

Figure 1

SITE LOCATION PLAN

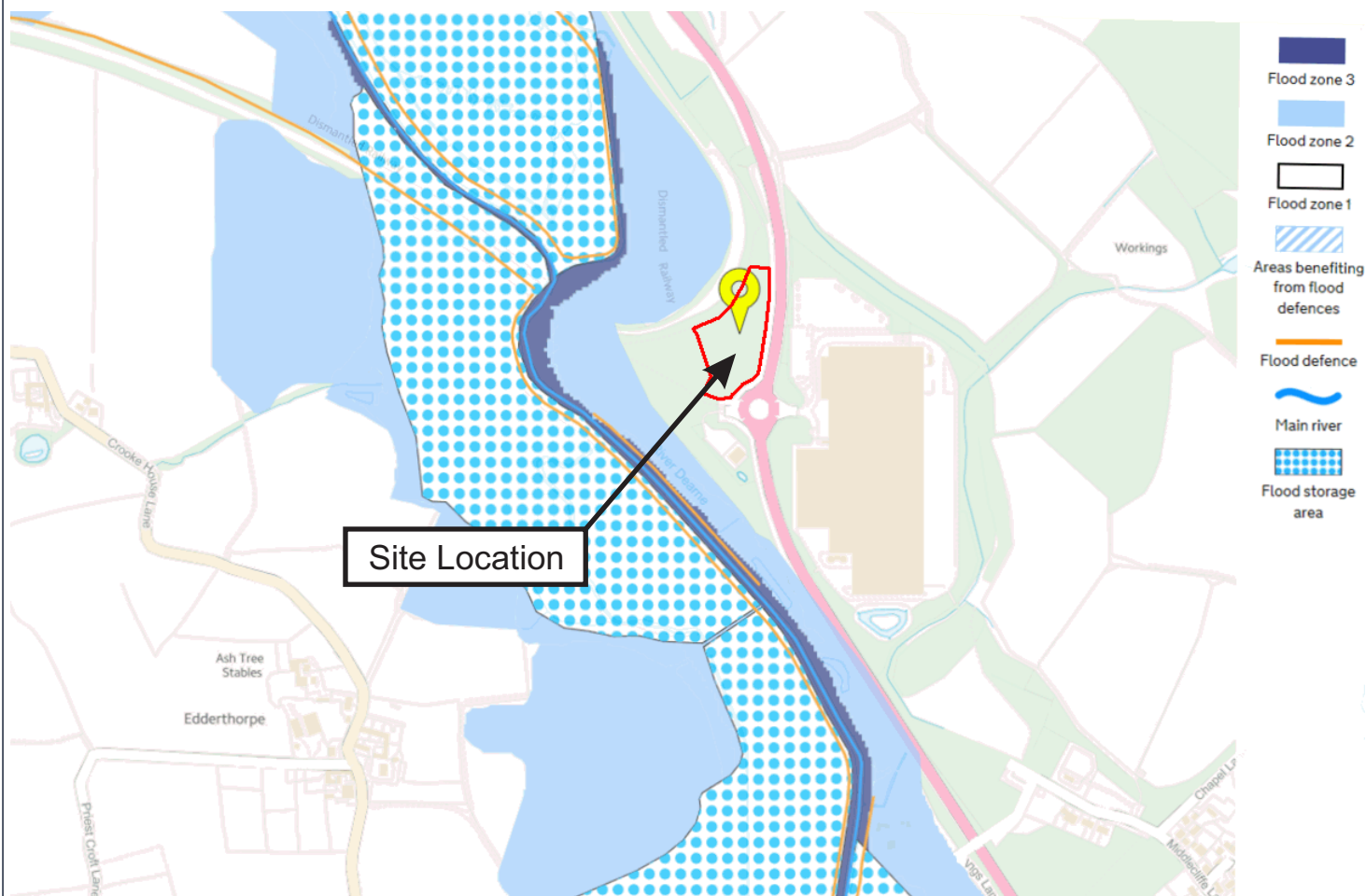


rpsgroup.com

Figure 2

ENVIRONMENT AGENCY RISK OF FLUVIAL / TIDAL
FLOODING MAP

RPS



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Unit 12, Watersedge Business Park, Modwen Road, Salford Quays, M5 3EZ
T +44 (0)161 874 3737 F +44 (0)161 877 3959 W rpsgroup.com

Client: ASOS

Date: 16/05/2017 Scale: NTS

Project: ASOS Car Park Extension

Figure: 02 Rev: 00

Title: Environment Agency Flood Map for Planning

Job Ref: RCEF52536

Figure 3

ENVIRONMENT AGENCY RISK OF FLOODING FROM
SURFACE WATER MAP



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Client: ASOS

Date: 16/05/2017

Scale: NTS

Project: ASOS Car Park Extension

Figure: 03

Rev: 00

Title: Environment Agency Surface Water Flood Risk Map

Job Ref: RCEF52536

Appendix A

CONSULTATION RESPONSES



HSEDMCRAAdmin

From: HighwayDrainage <HighwayDrainage@barnsley.gov.uk>
Sent: 10 May 2017 09:32
To: Ruth Abbott
Subject: FW: NEW CUSTOMER ENQUIRY FOR ACTION

-----Original Message-----

From: Grayson , Ian
Sent: 10 May 2017 09:30
To: HighwayDrainage
Subject: RE: NEW CUSTOMER ENQUIRY FOR ACTION

Hello Ruth

The point of discharge is in the control of Danum Drainage Commissioner's so it would be better to consult them.
See attached contact details.

