



Northamptonshire County Council
Lead Local Flood Authority

Developer Data and Information Request

LLFA Reference	Brigstock Data Request
Location	Site 1 Brigstock Camp Stanion Road Site 2 Land off Woodyard Close Land off Woodyard Close Site 3 East side Grafton Road Site 4 North of Stanion Road North of Stanion Road Site 5 Pocket Park Pocket Park Site 6 Hunt Kennels Site 7 Lyvenden Road
Proposal	Neighbourhood Plan
Request By	Colin Wilkinson
Request Date	5 th September 2016
Response Date	12 th September 2016

Historic Flood Records

Since the creation of the LLFA role in 2010, NCC has undertaken to collect as much information as possible relating to historic flood incidents within the county. 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 site:

All seven sites and surrounding areas were subject to Flooding in 1947 due to failure in defences and extensive flooding in Easter 1998 due to channel capacity being exceeded. Flood prevention work has been undertaken on Harpers Brook.



Site 1; Brigstock Camp Stanion Road

Within the site boundary:

- There are no reports of flood within the site boundary

Within 500m of the site boundary:

- There are no reports of flood within 500m of the site boundary

Within the site boundaries Sites 2,3,4,5,6 and 7;

- There are no reports of flood within the site boundaries.

Within 500m of the site boundaries:

- Cricket pitch Brigstock, July 2014, main cause of flood main river exceedance. No property damage Flood prevention work undertaken on Harpers Brook
- Bridge Street, Brigstock, 20th December 2012, source of flood main river exceedance. Sand bags required to protect property. Multiple occurrences reported in previous 25yrs.
- Scudborough Road Brigstock, 9th March 2016, source of flood main river exceedance due to heavy rain. Highway and gardens of 4 properties affected.
- Grafton Road Brigstock 21st November 2012 and 28th January 2013 flooding from unknown source.
28th January 2014 flood due to artificial drainage blockage.
9th March 2016 flooding from surface water due to heavy rain.
- A6116 Brigstock to Lowick, Brigstock 21st November 2012. Flood due to unknown cause .Action taken to clear drains

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.

Within the site boundaries:

- Within the site boundaries we are unaware of any asset which may impact on flood risk.

Within 500 metres of the site boundaries

Site 1 - Brigstock Camp Stanion Road

- Bridge carrying footpath over Harpers Brook, approximately 306m from south east corner of site. Structure number 8195, owned by Northamptonshire Highways.
- Highway gullies, from south east corner of site east on Stanion Road and east on A6116 owned by Northamptonshire Highways.
- Public foul sewer system. 225mm sewer approximately 120m from eastern site boundary Owned by Anglian Water Services.

Site 2, Land off Woodyard Close

- Bridge carrying Bridge Street over Harpers Brook. Structure number 4112, owned by Northamptonshire Highways.
- Bridge carrying footpath over Harpers Brook. Structure number 8252 owned by Northamptonshire Highways.
- Bridge carrying Grafton Road over Harpers Brook. Structure number 3225 owned by Northamptonshire Highways.
- Dwarf prefabricated concrete floodwall, left bank Harpers Brook upstream of Grafton Road. Ownership unknown.
- Embankment using specialist designed gabions, Harpers Brook embankment, Harpers Court Brigstock, 2m depth 13m long. . Private ownership, maintained by Spire Homes
- Various highway gullies, owned by Northamptonshire Highways.
- Public surface water, combined and foul sewer systems. Owned by Anglian Water Services.

Site 3 East side Grafton Road

- Culvert carrying Harpers Brook under Bridge Street Structure number 4112, size over 900mm owned by Northamptonshire Highways.
- Culvert under Grafton Road carrying Tertiary river. Structure number 6376, size, over 900mm. Owned by NCC.
- Bridge carrying footpath over Harpers Brook. Structure number 8252 owned by Northamptonshire Highways.
- Bridge carrying Grafton Road over Harpers Brook. Structure number 3225 owned by Northamptonshire Highways.
- Dwarf prefabricated concrete floodwall, left bank Harpers Brook upstream of Grafton Road. Ownership unknown.
- Embankment using specialist designed gabions, Harpers Brook embankment, Harpers Court Brigstock, 2m depth 13m long. Private ownership, maintained by Spire Homes

- Various highway gullies, owned by Northamptonshire Highways.
- Public surface water, combined and foul sewer systems. Owned by Anglian Water Services.

