Green Hill Solar Farm
EN010170

Environmental Statement
Appendix 10.5: Flood Risk Assessment and Drainage Strategy Annex D: Green Hill B

Prepared by: Arthian

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Appendix 10.5: Annex D - Flood Risk Assessment and Drainage Strategy – Green Hill B

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For: Green Hill Solar Farm Ltd

Site: Green Hill B

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Contents

Figures

Annexes

1. Site Details

The aim of this section of the report is to outline key environmental information associated with the baseline environment.

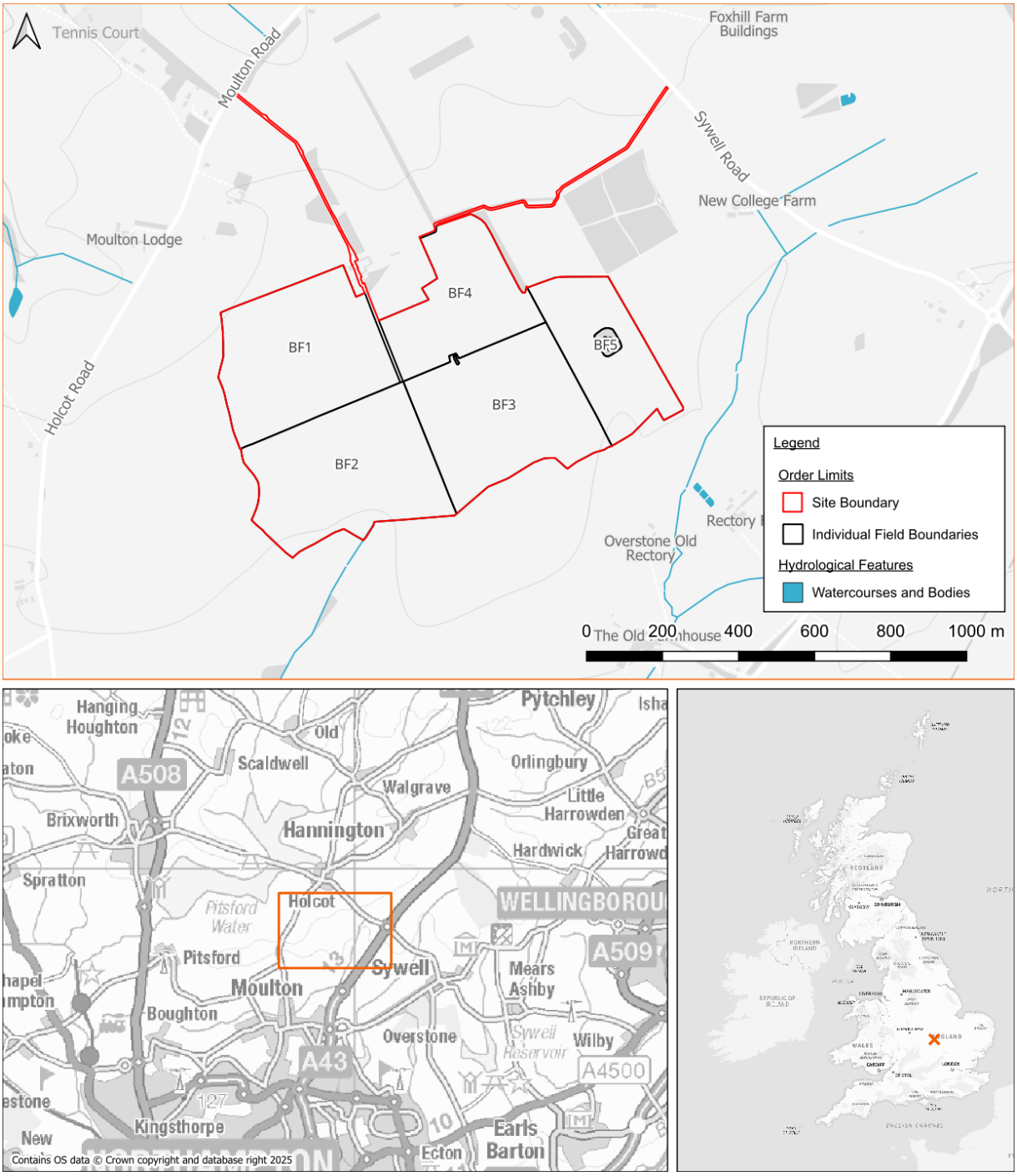


Figure 1: Site Location Plan

1.1 Site Location

1.1.1 Green Hill B is located 800m south of Holcot village in West Northamptonshire. Moulton Road is located approximately 250m to the west of the Site and Sywell Road is located approximately 860m to the east. The National Grid Reference for Green Hill B is approximately 478820, 268320 in the west (BF2) to 479860, 268630 in the east (BF5).

1.2 Existing Site Conditions

1.2.1 Online mapping (including Google Maps / Google Streetview imagery accessed March 2025)[1] shows that Green Hill B is greenfield, comprising agricultural / arable fields.

