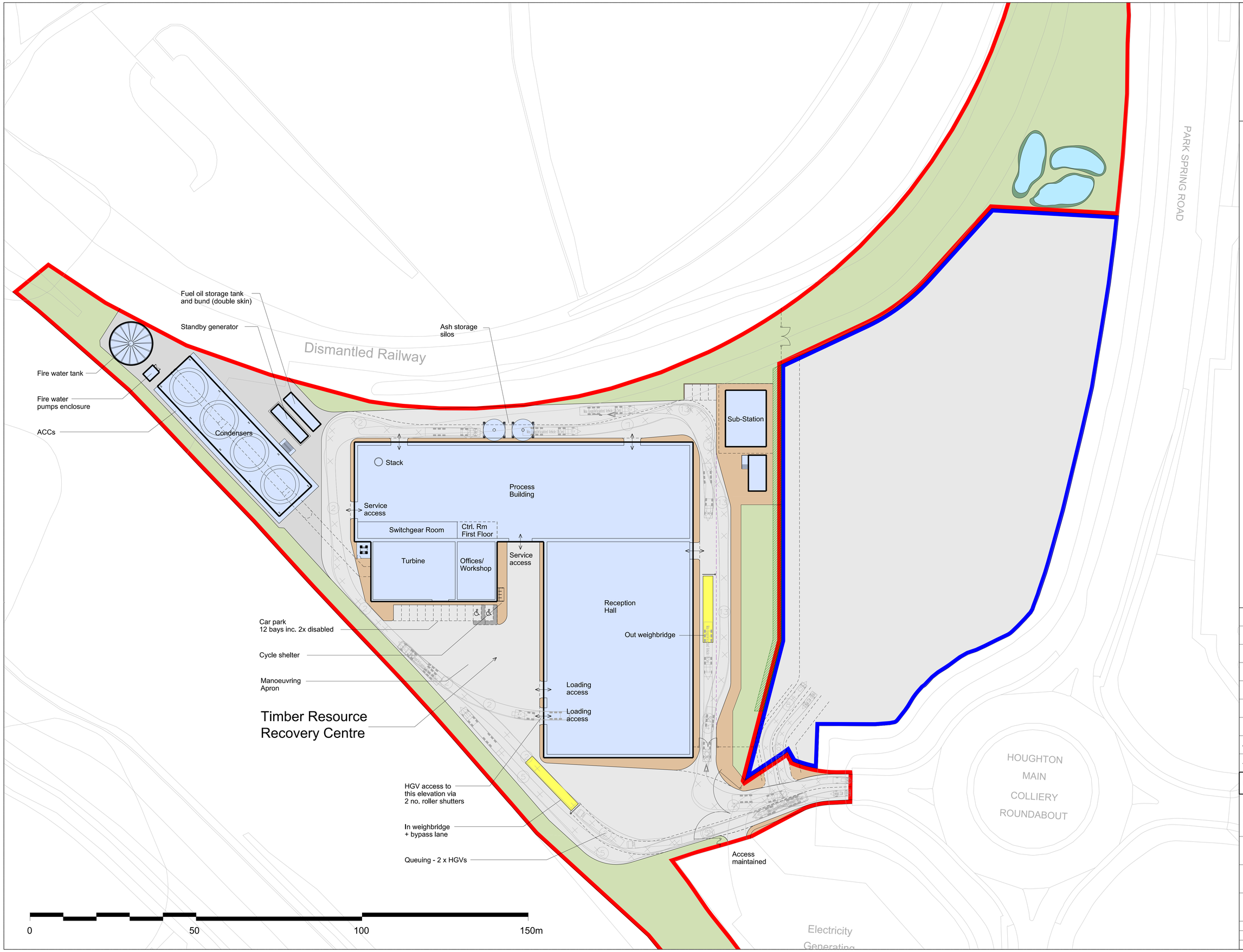


NOTE

1. THIS DRAWING IS COPYRIGHT GSDA LTD.
2. THE CONTRACTOR MUST NOT SCALE FROM THE DRAWING ALL DIMENSIONS TO BE TAKEN FROM DIMENSION STRINGS.
3. WHERE ANY DISCREPANCIES ARE FOUND BETWEEN DIMENSIONS THESE MUST BE BROUGHT TO THE ATTENTION OF THE ARCHITECTS FOR RESOLUTION.
4. WHERE DISCREPANCIES EXIST BETWEEN REFERENCE OR ASSEMBLY DRAWINGS & DETAIL DRAWINGS, THE LATTER TAKE PREFERENCE.

