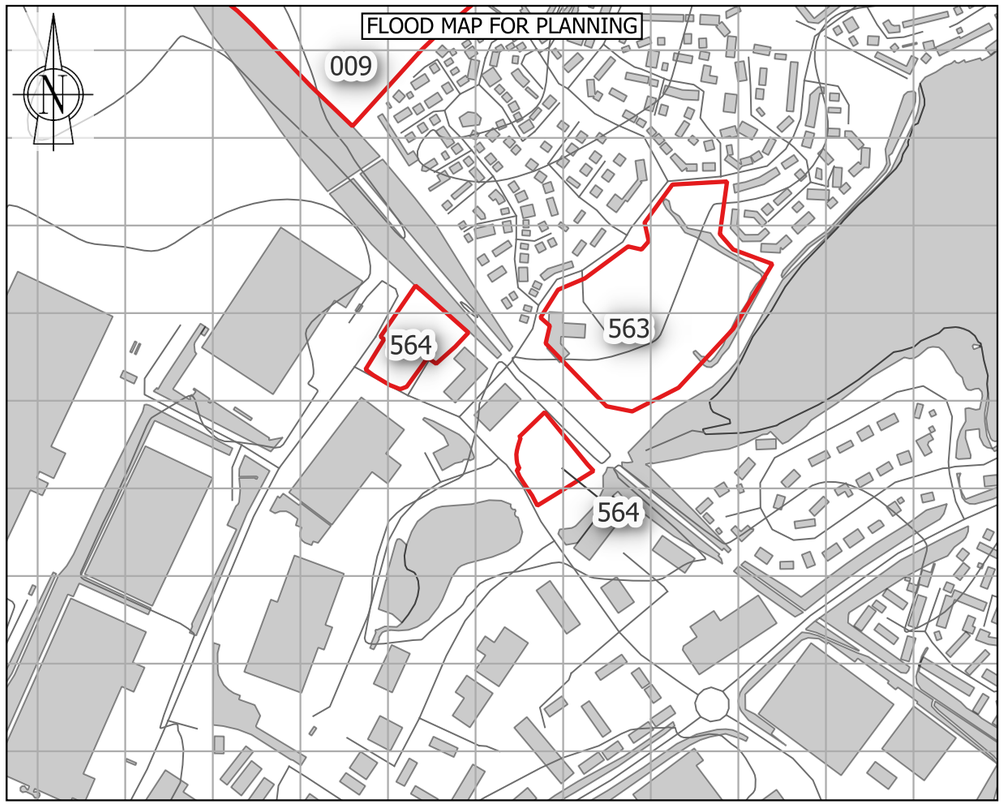
Surface Water Attenuation Provision – Design Considerations

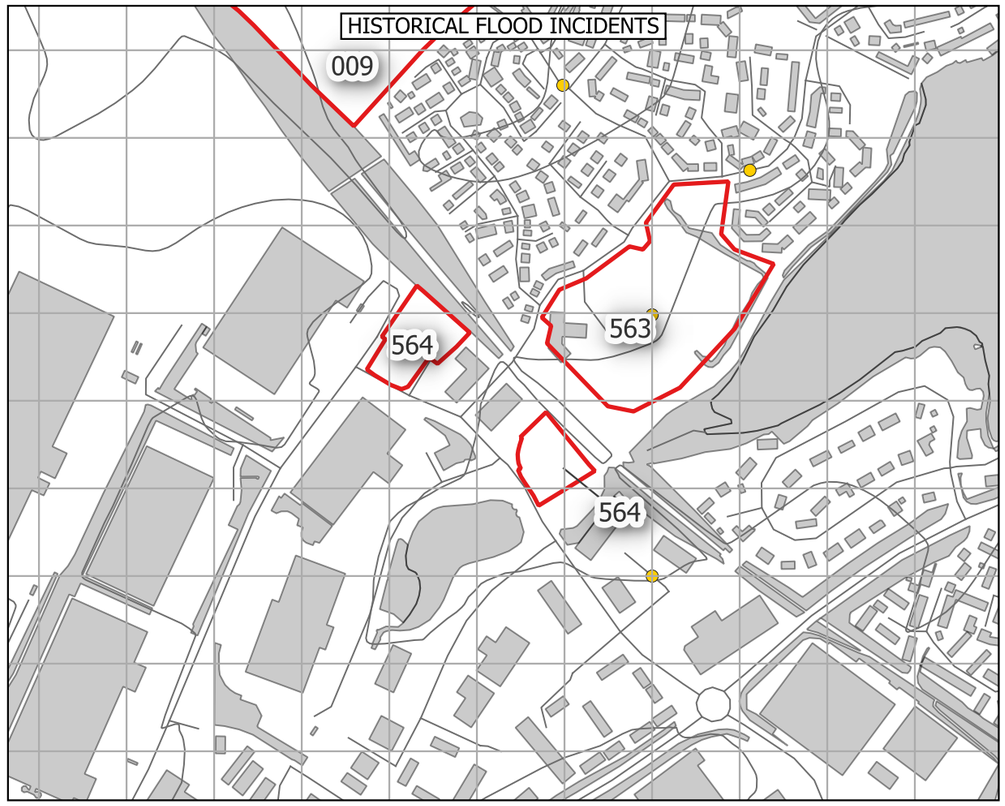
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

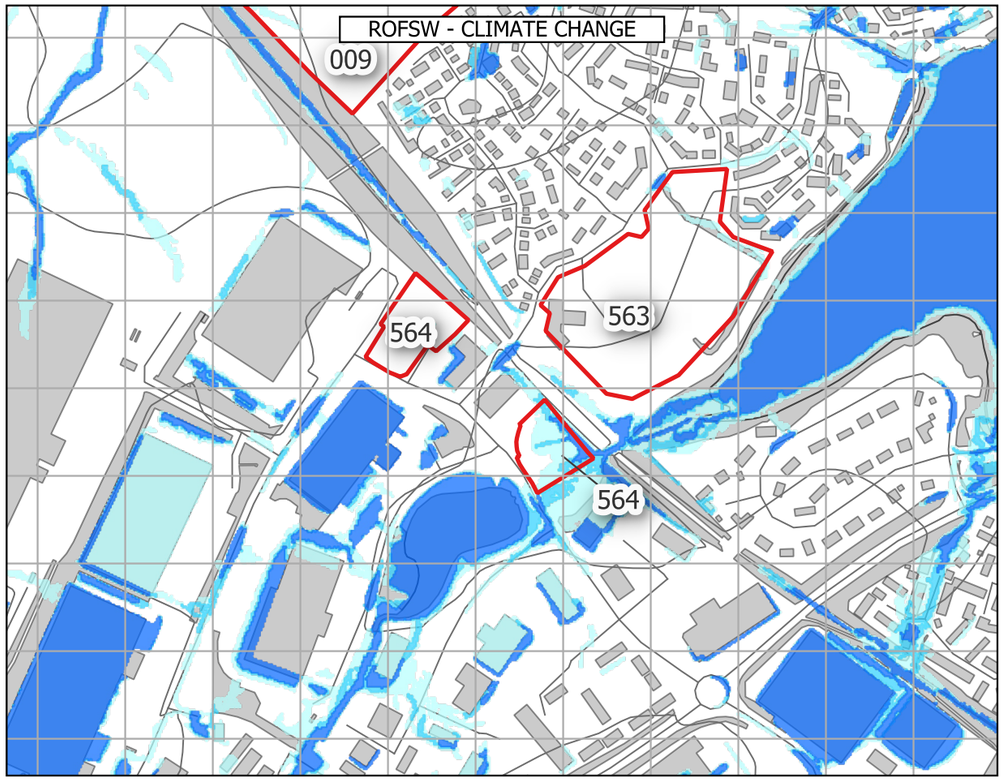
It is estimated that 952 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 0.14 Ha should be set aside for appropriate SuDS techniques.

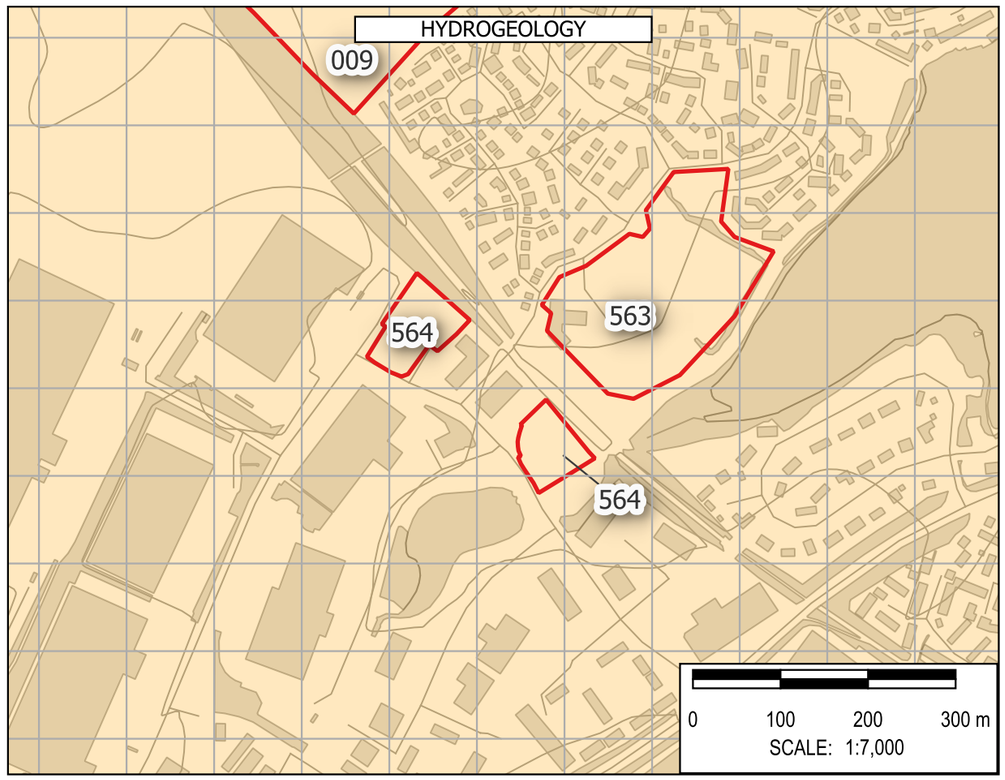
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.









Note: The limits, including the height and depths of the Works, shown in this drawing are not to be taken as limiting the obligations of the contractor under Contract.

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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
  - WEST NORTHANTS BOUNDARY
- FLOOD MAP FOR PLANNING
  - FLOOD DEFENCES
  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
- ROFSW WITH CLIMATE CHANGE
  - HIGH
  - MEDIUM
  - LOW
- HYDROGEOLOGY
  - AQUIFER TYPE
  - HIGHLY PRODUCTIVE AQUIFER
  - MODERATELY PRODUCTIVE AQUIFER
  - LOW PRODUCTIVITY AQUIFER
  - ROCKS WITH ESSENTIALLY NO GROUNDWATER

SAFETY HEALTH AND ENVIRONMENT INFORMATION
IN ADDITION TO THE HAZARDS OR RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, THE FOLLOWING SIGNIFICANT RESIDUAL RISKS SHOULD BE NOTED. FURTHER DETAILS ARE INCLUDED IN THE CDM DESIGN RISK MANAGEMENT REGISTERS
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MAINTENANCE / CLEARING / OPERATION
NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS
DECOMISSIONING AND DEMOLITION
NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS

Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

Binnies UK Limited
Registered Office
Spring Lodge, 172 Chester Road, Helsby Cheshire, WA6 0AR, UK
Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 564
Land off Newnham Drive, Daventry

Drawing Scale: 1:7,000 Sheet Size: A3

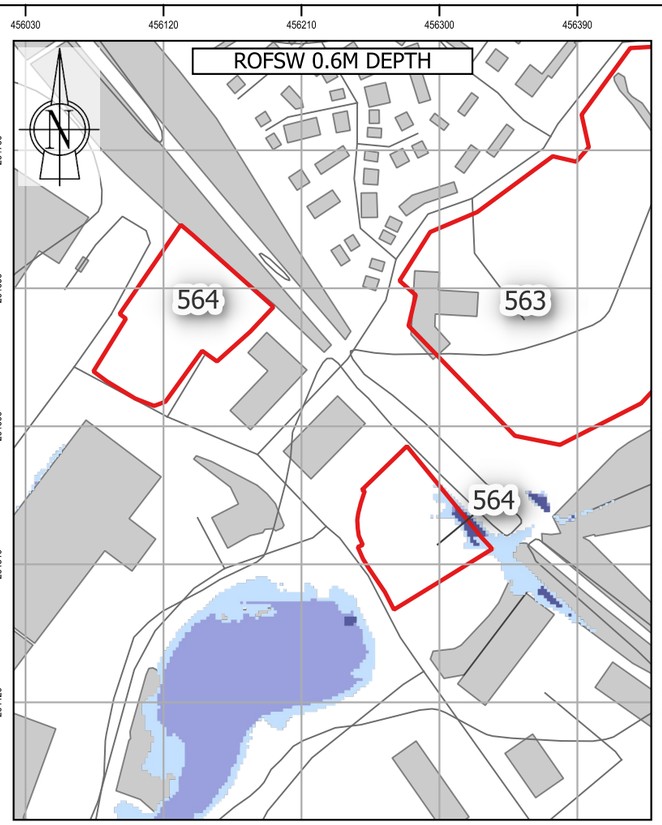
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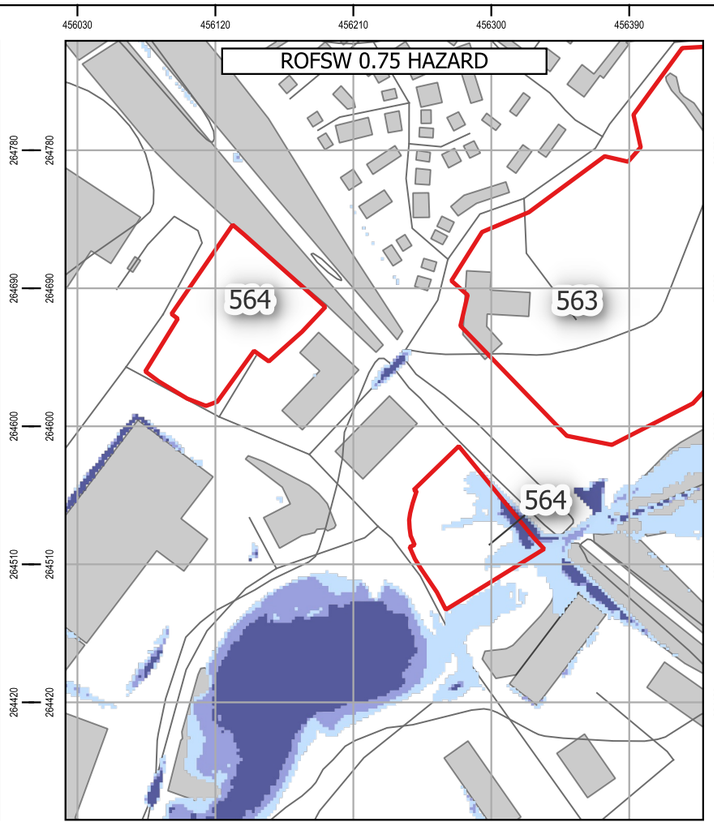
Revision: P01

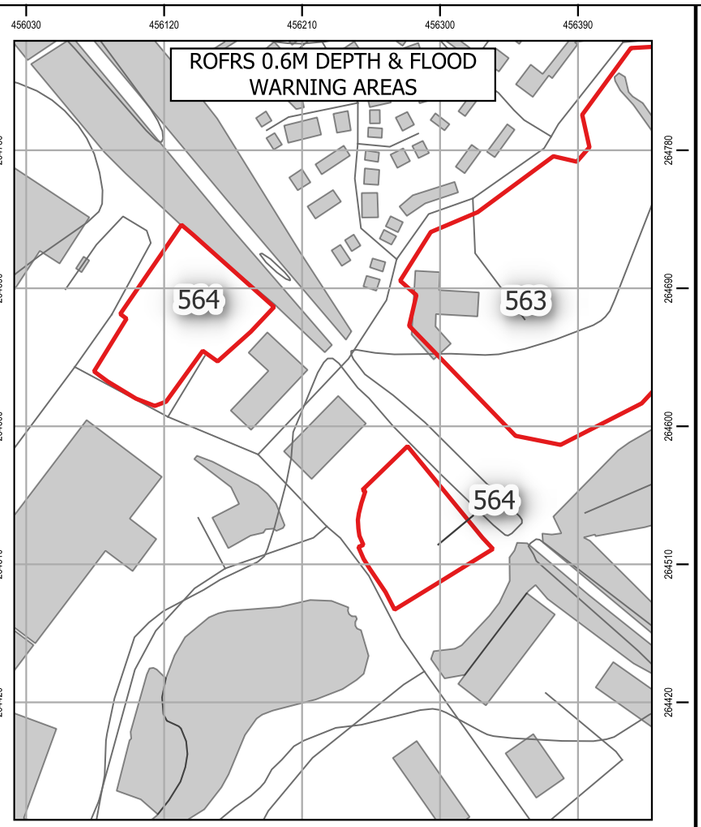
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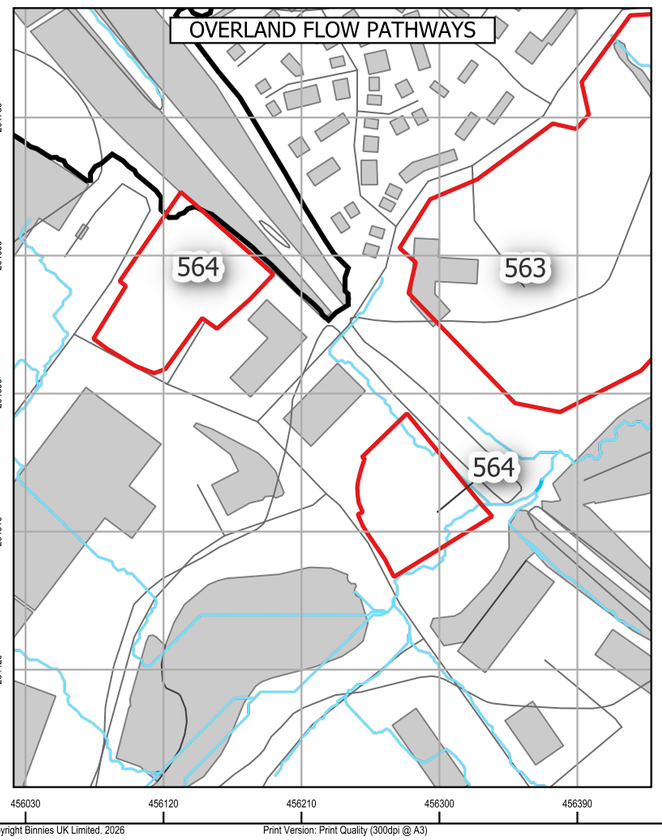
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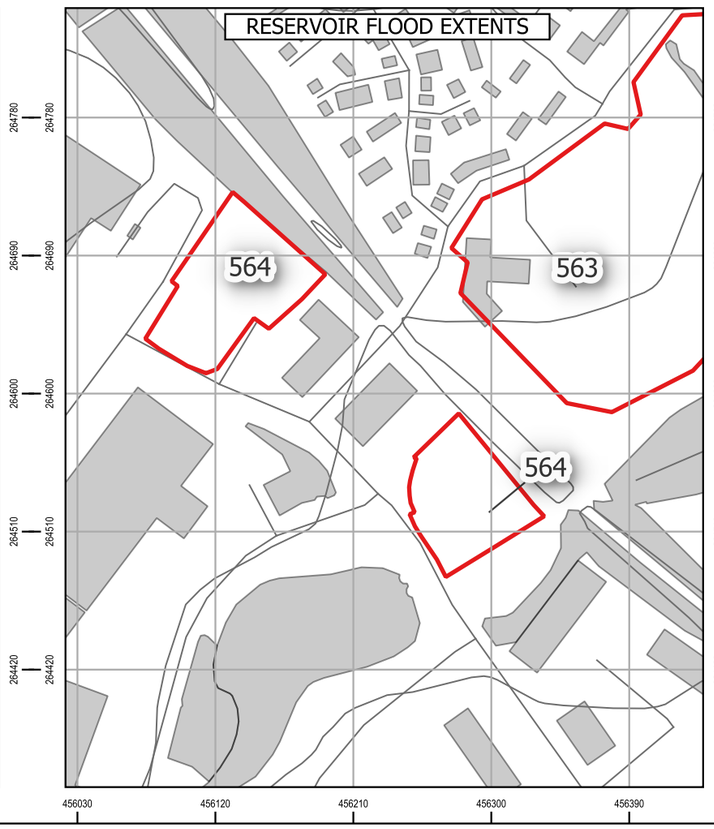
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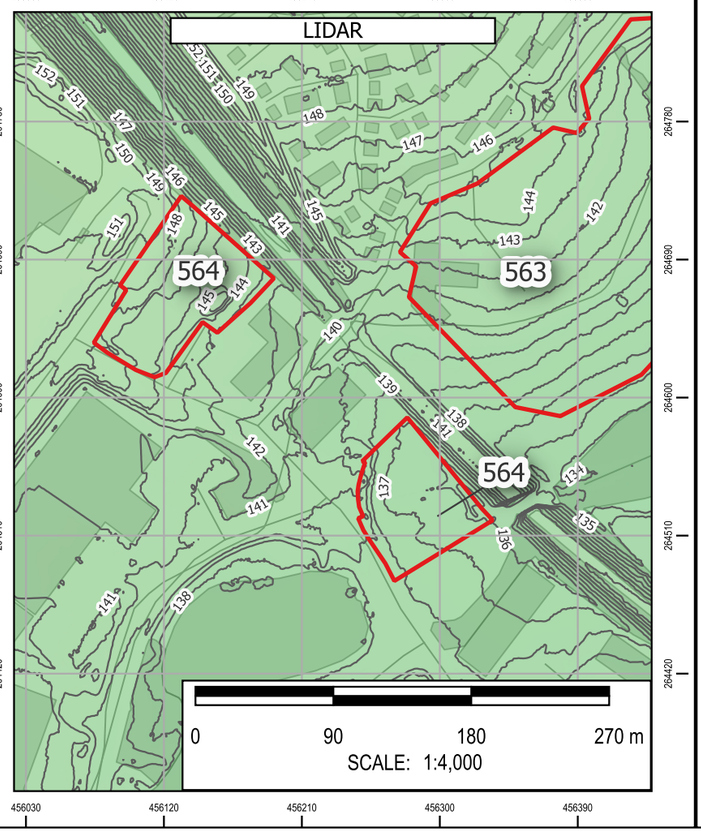












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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY

ROFSW

0.6M DEPTH
- High
- Medium
- Low
- Unavailable

0.75 HAZARD
- High
- Medium
- Low
- Unavailable

ROFRS

0.6M DEPTH
- High
- Medium
- Low
- Very low
- Unavailable

FLOOD WARNING AREAS

OVERLAND FLOW PATHWAYS

PROBABLE OVERLAND FLOW PATHWAYS
- < 3 Degrees
- 3 - 7 Degrees
- 7 - 12 Degrees
- > 12 Degrees

DETAILED WATERSHEDS

RESERVOIR FLOOD EXTENT

DRY DAY

WET DAY

LIDAR

1M CONTOURS

ELEVATION

Band 1 (Gray)
230
50

SAFETY HEALTH AND ENVIRONMENT INFORMATION
IN ADDITION TO THE HAZARDS OR RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, THE FOLLOWING SIGNIFICANT RESIDUAL RISKS SHOULD BE NOTED. FURTHER DETAILS ARE INCLUDED IN THE CDM DESIGN RISK MANAGEMENT REGISTERS
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	07/05/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 07/May/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Registered Office
Spring Lodge, 172 Chester Road, Helsby Cheshire, WA6 0AR, UK
Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 564
Land off Newnham Drive, Daventry

Drawing Scale: 1:4,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00228

Revision: P01

G:\Projects\4082482_WNC\4_Workspaces\0_Working\ SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR Print Date:07/05/2026

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	566
Site Name	Land at Shacks Barn
Proposed Development	Employment
Site Area	10.34 Ha
Site NGR	468380 mE, 245738 mN.
River Management Catchment	Upper Bedford and Ouse

Fluvial Flood Risk – Present-day

FZ2	FZ3
0.0 %	0.0 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
1.4 %	0.2 %	1.3 %	2.9 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
1.5 %	0.3 %	2.5 %	4.3 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

There are some minor areas of surface water ponding across the site, including in the location of an existing pond located in the western part of the site.

Flood History

There are two WNC recorded flood events within 500m of the site. This site is not located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at medium risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

The site is not indicated to be at risk of reservoir flooding.

Flood Defences – Residual Risk

It is unlikely that the site will be affected by a breach of flood defences as the nearest defences are more than 500m away.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 1. Therefore the Exception Test is not required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 1, finished floor levels should be at least 150mm above external ground levels. An appropriate freeboard allowance should also be considered for other sources of flooding.

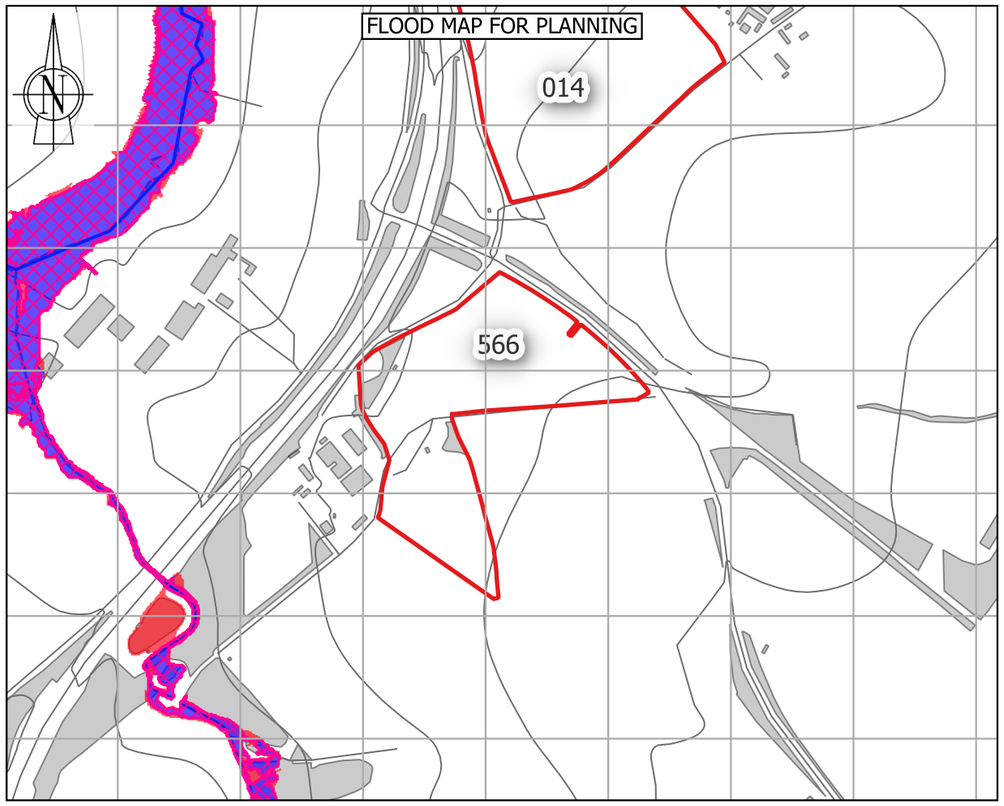
Surface Water Attenuation Provision – Design Considerations

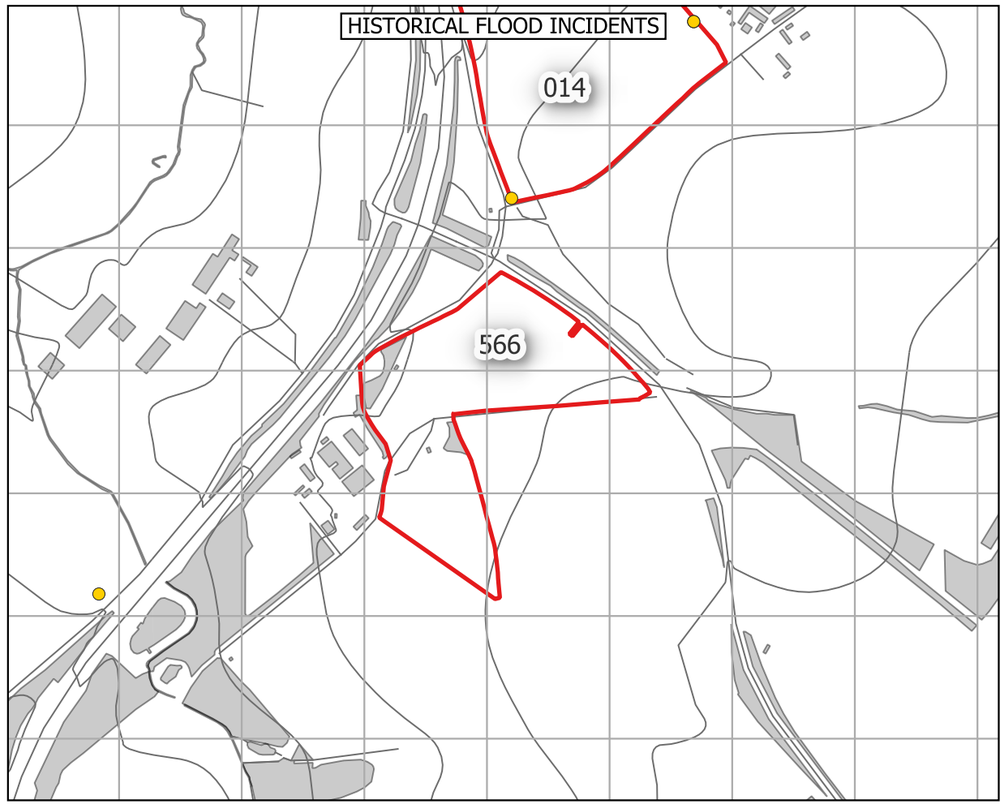
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

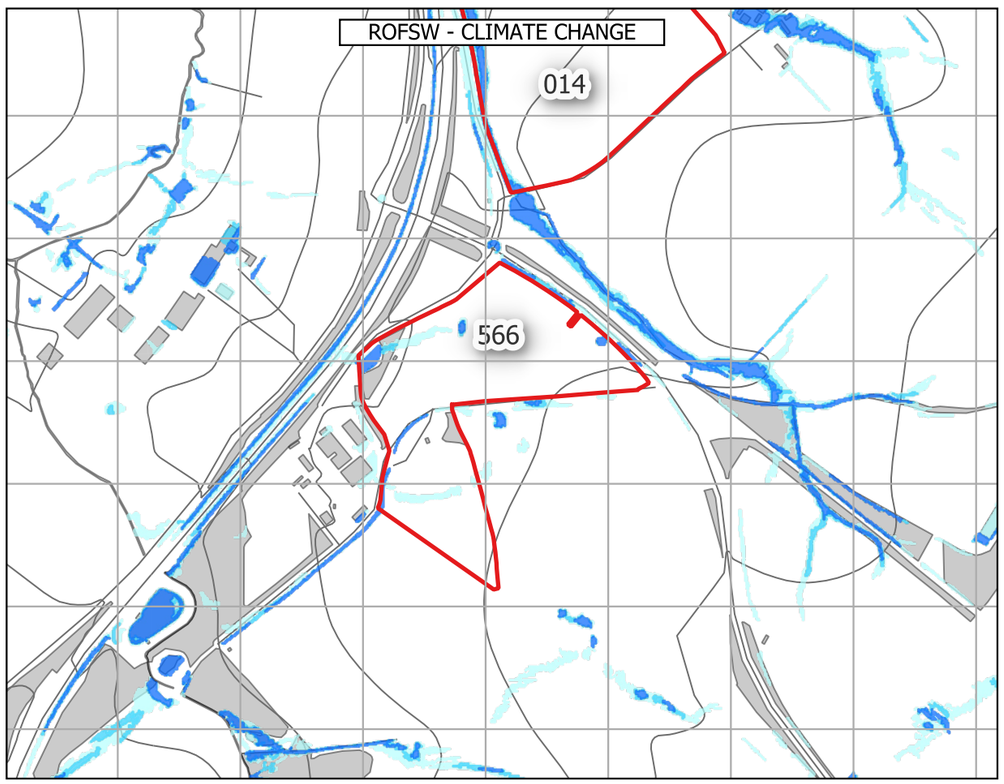
It is estimated that 8,200 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 1.23 Ha should be set aside for appropriate SuDS techniques.

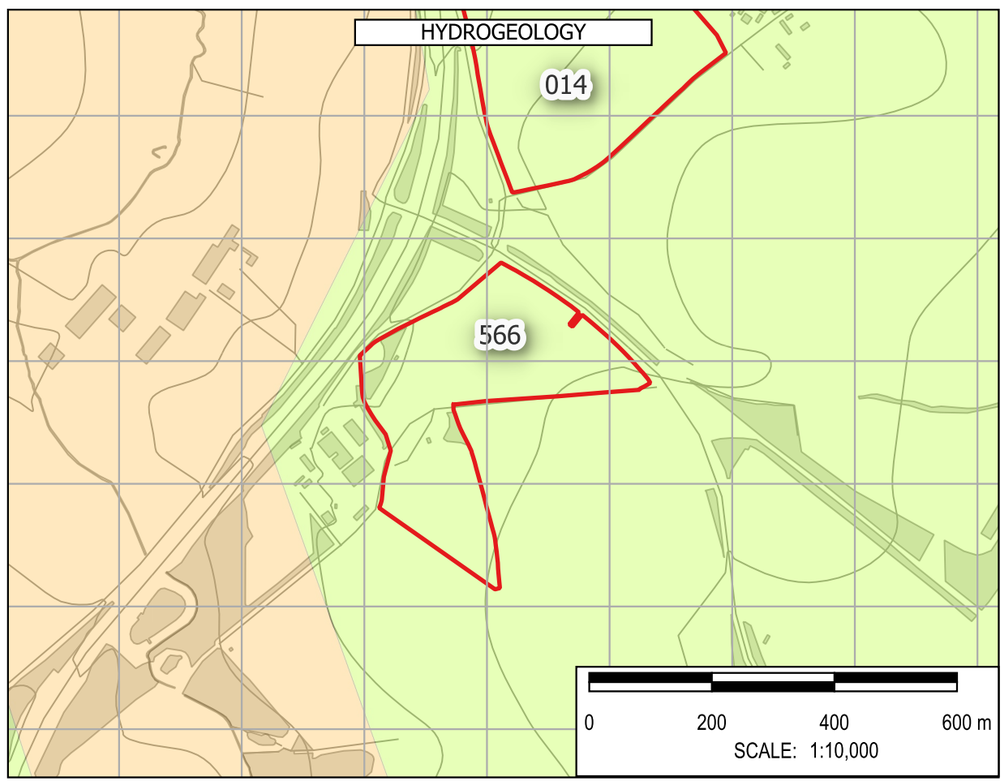
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.









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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
  - WEST NORTHANTS BOUNDARY
- FLOOD MAP FOR PLANNING
  - FLOOD DEFENCES
  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
- ROFSW WITH CLIMATE CHANGE
  - HIGH
  - MEDIUM
  - LOW
- HYDROGEOLOGY
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  - MODERATELY PRODUCTIVE AQUIFER
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  - ROCKS WITH ESSENTIALLY NO GROUNDWATER

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

Binnies UK Limited
Registered Office
Spring Lodge, 172 Chester Road, Helsby Cheshire, WA6 0AR, UK
Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 566
Land at Shacks Barn

Drawing Scale: 1:10,000 Sheet Size: A3

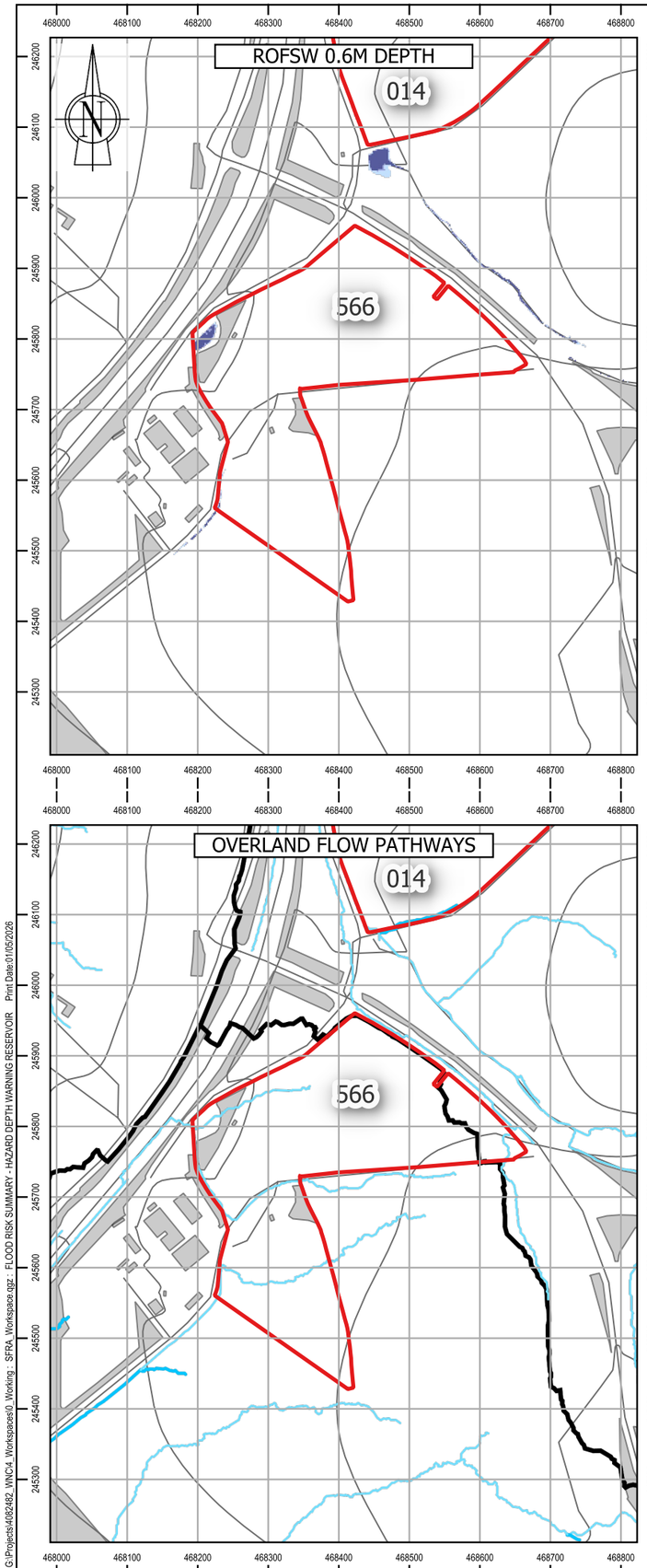
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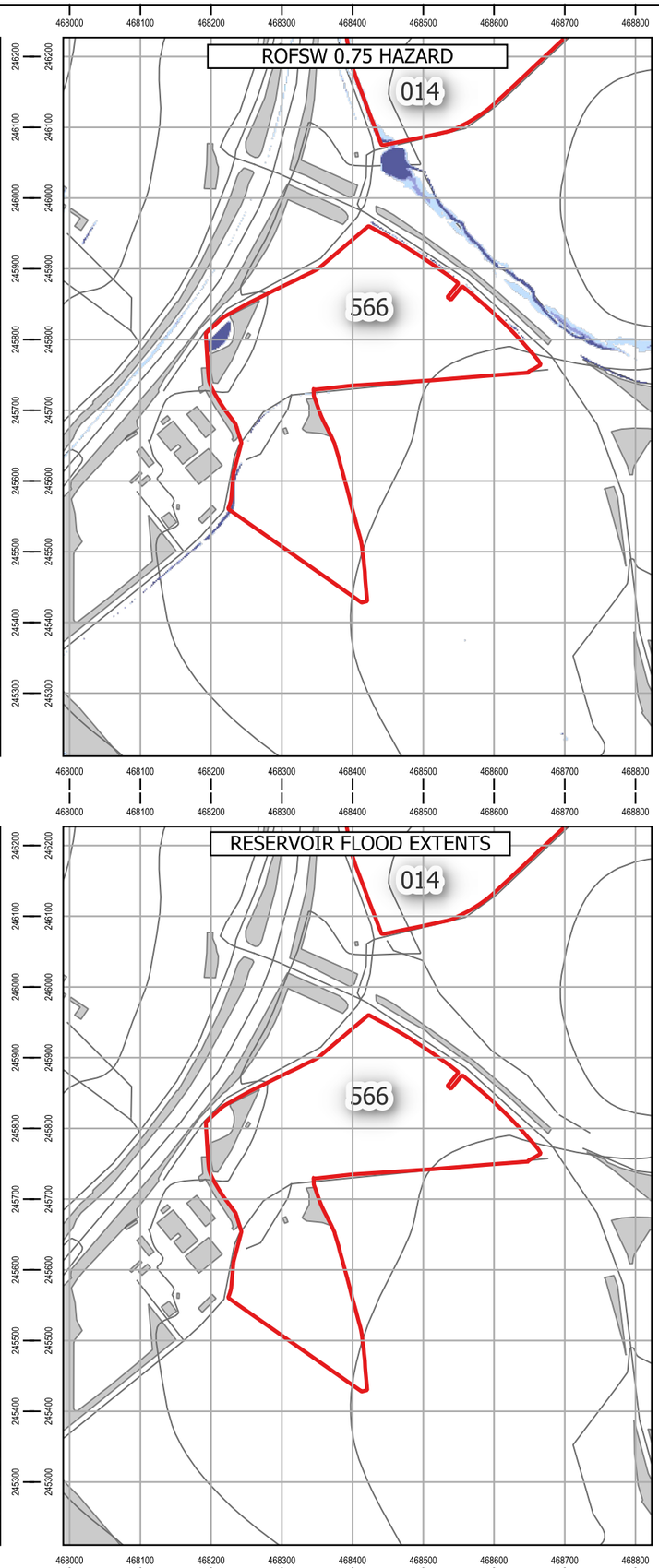
Revision: P01

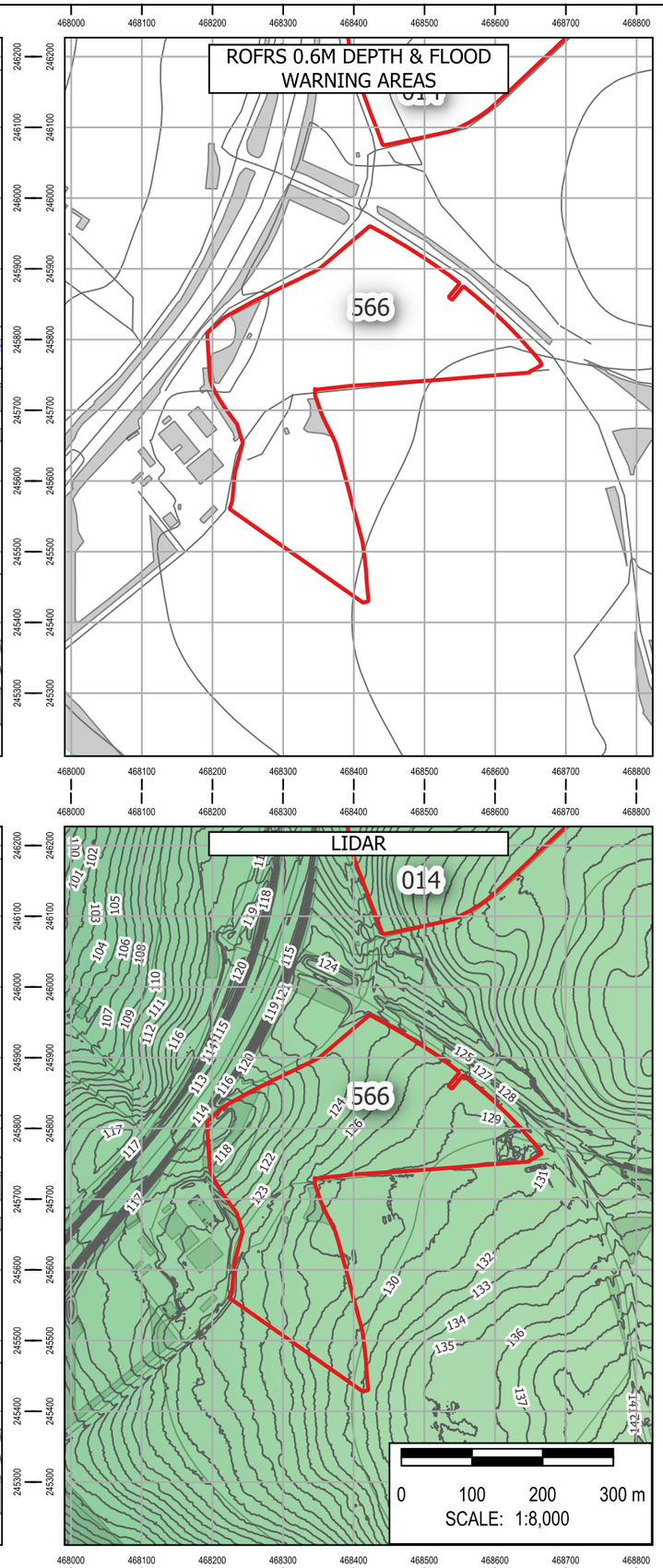
G:\Projects\4082482_WNC\4_Workspaces\0_Working\ : SFRA_Workspace.qgz : FLOOD RISK SUMMARY - FLOOD AMENDMENTS Print Date:30/04/2026

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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY
- ROFSW
  - 0.6M DEPTH
    - High
    - Medium
    - Low
    - Unavailable
  - 0.75 HAZARD
    - High
    - Medium
    - Low
    - Unavailable
- ROFRS
  - 0.6M DEPTH
    - High
    - Medium
    - Low
    - Very low
    - Unavailable
- FLOOD WARNING AREAS
- OVERLAND FLOW PATHWAYS
  - PROBABLE OVERLAND FLOW PATHWAYS
    - < 3 Degrees
    - 3 - 7 Degrees
    - 7 - 12 Degrees
    - > 12 Degrees
  - DETAILED WATERSHEDS
- RESERVOIR FLOOD EXTENT
  - DRY DAY
  - WET DAY
- LIDAR
  - 1M CONTOURS
  - ELEVATION
    - Band 1 (Gray)
    - 230
    - 50

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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MAINTENANCE / CLEARING / OPERATION
NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS
DECOMISSIONING AND DEMOLITION
NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS

Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	01/05/26	First Issue
-	--	--	--	--	DD/MM/YY	--
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Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 566 Land at Shacks Barn

Drawing Scale: 1:8,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00205

Revision: P01

Print Date:01/05/2026

G:\Projects\4082482_WNC\4_Workspaces\0_Working\ SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	565
Site Name	South East Gateway, Daventry
Proposed Development	Employment
Site Area	20.56 Ha
Site NGR	458407 mE, 261081 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
0.0 %	0.0 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
5.5 %	1.9 %	3.7 %	11.1 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
6.7 %	1.9 %	4.7 %	13.3 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

A surface water flow path intersects the site, with more localised ponding to the west. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Flood History

There are two WNC recorded flood events within 500m of the site. This site is not located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at low risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

The site is not indicated to be at risk of reservoir flooding.

Flood Defences – Residual Risk

It is unlikely that the site will be affected by a breach of flood defences as the nearest defences are more than 500m away.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 1. Therefore the Exception Test is not required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 1, finished floor levels should be at least 150mm above external ground levels. An appropriate freeboard allowance should also be considered for other sources of flooding.

Surface Water Attenuation Provision – Design Considerations

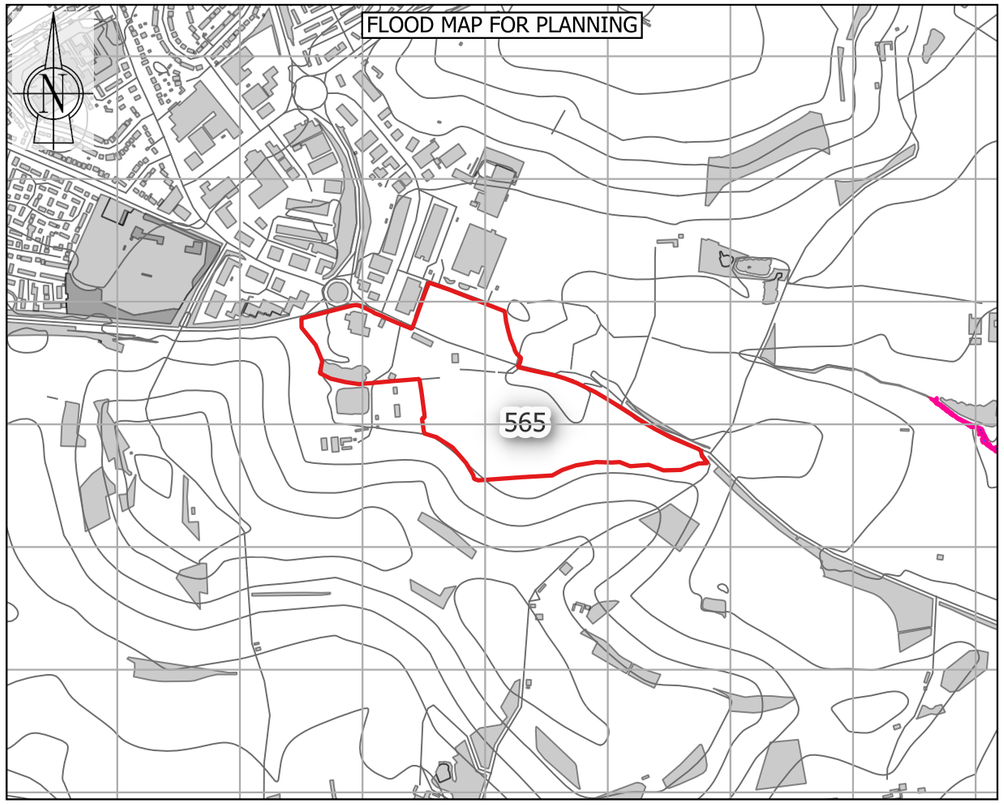
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

It is estimated that 16309 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 2.66 Ha should be set aside for appropriate SuDS techniques.

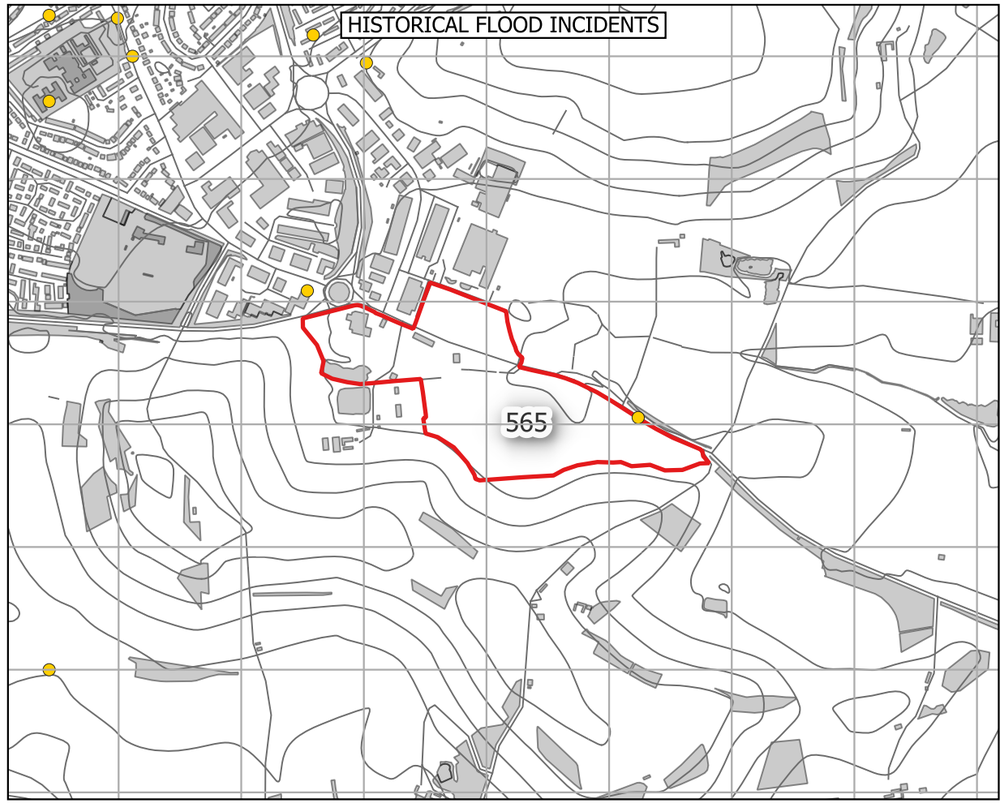
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.

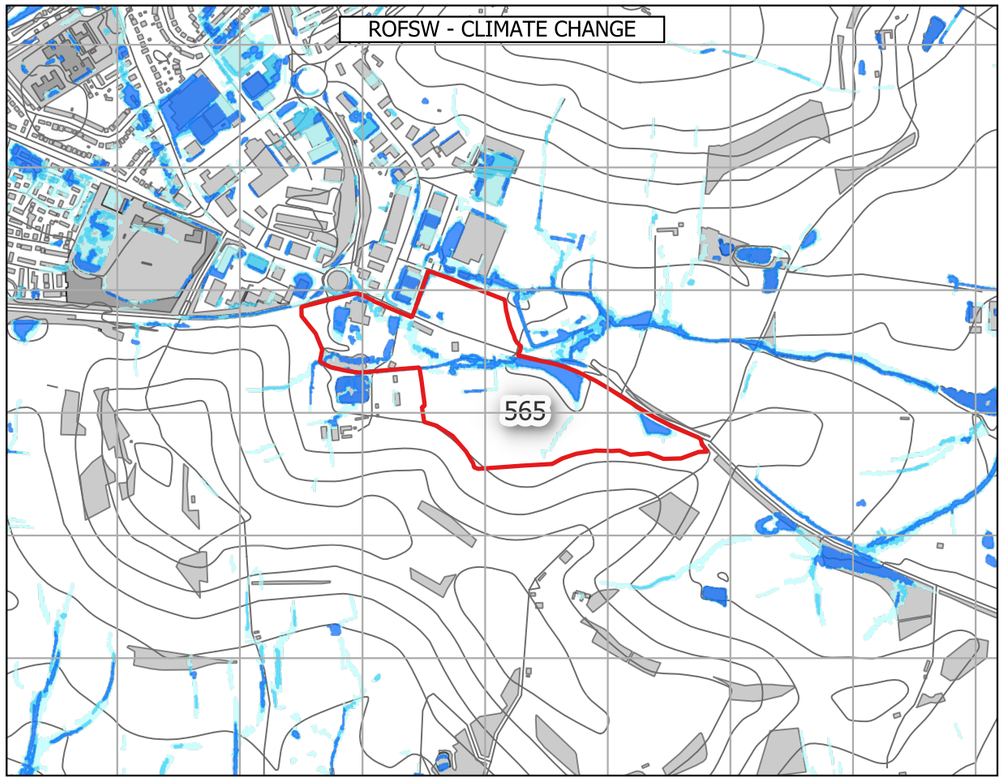
FLOOD MAP FOR PLANNING



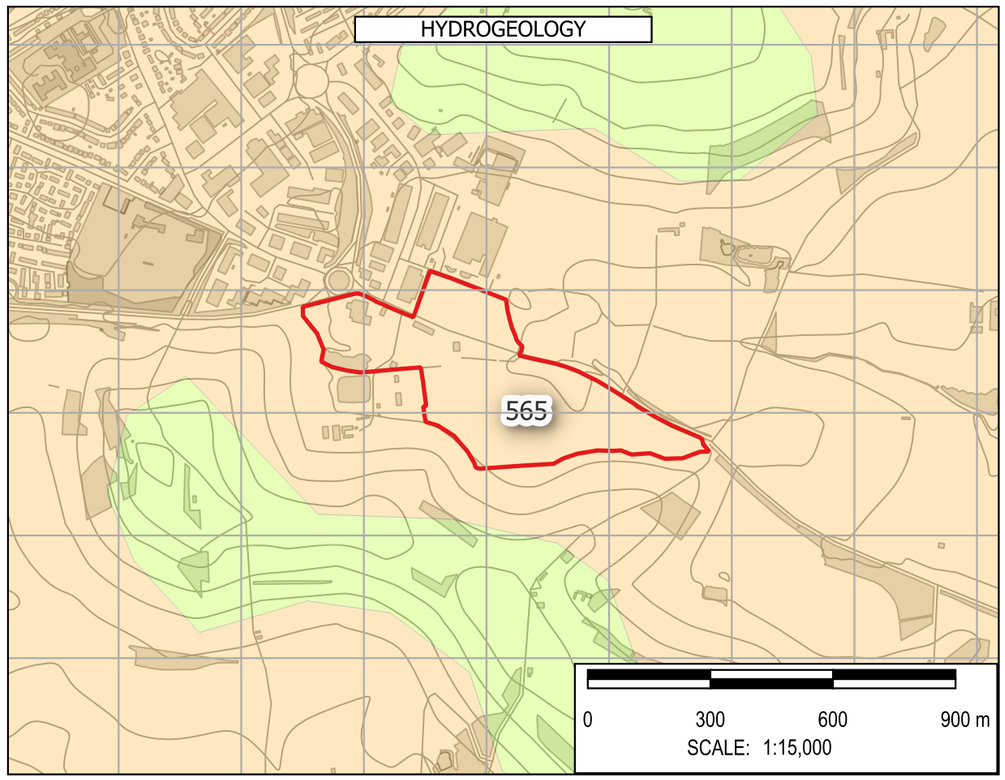
HISTORICAL FLOOD INCIDENTS



ROFSW - CLIMATE CHANGE



HYDROGEOLOGY



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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
  - WEST NORTHANTS BOUNDARY
- FLOOD MAP FOR PLANNING
  - FLOOD DEFENCES
  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
- ROFSW WITH CLIMATE CHANGE
  - HIGH
  - MEDIUM
  - LOW
- HYDROGEOLOGY
  - AQUIFER TYPE
    - HIGHLY PRODUCTIVE AQUIFER
    - MODERATELY PRODUCTIVE AQUIFER
    - LOW PRODUCTIVITY AQUIFER
    - ROCKS WITH ESSENTIALLY NO GROUNDWATER

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
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Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 565
South East Gateway, Daventry

Drawing Scale: 1:15,000 Sheet Size: A3

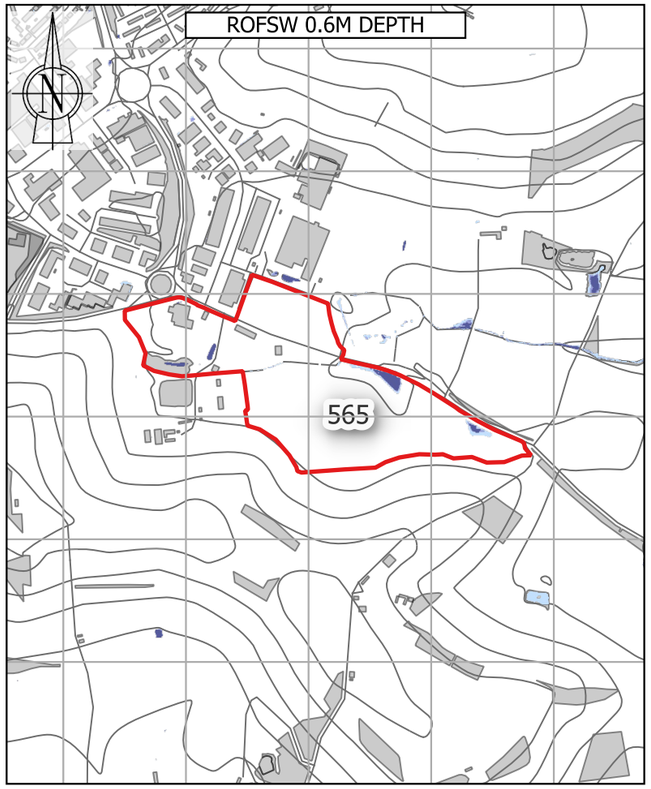
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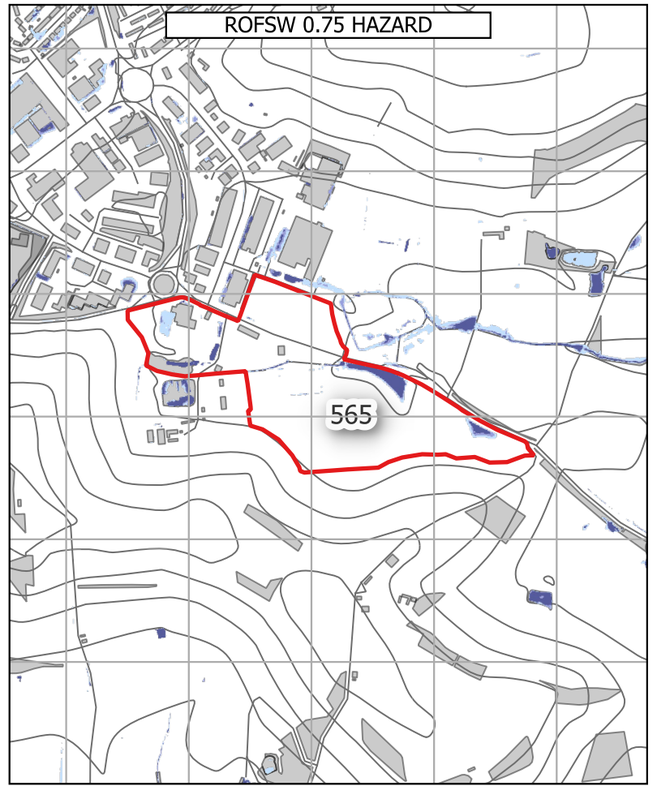
Revision: P01

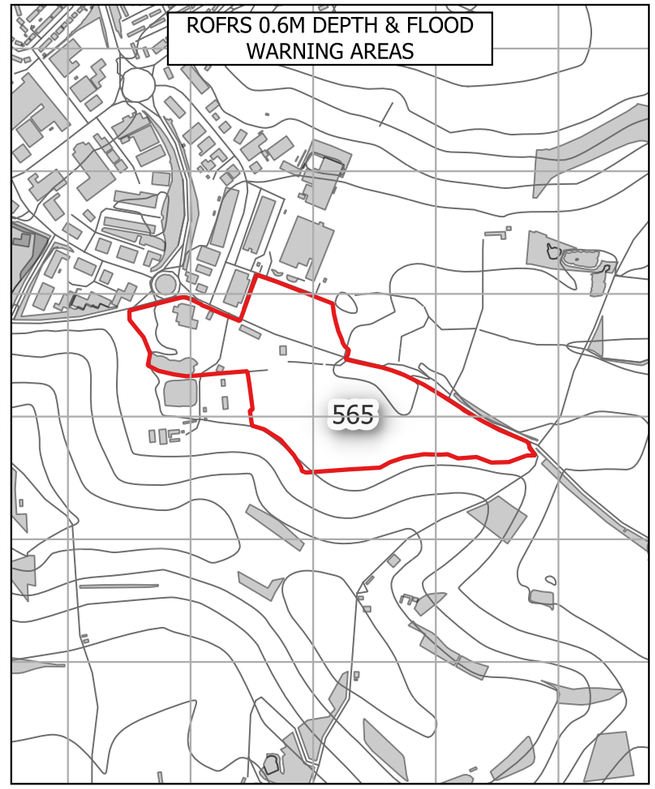
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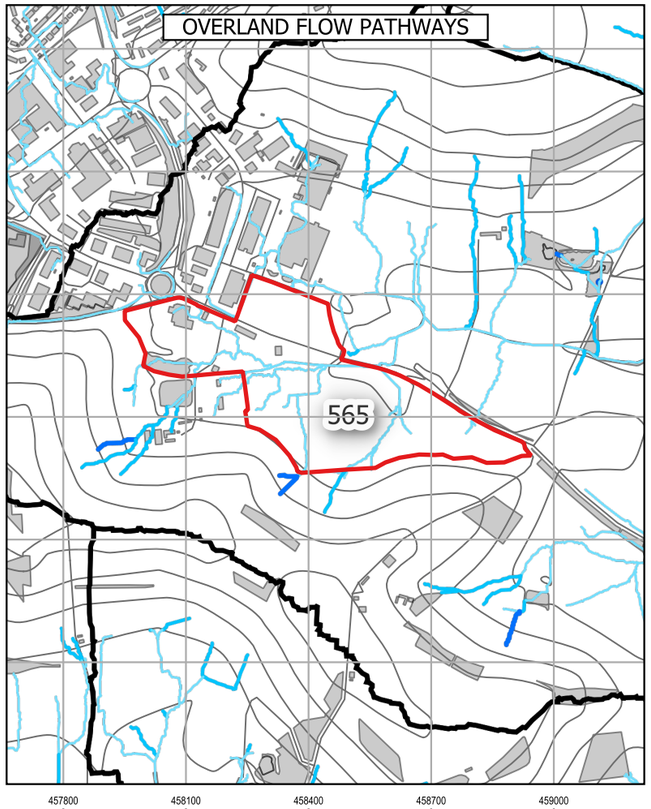
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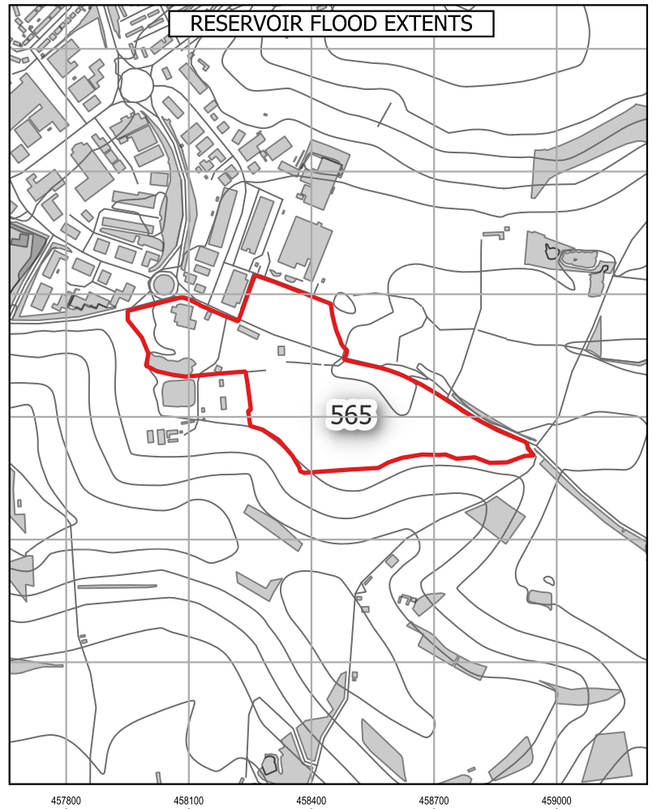
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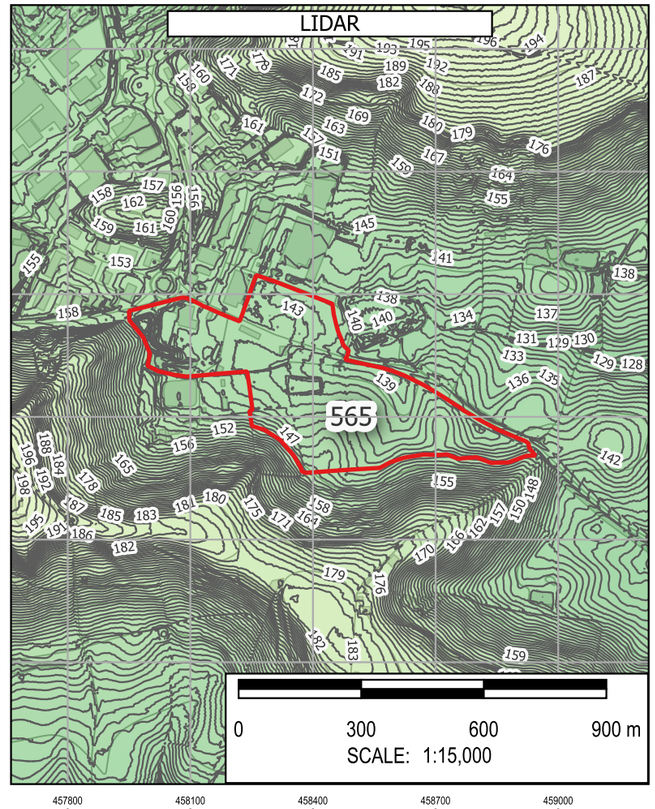












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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY
- ROFSW
- 0.6M DEPTH
  - High
  - Medium
  - Low
  - Unavailable
- 0.75 HAZARD
  - High
  - Medium
  - Low
  - Unavailable
- ROFRS
- 0.6M DEPTH
  - High
  - Medium
  - Low
  - Very low
  - Unavailable
- FLOOD WARNING AREAS
- OVERLAND FLOW PATHWAYS
- PROBABLE OVERLAND FLOW PATHWAYS
  - < 3 Degrees
  - 3 - 7 Degrees
  - 7 - 12 Degrees
  - > 12 Degrees
- DETAILED WATERSHEDS
- RESERVOIR FLOOD EXTENT
- DRY DAY
- WET DAY
- LIDAR
- 1M CONTOURS
- ELEVATION
- Band 1 (Gray)
  - 230
  - 50

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 565
South East Gateway, Daventry

Drawing Scale: 1:15,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00199

Revision: P01

G:\Projects\4082482_WNC\4_Workspaces\0_Working\ SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR Print Date:01/05/2026

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	_001
Site Name	Northampton Gateway, south of J15
Proposed Development	Employment
Site Area	68.80 Ha
Site NGR	475838 mE, 254075 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
6.1 %	8.9 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
7.9 %	1.7 %	4.9 %	14.5 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Commentary

There are two ordinary watercourses flowing north through the site (one of which is not reflected in the mapping), which may be culverted beneath the M1. Due to the likelihood of existing culverts beneath the M1, site specific modelling may be required to better assess existing fluvial flood risk and inform subsequent mitigation measures as part of a future Flood Risk Assessment.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
2.6 %	2.5 %	10.4 %	15.5 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
4.1 %	4.9 %	14.1 %	23.1 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

There are two predominant surface water flow paths originating outside of the site, and flowing northwards across the site, in similar alignment to the ordinary watercourses referenced above. Due to the likelihood of existing culverts beneath the M1, site specific modelling may be required to better assess existing surface water flood risk and inform subsequent mitigation measures as part of a future Flood Risk Assessment.

Flood History

There are thirteen WNC recorded flood events within 500m of the site. This site is not located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at low risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

The site is not indicated to be at risk of reservoir flooding.

Flood Defences – Residual Risk

It is unlikely that the site will be affected by a breach of flood defences as the nearest defences are more than 500m away.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events. Due to the presence of ordinary watercourses and likelihood of existing culverts beneath the M1, site specific modelling may be required to better understand access and egress opportunities.

Exception Test

The site is located within Flood Zone 3. Therefore the Exception Test is required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 2 and 3, finished floor levels should be set no lower than 80.6 mAOD, 600mm above the maximum predicted flood level of 80.0 mAOD. In accordance with the EA guidance, freeboard allowances could be reviewed, and where appropriate reduced to 300mm. An appropriate freeboard allowance should also be considered for other sources of flooding. This should be confirmed by a site specific assessment as part of the detailed design for development, which should include consideration of proposed ground levels.

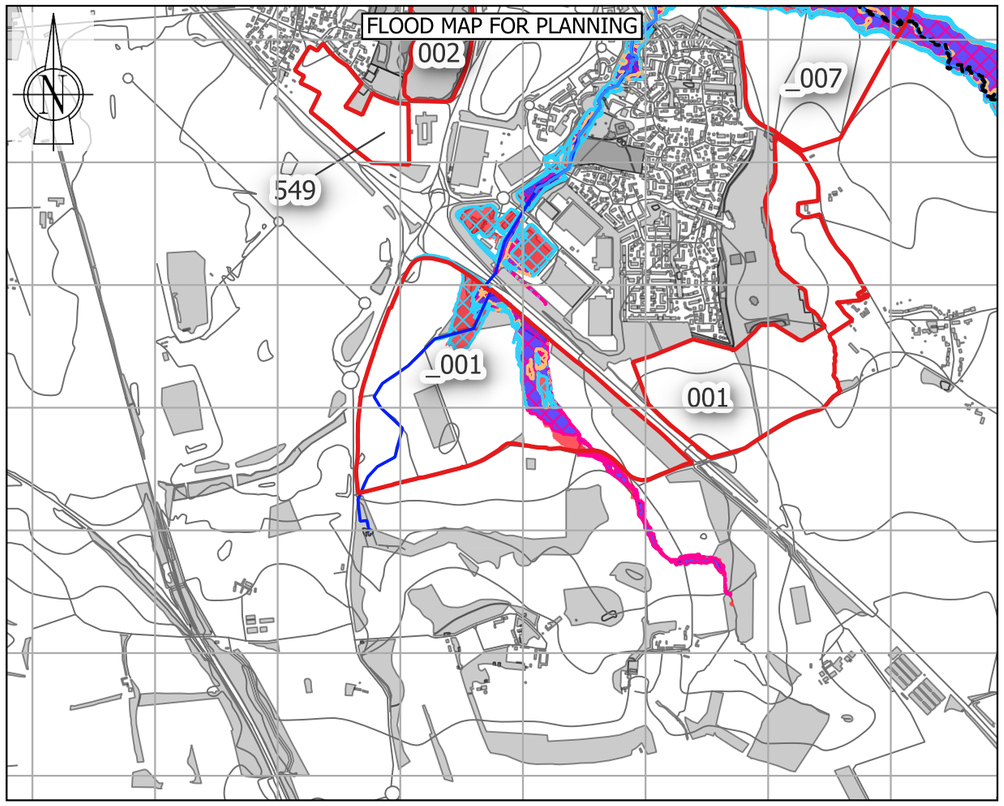
Surface Water Attenuation Provision – Design Considerations

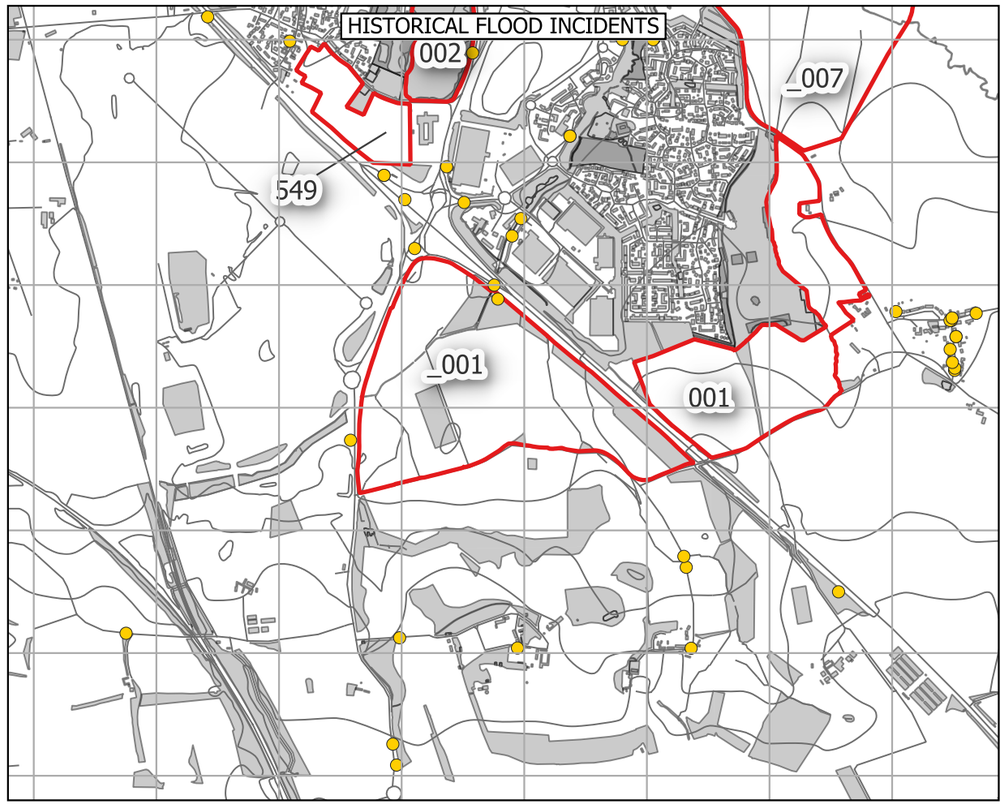
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

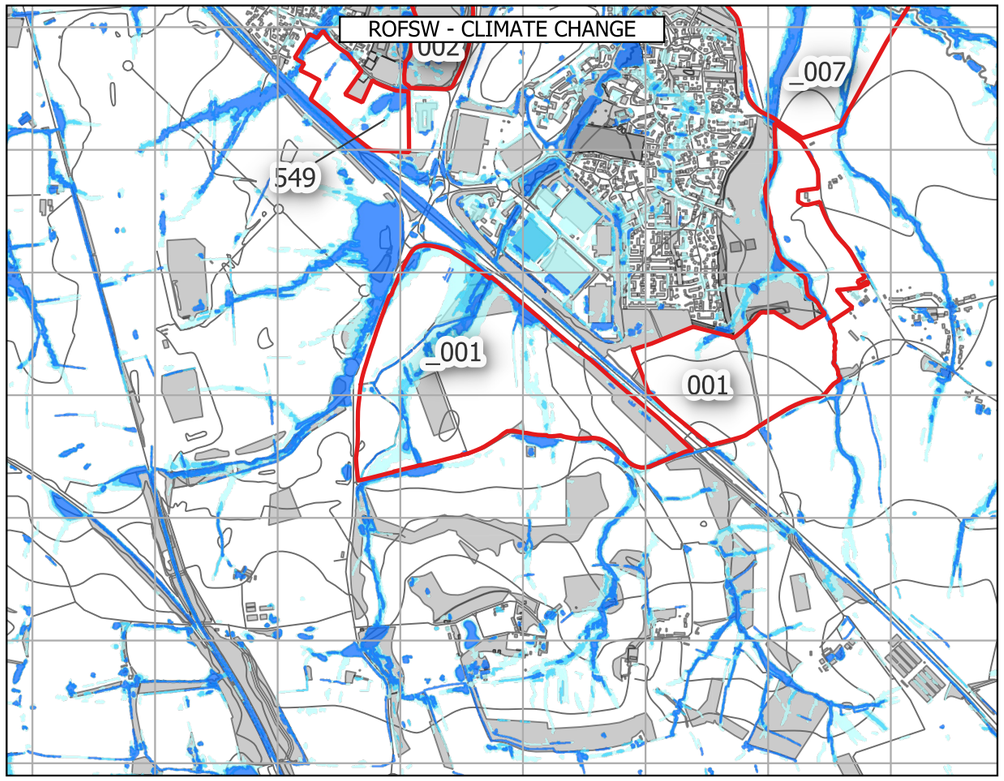
It is estimated that 54562 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 8.16 Ha should be set aside for appropriate SuDS techniques.

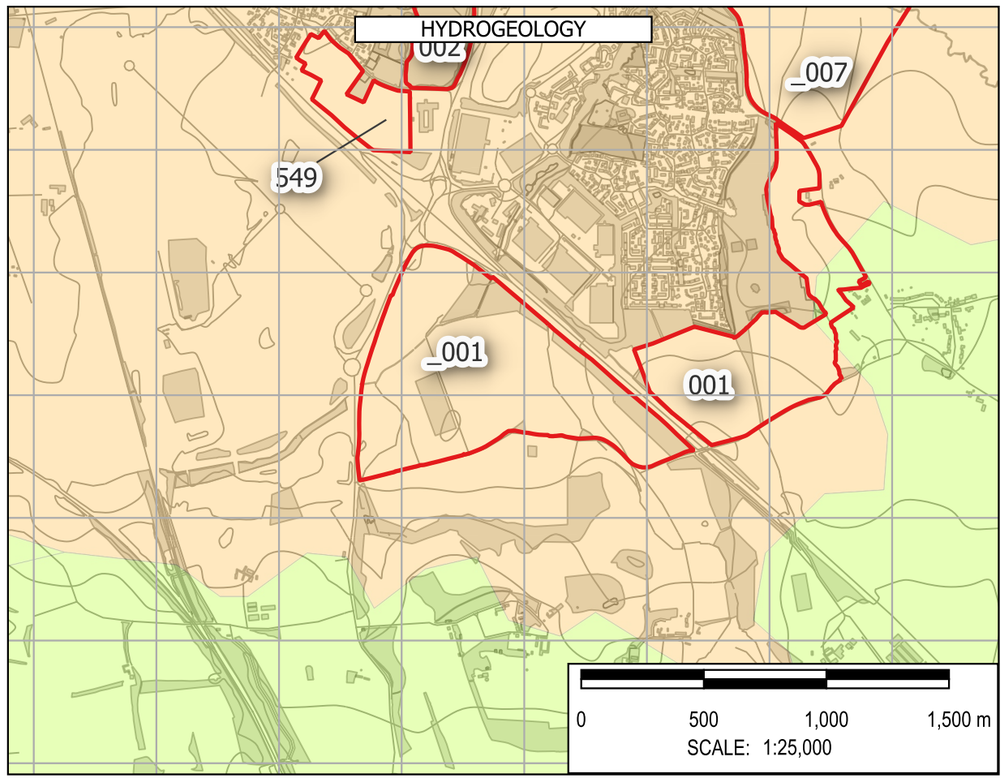
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.









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  - FLOOD DEFENCES
  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
- ROFSW WITH CLIMATE CHANGE
  - HIGH
  - MEDIUM
  - LOW
- HYDROGEOLOGY
  - AQUIFER TYPE
  - HIGHLY PRODUCTIVE AQUIFER
  - MODERATELY PRODUCTIVE AQUIFER
  - LOW PRODUCTIVITY AQUIFER
  - ROCKS WITH ESSENTIALLY NO GROUNDWATER

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P01	KA	MH	SB	SB	30/04/26	First Issue
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Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE | Revision: -

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Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: _001 Northampton Gateway, south of J15

Drawing Scale: 1:25,000 Sheet Size: A3

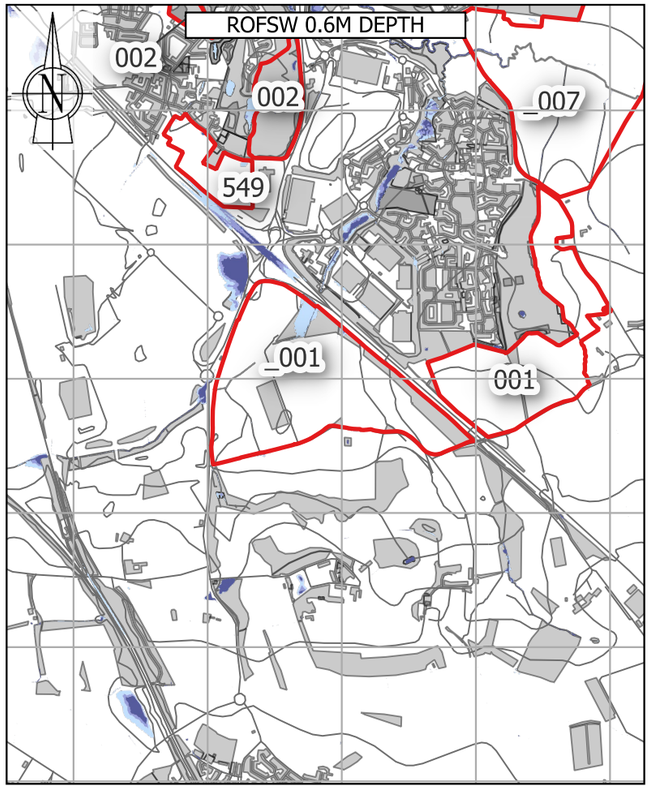
Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00126 | Revision: P01

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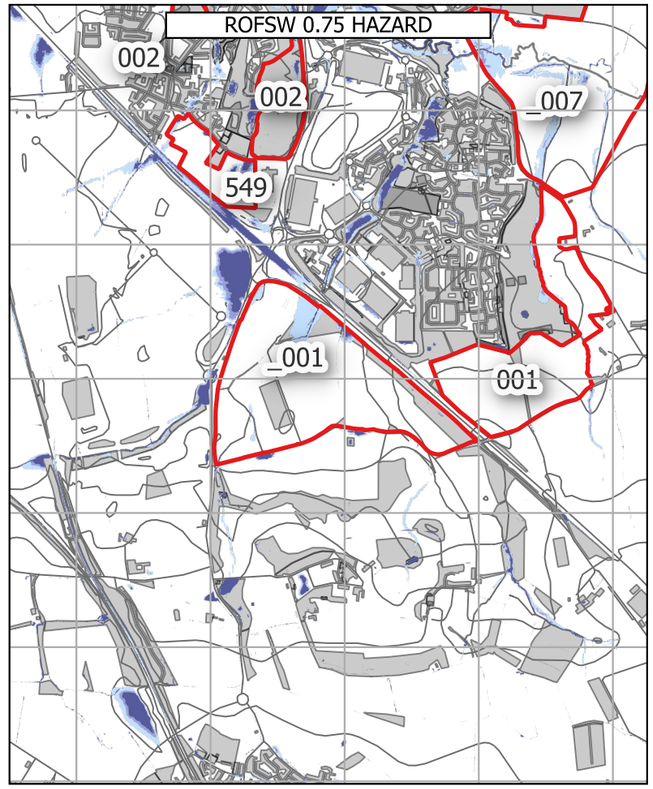
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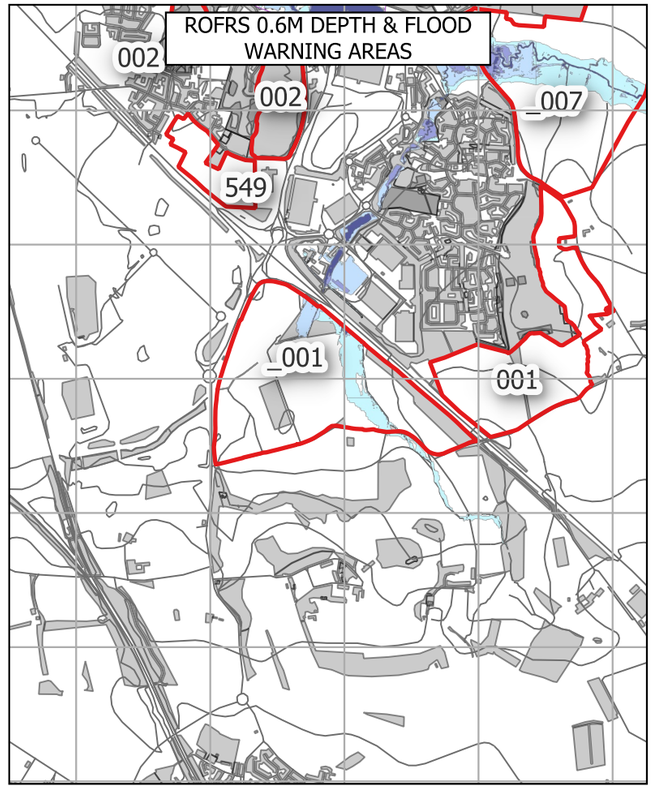
ROFSW 0.6M DEPTH



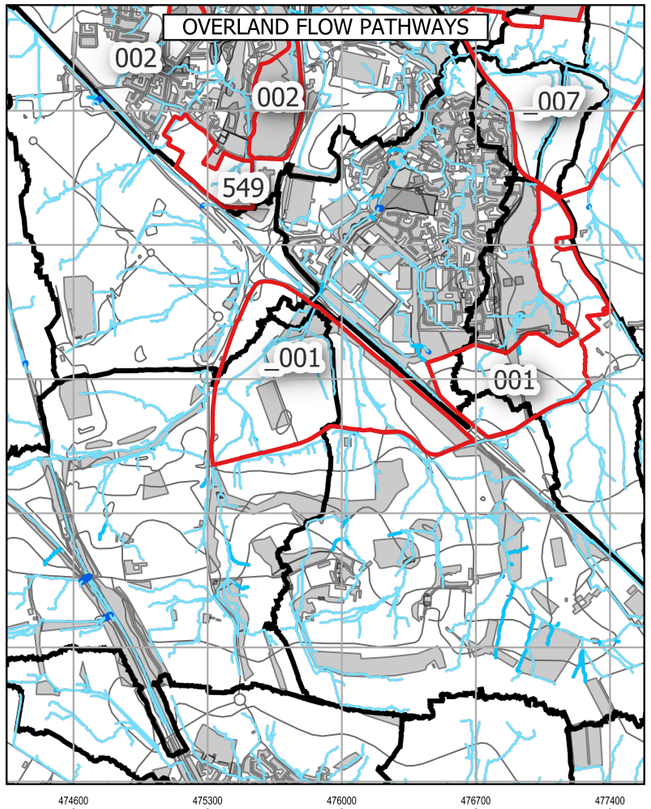
ROFSW 0.75 HAZARD



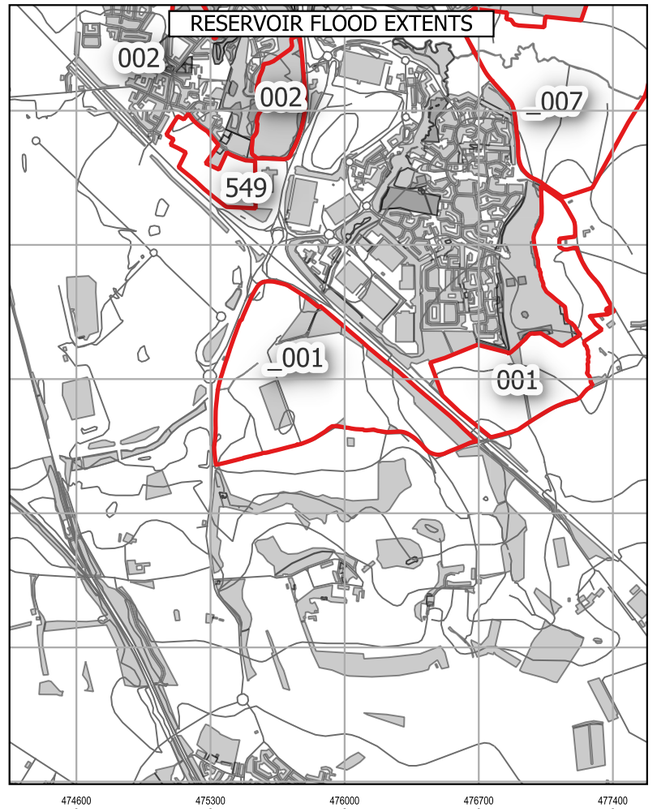
ROFRS 0.6M DEPTH & FLOOD WARNING AREAS



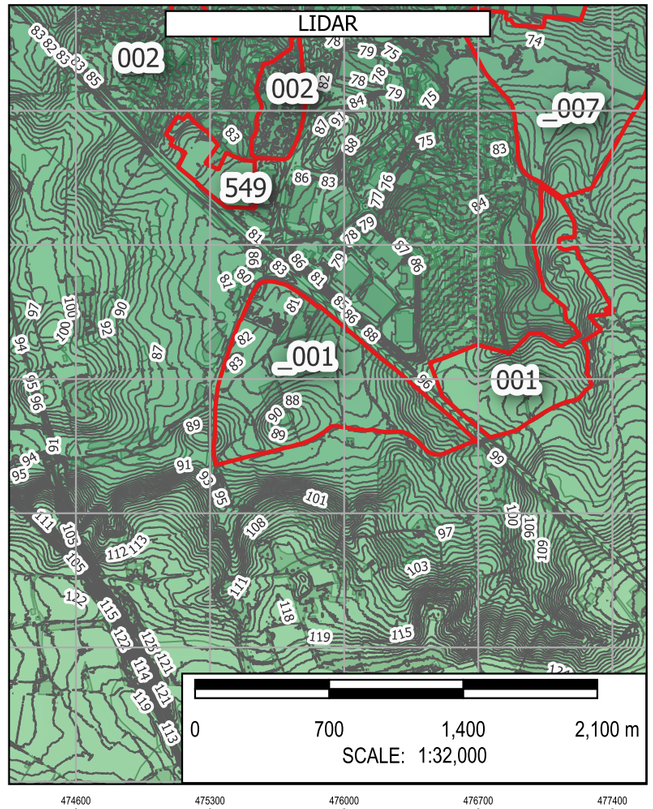
OVERLAND FLOW PATHWAYS



RESERVOIR FLOOD EXTENTS



LIDAR



Note: The limits, including the height and depths of the Works, shown in this drawing are not to be taken as limiting the obligations of the contractor under Contract.

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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY

ROFSW

0.6M DEPTH
- High
- Medium
- Low
- Unavailable

0.75 HAZARD
- High
- Medium
- Low
- Unavailable

ROFRS

0.6M DEPTH
- High
- Medium
- Low
- Very low
- Unavailable

FLOOD WARNING AREAS

OVERLAND FLOW PATHWAYS

PROBABLE OVERLAND FLOW PATHWAYS
- < 3 Degrees
- 3 - 7 Degrees
- 7 - 12 Degrees
- > 12 Degrees

DETAILED WATERSHEDS

RESERVOIR FLOOD EXTENT

DRY DAY

WET DAY

LIDAR
- 1M CONTOURS

ELEVATION

Band 1 (Gray)
- 230
- 50

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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DECOMISSIONING AND DEMOLITION
NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS

Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	01/05/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

Binnies UK Limited
Registered Office
Spring Lodge, 172 Chester Road, Helsby Cheshire, WA6 0AR, UK
Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: _001 Northampton Gateway, south of J15

Drawing Scale: 1:32,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00184

Revision: P01

G:\Projects\4082482_WNC\4_Workspaces\0_Working_SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR Print Date:01/05/2026

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	019
Site Name	Upper Heyford - south of Junction 16 M1
Proposed Development	Employment
Site Area	48.18 Ha
Site NGR	467098 mE, 259162 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
35.8 %	9.3 %

Less than 60% of the site is at risk of fluvial flooding during a present-day scenario, therefore delivery of a flood risk compatible development is considered feasible.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
7.7 %	0.0 %	0.0 %	7.7 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Commentary

As more than 30% of the site is at risk of fluvial flooding under a present-day scenario, floodplain compensation may be required. The southern portion of the site is located within Flood Zone 2 and Flood Zone 3 under a present-day scenario, and a small portion in the south of the site is located within 1 in 30 year defended flood extent under a climate change scenario. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
9.4 %	2.7 %	7.8 %	19.9 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
11.0 %	3.3 %	10.8 %	25.1 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

The surface water flood risk across the site may be influenced by existing ridge-and-furrow landforms within low lying floodplain. As a result of this, site specific modelling may be required to inform mitigation measures as part of a site-specific Flood Risk Assessment. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Flood History

There are thirteen WNC recorded flood events within 500m of the site. This site is located within an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at low risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
54.3 %	45.2 %	58.0 %	58.0 %

Although the site is in an area at risk of reservoir flooding, this risk could be managed through appropriate consideration of flood resilience measures.

Flood Defences – Residual Risk

Flood defences, in the form of natural high ground, located along the southern site boundary offer a standard of protection equivalent to a 1 in 5 year storm event, assuming the ground level is maintained. As the site benefits from flood defences, a proportionate assessment of the likelihood of a defence breach over the lifetime of the development (including the impact of climate change) should be undertaken as part of a site-specific Flood Risk Assessment. Using the Environment Agency's simplified method (FD2321/TR2), a breach in the flood defence at this site could result in 'danger for all'.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 3. Therefore the Exception Test is required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 2 and 3, finished floor levels should be set no lower than 74.6 mAOD, 600mm above the maximum predicted flood level of 74.0 mAOD. In accordance with the EA guidance, freeboard allowances could be reviewed, and where appropriate reduced to 300mm. An appropriate freeboard allowance should also be considered for other sources of flooding.This should be confirmed by a site specific assessment as part of the detailed design for development, which should include consideration of proposed ground levels.

Surface Water Attenuation Provision – Design Considerations

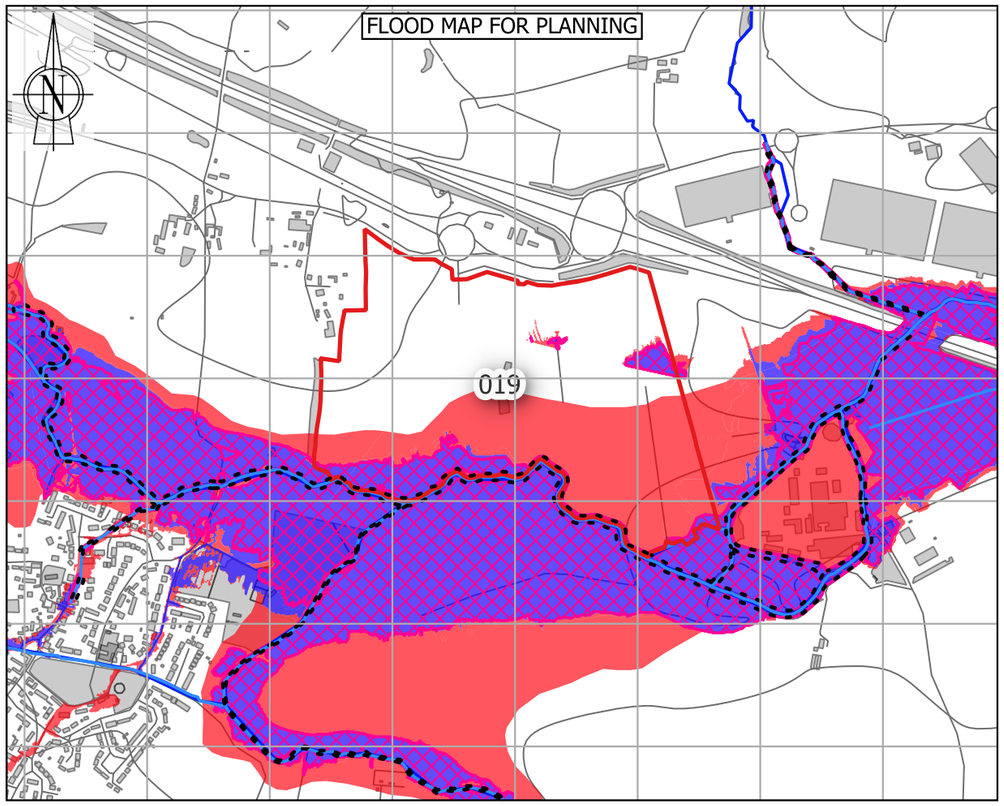
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

It is estimated that 38212 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 5.72 Ha should be set aside for appropriate SuDS techniques.

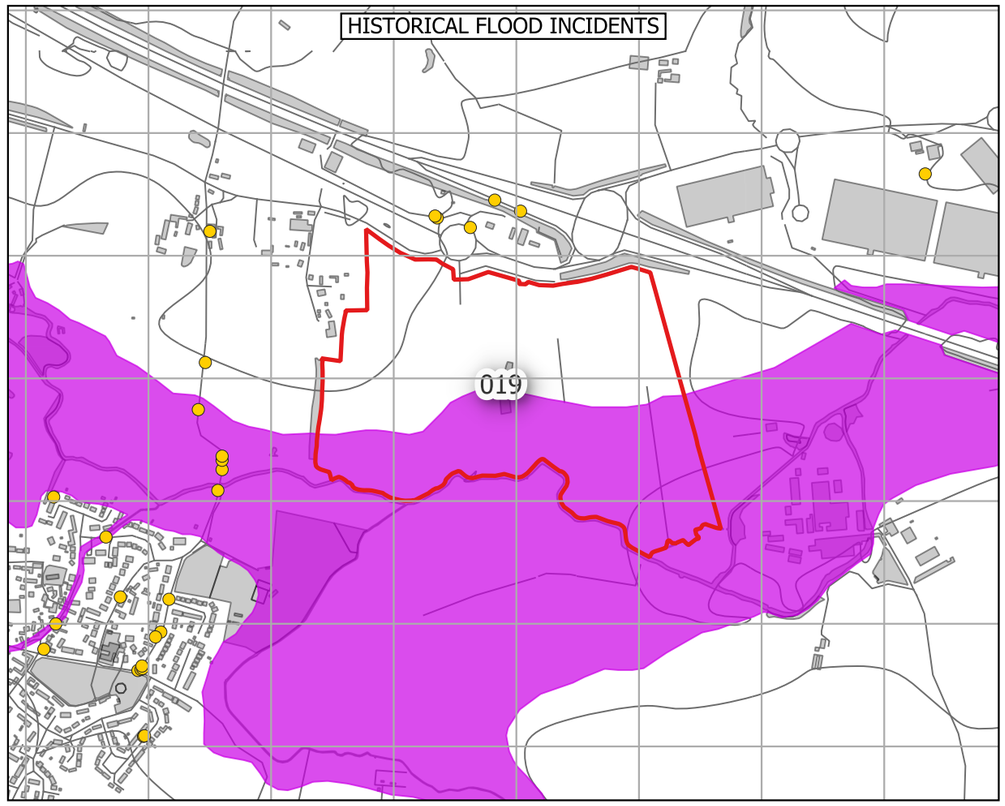
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.

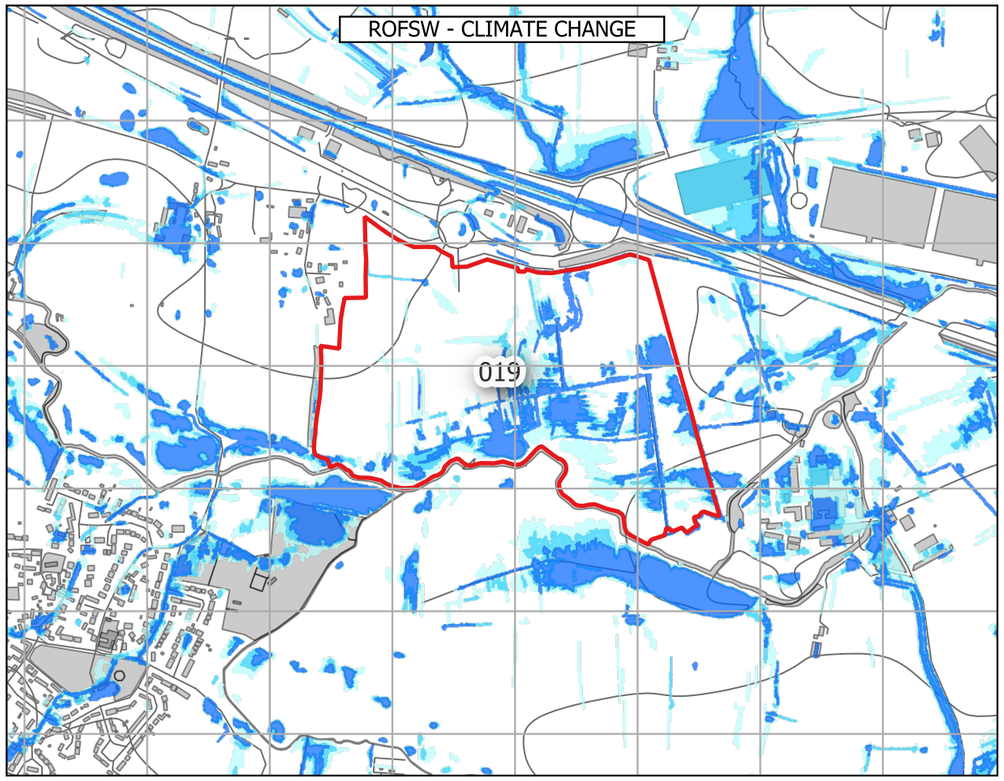
FLOOD MAP FOR PLANNING



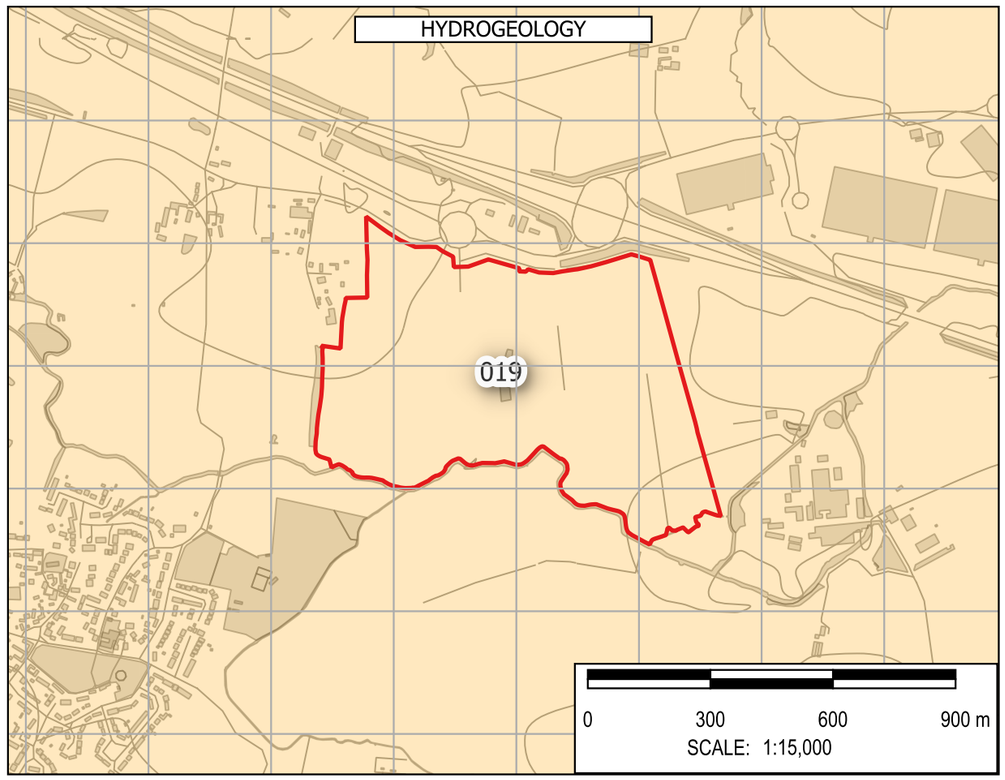
HISTORICAL FLOOD INCIDENTS



ROFSW - CLIMATE CHANGE



HYDROGEOLOGY



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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
  - WEST NORTHANTS BOUNDARY
- FLOOD MAP FOR PLANNING
  - FLOOD DEFENCES
  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
- ROFSW WITH CLIMATE CHANGE
  - HIGH
  - MEDIUM
  - LOW
- HYDROGEOLOGY
- AQUIFER TYPE
  - HIGHLY PRODUCTIVE AQUIFER
  - MODERATELY PRODUCTIVE AQUIFER
  - LOW PRODUCTIVITY AQUIFER
  - ROCKS WITH ESSENTIALLY NO GROUNDWATER

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

Binnies UK Limited
Registered Office
Spring Lodge, 172 Chester Road, Helsby Cheshire, WA6 0AR, UK
Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 019
Upper Heyford - south of Junction 16 M1

Drawing Scale: 1:15,000 Sheet Size: A3

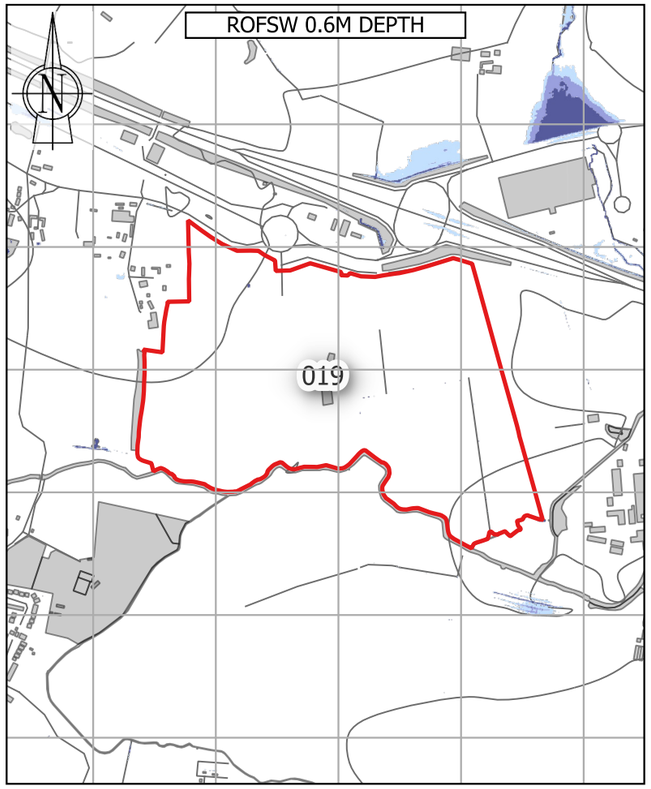
Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00129 Revision: P01

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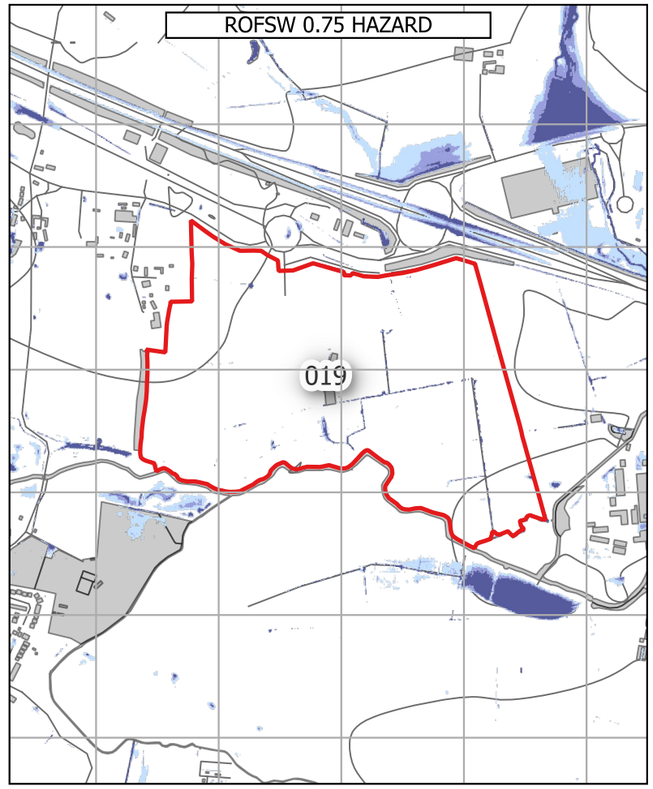
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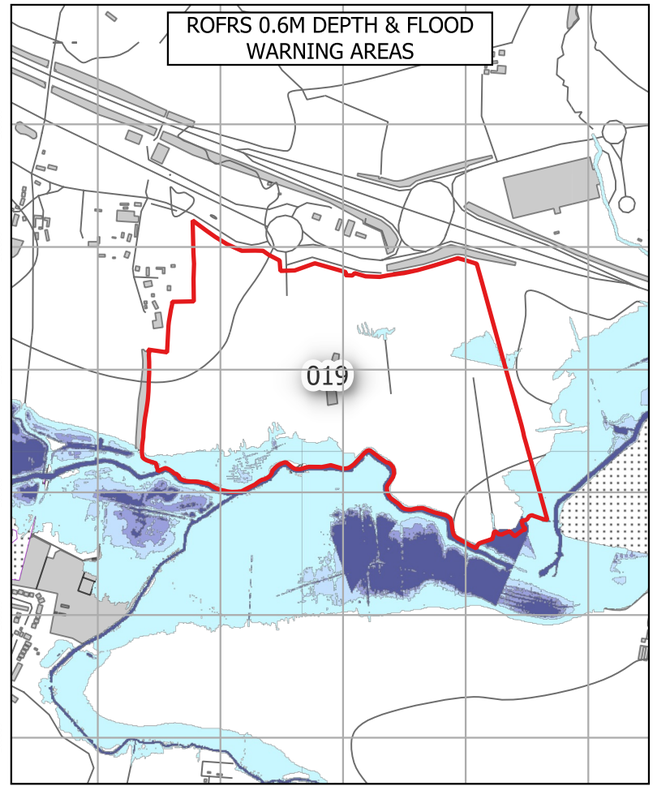
ROFSW 0.6M DEPTH



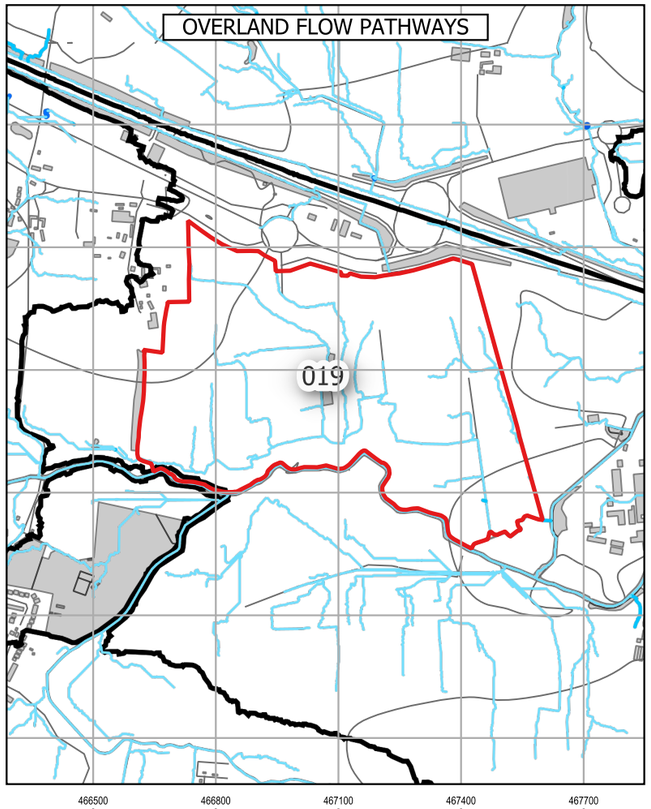
ROFSW 0.75 HAZARD



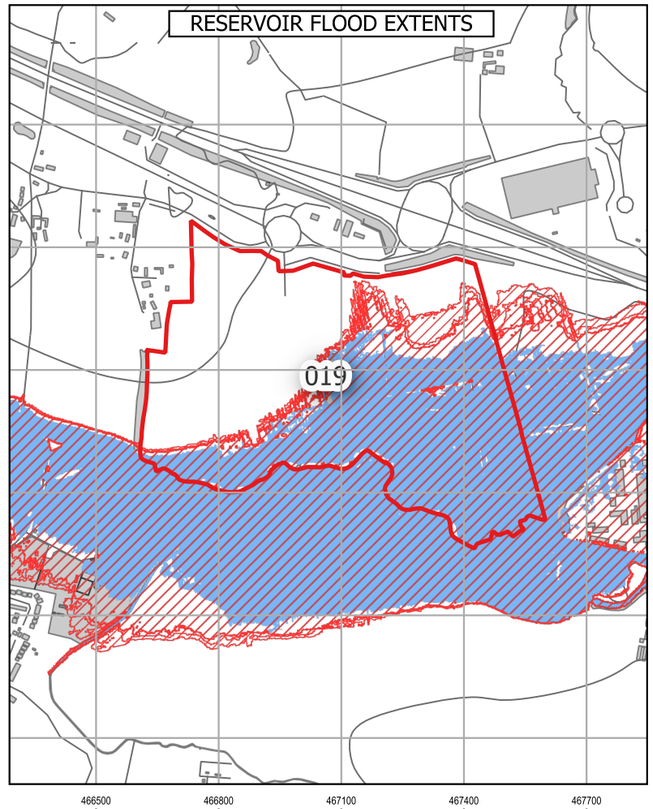
ROFRS 0.6M DEPTH & FLOOD WARNING AREAS



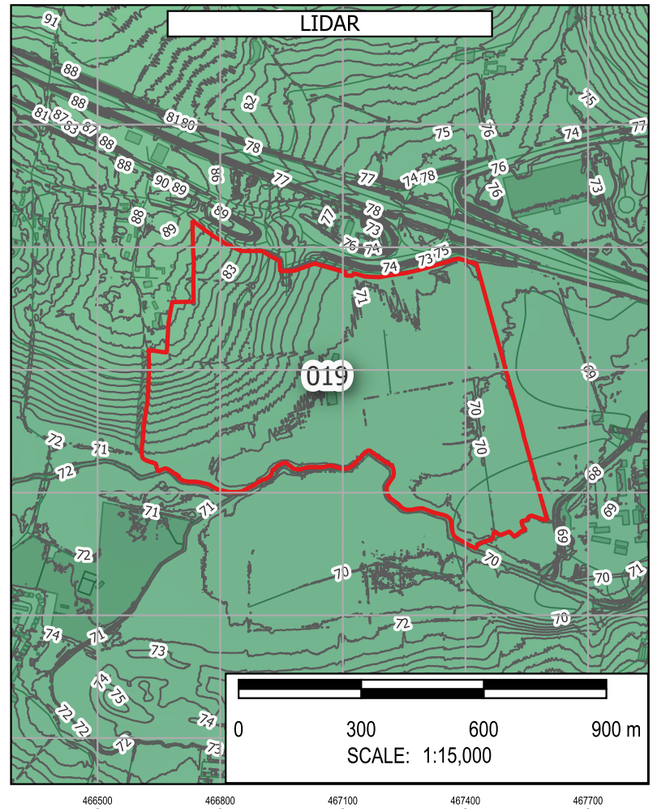
OVERLAND FLOW PATHWAYS



RESERVOIR FLOOD EXTENTS



LIDAR



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LEGEND

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- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY

ROFSW

0.6M DEPTH
- High
- Medium
- Low
- Unavailable

0.75 HAZARD
- High
- Medium
- Low
- Unavailable

ROFRS

0.6M DEPTH
- High
- Medium
- Low
- Very low
- Unavailable

FLOOD WARNING AREAS

OVERLAND FLOW PATHWAYS

PROBABLE OVERLAND FLOW PATHWAYS
- < 3 Degrees
- 3 - 7 Degrees
- 7 - 12 Degrees
- > 12 Degrees

DETAILED WATERSHEDS

RESERVOIR FLOOD EXTENT
- DRY DAY
- WET DAY

LIDAR
- 1M CONTOURS

ELEVATION
- Band 1 (Gray)
- 230
- 50

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	01/05/26	First Issue
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Designed By: KA Date: 01/May/2026

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Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 019
Upper Heyford - south of Junction 16 M1

Drawing Scale: 1:15,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00187

Revision: P01

G:\Projects\4082482_WNC\4_Workspaces\0_Working\ SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR Print Date:01/05/2026

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	018
Site Name	DIRFT Phase IV
Proposed Development	Employment
Site Area	245.05 Ha
Site NGR	457807 mE, 275403 mN.
River Management Catchment	Avon Warwickshire

Fluvial Flood Risk – Present-day

FZ2	FZ3
1.3 %	6.2 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
6.0 %	0.0 %	0.0 %	6.0 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Commentary

As the site is dissected by an ordinary watercourse, site specific modelling may be required to inform mitigation measures as part of a site-specific Flood Risk Assessment.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
5.5 %	3.6 %	9.2 %	18.3 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
7.4 %	4.6 %	10.6 %	22.6 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

The site has extensive surface water flow paths originating both offsite and from within the site. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Flood History

There are two WNC recorded flood events within 500m of the site. This site is not located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at low risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

The site is not indicated to be at risk of reservoir flooding.

Flood Defences – Residual Risk

It is unlikely that the site will be affected by a breach of flood defences as the nearest defences are more than 500m away.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is likely that dry access and egress will be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 3. Therefore the Exception Test is required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 2 and 3, finished floor levels should be set no lower than 99.6 mAOD, 600mm above the maximum predicted flood level of 99.0 mAOD. In accordance with the EA guidance, freeboard allowances could be reviewed, and where appropriate reduced to 300mm. An appropriate freeboard allowance should also be considered for other sources of flooding. This should be confirmed by a site specific assessment as part of the detailed design for development, which should include consideration of proposed ground levels.

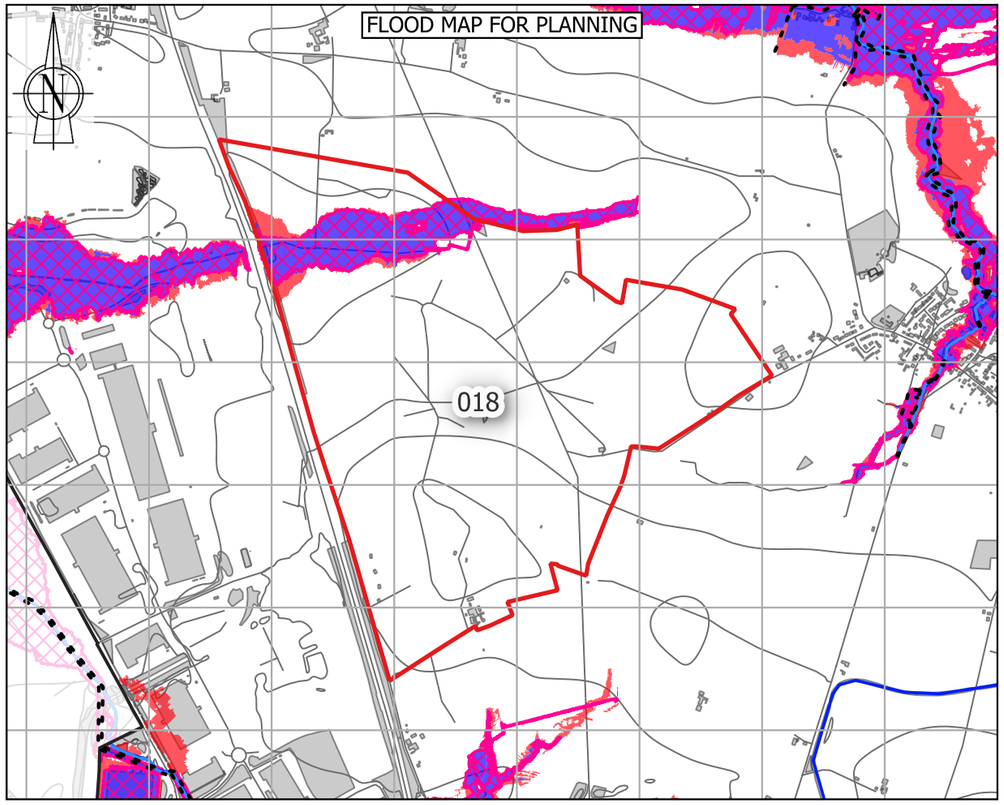
Surface Water Attenuation Provision – Design Considerations

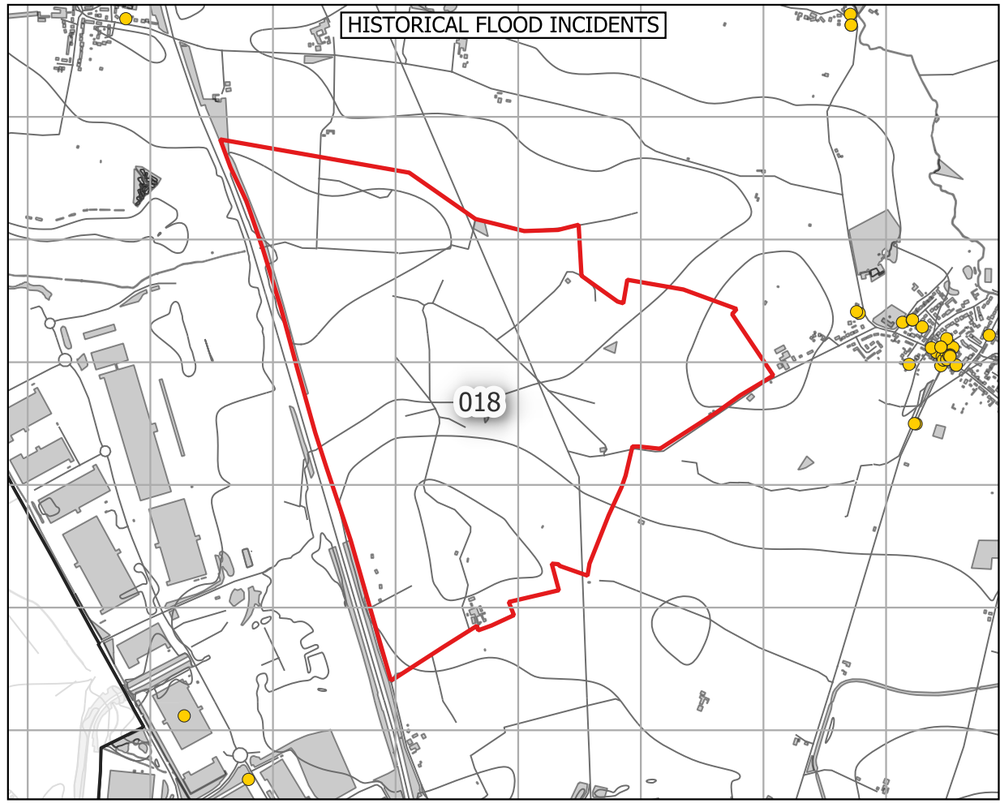
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

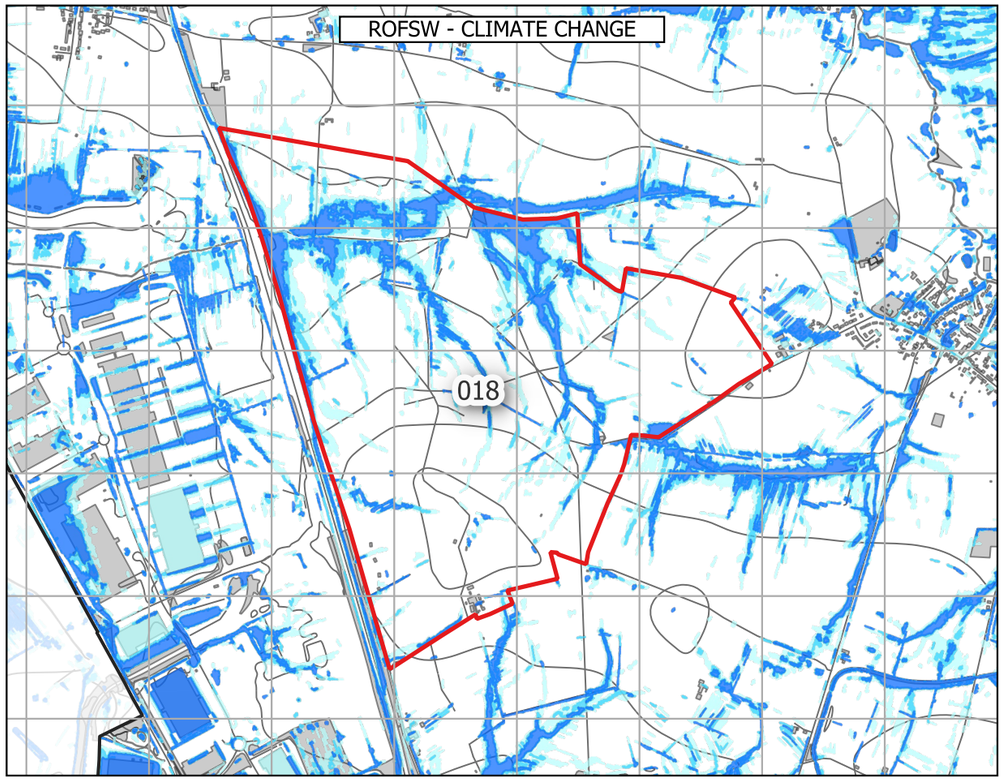
It is estimated that 194336 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 29.08 Ha should be set aside for appropriate SuDS techniques.

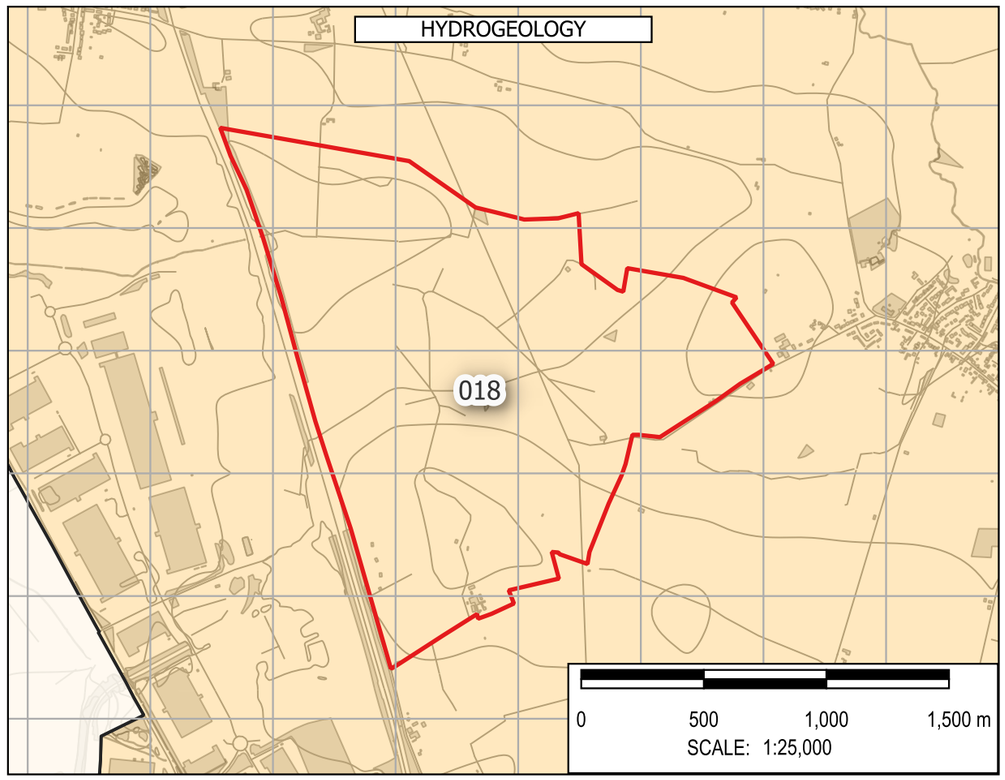
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.









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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
  - WEST NORTHANTS BOUNDARY
- FLOOD MAP FOR PLANNING
  - FLOOD DEFENCES
  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
- ROFSW WITH CLIMATE CHANGE
  - HIGH
  - MEDIUM
  - LOW
- HYDROGEOLOGY
  - AQUIFER TYPE
  - HIGHLY PRODUCTIVE AQUIFER
  - MODERATELY PRODUCTIVE AQUIFER
  - LOW PRODUCTIVITY AQUIFER
  - ROCKS WITH ESSENTIALLY NO GROUNDWATER

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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DECOMISSIONING AND DEMOLITION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
-	--	--	--	--	DD/MM/YY	--
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Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 018
DIRFT Phase IV

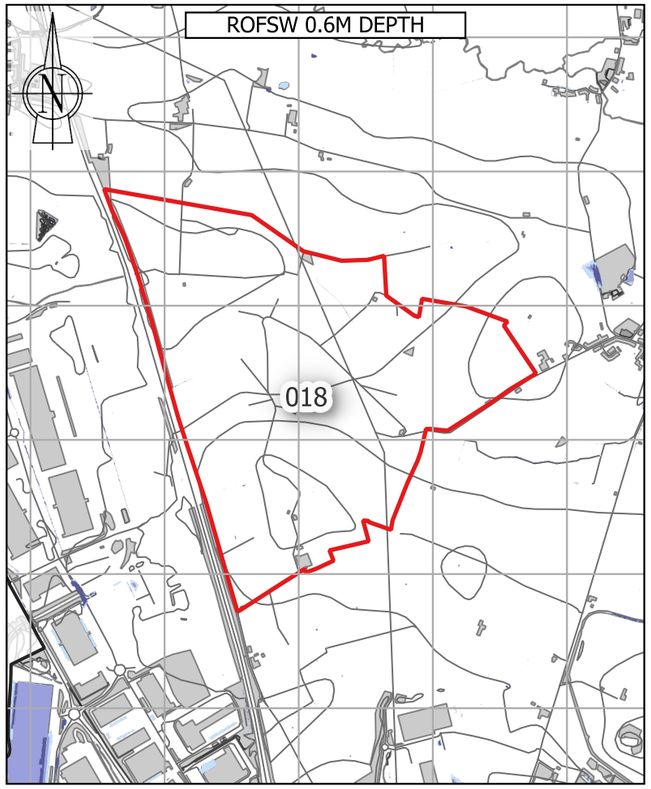
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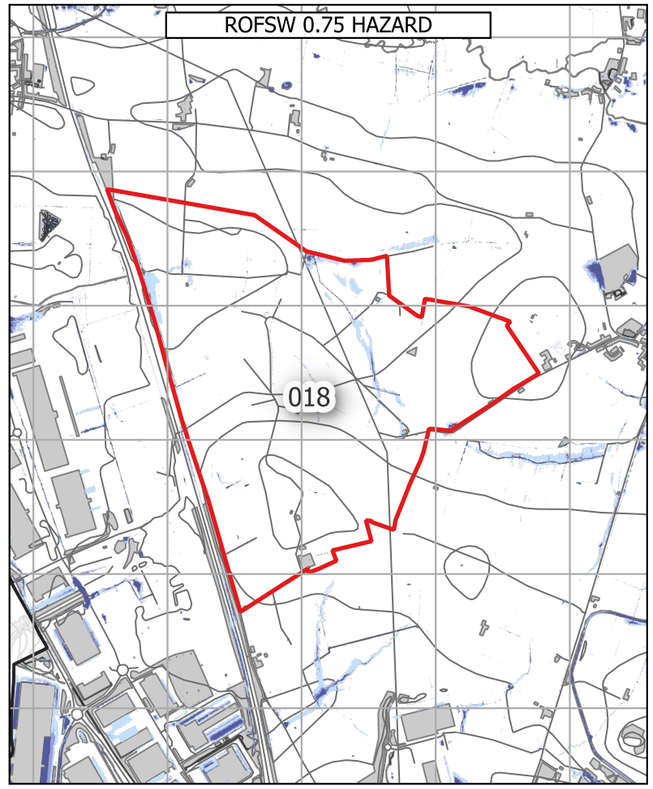
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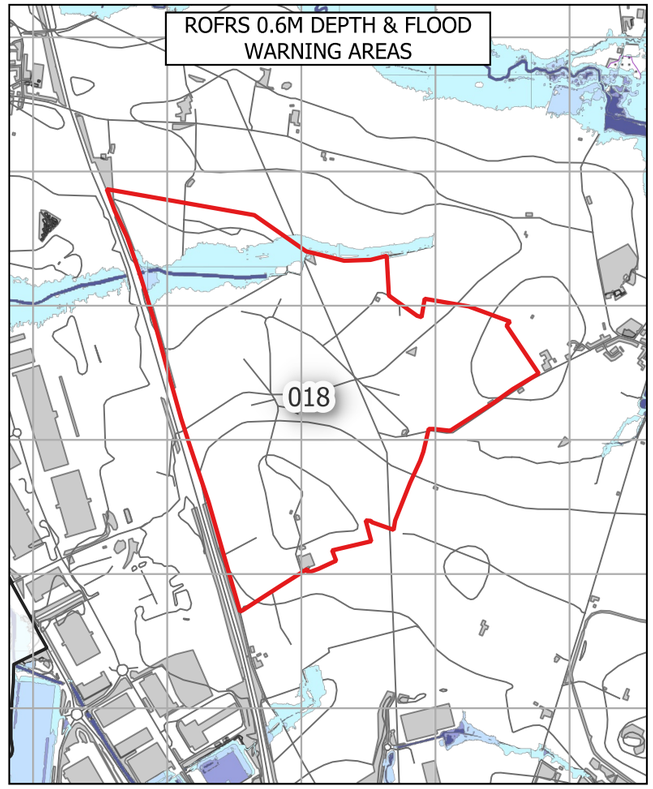
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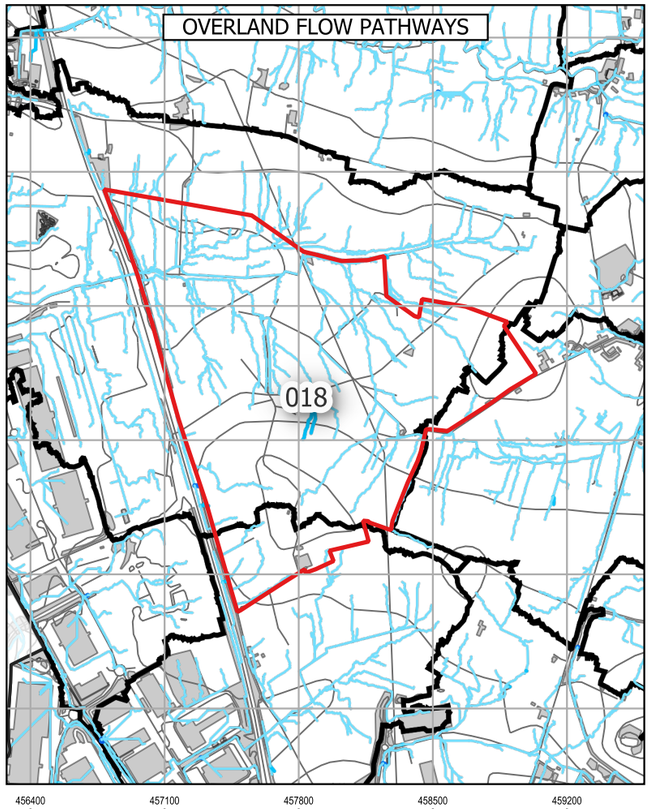
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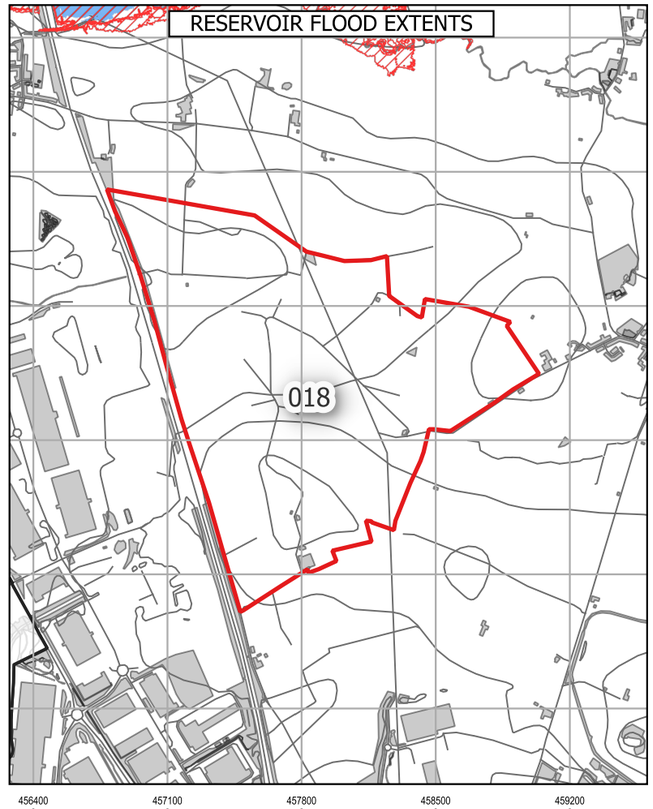
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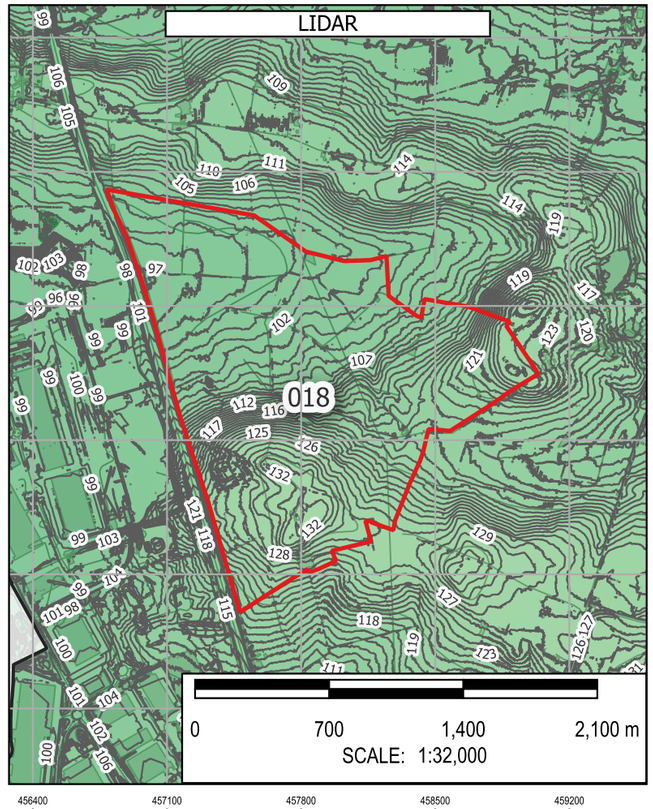












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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY

ROFSW

0.6M DEPTH
- High
- Medium
- Low
- Unavailable

0.75 HAZARD
- High
- Medium
- Low
- Unavailable

ROFRS

0.6M DEPTH
- High
- Medium
- Low
- Very low
- Unavailable

FLOOD WARNING AREAS

OVERLAND FLOW PATHWAYS

PROBABLE OVERLAND FLOW PATHWAYS
- < 3 Degrees
- 3 - 7 Degrees
- 7 - 12 Degrees
- > 12 Degrees

DETAILED WATERSHEDS

RESERVOIR FLOOD EXTENT

DRY DAY

WET DAY

LIDAR
- 1M CONTOURS

ELEVATION

Band 1 (Gray)
230
50

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	01/05/26	First Issue
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Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 018
DIRFT Phase IV

Drawing Scale: 1:32,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00179

Revision: P01

G:\Projects\4082482_WNC\4_Workspaces\0_Working\ SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR Print Date:01/05/2026

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	015
Site Name	Long Buckby - South of Long Buckby Station
Proposed Development	Employment
Site Area	10.91 Ha
Site NGR	461997 mE, 266368 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
0.0 %	0.0 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
0.8 %	1.3 %	2.9 %	5.0 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
1.6 %	1.4 %	3.6 %	6.6 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

There are two minor surface water flow paths across the site, which likely originate within the site. These flow paths may be influenced by existing ridge-and-furrow landforms. Site specific modelling may be required to better understand local surface water flood risk and inform potential mitigation measures as part of a site-specific Flood Risk Assessment.

Flood History

There are three WNC recorded flood events within 500m of the site. This site is not located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at low risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

The site is not indicated to be at risk of reservoir flooding.

Flood Defences – Residual Risk

Whilst the nearest flood defences are less than 400m from the site, the site does not benefit from these defences and therefore an assessment of a defence breach over the lifetime of the development (including the impact of climate change) is unlikely to be required.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 1. Therefore the Exception Test is not required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 1, finished floor levels should be at least 150mm above external ground levels. An appropriate freeboard allowance should also be considered for other sources of flooding.