Thanks

Our Address
Shire Group of IDBs
Epsom House
Chase Park
Doncaster
DN7 6FE

Email us
info@shiregroup-idbs.gov.uk
accounts@shiregroup-idbs.gov.uk
consents@shiregroup-idbs.gov.uk
planning@shiregroup-idbs.gov.uk

Call us
01302 33 77 98

Out of hours calls monitored by First County Monitoring

-----Original Message-----

From: HighwayDrainage
Sent: 10 May 2017 09:01
To: Grayson , Ian
Subject: FW: NEW CUSTOMER ENQUIRY FOR ACTION

Would you have a look at this please Ian?

Kim Fox
Network Resilience Technical Assistant
Environment & Transport
Place Directorate

BMBC

Tel : 01226 773589

Email: kimfox@barnsley.gov.uk

-----Original Message-----

From: BarnsleyMBC

Sent: 09 May 2017 12:51

To: Online

Subject: NEW CUSTOMER ENQUIRY FOR ACTION

Make an enquiry

This is a customer enquiry about your service. Please get back to the customer using the details below.

Customer title: Miss

Customer first name: Ruth

Customer last name: Abbott

Customer company name: RPS

Customer address: Not Specified

Customer email address: ruth.abbott@rpsgroup.com

Customer telephone number: 07483 904945

Details of issue: I am writing an FRA to support the Planning Application for a proposed new carpark located at land off Houghton Main Colliery Roundabout (Park Spring Road). The carpark is for the existing ASOS warehouse. The site is wholly within Flood Zone 1. I am seeking advice regarding the surface water drainage strategy for the site. The site is currently undeveloped greenfield. Please can you provide guidance on the parameters we need to adhere to when designing the conceptual surface water drainage strategy, including:

- 1) what rates we need to restrict surface water to?
- 2) what storm event we need to consider (1 in 100 year plus Climate Change?)
- 3) what Climate Change Allowance we need to consider? +20%?
- 4) any other considerations we need to bear in mind?
- 5) does the Dove and Dearne IDB still exist? What are their contact details?

There are no public surface water sewers within the vicinity of the site. There is a redundant sewer pipe on the site which discharges to the River Dearne. Our intention would be to utilise this route to discharge surface water from the site. Do we need to contact the Dove and Dearne IDB with regards to this?

Please give me a call if you want to talk this through or have further queries.

thanks,
Ruth

Please do not reply to this email. It is an auto generated email.

*** Barnsley MBC Disclaimer:

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Ruth Abbott

From: Shire Group Planning <planning@shiregroup-idbs.gov.uk>
Sent: 15 May 2017 09:03
To: Ruth Abbott
Subject: RE: Discharge surface water to River Dearne - proposed new carpark development at Park Spring Road
Attachments: map 15 May 2017.docx

Good Morning

Thank you for your e-mail regarding your proposed FRA.

The site as indicated is outside the drainage district of any of the drainage boards we manage and we are **not** the consenting authority for any works.

I also note that the River Dearne is formally designated as main river and you may require Environment Agency consent to discharge to it.

For your information, I attach a map of your proposed location with the drainage board district boundaries on, the drainage board district areas are marked in blue.

Kind Regards

Naomi Wright

(on behalf of the Shire Group of IDB's)



From: Ruth Abbott [<mailto:Ruth.Abbott@rpsgroup.com>]
Sent: 09 May 2017 13:17
To: Shire Group Planning <planning@shiregroup-idbs.gov.uk>
Subject: Discharge surface water to River Dearne - proposed new carpark development at Park Spring Road

Hi,

I am writing an FRA to support the Planning Application for a proposed new carpark located at land off Houghton Main Colliery Roundabout (Park Spring Road). The carpark is for the existing ASOS warehouse. Approximate post code is S72 7GX. The site area is approximately 1.2 hectares.



The site is wholly within Flood Zone 1. I am seeking advice regarding the surface water drainage strategy for the site. The site is currently undeveloped greenfield. There are no public surface water sewers within the vicinity of the site. There is a redundant sewer pipe on the site which discharges to the River Dearne. Our intention would be to utilise this route to discharge surface water run-off from the site.

Please can you provide guidance on the parameters we need to adhere to when designing the conceptual surface water drainage strategy, including:

- 1) what rates we need to restrict surface water run-off from the site to?
- 2) what storm event we need to consider (1 in 100 year plus Climate Change?)
- 3) what Climate Change Allowance we need to consider? +20%?
- 4) any other considerations we need to bear in mind?

Please give me a call if you want to talk this through or have further queries.