NORTH

KEY

- Site boundary
- Adjacent site
- 2.5m wide hedge/ tree line perimeter
- For details of proposed landscaping and planting please refer to PL036-37

A	150128	Issued for information
-	150127	Issued for information

FOR INFORMATION

GSDA
GARRY STEWART DESIGN ASSOCIATES
Highlands House, Office 101A, 165 The Broadway, Wimbledon, London, SW19 1NE
T: 020 8544 9085

HOUGHTON MAIN TRRC
PROJECT

Proposed Revised Site Boundary
DRAWING

1:500@A1
1:1000@A3
SCALE

150128
DATE

1313_SK173	A	GS
DWG. NO.	REVISION	CHECKED

Appendix 2 – Topographic Survey

N
W E
S

LEGEND

1. TOPOGRAPHICAL SURVEY INFORMATION SHOWN ON THIS DRAWING IS BASED UPON THE ORDNANCE SURVEY NATIONAL GRID HEIGHT AND PLAN DATUM DERIVED BY G.P.S.(OSTN02,OSGB36).

2. WHILST EVERY EFFORT HAS BEEN MADE TO INCLUDE ALL ACCESSIBLE DETAIL, SOME FEATURES MAY NOT BE SHOWN IF OBSCURRED AT THE TIME OF SURVEY.

LEGEND

BH	Borehole
BOL	Bollard
BS	Bus stop
BT	Telecom. cover
CATV	Cable television cover
DR	Drain
DP	Down pipe
Elec	Electrical cover
EP	Elec. pole
ER	Earth rod
FH	Hydrant
FP	Flagpole
G	Gully
GV	Gas valve
IC	Inspection cover
KO	Kerb outlet
LB	Litter bin
LP	Lamp post
MH	Manhole
MK	Utility marker
NP	Name plate
PB	Post box
PM	Parking meter
PO	Post
PSY	Stay
MKR	Marker post
RE	Rodding eye
RS	Road sign
ST	Stop tap
SV	Sluice valve
TCB	Telephone call box
TL	Traffic light
TP	Telegraph pole
T.P.S.	Tactile paving slabs
VP	Vent pipe
WM	Water meter
WO	Water outlet

Level prefix descriptions

GL	Ground level
CL	Cover level
E.L.	Eaves level
IL	Invert level
P.L.	Parapet level
R.L.	Roof ridge level
TFL	Threshold level
WL	Water level
F.R.L.	Flat Roof level

50.00 + Spot level

STA 101
25.75 Survey control station with ID and Level

Fence annotation(Where annotated)

P/W Post & wire

P/W HT 1.2m Fence

Gate

Edge of Vegetation

0 10 20 30 40m 60 80 100

Metres
1:1000

Revision	By	Chk'd By	Date	Comments
0	JC	NPS	05/11	TOPOGRAPHICAL SURVEY

PEEL ENVIRONMENTAL

SLR
ASPECT HOUSE
ASPECT BUSINESS PARK
BENNERLEY ROAD
NOTTINGHAM, NG6 8WR
T: 01159 647280
F: 01159 751576
www.slrconsulting.com

Site
PEEL ENVIRONMENTAL

Project
HOUGHTON MAIN

Drawing Title
TOPOGRAPHICAL SURVEY
MAY 2011

Scale
1:1000@A1

Date

Drawing Number
001

Revision
0

00304-00043.19.001.0.HOUGHTON_MAIN_TOPO_SURVEY.dwg

Appendix 3 – Environment Agency Correspondence

From:	Daniel Alstead
To:	Scott Dawson
Subject:	FW: Your Enquiry: RFI/2013/27509
Date:	18 November 2013 08:55:49
Attachments:	Standard_Notice sept 2012.pdf Flood History Map.pdf Flood Map.pdf Model Summary Sheets.pdf NPPF TG Climate Change extract.pdf VAT Receipt.pdf

---

From: Beech, Cheryl [mailto:Cheryl.Beech@environment-agency.gov.uk]
Sent: 12 November 2013 15:12
To: Daniel Alstead
Subject: Your Enquiry: RFI/2013/27509

Our Ref: RFI/2013/27509

Your Ref:

Dear Daniel

Provision of Product 4 for Park Spring Road, Houghton Main, Barnsley S71 5EX

Thank you for your request of 22 October 2013 to use Environment Agency data, Product 4, in the development of the above site. The information is attached.

If you have requested this information to help inform a development proposal, then you should note the detail in the attached advisory text on the use of Environment Agency Information for Flood Risk Assessments.

Supporting Information

The Flood Map

Please see the enclosed extract from the Flood Map.

The Flood Map provides information on flooding from rivers and the sea for England and Wales. The Flood Map also has information on flood defences and the areas benefiting from those flood defences.

The Flood Map shows the following:

1. Flood Zone 3 (dark blue area on the enclosed map): natural flood plain area that could be affected by flooding from rivers and/or the sea – not taking into account the presence of any flood defences
   - For flooding from rivers the map indicates the extent of a flood with a 1% (1 in 100) chance of happening each year;
   - For flooding from the sea the map shows the extent of a flood with a 0.5% (1 in 200) chance of happening each year.

2. Flood Zone 2 (light blue area): natural flood plain area that could be affected by flooding from rivers and/or the sea – not taking into account the presence of any flood defences. Flood Zone 2:

- indicates the extent of a flood with a 0.1% (1 in 1000) chance of happening each year.
- and/or indicates the greatest recorded historic flood, whichever is greater.