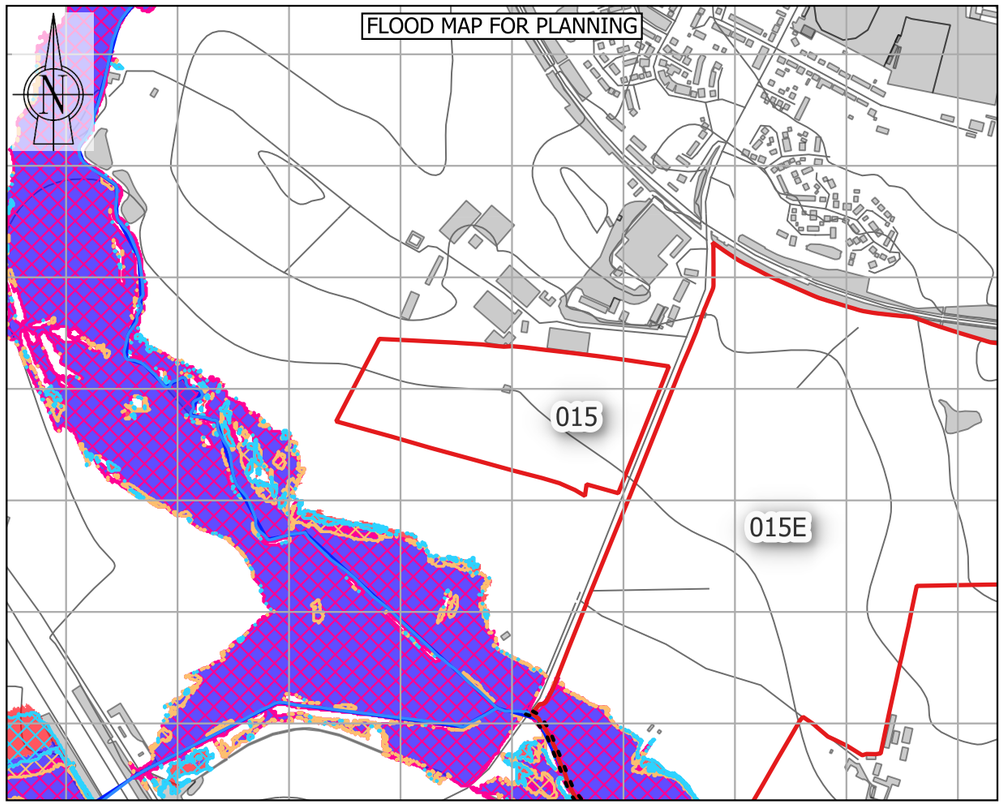
Surface Water Attenuation Provision – Design Considerations

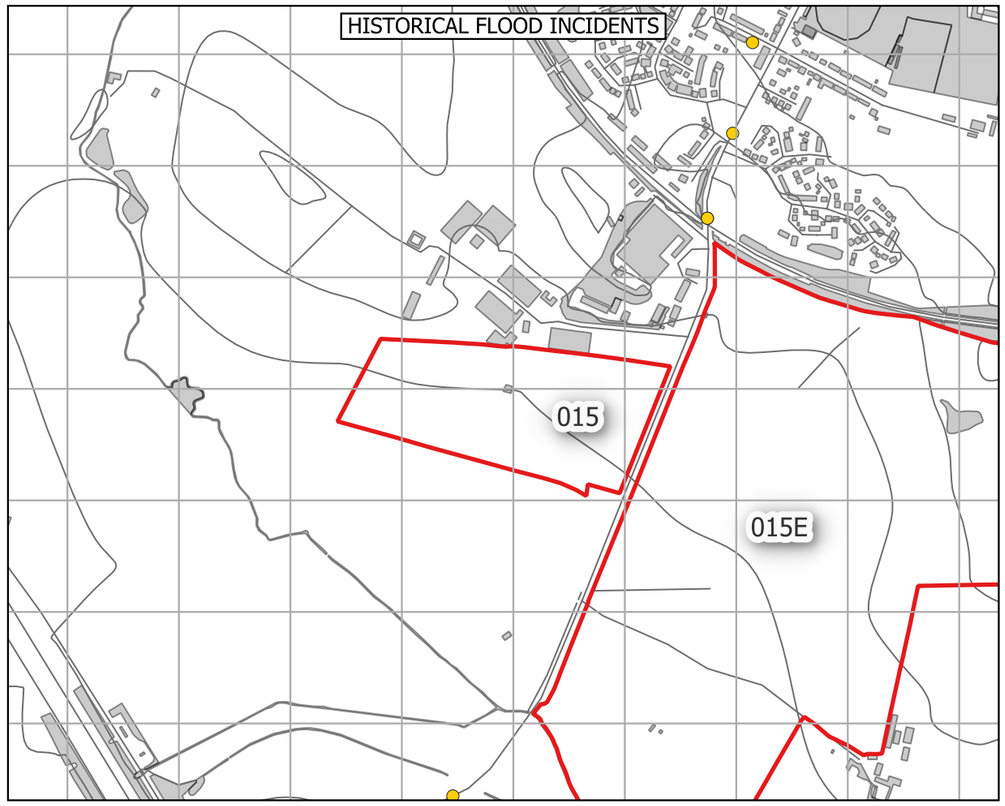
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

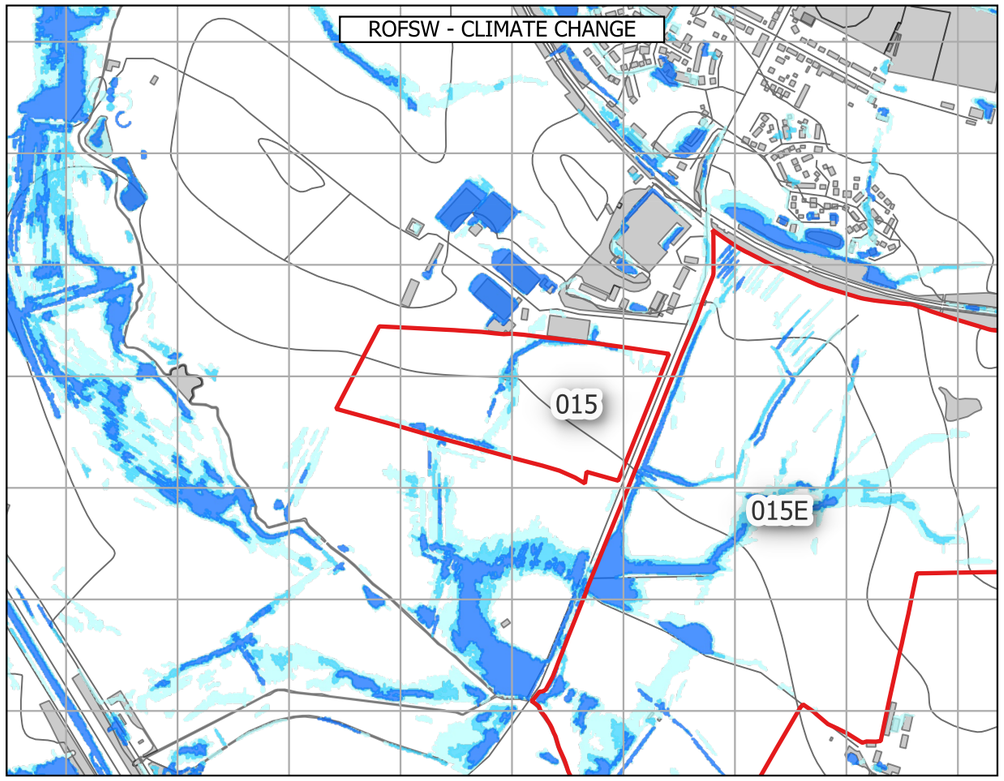
It is estimated that 8654 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 1.29 Ha should be set aside for appropriate SuDS techniques.

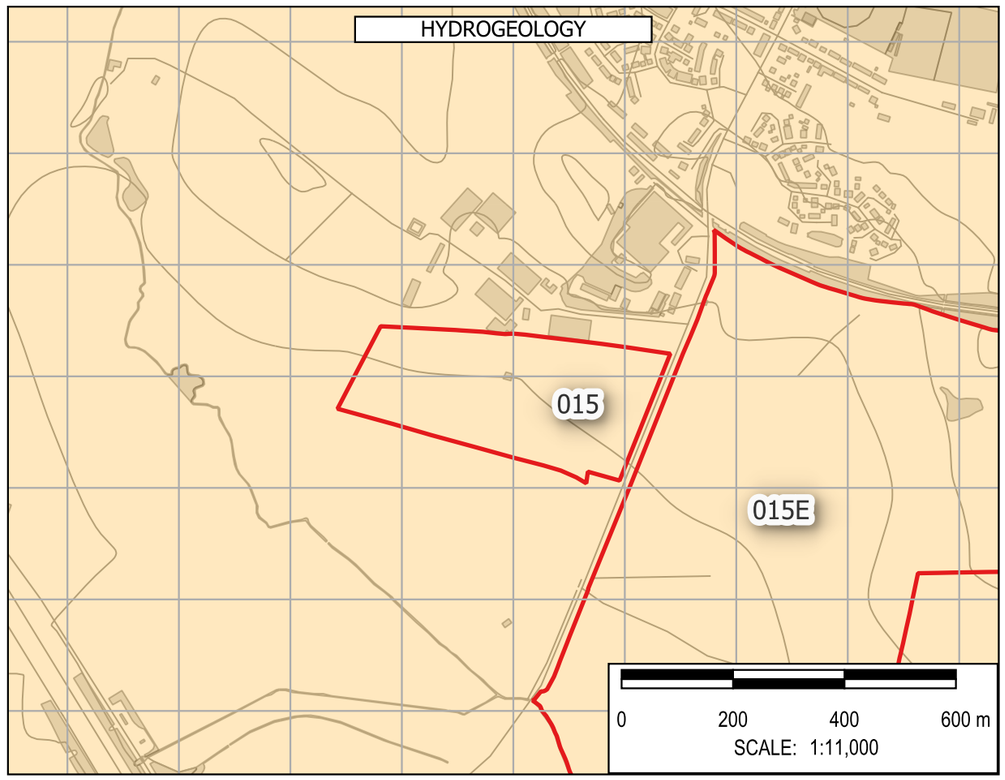
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.









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  - WEST NORTHANTS BOUNDARY
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  - FLOOD DEFENCES
  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
- ROFSW WITH CLIMATE CHANGE
  - HIGH
  - MEDIUM
  - LOW
- HYDROGEOLOGY
  - AQUIFER TYPE
  - HIGHLY PRODUCTIVE AQUIFER
  - MODERATELY PRODUCTIVE AQUIFER
  - LOW PRODUCTIVITY AQUIFER
  - ROCKS WITH ESSENTIALLY NO GROUNDWATER

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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DECOMISSIONING AND DEMOLITION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
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Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 015
Long Buckby - South of Long Buckby Station

Drawing Scale: 1:11,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00146

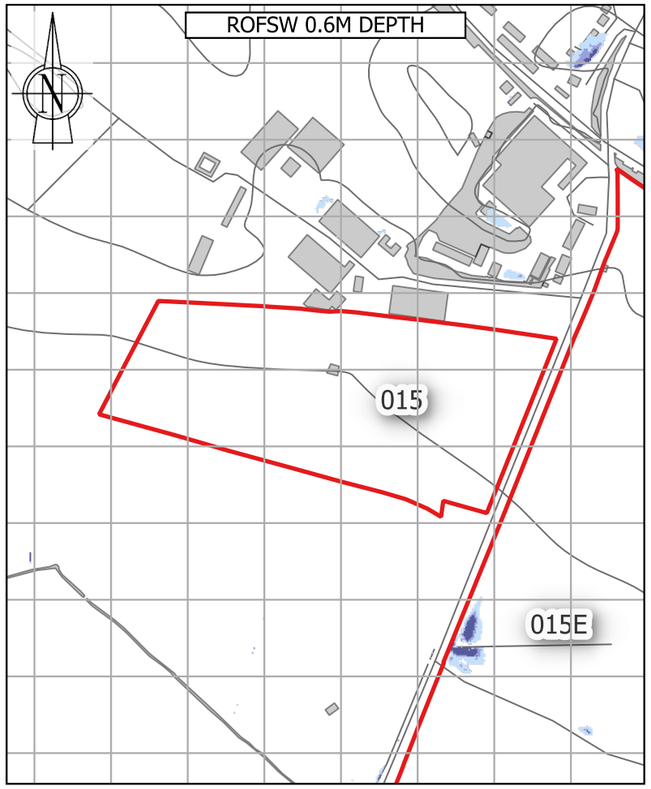
Revision: P01

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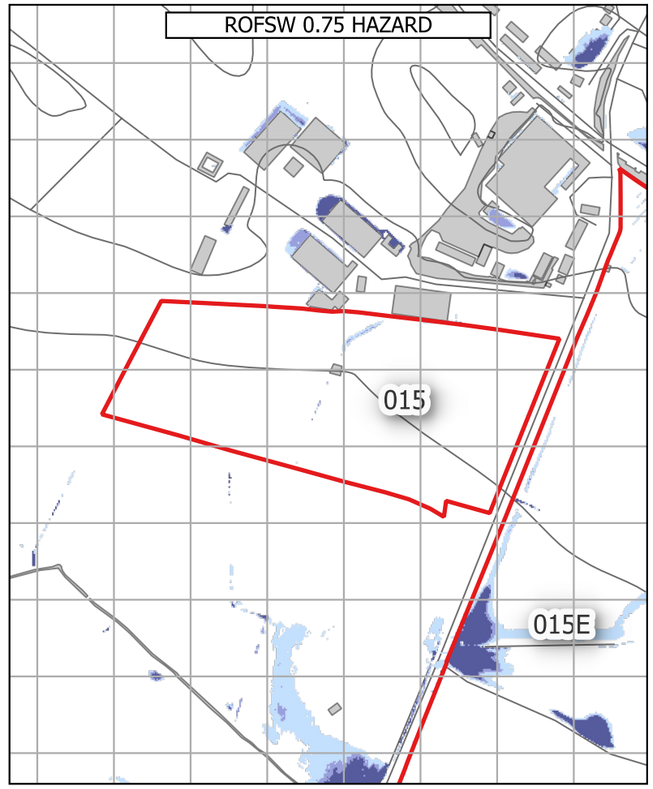
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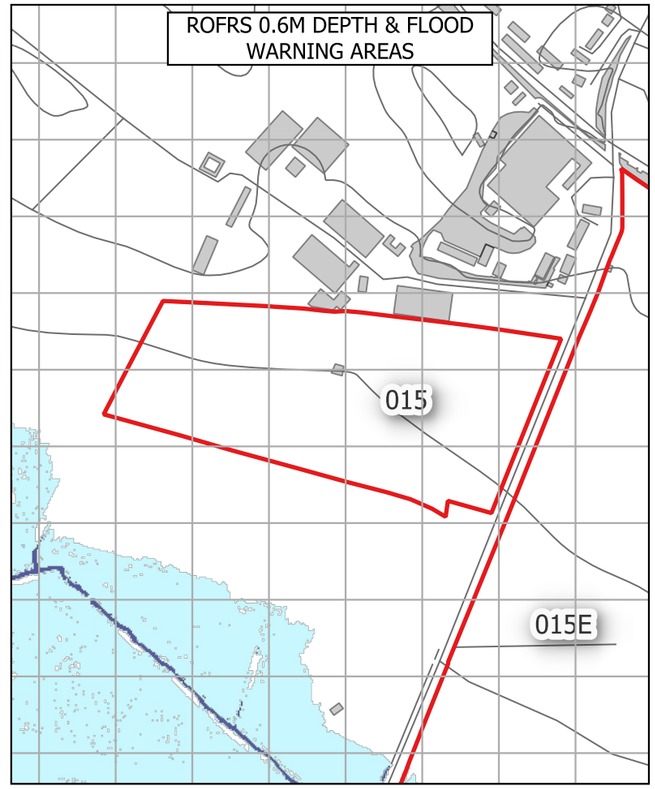
ROFSW 0.6M DEPTH



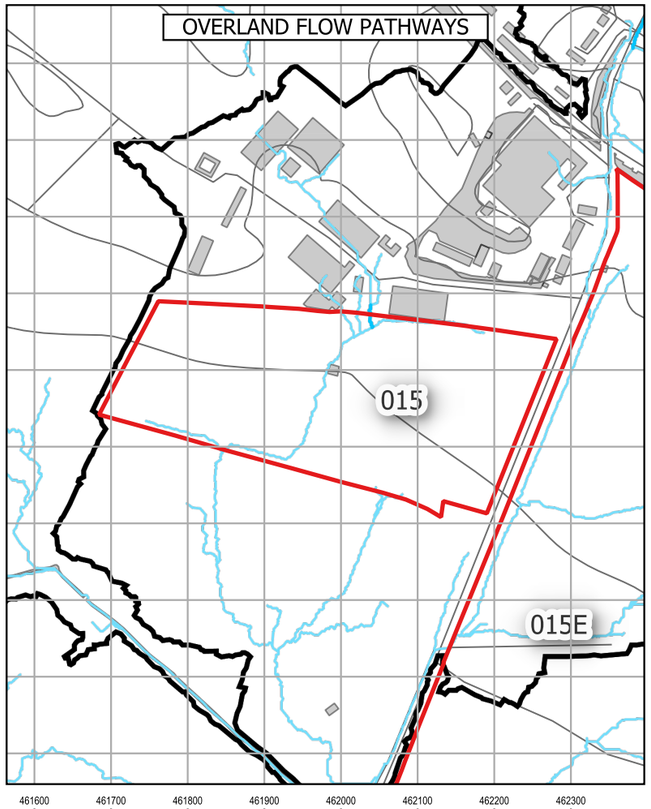
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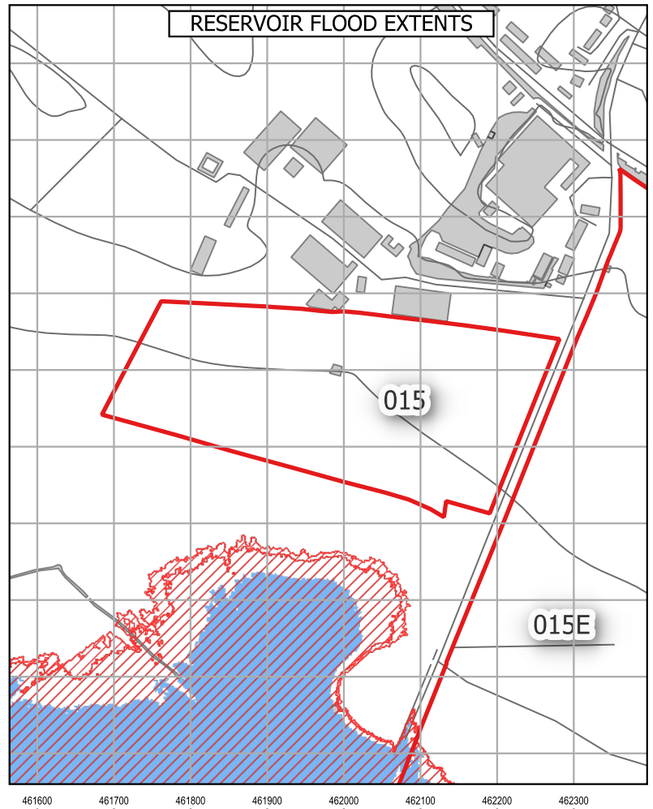
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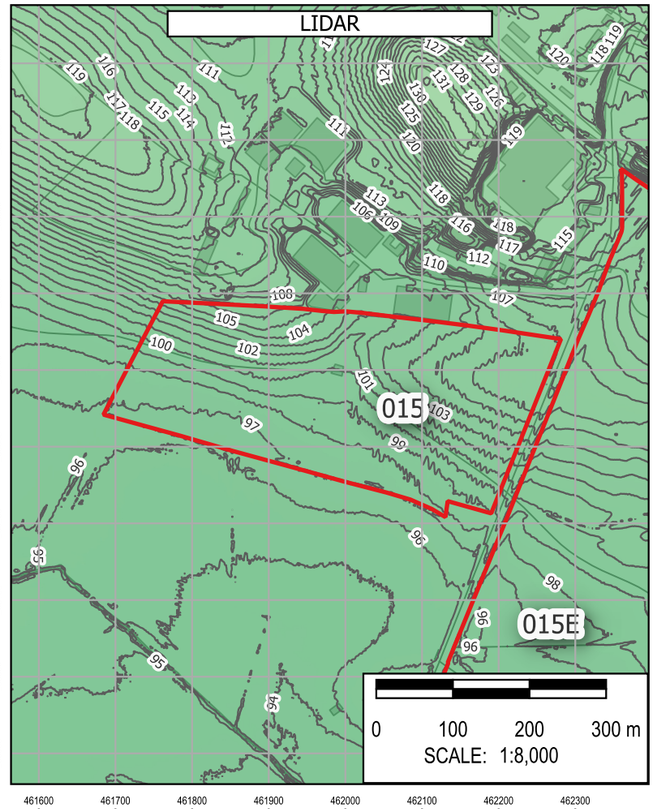
OVERLAND FLOW PATHWAYS



RESERVOIR FLOOD EXTENTS



LIDAR



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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY

ROFSW

0.6M DEPTH
- High
- Medium
- Low
- Unavailable

0.75 HAZARD
- High
- Medium
- Low
- Unavailable

ROFRS

0.6M DEPTH
- High
- Medium
- Low
- Very low
- Unavailable

FLOOD WARNING AREAS

OVERLAND FLOW PATHWAYS

PROBABLE OVERLAND FLOW PATHWAYS
- < 3 Degrees
- 3 - 7 Degrees
- 7 - 12 Degrees
- > 12 Degrees

DETAILED WATERSHEDS

RESERVOIR FLOOD EXTENT

DRY DAY

WET DAY

LIDAR

1M CONTOURS

ELEVATION

Band 1 (Gray)
230
50

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Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

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Client Drawing No.: NOT APPLICABLE

Revision: -

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Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title:

FLOOD RISK SUMMARY: 015
Long Buckby - South of Long Buckby Station

Drawing Scale: 1:8,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00204

Revision: P01

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	_006
Site Name	Hill Farm Rise
Proposed Development	Housing
Site Area	5.66 Ha
Site NGR	474023 mE, 257721 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
0.0 %	0.0 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
3.0 %	0.6 %	2.8 %	6.4 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
3.6 %	1.3 %	1.9 %	6.8 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

A surface water flow path is present in the southern part of the site, in addition to some localised ponding further north.

Site specific modelling may be required as part of a site-specific Flood Risk Assessment to better understand the impact of potential offsite flows to the site.

Flood History

There are ten WNC recorded flood events within 500m of the site. This site is not located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at medium risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

The site is not indicated to be at risk of reservoir flooding.

Flood Defences – Residual Risk

It is unlikely that the site will be affected by a breach of flood defences as the nearest defences are more than 500m away.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 1. Therefore the Exception Test is not required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 1, finished floor levels should be at least 150mm above external ground levels. An appropriate freeboard allowance should also be considered for other sources of flooding.

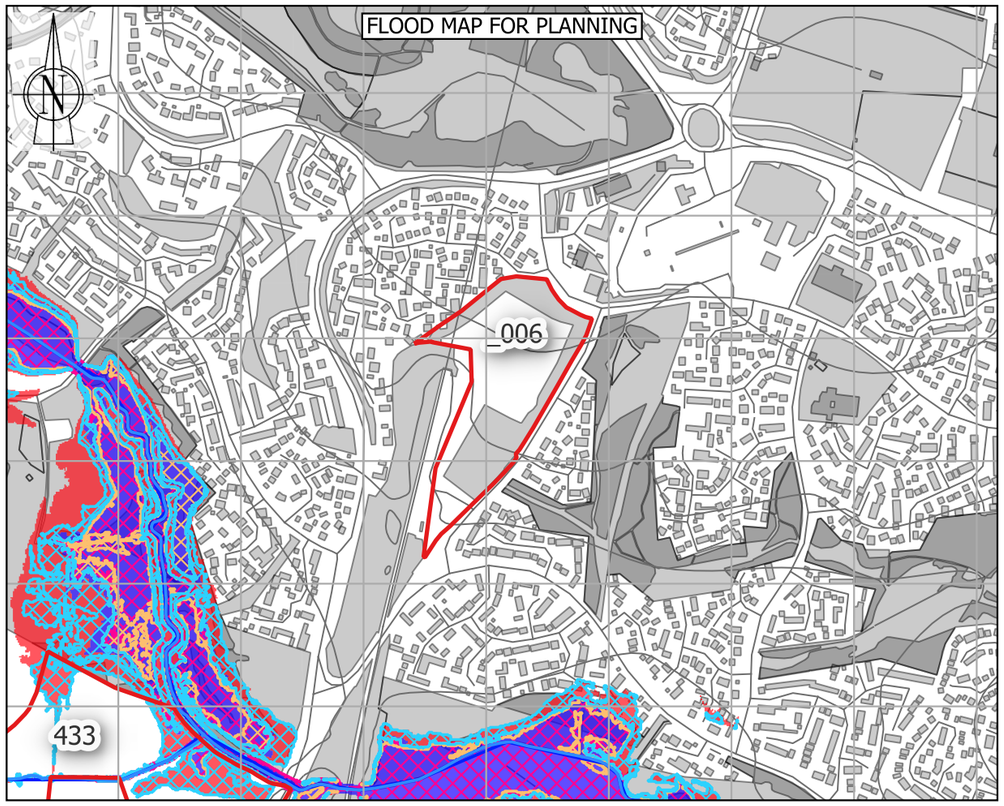
Surface Water Attenuation Provision – Design Considerations

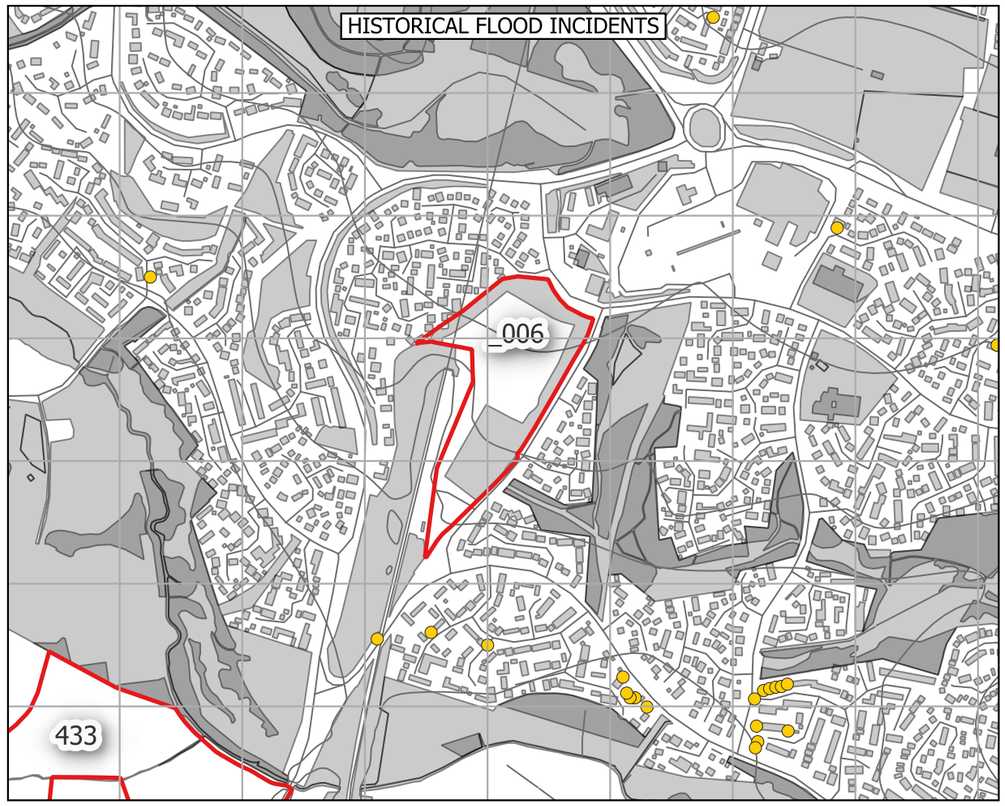
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

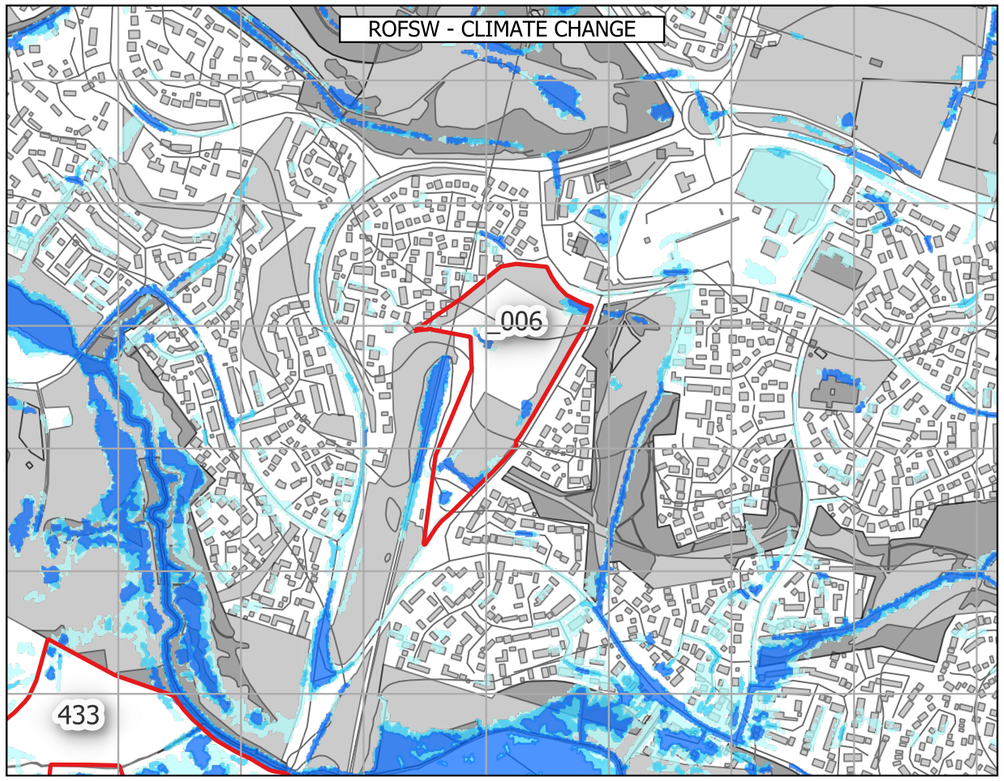
It is estimated that 3167 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 0.47 Ha should be set aside for appropriate SuDS techniques.

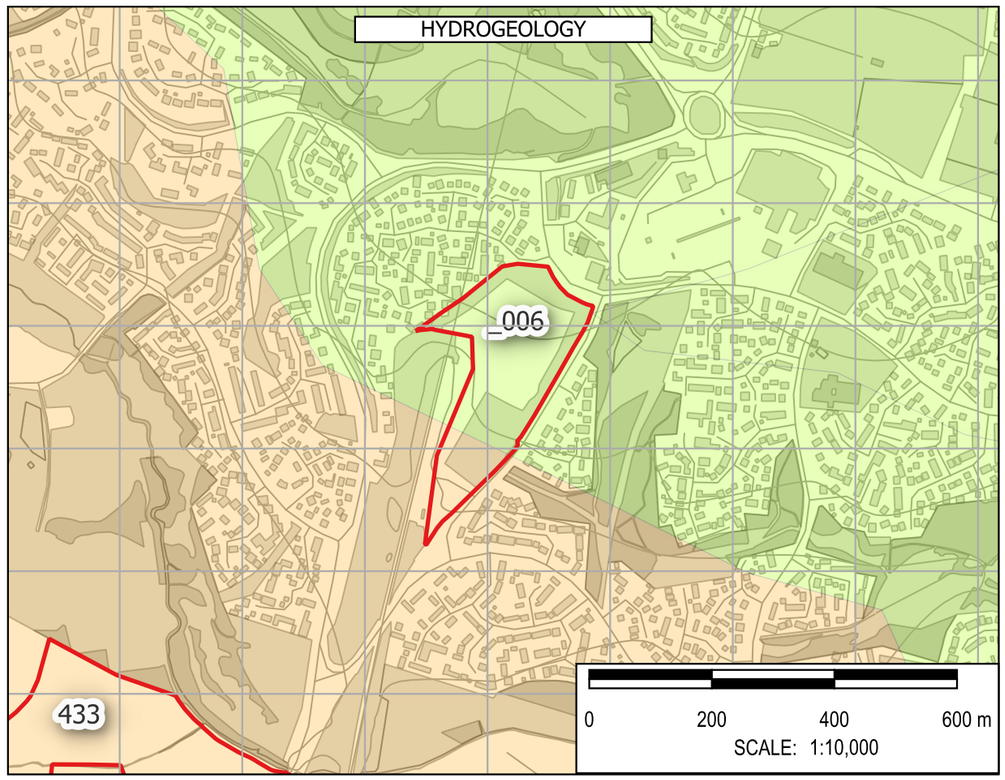
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.









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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
  - WEST NORTHANTS BOUNDARY
- FLOOD MAP FOR PLANNING
  - FLOOD DEFENCES
  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
- ROFSW WITH CLIMATE CHANGE
  - HIGH
  - MEDIUM
  - LOW
- HYDROGEOLOGY
  - AQUIFER TYPE
  - HIGHLY PRODUCTIVE AQUIFER
  - MODERATELY PRODUCTIVE AQUIFER
  - LOW PRODUCTIVITY AQUIFER
  - ROCKS WITH ESSENTIALLY NO GROUNDWATER

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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DECOMISSIONING AND DEMOLITION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
-	--	--	--	--	DD/MM/YY	--
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Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Registered Office
Spring Lodge, 172 Chester Road, Helsby Cheshire, WA6 0AR, UK
Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: _006 Hill Farm Rise

Drawing Scale: 1:10,000 Sheet Size: A3

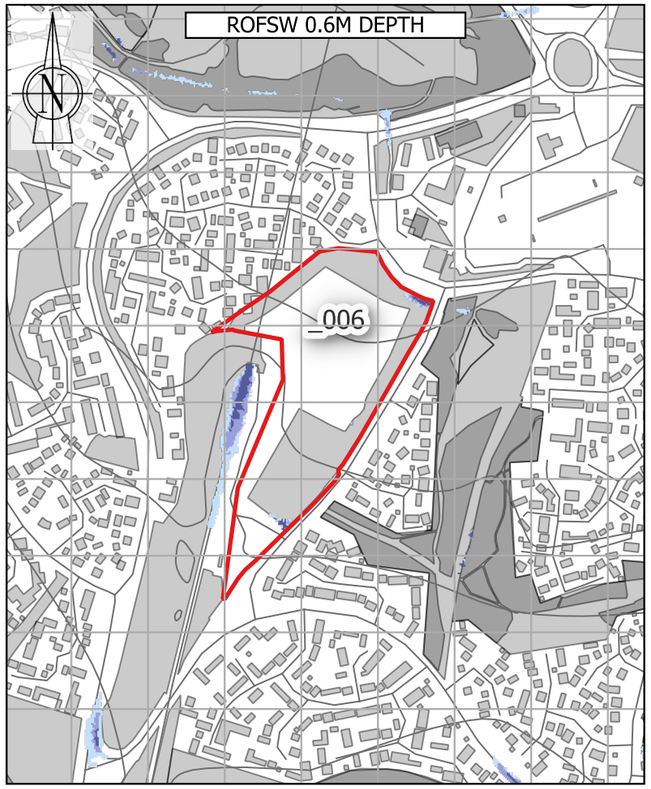
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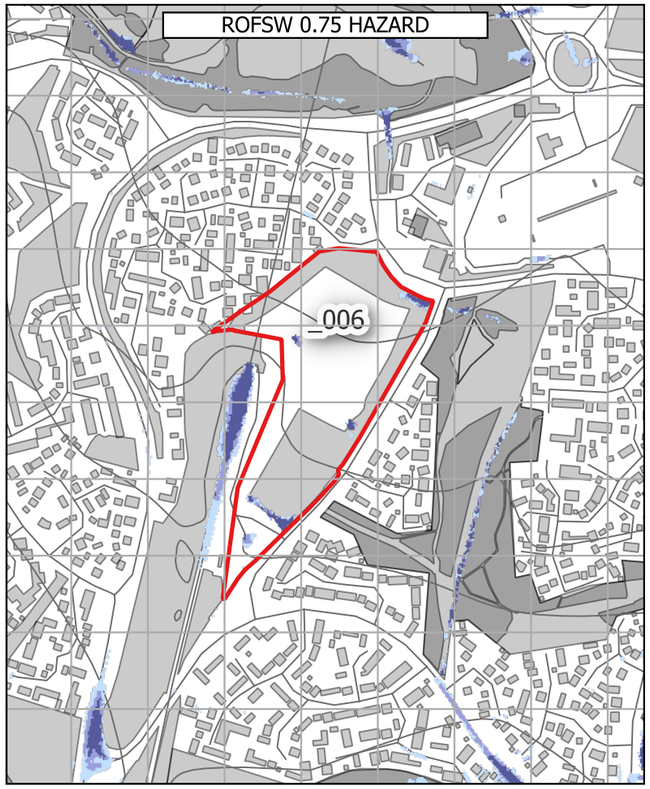
Revision: P01

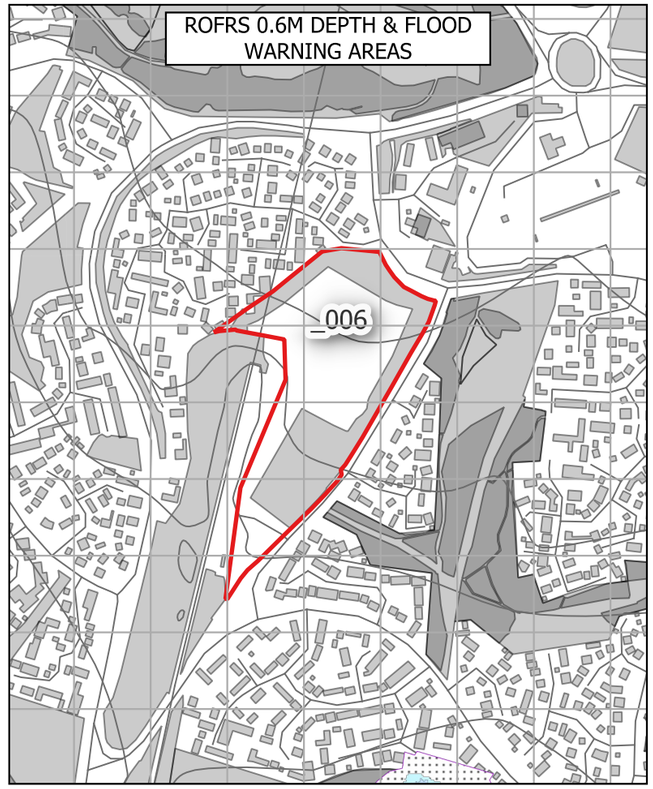
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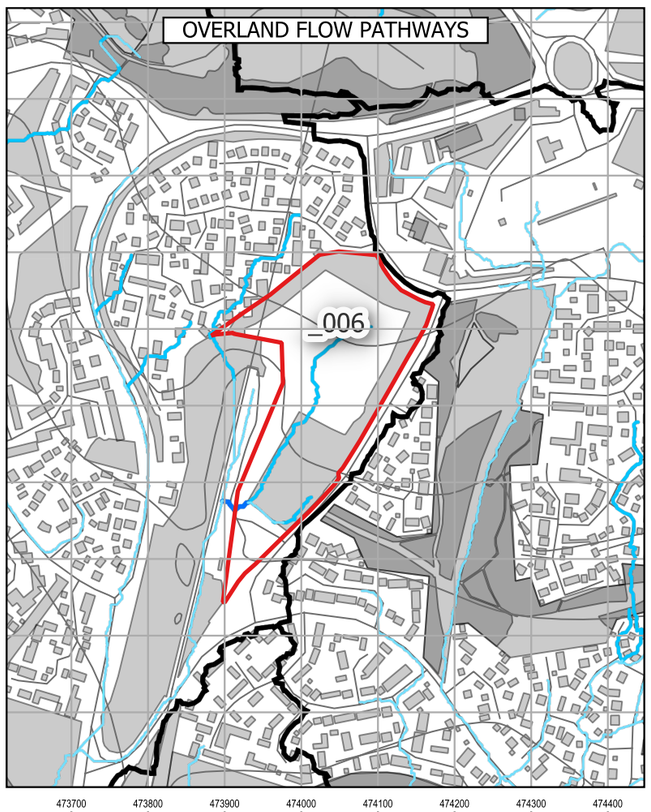
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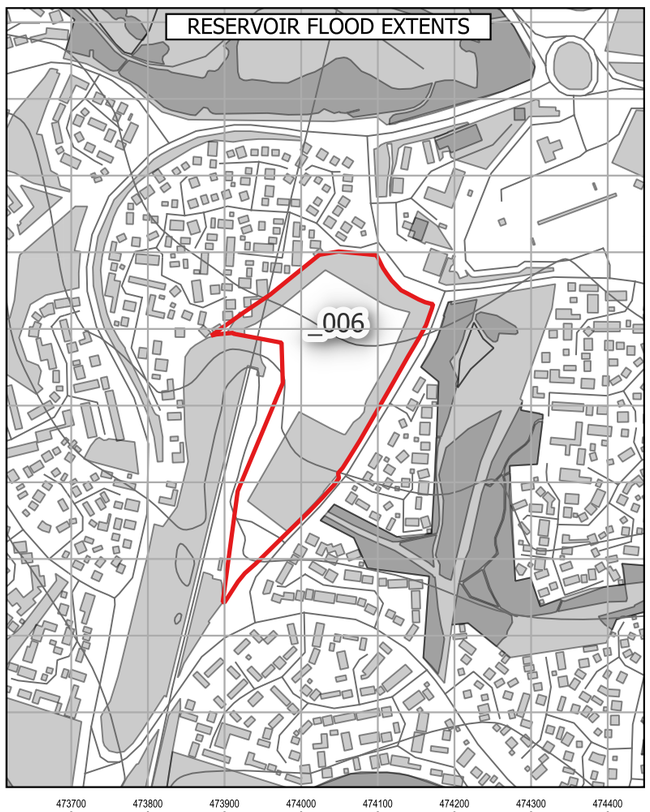
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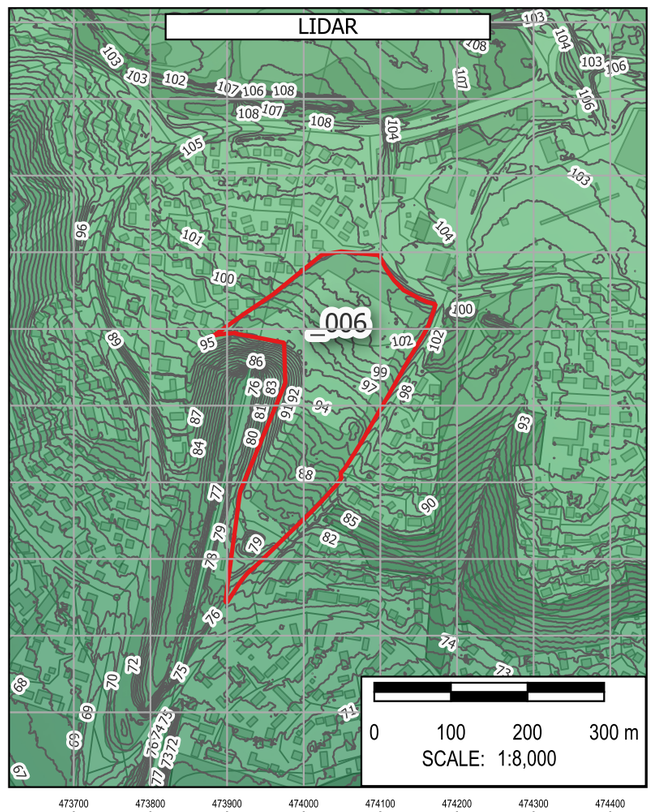












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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY

ROFSW
0.6M DEPTH
- High
- Medium
- Low
- Unavailable

0.75 HAZARD
- High
- Medium
- Low
- Unavailable

ROFRS
0.6M DEPTH
- High
- Medium
- Low
- Very low
- Unavailable

FLOOD WARNING AREAS

OVERLAND FLOW PATHWAYS
PROBABLE OVERLAND FLOW PATHWAYS
- < 3 Degrees
- 3 - 7 Degrees
- 7 - 12 Degrees
- > 12 Degrees

DETAILED WATERSHEDS

RESERVOIR FLOOD EXTENT
DRY DAY
WET DAY

LIDAR
1M CONTOURS
ELEVATION
Band 1 (Gray)
230
50

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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P01	KA	MH	SB	SB	01/05/26	First Issue
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Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Project:
WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title:
FLOOD RISK SUMMARY: _006
Hill Farm Rise

Drawing Scale: 1:8,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00214

Revision: P01

G:\Projects\4082482_WNC\4_Workspaces\0_Working\ SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR Print Date:01/05/2026

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	542
Site Name	Land west of Northampton South SUE
Proposed Development	Housing
Site Area	18.77 Ha
Site NGR	473951 mE, 256744 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
4.5 %	0.6 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
0.1 %	0.2 %	4.5 %	4.8 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Commentary

Under a present-day scenario, the northern boundary of the site is situated mainly in Flood Zone 2, with a small portion in Flood Zone 3. The level of fluvial risk to the site is similar in a climate change scenario.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
0.3 %	0.2 %	1.0 %	1.5 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
0.3 %	0.6 %	1.4 %	2.3 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

There is one small surface water flow path originating within the site and flowing north towards the existing watercourse beyond the northern site boundary.

Flood History

There are twenty two WNC recorded flood events within 500m of the site. This site is not located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at low risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

The site is not indicated to be at risk of reservoir flooding.

Flood Defences – Residual Risk

It is unlikely that the site will be affected by a breach of flood defences as the nearest defences are more than 500m away.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is unlikely that dry access and egress will be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 3. Therefore the Exception Test is required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 2 and 3, should development be proposed for this site, finished floor levels should be set no lower than 68.2 mAOD, 600mm above the maximum predicted flood level of 67.6 mAOD. In accordance with the EA guidance, freeboard allowances could be reviewed, and where appropriate reduced to 300mm. An appropriate freeboard allowance should also be considered for other sources of flooding. This should be confirmed by a site specific assessment as part of the detailed design for development, which should include consideration of proposed ground levels.

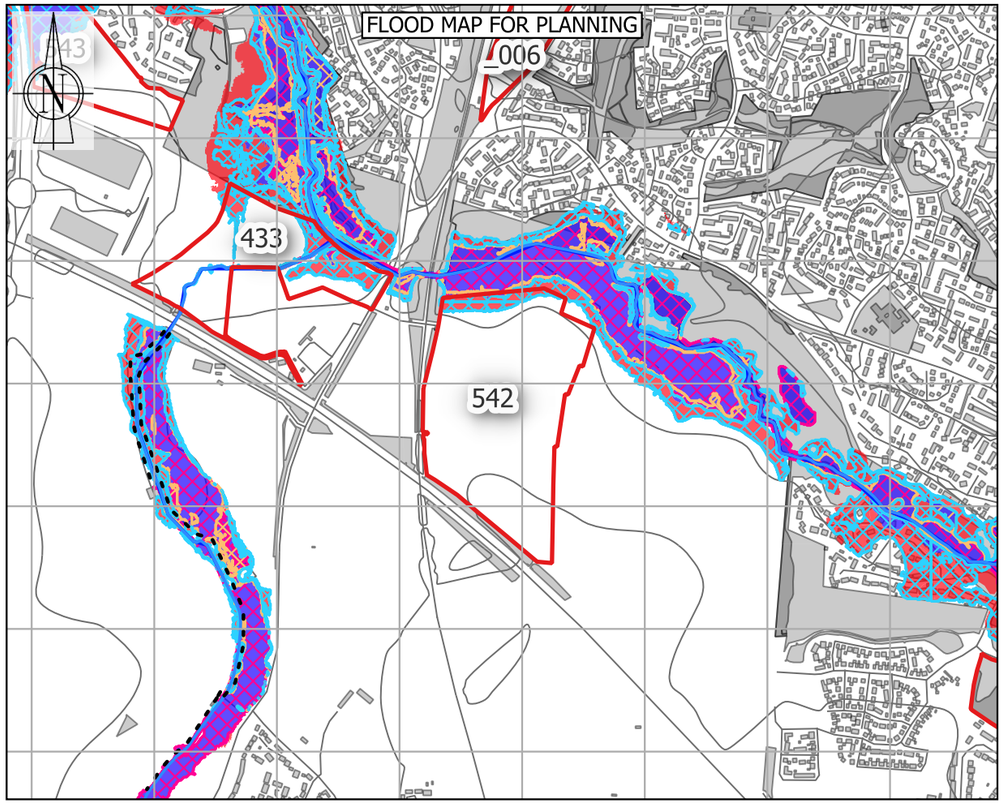
Surface Water Attenuation Provision – Design Considerations

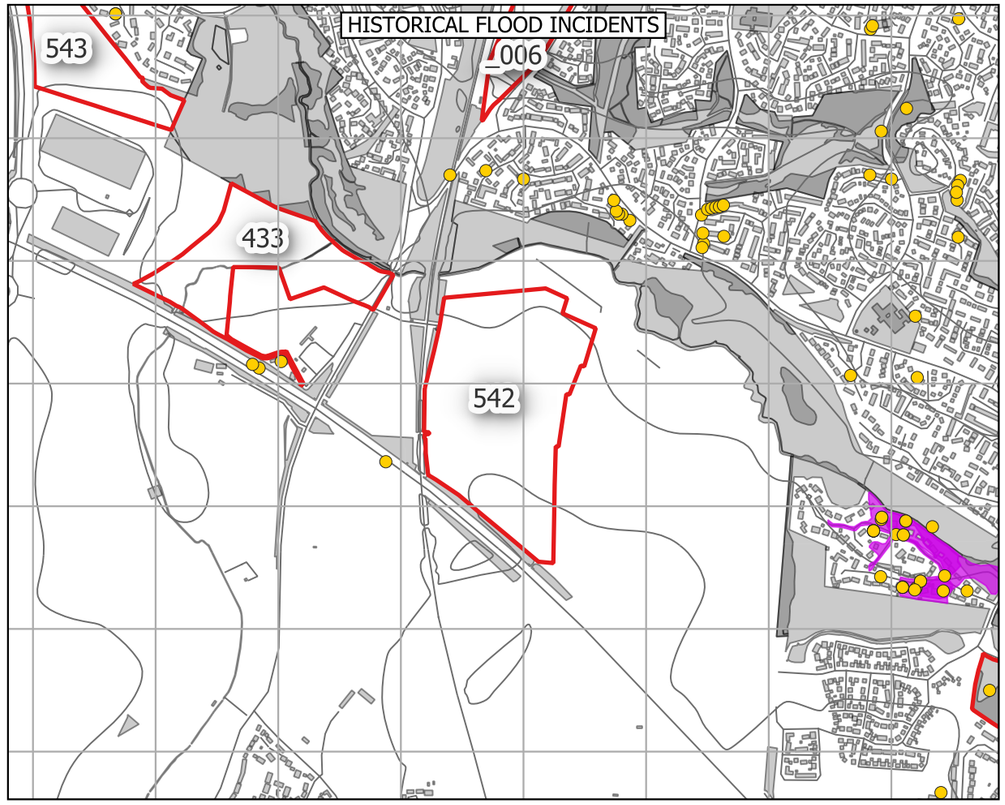
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

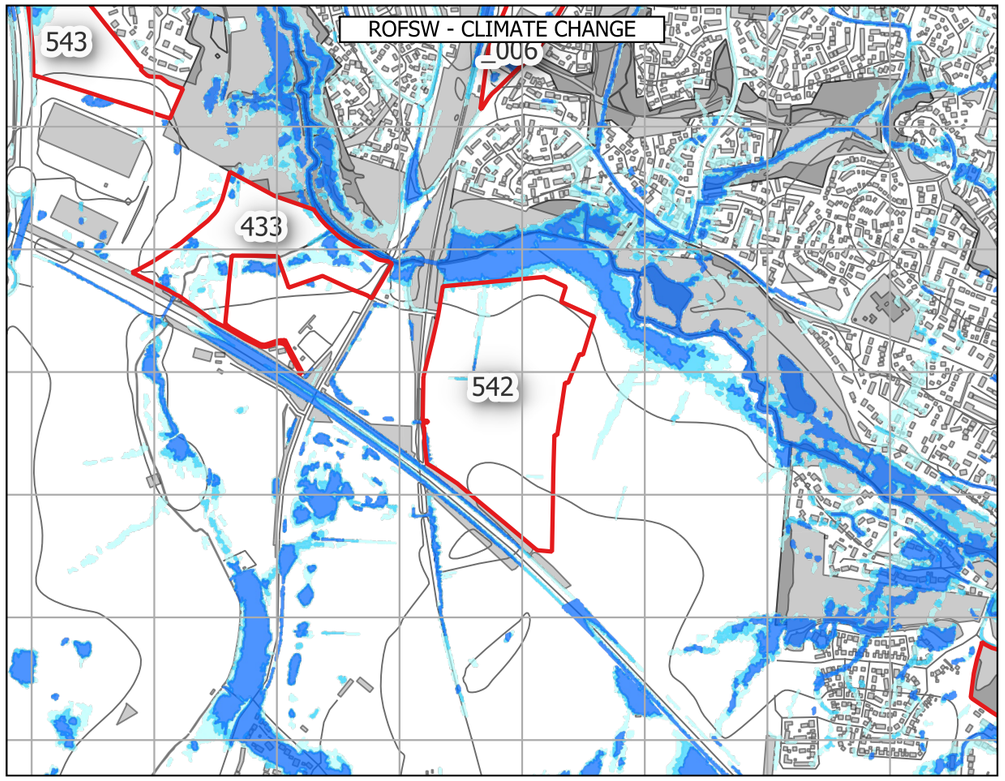
Should development be proposed for this site, it is estimated that 10509 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 1.57 Ha should be set aside for appropriate SuDS techniques.

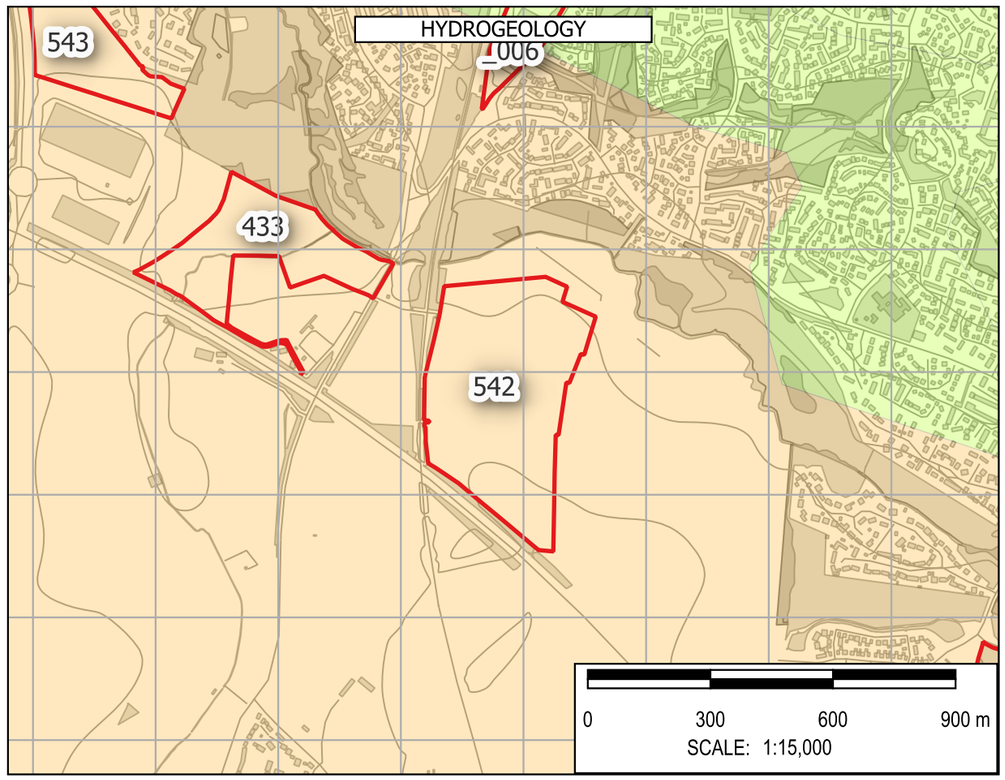
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of this site is not compatible with the level of flood risk identified. This is due to the site having no known dry access and egress.









472800 473100 473400 473700 474000 474300 474600 474900

257700 257400 257100 256800 256500 256200 255900

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LEGEND

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- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY

FLOOD MAP FOR PLANNING
- FLOOD DEFENCES
- MAIN RIVER
- ORDINARY WATERCOURSE
- FLOOD STORAGE AREAS
- FLOOD ZONE 2
- FLOOD ZONE 3
- FLOOD ZONE 2 + CC
- FLOOD ZONE 3A + CC
- FLOOD ZONE 3B + CC
- IDB

HISTORIC FLOOD INCIDENTS
- WNC FLOOD HISTORY
- EA HISTORIC FLOOD EXTENT

ROFSW WITH CLIMATE CHANGE
- HIGH
- MEDIUM
- LOW

HYDROGEOLOGY

AQUIFER TYPE
- HIGHLY PRODUCTIVE AQUIFER
- MODERATELY PRODUCTIVE AQUIFER
- LOW PRODUCTIVITY AQUIFER
- ROCKS WITH ESSENTIALLY NO GROUNDWATER

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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
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Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 542
Land west of Northampton South SUE

Drawing Scale: 1:15,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00143

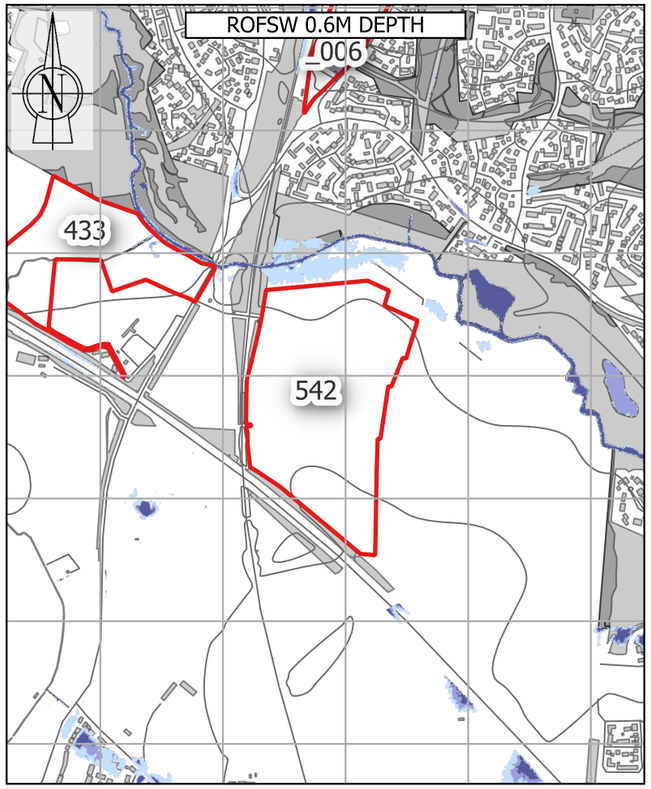
Revision: P01

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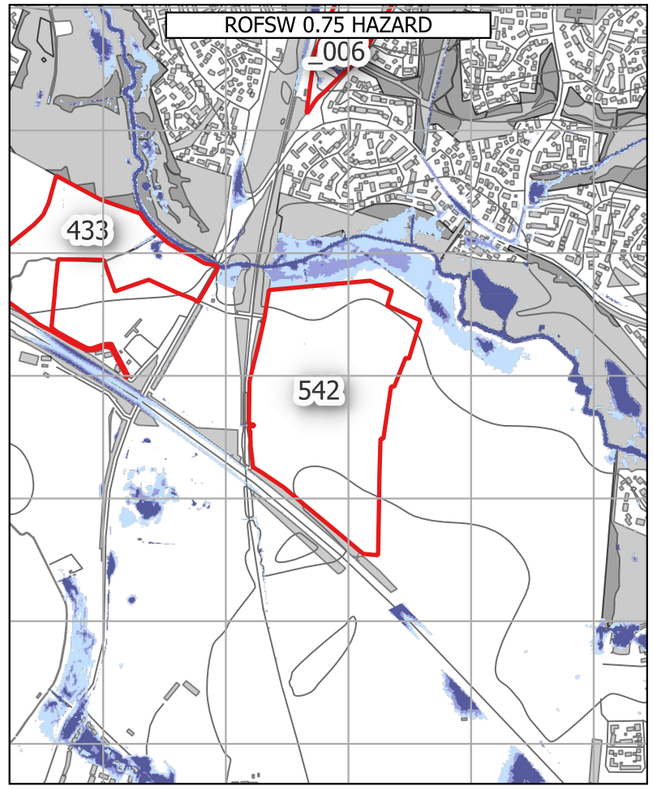
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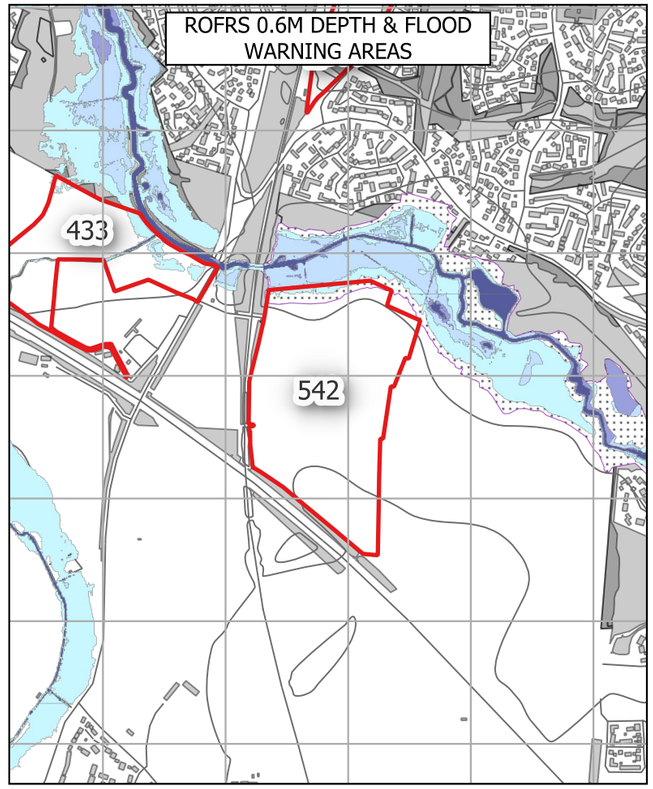
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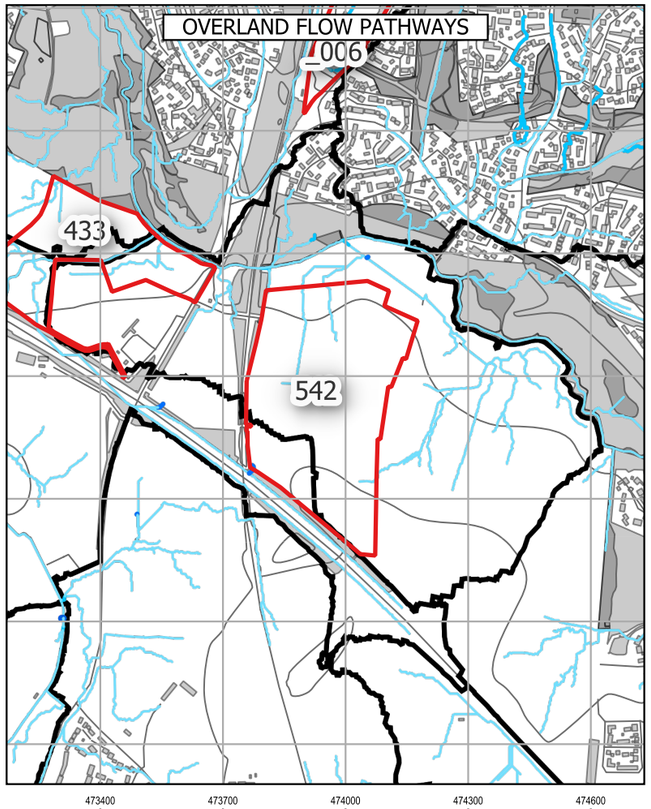
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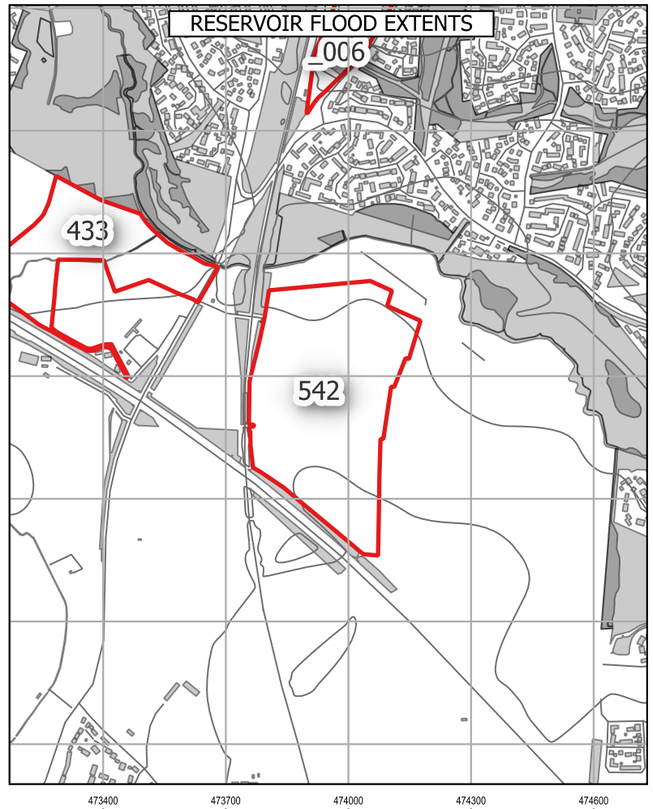
ROFRS 0.6M DEPTH & FLOOD WARNING AREAS



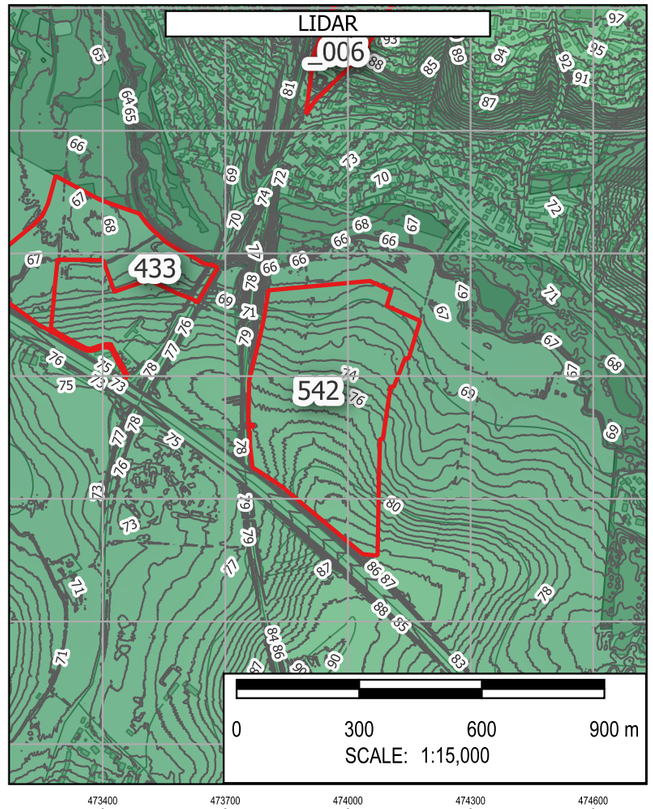
OVERLAND FLOW PATHWAYS



RESERVOIR FLOOD EXTENTS



LIDAR



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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY
- ROFSW
- 0.6M DEPTH
  - High
  - Medium
  - Low
  - Unavailable
- 0.75 HAZARD
  - High
  - Medium
  - Low
  - Unavailable
- ROFRS
- 0.6M DEPTH
  - High
  - Medium
  - Low
  - Very low
  - Unavailable
- FLOOD WARNING AREAS
- OVERLAND FLOW PATHWAYS
- PROBABLE OVERLAND FLOW PATHWAYS
  - < 3 Degrees
  - 3 - 7 Degrees
  - 7 - 12 Degrees
  - > 12 Degrees
- DETAILED WATERSHEDS
- RESERVOIR FLOOD EXTENT
- DRY DAY
- WET DAY
- LIDAR
- 1M CONTOURS
- ELEVATION
- Band 1 (Gray)
- 230
- 50

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Drawing title:

FLOOD RISK SUMMARY: 542
Land west of Northampton South SUE

Drawing Scale: 1:15,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00201

Revision: P01

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	546
Site Name	Pineham
Proposed Development	Housing
Site Area	3.39 Ha
Site NGR	471240 mE, 258870 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
2.4 %	0.0 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Commentary

A small area along the northern boundary of the site is situated within Flood Zone 2 under a present-day scenario.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
0.2 %	0.3 %	0.1 %	0.6 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
0.5 %	0.0 %	4.5 %	5.0 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

There is a small area of ponding in the western part of the site. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Flood History

There are no WNC recorded flood events within 500m of the site. This site is located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at low risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
4.9 %	0.0 %	9.9 %	9.9 %

Although the site is in an area at risk of reservoir flooding, this risk could be managed through appropriate consideration of flood resilience measures.

Flood Defences – Residual Risk

Flood defences, in the form of an embankment, located beyond the northern site boundary offer an unknown standard of protection. As the site may benefit from flood defences, a proportionate assessment of the likelihood of a defence breach over the lifetime of the development (including the impact of climate change) should be undertaken as part of a site-specific Flood Risk Assessment. Using the Environment Agency's simplified method (FD2321/TR2), a breach in the flood defence at this site could result in 'danger for most'.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 2. Therefore the Exception Test is required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 2, finished floor levels should be set no lower than 64.6 mAOD, 600mm above the maximum predicted flood level of 64.0 mAOD. In accordance with the EA guidance, freeboard allowances could be reviewed, and where appropriate reduced to 300mm. An appropriate freeboard allowance should also be considered for other sources of flooding. This should be confirmed by a site specific assessment as part of the detailed design for development, which should include consideration of proposed ground levels.

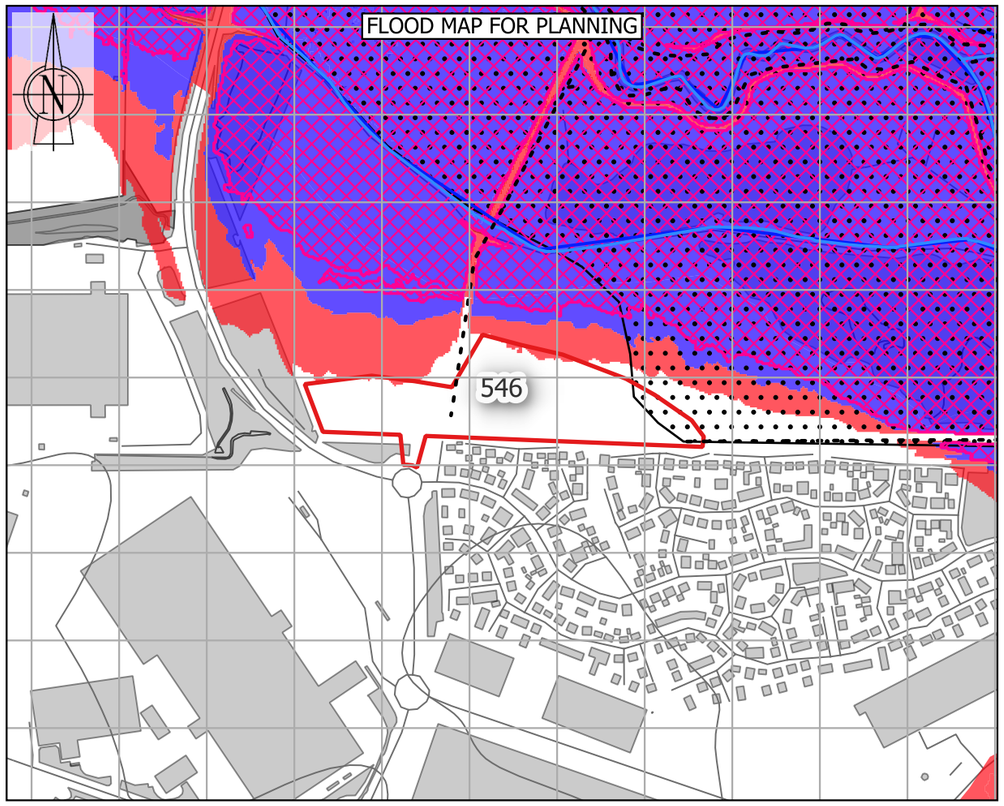
Surface Water Attenuation Provision – Design Considerations

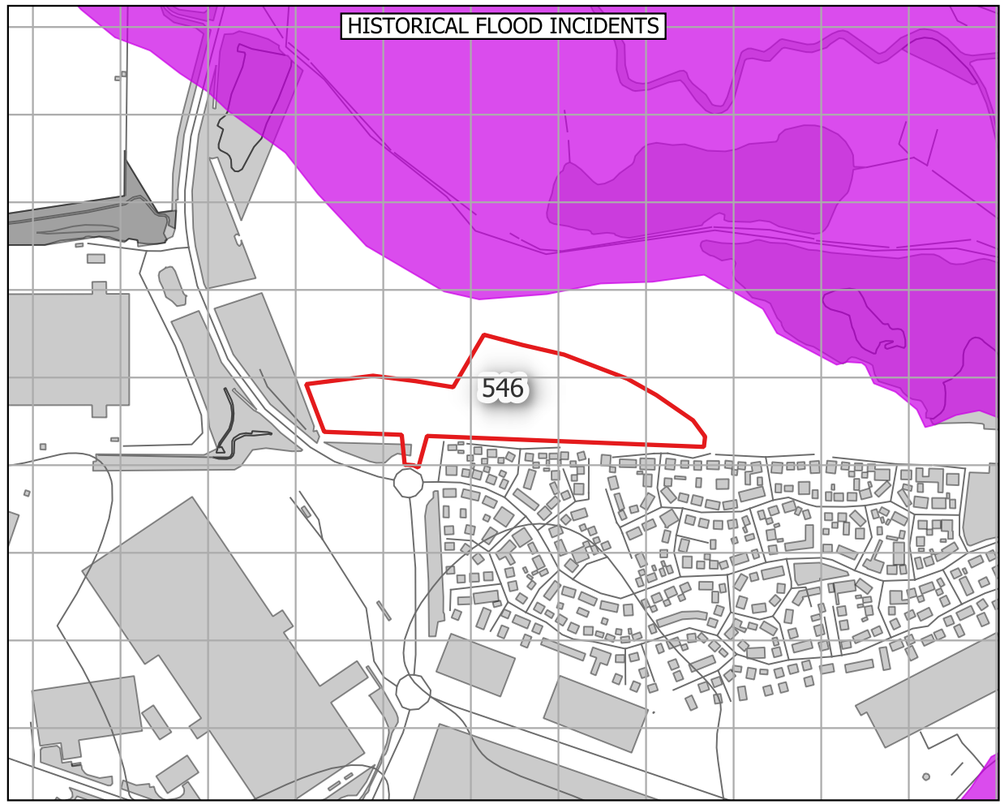
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

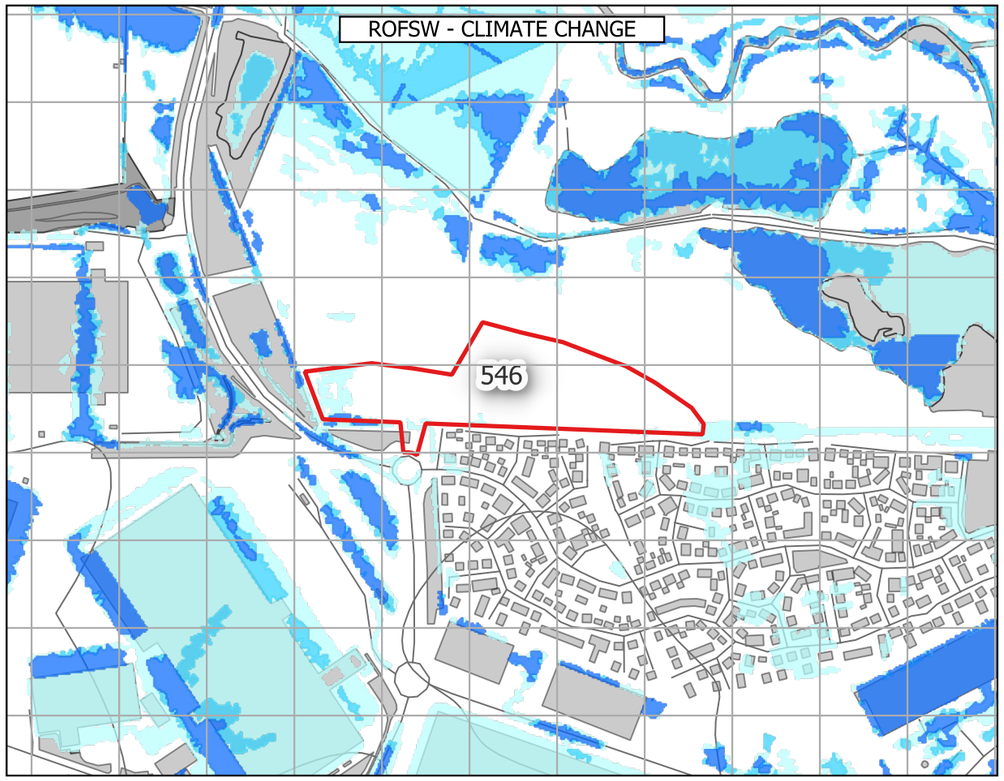
It is estimated that 1901 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 0.28 Ha should be set aside for appropriate SuDS techniques.

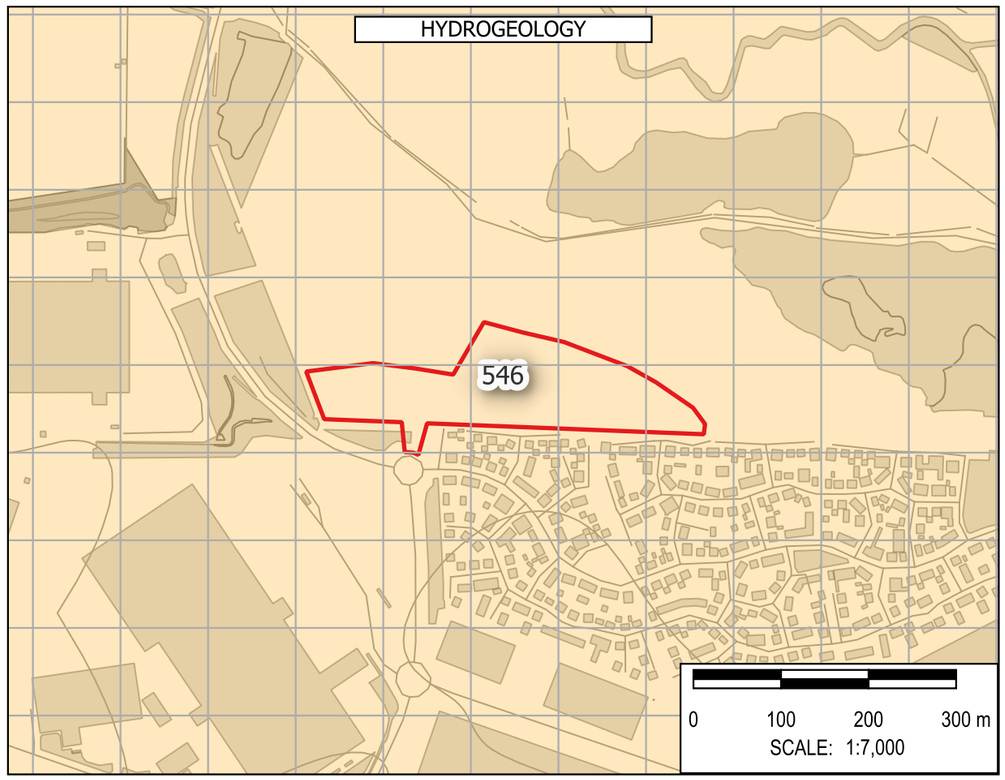
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.









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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
  - WEST NORTHANTS BOUNDARY
- FLOOD MAP FOR PLANNING
  - FLOOD DEFENCES
  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
- ROFSW WITH CLIMATE CHANGE
  - HIGH
  - MEDIUM
  - LOW
- HYDROGEOLOGY
  - AQUIFER TYPE
  - HIGHLY PRODUCTIVE AQUIFER
  - MODERATELY PRODUCTIVE AQUIFER
  - LOW PRODUCTIVITY AQUIFER
  - ROCKS WITH ESSENTIALLY NO GROUNDWATER

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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DECOMISSIONING AND DEMOLITION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE | Revision: -

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Registered Office
Spring Lodge, 172 Chester Road, Helsby Cheshire, WA6 0AR, UK
Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 546 Pineham

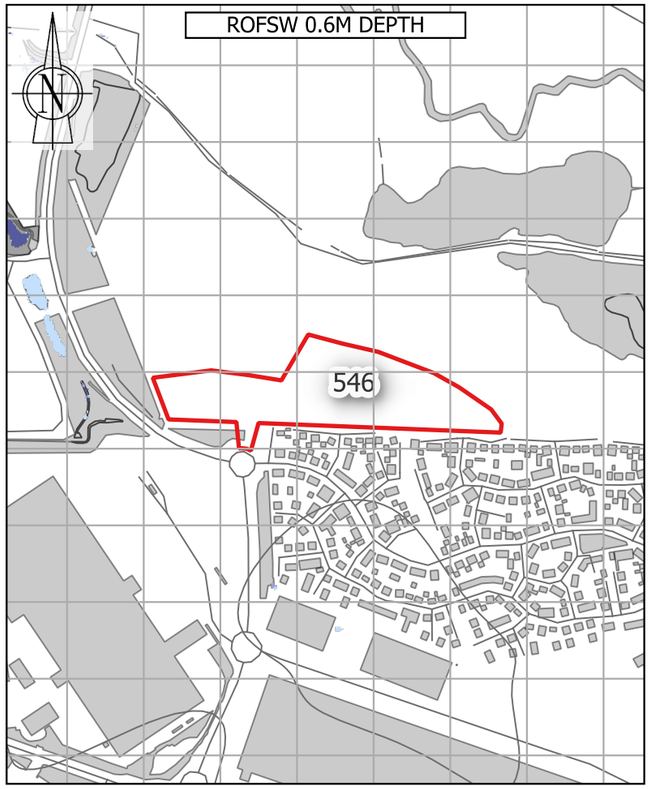
Drawing Scale: 1:7,000 Sheet Size: A3

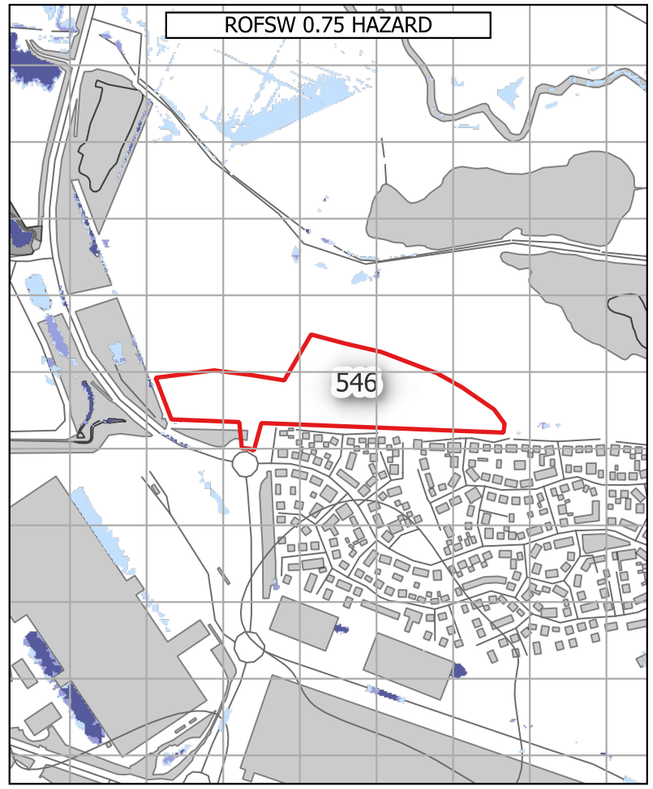
Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00160 | Revision: P01

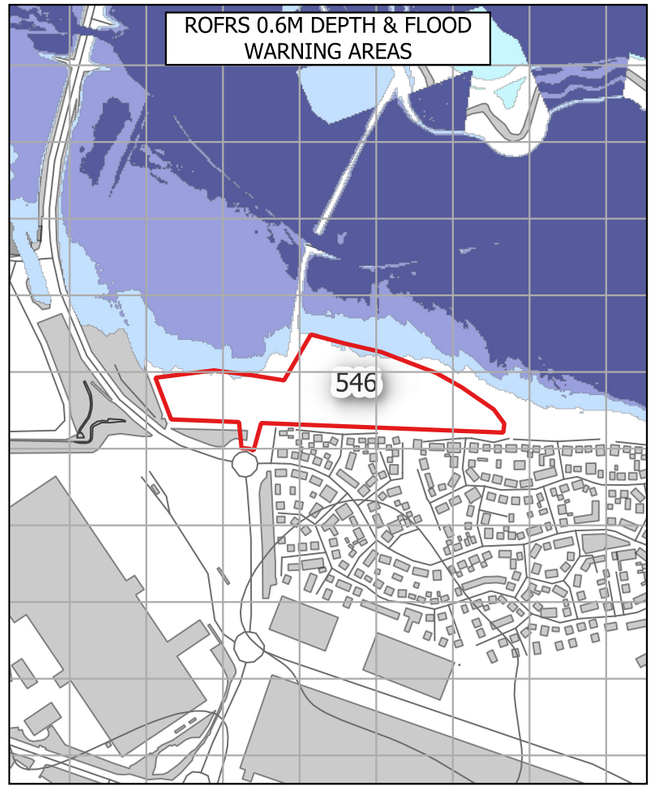
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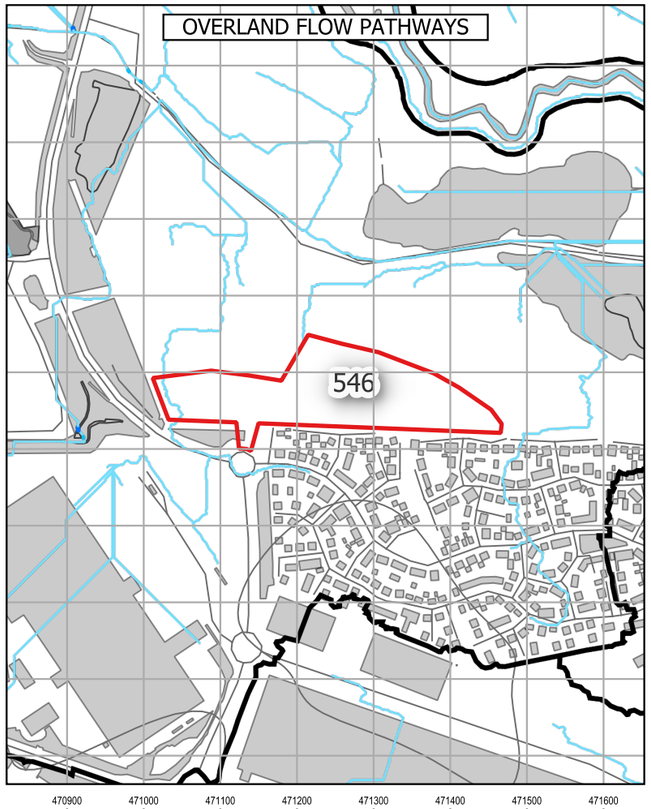
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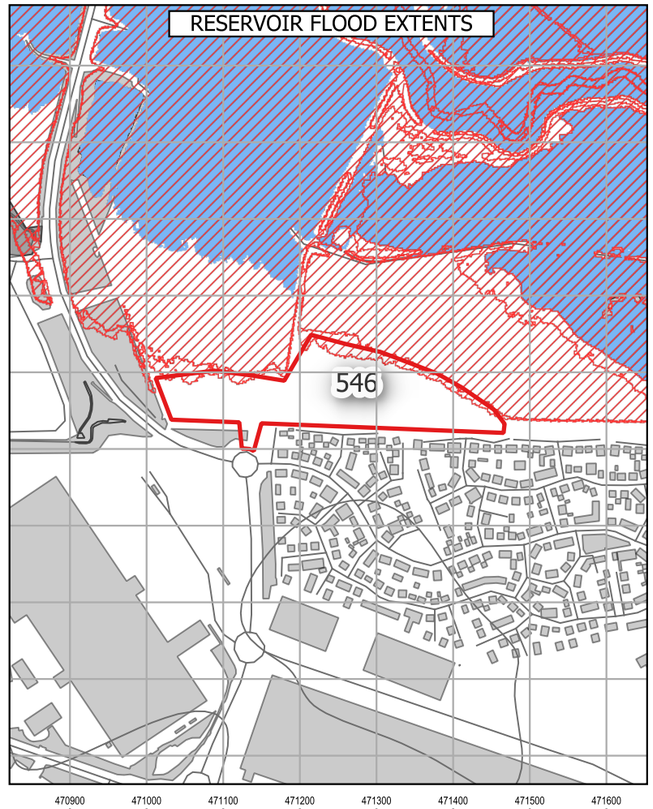
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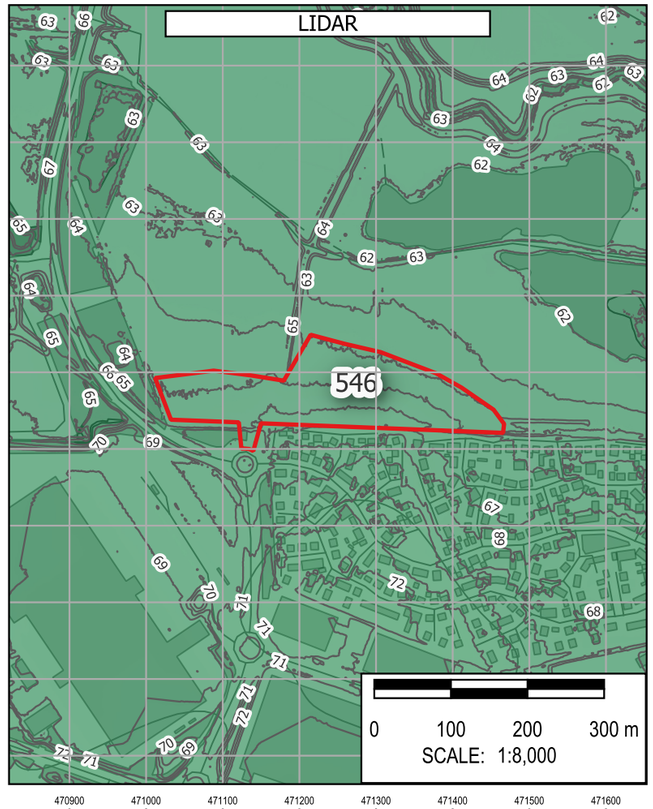












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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY

ROFSW

0.6M DEPTH
- High
- Medium
- Low
- Unavailable

0.75 HAZARD
- High
- Medium
- Low
- Unavailable

ROFRS

0.6M DEPTH
- High
- Medium
- Low
- Very low
- Unavailable

FLOOD WARNING AREAS

OVERLAND FLOW PATHWAYS

PROBABLE OVERLAND FLOW PATHWAYS
- < 3 Degrees
- 3 - 7 Degrees
- 7 - 12 Degrees
- > 12 Degrees

DETAILED WATERSHEDS

RESERVOIR FLOOD EXTENT

DRY DAY

WET DAY

LIDAR

1M CONTOURS

ELEVATION

Band 1 (Gray)
230
50

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	01/05/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 546 Pineham

Drawing Scale: 1:8,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00218

Revision: P01

G:\Projects\4082482_WNC\4_Workspaces\0_Working\ SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR Print Date:01/05/2026

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	552
Site Name	Former Lings Upper School
Proposed Development	Housing
Site Area	1.43 Ha
Site NGR	479719 mE, 262879 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
0.0 %	0.0 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
0.0 %	2.9 %	6.0 %	8.9 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
2.1 %	1.8 %	8.3 %	12.2 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

There is a surface water flow path across the northern part of the site, which likely originates outside of the site boundary. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Flood History

There are eleven WNC recorded flood events within 500m of the site. This site is not located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at medium risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

The site is not indicated to be at risk of reservoir flooding.

Flood Defences – Residual Risk

It is unlikely that the site will be affected by a breach of flood defences as the nearest defences are more than 500m away.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 1. Therefore the Exception Test is not required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 1, finished floor levels should be at least 150mm above external ground levels. An appropriate freeboard allowance should also be considered for other sources of flooding.

Surface Water Attenuation Provision – Design Considerations

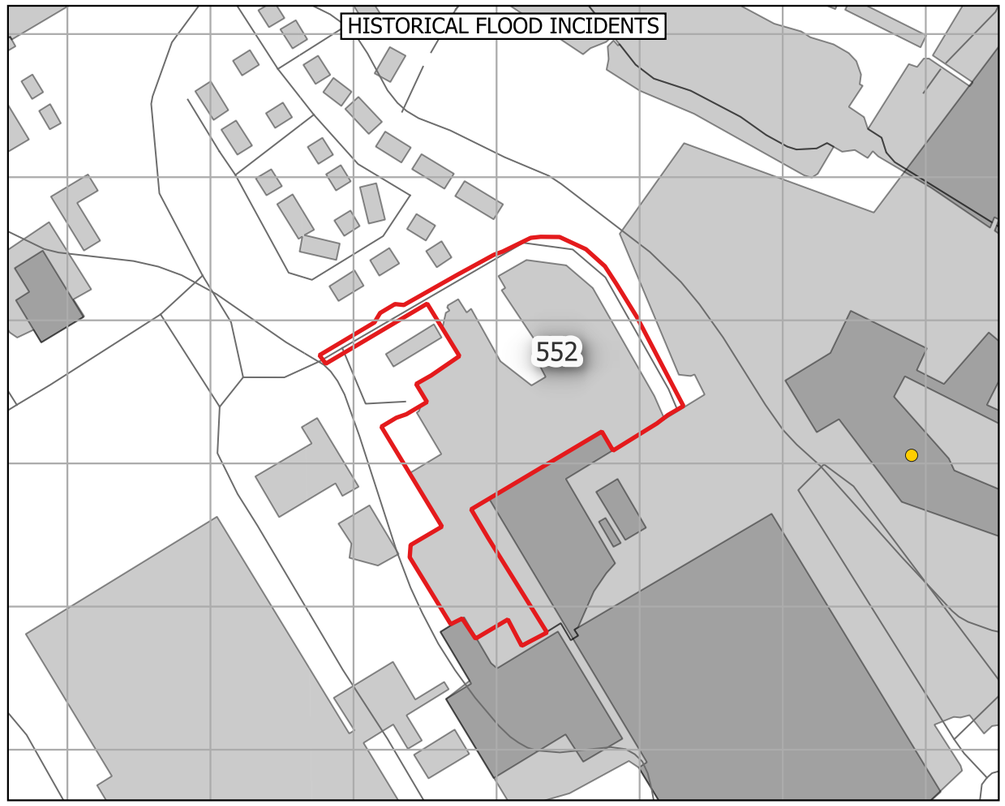
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

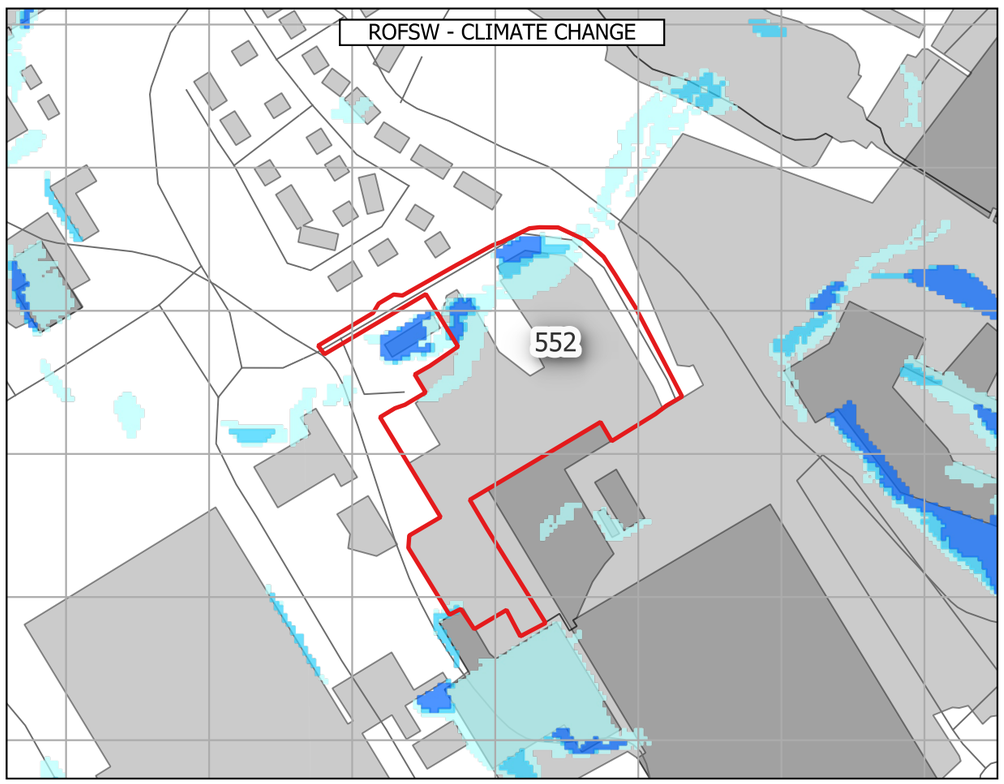
It is estimated that 799 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 0.12 Ha should be set aside for appropriate SuDS techniques.

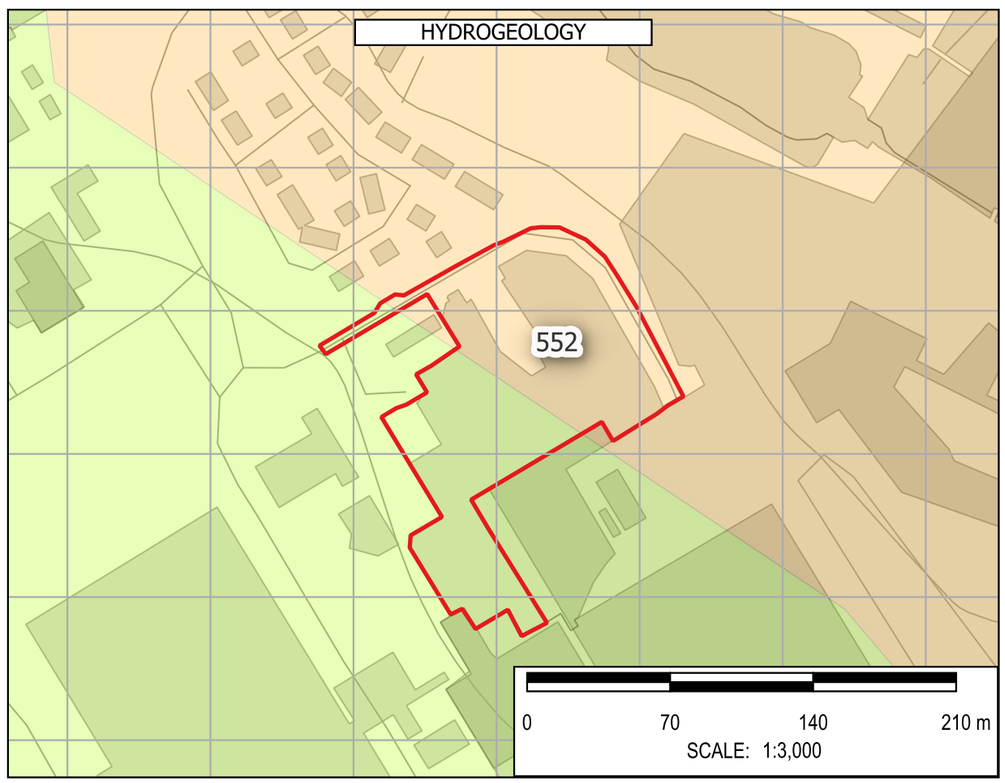
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.









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LEGEND

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- BOROUGH BOUNDARY
  - WEST NORTHANTS BOUNDARY
- FLOOD MAP FOR PLANNING
  - FLOOD DEFENCES
  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
-	--	--	--	--	DD/MM/YY	--
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Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 552
Former Lings Upper School

Drawing Scale: 1:3,000 Sheet Size: A3

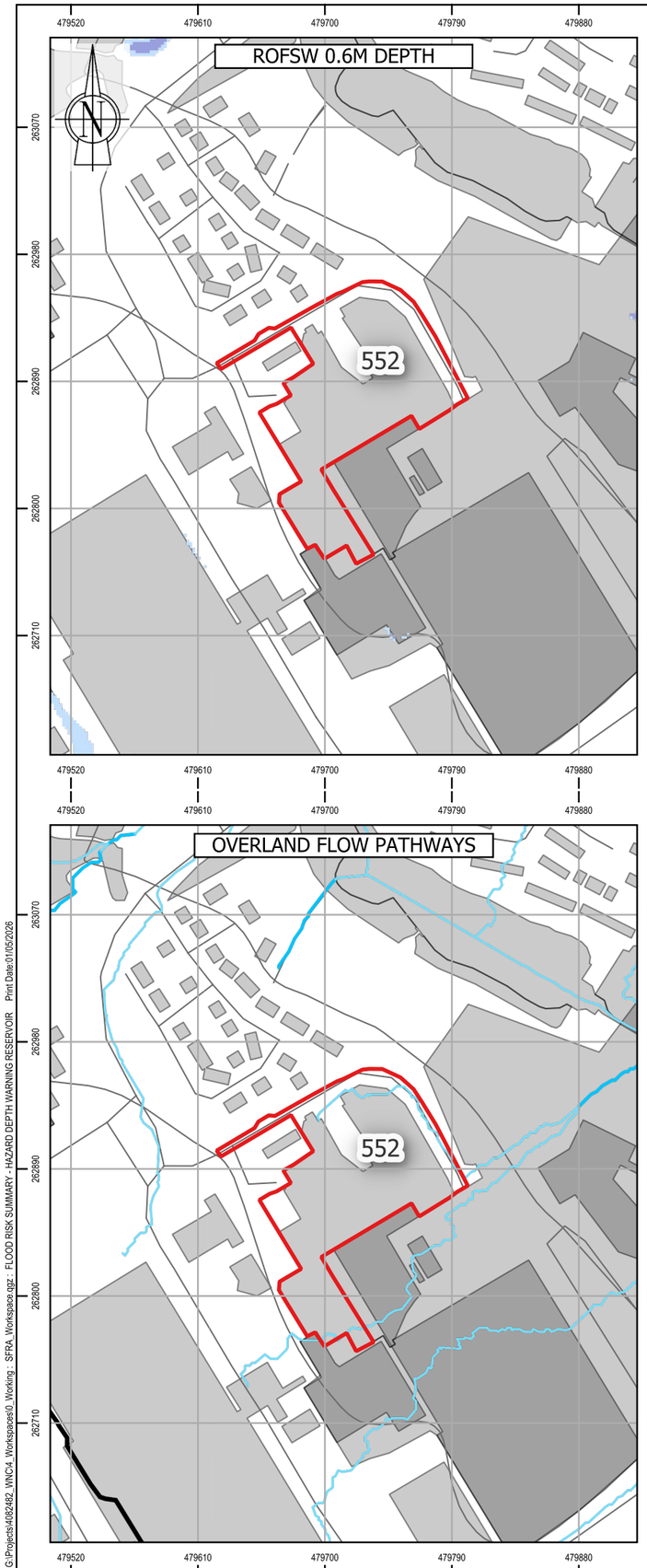
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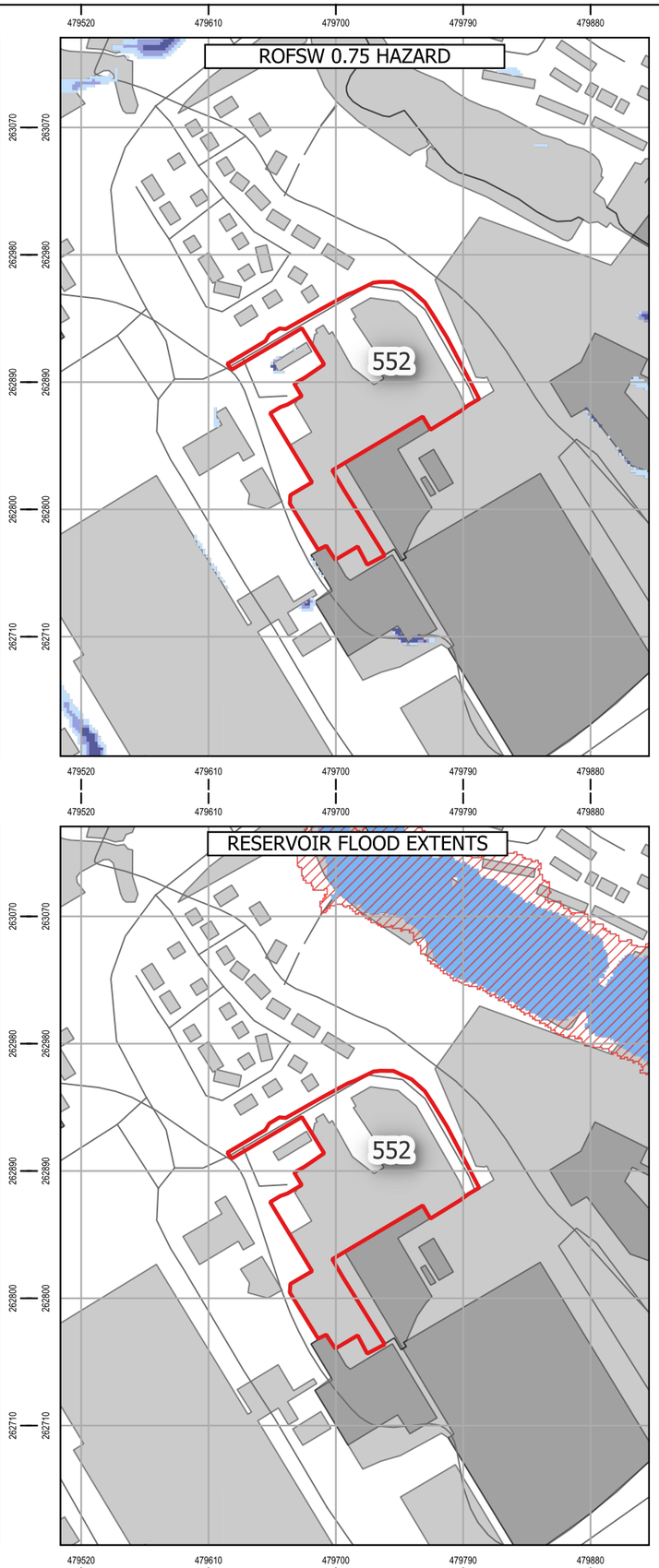
Revision: P01

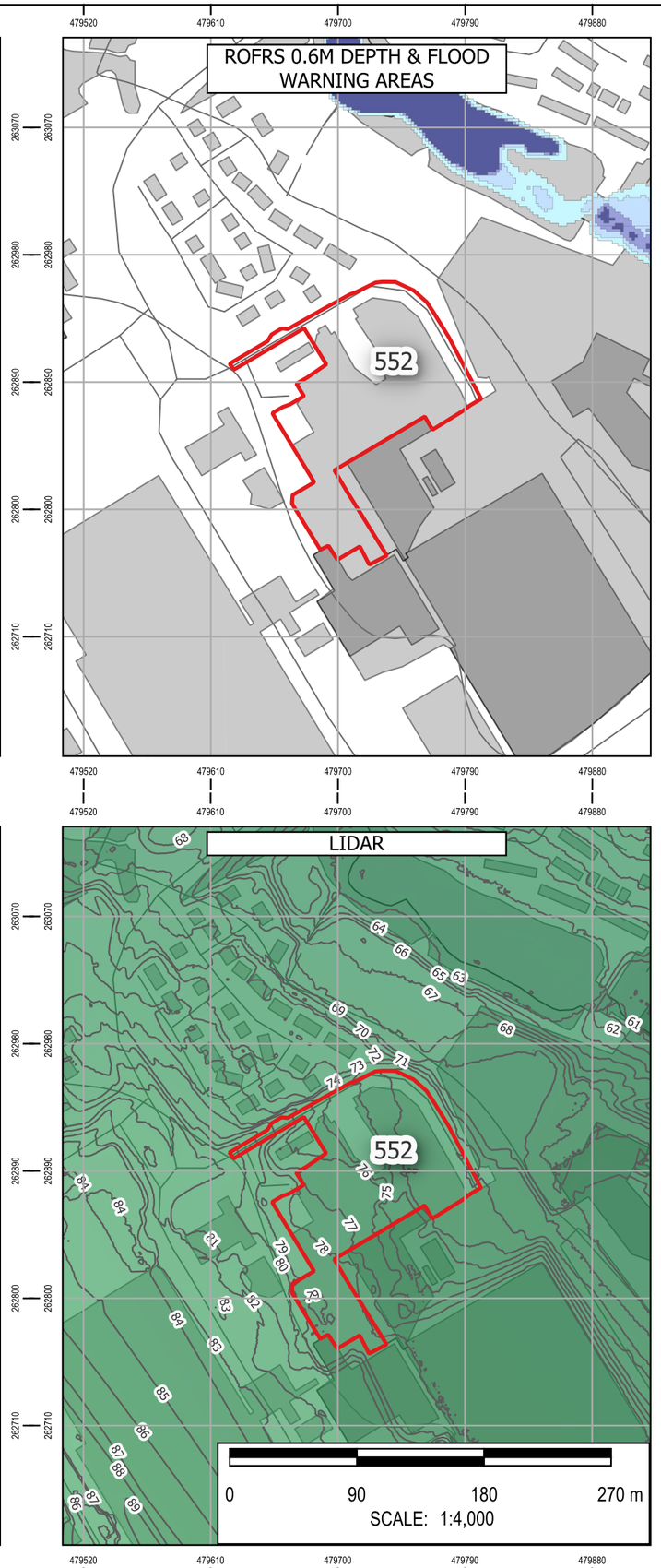
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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY
- ROFSW
  - 0.6M DEPTH: High, Medium, Low, Unavailable
  - 0.75 HAZARD: High, Medium, Low, Unavailable
- ROFRS
  - 0.6M DEPTH: High, Medium, Low, Very low, Unavailable
- FLOOD WARNING AREAS
- OVERLAND FLOW PATHWAYS
  - PROBABLE OVERLAND FLOW PATHWAYS: < 3 Degrees, 3 - 7 Degrees, 7 - 12 Degrees, > 12 Degrees
- DETAILED WATERSHEDS
- RESERVOIR FLOOD EXTENT
  - DRY DAY
  - WET DAY
- LIDAR
  - 1M CONTOURS
  - ELEVATION: Band 1 (Gray), 230, 50

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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DECOMISSIONING AND DEMOLITION
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P01	KA	MH	SB	SB	01/05/26	First Issue
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Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

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Client Drawing No.: NOT APPLICABLE

Revision: -

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Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 552 Former Lings Upper School

Drawing Scale: 1:4,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00227

Revision: P01

G:\Projects\4082482_WNC\4_Workspaces\0_Working_SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR Print Date:01/05/2026

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	541
Site Name	Ryland Soans Ford Garage
Proposed Development	Housing
Site Area	1.93 Ha
Site NGR	472304 mE, 262391 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
0.0 %	0.0 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
12.9 %	2.8 %	6.5 %	22.2 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
14.9 %	3.3 %	28.7 %	46.9 %

Less than 60% of the site is at risk of pluvial flooding during a climate change scenario, therefore delivery of a flood risk compatible development is considered feasible.

Pluvial Flood Risk – Commentary

There is significant ponding across the site, which may be influenced by existing land use. Under a climate change scenario there is a significant increase in the pluvial flood risk to the site. Site specific modelling may be required to inform mitigation measures as part of a site-specific Flood Risk Assessment. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Flood History

There are seven WNC recorded flood events within 500m of the site. This site is not located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at medium risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

The site is not indicated to be at risk of reservoir flooding.

Flood Defences – Residual Risk

It is unlikely that the site will be affected by a breach of flood defences as the nearest defences are more than 500m away.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 1. Therefore the Exception Test is not required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 1, finished floor levels should be at least 150mm above external ground levels. An appropriate freeboard allowance should also be considered for other sources of flooding.

Surface Water Attenuation Provision – Design Considerations

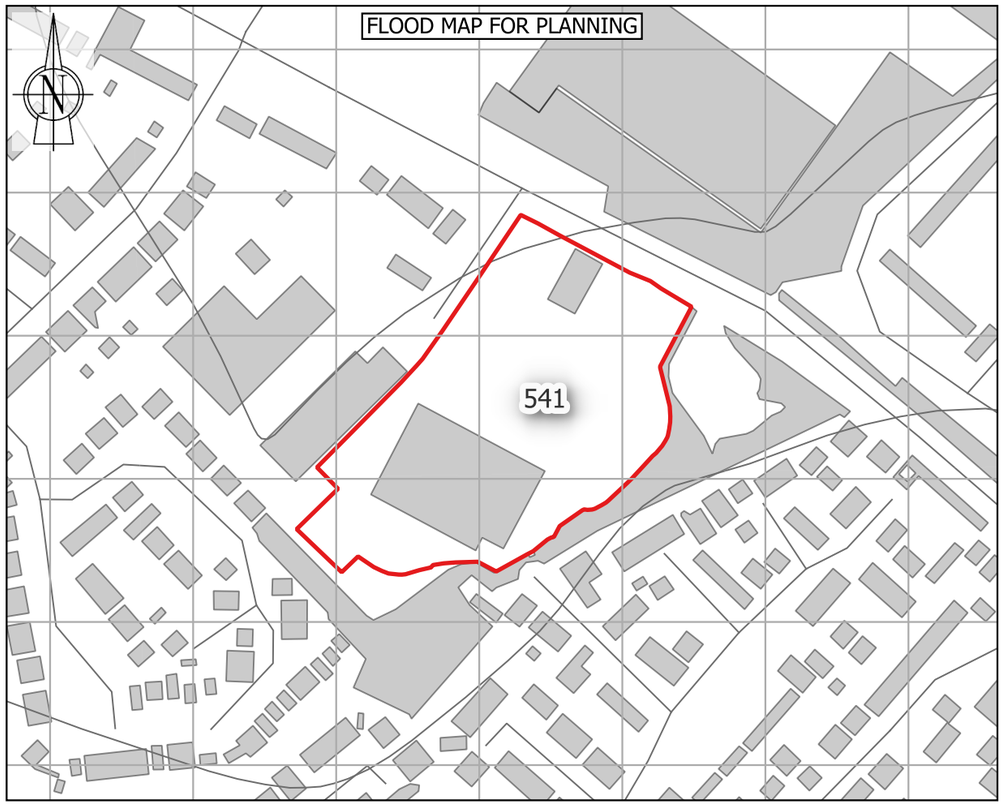
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

It is estimated that 1082 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 0.16 Ha should be set aside for appropriate SuDS techniques.

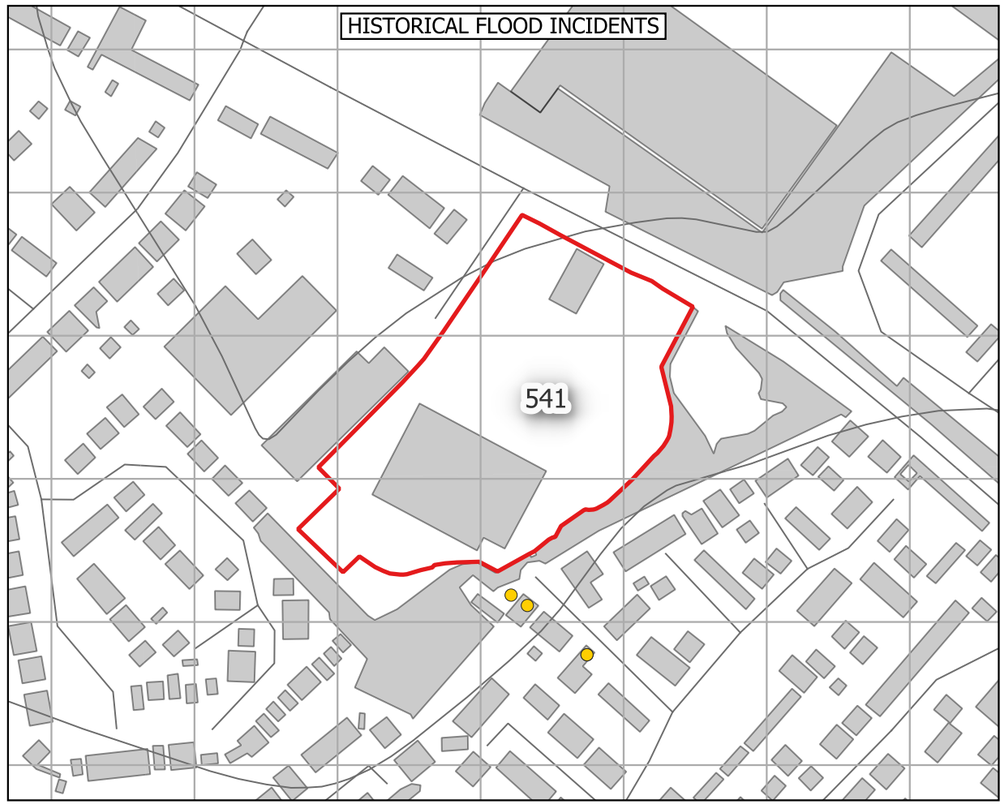
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.

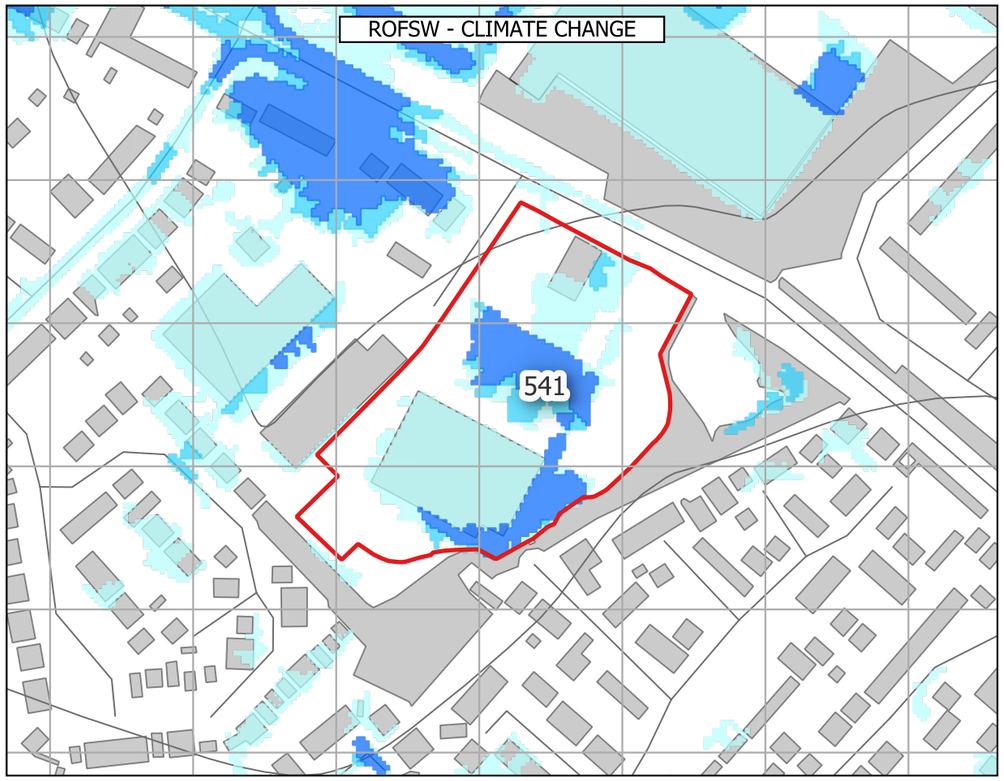
FLOOD MAP FOR PLANNING



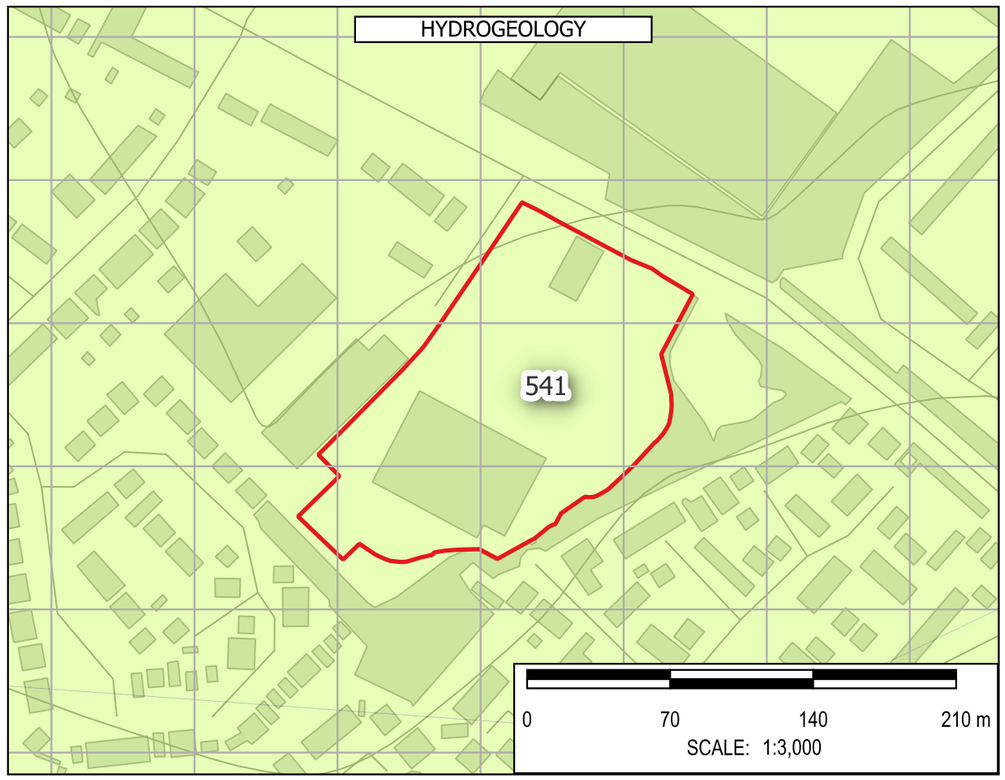
HISTORICAL FLOOD INCIDENTS



ROFSW - CLIMATE CHANGE



HYDROGEOLOGY



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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
  - WEST NORTHANTS BOUNDARY
- FLOOD MAP FOR PLANNING
  - FLOOD DEFENCES
  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
- ROFSW WITH CLIMATE CHANGE
  - HIGH
  - MEDIUM
  - LOW
- HYDROGEOLOGY
  - AQUIFER TYPE
    - HIGHLY PRODUCTIVE AQUIFER
    - MODERATELY PRODUCTIVE AQUIFER
    - LOW PRODUCTIVITY AQUIFER
    - ROCKS WITH ESSENTIALLY NO GROUNDWATER

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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MAINTENANCE / CLEARING / OPERATION
NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS
DECOMISSIONING AND DEMOLITION
NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS

Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Registered Office
Spring Lodge, 172 Chester Road, Helsby Cheshire, WA6 0AR, UK
Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 541 Ryland Soans Ford Garage

Drawing Scale: 1:3,000 Sheet Size: A3

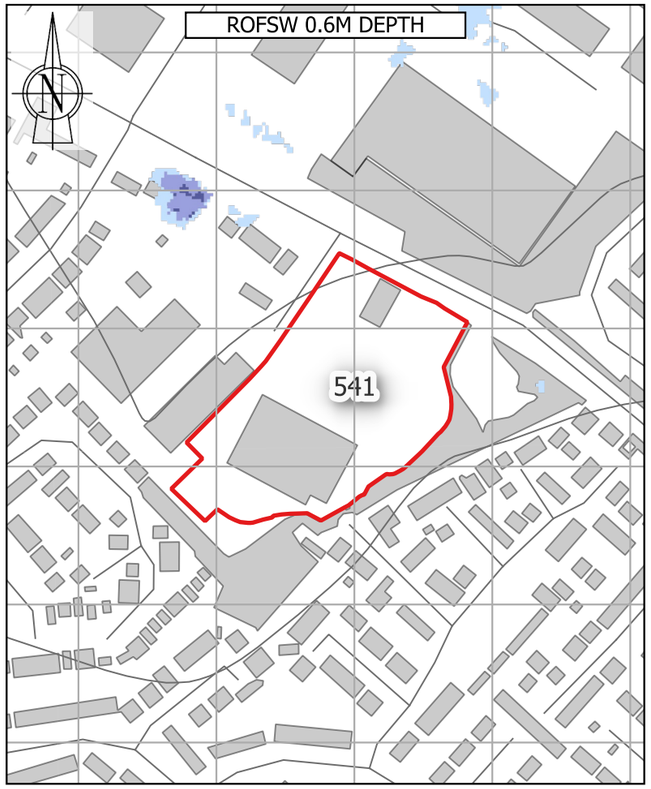
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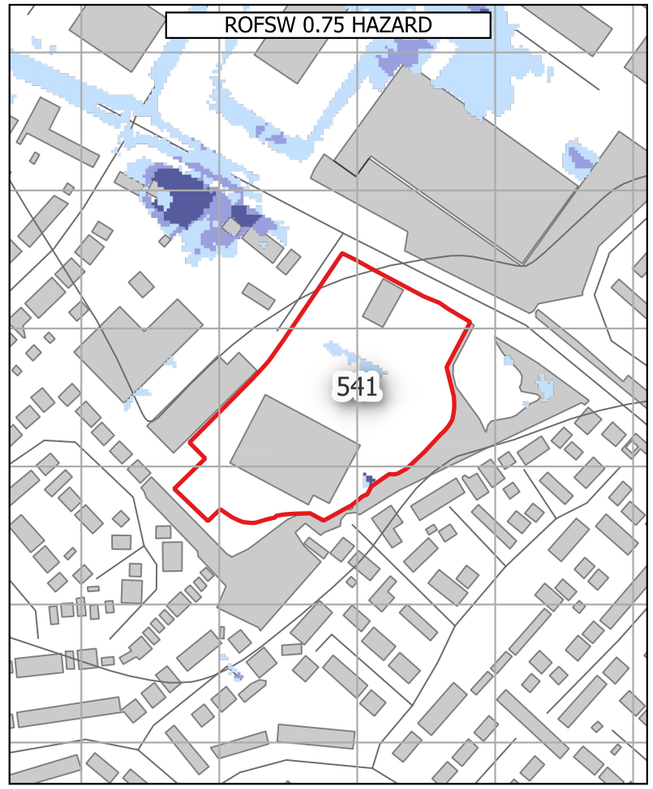
Revision: P01

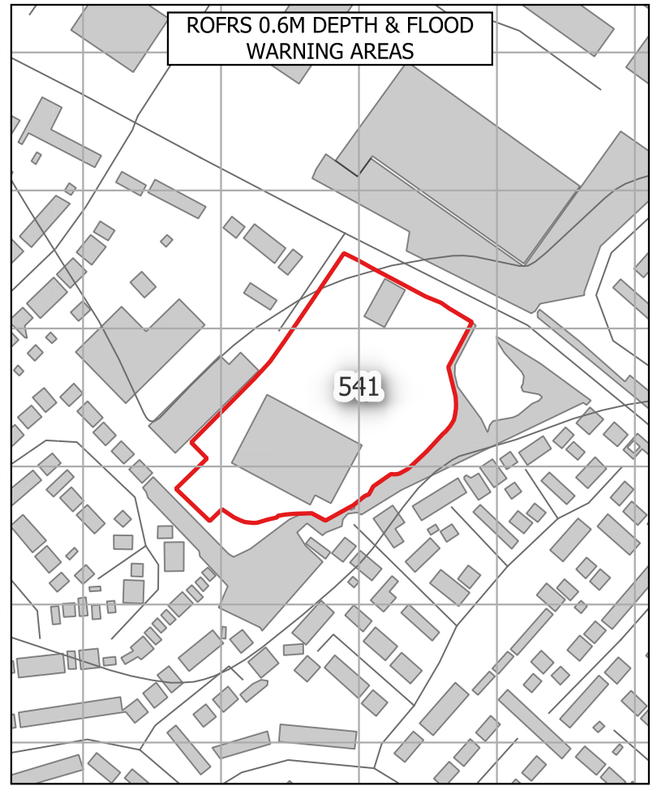
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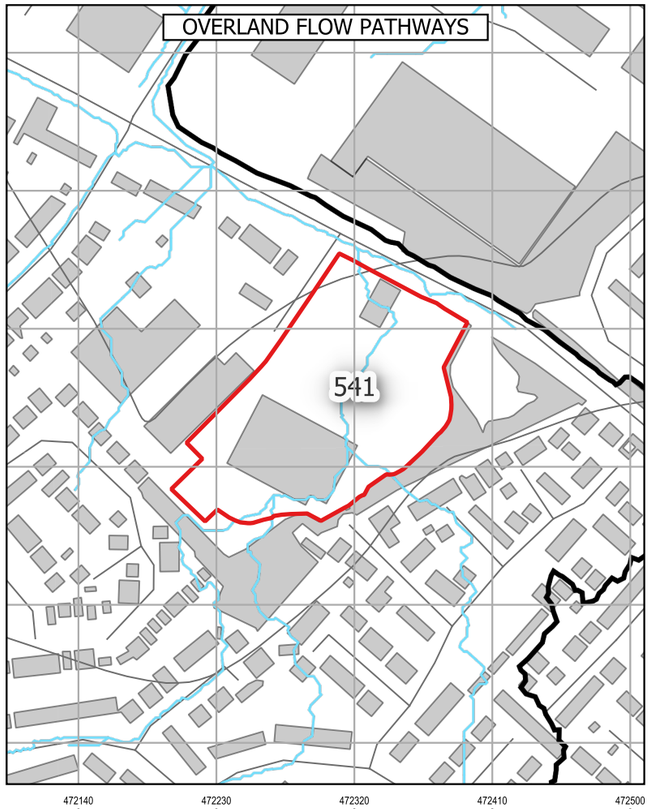
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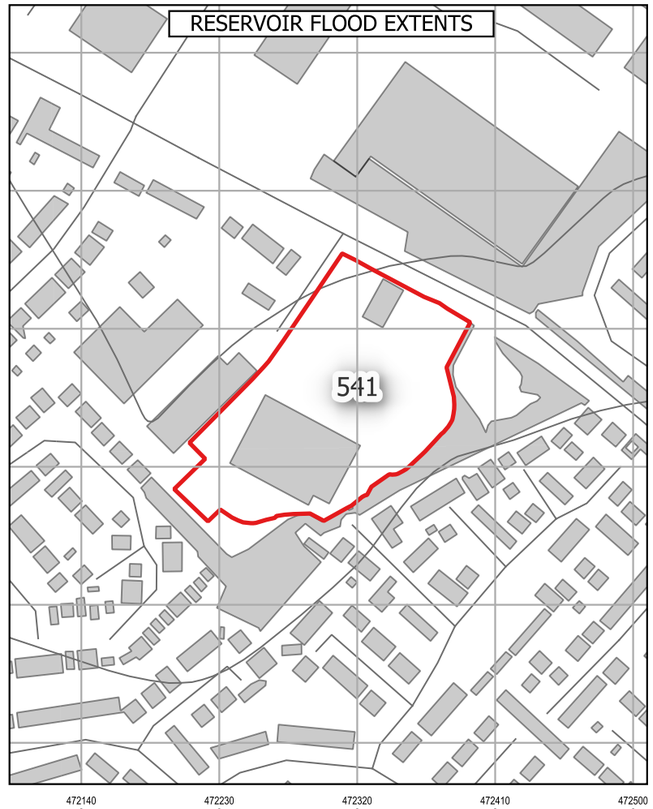
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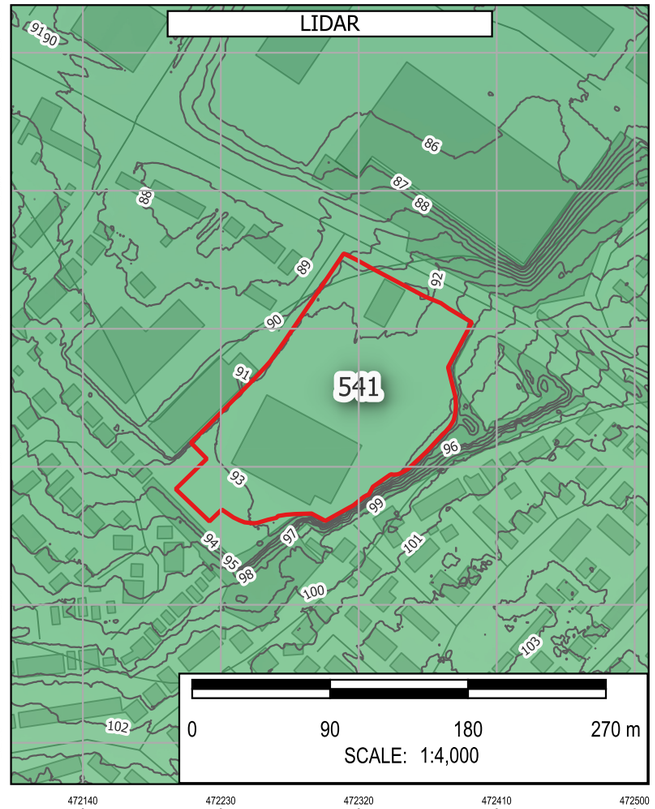












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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY
- ROFSW
- 0.6M DEPTH
- High
- Medium
- Low
- Unavailable
- 0.75 HAZARD
- High
- Medium
- Low
- Unavailable
- ROFRS
- 0.6M DEPTH
- High
- Medium
- Low
- Very low
- Unavailable
- FLOOD WARNING AREAS
- OVERLAND FLOW PATHWAYS
- PROBABLE OVERLAND FLOW PATHWAYS
- < 3 Degrees
- 3 - 7 Degrees
- 7 - 12 Degrees
- > 12 Degrees
- DETAILED WATERSHEDS
- RESERVOIR FLOOD EXTENT
- DRY DAY
- WET DAY
- LIDAR
- 1M CONTOURS
- ELEVATION
- Band 1 (Gray)
- 230
- 50

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	01/05/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Registered Office
Spring Lodge, 172 Chester Road, Helsby Cheshire, WA6 0AR, UK
Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 541 Ryland Soans Ford Garage

Drawing Scale: 1:4,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00225

Revision: P01

G:\Projects\4082482_WNC\4_Workspaces\0_Working\ - SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR Print Date:01/05/2026

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	551
Site Name	The Farm, Hardingstone
Proposed Development	Housing
Site Area	2.17 Ha
Site NGR	476870 mE, 257765 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
0.0 %	0.0 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
0.9 %	2.7 %	5.4 %	9.0 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
2.5 %	3.9 %	3.2 %	9.6 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

There is a surface water flow path which likely originates offsite to the south and intersects the western portion of the site. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Flood History

There are twelve WNC recorded flood events within 500m of the site. This site is not located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at low risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

The site is not indicated to be at risk of reservoir flooding.

Flood Defences – Residual Risk

It is unlikely that the site will be affected by a breach of flood defences as the nearest defences are more than 500m away.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 1. Therefore the Exception Test is not required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 1, finished floor levels should be at least 150mm above external ground levels. An appropriate freeboard allowance should also be considered for other sources of flooding.

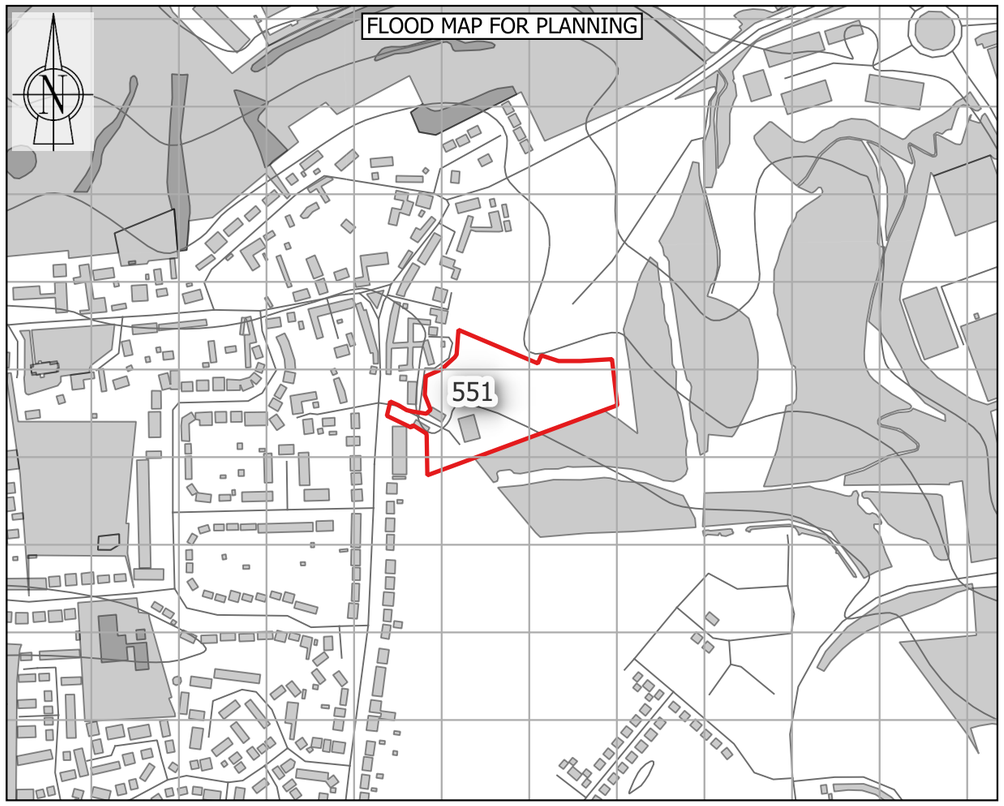
Surface Water Attenuation Provision – Design Considerations

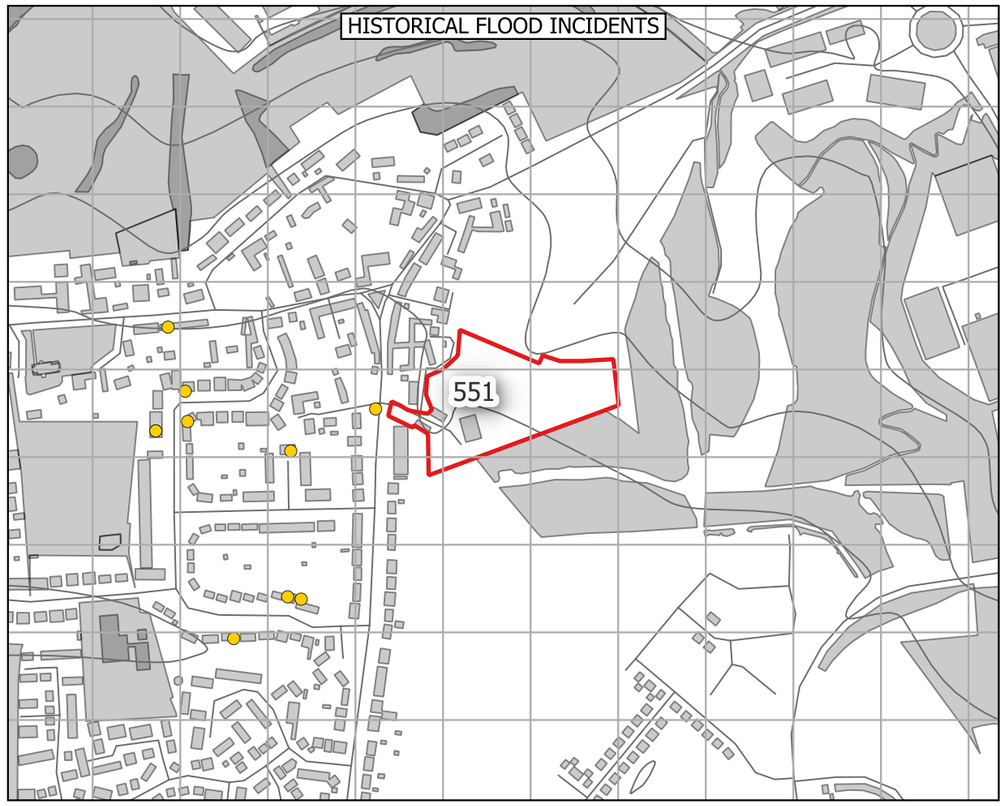
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

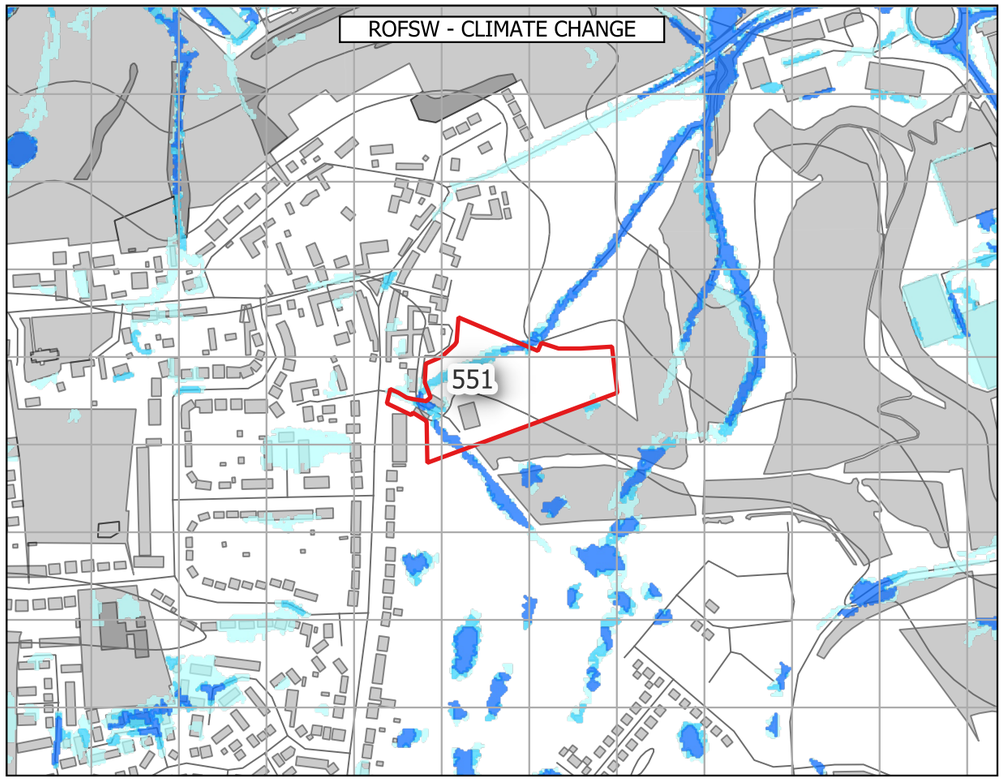
It is estimated that 1218 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 0.18 Ha should be set aside for appropriate SuDS techniques.

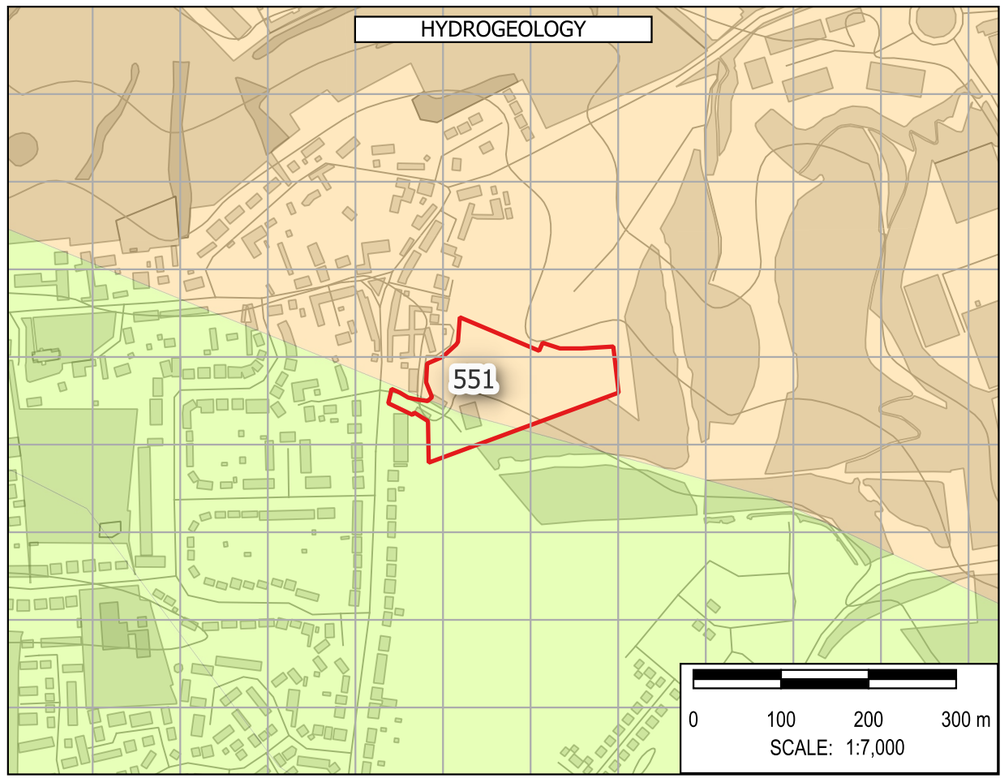
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.









