Weetwood

Development • Planning • Environment

FORMER CALVERT CARPETS SITE
HUTTON BANK, RIPON

FLOOD RISK AND DRAINAGE ASSESSMENT

Final Report v1.0

October 2018

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Report Title	**Former Calvert Carpets Site, Hutton Bank, Ripon** Flood Risk and Drainage Assessment Final Report v1.0
Client	Primetalent Ltd
Date of issue	31 October 2018

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1 INTRODUCTION

1.1 PURPOSE OF REPORT

Weetwood Services Ltd ('Weetwood') has been instructed by Primetalent Ltd to prepare a Flood Risk and Drainage Assessment report to accompany an outline planning application for the proposed redevelopment of the former Calvert Carpets site off Hutton Bank, Ripon.

The assessment has been undertaken in accordance with the requirements of the National Planning Policy Framework (NPPF) and National Planning Practice Guidance (NPPG).

1.2 STRUCTURE OF THE REPORT

The report is structured as follows:

Section 1 Introduction and report structure
Section 2 Presents national and local flood risk and drainage planning policy
Section 3 Provides background information relating to the development site, the development proposals, ground conditions and existing site access arrangements
Section 4 Assesses the potential sources of flooding to the development site
Section 5 Presents flood risk mitigation measures based on the findings of the assessment
Section 6 Addresses the effect of the proposed development on surface water runoff and presents an illustrative surface water drainage scheme to ensure that surface water runoff is sustainably managed and flood risk is not increased elsewhere.
Section 7 Addresses the effect of the proposed development on the existing public foul drainage infrastructure and the receiving wastewater treatment works.
Section 8 Presents a summary of key findings
Section 9 Presents the recommendations

2 PLANNING POLICY AND GUIDANCE

2.1 NATIONAL PLANNING POLICY AND GUIDANCE

2.1.1 National Planning Policy Framework

The aim of the NPPF is to ensure that flood risk is taken into account at all stages in the planning process and is appropriately addressed.

2.1.1.1 Sequential Test

Paragraph 155 of the NPPF states that *'inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk (whether existing or future). Where development is necessary in such areas, the development should be made safe for its lifetime without increasing flood risk elsewhere'*.

This policy is implemented through the application of the sequential test (NPPF paragraph 158).

2.1.1.2 Exception Test

Paragraphs 159-161 of the NPPF state:

"If it is not possible for the development to be located in zones with a lower risk of flooding (taking into account wider sustainable development objectives)the exception test may have to be applied. The need for the exception test will depend on the potential vulnerability of the site and of the development proposed, in line with the Flood Risk Vulnerability Classification set out in the national planning guidance"(Paragraph 159).

"*The application of the exception test should be informed by a strategic or site-specific FRA, depending on whether it is being applied during plan production or at the application stage. For the exception test to be passed it should be demonstrated that: a) the development would provide wider sustainability benefits to the community that outweigh the flood risk; and b) the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall*" (Paragraph 160).

"*Both elements of the exception test should be satisfied for development to be allocated or permitted*" (Paragraph 161).

2.1.1.3 Surface Water Drainage

Paragraph 163 of the NPPF states that development should only be allowed in areas at risk of flooding if it incorporates sustainable drainage systems unless there is clear evidence that this would be inappropriate.

The NPPF also states, in paragraph 165 states that applications for major developments as defined in the Town and Country Planning (Development Management Procedure) (England) Order 2015, should incorporate sustainable drainage systems to appropriate operational standards and with maintenance arrangements in place unless there is clear evidence that this would be inappropriate.

2.1.2 DEFRA Technical Standards for Sustainable Drainage Systems, March 2015

The DEFRA non-statutory technical standards published state that surface water drainage systems must be designed so that:

- Flooding does not occur on any part of the site for a 1:30 annual probability rainfall event, unless an area is designed to hold and/or convey water as part of the design;
- Flooding does not occur in any part of a building during a 1:100 annual probability event; and
- Flows resulting from rainfall in excess of a 1:100 annual probability rainfall event are managed in exceedance routes that minimise the risks to people and property, so far as is reasonably practicable.
- For greenfield developments, the peak runoff rate from the development to any drain, sewer or surface water body for the 1:1 and 1:100 annual probability rainfall event should never exceed the peak greenfield runoff rate for the same event. For developments which were previously developed, the peak runoff rate must be as close as reasonably practicable to the greenfield runoff rate from the development for the same rainfall event, but should never exceed the rate of discharge from the development prior to redevelopment for that event.
- Where reasonably practicable, for greenfield development, the runoff volume from the development to any highway drain, sewer or surface water body in the 1:100 annual probability, 6 hour rainfall event should never exceed the greenfield runoff volume for the same event. Where reasonably practicable, for developments which have been previously developed, the runoff volume must be constrained to a value as close as is reasonably practicable to the greenfield runoff volume for the same event, but should never exceed the runoff volume from the development site prior to redevelopment for that event.
- Where it is not reasonably practicable to constrain the volume of runoff to any drain, sewer or surface water body, the runoff volume must be discharged at a rate that does not adversely affect flood risk.

2.2 LOCAL PLANNING POLICY AND GUIDANCE

2.2.1 Harrogate District Local Development Framework Core Strategy, February 2009

The Harrogate Borough Council Core Strategy was adopted in February 2009, and sets out the strategic policies for development and conservation of the district up to 2021. 'Policy EQ1: Reducing Risks to the Environment' states that the planning, design, construction and subsequent operation of all new development should seek to minimise flood risk.

2.2.2 Harrogate District Local Plan Publication Draft, January 2018

The Local Plan, once finalised and adopted, will set out the broad spatial planning and policy framework for the Harrogate District up to 2035.

'Policy CC1: Flood Risk and Sustainable Drainage' sets out the following principles (extract) in relation to development and flood risk:

- Development proposals will not be permitted where they would have an adverse effect on watercourses or increase the risk of flooding elsewhere.
- Development will only be permitted where it has an acceptably low risk of being affected by flooding when assessed through Sequential Testing against the most up-to-date Environment Agency flood risk maps and the Harrogate District Level 1 Strategic Flood Risk Assessment (SFRA) maps. Development layout within the

site should be subject to the sequential approach, with the highest vulnerability development located in areas at lowest flood risk within the site.

- Where required by national guidance, proposals for development should be accompanied by a site-specific Flood Risk Assessment (FRA). The FRA should demonstrate that the development will be safe, including access, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall.
- All development will be required to ensure that there is no increase in surface water flow rate run off. Priority should be given to incorporating Sustainable Drainage Systems (SuDS) to manage surface water drainage, unless it is proven that SuDS are not appropriate. Where SuDs are provided arrangements must be put in place for their whole life management and maintenance.
- In partnership with the Environment Agency (EA) and the Lead Local Flood Authority (LLFA), the council will seek opportunities from new development to reduce the causes and impacts of flooding.

2.2.3 North Yorkshire County Council SuDS Design Guidance

North Yorkshire County Council (NYCC) is the LLFA for North Yorkshire. The NYCC SuDS Design Guidance provides direction to relevant design guidance for the successful implementation of SuDS.

The relevant points are:

- The peak runoff rate from the developed site for the 1 in 1, 1 in 30 and 1 in 100 rainfall events including climate change must not exceed the peak greenfield runoff rate from the site for the same event.
- For a whole or part brownfield site; the greenfield runoff rate and/or 70% of demonstrable existing positively drained runoff rate for those rainfall events will be permitted however greenfield runoff rate should be achieved where possible.
- The runoff volume from the developed site for the 1 in 100, 6 hour rainfall event must not exceed the greenfield runoff volume for the same event.

2.3 CONSENTS

An Environmental Permit for Flood Risk Activities may be required from the EA for work:

- In, under, over or near a main river (including where the river is in a culvert)
- On or near a flood defence on a main river
- In the flood plain of a main river

Further information can be found at https://www.gov.uk/guidance/flood-risk-activities-environmental-permits.

Land drainage consent may be required from the Lead Local Flood Authority or Internal Drainage Board for work to an Ordinary Watercourse. Undertaking activities controlled by local byelaws (made under the Water Resources Act 1991) also requires the relevant consent.

2.4 RELEVANT DOCUMENTS

The assessment has been informed by the following documents:

- Harrogate Borough Council Level 1 Strategic Flood Risk Assessment, September 2016
- North Yorkshire County Council Preliminary Flood Risk Assessment, August 2011
- North Yorkshire County Council PFRA Addendum, December 2017

3 SITE DETAILS AND PROPOSED DEVELOPMENT

3.1 SITE LOCATION

The approximately 1.38 ha site is located off Hutton Bank, Ripon at Ordnance Survey National Grid Reference SE 318 722 as shown in **Figure 1**.

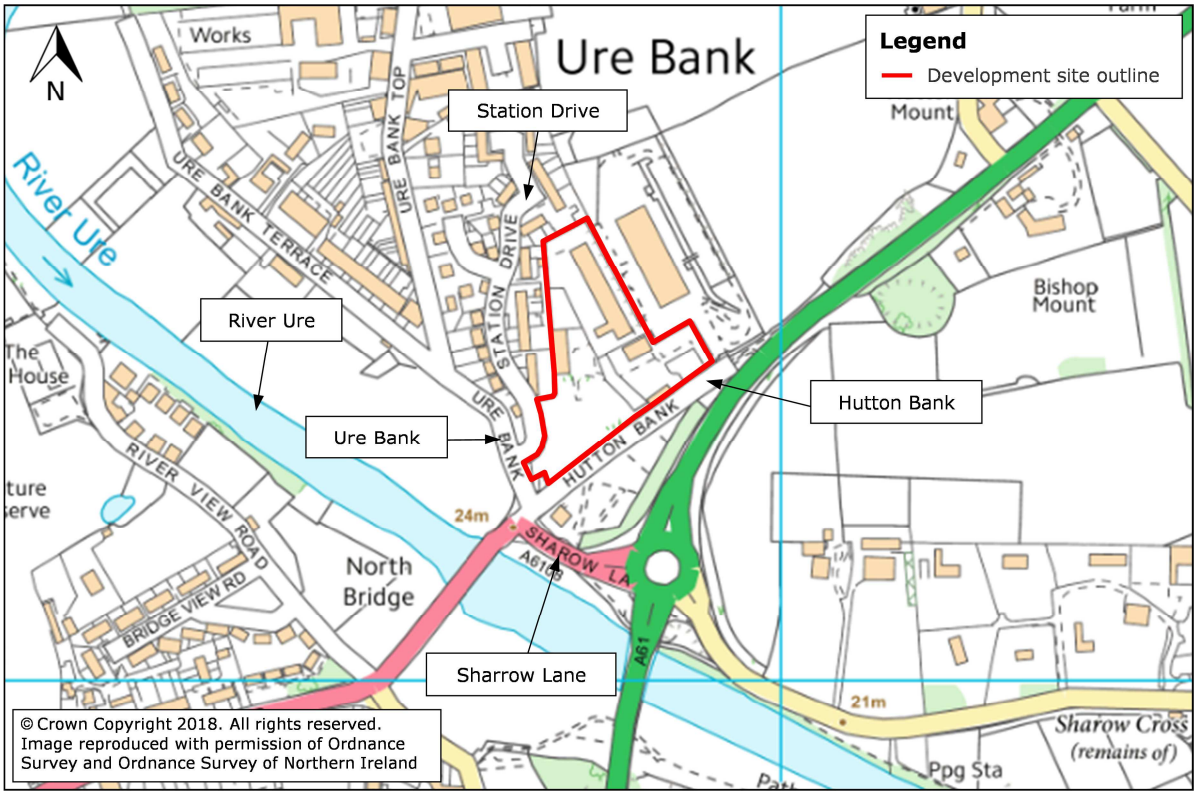


Figure 1: Site Location

3.2 EXISTING AND PROPOSED DEVELOPMENT

The site is currently occupied by four buildings with the remainder of the site comprising of hardstanding and rough ground.