3. Flood defences built in the last five years to protect against river floods with a 1% (1 in 100) chance of happening each year, together with some natural or constructed entities which retain, store or channel water and which may protect against smaller floods.

4. Areas benefiting from flood defences - areas that benefit from the flood defences shown, in the event of a river flood with a 1% (1 in 100) chance of happening each year, or a flood from the sea with a 0.5% (1 in 200) chance of happening each year. If the defences were not there, these areas would flood.

Flood History

To the best of our knowledge there is no known flood history for this site. However, in close proximity to this location we do have some flood history available (see enclosed map).

Water causing flooding can come from different places, for example from rivers or the sea; surface water (i.e. rainwater flowing over or accumulating on the ground before it is able to enter rivers or the drainage system); overflowing or backing up of sewers or drainage systems which have been overwhelmed or from groundwater rising up from underground aquifers.

Currently the Environment Agency can only supply flood risk data relating to the risk of flooding from rivers or the sea. However you should be aware that in recent years, there has been an increase in flood damage caused by surface water flooding or drainage systems that have been overwhelmed. Local Authorities and/or Water Companies may be able to provide some knowledge on the risk of flooding from sources other than rivers and the sea and we are working with these organisations to improve knowledge and understanding of surface water flooding.

Assets

There are no formal flood defences helping to reduce flood risk in your area of interest.

Modelling - Flood Modelling - River Don

The River Don Catchment Flood Model was completed by Jeremy Benn Associates in May 2004. See enclosed the ISIS Hydraulic Model Summary Sheets showing modelled water levels and flows for 5 different annual probabilities

Please note that the model was developed taking into account the presence of

flood defences along the River Don and its tributaries as existed at the time of modelling.

Climate Change

See attached extract from the National Planning Policy Framework Technical Guidance by Communities and Local Government.

LIDAR Data

Light Detection and Ranging (LIDAR) is an airborne mapping technique, which uses a laser to measure the distance between the aircraft and the ground. This technique results in the production of an accurate, cost-effective terrain model suitable for assessing flood risk and other environmental applications.

The Environment Agency owns two LIDAR systems, which are installed in a survey aircraft along with its other operational remote sensing instruments.

The aircraft is positioned and navigated using Global Positioning System (GPS) corrected to known ground reference points. The aircraft typically flies at a height of about 800 metres above ground level and a scanning mirror allows a swath width of about 600 metres to be surveyed during a flight.

To get a license for the data you will need to contact our Science Group, stating the area you are interested in (preferably an OS Grid Reference, or a map with the area outlined). There may be a charge for this data.

Low resolution Data is returned as an ASCII grid, which can easily be converted to a surface model for use in most GIS applications, and is provided in 2km x 2km tiles, at a resolution of 2m.

High resolution Data is also returned as an ASCII grid, in 0.5km x 0.5km tiles, at a resolution between 0.125 and 0.5m.

For current catalogue of coverage see: http://www.geomatics-group.co.uk/GeoCMS/order.aspx

To obtain the data and license agreement, please contact:

Environment Agency Geomatics
Phoenix House
Lower Bristol Road
Bath BA2 9ES

Tel: 01225 487658
Fax: 01225 487643

E-mail: archived-lidardata@environment-agency.gov.uk
Or visit the website at www.geomatics-group.co.uk

The Rights & Responsibilities of a Riverside Owner

The owner of property adjacent to a watercourse is usually deemed to be the riparian owner and, as such, has both riparian rights and responsibilities with regard to the watercourse within their ownership.
The responsibility for general maintenance and repair of the watercourse and its banks rests with the riparian owner. For more information on Rights and Responsibilities of a riverside owner, you can visit our website at: www.environment-agency.gov.uk and click on 'Flood', 'How can I be prepared?, 'Guidance for riverside property owners' and download the 'Living on the Edge' booklet.

Alternatively type the following address into your web browser: http://www.environment-agency.gov.uk/homeandleisure/floods/31626.aspx

Flood Zones

Under the National Planning Policy Framework (NPPF) land is divided into three zones with regard to flood risk.

Zone 1, little or no risk, this is land outside the 1 in 1000 year flood plain, land deemed to be safe from flooding in the event of a flood with a 0.1% probability of occurring in any one year.

Zone 2, medium risk; land between the 1 in 1000 and 1 in 100 year fluvial (1 in 200 year tidal) flood plain. Between 0.1% and 1.0% (0.5%) probability of occurring in any one year.

Zone 3, high risk, land within the 1 in 100 year fluvial (1 in 200 year tidal) flood plain, at risk in the event of a flood with a 1.0% (0.5%) probability of occurring in any in year.

These zones do not take account of any flood defences that may exist as these could be overtopped or breached by a more severe flood event than designed for or maintained against.