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LEGEND

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- BOROUGH BOUNDARY
  - WEST NORTHANTS BOUNDARY
- FLOOD MAP FOR PLANNING
  - FLOOD DEFENCES
  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
- ROFSW WITH CLIMATE CHANGE
  - HIGH
  - MEDIUM
  - LOW
- HYDROGEOLOGY
  - AQUIFER TYPE
    - HIGHLY PRODUCTIVE AQUIFER
    - MODERATELY PRODUCTIVE AQUIFER
    - LOW PRODUCTIVITY AQUIFER
    - ROCKS WITH ESSENTIALLY NO GROUNDWATER

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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MAINTENANCE / CLEARING / OPERATION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 551
The Farm, Hardingstone

Drawing Scale: 1:7,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00163

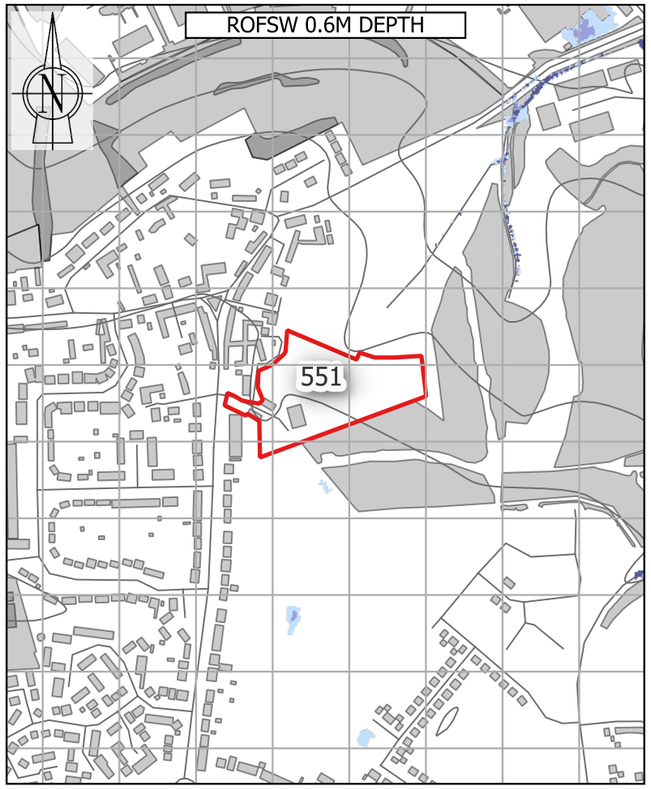
Revision: P01

G:\Projects\4082482_WNC\4_Workspaces\0_Working\ : SFRA_Workspace.qgz : FLOOD RISK SUMMARY Print Date:30/04/2026

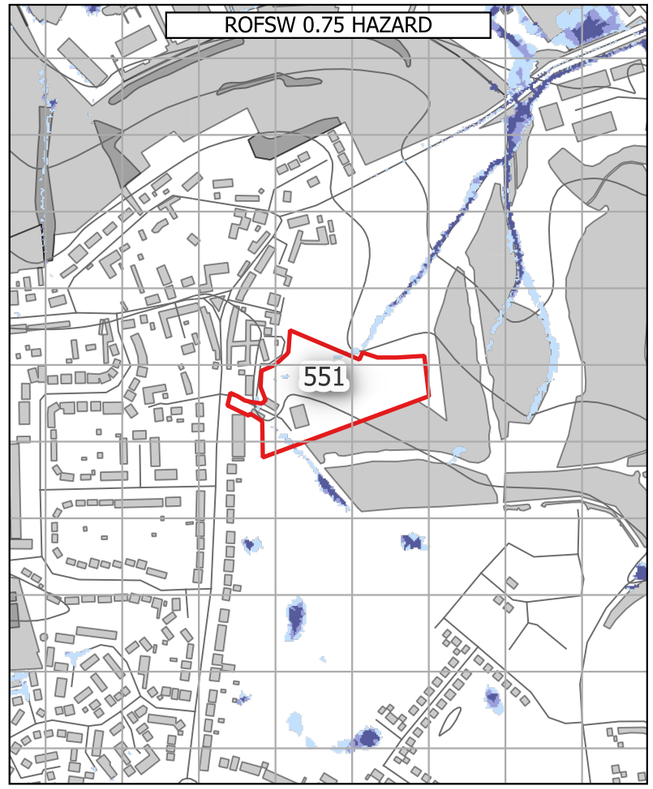
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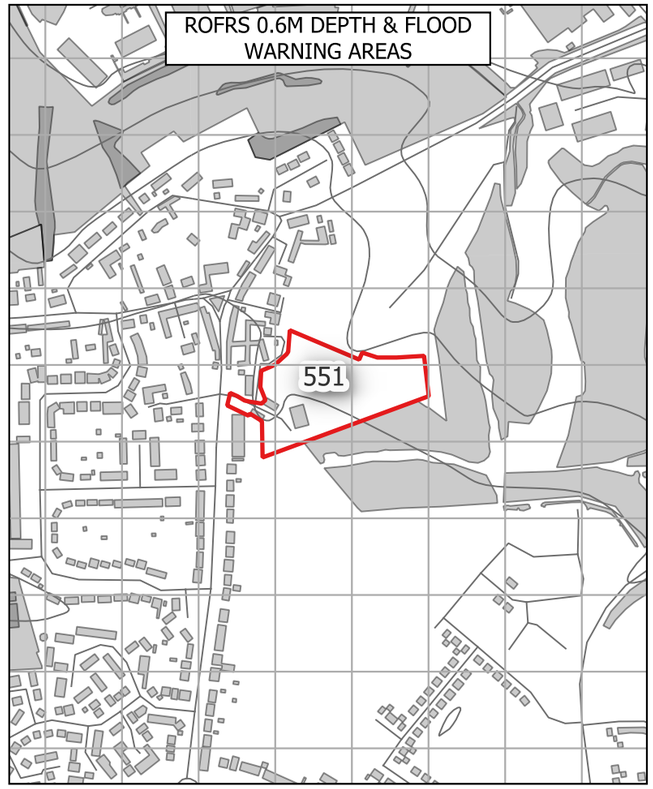
ROFSW 0.6M DEPTH



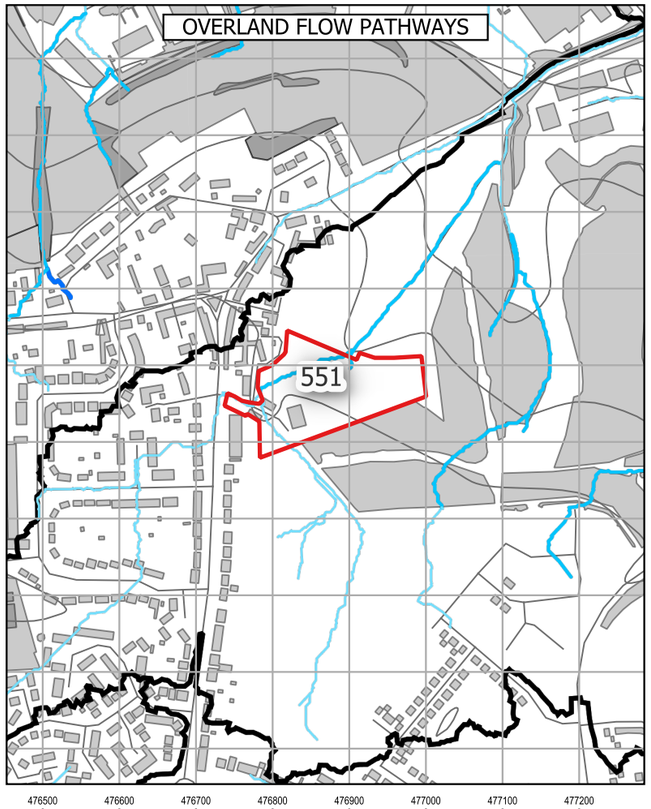
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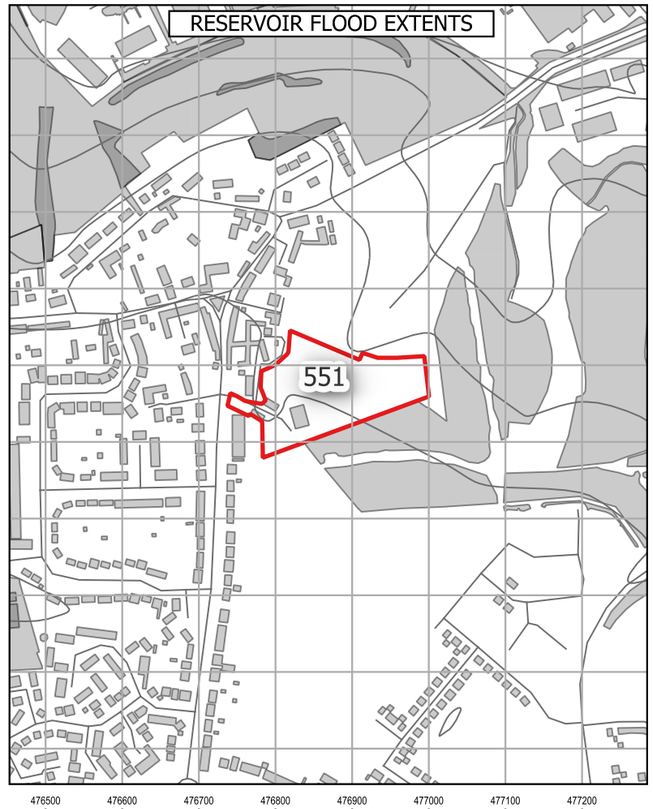
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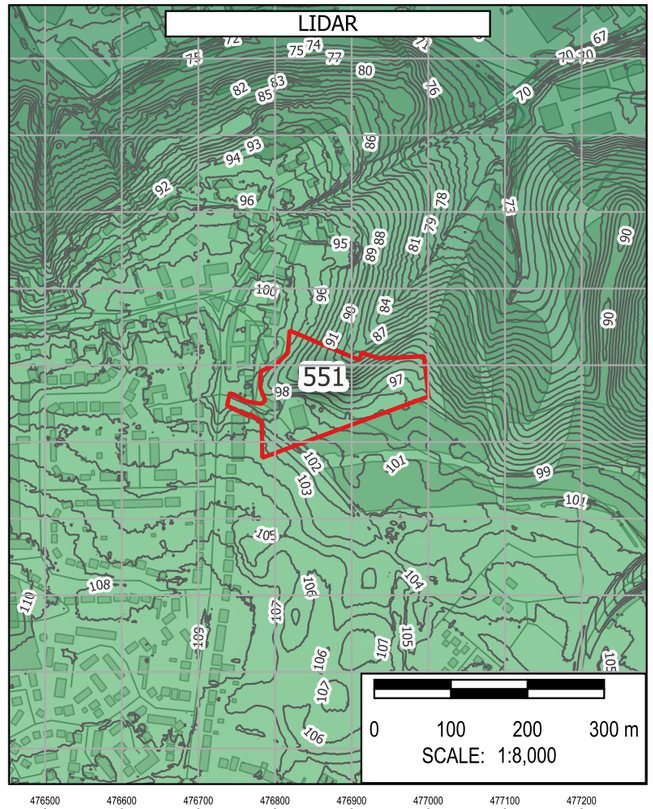
OVERLAND FLOW PATHWAYS



RESERVOIR FLOOD EXTENTS



LIDAR



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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY

ROFSW
0.6M DEPTH
- High
- Medium
- Low
- Unavailable

0.75 HAZARD
- High
- Medium
- Low
- Unavailable

ROFRS
0.6M DEPTH
- High
- Medium
- Low
- Very low
- Unavailable

FLOOD WARNING AREAS

OVERLAND FLOW PATHWAYS
PROBABLE OVERLAND FLOW PATHWAYS
- < 3 Degrees
- 3 - 7 Degrees
- 7 - 12 Degrees
- > 12 Degrees

DETAILED WATERSHEDS

RESERVOIR FLOOD EXTENT
DRY DAY
WET DAY

LIDAR
1M CONTOURS
ELEVATION
Band 1 (Gray)
230
50

SAFETY HEALTH AND ENVIRONMENT INFORMATION
IN ADDITION TO THE HAZARDS OR RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, THE FOLLOWING SIGNIFICANT RESIDUAL RISKS SHOULD BE NOTED. FURTHER DETAILS ARE INCLUDED IN THE CDM DESIGN RISK MANAGEMENT REGISTERS
CONSTRUCTION
NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS
MAINTENANCE / CLEARING / OPERATION
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DECOMISSIONING AND DEMOLITION
NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS

Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	01/05/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Registered Office
Spring Lodge, 172 Chester Road, Helsby Cheshire, WA6 0AR, UK
Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 551
The Farm, Hardingstone

Drawing Scale: 1:8,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00221

Revision: P01

G:\Projects\4082482_WNC\4_Workspaces\0_Working\ - SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR Print Date:01/05/2026

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	543
Site Name	Land north of Milton Ham
Proposed Development	Housing
Site Area	6.99 Ha
Site NGR	472928 mE, 257606 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
5.8 %	33.7 %

Less than 60% of the site is at risk of fluvial flooding during a present-day scenario, therefore delivery of a flood risk compatible development is considered feasible.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
0.2 %	0.3 %	37.2 %	37.7 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 60% of the site is at risk of fluvial flooding during a climate change scenario, therefore delivery of a flood risk compatible development is considered feasible.

Fluvial Flood Risk – Commentary

As more than 30% of the site is at risk of fluvial flooding under a present-day and climate change scenario, floodplain compensation may be required. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
6.3 %	3.5 %	8.4 %	18.2 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
9.3 %	6.9 %	5.1 %	21.3 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

The northern part of the site is situated in a large area of medium and high surface water flood risk. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Flood History

There are eight WNC recorded flood events within 500m of the site. This site is not located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at low risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

The site is not indicated to be at risk of reservoir flooding.

Flood Defences – Residual Risk

Although the nearest defences are less than 500m from the site, the site does not benefit from these defences and therefore an assessment of a defence breach over the lifetime of the development (including the impact of climate change) is unlikely to be required.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is unlikely that dry access and egress will be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 3. Therefore the Exception Test is required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 2 and 3, should development be proposed for this site, finished floor levels should be set no lower than 66.4 mAOD, 600mm above the maximum predicted flood level of 65.8 mAOD. In accordance with the EA guidance, freeboard allowances could be reviewed, and where appropriate reduced to 300mm. An appropriate freeboard allowance should also be considered for other sources of flooding. This should be confirmed by a site specific assessment as part of the detailed design for development, which should include consideration of proposed ground levels.

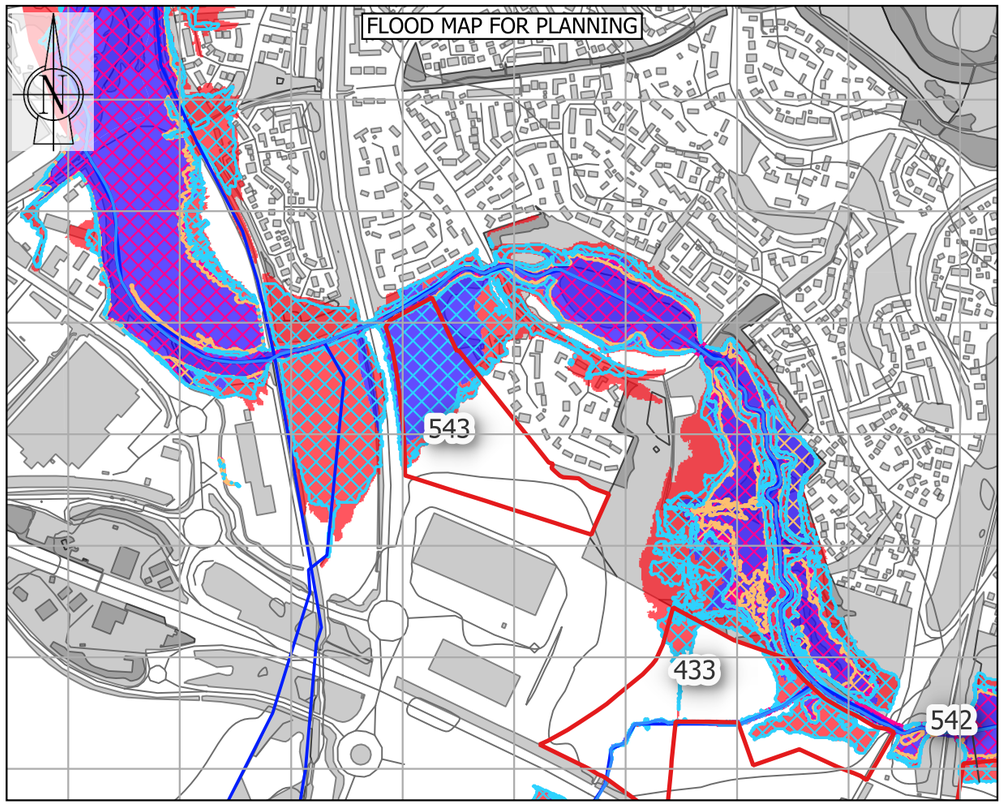
Surface Water Attenuation Provision – Design Considerations

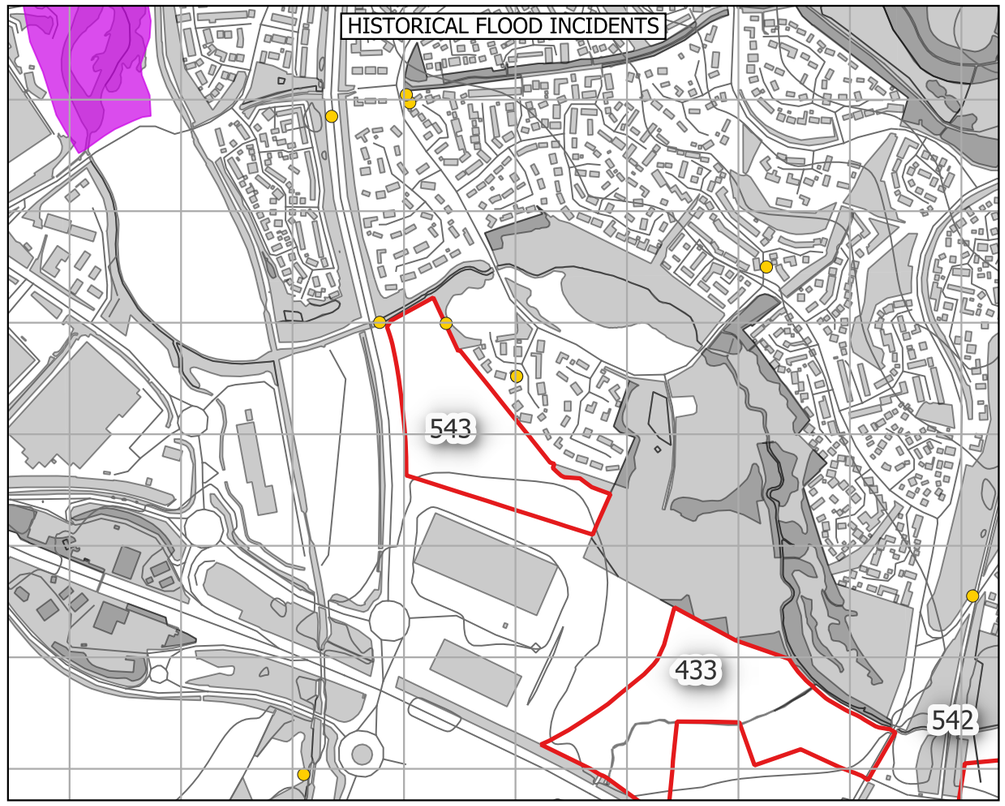
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

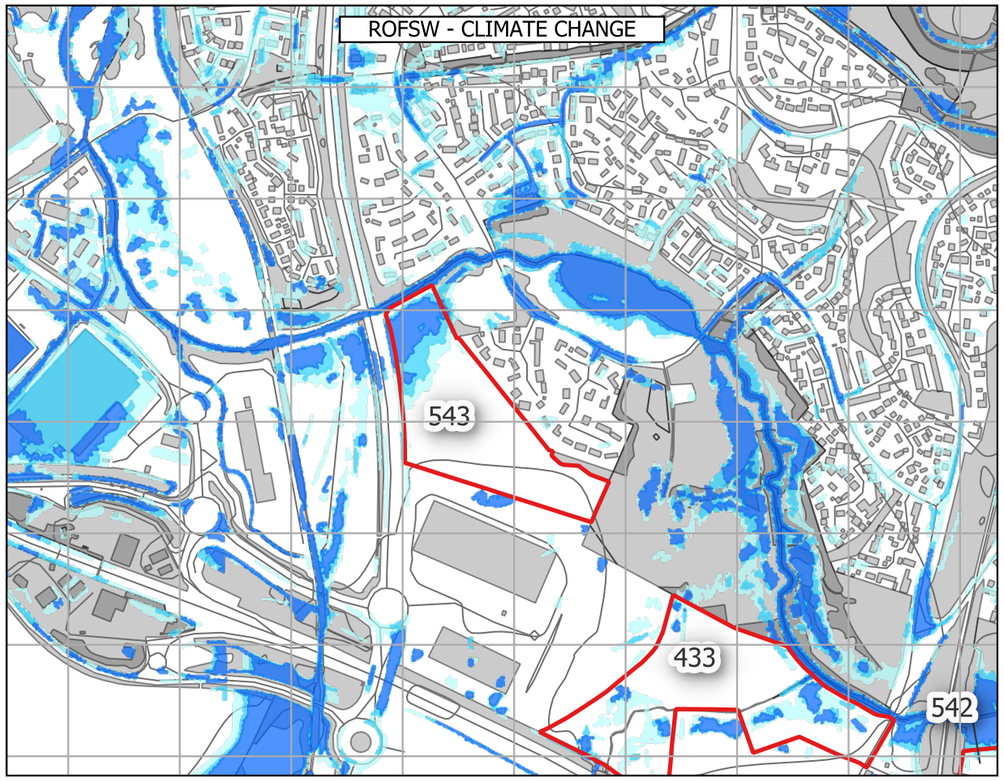
Should development be proposed for this site, tt is estimated that 3914 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 0.59 Ha should be set aside for appropriate SuDS techniques.

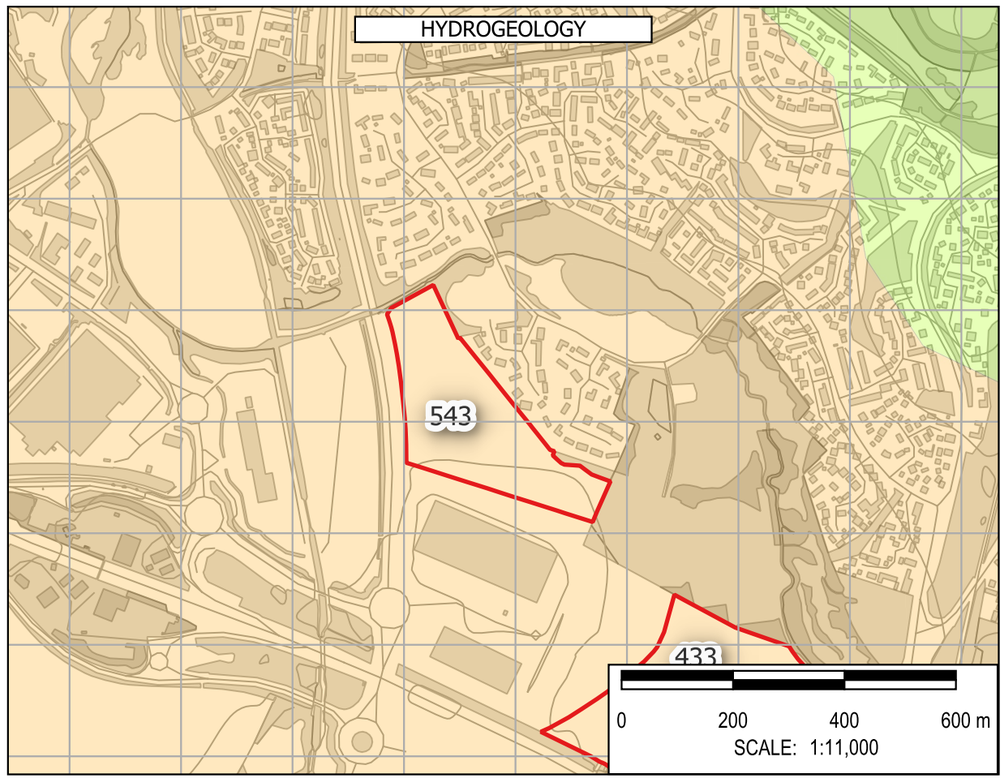
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of this site is not compatible with the level of flood risk identified. This is due the site having no known dry access and egress.









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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
  - WEST NORTHANTS BOUNDARY
- FLOOD MAP FOR PLANNING
  - FLOOD DEFENCES
  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
- ROFSW WITH CLIMATE CHANGE
  - HIGH
  - MEDIUM
  - LOW
- HYDROGEOLOGY
  - AQUIFER TYPE
  - HIGHLY PRODUCTIVE AQUIFER
  - MODERATELY PRODUCTIVE AQUIFER
  - LOW PRODUCTIVITY AQUIFER
  - ROCKS WITH ESSENTIALLY NO GROUNDWATER

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
-	--	--	--	--	DD/MM/YY	--
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Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 543 Land north of Milton Ham

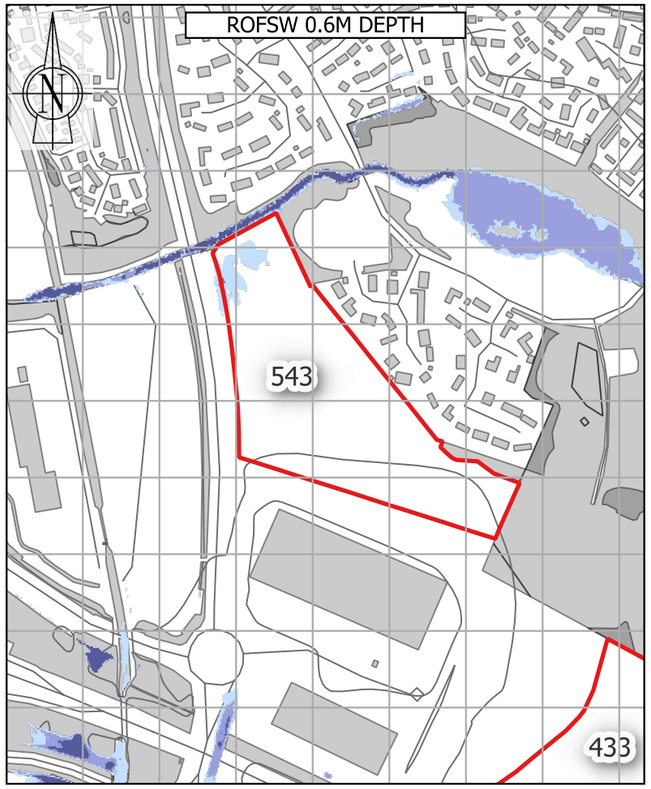
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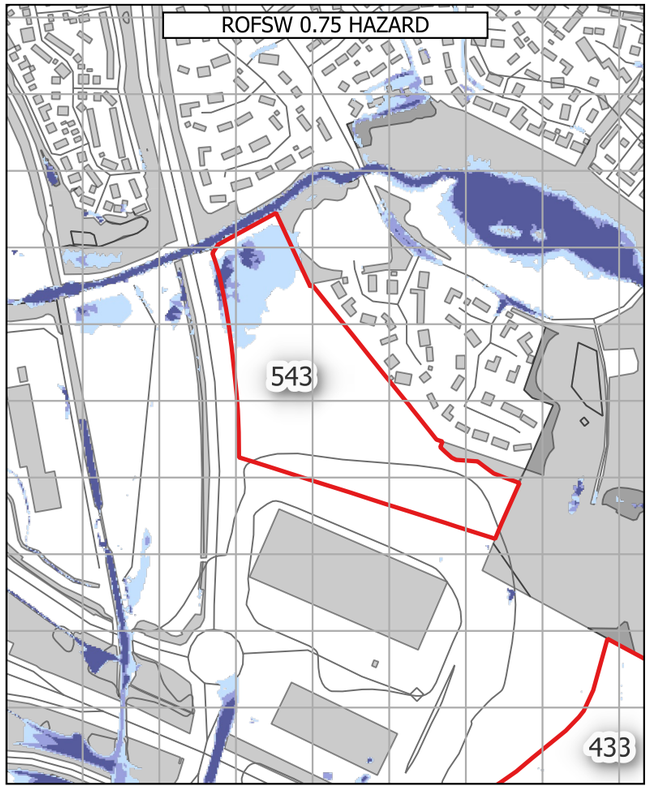
Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00154 Revision: P01

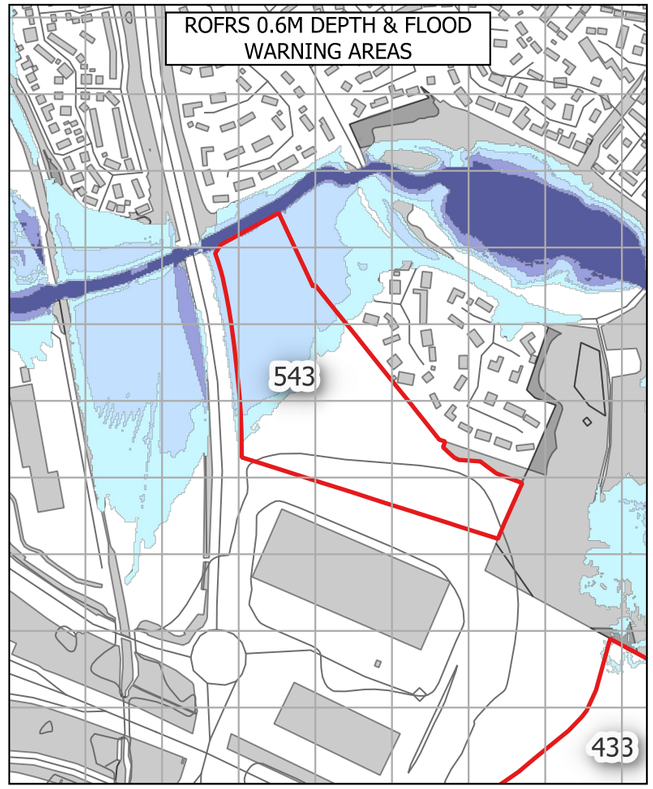
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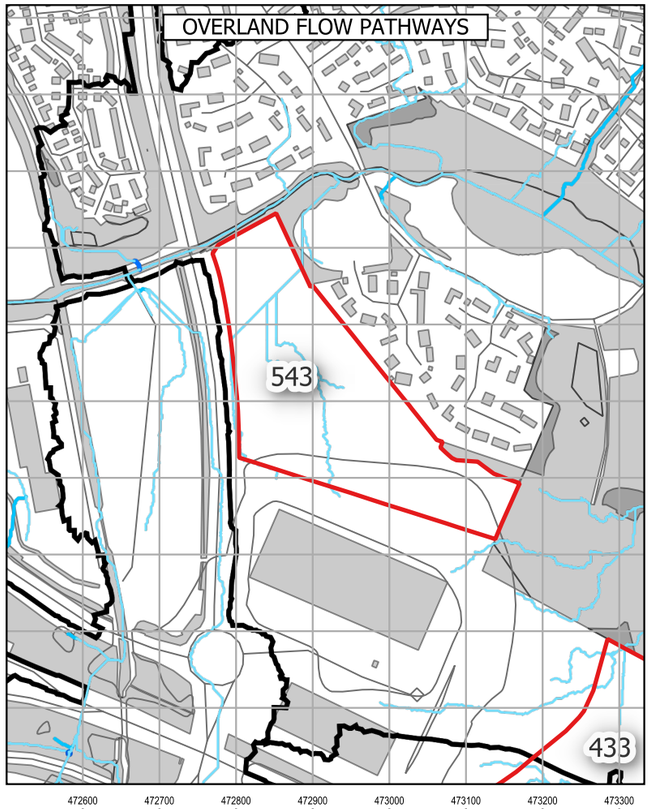
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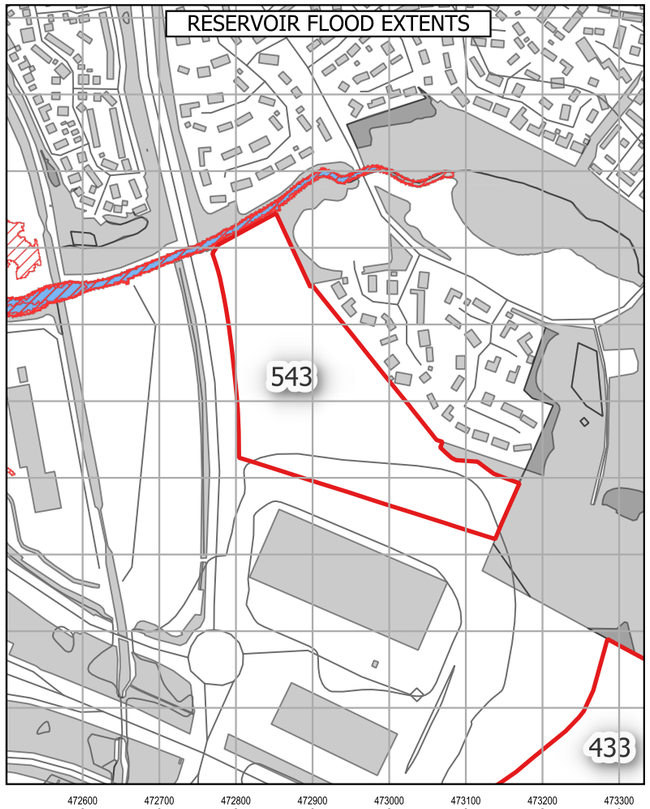
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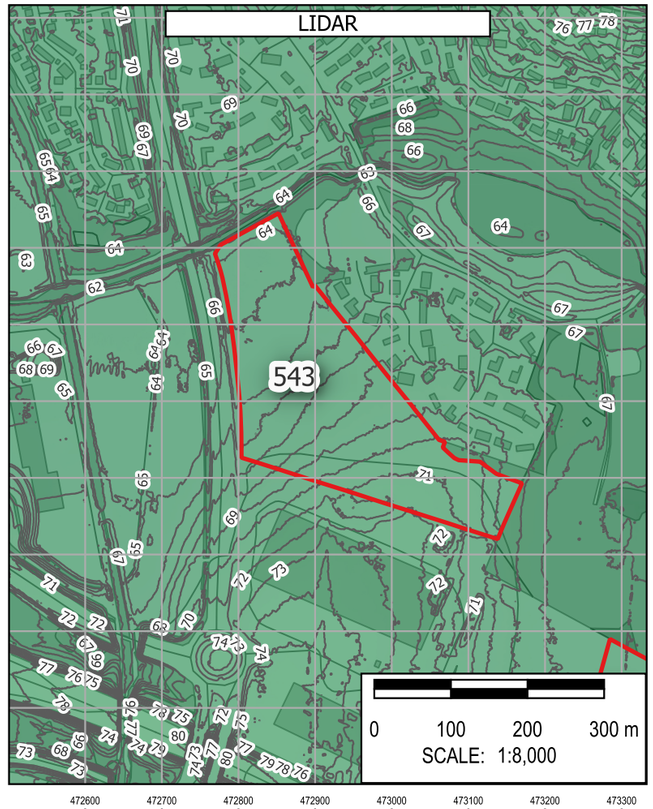












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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY
- ROFSW
  - 0.6M DEPTH
    - High
    - Medium
    - Low
    - Unavailable
  - 0.75 HAZARD
    - High
    - Medium
    - Low
    - Unavailable
- ROFRS
  - 0.6M DEPTH
    - High
    - Medium
    - Low
    - Very low
    - Unavailable
- FLOOD WARNING AREAS
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- PROBABLE OVERLAND FLOW PATHWAYS
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  - 7 - 12 Degrees
  - > 12 Degrees
- DETAILED WATERSHEDS
- RESERVOIR FLOOD EXTENT
  - DRY DAY
  - WET DAY
- LIDAR
  - 1M CONTOURS
  - ELEVATION
    - Band 1 (Gray)
    - 230
    - 50

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	01/05/26	First Issue
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Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 543
Land north of Milton Ham

Drawing Scale: 1:8,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00212

Revision: P01

Print Date:01/05/2026

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	549
Site Name	Watering Lane, Collingtree
Proposed Development	Housing
Site Area	11.04 Ha
Site NGR	475318 mE, 255212 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
0.0 %	0.0 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
8.4 %	2.8 %	4.9 %	16.1 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
10.3 %	2.5 %	5.9 %	18.7 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

There is a prominent surface water flow path in the western part of the site which originates offsite. There is also a significant area of ponding in the eastern part of the site. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Flood History

There are eleven WNC recorded flood events within 500m of the site. This site is not located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at low risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

The site is not indicated to be at risk of reservoir flooding.

Flood Defences – Residual Risk

It is unlikely that the site will be affected by a breach of flood defences as the nearest defences are more than 500m away.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 1. Therefore the Exception Test is not required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 1, finished floor levels should be at least 150mm above external ground levels. An appropriate freeboard allowance should also be considered for other sources of flooding.

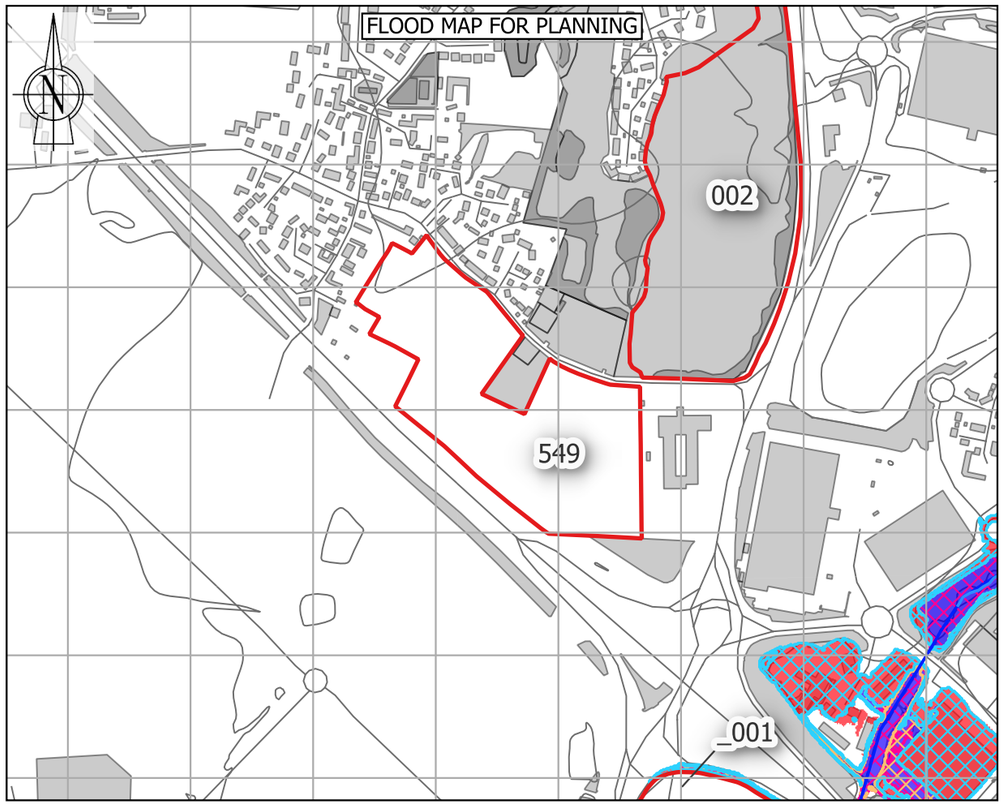
Surface Water Attenuation Provision – Design Considerations

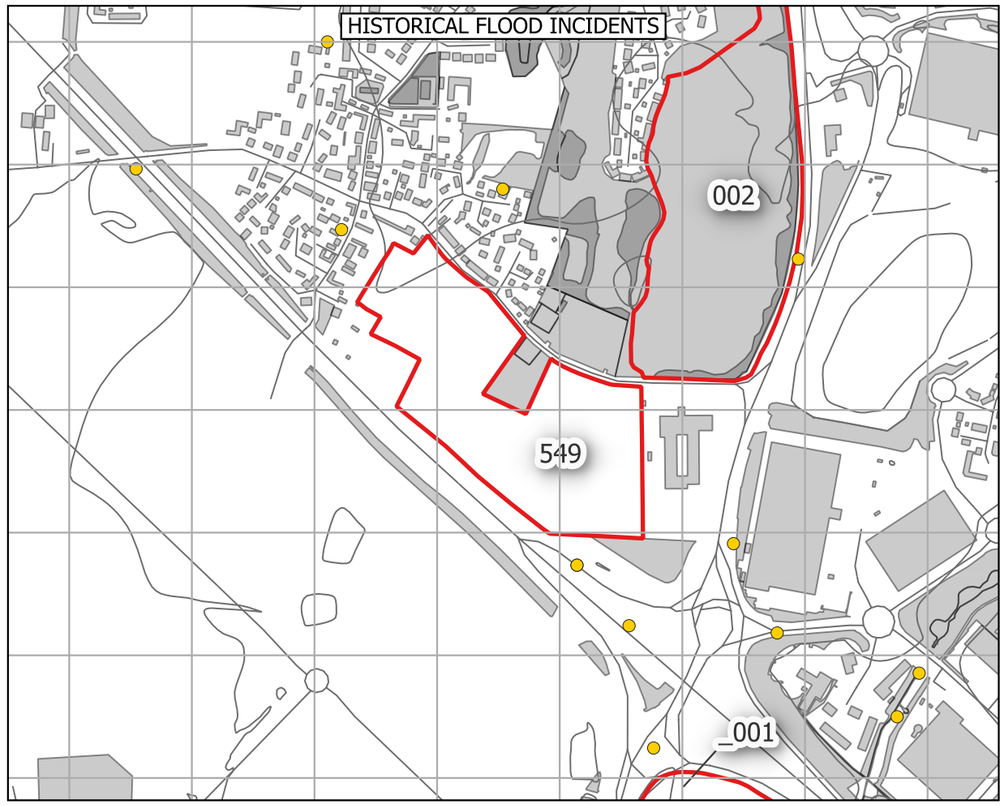
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

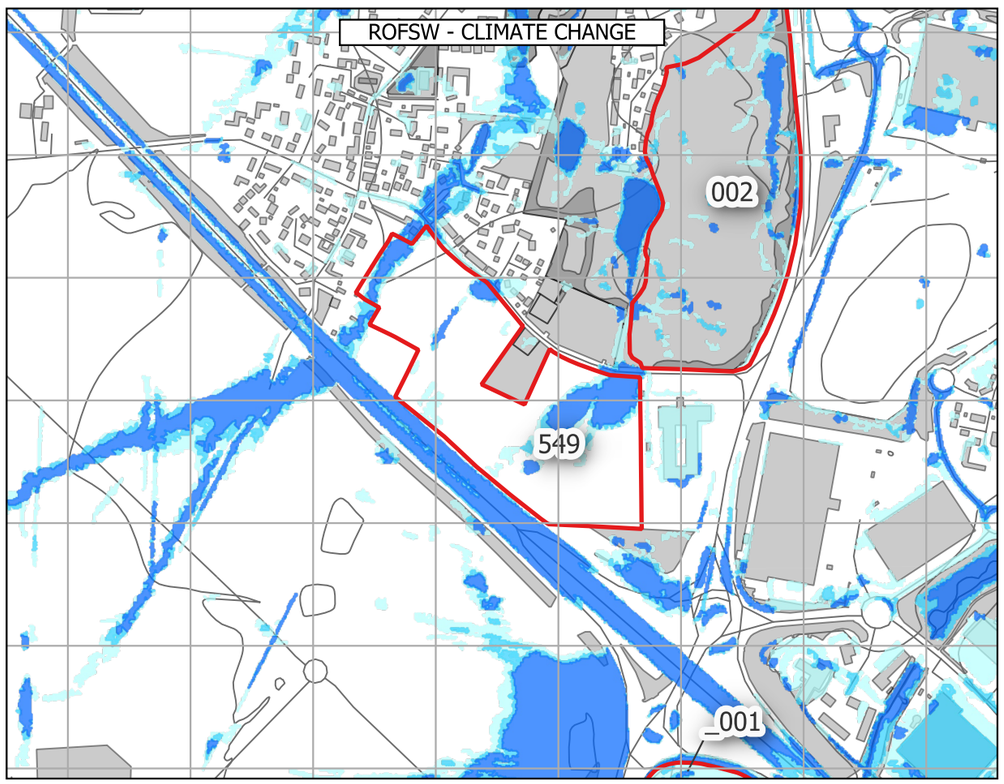
It is estimated that 6181 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 0.92 Ha should be set aside for appropriate SuDS techniques.

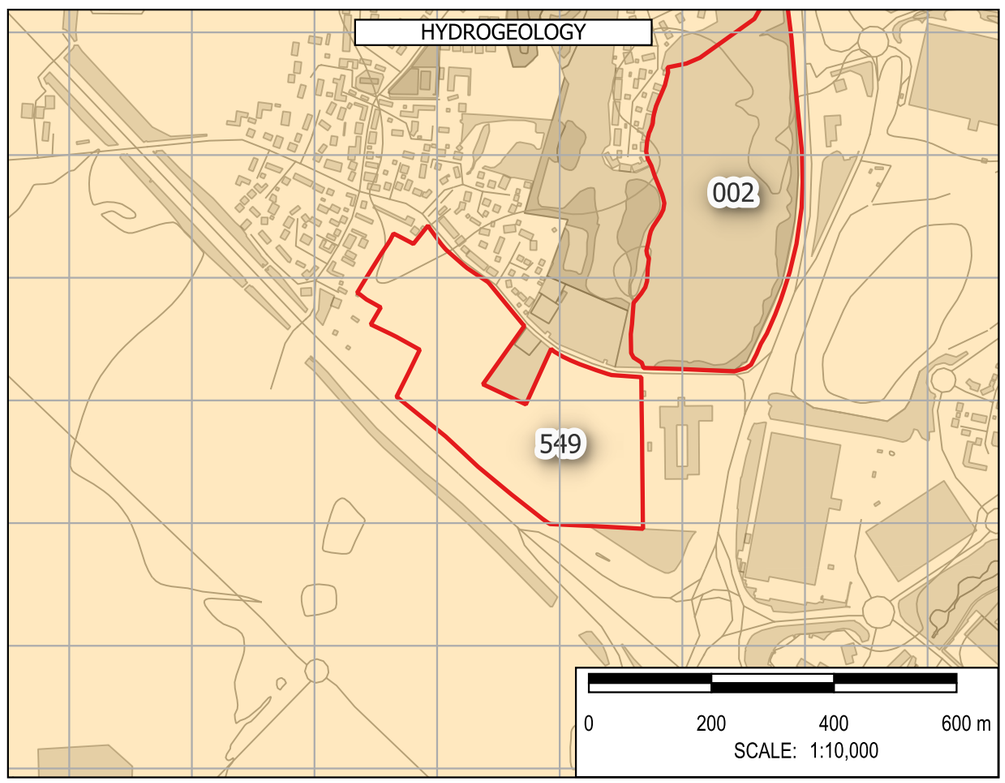
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.









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LEGEND

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  - FLOOD DEFENCES
  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
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- ROFSW WITH CLIMATE CHANGE
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  - MEDIUM
  - LOW
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  - AQUIFER TYPE
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P01	KA	MH	SB	SB	30/04/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Registered Office
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Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 549 Watering Lane, Collingtree

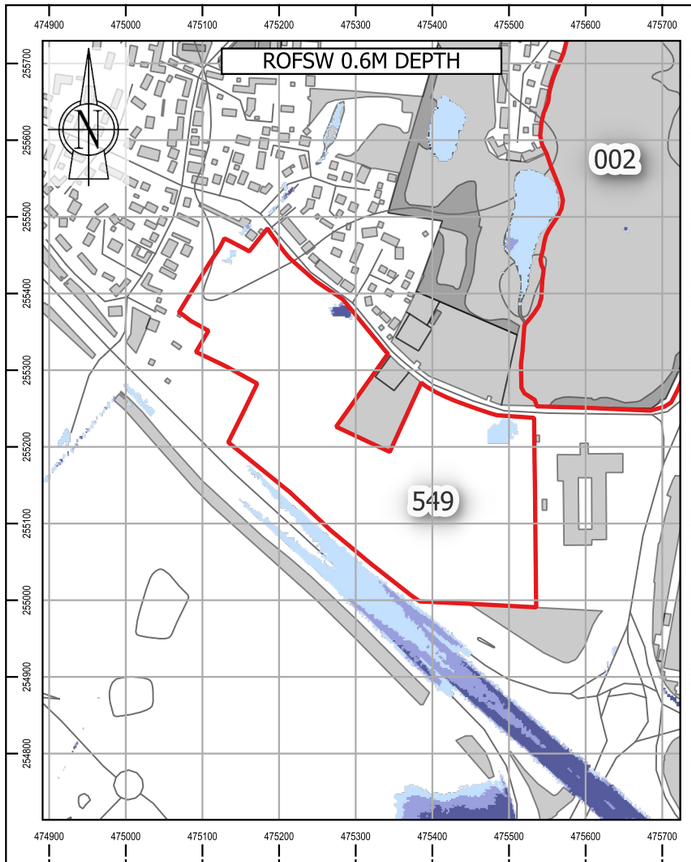
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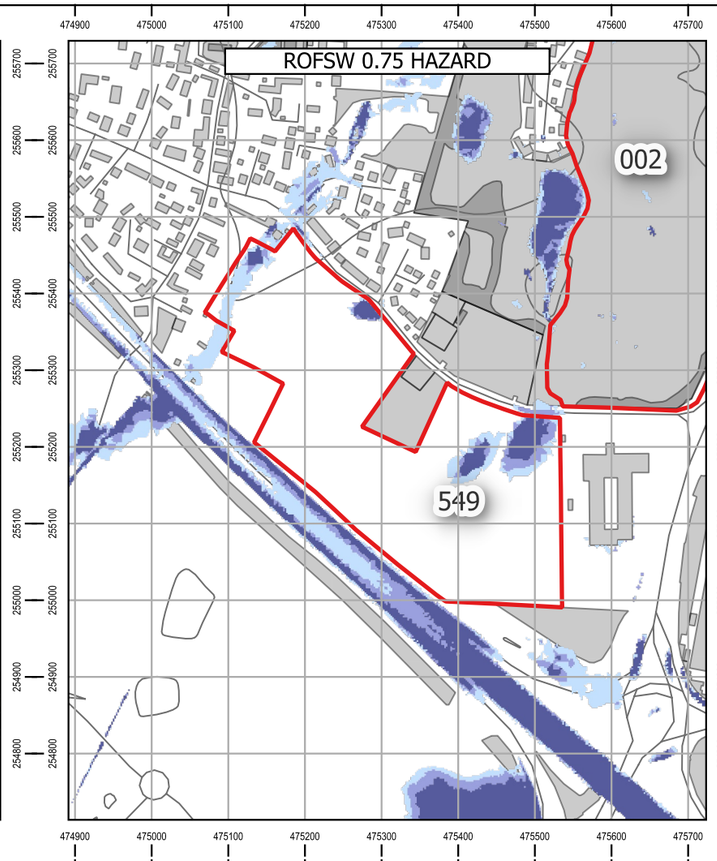
Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00145 Revision: P01

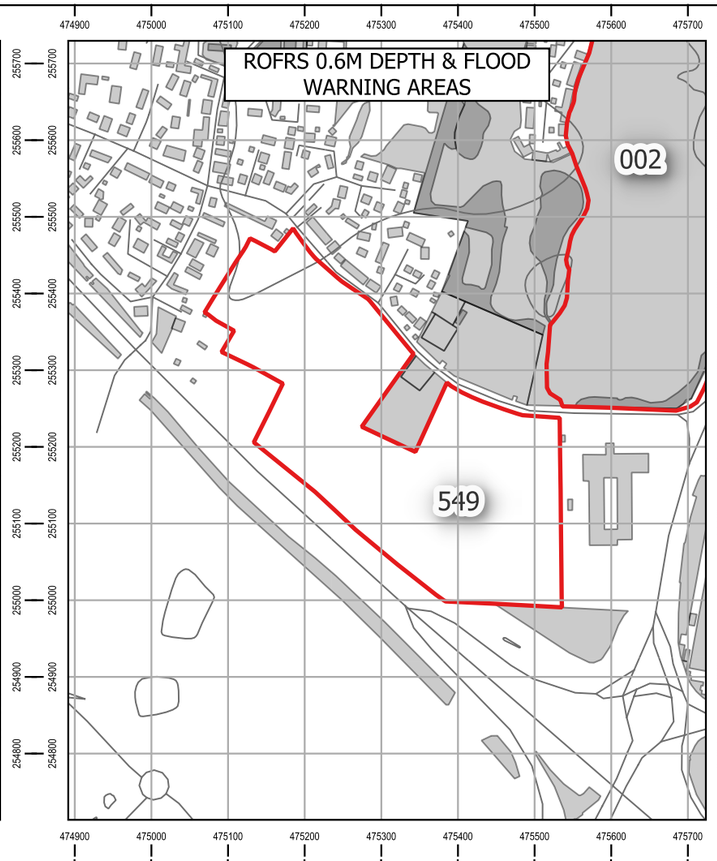
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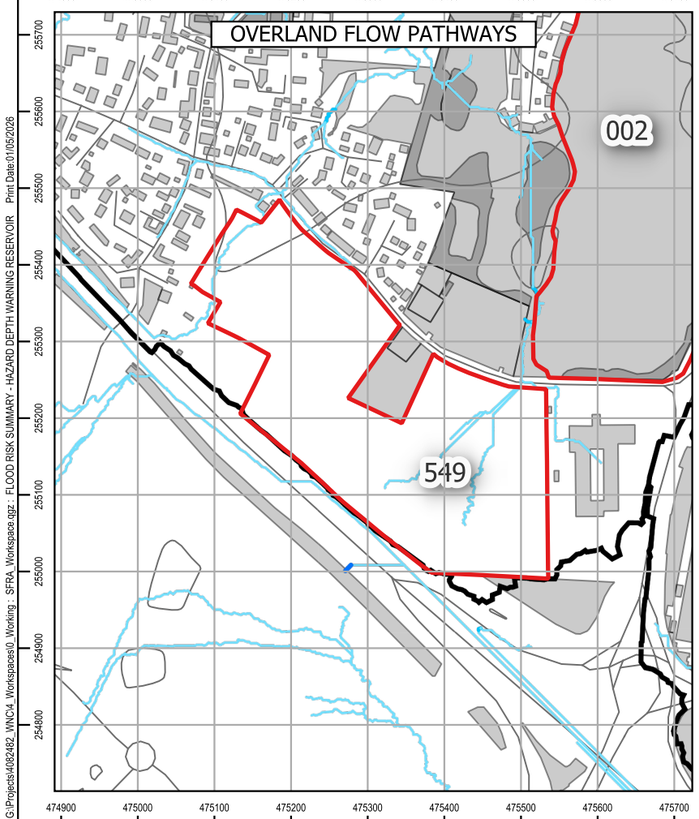
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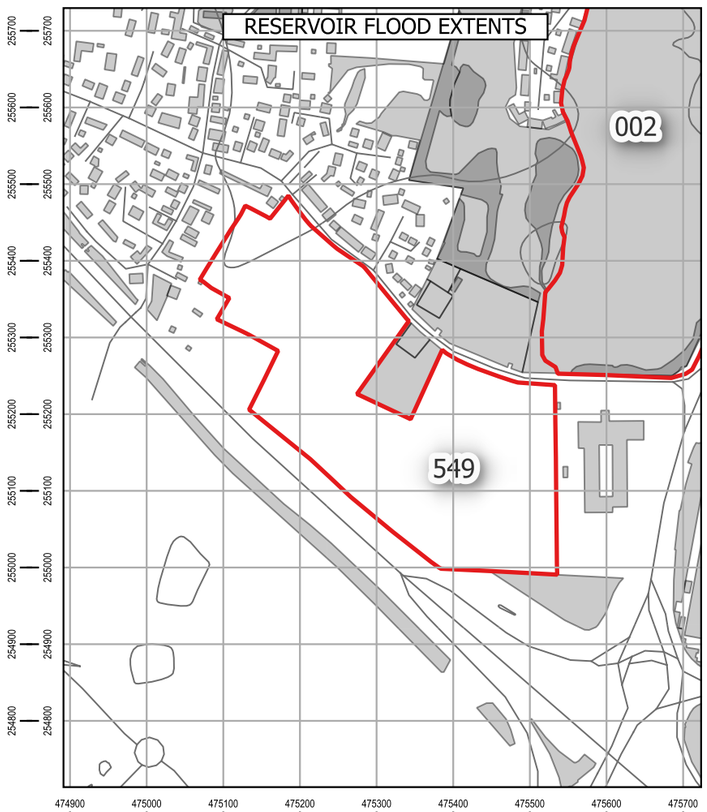
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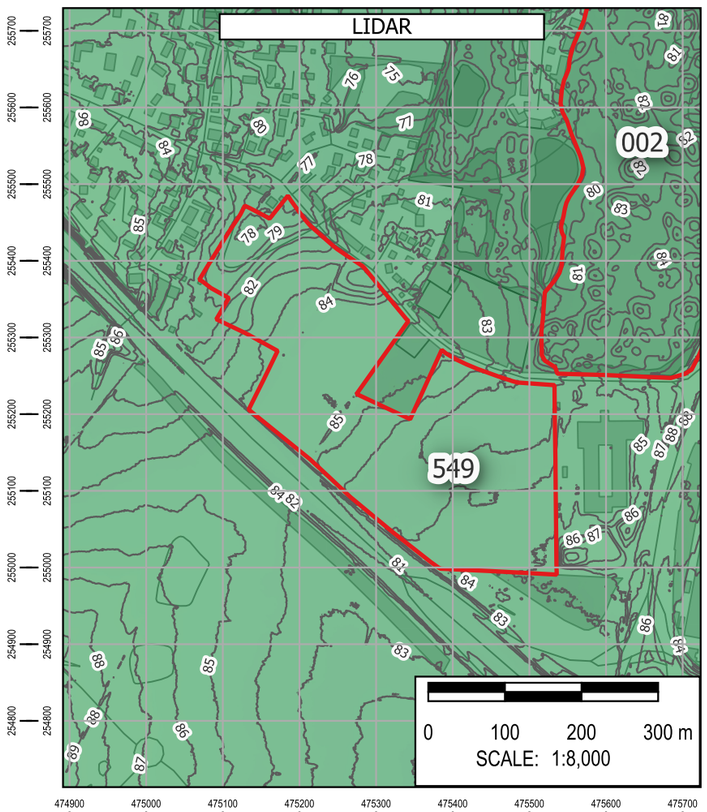












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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY

ROFSW

0.6M DEPTH
- High
- Medium
- Low
- Unavailable

0.75 HAZARD
- High
- Medium
- Low
- Unavailable

ROFRS

0.6M DEPTH
- High
- Medium
- Low
- Very low
- Unavailable

FLOOD WARNING AREAS

OVERLAND FLOW PATHWAYS

PROBABLE OVERLAND FLOW PATHWAYS
- < 3 Degrees
- 3 - 7 Degrees
- 7 - 12 Degrees
- > 12 Degrees

DETAILED WATERSHEDS

RESERVOIR FLOOD EXTENT

DRY DAY

WET DAY

LIDAR
- 1M CONTOURS

ELEVATION

Band 1 (Gray)
230
50

SAFETY HEALTH AND ENVIRONMENT INFORMATION
IN ADDITION TO THE HAZARDS OR RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, THE FOLLOWING SIGNIFICANT RESIDUAL RISKS SHOULD BE NOTED. FURTHER DETAILS ARE INCLUDED IN THE CDM DESIGN RISK MANAGEMENT REGISTERS
CONSTRUCTION
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MAINTENANCE / CLEARING / OPERATION
NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS
DECOMISSIONING AND DEMOLITION
NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS

Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	01/05/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Registered Office
Spring Lodge, 172 Chester Road, Helsby Cheshire, WA6 0AR, UK
Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 549 Watering Lane, Collingtree

Drawing Scale: 1:8,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00203

Revision: P01

G:\Projects\4082482_WNC\4_Workspaces\0_Working_SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR Print Date:01/05/2026

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	563
Site Name	Land at Middlemore, Daventry
Proposed Development	Housing
Site Area	3.75 Ha
Site NGR	456406 mE, 264712 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
0.0 %	0.0 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
0.0 %	0.0 %	0.7 %	0.7 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
0.0 %	0.0 %	1.6 %	1.6 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

There is a minor surface water flow path intersecting the north-eastern part of the site. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Flood History

There are five WNC recorded flood events within 500m of the site. This site is not located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at low risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

The site is not indicated to be at risk of reservoir flooding.

Flood Defences – Residual Risk

It is unlikely that the site will be affected by a breach of flood defences as the nearest defences are more than 500m away.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 1. Therefore the Exception Test is not required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 1, finished floor levels should be at least 150mm above external ground levels. An appropriate freeboard allowance should also be considered for other sources of flooding.

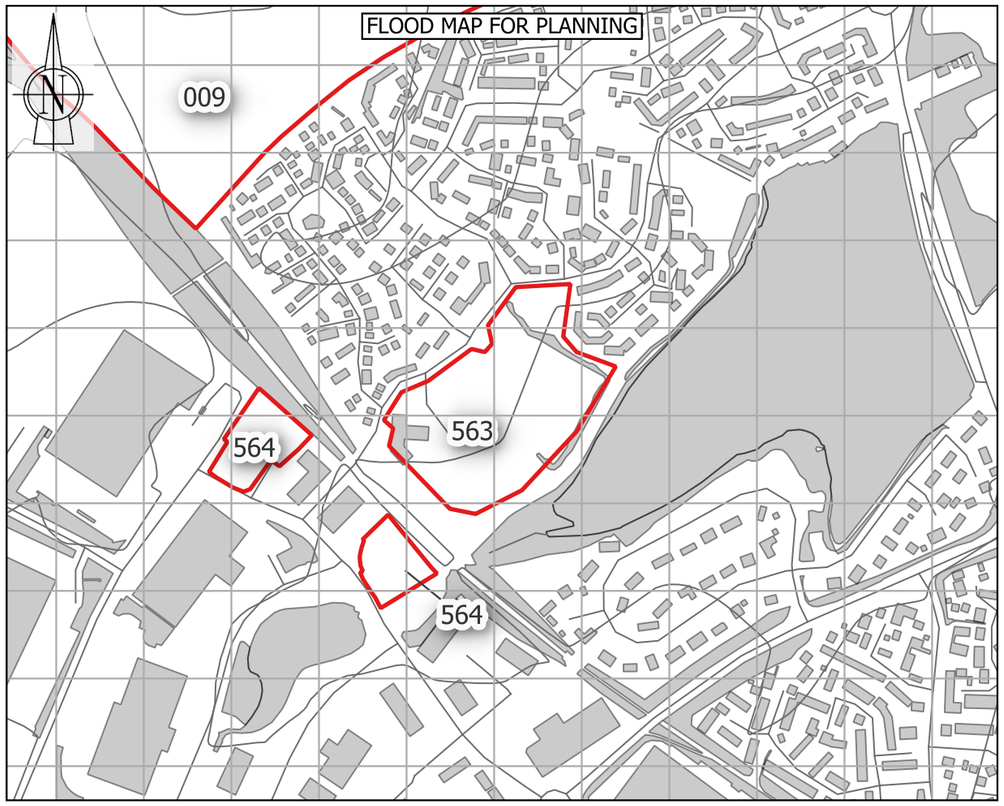
Surface Water Attenuation Provision – Design Considerations

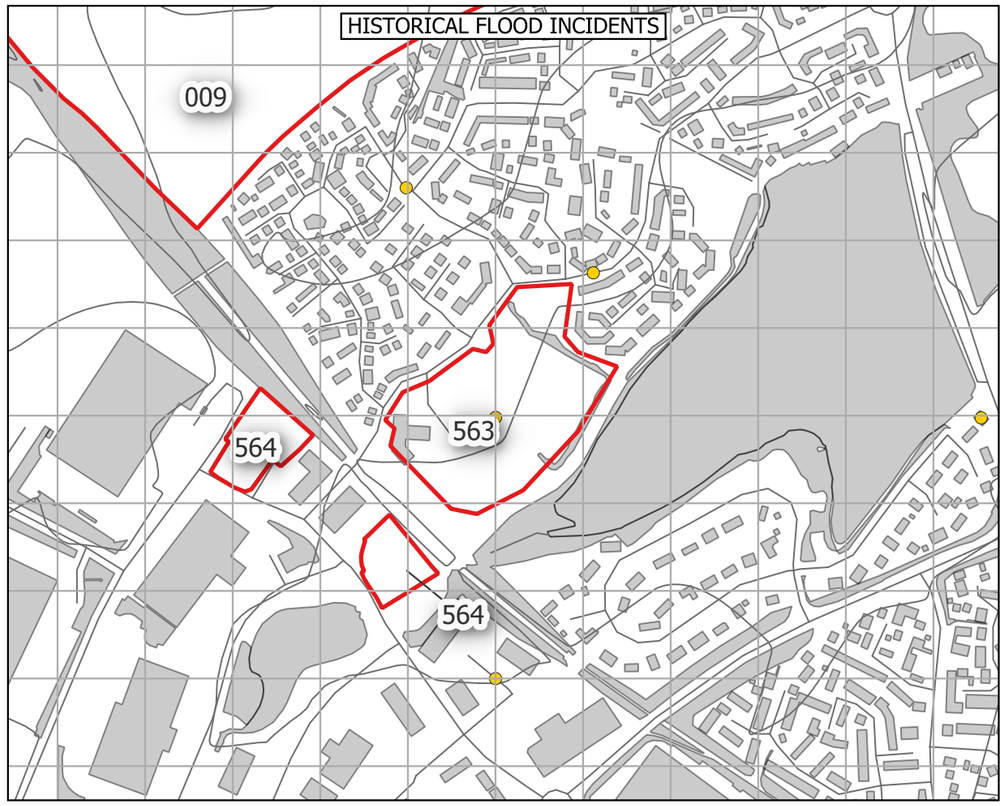
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

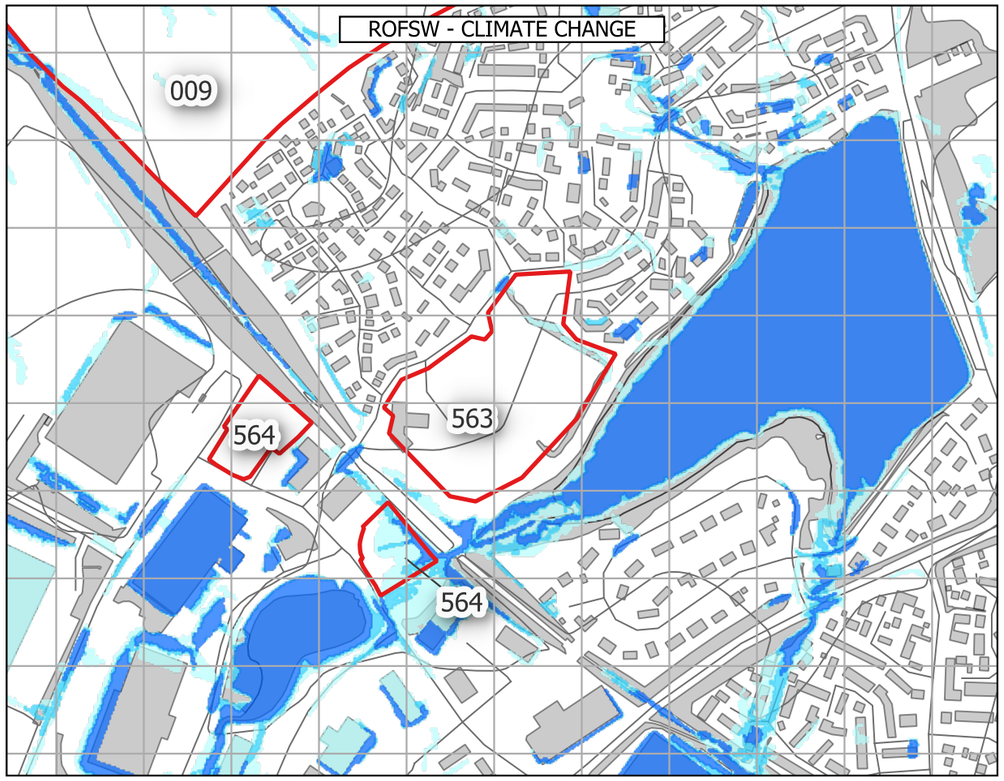
It is estimated that 2098 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 0.31 Ha should be set aside for appropriate SuDS techniques.

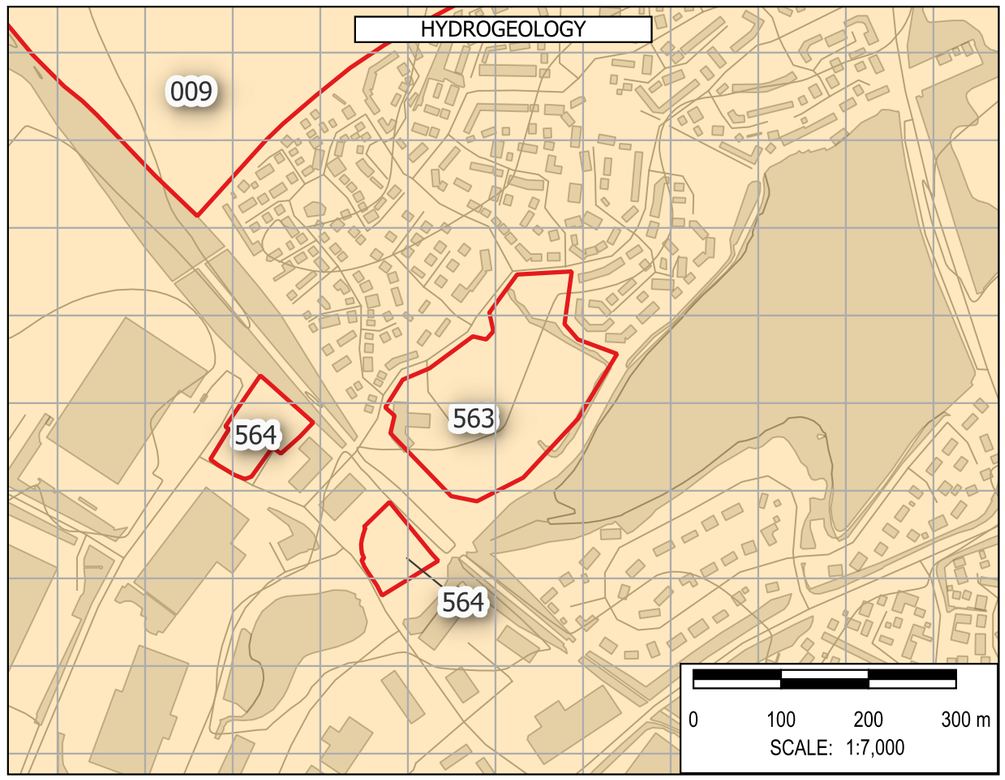
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.









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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
  - WEST NORTHANTS BOUNDARY
- FLOOD MAP FOR PLANNING
  - FLOOD DEFENCES
  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
- ROFSW WITH CLIMATE CHANGE
  - HIGH
  - MEDIUM
  - LOW
- HYDROGEOLOGY
  - AQUIFER TYPE
  - HIGHLY PRODUCTIVE AQUIFER
  - MODERATELY PRODUCTIVE AQUIFER
  - LOW PRODUCTIVITY AQUIFER
  - ROCKS WITH ESSENTIALLY NO GROUNDWATER

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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MAINTENANCE / CLEARING / OPERATION
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DECOMISSIONING AND DEMOLITION
NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS

Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

Binnies UK Limited
Registered Office
Spring Lodge, 172 Chester Road, Helsby Cheshire, WA6 0AR, UK
Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 563
Land at Middlemore, Daventry

Drawing Scale: 1:7,000 Sheet Size: A3

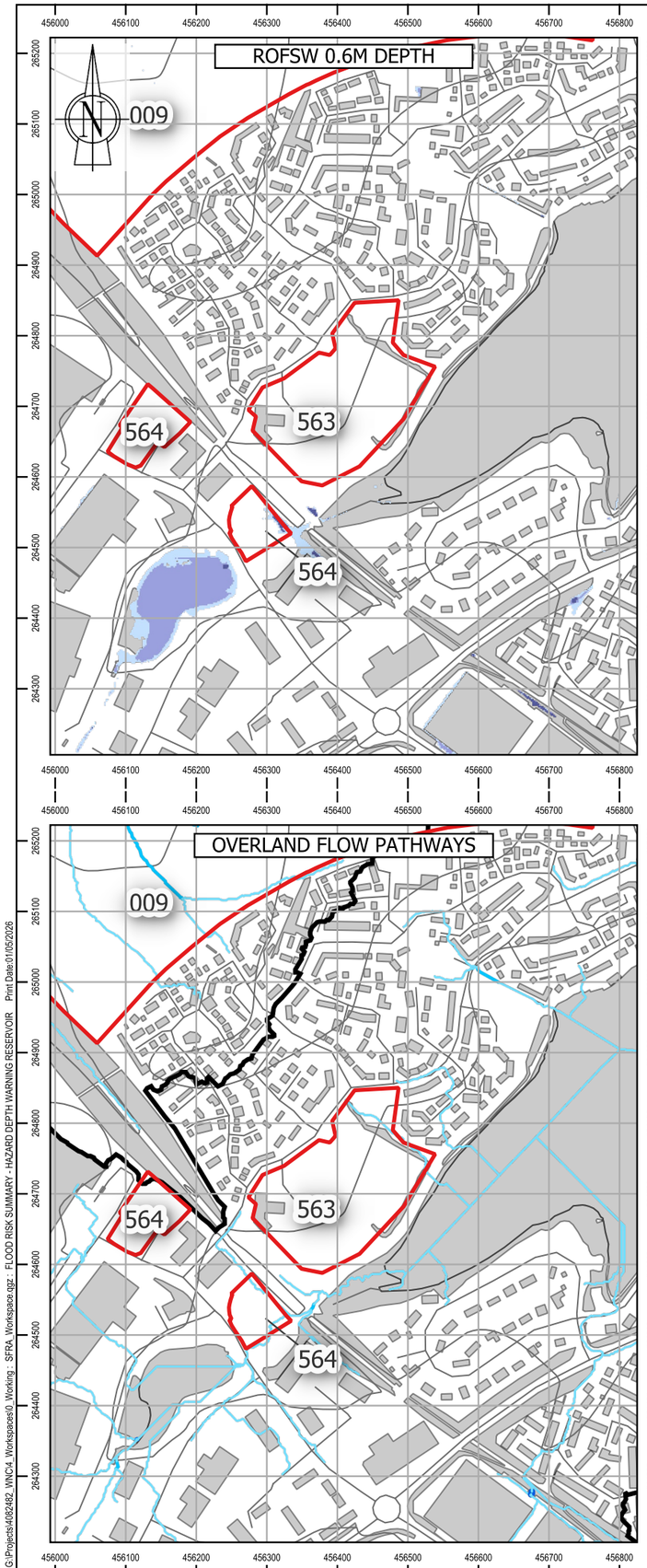
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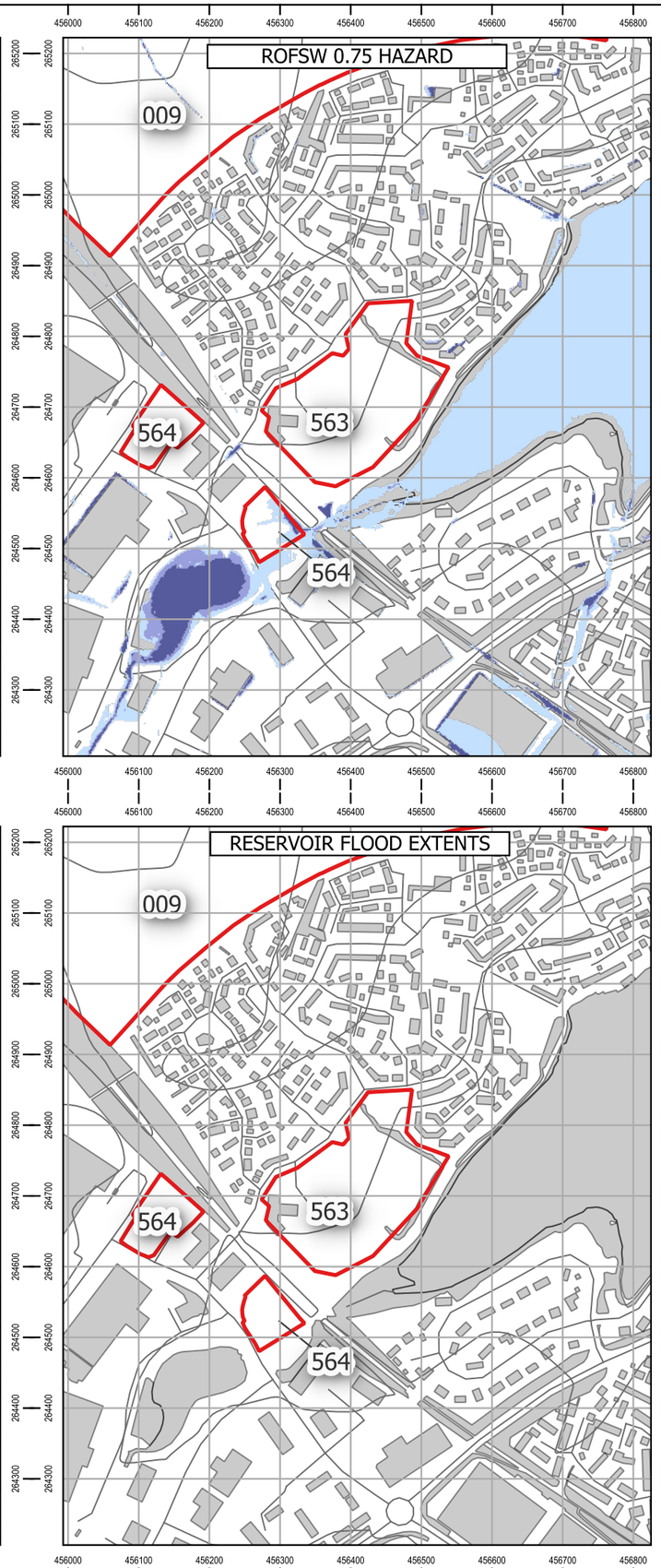
Revision: P01

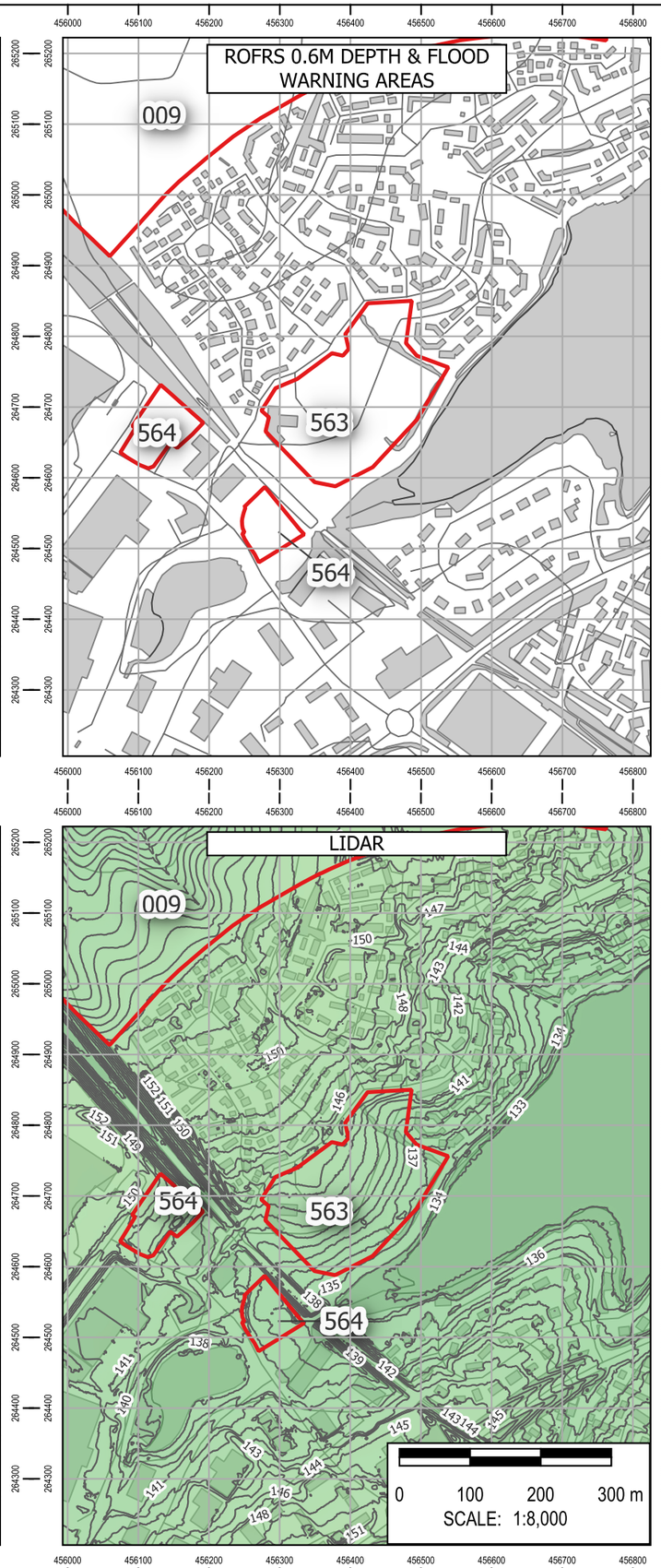
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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY
- ROFSW
  - 0.6M DEPTH
    - High
    - Medium
    - Low
    - Unavailable
  - 0.75 HAZARD
    - High
    - Medium
    - Low
    - Unavailable
- ROFRS
  - 0.6M DEPTH
    - High
    - Medium
    - Low
    - Very low
    - Unavailable
- FLOOD WARNING AREAS
- OVERLAND FLOW PATHWAYS
- PROBABLE OVERLAND FLOW PATHWAYS
  - < 3 Degrees
  - 3 - 7 Degrees
  - 7 - 12 Degrees
  - > 12 Degrees
- DETAILED WATERSHEDS
- RESERVOIR FLOOD EXTENT
  - DRY DAY
  - WET DAY
- LIDAR
  - 1M CONTOURS
  - ELEVATION
    - Band 1 (Gray)
    - 230
    - 50

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	01/05/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 563 Land at Middlemore, Daventry

Drawing Scale: 1:8,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00217 Revision: P01

G:\Projects\4082482_WNC\4_Workspaces\0_Working\ SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR Print Date:01/05/2026

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	433
Site Name	Land to the West of Towcester Road
Proposed Development	Housing
Site Area	9.26 Ha
Site NGR	473358 mE, 257094 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
18.8 %	5.3 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
2.0 %	0.9 %	17.5 %	20.4 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Commentary

Much of the northern part of the site is situated in Flood Zone 2 and 3. A main river (Milton Malsor Brook) to the north crosses the site from the southern boundary. This main river is likely culverted beneath the M1. However, this may not be correctly represented in current flood risk mapping, therefore site specific modelling may be required to better understand fluvial flood risk to the site and inform mitigation measures as part of a site-specific Flood Risk Assessment. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
3.0 %	1.8 %	5.7 %	10.5 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
4.2 %	2.5 %	11.1 %	17.8 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

There is extensive surface water ponding across the site, therefore a sequential approach to development masterplanning should be taken to avoid development in areas at flood risk.

Flood History

There are eight WNC recorded flood events within 500m of the site. This site is not located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at low risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

The site is not indicated to be at risk of reservoir flooding.

Flood Defences – Residual Risk

Although the nearest defences are less than 70m from the site, it is unlikely that the site benefits from these defences as they are situated upstream on Milton Malsor Brook, to the south of the M1. Therefore an assessment of a defence breach over the lifetime of the development (including the impact of climate change) is unlikely to be required.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events. Due to flood risk intersecting the site, site specific modelling may be required to inform dry access and egress and associated mitigation measures as part of a site-specific Flood Risk Assessment.

Exception Test

The site is located within Flood Zone 3. Therefore the Exception Test is required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 2 and 3, finished floor levels should be set no lower than 67.1 mAOD, 600mm above the maximum predicted flood level of 66.5 mAOD. In accordance with the EA guidance, freeboard allowances could be reviewed, and where appropriate reduced to 300mm. An appropriate freeboard allowance should also be considered for other sources of flooding. This should be confirmed by a site specific assessment as part of the detailed design for development, which should include consideration of proposed ground levels.

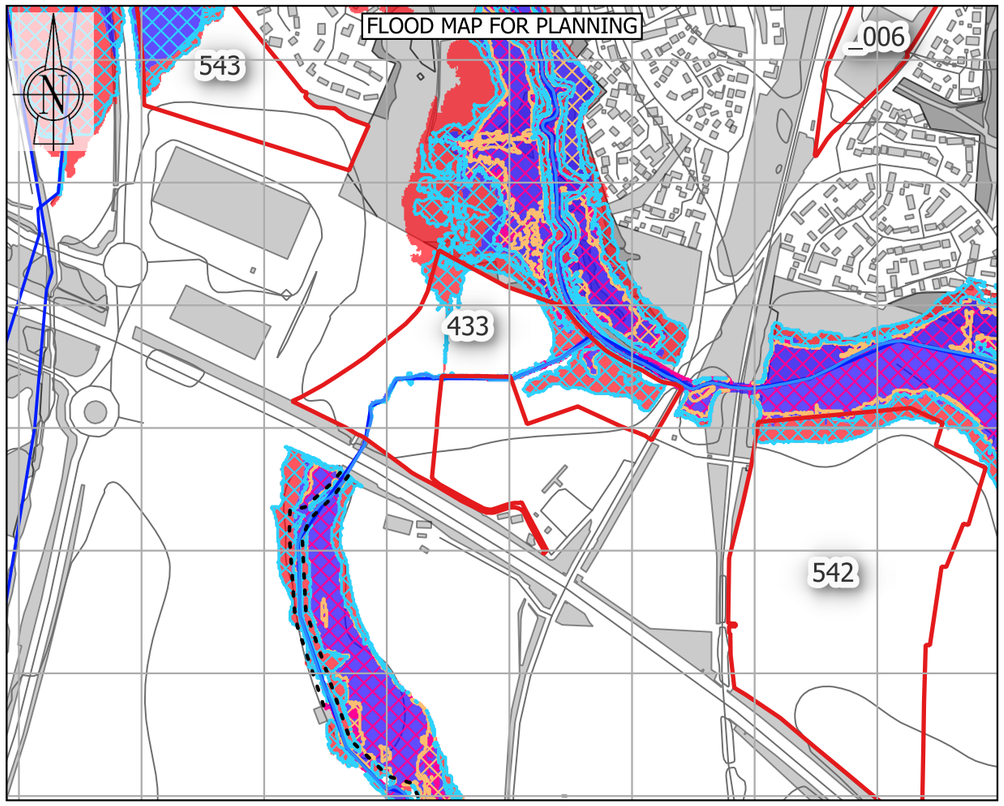
Surface Water Attenuation Provision – Design Considerations

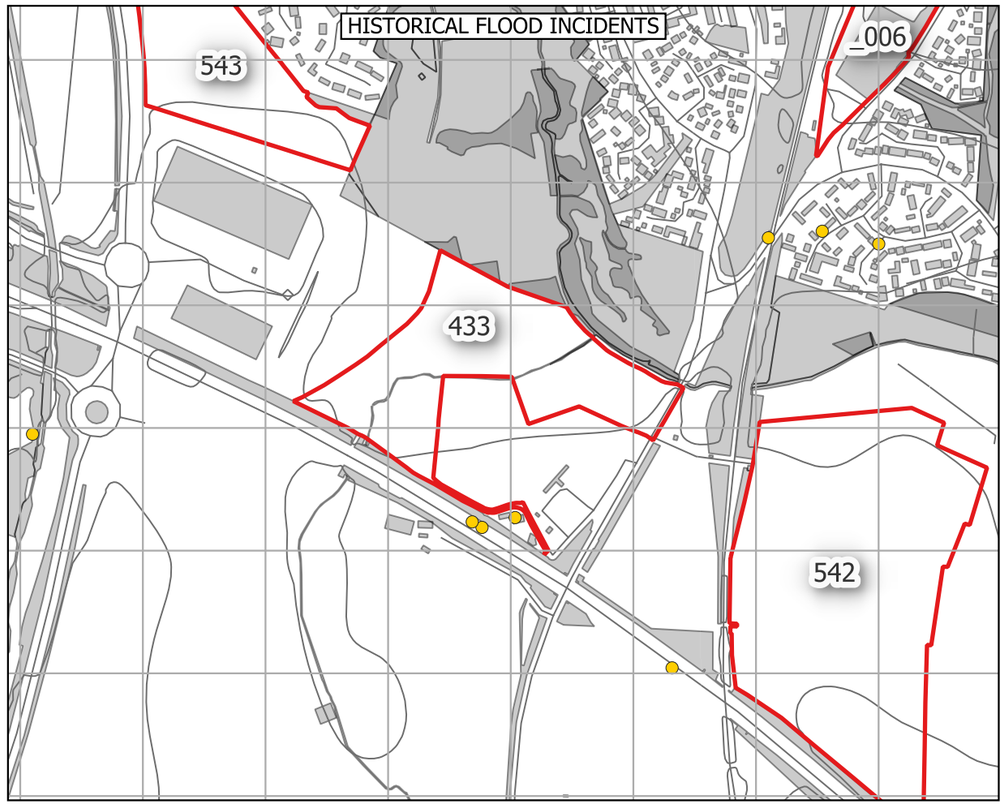
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

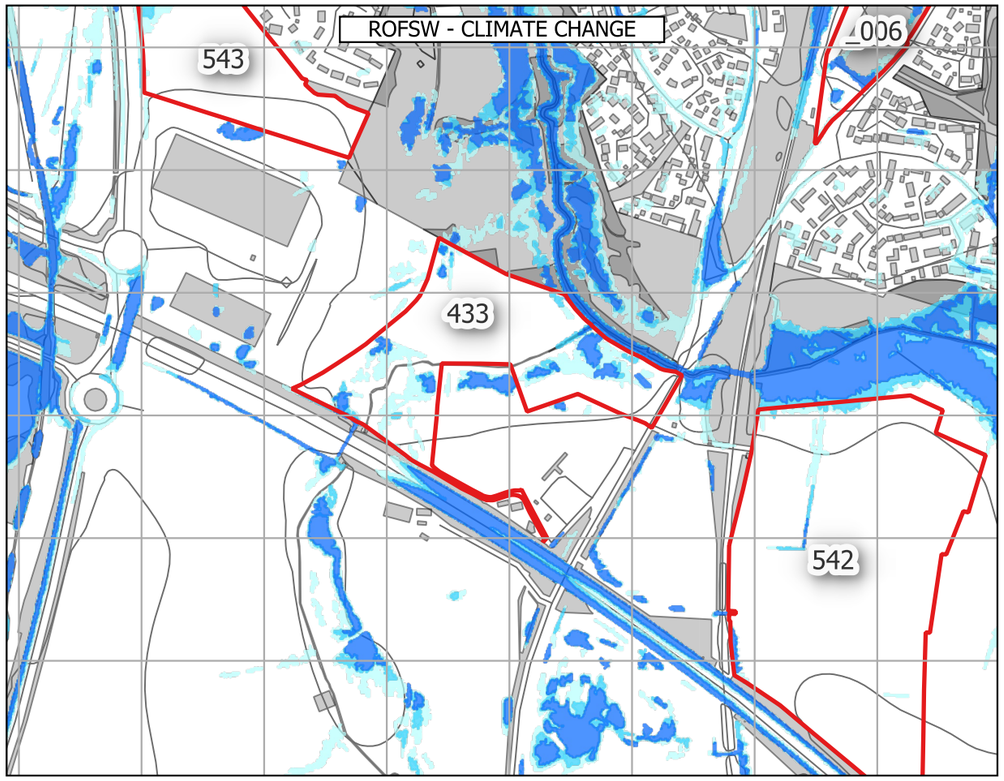
It is estimated that 5184 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 0.78 Ha should be set aside for appropriate SuDS techniques.

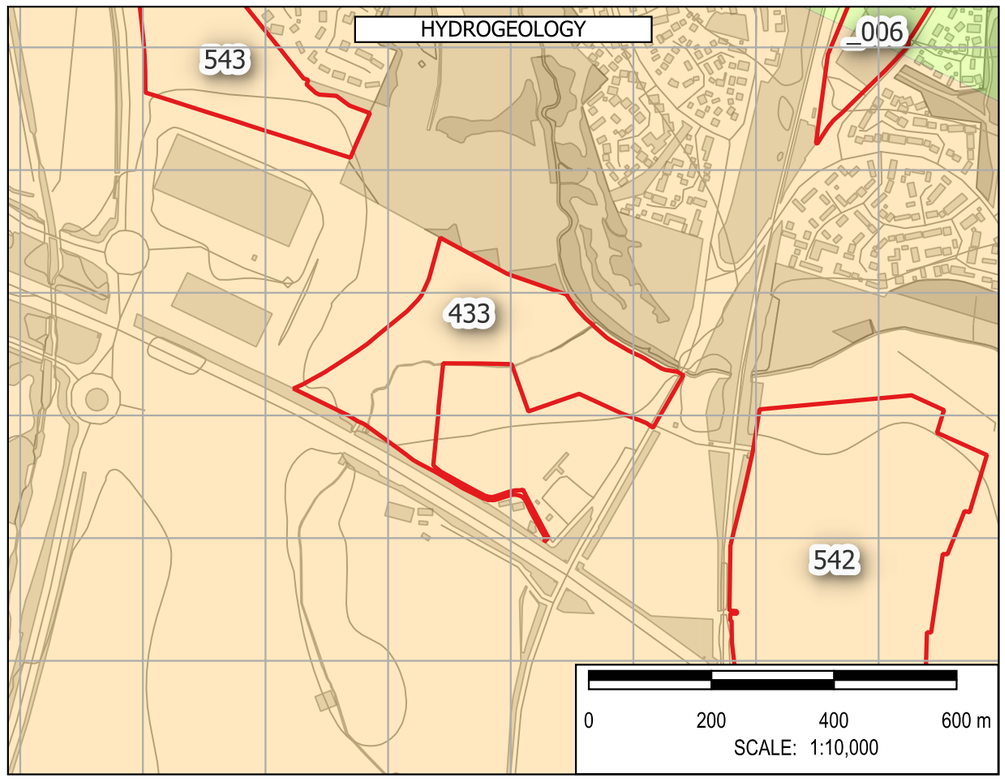
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.









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  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
- ROFSW WITH CLIMATE CHANGE
  - HIGH
  - MEDIUM
  - LOW
- HYDROGEOLOGY
  - AQUIFER TYPE
  - HIGHLY PRODUCTIVE AQUIFER
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NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS
DECOMISSIONING AND DEMOLITION
NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS

Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

Binnies UK Limited
Registered Office
Spring Lodge, 172 Chester Road, Helsby Cheshire, WA6 0AR, UK
Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 433
Land to the West of Towcester Road

Drawing Scale: 1:10,000 Sheet Size: A3

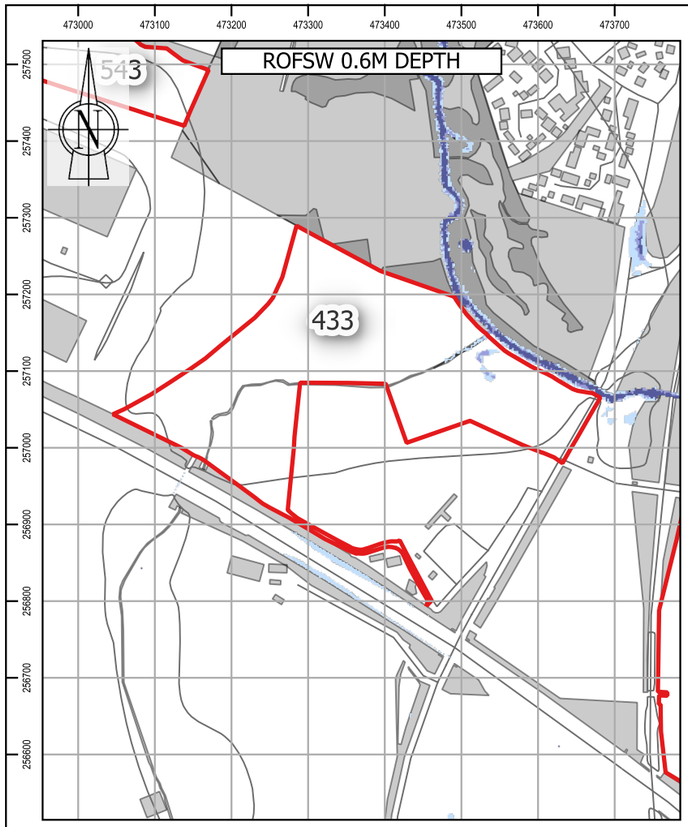
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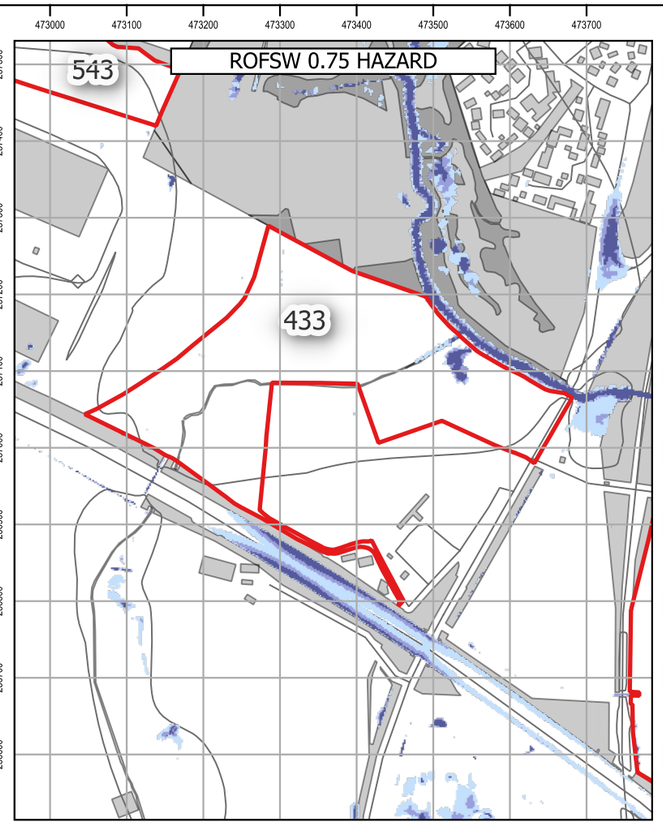
Revision: P01

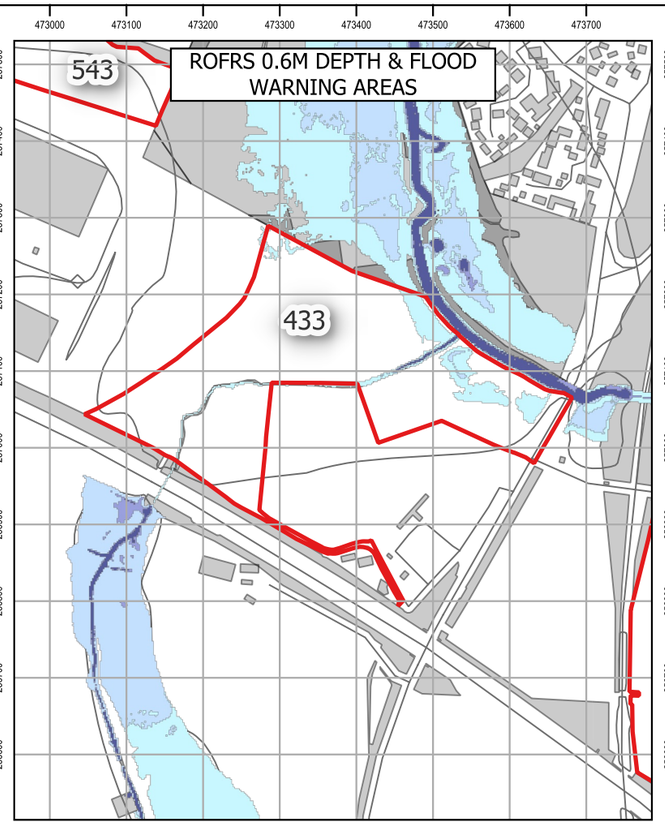
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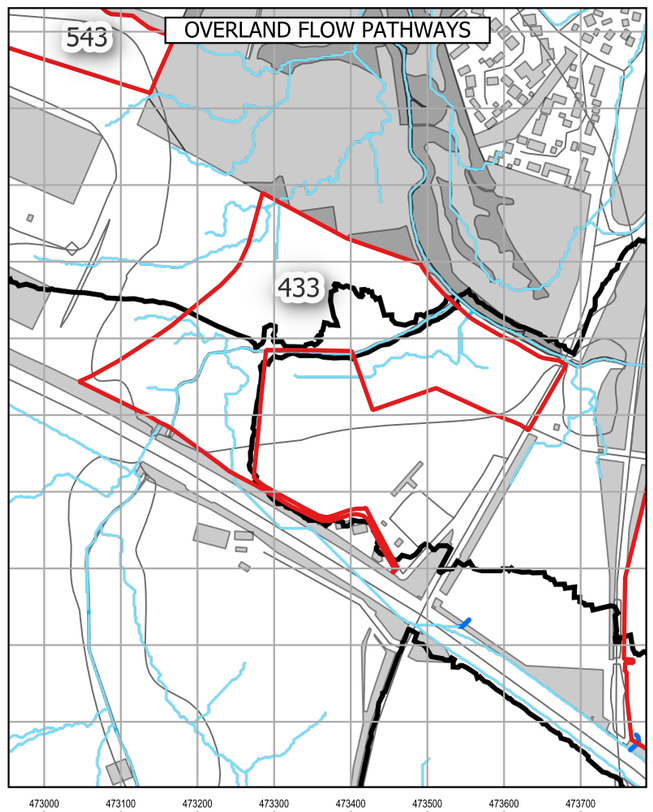
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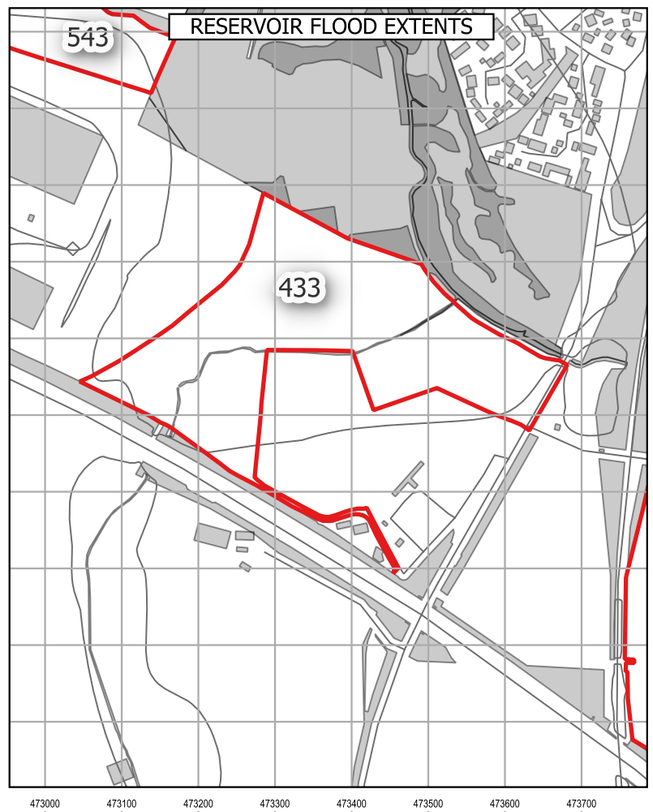
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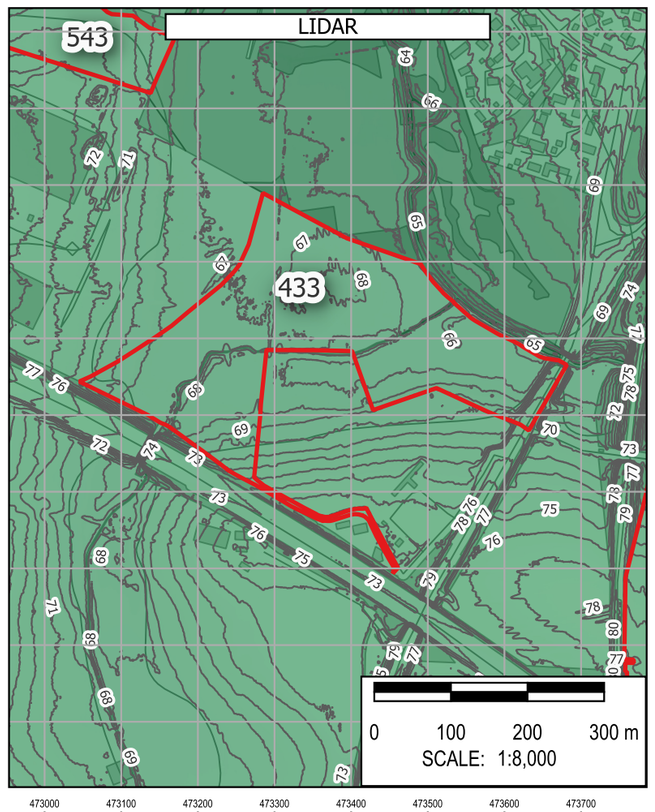












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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY

ROFSW

0.6M DEPTH
- High
- Medium
- Low
- Unavailable

0.75 HAZARD
- High
- Medium
- Low
- Unavailable

ROFRS

0.6M DEPTH
- High
- Medium
- Low
- Very low
- Unavailable

FLOOD WARNING AREAS

OVERLAND FLOW PATHWAYS

PROBABLE OVERLAND FLOW PATHWAYS
- < 3 Degrees
- 3 - 7 Degrees
- 7 - 12 Degrees
- > 12 Degrees

DETAILED WATERSHEDS

RESERVOIR FLOOD EXTENT

DRY DAY

WET DAY

LIDAR
- 1M CONTOURS

ELEVATION
- Band 1 (Gray)
- 230
- 50

SAFETY HEALTH AND ENVIRONMENT INFORMATION
IN ADDITION TO THE HAZARDS OR RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, THE FOLLOWING SIGNIFICANT RESIDUAL RISKS SHOULD BE NOTED. FURTHER DETAILS ARE INCLUDED IN THE CDM DESIGN RISK MANAGEMENT REGISTERS
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MAINTENANCE / CLEARING / OPERATION
NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS
DECOMISSIONING AND DEMOLITION
NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS

Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	01/05/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 433
Land to the West of Towcester Road

Drawing Scale: 1:8,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00207

Revision: P01

G:\Projects\4082482_WNC\4_Workspaces\0_Working\ SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR Print Date:01/05/2026

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	003
Site Name	Northampton Land off Harlestone Road
Proposed Development	Housing
Site Area	5.58 Ha
Site NGR	471622 mE, 263506 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
0.0 %	0.0 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
2.6 %	2.5 %	5.8 %	10.9 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
4.6 %	3.2 %	3.1 %	10.9 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

There is a surface water flow path which likely originates within the site and travels south towards an existing offsite attenuation feature. The site is subject to a similar level of pluvial flood risk under a present-day and climate change scenario. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Flood History

There are six WNC recorded flood events within 500m of the site. This site is not located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at medium risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

The site is not indicated to be at risk of reservoir flooding.

Flood Defences – Residual Risk

It is unlikely that the site will be affected by a breach of flood defences as the nearest defences are more than 500m away.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 1. Therefore the Exception Test is not required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 1, finished floor levels should be at least 150mm above external ground levels. An appropriate freeboard allowance should also be considered for other sources of flooding.

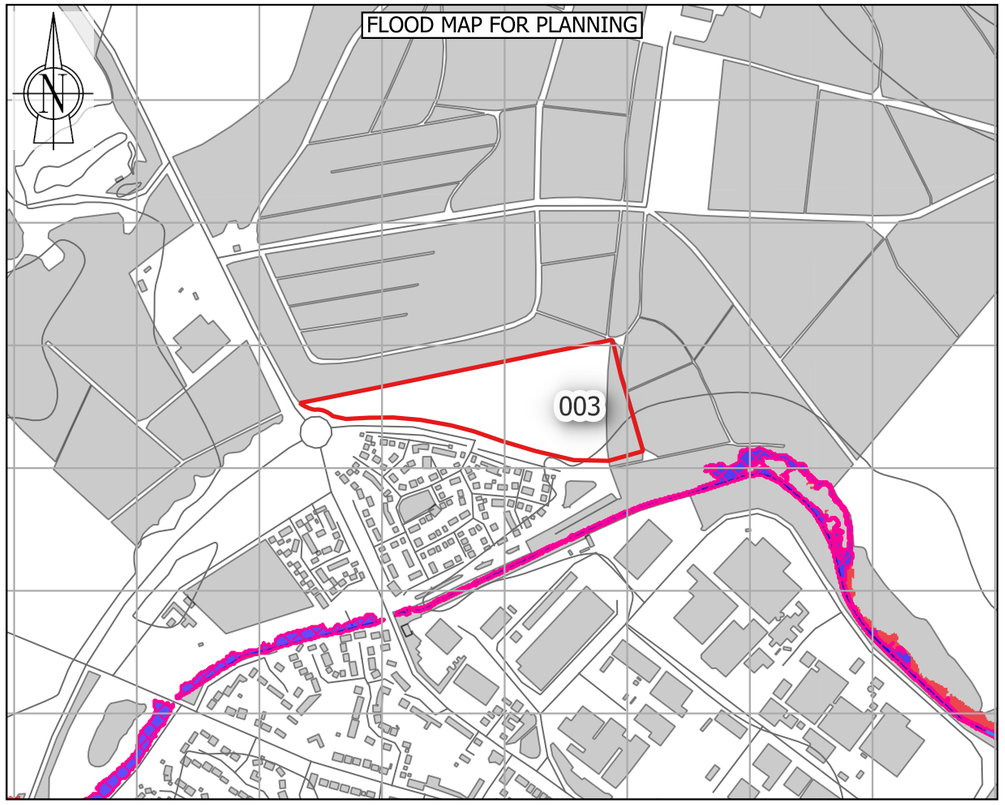
Surface Water Attenuation Provision – Design Considerations

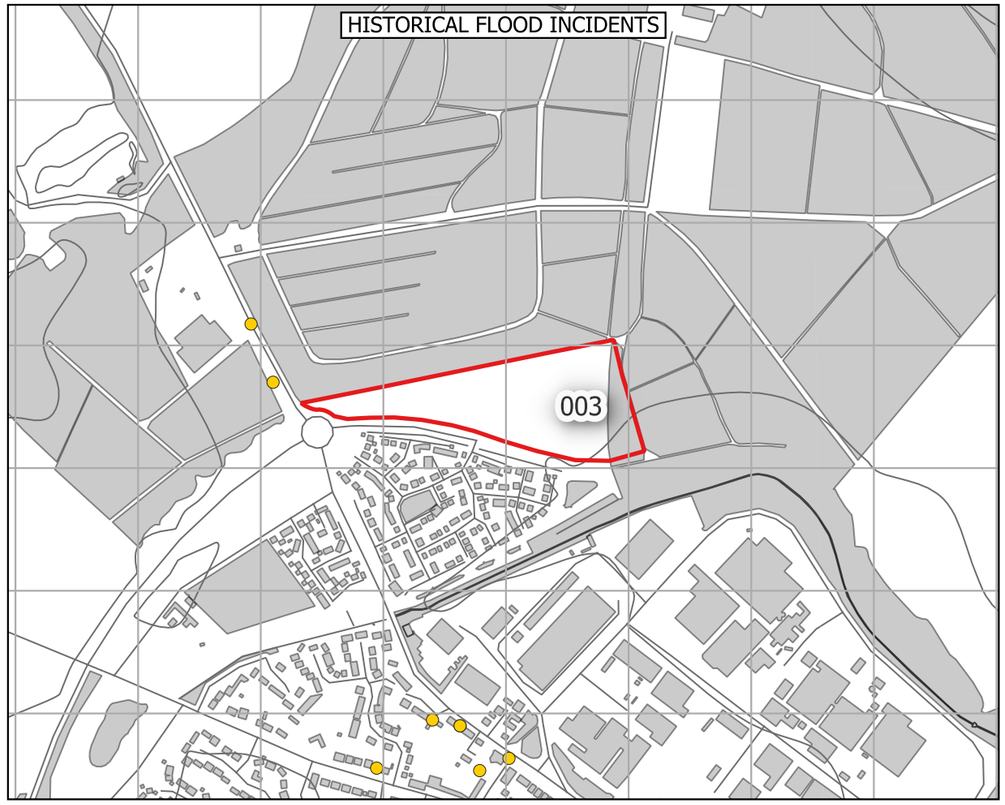
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

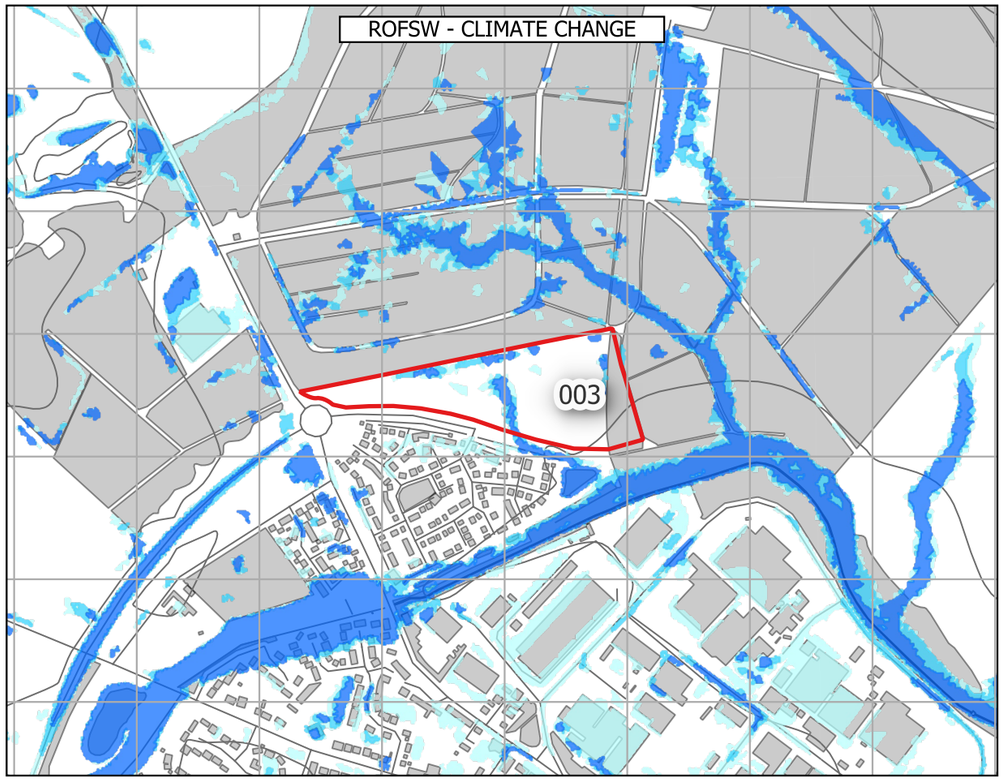
It is estimated that 3123 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 0.47 Ha should be set aside for appropriate SuDS techniques.

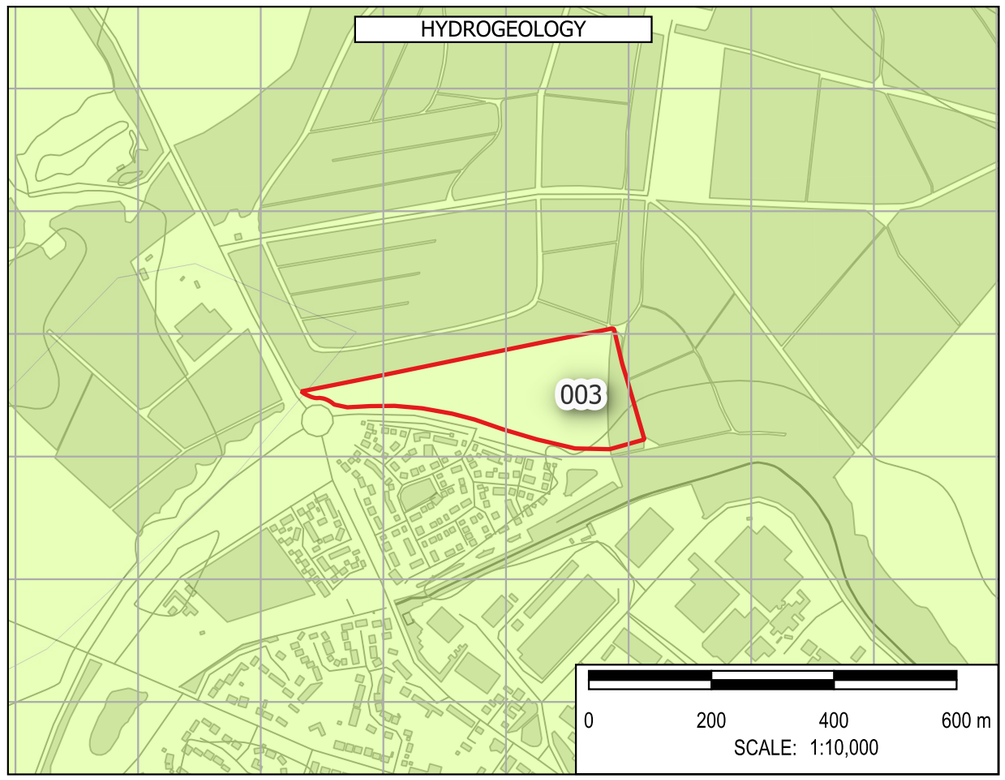
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.









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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
  - WEST NORTHANTS BOUNDARY
- FLOOD MAP FOR PLANNING
  - FLOOD DEFENCES
  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
- ROFSW WITH CLIMATE CHANGE
  - HIGH
  - MEDIUM
  - LOW
- HYDROGEOLOGY
  - AQUIFER TYPE
  - HIGHLY PRODUCTIVE AQUIFER
  - MODERATELY PRODUCTIVE AQUIFER
  - LOW PRODUCTIVITY AQUIFER
  - ROCKS WITH ESSENTIALLY NO GROUNDWATER

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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CONSTRUCTION
NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS
MAINTENANCE / CLEARING / OPERATION
NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS
DECOMISSIONING AND DEMOLITION
NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS

Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
-	--	--	--	--	DD/MM/YY	--
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Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Registered Office
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Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 003
Northampton Land off Harlestone Road

Drawing Scale: 1:10,000 Sheet Size: A3

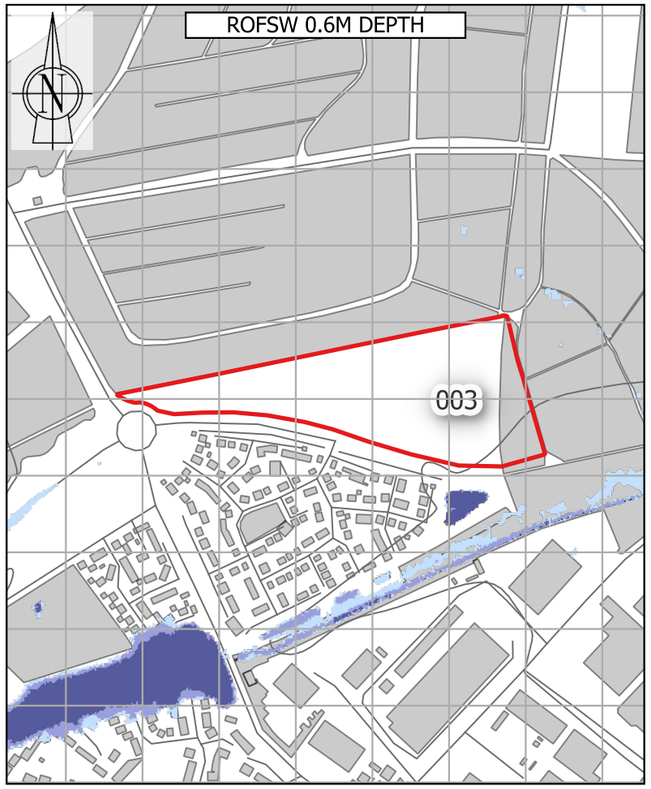
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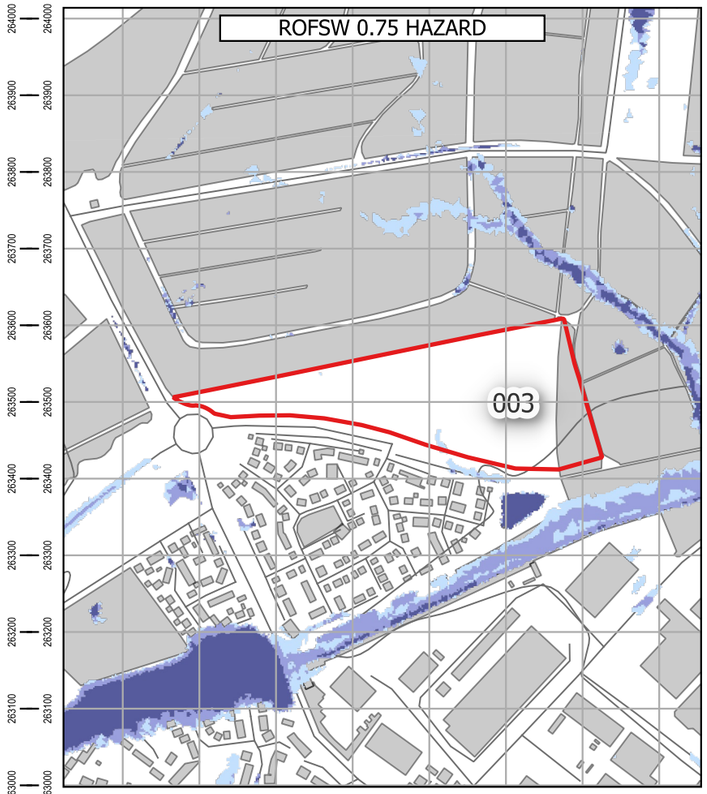
Revision: P01

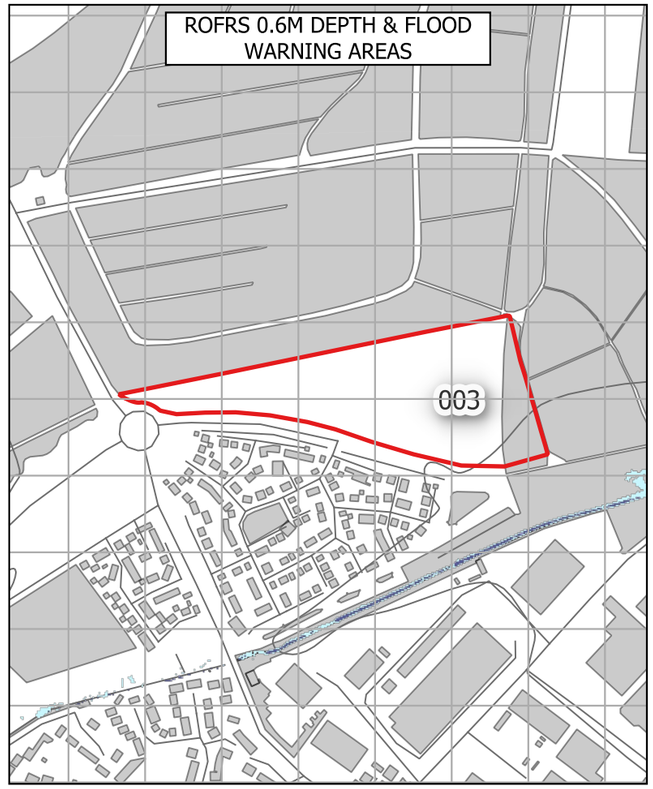
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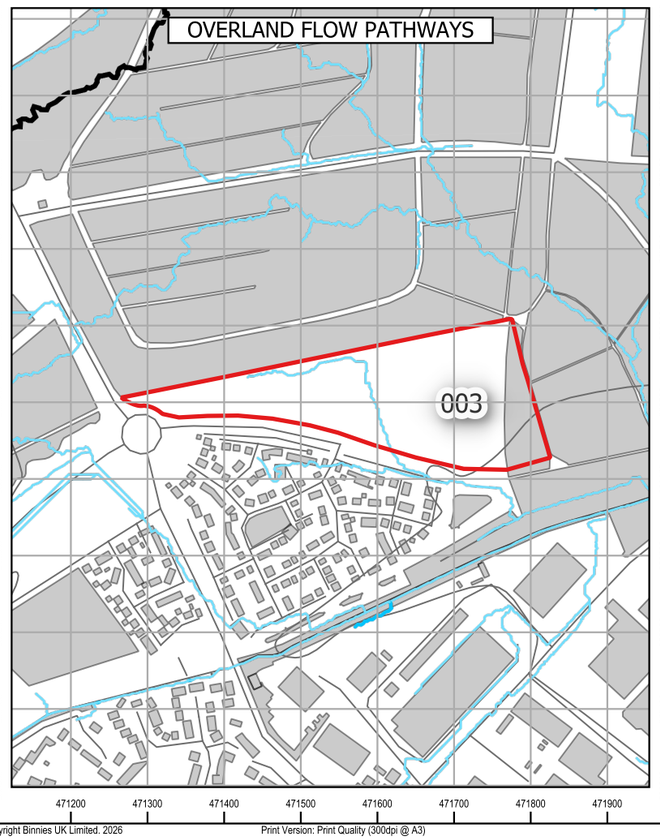
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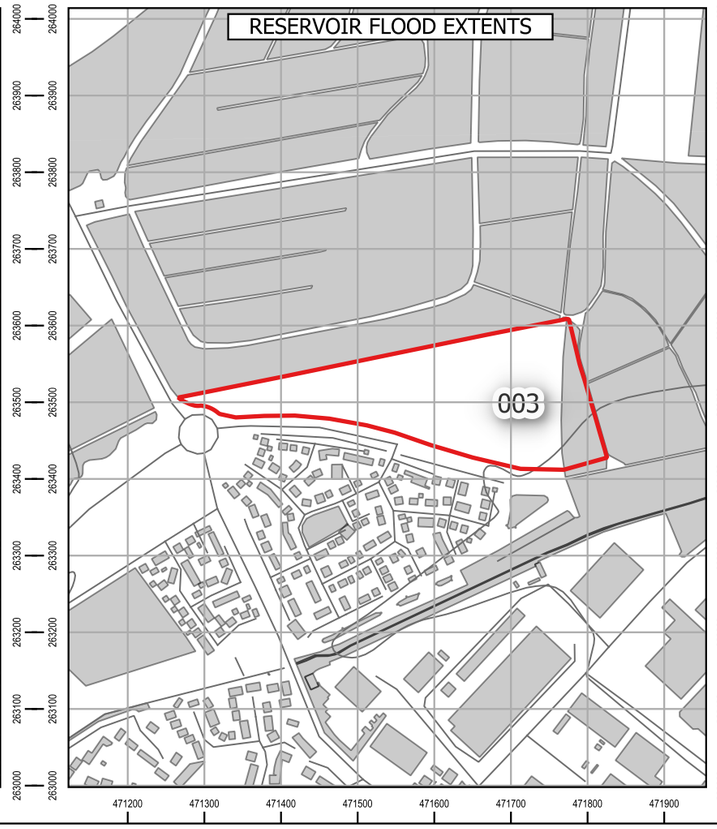
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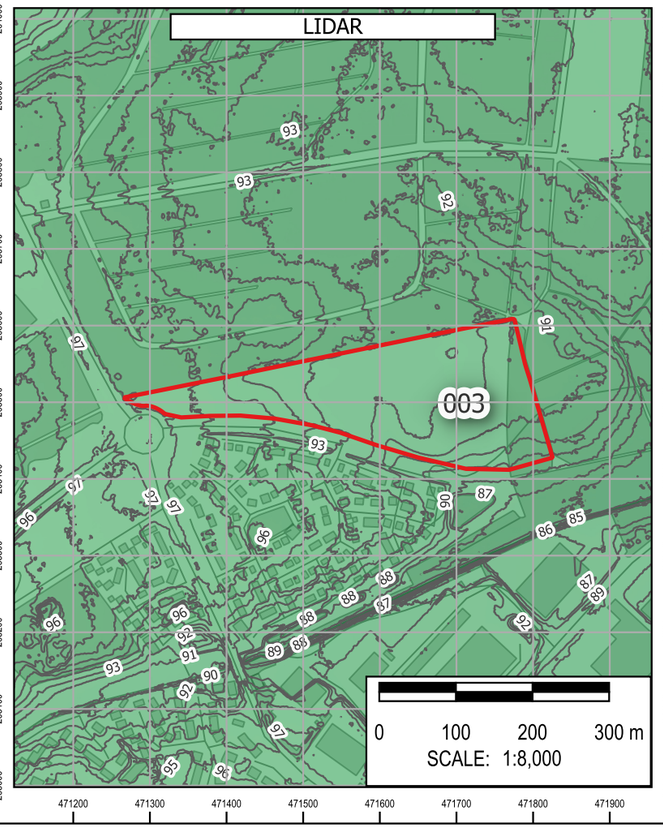












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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY
- ROFSW
  - 0.6M DEPTH
    - High
    - Medium
    - Low
    - Unavailable
  - 0.75 HAZARD
    - High
    - Medium
    - Low
    - Unavailable
- ROFRS
  - 0.6M DEPTH
    - High
    - Medium
    - Low
    - Very low
    - Unavailable
- FLOOD WARNING AREAS
- OVERLAND FLOW PATHWAYS
- PROBABLE OVERLAND FLOW PATHWAYS
  - < 3 Degrees
  - 3 - 7 Degrees
  - 7 - 12 Degrees
  - > 12 Degrees
- DETAILED WATERSHEDS
- RESERVOIR FLOOD EXTENT
  - DRY DAY
  - WET DAY
- LIDAR
  - 1M CONTOURS
  - ELEVATION
    - Band 1 (Gray)
    - 230
    - 50

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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Client Drawing No.: NOT APPLICABLE

Revision: -

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Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 003
Northampton Land off Harlestone Road

Drawing Scale: 1:8,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00215 Revision: P01

G:\Projects\4082482_WNC\4_Workspaces\0_Working\ SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR Print Date:01/05/2026

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	004
Site Name	Northampton North of Buckton Fields
Proposed Development	Housing
Site Area	100.482 Ha
Site NGR	474367 mE, 265866 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
0.6 %	0.7 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
0.6 %	0.2 %	0.6 %	1.4 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Commentary

A very small part of the northern site boundary is within Flood Zone 2 and 3 due to a main river and an ordinary watercourse to the north under a present-day and climate change scenario.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
0.6 %	0.4 %	0.8 %	1.8 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
0.9 %	0.3 %	0.9 %	2.1 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

There are minimal areas of ponding in the south eastern portion of the site.

Flood History

There are thirteen WNC recorded flood events within 500m of the site. This site is located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at medium risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.0 %	5.1 %	7.9 %	7.9 %

Although the site is in an area at risk of reservoir flooding, this risk could be managed through appropriate consideration of flood resilience measures.

Flood Defences – Residual Risk

Flood defences, in the form of natural high ground, located along the northern site boundary offer a standard of protection equivalent to a 1 in 5year storm event, assuming the ground level is maintained. As a small part of the northern site boundary benefits from flood defences, a proportionate assessment of the likelihood of a defence breach over the lifetime of the development (including the impact of climate change) should be undertaken as part of a site-specific Flood Risk Assessment. Using the Environment Agency's simplified method (FD2321/TR2), a breach in the flood defence at this site could result in 'danger for all'.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 3. Therefore the Exception Test is required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 2 and 3, finished floor levels should be set no lower than 71.6 mAOD, 600mm above the maximum predicted flood level of 71.0 mAOD. In accordance with the EA guidance, freeboard allowances could be reviewed, and where appropriate reduced to 300mm. An appropriate freeboard allowance should also be considered for other sources of flooding. This should be confirmed by a site specific assessment as part of the detailed design for development, which should include consideration of proposed ground levels.

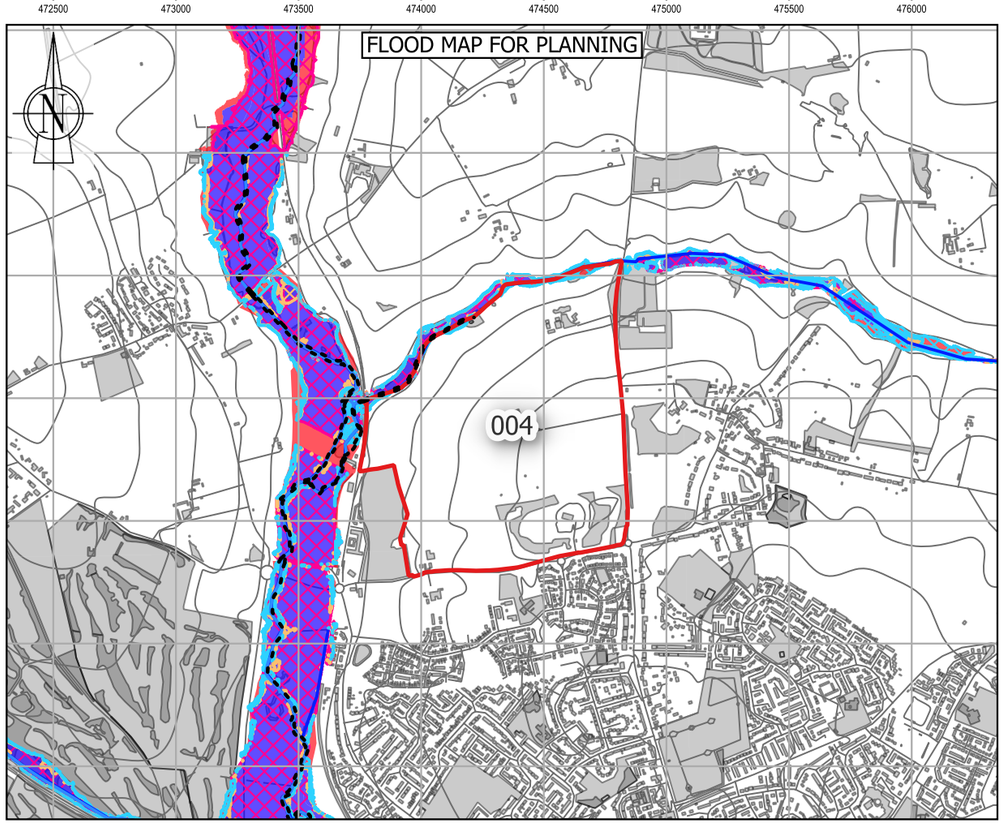
Surface Water Attenuation Provision – Design Considerations

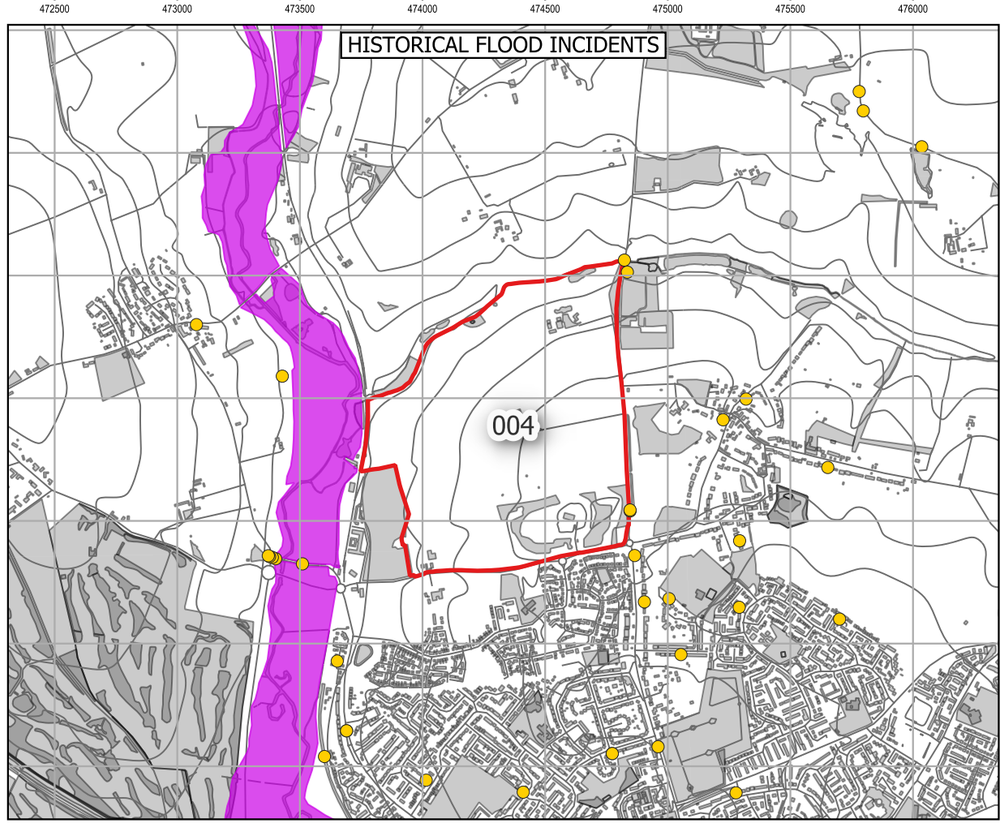
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

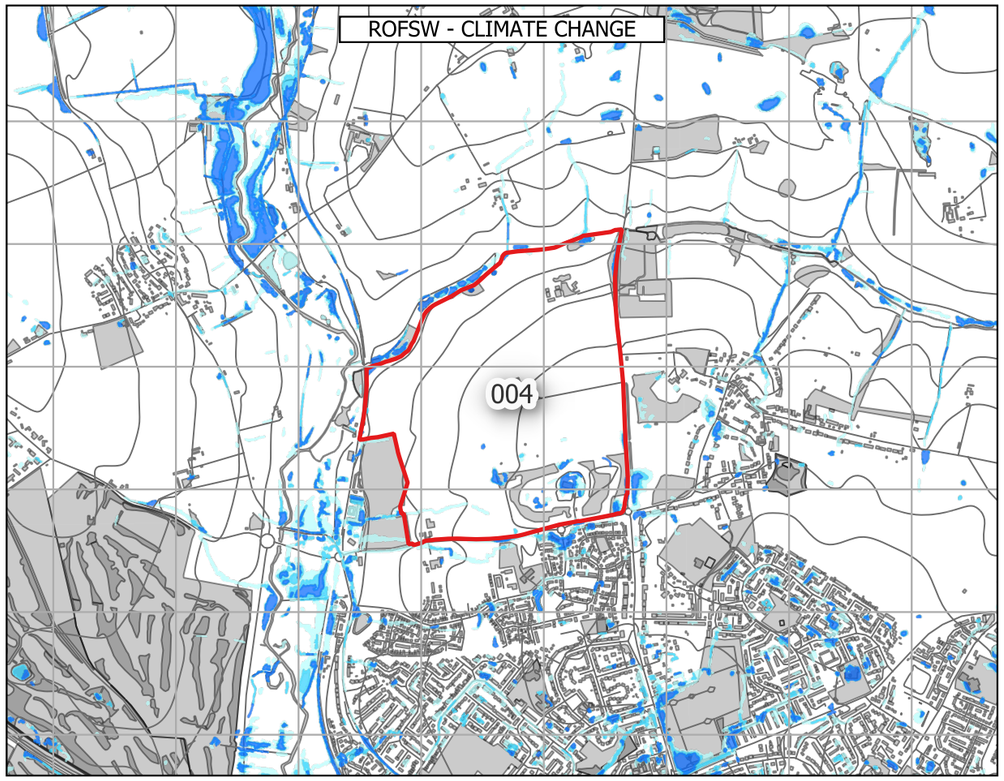
It is estimated that 56250 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 8.42 Ha should be set aside for appropriate SuDS techniques.

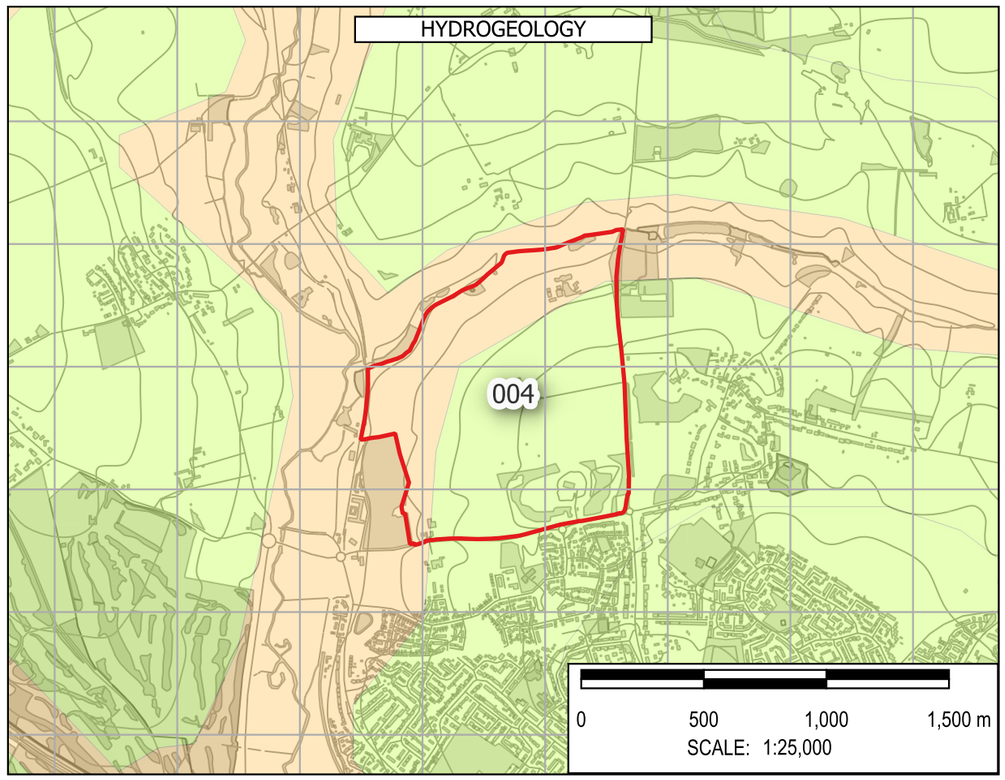
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.