The development proposals are for the construction of up to 43 residential dwellings with associated areas of soft landscaping and access via Hutton Bank (**Appendix A**).

The NPPG classifies residential development as More Vulnerable land use.

3.3 WATERBODIES IN THE VICINITY OF THE SITE

The River Ure flows in a south-easterly direction approximately 70 m south-west of the site. There are no water bodies within the site boundary.

3.4 GROUND CONDITIONS

Logs for three on-site boreholes[1] indicate the presence of made ground up to 1.1 metres below ground level (bgl) underlain by compacted sand and clay to a depth of 2.9 m. Groundwater was observed in one borehole at a depth of 2.8 m bgl towards the south of the site (BGS ref: SE37SW126).

British Geological Survey (BGS) mapping[2] indicates the underlying bedrock predominantly comprises mudstone (Roxby Formation) with limestone (south-western portion of the site) and sandston (north-eastern/eastern portion of the site). The bedrock geology is indicated to be overlain by superficial deposits of sand, gravel and clay.

According to the MAGIC website[3] the site is underlain by Secondary A and B superficial and aquifers and Principal and Secondary B bedrock aquifers.

The site is not shown to be located within a designated Groundwater Source Protection Zone.

3.5 SITE LEVELS

A topographic survey of the site has been undertaken by Encia Geomatics and is provided in **Appendix B**.

Ground levels are shown to be in the region of 24.6 to 33.6 metres Above Ordnance Datum (m AOD) with levels generally sloping down in a south-westerly/southerly direction. Ground levels within the southern/south-western portion of the site are a minimum of approximately 1.1 m above ground levels adjacent to Hutton Bank.

LiDAR data has been used to develop a digital elevation model of the site as illustrated in **Figure 2**.

3.6 ACCESS AND EGRESS

The site is accessed via Hutton Bank to the south of the site. Levels along the existing access route are shown to be in the region of 23.7 to 33.0 m AOD, with levels sloping down in a south-westerly direction.

1 www.bgs.ac.uk/data/boreholescans/home.html, Ref: SE37SW123, SE37SW124 and SE37SW126

2 http://mapapps.bgs.ac.uk/geologyofbritain/home.html

3 https://magic.defra.gov.uk/MagicMap.aspx

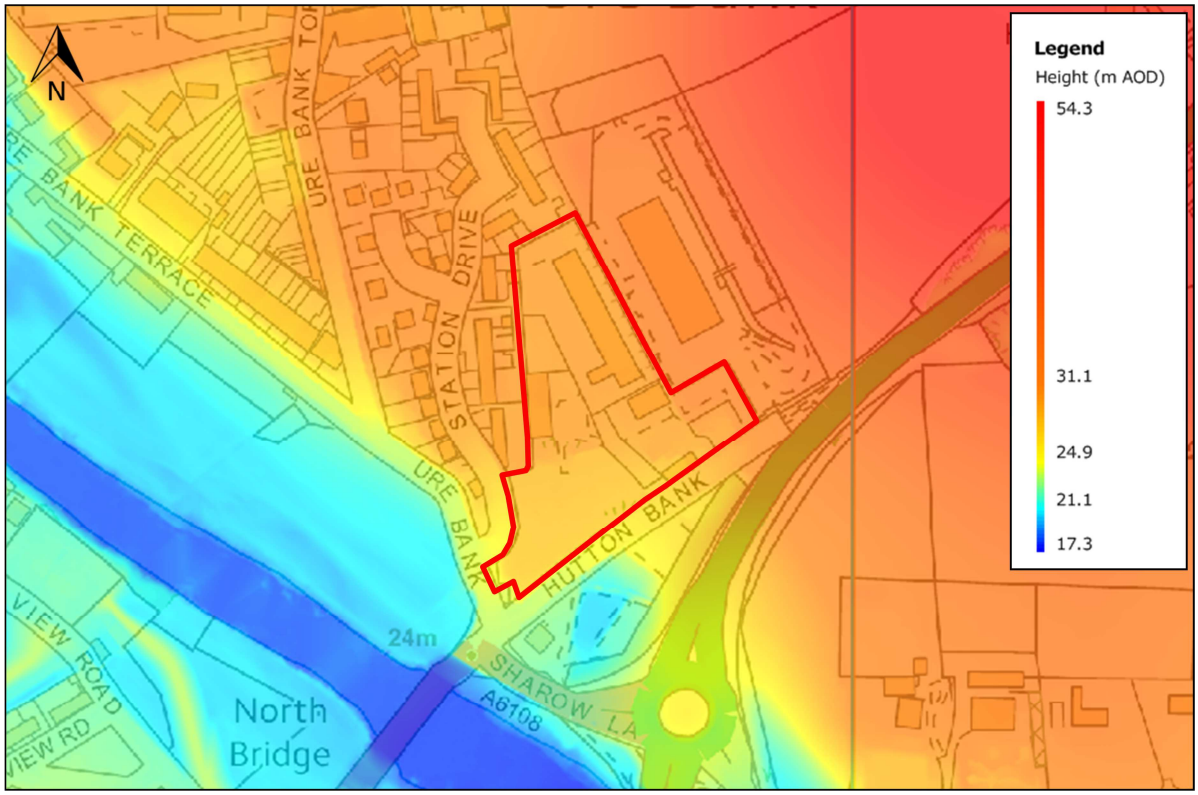


Figure 2: Digital Elevation Model

4 REVIEW OF FLOOD RISK

4.1 FLOOD ZONE DESIGNATION

Flood Zones refer to the probability of river and sea flooding. The NPPG defines flood zones as follows:

- Flood Zone 1: Low Probability. Land having a less than 1:1,000 annual probability of river or sea flooding.
- Flood Zone 2: Medium Probability. Land having between a 1:100 and 1:1,000 annual probability of river flooding; or Land having between a 1:200 and 1:1,000 annual probability of sea flooding.
- Flood Zone 3a: High Probability. Land having a 1:100 or greater annual probability of river flooding; or Land having a 1:200 or greater annual probability of sea flooding.
- Flood Zone 3b: Functional Floodplain. Land where water has to flow or be stored in times of flood.

The flood zones are shown on the Flood Map for Planning. The zones do not account for possible future changes in flooding due to the impact of climate change or the presence of flood defences (although areas benefitting from flood defences may be indicated).

According to the Flood Map for Planning (**Figure 3**) the site is located in Flood Zone 1. Map 60 of the SFRA reaffirms the sites Flood Zone 1 designation.

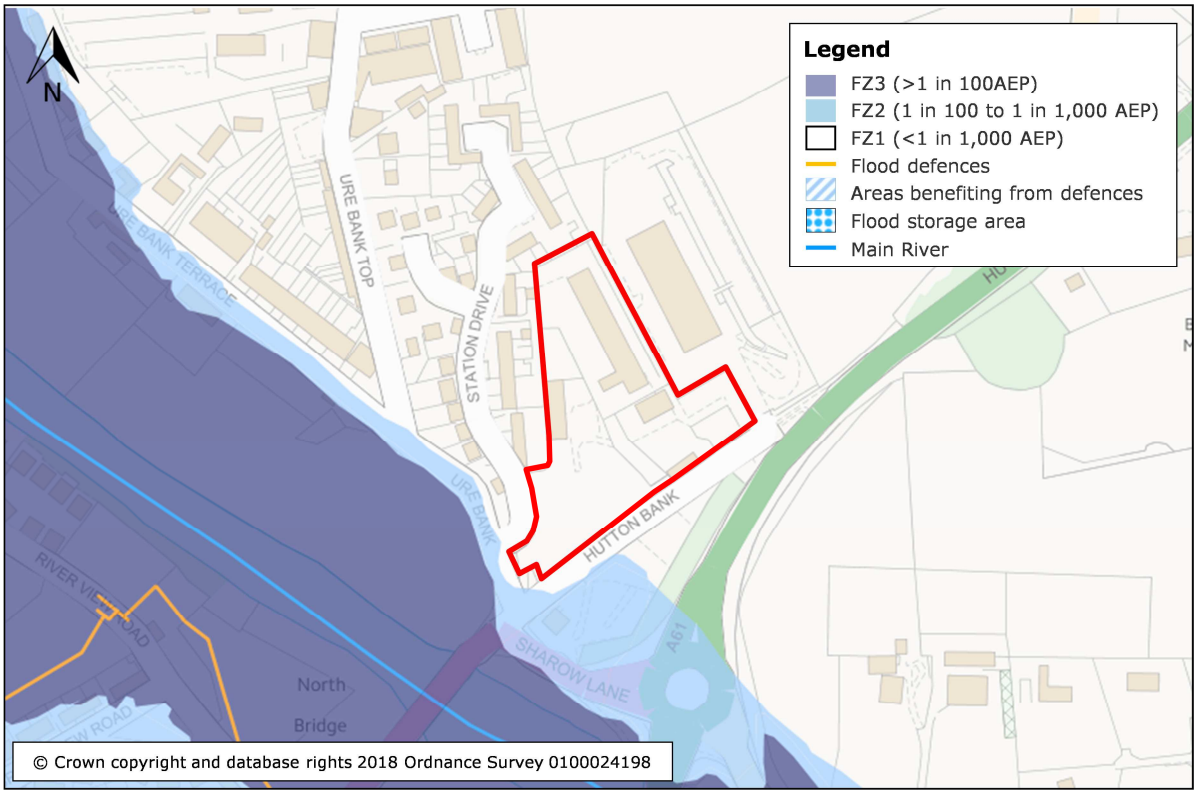


Figure 3: Flood Map for Planning
(Source: gov.uk website)

4.2 SEQUENTIAL TEST AND EXCEPTION TEST

The proposed development site is situated within Flood Zone 1 and therefore satisfies the requirements of the sequential test.

Furthermore, the application of the exception test is subsequently not deemed to be necessary; however, the proposals should still meet the requirements for site specific FRAs.

4.3 HISTORICAL RECORDS OF FLOODING

The EA, SFRA and LLFA do not hold any records of historical flooding incidents at the site. However, flooding occurred within close proximity to the south-west of the site in 1947, 1982 and 1991.