1.3 Topography

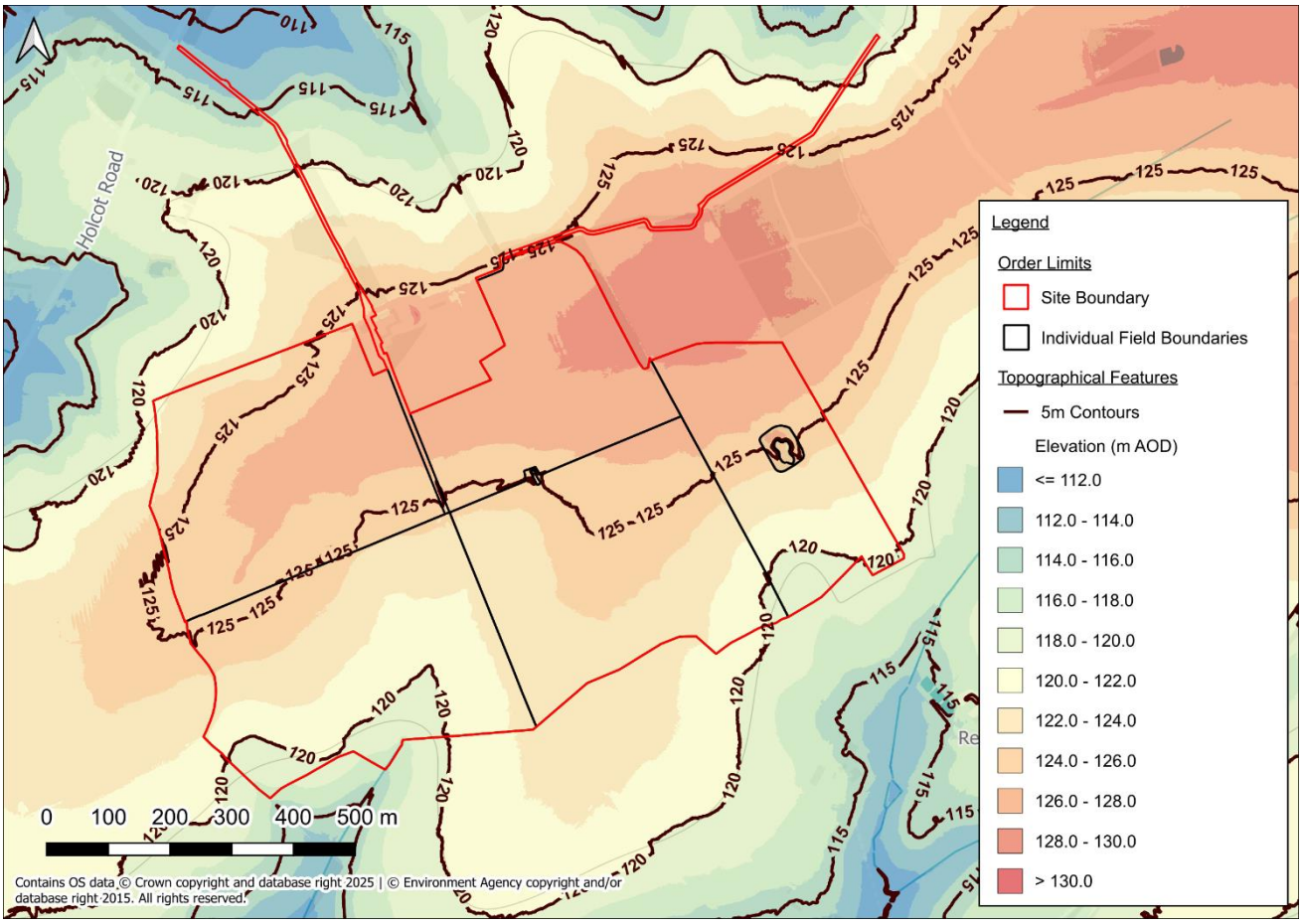


Figure 2: LiDAR Plan

1.3.1 Topographic levels to metres Above Ordnance Datum (m AOD) have been derived from a 1m resolution Environment Agency (EA) composite 'Light Detecting and Ranging' (LiDAR) Digital Terrain Model (DTM). A

[1] Google Maps

review of LiDAR ground elevation data shows that the Site slopes from approximately 227m AOD in the north-east to 126 in the north-west to approximately 118in the south-west (Figure 2).

1.4 Hydrology

1.4.1 No EA main rivers are located within the vicinity of the Site. The are two nearby land drains, one located to the south of BF2 and one to the east of BF5, and both flow in a south-easterly direction away from the Site following the local topography. However, it is important to note that there are no watercourses located within the Site boundary.

1.5 Water Framework Directive

1.5.1 The Site is located within the Nene Catchment, specifically the Pitsford Arm of the Brampton Branch Water Body[i]. The Pitsford Arm of the Brampton Branch Water Body catchment has a Cycle 3 Ecological status of Good in 2019 and 2022 and a Failing chemical status in 2019 (no data in 2022).

1.5.2 A summary of the Water Body Classification for the catchment is included as Annex A.

1.6 Geology

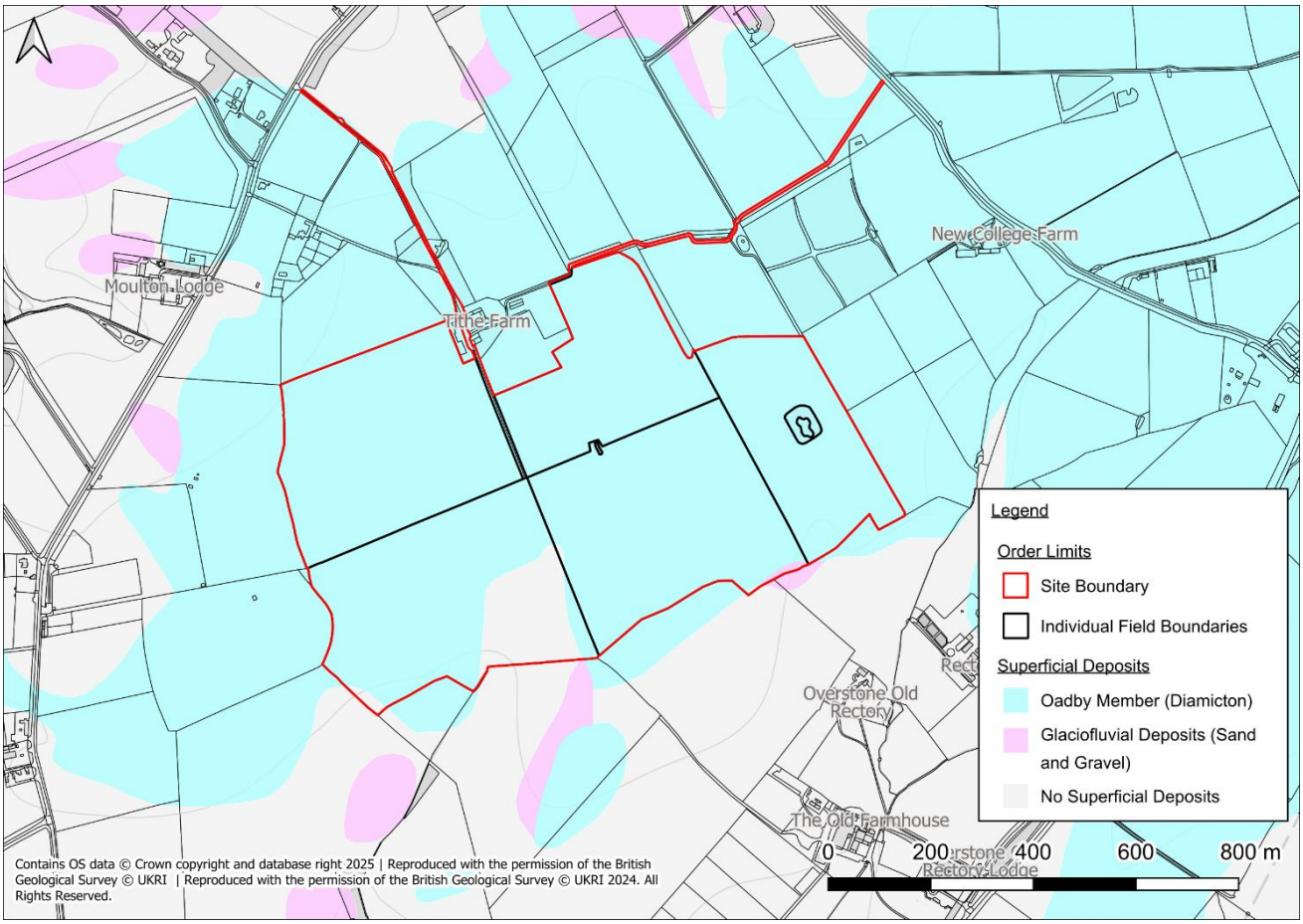


Figure 3: Superficial Deposits

1.6.1 Reference to the British Geological Survey (BGS) online mapping[ii] (1:50,000 scale) indicates that the Site

is underlain by the following superficial deposits (see Figure 3 for the locations of the varying deposits):

- Oadby Member generally comprising diamicton; and
- Glaciofluvial Deposits (mid Pleistocene) consisting of sand and gravel;

1.6.2 There are also areas on-Site identified as not being underlain by any superficial deposits.

1.6.3 The Site is identified as being underlain by the following bedrock deposits (see Figure 4 for the locations of the varying deposits):

- Rutland Formation, comprising Mudstone;
- Stamford Member, comprising Sandstone and siltstone (interbedded); and
- Northampton Sand Formation, consisting of Ironstone (ooidal).

1.6.4 The geological mapping is available at a scale of 1:50,000 and as such may not be accurate on a Site-specific basis.