Site Assessment;

From the supplied location plan I can confirm the site falls in flood zone 1 according to the Environment Agency Flood Map. We have no record of any watercourses on or abutting this property. The site may be subject to flooding from a number of different sources (small or culverted watercourses, public sewers, highway drains, overland surface water flow) and I would suggest that you contact the local authority main drainage department who may hold more detailed information for the site, and may be able to advise further.

Information to be included in a Flood Risk Assessment

A flood risk assessment (FRA) must be submitted with a planning application on any proposed development site over 1ha within Flood Zone 1. The FRA assessment would need to demonstrate that the development would not increase the risk of flooding to others and would not be at risk of flooding itself.

All potential sources of flooding will need consideration including; river flooding,

groundwater flooding, surface water runoff and flooding from sewers etc. It should also assess the existing and proposed surface water drainage from the site.

Further information on producing a FRA and where a FRA is required can be found on the Environment Agency's website on the Flood Risk Standing Advice pages which can be found at: http://www.environment-agency.gov.uk/research/planning/82587.aspx

A more comprehensive guide on FRA's can be found in CIRIA Report C624 'Development and flood risk - guidance for the construction industry' available through their website: http://www.ciria.org.

Your Local Planning Authority should have undertaken a Strategic Flood Risk Assessment, where information on flood risk locally has been collated which may inform your FRA. Please contact your Local Planning Authority to determine what information may be available.

Floor Levels

Setting the ground floor level above site ground level will provide a measure of protection against any flooding, prior to the introduction of NPPF the Agency's standard response was to require floor levels to be 600mm above site ground level. You should propose a suitable minimum floor level related to Ordnance Datum.

Surface Water Runoff

Surface water discharge from new development should ideally 'mimic' the pre-development situation using a sustainable drainage system so that flow in watercourses is not increased. In normal circumstances surface water discharge from new development should be attenuated to the 'greenfield' 1 in 1 year flow from site, or lower than the existing rate of runoff for a pre-developed site.

Greenfield sites

The acceptable greenfield runoff rate is normally 5 litre/second/hectare, **but you should consult with the Lead Local Flood Authority for variances in their district.**

Brownfield sites

Surface water runoff should be attenuated to provide a minimum 30% reduction of surface water discharge when compared with the existing site outflow prior to redevelopment, unless otherwise agreed with the relevant drainage authority. If a new discharge is required to a watercourse should be limited to the acceptable greenfield runoff rate, also it must be ensured that any additional volume of surface water to the receiving watercourse will not cause flooding problems.

The attenuation system needs to be designed so there is no flooding to properties on or off site for rainfall events up to 1 in 100 year return period.

Any conventional adopted balancing facility should be designed to accommodate volume storage for at least the 1 in 30 year flow from the site below ground, with the 1 in 100 year flow retained within the site (including an allowance for climate change), without causing any flooding to buildings.

There are alternatives to conventional storage for the control of surface water run-off that are favoured by the Environment Agency where ground conditions are suitable.

Sustainable Urban Drainage techniques (SUDs) tackle surface water run-off problems at source using features such as soakaways, permeable pavements, grassed swales, infiltration trenches, ponds and wetlands to attenuate flood peak flows, produce water quality improvements and environmental enhancements.

The Environment Agency seeks to promote the use of SUDs techniques to this site and expects the developer of the site to submit detailed investigations such that the use of SUDs has been fully explored.

More information on SUDs can be found at: http://www.ciria.org.uk/suds/

For information on Green Roofs in particular, please visit: www.thegreenroofcentre.co.uk

Please note that the view expressed in this letter by the Environment Agency is a response to a pre-application enquiry only and does not represent our final view in relation to any future planning application made in relation to this site. We reserve the right to change our position in relation to any such application.

You should seek your own expert advice in relation to technical matters relevant to any planning application before submission.

If you wish to discuss your plans further with the engineer dealing with the area Lesley Slaney can contacted on (0113) 8196044.

There are no environmentally sensitive receptors within the site area.

This information is provided subject to the attached notice which we advise that you should read.

We would be really grateful if you could spare five minutes to help us improve our service. Please click on the link below and fill in our survey – we use every piece of feedback we receive:

http://www.surveyshack.com/link/a3d10

If you require any further help, please do not hesitate to contact me.

Yours sincerely

Cheryl Beech
Customers and Engagement Team
Direct Dial 0113 8196360
Email neyorkshire@environment-agency.gov.uk

Please note: I only work part time - my usual working days are Tuesday, Wednesday & Thursday

Taking climate change into account

11. Global sea level will continue to rise, depending on greenhouse gas emissions and the sensitivity of the climate system. The relative sea level rise in England also depends on the local vertical movement of the land, which is generally falling in the south-east and rising in the north and west. In preparing a Strategic Flood Risk Assessment or a site-specific flood risk assessment, the allowances for the rates of relative sea level rise shown in table 4 should be used as a starting point for considering flooding from the sea, along with the sensitivity ranges for wave height and wind speed in table 5.