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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
  - WEST NORTHANTS BOUNDARY
- FLOOD MAP FOR PLANNING
  - FLOOD DEFENCES
  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
- ROFSW WITH CLIMATE CHANGE
  - HIGH
  - MEDIUM
  - LOW
- HYDROGEOLOGY
  - AQUIFER TYPE
  - HIGHLY PRODUCTIVE AQUIFER
  - MODERATELY PRODUCTIVE AQUIFER
  - LOW PRODUCTIVITY AQUIFER
  - ROCKS WITH ESSENTIALLY NO GROUNDWATER

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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DECOMISSIONING AND DEMOLITION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
-	--	--	--	--	DD/MM/YY	--
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Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE | Revision: -

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Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 004
Northampton North of Buckton Fields

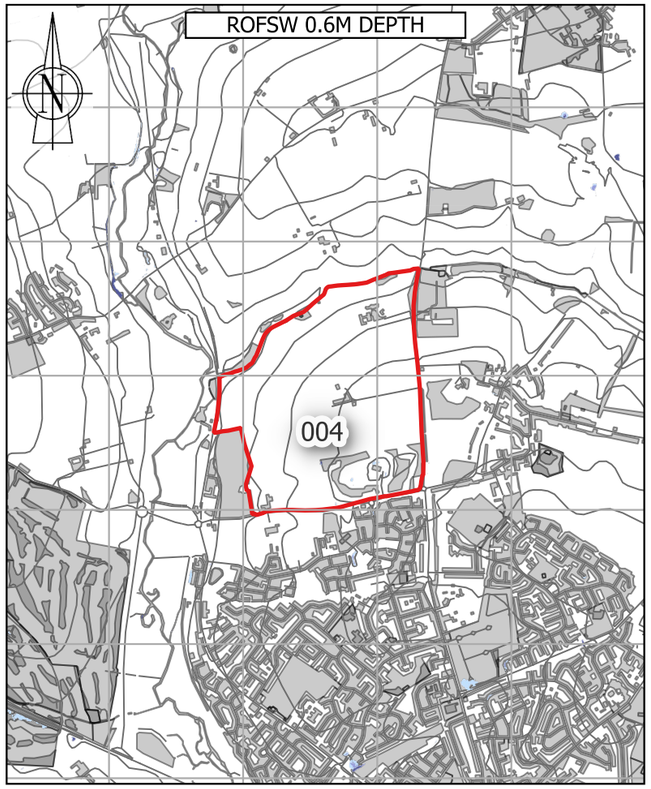
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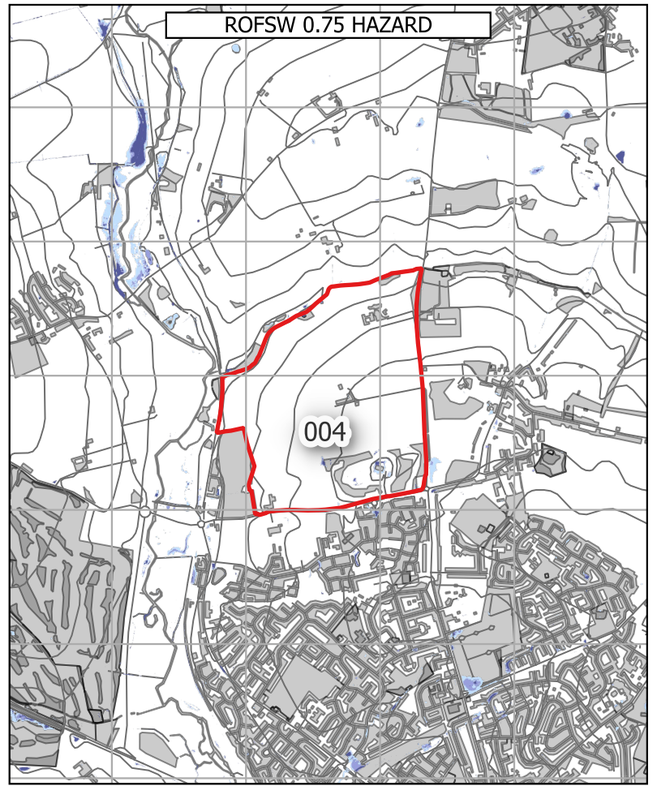
Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00123 | Revision: P01

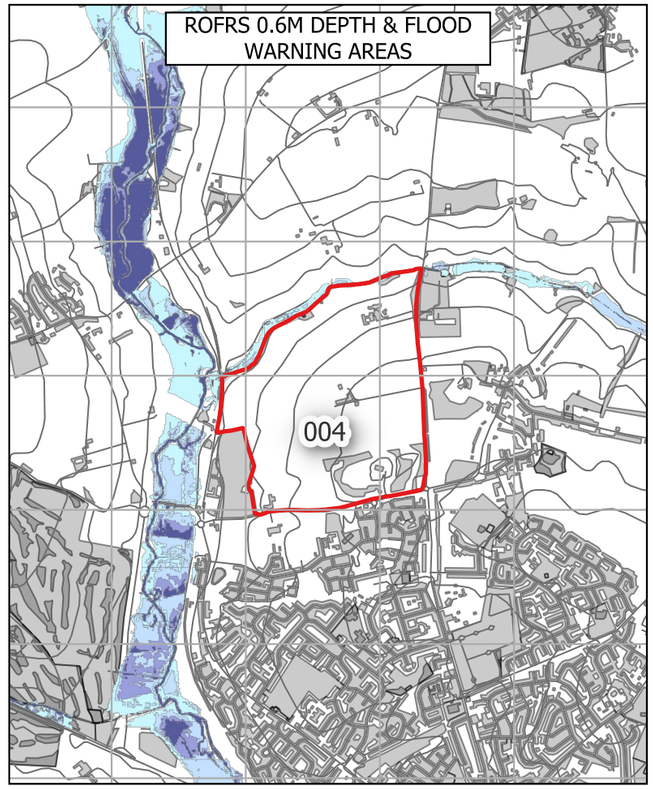
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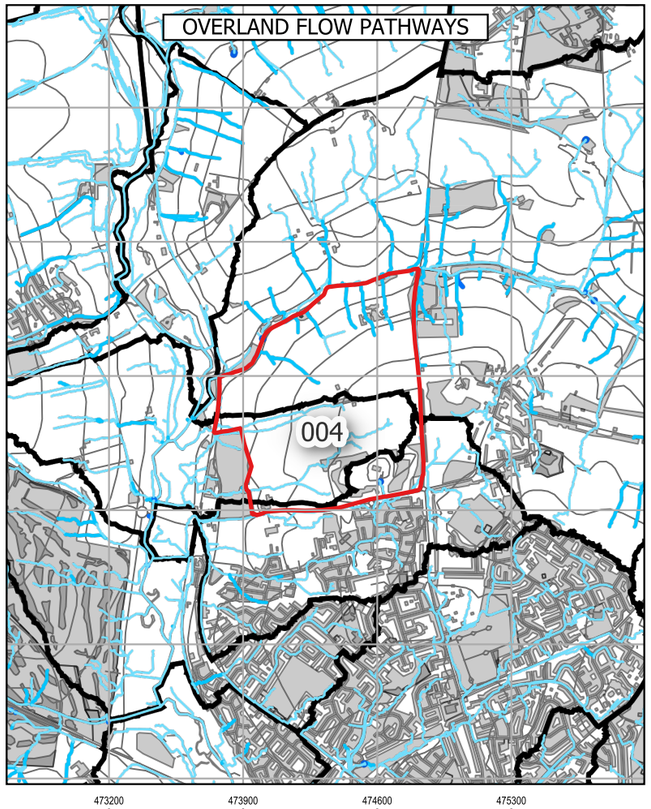
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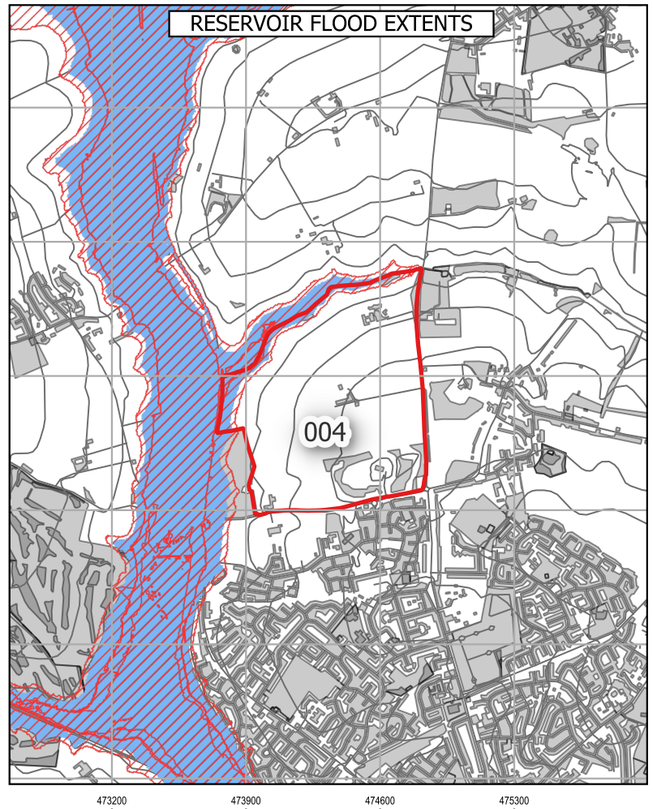
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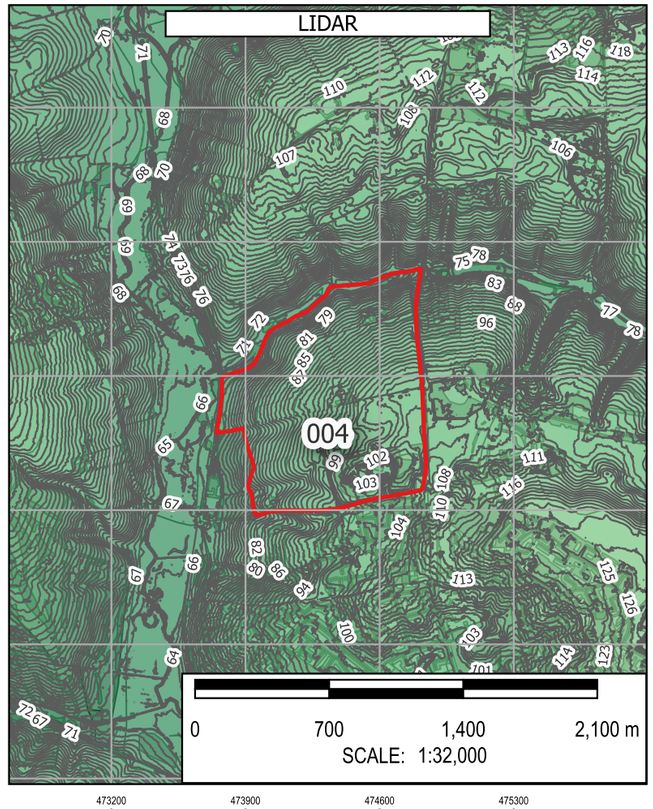












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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY

ROFSW

0.6M DEPTH
- High
- Medium
- Low
- Unavailable

0.75 HAZARD
- High
- Medium
- Low
- Unavailable

ROFRS

0.6M DEPTH
- High
- Medium
- Low
- Very low
- Unavailable

FLOOD WARNING AREAS

OVERLAND FLOW PATHWAYS

PROBABLE OVERLAND FLOW PATHWAYS
- < 3 Degrees
- 3 - 7 Degrees
- 7 - 12 Degrees
- > 12 Degrees

DETAILED WATERSHEDS

RESERVOIR FLOOD EXTENT

DRY DAY

WET DAY

LIDAR

1M CONTOURS

ELEVATION

Band 1 (Gray)
230
50

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Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Project:

WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title:

FLOOD RISK SUMMARY: 004
Northampton North of Buckton Fields

Drawing Scale: 1:32,000

Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00181

Revision: P01

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	005
Site Name	Northampton West of A43
Proposed Development	Housing
Site Area	189.45 Ha
Site NGR	479427 mE, 267599 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
0.1 %	0.3 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
0.3 %	0.0 %	0.1 %	0.4 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Commentary

A very small section of the south-western site boundary lies within Flood Zone 2 and 3, due to the presence of an ordinary watercourse. As the site has an ordinary watercourse within the site boundary, site specific modelling may be required to inform mitigation measures as part of a site-specific Flood Risk Assessment.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
3.7 %	1.1 %	2.1 %	6.9 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
4.3 %	1.2 %	2.3 %	7.8 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

There are two significant surface water flow paths across the site; one of these is closely aligned with a known existing ordinary watercourse. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Flood History

There are five WNC recorded flood events within 500m of the site. This site is not located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at medium risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

The site is not indicated to be at risk of reservoir flooding.

Flood Defences – Residual Risk

It is unlikely that the site will be affected by a breach of flood defences as the nearest defences are more than 500m away.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 3. Therefore the Exception Test is required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 2 and 3, finished floor levels should be set no lower than 97.6 mAOD, 600mm above the maximum predicted flood level of 97.0 mAOD. In accordance with the EA guidance, freeboard allowances could be reviewed, and where appropriate reduced to 300mm. An appropriate freeboard allowance should also be considered for other sources of flooding. This should be confirmed by a site specific assessment as part of the detailed design for development, which should include consideration of proposed ground levels.

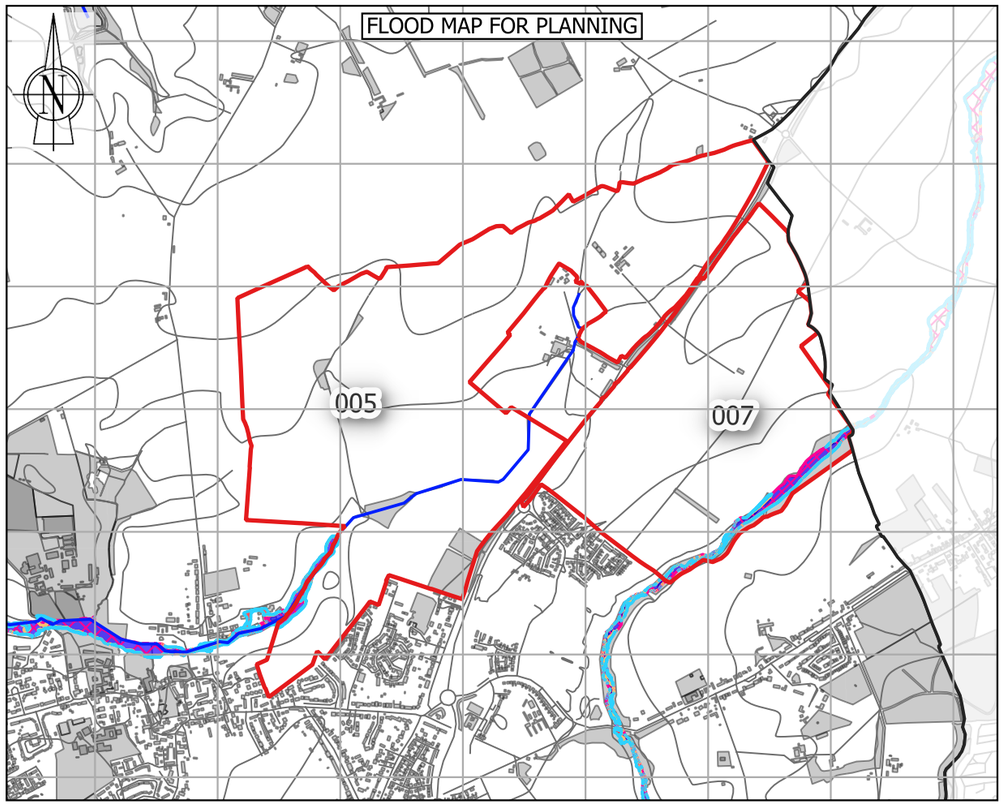
Surface Water Attenuation Provision – Design Considerations

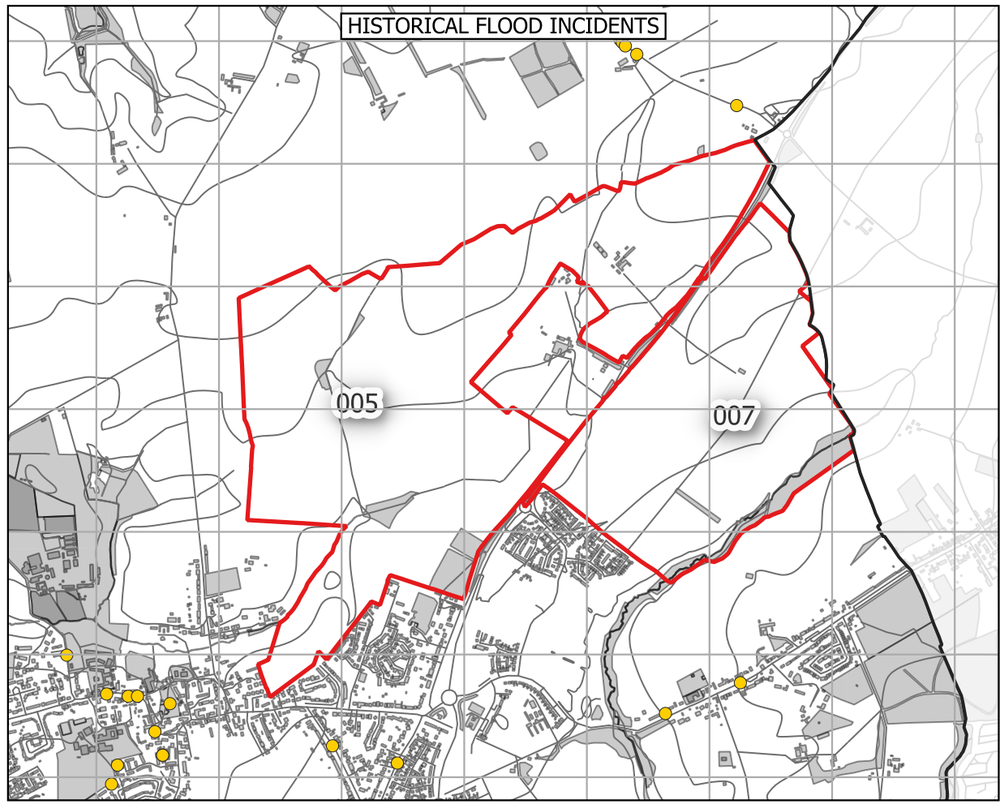
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

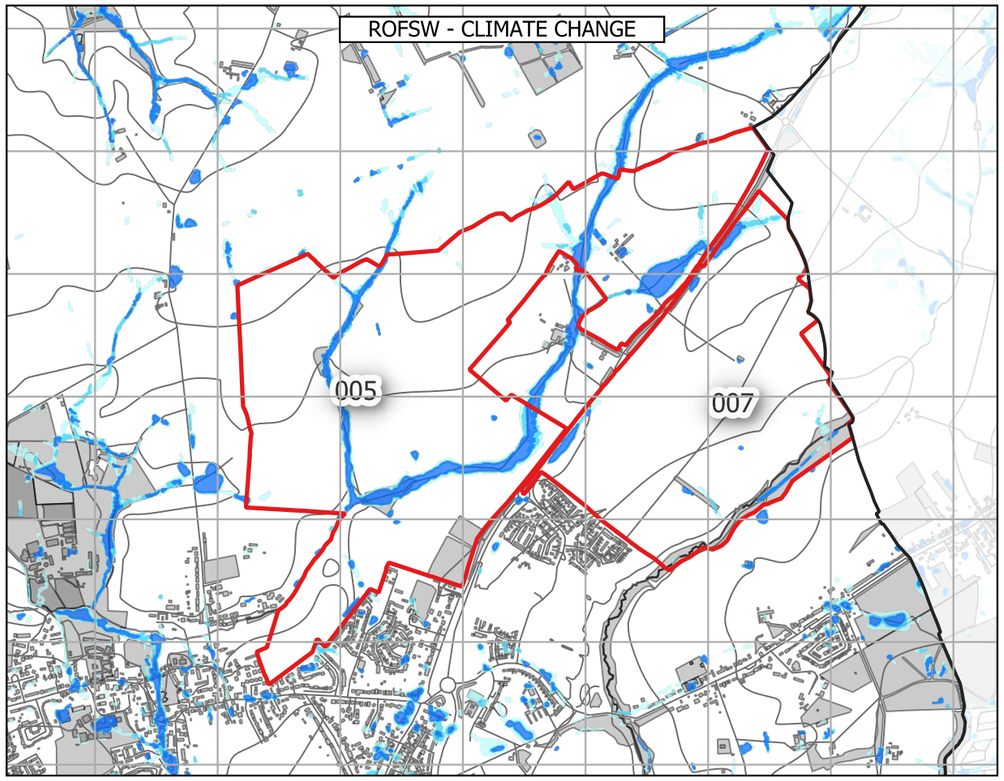
It is estimated that 106052 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 15.87 Ha should be set aside for appropriate SuDS techniques.

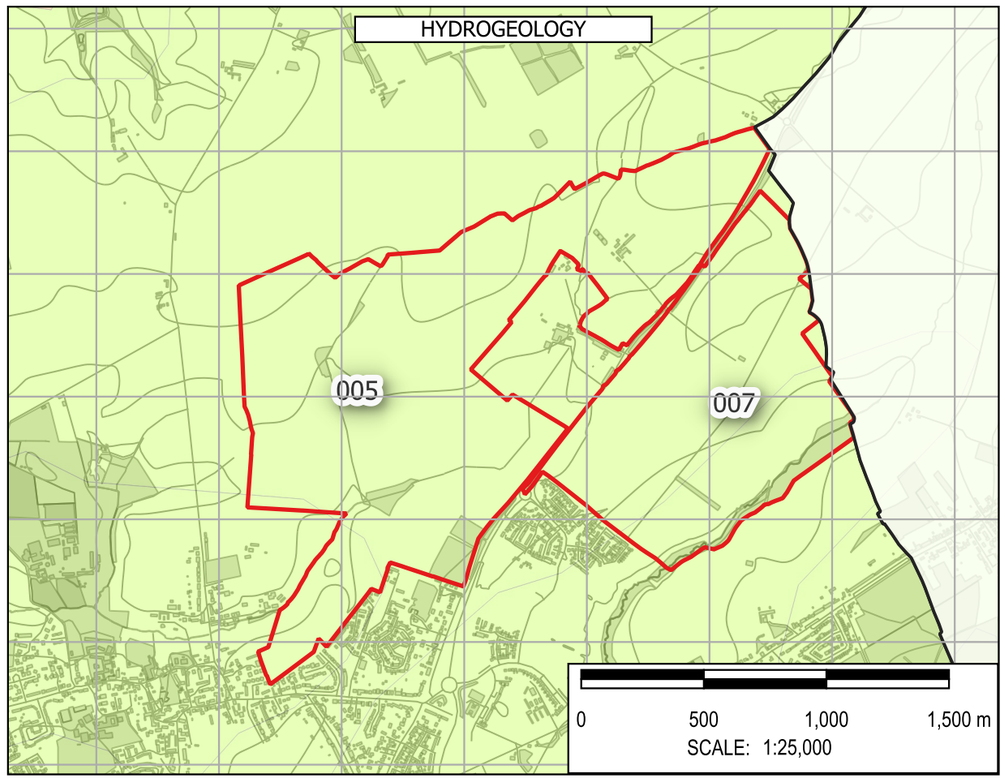
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.









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  - WEST NORTHANTS BOUNDARY
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  - FLOOD DEFENCES
  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
- ROFSW WITH CLIMATE CHANGE
  - HIGH
  - MEDIUM
  - LOW
- HYDROGEOLOGY
  - AQUIFER TYPE
  - HIGHLY PRODUCTIVE AQUIFER
  - MODERATELY PRODUCTIVE AQUIFER
  - LOW PRODUCTIVITY AQUIFER
  - ROCKS WITH ESSENTIALLY NO GROUNDWATER

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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 005 Northampton West of A43

Drawing Scale: 1:25,000 Sheet Size: A3

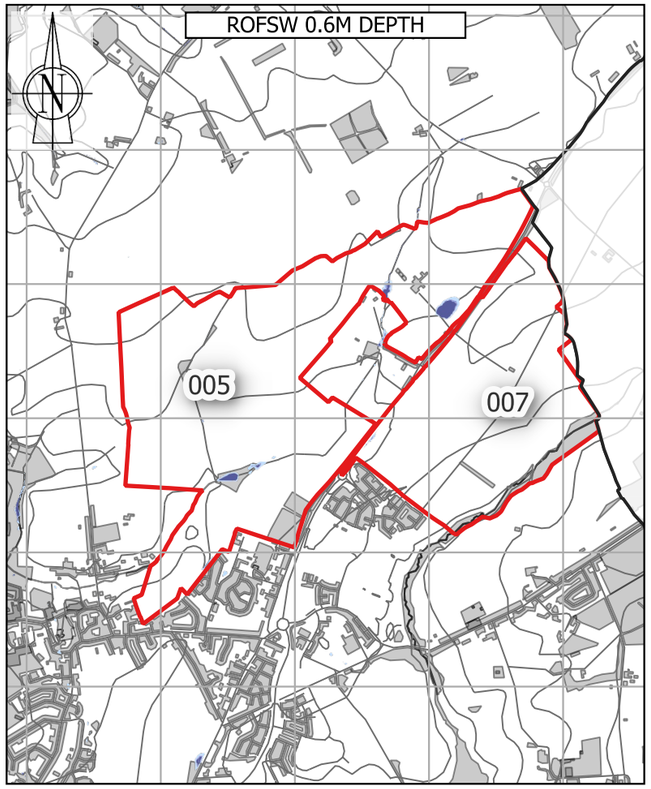
Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00122 Revision: P01

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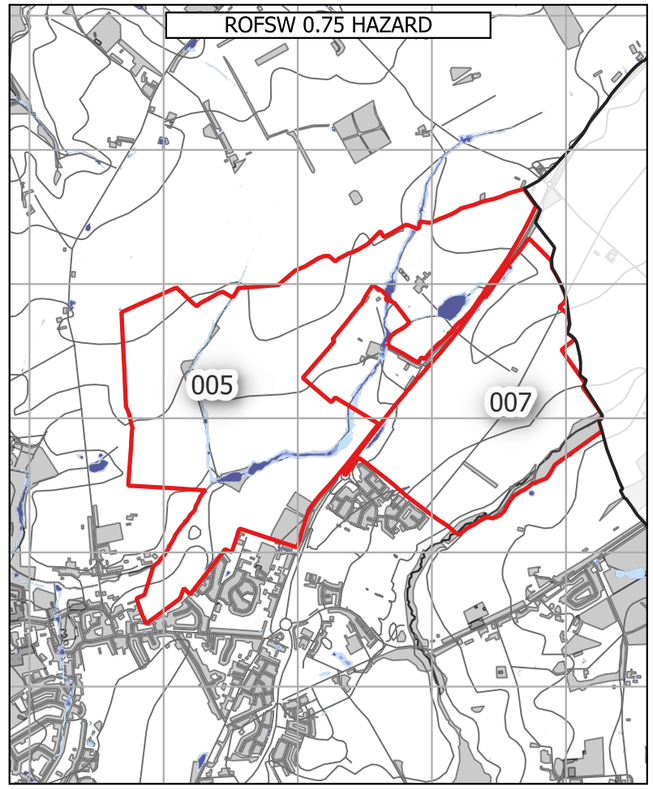
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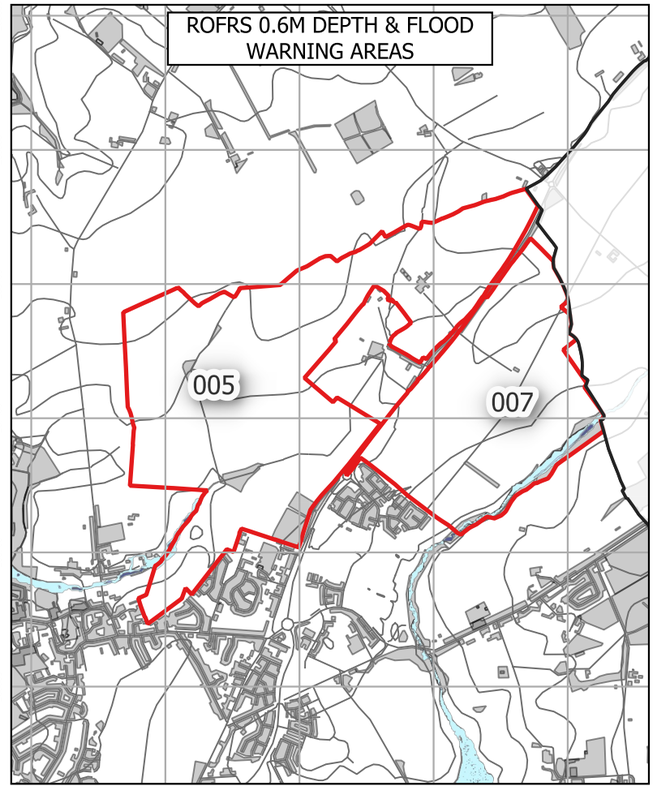
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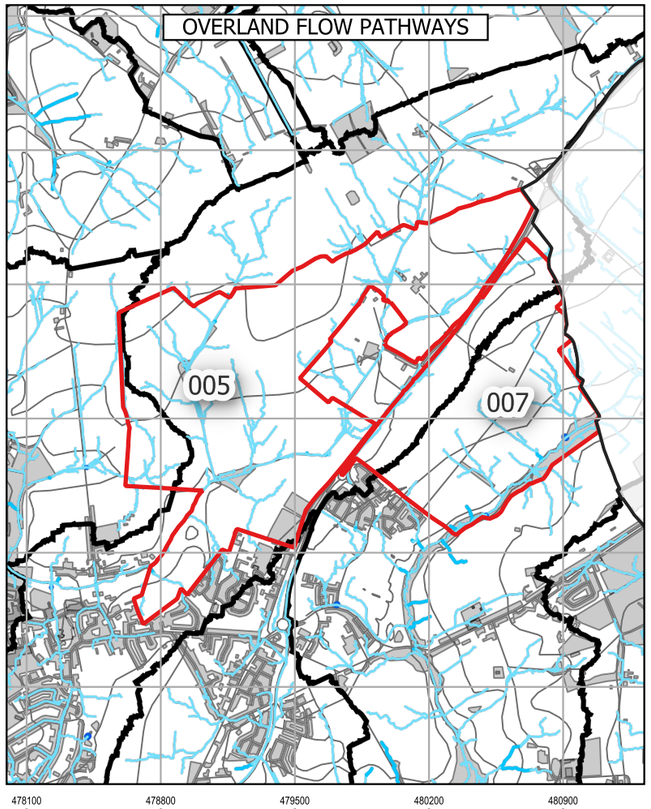
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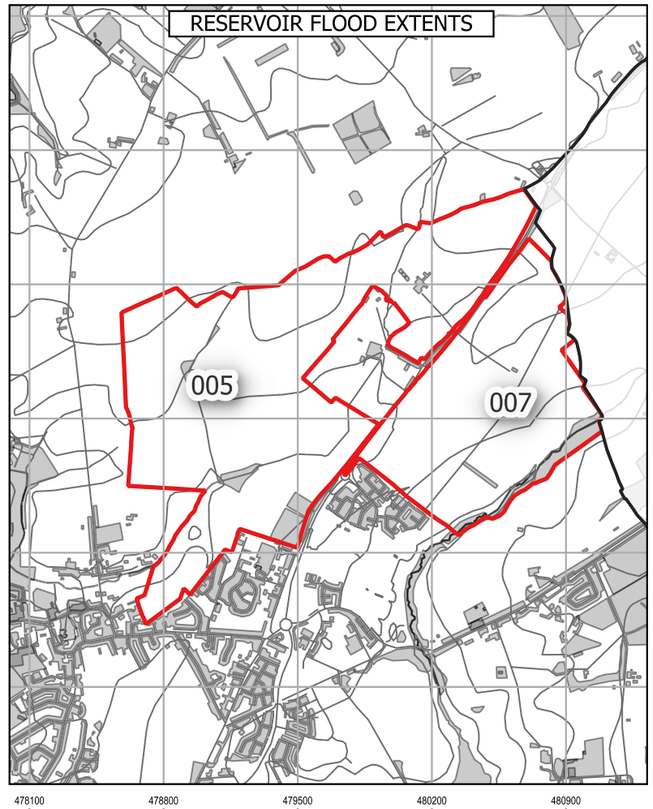
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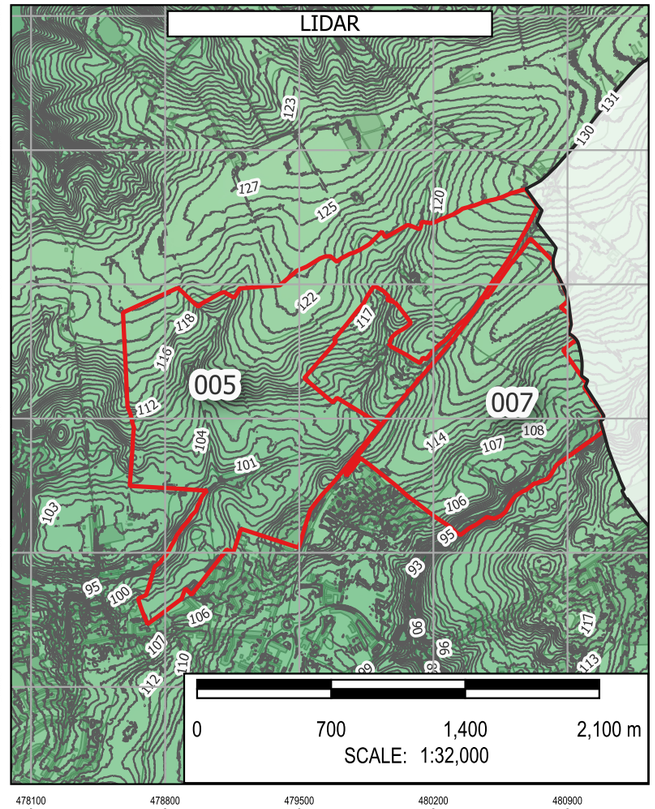
OVERLAND FLOW PATHWAYS



RESERVOIR FLOOD EXTENTS



LIDAR



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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY

ROFSW

0.6M DEPTH
- High
- Medium
- Low
- Unavailable

0.75 HAZARD
- High
- Medium
- Low
- Unavailable

ROFRS

0.6M DEPTH
- High
- Medium
- Low
- Very low
- Unavailable

FLOOD WARNING AREAS

OVERLAND FLOW PATHWAYS

PROBABLE OVERLAND FLOW PATHWAYS
- < 3 Degrees
- 3 - 7 Degrees
- 7 - 12 Degrees
- > 12 Degrees

DETAILED WATERSHEDS

RESERVOIR FLOOD EXTENT

DRY DAY

WET DAY

LIDAR
- 1M CONTOURS

ELEVATION
- Band 1 (Gray)
- 230
- 50

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Designed By: KA Date: 01/May/2026

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Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 005 Northampton West of A43

Drawing Scale: 1:32,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00180 | Revision: P01

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	013
Site Name	Brackley - East of Radstone Road
Proposed Development	Housing
Site Area	7.91Ha
Site NGR	458892 mE, 239111 mN.
River Management Catchment	Upper Bedford and Ouse

Fluvial Flood Risk – Present-day

FZ2	FZ3
0.0 %	0.0 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
6.4 %	2.9 %	5.1 %	14.4 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
8.7 %	3.5 %	5.6 %	17.8 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

The southern and western boundary of the site are within an existing surface water flow path which originates offsite. This flow path may be associated with an existing ordinary watercourse (instead of surface water flood risk) which is not included within the available mapping. Therefore site specific modelling may be required to inform local flood risk associated with this ordinary watercourse and the impact of any downstream culverts, aswell as potential mitigation measures, as part of a site-specific Flood Risk Assessment. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Flood History

There are eight WNC recorded flood events within 500m of the site. This site is not located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at medium risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.00 %	0.00 %	0.00 %	0.00 %

The site is not indicated to be at risk of reservoir flooding.

Flood Defences – Residual Risk

It is unlikely that the site will be affected by a breach of flood defences as the nearest defences are more than 500m away.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events. However a vehicular crossing of the onsite watercourse is likely to be required. Site specific modelling may be required to confirm that the access can be safely delivered without increasing onsite or offsite flood risk.

Exception Test

The site is located within Flood Zone 1. Therefore the Exception Test is not required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 1, finished floor levels should be at least 150mm above external ground levels. An appropriate freeboard allowance should also be considered for other sources of flooding.

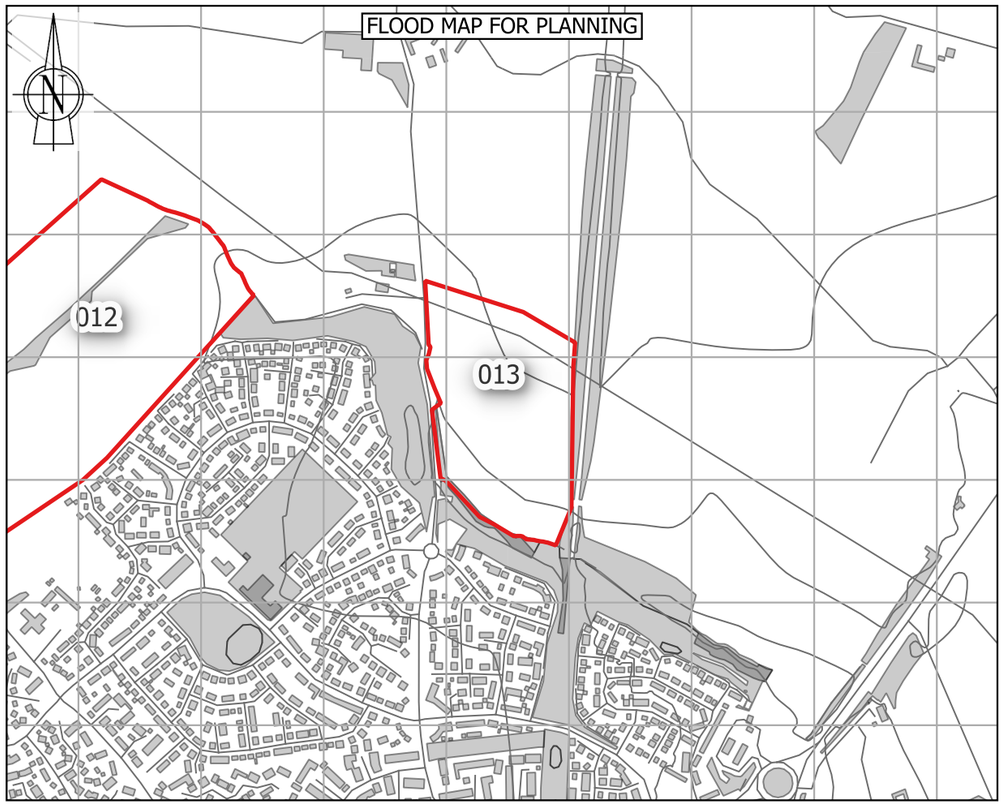
Surface Water Attenuation Provision – Design Considerations

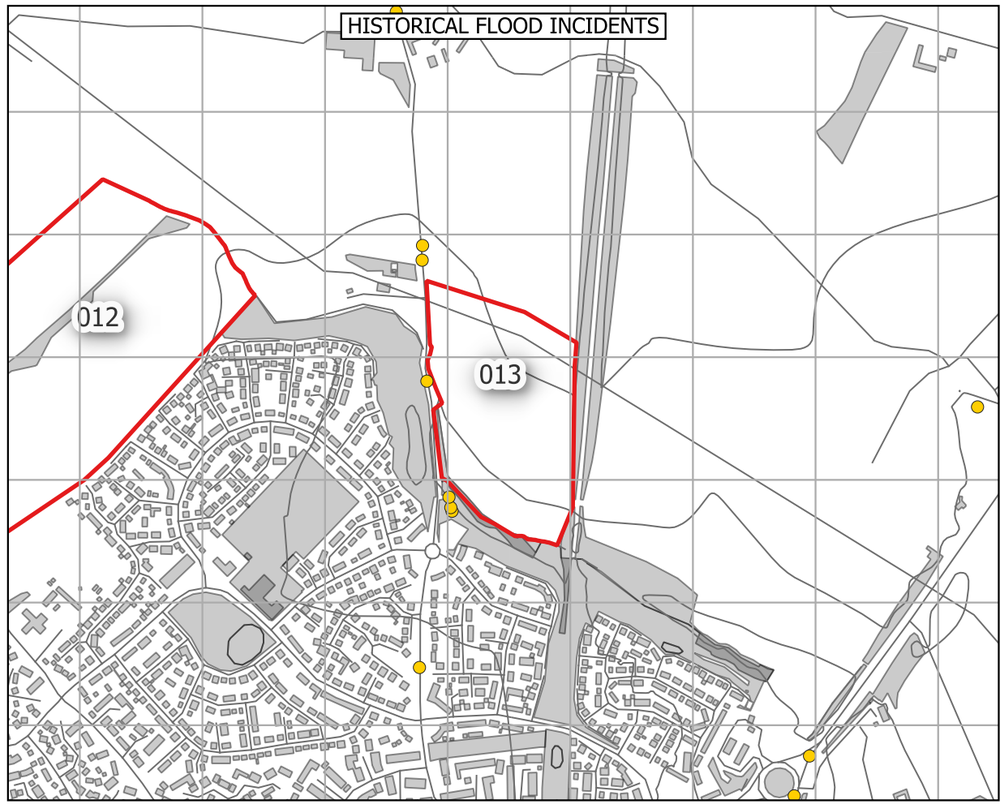
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

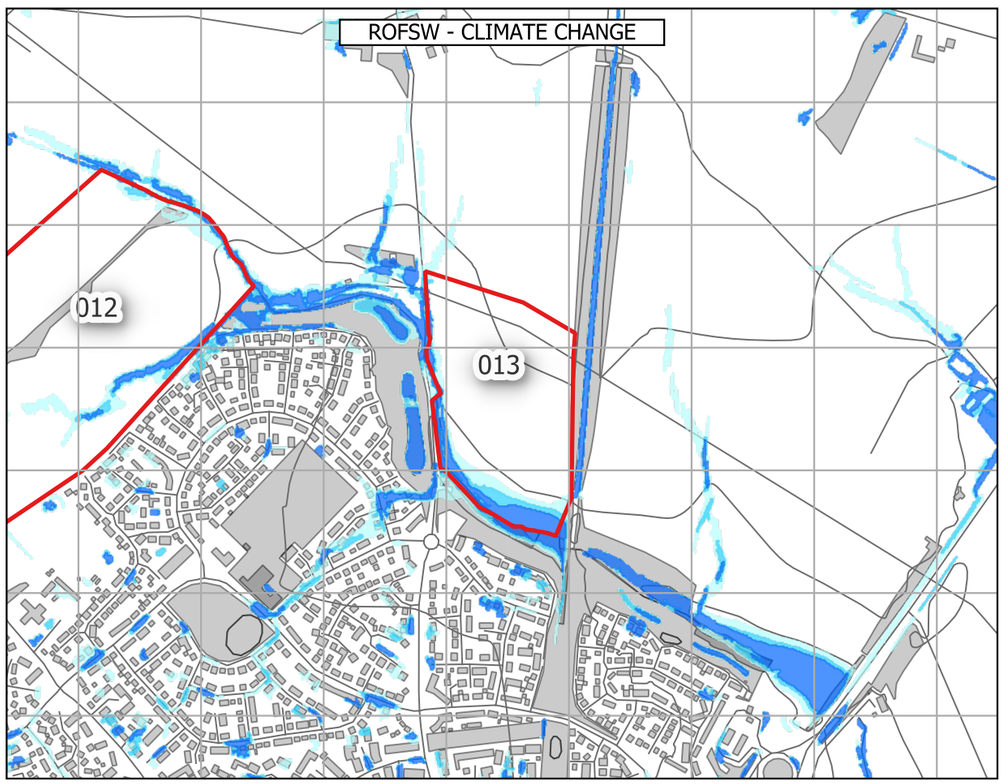
It is estimated that 4430 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 0.66 Ha should be set aside for appropriate SuDS techniques.

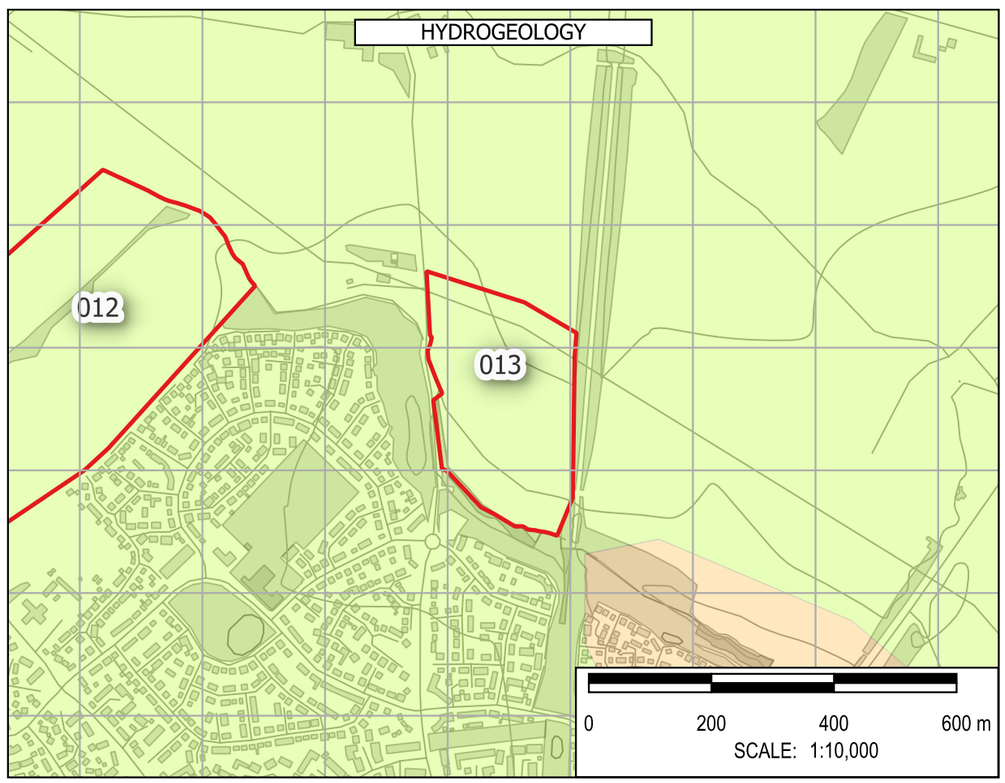
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.









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LEGEND

- SLAA SITE

BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY

FLOOD MAP FOR PLANNING
- FLOOD DEFENCES
- MAIN RIVER
- ORDINARY WATERCOURSE
- FLOOD STORAGE AREAS
- FLOOD ZONE 2
- FLOOD ZONE 3
- FLOOD ZONE 2 + CC
- FLOOD ZONE 3A + CC
- FLOOD ZONE 3B + CC
- IDB

HISTORIC FLOOD INCIDENTS
- WNC FLOOD HISTORY
- EA HISTORIC FLOOD EXTENT

ROFSW WITH CLIMATE CHANGE
- HIGH
- MEDIUM
- LOW

HYDROGEOLOGY

AQUIFER TYPE
- HIGHLY PRODUCTIVE AQUIFER
- MODERATELY PRODUCTIVE AQUIFER
- LOW PRODUCTIVITY AQUIFER
- ROCKS WITH ESSENTIALLY NO GROUNDWATER

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS
MAINTENANCE / CLEARING / OPERATION
NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS
DECOMISSIONING AND DEMOLITION
NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS

Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

Binnies UK Limited
Registered Office
Spring Lodge, 172 Chester Road, Helsby Cheshire, WA6 0AR, UK
Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 013
Brackley - East of Radstone Road

Drawing Scale: 1:10,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00152

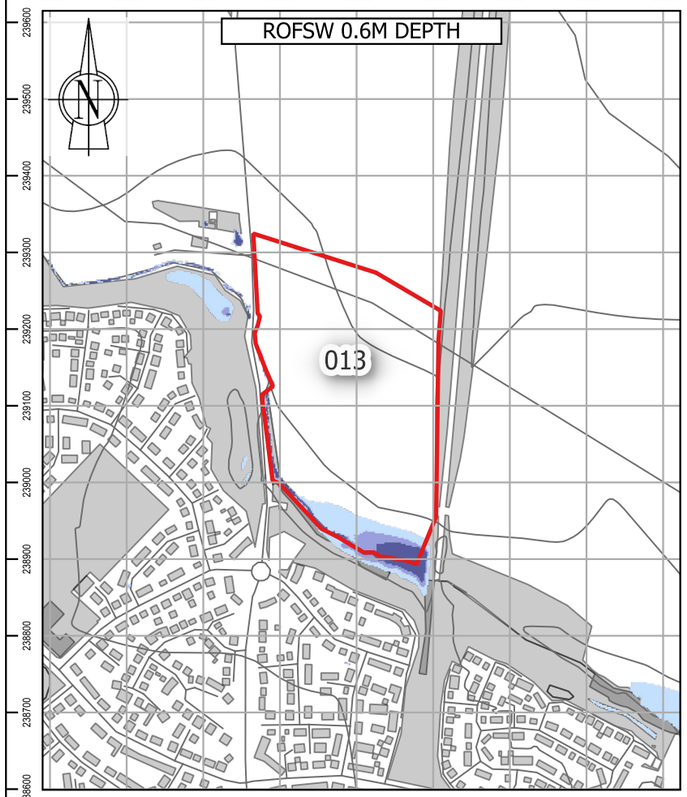
Revision: P01

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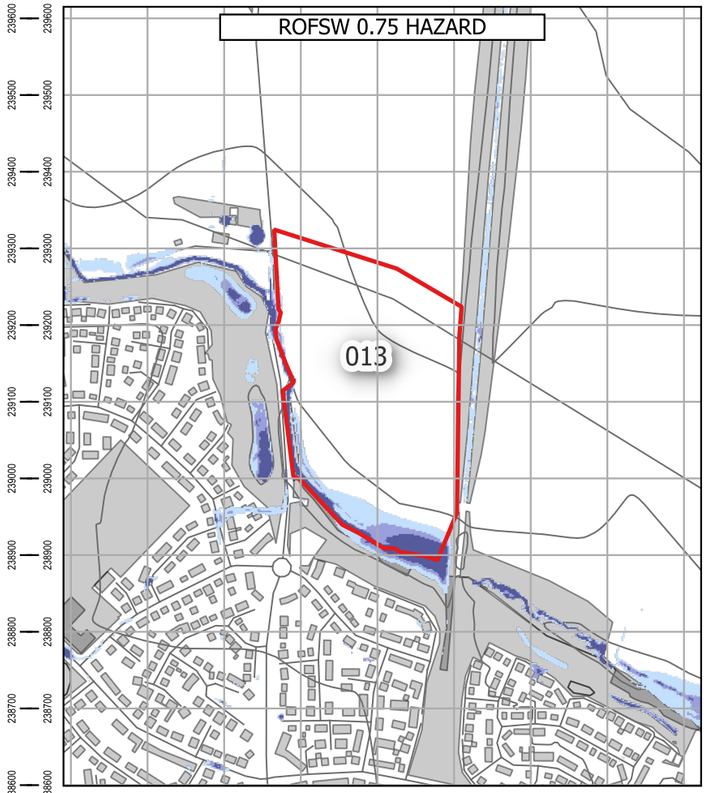
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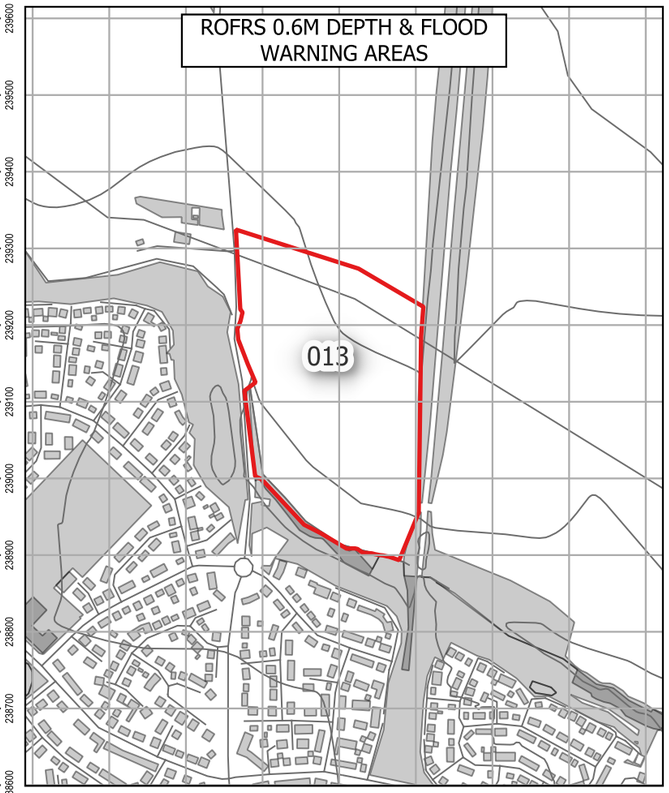
ROFSW 0.6M DEPTH



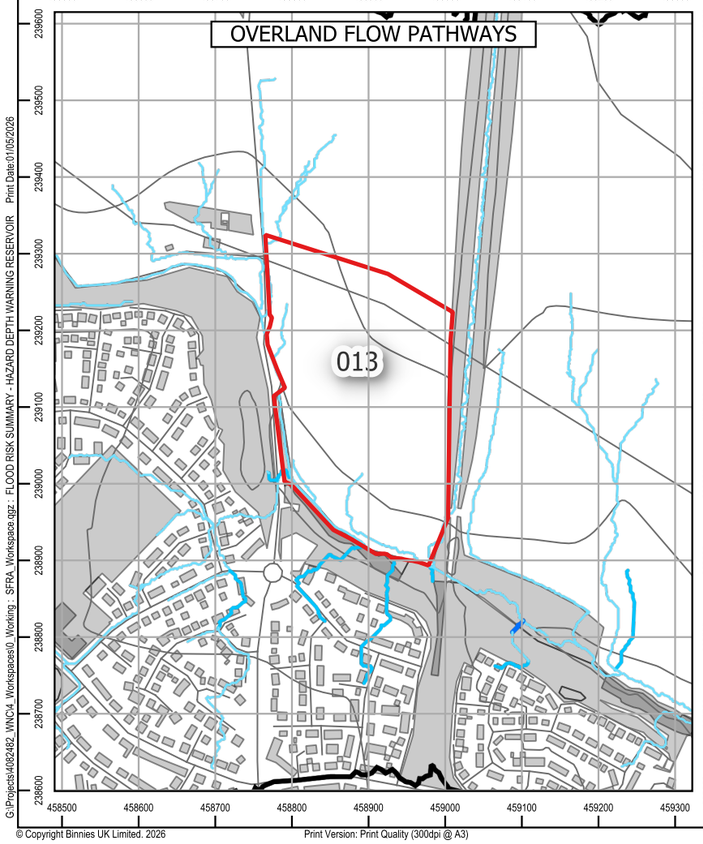
ROFSW 0.75 HAZARD



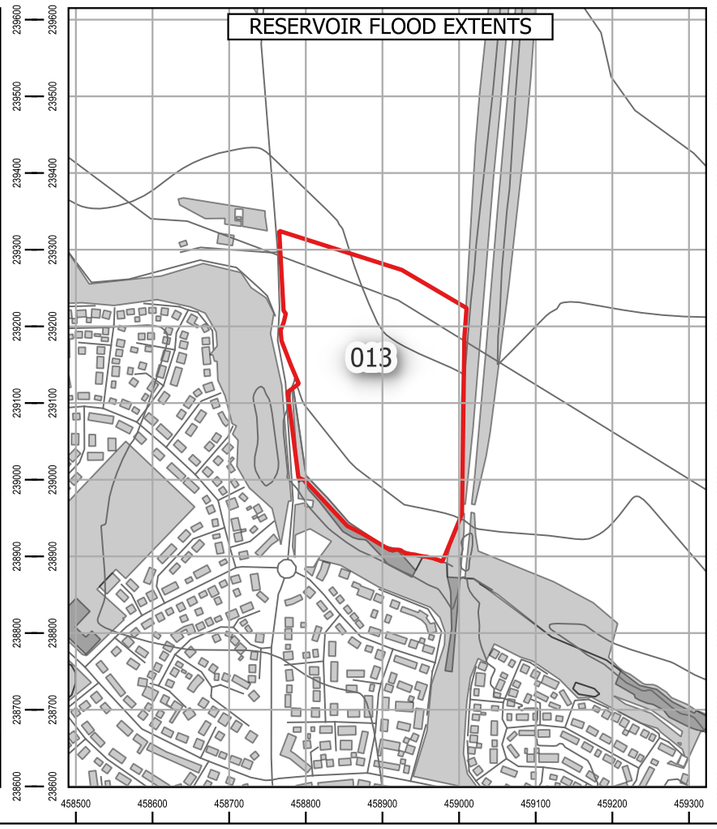
ROFRS 0.6M DEPTH & FLOOD WARNING AREAS



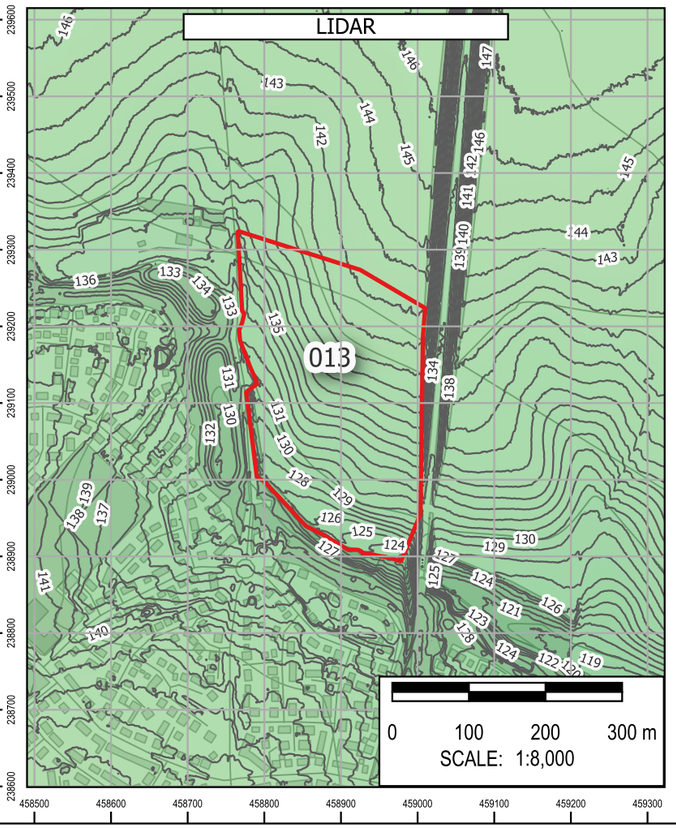
OVERLAND FLOW PATHWAYS



RESERVOIR FLOOD EXTENTS



LIDAR



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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY
- ROFSW
  - 0.6M DEPTH
    - High
    - Medium
    - Low
    - Unavailable
  - 0.75 HAZARD
    - High
    - Medium
    - Low
    - Unavailable
- ROFRS
  - 0.6M DEPTH
    - High
    - Medium
    - Low
    - Very low
    - Unavailable
- FLOOD WARNING AREAS
- OVERLAND FLOW PATHWAYS
- PROBABLE OVERLAND FLOW PATHWAYS
  - < 3 Degrees
  - 3 - 7 Degrees
  - 7 - 12 Degrees
  - > 12 Degrees
- DETAILED WATERSHEDS
- RESERVOIR FLOOD EXTENT
  - DRY DAY
  - WET DAY
- LIDAR
  - 1M CONTOURS
- ELEVATION
  - Band 1 (Gray)
    - 230
    - 50

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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MAINTENANCE / CLEARING / OPERATION
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DECOMISSIONING AND DEMOLITION
NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS

Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	01/05/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

Binnies UK Limited
Registered Office
Spring Lodge, 172 Chester Road, Helsby Cheshire, WA6 0AR, UK
Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 013
Brackley - East of Radstone Road

Drawing Scale: 1:8,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00210

Revision: P01

G:\Projects\4082482_WNC\4_Workspaces\0_Working\ SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR Print Date:01/05/2026

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	008
Site Name	Micklewell Park extension
Proposed Development	Housing
Site Area	23.78 Ha
Site NGR	457091 mE, 265816 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
0.0 %	0.0 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
0.5 %	0.2 %	1.2 %	1.9 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
0.6 %	0.2 %	2.4 %	3.2 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

There are some minor surface water flow paths present intersecting the southern boundary. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Flood History

There are four WNC recorded flood events within 500m of the site. This site is not located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at low risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

The site is not indicated to be at risk of reservoir flooding.

Flood Defences – Residual Risk

It is unlikely that the site will be affected by a breach of flood defences as the nearest defences are more than 500m away.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 1. Therefore the Exception Test is not required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 1, finished floor levels should be at least 150mm above external ground levels. An appropriate freeboard allowance should also be considered for other sources of flooding.

Surface Water Attenuation Provision – Design Considerations

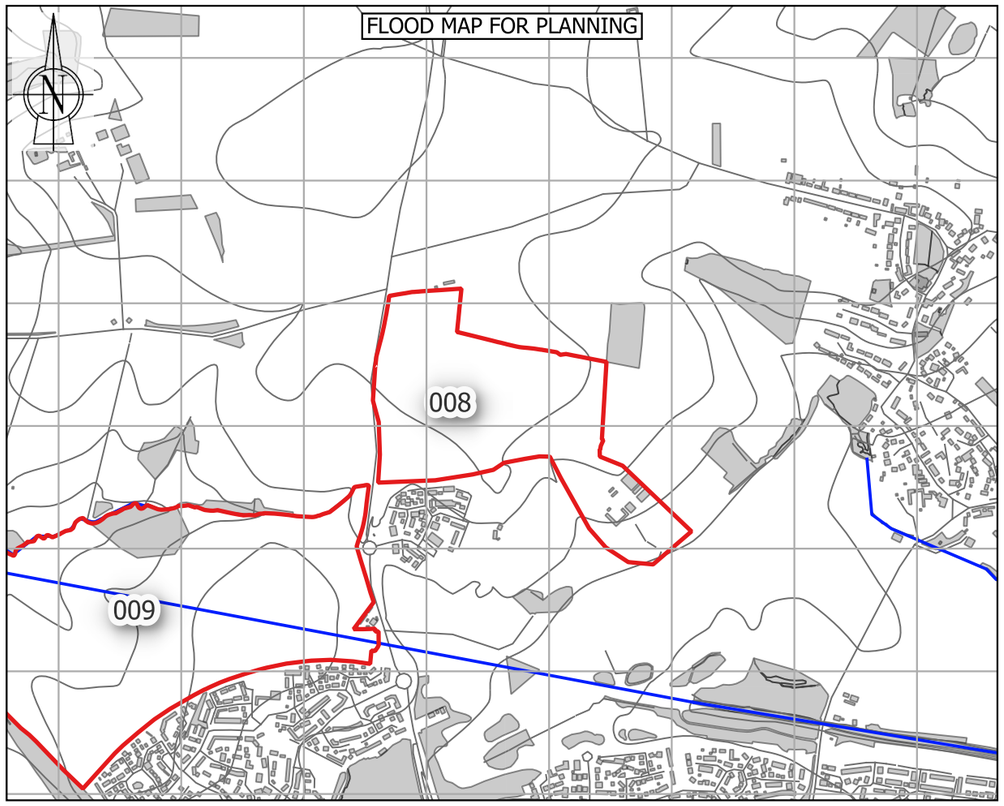
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

It is estimated that 13311 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 1.99 Ha should be set aside for appropriate SuDS techniques.

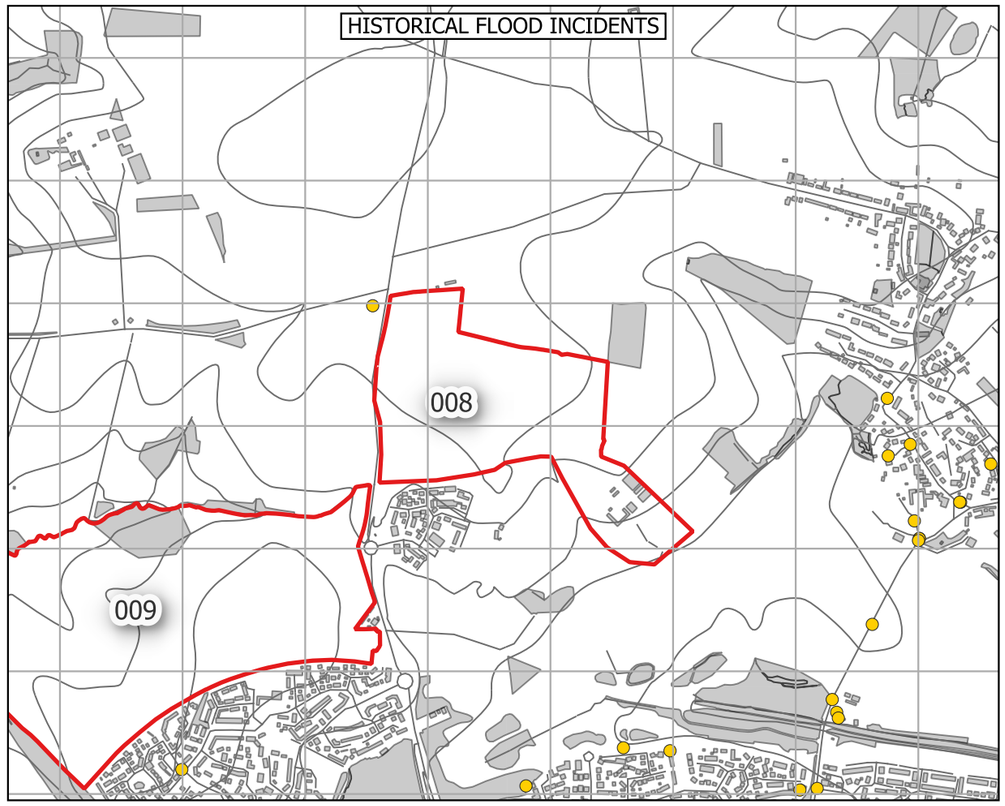
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.

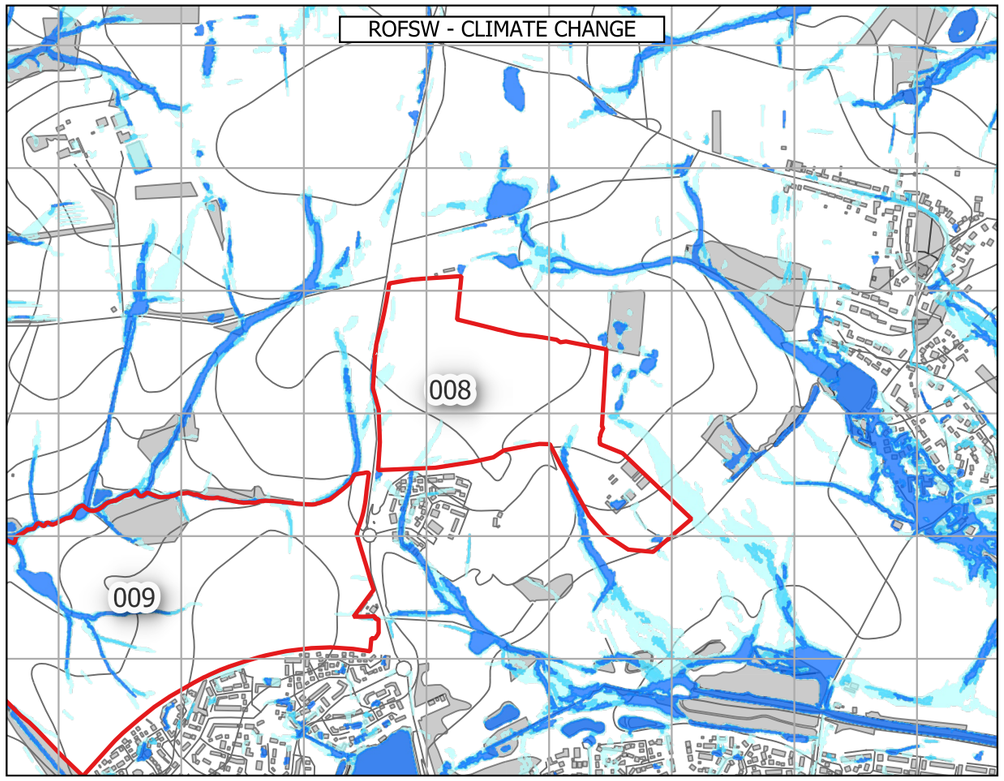
FLOOD MAP FOR PLANNING



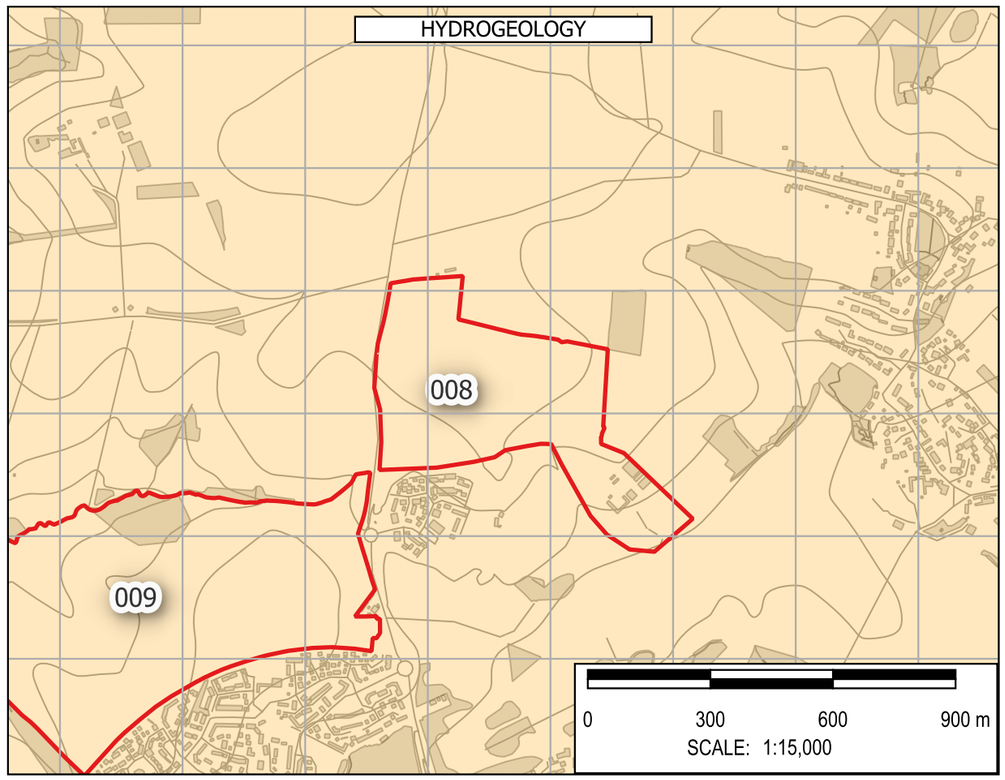
HISTORICAL FLOOD INCIDENTS



ROFSW - CLIMATE CHANGE



HYDROGEOLOGY



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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
  - WEST NORTHANTS BOUNDARY
- FLOOD MAP FOR PLANNING
  - FLOOD DEFENCES
  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
- ROFSW WITH CLIMATE CHANGE
  - HIGH
  - MEDIUM
  - LOW
- HYDROGEOLOGY
  - AQUIFER TYPE
  - HIGHLY PRODUCTIVE AQUIFER
  - MODERATELY PRODUCTIVE AQUIFER
  - LOW PRODUCTIVITY AQUIFER
  - ROCKS WITH ESSENTIALLY NO GROUNDWATER

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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Registered Office
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Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 008 Micklewell Park extension

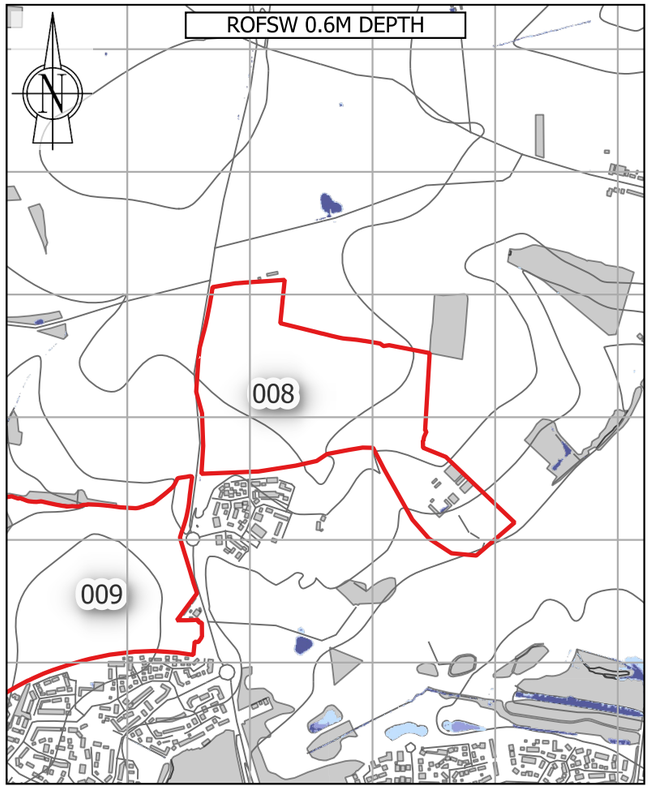
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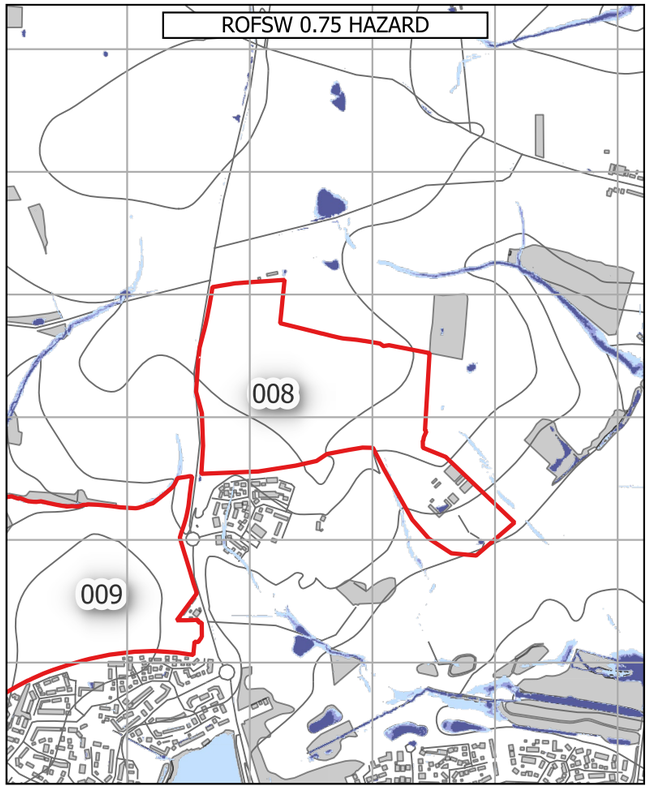
Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00138 Revision: P01

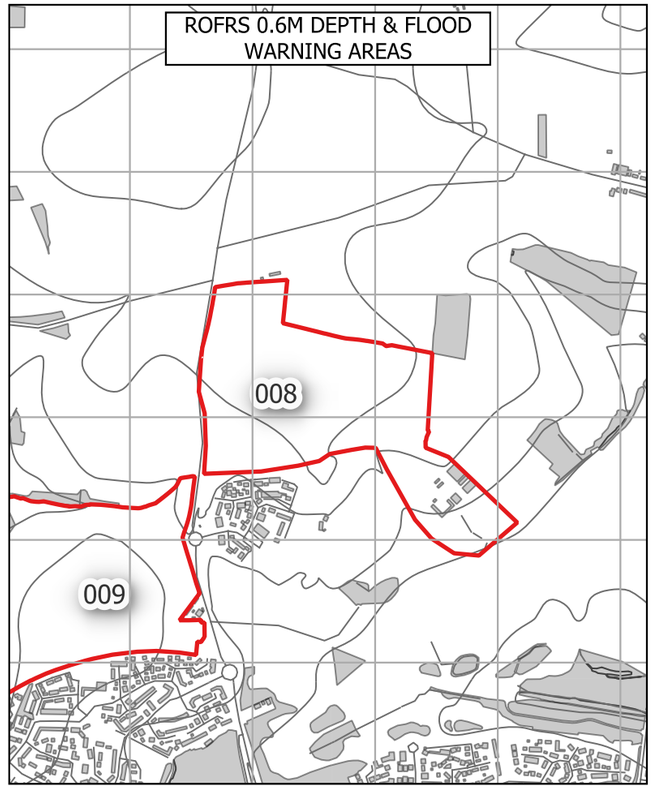
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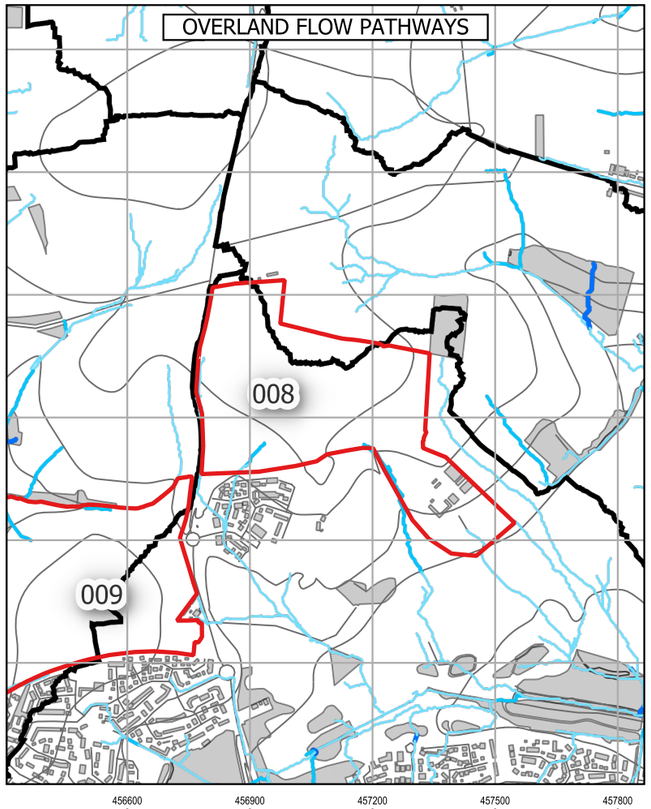
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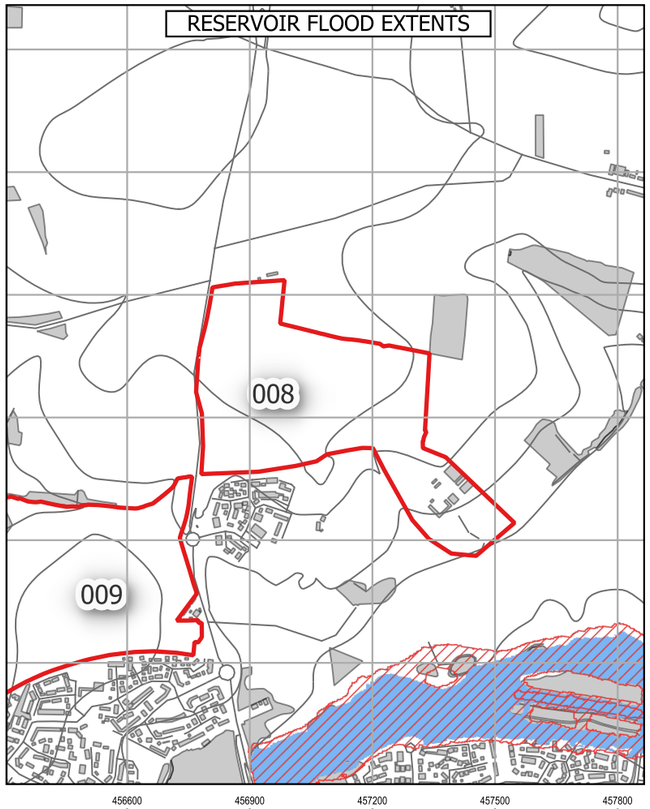
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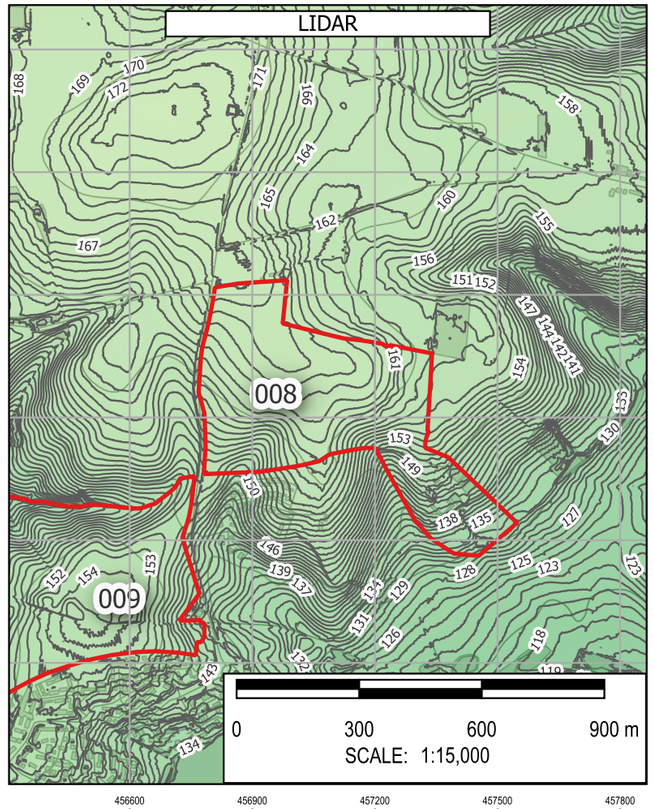












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- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY
- ROFSW
  - 0.6M DEPTH
    - High
    - Medium
    - Low
    - Unavailable
  - 0.75 HAZARD
    - High
    - Medium
    - Low
    - Unavailable
- ROFRS
  - 0.6M DEPTH
    - High
    - Medium
    - Low
    - Very low
    - Unavailable
- FLOOD WARNING AREAS
- OVERLAND FLOW PATHWAYS
- PROBABLE OVERLAND FLOW PATHWAYS
  - < 3 Degrees
  - 3 - 7 Degrees
  - 7 - 12 Degrees
  - > 12 Degrees
- DETAILED WATERSHEDS
- RESERVOIR FLOOD EXTENT
  - DRY DAY
  - WET DAY
- LIDAR
  - 1M CONTOURS
  - ELEVATION
    - Band 1 (Gray)
    - 230
    - 50

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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MAINTENANCE / CLEARING / OPERATION
NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS
DECOMISSIONING AND DEMOLITION
NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS

Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	01/05/26	First Issue
-	--	--	--	--	DD/MM/YY	--
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Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Registered Office
Spring Lodge, 172 Chester Road, Helsby Cheshire, WA6 0AR, UK
Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 008 Micklewell Park extension

Drawing Scale: 1:15,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00196

Revision: P01

G:\Projects\4082482_WNC\4_Workspaces\0_Working\ SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR Print Date:01/05/2026

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	010
Site Name	Daventry North East
Proposed Development	Housing
Site Area	248.00 Ha
Site NGR	459001 mE, 264246 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
1.0 %	1.2 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
1.8 %	0.1 %	1.0 %	2.9 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Commentary

A small portion of the site along the northern boundary extends into Flood Zone 2 and 3 due to the presence of a main river. As the site has an main river within the site boundary, site specific modelling may be required to inform mitigation measures as part of a site-specific Flood Risk Assessment.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
0.9 %	0.3 %	1.1 %	2.3 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
1.1 %	0.5 %	1.5 %	3.1 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

There is one prominent surface water flow path originating within the site and flowing north. There are minimal areas of localised surface water ponding. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Flood History

There are twelve WNC recorded flood events within 500m of the site. This site is not located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at low risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
1.9 %	4.9 %	6.6 %	6.6 %

Although the site is in an area at risk of reservoir flooding, this risk could be managed through appropriate consideration of flood resilience measures. As this site is located immediately downstream of a reservoir, a sequential approach to site layout should be undertaken to avoid development in areas at flood risk as there would be minimal warning time in the event of a reservoir breach.

Flood Defences – Residual Risk

It is unlikely that the site will be affected by a breach of flood defences as the nearest defences are more than 500m away.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 3. Therefore the Exception Test is required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 2 and 3, finished floor levels should be set no lower than 110.6 mAOD, 600mm above the maximum predicted flood level of 110.00 mOAD. In accordance with the EA guidance, freeboard allowances could be reviewed, and where appropriate reduced to 300mm. An appropriate freeboard allowance should also be considered for other sources of flooding. This should be confirmed by a site specific assessment as part of the detailed design for development, which should include consideration of proposed ground levels.

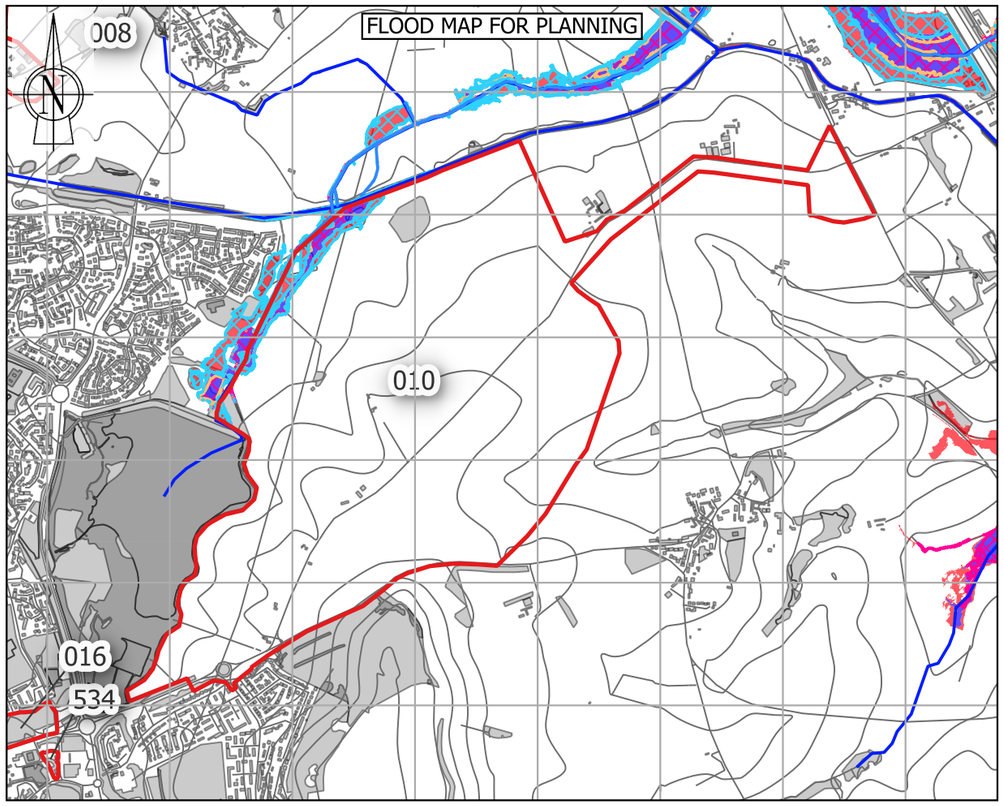
Surface Water Attenuation Provision – Design Considerations

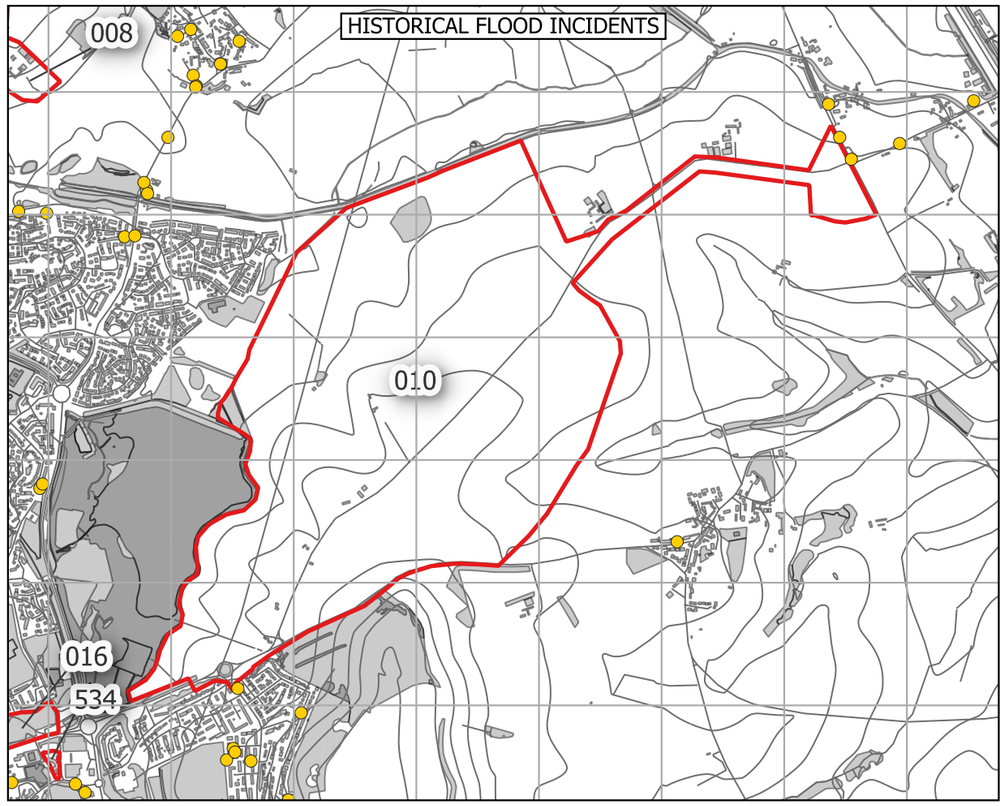
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

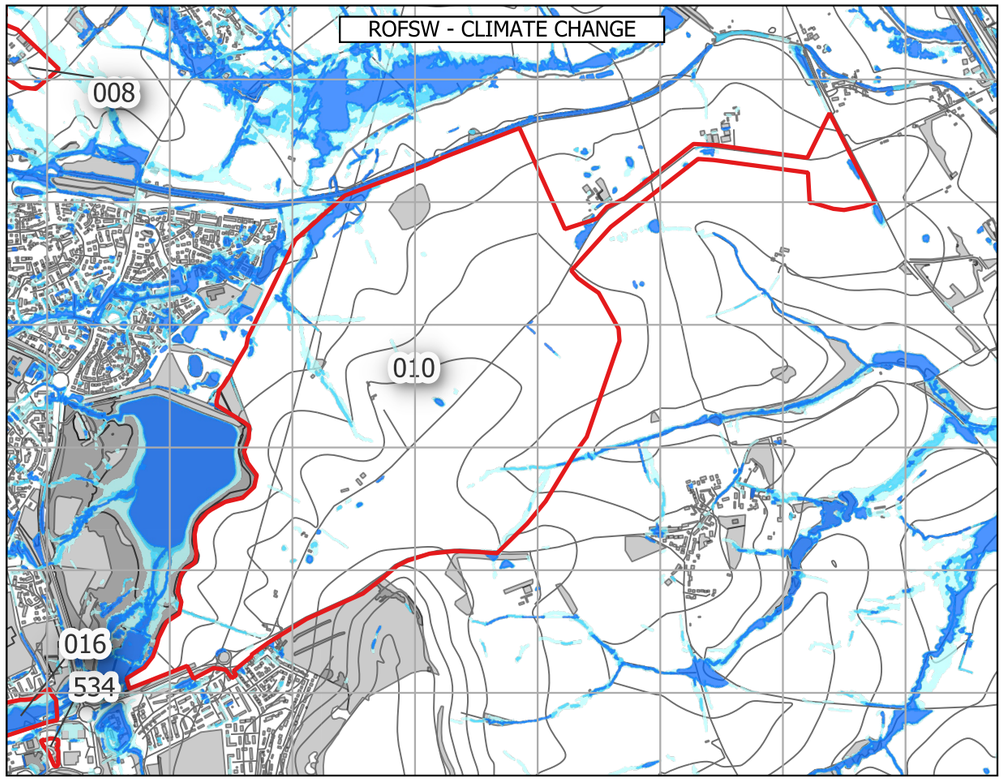
It is estimated that 138831 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 20.77 Ha should be set aside for appropriate SuDS techniques.

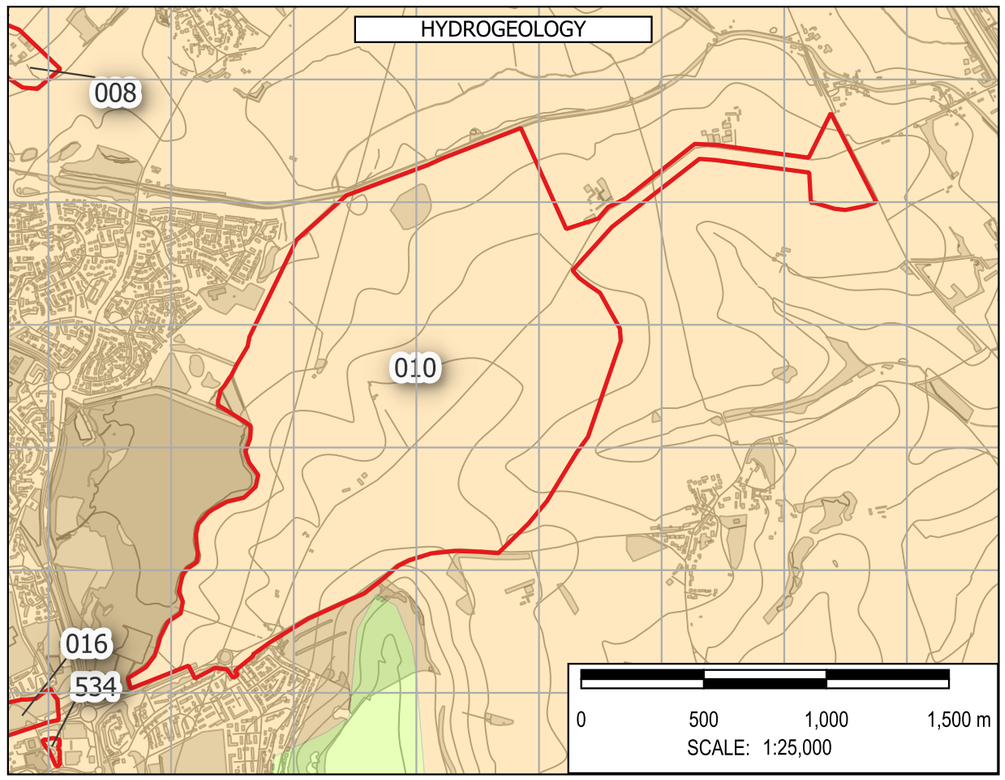
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.









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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY

FLOOD MAP FOR PLANNING

- FLOOD DEFENCES
- MAIN RIVER
- ORDINARY WATERCOURSE
- FLOOD STORAGE AREAS
- FLOOD ZONE 2
- FLOOD ZONE 3
- FLOOD ZONE 2 + CC
- FLOOD ZONE 3A + CC
- FLOOD ZONE 3B + CC
- IDB

HISTORIC FLOOD INCIDENTS

- WNC FLOOD HISTORY
- EA HISTORIC FLOOD EXTENT

ROFSW WITH CLIMATE CHANGE

- HIGH
- MEDIUM
- LOW

HYDROGEOLOGY

AQUIFER TYPE

- HIGHLY PRODUCTIVE AQUIFER
- MODERATELY PRODUCTIVE AQUIFER
- LOW PRODUCTIVITY AQUIFER
- ROCKS WITH ESSENTIALLY NO GROUNDWATER

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P01	KA	MH	SB	SB	30/04/26	First Issue
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Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 010 Daventry North East

Drawing Scale: 1:25,000 Sheet Size: A3

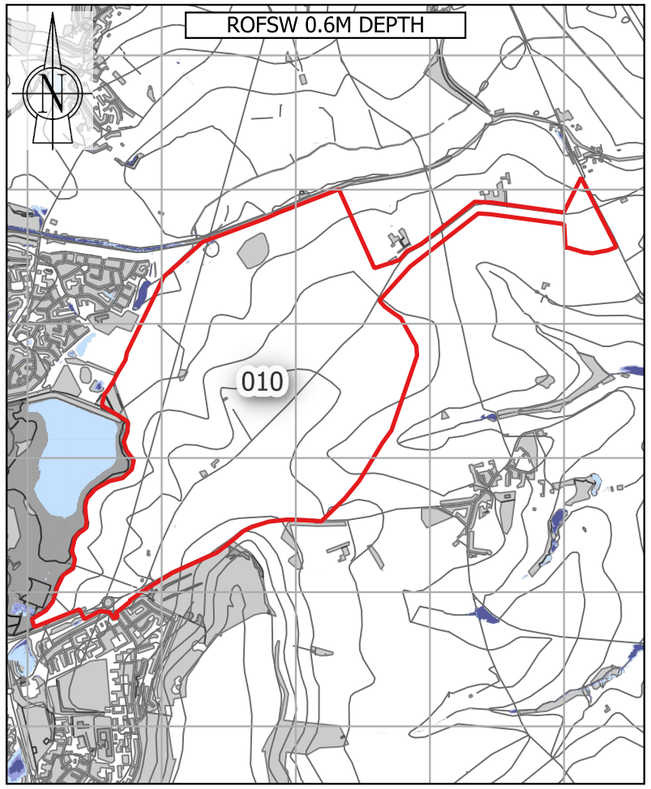
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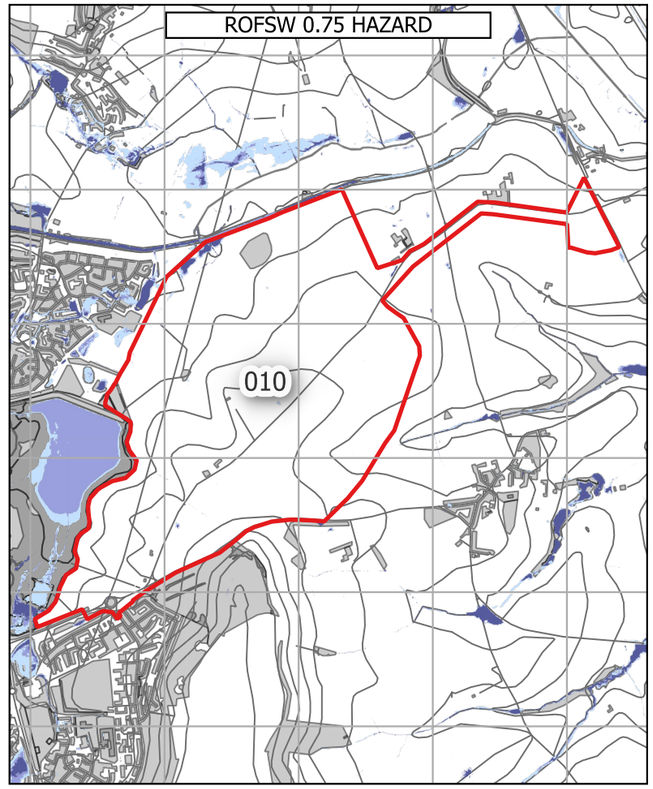
Revision: P01

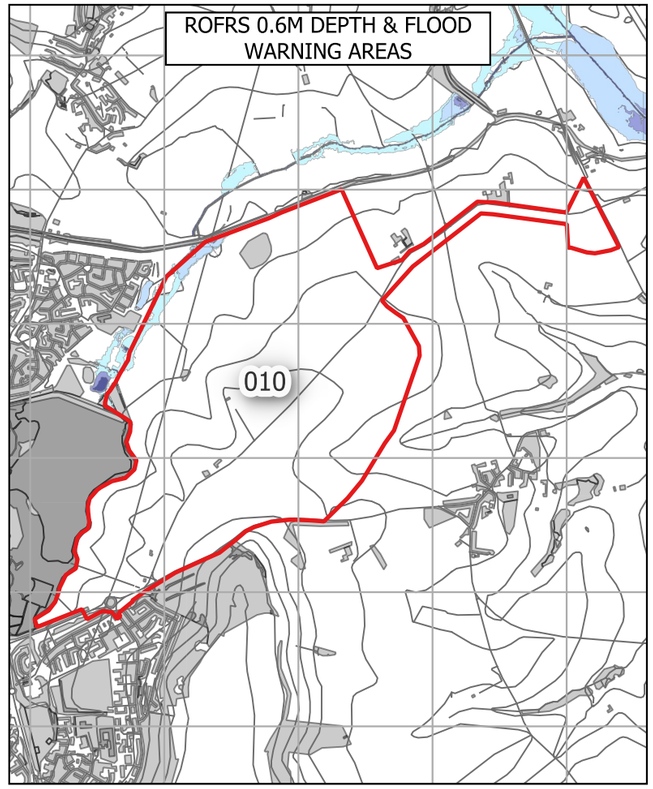
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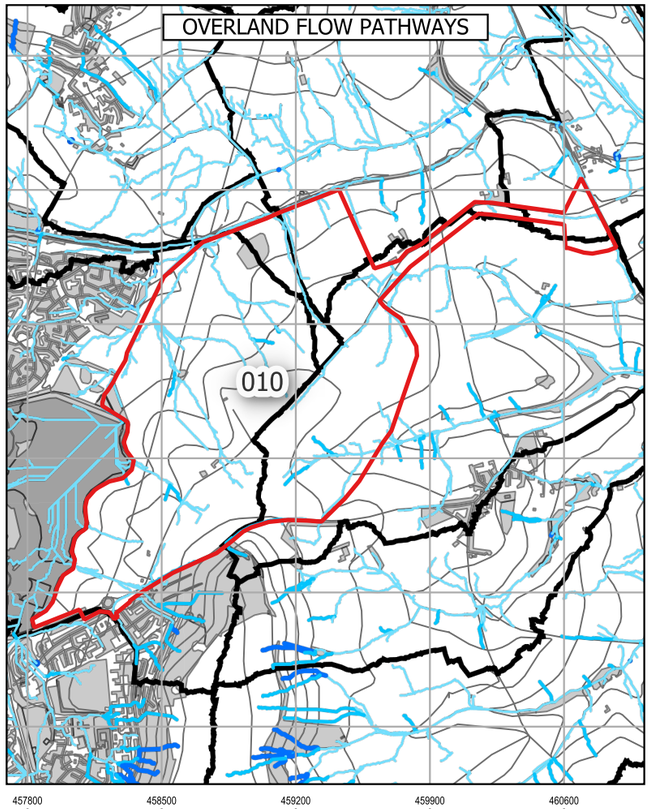
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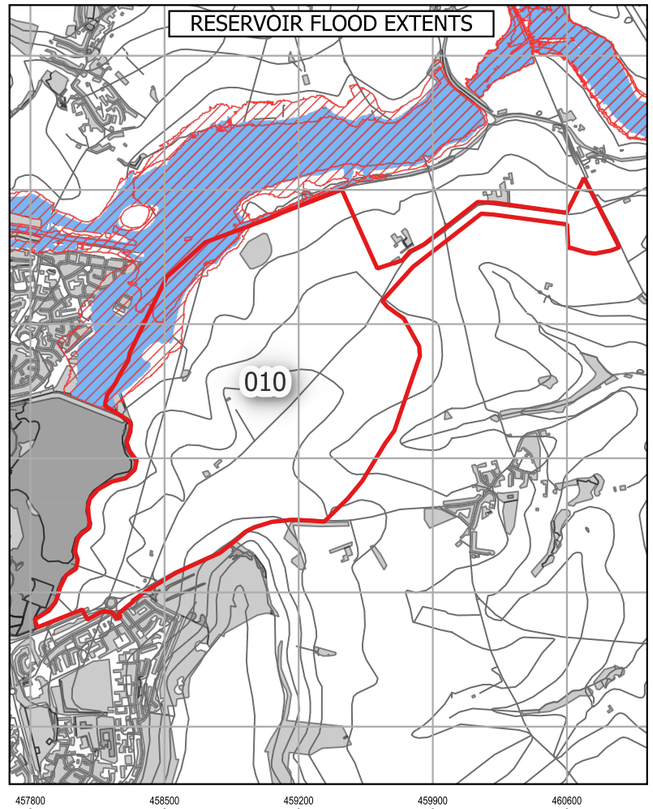
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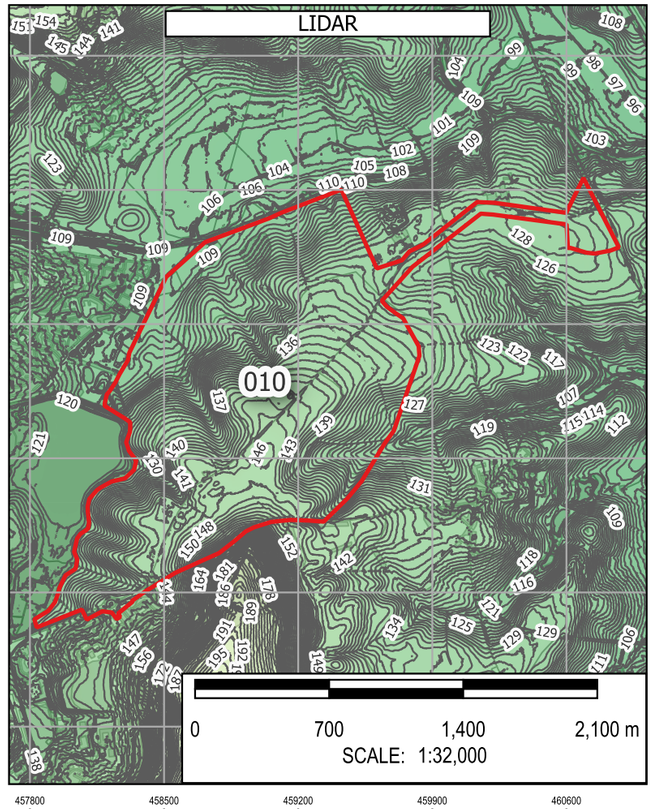












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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY

ROFSW

0.6M DEPTH
- High
- Medium
- Low
- Unavailable

0.75 HAZARD
- High
- Medium
- Low
- Unavailable

ROFRS

0.6M DEPTH
- High
- Medium
- Low
- Very low
- Unavailable

FLOOD WARNING AREAS

OVERLAND FLOW PATHWAYS

PROBABLE OVERLAND FLOW PATHWAYS
- < 3 Degrees
- 3 - 7 Degrees
- 7 - 12 Degrees
- > 12 Degrees

DETAILED WATERSHEDS

RESERVOIR FLOOD EXTENT

DRY DAY

WET DAY

LIDAR

1M CONTOURS

ELEVATION

Band 1 (Gray)
230
50

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Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 010 Daventry North East

Drawing Scale: 1:32,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00178

Revision: P01

G:\Projects\4082482_WNC\4_Workspaces\0_Working_SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR Print Date:01/05/2026

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Site Reference:	011
Site Name	Brackley West of Brackley
Proposed Development	Housing
Site Area	35.44 Ha
Site NGR	457560 mE, 238227 mN.
River Management Catchment	Upper Bedford and Ouse

Fluvial Flood Risk – Present-day

FZ2	FZ3
0.0 %	0.0 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
2.1 %	0.7 %	1.5 %	4.3 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
2.7 %	0.6 %	1.9 %	5.2 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

There is significant ponding of surface water towards the southern site boundary. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Flood History

There are eighteen WNC recorded flood events within 500m of the site. This site is not located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at medium risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

The site is not indicated to be at risk of reservoir flooding.

Flood Defences – Residual Risk

It is unlikely that the site will be affected by a breach of flood defences as the nearest defences are more than 500m away.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events. Should access be proposed from the south, site specific modelling may be required to inform surface water mitigation measures as part of a site-specific Flood Risk Assessment.

Exception Test

The site is located within Flood Zone 1. Therefore the Exception Test is not required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 1, finished floor levels should be at least 150mm above external ground levels. An appropriate freeboard allowance should also be considered for other sources of flooding.

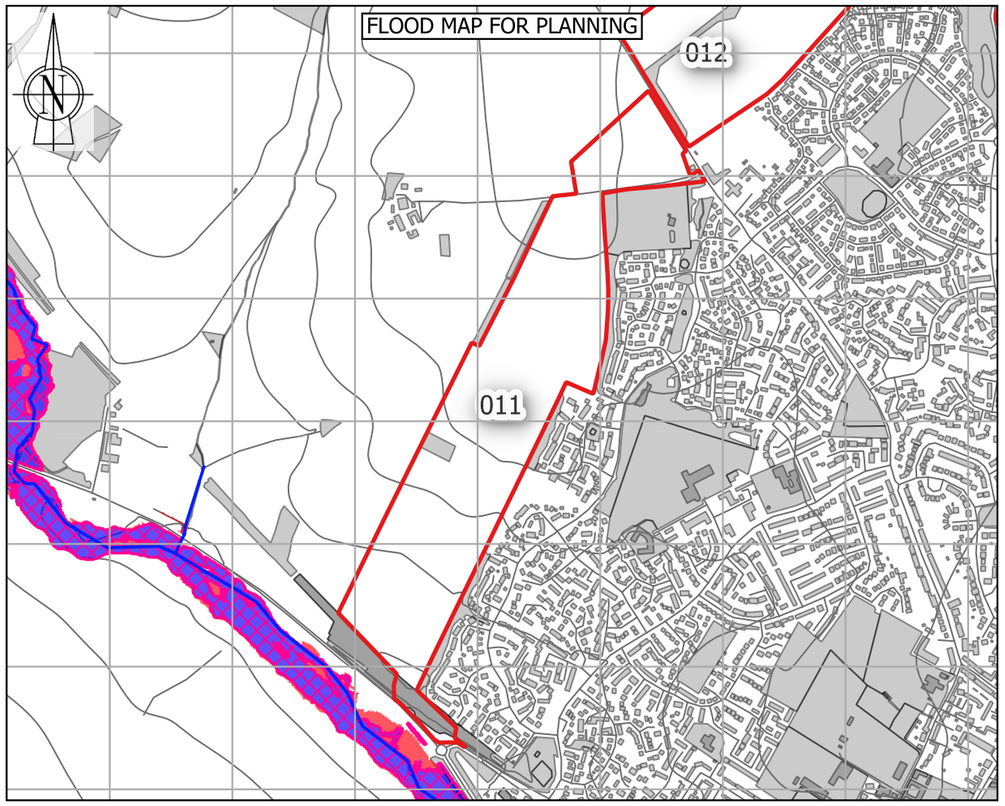
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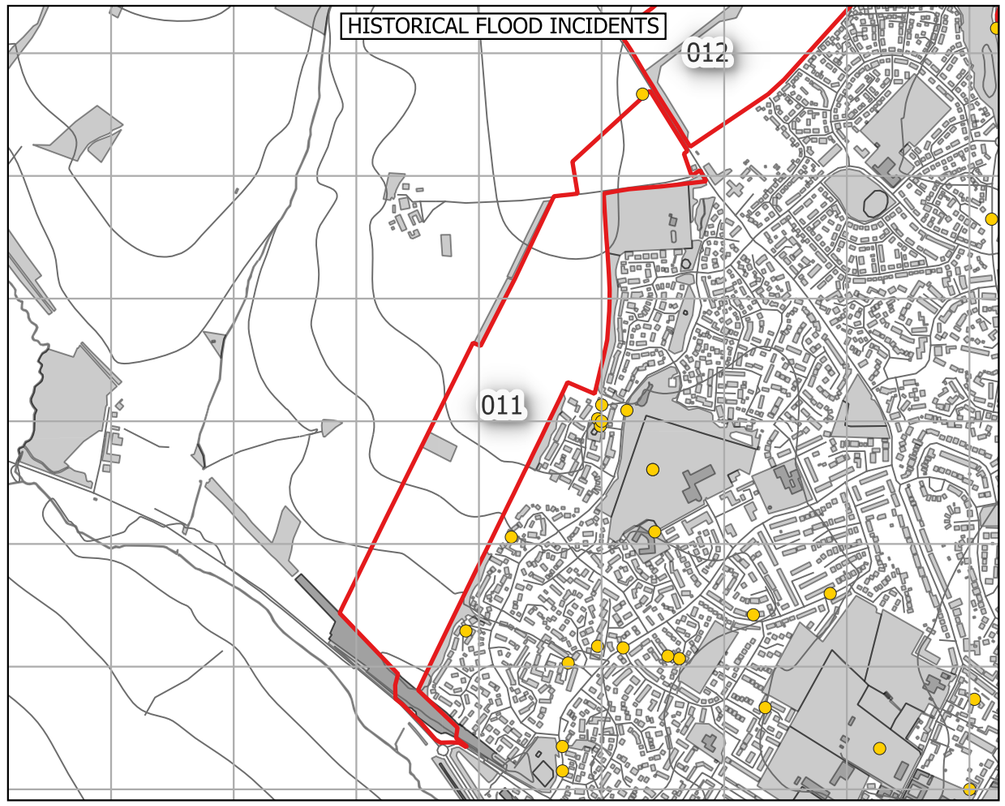
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

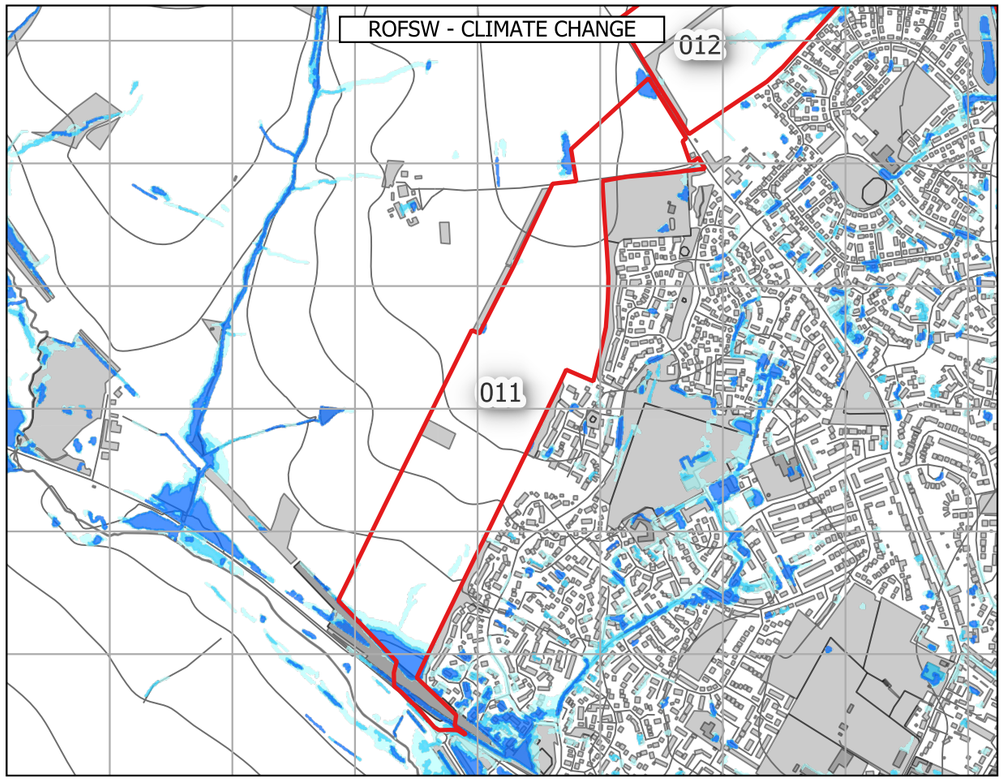
It is estimated that 19841 m3 of surface water attenuation provision may be required. This indicates that a minimum of 2.97 Ha should be set aside for appropriate SuDS techniques.

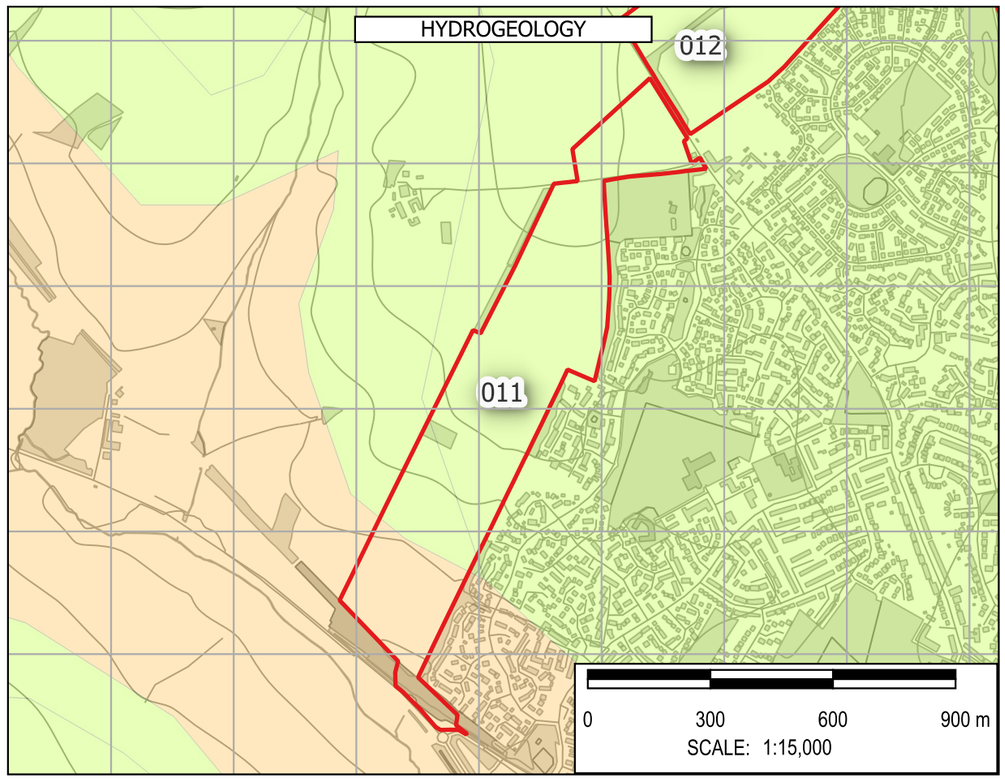
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.









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  - WEST NORTHANTS BOUNDARY
- FLOOD MAP FOR PLANNING
  - FLOOD DEFENCES
  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
- ROFSW WITH CLIMATE CHANGE
  - HIGH
  - MEDIUM
  - LOW
- HYDROGEOLOGY
  - AQUIFER TYPE
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Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 011 Brackley West of Brackley

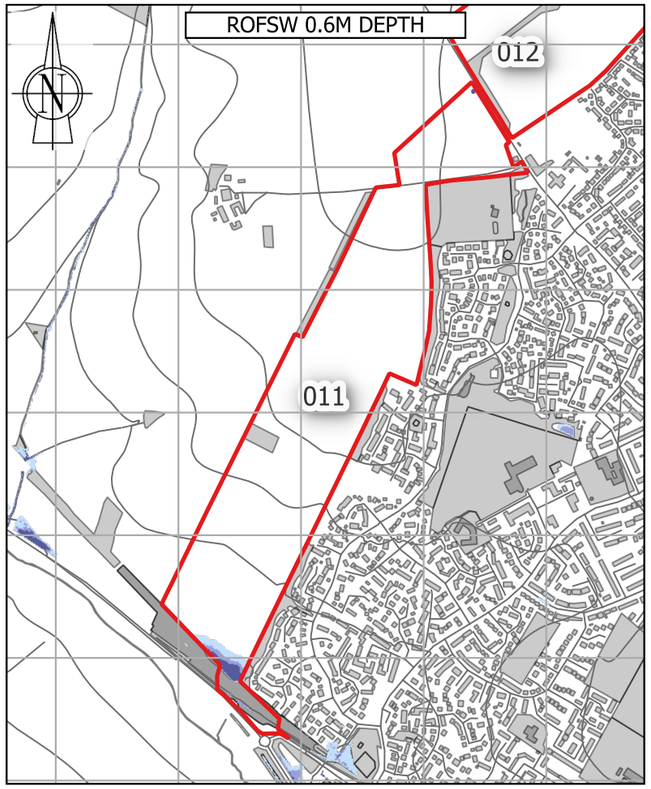
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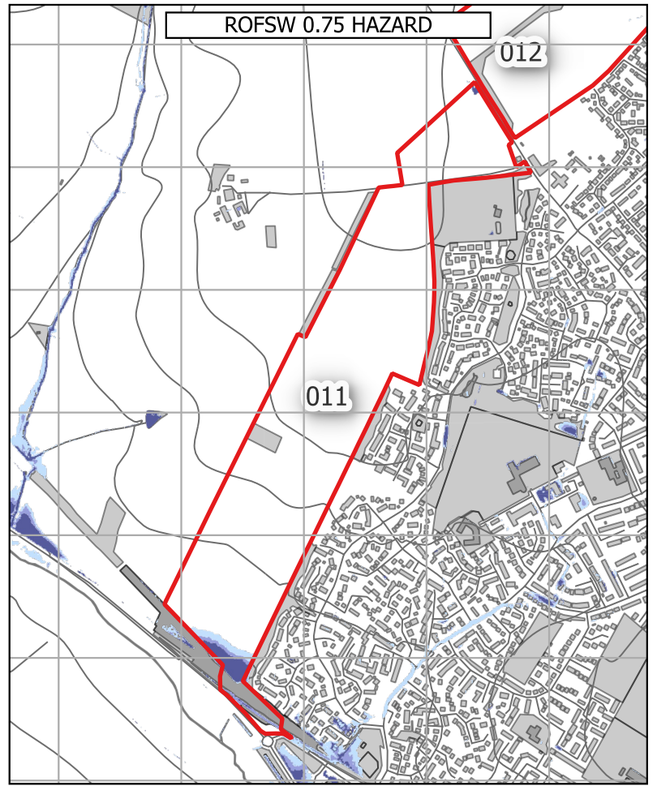
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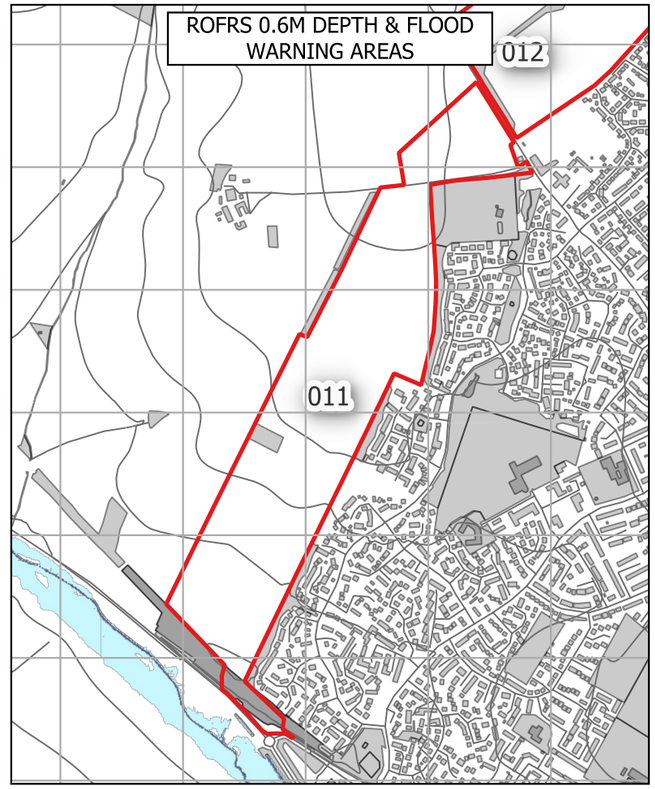
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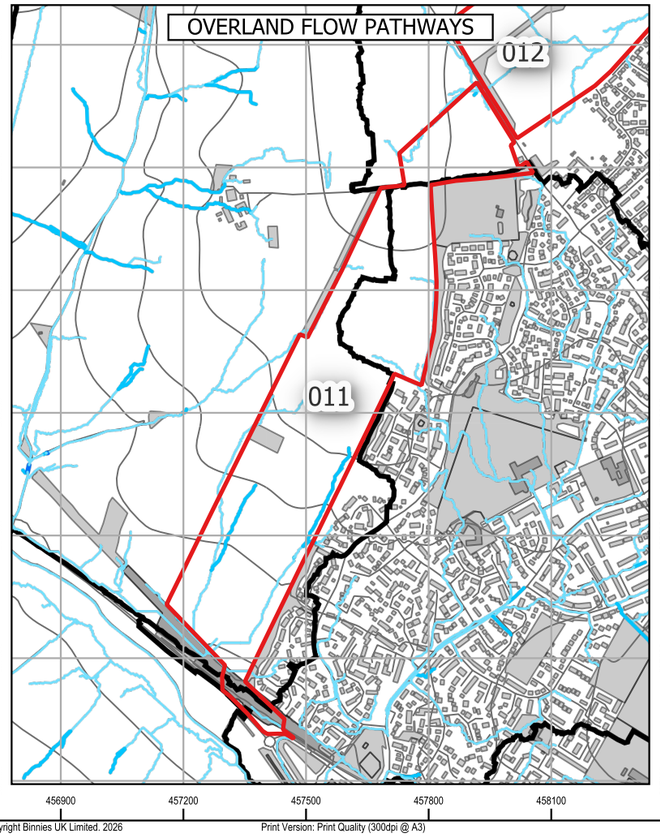
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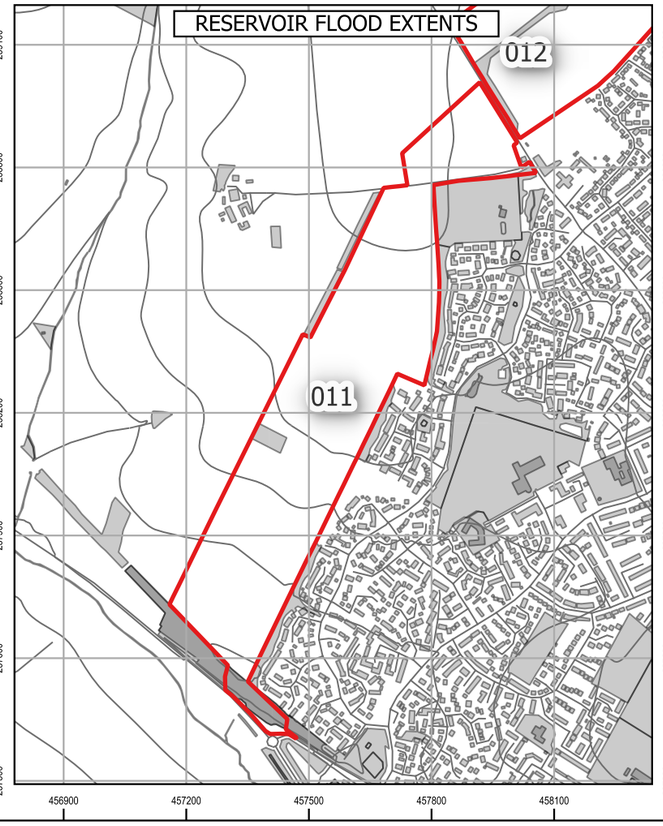
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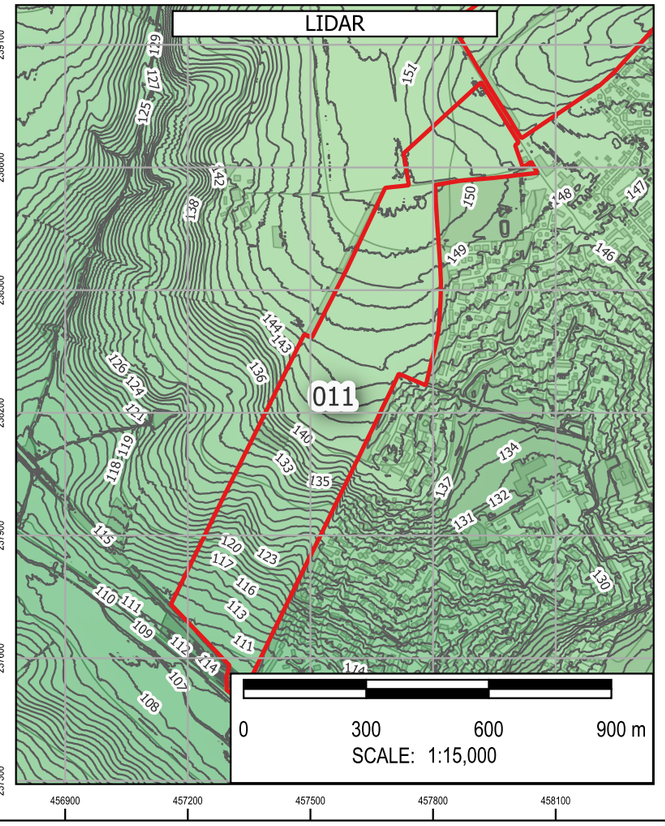












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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY

ROFSW

0.6M DEPTH
- High
- Medium
- Low
- Unavailable

0.75 HAZARD
- High
- Medium
- Low
- Unavailable

ROFRS

0.6M DEPTH
- High
- Medium
- Low
- Very low
- Unavailable

FLOOD WARNING AREAS

OVERLAND FLOW PATHWAYS

PROBABLE OVERLAND FLOW PATHWAYS
- < 3 Degrees
- 3 - 7 Degrees
- 7 - 12 Degrees
- > 12 Degrees

DETAILED WATERSHEDS

RESERVOIR FLOOD EXTENT

DRY DAY

WET DAY

LIDAR

1M CONTOURS

ELEVATION

Band 1 (Gray)
230
50

SAFETY HEALTH AND ENVIRONMENT INFORMATION
IN ADDITION TO THE HAZARDS OR RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, THE FOLLOWING SIGNIFICANT RESIDUAL RISKS SHOULD BE NOTED. FURTHER DETAILS ARE INCLUDED IN THE CDM DESIGN RISK MANAGEMENT REGISTERS
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MAINTENANCE / CLEARING / OPERATION
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DECOMISSIONING AND DEMOLITION
NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS

Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	01/05/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

Binnies UK Limited
Registered Office
Spring Lodge, 172 Chester Road, Helsby Cheshire, WA6 0AR, UK
Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 011 Brackley West of Brackley

Drawing Scale: 1:15,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00194

Revision: P01

G:\Projects\4082482_WNC\4_Workspaces\0_Working\ SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR Print Date:01/05/2026

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	014
Site Name	Towcester - North of Burcote Road
Proposed Development	Housing
Site Area	66.54 Ha
Site NGR	468539 mE, 246783 mN.
River Management Catchment	Upper Bedford and Ouse

Fluvial Flood Risk – Present-day

FZ2	FZ3
0.7 %	2.5 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
2.3 %	0.0 %	0.0 %	2.3 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Commentary

A small part of the northern site boundary extends into Flood Zone 2 and 3, associated with an ordinary watercourse, which is designated as a main river further downstream. Due to the presence of an ordinary watercourse onsite, site specific modelling may be required to inform mitigation measures as part of a site-specific Flood Risk Assessment.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
2.9 %	1.4 %	3.8 %	8.1 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
3.8 %	2.0 %	3.8 %	9.6 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

There is an existing surface water flow path along the western site boundary, with additional surface water flow paths originating within and outside of the site boundary. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Flood History

There are six WNC recorded flood events within 500m of the site. This site is located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at medium risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

The site is not indicated to be at risk of reservoir flooding.

Flood Defences – Residual Risk

Although the nearest defences are less than 400m from the site, the defences are downstream and therefore the site is unlikely to benefit from them. As a result, an assessment of a defence breach over the lifetime of the development (including the impact of climate change) is unlikely to be required.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 3. Therefore the Exception Test is required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 2 and 3, finished floor levels should be set no lower than 91.6, 600mm above the maximum predicted flood level of 91.0 mAOD. In accordance with the EA guidance, freeboard allowances could be reviewed, and where appropriate reduced to 300mm. An appropriate freeboard allowance should also be considered for other sources of flooding. This should be confirmed by a site specific assessment as part of the detailed design for development, which should include consideration of proposed ground levels.

Surface Water Attenuation Provision – Design Considerations

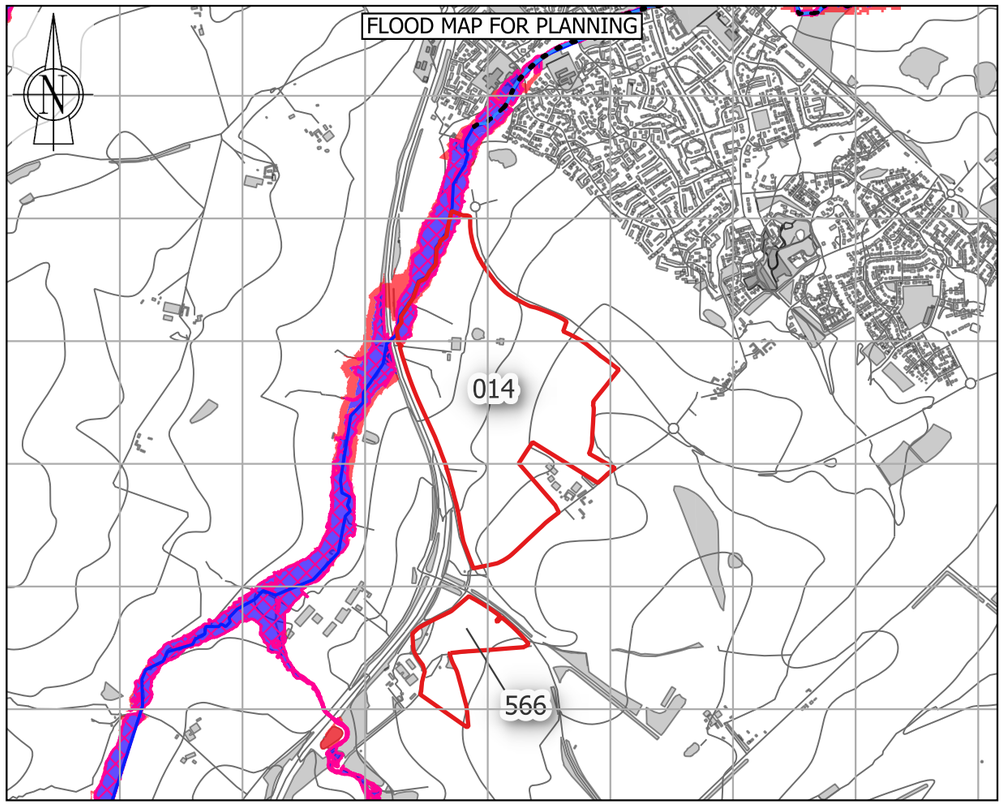
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

It is estimated that 37250 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 5.57 Ha should be set aside for appropriate SuDS techniques.

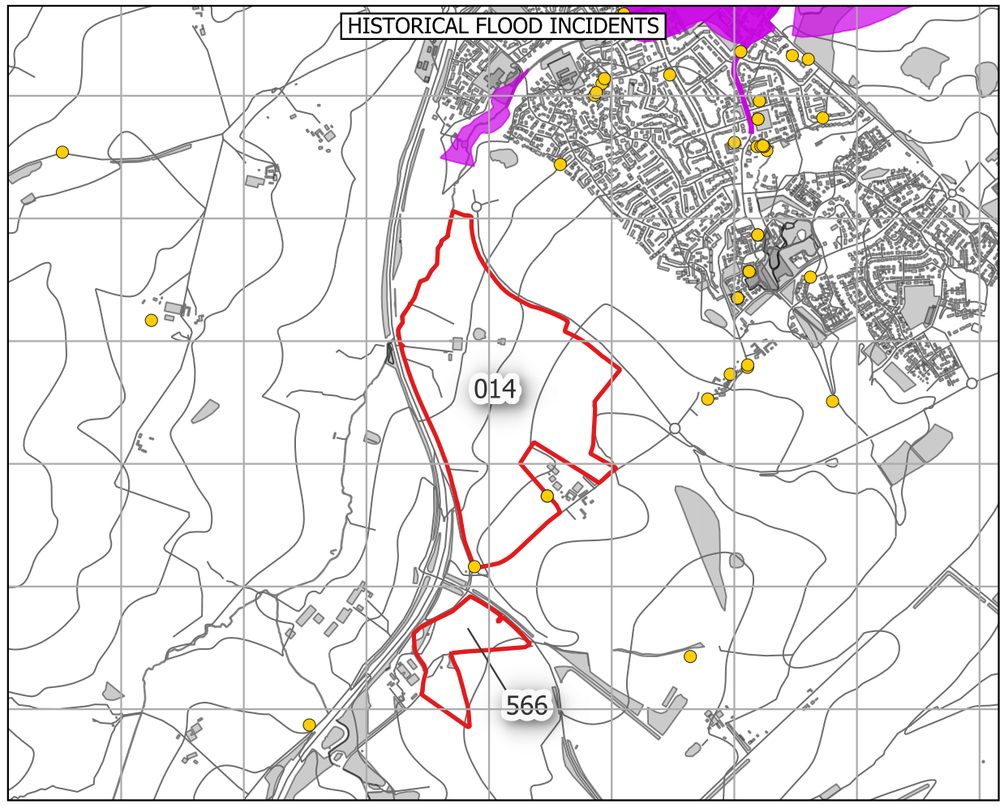
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.