Site 4 North of Stanion Road

- Culvert carrying Harpers Brook under Bridge Street Structure number 4112, size over 900mm owned by Northamptonshire Highways
- Bridge carrying footpath over Harpers Brook, approximately 306m from south east corner of site. Structure number 8195, owned by Northamptonshire Highways.
- Highway gullies, from south east corner of site east on Stanion Road and east on A6116 by owned Northamptonshire Highways.
- Public surface water, combined and foul sewer systems. Owned by Anglian Water Services.

Site 5 Pocket Park

- Bridge carrying Grafton Road over Harpers Brook. Structure number 3225 owned by Northamptonshire Highways.
- Culvert under Grafton Road carrying Tertiary river. Structure number 6376, size, over 900mm. Owned by NCC.
- Dwarf prefabricated concrete floodwall, left bank Harpers Brook upstream of Grafton Road. Ownership unknown.
- Embankment using specialist designed gabions, Harpers Brook embankment, Harpers Court Brigstock, 2m depth 13m long. Private ownership, maintained by Spire Homes
- Various highway gullies, owned by Northamptonshire Highways.
- Public surface water, combined and foul sewer systems. Owned by Anglian Water Services.

Site 6 Hunt Kennels and Site 7 Lyvenden Road.

- Culvert carrying Harpers Brook under Bridge Street Structure number 4112, size over 900mm owned by Northamptonshire Highways.
- Culvert under Grafton Road carrying Tertiary river. Structure number 6376, size, over 900mm. Owned by NCC.
- Bridge carrying footpath over Harpers Brook. Structure number 8252 owned by Northamptonshire Highways.
- Bridge carrying Grafton Road over Harpers Brook. Structure number 3225 owned by Northamptonshire Highways.
- Dwarf prefabricated concrete floodwall, left bank Harpers Brook upstream of Grafton Road. Ownership unknown.
- Embankment using specialist designed gabions, Harpers Brook embankment, Harpers

- Court Brigstock, 2m depth 13m long. Private ownership, maintained by Spire Homes
- Various highway gullies, owned by Northamptonshire Highways.
- Public surface water, combined and foul sewer systems. Owned by Anglian Water Services.

Risk of Flooding from Surface Water

We have enclosed a copy of the Updated Flood Map for Surface Water for each site location. This map identifies areas where there is a risk of flooding from surface water. This modelling is suitable for identifying which parts of the county or town are at risk and suitable for identifying approximate extents, shallower and deeper areas.

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 ground water flood risk in Northamptonshire. This is available on the Flood Toolkit at <http://www.floodtoolkit.com/pdf-library/> > Statutory and Project Documents.

We have enclosed a copy of the Northamptonshire Ground Water Flood Risk Map only at a scale of 1:125,000 due to licensing restrictions on the map data, however in summary for each site this map indicates that;

Site 1 - Brigstock Camp Stanion Road. Is at very low risk of groundwater flooding. Presence of a spring flow in the north of the site

Site 2 Land off Woodyard Close. Is at negligible risk from ground water flood.

Site 3 East side Grafton Road. West of site adjacent Grafton Road is at very high risk of ground water flood. Source of ground water is a bedrock aquifer.

Site 4 North of Stanion Road. North West and northern boundary is at very high risk of ground water flood. Source of ground water is a bedrock aquifer.

Central areas are at very low risk however this area is subject to spring flow.

South of the site is at negligible risk of ground water flood.

Site 5 Pocket Park. North of the site is at very high risk of ground water flood. Source of ground water is a bedrock aquifer.

Central and south of the site are at negligible risk of ground water flood.

Site 6 Hunt Kennels. Very low risk of ground water flood, presence of bedrock aquifer.

Site 7 Lyvenden Road. Very low/ negligible risk of ground water flood. North West of site, presence of spring flow.

Advice on how to consider ground water flood risk in a Flood Risk Assessment is provided at <http://www.floodtoolkit.com/planning/developers/> > Groundwater Flood Risk Assessments.

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 the Northamptonshire Local Flood Risk Management Strategy contains a policy restricting development within 9m of any ordinary watercourse, without prior consent. Consenting for ordinary watercourses in Northamptonshire is dealt with by the Bedford Group of Drainage Boards, on behalf of Northamptonshire County Council. Consent would be required for all works within 9m of the watercourse, including discharge of surface water. For details of the consenting process please refer to the information on our Flood Toolkit at: www.floodtoolkit.com/planning/developers/.