1.6.5 There are no BGS boreholes located at the Site or within the Site's near vicinity.

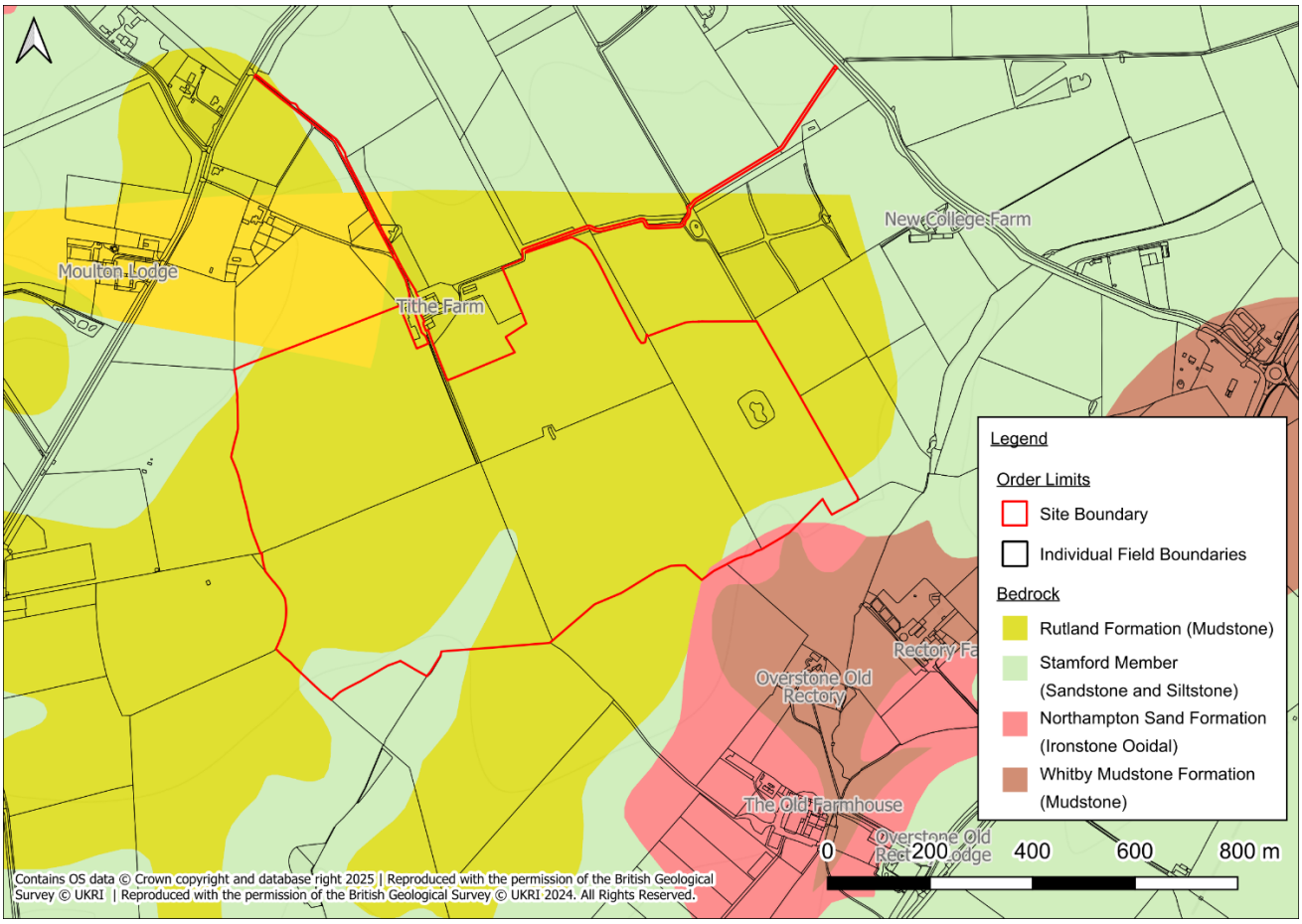


Figure 4: Bedrock Deposits

1.7 Hydrogeology

1.7.1 According to the EA's Aquifer Designation data, obtained from MAGIC Map's online mapping[iii] [accessed 4/1/24], the Oadby Member is classified as a Secondary Undifferentiated Aquifer, whereas the Glaciofluvial Deposits are identified as a Secondary A Aquifer.

1.7.2 The underlying Rutland Formation is described as a Secondary B Aquifer, whereas the Stamford Member and Northampton Sand Formation are described as Secondary A Aquifers.

1.7.3 The EA's 'Source Protection Zones' data, obtained from MAGIC Map's online mapping [accessed 4/1/24], indicates that the Site is not located within a Groundwater Source Protection Zone.

1.8 Proposed Site Conditions

1.8.1 Green Hill B proposes a ground mounted solar photo-voltaic plant and associated electrical infrastructure and access.

1.8.2 An Outline Landscape and Ecological Management Plan (OLEMP) [EN010170/APP/GH7.4] has been developed to support the DCO application, and details that the vast majority of the Site is proposed to be utilised for solar panels, supporting infrastructure, internal access and peripheral areas will comprise landscaped buffers in line with the embedded mitigation described throughout the ES.

2. Assessment of Flood Risk

The aim of this section of the report is to assess and summarise the existing flood risk at Green Hill B.

2.1 Fluvial Flood Risk

2.1.1 There are two land drainage ditches located in close proximity to the Site and at a significantly lower elevation. Flows within the ditches are expected to flow in a south-westerly direction based on local topography. All the land drains are ordinary watercourses. These fall under the regulatory remit of the LLFA, which has permissive powers to manage flood risk but is not responsible for routine maintenance. Maintenance responsibilities lie with the riparian landowners. By contrast, Main Rivers fall under the responsibility of the EA.

2.1.2 Fluvial flooding could occur if the land drains overtopped their banks during or following an extreme rainfall event.