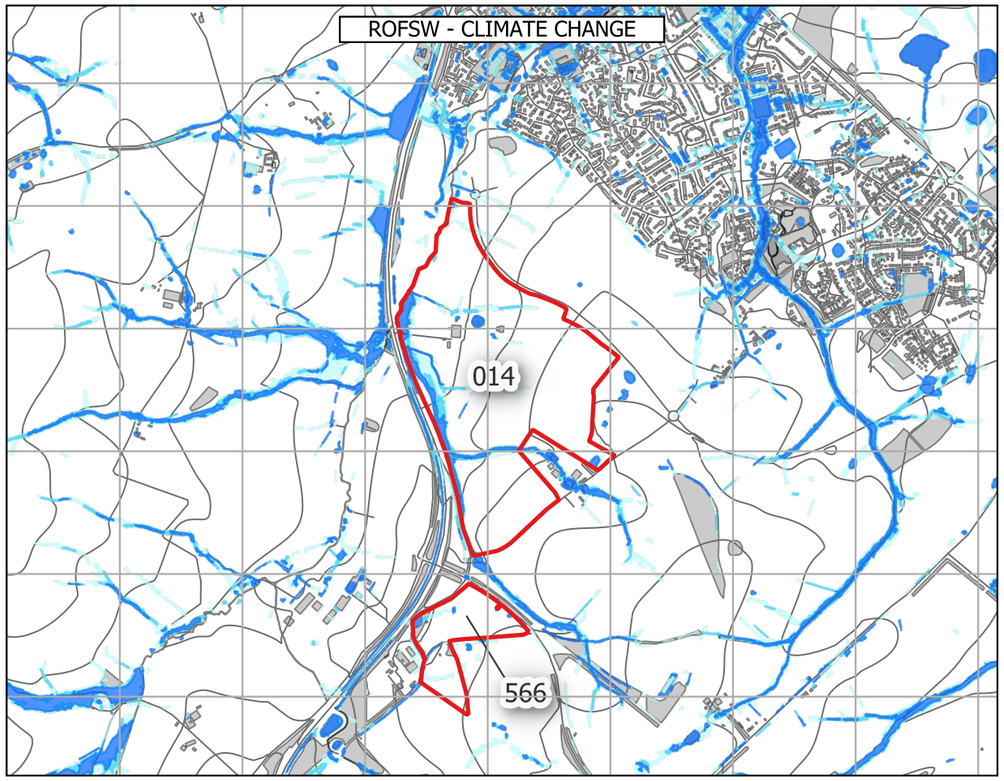
FLOOD MAP FOR PLANNING



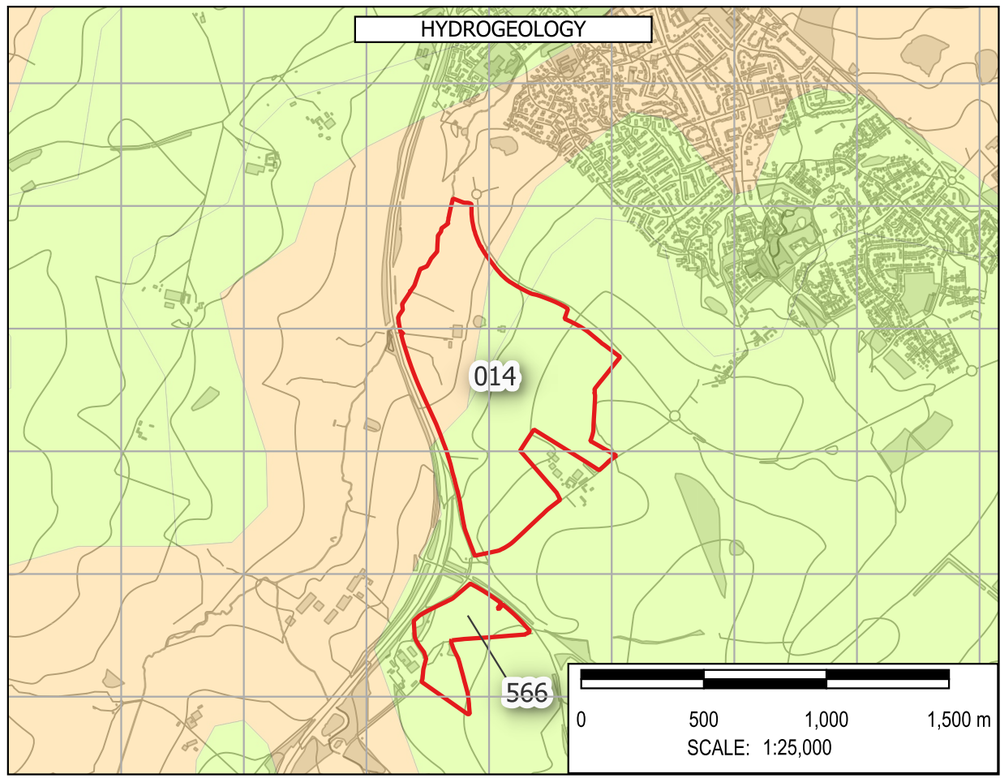
HISTORICAL FLOOD INCIDENTS



ROFSW - CLIMATE CHANGE



HYDROGEOLOGY



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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
  - WEST NORTHANTS BOUNDARY
- FLOOD MAP FOR PLANNING
  - FLOOD DEFENCES
  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
- ROFSW WITH CLIMATE CHANGE
  - HIGH
  - MEDIUM
  - LOW
- HYDROGEOLOGY
  - AQUIFER TYPE
    - HIGHLY PRODUCTIVE AQUIFER
    - MODERATELY PRODUCTIVE AQUIFER
    - LOW PRODUCTIVITY AQUIFER
    - ROCKS WITH ESSENTIALLY NO GROUNDWATER

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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MAINTENANCE / CLEARING / OPERATION
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NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS

Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

Binnies UK Limited
Registered Office
Spring Lodge, 172 Chester Road, Helsby Cheshire, WA6 0AR, UK
Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 014
Towcester - North of Burcote Road

Drawing Scale: 1:25,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00127

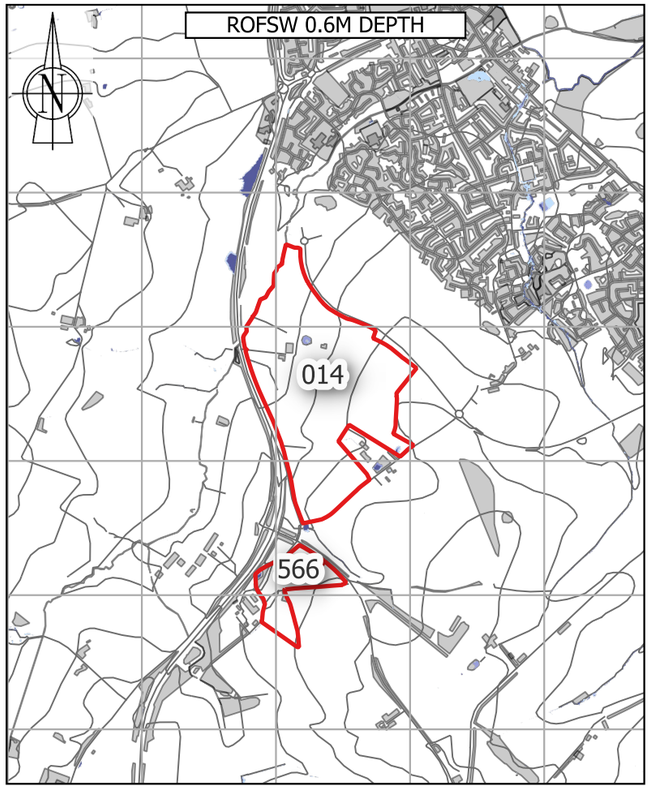
Revision: P01

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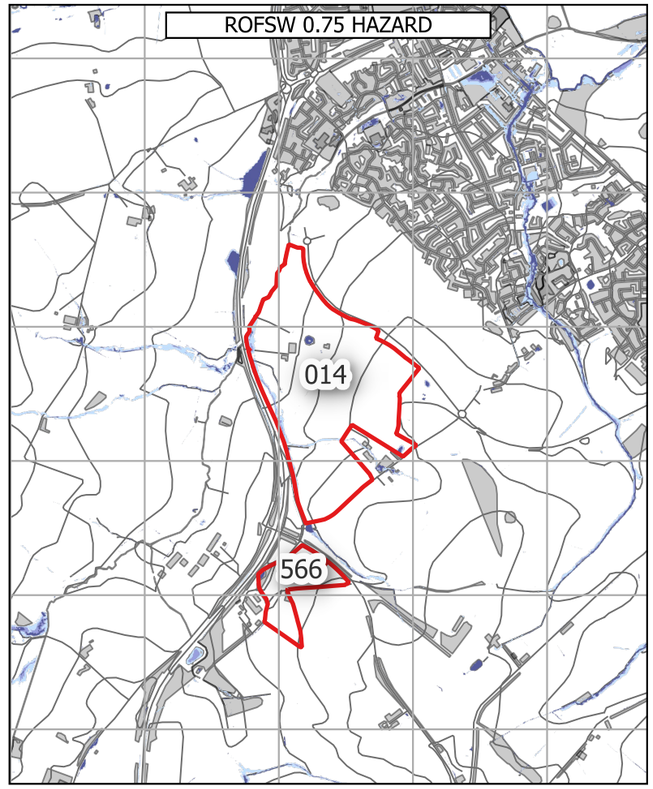
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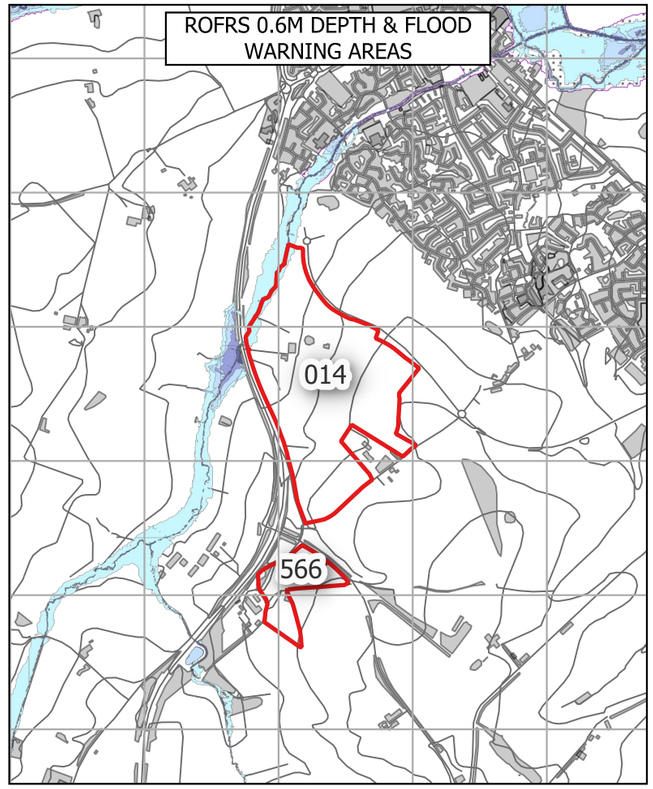
ROFSW 0.6M DEPTH



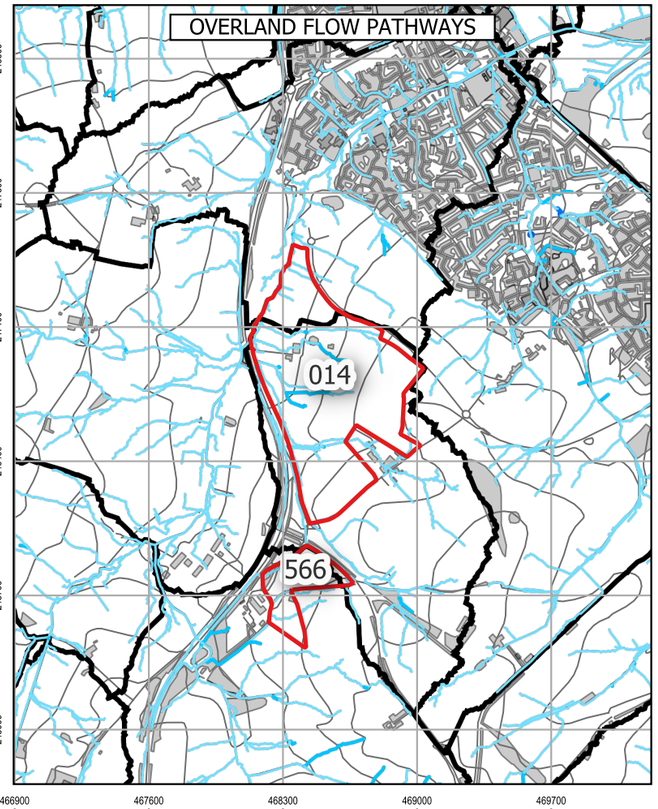
ROFSW 0.75 HAZARD



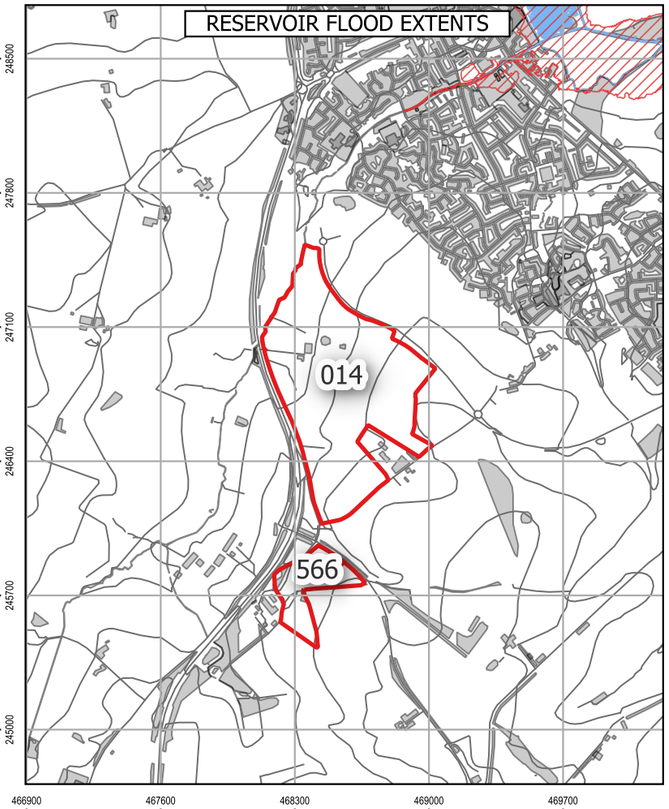
ROFRS 0.6M DEPTH & FLOOD WARNING AREAS



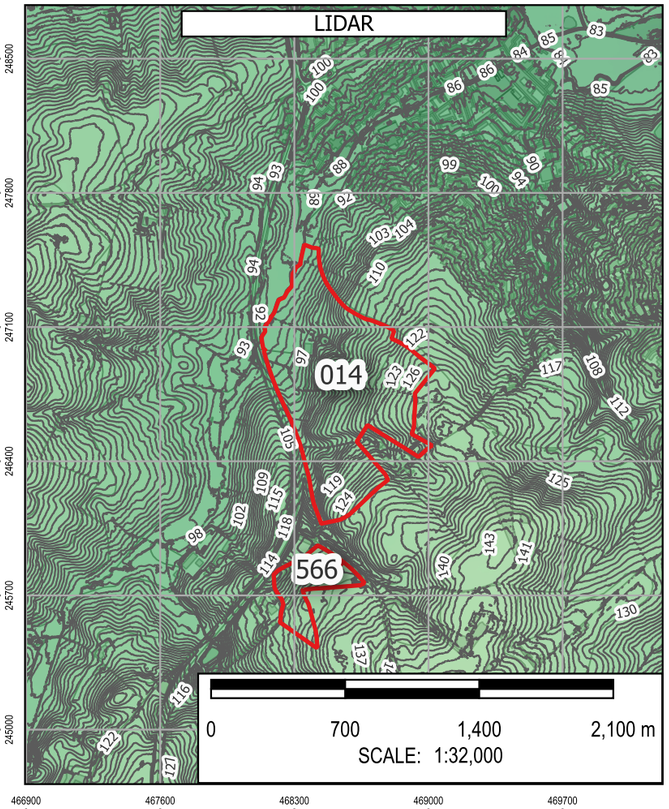
OVERLAND FLOW PATHWAYS



RESERVOIR FLOOD EXTENTS



LIDAR



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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY

ROFSW

0.6M DEPTH
- High
- Medium
- Low
- Unavailable

0.75 HAZARD
- High
- Medium
- Low
- Unavailable

ROFRS

0.6M DEPTH
- High
- Medium
- Low
- Very low
- Unavailable

FLOOD WARNING AREAS

OVERLAND FLOW PATHWAYS

PROBABLE OVERLAND FLOW PATHWAYS
- < 3 Degrees
- 3 - 7 Degrees
- 7 - 12 Degrees
- > 12 Degrees

DETAILED WATERSHEDS

RESERVOIR FLOOD EXTENT

DRY DAY

WET DAY

LIDAR

1M CONTOURS

ELEVATION

Band 1 (Gray)
230
50

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	01/05/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Registered Office
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Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 014
Towcester - North of Burcote Road

Drawing Scale: 1:32,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00185

Revision: P01

G:\Projects\4082482_WNC\4_Workspaces\0_Working\ - SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR Print Date:01/05/2026

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	007
Site Name	Northampton - East of A43
Proposed Development	Housing
Site Area	100.29 Ha
Site NGR	480504 mE, 267473 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
0.3 %	2.5 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
2.4 %	0.1 %	0.3 %	2.8 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Commentary

A small part of the south-eastern boundary is within Flood Zone 2 and 3, as a result of an ordinary watercourse flowing within the site. Site specific modelling may be required to inform mitigation measures as part of a site-specific Flood Risk Assessment.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
1.0 %	0.3 %	1.1 %	2.4 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
1.2 %	0.5 %	1.3 %	3.0 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

There is a minor flow path which follows the alignment of the existing ordinary watercourse on the south-eastern boundary, in addition to a flow path along the northern boundary which flows offsite. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Flood History

There are two WNC recorded flood events within 500m of the site. This site is not located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at medium risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

The site is not indicated to be at risk of reservoir flooding.

Flood Defences – Residual Risk

It is unlikely that the site will be affected by a breach of flood defences as the nearest defences are more than 500m away.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 3. Therefore the Exception Test is required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 2 and 3, finished floor levels should be set no lower than 101.6 mAOD, 600mm above the maximum predicted flood level of 101.0 mAOD. In accordance with the EA guidance, freeboard allowances could be reviewed, and where appropriate reduced to 300mm. An appropriate freeboard allowance should also be considered for other sources of flooding. This should be confirmed by a site specific assessment as part of the detailed design for development, which should include consideration of proposed ground levels.

Surface Water Attenuation Provision – Design Considerations

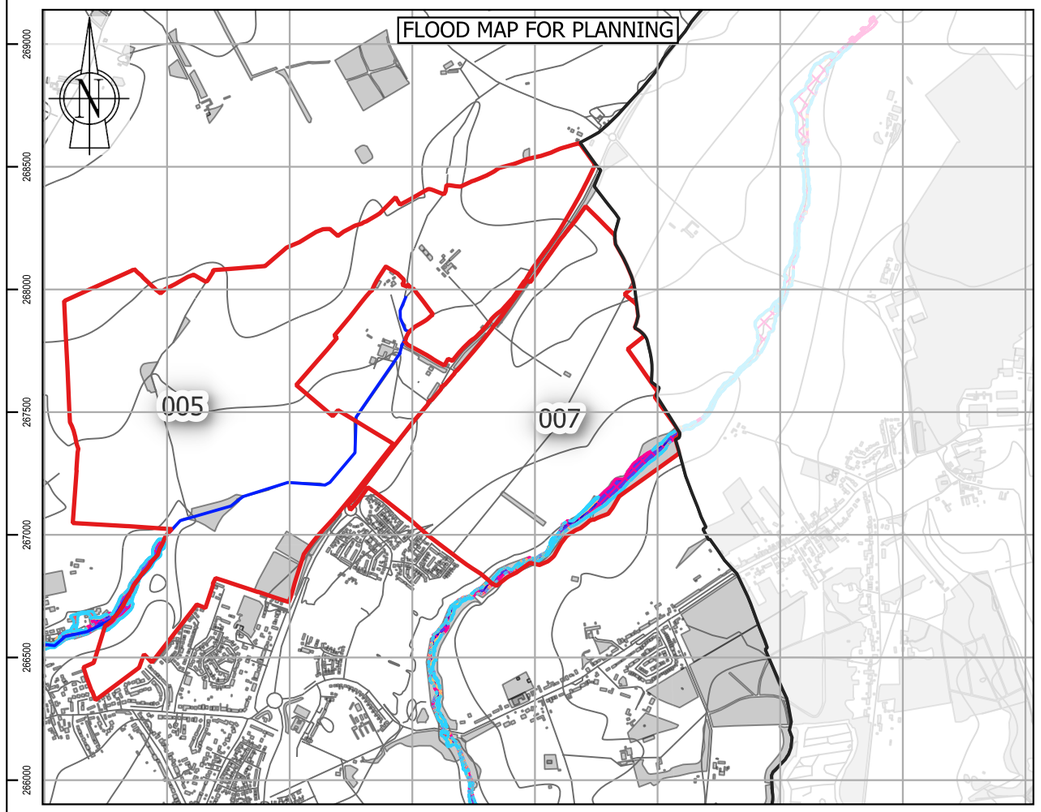
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

It is estimated that 56141 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 8.40 Ha should be set aside for appropriate SuDS techniques.

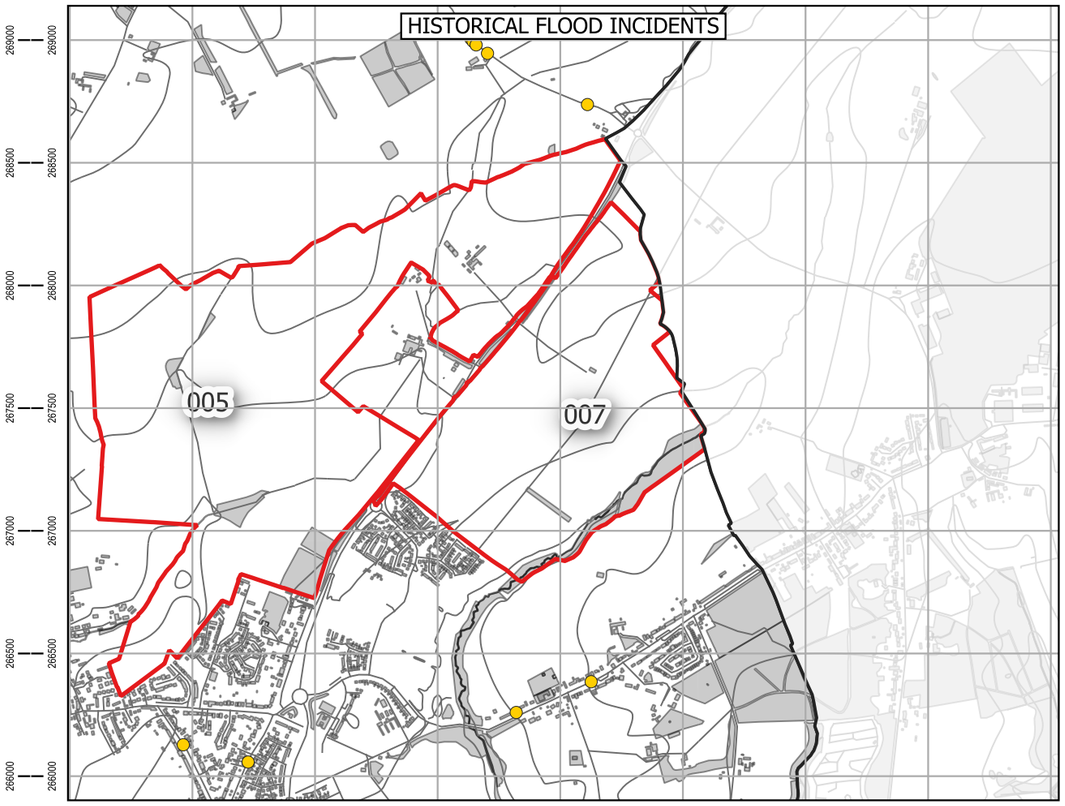
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.

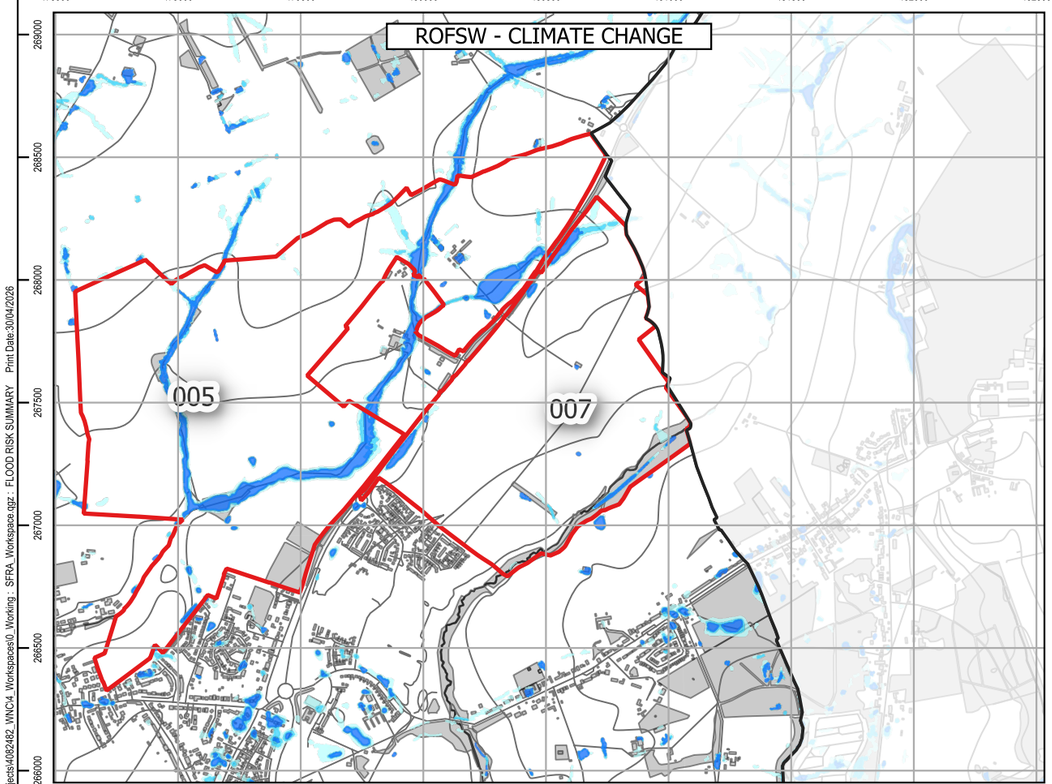
FLOOD MAP FOR PLANNING



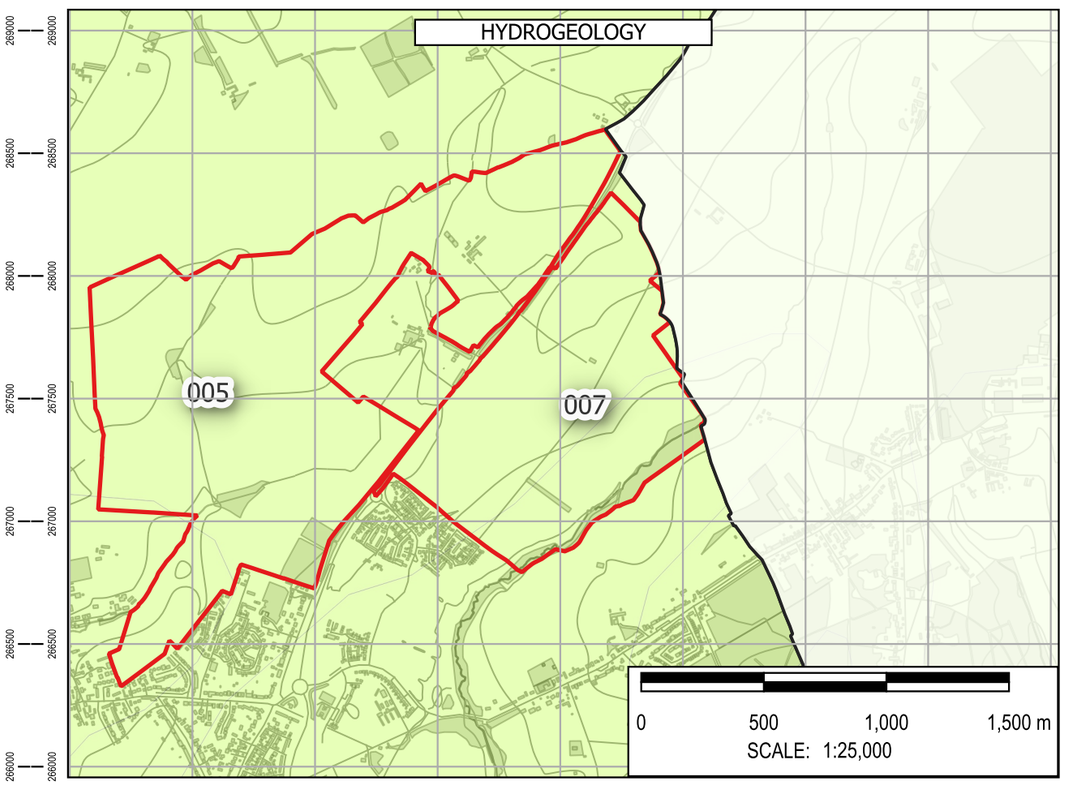
HISTORICAL FLOOD INCIDENTS



ROFSW - CLIMATE CHANGE



HYDROGEOLOGY



0 500 1,000 1,500 m

SCALE: 1:25,000

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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
  - WEST NORTHANTS BOUNDARY
- FLOOD MAP FOR PLANNING
  - FLOOD DEFENCES
  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
- ROFSW WITH CLIMATE CHANGE
  - HIGH
  - MEDIUM
  - LOW
- HYDROGEOLOGY
  - AQUIFER TYPE
  - HIGHLY PRODUCTIVE AQUIFER
  - MODERATELY PRODUCTIVE AQUIFER
  - LOW PRODUCTIVITY AQUIFER
  - ROCKS WITH ESSENTIALLY NO GROUNDWATER

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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DECOMISSIONING AND DEMOLITION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 007
Northampton - East of A43

Drawing Scale: 1:25,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00124

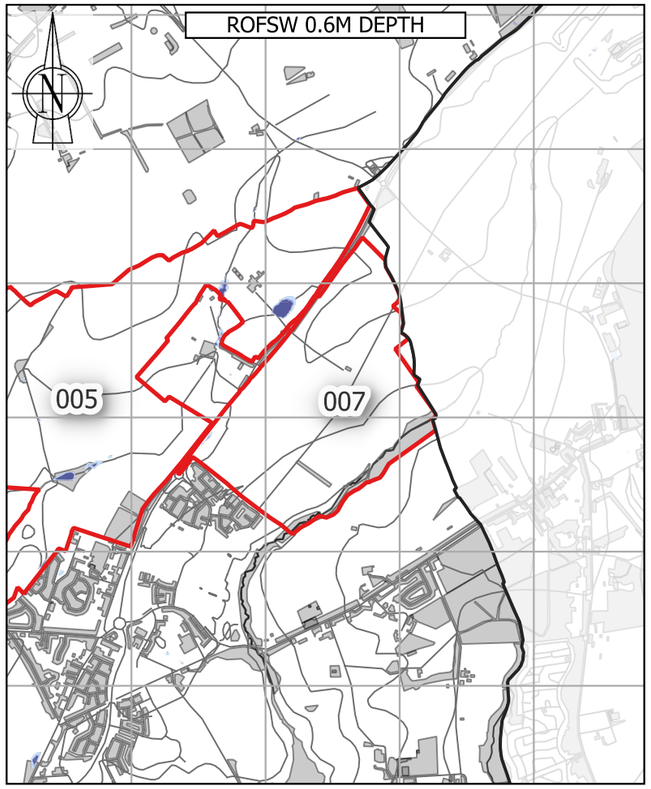
Revision: P01

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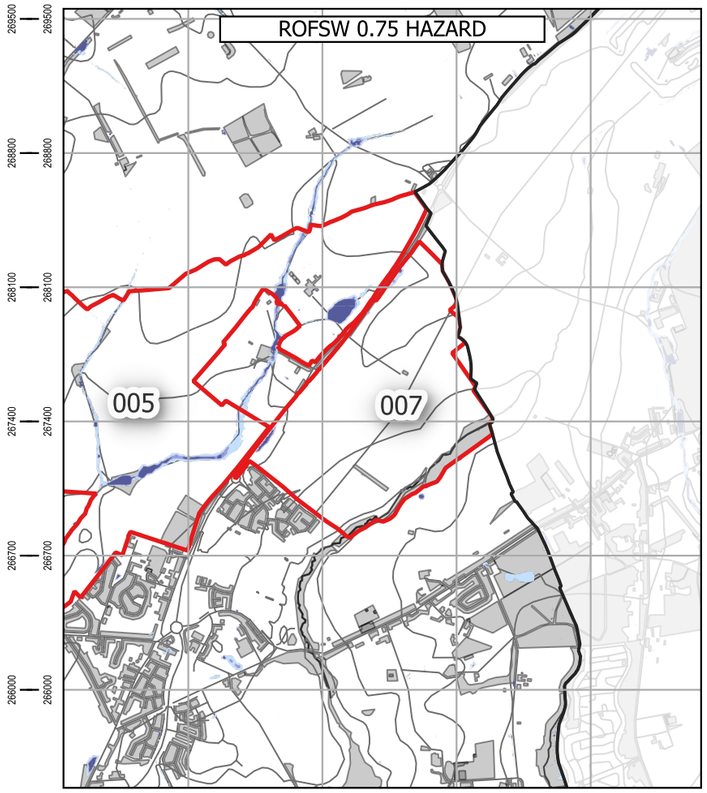
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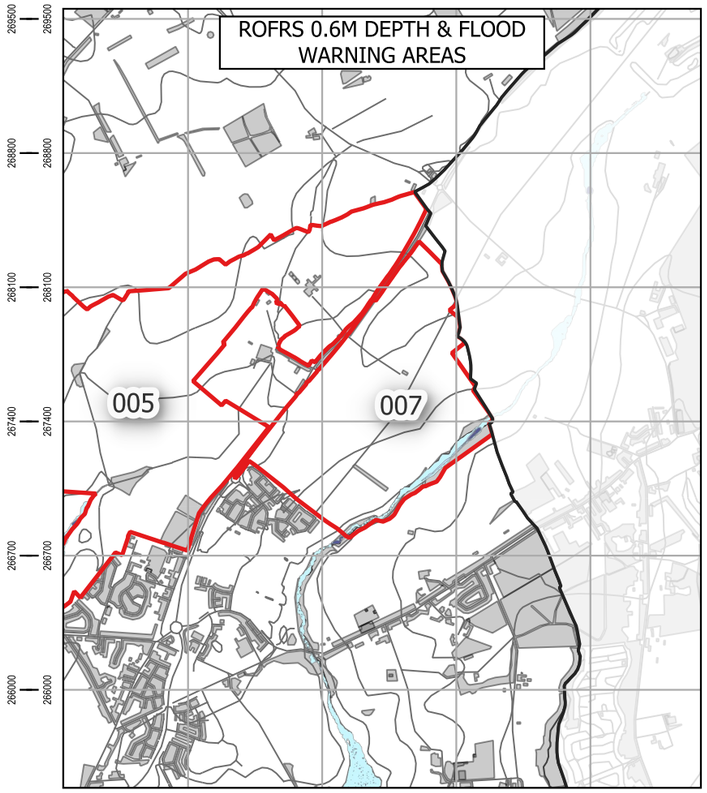
ROFSW 0.6M DEPTH



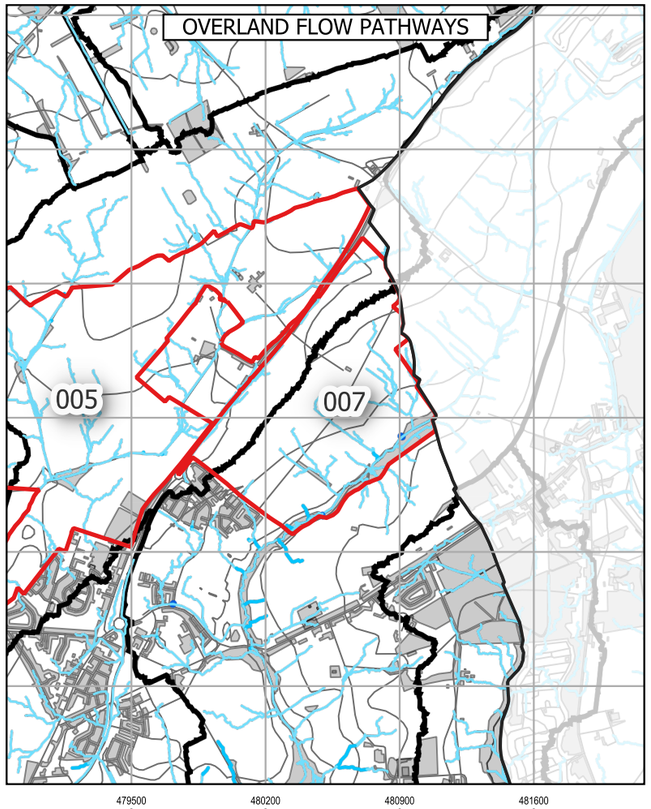
ROFSW 0.75 HAZARD



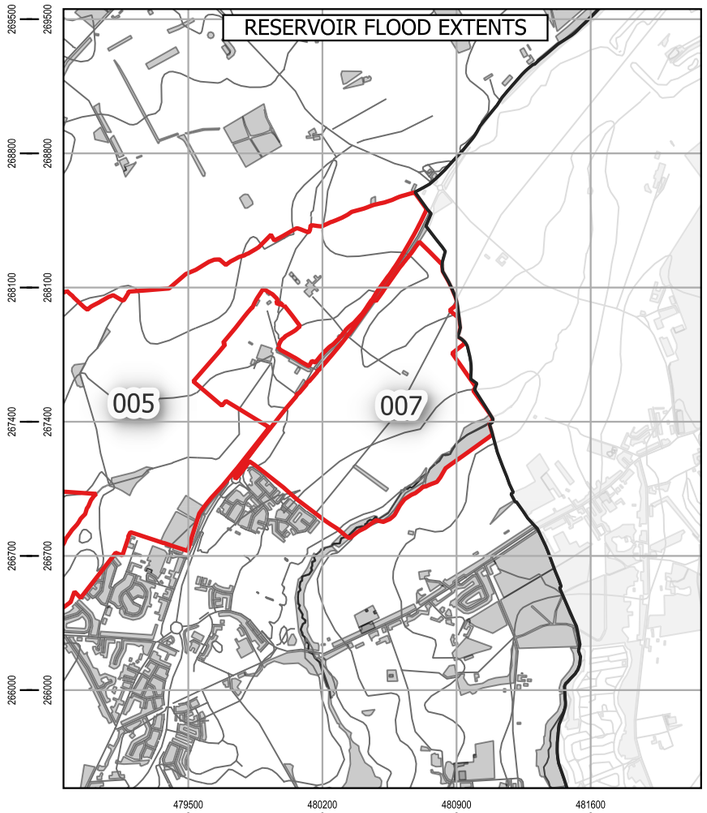
ROFRS 0.6M DEPTH & FLOOD WARNING AREAS



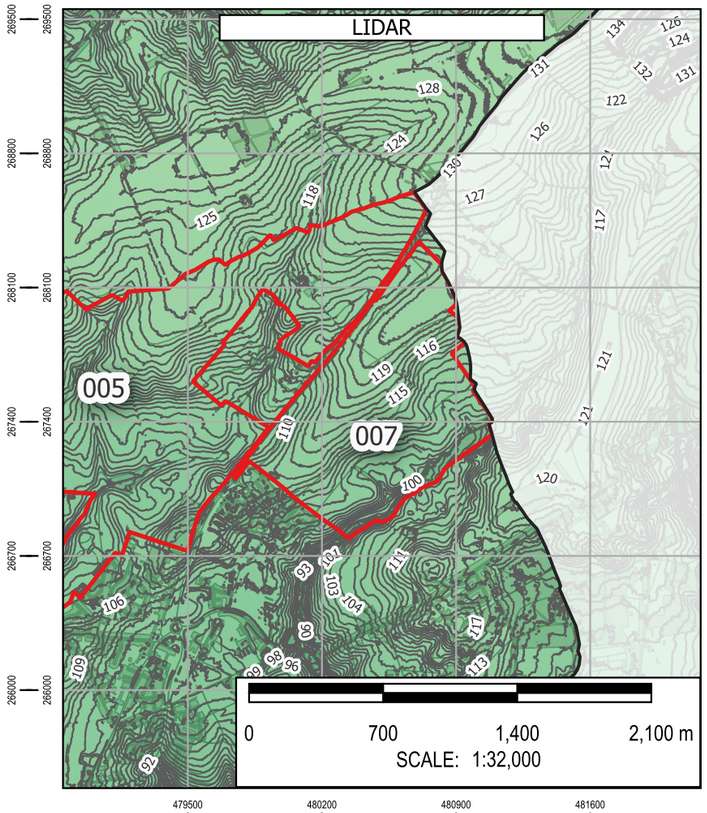
OVERLAND FLOW PATHWAYS



RESERVOIR FLOOD EXTENTS



LIDAR



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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY

ROFSW

0.6M DEPTH
- High
- Medium
- Low
- Unavailable

0.75 HAZARD
- High
- Medium
- Low
- Unavailable

ROFRS

0.6M DEPTH
- High
- Medium
- Low
- Very low
- Unavailable

FLOOD WARNING AREAS

OVERLAND FLOW PATHWAYS

PROBABLE OVERLAND FLOW PATHWAYS
- < 3 Degrees
- 3 - 7 Degrees
- 7 - 12 Degrees
- > 12 Degrees

DETAILED WATERSHEDS

RESERVOIR FLOOD EXTENT
- DRY DAY
- WET DAY

LIDAR
- 1M CONTOURS

ELEVATION
- Band 1 (Gray)
- 230
- 50

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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DECOMISSIONING AND DEMOLITION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	01/05/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 007 Northampton - East of A43

Drawing Scale: 1:32,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00182 Revision: P01

G:\Projects\4082482_WNC\4_Workspaces\0_Working\ - SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR Print Date:01/05/2026

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	_009
Site Name	The Green, Great Houghton
Proposed Development	Housing
Site Area	46.63 Ha
Site NGR	479072 mE, 257664 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
0.0 %	0.0 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
1.1 %	0.5 %	1.4 %	3.0 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
1.4 %	0.7 %	1.8 %	3.9 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

There are some localised areas of surface water ponding across the site, and one minor flow route which likely originates outside of the site boundary to the south. The site is immediately south of Brackmills Industrial Estate which is known to have extensive surface water flooding issues. Site specific modelling may inform whether development at this site can offer a betterment to downstream surface water issues.

Flood History

There are six WNC recorded flood events within 500m of the site. This site is not located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at medium risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

The site is not indicated to be at risk of reservoir flooding.

Flood Defences – Residual Risk

It is unlikely that the site will be affected by a breach of flood defences as the nearest defences are more than 500m away.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is likely that dry access and egress will be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 1. Therefore the Exception Test is not required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 1, finished floor levels should be at least 150mm above external ground levels. An appropriate freeboard allowance should also be considered for other sources of flooding.

Surface Water Attenuation Provision – Design Considerations

The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

It is estimated that 26106 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 3.91 Ha should be set aside for appropriate SuDS techniques.

Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.

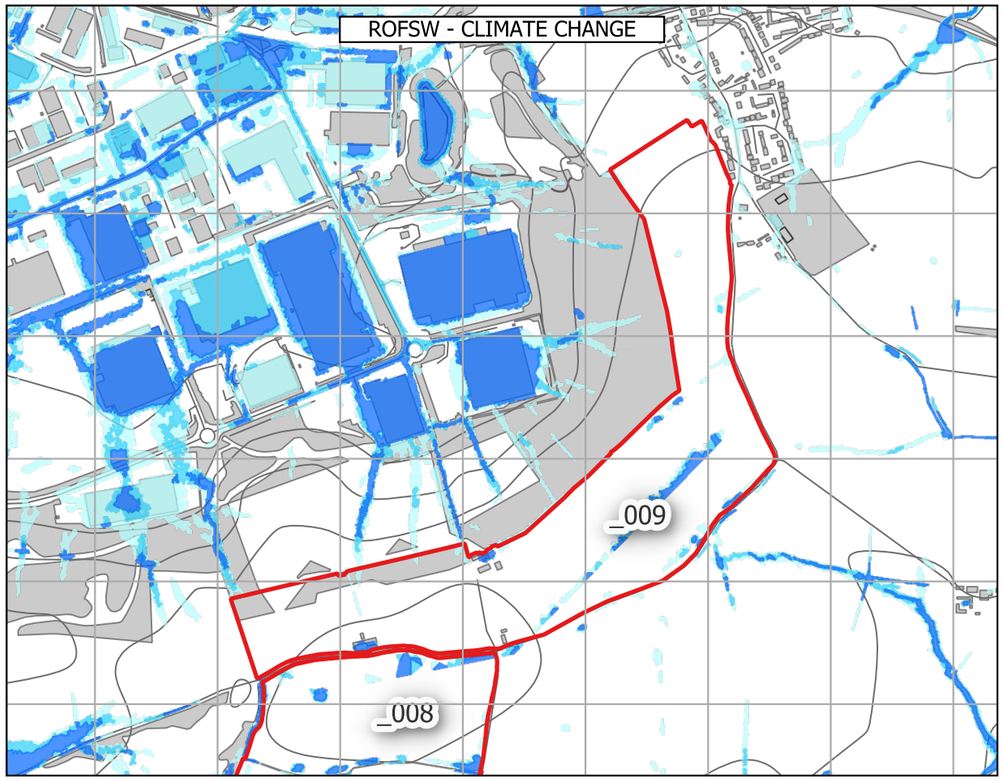
FLOOD MAP FOR PLANNING



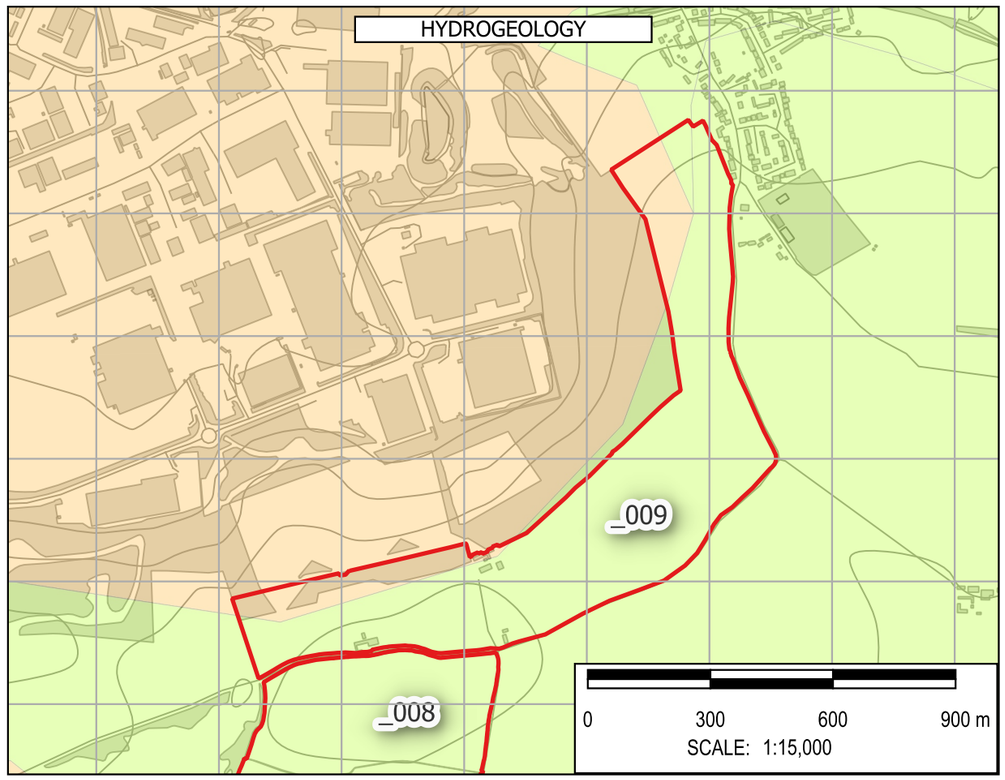
HISTORICAL FLOOD INCIDENTS



ROFSW - CLIMATE CHANGE



HYDROGEOLOGY



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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
  - WEST NORTHANTS BOUNDARY
- FLOOD MAP FOR PLANNING
  - FLOOD DEFENCES
  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
- ROFSW WITH CLIMATE CHANGE
  - HIGH
  - MEDIUM
  - LOW
- HYDROGEOLOGY
  - AQUIFER TYPE
  - HIGHLY PRODUCTIVE AQUIFER
  - MODERATELY PRODUCTIVE AQUIFER
  - LOW PRODUCTIVITY AQUIFER
  - ROCKS WITH ESSENTIALLY NO GROUNDWATER

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
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Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: _009
The Green, Great Houghton

Drawing Scale: 1:15,000 Sheet Size: A3

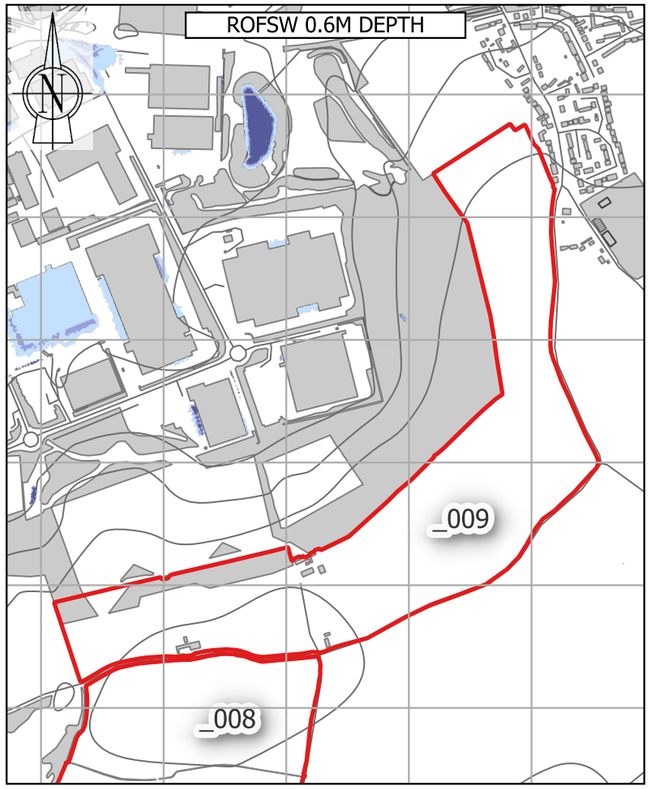
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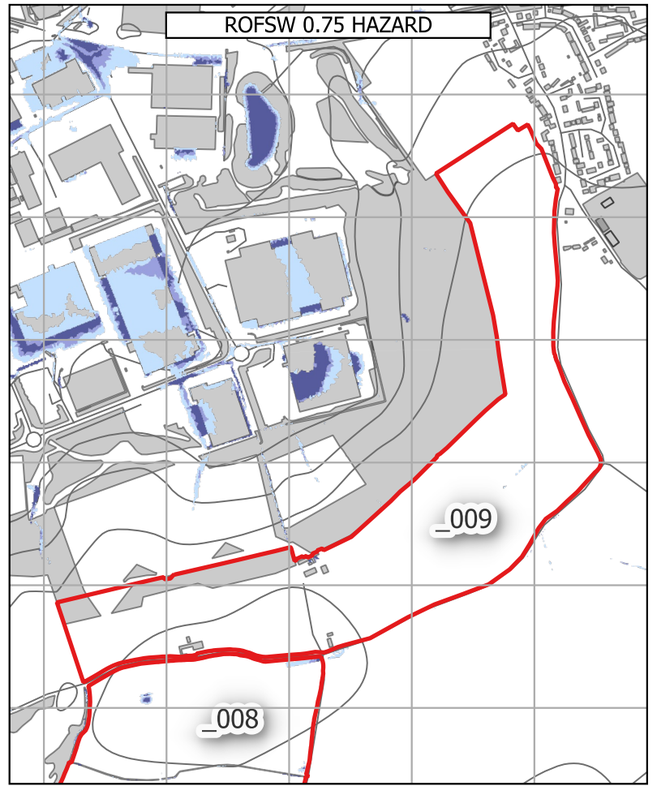
Revision: P01

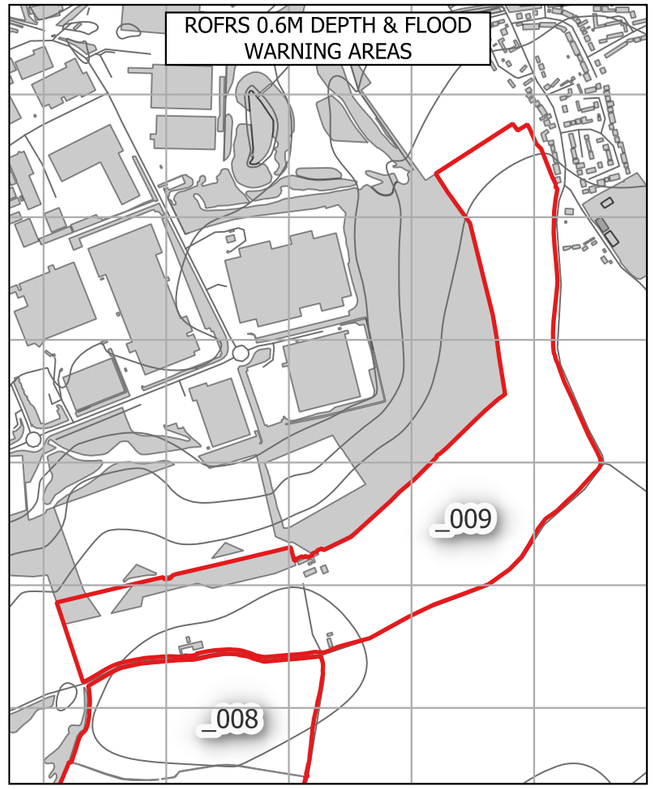
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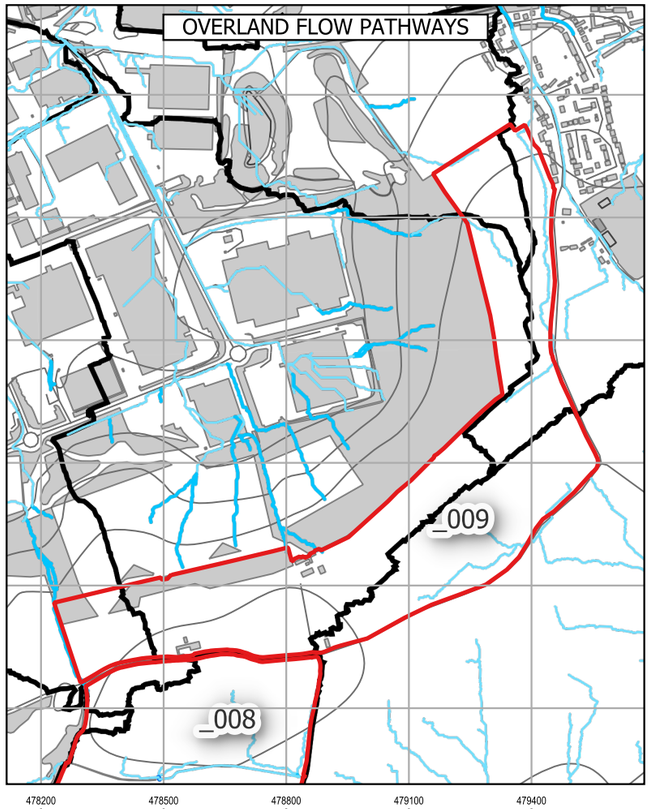
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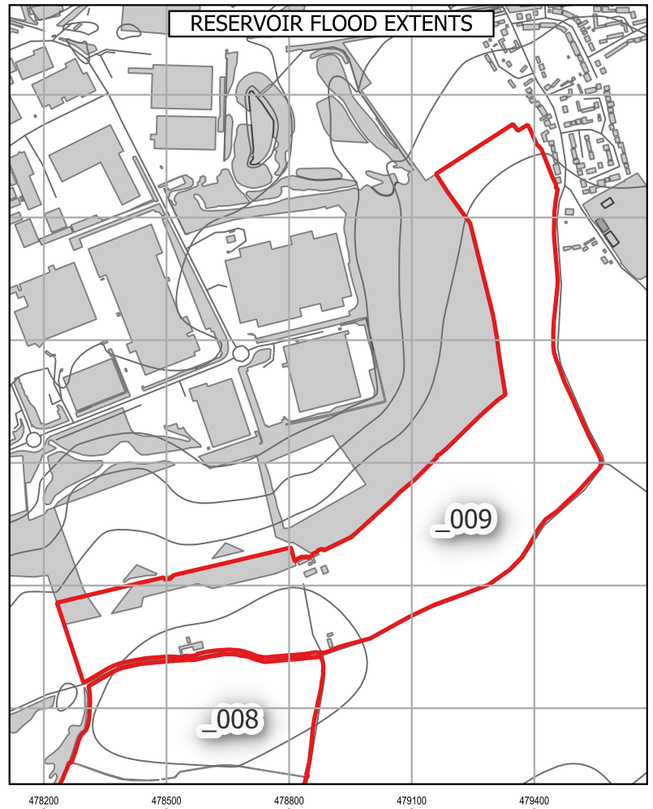
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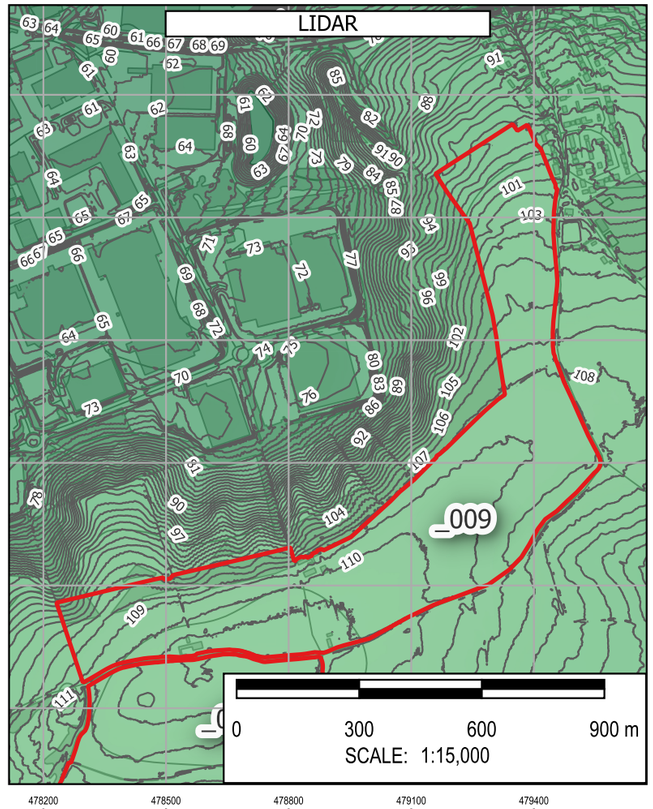












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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY
- ROFSW
  - 0.6M DEPTH
    - High
    - Medium
    - Low
    - Unavailable
  - 0.75 HAZARD
    - High
    - Medium
    - Low
    - Unavailable
- ROFRS
  - 0.6M DEPTH
    - High
    - Medium
    - Low
    - Very low
    - Unavailable
- FLOOD WARNING AREAS
- OVERLAND FLOW PATHWAYS
- PROBABLE OVERLAND FLOW PATHWAYS
  - < 3 Degrees
  - 3 - 7 Degrees
  - 7 - 12 Degrees
  - > 12 Degrees
- DETAILED WATERSHEDS
- RESERVOIR FLOOD EXTENT
  - DRY DAY
  - WET DAY
- LIDAR
  - 1M CONTOURS
- ELEVATION
  - Band 1 (Gray)
  - 230
  - 50

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	01/05/26	First Issue
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Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: _009 The Green, Great Houghton

Drawing Scale: 1:15,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00188

Revision: P01

G:\Projects\4082482_WNC\4_Workspaces\0_Working_SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR Print Date:01/05/2026

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	012
Site Name	Brackley North of Radstone Fields
Proposed Development	Housing
Site Area	19.89 Ha
Site NGR	458162 mE, 239196 mN.
River Management Catchment	Upper Bedford and Ouse

Fluvial Flood Risk – Present-day

FZ2	FZ3
0.0 %	0.0 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
1.1 %	0.6 %	2.4 %	4.1 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
1.5 %	0.9 %	3.7 %	6.1 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

A surface water flow path originates within the site boundary and flows east offsite. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Flood History

There are eight WNC recorded flood events within 500m of the site. This site is not located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at medium risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

The site is not indicated to be at risk of reservoir flooding.

Flood Defences – Residual Risk

It is unlikely that the site will be affected by a breach of flood defences as the nearest defences are more than 500m away.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 1. Therefore the Exception Test is not required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 1, finished floor levels should be at least 150mm above external ground levels. An appropriate freeboard allowance should also be considered for other sources of flooding.

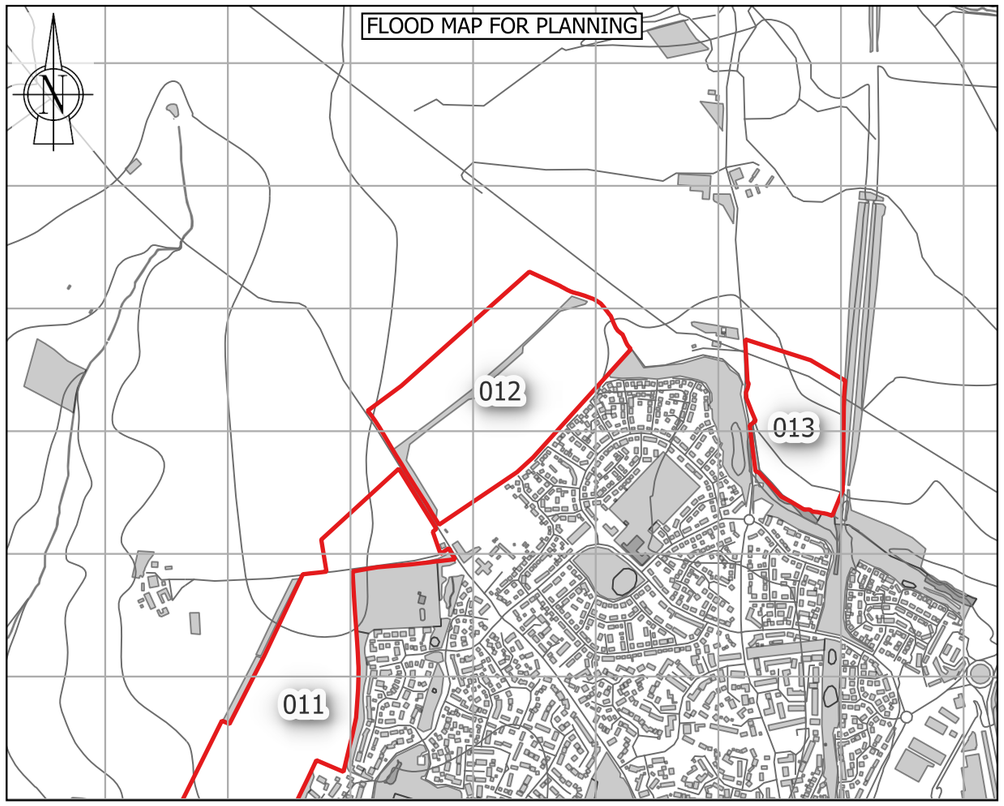
Surface Water Attenuation Provision – Design Considerations

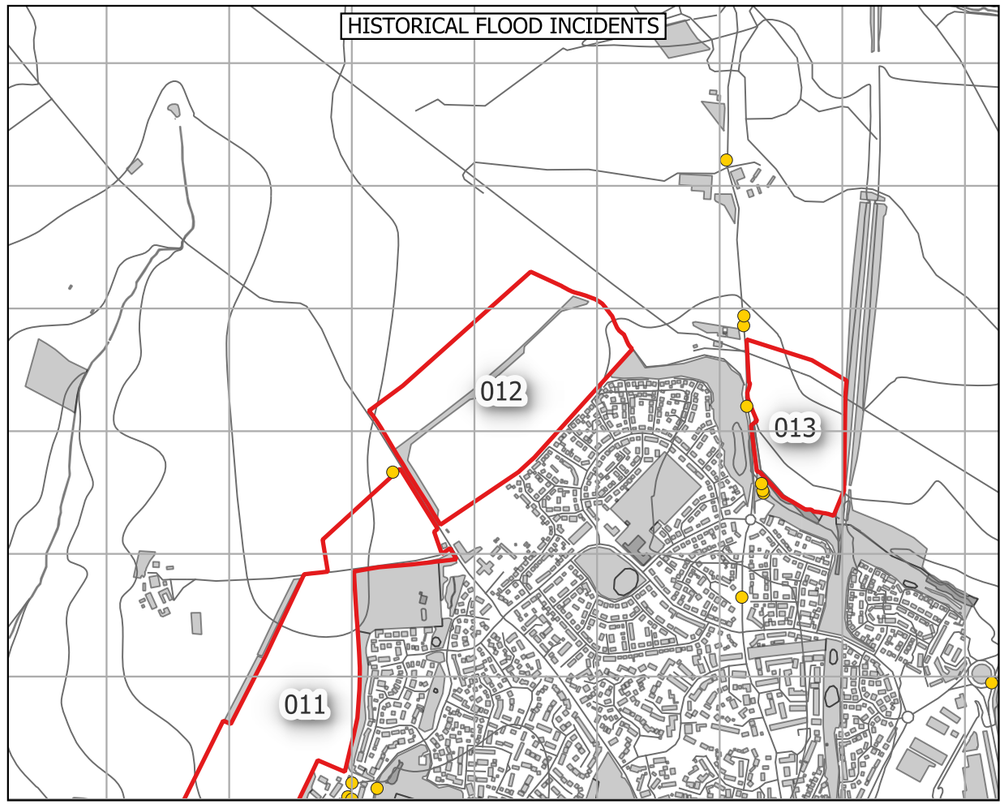
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

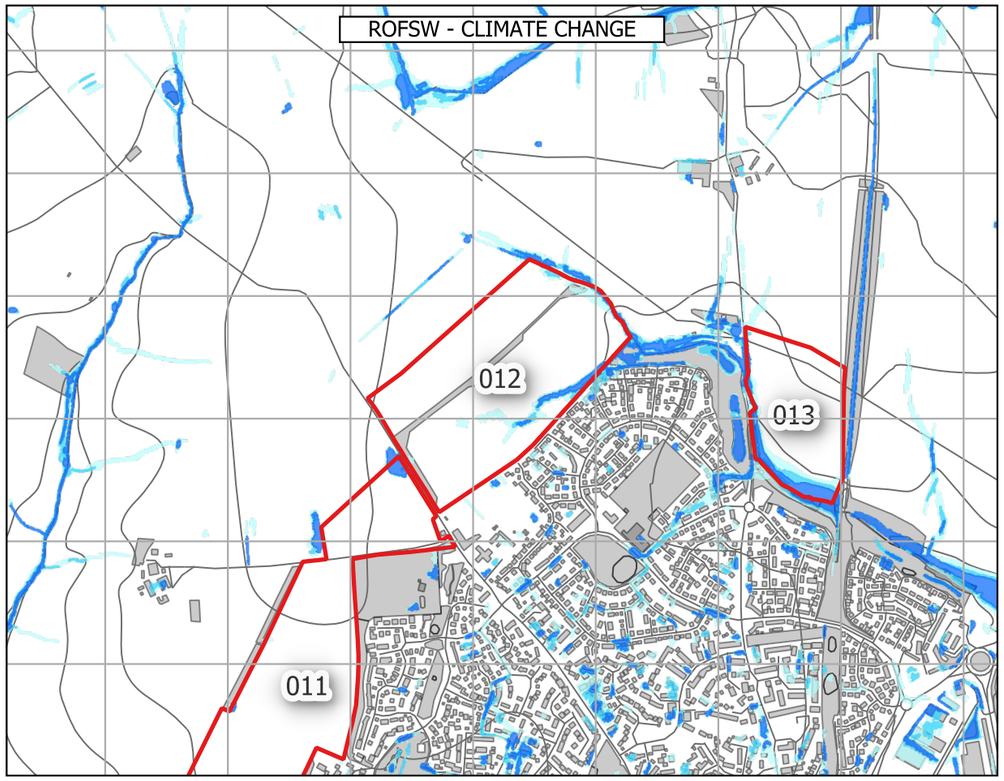
It is estimated that 11137 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 1.67 Ha should be set aside for appropriate SuDS techniques.

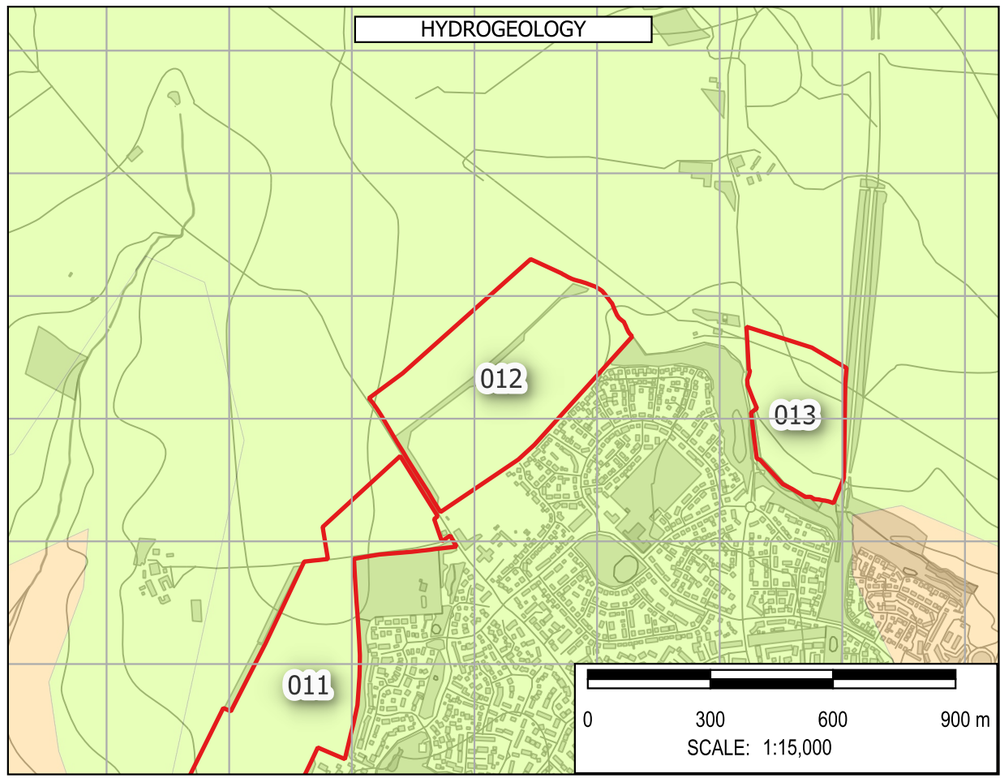
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.









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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY

FLOOD MAP FOR PLANNING

- FLOOD DEFENCES
- MAIN RIVER
- ORDINARY WATERCOURSE
- FLOOD STORAGE AREAS
- FLOOD ZONE 2
- FLOOD ZONE 3
- FLOOD ZONE 2 + CC
- FLOOD ZONE 3A + CC
- FLOOD ZONE 3B + CC
- IDB

HISTORIC FLOOD INCIDENTS

- WNC FLOOD HISTORY
- EA HISTORIC FLOOD EXTENT

ROFSW WITH CLIMATE CHANGE

- HIGH
- MEDIUM
- LOW

HYDROGEOLOGY

AQUIFER TYPE

- HIGHLY PRODUCTIVE AQUIFER
- MODERATELY PRODUCTIVE AQUIFER
- LOW PRODUCTIVITY AQUIFER
- ROCKS WITH ESSENTIALLY NO GROUNDWATER

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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DECOMISSIONING AND DEMOLITION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

Binnies UK Limited
Registered Office
Spring Lodge, 172 Chester Road, Helsby Cheshire, WA6 0AR, UK
Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 012 Brackley North of Radstone Fields

Drawing Scale: 1:15,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00142

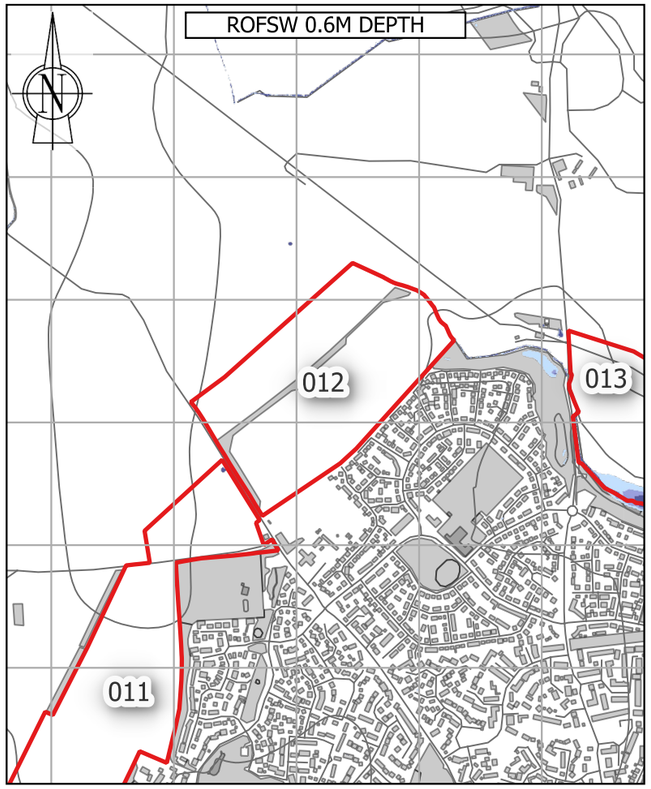
Revision: P01

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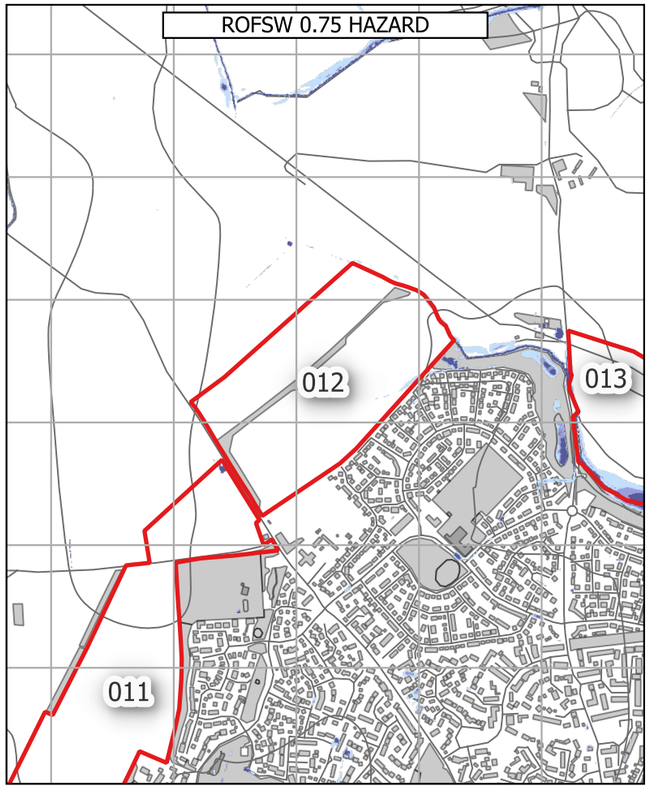
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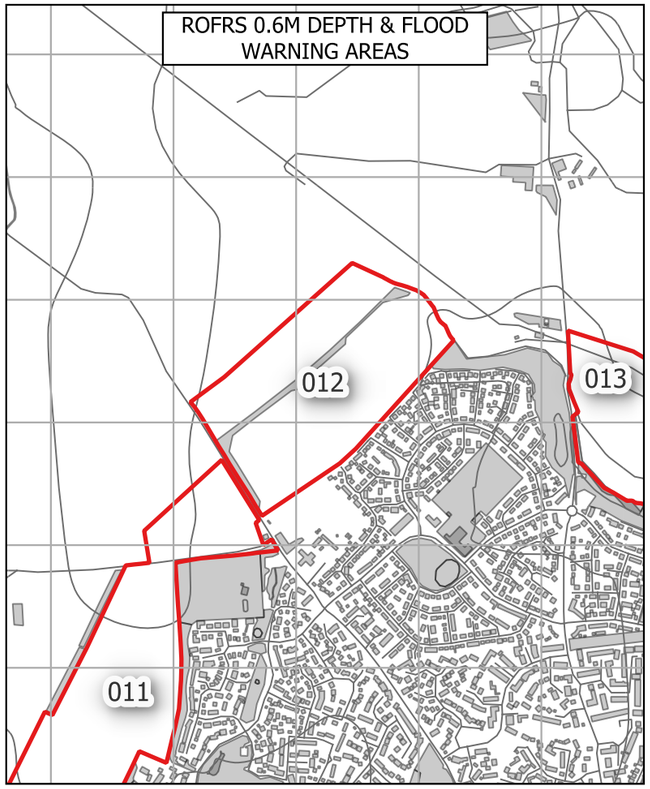
ROFSW 0.6M DEPTH



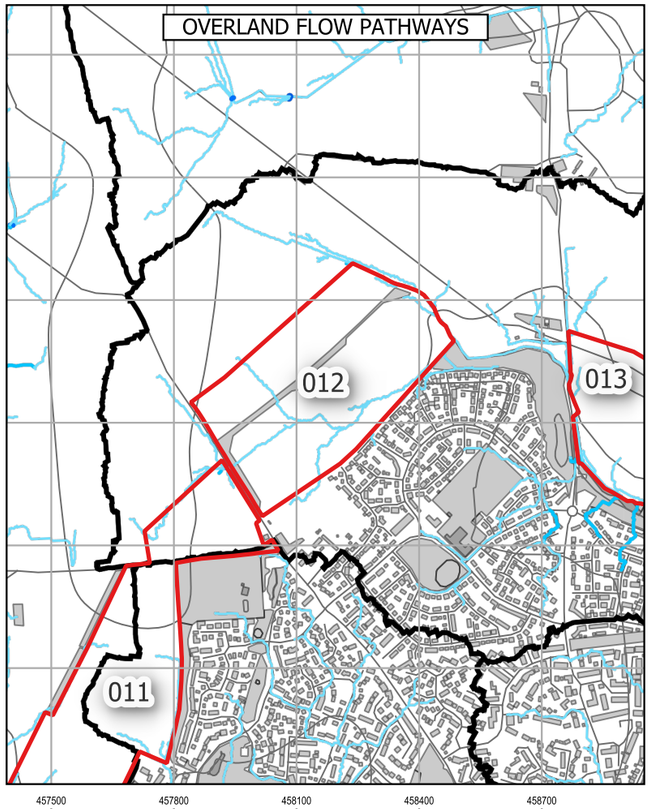
ROFSW 0.75 HAZARD



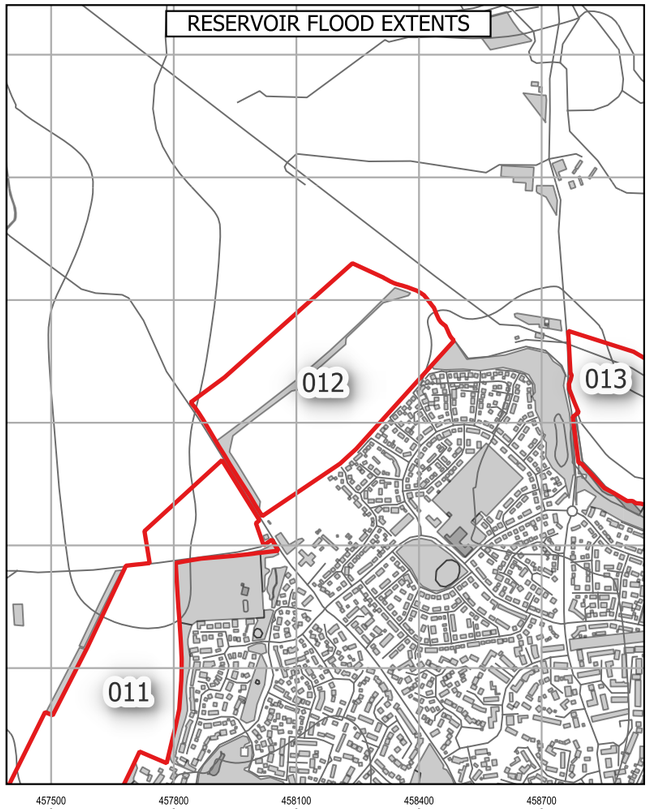
ROFRS 0.6M DEPTH & FLOOD WARNING AREAS



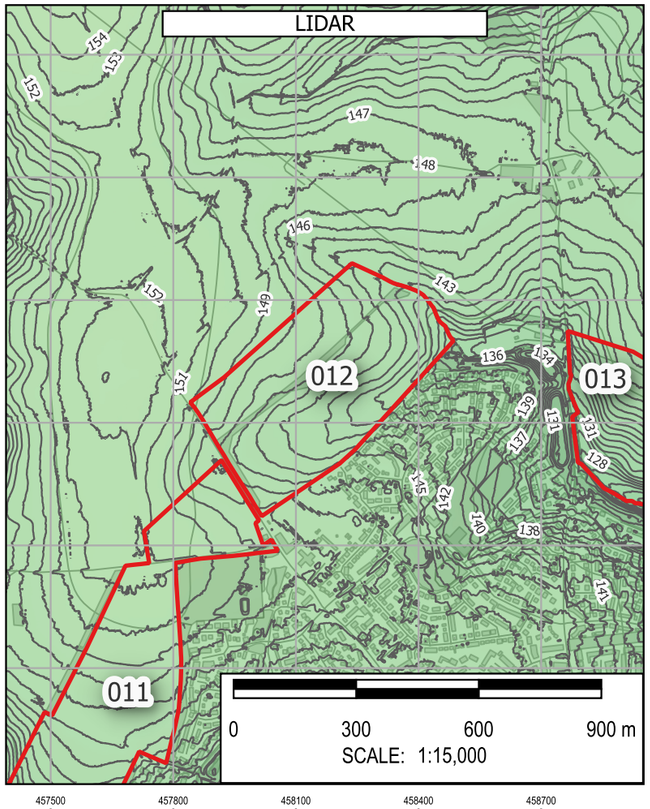
OVERLAND FLOW PATHWAYS



RESERVOIR FLOOD EXTENTS



LIDAR



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- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY
- ROFSW
- 0.6M DEPTH
- High
- Medium
- Low
- Unavailable
- 0.75 HAZARD
- High
- Medium
- Low
- Unavailable
- ROFRS
- 0.6M DEPTH
- High
- Medium
- Low
- Very low
- Unavailable
- FLOOD WARNING AREAS
- OVERLAND FLOW PATHWAYS
- PROBABLE OVERLAND FLOW PATHWAYS
- < 3 Degrees
- 3 - 7 Degrees
- 7 - 12 Degrees
- > 12 Degrees
- DETAILED WATERSHEDS
- RESERVOIR FLOOD EXTENT
- DRY DAY
- WET DAY
- LIDAR
- 1M CONTOURS
- ELEVATION
- Band 1 (Gray)
- 230
- 50

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Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 012 Brackley North of Radstone Fields

Drawing Scale: 1:15,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00200

Revision: P01

G:\Projects\4082482_WNC\4_Workspaces\0_Working\ SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR Print Date:01/05/2026

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	557
Site Name	Land at Brackley East
Proposed Development	Housing
Site Area	20.96 Ha
Site NGR	459329 mE, 237685 mN.
River Management Catchment	Upper Bedford and Ouse

Fluvial Flood Risk – Present-day

FZ2	FZ3
3.7 %	1.0 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
0.8 %	0.0 %	0.0 %	0.8 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Commentary

A small section of the southern and eastern site boundaries are in Flood Zone 2 and 3 due to the presence of a main river. As the main river is within the site boundary, site specific modelling may be required to inform mitigation measures as part of a site-specific Flood Risk Assessment.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
1.0 %	0.9 %	2.4 %	4.3 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
1.6 %	1.1 %	2.9 %	5.6 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

There are some areas of localised ponding of surface water across the site, and minor flow paths which drain east. These may be associated with existing drainage features on site. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Flood History

There are twenty WNC recorded flood events within 500m of the site. This site is located within an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at low risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
1.7 %	0.7 %	2.6 %	2.6 %

Although the site is in an area at risk of reservoir flooding, this risk could be managed through appropriate consideration of flood resilience measures.

Flood Defences – Residual Risk

Flood defences, in the form of engineered high ground, positioned along the southern site boundary offer an unknown standard of protection, assuming the ground level is maintained. As part of the site may benefit from these flood defences, a proportionate assessment of the likelihood of a defence breach over the lifetime of the development (including the impact of climate change) should be undertaken as part of a site-specific Flood Risk Assessment. Using the Environment Agency's simplified method (FD2321/TR2), a breach in the flood defence at this site could result in 'danger for all'.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 3. Therefore the Exception Test is required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 2 and 3, finished floor levels should be set no lower than 104.6 mAOD, 600mm above the maximum predicted flood level of 104.0 mAOD. In accordance with the EA guidance, freeboard allowances could be reviewed, and where appropriate reduced to 300mm. An appropriate freeboard allowance should also be considered for other sources of flooding. This should be confirmed by a site specific assessment as part of the detailed design for development, which should include consideration of proposed ground levels.

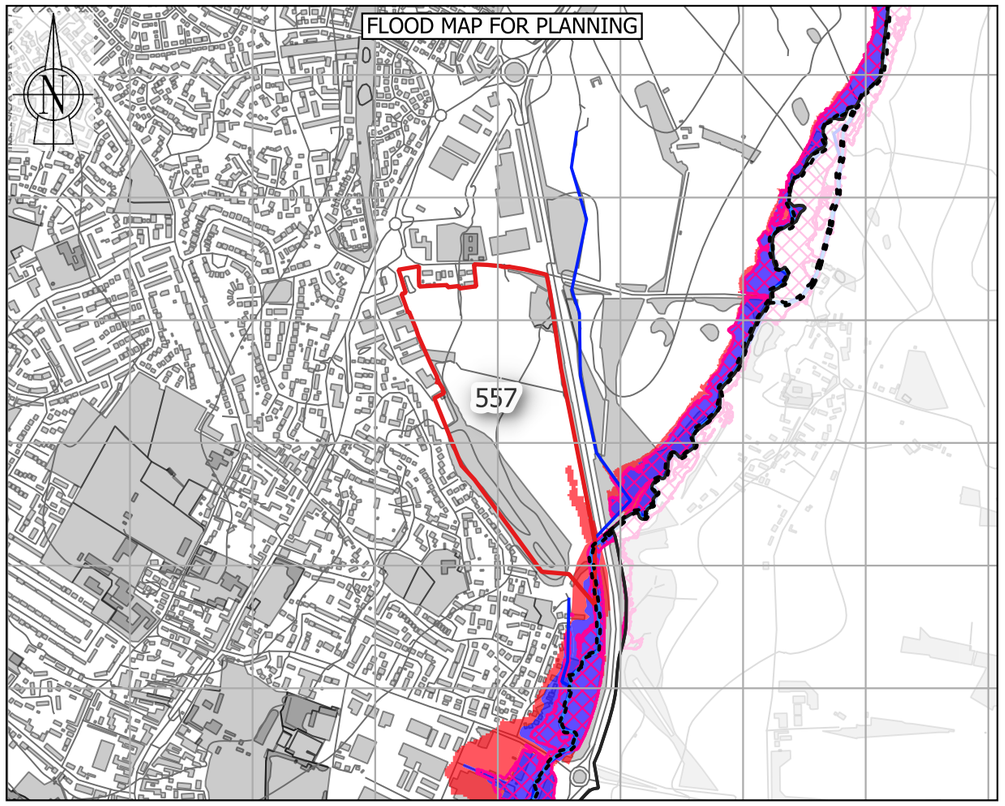
Surface Water Attenuation Provision – Design Considerations

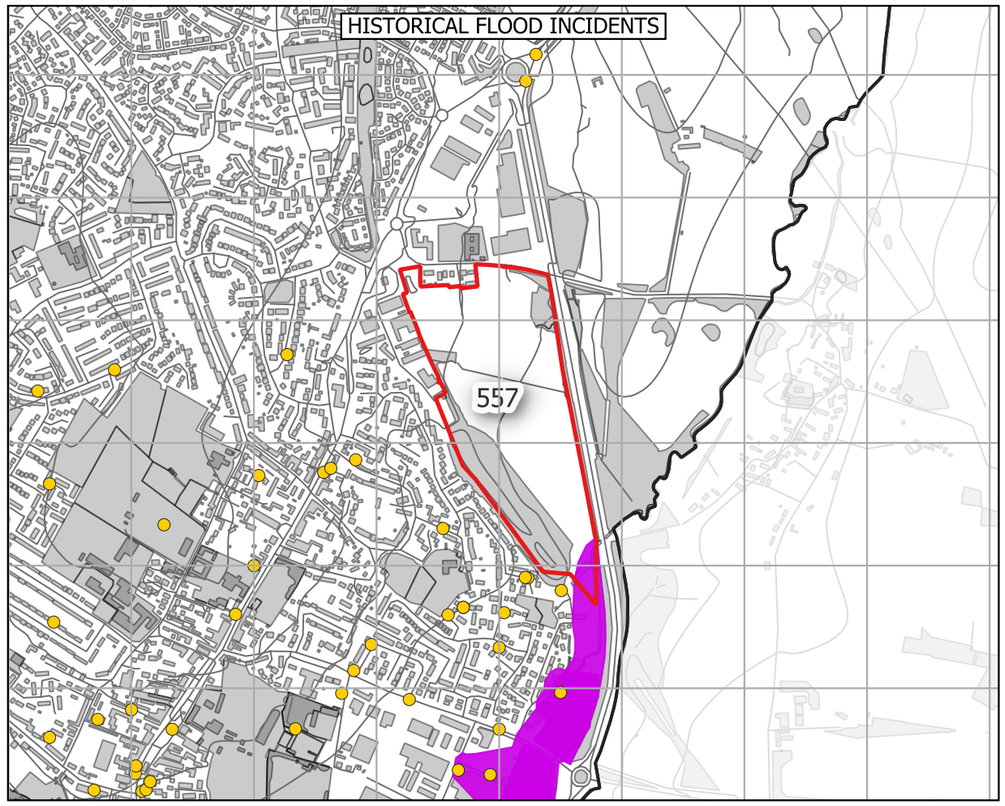
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

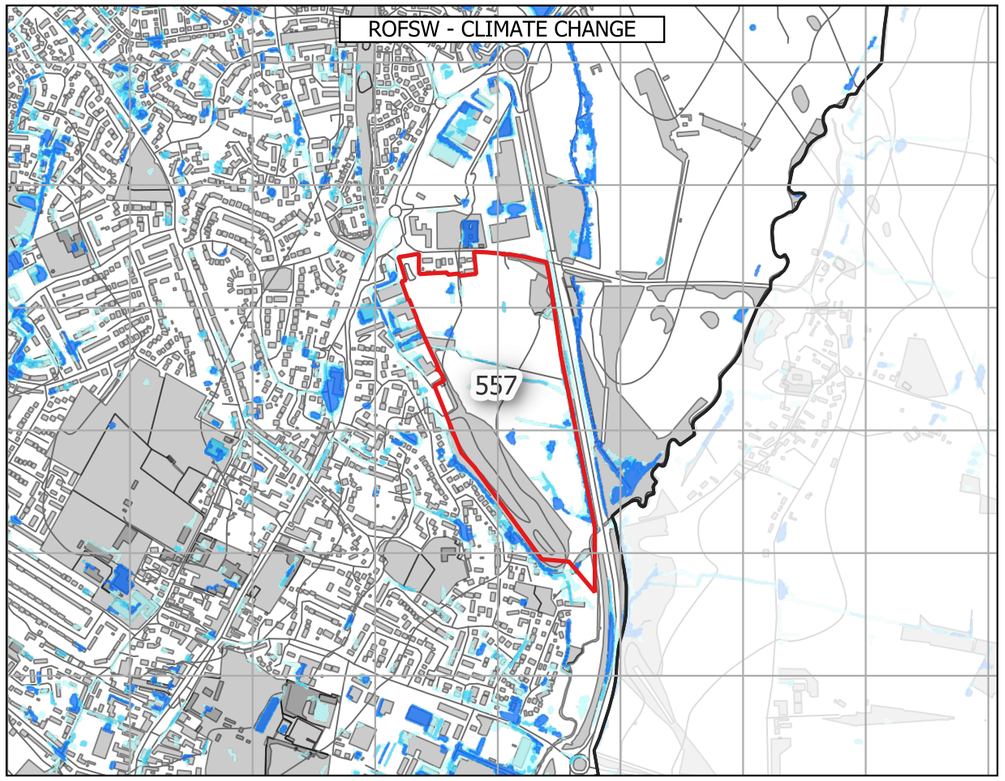
It is estimated that 11733 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 1.76 Ha should be set aside for appropriate SuDS techniques.

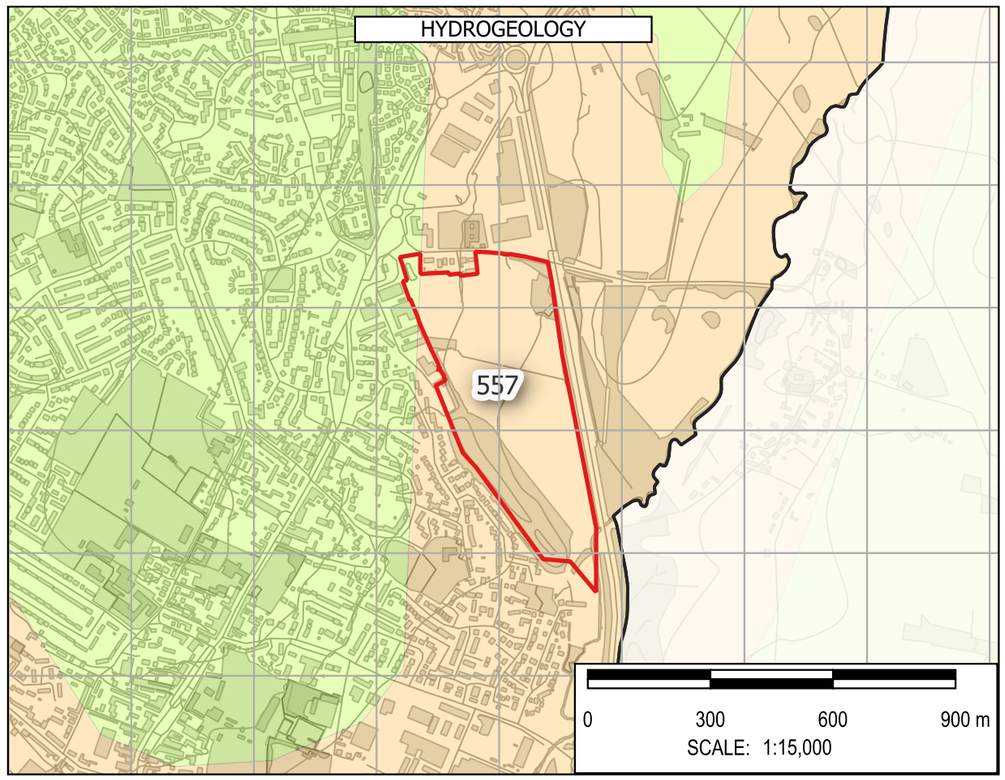
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.









458100 458400 458700 459000 459300 459600 459900 460200 460500

238500 238200 237900 237600 237300 237000

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  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
- ROFSW WITH CLIMATE CHANGE
  - HIGH
  - MEDIUM
  - LOW
- HYDROGEOLOGY
  - AQUIFER TYPE
    - HIGHLY PRODUCTIVE AQUIFER
    - MODERATELY PRODUCTIVE AQUIFER
    - LOW PRODUCTIVITY AQUIFER
    - ROCKS WITH ESSENTIALLY NO GROUNDWATER

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P01	KA	MH	SB	SB	30/04/26	First Issue
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Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

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Revision: -

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Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 557 Land at Brackley East

Drawing Scale: 1:15,000 Sheet Size: A3

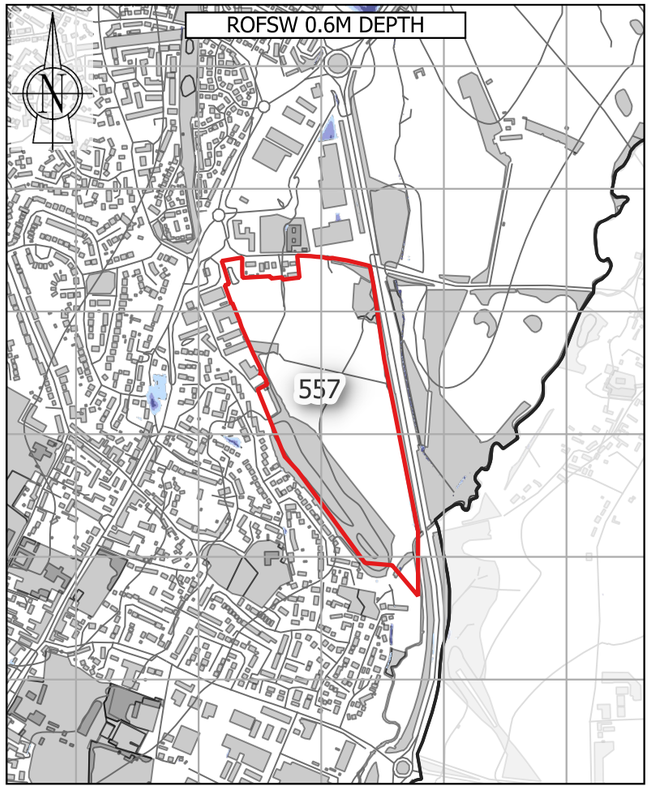
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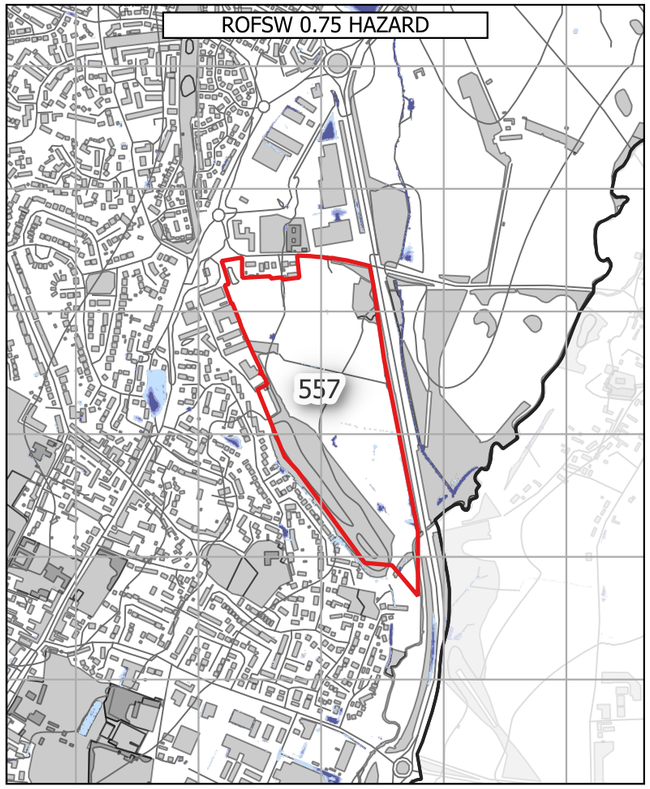
Revision: P01

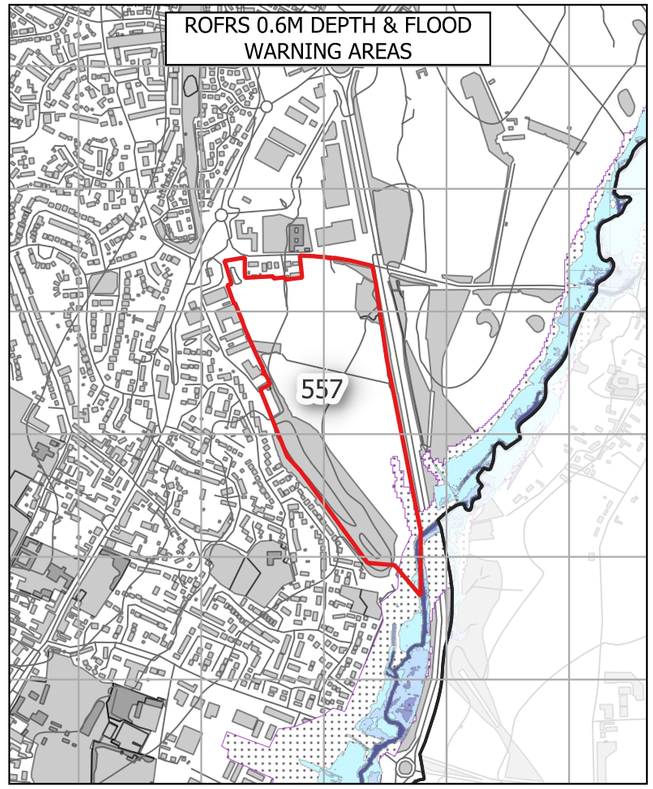
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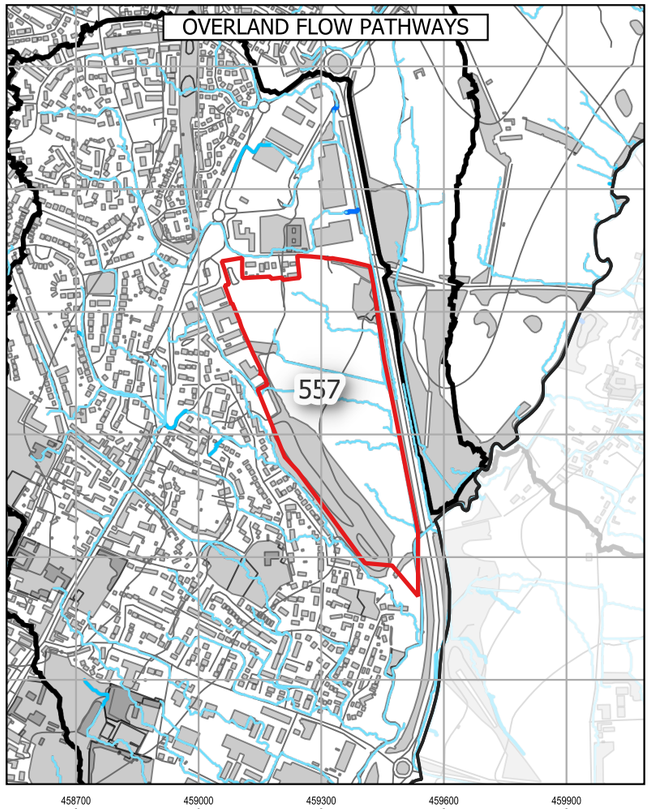
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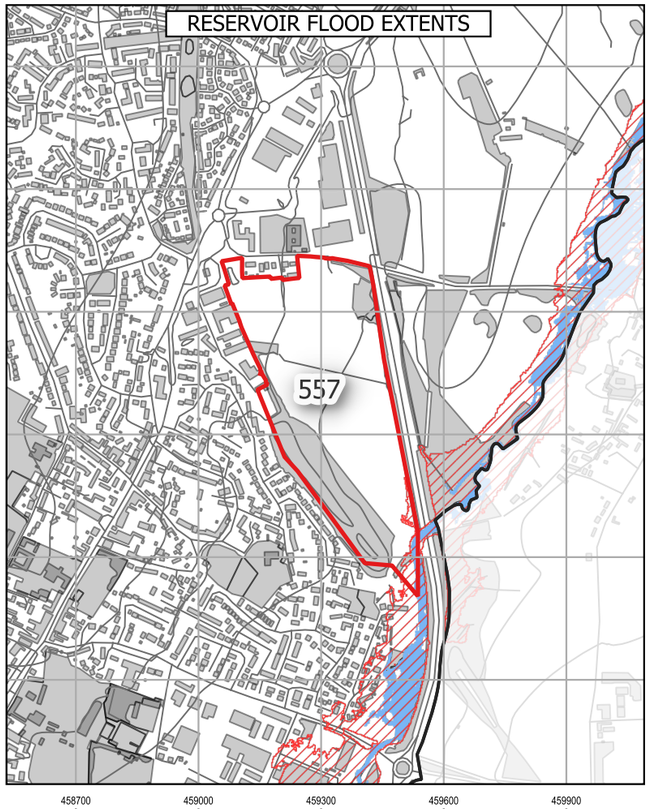
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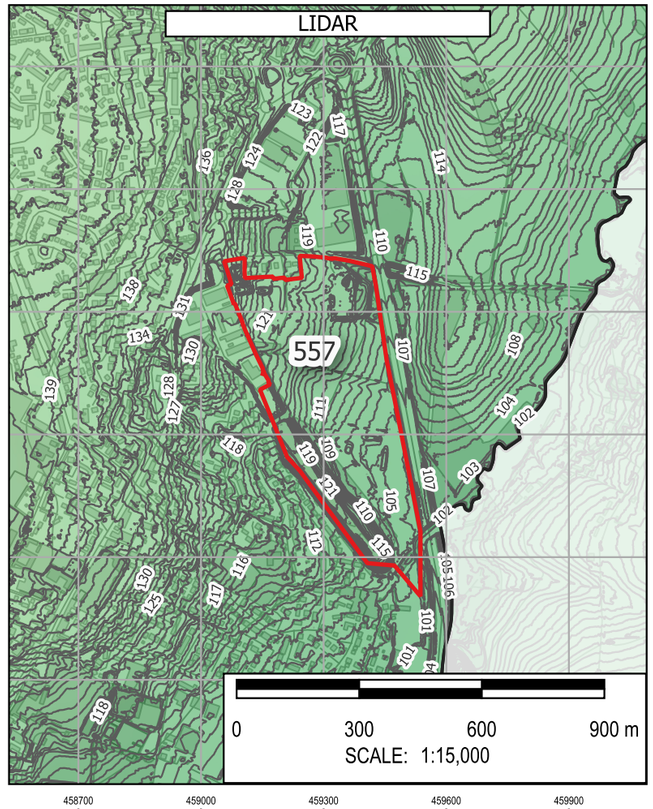












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- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY
- ROFSW
  - 0.6M DEPTH
    - High
    - Medium
    - Low
    - Unavailable
  - 0.75 HAZARD
    - High
    - Medium
    - Low
    - Unavailable
- ROFRS
  - 0.6M DEPTH
    - High
    - Medium
    - Low
    - Very low
    - Unavailable
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- PROBABLE OVERLAND FLOW PATHWAYS
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  - > 12 Degrees
- DETAILED WATERSHEDS
- RESERVOIR FLOOD EXTENT
  - DRY DAY
  - WET DAY
- LIDAR
  - 1M CONTOURS
- ELEVATION
  - Band 1 (Gray)
  - 230
  - 50

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Drawing Scale: 1:15,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00197 Revision: P01

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	009
Site Name	Daventry North of Middlemore
Proposed Development	Housing
Site Area	44.85 Ha
Site NGR	456240 mE, 265336 mN.
River Management Catchment	Avon Warwickshire

Fluvial Flood Risk – Present-day

FZ2	FZ3
0.0 %	0.0 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Commentary

The available mapping suggests the presence of an ordinary watercourse intersecting the site; it is understood this is a sub-surface canal. Site specific modelling may be required to assess the interaction of this sub-surface canal with onsite drainage to inform mitigation measures as part of a site-specific Flood Risk Assessment. Developers should be aware of the canal when considering SuDS.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
2.9 %	0.8 %	2.0 %	5.7 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
3.5 %	0.9 %	2.6 %	7.0 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

Various surface water flow paths originate within the site and flow north towards an ordinary watercourse. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Flood History

There are five WNC recorded flood events within 500m of the site. This site is not located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at low risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

The site is not indicated to be at risk of reservoir flooding.

Flood Defences – Residual Risk

It is unlikely that the site will be affected by a breach of flood defences as the nearest defences are more than 500m away.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 1. Therefore the Exception Test is not required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 1, finished floor levels should be at least 150mm above external ground levels. An appropriate freeboard allowance should also be considered for other sources of flooding.

Surface Water Attenuation Provision – Design Considerations

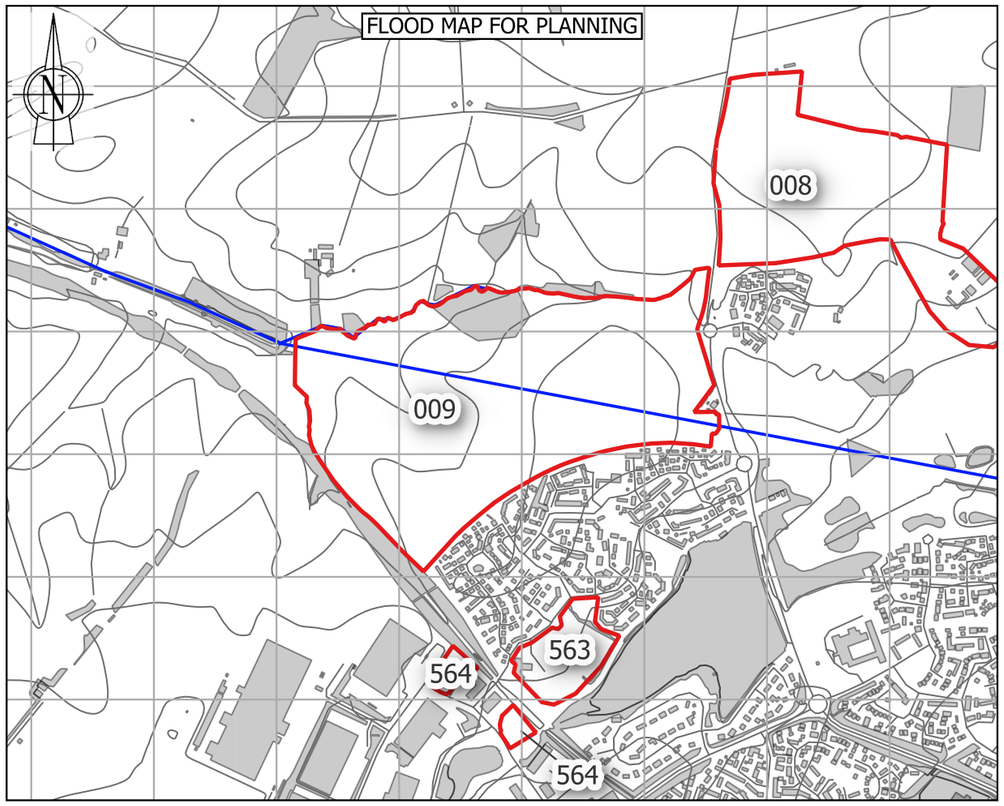
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

It is estimated that 25108 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 3.76 Ha should be set aside for appropriate SuDS techniques.

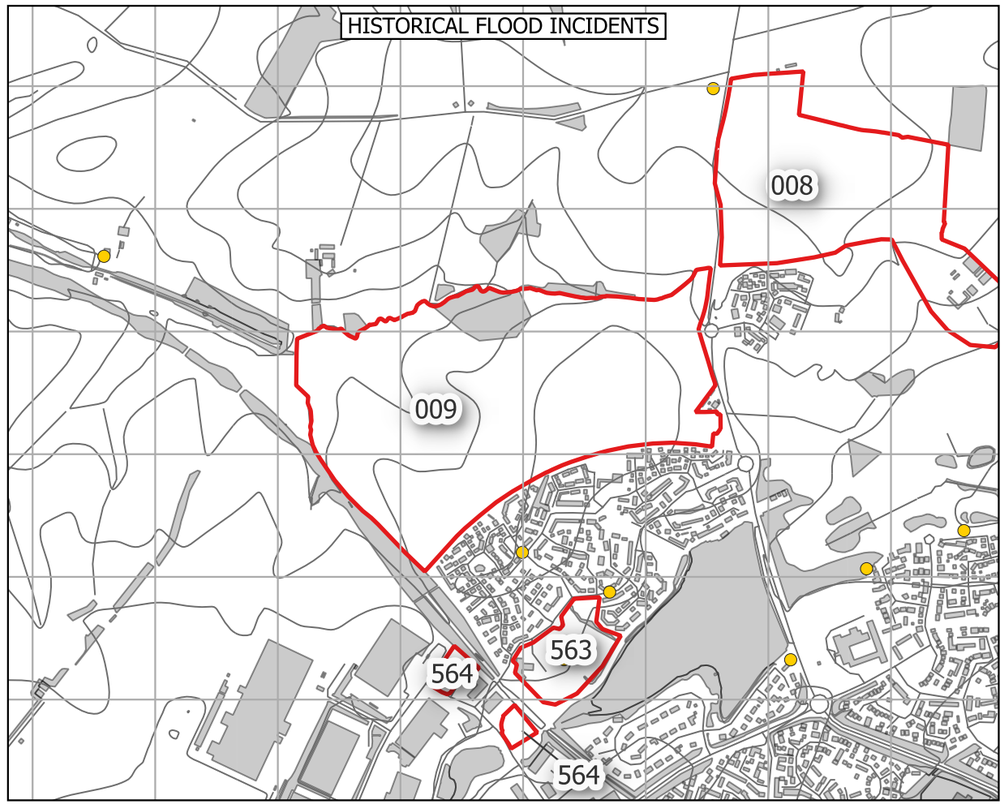
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.

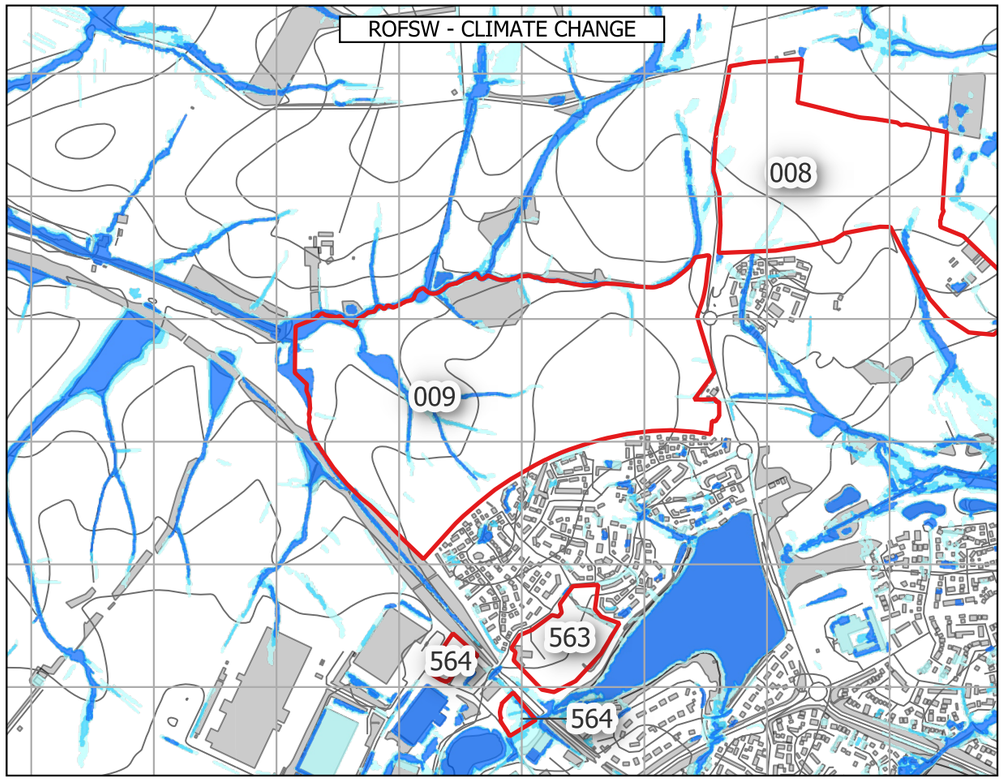
FLOOD MAP FOR PLANNING



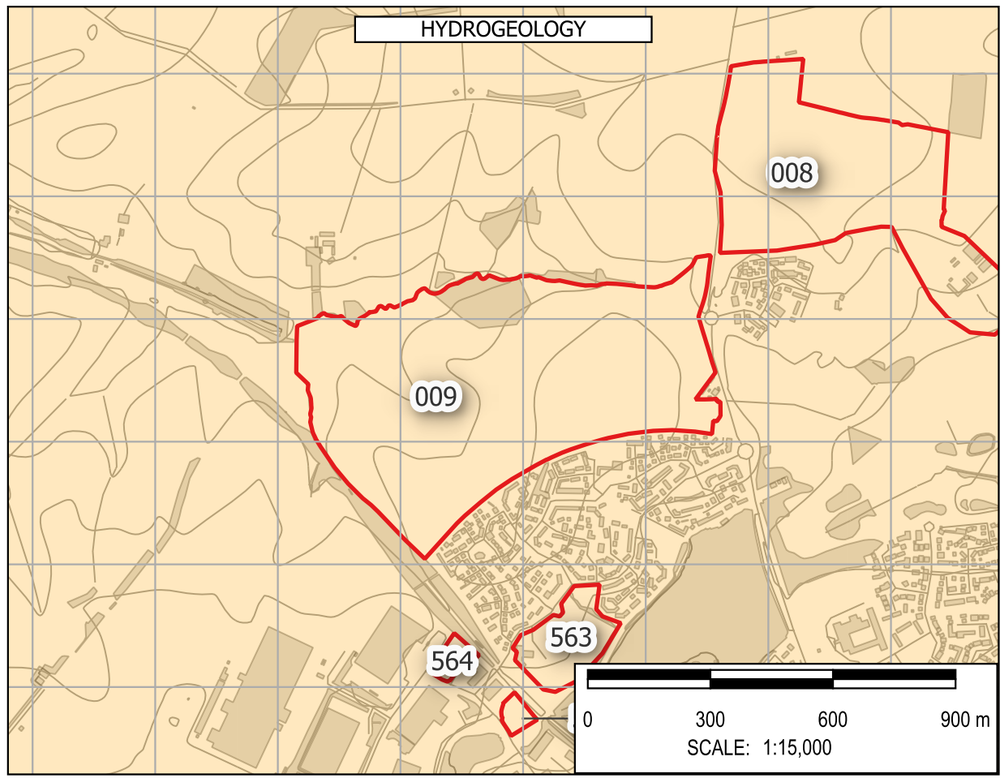
HISTORICAL FLOOD INCIDENTS



ROFSW - CLIMATE CHANGE



HYDROGEOLOGY



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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
  - WEST NORTHANTS BOUNDARY
- FLOOD MAP FOR PLANNING
  - FLOOD DEFENCES
  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
- ROFSW WITH CLIMATE CHANGE
  - HIGH
  - MEDIUM
  - LOW
- HYDROGEOLOGY
  - AQUIFER TYPE
  - HIGHLY PRODUCTIVE AQUIFER
  - MODERATELY PRODUCTIVE AQUIFER
  - LOW PRODUCTIVITY AQUIFER
  - ROCKS WITH ESSENTIALLY NO GROUNDWATER

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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MAINTENANCE / CLEARING / OPERATION
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DECOMISSIONING AND DEMOLITION
NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS

Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

Binnies UK Limited
Registered Office
Spring Lodge, 172 Chester Road, Helsby Cheshire, WA6 0AR, UK
Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 009 Daventry North of Middlemore

Drawing Scale: 1:15,000 Sheet Size: A3

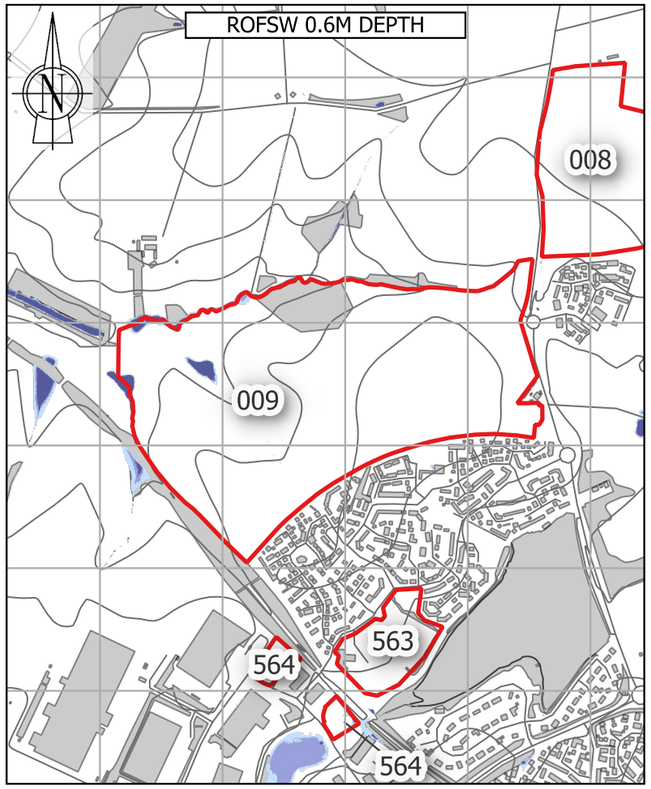
Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00132 Revision: P01

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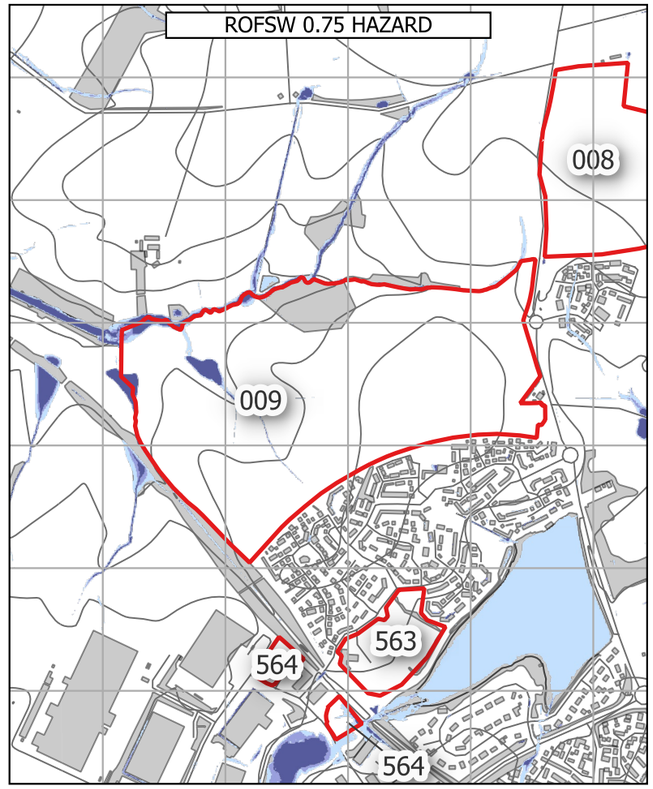
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Print Version: Print Quality (300dpi @ A3)

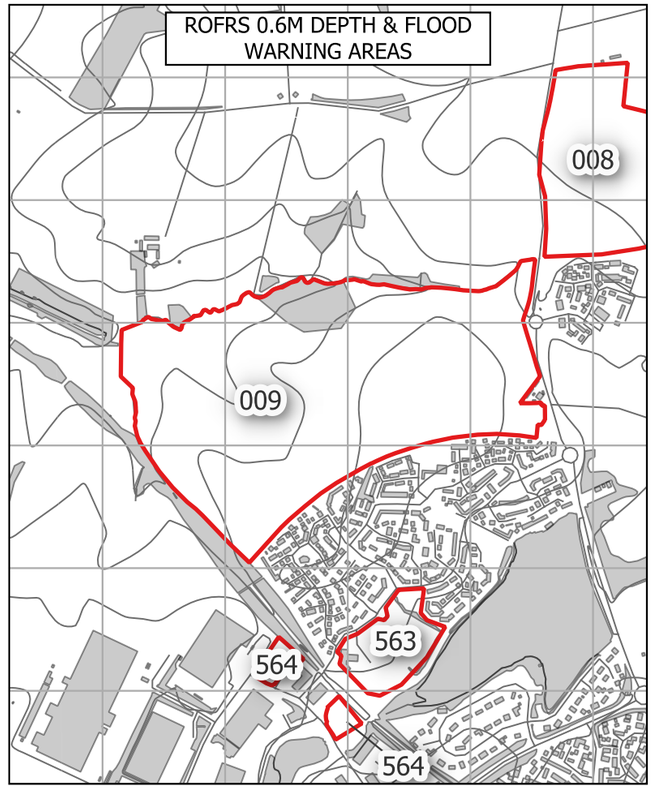
ROFSW 0.6M DEPTH



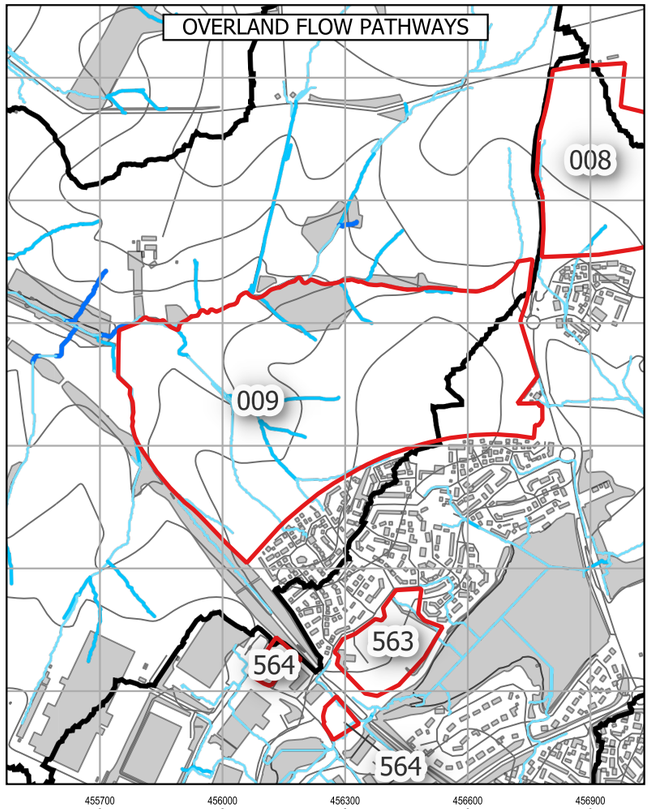
ROFSW 0.75 HAZARD



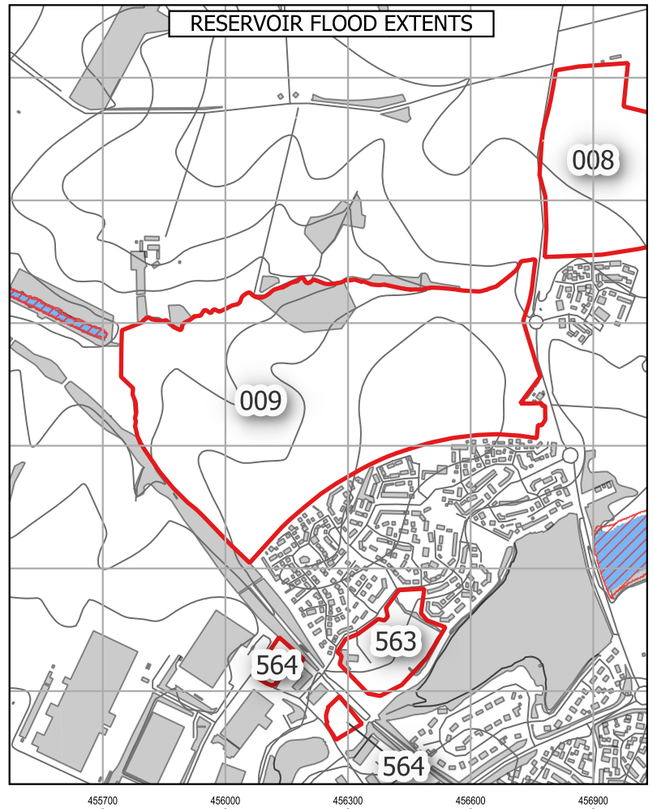
ROFRS 0.6M DEPTH & FLOOD WARNING AREAS



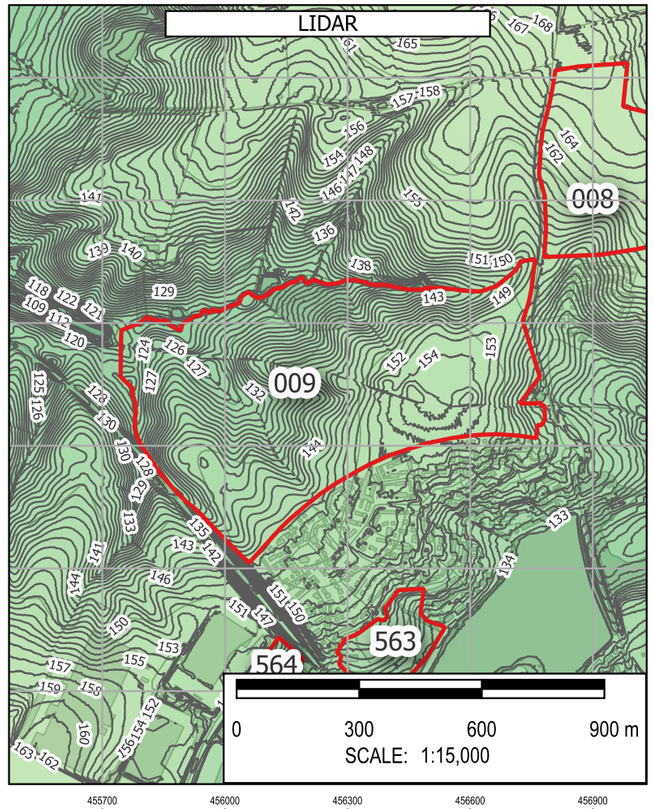
OVERLAND FLOW PATHWAYS



RESERVOIR FLOOD EXTENTS



LIDAR



0 300 600 900 m

SCALE: 1:15,000

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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY

ROFSW

0.6M DEPTH
- High
- Medium
- Low
- Unavailable

0.75 HAZARD
- High
- Medium
- Low
- Unavailable

ROFRS

0.6M DEPTH
- High
- Medium
- Low
- Very low
- Unavailable

FLOOD WARNING AREAS

OVERLAND FLOW PATHWAYS

PROBABLE OVERLAND FLOW PATHWAYS
- < 3 Degrees
- 3 - 7 Degrees
- 7 - 12 Degrees
- > 12 Degrees

DETAILED WATERSHEDS

RESERVOIR FLOOD EXTENT

DRY DAY

WET DAY

LIDAR

1M CONTOURS

ELEVATION

Band 1 (Gray)
230
50

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	01/05/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

Binnies UK Limited
Registered Office
Spring Lodge, 172 Chester Road, Helsby Cheshire, WA6 0AR, UK
Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 009 Daventry North of Middlemore

Drawing Scale: 1:15,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00190 Revision: P01

G:\Projects\4082482_WNC\4_Workspaces\0_Working_SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR Print Date:01/05/2026

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	_008
Site Name	Northampton - North of Newport Pagnell Road
Proposed Development	Housing
Site Area	43.33 Ha
Site NGR	478539 mE, 256839 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
0.0 %	0.0 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
2.4 %	0.8 %	1.9 %	5.1 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
2.8 %	0.8 %	2.4 %	6.0 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

There are some areas of localised surface water ponding across the site. This includes a larger area of ponding situated in the low point of the site, along the southern boundary. This ponding is associated with a flow path which drains southwards towards the site boundary under Newport Pagnell Road. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Flood History

There are two WNC recorded flood events within 500m of the site. This site is not located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at medium risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

The site is not indicated to be at risk of reservoir flooding.

Flood Defences – Residual Risk

It is unlikely that the site will be affected by a breach of flood defences as the nearest defences are more than 500m away.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 1. Therefore the Exception Test is not required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 1, finished floor levels should be at least 150mm above external ground levels. An appropriate freeboard allowance should also be considered for other sources of flooding.

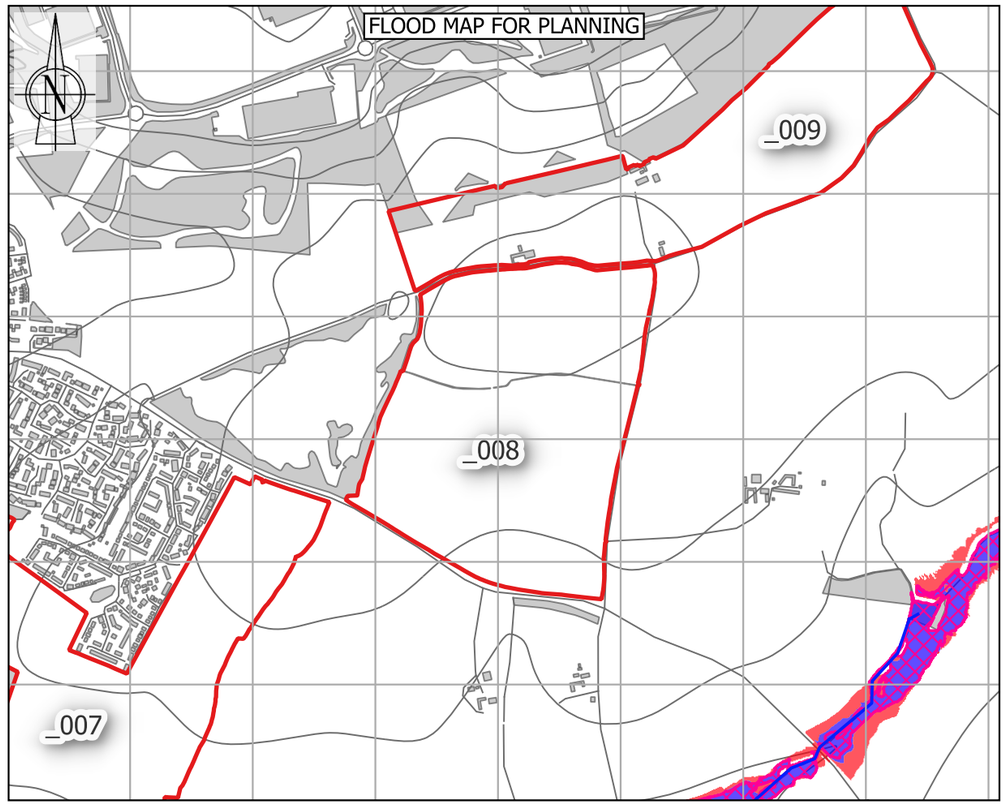
Surface Water Attenuation Provision – Design Considerations

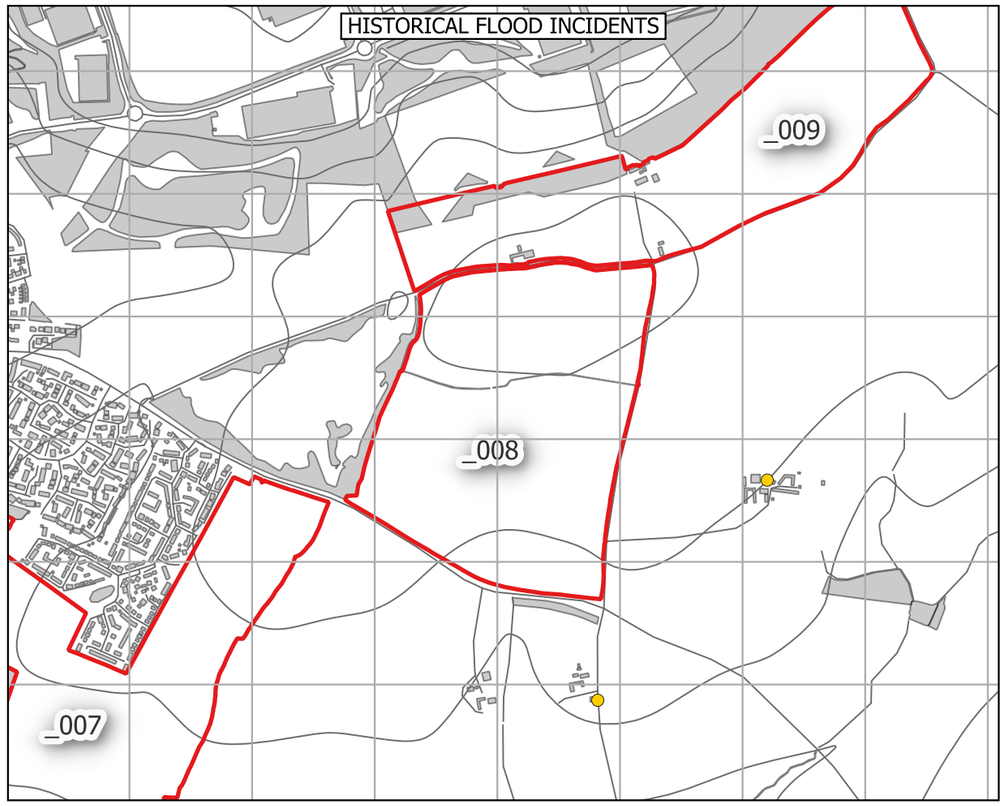
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

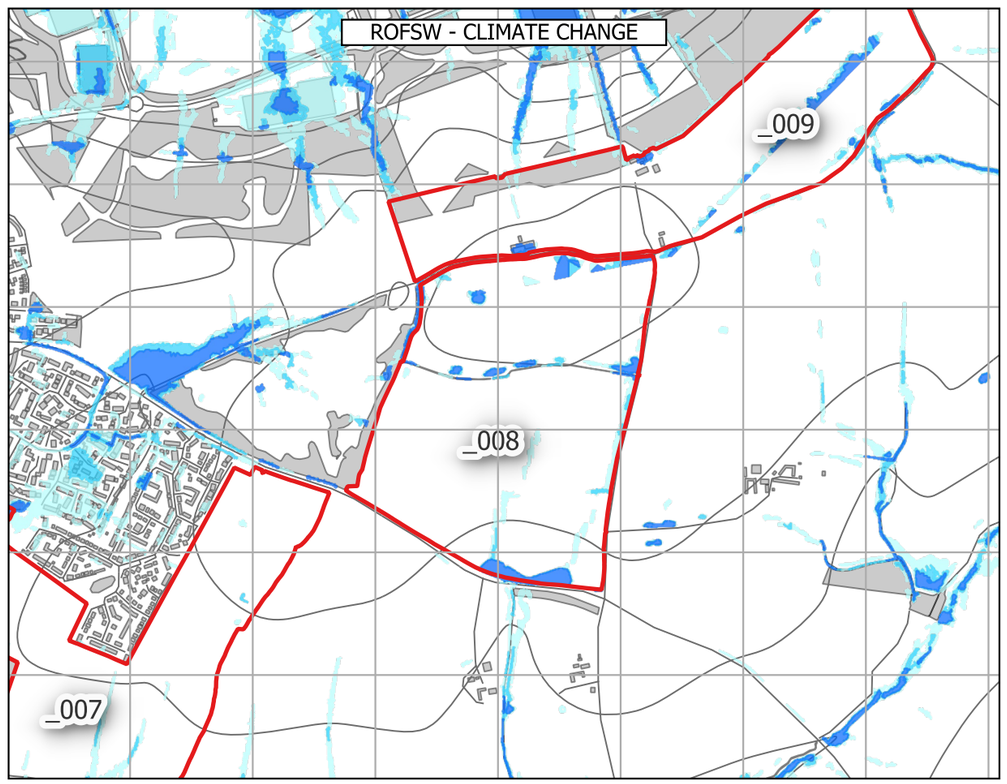
It is estimated that 24258 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 3.63 Ha should be set aside for appropriate SuDS techniques.

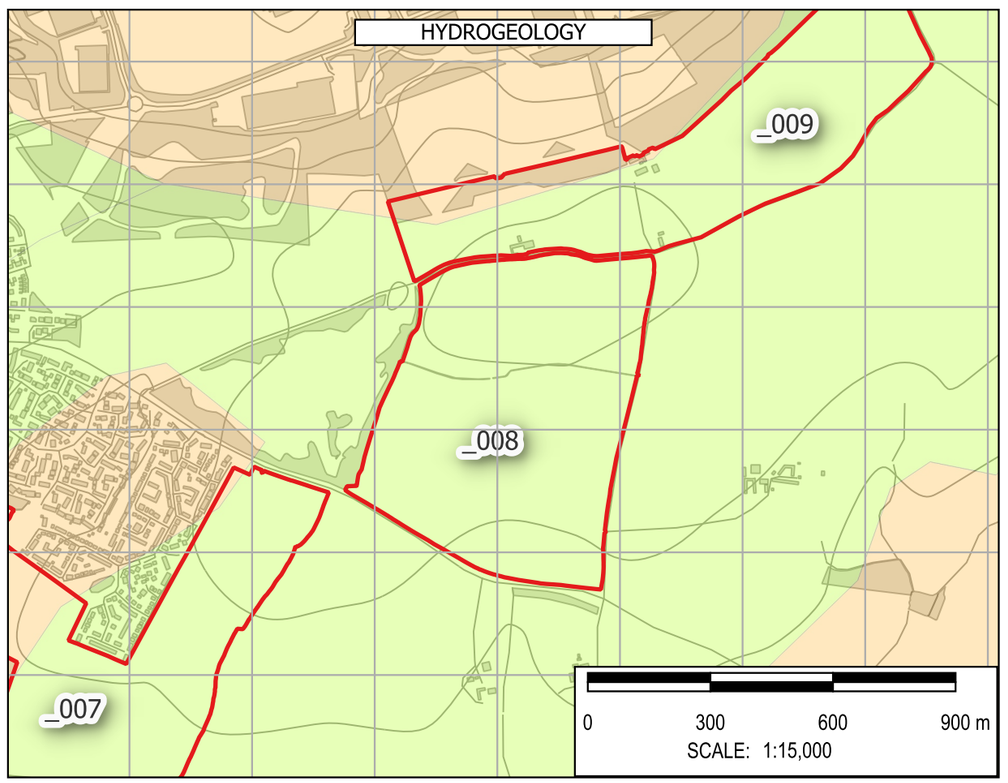
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.









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LEGEND

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- BOROUGH BOUNDARY
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- FLOOD MAP FOR PLANNING
  - FLOOD DEFENCES
  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
- ROFSW WITH CLIMATE CHANGE
  - HIGH
  - MEDIUM
  - LOW
- HYDROGEOLOGY
  - AQUIFER TYPE
    - HIGHLY PRODUCTIVE AQUIFER
    - MODERATELY PRODUCTIVE AQUIFER
    - LOW PRODUCTIVITY AQUIFER
    - ROCKS WITH ESSENTIALLY NO GROUNDWATER

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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Registered Office
Spring Lodge, 172 Chester Road, Helsby Cheshire, WA6 0AR, UK
Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: _008
Northampton - North of Newport Pagnell Road

Drawing Scale: 1:15,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00134

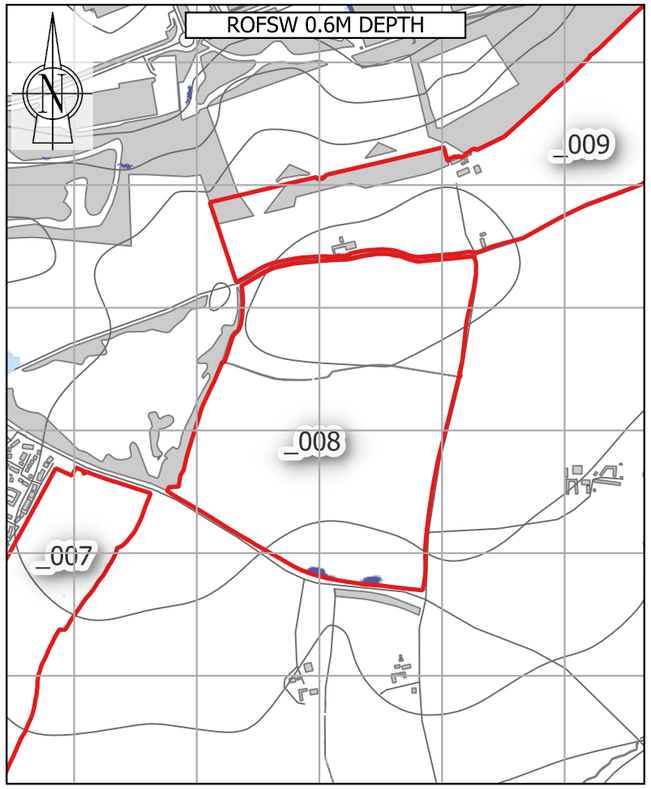
Revision: P01

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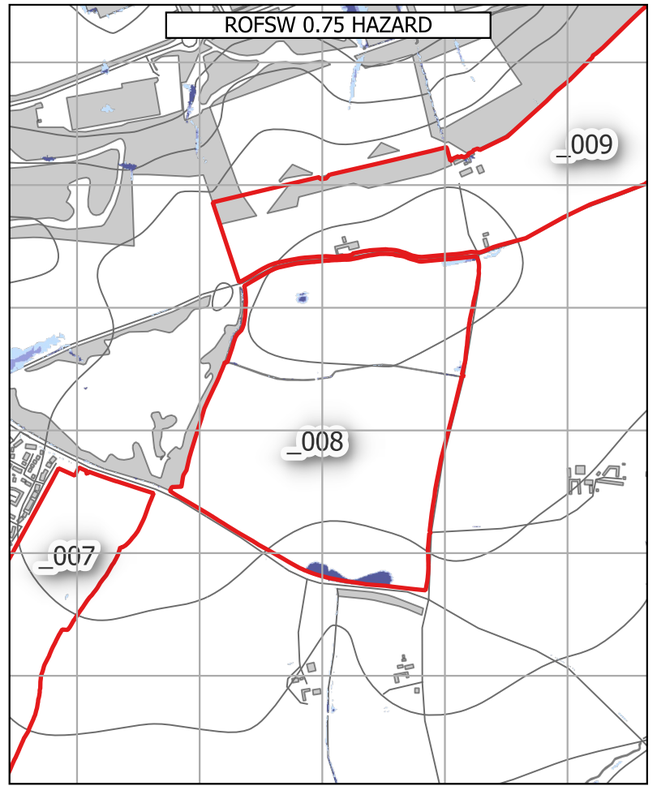
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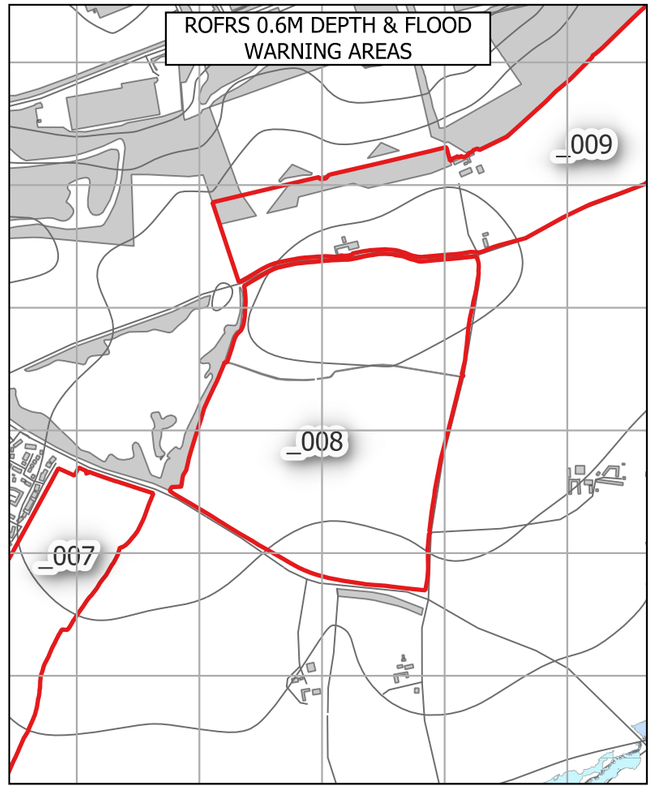
ROFSW 0.6M DEPTH



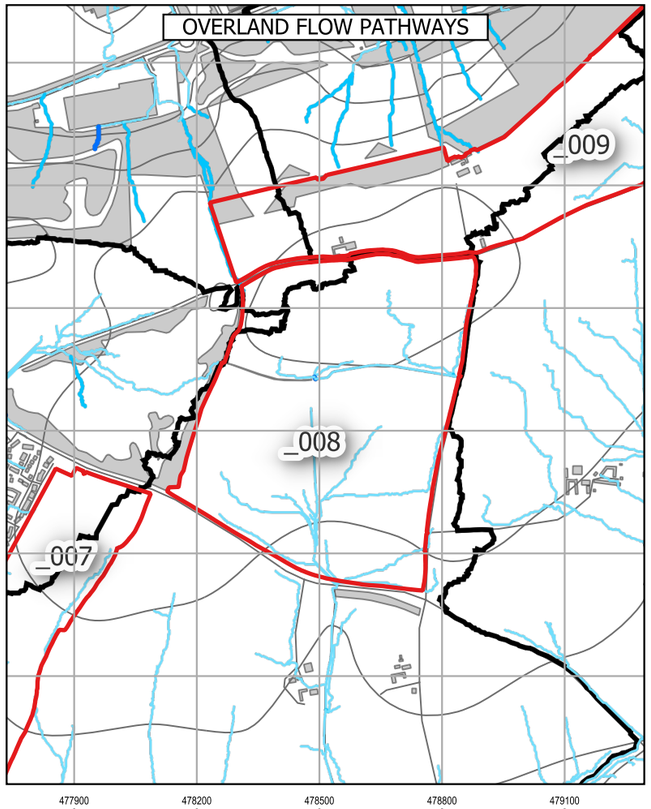
ROFSW 0.75 HAZARD



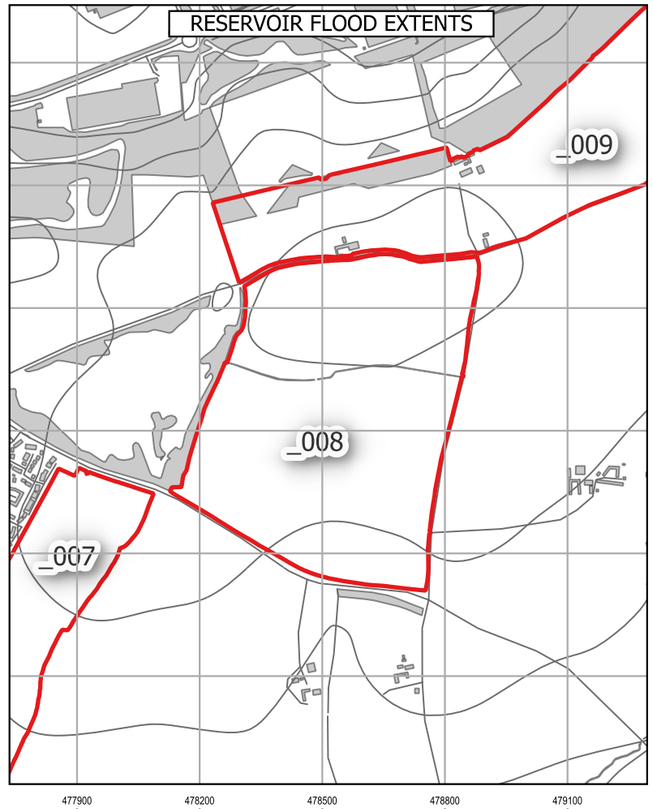
ROFRS 0.6M DEPTH & FLOOD WARNING AREAS



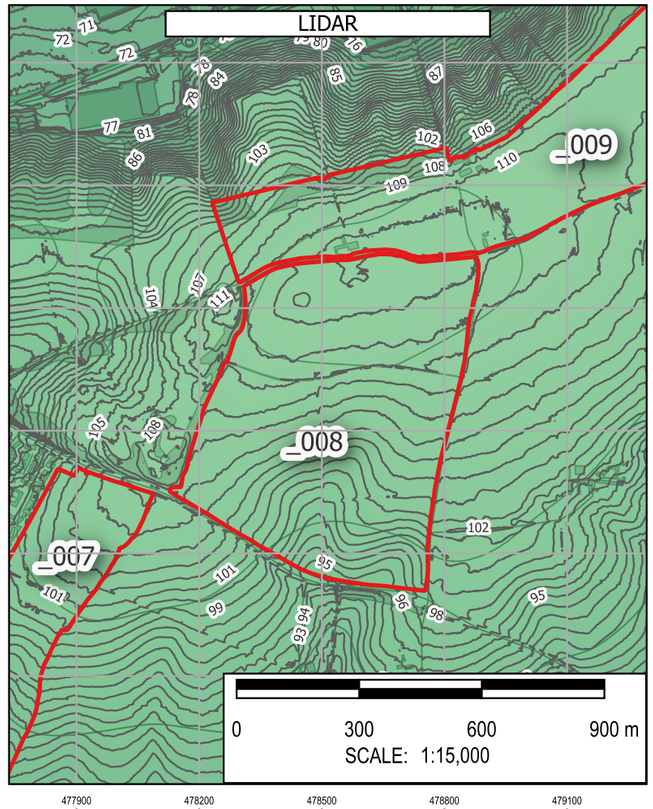
OVERLAND FLOW PATHWAYS



RESERVOIR FLOOD EXTENTS



LIDAR



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- WEST NORTHANTS BOUNDARY
- ROFSW
- 0.6M DEPTH
  - High
  - Medium
  - Low
  - Unavailable
- 0.75 HAZARD
  - High
  - Medium
  - Low
  - Unavailable
- ROFRS
- 0.6M DEPTH
  - High
  - Medium
  - Low
  - Very low
  - Unavailable
- FLOOD WARNING AREAS
- OVERLAND FLOW PATHWAYS
- PROBABLE OVERLAND FLOW PATHWAYS
  - < 3 Degrees
  - 3 - 7 Degrees
  - 7 - 12 Degrees
  - > 12 Degrees
- DETAILED WATERSHEDS
- RESERVOIR FLOOD EXTENT
- DRY DAY
- WET DAY
- LIDAR
- 1M CONTOURS
- ELEVATION
- Band 1 (Gray)
- 230
- 50

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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CONSTRUCTION
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MAINTENANCE / CLEARING / OPERATION
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DECOMISSIONING AND DEMOLITION
NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS

Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	01/05/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

Binnies UK Limited
Registered Office
Spring Lodge, 172 Chester Road, Helsby Cheshire, WA6 0AR, UK
Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: _008 Northampton - North of Newport Pagnell Road

Drawing Scale: 1:15,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00192 Revision: P01

G:\Projects\4082482_WNC\4_Workspaces\0_Working\ SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR Print Date:01/05/2026

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	_007
Site Name	Northampton East of Wooldale Road
Proposed Development	Housing
Site Area	98.24 Ha
Site NGR	477305 mE, 255870 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
2.0 %	16.7 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
15.8 %	1.0 %	2.4 %	19.2 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Commentary

Site specific modelling of the main river and ordinary watercourses crossing the site may be required to inform mitigation measures as part of a site-specific Flood Risk Assessment. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
7.4 %	5.2 %	6.7 %	19.3 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
11.1 %	4.7 %	5.9 %	21.7 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenairo, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

There are extensive surface water flow paths across the site which drain towards the main river. Many of these flow paths originate from the north and the south, outside of the site boundary. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Flood History

There are twenty three WNC recorded flood events within 500m of the site. This site is not located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at medium risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

The site is not indicated to be at risk of reservoir flooding.