Our information indicates:

Site 1 - Brigstock Camp Stanion Road. Unnamed watercourse 150m from western site boundary, north south flow to Harpers Brook.

Site 2 Land off Woodyard Close. There are no watercourses within the site or vicinity.

Site 3 East side Grafton Road. Tertiary River flows west east along southern site boundary to Harpers brook.

Site 4 North of Stanion Road. Tertiary River flows north south through the centre of site to Harpers Brook.

Site 5 Pocket Park. Secondary River flows north south along site boundary with A6166 Sudborough Road. Tertiary River flows adjacent southern site boundary.

Site 6 Hunt Kennels and Site 7 Lyvenden Road There are no watercourses within the site boundaries or vicinity.

Known Site-Specific Issues and Drainage Constraints

The BGS Infiltration SuDS Map provides screening-level data that gives an indication of the suitability of the subsurface for infiltration SuDS features. This dataset indicates;

Site 1 - Brigstock Camp Stanion Road

The subsurface may be suitable for infiltration SuDS although the design may be influenced by the ground conditions. Quantify infiltration rate via an infiltration/soakaway test.

The map indicates that the site shows potential for geohazards, ground instability problems may be present or anticipated. Increased infiltration is unlikely to result in ground instability except the south east corner of the site which shows significant potential for geohazards. Before installing infiltration SuDS consider the potential for or the consequences of infiltration on ground stability.

The map indicates that the majority of the site has a low susceptibility to ground water contamination. The groundwater is not expected to be especially vulnerable to contamination. Infiltrating water should be free of contaminants. The previous land use should be checked to determine whether the ground is contaminated. The north-west and south east have moderate susceptibility for ground water contamination. Infiltrating water will be required to be free of contaminants. Before installing SuDS, consider the risks associated with the transport of contaminants to ground water. Check previous land use and potential for the presence of contaminated ground.

Site 2 Land off Woodyard Close

The subsurface may be suitable for infiltration SuDS, although the design may be influenced by the ground conditions. Quantify infiltration rate via an infiltration/soakaway test.

The map indicates that the east of the site shows significant potential for geohazard, Ground instability problems are probably present. Increased infiltration may result in ground instability. The west of the site indicates ground instability problems may be present or anticipated. Increased infiltration is unlikely to result in ground instability.

Before installing infiltration SuDS consider the potential for or the consequences of infiltration on ground stability.

The map indicates that the site has a moderate susceptibility to ground water contamination. Infiltrating water should be free of contaminants. Before installing infiltration SuDS, consider the risks associated with the transport of contaminants to the groundwater. Check previous land use and potential for the presence of contaminated ground.

Site 3 East side Grafton Road

The map indicates subsurface is potentially suitable for infiltration SuDS in the south and east although the design will be influenced by the ground conditions. Quantify infiltration rate via an infiltration/soakaway test and consider whether infiltration can be used as a SuDS technique alongside water storage (in ponds/chambers) and re-use.

The map indicates north and west of the site shows very significant potential for one or more geohazards associated with infiltration. Only install infiltration SuDS if the potential for or the consequences of infiltration are considered not to be significant.

The north and west shows potential for geohazard. Ground instability problems may be present or anticipated. Increased infiltration is unlikely to result in ground instability. Before installing infiltration SuDS consider the potential for or the consequences of infiltration on ground stability. The south and east shows significant potential for geohazard. Ground instability problems are probably present. Increased infiltration may result in ground instability. Before installing infiltration SuDS consider the potential for or the consequences of infiltration on ground stability.

The map shows moderate susceptibility to ground water contamination. Infiltrating water should be free of contaminants. Before installing infiltration SuDS, consider the risks associated with the transport of contaminants to the groundwater. Check previous land use and potential for the presence of contaminated ground.

Site 4 North of Stanion Road

The map indicates the majority of the subsurface is probably suitable for infiltration SuDs across the site (excepting the north east corner and area west) although the design may be influenced by the ground conditions. Quantify infiltration rate via an infiltration/soakaway test.

The map shows significant potential/potential for geohazard across the site. Ground instability problems are probably present. Increased infiltration may result in ground instability. Before installing infiltration SuDS consider the potential for or the consequences of infiltration on ground stability.