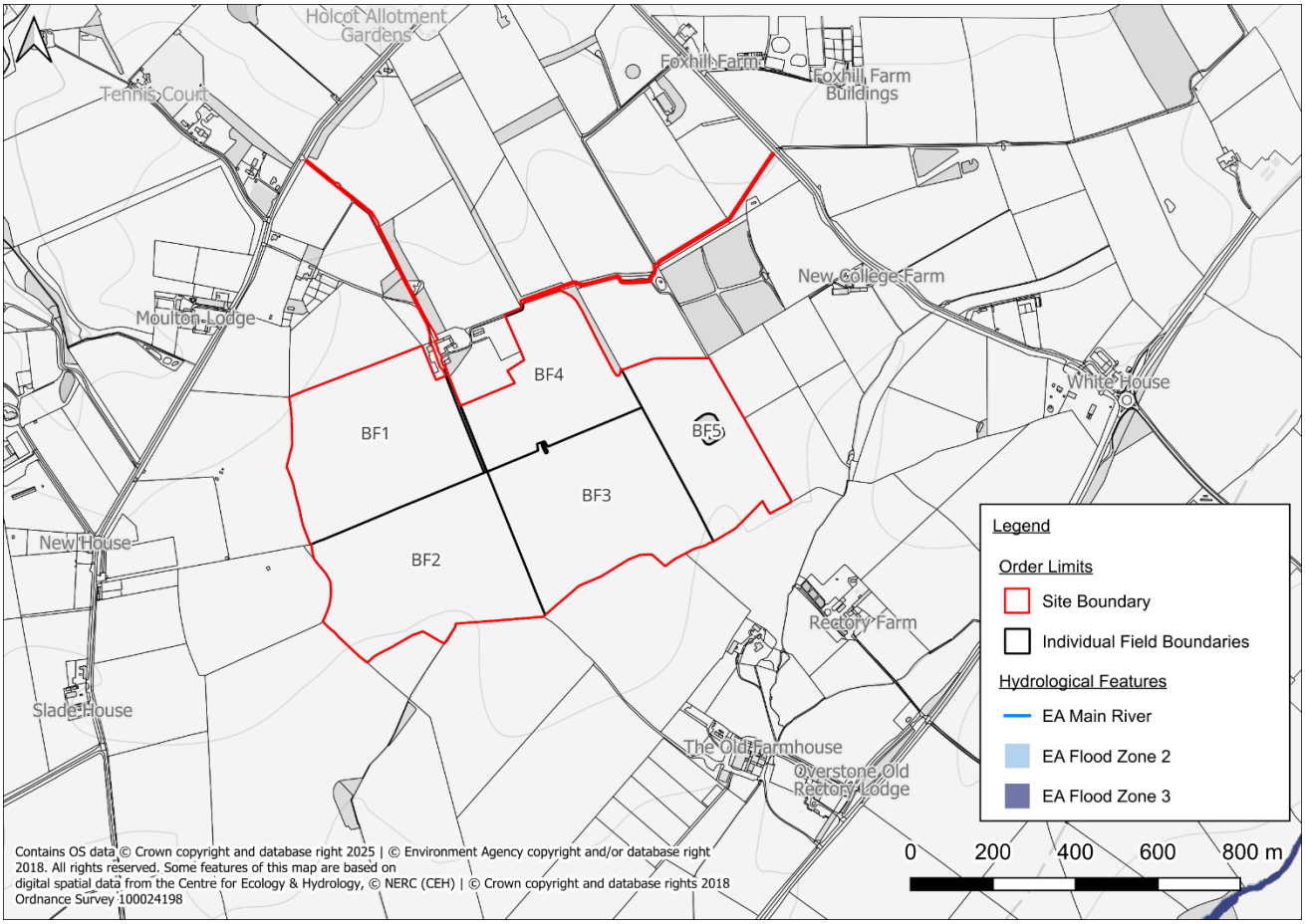


Figure 5: EA's Flood Map for Planning

2.1.3 According to the EA's Flood Map for Planning[iv] (updated March 2025), the entirety of the Green Hill B is situated in Flood Zone 1 (has less than a 1 in 1,000 annual probability of river or sea flooding).

2.1.4 It is essential to note that the EA Flood Maps do not cover the Site, and due to the Site being in a rural setting, its classification as Flood Zone 1 may not be entirely accurate.

2.1.5 The EA 'Historical Flood Map' indicates that Green Hill B has no recorded history of flooding either on the Site or in the immediate vicinity. However, this does not necessarily mean that the Site has never flooded, only that there is no documented record of such events.

2.1.6 Given that Green Hill B has no watercourses located on Site, it is considered that flood risk to the Site is primarily associated with surface water.

Consultation

2.1.7 Given that Green Hill B is located within Flood Zone 1, the EA will not provide any Product Data, therefore Product Data was not requested from the EA.

2.1.8 The West Northamptonshire Council LLFA was contacted in January 2024. A response was received in June 2024 and is included as Annex B. The LLFA stated that there have been two historic reports of flooding within the Site boundary: Sywell Road in December 2012 and on Holcot Lane in November 2012. However, the two locations stated are in fact located outside of the Site boundary, 450m eastwards and 250m westwards respectively.

2.1.9 Further to this, the EA and LLFA were consulted with throughout the pre-application process, with guidance complied with where required. Green Hill B is not located within an IDB.

Summary

2.1.10 Green Hill B is therefore considered to be at Low risk of fluvial flooding. The proposed solar panels will be raised 0.6 m above surrounding ground levels with associated power infrastructure appropriately out of the flood zone and waterproofed.

2.2 Surface Water Flood Risk

2.2.1 The EA's National Flood Risk Assessment Mapping (NaFRA), known as the Long Term Flood Risk Map (Surface Water)v was updated in January 2025. The NaFRA mapping provides an updated view of surface water flooding across the Sites, however it should be noted that at the time of writing, the NaFRA mapping only delivers climate change insight up to the year 2060.

2.2.2 The previous EA Risk of Flooding from Surface Water (RoFSW) mapping indicates that the Site is largely at Very Low risk of surface water flooding, meaning it has a less than 0.1% annual probability of flooding. There is an area of Low (between a 1% and 0.1% annual probability) to High (a greater than 3.3% annual probability of flooding) risk of surface water flooding through the southeast of BF2, which reflects the drainage ditch adjacent to BF2. There are also small, isolated areas of varying risk.

2.2.3 The updated NaFRA mapping (Figure 5) has been assessed against the previous data and indicates that there is no visible change in surface water risk across Green Hill B. The surface water flooding extents largely match the courses of the land drainage ditches which flow through Green Hill B.

2.2.4 The NaFRA surface water depth mapping indicates that all depths are below 0.3m, which is considered passible by vehicles and people. Surface water depths of less than 0.3m are typically passable by both vehicles and pedestrians.

2.2.5 It should be noted that the EA 'Flood Risk from Surface Water' map covering the Site is produced at a low resolution, which may not accurately represent the Site's actual risk of surface water flooding.