Table 4: Recommended contingency allowances for net sea level rises

	Net sea level rise (mm per year) relative to 1990			
	1990 to 2025	**2025 to 2055**	**2055 to 2085**	**2085 to 2115**
East of England, east midlands, London, south-east England (south of Flamborough Head)	4.0	8.5	12.0	15.0
South-west England	3.5	8.0	11.5	14.5
North-west England, north-east England (north of Flamborough Head)	2.5	7.0	10.0	13.0

Notes to table 4:

a. For deriving sea levels up to 2025, the 4mm per year, 3mm per year and 2.5mm per year rates (covering the three geographical groups respectively), should be applied back to the 1990 base sea level year. From 2026 to 2055, the increase in sea level in this period is derived by adding the number of years on from 2025 (to 2055), multiplied by the respective rate shown in the table. Subsequent time periods 2056 to 2085 and 2086 to 2115 are treated similarly.

b. Refer to Department for Environment, Food and Rural Affairs *FCDPAG3 Economic Appraisal Supplementary Note to Operating Authorities – Climate Change Impacts,* October 2006, for details of the derivation of this table. In particular, Annex A1 of this Note shows examples of how to calculate sea level rise.

c. Vertical movement of the land is incorporated in the table and does not need to be calculated separately.

12. The rise in sea level will change the frequency of occurrence of high water levels relative to today's sea levels, assuming no change in storminess. There may also be secondary impacts such as changes in wave heights due to increased water depths, as well as possible changes in the frequency, duration and severity of storm events. A 10 per cent sensitivity allowance should be added to offshore wind speeds and wave heights by the 2080s.

13. In making an assessment of the impacts of climate change on flooding from the land, rivers and sea as part of a flood risk assessment, the sensitivity ranges in table 5 may provide an appropriate precautionary response to the uncertainty about climate change impacts on rainfall intensities, river flow, wave height and wind speed.

Table 5: Recommended national precautionary sensitivity ranges for peak rainfall intensities, peak river flows, offshore wind speeds and wave heights

Parameter	1990 to 2025	2025 to 2055	2055 to 2085	2085 to 2115
Peak rainfall intensity	*+5%*	*+10%*	*+20%*	*+30%*
Peak river flow	*+10%*	*+20%*		
Offshore wind speed	*+5%*		*+10%*	
Extreme wave height	*+5%*		*+10%*	

Notes to table 5:

a. Refer to Department for Environment, Food and Rural Affairs *FCDPAG3 Economic Appraisal Supplementary Note to Operating Authorities – Climate Change Impacts,* October 2006, for details of the derivation of this table.

b. For deriving peak rainfall, for example, between 2025 and 2055 multiply the rainfall measurement (in mm per hour) by 10 per cent and between 2055 and 2085 multiply the rainfall measurement by 20 per cent. So, if there is a 10mm per hour event, for the 2025 to 2055 period this would equate to 11mm per hour; and for the 2055 to 2085 period, this would equate to 12mm per hour. Other parameters in table 5 are treated similarly.

14. Sensitivity testing of the flood map produced by the Environment Agency, using the 20 per cent from 2025 to 2115 allowance for peak flows, suggests that changes in the extent of inundation are negligible in well-defined floodplains, but can be dramatic in very flat areas. However, changes in the depth of flooding under the same allowance will reduce the return period of a given flood. This

means that a site currently located within a lower risk zone (e.g. Zone 2 in table 1) could in future be re-classified as lying within a higher risk zone (e.g. Zone 3a in table 1). This in turn could have implications for the type of development that is appropriate according to its vulnerability to flooding (see table 2). It will therefore be important that developers, their advisors and local authorities refer to the current flood map and the Strategic Flood Risk Assessment when preparing and considering proposals.

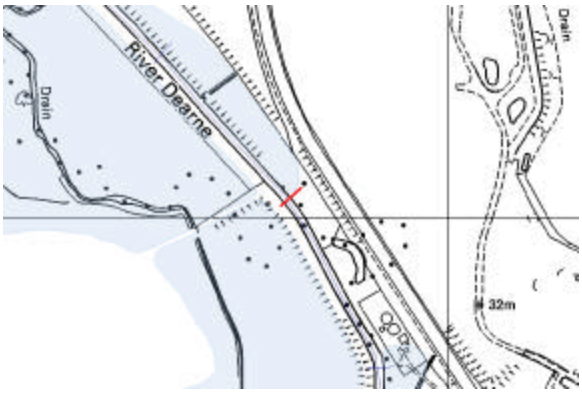
15. Flooding in estuaries may result from the combined effects of high river flows and high sea surges. When taking account of impacts of climate change in flood risk assessments covering tidal estuaries, it will be necessary for the allowances for sea level rise in table 4 and the allowances for peak flow, wave height and wind speed in table 5 to be combined.[11]