The map shows moderate susceptibility to ground water contamination. Infiltrating water should be free of contaminants. Before installing infiltration SuDS, consider the risks associated with the

transport of contaminants to the groundwater. Check previous land use and potential for the presence of contaminated ground

Site 5 Pocket Park

Very significant constraints are indicated for the north of the site. There is a very significant potential for one or more geohazards associated with infiltration. Only install infiltration SuDS if the potential for or the consequences of infiltration are considered not to be significant.

The map indicates opportunities for bespoke infiltration SuDS in the south of the site. Quantify infiltration rate via an infiltration/soakaway test and consider whether infiltration can be used as a SuDS technique alongside water storage (in ponds/chambers) and re-use.

The map indicates the all of the site having potential for geohazard. Ground instability problems may be present or anticipated. Increased infiltration is unlikely to result in ground instability. Before installing infiltration SuDS consider the potential for or the consequences of infiltration on ground stability.

The map shows moderate susceptibility to ground water contamination in the north of the site where groundwater may be vulnerable to contamination.

The south of the site indicates low susceptibility so not expected to be especially vulnerable to contamination. Infiltrating water should be free of contaminants. Before installing infiltration SuDS, consider the risks associated with the transport of contaminants to the groundwater. Check previous land use and potential for the presence of contaminated ground.

Site 6 Hunt Kennels

The map indicates opportunities for bespoke infiltration SuDS across the site. The subsurface is potentially suitable for infiltration SuDS although the design will be influenced by the ground conditions. Quantify infiltration rate via an infiltration/soakaway test and consider whether infiltration can be used as a SuDS technique alongside water storage (in ponds/chambers) and re-use.

The map indicates that the east of the site shows significant potential for geohazard, Ground instability problems are probably present. Increased infiltration may result in ground instability. The west of the site indicates ground instability problems may be present or anticipated. Increased infiltration is unlikely to result in ground instability.

Before installing infiltration SuDS consider the potential for or the consequences of infiltration on ground stability.

The map shows moderate susceptibility to ground water contamination across the site where groundwater may be vulnerable to contamination. Infiltrating water should be free of contaminants. Before installing infiltration SuDS, consider the risks associated with the transport of contaminants to the groundwater. Check previous land use and potential for the presence of contaminated ground.

Site 7 Lyvenden Road

The map indicates opportunities for bespoke infiltration SuDS across the site. The subsurface is potentially suitable for infiltration SuDS although the design will be influenced by the ground conditions. Quantify infiltration rate via an infiltration/soakaway test and consider whether infiltration can be used as a SuDS technique alongside water storage (in ponds/chambers) and re-use.

The map indicates that the site shows significant potential for geohazard, Ground instability problems are probably present. Increased infiltration may result in ground instability. The west of the site indicates ground instability problems may be present or anticipated. Increased infiltration is unlikely to result in ground instability.

Before installing infiltration SuDS consider the potential for or the consequences of infiltration on ground stability.

The map shows moderate susceptibility to ground water contamination across the site where groundwater may be vulnerable to contamination. Infiltrating water should be free of contaminants. Before installing infiltration SuDS, consider the risks associated with the transport of contaminants to the groundwater. Check previous land use and potential for the presence of contaminated ground.

Flood alert area.

Site 3 East side Grafton Road is within the Anglian Region Northern Area flood alert area of Harpers Brook between Great Oakley and Islip and Willow Brook between Corby and Fotheringhay. This area is supported by flood wardens.

Further information

Our information requirements in support of a planning application are outlined in our document:

<https://www.floodtoolkit.com/wp-content/uploads/2016/08/Local-Standards-v1.1-August-2016.pdf>

Climate change

Under the new climate change guidance provided by the Environment Agency, at;

<https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances>

Developers should design the surface water attenuation on site to accommodate the 1:100year +20% cc and undertake a sensitivity analysis to understand the flooding implication for the 40% cc. If the implications are significant i.e. the site could flood existing development (additional flow of runoff from the site) or put people at risk (by increased hazard levels within or off the site) then a view may be taken to provide more attenuation working up towards 40% cc, or to provide additional mitigation allowances, for example a higher freeboard to ensure no risk to third parties/onsite users for the extreme 40% cc scenario. This will tie into existing principles for designing for exceedance.

Disclaimer:

This response is made by the County Council in its capacity as a Lead Local Flood Authority as a statutory consultee. As a Lead Local Flood Authority 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, waste water, risk of flooding from ground water, biodiversity and ecological impact, 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 Council. Liability for such technical work therefore rests with organisation(s) who have undertaken this technical work and the Local Planning Authority, which is responsible for the planning decision.