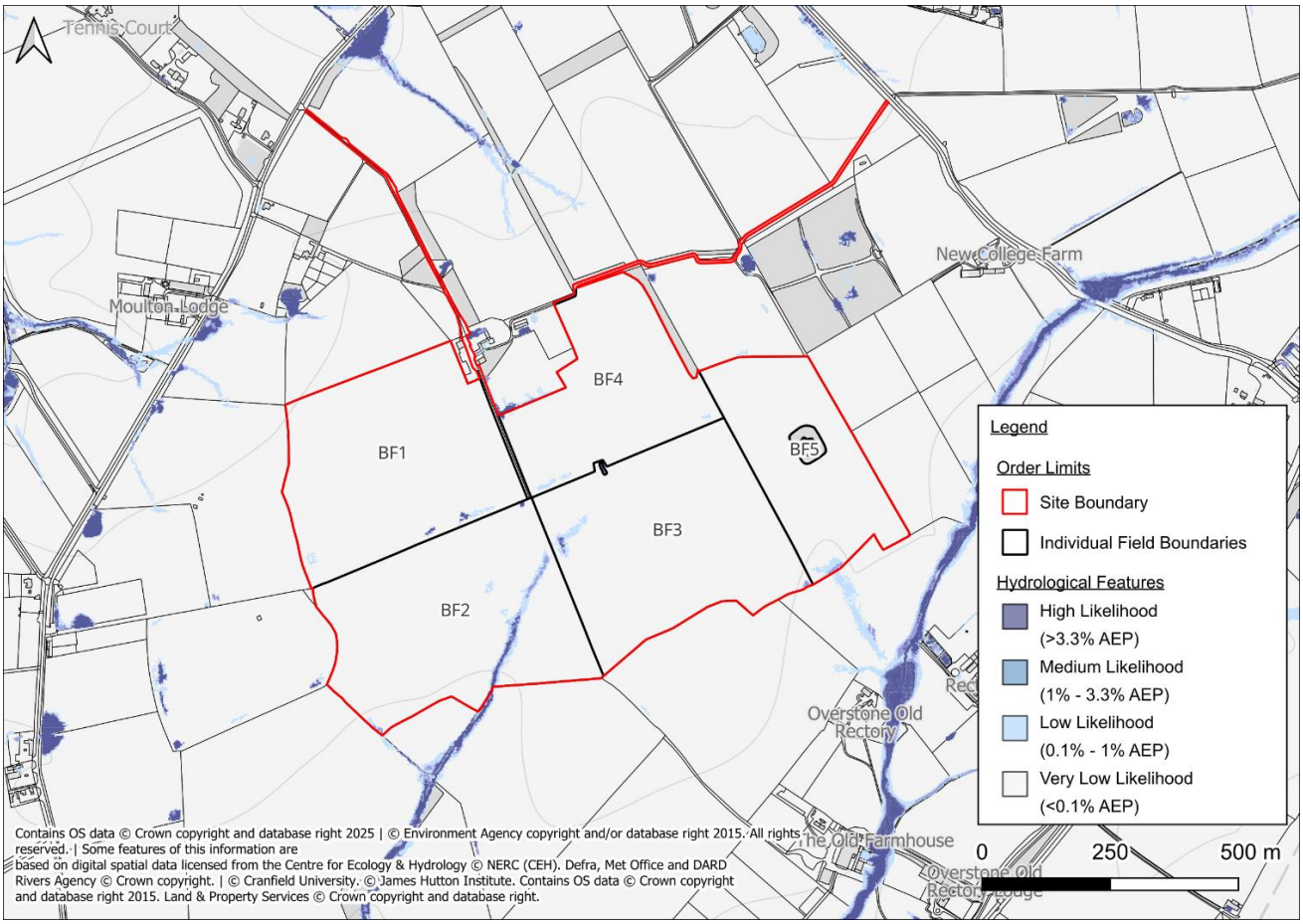


Figure 6: EA's Long-Term Flood Risk Map (Flood Risk from Surface Water)

2.2.6 There is no indication within relevant third-party reports (listed in 'Sources of Information' on the Covering Report) to suggest that Green Hill B has historically experienced surface water flooding.

2.2.7 Based on the above and considering the embedded mitigation as part of the design of the solar panels, the overall risk of surface water flooding is considered to be **Low**. The proposed solar panels will be raised above surrounding ground levels and will be appropriately located out of the flood zone and waterproofed thereby reducing the potential to be impacted in the event of surface water flooding.

2.2.8 The impact of the development on surface water risk is covered in Section 5.0 of the Covering Report to ensure that surface water risk is not exacerbated through appropriate SuDS measures.

2.3 Groundwater Flood Risk

2.3.1 A description of the Site's geology is included within Section 1.0.

2.3.2 There is no information within relevant third-party reports (listed 'Sources of Information' on the Covering Report) to suggest that the Site has experienced historical groundwater flooding.

2.3.3 The Scheme does not include any basement structures or buildings requiring permanent occupation. Only unstaffed, above-ground supporting infrastructure is proposed, which would not be sensitive to low-level groundwater seepage.

2.3.4 It can therefore be concluded that the risk of groundwater flooding is **Low** and no specific mitigation measures are required.

2.4 Sewer Flooding

2.4.1 No Site-specific incidents of sewer flooding have been identified from relevant third-party reports. On the basis of the Site's rural setting the presence of sewerage infrastructure is unlikely. Utility records have been checked and no sewers are identified within the Site. It can therefore be concluded that the risk of sewer flooding is **Low.**

2.5 Reservoir and Canal Flooding

2.5.1 There are no canals within the vicinity of Green Hill B, therefore there is negligible associated flood risk.

2.5.2 The EA 'Flood Risk from Reservoirs' map shows that Green Hill B is not at risk of flooding from reservoirs.

2.5.3 It can therefore be concluded that there is a **Negligible** risk of flooding from artificial sources.

2.6 Residual Flood Risks

2.6.1 A residual risk is an exceedance event, such as greater than the 1 in 1000 year (<0.1% AEP) flood event that would overtop the land drains and potentially impact the Site. As the probability of a greater than a 1 in 1000 flood event occurring is <0.1% in any given year, the probability is low and, therefore, no further mitigation beyond what is proposed is required.

2.6.2 In the event of the defences failing or an exceedance event occurring, the residual risk to people working within the Site can be managed through the implementation of an appropriate Site management plan, which recognises the residual risks and details what action is to be taken by staff in the event of a flood to put occupants in a place of safety.

2.7 Summary of Flood Risk and Mitigation

2.7.1 It can be concluded that the risk to Green Hill B from all sources of flooding is **Negligible to Low**, however it would be prudent to include the below mitigation measures.

Flood Warnings and Evacuation

2.7.2 Flood Warnings / Flood Alerts[vi] do partly cover this area therefore Site management should sign up to the free EA Floodline service to receive flood alerts.

2.7.3 Access to the Site will be required relatively infrequently, typically by technicians for maintenance and inspection works or Site management. Such works can be scheduled as to avoid the Site during times of flood.

2.7.4 Embedded Mitigation is detailed in Section 3.2 of the covering report.

2.8 Impact on Off-Site Flood Risk

2.8.1 The solar panels will be mounted on frames and raised above ground level allowing flood water to flow freely underneath. Therefore, there will be no loss of floodplain volume as a result of the Scheme and no increase in flood risk elsewhere.

2.8.2 The supporting infrastructure is insignificant in size and will not increase flood risk elsewhere.

2.8.3 Surface water management has been considered in Section 5.0 of the Covering Report.

3. Conclusions and Recommendations

3.1 Conclusions

3.1.1 The Scheme is for a ground mounted solar farm and associated infrastructure and access roads.

Flood Risk

3.1.2 The Site is located within Flood Zone 1 on the Environment Agency (EA) 'Flood Map for Planning (Rivers and Sea)' – an area considered to have the lowest probability of fluvial and tidal flooding.

3.1.3 The risk of flooding from all sources has been assessed and the flood risk to the Site is considered to be **Negligible to Low** and therefore does not require Site-specific mitigation measures.

3.1.4 The solar panels will be mounted on raised frames and therefore raised 0.6 m above surrounding ground level allowing flood water to flow freely underneath. Therefore, there will be no loss of floodplain volume as a result of the Scheme.

3.2 Recommendations

3.2.1 Embedded Mitigation is detailed in Section 3.2 of the covering report.

Annex A: Pitsford Arm of the Brampton Branch Water Body Catchment Classification Summary