4.4 FLUVIAL FLOOD RISK – RIVER URE

4.4.1 Flood Defences

Flood defences are located along the left (northern) bank of the River Ure, with defences comprising of high ground. The defences are privately maintained; however, the EA does undertake regular risk based visual inspections. According to EA records, the defences are in fair condition; the EA has confirmed that they do not hold any further information on the defences adjacent to the site.

4.4.2 Modelled Flood Levels

Modelled in-channel flood levels (defended and undefended) for the River Ure adjacent to the site have been provided by the EA for the present day 1 in 100 and 1 in 1,000 annual probability events and the 1 in 100 plus 20% climate change (+CC) annual probability events.

The modelled peak flood levels for these events for the model nodes illustrated on **Figure 4** are provided in **Table 1**.

A level-discharge relationship has been developed to estimate peak flood levels for the 1 in 100 annual probability event plus a 30% and 50% increase in peak flows to allow for the potential impact of future climate change, in accordance with the 2016 EA guidance[4]. The estimated flood levels are also presented in **Table 1**.

A comparison of site levels and modelled flood levels indicate that peak river levels are a minimum of approximately 2.1 m below site levels and approximately 0.2 m below the southernmost proposed access point along Hutton Bank. As such, the development site is not assessed to be at risk of flooding from the River Ure during all modelled scenarios.

The southernmost part of Hutton Bank is indicated to remain dry during the 1 in 100 and 1 in 100+CC (20% and 30%) annual probability events but potentially flood during the 1 in 100+CC (50%) and 1 in 1,000 annual probability events.

The Ure Bank/Hutton Bank/Sharrow Lane roundabout and adjoining junctions are also indicated to potentially flood during the 1 in 100+CC (30% and 50%) and 1 in 1,000 annual probability events, with potential flood depths of up to 0.25 m during the 1 in 100+CC (30%) event.

[4] Flood Risk Assessments: Climate Change Allowances, Environment Agency, 19 February 2016

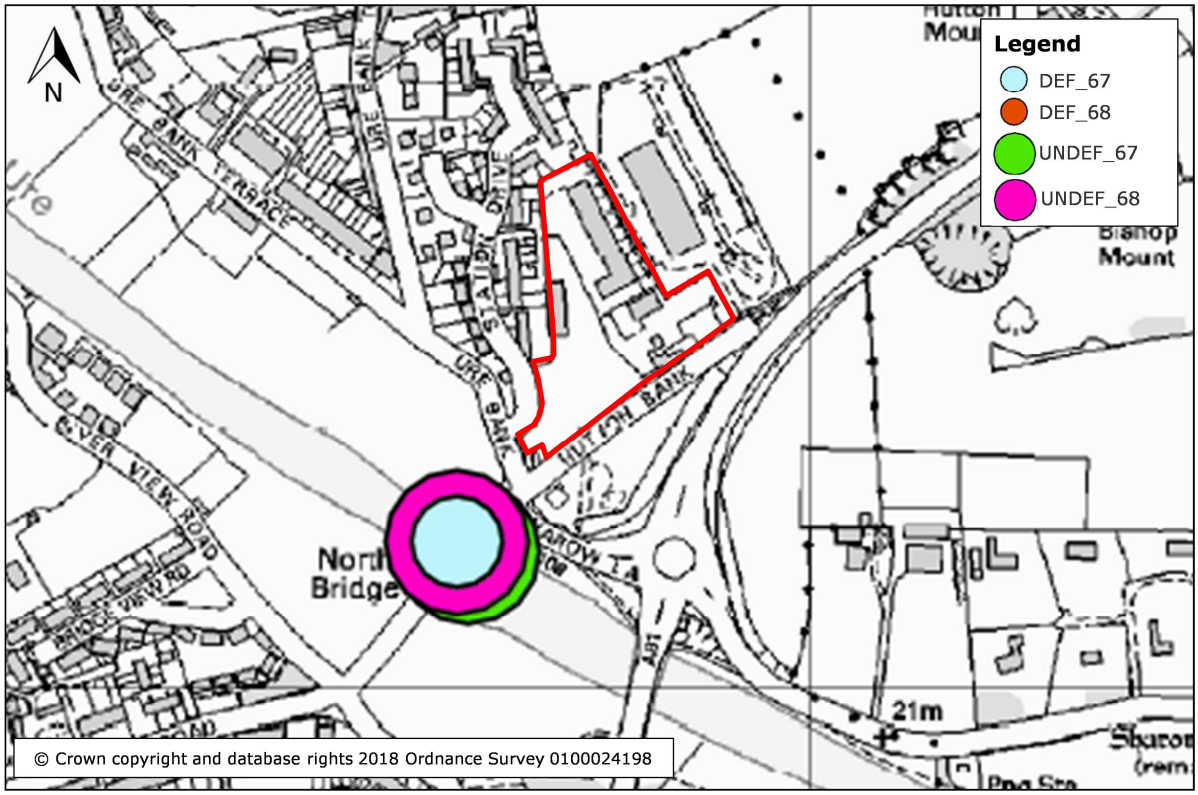


Figure 4: River Ure Modelled Node Locations
(Source: Ripon Model Improvements 2013, Nov 2014)

Table 1: River Ure Modelled Flood Levels
(Source: Ripon Model Improvements 2013, Nov 2014)

Model Node	Annual Probability Flood Level (m AOD)				
	Present Day		Climate Change		
	1 in 100	1 in 1,000	1 in 100 + 20%	1 in 100 + 30%	1 in 100 + 50%
Defended					
_67	22.72	24.36	23.18	23.59	23.96
_68	21.89	22.78	22.17	22.40	22.62
Undefended					
_67	22.70	24.30	23.20	23.72	24.13
_68	21.90	22.90	22.20	22.52	22.77

4.5 FLOOD RISK FROM SURFACE WATER

The Flood Risk from Surface Water map (**Figure 5**) indicates that the site is predominantly at 'Very Low' risk of flooding from surface water but with the potential for the accumulation of surface water in localised low areas of the site and due to obstructions from buildings.

Flood depths are indicated to range between 0 to 900 mm, however, the risk and extent of flooding significantly reduces during less extreme events (**Figure 6**).

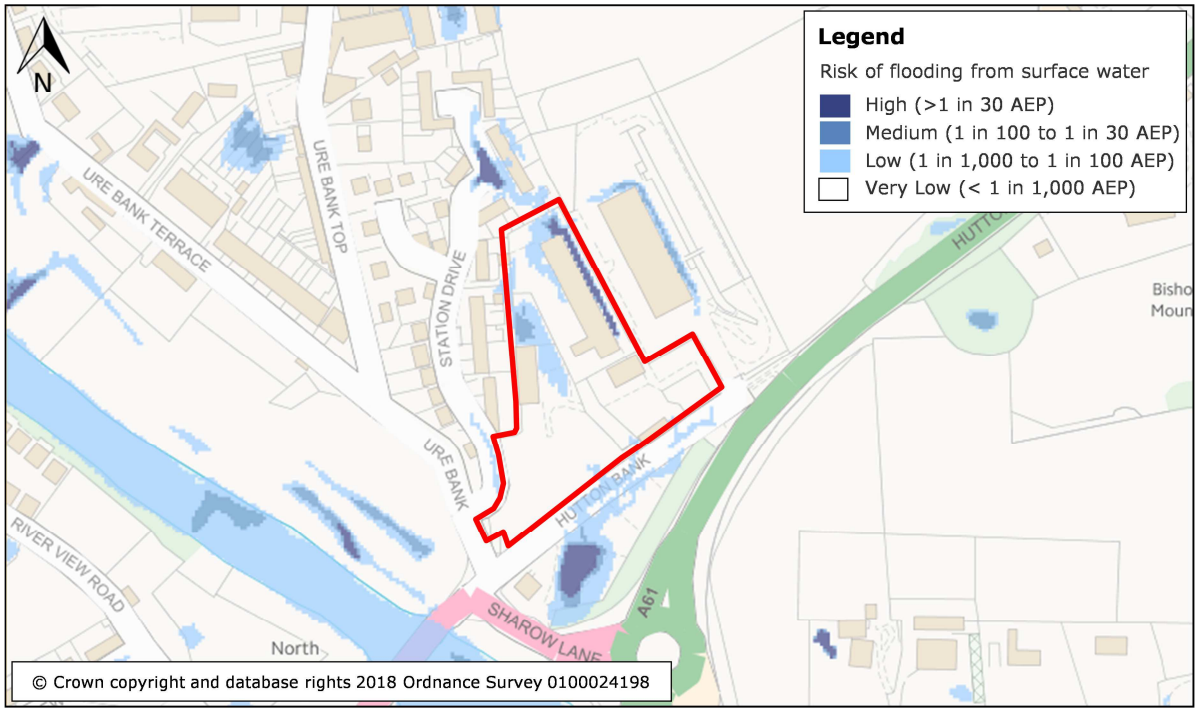


Figure 5: Flood Risk from Surface Water
(Source: gov.uk website)

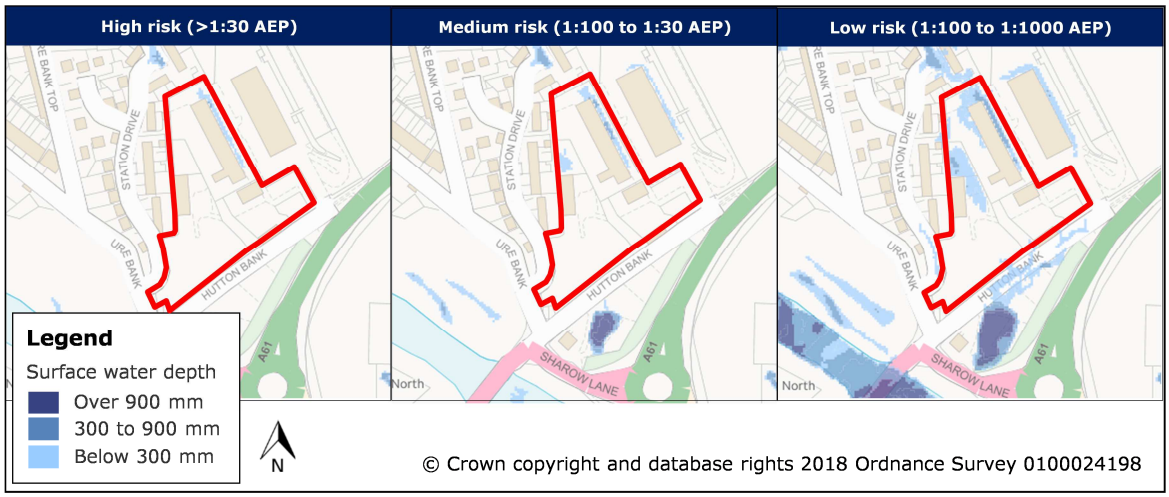


Figure 6: Flood Risk from Surface Water - Depth
(Source: gov.uk website)

4.6 FLOOD RISK FROM RESERVOIRS, CANALS AND OTHER ARTIFICIAL SOURCES

There are no canals or other impounded waterbodies located within the immediate vicinity of the site. The Flood Risk from Reservoirs map indicates that the site is not at risk of flooding from such sources. The site is therefore not assessed to be at risk of flooding from reservoirs, canals or other artificial sources.