Flood Defences – Residual Risk

Flood defences, in the form of natural high ground, located along the main river intersecting the site offer a standard of protection equivalent to a 1 in 5year storm event, assuming the ground level is maintained. As the site benefits from flood defences, a proportionate assessment of the likelihood of a defence breach over the lifetime of the development (including the impact of climate change) should be undertaken as part of a site-specific Flood Risk Assessment. Using the Environment Agency's simplified method (FD2321/TR2), a breach in the flood defence at this site could result in 'danger for all'.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events. As the site is intersected by flood risk, the site is likely to require multiple access and egress locations.

Exception Test

The site is located within Flood Zone 3. Therefore the Exception Test is required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 2 and 3, finished floor levels should be set no lower than 74.4 mAOD, 600mm above the maximum predicted flood level of 73.8 mAOD. In accordance with the EA guidance, freeboard allowances could be reviewed, and where appropriate reduced to 300mm. An appropriate freeboard allowance should also be considered for other sources of flooding. This should be confirmed by a site specific assessment as part of the detailed design for development, which should include consideration of proposed ground levels.

Surface Water Attenuation Provision – Design Considerations

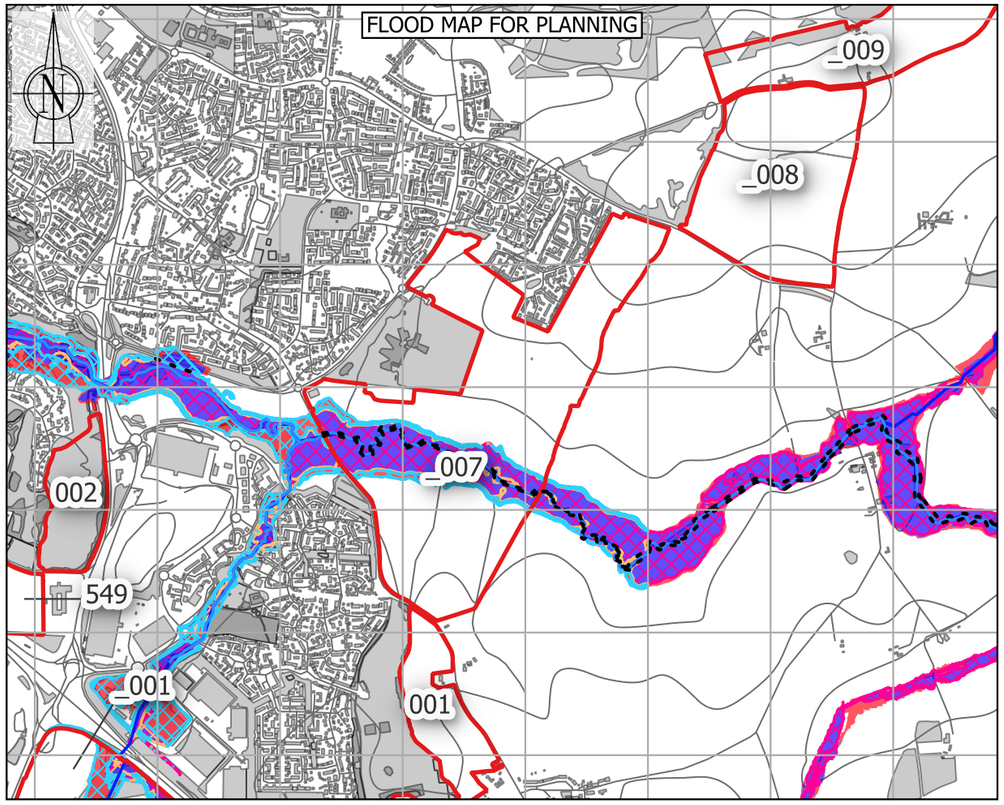
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

It is estimated that 54995 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 8.23 Ha should be set aside for appropriate SuDS techniques.

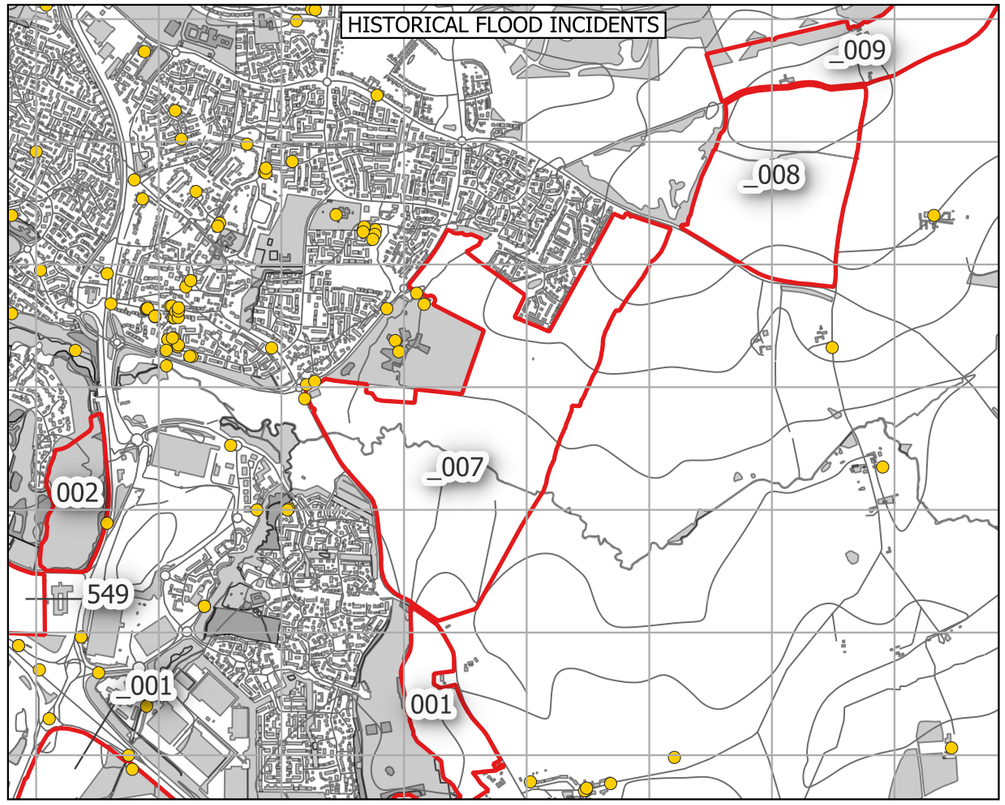
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.

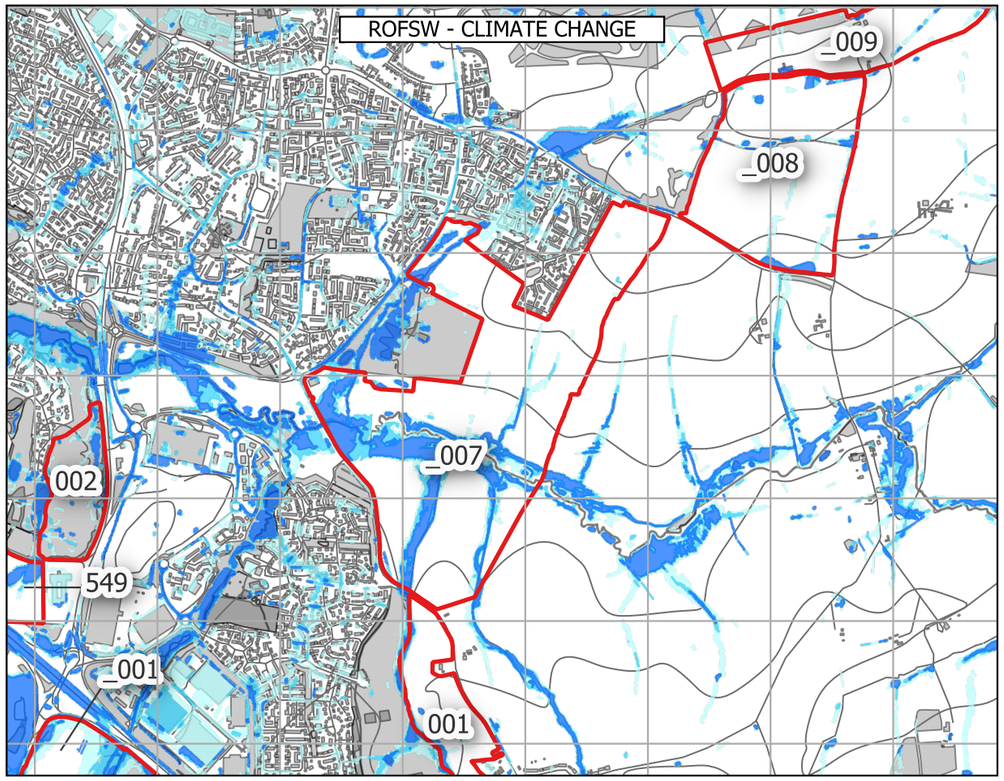
FLOOD MAP FOR PLANNING



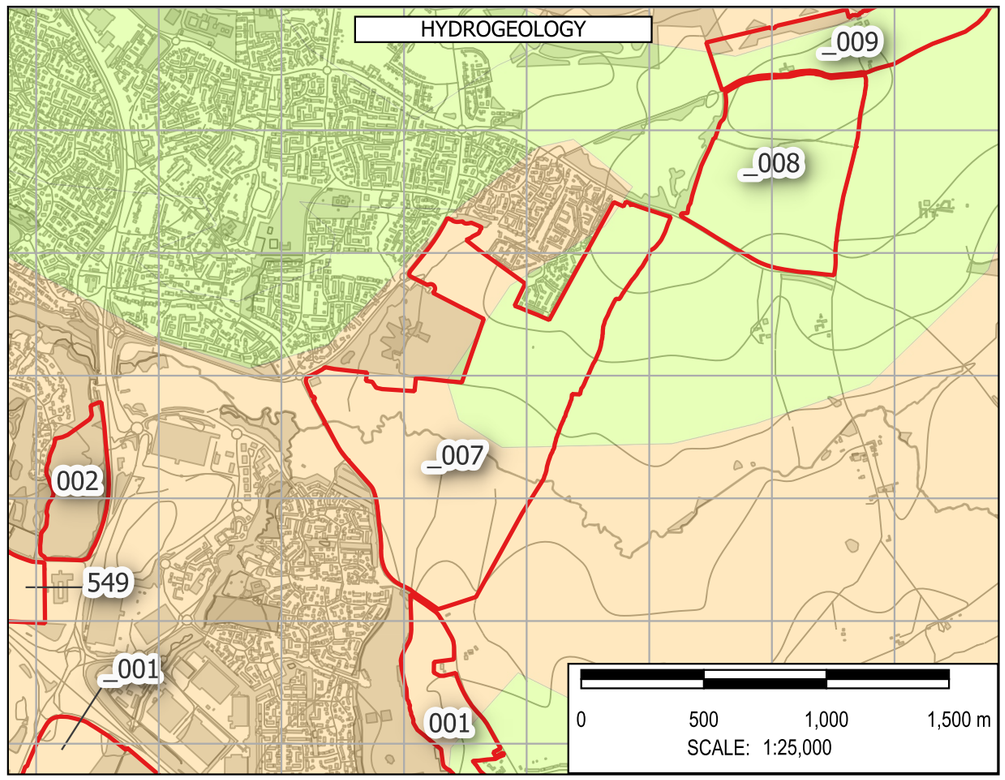
HISTORICAL FLOOD INCIDENTS



ROFSW - CLIMATE CHANGE



HYDROGEOLOGY



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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
  - WEST NORTHANTS BOUNDARY
- FLOOD MAP FOR PLANNING
  - FLOOD DEFENCES
  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
- ROFSW WITH CLIMATE CHANGE
  - HIGH
  - MEDIUM
  - LOW
- HYDROGEOLOGY
  - AQUIFER TYPE
  - HIGHLY PRODUCTIVE AQUIFER
  - MODERATELY PRODUCTIVE AQUIFER
  - LOW PRODUCTIVITY AQUIFER
  - ROCKS WITH ESSENTIALLY NO GROUNDWATER

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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
-	--	--	--	--	DD/MM/YY	--
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Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE | Revision: -

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Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: _007 Northampton – East of Wooldale Road

Drawing Scale: 1:25,000 Sheet Size: A3

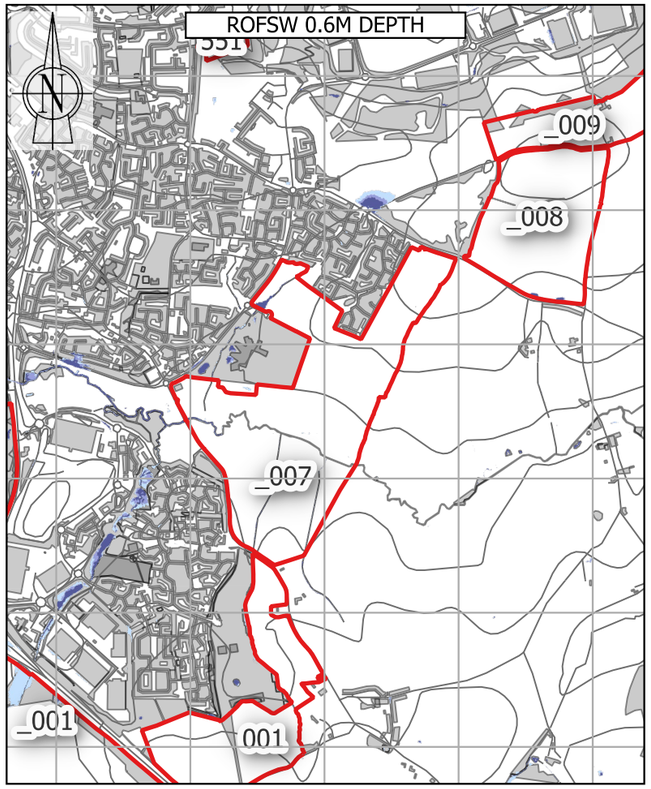
Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00125 | Revision: P01

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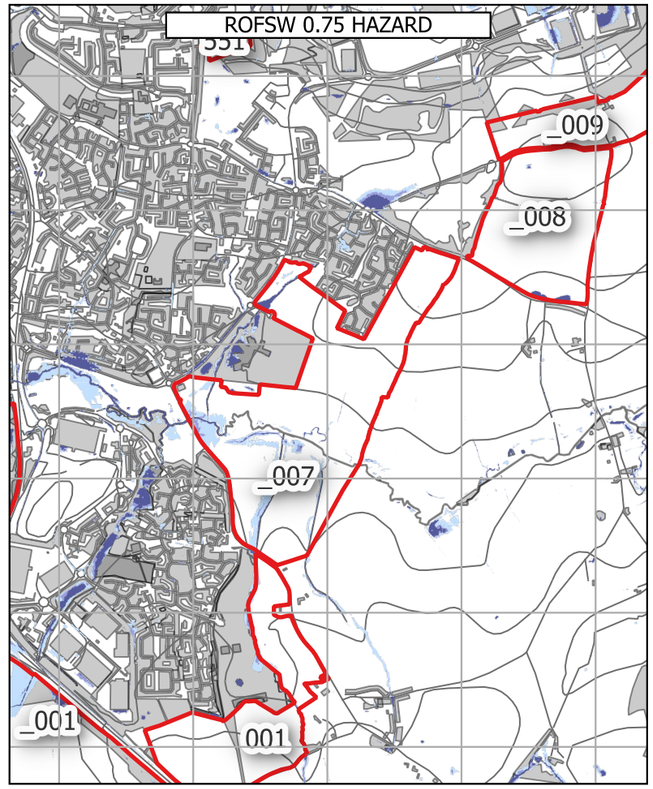
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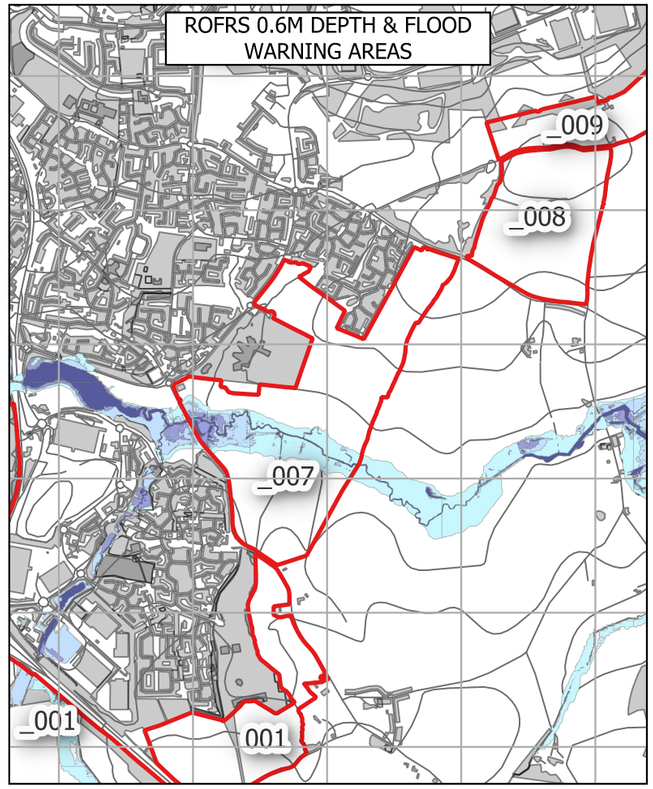
ROFSW 0.6M DEPTH



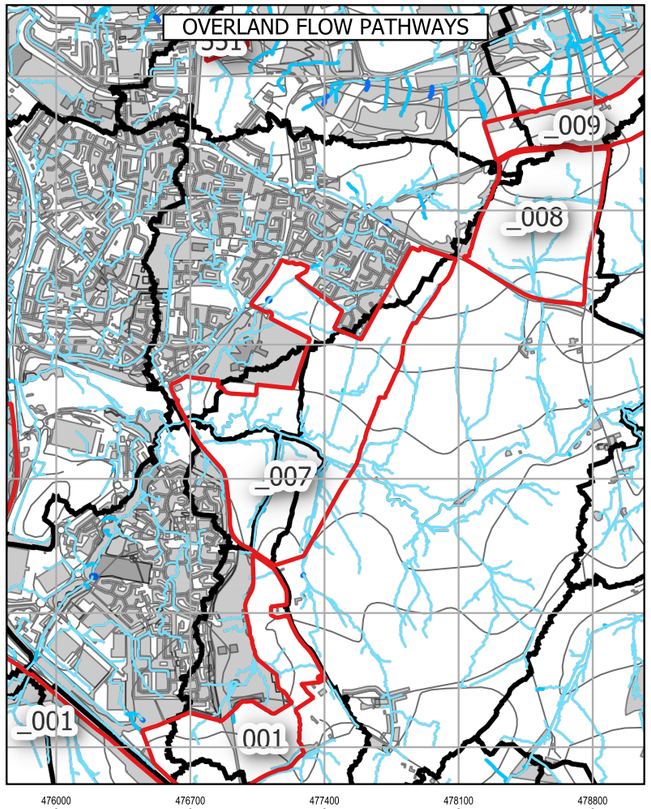
ROFSW 0.75 HAZARD



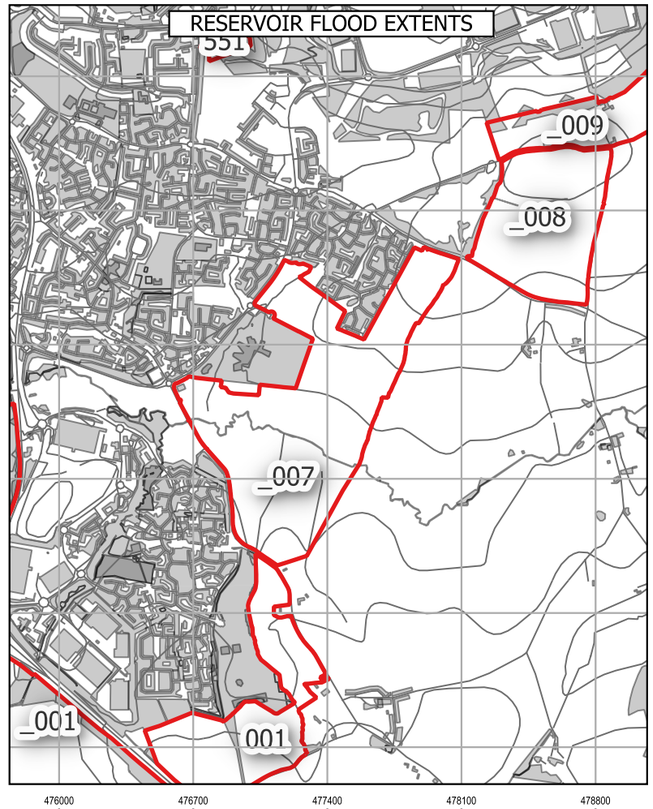
ROFRS 0.6M DEPTH & FLOOD WARNING AREAS



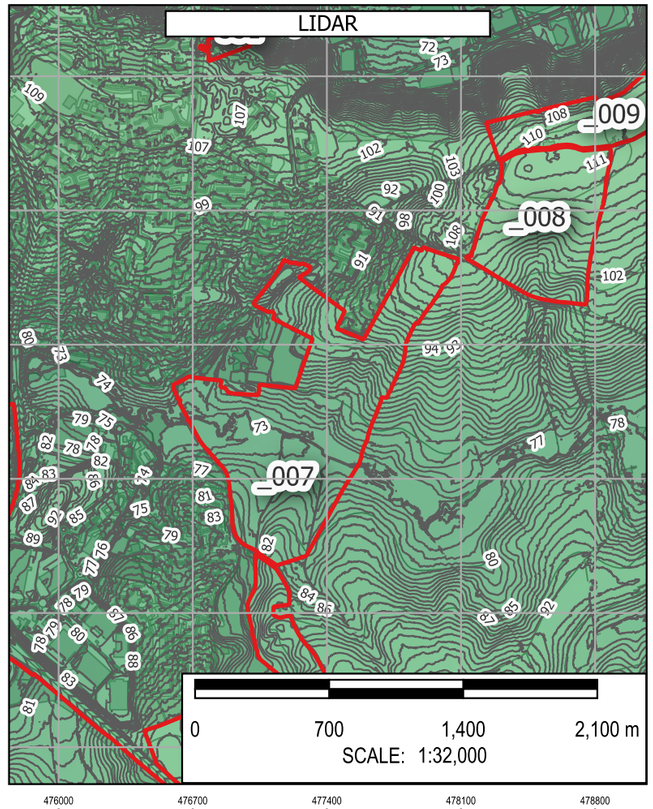
OVERLAND FLOW PATHWAYS



RESERVOIR FLOOD EXTENTS



LIDAR



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- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY

ROFSW

0.6M DEPTH
- High
- Medium
- Low
- Unavailable

0.75 HAZARD
- High
- Medium
- Low
- Unavailable

ROFRS

0.6M DEPTH
- High
- Medium
- Low
- Very low
- Unavailable

FLOOD WARNING AREAS

OVERLAND FLOW PATHWAYS

PROBABLE OVERLAND FLOW PATHWAYS
- < 3 Degrees
- 3 - 7 Degrees
- 7 - 12 Degrees
- > 12 Degrees

DETAILED WATERSHEDS

RESERVOIR FLOOD EXTENT

DRY DAY

WET DAY

LIDAR

1M CONTOURS

ELEVATION

Band 1 (Gray)
230
50

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Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

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Revision: -

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Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: _007 Northampton – East of Wooldale Road

Drawing Scale: 1:32,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00183

Revision: P01

Print Date:01/05/2026

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	001
Site Name	Northampton - South of Grange Park
Proposed Development	Housing
Site Area	43.62 Ha
Site NGR	476976 mE, 254285 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
0.0 %	0.0 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
1.7 %	1.0 %	1.9 %	4.6 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
2.5 %	0.9 %	2.1 %	5.5 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

Some surface water flows paths originate within the site and drain north. There is also a flow path present which originates offsite to the south and intersects the site, broadly crossing the middle of the site area before flowing north along the site boundary. This may require site specific modelling to inform mitigation measures and structures for crossing. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Flood History

There are thirteen WNC recorded flood events within 500m of the site. This site is not located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at low risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

The site is not indicated to be at risk of reservoir flooding.

Flood Defences – Residual Risk

It is unlikely that the site will be affected by a breach of flood defences as the nearest defences are more than 500m away.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 1. Therefore the Exception Test is not required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 1, finished floor levels should be at least 150mm above external ground levels. An appropriate freeboard allowance should also be considered for other sources of flooding.

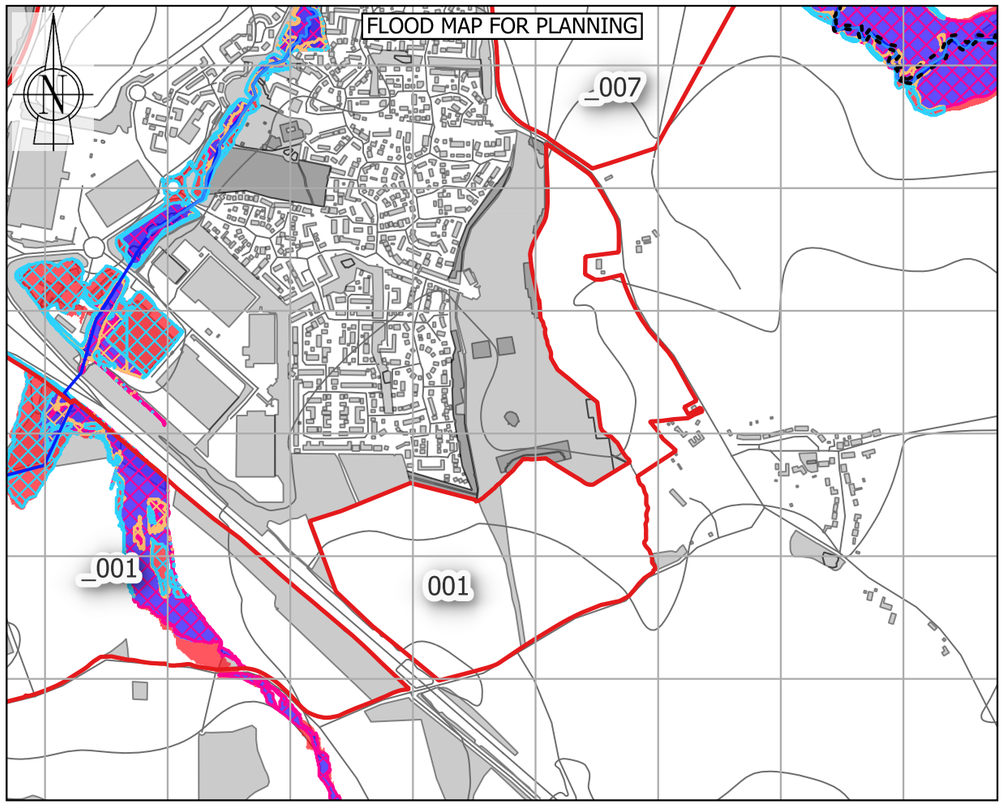
Surface Water Attenuation Provision – Design Considerations

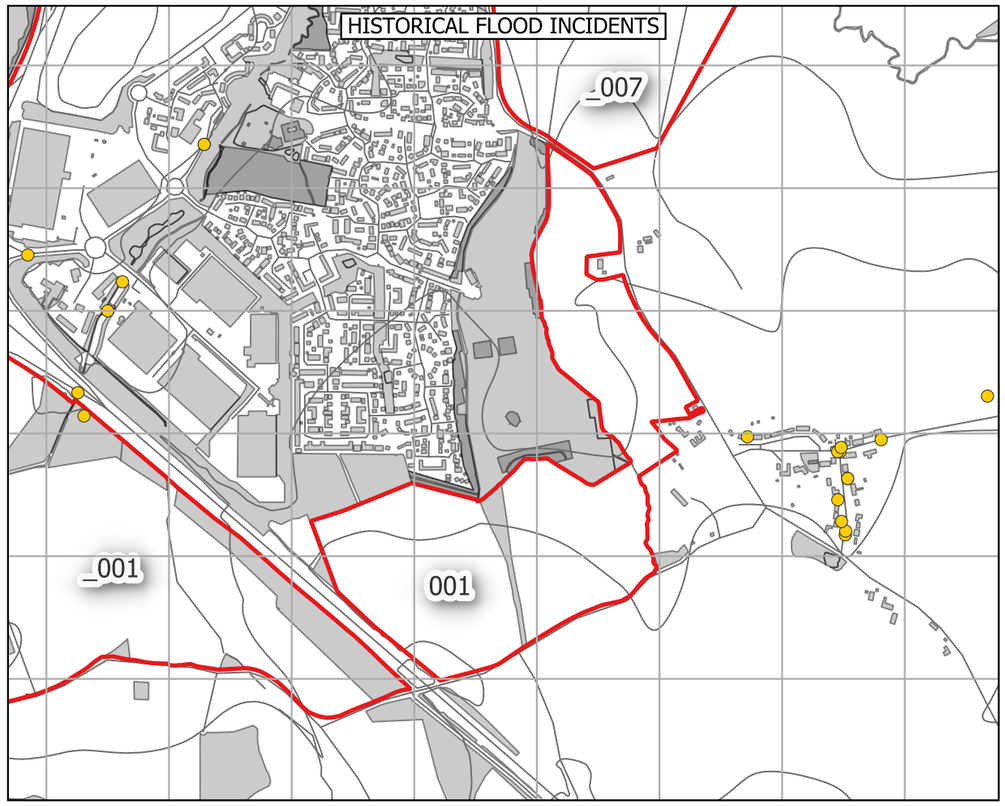
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

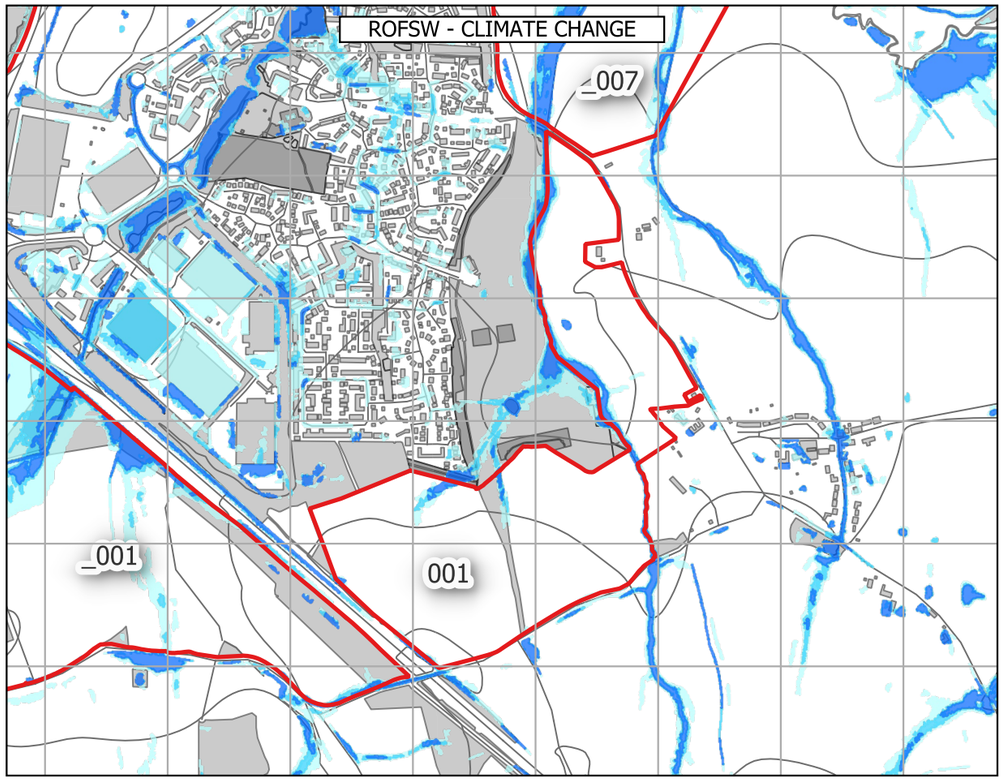
It is estimated that 24421 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 3.65 Ha should be set aside for appropriate SuDS techniques.

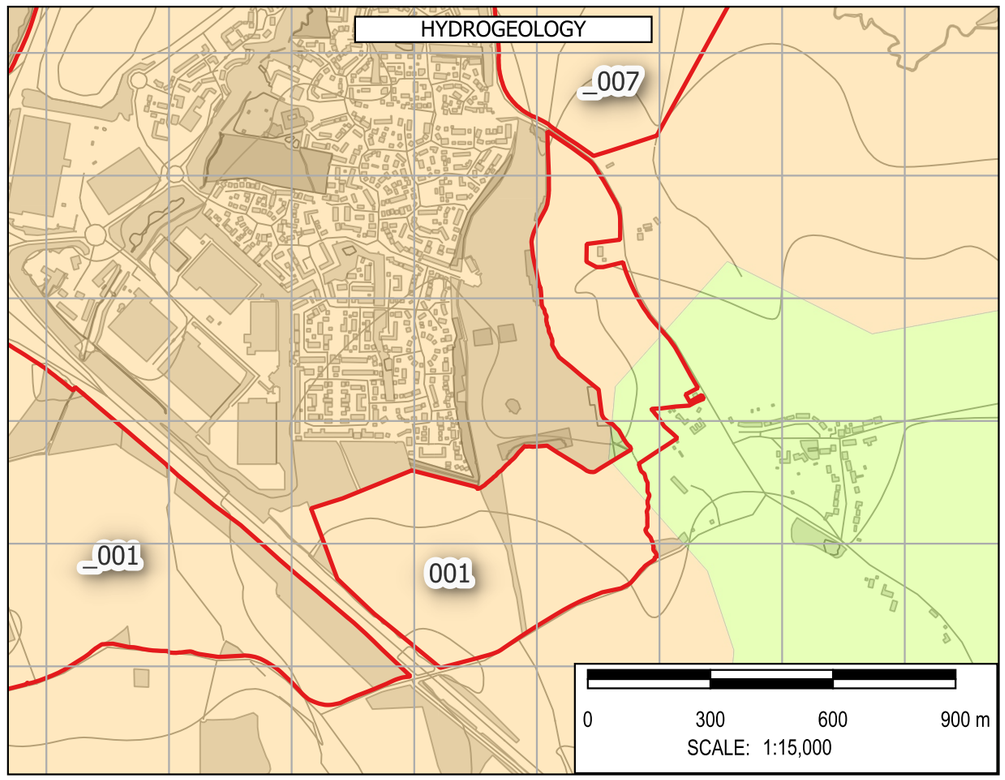
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.









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  - FLOOD DEFENCES
  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
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  - LOW PRODUCTIVITY AQUIFER
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Client Drawing No.: NOT APPLICABLE

Revision: -

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Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 001
Northampton - South of Grange Park

Drawing Scale: 1:15,000 Sheet Size: A3

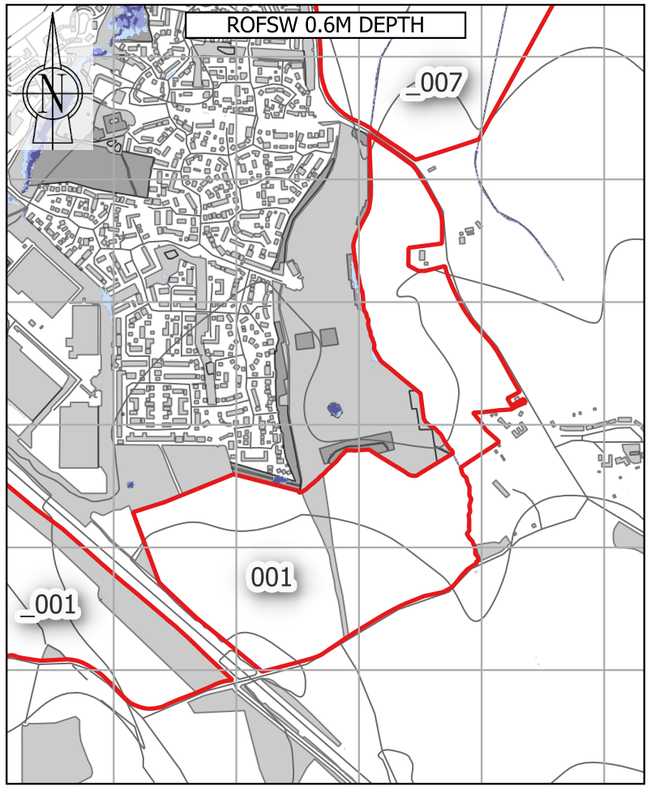
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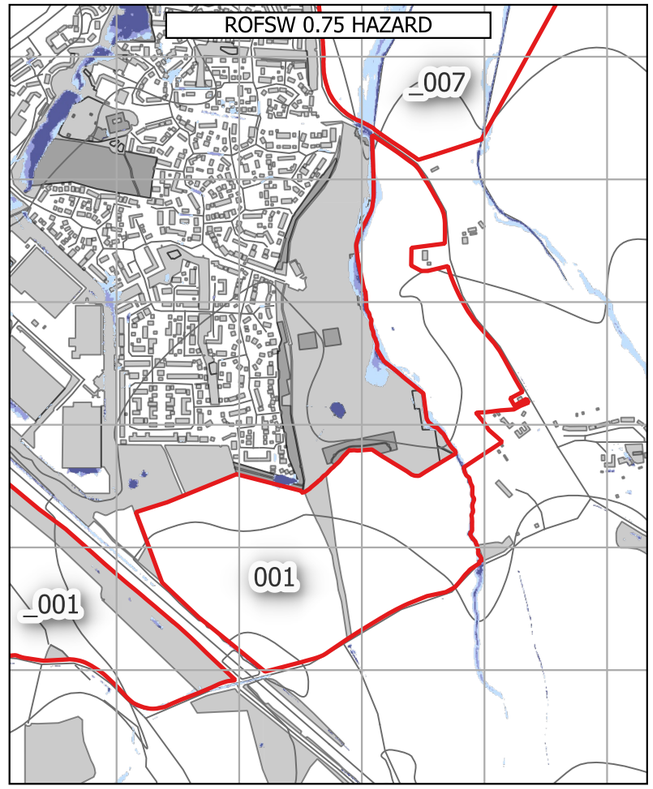
Revision: P01

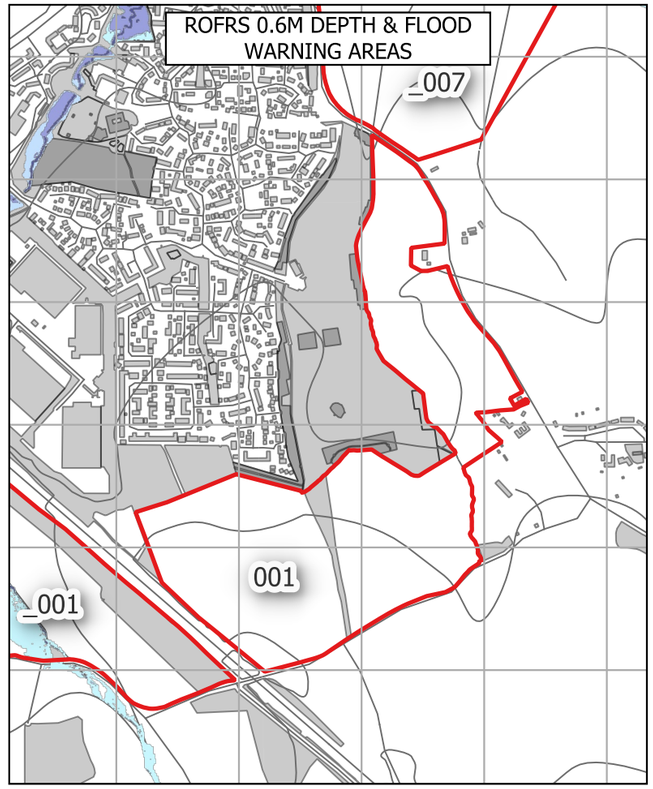
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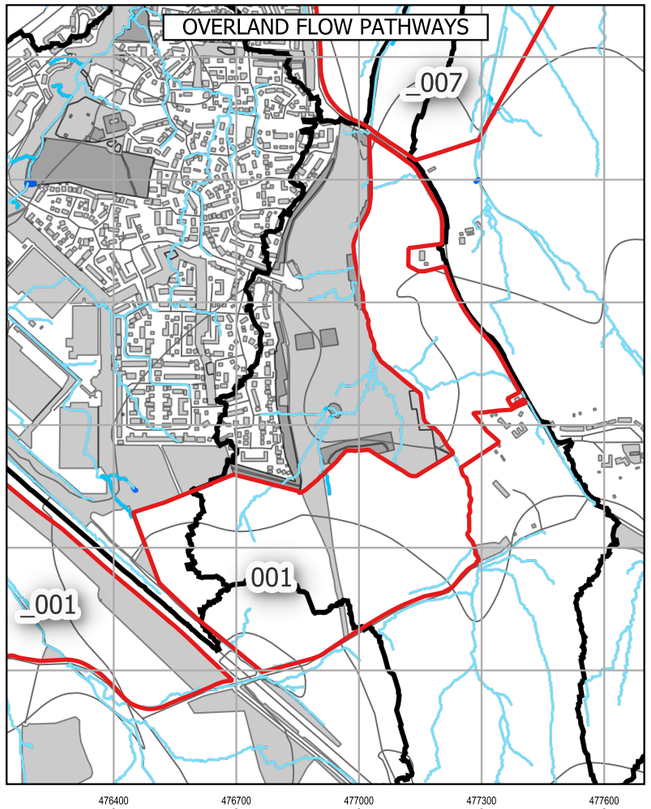
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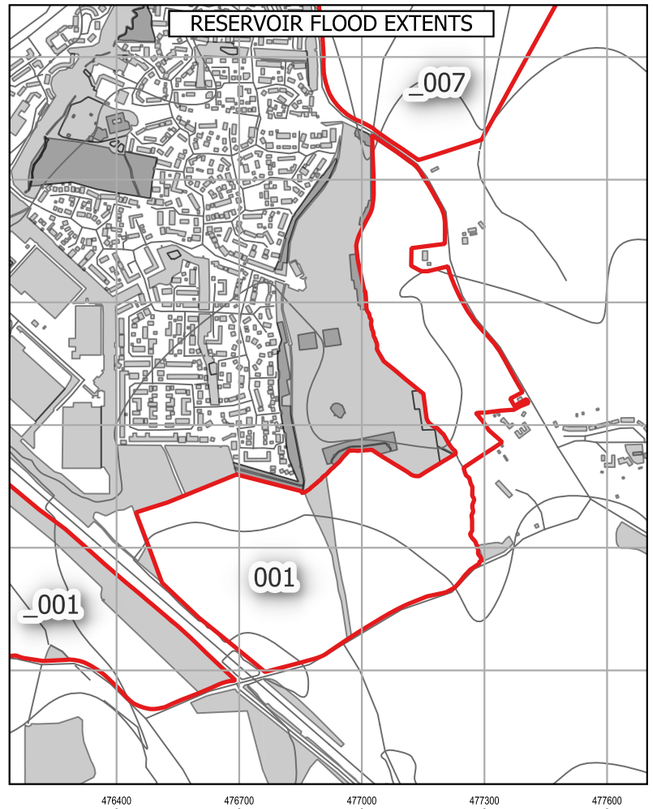
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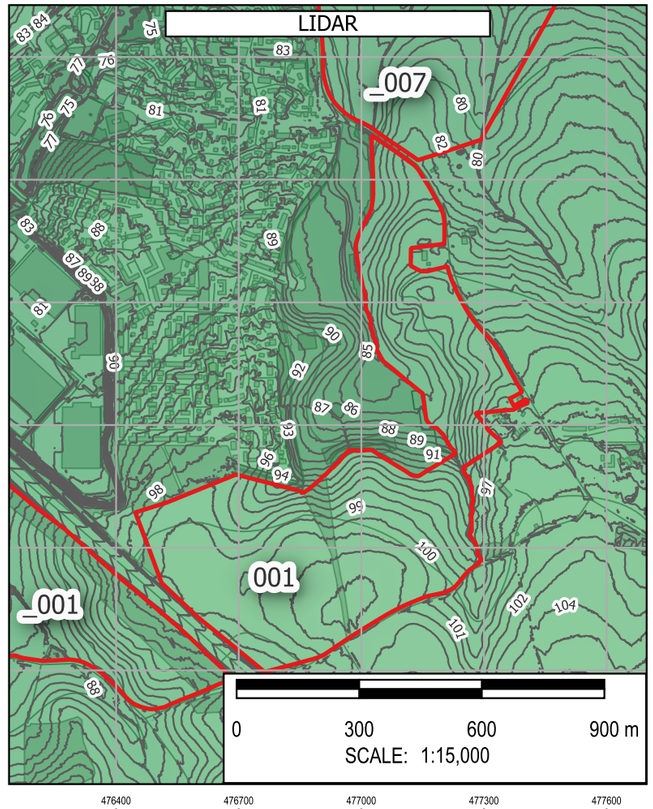












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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY

ROFSW
0.6M DEPTH
- High
- Medium
- Low
- Unavailable

0.75 HAZARD
- High
- Medium
- Low
- Unavailable

ROFRS
0.6M DEPTH
- High
- Medium
- Low
- Very low
- Unavailable

FLOOD WARNING AREAS

OVERLAND FLOW PATHWAYS
PROBABLE OVERLAND FLOW PATHWAYS
- < 3 Degrees
- 3 - 7 Degrees
- 7 - 12 Degrees
- > 12 Degrees

DETAILED WATERSHEDS

RESERVOIR FLOOD EXTENT
DRY DAY
WET DAY

LIDAR
1M CONTOURS
ELEVATION
Band 1 (Gray)
230
50

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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MAINTENANCE / CLEARING / OPERATION
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DECOMISSIONING AND DEMOLITION
NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS

Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	01/05/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

Binnies UK Limited
Registered Office
Spring Lodge, 172 Chester Road, Helsby Cheshire, WA6 0AR, UK
Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 001 Northampton - South of Grange Park

Drawing Scale: 1:15,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00191

Revision: P01

G:\Projects\4082482_WNC\4_Workspaces\0_Working\ SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR Print Date:01/05/2026

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	015E *There are two sites with the reference '015' so 'E' has been added to 'Long Buckby – South of Long Buckby Station (east)' to differentiate.
Site Name	Long Buckby - South of Long Buckby Station (east)
Proposed Development	Housing
Site Area	59.66 Ha
Site NGR	462494 mE, 266098 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
0.3 %	9.7 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
9.6 %	0.3 %	0.2 %	10.1 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Commentary

The southern part of the site is within Flood Zone 2 and 3 as a main river flows in alignment to the site boundary. As a result, site specific modelling may be required to inform mitigation measures as part of a Flood Risk Assessment. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
4.2 %	1.5 %	5.7 %	11.4 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
5.1 %	2.3 %	7.4 %	14.8 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

There are a number of flow paths originating within the site, draining west. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Flood History

There are five WNC recorded flood events within 500m of the site. This site is not located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at low risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
11.7 %	10.8 %	11.8 %	11.8 %

Although the site is in an area at risk of reservoir flooding, this risk could be managed through appropriate consideration of flood resilience measures.

Flood Defences – Residual Risk

Flood defences, in the form of natural high ground, located along the southern site boundary offer a standard of protection equivalent to a 1 in 5 year storm event, assuming the ground level is maintained. As the site benefits from flood defences, a proportionate assessment of the likelihood of a defence breach over the lifetime of the development (including the impact of climate change) should be undertaken as part of a site-specific Flood Risk Assessment. Using the Environment Agency's simplified method (FD2321/TR2), a breach in the flood defence at this site could result in 'danger for all'.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 3. Therefore the Exception Test is required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 2 and 3, finished floor levels should be set no lower than 93.6 mAOD, 600mm above the maximum predicted flood level of 93.0 mAOD. In accordance with the EA guidance, freeboard allowances could be reviewed, and where appropriate reduced to 300mm. An appropriate freeboard allowance should also be considered for other sources of flooding. This should be confirmed by a site specific assessment as part of the detailed design for development, which should include consideration of proposed ground levels.

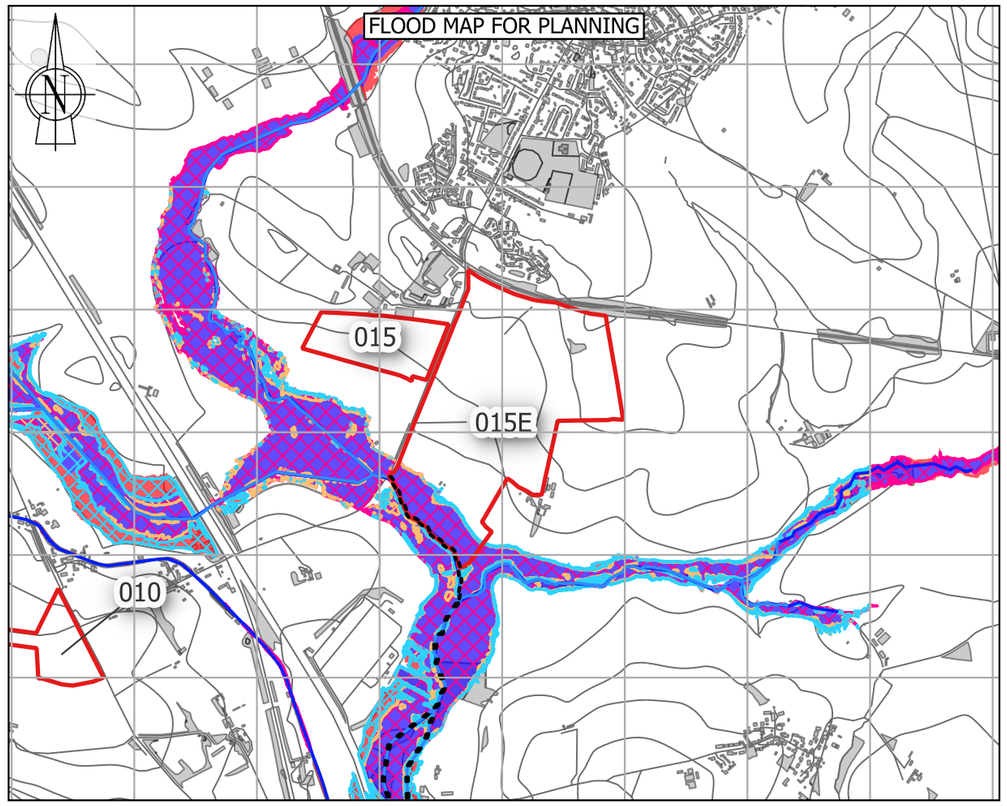
Surface Water Attenuation Provision – Design Considerations

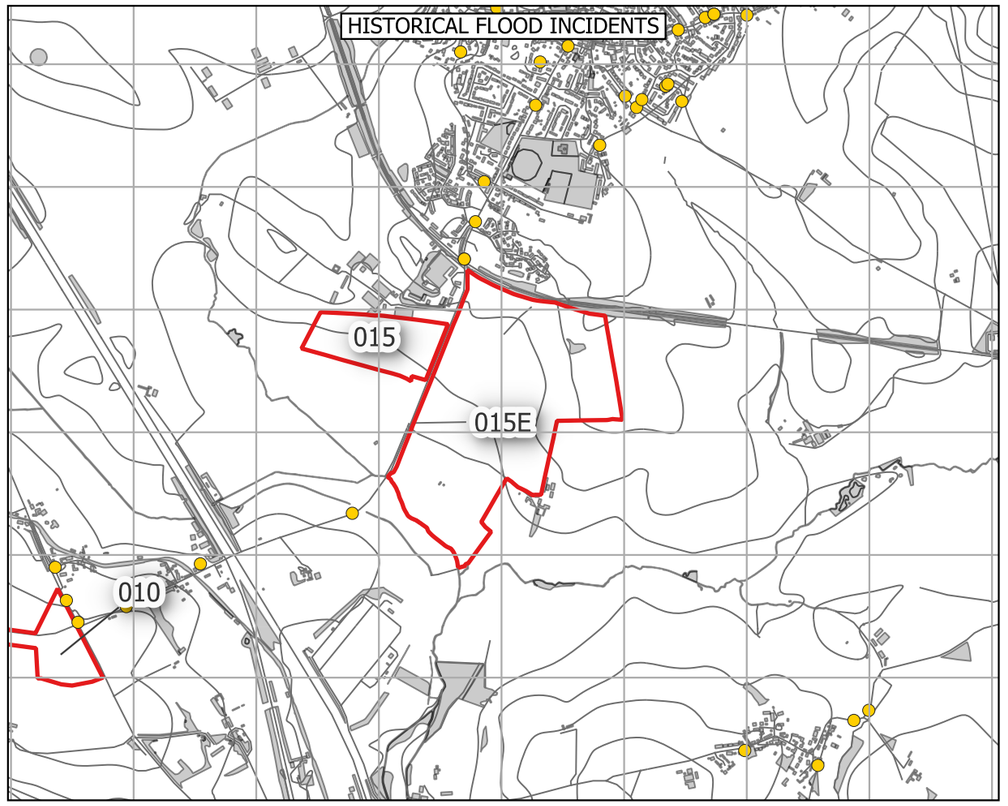
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

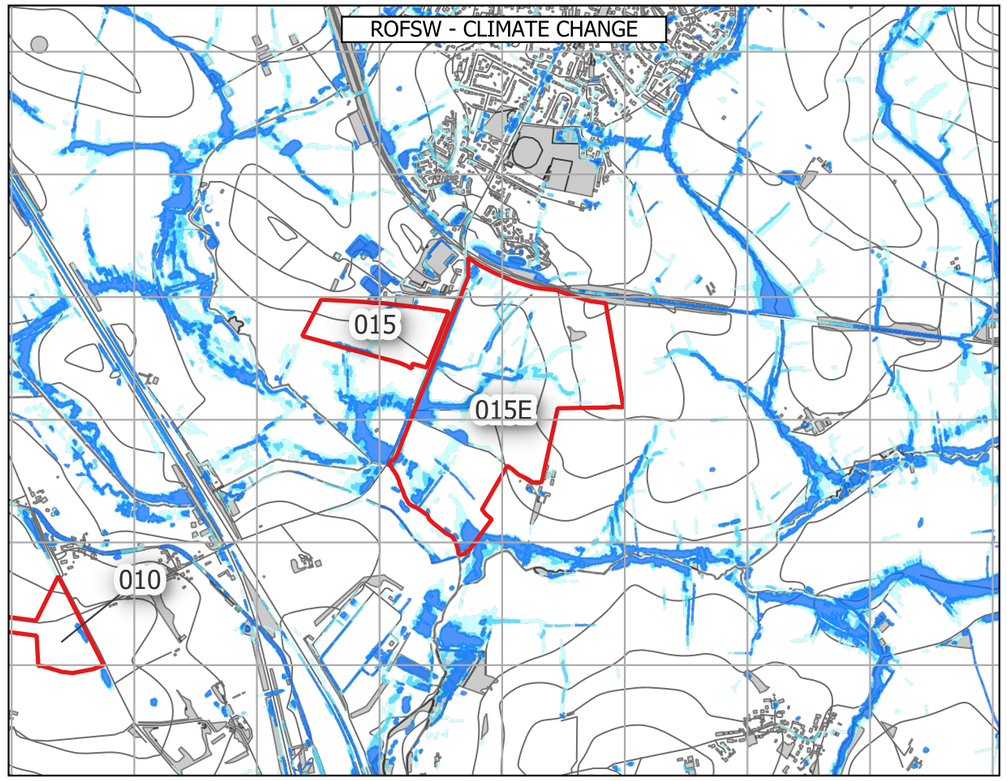
It is estimated that 33400 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 5.00 Ha should be set aside for appropriate SuDS techniques.

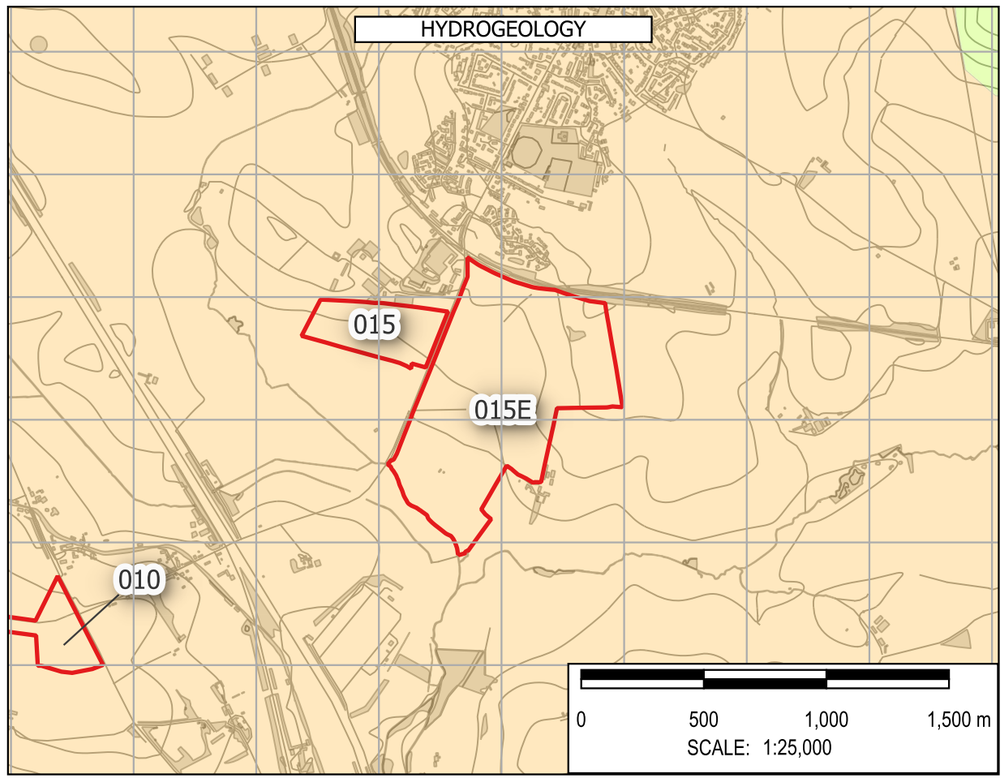
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.









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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
  - WEST NORTHANTS BOUNDARY
- FLOOD MAP FOR PLANNING
  - FLOOD DEFENCES
  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
- ROFSW WITH CLIMATE CHANGE
  - HIGH
  - MEDIUM
  - LOW
- HYDROGEOLOGY
- AQUIFER TYPE
  - HIGHLY PRODUCTIVE AQUIFER
  - MODERATELY PRODUCTIVE AQUIFER
  - LOW PRODUCTIVITY AQUIFER
  - ROCKS WITH ESSENTIALLY NO GROUNDWATER

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS
MAINTENANCE / CLEARING / OPERATION
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DECOMISSIONING AND DEMOLITION
NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS

Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

Binnies UK Limited
Registered Office
Spring Lodge, 172 Chester Road, Helsby Cheshire, WA6 0AR, UK
Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 015E
Long Buckby - South of Long Buckby Station (east)

Drawing Scale: 1:25,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00128

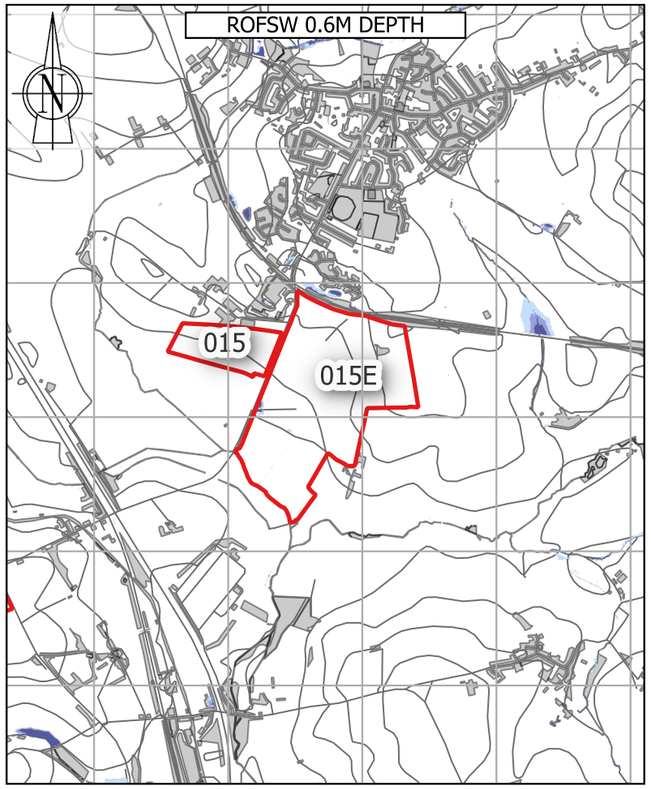
Revision: P01

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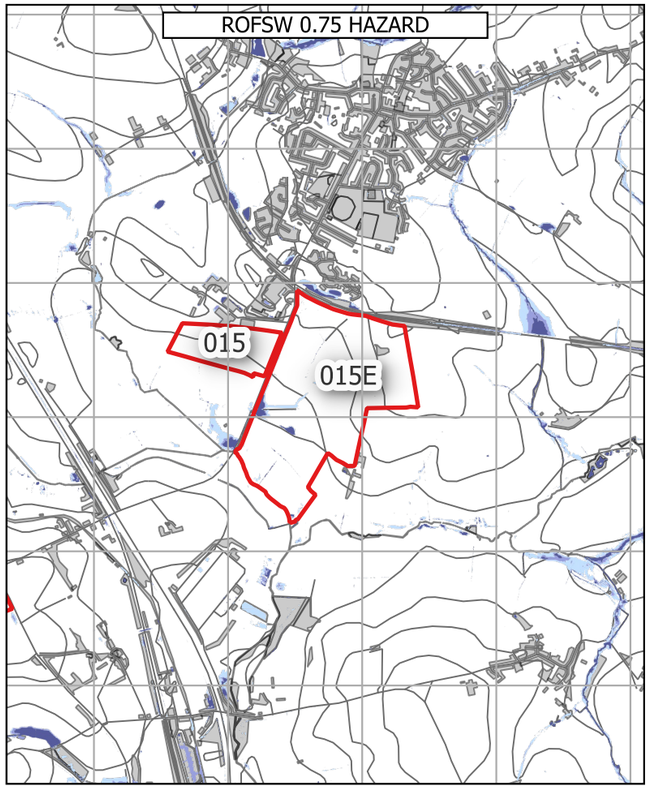
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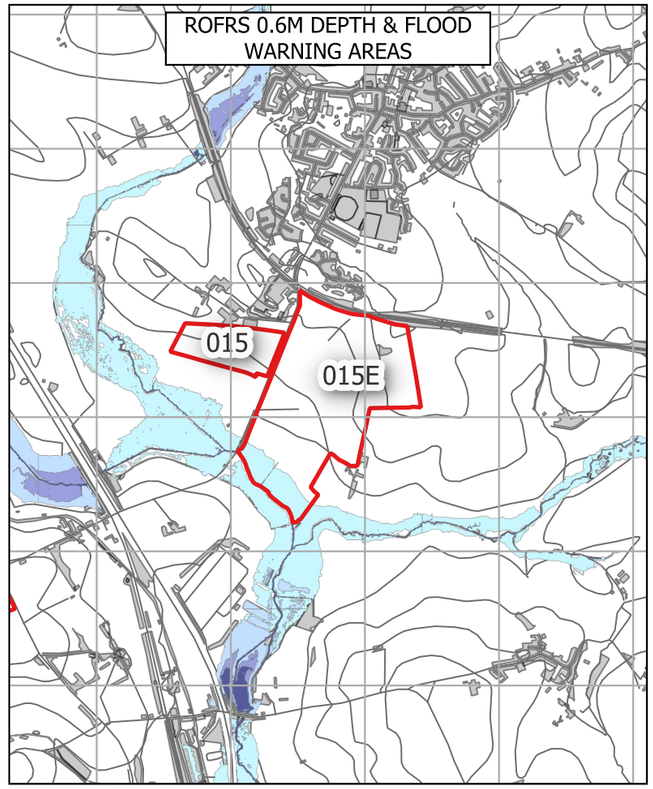
ROFSW 0.6M DEPTH



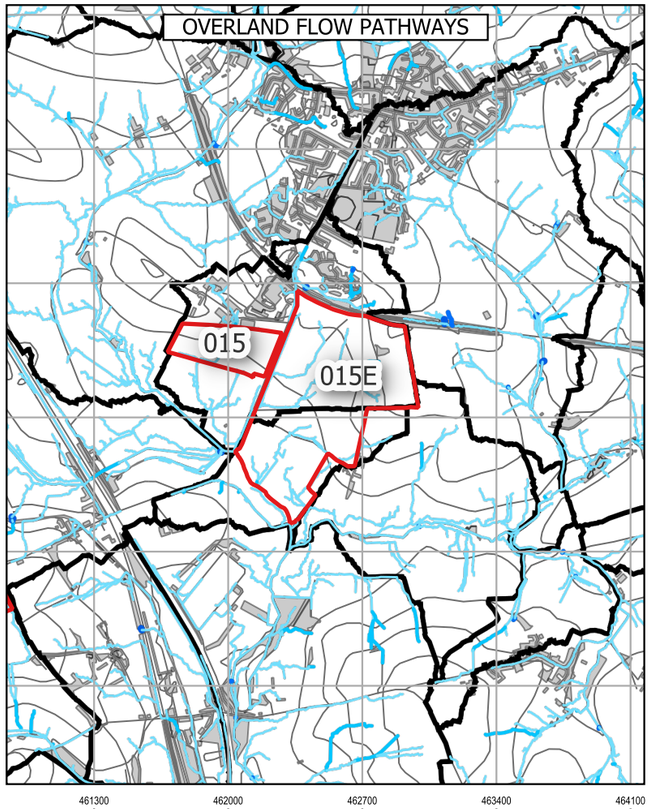
ROFSW 0.75 HAZARD



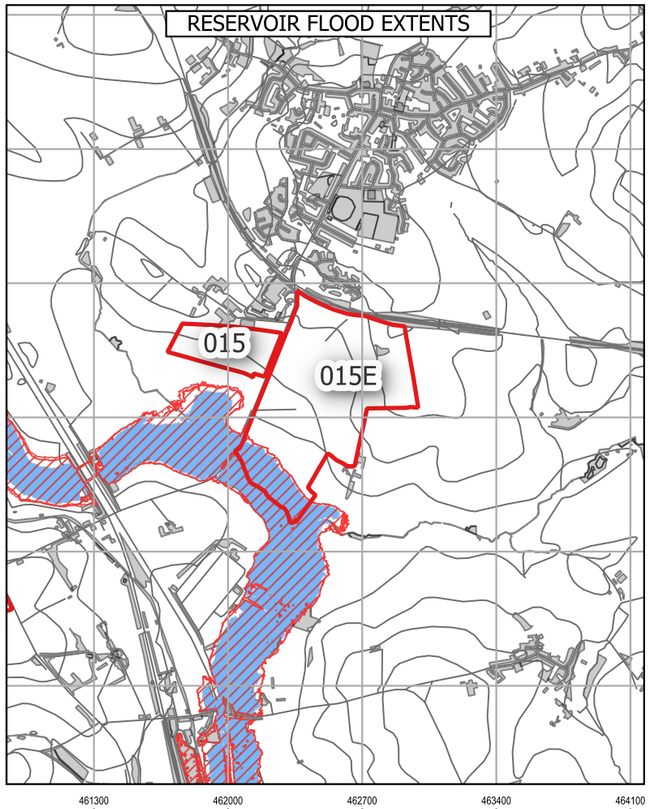
ROFRS 0.6M DEPTH & FLOOD WARNING AREAS



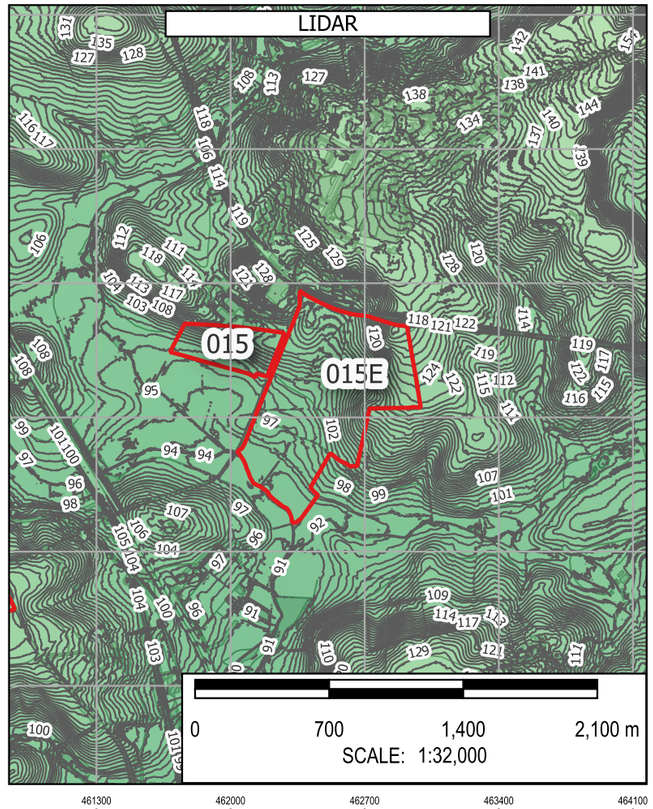
OVERLAND FLOW PATHWAYS



RESERVOIR FLOOD EXTENTS



LIDAR



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LEGEND

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- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY

ROFSW

0.6M DEPTH
- High
- Medium
- Low
- Unavailable

0.75 HAZARD
- High
- Medium
- Low
- Unavailable

ROFRS

0.6M DEPTH
- High
- Medium
- Low
- Very low
- Unavailable

FLOOD WARNING AREAS

OVERLAND FLOW PATHWAYS

PROBABLE OVERLAND FLOW PATHWAYS
- < 3 Degrees
- 3 - 7 Degrees
- 7 - 12 Degrees
- > 12 Degrees

DETAILED WATERSHEDS

RESERVOIR FLOOD EXTENT

DRY DAY

WET DAY

LIDAR
- 1M CONTOURS

ELEVATION
- Band 1 (Gray)
- 230
- 50

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	01/05/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Registered Office
Spring Lodge, 172 Chester Road, Helsby Cheshire, WA6 0AR, UK
Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 015E
Long Buckby - South of Long Buckby Station (east)

Drawing Scale: 1:32,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00186

Revision: P01

G:\Projects\4082482_WNC\4_Workspaces\0_Working\ SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR Print Date:01/05/2026

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	006
Site Name	Northampton West (remaining)
Proposed Development	Housing
Site Area	20.59 Ha
Site NGR	469922 mE, 261873 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
0.0 %	0.0 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
5.1 %	0.8 %	1.8 %	7.7 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
5.7 %	0.8 %	1.9 %	8.4 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

There are some minor surface water flow paths across the site, with significant ponding in the north western corner of the site. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Flood History

There are three WNC recorded flood events within 500m of the site. This site is not located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at medium risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.0 %	0. %	0.0 %	0.0 %

The site is not indicated to be at risk of reservoir flooding.

Flood Defences – Residual Risk

It is unlikely that the site will be affected by a breach of flood defences as the nearest defences are more than 500m away.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 1. Therefore the Exception Test is not required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 1, finished floor levels should be at least 150mm above external ground levels. An appropriate freeboard allowance should also be considered for other sources of flooding.

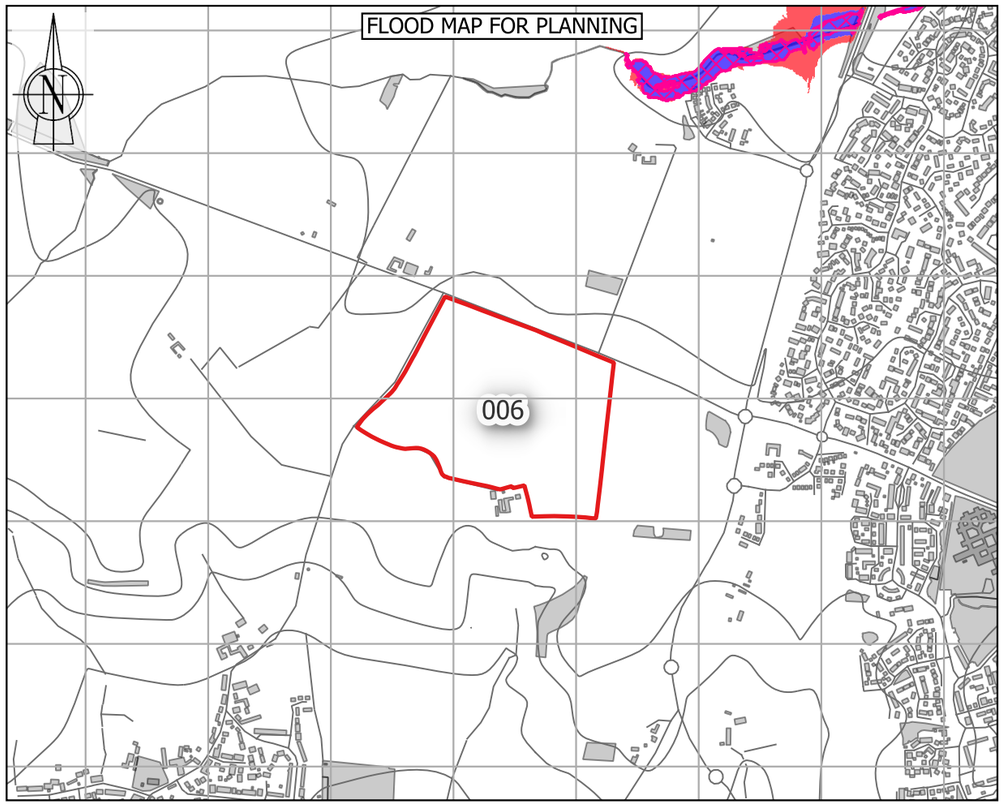
Surface Water Attenuation Provision – Design Considerations

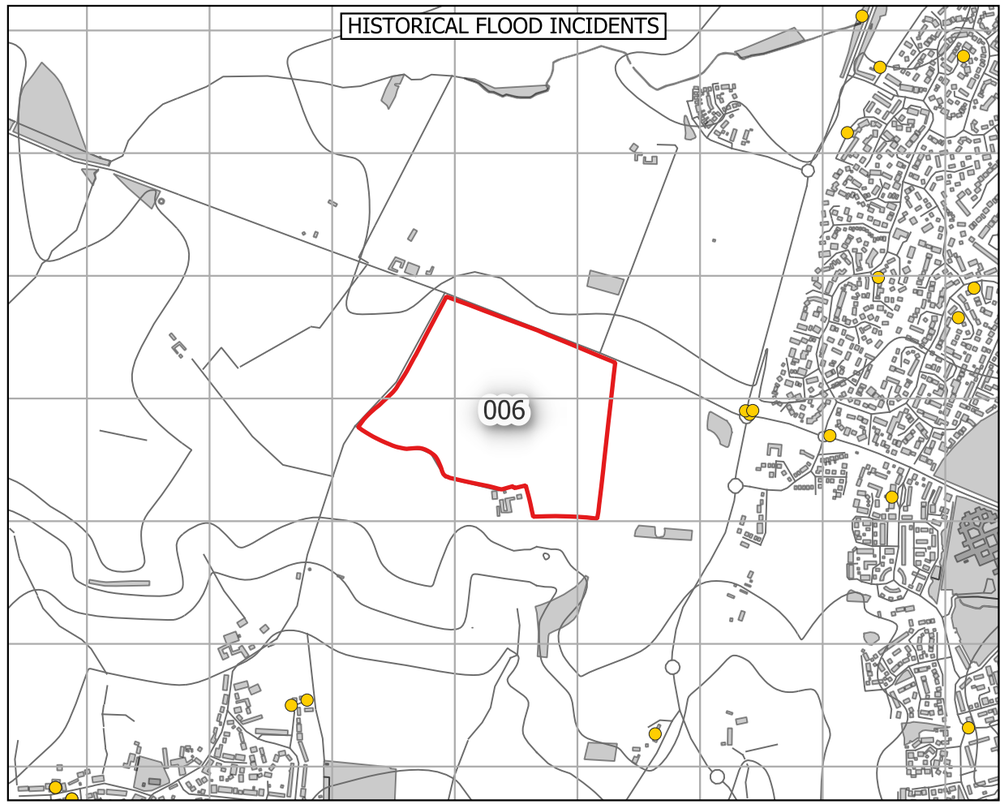
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

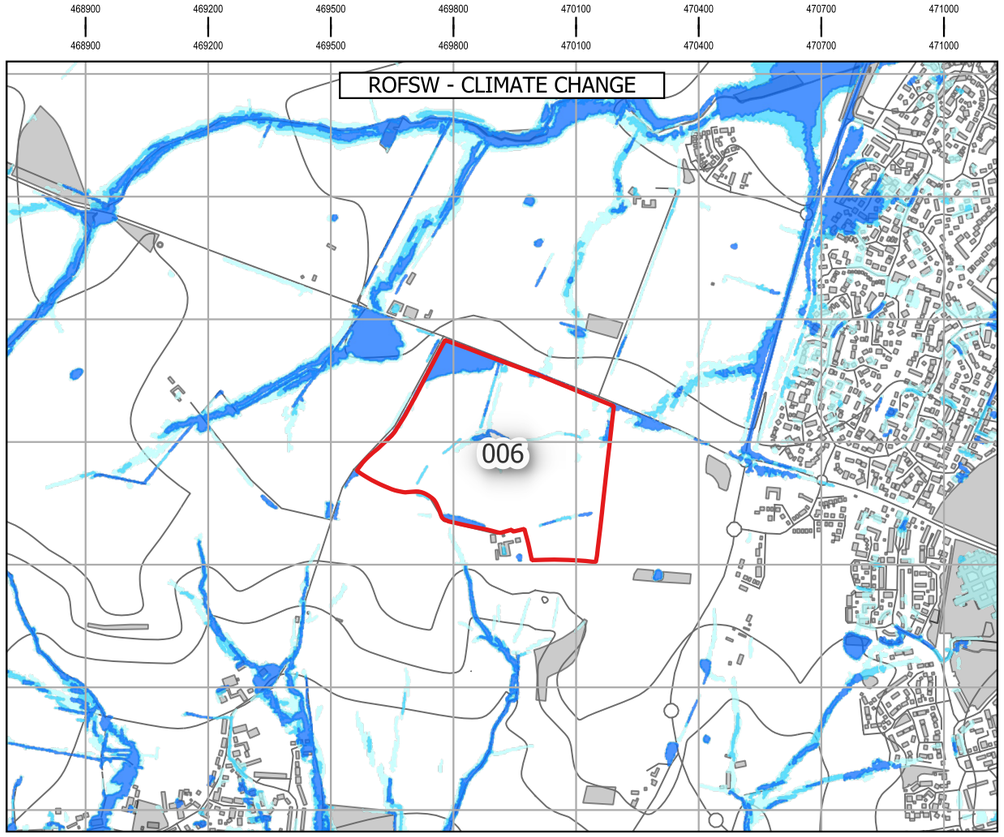
It is estimated that 11526 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 1.72 Ha should be set aside for appropriate SuDS techniques.

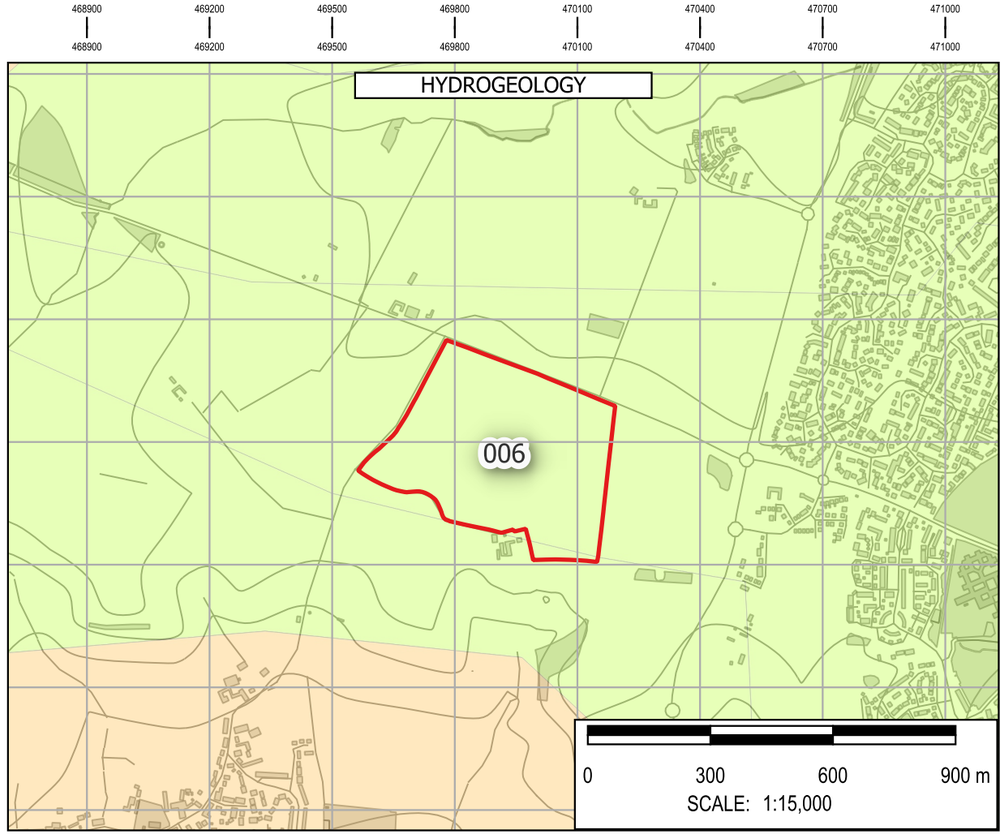
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.









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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
  - WEST NORTHANTS BOUNDARY
- FLOOD MAP FOR PLANNING
  - FLOOD DEFENCES
  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
- ROFSW WITH CLIMATE CHANGE
  - HIGH
  - MEDIUM
  - LOW
- HYDROGEOLOGY
  - AQUIFER TYPE
  - HIGHLY PRODUCTIVE AQUIFER
  - MODERATELY PRODUCTIVE AQUIFER
  - LOW PRODUCTIVITY AQUIFER
  - ROCKS WITH ESSENTIALLY NO GROUNDWATER

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DECOMISSIONING AND DEMOLITION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
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Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE | Revision: -

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Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 006 Northampton West (remaining)

Drawing Scale: 1:15,000 Sheet Size: A3

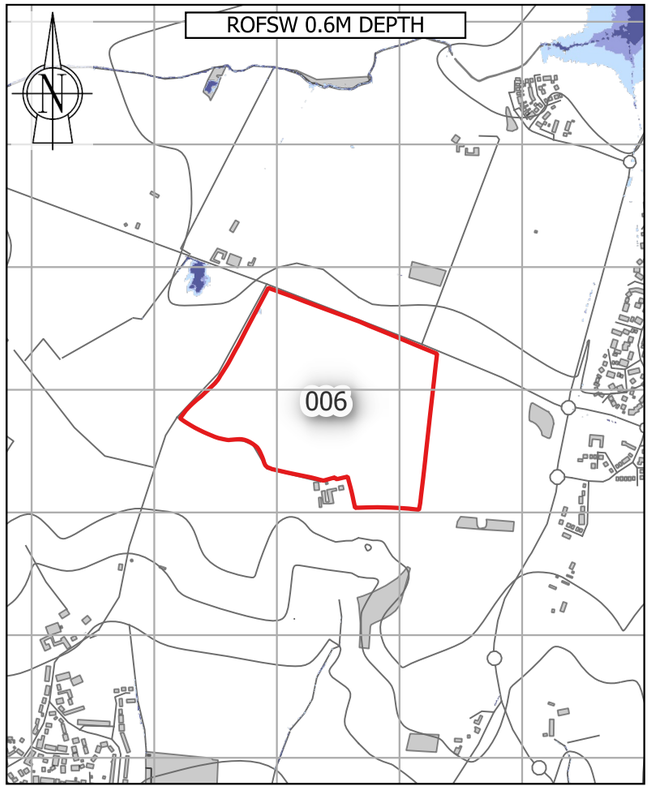
Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00140 | Revision: P01

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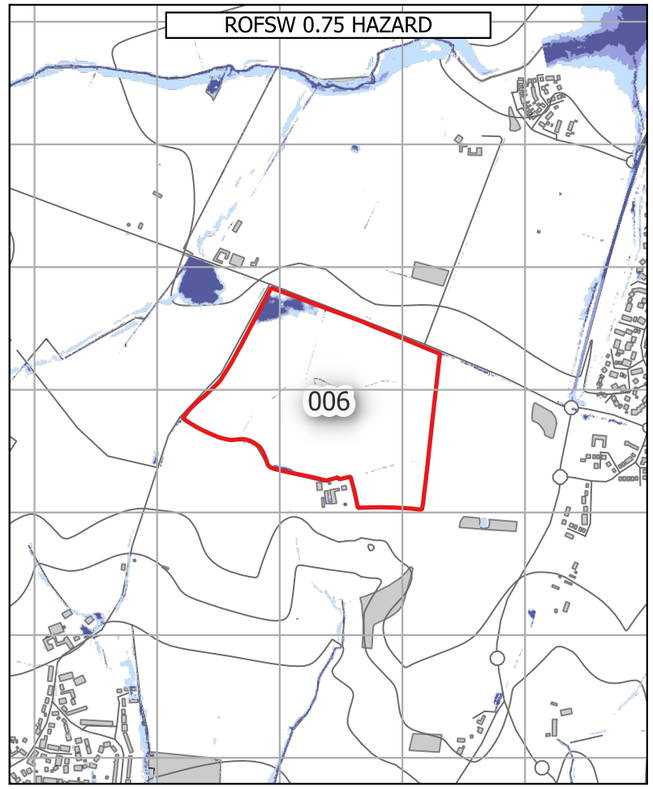
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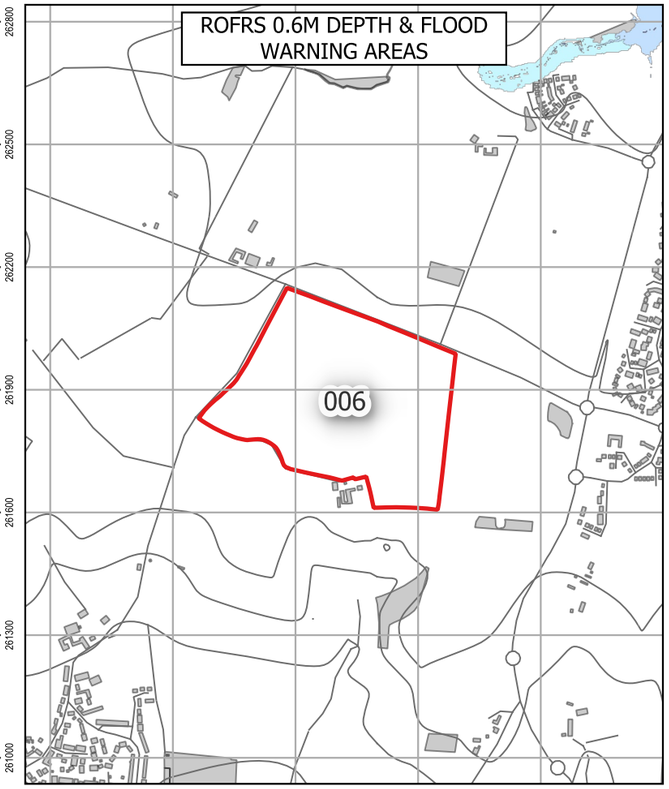
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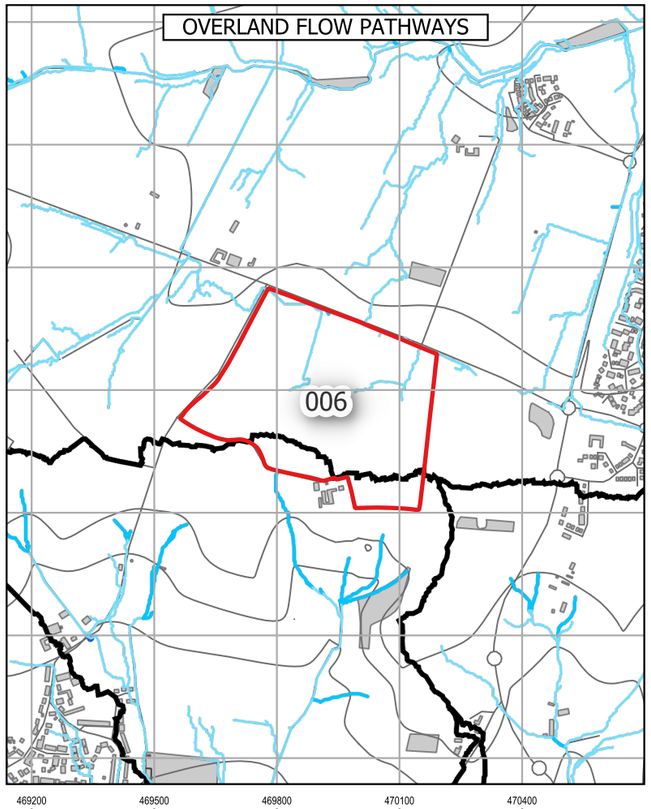
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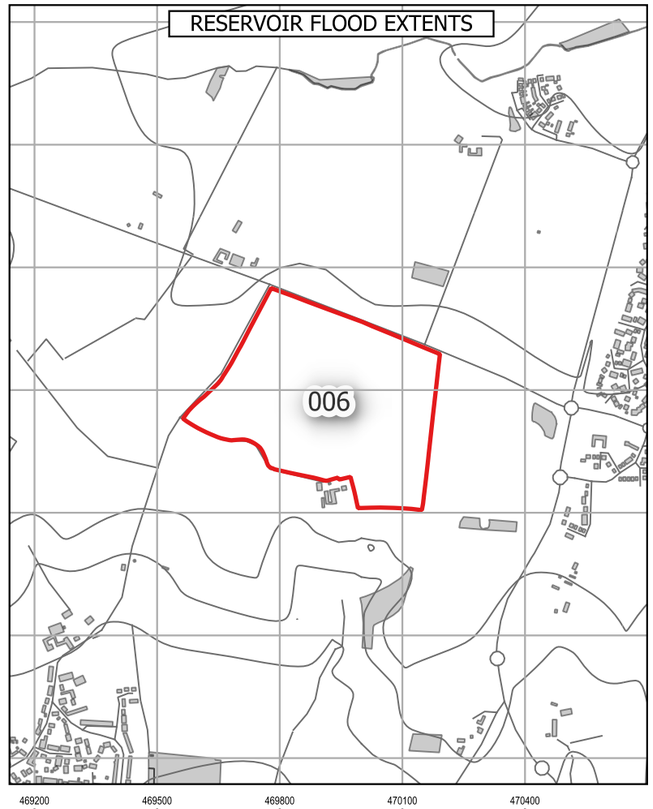
ROFRS 0.6M DEPTH & FLOOD WARNING AREAS



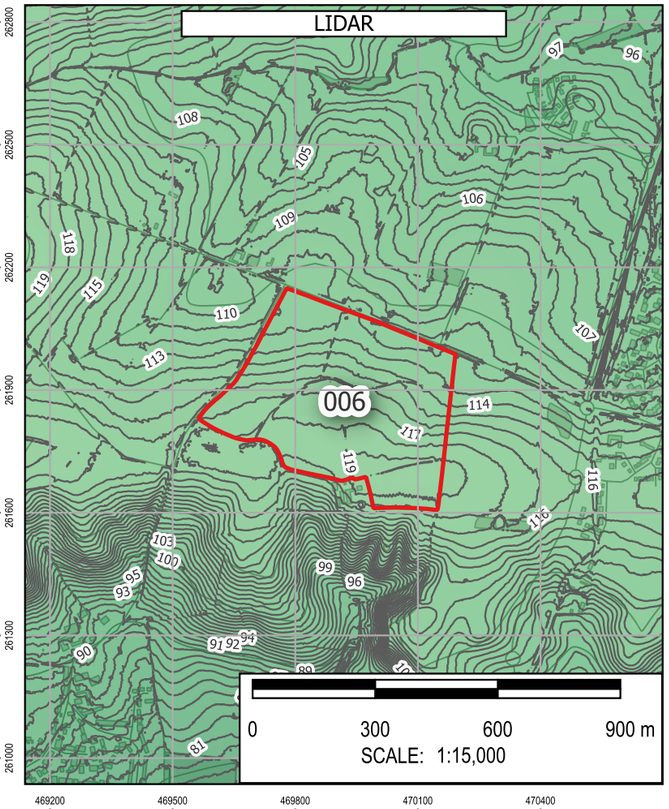
OVERLAND FLOW PATHWAYS



RESERVOIR FLOOD EXTENTS



LIDAR



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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY
- ROFSW
  - 0.6M DEPTH
    - High
    - Medium
    - Low
    - Unavailable
  - 0.75 HAZARD
    - High
    - Medium
    - Low
    - Unavailable
- ROFRS
  - 0.6M DEPTH
    - High
    - Medium
    - Low
    - Very low
    - Unavailable
- FLOOD WARNING AREAS
- OVERLAND FLOW PATHWAYS
- PROBABLE OVERLAND FLOW PATHWAYS
  - < 3 Degrees
  - 3 - 7 Degrees
  - 7 - 12 Degrees
  - > 12 Degrees
- DETAILED WATERSHEDS
- RESERVOIR FLOOD EXTENT
  - DRY DAY
  - WET DAY
- LIDAR
  - 1M CONTOURS
- ELEVATION
  - Band 1 (Gray)
    - 230
    - 50

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P01	KA	MH	SB	SB	01/05/26	First Issue
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Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 006 Northampton West (remaining)

Drawing Scale: 1:15,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00198 Revision: P01

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	002
Site Name	Northampton Collingtree Golf Course
Proposed Development	Housing
Site Area	15.84 Ha
Site NGR	475573 mE, 255628 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
0.0 %	0.0 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
3.0 %	2.7 %	4.8 %	10.5 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
4.9 %	2.8 %	5.8 %	13.5 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

There are multiple locations across the site where surface water ponding occurs, in addition to three prominant flow paths which drain north towards a main river. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Flood History

There are sixty four WNC recorded flood events within 500m of the site. This site is not located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at low risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

The site is not indicated to be at risk of reservoir flooding.

Flood Defences – Residual Risk

Although the nearest defences are less than 350m from the site, the site does not benefit from these defences and therefore an assessment of a defence breach over the lifetime of the development (including the impact of climate change) is unlikely to be required.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 1. Therefore the Exception Test is not required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 1, finished floor levels should be at least 150mm above external ground levels. An appropriate freeboard allowance should also be considered for other sources of flooding.

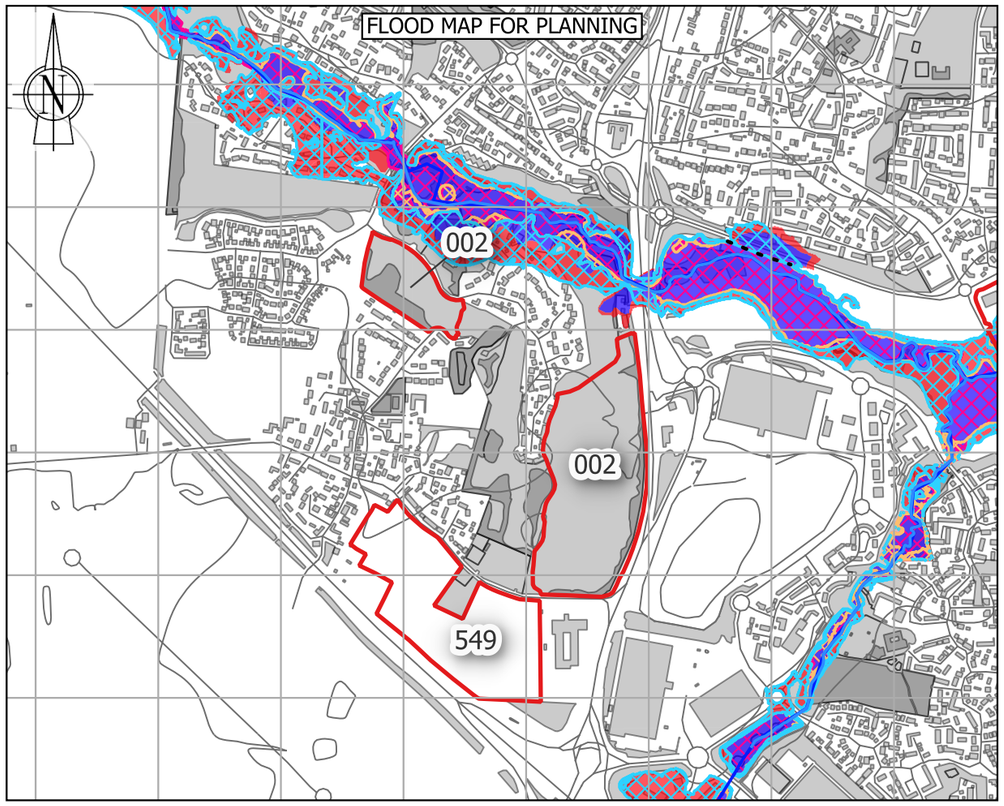
Surface Water Attenuation Provision – Design Considerations

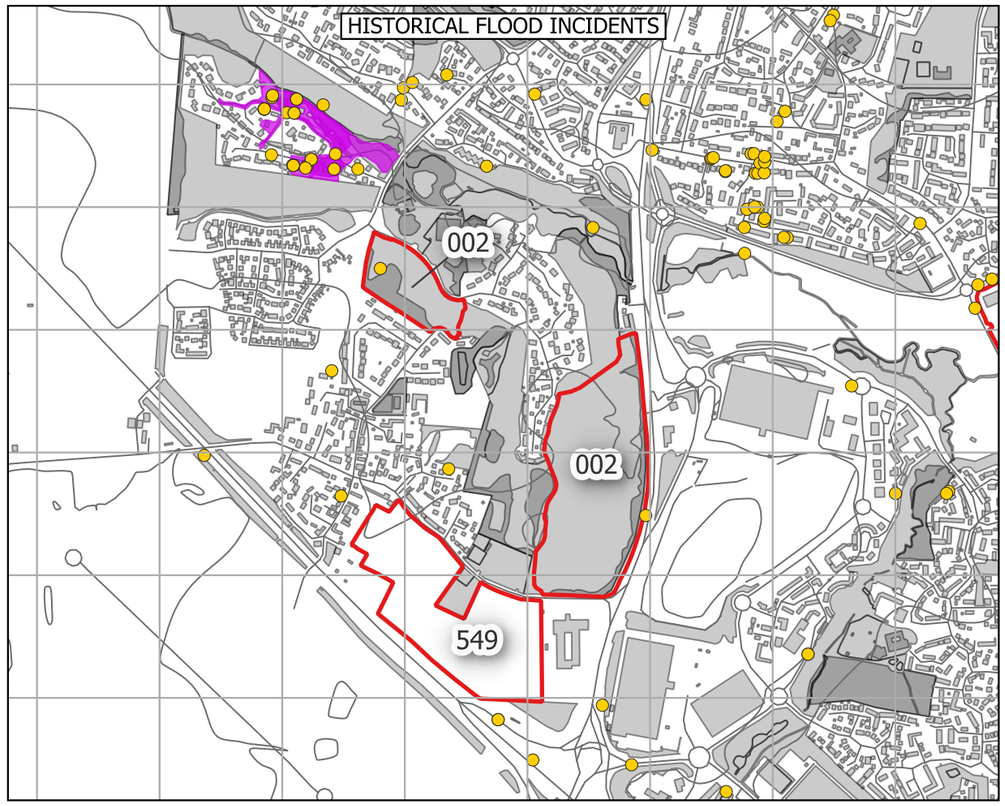
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

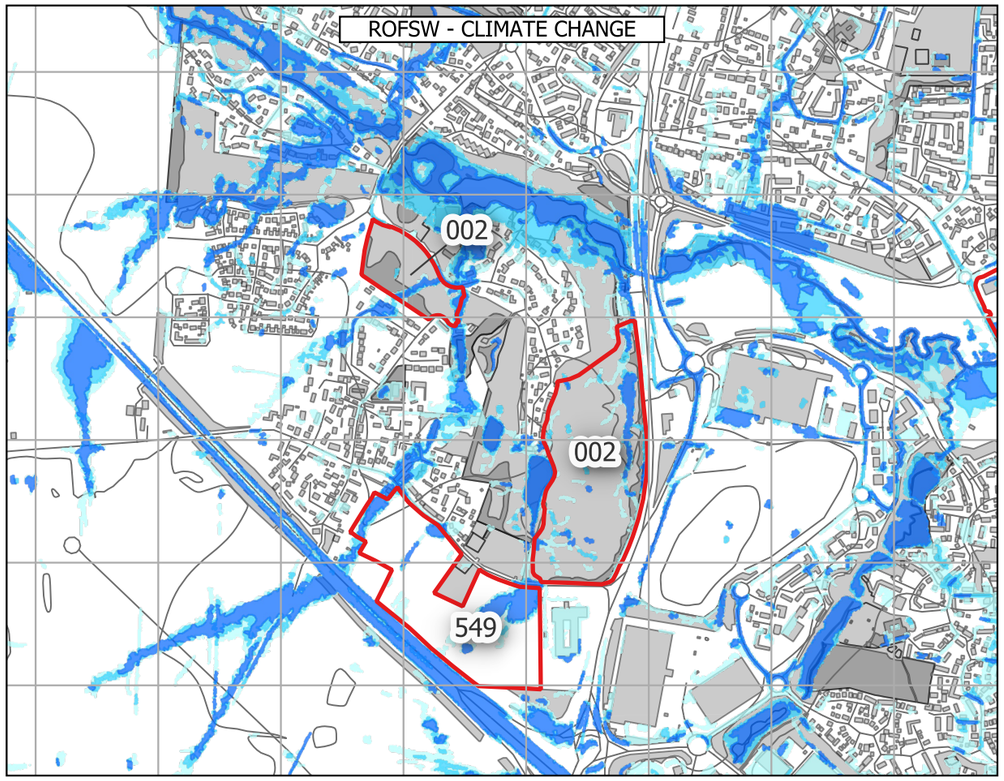
It is estimated that 8868 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 1.33 Ha should be set aside for appropriate SuDS techniques.

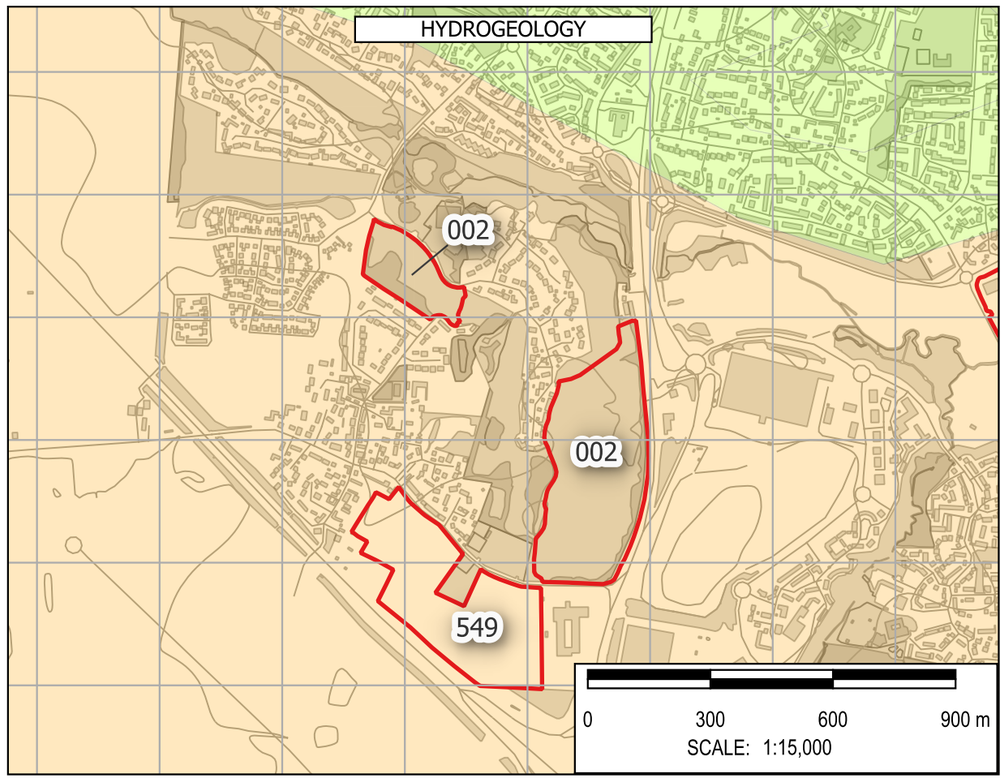
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.









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  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
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  - MEDIUM
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P01	KA	MH	SB	SB	30/04/26	First Issue
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Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

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Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 002 Northampton Collingtree Golf Course

Drawing Scale: 1:15,000 Sheet Size: A3

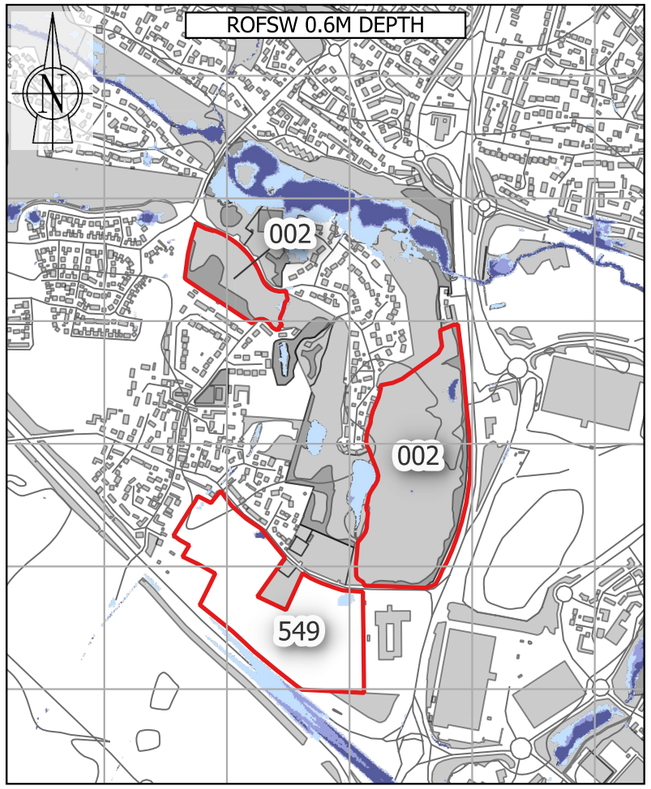
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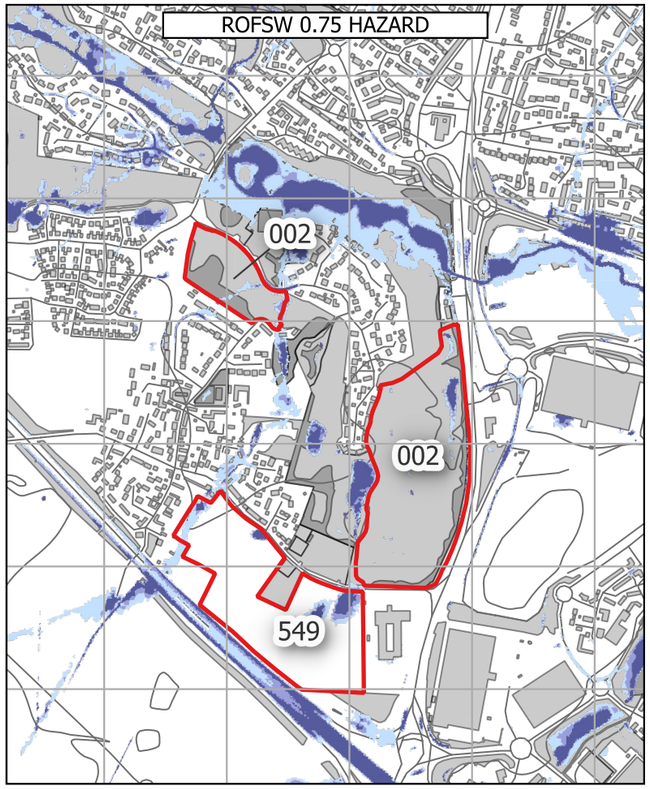
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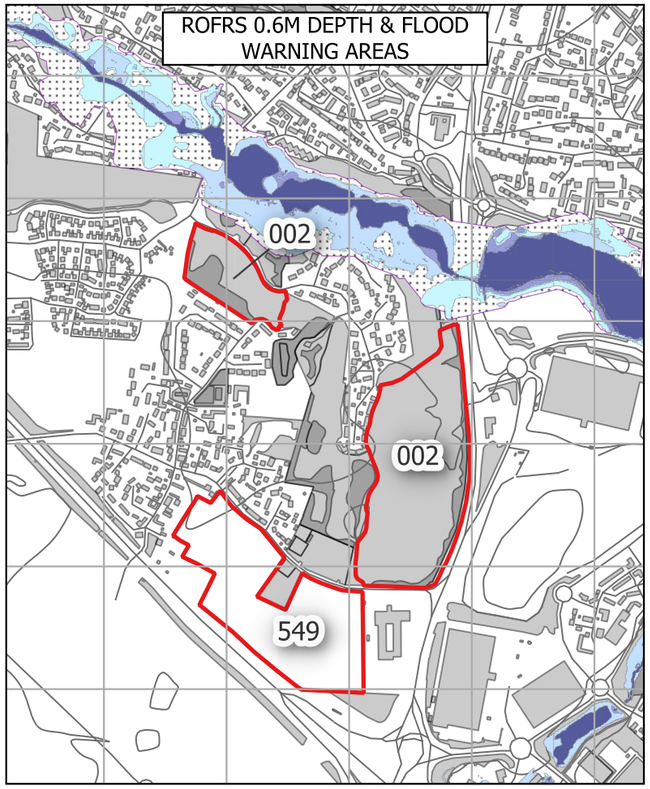
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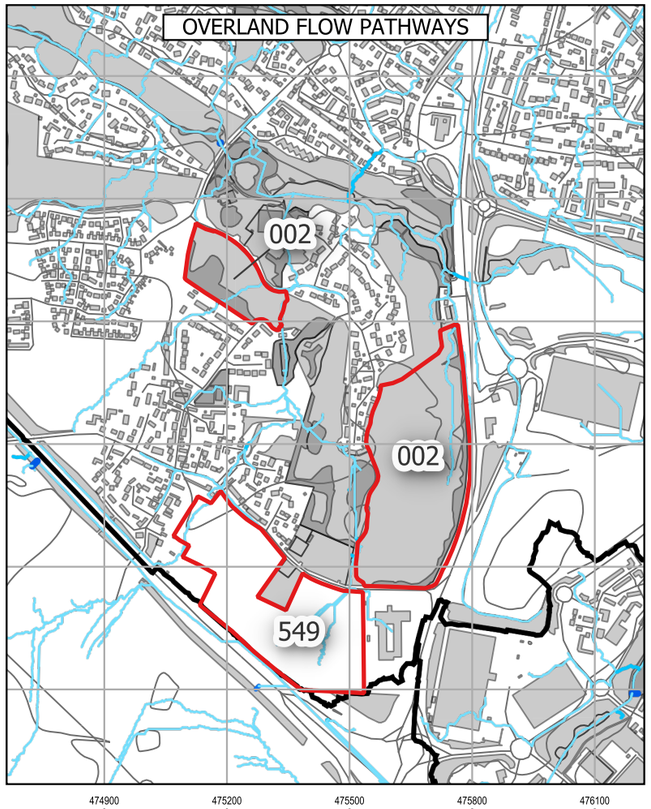
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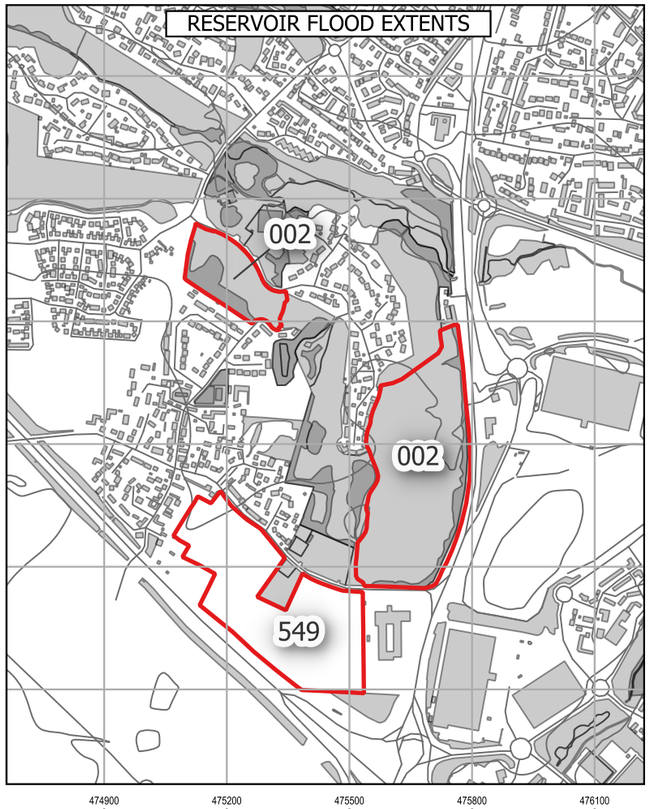
ROFRS 0.6M DEPTH & FLOOD WARNING AREAS



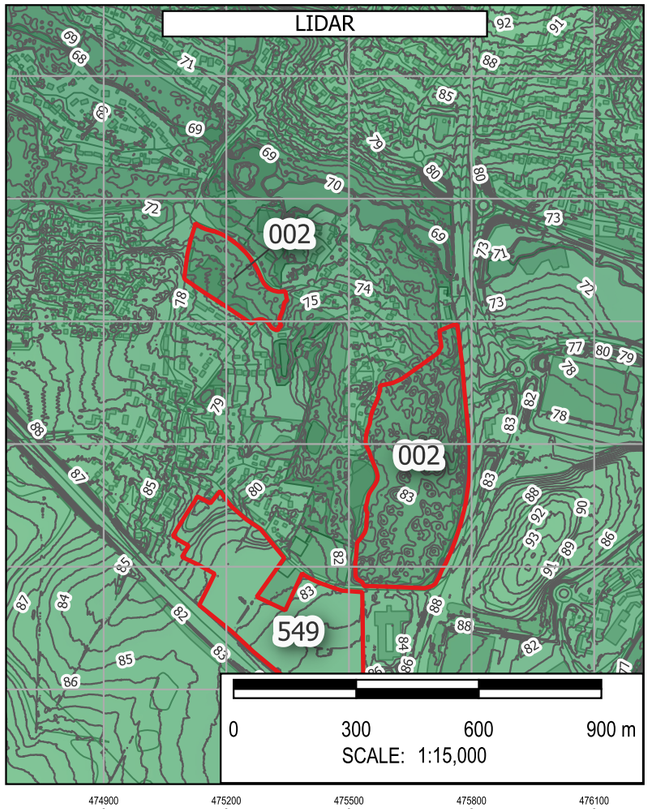
OVERLAND FLOW PATHWAYS



RESERVOIR FLOOD EXTENTS



LIDAR



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- WEST NORTHANTS BOUNDARY
- ROFSW
- 0.6M DEPTH
  - High
  - Medium
  - Low
  - Unavailable
- 0.75 HAZARD
  - High
  - Medium
  - Low
  - Unavailable
- ROFRS
- 0.6M DEPTH
  - High
  - Medium
  - Low
  - Very low
  - Unavailable
- FLOOD WARNING AREAS
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- PROBABLE OVERLAND FLOW PATHWAYS
  - < 3 Degrees
  - 3 - 7 Degrees
  - 7 - 12 Degrees
  - > 12 Degrees
- DETAILED WATERSHEDS
- RESERVOIR FLOOD EXTENT
- DRY DAY
- WET DAY
- LIDAR
- 1M CONTOURS
- ELEVATION
- Band 1 (Gray)
- 230
- 50

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Client Drawing No.: NOT APPLICABLE

Revision: -

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Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 002 Northampton Collingtree Golf Course

Drawing Scale: 1:15,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00202 Revision: P01

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Site Reference:	_002
Site Name	Cattlemarket Road, the Plough and surrounding area
Proposed Development	Regen mixed
Site Area	2.22 Ha
Site NGR	475447 mE, 260027 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
33.0 %	61.2 %

More than 60% of the site is indicated to be at risk of fluvial flooding during a present-day scenario, therefore development is unlikely to be viable.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
0.0 %	0.0 %	88.5 %	88.5 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. More than 60% of the site is indicated to be at risk of fluvial flooding during a climate change scenario, therefore development is unlikely to be viable.

Fluvial Flood Risk – Commentary

The majority of the site is situated within Flood Zone 2 and 3 under a present-day and climate change scenario.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
22.1 %	6.3 %	36.1 %	64.5 %

More than 60% of the site is at risk of pluvial flooding during a present-day scenario, therefore development is unlikely to be viable.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
26.1 %	11.9 %	31.6 %	69.6 %

More than 60% of the site is at risk of pluvial flooding during a climate change scenario, therefore development is unlikely to be viable.

Pluvial Flood Risk – Commentary

There are significant areas of surface water ponding across the site, as well as across much of the area surrounding the site.

Flood History

There are seventy eight WNC flood events within 500m of the site. This site is located within an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at low risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
94.7 %	97.2 %	100.0 %	100.0 %

Although the site is in an area at risk of reservoir flooding, this risk could be managed through appropriate consideration of flood resilience measures.

Flood Defences – Residual Risk

Flood defences, in the form of an embankment and a flood wall, positioned beyond the southern site boundary offer a standard of protection equivalent to a 1 in 200 year storm event, assuming the asset is maintained. As the site benefits from flood defences, a proportionate assessment of the likelihood of a defence breach over the lifetime of the development (including the impact of climate change) should be undertaken as part of a site-specific Flood Risk Assessment. Using the Environment Agency's simplified method (FD2321/TR2), a breach in the flood defence at this site could result in 'danger for all'.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is unlikely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 3. Therefore the Exception Test is required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 2 and 3, should development be proposed for this site, finished floor levels should be set no lower than 58.8 mAOD, 600mm above the maximum predicted flood level of 58.2 mAOD. In accordance with the EA guidance, freeboard allowances could be reviewed, and where appropriate reduced to 300mm. An appropriate freeboard allowance should also be considered for other sources of flooding. This should be confirmed by a site specific assessment as part of the detailed design for development, which should include consideration of proposed ground levels.

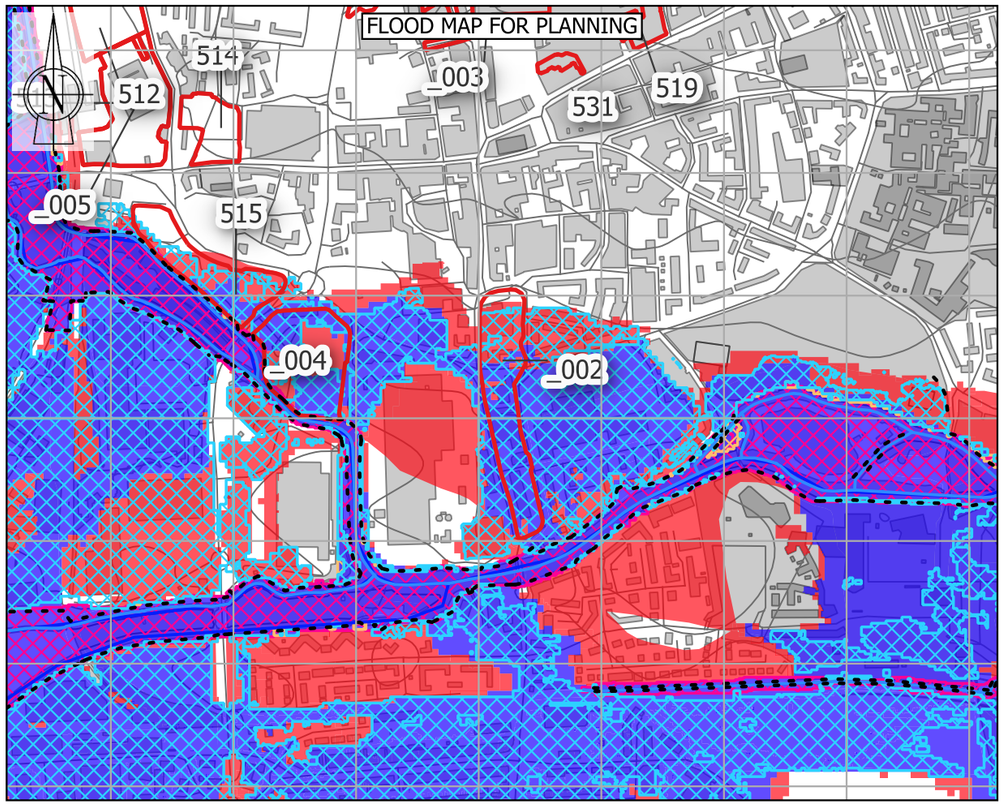
Surface Water Attenuation Provision – Design Considerations

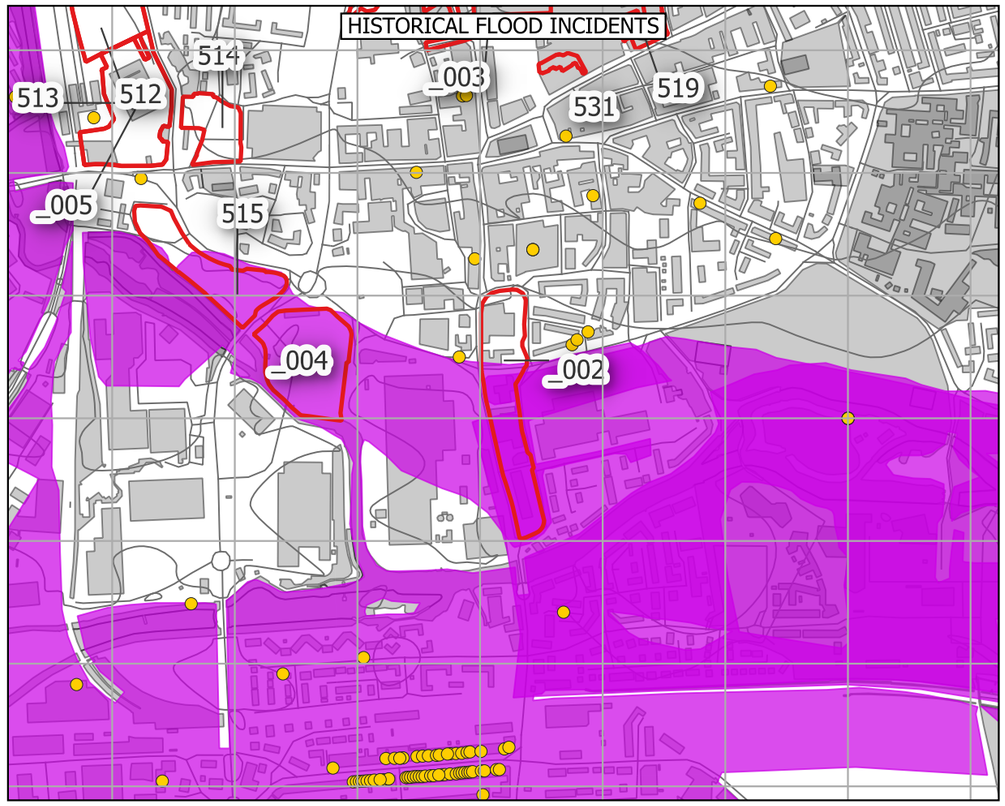
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However should development be proposed for this site, at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

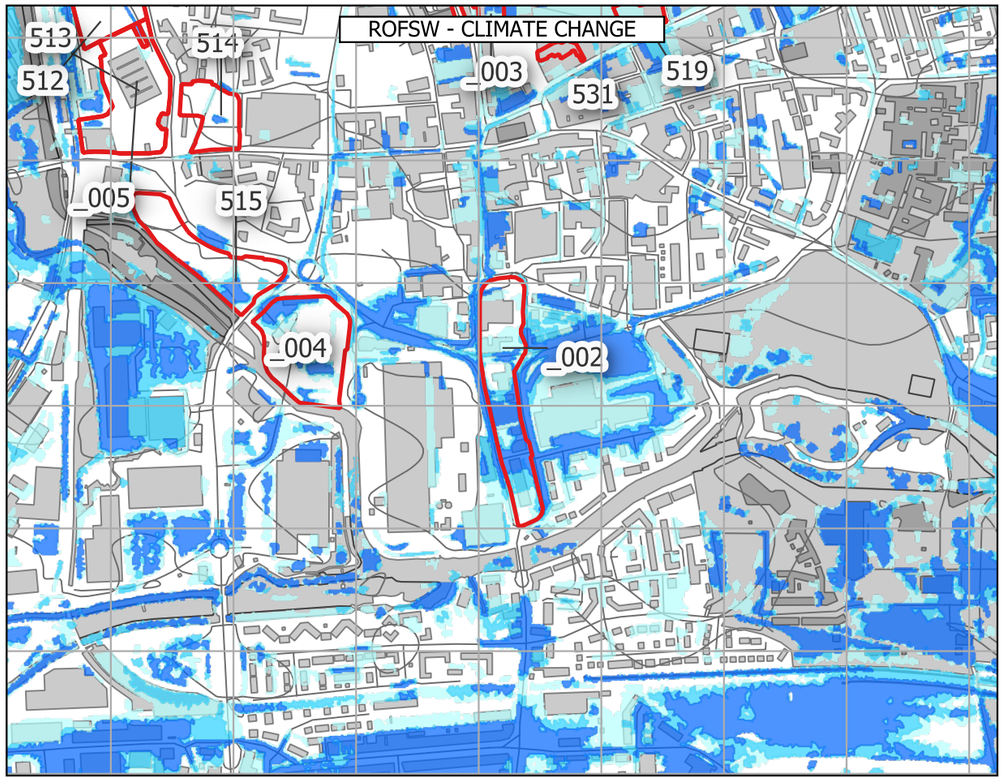
Should development be proposed for this site, it is estimated that, 1866 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 0.28 Ha should be set aside for appropriate SuDS techniques.

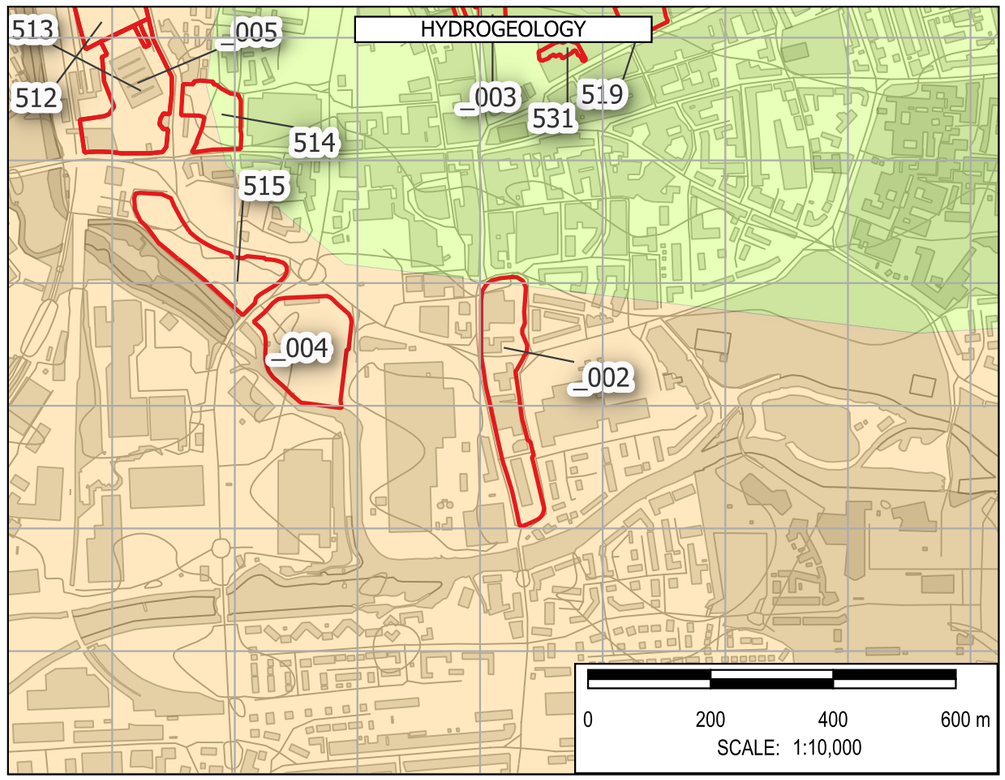
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of this site is not compatible with the level of pluvial and fluvial flood risk identified.









Note: The limits, including the height and depths of the Works, shown in this drawing are not to be taken as limiting the obligations of the contractor under Contract.

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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
  - WEST NORTHANTS BOUNDARY
- FLOOD MAP FOR PLANNING
  - FLOOD DEFENCES
  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
- ROFSW WITH CLIMATE CHANGE
  - HIGH
  - MEDIUM
  - LOW
- HYDROGEOLOGY
  - AQUIFER TYPE
  - HIGHLY PRODUCTIVE AQUIFER
  - MODERATELY PRODUCTIVE AQUIFER
  - LOW PRODUCTIVITY AQUIFER
  - ROCKS WITH ESSENTIALLY NO GROUNDWATER

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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DECOMISSIONING AND DEMOLITION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	07/05/26	First Issue
-	--	--	--	--	DD/MM/YY	--
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Designed By: KA Date: 07/May/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Registered Office
Spring Lodge, 172 Chester Road, Helsby Cheshire, WA6 0AR, UK
Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: _002 Cattlemarket Road, the Plough and surrounding area

Drawing Scale: 1:10,000 Sheet Size: A3

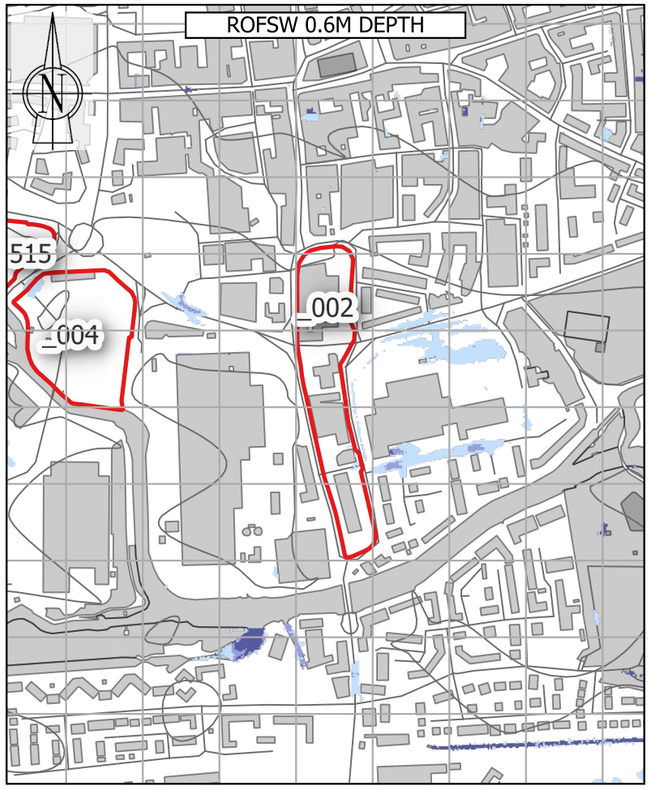
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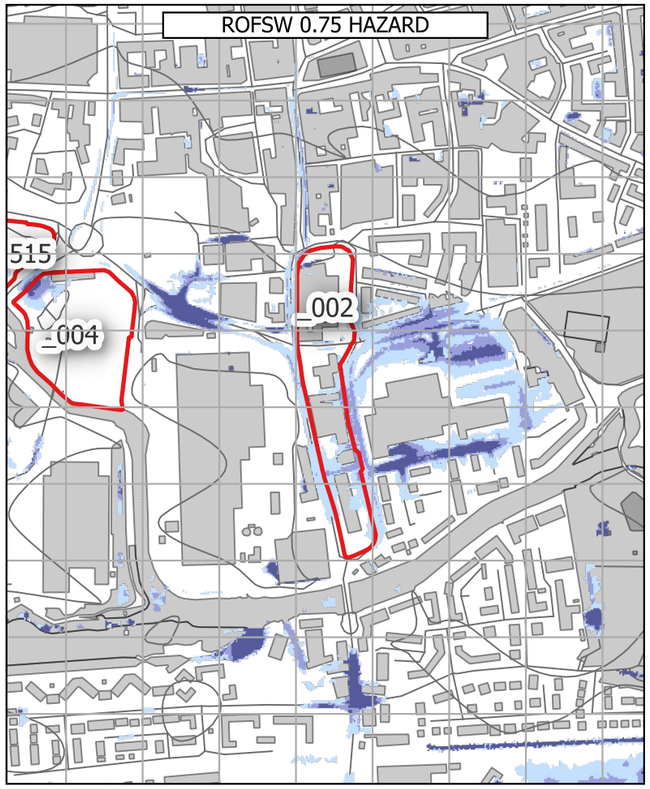
Revision: P01

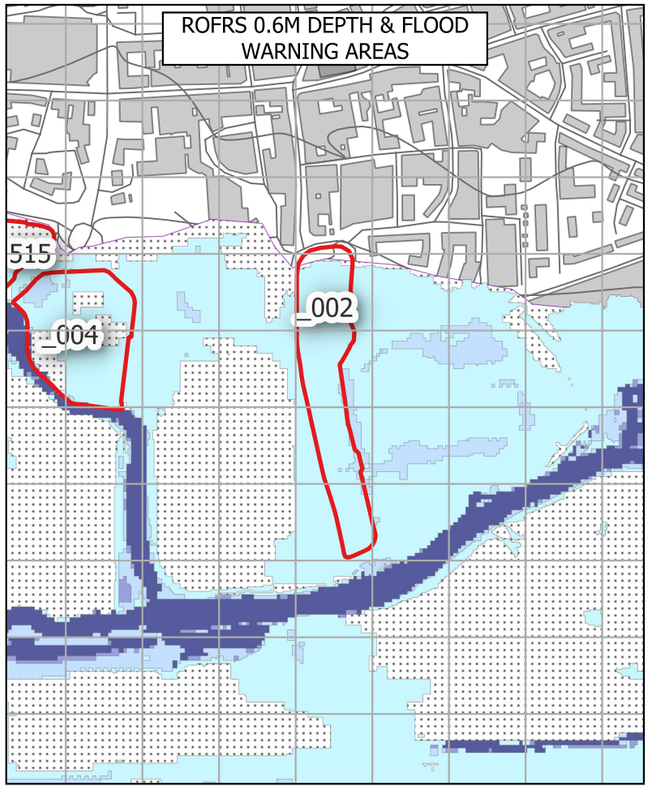
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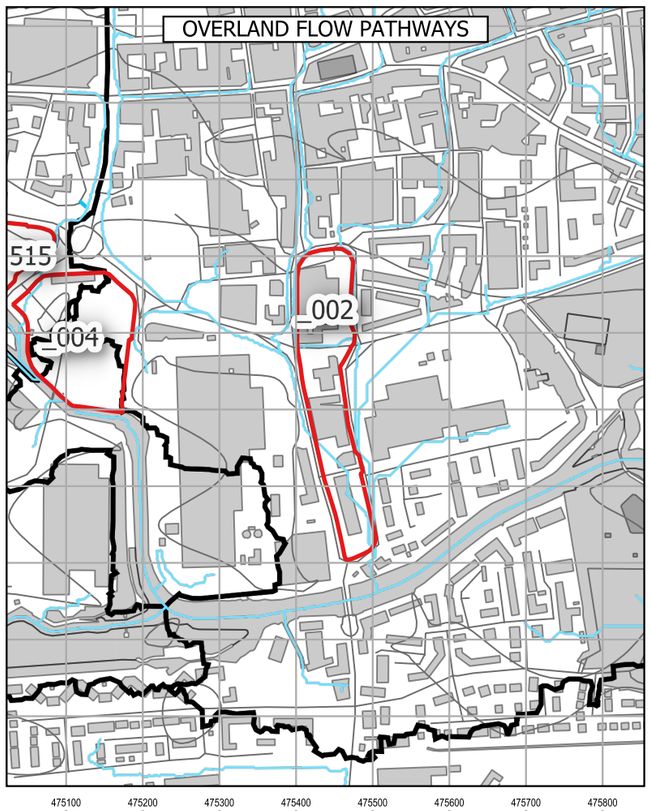
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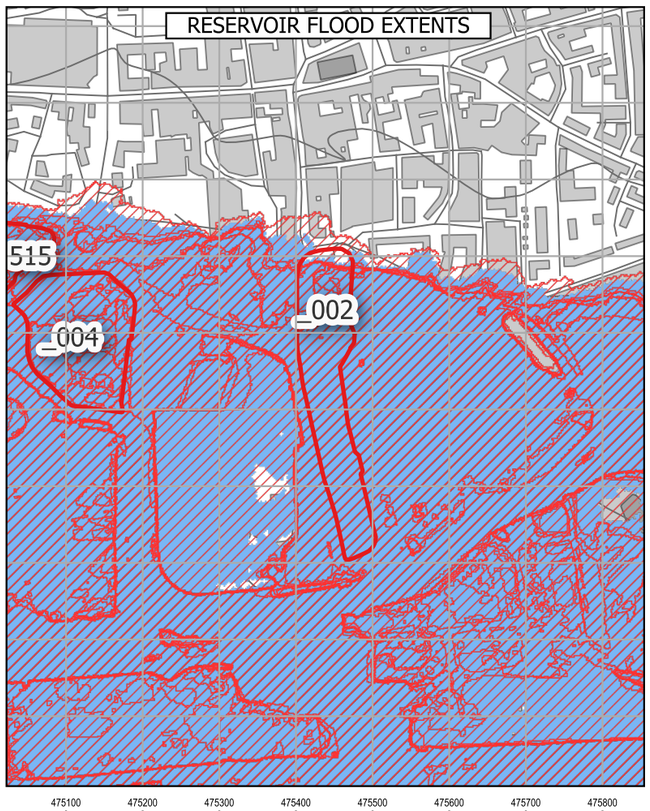
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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY

ROFSW

0.6M DEPTH
- High
- Medium
- Low
- Unavailable

0.75 HAZARD
- High
- Medium
- Low
- Unavailable

ROFRS

0.6M DEPTH
- High
- Medium
- Low
- Very low
- Unavailable

FLOOD WARNING AREAS

OVERLAND FLOW PATHWAYS

PROBABLE OVERLAND FLOW PATHWAYS
- < 3 Degrees
- 3 - 7 Degrees
- 7 - 12 Degrees
- > 12 Degrees

DETAILED WATERSHEDS

RESERVOIR FLOOD EXTENT
- DRY DAY
- WET DAY

LIDAR
- 1M CONTOURS

ELEVATION
- Band 1 (Gray)
- 230
- 50

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	01/05/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: _002 Cattlemarket Road, the Plough and surrounding area

Drawing Scale: 1:8,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00220 Revision: P01

Print Date:01/05/2026

G:\Projects\4082482_WNC\4_Workspaces\0_Working\ SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	519
Site Name	33 - 45 Abington Street
Proposed Development	Regen mixed
Site Area	0.51 Ha
Site NGR	475668 mE, 260653 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
0.0 %	0.0 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
0.0 %	0.0 %	39.2 %	39.2 %

Less than 60% of the site is at risk of pluvial flooding, therefore delivery of a flood risk compatible development is considered feasible.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
0.0 %	0.0 %	39.2 %	39.2 %

Less than 60% of the site is at risk of pluvial flooding during a climate change scenario, therefore delivery of a flood risk compatible development is considered feasible.