Pitsford Arm of the Brampton Branch Water Body Catchment Classification Summary

Classification Item	2019 Classification		2022 Classification	Cycle 3 Objectives		
	Cycle 2	Cycle 3	Cycle 3	Status	Year	Reasons
Ecological	Good	Good	Good	Good	2015	
Biological Quality Elements	Poor	Poor	Moderate	Good	2015	
Invertebrates	Poor	Poor	Moderate	Good	2015	
Macrophytes and Phytobenthos Combined	N/A	N/A	N/A	N/A	2015	Disproportionately expensive: Disproportionate burdens; Technically infeasible: No known technical solution is available
Physio-Chemical Quality Elements	High	High	Good	Good	2015	
Acid Neutralising Capacity	N/A	N/A	High	N/A		
Ammonia (Phys-Chem)	N/A	N/A	High	Good	2015	
Dissolved Oxygen	N/A	N/A	Good	Good	2015	
Phosphate	N/A	N/A	Good	Good	2015	
Temperature	N/A	N/A	High	Good	2015	
pH	High	High	High	Good	2015	
Hydromorphological Supporting Elements	N/A	N/A	N/A	N/A	2015	
Supporting Elements (surface Water)	Good	Good	Good	Good	2015	
Mitigation Measures Assessment	Good	Good	Good	Good	2015	
Specific Pollutants	High	High	High	High	2015	
Iron	High	High	High	High	2015	
Maganese	High	High	High	High	2015	
Chemical	Fail	Fail	N/A	Good	2063	Natural conditions: Chemical status recovery time; Technically infeasible: No known technical solution is available
Priority Hazardous Substances	Fail	Fail	N/A	Good	2063	Natural conditions: Chemical status recovery time; Technically infeasible: No known technical solution is available
Benzo(a)pyrene	Good	Good	N/A	Good	2015	
Dioxins and dioxin-like compounds	Good	Good	N/A	Good	2015	
Heptachlor and cis-Heptachlor Epoxide	Good	Good	N/A	Good	2015	
Hexachlorobenzene	Good	Good	N/A	Good	2015	
Hexachlorobutadiene	Good	Good	N/A	Good	2015	
Mercury and Its Compounds	Fail	Fail	N/A	Good	2040	Natural conditions: Chemical status recovery time
Perfluorooctane sulphonate (PFOS)	Fail	Fail	N/A	Good	2039	Technically infeasible: No known technical solution is available
Polybrominated diphenyl ethers (PBDE)	Fail	Fail	N/A	Good	2063	Natural conditions: Chemical status recovery time
Priority substances	Good	Good	N/A	Good	2015	
Cypermethrin (Priority)	Good	Good	N/A	Good	2015	
Fluoranthene	Good	Good	N/A	Good	2015	
Other Pollutants	N/A	N/A	N/A	N/A	2015	

Annex B – West Northamptonshire LLFA Response

West Northamptonshire Council
Lead Local Flood Authority

Developer Data and Information Request

LLFA Reference	DR.2024.7
Location	Green Hill Solar – (a) NN69PZ, (b) NN69SN, (c) NN6 0BW, (d) NN6 0DL, (e) NN60TW
Proposal	Request for instances of historic flooding at or near this location, details of flood defences in the area, information regarding maintenance of land drains and management of flood risk in the area, any restrictions in developing near a IDB owned watercourse and specific requirements for discharge rates to land drains
Request By	lantell@mabbett.eu
Request Date	02/01/2024
Response Date	03/06/2024

Dear Lucy,

Thank you for requesting flood risk data for the above site. Please find below and attached our response to your request. The postcodes NN6 0BW, NN6 0DL and NN60TW are not located in West Northamptonshire Council, so we are unable to provide the requested information.

Historic Flood Records

Since the creation of the Lead Local Flood Authority (LLFA) role in 2010, West Northamptonshire Council (WNC) has undertaken to collect as much information as possible relating to historic flood incidents within the district. We have recorded, if known, where actions have been undertaken or are proposed to alleviate the flood risk. The data we have collected is not considered to be exhaustive, and data relating to flood incidents occurring prior to 2010 is limited. For the above postcodes (a) and (b) we have collected the following information:

(a) NN6 9PZ

- Within the site boundary:
  - No historic flooding reports located within the site boundary.
- Within 500m of the site boundary:

Date	Location to street level	Description
14/06/2007	Gold Street, Walgrave	Flooding due to weather conditions
Unknown	Lower Green, Walgrave	Internal flooding to property. Silted culvert.

(b) NN6 9SN

- Within the site boundary:

Date	Location to street level	Description
14/12/2012	Sywell Road, Holcot	Carriageway flooding, out of hours team to clear and make safe. Conways instructure to attend to clear as required.
21/11/2012	Holcot Lane, Sywell	Flooding

- Within 500m of the site boundary:

Date	Location to street level	Description
21/11/2012	Sywell Road, Holcot	Car stuck in flood water.
22/11/2012	Sywell Road, Holcot	Carriageway flooded – approx. 3ft deep
14/12/2012	Sywell Road, Holcot	Carriageway flooded

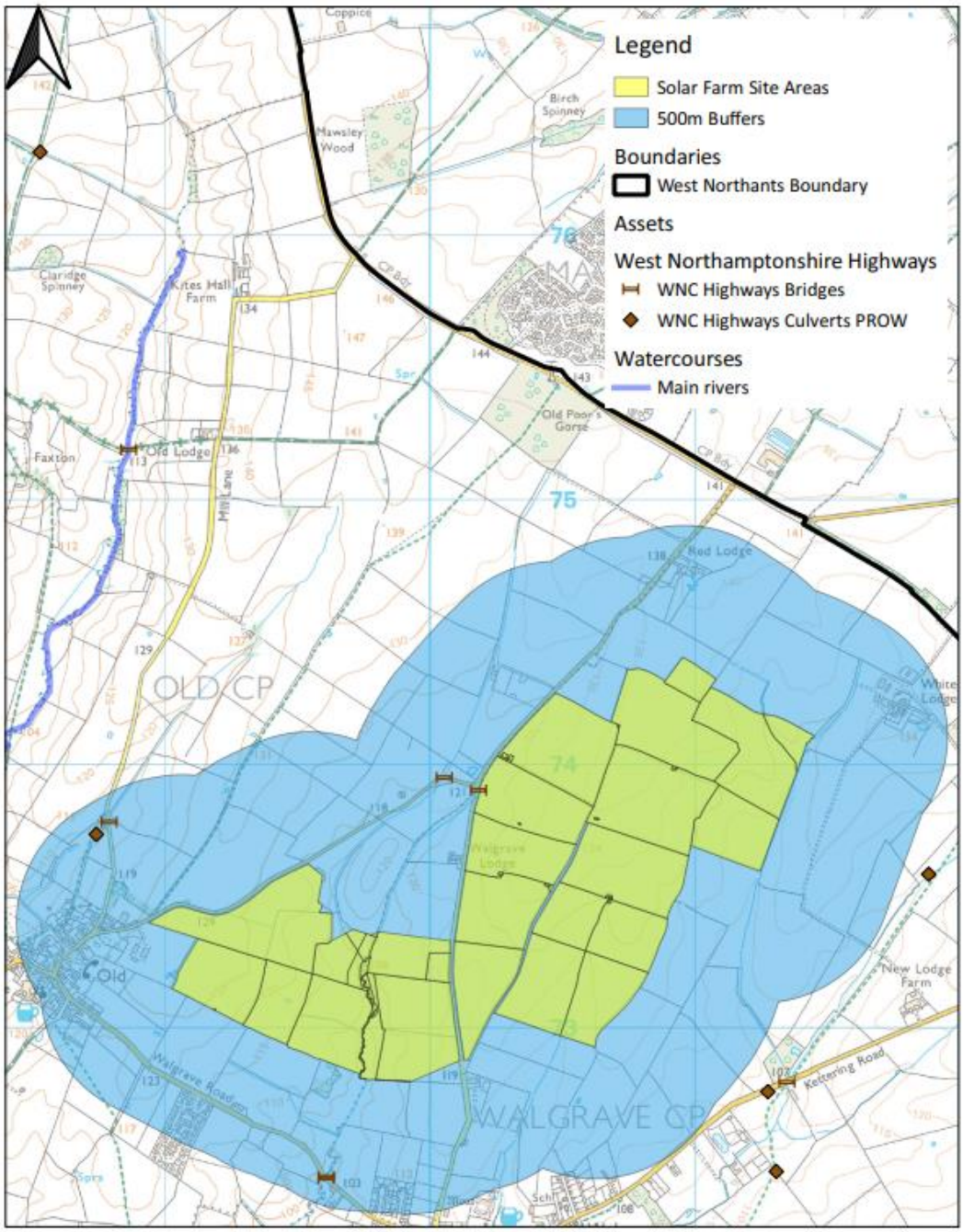
Section 19 Flood Investigations

Under the Flood and Water Management Act 2010 LLFAs have to carry out investigations into flooding incidents if they meet set thresholds. Investigations take place after the flood event has passed and the flood water has receded. We recommend that you have a look at past flood investigations report which are available in our webpage www.westnorthants.gov.uk/am-i-risk/flood-investigation-reports