4.7 FLOOD RISK FROM GROUNDWATER

According to the JBA Groundwater Flood Risk Indicator map (**Figure 7**) the eastern portion of the site is at 'Negligible' risk of groundwater flooding, however, groundwater levels in the south-western portion of the site are indicated to be between 0.5 to 5.0 m bgl. Any groundwater emergence would be expected to flow overland in a south-westerly/southerly direction towards Ure Bank and Hutton Bank.

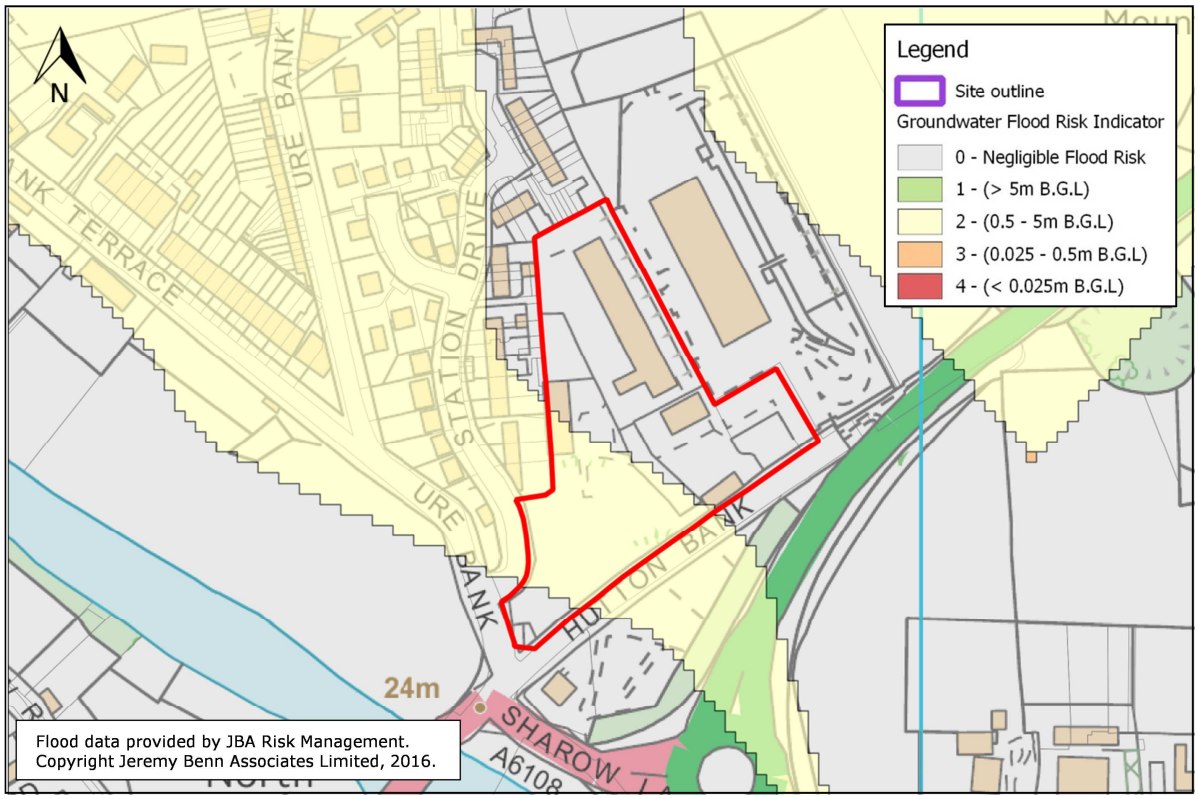


Figure 7: JBA Groundwater Flood Map
(Source: Blue Sky Maps)

5 FLOOD RISK MITIGATION MEASURES

The flood risk to the site from all identified sources will be mitigated through the implementation of the measures proposed within the following section of this report.

5.1 FINISHED FLOOR LEVELS

Finished floor levels should be set at a minimum of 0.15 m above adjacent ground levels following any re-profiling of the site.

This will, subject to the implementation of an appropriately designed surface water drainage scheme (**Section 6**), enable any potential overland flows to be conveyed safely across the site without affecting property in accordance with the approach promoted by government policy[5].

5.2 ACCESS AND EGRESS

In the event of flooding from the River Ure, access to the site via the Ure Bank/Hutton Bank/Sharrow Lane roundabout is expected to remain safe up to and during the 1 in 100 plus 30% CC annual probability event. In addition, access to the site may be provided via Hutton Bank to the east of the site during all events.

[5] Making Space for Water, Taking forward a new Government strategy for flood and coastal erosion risk management in England, March 2005, Dept for Environment, Food and Rural Affairs

6 SURFACE WATER MANAGEMENT

6.1 SURFACE WATER DRAINAGE AT THE EXISTING SITE

The site is approximately 1.38 ha, of which approximately 0.56 ha comprises impermeable surfaces (roofs and hardstanding).

An assessment of the topographic survey suggests that surface water runoff from existing buildings and surrounding hardstanding areas is positively drained (indicated by rainwater downpipes, gullies and manholes). This would be confirmed by a drainage survey at the discharge of condition/reserved matters stage.

The Deeds to the site (see **Appendix C**) indicate an existing surface water sewer connection from the site into a public surface water sewer along Ure Bank.

Given site topography and ground conditions, surface water runoff from permeable surfaces would be expected to infiltrate where conditions allow and/or flow overland in a south-westerly/southerly direction towards Ure Bank and Hutton Bank.

Runoff rates from existing impermeable surfaces have been calculated using the Modified Rational Method. Details of the input parameters and the output results are provided in **Appendix D**. The results are summarised in **Table 2**.

Table 2: Peak Runoff Rate - Existing Site

Annual probability of rainfall event	Runoff Rate (l/s)
1:1	61.7
1:30	145.4
1:100	184.0

6.2 SURFACE WATER DRAINAGE AT THE REDEVELOPED SITE

6.2.1 Disposal of Surface Water

In accordance with the NPPG[6], surface water runoff should be disposed of according to the following hierarchy: Into the ground (infiltration); To a surface water body; To a surface water sewer, highway drain, or another drainage system; To a combined sewer.

The disposal of surface water via infiltration is not expected to be feasible due to underlying ground conditions across the site and the potential for shallow groundwater within the south-western portion of the site.

It is therefore proposed to direct surface water from the development to the River Ure via the existing 500 mm diameter public surface water sewer along Ure Bank as per the existing arrangement.

6.2.2 Post Development Impermeable Area

Based on the masterplan (**Appendix A**), the area of impermeable surfaces within the development has been estimated to be 0.69 ha. This includes an additional 10% to allow for urban creep.

[6] Paragraph 080, Reference ID: 7-080-20150323

6.2.3 Peak Flow Control

It is proposed to restrict surface water runoff to the existing 1 in 1 annual probability rate with a 30% betterment post development (i.e. 43.2 l/s).

6.2.4 Volume Control

It is proposed to restrict peak discharge rates to the existing 1 in 1 annual probability rate with a 30% betterment in up to the 1 in 100 annual probability event, including an allowance for climate change. Following a reduction in peak flow rates this would result in a reduction of approximately 80 m^3 during the 1 in 100 - 6 hour rainfall event.

6.2.5 Attenuation Storage

Attenuation storage will be provided to store surface water runoff generated across the proposed roofs and hardstanding surfaces.

The attenuation storage facility has been modelled using the Detailed Design module of MicroDrainage Source Control (**Appendix E**). The required storage volume has been sized to store the 1 in 100 annual probability rainfall event including a 30% increase in rainfall intensity in order to allow for climate change in accordance with NYCC SuDS Design Guidance.

Assuming a peak discharge rate of 43.2 l/s, an approximate storage volume of 150 m^3 would be required. This could be accommodated within a 1.3 m deep lined basin (including a 0.3 m freeboard and a side slope of 1 in 6) with a surface area of approximately 415 m^2.

The form of attenuation storage would be confirmed at the discharge of conditions/reserved matters stage. However, this assessment confirms that there is sufficient space within the public open space to the south-west of the site to accommodate the attenuation basin.

In practice the storage is likely to be provided in a number of different storage facilities. The potential for alternative and/or additional SuDS features (for example, permeable paving and cellular storage) and the sizing and location of the storage facilities will be confirmed at the discharge of condition/reserved matters stage.

The calculations assume that all storage is provided within the formal attenuation storage facility; with no storage being provided in the proposed pipe network. As such, the volumes of storage presented are likely to be an overestimate and would be expected to reduce when the drainage scheme is refined at the discharge of conditions/reserved matters stage.

If the on-site surface water conveyance system is built to adoptable standards (see **Section 6.2.9**), then the storage volume would be expected to reduce to approximately 83 m^3. The reduction from 150 m^3 is because Yorkshire Water requires the 1 in 30 annual probability rainfall event to be stored entirely within the adopted surface water sewer.

6.2.6 Exceedance Routes

Flows resulting from rainfall in excess of the 1 in 100 plus climate change event will be managed in exceedance routes. It is assumed that as the development proposals progress, the design of the site would ensure flood flows are directed towards carriageways and landscaped areas, with the site being profiled to ensure that flood flows are directed away from built development.

Indicative exceedence flow routes based on the illustrative site layout, site topography and final site levels following any re-profiling of the site is provided in **Figure 8**. These exceedance routes would need to be re-confirmed following detailed design of the drainage network.