---

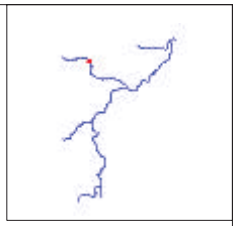
[11] Refer to Defra *FCDPAG3 Economic Appraisal Supplementary Note to Operating Authorities – Climate Change Impacts*, October 2006. Annex A2 gives details of joint probability analysis. www.defra.gov.uk/environ/fcd/pubs/pagn/climatechangeupdate.pdf

Environment Agency - North East Region
Re-working of the River Don Model
ISIS Hydraulic Model Summary Sheet

Location Plan



Cross Section References



River: DRN

Reach: 01

Chainage: 14304

Section Type: SECTION

OS NGR: SE 41794 06026

Survey Dwg Ref: N/A

Photograph Ref: DEAR_14304.JPG

Next
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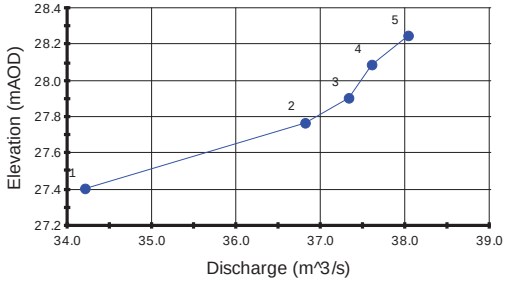
Section U/s: 14554

Rating Curve



Number represents model profile number

Summary of Results

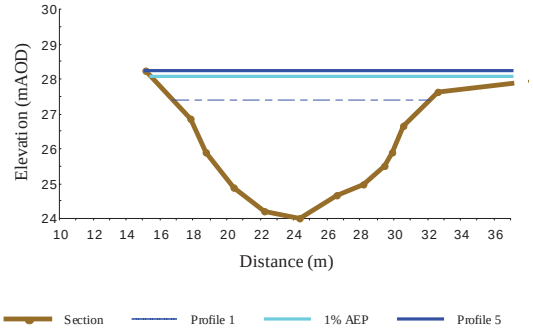
Profile No	AEP (%)	Flow (m^3/s)	Water Level (mAOD)	Velocity (m/s)
1	4.00	34.2	27.408	1.06
2	2.00	36.8	27.769	1.09
3	1.33	37.3	27.905	1.09
4	1.00	37.6	28.087	1.10
5	0.67	38.0	28.248	1.11

Level of Left Bank 28.240 mAOD

Level of Right Bank 27.630 mAOD

AEP: Annual Exceedance Probability = 1/T, where T = Return Period (Years)

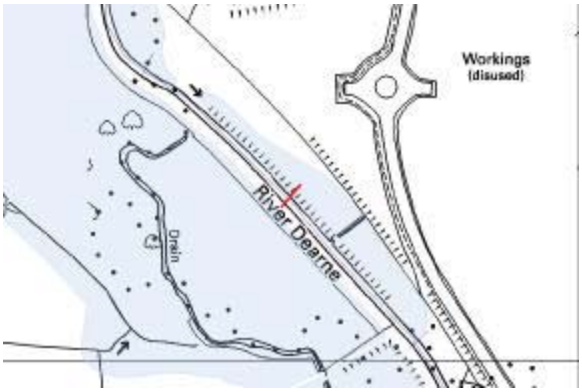
Cross Section Profile



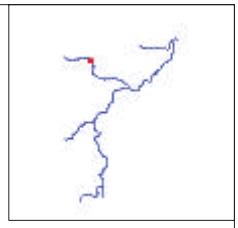
DRN: 01: CROSS SECTION NUMBER 14304

Print Date: 21/05/2004

Location Plan



Cross Section References



River: DRN

Reach: 01

Chainage: 14554

Section Type: SECTION

OS NGR: SE 41627 06213

Survey Dwg Ref: N/A

Photograph Ref: DEAR_14554.JPG

Next
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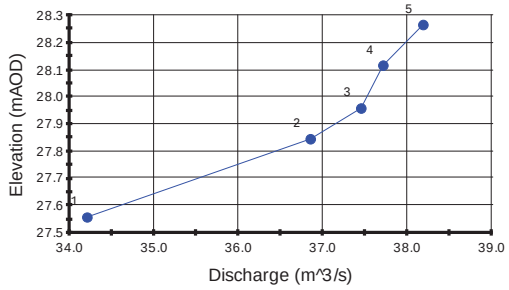
Section U/s: 14806

Rating Curve



Number represents model profile number

Summary of Results

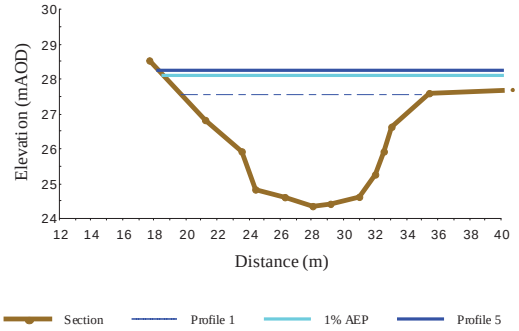
Profile No	AEP (%)	Flow (m^3/s)	Water Level (mAOD)	Velocity (m/s)
1	4.00	34.2	27.560	1.13
2	2.00	36.9	27.846	1.15
3	1.33	37.5	27.959	1.16
4	1.00	37.7	28.115	1.16
5	0.67	38.2	28.264	1.17