Asset Register

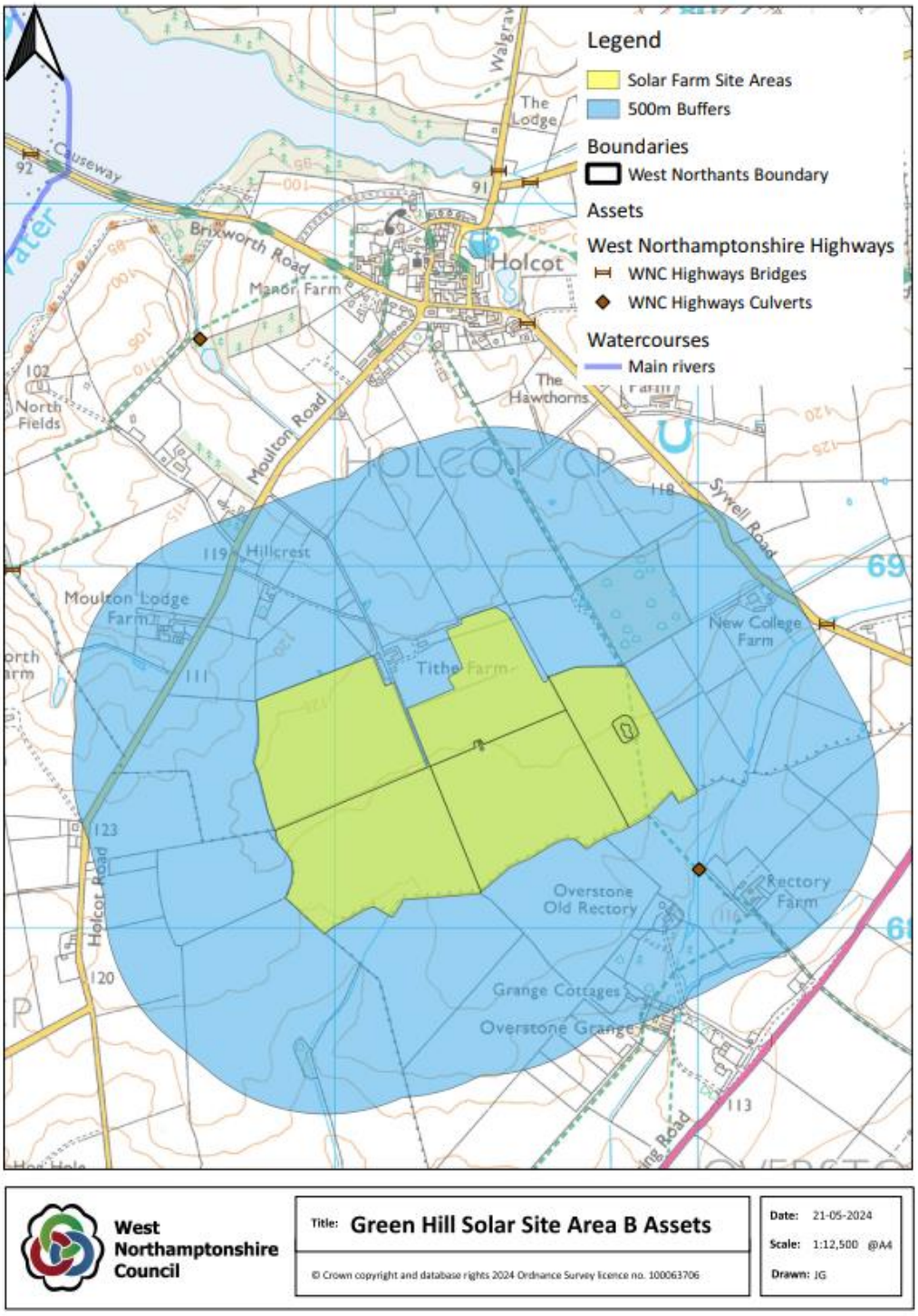
Under the Flood and Water Management Act 2010 we have a duty to maintain a register of assets which have a significant impact on flood risk. We have undertaken a search of our Asset Register, which contains information on all assets relating to flood risk within the county which we have been made aware of. A summary of any assets shown to lie within the site boundary and within a 500m buffer of the site is provided below. Exact details of third party assets should be requested from the relevant risk management authority.

NN6 9PZ



Our records show that Anglian Water hold assets within the 500m buffer of this site. For details on these assets please contact Anglian Water directly.

NN6 9SN



Our records show that Anglian Water hold assets within the 500m buffer of this site. For details on these assets please contact Anglian Water directly.

Risk of Flooding from Surface Water

By searching a location by postcode, information regarding the risk of surface watter flooding can be found at www.gov.uk/check-long-term-flood-risk

The sequential approach should be taken in considering the site layout in relation to the risk of flooding from surface water runoff. No properties or sensitive development should be located in areas shown to be at risk of flooding.

Risk of Flooding from Groundwater

We have recently completed a detailed study into groundwater flood risk in Northamptonshire. This is available online at www.westnorthants.gov.uk/flooding-and-flood-risk-management/statutory-and-project-documents.

For NN6 9PZ, this map indicates that the majority of site is likely to be negligible risk, there are small vertical bands of very low risk in the west of the location and a small location of very high risk in the north. For NN6 9SN, this map indicates that the majority of site is likely to be negligible risk, the majority of the north east of the site is very low risk and has small locations of moderate and high risk throughout.

Advice on how to consider groundwater flood risk in a Flood Risk Assessment is provided at www.floodtoolkit.com/planning/developers/.

Northamptonshire Local Flood Risk Management Strategy

The Northamptonshire Local Flood Risk Management Strategy was approved in November 2017, and the associated Action Plan was last updated in November 2020. This can be found at www.westnorthants.gov.uk/flooding-and-flood-risk-management/local-flood-risk-management-strategy This document and its related policies and recommendations apply to all development and flood risk management work within the County of Northamptonshire.

The Strategy is currently being updated and initial public consultation is currently taking place, further details will be available on our website.

Upper Nene Catchment

Following the significant flooding to Northampton town centre in Easter 1998 improvements were made to the flood defences along the River Nene. In order to secure the level of protection afforded by the new defence, the Environment Agency agreed with the West Northants Joint Planning Unit that the standards set for new development should also be improved, beyond industry standards.

Therefore all new development in the Upper Nene catchment must be designed for a flood with a 0.5% probability (1 in 200 chance) of occurring in any year, including an appropriate allowance for climate change. This includes design of mitigation for river flooding and any surface water attenuation. This applies across the whole of the Upper Nene catchment including all branches and arms of the Nene, upstream of Billing Aquadrome, and all tributaries such as Wootton Brook, Dallington Brook and Bugbrooke Brook.