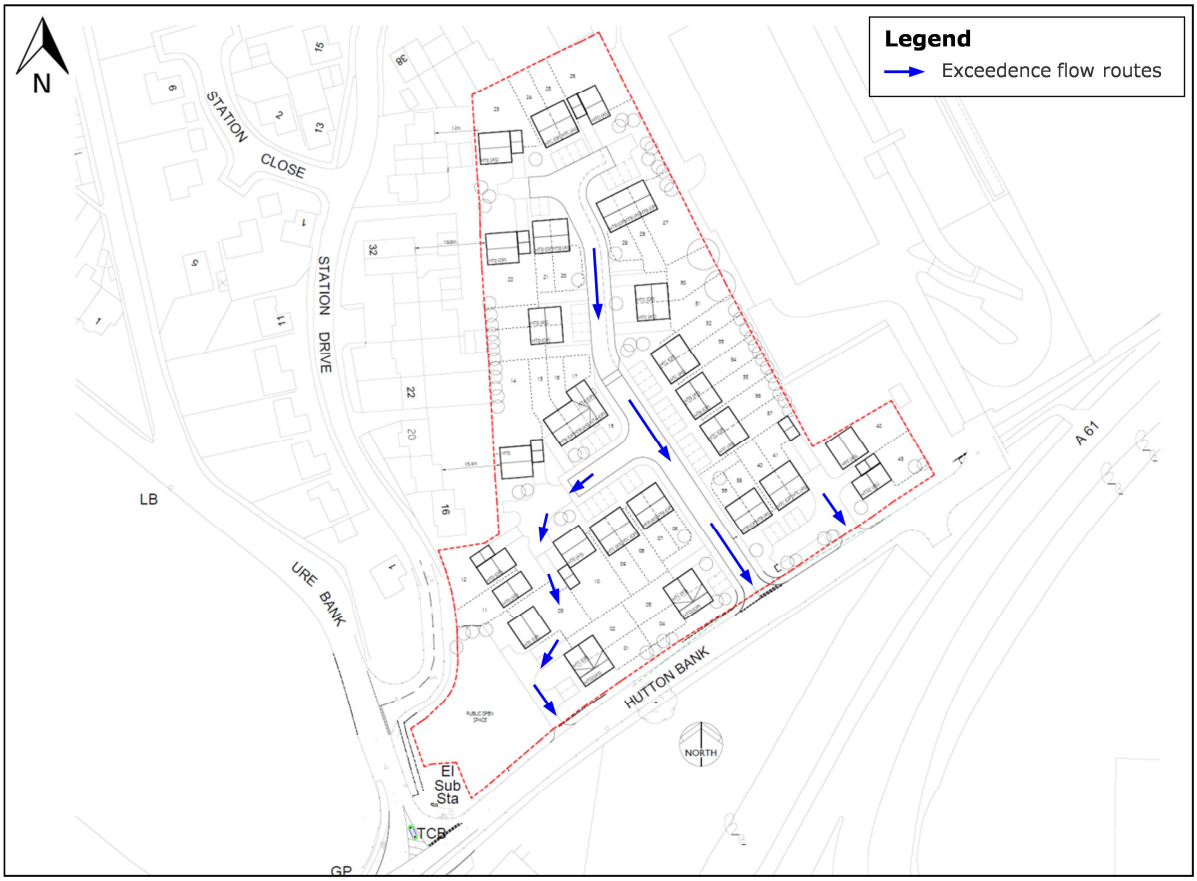


Figure 8: Indicative Exceedence Flow Routes

6.2.7 Pollution Control

Attenuation basins can provide water quality benefits via the settlement of pollutants in still or slow moving water, adsorption by the soil, and biological activity. The potential for additional SuDS features to be utilised at the site would be investigated further at the detailed design stage.

6.2.8 Adoption and Maintenance of SuDS

The pipe network, designed to Sewers for Adoption (6th Edition) standard may be adopted by Yorkshire Water (the sewerage undertaker).

SuDS elements within the curtilage of residential dwellings would be the responsibility of the owner of the property.

Attenuation basins and other SuDS features may be maintained by a management company.

An indicative maintenance schedule is presented in **Table 3**.

Table 3: Indicative Maintenance Requirements – Attenuation Basin

Schedule	Required action	Frequency
Regular maintenance	Remove litter and debris	Monthly
	Cut grass	Monthly during grow season Or as required)
	Manage other vegetation and remove nuisance plants	Monthly at start, then as required
	Inspect inlets, outlets and overflows for blockages, and clear if required.	Monthly
	Inspect banksides, structures, pipework etc for evidence of physical damage	Monthly
	Inspect inlets and facility surface for silt accumulation. Establish appropriate silt removal frequencies	Monthly for first year, then annually or as required
	Tidy all dead growth before start of growing season	Annually
	Remove sediment from inlets/outlets	Annually (or as required)
Occasional maintenance	Reseed areas of poor vegetation growth	As required
	Prune and trim any trees and remove cuttings	Every two years, or as required
	Remove sediments from inlets/outlets and main basin when required	
Remedial actions	Repair erosion or other damage by reseeding or re-turfing	As required
	Realignment of rip-rap	
	Repair/rehabilitation of inlets/outlets	
	Relevel uneven surface and reinstate design levels	
	Monitor inspection chambers	

6.2.9 Summary

The purpose of this report is to demonstrate that a surface water drainage strategy is feasible for the site given the development proposals and the land available.

The proposals provide the opportunity for the inclusion of SuDS elements, ensuring that there will be no increase in surface water runoff from the proposed development.

The storage calculations may be refined at the detailed design stage and a final decision made on the types of storage to be provided.

7 FOUL WATER MANAGEMENT

7.1 EXISTING ASSETS

The local public sewer network is owned and operated by Yorkshire Water (YW). Service plans provided by YW (see **Appendix F** and extract in **Figure 9**) indicate:

- A 225 mm diameter public foul sewer along Ure Bank crossing over Hutton Bank
- A 150 mm diameter public foul sewer along Station Drive flowing into the aforementioned foul sewer at the junction of Station Drive and Ure Bank

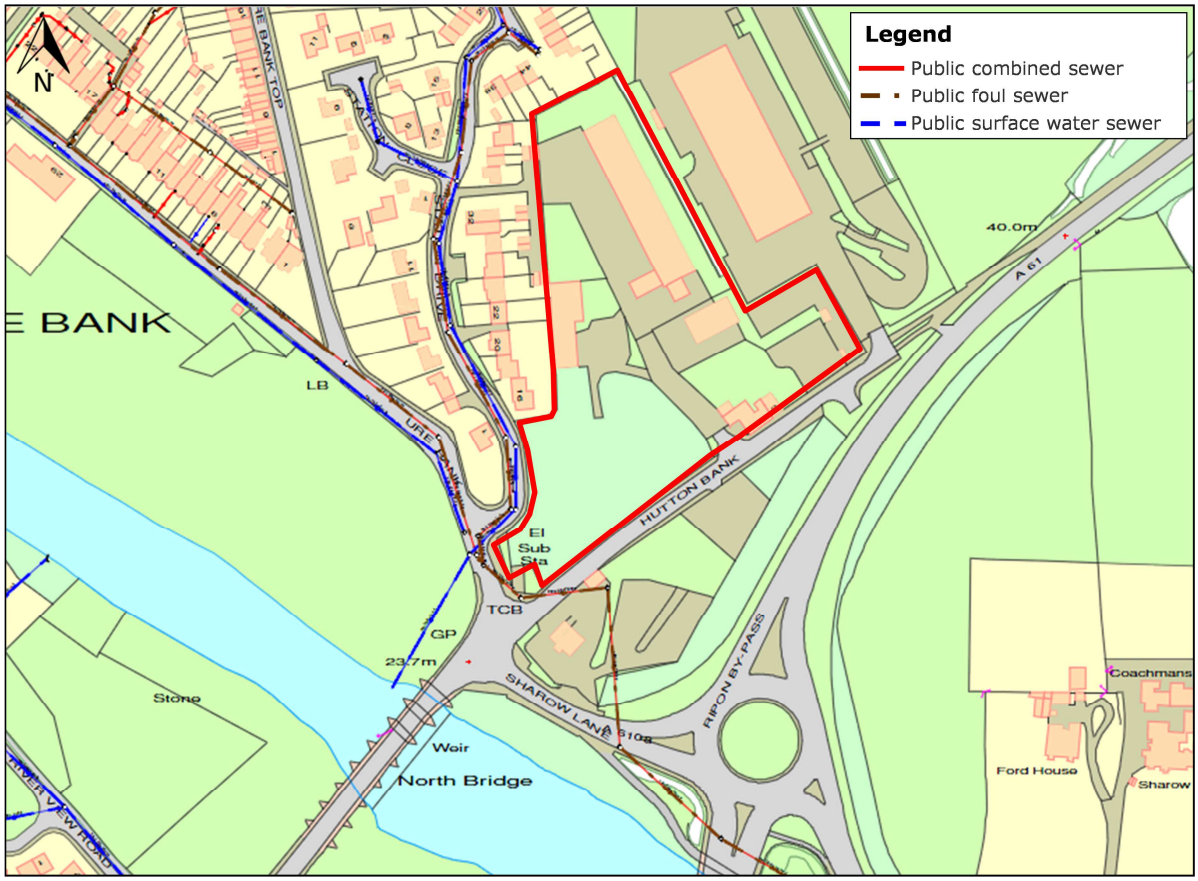


Figure 9: Yorkshire Water Existing Sewerage Infrastructure

7.2 NEW CONNECTIONS

Under the Water Industry Act (1991) developers have a right to connect foul water flows from new developments to public sewer.

The Act places a general duty on sewerage undertakers to provide the additional capacity that may be required to accommodate additional flows and loads arising from new domestic development.

YW has advised, by way of letter dated 24 October 2018 (see **Appendix G**) that:

- There is existing capacity in the local foul sewerage network to receive and treat foul flows from the proposed development
- No off-site reinforcement of the sewer network or receiving wastewater treatment works is required to facilitate the proposed development
- Foul water can discharge without restriction into the 225 mm diameter foul sewer along Hutton Bank or into the 150 mm diameter foul sewer Station Drive, at a point to the south-west of the site.

7.3 EASEMENTS, DIVERSIONS AND DISCONNECTIONS

According to the public sewer maps, no public foul water infrastructure is located within the development site. As such, there should be no constraints to the proposed development due to diversionary works or easements.

It should be noted that private services may be installed within the site boundary so due care and appropriate work methods should be exercised when considering any proposed excavation works.

8 SUMMARY

This report has been prepared on behalf of Primetalent Ltd and relates to the proposed redevelopment of land off Hutton Bank, Ripon.

According to the Flood Map for Planning the proposed development is located outside the 1 in 1,000 annual probability flood outline and is therefore defined by the NPPF as being situated within Flood Zone 1.

As the site is in Flood Zone 1, the sequential test is deemed to have been addressed and the exception test need not be applied.

The site is assessed not to be at risk of flooding from the River Ure during all modelled scenarios including an allowance for climate change (up to 50%), reservoirs, canals or other artificial sources.

The Risk of Flooding from Surface Water map indicates that the majority of the site is at Very Low risk of surface water flooding; however, there is the potential for the accumulation of surface water in localised low areas of the site and due to obstructions from buildings during extreme storm events.

The susceptibility to groundwater flooding at the site is generally assessed to be negligible; albeit, there may be some susceptibility to shallow groundwater in the south-western portion of the site. However, any groundwater emergence would be expected to flow overland in a south-westerly/southerly direction towards Ure Bank and Hutton Bank.

Flood risk may be mitigated by implementing the identified measures.

Safe access and egress to the site may be provided via the Ure Bank/Hutton Bank/Sharrow Lane roundabout up to and during the 1 in 100 plus 30% CC annual probability event. Dry access and egress to the site may be provided via Hutton Bank to the east of the site during all events.

Surface water runoff from the developed site can be sustainably managed in accordance with planning policy and the development is not expected to impact flood risk elsewhere.

Yorkshire Water has confirmed that there is existing capacity in the local foul sewerage network to receive and treat foul flows from the proposed development. In addition, foul water can discharge without restriction into the public foul sewer along Hutton Bank or Station Drive.