Pluvial Flood Risk – Commentary

The eastern part of the site is situated in an area of low surface water flood risk. The site is subject to a similar level of risk under a present-day and climate change scenario. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Flood History

There are thirty five WNC recorded flood events within 500m of the site. This site is not located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at medium risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

The site is not indicated to be at risk of reservoir flooding.

Flood Defences – Residual Risk

It is unlikely that the site will be affected by a breach of flood defences as the nearest defences are more than 500m away.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 1. Therefore the Exception Test is not required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 1, finished floor levels should be at least 150mm above external ground levels. An appropriate freeboard allowance should also be considered for other sources of flooding.

Surface Water Attenuation Provision – Design Considerations

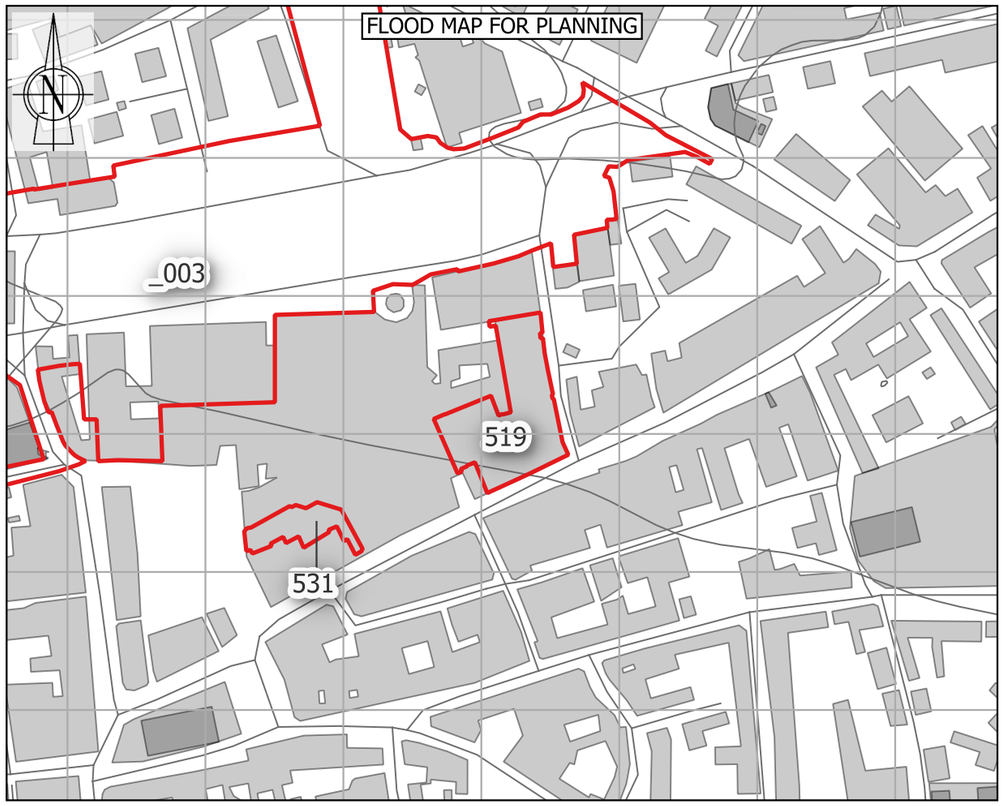
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

It is estimated that 427 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 0.06 Ha should be set aside for appropriate SuDS techniques.

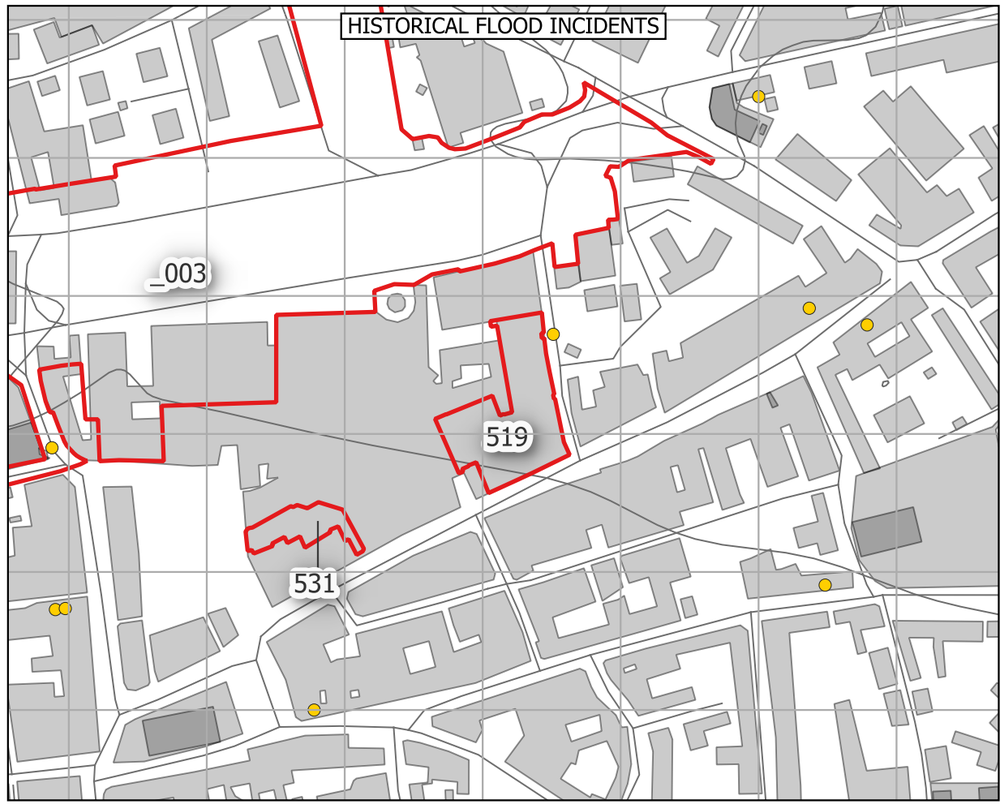
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.

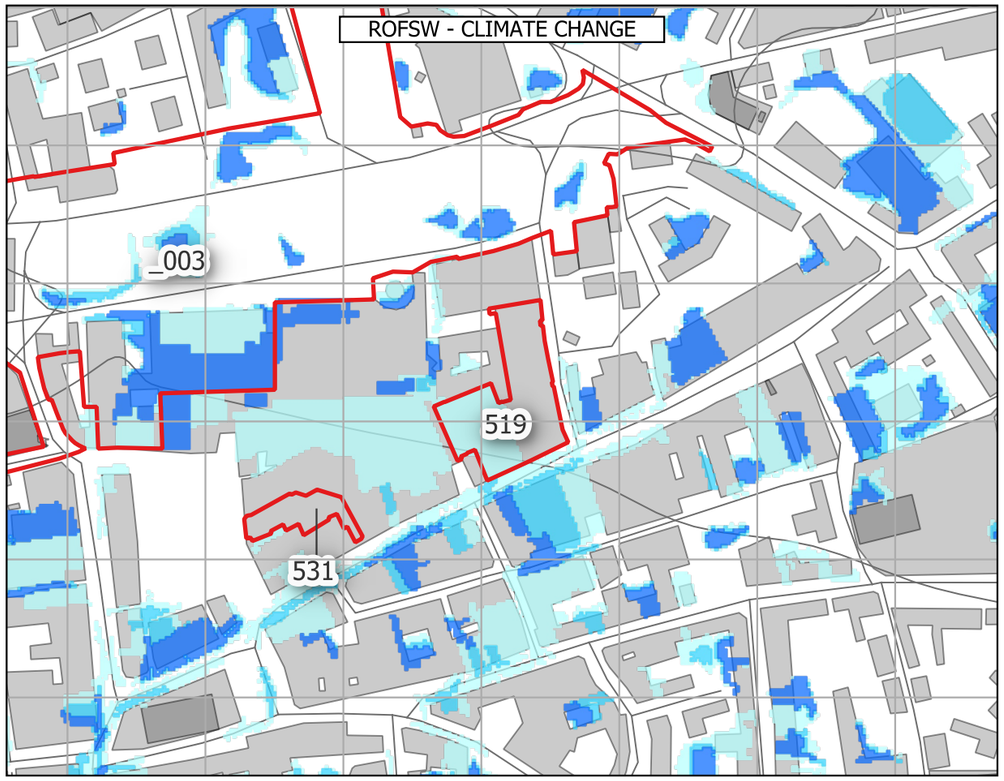
FLOOD MAP FOR PLANNING



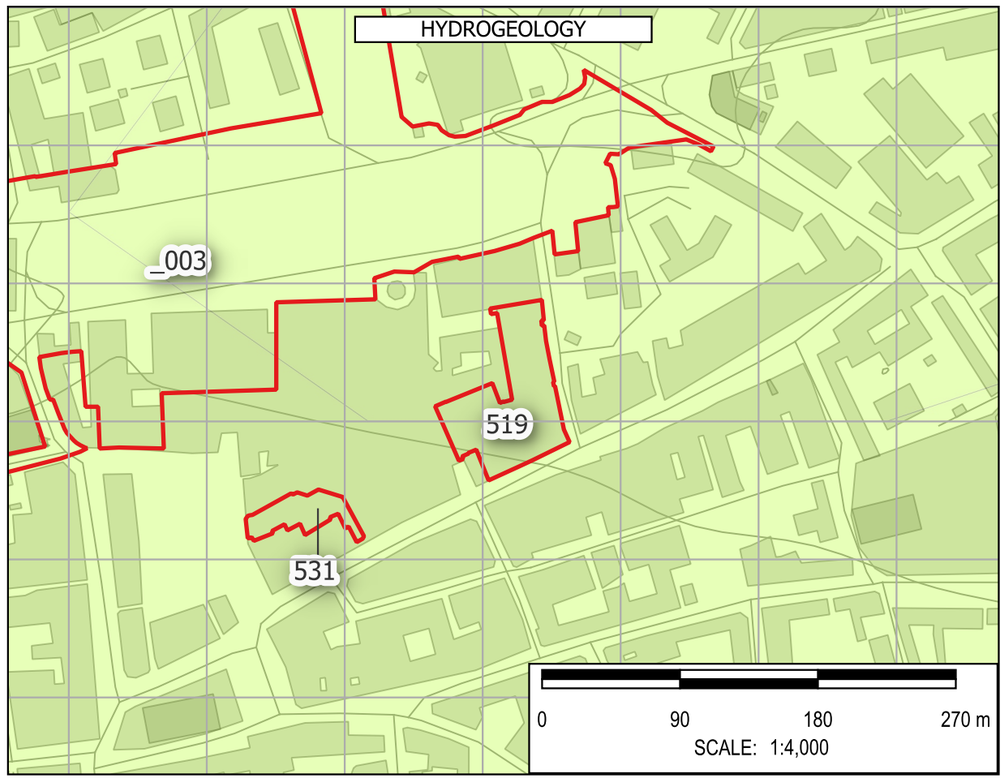
HISTORICAL FLOOD INCIDENTS



ROFSW - CLIMATE CHANGE



HYDROGEOLOGY



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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY

FLOOD MAP FOR PLANNING

- FLOOD DEFENCES
- MAIN RIVER
- ORDINARY WATERCOURSE
- FLOOD STORAGE AREAS
- FLOOD ZONE 2
- FLOOD ZONE 3
- FLOOD ZONE 2 + CC
- FLOOD ZONE 3A + CC
- FLOOD ZONE 3B + CC
- IDB

HISTORIC FLOOD INCIDENTS

- WNC FLOOD HISTORY
- EA HISTORIC FLOOD EXTENT

ROFSW WITH CLIMATE CHANGE

- HIGH
- MEDIUM
- LOW

HYDROGEOLOGY

AQUIFER TYPE

- HIGHLY PRODUCTIVE AQUIFER
- MODERATELY PRODUCTIVE AQUIFER
- LOW PRODUCTIVITY AQUIFER
- ROCKS WITH ESSENTIALLY NO GROUNDWATER

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
-	--	--	--	--	DD/MM/YY	--
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Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Spring Lodge, 172 Chester Road, Helsby Cheshire, WA6 0AR, UK
Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 519
33 - 45 Abington Street

Drawing Scale: 1:4,000 Sheet Size: A3

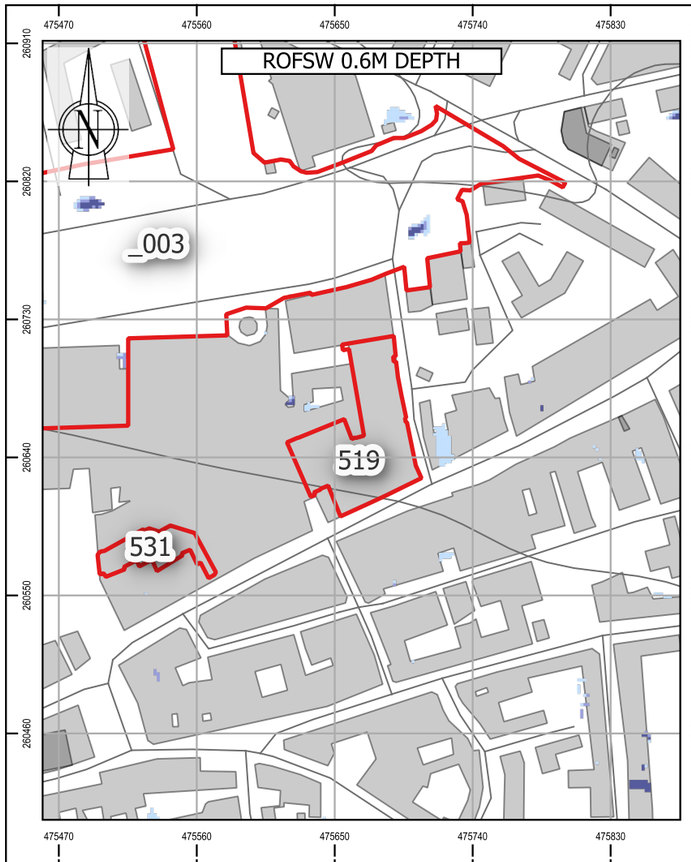
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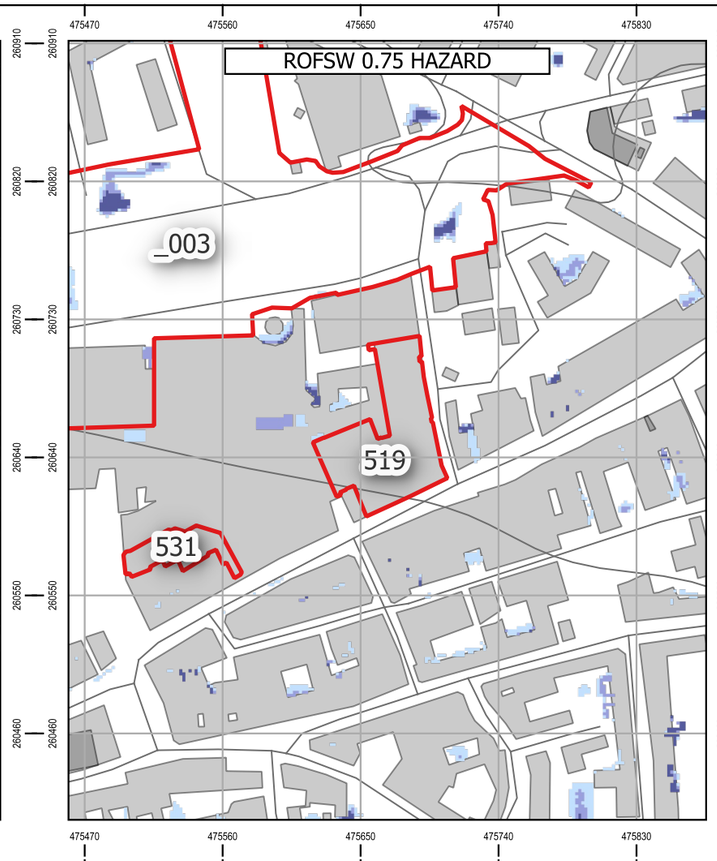
Revision: P01

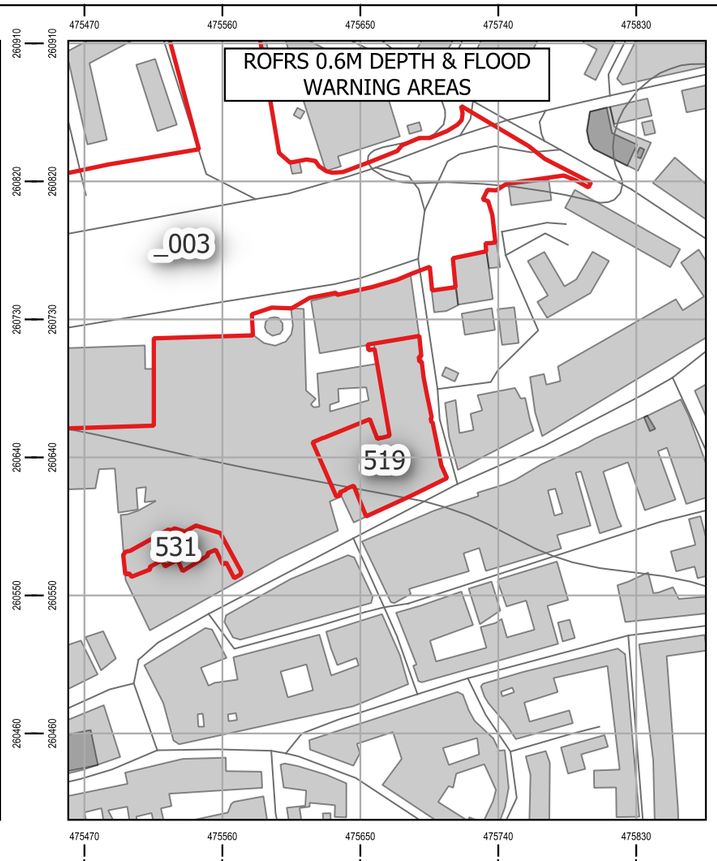
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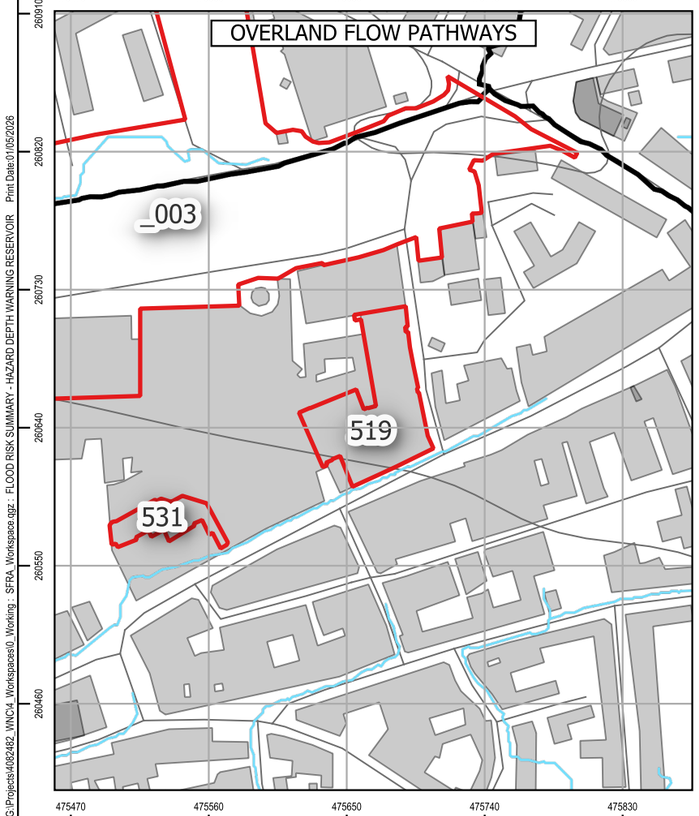
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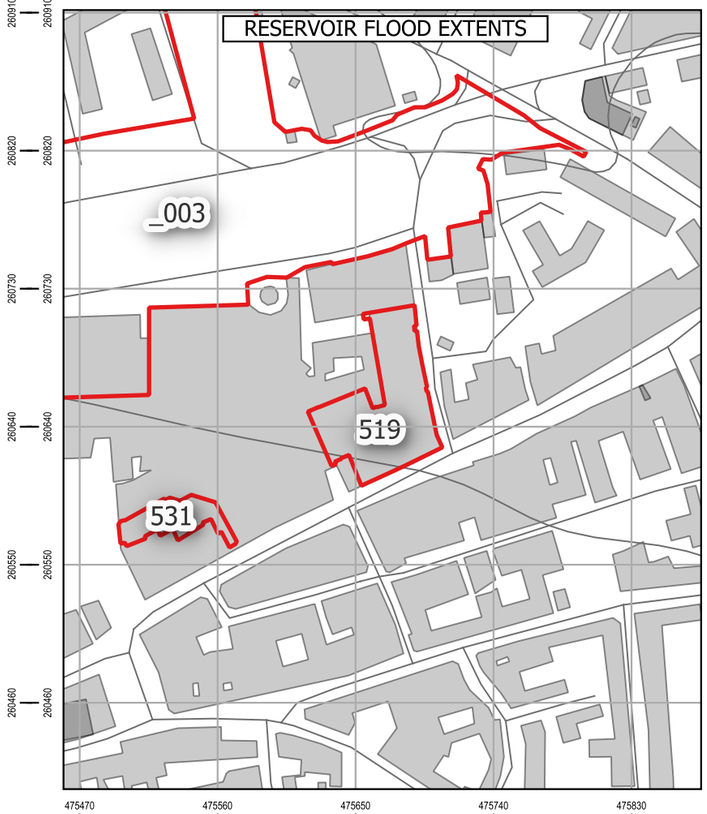
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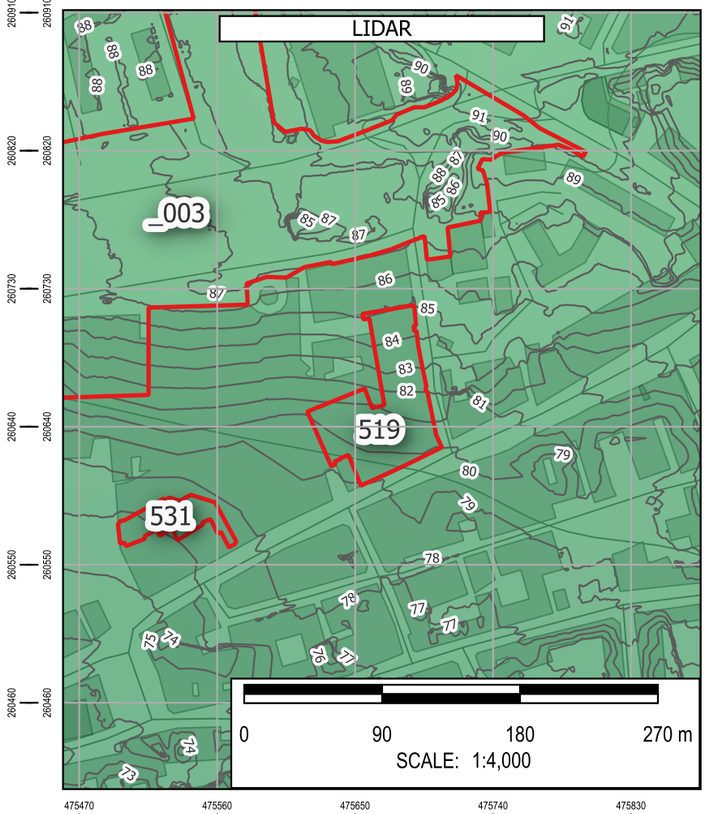












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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY
- ROFSW
- 0.6M DEPTH
  - High
  - Medium
  - Low
  - Unavailable
- 0.75 HAZARD
  - High
  - Medium
  - Low
  - Unavailable
- ROFRS
- 0.6M DEPTH
  - High
  - Medium
  - Low
  - Very low
  - Unavailable
- FLOOD WARNING AREAS
- OVERLAND FLOW PATHWAYS
- PROBABLE OVERLAND FLOW PATHWAYS
  - < 3 Degrees
  - 3 - 7 Degrees
  - 7 - 12 Degrees
  - > 12 Degrees
- DETAILED WATERSHEDS
- RESERVOIR FLOOD EXTENT
- DRY DAY
- WET DAY
- LIDAR
- 1M CONTOURS
- ELEVATION
- Band 1 (Gray)
- 230
- 50

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Drawing title: FLOOD RISK SUMMARY: 519
33 - 45 Abington Street

Drawing Scale: 1:4,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00232

Revision: P01

G:\Projects\4082482_WNC\4_Workspaces\0_Working_SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR Print Date:01/05/2026

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	_004
Site Name	St Peter's Way
Proposed Development	Regen mixed
Site Area	2.115 Ha
Site NGR	475119 mE, 260095 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
36.5 %	63.5 %

More than 60% of the site is indicated to be at risk of fluvial flooding during a present-day scenario, therefore development is unlikely to be viable.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
2.9 %	0.0 %	64.9 %	67.8 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. More than 60% of the site is indicated to be at risk of fluvial flooding during a climate change scenario, therefore development is unlikely to be viable.

Fluvial Flood Risk – Commentary

The entirety of the site is located within Flood Zone 2 and 3 under a present-day scenario. The majority of the site is situated within Flood Zone 2 and 3 under a climate change scenario.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
7.5 %	7.3 %	10.8 %	25.6 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise pluvial flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
13.4 %	4.7 %	13.7 %	31.8 %

Less than 60% of the site is at risk of pluvial flooding during a climate change scenario, therefore delivery of a flood risk compatible development is considered feasible with regards to pluvial flood risk.

Pluvial Flood Risk – Commentary

There are multiple areas at high risk of surface water ponding. Should development be proposed for this site, a sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Flood History

There are nineteen WNC recorded flood events within 500m of the site. This site is located within an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at low risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
99.9 %	100.0 %	100.0 %	100.0 %

Although the site is in an area at risk of reservoir flooding, this risk could be managed through appropriate consideration of flood resilience measures.

Flood Defences – Residual Risk

Flood defences, in the form of a flood wall, positioned along the southern site boundary offer a standard of protection equivalent to a 1 in 200 year storm event, assuming the asset is maintained. As the site benefits from flood defences, a proportionate assessment of the likelihood of a defence breach over the lifetime of the development (including the impact of climate change) should be undertaken as part of a site-specific Flood Risk Assessment. Using the Environment Agency's simplified method (FD2321/TR2), a breach in the flood defence at this site could result in 'danger for all'.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is unlikely that dry access and egress will be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 3. Therefore the Exception Test is required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 2 and 3, should development be proposed for this site, finished floor levels should be set no lower than 60.1 mAOD, 600mm above the maximum predicted flood level of 59.5 mAOD. In accordance with the EA guidance, freeboard allowances could be reviewed, and where appropriate reduced to 300mm. An appropriate freeboard allowance should also be considered for other sources of flooding. This should be confirmed by a site specific assessment as part of the detailed design for development, which should include consideration of proposed ground levels.

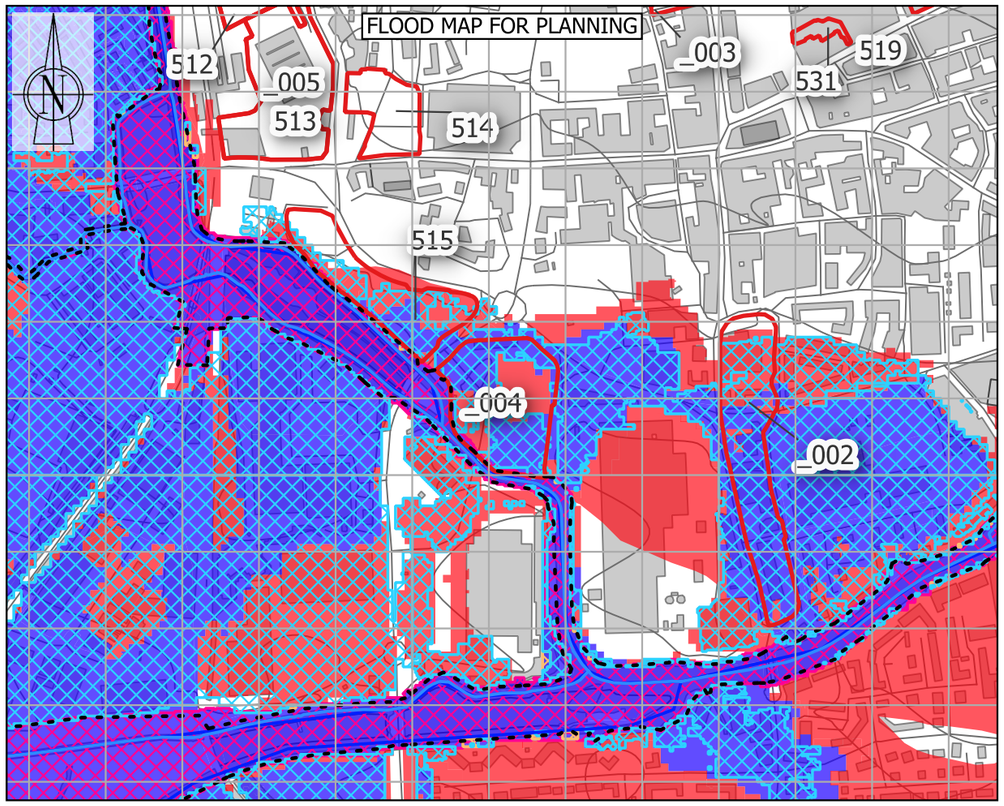
Surface Water Attenuation Provision – Design Considerations

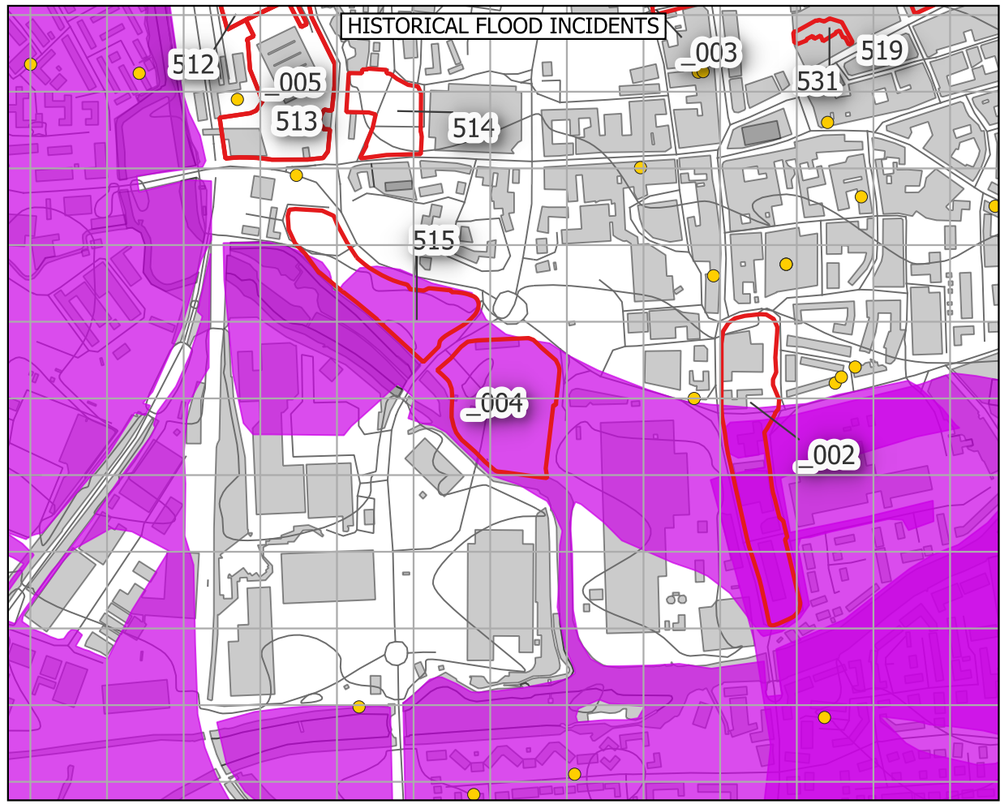
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

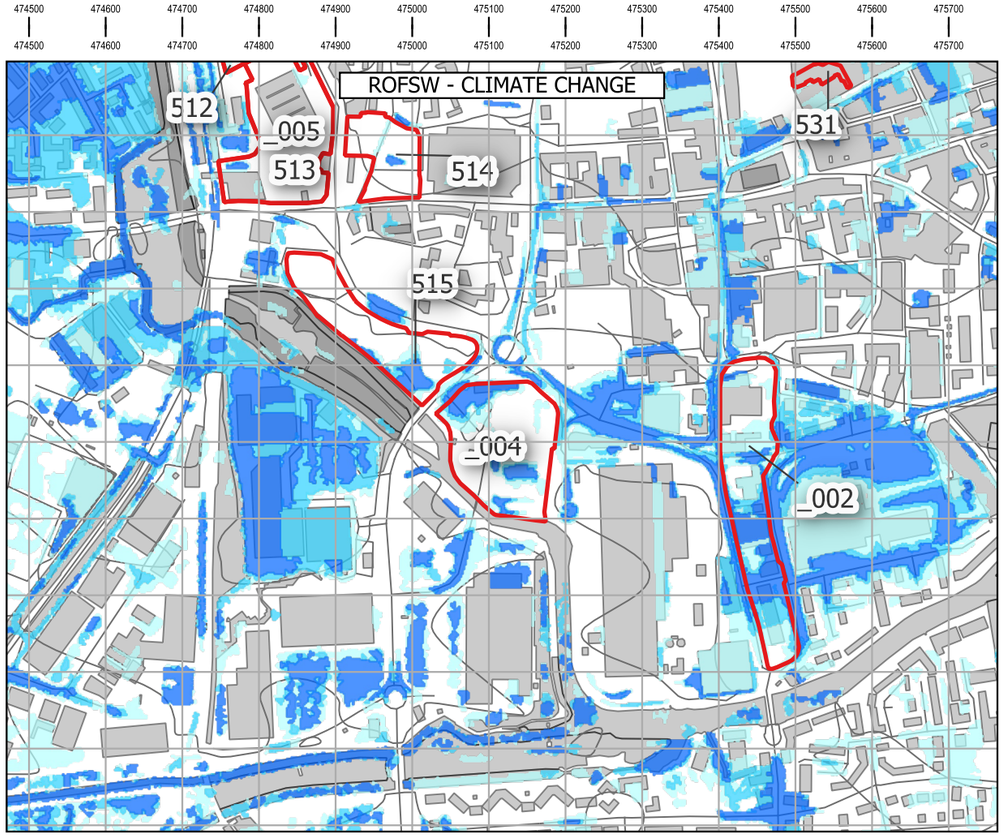
Should development be proposed for this site, it is estimated that 1776 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 0.27 Ha should be set aside for appropriate SuDS techniques.

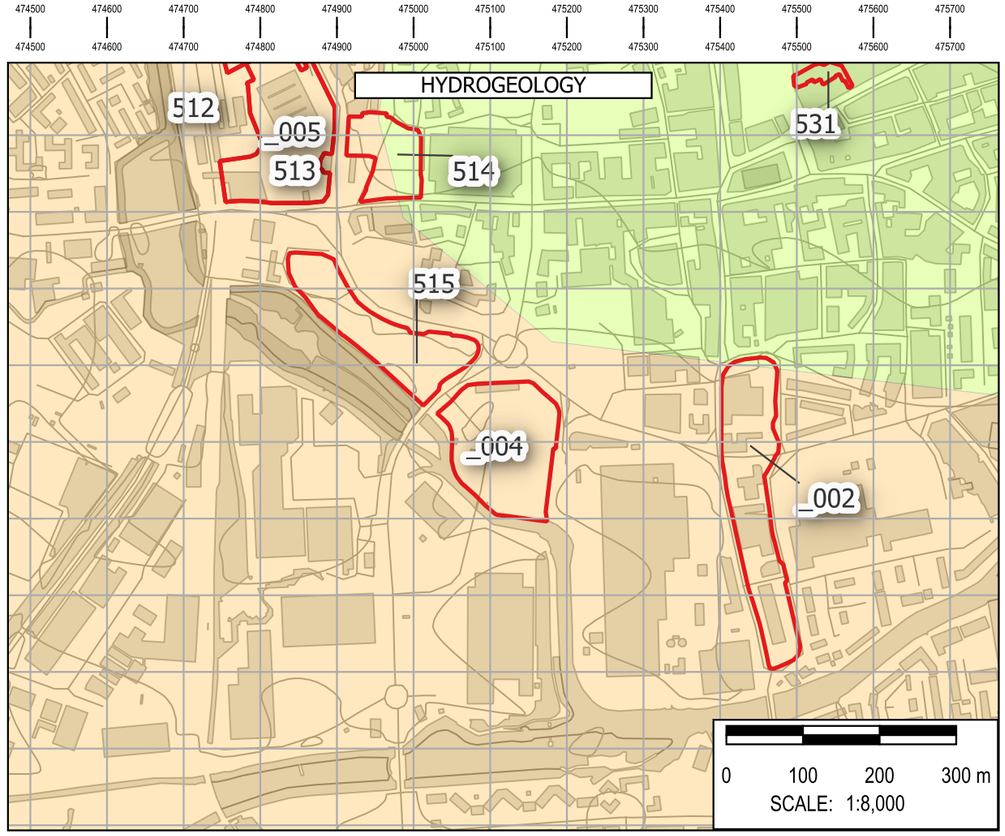
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of this site is not compatible with the level of fluvial flood risk identified.









Note: The limits, including the height and depths of the Works, shown in this drawing are not to be taken as limiting the obligations of the contractor under Contract.

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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
  - WEST NORTHANTS BOUNDARY
- FLOOD MAP FOR PLANNING
  - FLOOD DEFENCES
  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
- ROFSW WITH CLIMATE CHANGE
  - HIGH
  - MEDIUM
  - LOW
- HYDROGEOLOGY
  - AQUIFER TYPE
  - HIGHLY PRODUCTIVE AQUIFER
  - MODERATELY PRODUCTIVE AQUIFER
  - LOW PRODUCTIVITY AQUIFER
  - ROCKS WITH ESSENTIALLY NO GROUNDWATER

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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DECOMISSIONING AND DEMOLITION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE | Revision: -

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Registered Office
Spring Lodge, 172 Chester Road, Helsby Cheshire, WA6 0AR, UK
Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: _004 St Peter's Way

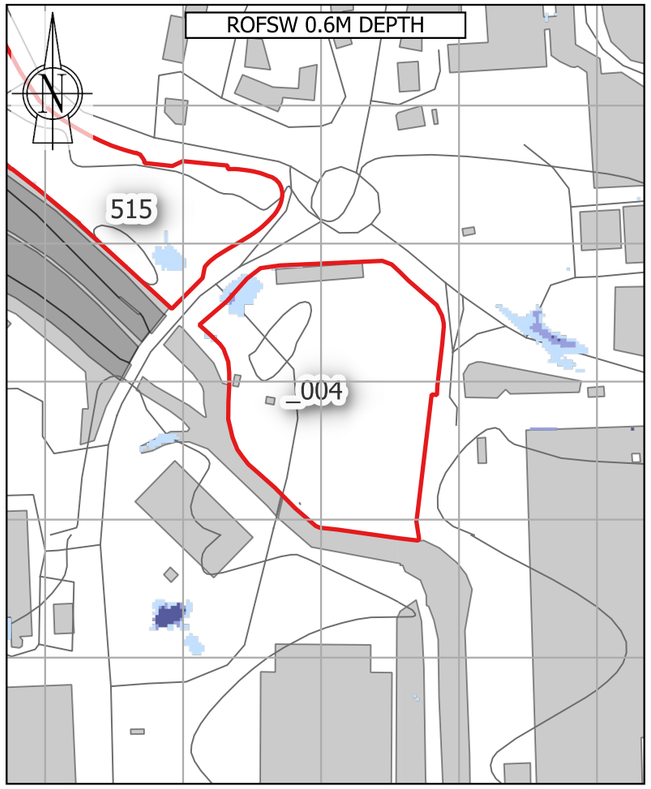
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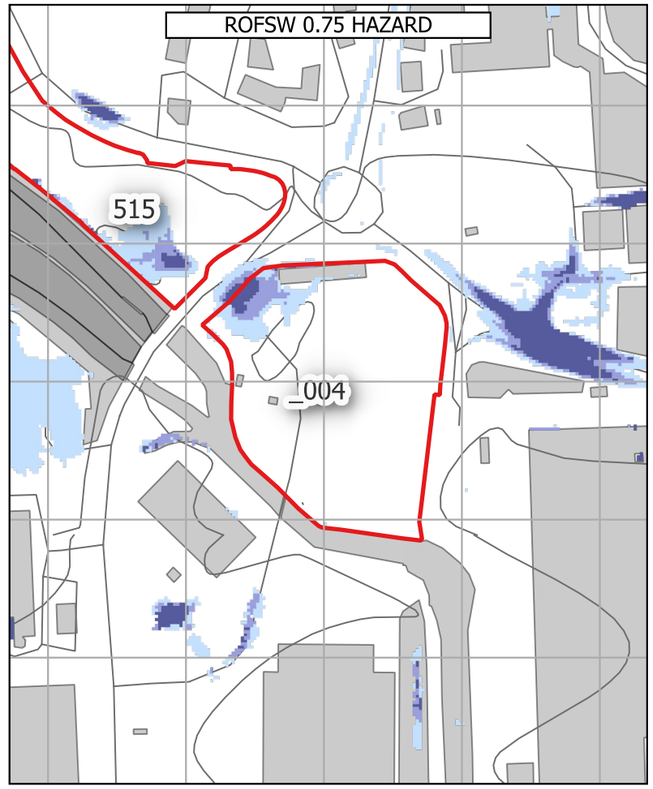
Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00166 | Revision: P01

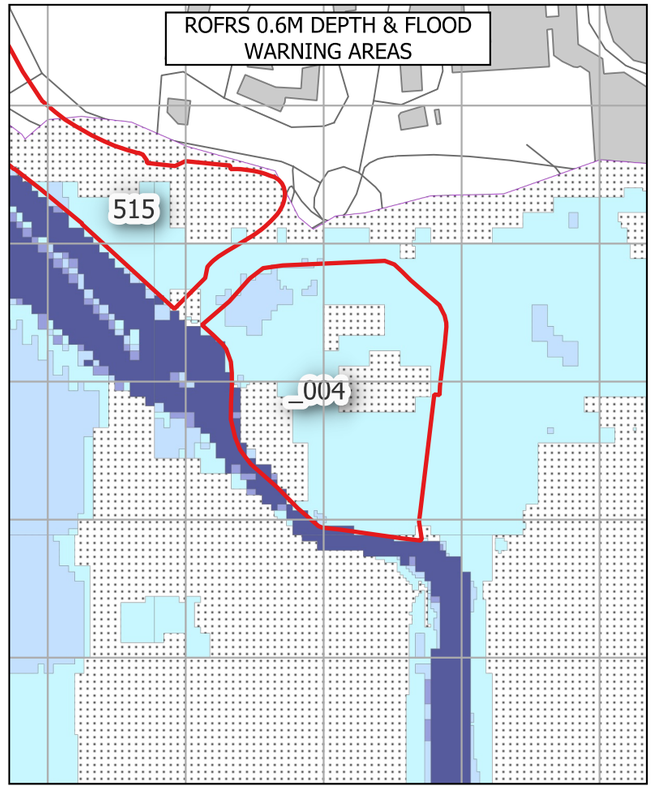
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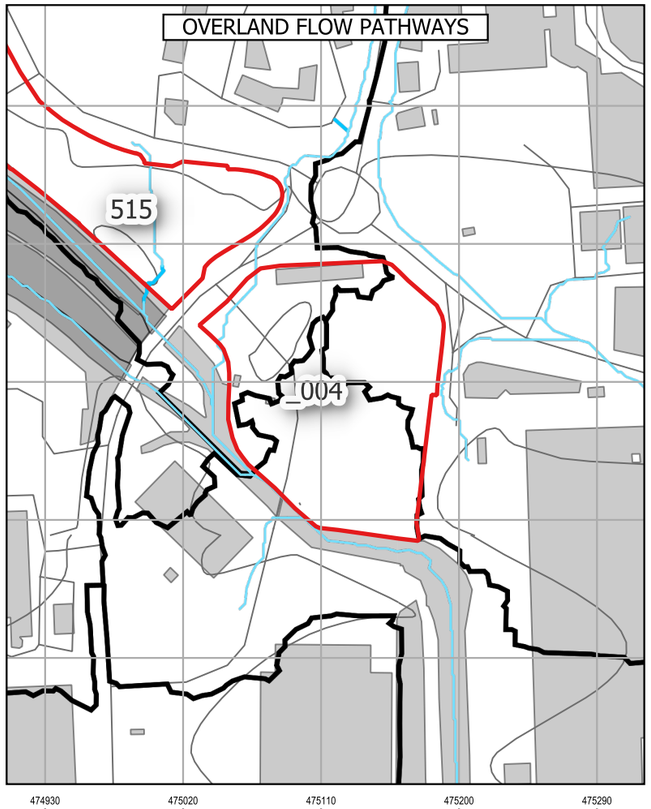
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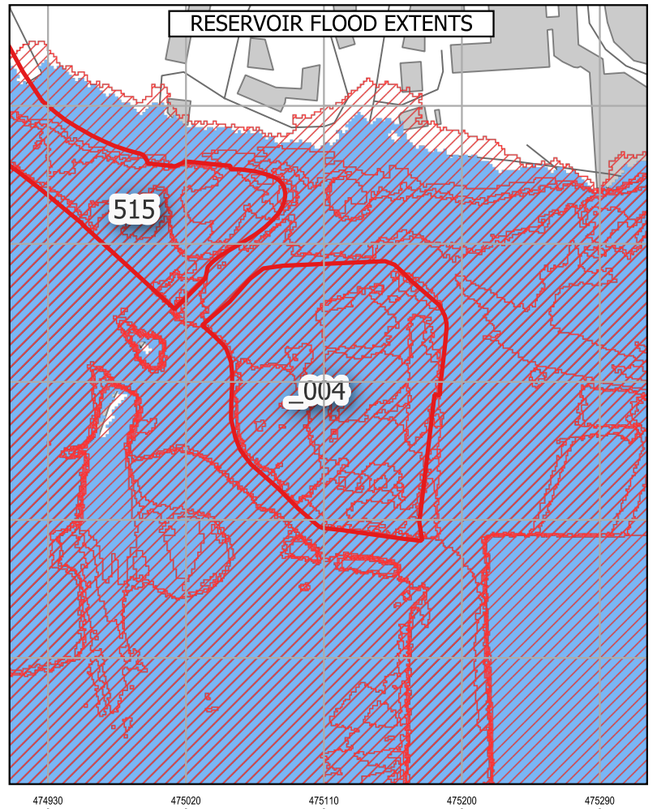
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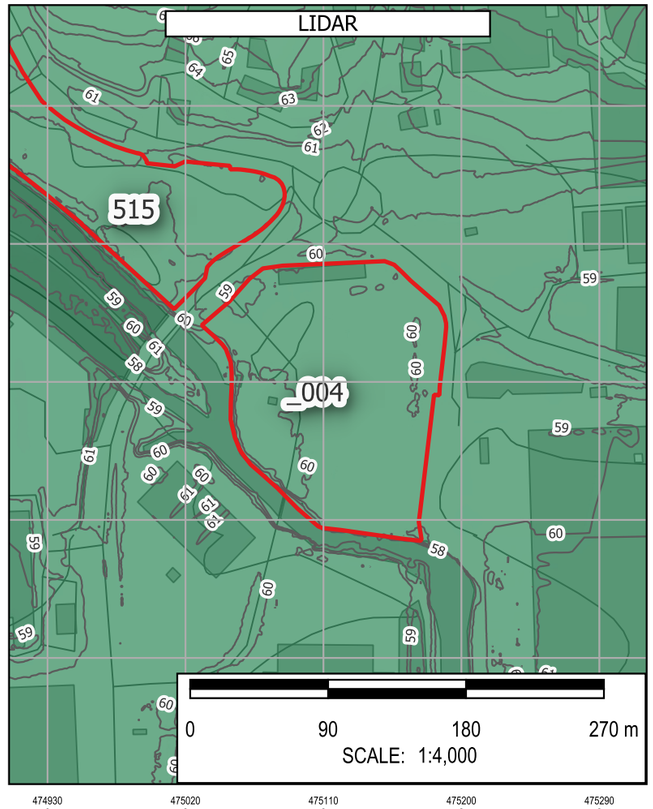












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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY

ROFSW

0.6M DEPTH
- High
- Medium
- Low
- Unavailable

0.75 HAZARD
- High
- Medium
- Low
- Unavailable

ROFRS

0.6M DEPTH
- High
- Medium
- Low
- Very low
- Unavailable

FLOOD WARNING AREAS

OVERLAND FLOW PATHWAYS

PROBABLE OVERLAND FLOW PATHWAYS
- < 3 Degrees
- 3 - 7 Degrees
- 7 - 12 Degrees
- > 12 Degrees

DETAILED WATERSHEDS

RESERVOIR FLOOD EXTENT

DRY DAY

WET DAY

LIDAR

1M CONTOURS

ELEVATION

Band 1 (Gray)
230
50

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	01/05/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: _004 St Peter's Way

Drawing Scale: 1:4,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00224

Revision: P01

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	534
Site Name	Lodge Road, Daventry
Proposed Development	Regen mixed
Site Area	0.45 Ha
Site NGR	457520 mE, 262770 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
0.0 %	0.0 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
0.0 %	0.0 %	2.5 %	2.5 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
0.0 %	0.0 %	2.7 %	2.7 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

A very small area of the site along the western boundary is at low risk of surface water flooding. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Flood History

There are fifteen WNC recorded flood events within 500m of the site. This site is not located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at low risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

The site is not indicated to be at risk of reservoir flooding.

Flood Defences – Residual Risk

It is unlikely that the site will be affected by a breach of flood defences as the nearest defences are more than 500m away.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 1. Therefore the Exception Test is not required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 1, finished floor levels should be at least 150mm above external ground levels. An appropriate freeboard allowance should also be considered for other sources of flooding.

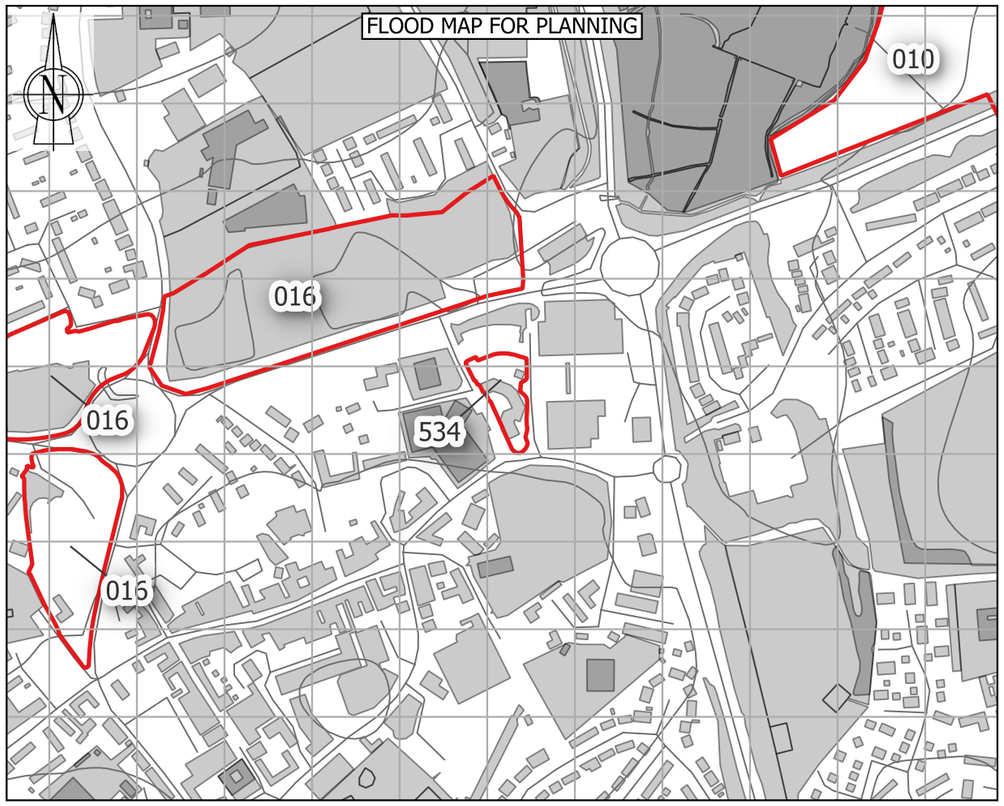
Surface Water Attenuation Provision – Design Considerations

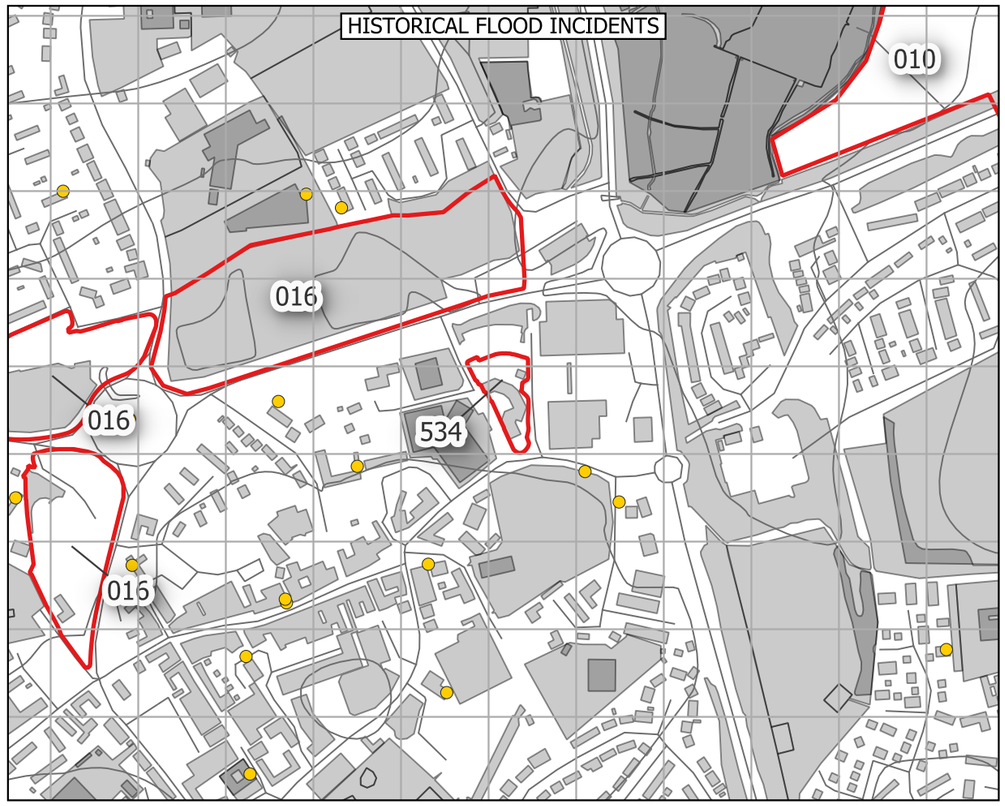
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

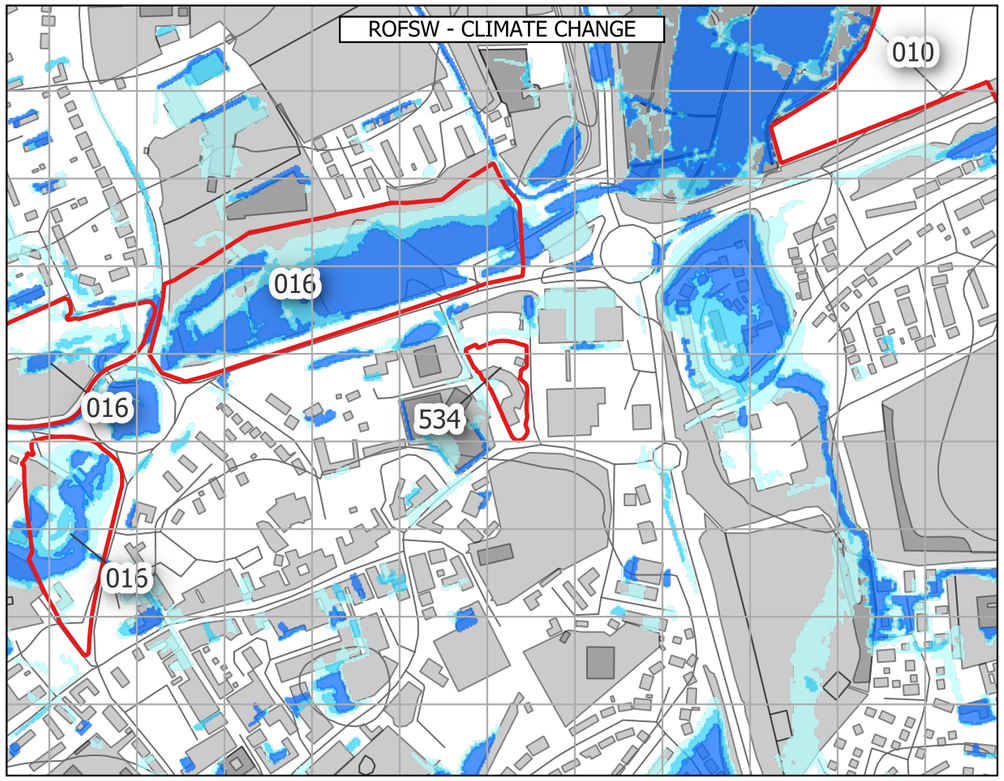
It is estimated that 381 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 0.06 Ha should be set aside for appropriate SuDS techniques.

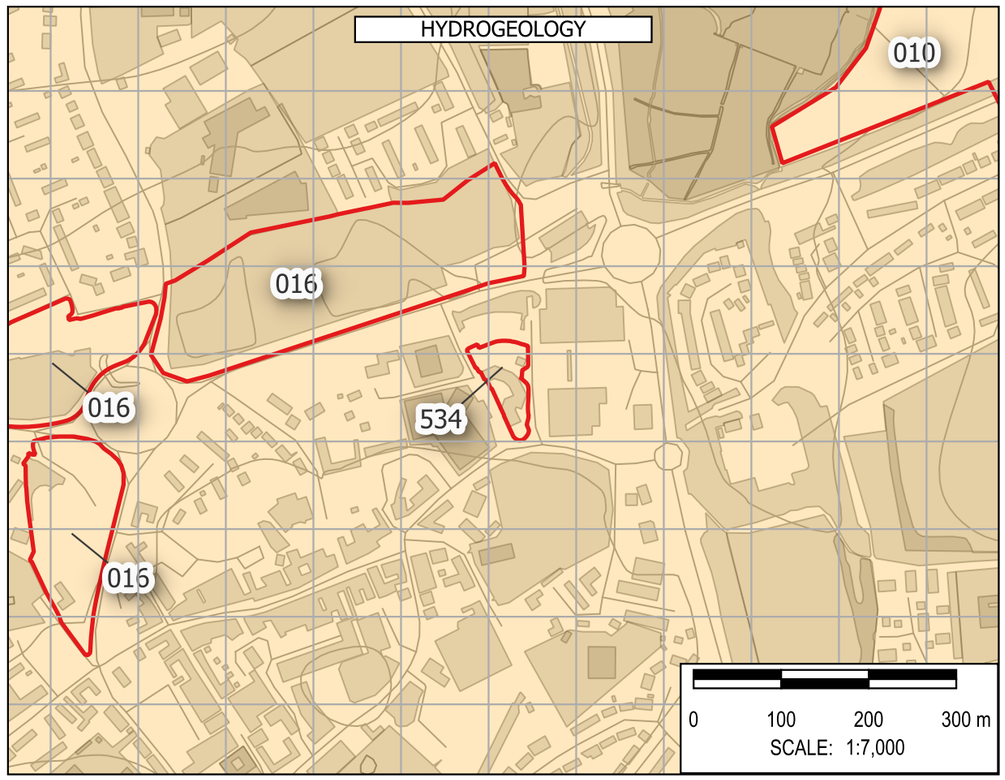
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.









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  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
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  - MEDIUM
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  - AQUIFER TYPE
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 534 Lodge Road, Daventry

Drawing Scale: 1:7,000 Sheet Size: A3

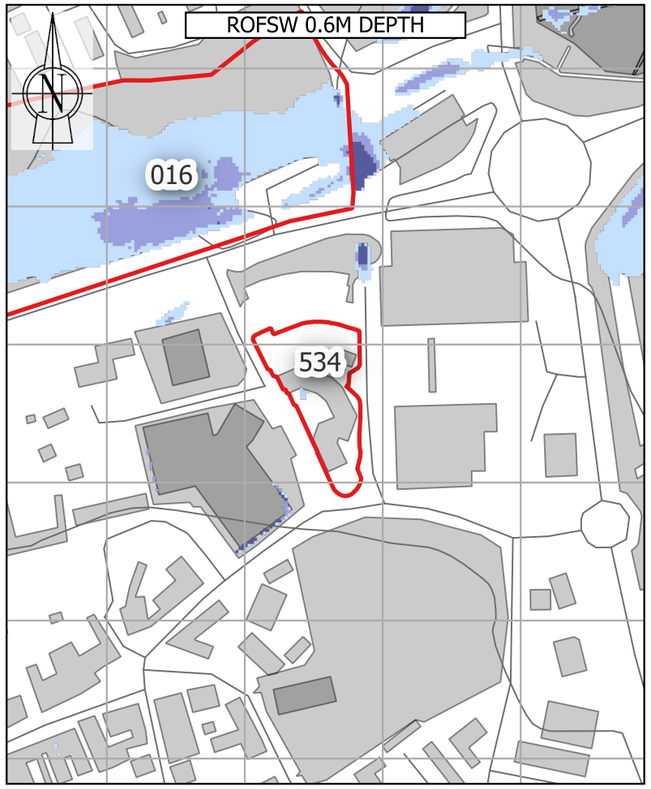
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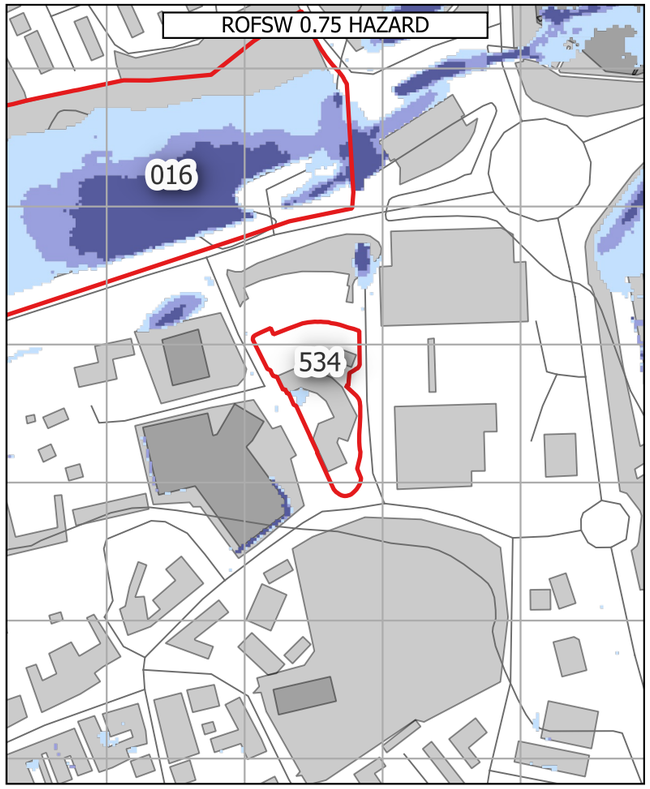
Revision: P01

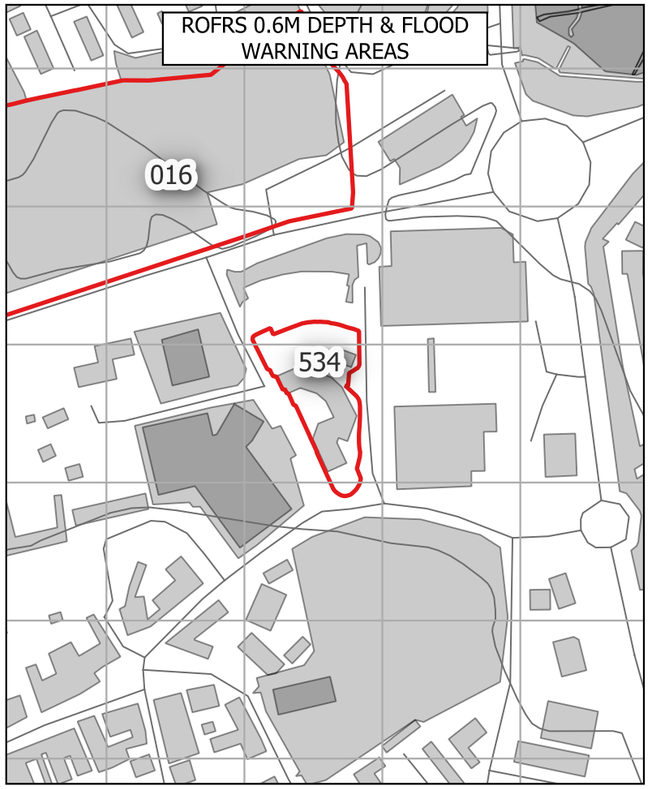
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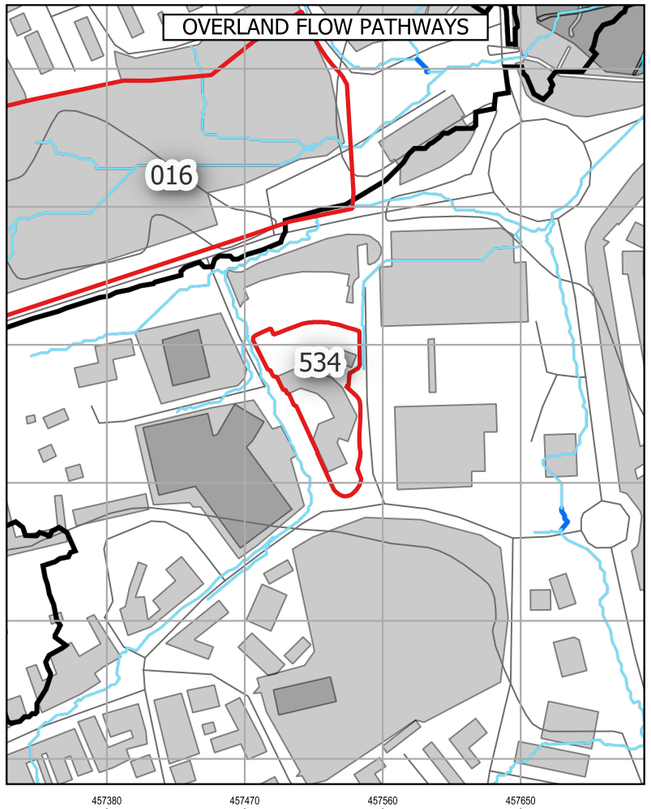
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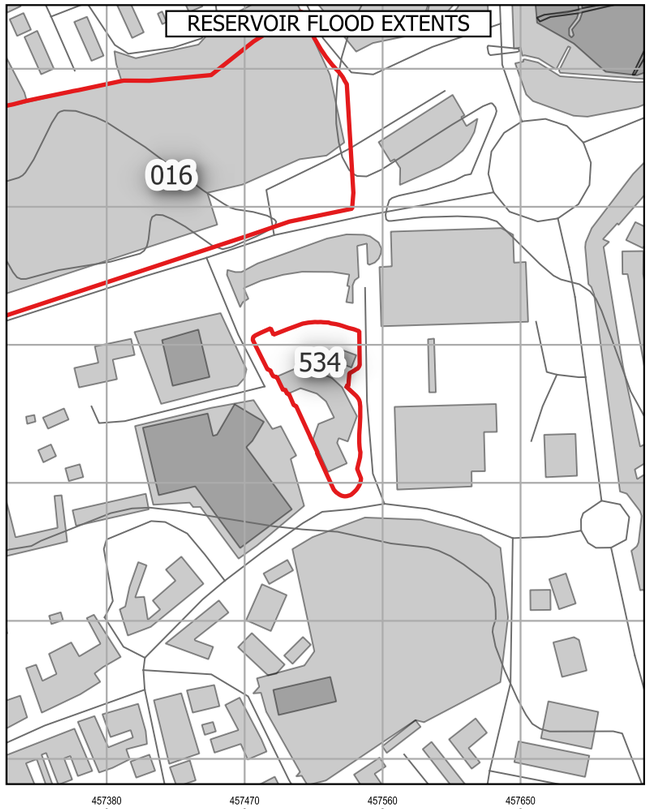
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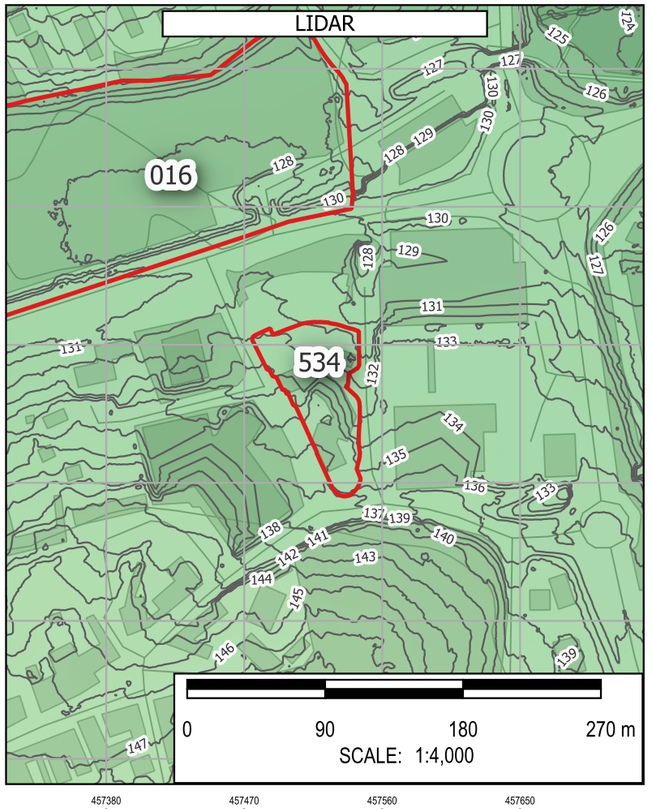












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- WEST NORTHANTS BOUNDARY
- ROFSW
- 0.6M DEPTH
  - High
  - Medium
  - Low
  - Unavailable
- 0.75 HAZARD
  - High
  - Medium
  - Low
  - Unavailable
- ROFRS
- 0.6M DEPTH
  - High
  - Medium
  - Low
  - Very low
  - Unavailable
- FLOOD WARNING AREAS
- OVERLAND FLOW PATHWAYS
- PROBABLE OVERLAND FLOW PATHWAYS
  - < 3 Degrees
  - 3 - 7 Degrees
  - 7 - 12 Degrees
  - > 12 Degrees
- DETAILED WATERSHEDS
- RESERVOIR FLOOD EXTENT
- DRY DAY
- WET DAY
- LIDAR
- 1M CONTOURS
- ELEVATION
- Band 1 (Gray)
- 230
- 50

SAFETY HEALTH AND ENVIRONMENT INFORMATION
IN ADDITION TO THE HAZARDS OR RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, THE FOLLOWING SIGNIFICANT RESIDUAL RISKS SHOULD BE NOTED. FURTHER DETAILS ARE INCLUDED IN THE CDM DESIGN RISK MANAGEMENT REGISTERS
CONSTRUCTION
NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS
MAINTENANCE / CLEARING / OPERATION
NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS
DECOMISSIONING AND DEMOLITION
NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS

Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	01/05/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

Binnies UK Limited
Registered Office
Spring Lodge, 172 Chester Road, Helsby Cheshire, WA6 0AR, UK
Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 534 Lodge Road, Daventry

Drawing Scale: 1:4,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00233

Revision: P01

G:\Projects\4082482_WNC\4_Workspaces\0_Working\ SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR Print Date:01/05/2026

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	515
Site Name	Four Waterside
Proposed Development	Regen mixed
Site Area	1.62 Ha
Site NGR	474957 mE, 260245 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
52.2 %	23.0 %

More than 60% of the site is indicated to be at risk of fluvial flooding during a present-day scenario, therefore development is unlikely to be viable.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
0.1 %	0.0 %	58.7 %	58.8 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 60% of the site is at risk of fluvial flooding during a climate change scenario, therefore delivery of a flood risk compatible development is considered feasible.

Fluvial Flood Risk – Commentary

The majority of the site is situated within Flood Zone 2 and 3 in a present-day scenario. Should development be proposed for this site, site specific modelling may be required to inform mitigation measures as part of a site-specific Flood Risk Assessment.

Under a climate change scenario, as more than 30% of the site is at risk of fluvial flooding, floodplain compensation may be required should development be proposed for this site. Should development be proposed for this site, a sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
4.5 %	4.7 %	6.9 %	16.1 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
8.5 %	3.7 %	6.0 %	18.2 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

There is localised ponding of surface water in the southern section of the site. Should development be proposed for this site, a sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Flood History

There are eighteen WNC recorded flood events within 500m of the site. This site is located within an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at low risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
65.9 %	88.0 %	96.3 %	96.3 %

Although the site is in an area at risk of reservoir flooding, this risk could be managed through appropriate consideration of flood resilience measures.

Flood Defences – Residual Risk

Flood defences, in the form of a flood wall, positioned along the southern site boundary offer a standard of protection equivalent to a 1 in 200 year storm event, assuming the asset is maintained. As the site benefits from flood defences, a proportionate assessment of the likelihood of a defence breach over the lifetime of the development (including the impact of climate change) should be undertaken as part of a site-specific Flood Risk Assessment. Using the Environment Agency's simplified method (FD2321/TR2), a breach in the flood defence at this site could result in 'danger for all'.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to

surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 3. Therefore the Exception Test is required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 2 and 3, should development be proposed for this site, finished floor levels should be set no lower than 61.1 mAOD, 600mm above the maximum predicted flood level of 60.5 mAOD. In accordance with the EA guidance, freeboard allowances could be reviewed, and where appropriate reduced to 300mm. An appropriate freeboard allowance should also be considered for other sources of flooding. This should be confirmed by a site specific assessment as part of the detailed design for development, which should include consideration of proposed ground levels.

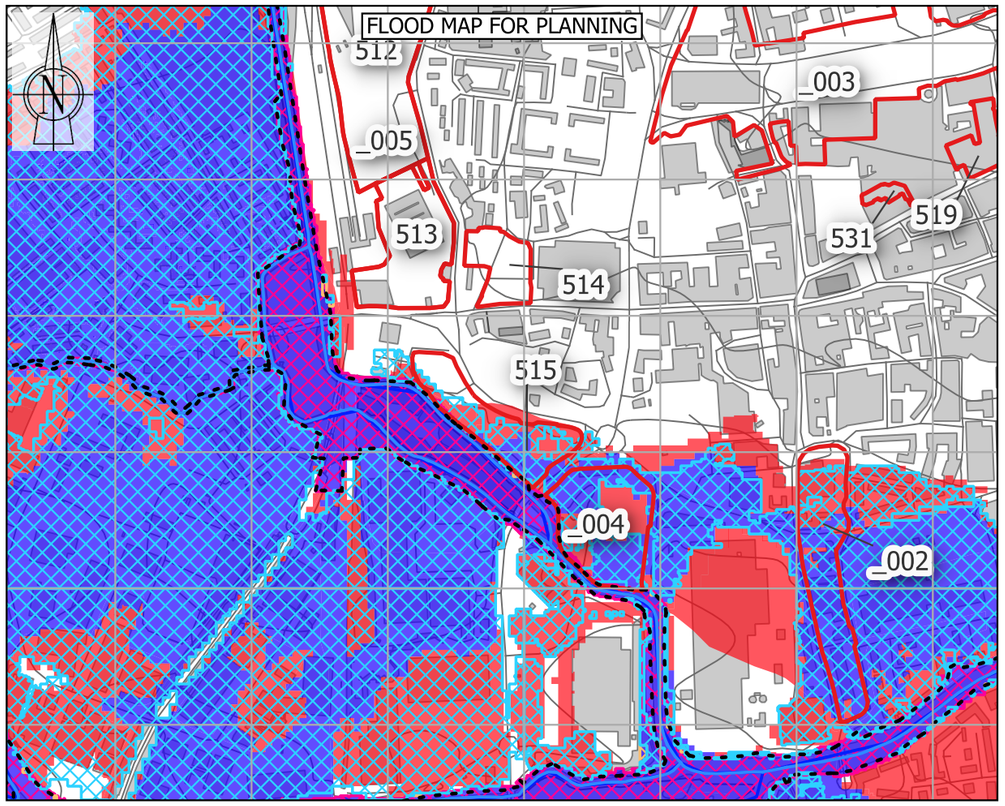
Surface Water Attenuation Provision – Design Considerations

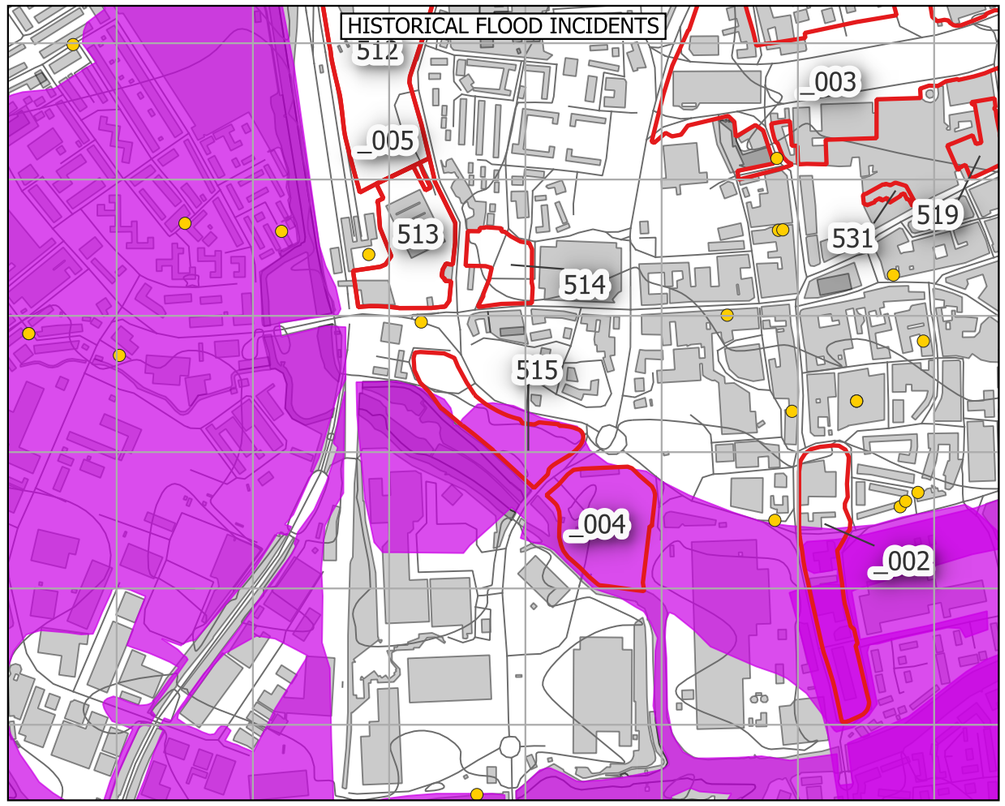
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

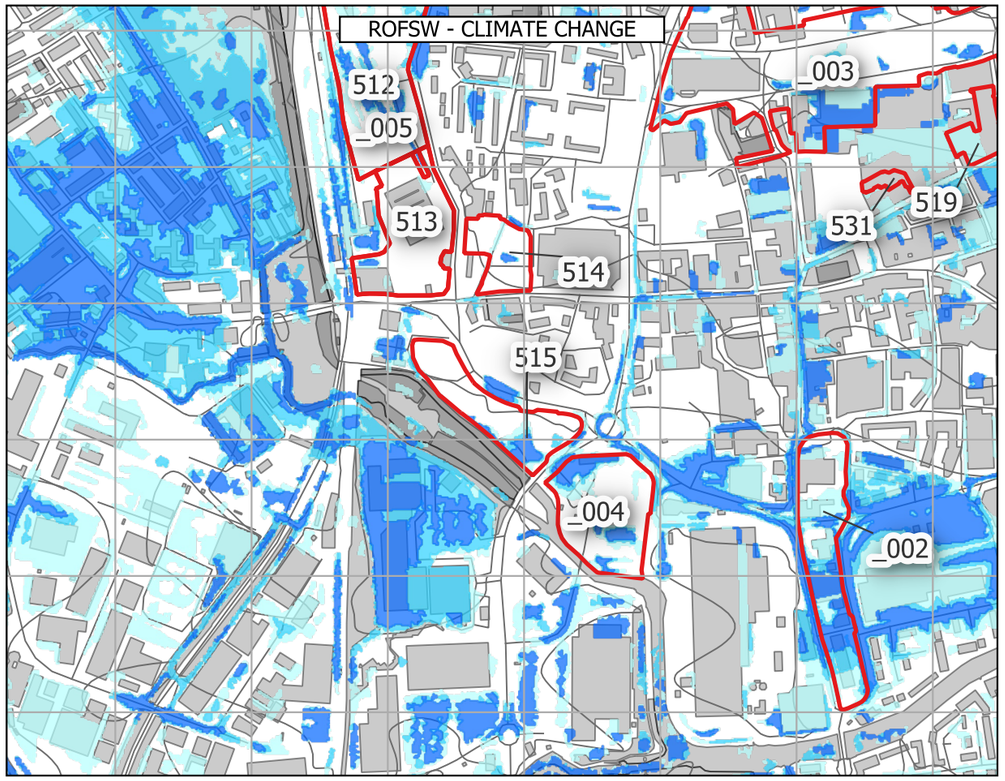
Should development be proposed for this site, it is estimated that 1360 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 0.20 Ha should be set aside for appropriate SuDS techniques.

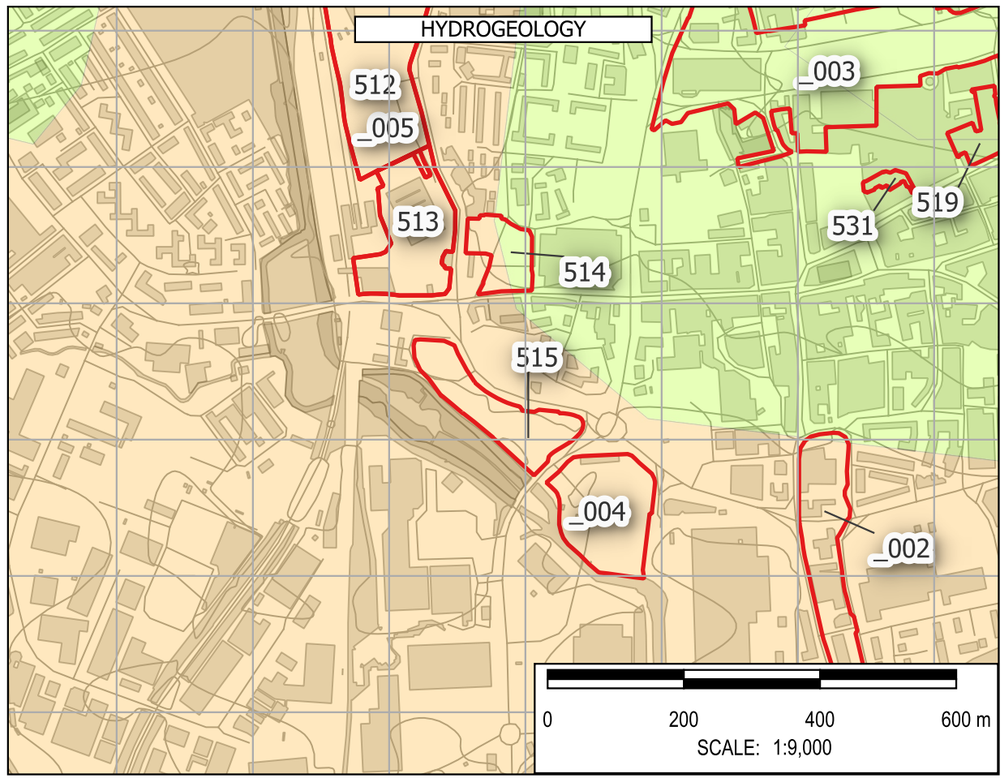
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of this site is not compatible with the level of fluvial flood risk identified.









Note: The limits, including the height and depths of the Works, shown in this drawing are not to be taken as limiting the obligations of the contractor under Contract.

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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
  - WEST NORTHANTS BOUNDARY
- FLOOD MAP FOR PLANNING
  - FLOOD DEFENCES
  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
- ROFSW WITH CLIMATE CHANGE
  - HIGH
  - MEDIUM
  - LOW
- HYDROGEOLOGY
  - AQUIFER TYPE
  - HIGHLY PRODUCTIVE AQUIFER
  - MODERATELY PRODUCTIVE AQUIFER
  - LOW PRODUCTIVITY AQUIFER
  - ROCKS WITH ESSENTIALLY NO GROUNDWATER

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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DECOMISSIONING AND DEMOLITION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 515 Four Waterside

Drawing Scale: 1:9,000 Sheet Size: A3

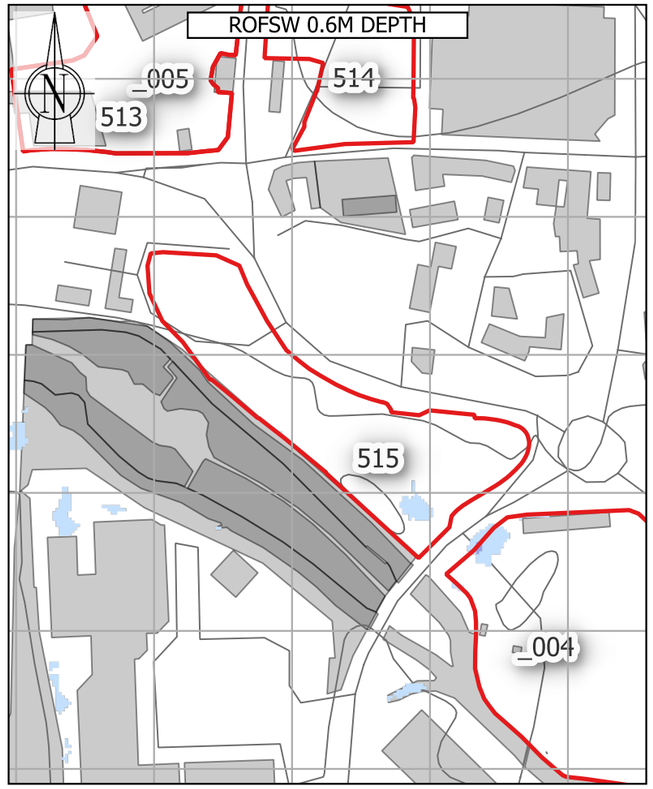
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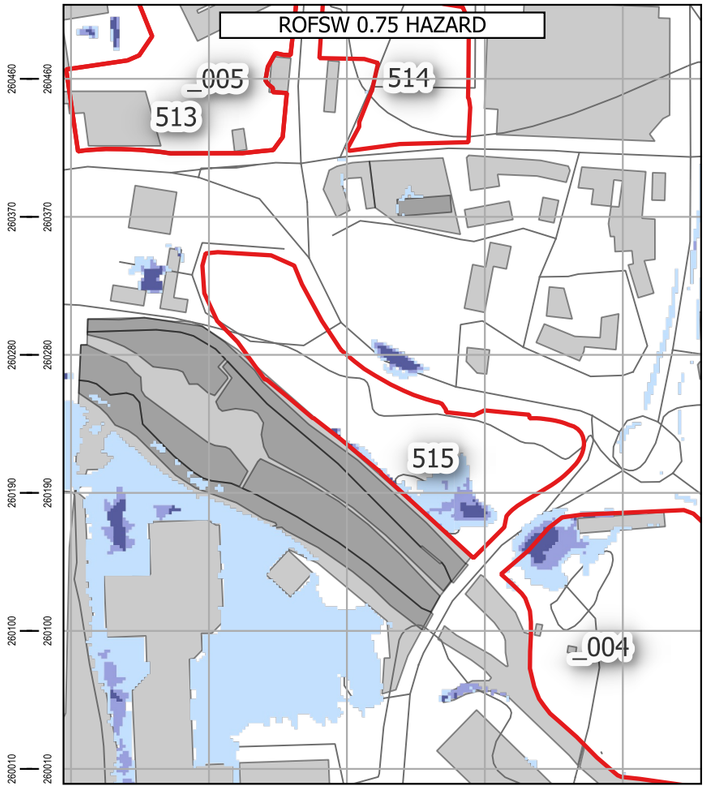
Revision: P01

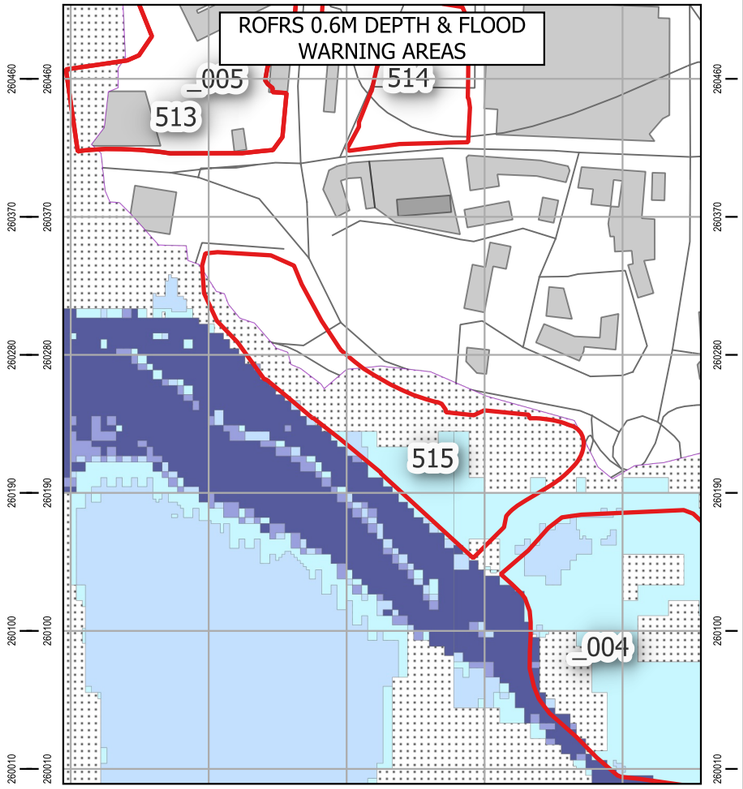
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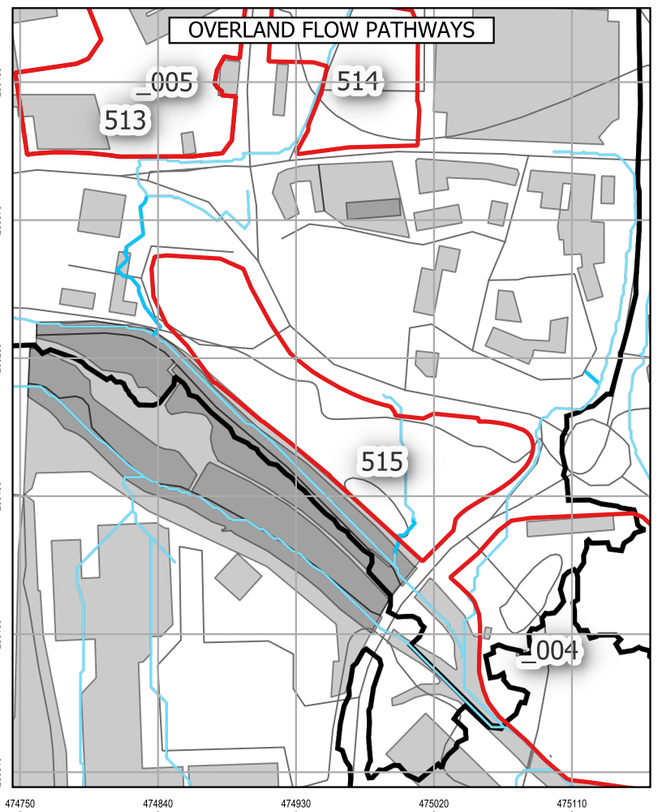
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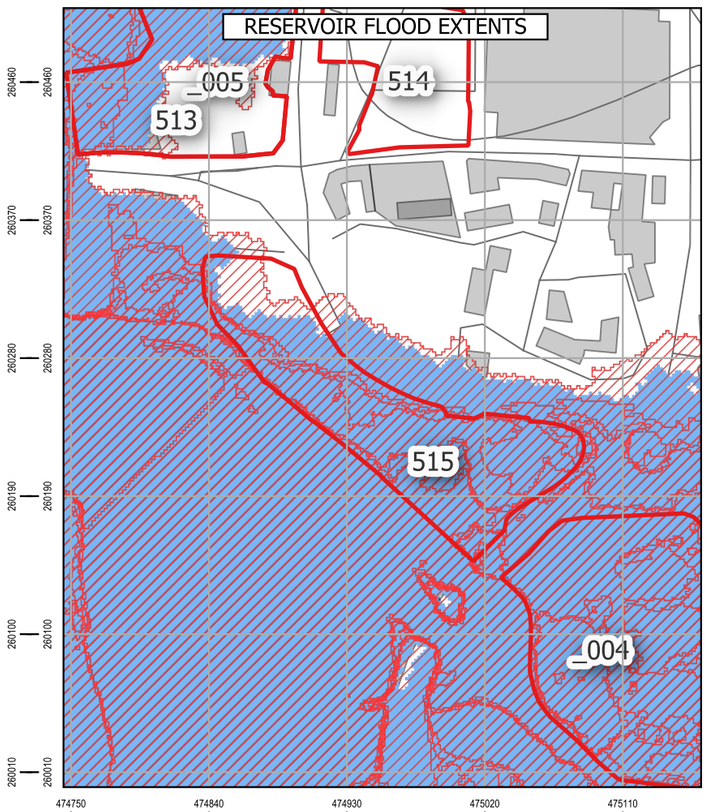
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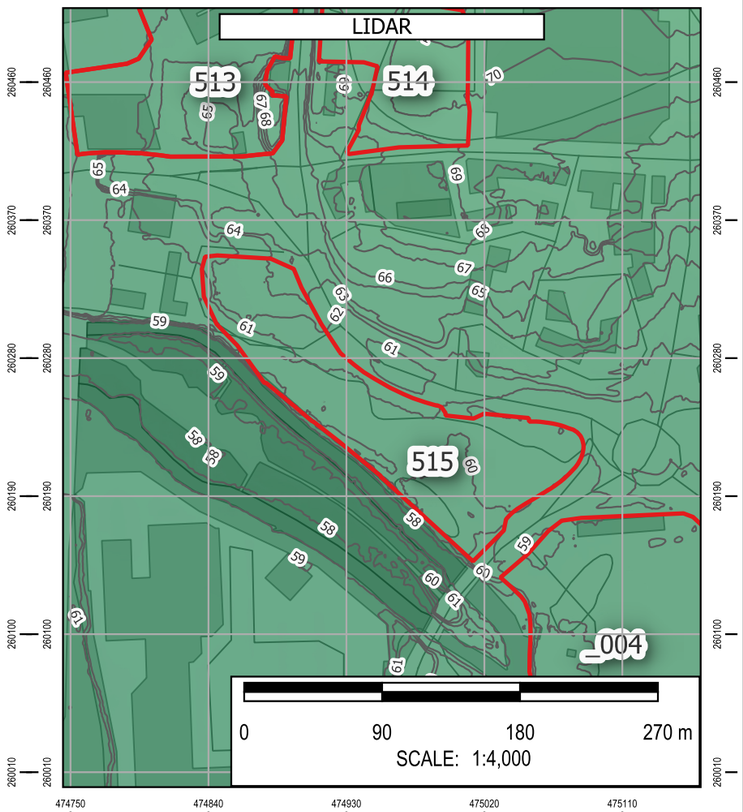












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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY

ROFSW
0.6M DEPTH
- High
- Medium
- Low
- Unavailable

0.75 HAZARD
- High
- Medium
- Low
- Unavailable

ROFRS
0.6M DEPTH
- High
- Medium
- Low
- Very low
- Unavailable

FLOOD WARNING AREAS

OVERLAND FLOW PATHWAYS
PROBABLE OVERLAND FLOW PATHWAYS
- < 3 Degrees
- 3 - 7 Degrees
- 7 - 12 Degrees
- > 12 Degrees

DETAILED WATERSHEDS

RESERVOIR FLOOD EXTENT
DRY DAY
WET DAY

LIDAR
1M CONTOURS
ELEVATION
Band 1 (Gray)
230
50

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	01/05/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 515 Four Waterside

Drawing Scale: 1:4,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00226

Revision: P01

G:\Projects\4082482_WNC\4_Workspaces\0_Working\ SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR Print Date:01/05/2026

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	531
Site Name	Market Walk
Proposed Development	Regen mixed
Site Area	0.14 Ha
Site NGR	475532 mE, 260579 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
0.0 %	0.0 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
0.0 %	0.0 %	0.4 %	0.4 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Flood History

There are twenty six WNC recorded flood events within 500m of the site. This site is not located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at medium risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

The site is not indicated to be at risk of reservoir flooding.

Flood Defences – Residual Risk

It is unlikely that the site will be affected by a breach of flood defences as the nearest defences are more than 500m away.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 1. Therefore the Exception Test is not required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 1, finished floor levels should be at least 150mm above external ground levels. An appropriate freeboard allowance should also be considered for other sources of flooding.

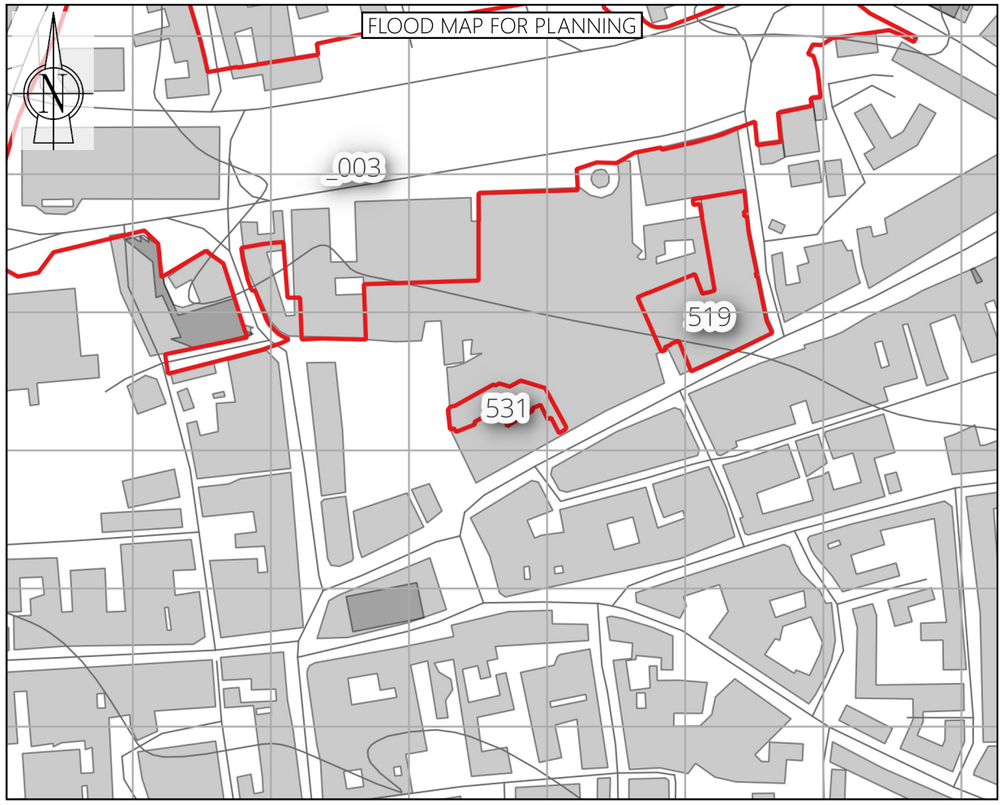
Surface Water Attenuation Provision – Design Considerations

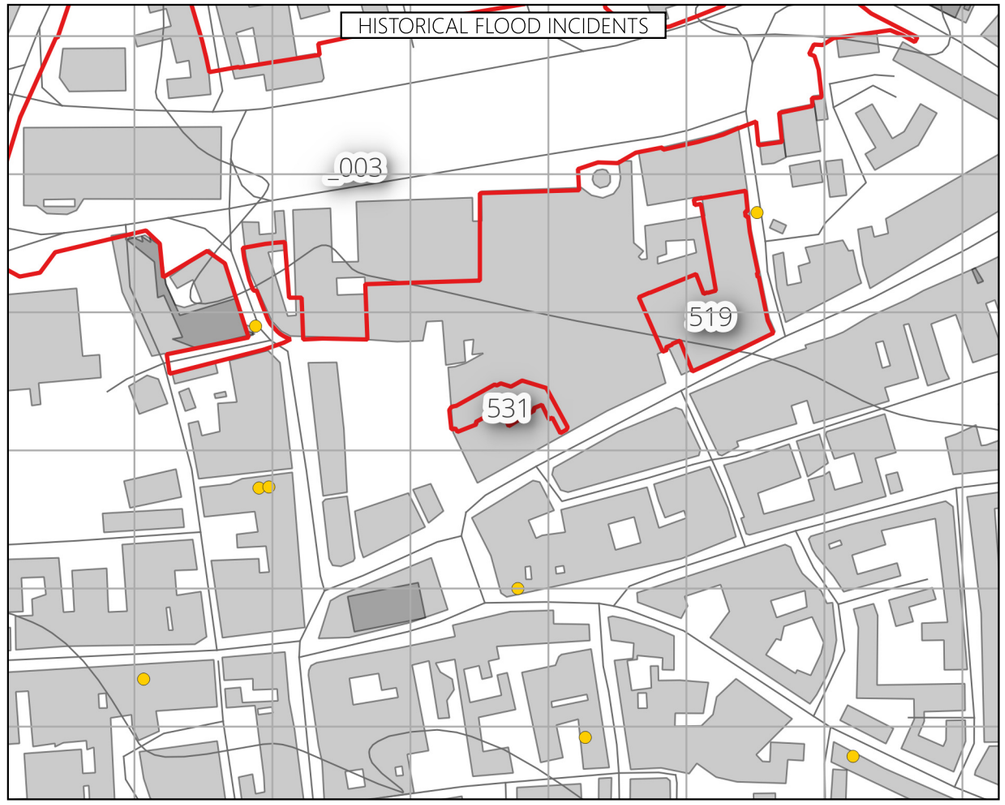
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

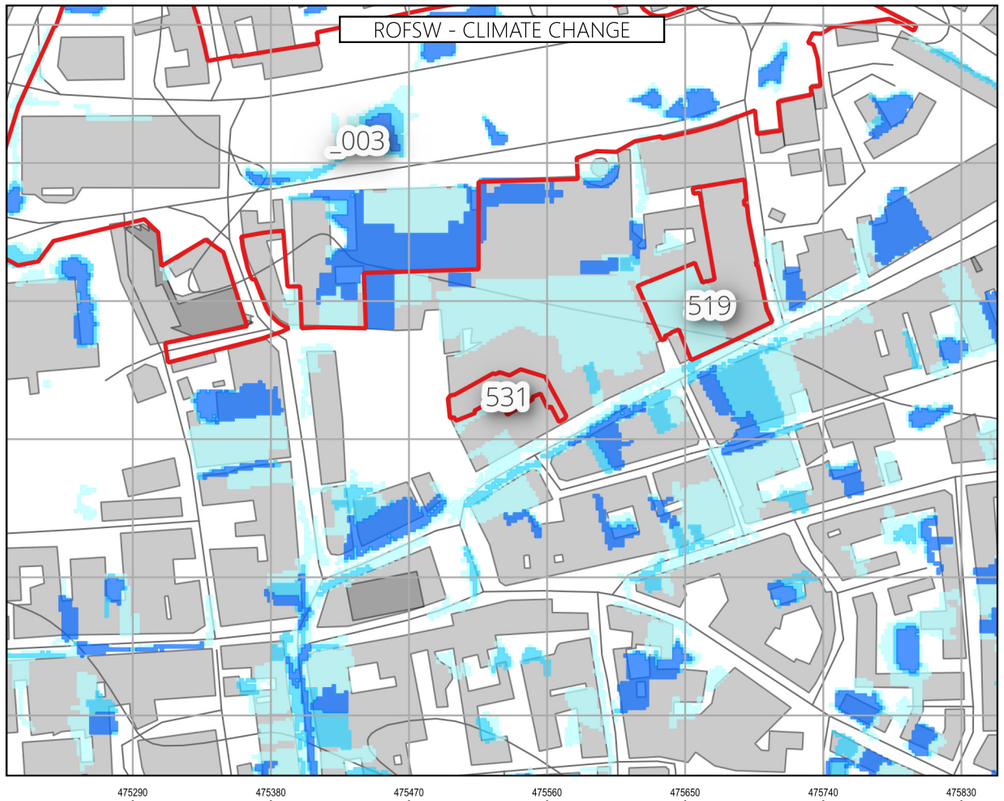
It is estimated that 116 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 0.02 Ha should be set aside for appropriate SuDS techniques.

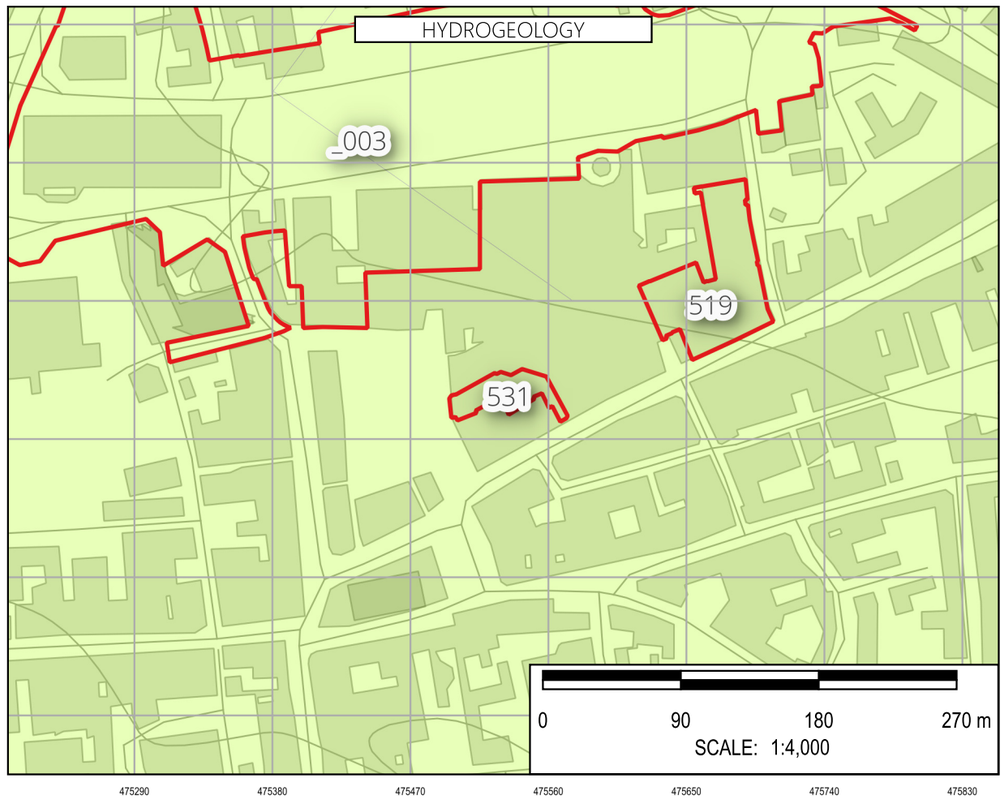
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.









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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
  - WEST NORTHANTS BOUNDARY
- FLOOD MAP FOR PLANNING
  - FLOOD DEFENCES
  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
- ROFSW WITH CLIMATE CHANGE
  - HIGH
  - MEDIUM
  - LOW
- HYDROGEOLOGY
  - AQUIFER TYPE
    - HIGHLY PRODUCTIVE AQUIFER
    - MODERATELY PRODUCTIVE AQUIFER
    - LOW PRODUCTIVITY AQUIFER
    - ROCKS WITH ESSENTIALLY NO GROUNDWATER

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	02/06/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 02/Jun/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 531 Market Walk

Drawing Scale: 1:4,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00235

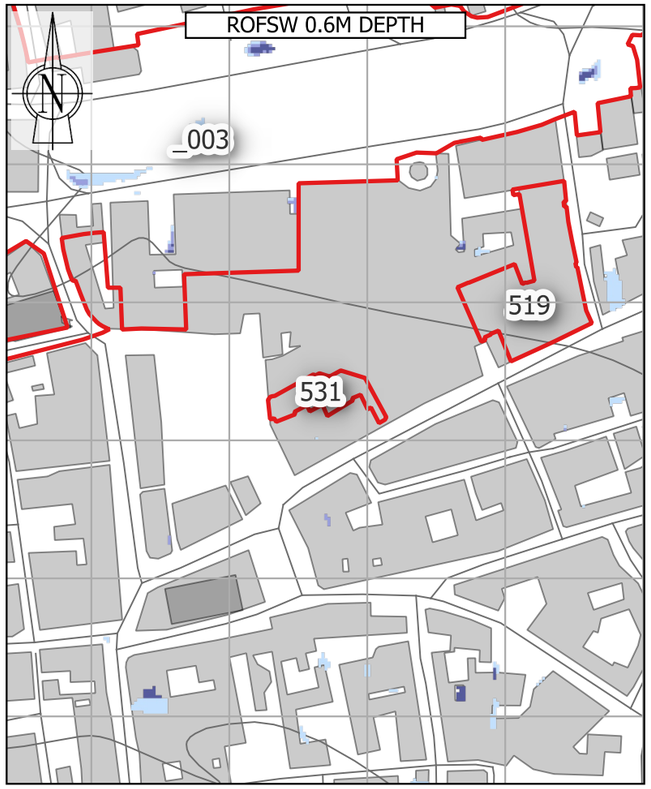
Revision: P01

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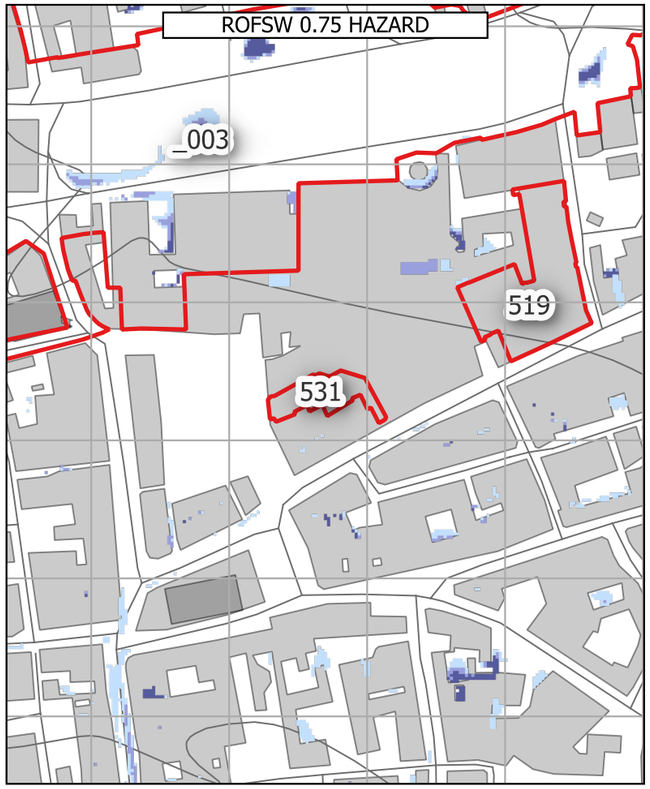
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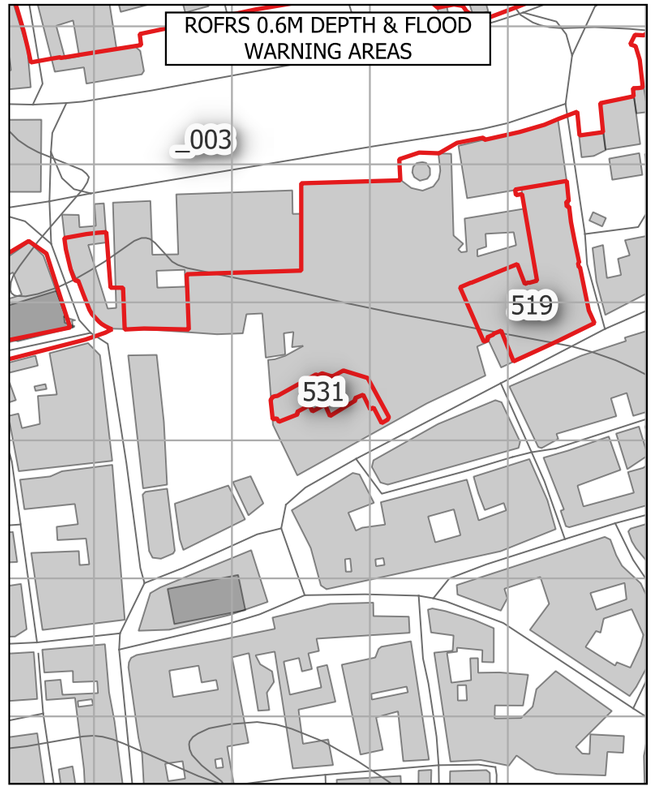
ROFSW 0.6M DEPTH



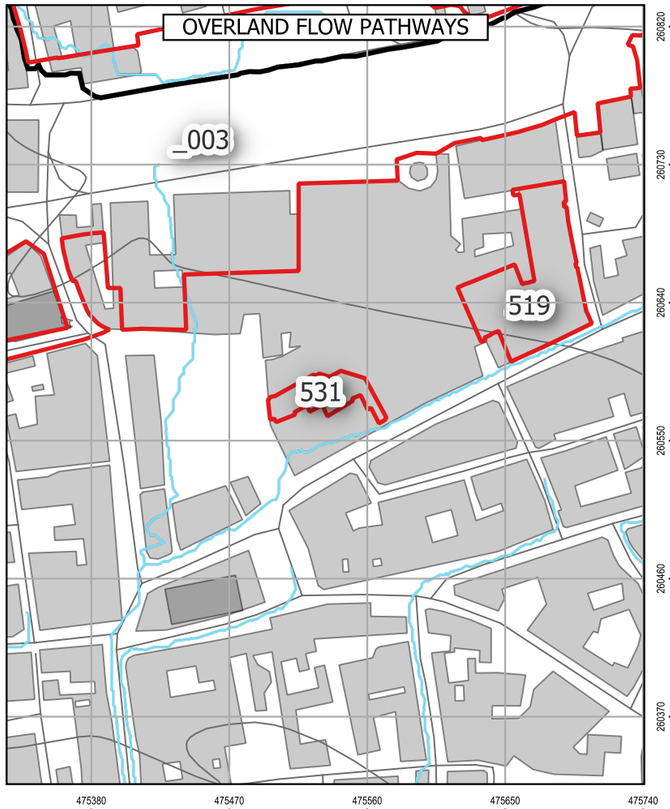
ROFSW 0.75 HAZARD



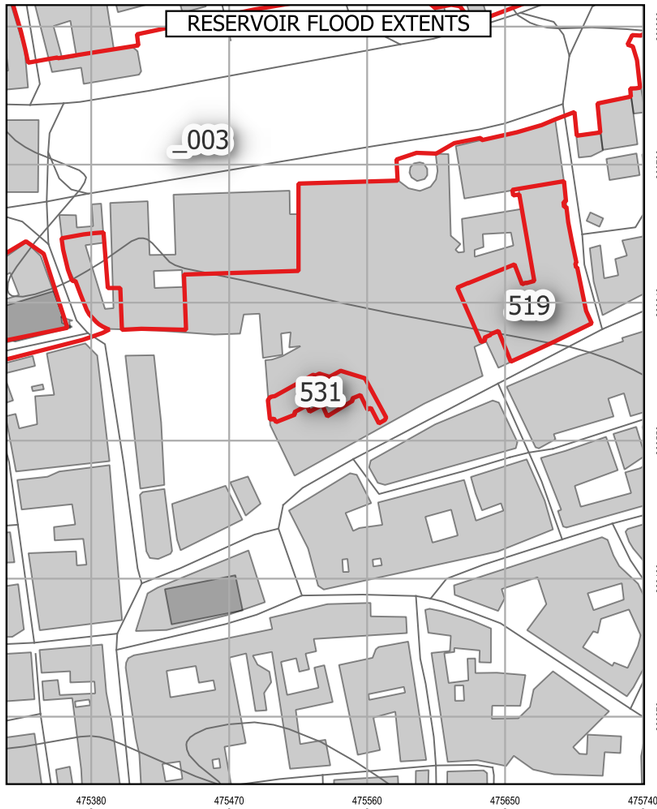
ROFRS 0.6M DEPTH & FLOOD WARNING AREAS



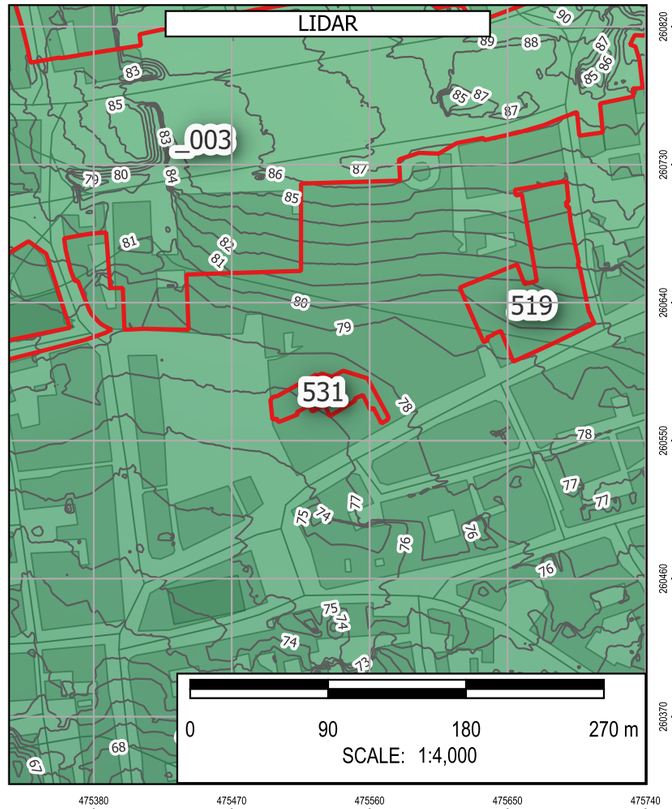
OVERLAND FLOW PATHWAYS



RESERVOIR FLOOD EXTENTS



LIDAR



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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY
- ROFSW
- 0.6M DEPTH
  - High
  - Medium
  - Low
  - Unavailable
- 0.75 HAZARD
  - High
  - Medium
  - Low
  - Unavailable
- ROFRS
- 0.6M DEPTH
  - High
  - Medium
  - Low
  - Very low
  - Unavailable
- FLOOD WARNING AREAS
- OVERLAND FLOW PATHWAYS
- PROBABLE OVERLAND FLOW PATHWAYS
  - < 3 Degrees
  - 3 - 7 Degrees
  - 7 - 12 Degrees
  - > 12 Degrees
- DETAILED WATERSHEDS
- RESERVOIR FLOOD EXTENT
- DRY DAY
- WET DAY
- LIDAR
- 1M CONTOURS
- ELEVATION
- Band 1 (Gray)
  - 230
  - 50

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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DECOMISSIONING AND DEMOLITION
NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS

Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	01/05/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

Binnies UK Limited
Registered Office
Spring Lodge, 172 Chester Road, Helsby Cheshire, WA6 0AR, UK
Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 531 Market Walk

Drawing Scale: 1:4,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00234

Revision: P01

G:\Projects\4082482_WNC\4_Workspaces\0_Working_SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR Print Date:01/05/2026

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	523
Site Name	St Edmund's Hospital
Proposed Development	Regen mixed
Site Area	0.85 Ha
Site NGR	476401 mE, 261038 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
0.0 %	0.0 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Flood History

There are fifty seven WNC recorded flood events within 500m of the site. This site is not located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at medium risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

The site is not indicated to be at risk of reservoir flooding.

Flood Defences – Residual Risk

It is unlikely that the site will be affected by a breach of flood defences as the nearest defences are more than 500m away.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 1. Therefore the Exception Test is not required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 1, finished floor levels should be at least 150mm above external ground levels. An appropriate freeboard allowance should also be considered for other sources of flooding.

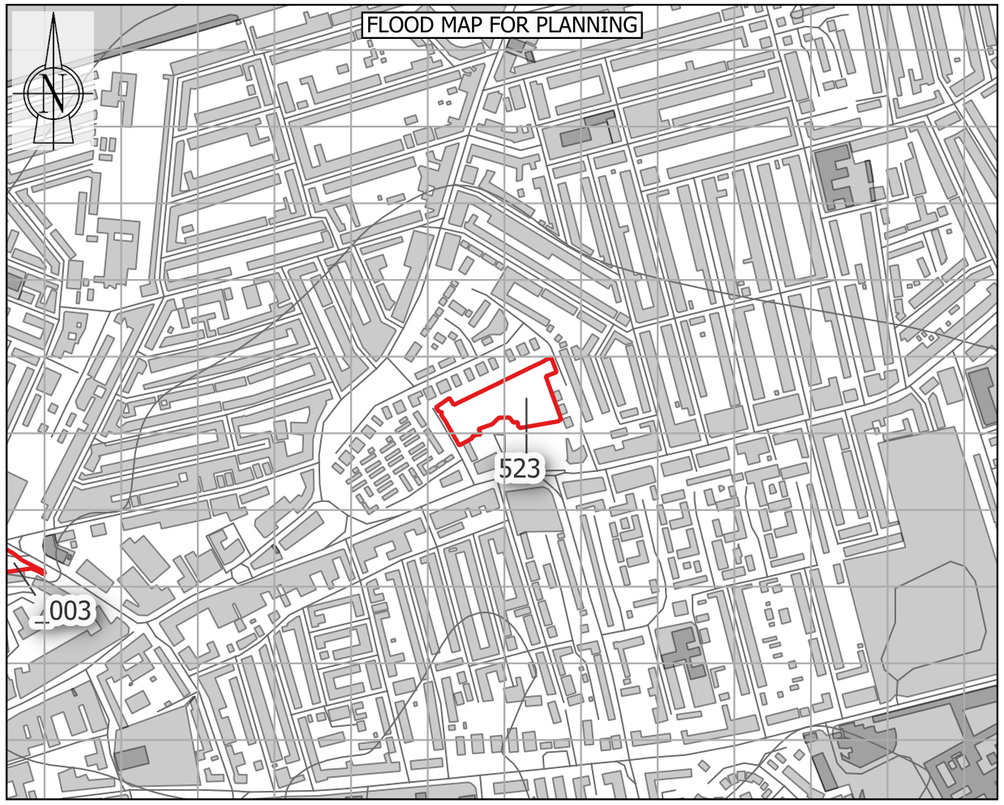
Surface Water Attenuation Provision – Design Considerations

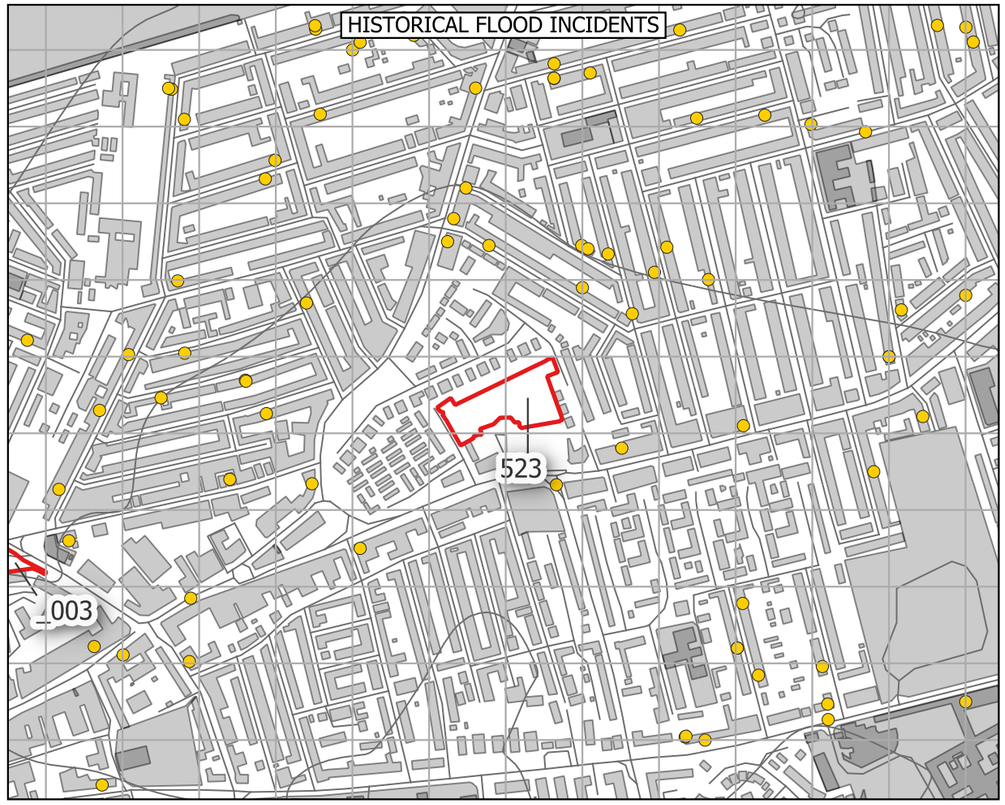
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

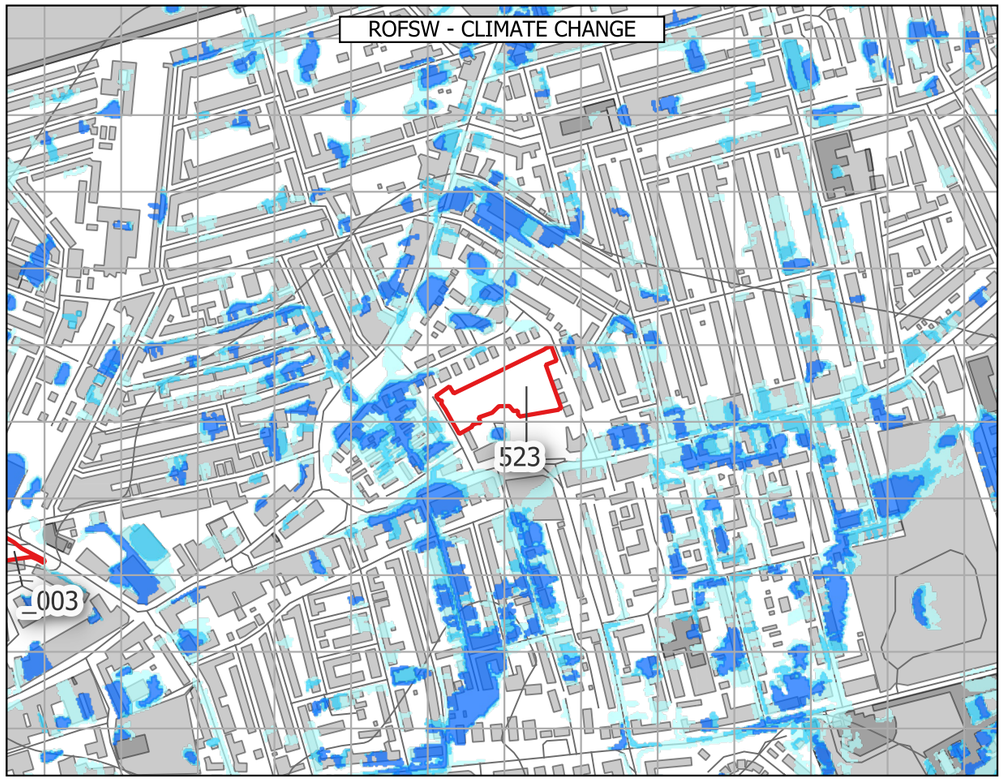
It is estimated that 718 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 0.11 Ha should be set aside for appropriate SuDS techniques.

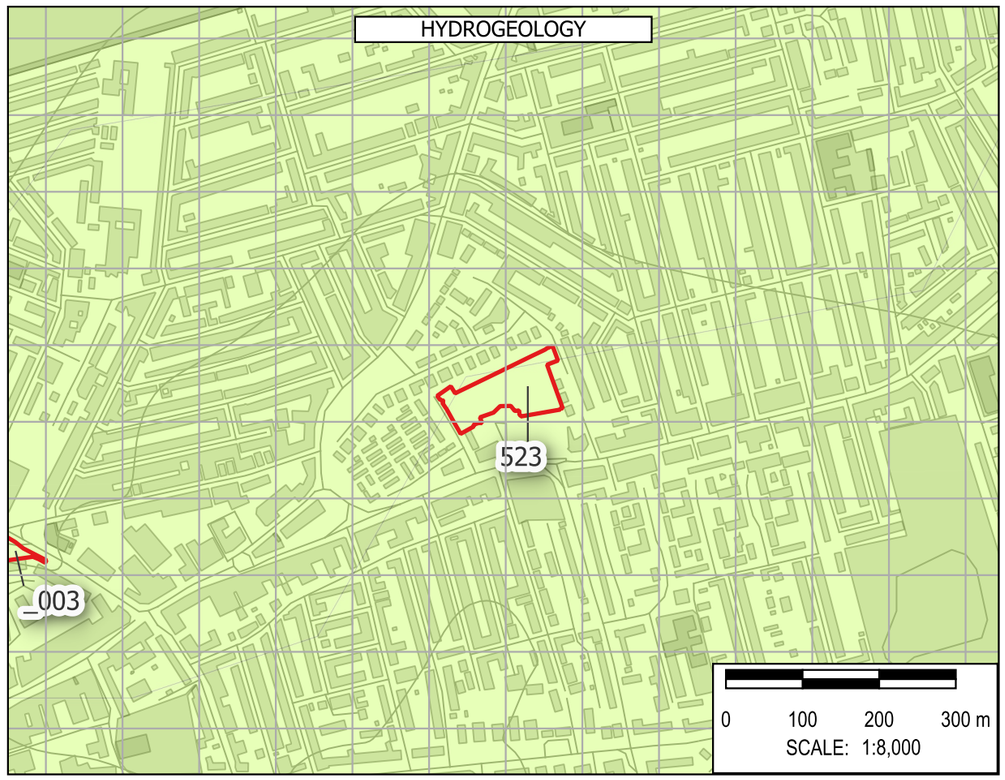
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.









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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY

FLOOD MAP FOR PLANNING
- FLOOD DEFENCES
- MAIN RIVER
- ORDINARY WATERCOURSE
- FLOOD STORAGE AREAS
- FLOOD ZONE 2
- FLOOD ZONE 3
- FLOOD ZONE 2 + CC
- FLOOD ZONE 3A + CC
- FLOOD ZONE 3B + CC
- IDB

HISTORIC FLOOD INCIDENTS
- WNC FLOOD HISTORY
- EA HISTORIC FLOOD EXTENT

ROFSW WITH CLIMATE CHANGE
- HIGH
- MEDIUM
- LOW

HYDROGEOLOGY

AQUIFER TYPE
- HIGHLY PRODUCTIVE AQUIFER
- MODERATELY PRODUCTIVE AQUIFER
- LOW PRODUCTIVITY AQUIFER
- ROCKS WITH ESSENTIALLY NO GROUNDWATER

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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

Binnies UK Limited
Registered Office
Spring Lodge, 172 Chester Road, Helsby Cheshire, WA6 0AR, UK
Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 523 St Edmund's Hospital

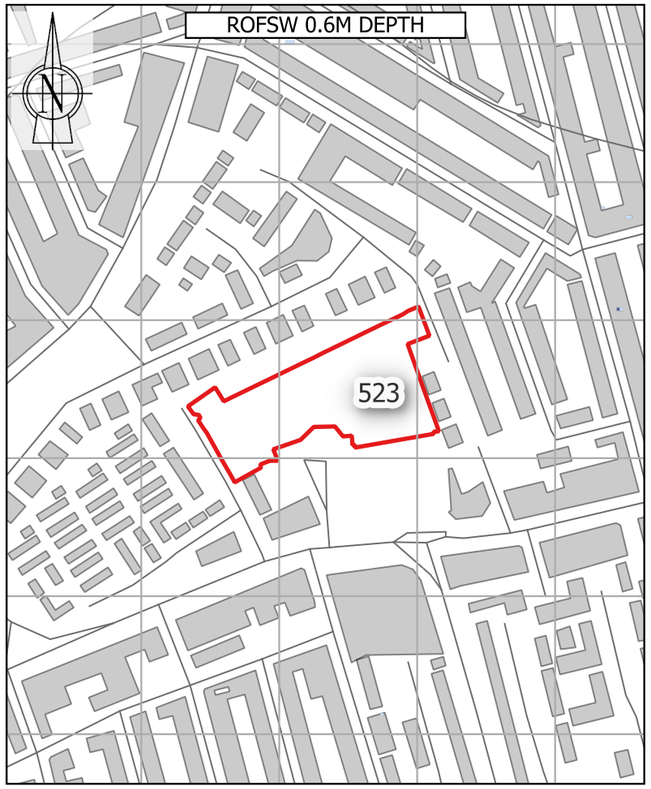
Drawing Scale: 1:8,000 Sheet Size: A3

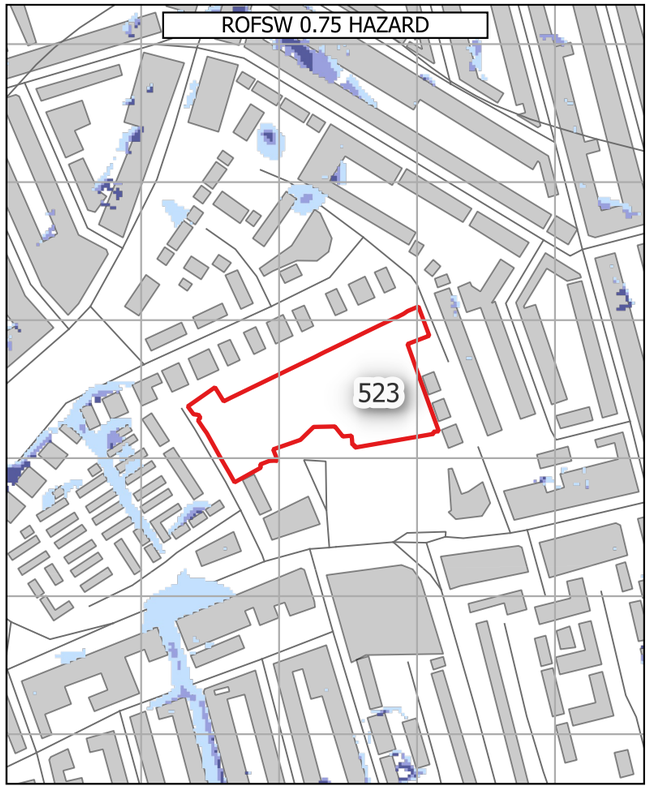
Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00172 Revision: P01

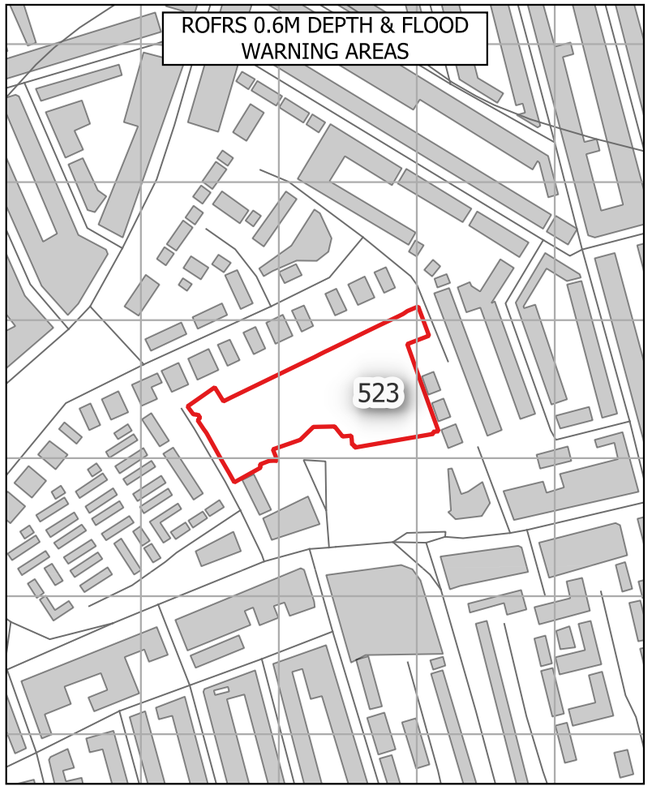
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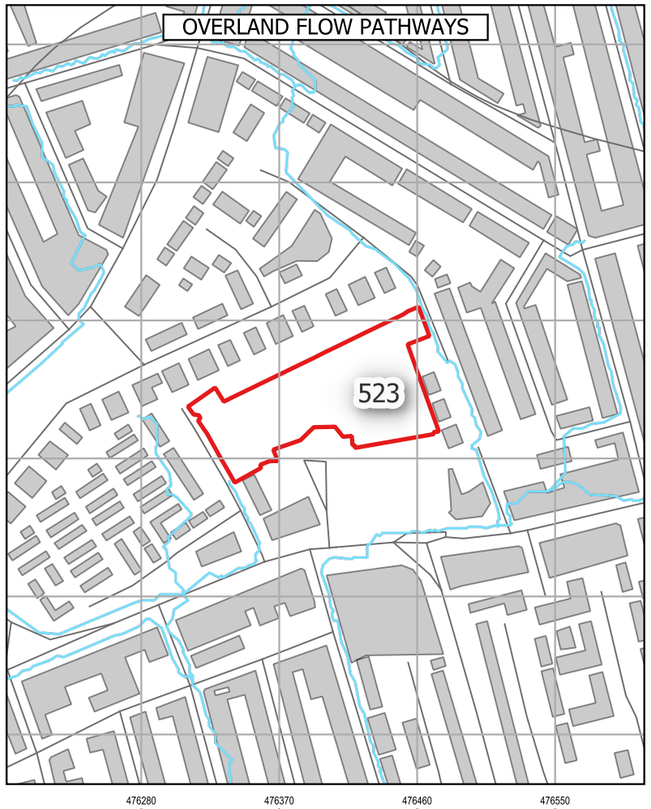
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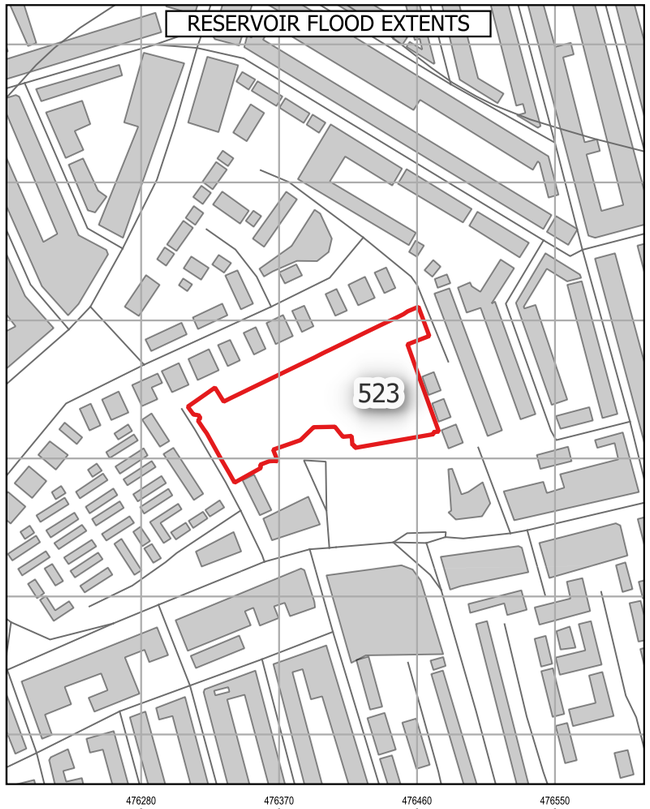
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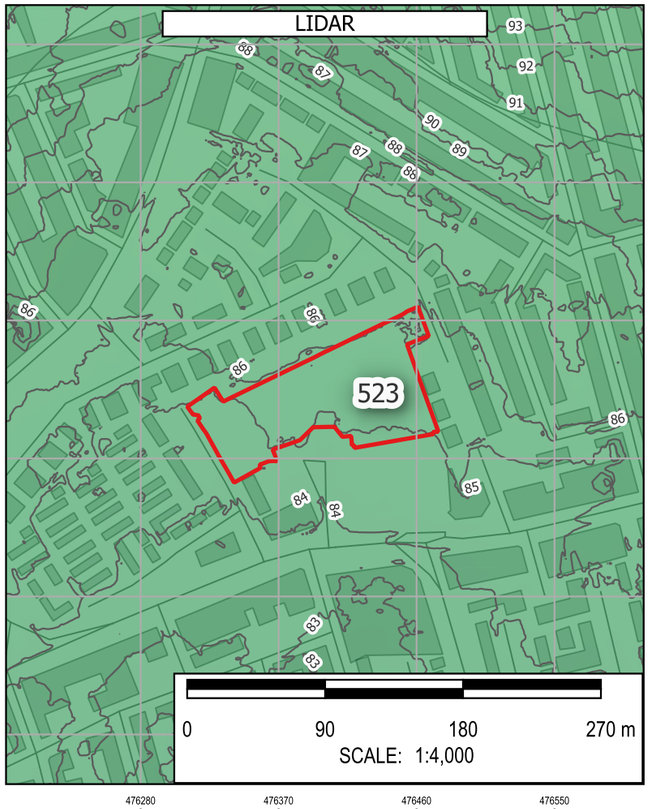












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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY
- ROFSW
  - 0.6M DEPTH
    - High
    - Medium
    - Low
    - Unavailable
  - 0.75 HAZARD
    - High
    - Medium
    - Low
    - Unavailable
- ROFRS
  - 0.6M DEPTH
    - High
    - Medium
    - Low
    - Very low
    - Unavailable
- FLOOD WARNING AREAS
- OVERLAND FLOW PATHWAYS
  - PROBABLE OVERLAND FLOW PATHWAYS
    - < 3 Degrees
    - 3 - 7 Degrees
    - 7 - 12 Degrees
    - > 12 Degrees
  - DETAILED WATERSHEDS
- RESERVOIR FLOOD EXTENT
  - DRY DAY
  - WET DAY
- LIDAR
  - 1M CONTOURS
  - ELEVATION
    - Band 1 (Gray)
    - 230
    - 50

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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Designed By: KA Date: 01/May/2026

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Revision: -

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Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 523 St Edmund's Hospital

Drawing Scale: 1:4,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00230 Revision: P01

G:\Projects\4082482_WNC\4_Workspaces\0_Working\ - SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR Print Date:01/05/2026

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	514
Site Name	Castle House
Proposed Development	Regen mixed
Site Area	0.83 Ha
Site NGR	474966 mE, 260473 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
0.0 %	0.0 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
1.7 %	0.3 %	2.9 %	4.9 %

Less than 30% of the site is at risk of pluvial flooding during a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
1.8 %	0.3 %	4.1 %	6.2 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

There are a few minor areas of localised surface water ponding onsite.