This standard relates to the total drainage design, not individual elements such as gullies and swales. The drainage system should be designed to ensure that there is no increased risk of

flooding from the site in the 0.5% event, and that in this event any flooding on the site is limited to designated flood-safe areas such as open space and does not affect any properties, critical infrastructure or access/egress routes within the site.

This policy is outlined within the West Northamptonshire Joint Core Strategy Local Plan (Policy BN7 – Flood Risk, page 129).

Ordinary Watercourse Consent

Ordinary watercourses are riparian owned, i.e. the ownership and maintenance responsibilities are shared by the landowners on either side of the watercourse. It should be noted that any development within 9m of any ordinary watercourse requires the prior consent of the relevant flood risk management authority as outlined in Policy 7 of the Northamptonshire Local Flood Risk Management Strategy.

The Land Drainage consenting service was formally carried out by the Internal Drainage Boards (IDB) and has recently moved back into the Council. For enquries please email: **floodandwater.ncc@westnorthants.gov.uk**. We are currently in the process of building this system which is causing a delay in providing land drainage consents. We apologise for inconveniences this may cause, please be assured we are setting up the system with a matter of urgency. We expect the service to be fully in place in June 2024.

Any works on the site within 9m of the bank of a main river will need prior consent from the Environment Agency through the new Environmental Permitting regime – see www.gov.uk/topic/environmental-management/environmental-permits.

If the watercourse owned by the IDB is within 9m of the site/within the site, a 9m buffer should be maintained between the edge of the watercourse for maintenance access unless demonstrated inappropriate. All buildings and structures should be located outside of the area of flood risk. The developer will need to consult the IDB for consent for all works within 9m of an ordinary watercourse. This consent is separate to the land drainage consent. Further information can be found at [redacted]

SuDS Guidance

Defra has published non statutory technical standards for the design, maintenance and operation of sustainable drainage systems www.gov.uk/government/publications/sustainable-drainage-systems-non-statutory-technical-standards.

We have published local guidance to assist developers in the design of all surface water drainage systems, and to support Local Planning Authorities in considering drainage proposals for new development in Northamptonshire. The guidance sets out the standards that we apply in assessing all surface water drainage proposals and can be found at www.westnorthants.gov.uk/flooding-and-flood-risk-management/statutory-and-project-documents

Local Standards and Guidance for Surface Water Drainage is currently being updated and will be shared on our website once available.

Known Site-Specific Issues and Drainage Constraints

The BGS Infiltration SuDS Map found at www.bgs.ac.uk/datasets/infiltration-suds-map/

provides screening-level data that gives an indication of the suitability of the subsurface for infiltration SuDS features. This dataset indicates that the site may be suitable for the use of infiltration drainage.

Adoption and Maintenance of SuDS

West Northamptonshire Council as Lead Local Flood Authority does not currently adopt SuDS. In due course, the implementation of schedule 3 of the Flood and Water Management Act 2010 may introduce changes regarding the approval and adoption of SuDS if they meet a set of requirements.

If SuDS are designed purely to drain an adoptable highway then Northamptonshire Highways may adopt the SuDS feature. However each case is determined on its own merits and should be discussed with Northamptonshire Highways before any adoption assumptions are made. Please contact Northamptonshire Highways at:

- Section 38 Highway Adoption Queries – highwayadoptions.ncc@westnorthants.gov.uk
- Section 278 Queries – section278.ncc@westnorthants.gov.uk
- General queries pre-planning approval - highwaysdmconsultations@westnorthants.gov.uk

Anglian Water also has a SuDS Adoption Manual, which can be found here:

[redacted]

Developers can apply for Anglian Water to consider the adoption of your proposed SuDS scheme by submitting an expression of interest at:

[redacted]

The responsibility remains with the developer to ensure that adequate long-term maintenance of any drainage system can be delivered. Evidence should be submitted as part of any major planning application to demonstrate that agreements are in place for the entirety of the drainage system to be adopted and maintained in perpetuity.

There are four main options available to developers for the adoption and maintenance of SuDS:

1. The local sewerage undertaker/water company may adopt and maintain certain features;
2. Adoption could be agreed through a Section 106 agreement/ separate agreement with the borough, district, town or parish council and pay the Commuted Sums for the maintenance;
3. Set up or use a service management company; or
4. Adoption and maintenance by private individuals (only where the SuDS serve individual properties).

The adoption and maintenance of all drainage within a development would have to be discussed and agreed directly with the relevant Local Planning Authority.

Maintenance of land drainage

As the LLFA we do not hold information on the maintenance of surface water drainage assets. If you require information on assets held by National Highways, you can contact them here: info@nationalhighways.co.uk. If you require information on assets held by the riparian owner of the watercourse you will need to contact them directly.

Specific requirements for discharge rates for land drainage

It is not clear if the data request is using “land drains” to refer to a means of surface water management though perforated piping collecting drainage from below ground, or if the request is referring to “land drains” as overall land drainage/surface water manamangent. Should a connection to an existing drainage feature be proposed, we would recommend that you undertake suitable investigations to confirm its downstream capacity and condition.
Below outlines the discharge rate expectations for surface water management.

- For a Full planning application we would expect to see full WinDES modelling or similar with the details on proposed discharge rates, simulating storms through the whole drainage system, with results of critical storms, demonstrating that there is no surcharge in the system for the 1 in 1 year, no above ground flooding for the 1 in 30 year, and that any above-ground flooding for 1 in 100 year storm is limited to areas designated and safe to flood, away from sensitive infrastructure or buildings. These storms should also include an allowance for climate change. We may have further comments to make on receipt of this information.
- For greenfield developments, the peak runoff rate from the development to any highway drain, sewer or surface water body for the 1 in 1 year rainfall event and the 1 in 100 year rainfall event should never exceed the peak greenfield runoff rate for the same event.
- For developments which were previously developed, the peak runoff rate from the development to any drain, sewer or surface water body for the 1 in 1 year rainfall event and the 1 in 100 year rainfall event must be as close as reasonably practicable to the greenfield runoff rate from the development for the same rainfall event. If this is not possible then the rates should be reduced by at least 40% post-development to account for the impacts of climate change.
- Allowable discharge rates should be based only on the proposed impermeable area excluding public open space. Greenfield runoff rates may be estimated using the tool available at: [redacted] which requires the total site area, positively drained area and open space.

Should you require any further information, or wish to discuss these matters further, please do not hesitate to contact us.

Yours faithfully,

[redacted]

For and on behalf of Colin Barrett, Head of Works, West Northamptonshire Council – Lead Local Flood Authority

Disclaimer:
This response is made by the Unitary Council in its capacity as a Lead Local Flood Authority as a statutory consultee. As a Lead Local Flood Authority (LLFA) we respond to Planning Applications considering where development has the greatest ability to affect flood risk. For the avoidance of doubt, we do not comment on

water quality, contaminated land/landfill, wastewater, risk of flooding from ground water, biodiversity and ecological impacts, fisheries, water framework directive, amenity, health & safety, or navigation.
These comments should be taken as general comments on surface water drainage only. A detailed review of any technical assessments, methodology and results has not been undertaken by the LLFA. Liability for such technical work therefore rests with organisation(s) who have undertaken this technical work and the Local Planning Authority responsible for the planning decision.

[i] England | Catchment Data Explorer
[ii] GeoIndex (onshore) - British Geological Survey
[iii] MAGIC
[iv] Get flood risk information for planning in England - Flood map for planning - GOV.UK
[v] Where do you want to check? - Check your long term flood risk - GOV.UK
[vi] Flood alerts and warnings - GOV.UK