9 RECOMMENDATIONS

This report has demonstrated that the proposed development may be completed in accordance with the requirements of planning policy subject to the following:

- Finished floor levels to be set 0.15 m above adjacent ground levels following any re-profiling at the site.
- The detailed drainage design to be submitted to and approved by the local planning authority prior to the commencement of development.

APPENDIX A:	Development Proposals

Hutton Bank, RIPON

DO NOT SCALE - ALL DIMENSIONS & LEVELS TO BE CHECKED ON SITE - THIS DRAWING IS COPYRIGHT

PLANNING
subject to structural review
subject to accurate measured survey

revision	date	content	initials
A	31.08.18	PLOT 12 GARAGE POSITION AMENDED & DIMS ADDED TO WESTERN BOUNDARY	OB

project: Hutton Bank, Ripon

client: Fronline Estates

title: Site Layout

date: 24.08.18 | scale: 1:500@A1 | drawn: OB

drawing number: 3081-0-100 A | checked:

niemen architects
Niemen Architects
Deck 2 The Waterscape
42 Leeds & Bradford Road
Kirkstall Leeds LS5 3EG
Tel: 0113 239 5400
Fax: 0113 239 5401
office@niemen.co.uk
www.niemen.co.uk

APPENDIX B:	Topographic Survey

SYMBOL LEGEND

- Borehole
- Benchmark
- Bollard
- Bus Stop
- Elkctric Box
- Electricity Pole
- Fence Post
- Gas Stop Valve
- Gate Post
- Gas Marker
- Gully
- Gas Well
- Kerb Outlet
- Litter Bin
- Leachate Chamber
- Lamp Post
- Manhole Point
- MH Triangular
- Wooden Peg
- Ground Marker
- Marker Post
- Pylon
- Rodding Eye
- Sample Point
- Sign Post
- Spot Height
- Eave Level
- Ridge Level
- Stile
- Survey Station
- Traffic Camera
- Telephone Box
- Trial Pit
- Telegraph Pole
- Deckduous Tree
- Road Sign
- Valve
- Vent
- Water Meter
- Letter Box
- MH Circular
- Knockout Pot

MANHOLE LEGEND

MHCT	Cable Television
MHEL	Electricity
MHGA	Gas
MHSW	Surface Water
MHFW	Foul Water
MHBT	British Telecom
MHWT	Water

LINETYPE LEGEND

- Bridge
- Bottom of Bank
- Building
- Canopy Edge
- Concrete Edge
- Ditch
- Drop Kerb
- Overhead Cable
- Fence
- Gate
- Kerb
- Path
- Pipe Line
- River
- Surface Water Drain
- Railway Line
- Road Centre Line
- Tarmac Edge
- Top of Bank
- Track
- Wall
- Verge
- Flagstone Paving
- Stone
- Hedgeline
- Grass Edge

ABBREVIATIONS

LP.	Lamp Post
TP.	Telegraph Pole
EP.	Electricity Pole
SP.	Sign Post
TS.	Tariffic Sign
BS.	Bus Stop
GM.	Gas Marker Monument
MH.	Manhole
GU.	Gully
FH.	Fire Hydrant
CATV.	Cable Television Point
WM.	Water Meter
WSV.	Water Stop Valve
GSV.	Gas Stop Valve
RE.	Rodding Eye
GU.	Gully
FH.	Fire Hydrant
CATV.	Cable Television Point
WM.	Water Meter
WSV.	Water Stop Valve
GSV.	Gas Stop Valve
RE.	Rodding Eye

SURVEY IS APPROXIMATELY ORIENTED TO OS NATIONAL GRID.
LEVELS TO OSGB ORDNANCE DATUM

THIS SURVEY SHOWS PHYSICAL SITE BOUNDARIES ONLY.
CONFIRMATION OF LEGAL OWNERSHIP BOUNDARIES SHOULD BE OBTAINED BY REFERENCE TO THE H.M. LAND REGISTRY TITLE PLAN

THE PLAN SCALE IS FOR GUIDANCE ONLY.
DO NOT SCALE DIRECTLY .
IF IN DOUBT, CONSULT ENCIA GEOMATICS

REV.	DESCRIPTION	DATE
A	*Drawing re-oriented to match OS Tile*	*21/03/08*

Encia Geomatics
LAND AND ENGINEERING SURVEYORS
Encia House, Audby Lane, WETHERBY LS22 7RD
Yorkshire Office Tel: 01937 589555
North East Office Tel: 01642 809088
North West Office Tel: 01942 824026
website: www.enciagroup.co.uk
email: geomatics@enciagroup.co.uk

RICS

SURVEY ASSOCIATION

CLIENT

JOB TITLE

HUTTON BANK, RIPON

DRAWING TITLE

DETAILED TOPOGRAPHIC SURVEY

DRAWN	SIGNATURE	DATE	STATUS
GC		21/03/08	FOR COMMENT ☐
APPROVED	SIGNATURE	DATE	FOR APPROVAL ☐
AL		21/03/08	DRAFT ☐
			FINAL ☑

SCALE	SHEET	DRAWING NO.	REVISION
1:500	A1	HB/GEO1	A

APPENDIX C:	Site Deeds

P75/

Tilly Varey letter of Jackson Sales Harrogate

No Stamp Reqd

This

DEED OF GRANT is made the Sixteenth day of May 1985

BETWEEN GEORGE WILLIAM TURNER and JANE CATHERINE TURNER both of Skelton on Ure Boroughbridge North Yorkshire ("the Owners") of the first part MIDLAND BANK PLC ("the Bank") of the second part and DENNIS HOLDER MALCOLM DENNIS HOLDER and PAUL STEWART HOLDER all of Hutton Bank Ripon North Yorkshire ("the Grantees") of the third part

WHEREAS:

A. The Owners are the estate owners upon the statutory trusts for sale for themselves as beneficial tenants in common in equal shares in respect of the fee simple in possession free from incumbrances of the land ("the red land") part edged red on the plan annexed hereto ("the plan")

B. By a Mortgage ("the Mortgage") dated the 20th April 1971 and made between the Owners of the one part and Midland Bank PLC (then Midland Bank Limited) of the other part the red land was demised to the Bank for a term of 4,000 years from the date thereof to secure the principal sums and other monies therein referred to

C. The Grantees are the estate owners in respect of the fee simple in possession free from incumbrances of the land ("the green land") part edged green on the plan for which planning permission has been obtained for development

D. The Owners have agreed on payment of £1,000 in compensation to permit the laying of a surface water drain in connection with the said development of the green land beneath the surface of the red land with an outfall to the River Ure and that the Grantees should be granted such rights in respect thereof as are hereinafter contained

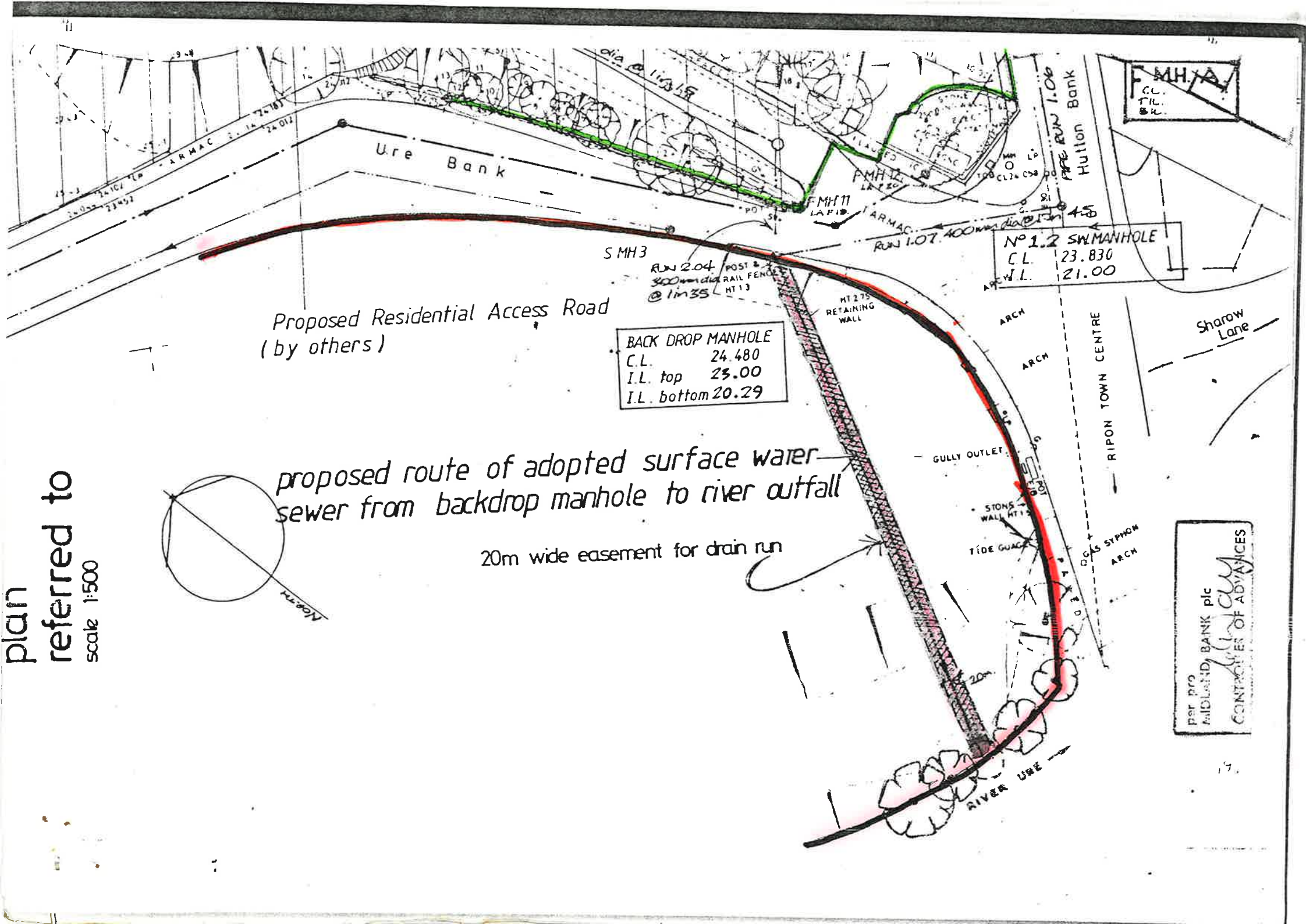
E. The Bank has agreed to join herein in manner hereinafter appearing

NOW THIS DEED WITNESSETH as follows:

1. IN consideration of the sum of One thousand pounds (£1,000) paid by the Grantees to the Owners with the consent of the Bank (the receipt whereof the Owners hereby acknowledge) the Owners as trustees hereby grant and the Bank as mortgagee hereby releases and confirms unto the Grantees full right and liberty

a) within five years from the date hereof to enter on to such part of the red land as lies within the corridor twenty metres wide coloured pink on the plan and to lay construct and install at the expense of the Grantees the surface water drain or drains indicated on the plan together with a head wall and outlet of the drain or drains to the River Ure ("the drainage system")

b) to use the drainage system for the passage or conveyance of surface water from the green land or any part or parts thereof but not for any other purpose whatsoever


plan
referred to
scale 1:500
Ure Bank
Hutton Bank
MH A
S MH3
RUN 2.04
300mm dia
@ 1in35
POST & RAIL FENCE HT 1.3
RUN 1.07 400mm dia
RUN 1.06
Nº 1.2 SW MANHOLE
C.L. 23.830
I.L. 21.00
Proposed Residential Access Road
(by others)
BACK DROP MANHOLE
C.L. 24.480
I.L. top 23.00
I.L. bottom 20.29
HT 2.75 RETAINING WALL
ARCH
ARCH
RIPON TOWN CENTRE
Sharow Lane
GULLY OUTLET
STONE WALL HT 1.2
TIDE GUAGE
DGAS SYPHON ARCH
proposed route of adopted surface water sewer from backdrop manhole to river outfall
20m wide easement for drain run
20m
RIVER URE
per pro MIDLAND BANK plc
CONTROLLER OF ADVANCES

c) to repair renew inspect cleanse and maintain the drainage system

d) for the purposes aforesaid but not for any other purpose whatsoever to enter upon reasonable notice upon so much of the red land as may be necessary in that behalf and with or without workmen contractors plant and machinery and to break up the same the person having entry as aforesaid making good nevertheless at his own expense all damage or disturbance which may be caused to the surface of the red land and taking all reasonable steps and precautions to minimise the same

TO HOLD all the said rights and liberties aforesaid unto the Grantees in fee simple

2. THE Owners hereby jointly and severally covenant with the Grantees that the Owners will enter into such Deed of Dedication for the adoption by the Local or other competent Authority of the drainage system (or any part thereof) as the Grantees may within five years of completion of the drainage system require

3. THE Grantees for themselves and their successors in title the owners for the time being of the green land and each and every part thereof HEREBY COVENANT with the Owners and their successors in title the owners for the time being of the red land and each and every part thereof:

a) to lay the drainage system three feet from the

surface of the land or as near thereto as reasonably practicable

b) to thoroughly reinstate the surface of the land after the drainage system has been laid

c) prior to any dedication or adoption of the drainage system the Grantees will at their expense keep the drainage system within the red land in good condition and in satisfactory working order

4. THE Bank hereby acknowledges the right of the Grantees to production of the several documents specified in the Schedule hereto and to delivery of copies thereof

5. THE Owners as to the before mentioned documents jointly and severally covenant with the Grantees that as and when any of the said documents shall come into their possession or of their successors in title they will when requested and at the cost of the Grantees or their successors in title execute a statutory undertaking for the safe custody of such documents and that in the meantime and until the execution of such undertaking every person having for the time being possession of the said documents will keep them safe whole uncancelled and undefaced unless prevented from so doing by fire or other inevitable accident

6.A The expression the Owners and the Grantees shall include their respective successors in title and other the owners or occupiers for the time being of each and

every part or parts of the red land and the green land respectively

6.B THE drainage system shall remain the property of the Grantees

7. IT IS HEREBY CERTIFIED that the transaction hereby effected does not form part of a larger transaction or of a series of transactions in respect of which the amount or value or the aggregate amount or value of the consideration exceeds £30,000

IN WITNESS whereof the Owners and the Grantees have hereunto set their hands and seals and the Bank has caused its Common Seal to be affixed the day and year first before written

THE SCHEDULE

Date	Instrument	Parties
4.8.1918	CONVEYANCE	F.W. Tappin, C.E. Oxley & R.W. Buchanan (1) J. Spence (2)
8.11.1967	CONVEYANCE	G.H. Addison & E. Addison (1) The Owners (2)
20.4.1971	THE MORTGAGE	

SIGNED SEALED and DELIVERED by the said GEORGE WILLIAM TURNER in the presence of:

Geo W. Turner

WITNESS

NAME W. Metcalfe

ADDRESS Skelton-on-Ure Nr Ripon.

OCCUPATION Housekeeper.

SIGNED SEALED and DELIVERED)
by the said JANE CATHERINE) × J. C. Turner
TURNER in the presence of:)

name W. Metcalfe
address Shelton-on-Ure
nr Ripon.
occupation House keeper.

In Witness whereof a duly authorised Official of the Bank as Attorney of the Bank has hereunto set his hand and seal the day and year first above written.

SIGNED, SEALED AND DELIVERED
by COLIN EDWARD DAY
CONTROLLER OF ADVANCES
NORTH EASTERN REGIONAL HEAD OFFICE
MIDLAND BANK
REGIONAL HEAD OFFICE
P.O. BOX 59
SCOTTISH LIFE HOUSE
BOND COURT, LEEDS, LS1 1LB
in the presence of

C Day
Attorney of
Midland Bank plc

SIGNED SEALED and DELIVERED)
by the said DENNIS HOLDER)
in the presence of:)

witness D. J. C. Lamon
address Solicitor
Harrogate
occupation

SIGNED SEALED and DELIVERED)
by the said MALCOLM DENNIS)
HOLDER in the presence of:)

witness D. J. C. Lamon
address as above
occupation

SIGNED SEALED and DELIVERED)
by the said PAUL STEWART)
HOLDER in the presence of:)

witness D. J. C. Lamon
address as above
occupation

APPENDIX D:	Peak Runoff Rate from Existing Site

The peak discharge rates of surface water runoff from the impermeable areas at the site have been calculated based on the Modified Rational Method[7]

The following parameters have been obtained from the maps in Volume 3 of the Wallingford Procedure:

M5-60 minute rainfall depth:	18 mm
Ratio of M5-60 to M5-2 day rainfall:	0.38
Average Annual Rainfall:	680 mm
Winter Rain Acceptance Potential/ Soil Type:	2 / 0.30
The Urban Catchment Wetness Index (UCWI) value:	66.8

A time of concentration of 6 minutes has been used. A rainfall estimation calculation has been carried out to convert the M5-60 minute rainfall to the 6 minute duration rainfall for the 1:1, 1:30 and 1:100 annual probability rainfall events. The calculated rainfall intensities for these events are 44.3, 104.5 and 132.2 mm/hr respectively.

The flow rate as given by the Modified Rational Method is:

$$\mathbf{Q=2.78 \times C_v \times C_r \times \text{rainfall intensity} \times \text{impermeable area}}$$

where:

C_v is the volumetric runoff coefficient = P_r/PIMP = 0.68
where P_r is Percentage Runoff and PIMP is Percentage Impermeable Area
C_r is the routing coefficient = 1.3
Impermeable Area = 0.56 ha

The peak discharges of surface runoff from impermeable areas of the existing site are shown in the table below:

Peak Runoff Rate

Annual probability of rainfall event	Peak discharge for 0.56 ha impermeable area (l/s)
1:1	61.7
1:30	145.4
1:100	184.0

[7] The Wallingford Procedure, Volume 4, 1981

APPENDIX E:	Surface Water Attenuation - Storage Volume Calculation

Summary of Results for 100 year Return Period (+30%)

Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m³)	Status
15 min Summer	27.246	0.846	43.1	109.0	O K
30 min Summer	27.310	0.910	43.1	125.3	O K
60 min Summer	27.320	0.920	43.1	127.9	O K
120 min Summer	27.278	0.878	43.1	117.1	O K
180 min Summer	27.211	0.811	43.1	100.8	O K
240 min Summer	27.131	0.731	43.1	83.4	O K
360 min Summer	26.922	0.522	43.1	46.8	O K
480 min Summer	26.728	0.328	43.1	23.0	O K
600 min Summer	26.574	0.174	42.9	9.8	O K
720 min Summer	26.480	0.080	41.6	3.9	O K
960 min Summer	26.429	0.029	34.1	1.3	O K
1440 min Summer	26.400	0.000	24.8	0.0	O K
2160 min Summer	26.400	0.000	18.0	0.0	O K
2880 min Summer	26.400	0.000	14.3	0.0	O K
4320 min Summer	26.400	0.000	10.4	0.0	O K
5760 min Summer	26.400	0.000	8.2	0.0	O K
7200 min Summer	26.400	0.000	6.9	0.0	O K
8640 min Summer	26.400	0.000	5.9	0.0	O K
10080 min Summer	26.400	0.000	5.3	0.0	O K
15 min Winter	27.314	0.914	43.1	126.3	O K
30 min Winter	27.393	0.993	43.1	148.4	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	114.135	0.0	147.3	16
30 min Summer	75.973	0.0	196.6	29
60 min Summer	48.287	0.0	248.5	46
120 min Summer	29.694	0.0	308.7	80
180 min Summer	22.052	0.0	343.5	114
240 min Summer	17.749	0.0	368.1	148
360 min Summer	12.969	0.0	403.4	206
480 min Summer	10.387	0.0	430.3	262
600 min Summer	8.738	0.0	452.2	314
720 min Summer	7.582	0.0	470.8	368
960 min Summer	6.057	0.0	501.5	488
1440 min Summer	4.406	0.0	547.3	0
2160 min Summer	3.199	0.0	596.0	0
2880 min Summer	2.546	0.0	632.5	0
4320 min Summer	1.843	0.0	686.7	0
5760 min Summer	1.463	0.0	727.0	0
7200 min Summer	1.223	0.0	759.5	0
8640 min Summer	1.056	0.0	786.8	0
10080 min Summer	0.932	0.0	810.4	0
15 min Winter	114.135	0.0	164.9	16
30 min Winter	75.973	0.0	220.4	30

Summary of Results for 100 year Return Period (+30%)

Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m³)	Status
60 min Winter	27.399	0.999	43.2	150.1	O K
120 min Winter	27.332	0.932	43.1	131.2	O K
180 min Winter	27.228	0.828	43.1	104.9	O K
240 min Winter	27.097	0.697	43.1	76.7	O K
360 min Winter	26.736	0.336	43.1	23.7	O K
480 min Winter	26.479	0.079	41.6	3.9	O K
600 min Winter	26.437	0.037	35.6	1.7	O K
720 min Winter	26.412	0.012	30.8	0.5	O K
960 min Winter	26.400	0.000	24.7	0.0	O K
1440 min Winter	26.400	0.000	17.9	0.0	O K
2160 min Winter	26.400	0.000	13.0	0.0	O K
2880 min Winter	26.400	0.000	10.4	0.0	O K
4320 min Winter	26.400	0.000	7.5	0.0	O K
5760 min Winter	26.400	0.000	6.0	0.0	O K
7200 min Winter	26.400	0.000	5.0	0.0	O K
8640 min Winter	26.400	0.000	4.3	0.0	O K
10080 min Winter	26.400	0.000	3.8	0.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
60 min Winter	48.287	0.0	278.9	48
120 min Winter	29.694	0.0	343.2	86
180 min Winter	22.052	0.0	382.2	124
240 min Winter	17.749	0.0	412.1	158
360 min Winter	12.969	0.0	451.0	210
480 min Winter	10.387	0.0	481.5	250
600 min Winter	8.738	0.0	506.4	306
720 min Winter	7.582	0.0	527.4	368
960 min Winter	6.057	0.0	561.7	0
1440 min Winter	4.406	0.0	612.9	0
2160 min Winter	3.199	0.0	667.5	0
2880 min Winter	2.546	0.0	708.4	0
4320 min Winter	1.843	0.0	769.0	0
5760 min Winter	1.463	0.0	814.3	0
7200 min Winter	1.223	0.0	850.7	0
8640 min Winter	1.056	0.0	881.2	0
10080 min Winter	0.932	0.0	907.7	0