Flood History

There are WNC ten recorded flood events within 500m of the site. This site is located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at medium risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

The site is not indicated to be at risk of reservoir flooding.

Flood Defences – Residual Risk

Although the nearest defences are less than 150m from the site, the site does not benefit from these defences and therefore an assessment of a defence breach over the lifetime of the development (including the impact of climate change) is unlikely to be required.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 1. Therefore the Exception Test is not required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 1, finished floor levels should be at least 150mm above external ground levels. An appropriate freeboard allowance should also be considered for other sources of flooding.

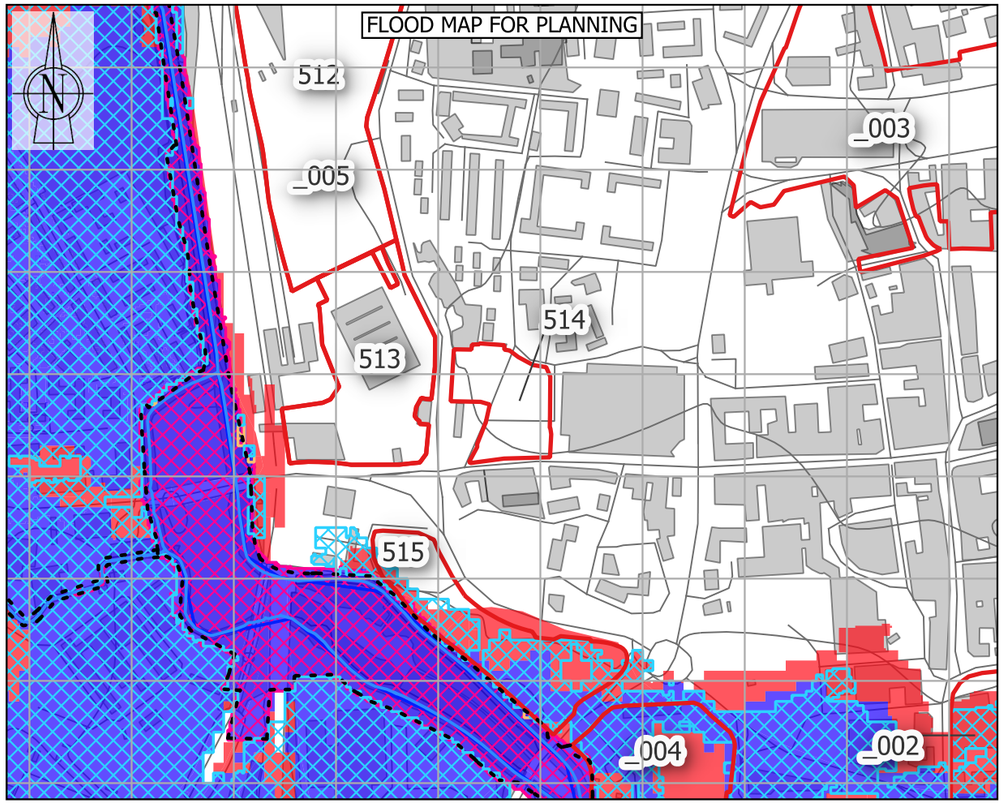
Surface Water Attenuation Provision – Design Considerations

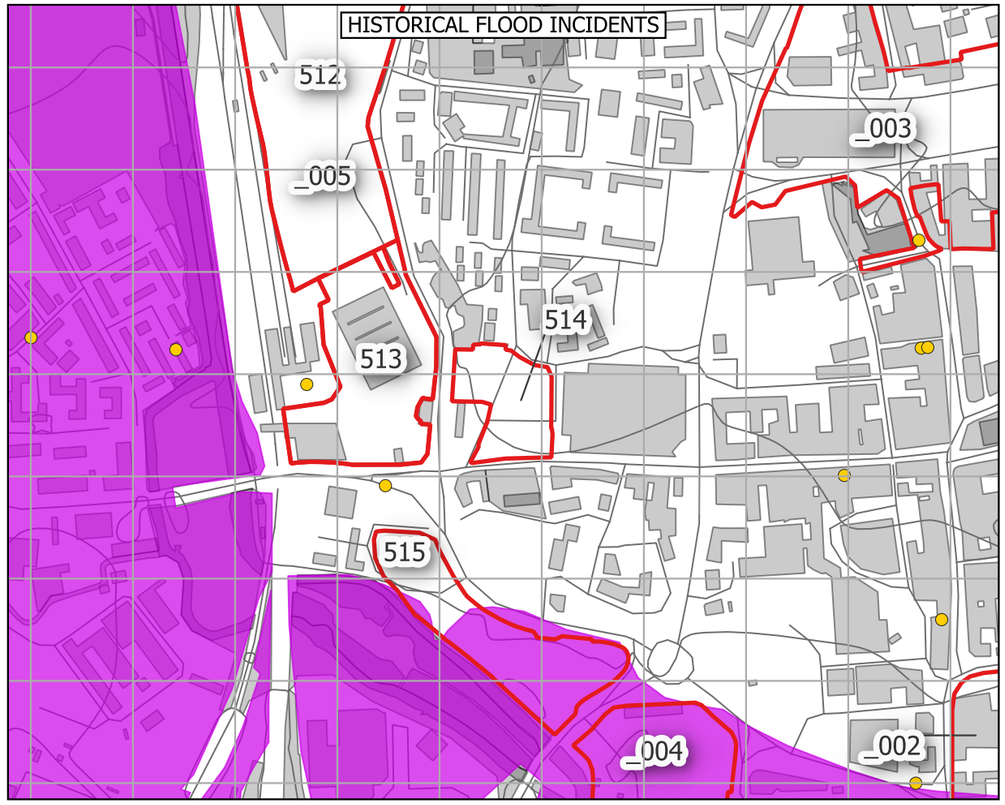
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

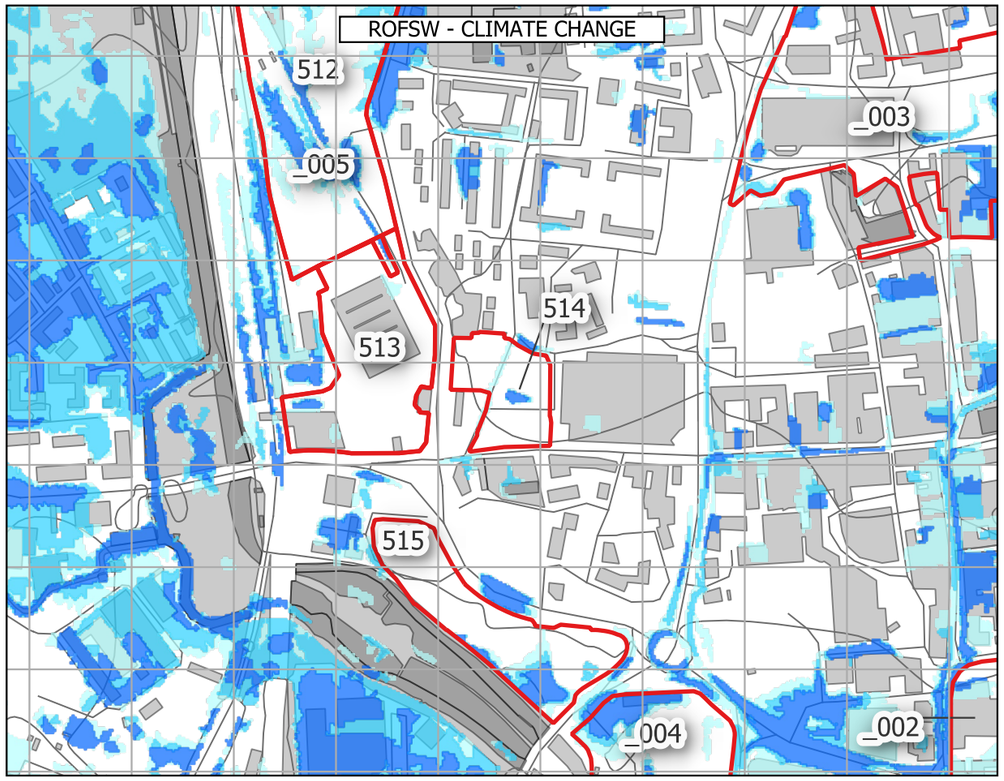
It is estimated that 700 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 0.10 Ha should be set aside for appropriate SuDS techniques.

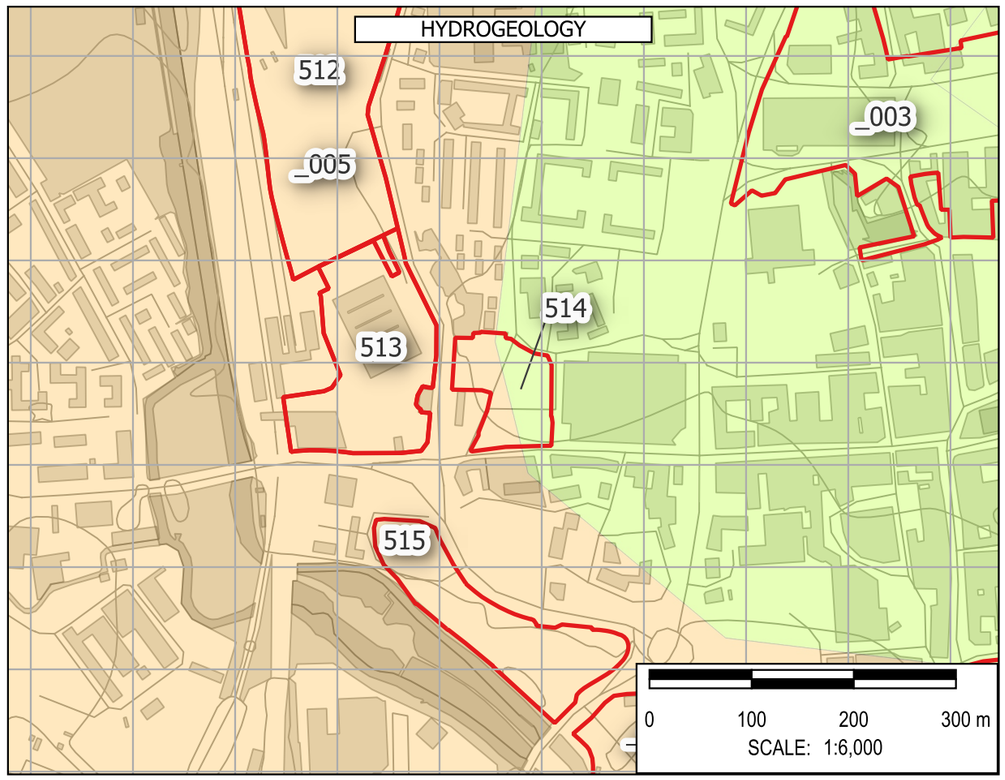
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.









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LEGEND

- SLAA SITE
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- WEST NORTHANTS BOUNDARY

FLOOD MAP FOR PLANNING

- FLOOD DEFENCES
- MAIN RIVER
- ORDINARY WATERCOURSE
- FLOOD STORAGE AREAS
- FLOOD ZONE 2
- FLOOD ZONE 3
- FLOOD ZONE 2 + CC
- FLOOD ZONE 3A + CC
- FLOOD ZONE 3B + CC
- IDB

HISTORIC FLOOD INCIDENTS

- WNC FLOOD HISTORY
- EA HISTORIC FLOOD EXTENT

ROFSW WITH CLIMATE CHANGE

- HIGH
- MEDIUM
- LOW

HYDROGEOLOGY

AQUIFER TYPE

- HIGHLY PRODUCTIVE AQUIFER
- MODERATELY PRODUCTIVE AQUIFER
- LOW PRODUCTIVITY AQUIFER
- ROCKS WITH ESSENTIALLY NO GROUNDWATER

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

Binnies UK Limited
Registered Office
Spring Lodge, 172 Chester Road, Helsby Cheshire, WA6 0AR, UK
Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 514 Castle House

Drawing Scale: 1:6,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00173

Revision: P01

G:\Projects\4082482_WNC\4_Workspaces\0_Working\ - SFRA_Workspace.qgz - FLOOD RISK SUMMARY - FLOOD AMENDMENTS Print Date:30/04/2026

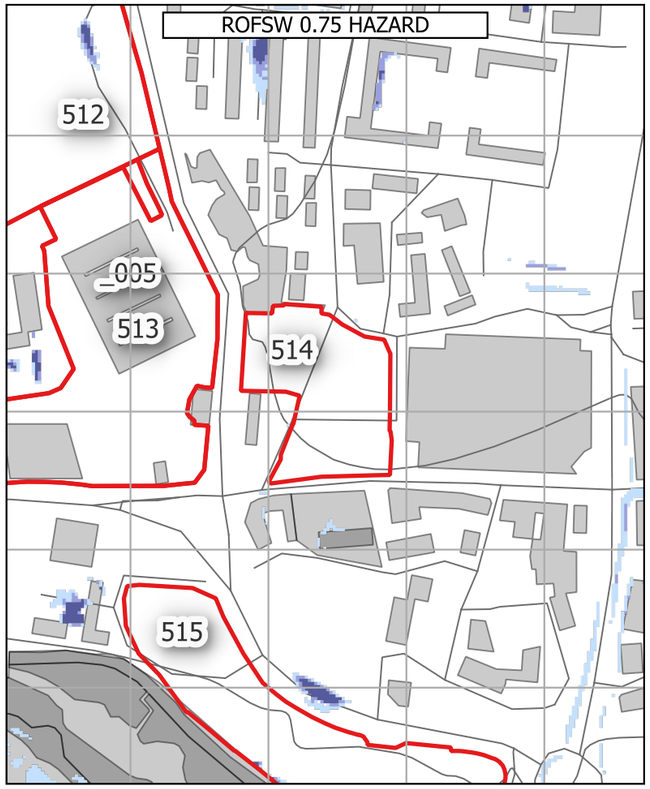
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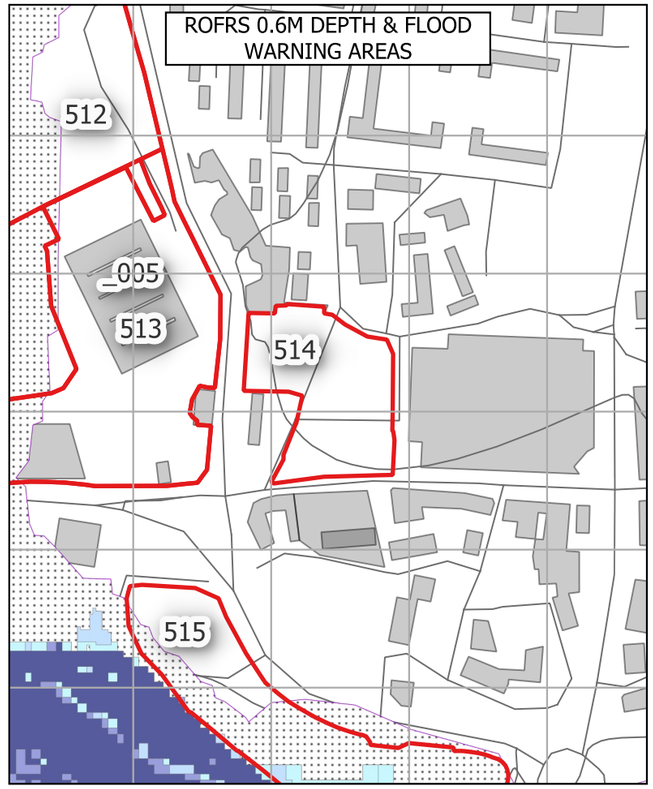
ROFSW 0.6M DEPTH



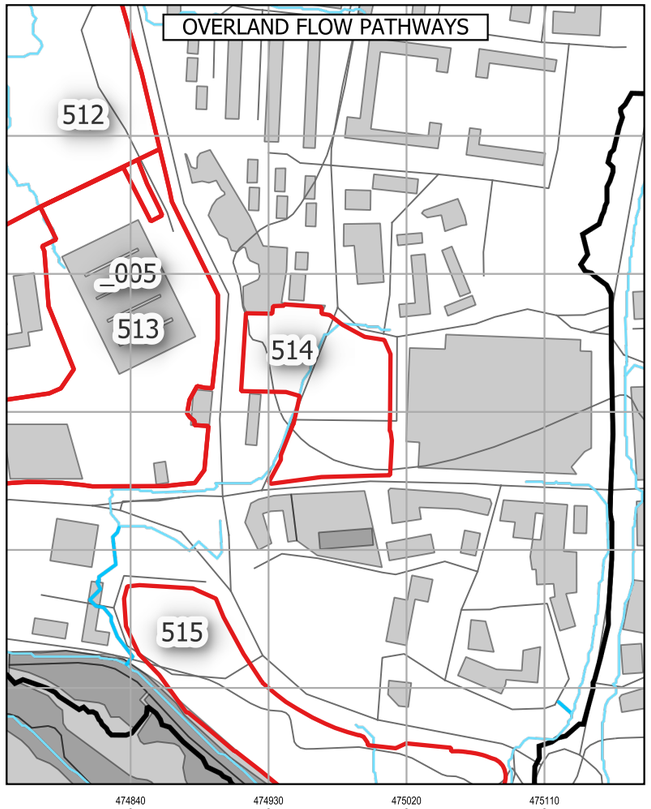
ROFSW 0.75 HAZARD



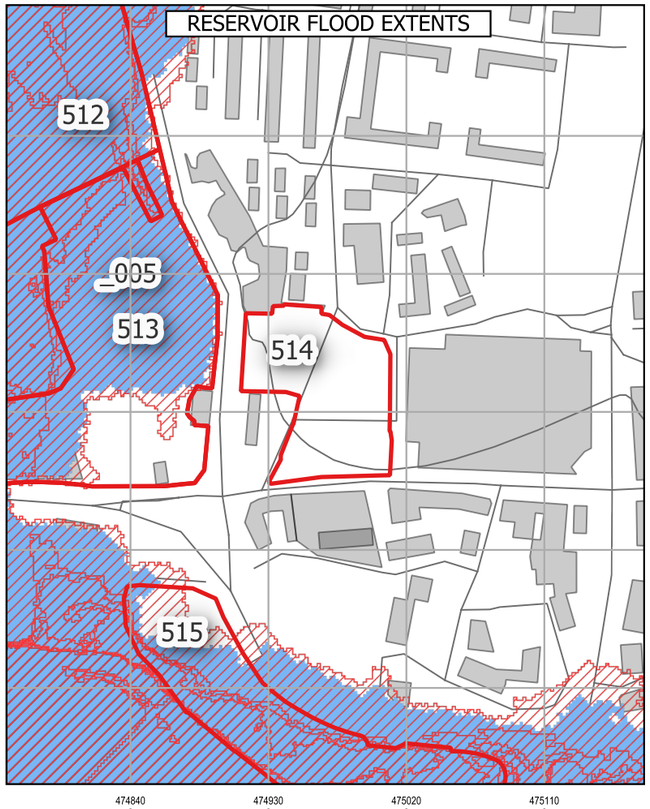
ROFRS 0.6M DEPTH & FLOOD WARNING AREAS



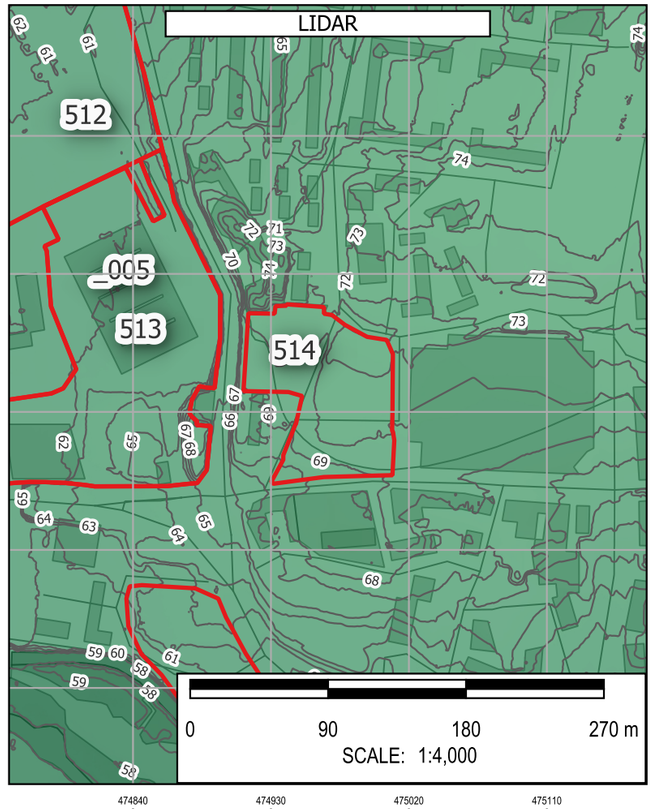
OVERLAND FLOW PATHWAYS



RESERVOIR FLOOD EXTENTS



LIDAR



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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY

ROFSW

0.6M DEPTH
- High
- Medium
- Low
- Unavailable

0.75 HAZARD
- High
- Medium
- Low
- Unavailable

ROFRS

0.6M DEPTH
- High
- Medium
- Low
- Very low
- Unavailable

FLOOD WARNING AREAS

OVERLAND FLOW PATHWAYS

PROBABLE OVERLAND FLOW PATHWAYS
- < 3 Degrees
- 3 - 7 Degrees
- 7 - 12 Degrees
- > 12 Degrees

DETAILED WATERSHEDS

RESERVOIR FLOOD EXTENT

DRY DAY

WET DAY

LIDAR

1M CONTOURS

ELEVATION

Band 1 (Gray)
230
50

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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DECOMISSIONING AND DEMOLITION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	01/05/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Registered Office
Spring Lodge, 172 Chester Road, Helsby Cheshire, WA6 0AR, UK
Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 514 Castle House

Drawing Scale: 1:4,000

Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00231

Revision: P01

G:\Projects\4082482_WNC\4_Workspaces\0_Working\ SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR Print Date:01/05/2026

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	512 *Site 512 refers to the northern section of site _005
Site Name	Railway station - Railfreight
Proposed Development	Regen mixed
Site Area	5.68 Ha
Site NGR	474787 mE, 260827 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
1.2 %	3.8 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
3.3 %	0.1 %	0.5 %	3.9 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Commentary

A small portion of the northern site boundary is within Flood Zone 2 and 3, due to the presence of a main river running paralell to the site boundary. As a result, site specific modelling may be required to inform mitigation measures as part of a site-specific Flood Risk Assessment. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
4.7 %	6.2 %	18.4 %	29.3 %

Less than 30% of the site is at risk of pluvial flooding, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
8.7 %	8.8 %	20.1 %	37.6 %

Less than 60% of the site is at risk of pluvial flooding during a climate change scenario, therefore delivery of a flood risk compatible development is considered feasible.

Pluvial Flood Risk – Commentary

There is extensive surface water ponding across the site. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Flood History

There are seventeen WNC recorded flood events within 500m of the site. This site is located within an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at low risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
72.3 %	99.7 %	99.9 %	99.9 %

Although the site is in an area at risk of reservoir flooding, this risk could be managed through appropriate consideration of flood resilience measures.

Flood Defences – Residual Risk

Flood defences, in the form of natural high ground, located along the northern site boundary offer a standard of protection equivalent to a 1 in 200year storm event, assuming the ground level is maintained. As a small area in the north of the site benefits from flood defences, a proportionate assessment of the likelihood of a defence breach over the lifetime of the development (including the impact of climate change) should be undertaken as part of a site-specific Flood Risk Assessment. Using the Environment Agency's simplified method (FD2321/TR2), a breach in the flood defence at this site could result in 'danger for all'.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 3. Therefore the Exception Test is required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 2 and 3, finished floor levels should be set no lower than 59.8 mAOD, 600mm above the maximum predicted flood level of 59.2 mAOD. In accordance with the EA guidance, freeboard allowances could be reviewed, and where appropriate reduced to 300mm. An appropriate freeboard allowance should also be considered for other sources of flooding. This should be confirmed by a site specific assessment as part of the detailed design for development, which should include consideration of proposed ground levels.

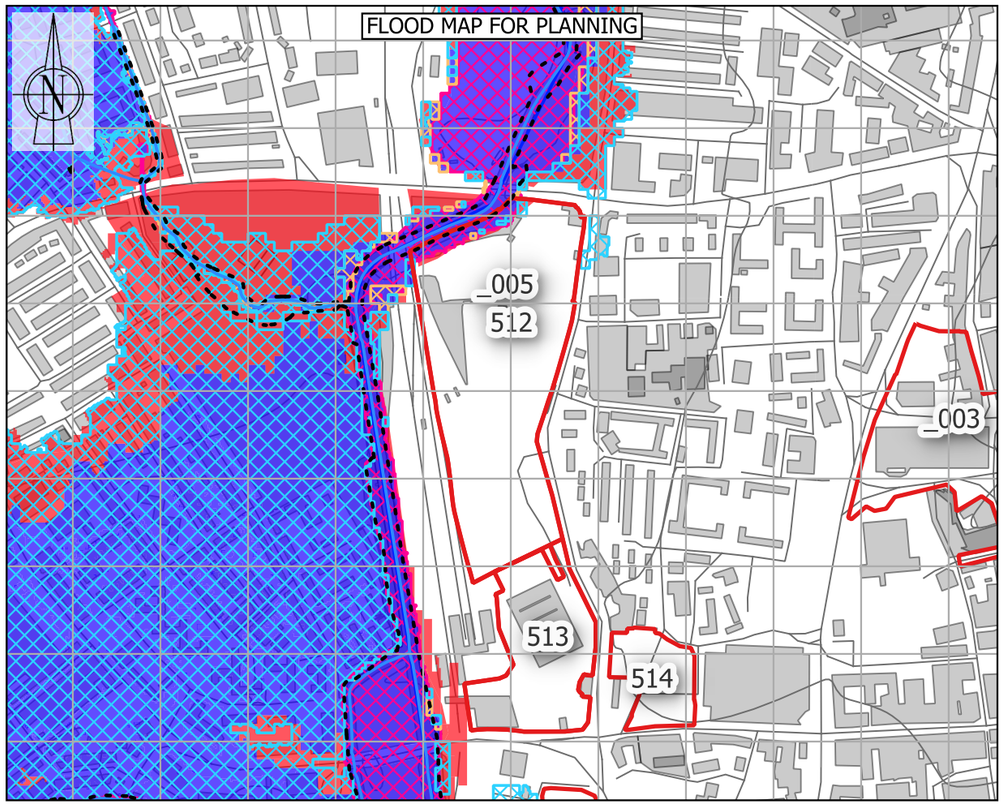
Surface Water Attenuation Provision – Design Considerations

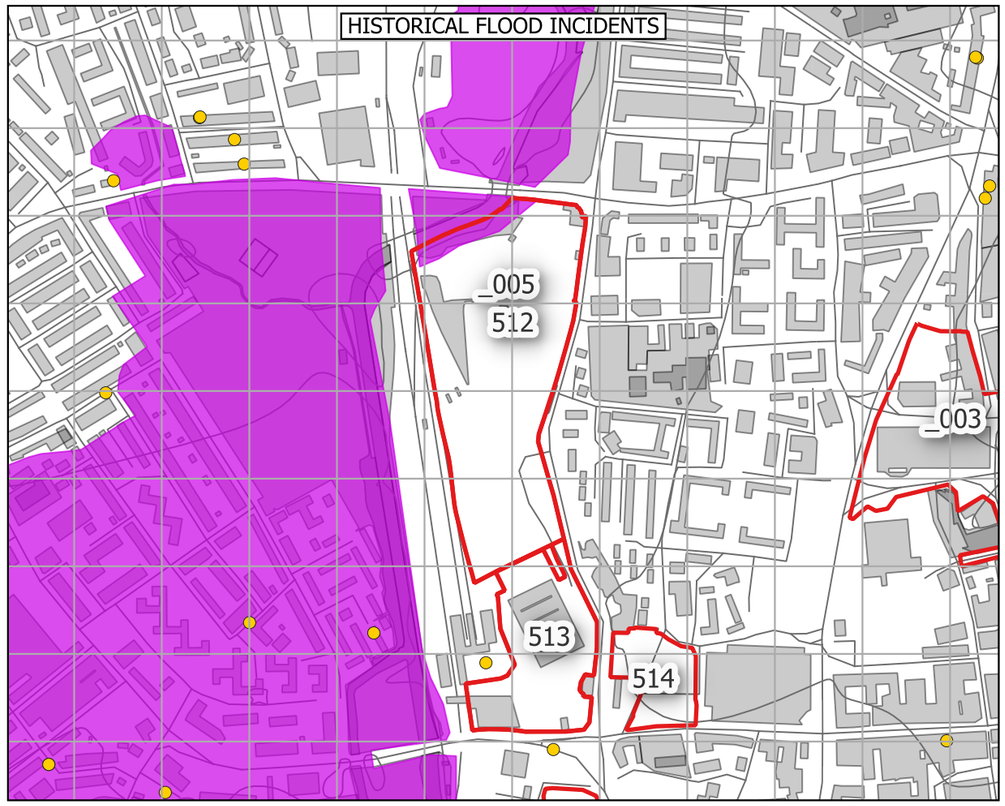
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

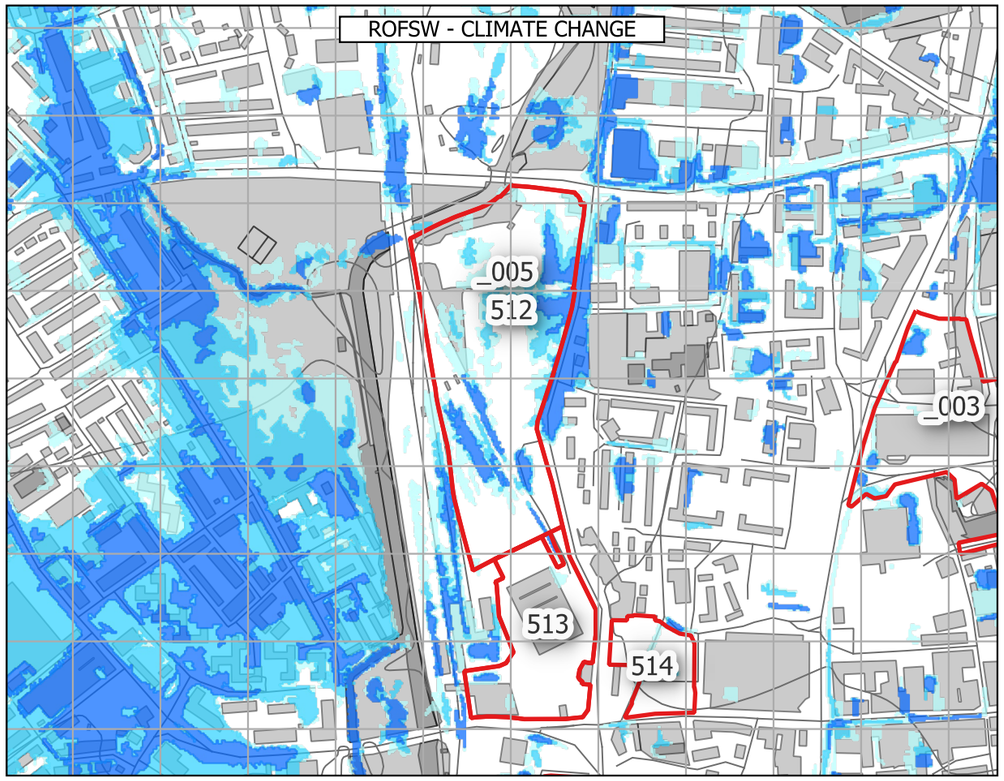
It is estimated that 4773 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 0.71 Ha should be set aside for appropriate SuDS techniques.

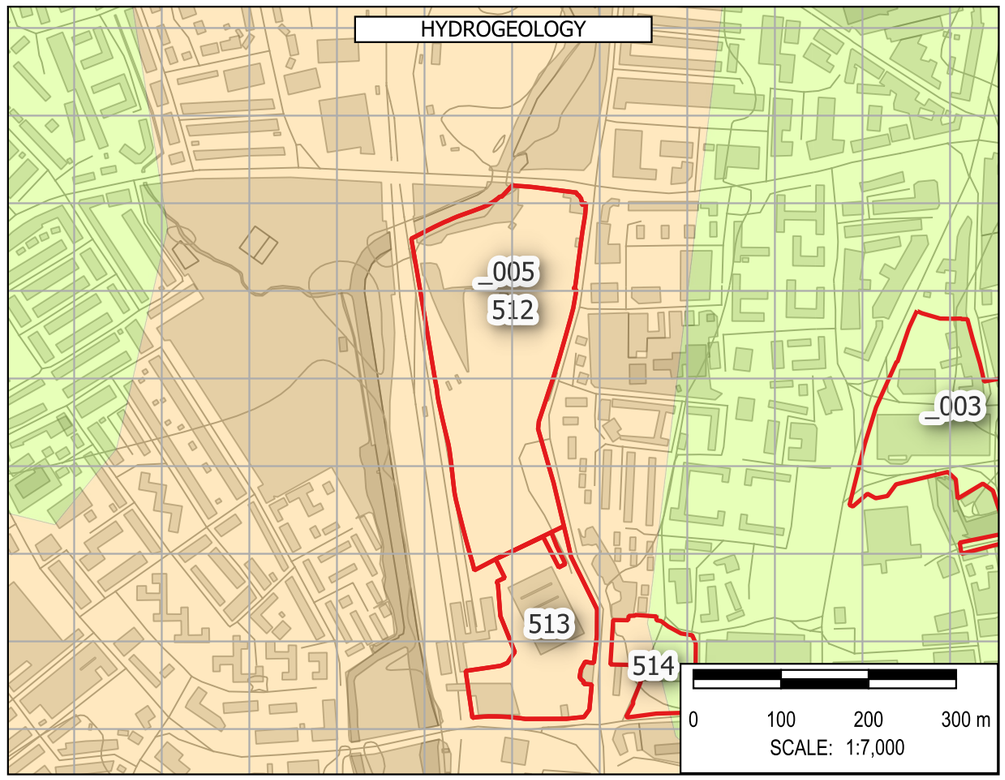
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.









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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
  - WEST NORTHANTS BOUNDARY
- FLOOD MAP FOR PLANNING
  - FLOOD DEFENCES
  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
- ROFSW WITH CLIMATE CHANGE
  - HIGH
  - MEDIUM
  - LOW
- HYDROGEOLOGY
  - AQUIFER TYPE
  - HIGHLY PRODUCTIVE AQUIFER
  - MODERATELY PRODUCTIVE AQUIFER
  - LOW PRODUCTIVITY AQUIFER
  - ROCKS WITH ESSENTIALLY NO GROUNDWATER

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

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Client Drawing No.: NOT APPLICABLE | Revision: -

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Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 512 Railway station - Railfreight

Drawing Scale: 1:7,000 Sheet Size: A3

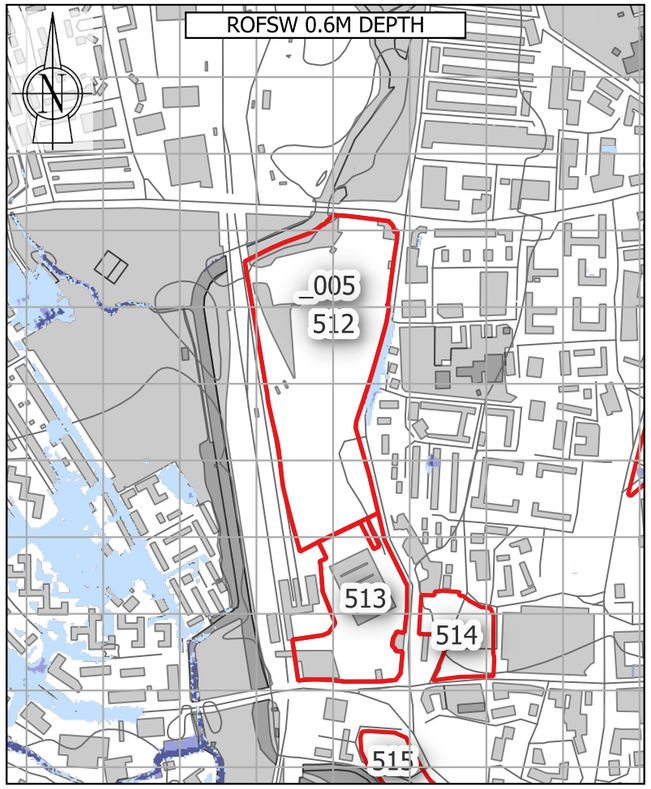
Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00155 | Revision: P01

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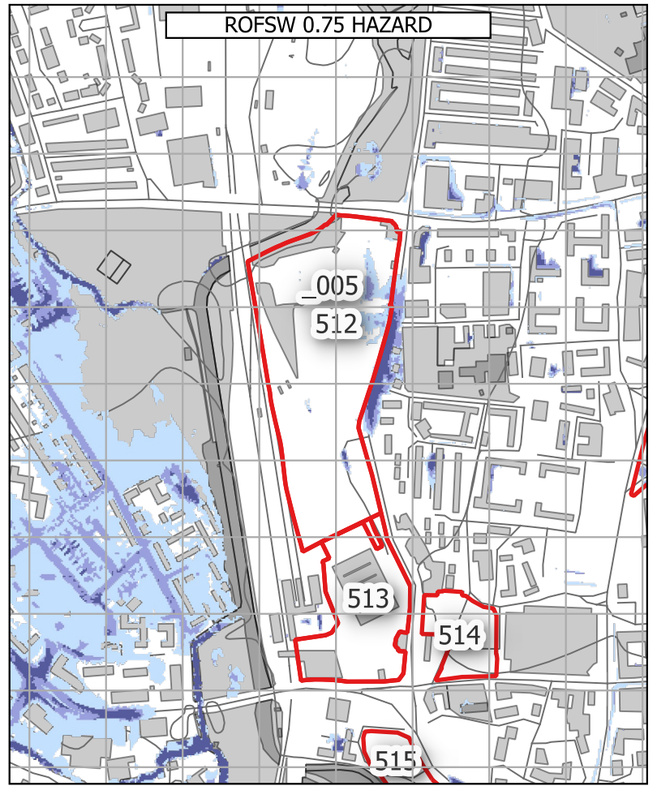
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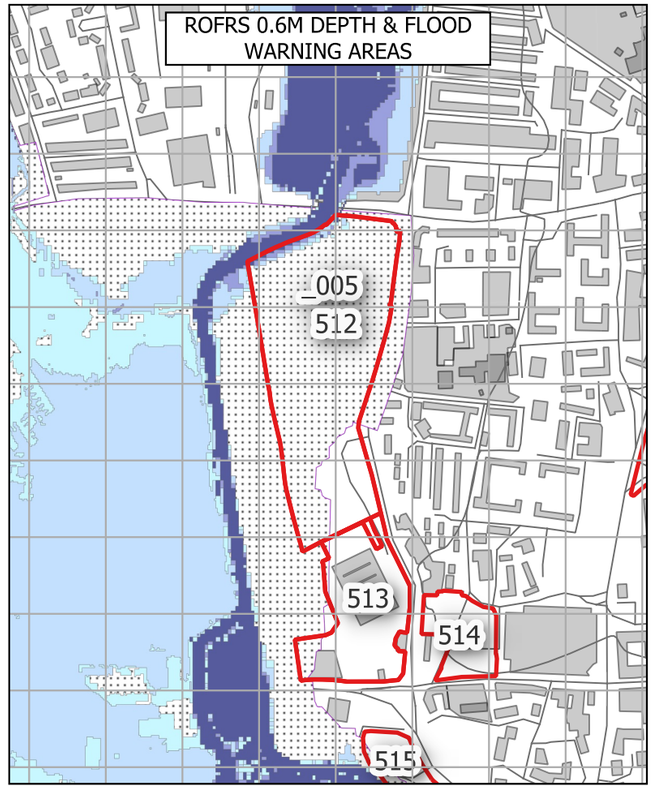
ROFSW 0.6M DEPTH



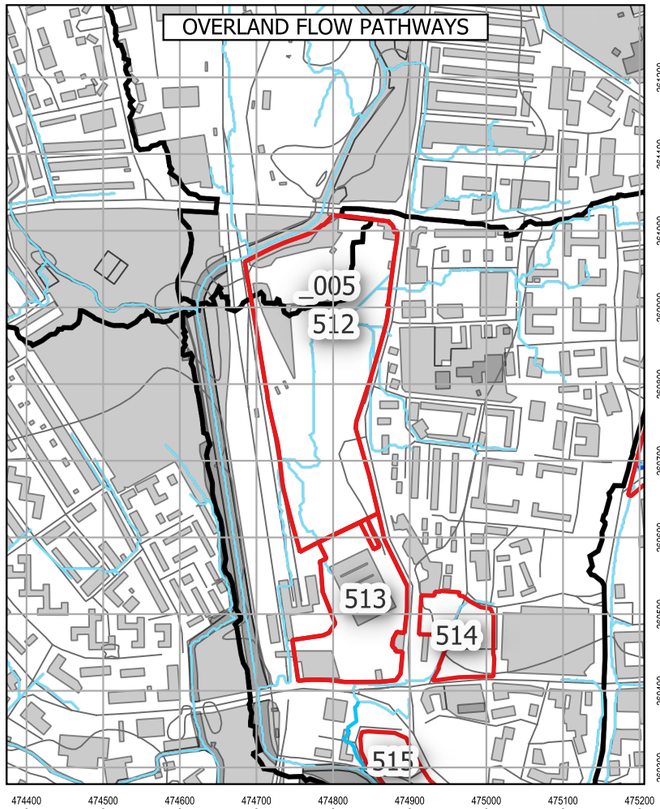
ROFSW 0.75 HAZARD



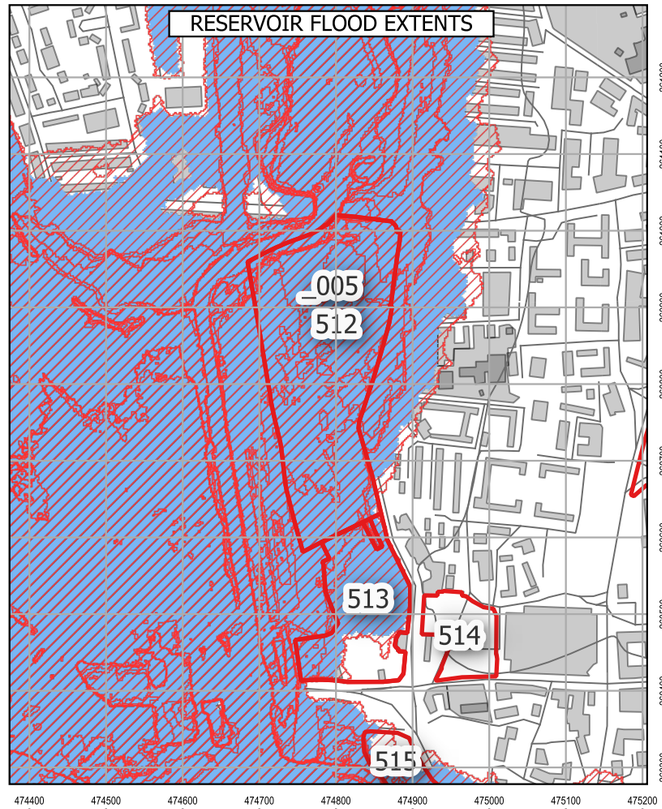
ROFRS 0.6M DEPTH & FLOOD WARNING AREAS



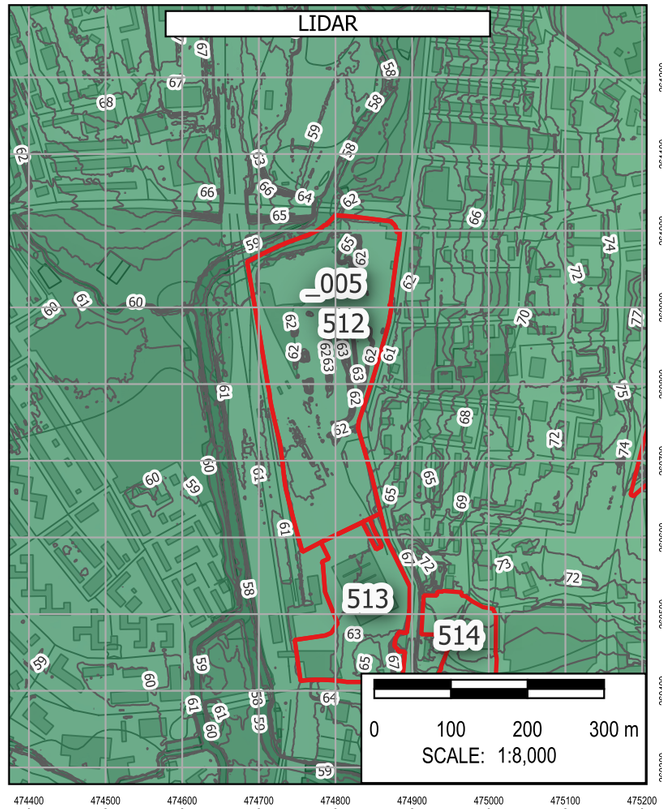
OVERLAND FLOW PATHWAYS



RESERVOIR FLOOD EXTENTS



LIDAR



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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY
- ROFSW
  - 0.6M DEPTH
    - High
    - Medium
    - Low
    - Unavailable
  - 0.75 HAZARD
    - High
    - Medium
    - Low
    - Unavailable
- ROFRS
  - 0.6M DEPTH
    - High
    - Medium
    - Low
    - Very low
    - Unavailable
- FLOOD WARNING AREAS
- OVERLAND FLOW PATHWAYS
- PROBABLE OVERLAND FLOW PATHWAYS
  - < 3 Degrees
  - 3 - 7 Degrees
  - 7 - 12 Degrees
  - > 12 Degrees
- DETAILED WATERSHEDS
- RESERVOIR FLOOD EXTENT
  - DRY DAY
  - WET DAY
- LIDAR
  - 1M CONTOURS
  - ELEVATION
    - Band 1 (Gray)
    - 230
    - 50

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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
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Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 512
Railway station - Railfreight

Drawing Scale: 1:8,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00213

Revision: P01

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	016
Site Name	Daventry N and W of Town Centre
Proposed Development	Regen mixed
Site Area	8.95 Ha
Site NGR	457202 mE, 262811 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
0.0 %	0.0 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
22.9 %	11.2 %	23.0 %	57.1 %

Less than 60% of the site is at risk of pluvial flooding, therefore delivery of a flood risk compatible development is considered feasible.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
30.8 %	12.6 %	21.3 %	64.7 %

More than 60% of the site is at risk of pluvial flooding during a climate change scenario, therefore development is unlikely to be viable.

Pluvial Flood Risk – Commentary

The majority of the site's eastern and southern parcels are at high risk of pluvial flooding, with the central parcel a risk from more localised ponding. Should development be proposed for this site, site specific modelling may be required to inform mitigation measures as part of a site-specific Flood Risk Assessment. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Flood History

There are twenty four WNC recorded flood events within 500m of the site. This site is not located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at low risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

The site is not indicated to be at risk of reservoir flooding.

Flood Defences – Residual Risk

It is unlikely that the site will be affected by a breach of flood defences as the nearest defences are more than 500m away.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 1. Therefore the Exception Test is not required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 1, should development be proposed for this site, finished floor levels should be at least 150mm above external ground levels. An appropriate freeboard allowance should also be considered for other sources of flooding.

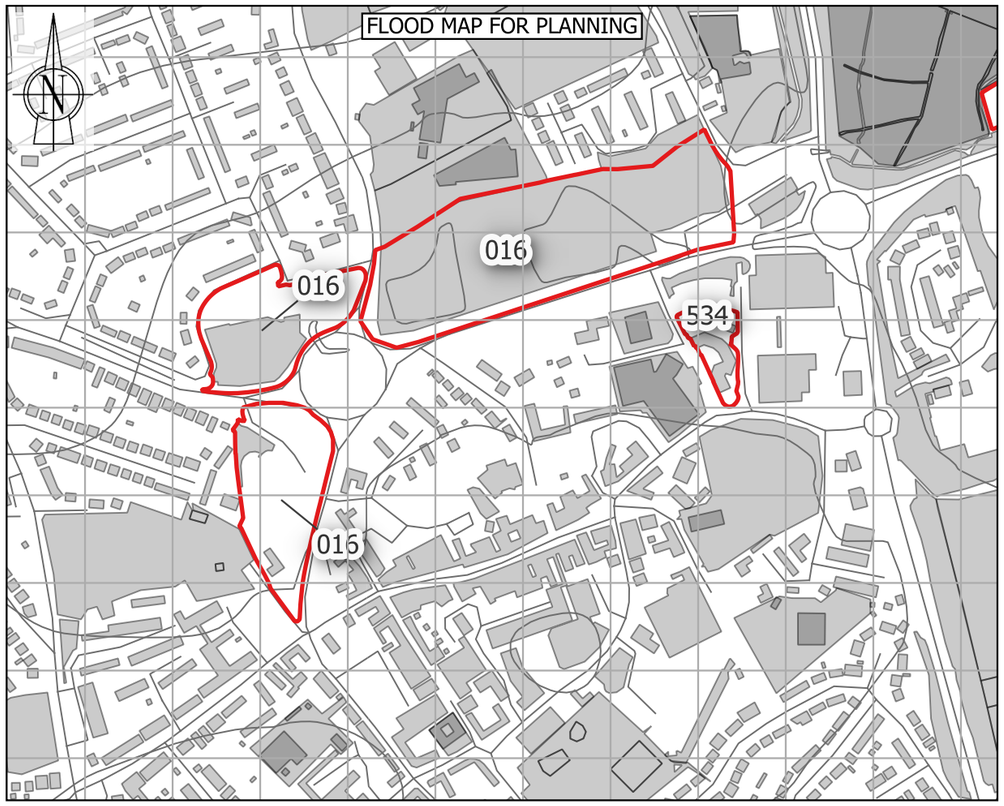
Surface Water Attenuation Provision – Design Considerations

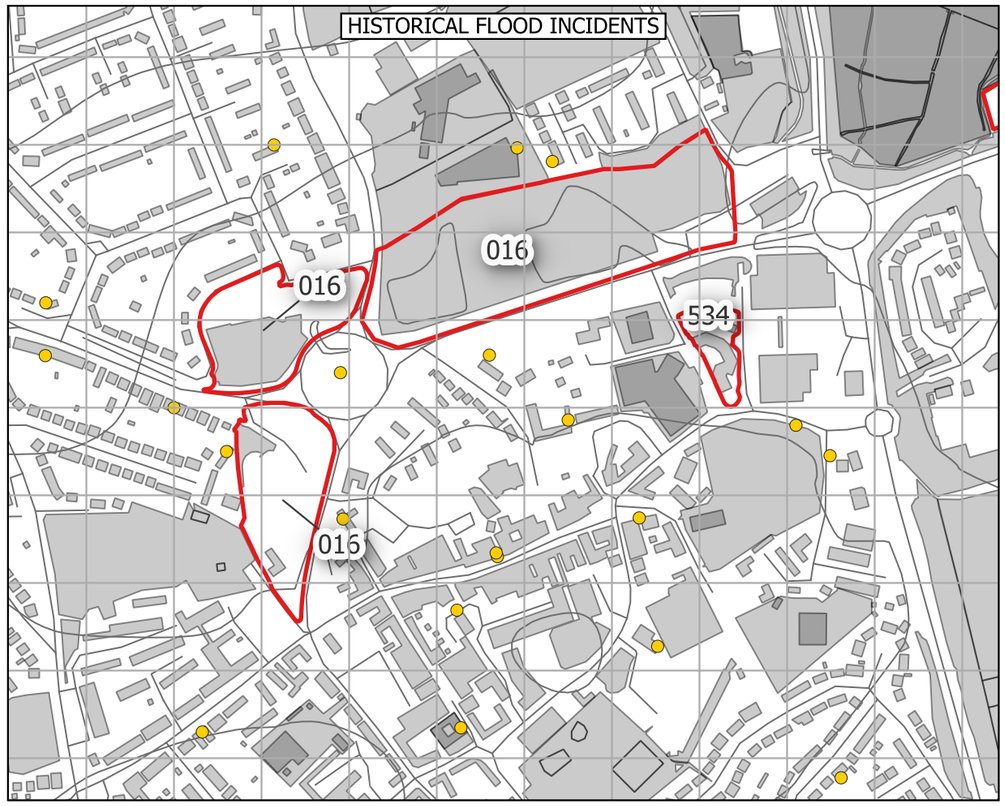
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

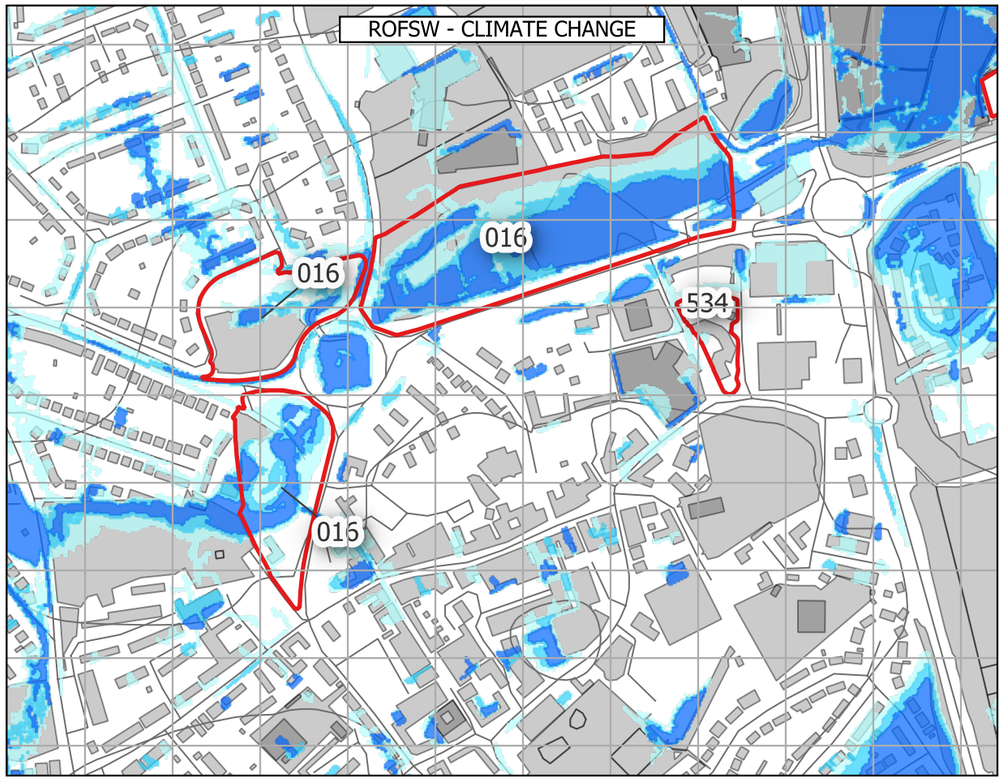
Should development be proposed for this site, it is estimated that 7517 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 1.15 Ha should be set aside for appropriate SuDS techniques.

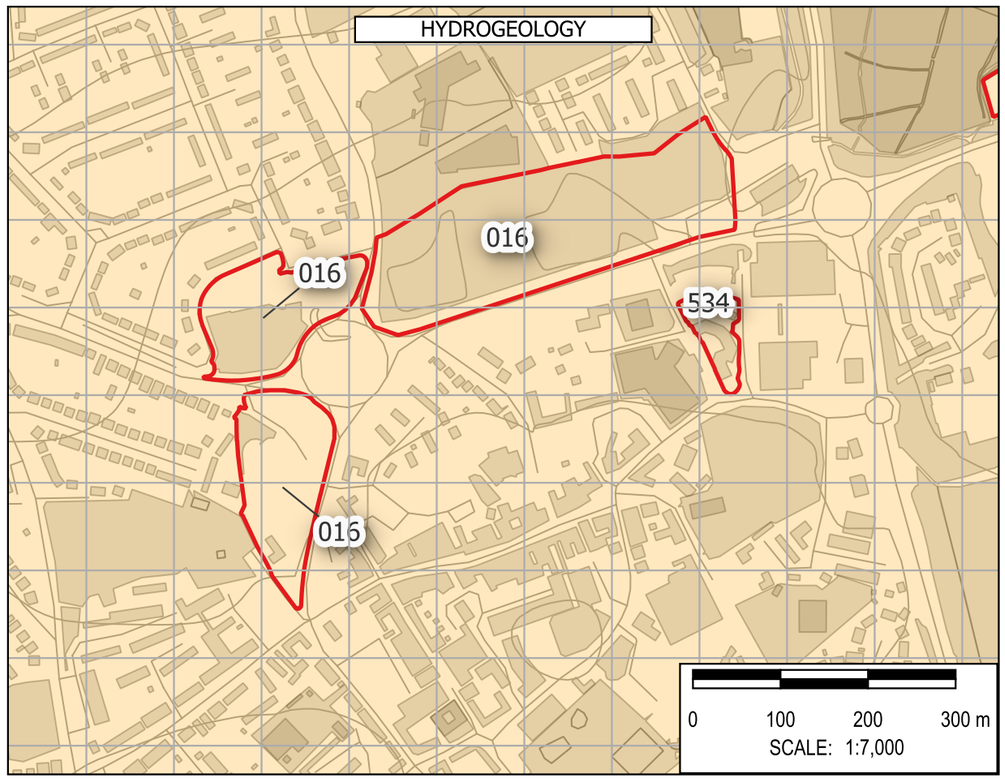
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of this site is not compatible with the level of pluvial flood risk identified.









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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
  - WEST NORTHANTS BOUNDARY
- FLOOD MAP FOR PLANNING
  - FLOOD DEFENCES
  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
- ROFSW WITH CLIMATE CHANGE
  - HIGH
  - MEDIUM
  - LOW
- HYDROGEOLOGY
  - AQUIFER TYPE
    - HIGHLY PRODUCTIVE AQUIFER
    - MODERATELY PRODUCTIVE AQUIFER
    - LOW PRODUCTIVITY AQUIFER
    - ROCKS WITH ESSENTIALLY NO GROUNDWATER

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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DECOMISSIONING AND DEMOLITION
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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
-	--	--	--	--	DD/MM/YY	--
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Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Registered Office
Spring Lodge, 172 Chester Road, Helsby Cheshire, WA6 0AR, UK
Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 016
Daventry N and W of Town Centre

Drawing Scale: 1:7,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00150

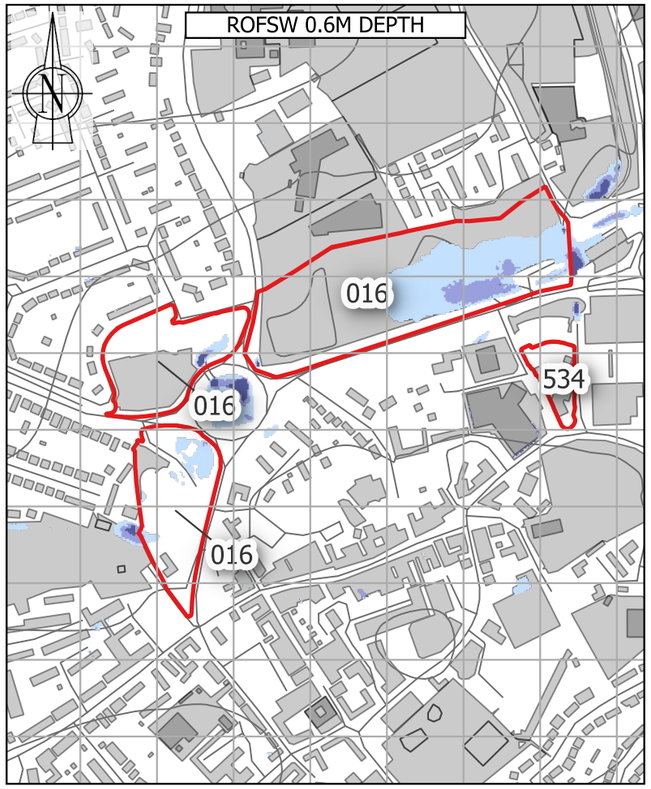
Revision: P01

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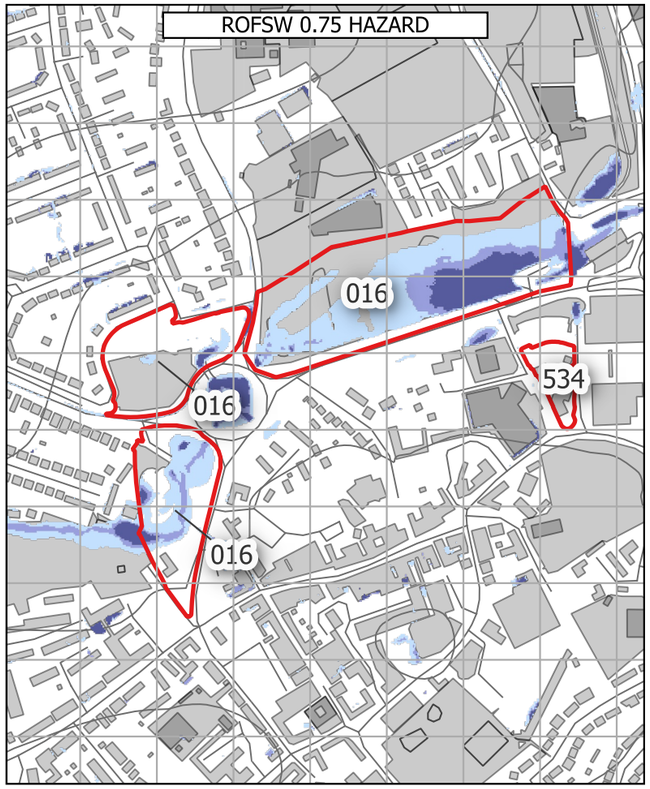
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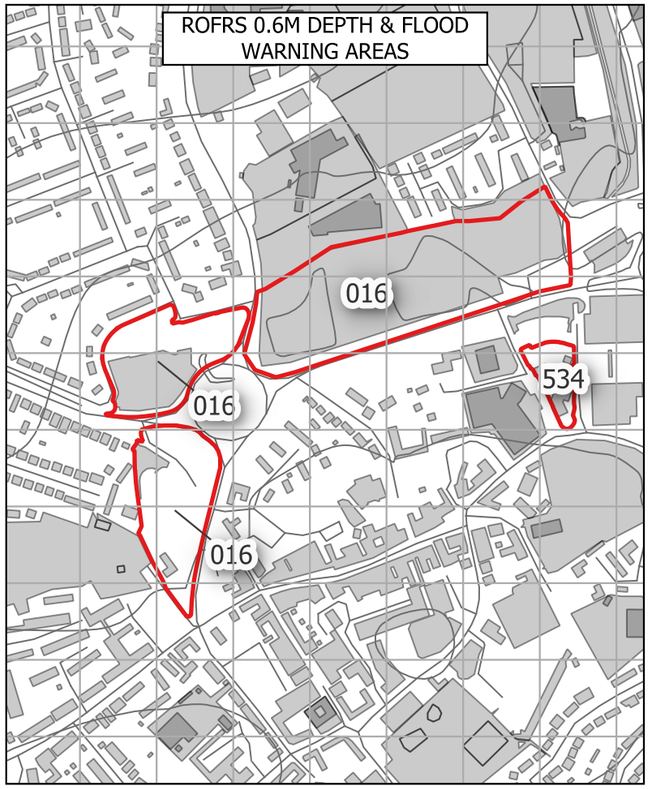
ROFSW 0.6M DEPTH



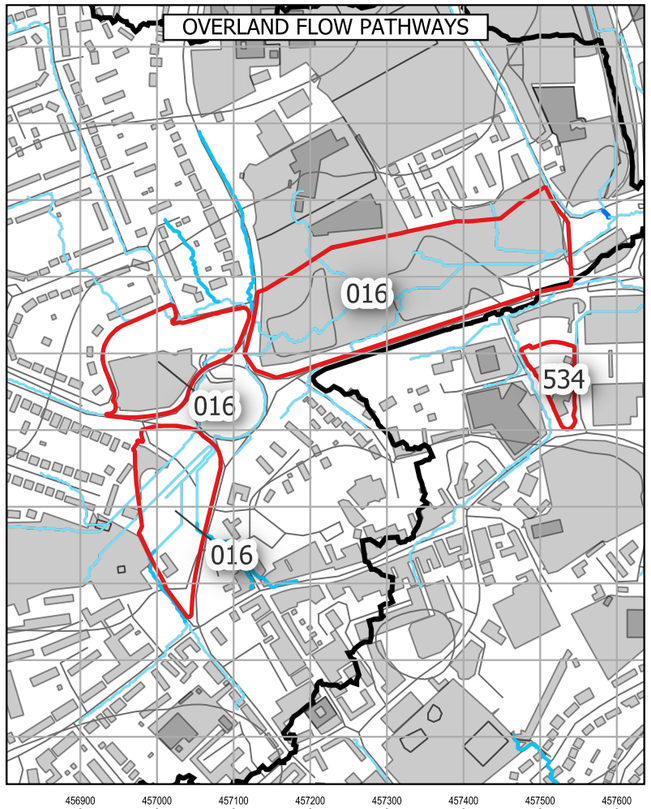
ROFSW 0.75 HAZARD



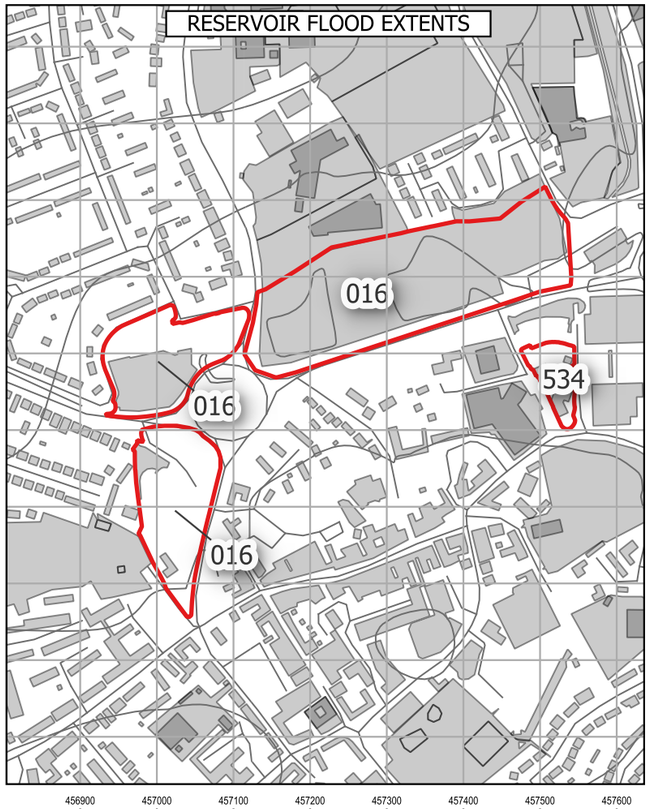
ROFRS 0.6M DEPTH & FLOOD WARNING AREAS



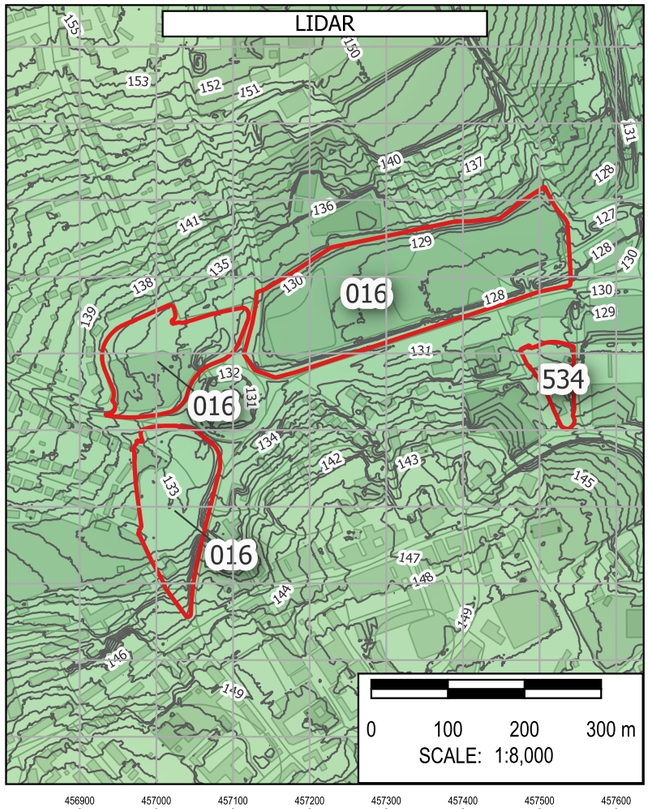
OVERLAND FLOW PATHWAYS



RESERVOIR FLOOD EXTENTS



LIDAR



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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY

ROFSW

0.6M DEPTH
- High
- Medium
- Low
- Unavailable

0.75 HAZARD
- High
- Medium
- Low
- Unavailable

ROFRS

0.6M DEPTH
- High
- Medium
- Low
- Very low
- Unavailable

FLOOD WARNING AREAS

OVERLAND FLOW PATHWAYS

PROBABLE OVERLAND FLOW PATHWAYS
- < 3 Degrees
- 3 - 7 Degrees
- 7 - 12 Degrees
- > 12 Degrees

DETAILED WATERSHEDS

RESERVOIR FLOOD EXTENT

DRY DAY

WET DAY

LIDAR
- 1M CONTOURS

ELEVATION
- Band 1 (Gray)
- 230
- 50

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P01	KA	MH	SB	SB	01/05/26	First Issue
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Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 016
Daventry N and W of Town Centre

Drawing Scale: 1:8,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00208

Revision: P01

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	513
Site Name	Railway station - car park
Proposed Development	Regen mixed
Site Area	2.12 Ha
Site NGR	474832 mE, 260503 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
0.0 %	0.0 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
0.6 %	0.1 %	0.8 %	1.5 %

Less than 30% of the site is at risk of pluvial flooding, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
0.8 %	0.1 %	2.2 %	3.1 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

There is some minor localised ponding in the western portion of the site.

Flood History

There are twelve WNC recorded flood events within 500m of the site. This site is located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at low risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.0 %	75.0 %	80.6 %	80.6 %

Although the site is in an area at risk of reservoir flooding, this risk could be managed through appropriate consideration of flood resilience measures.

Flood Defences – Residual Risk

Although the nearest defences are less than 50m from the site, the site does not benefit from these defences and therefore an assessment of a defence breach over the lifetime of the development (including the impact of climate change) is unlikely to be required.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 1. Therefore the Exception Test is not required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 1, finished floor levels should be at least 150mm above external ground levels. An appropriate freeboard allowance should also be considered for other sources of flooding.

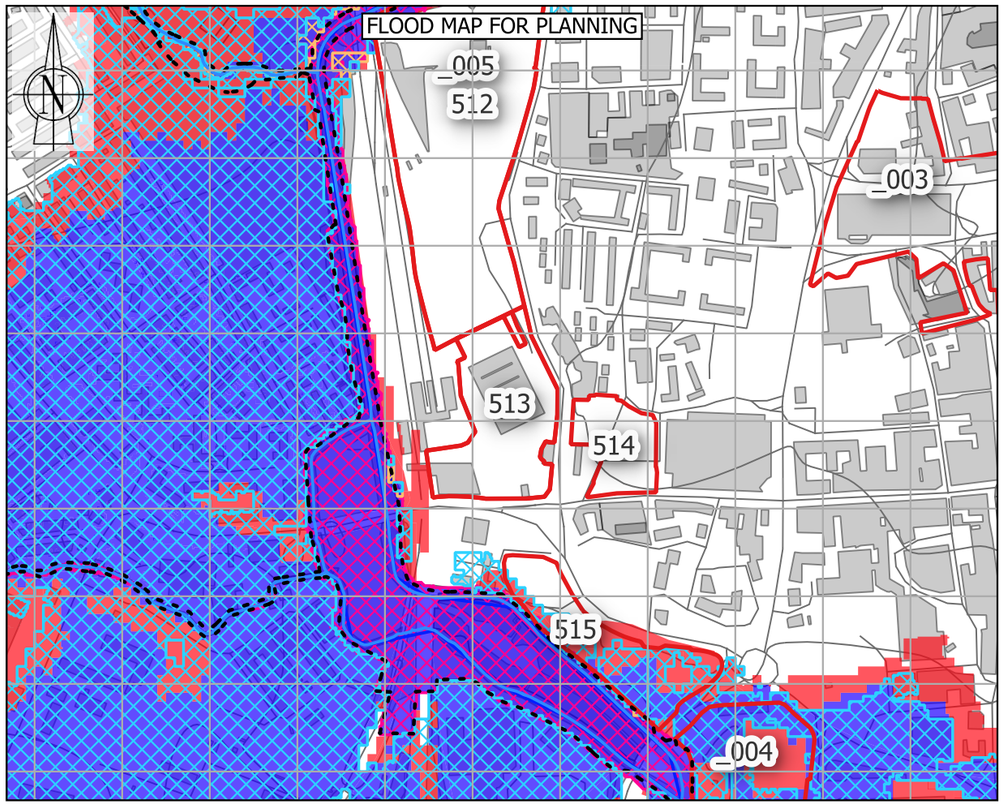
Surface Water Attenuation Provision – Design Considerations

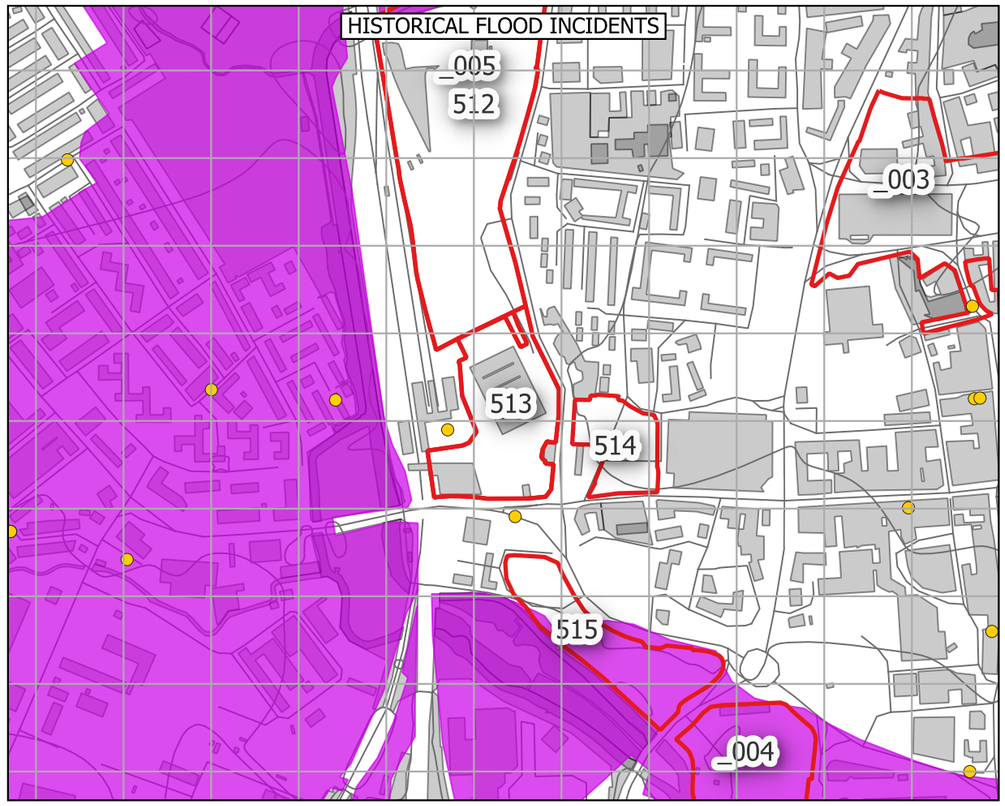
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

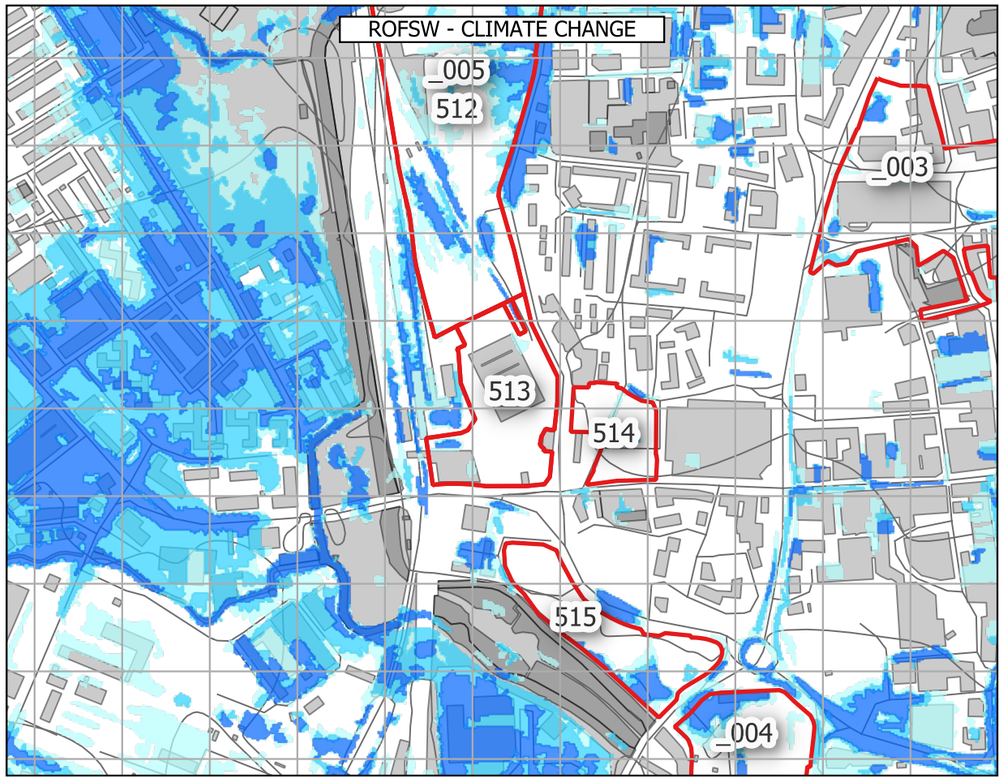
It is estimated that 1783 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 0.27 Ha should be set aside for appropriate SuDS techniques.

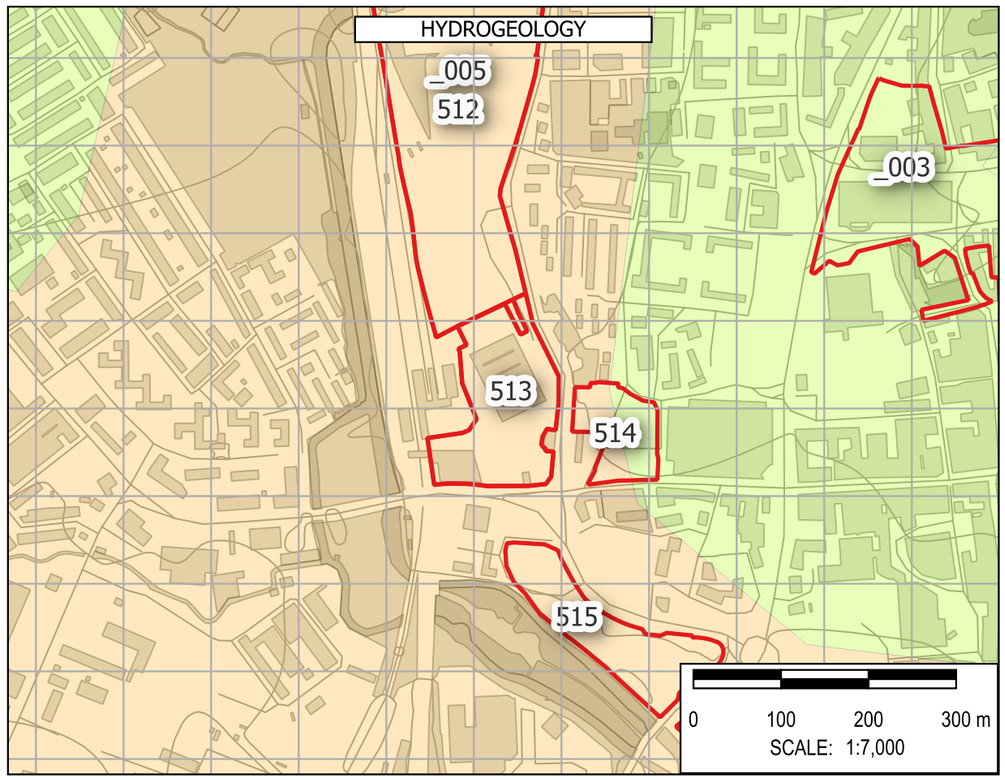
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.









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  - WEST NORTHANTS BOUNDARY
- FLOOD MAP FOR PLANNING
  - FLOOD DEFENCES
  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
- ROFSW WITH CLIMATE CHANGE
  - HIGH
  - MEDIUM
  - LOW
- HYDROGEOLOGY
  - AQUIFER TYPE
  - HIGHLY PRODUCTIVE AQUIFER
  - MODERATELY PRODUCTIVE AQUIFER
  - LOW PRODUCTIVITY AQUIFER
  - ROCKS WITH ESSENTIALLY NO GROUNDWATER

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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
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Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE | Revision: -

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Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 513 Railway station - car park

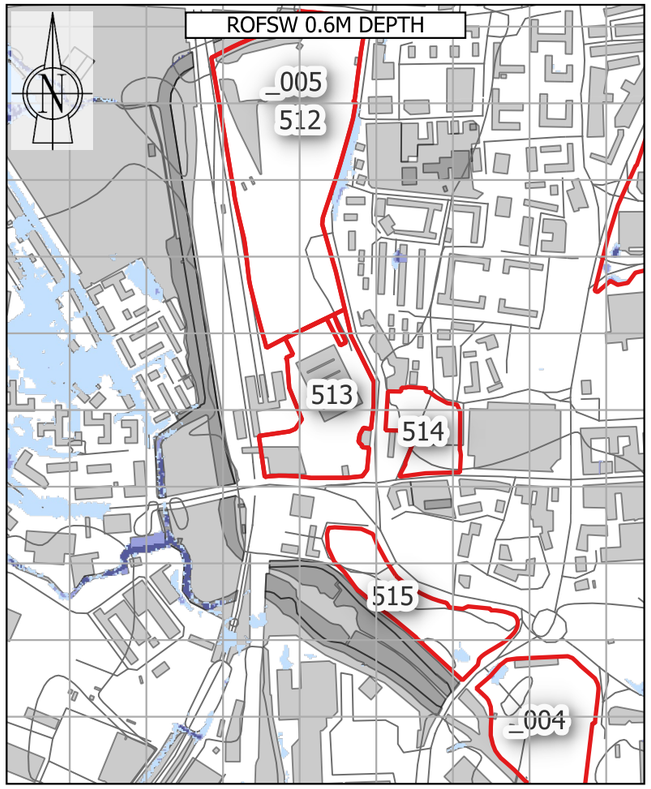
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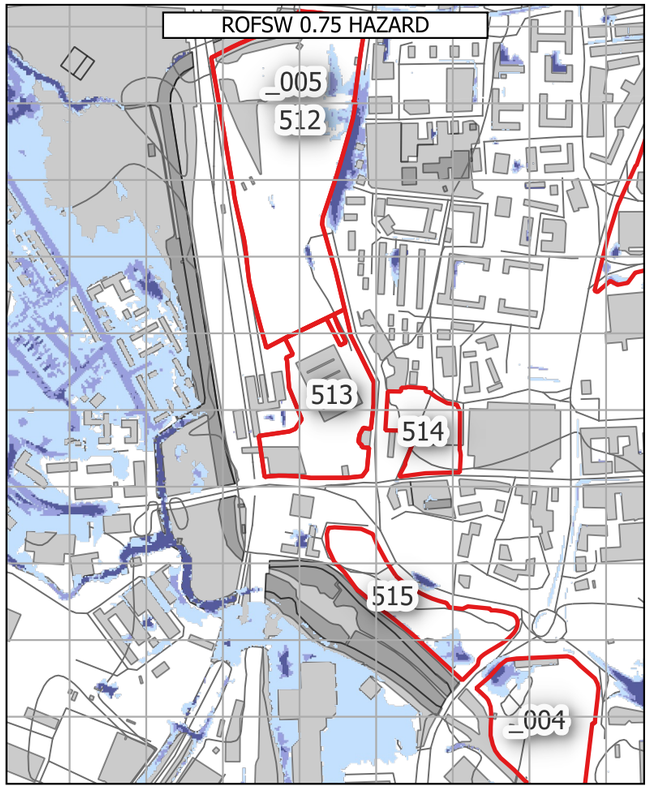
Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00165 | Revision: P01

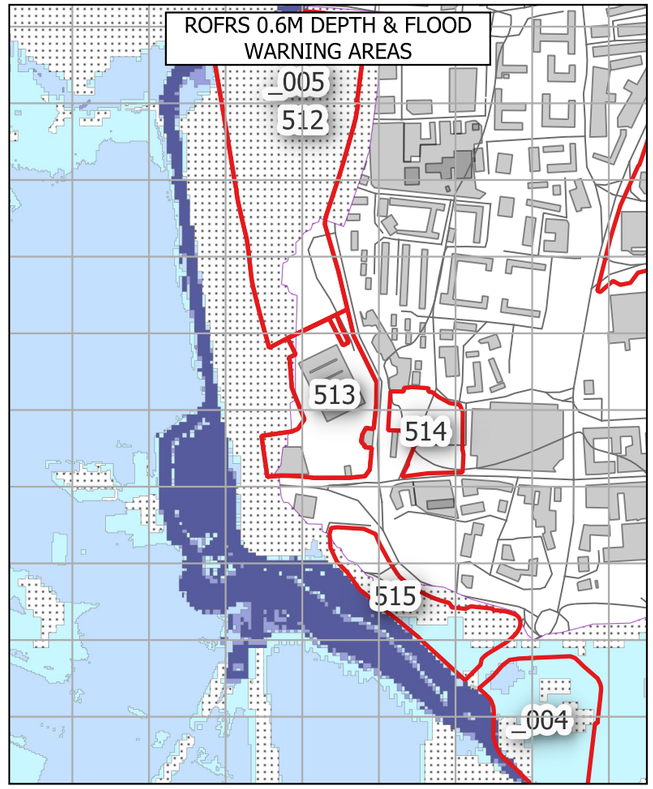
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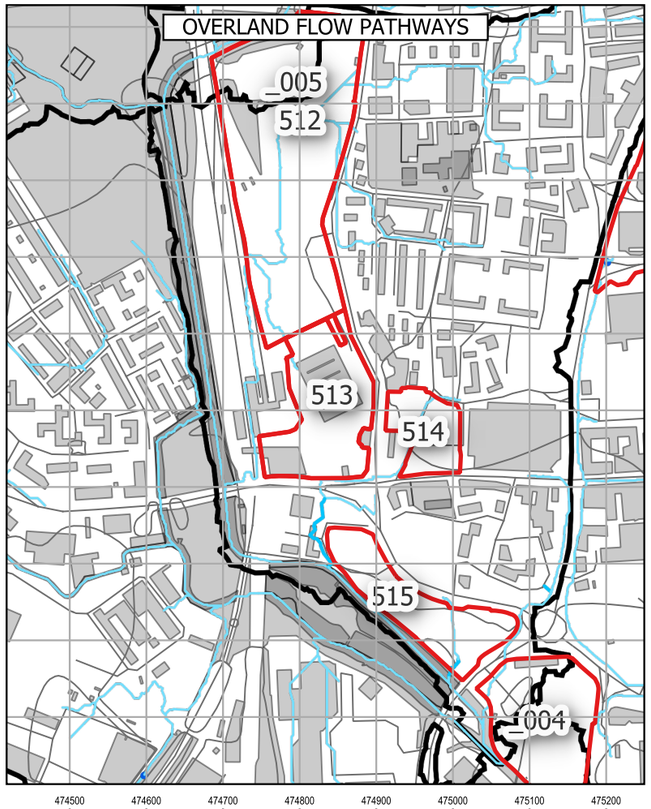
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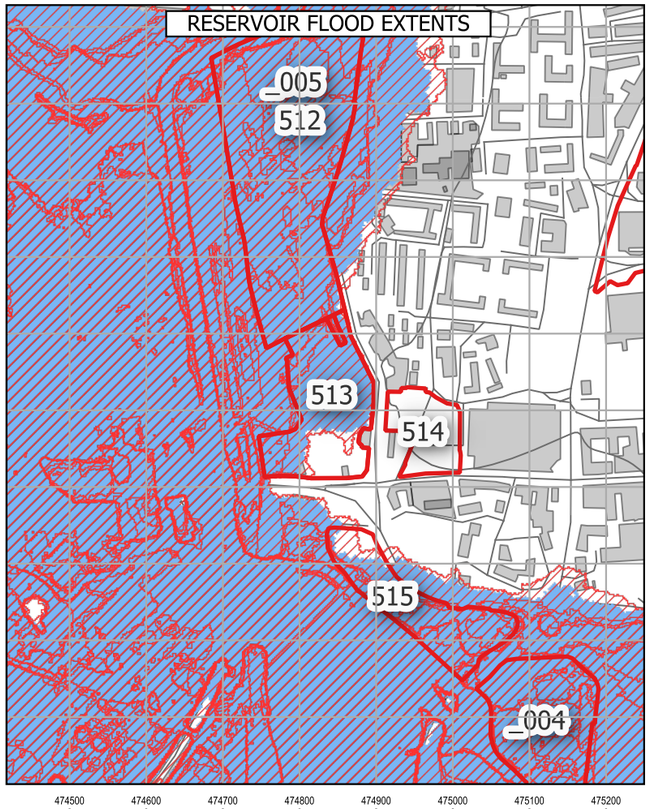
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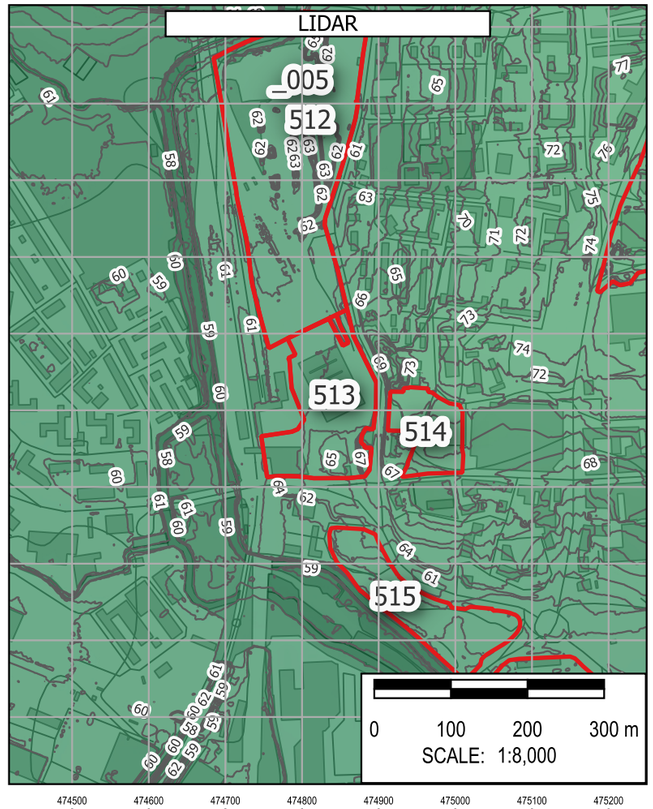












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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY
- ROFSW
  - 0.6M DEPTH
    - High
    - Medium
    - Low
    - Unavailable
  - 0.75 HAZARD
    - High
    - Medium
    - Low
    - Unavailable
- ROFRS
  - 0.6M DEPTH
    - High
    - Medium
    - Low
    - Very low
    - Unavailable
- FLOOD WARNING AREAS
- OVERLAND FLOW PATHWAYS
- PROBABLE OVERLAND FLOW PATHWAYS
  - < 3 Degrees
  - 3 - 7 Degrees
  - 7 - 12 Degrees
  - > 12 Degrees
- DETAILED WATERSHEDS
- RESERVOIR FLOOD EXTENT
  - DRY DAY
  - WET DAY
- LIDAR
  - 1M CONTOURS
  - ELEVATION
    - Band 1 (Gray)
    - 230
    - 50

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: 513 Railway station - car park

Drawing Scale: 1:8,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00223

Revision: P01

Print Date:01/05/2026

G:\Projects\4082482_WNC\4_Workspaces\0_Working_SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	_005 *Site _005 comprises sites 512 and 513.
Site Name	Railway station
Proposed Development	Regen mixed
Site Area	7.80 Ha
Site NGR	474799 mE, 260739 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
0.9 %	2.8 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
2.4 %	0.1 %	0.4 %	2.9 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Commentary

The northern boundary of the site is situated within Flood Zone 2 and 3 due to the presence of a main river flowing parallel to the northern boundary. As a result of this, site specific modelling may be required to inform mitigation measures as part of a site-specific Flood Risk Assessment. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
3.6 %	4.5 %	13.6 %	21.7 %

Less than 30% of the site is at risk of pluvial flooding, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
6.6 %	6.4 %	15.2 %	28.2 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

There is extensive surface water ponding across the site. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Flood History

There are twenty two WNC recorded flood events within 500m of the site. This site is located within an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at low risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
52.6 %	93.0 %	94.7 %	94.7 %

Although the site is in an area at risk of reservoir flooding, this risk could be managed through appropriate consideration of flood resilience measures.

Flood Defences – Residual Risk

Flood defences, in the form of natural high ground, positioned along the northern site boundary offer a standard of protection equivalent to a 1 in 200 year storm event, assuming the ground level is maintained. As a small area in the north of the site benefits from flood defences, a proportionate assessment of the likelihood of a defence breach over the lifetime of the development (including the impact of climate change) should be undertaken as part of a site-specific Flood Risk Assessment. Using the Environment Agency's simplified method (FD2321/TR2), a breach in the flood defence at this site could result in 'danger for all'.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 3. Therefore the Exception Test is required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 2 and 3, finished floor levels should be set no lower than 70.0 mAOD, 600mm above the maximum predicted flood level of 61.4 mAOD. In accordance with the EA guidance, freeboard allowances could be reviewed, and where appropriate reduced to 300mm. An appropriate freeboard allowance should also be considered for other sources of flooding. This should be confirmed by a site specific assessment as part of the detailed design for development, which should include consideration of proposed ground levels.

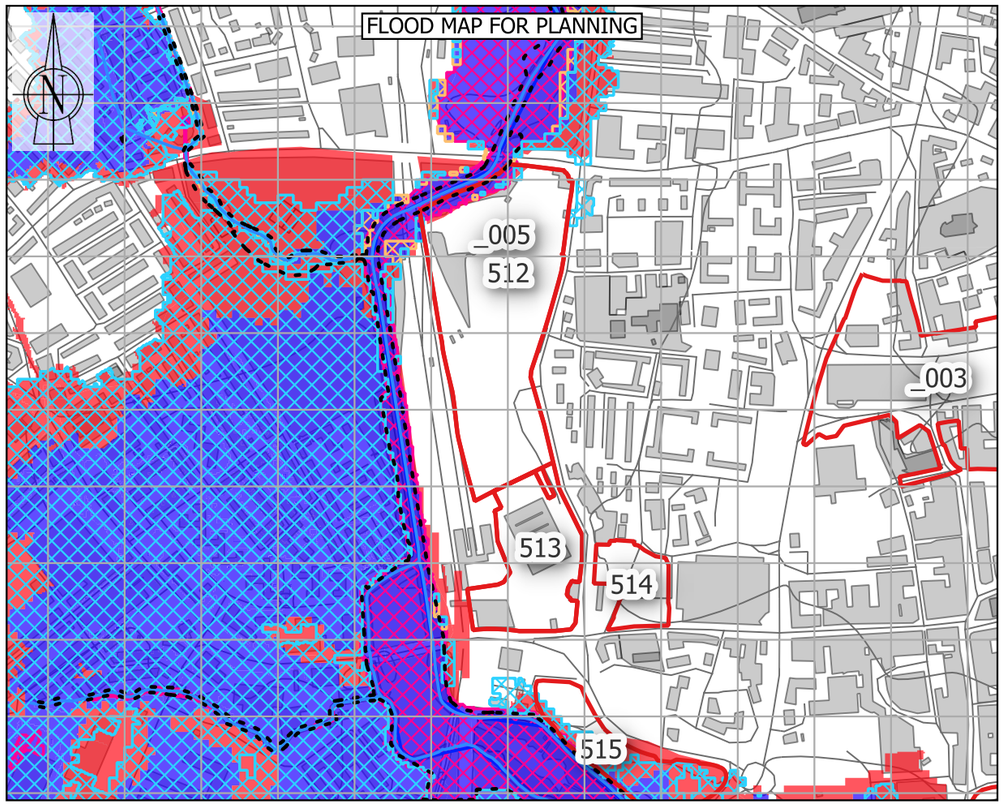
Surface Water Attenuation Provision – Design Considerations

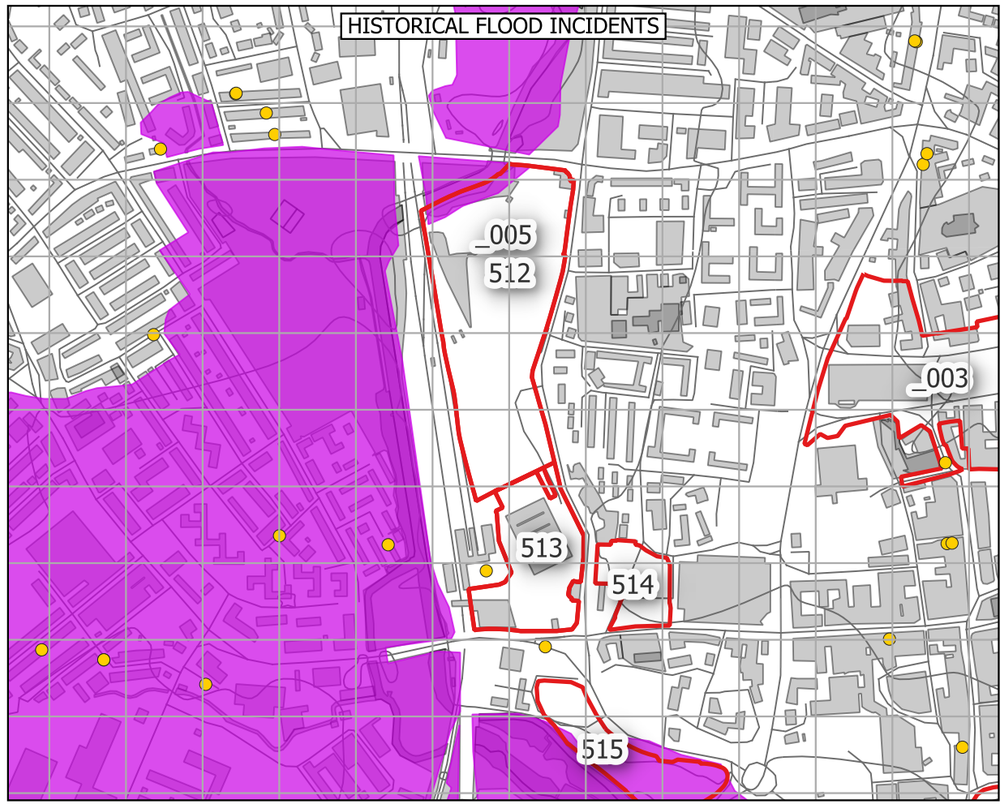
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

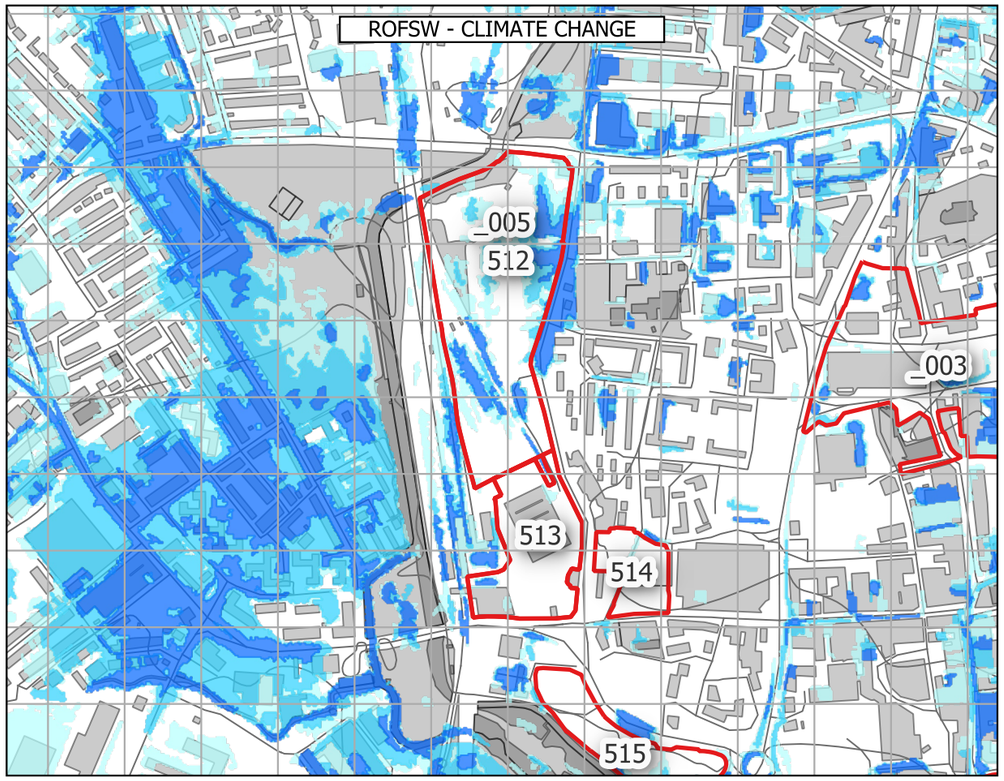
It is estimated that 6554 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 0.98 Ha should be set aside for appropriate SuDS techniques.

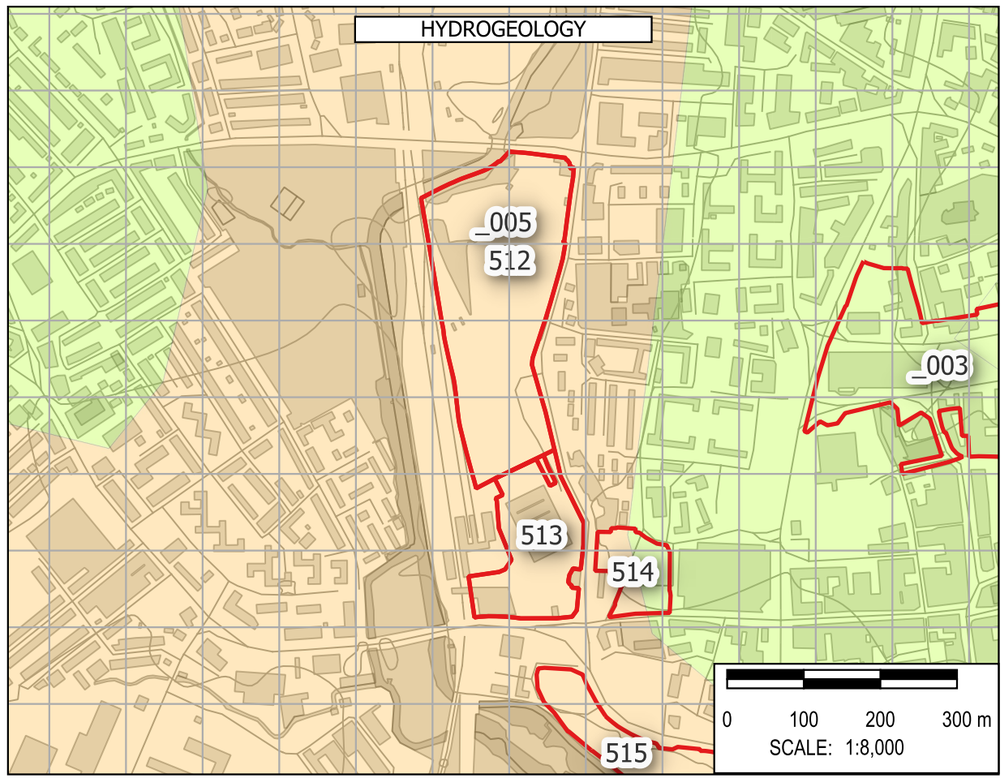
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.









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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
  - WEST NORTHANTS BOUNDARY
- FLOOD MAP FOR PLANNING
  - FLOOD DEFENCES
  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
- ROFSW WITH CLIMATE CHANGE
  - HIGH
  - MEDIUM
  - LOW
- HYDROGEOLOGY
  - AQUIFER TYPE
  - HIGHLY PRODUCTIVE AQUIFER
  - MODERATELY PRODUCTIVE AQUIFER
  - LOW PRODUCTIVITY AQUIFER
  - ROCKS WITH ESSENTIALLY NO GROUNDWATER

SAFETY HEALTH AND ENVIRONMENT INFORMATION
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DECOMISSIONING AND DEMOLITION
NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS

Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Registered Office
Spring Lodge, 172 Chester Road, Helsby Cheshire, WA6 0AR, UK
Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: _005 Railway station

Drawing Scale: 1:8,000 Sheet Size: A3

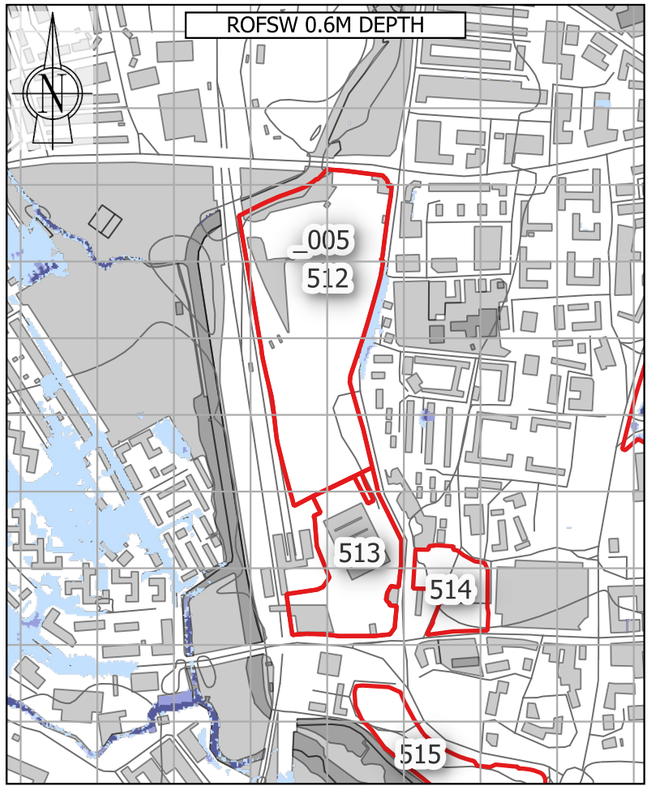
Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00153 Revision: P01

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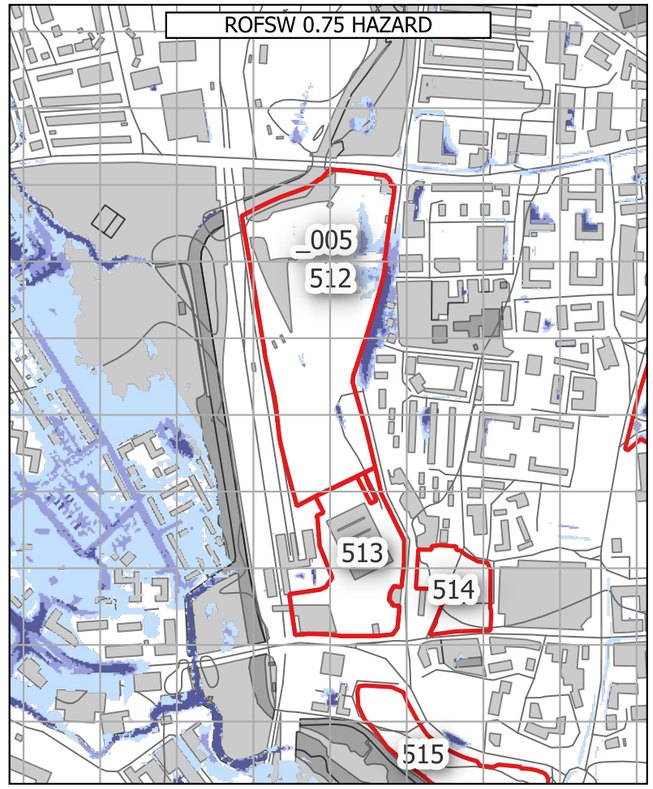
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Print Version: Print Quality (300dpi @ A3)

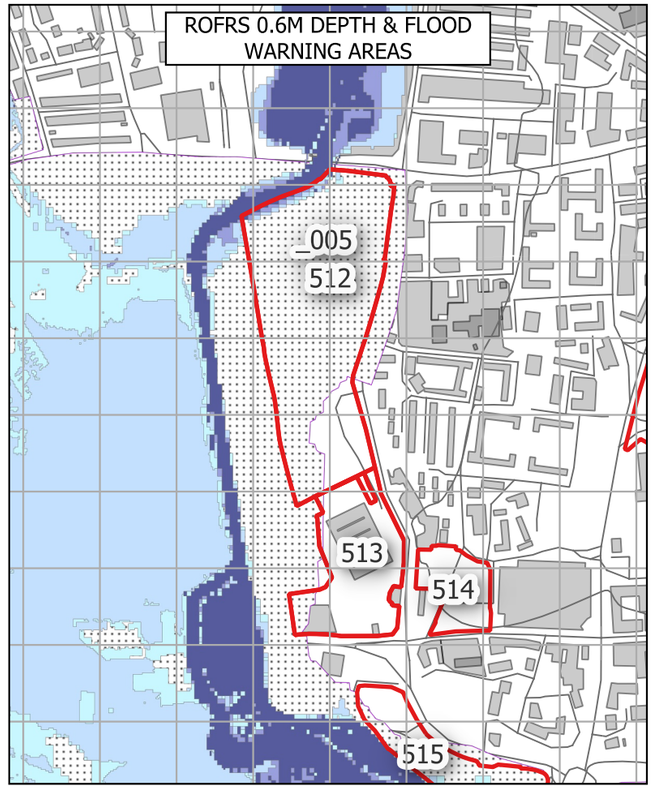
ROFSW 0.6M DEPTH



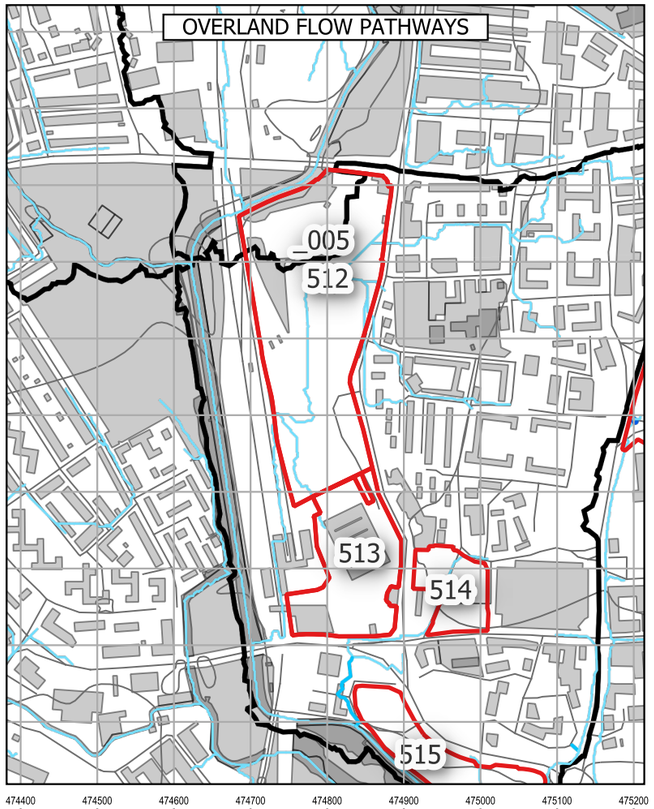
ROFSW 0.75 HAZARD



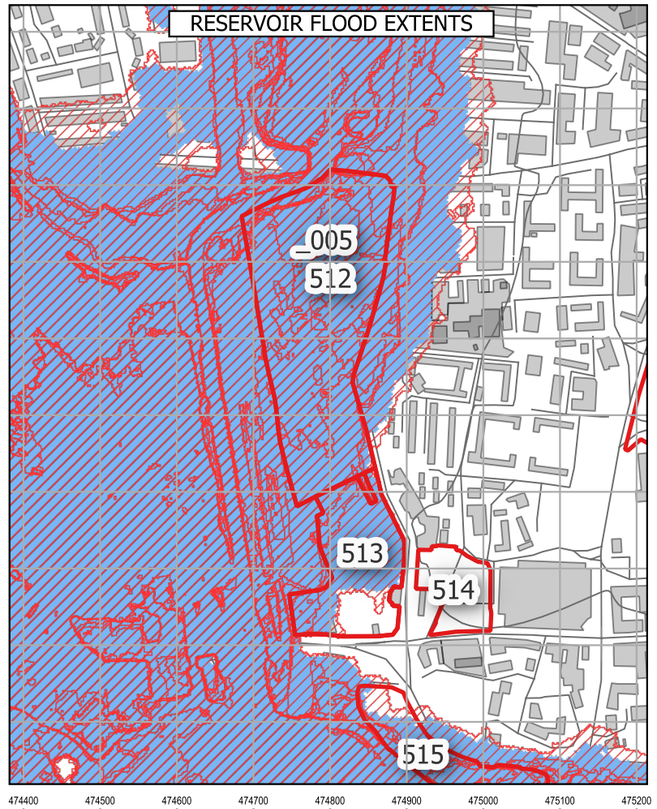
ROFRS 0.6M DEPTH & FLOOD WARNING AREAS



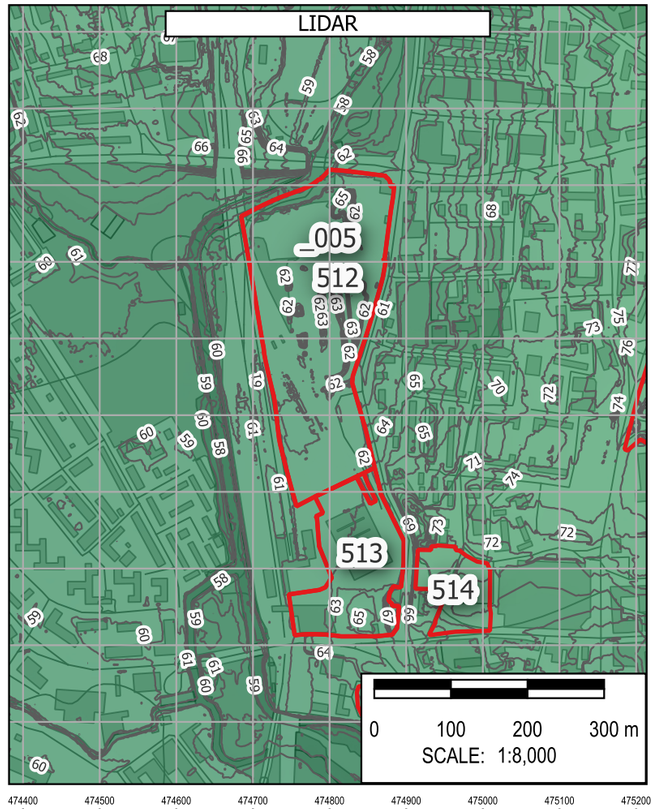
OVERLAND FLOW PATHWAYS



RESERVOIR FLOOD EXTENTS



LIDAR



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LEGEND

- SLAA SITE
- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY

ROFSW

0.6M DEPTH
- High
- Medium
- Low
- Unavailable

0.75 HAZARD
- High
- Medium
- Low
- Unavailable

ROFRS

0.6M DEPTH
- High
- Medium
- Low
- Very low
- Unavailable

FLOOD WARNING AREAS

OVERLAND FLOW PATHWAYS

PROBABLE OVERLAND FLOW PATHWAYS
- < 3 Degrees
- 3 - 7 Degrees
- 7 - 12 Degrees
- > 12 Degrees

DETAILED WATERSHEDS

RESERVOIR FLOOD EXTENT

DRY DAY

WET DAY

LIDAR
- 1M CONTOURS

ELEVATION
- Band 1 (Gray)
- 230
- 50

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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	01/05/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Registered Office
Spring Lodge, 172 Chester Road, Helsby Cheshire, WA6 0AR, UK
Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: _005 Railway station

Drawing Scale: 1:8,000

Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00211

Revision: P01

G:\Projects\4082482_WNC\4_Workspaces\0_Working\ SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR Print Date:01/05/2026

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Print Version: Print Quality (300dpi @ A3)

Site Reference:	_003
Site Name	Greyfriars/Mayorhold/Lady's Lane
Proposed Development	Regen mixed
Site Area	8.04 Ha
Site NGR	475451 mE, 260767 mN.
River Management Catchment	Nene

Fluvial Flood Risk – Present-day

FZ2	FZ3
0.0 %	0.0 %

Less than 30% of the site is at risk of fluvial flooding in a present-day scenario, therefore development layout could be adapted to minimise flood risk.

Fluvial Flood Risk – Climate Change

FZ3B+CC	FZ3A+CC	FZ2+CC	% Site at Flood Risk
0.0 %	0.0 %	0.0 %	0.0 %

Fluvial flood extents during a climate change scenario account for the impact of any defences. Less than 30% of the site is at risk of fluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Present-day

Pluvial High	Pluvial Medium	Pluvial Low	% Site at Flood Risk
5.1 %	3.0 %	3.5 %	11.6 %

Less than 30% of the site is at risk of pluvial flooding, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Climate Change

Pluvial+CC High	Pluvial+CC Medium	Pluvial+CC Low	% Site at Flood Risk
7.5 %	1.9 %	5.9 %	15.3 %

Less than 30% of the site is at risk of pluvial flooding during a climate change scenario, therefore development layout could be adapted to minimise flood risk.

Pluvial Flood Risk – Commentary

There is extensive surface water ponding across the site. A sequential approach to development masterplanning should be undertaken to avoid development in areas at flood risk.

Flood History

There are fifty nine WNC recorded flood events within 500m of the site. This site is located within 500m of an EA recorded flood extent.

Groundwater Flood Risk – Residual Risk

The site is at medium risk of groundwater flooding. However perched groundwater, localised features or deep excavations for the development could alter groundwater flood risk.

Reservoir Flood Risk – Residual Risk

River Contribution	Dry Day	Wet Day	% Site at Flood Risk
0.00 %	0.00 %	0.00 %	0.00 %

The site is not indicated to be at risk of reservoir flooding.

Flood Defences – Residual Risk

Although the nearest defences are less than 500m from the site, the site does not benefit from these defences and therefore an assessment of a defence breach over the lifetime of the development (including the impact of climate change) is unlikely to be required.

Sewer Flooding – Residual Risk

In most circumstances, sewer flooding is either associated with hydraulic exceedance of the sewer network during intense rainfall, which is captured within the Risk of Flooding from Surface Water (RoFSW), or arises from asset failure, such as blockages, collapses or operational malfunction. As such, sewer flooding is not typically a distinct standalone source of flood risk, but it is intrinsically linked to surface water processes or infrastructure condition and is managed through a combination of network capacity planning, maintenance and emergency response by the sewerage undertaker.

Dry Access and Egress during Fluvial and Pluvial Events

From a review of flood risk from all sources, including the impact of climate change, it is considered that dry access and egress is likely to be possible during fluvial and pluvial events.

Exception Test

The site is located within Flood Zone 1. Therefore the Exception Test is not required in accordance with the National Planning Policy Framework.

Finished Floor Levels - Design Considerations

As the site is situated in Flood Zone 1, finished floor levels should be at least 150mm above external ground level. An appropriate freeboard allowance should also be considered for other sources of flooding.

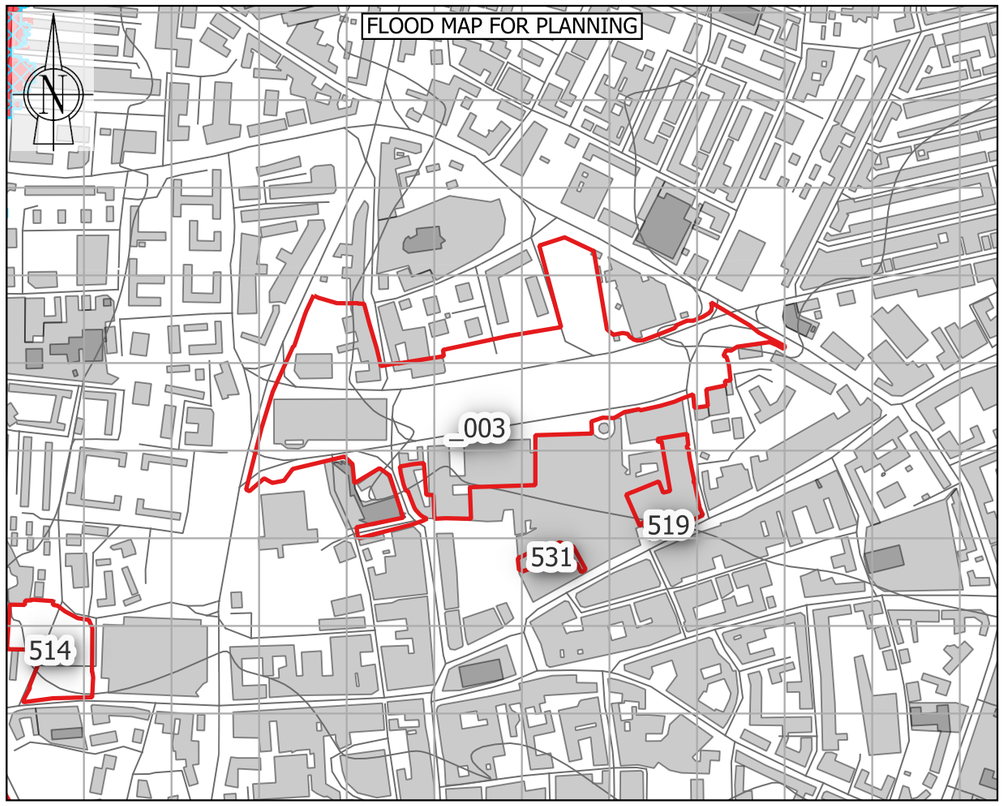
Surface Water Attenuation Provision – Design Considerations

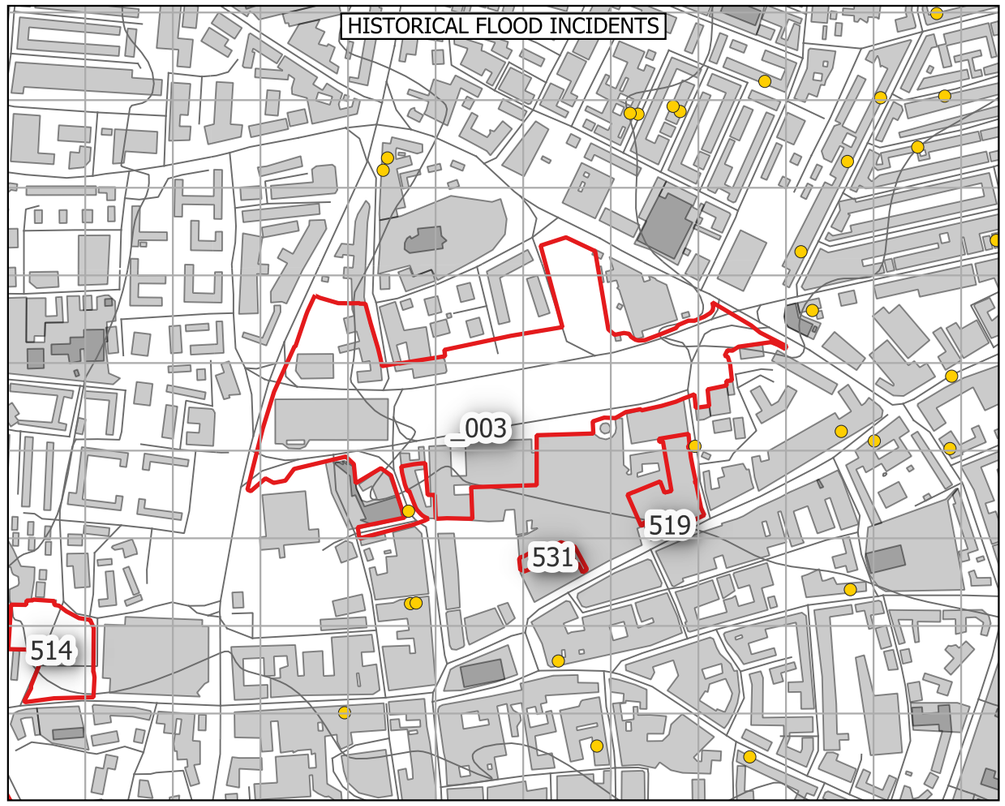
The SuDS matrix in Section 6.9 can be used to undertake an initial assessment of potentially viable SuDS features. However at detailed design stage a more robust assessment of SuDS measures should be undertaken, informed by suitable site surveys.

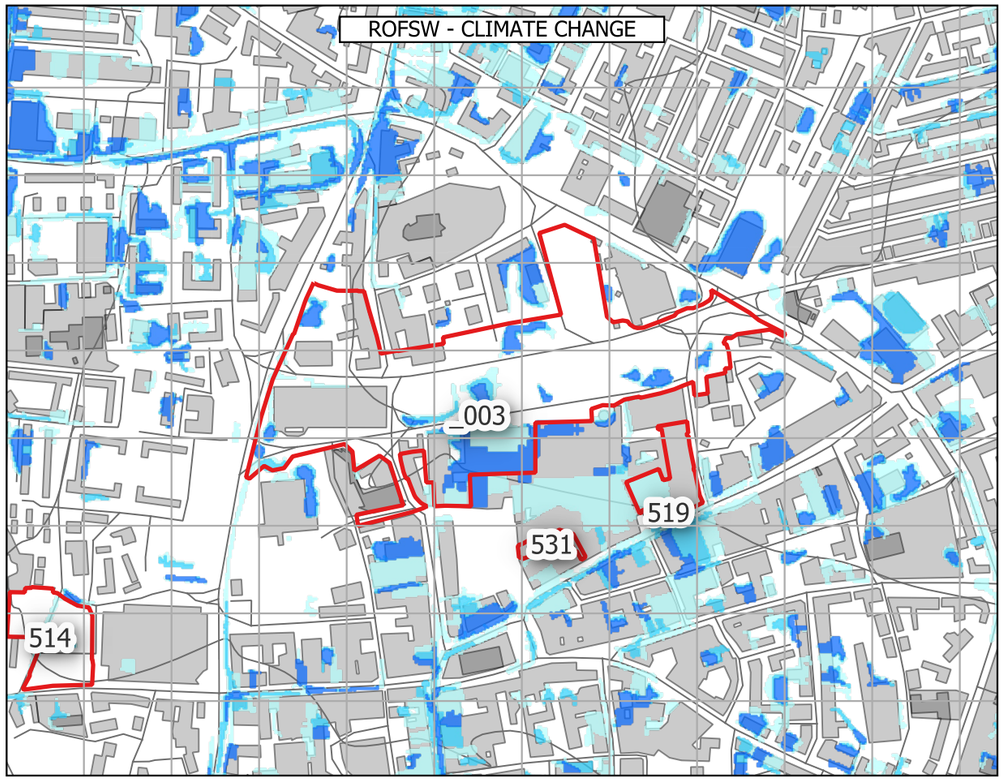
It is estimated that 6751 m^3 of surface water attenuation provision may be required. This indicates that a minimum of 1.01 Ha should be set aside for appropriate SuDS techniques.

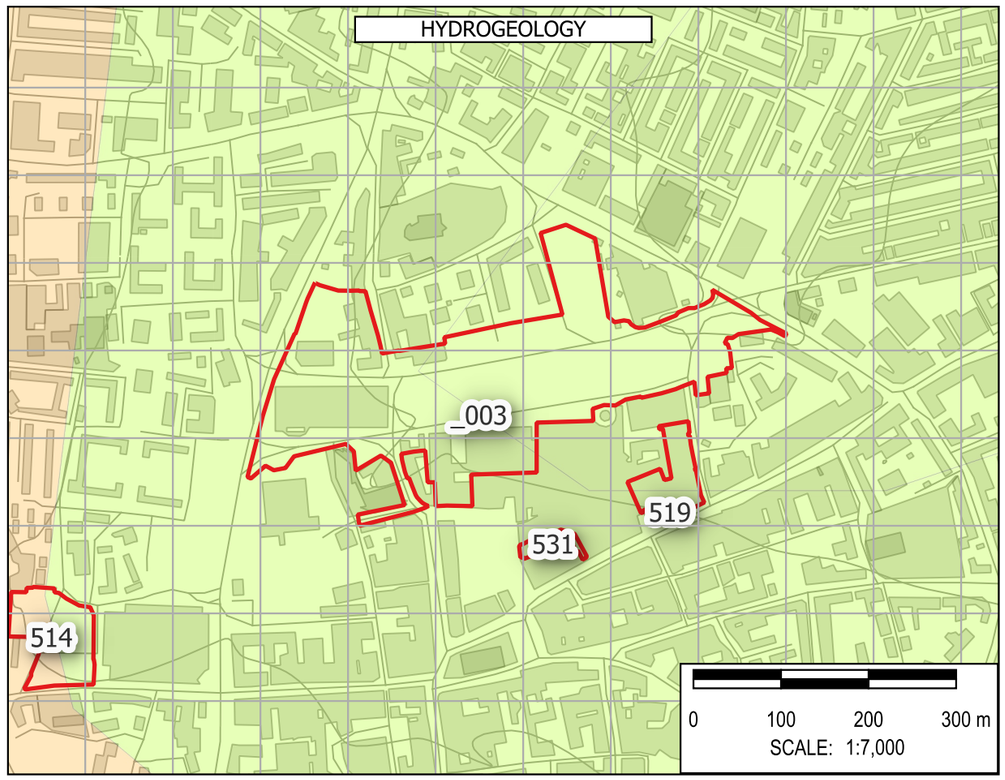
Conclusion

Based on the proposed development type and consideration of climate change throughout the lifetime of the development, it is determined that the development of the site can be delivered in a flood compatible way.









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  - MAIN RIVER
  - ORDINARY WATERCOURSE
  - FLOOD STORAGE AREAS
  - FLOOD ZONE 2
  - FLOOD ZONE 3
  - FLOOD ZONE 2 + CC
  - FLOOD ZONE 3A + CC
  - FLOOD ZONE 3B + CC
  - IDB
- HISTORIC FLOOD INCIDENTS
  - WNC FLOOD HISTORY
  - EA HISTORIC FLOOD EXTENT
- ROFSW WITH CLIMATE CHANGE
  - HIGH
  - MEDIUM
  - LOW
- HYDROGEOLOGY
  - AQUIFER TYPE
    - HIGHLY PRODUCTIVE AQUIFER
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    - LOW PRODUCTIVITY AQUIFER
    - ROCKS WITH ESSENTIALLY NO GROUNDWATER

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Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	30/04/26	First Issue
-	--	--	--	--	DD/MM/YY	--
-	--	--	--	--	DD/MM/YY	--

Designed By: KA Date: 30/Apr/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Registered Office
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Tel: +44 (0) 1737 774155

Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: _003 Greyfriars/Mayorhold/Lady's Lane

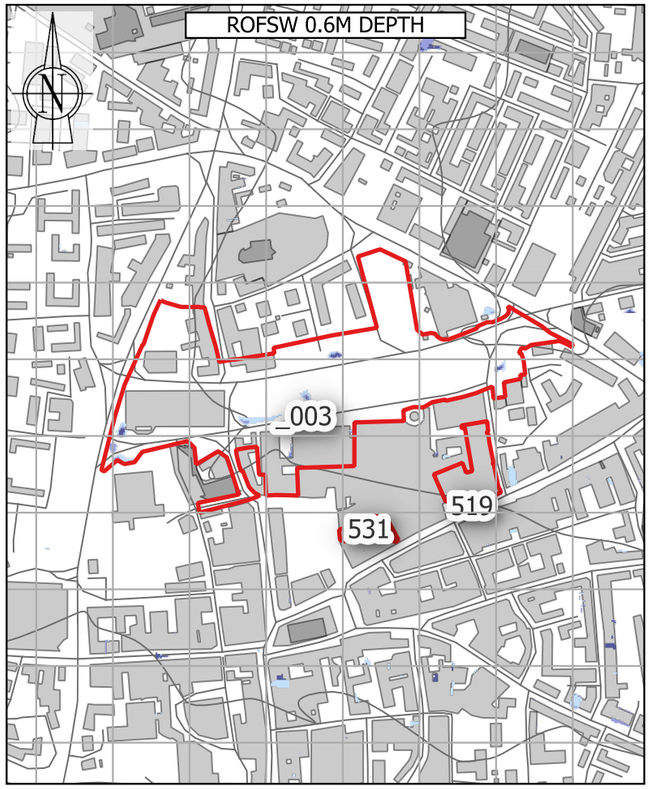
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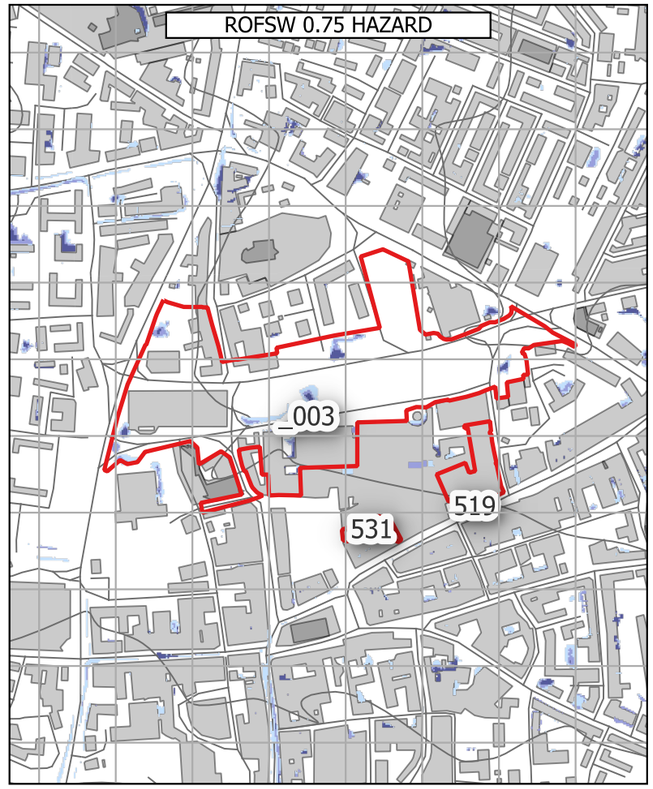
Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00151 Revision: P01

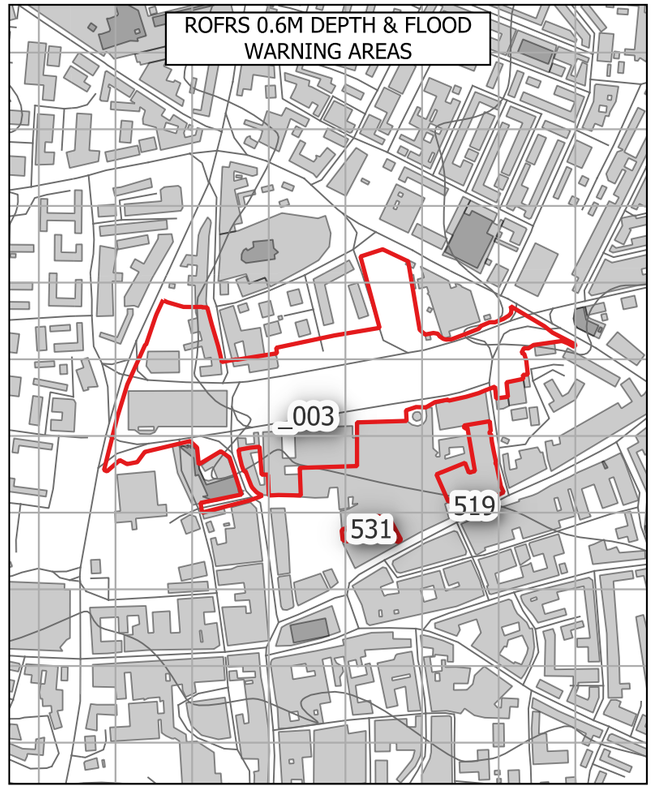
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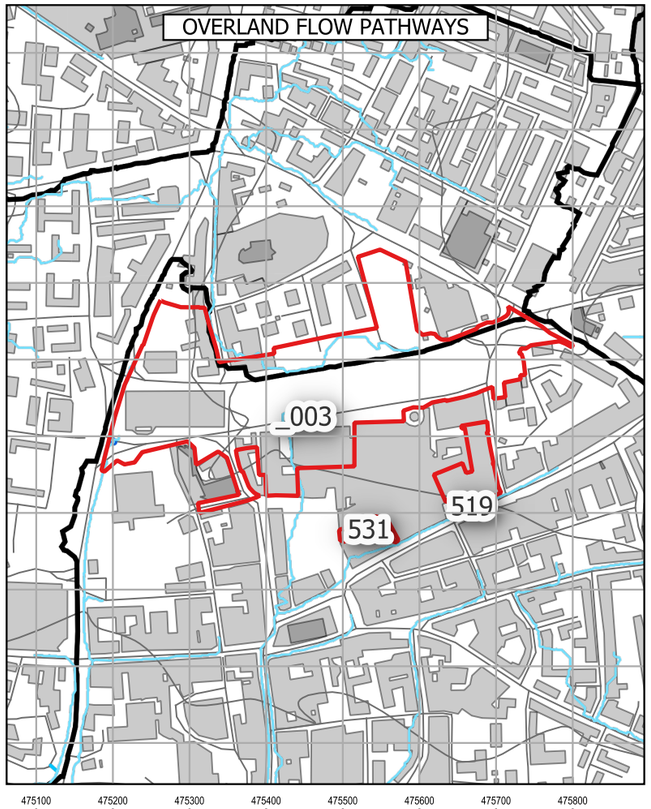
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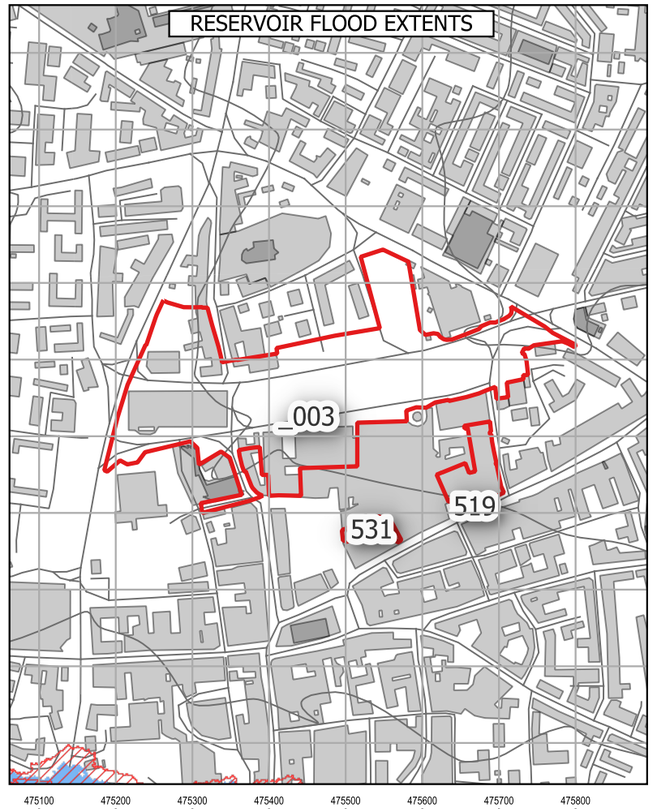
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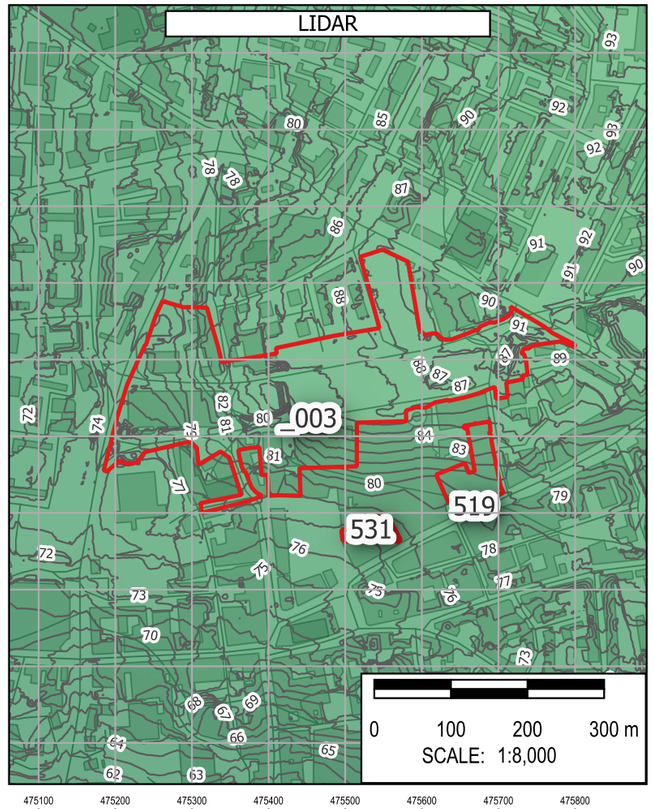












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- BOROUGH BOUNDARY
- WEST NORTHANTS BOUNDARY
- ROFSW
- 0.6M DEPTH
  - High
  - Medium
  - Low
  - Unavailable
- 0.75 HAZARD
  - High
  - Medium
  - Low
  - Unavailable
- ROFRS
- 0.6M DEPTH
  - High
  - Medium
  - Low
  - Very low
  - Unavailable
- FLOOD WARNING AREAS
- OVERLAND FLOW PATHWAYS
- PROBABLE OVERLAND FLOW PATHWAYS
  - < 3 Degrees
  - 3 - 7 Degrees
  - 7 - 12 Degrees
  - > 12 Degrees
- DETAILED WATERSHEDS
- RESERVOIR FLOOD EXTENT
- DRY DAY
- WET DAY
- LIDAR
- 1M CONTOURS
- ELEVATION
- Band 1 (Gray)
  - 230
  - 50

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NO SPECIFIC SAFETY, HEALTH OR ENVIRONMENTAL CONSIDERATIONS

Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	KA	MH	SB	SB	01/05/26	First Issue
-	--	--	--	--	DD/MM/YY	--
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Designed By: KA Date: 01/May/2026

Status: FOR INFORMATION

Client: West Northamptonshire Council

Client Drawing No.: NOT APPLICABLE

Revision: -

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Project: WEST NORTHANTS INTEGRATED WATER MANAGEMENT STRATEGY 2

Drawing title: FLOOD RISK SUMMARY: _003 Greyfriars/Mayorhold/Lady's Lane

Drawing Scale: 1:8,000 Sheet Size: A3

Drawing No.: 4082482-BUK-ZZ-00-DR-FR-00209

Revision: P01

G:\Projects\4082482_WNC\4_Workspaces\0_Working\ SFRA_Workspace.qgz - FLOOD RISK SUMMARY - HAZARD DEPTH WARNING RESERVOIR Print Date:01/05/2026

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Print Version: Print Quality (300dpi @ A3)