Level of Left Bank 28.530 mAOD

Level of Right Bank 27.600 mAOD

AEP: Annual Exceedance Probability = 1/T, where T = Return Period (Years)

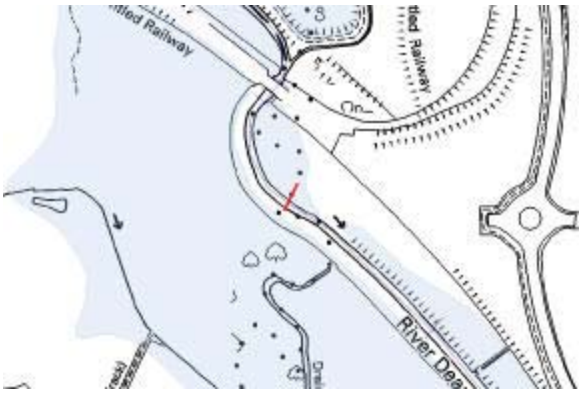
Cross Section Profile



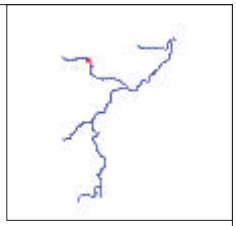
DRN: 01: CROSS SECTION NUMBER 14554

Environment Agency - North East Region
Re-working of the River Don Model
ISIS Hydraulic Model Summary Sheet

Location Plan



Cross Section References



River: DRN

Reach: 01

Chainage: 14806

Section Type: SECTION

OS NGR: SE 41440 06383

Survey Dwg Ref: N/A

Photograph Ref: DEAR_14806.JPG

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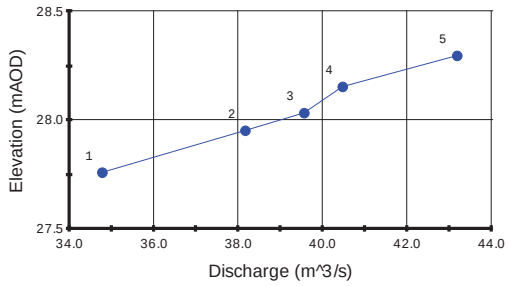
Section D/s: 14554
Section U/s: 14998D

Rating Curve



Number represents model profile number

Summary of Results

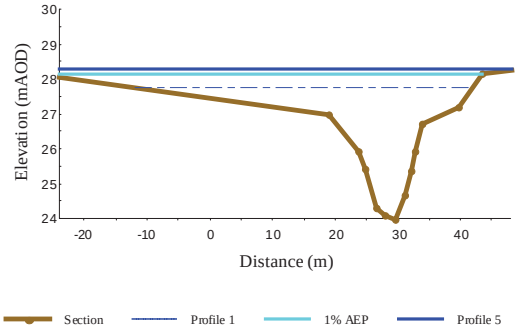
Profile No	AEP (%)	Flow (m^3/s)	Water Level (mAOD)	Velocity (m/s)
1	4.00	34.8	27.762	0.79
2	2.00	38.2	27.953	0.80
3	1.33	39.6	28.034	0.80
4	1.00	40.5	28.154	0.80
5	0.67	43.2	28.296	0.80

Level of Left Bank 28.060 mAOD

Level of Right Bank 27.850 mAOD

AEP: Annual Exceedance Probability = 1/T, where T = Return Period (Years)