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	18.400	Shortest Storm (mins)	15
Ratio R	0.372	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+30

Time Area Diagram

Total Area (ha) 0.690

Time (mins) From:	To:	Area (ha)
0	4	0.690

Model Details

Storage is Online Cover Level (m) 27.700

Tank or Pond Structure

Invert Level (m) 26.400

Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	43.0	1.300	415.4

Hydro-Brake® Optimum Outflow Control

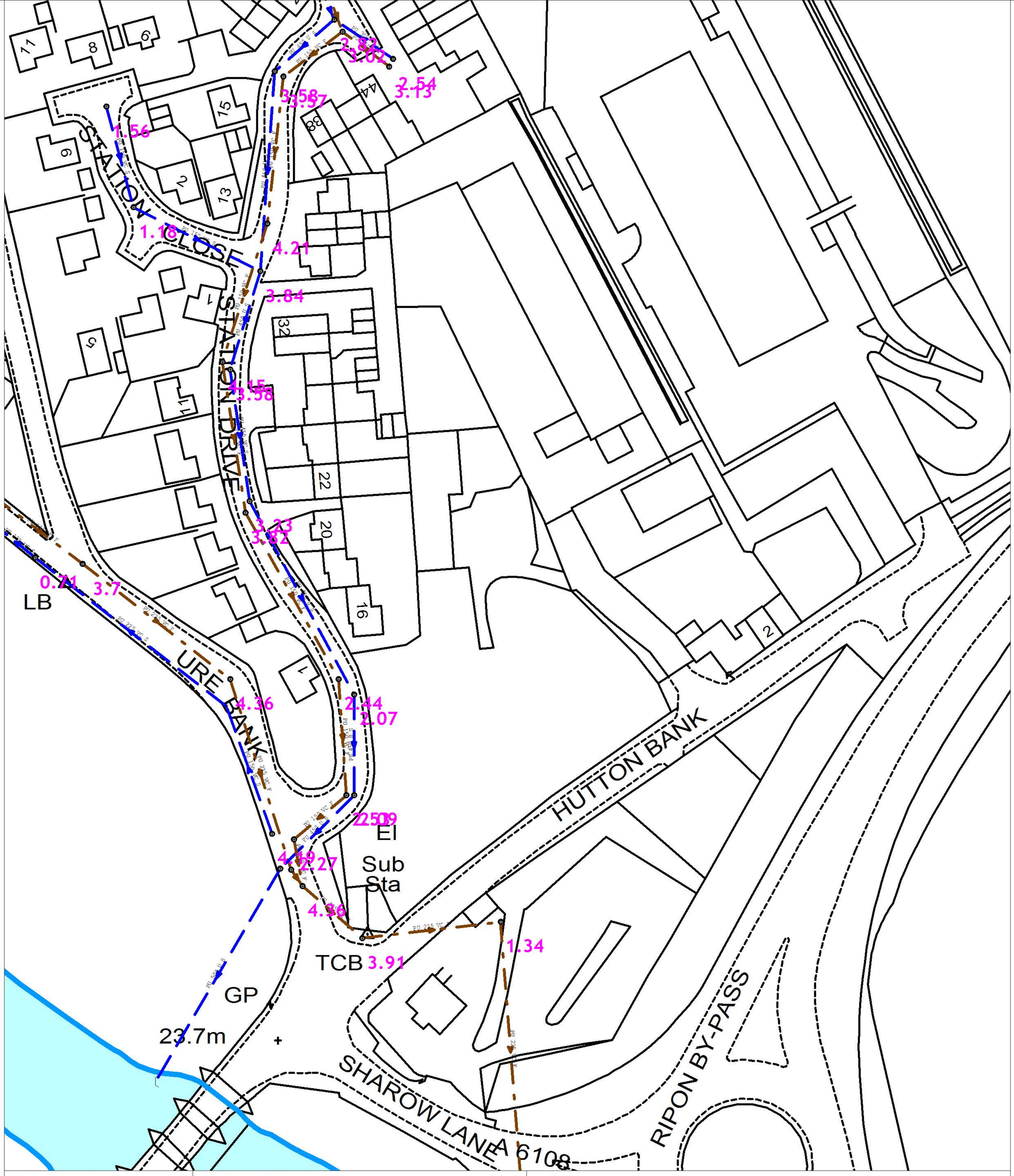
Unit Reference	MD-SHE-0274-4320-1200-4320
Design Head (m)	1.200
Design Flow (l/s)	43.2
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	274
Invert Level (m)	26.200
Minimum Outlet Pipe Diameter (mm)	300
Suggested Manhole Diameter (mm)	1800

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.200	43.2
Flush-Flo™	0.444	43.1
Kick-Flo®	0.886	37.3
Mean Flow over Head Range	-	35.8

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	8.6	1.200	43.2	3.000	67.2	7.000	101.5
0.200	28.2	1.400	46.5	3.500	72.4	7.500	105.0
0.300	42.0	1.600	49.6	4.000	77.3	8.000	108.4
0.400	43.1	1.800	52.5	4.500	81.9	8.500	111.6
0.500	43.0	2.000	55.2	5.000	86.2	9.000	114.8
0.600	42.5	2.200	57.8	5.500	90.3	9.500	117.8
0.800	39.9	2.400	60.3	6.000	94.2		
1.000	39.6	2.600	62.7	6.500	97.9		

APPENDIX F:	Yorkshire Water Public Sewer Records



431691 : 472061	Map Name : SE3172SE	Title

Yorkshire Water,
PO Box 500,
Halifax Road,
Bradford BD6 2LZ
Contact Name :
YorMap Advisor C ROBERTS
Contact Tel : 87 2582

Notes

Partial Key

Foul Sewer = F

Combined Sewer = C

Surface Water Sewer = SW

Trade Sewer = TD

Partially Separate = PS

This plan is furnished as a general guide only and no warranty as to its correctness is given or implied. This plan must not be relied upon in the event of excavations or other works made in the vicinity of public sewers. No house or property connections are shown.

Date Req : 24/10/2018, 09:12:54

Date Gen : 24/10/2018, 09:13:18

Source : Sewer Network Enquiry

UPN: Undefined Originator: C ROBERTS, YorMap, 87 2582

APPENDIX G:	Yorkshire Water Pre-Planning Enquiry Response

YorkshireWater

Ms K Bonser
Weetwood
Suite 22C Josephs Well
Hanover Walk
Leeds
LS3 1AB

Yorkshire Water Services
Developer Services
Sewerage Technical Team
PO BOX 52
Bradford
BD3 7AY

Tel: 0345 120 8482
Fax: (01274) 372 834

Email:
Technical.Sewerage@yorkshirewater.co.uk

For telephone enquiries ring:
Chris Roberts on 0345 120 8482

Your Ref:
Our Ref: U017198

24th October 2018

Dear Ms Bonser,

Former Calvert Carpets Site, Hutton Bank, Ripon, HG4 5DT - Pre-Planning Sewerage-Enquiry-Residential-T173105

Thank you for your recent enquiry and remittance. Our official VAT receipt has been sent to you under separate cover. Please find enclosed a complimentary extract from the Statutory Sewer Map which indicates the recorded position of the public sewers. Please note that as of October 2011 and the private to public sewer transfer, there are many uncharted Yorkshire Water assets currently not shown on our records.

The following comments reflect our view, with regard to the public sewer network only, based on a 'desk top' study of the site and are valid for a maximum period of twelve months.

Development of the site should take place with separate systems for foul and surface water drainage. The separate systems should extend to the points of discharge to be agreed.

Foul Water

Foul water domestic waste should discharge to the 225 mm diameter public foul sewer recorded in Hutton Bank or Station Drive, at a point to the south west of the site.

Surface Water

The developer's attention is drawn to Requirement H3 of the Building Regulations 2000. This establishes a preferred hierarchy for surface water disposal. Consideration should firstly be given to discharge to soakaway, infiltration system and watercourse in that priority order.

Sustainable Drainage Systems (SuDS), for example the use of soakaways and/or permeable hardstanding etc, may be a suitable solution for surface water disposal appropriate in this situation. You are advised to seek comments on the suitability of SuDS in this instance from the appropriate authorities.

If other methods of surface water disposal are not viable and subject to providing satisfactory evidence as to why they have been discounted, curtilage surface water discharges to the public sewer will be restricted to the level of run-off - i.e. same rate of discharge - to that from the existing use of the site less a 30% reduction in the existing discharge. Any discharge of surface water from the site should discharge to similar points of connection to that of the existing use of the site. You will need to demonstrate positive drainage, based on a 1 in 1 year storm, to the public sewer to Yorkshire Water by means of investigation and calculation carried out at your expense.

To do this, Yorkshire Water requires to see existing and proposed drainage layouts with pipe sizes, gradients and connection points, measured impermeable areas of the present and proposed use of the site, along with the calculations that show the existing and proposed discharge rate from the site to the public sewer.

Please note further restrictions on surface water disposal from the site may be imposed by other parties. You are strongly advised to seek advice/comments from the Environment Agency/Land Drainage Authority/Internal Drainage Board, with regard to surface water disposal from the site.

Other Observations

Any new connection to an existing public sewer will require the prior approval of Yorkshire Water. You may obtain an application form from our website (www.yorkshirewater.com) or by telephoning 0345 120 84 82.

An off-site foul and surface water sewer may be required which may be provided by the developer and considered for adoption under Section 104 of the Water Industry Act 1991. Please telephone 0345 120 84 82 for advice on sewer adoptions. Alternatively, the developer may in certain circumstances be able to requisition off-site sewers under Section 98 of the Water Industry Act 1991 for which an application must be made in writing. For further information, please telephone 0345 120 84 82.

Prospectively adoptable sewers and pumping stations must be designed and constructed in accordance with the WRc publication "Sewers for Adoption - a design and construction guide for developers" 6th Edition as supplemented by Yorkshire Water's requirements, pursuant to an agreement under Section 104 of the Water Industry Act 1991. An application to enter into a Section 104 agreement must be made in writing prior to any works commencing on site. Please contact our Developer Services Team (telephone 0345 120 84 82) for further information.

All the above comments are based upon the information and records available at the present time. The information contained in this letter together with that shown on any extract from the Statutory Sewer Map that may be enclosed is believed to be correct and is supplied in good faith. Please note that capacity in the public sewer network is not reserved for specific future development. It is used up on a 'first come, first served' basis. You should visit the site and establish the line and level of any public sewers affecting your proposals before the commencement of any design work.

Yours sincerely

Chris Roberts
Sewerage Technician
Developer Services

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