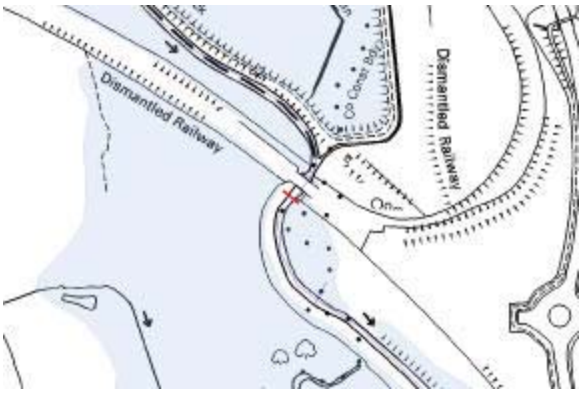
Cross Section Profile



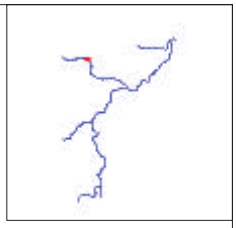
DRN: 01: CROSS SECTION NUMBER 14806

Print Date: 21/05/2004

Location Plan



Cross Section References



River: DRN

Reach: 01

Chainage: 14998D

Section Type: SECTION

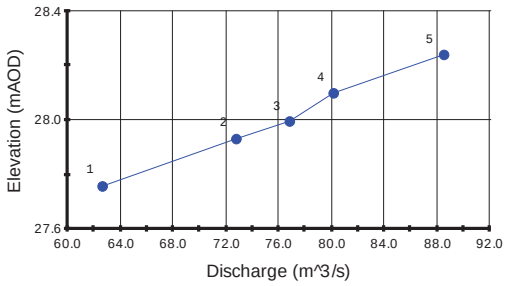
OS NGR: SE 41402 06509

Survey Dwg Ref: N/A

Photograph Ref: DEAR_14998b.JPG

Next
Section D/s: 14806
Section U/s: 14998U

Rating Curve



Number represents model profile number

Summary of Results

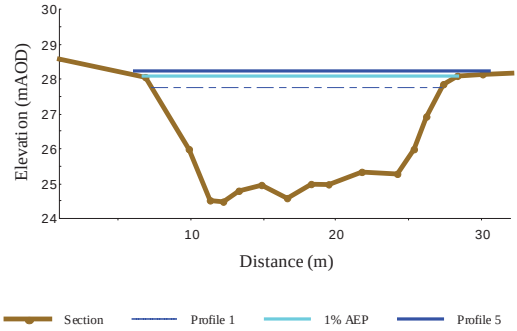
Profile No	AEP (%)	Flow (m^3/s)	Water Level (mAOD)	Velocity (m/s)
1	4.00	62.7	27.759	1.37
2	2.00	72.8	27.932	1.53
3	1.33	76.8	27.997	1.61
4	1.00	80.1	28.099	1.65
5	0.67	88.5	28.240	1.74

Level of Left Bank 28.060 mAOD

Level of Right Bank 27.850 mAOD

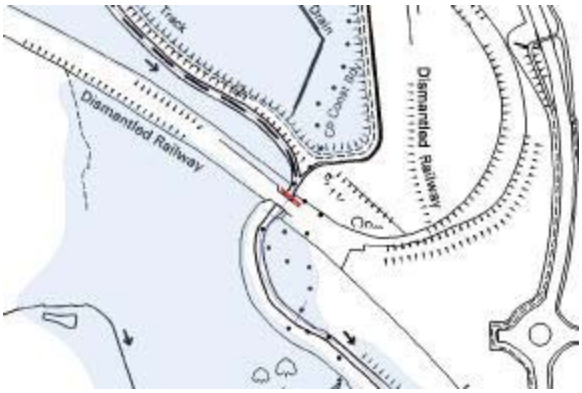
AEP: Annual Exceedance Probability = 1/T, where T = Return Period (Years)

Cross Section Profile

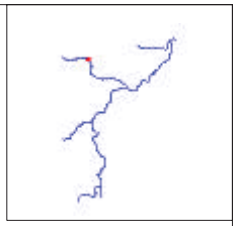


DRN: 01: CROSS SECTION NUMBER 14998D

Location Plan



Cross Section References



River: DRN

Reach: 01

Chainage: 14998U

Section Type: BRIDGE, SECTION

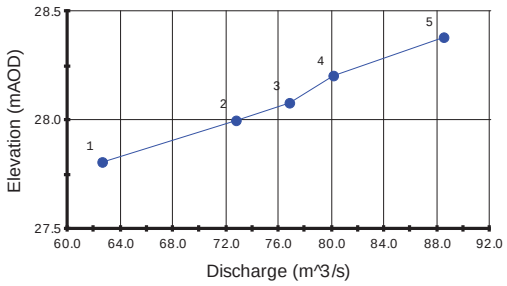
OS NGR: SE 41426 06534

Survey Dwg Ref: N/A

Photograph Ref: DEAR_14998b.JPG

Next
Section D/s: 14998D
Section U/s: 15304U

Rating Curve



Number represents model profile number

Summary of Results

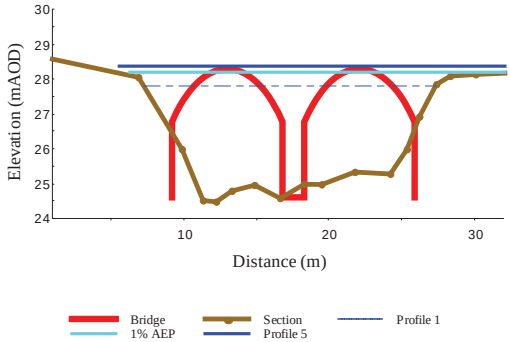
Profile No	AEP (%)	Flow (m^3/s)	Water Level (mAOD)	Velocity (m/s)
1	4.00	62.7	27.809	1.34
2	2.00	72.8	27.998	1.49
3	1.33	76.8	28.079	1.56
4	1.00	80.1	28.203	1.60
5	0.67	88.5	28.379	1.68

Level of Left Bank 28.060 mAOD

Level of Right Bank 27.850 mAOD

AEP: Annual Exceedance Probability = 1/T, where T = Return Period (Years)

Cross Section Profile



DRN: 01: CROSS SECTION NUMBER 14998U