Thanks,
Ruth

Ruth Abbott
Senior Hydraulic Modeller - RPS Health, Safety and Environment
 Unit 12, Waters Edge Business Park, Modwen Road, Salford Quays,
 Manchester, M5 3EZ.
 United Kingdom
Tel: +44 (0) 161 874 3737
Fax: +44 (0) 161 877 3959
Mobile: 07483 904945
Email: Ruth.Abbott@rpsgroup.com
www: www.rpsgroup.com

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RPS Group Plc web link: <http://www.rpsgroup.com>

JBA Consulting, , , . Telephone:

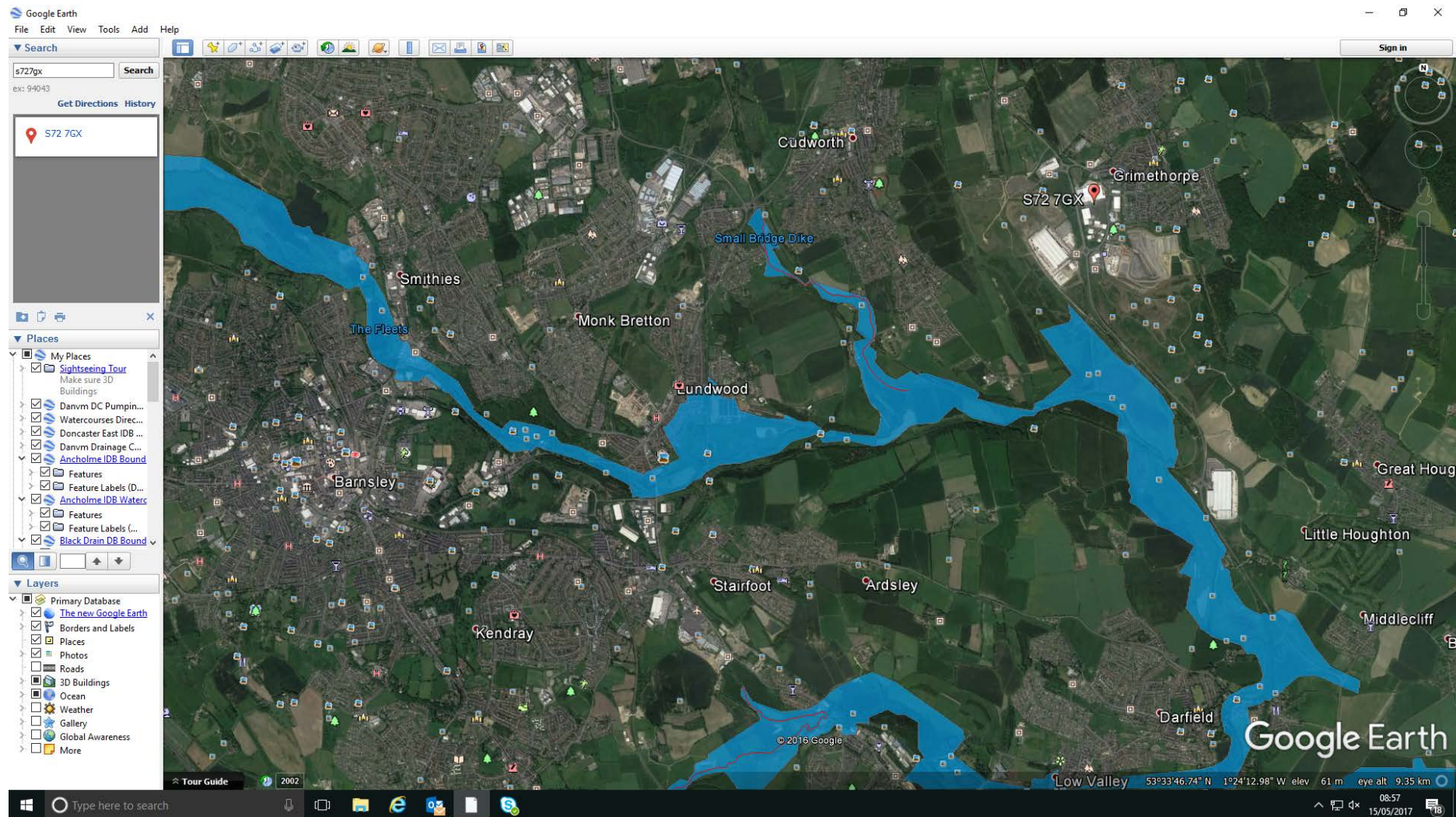
WEM Framework Suppliers 2013-2019 and the Shire Group of IDBs is a member of the JBA group of companies.

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Skipton, North Yorkshire, BD23 3AE.
www.shiregroup-idbs.gov.uk

Discharge Surface Water to the River Dearne (Proposed FRA)



Appendix B

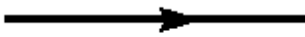
YORKSHIRE WATER SEWER PLANS

YORKSHIRE WATER PROTECTION OF MAINS AND SERVICES

1. The position of Yorkshire Water Services Ltd (YWS) apparatus shown on the existing mains record drawing(s) indicates the **general** position and nature of our apparatus and the accuracy of this information cannot be guaranteed. Any damage to YWS apparatus as a result of your works may have serious consequences and you will be held responsible for all costs incurred. Prior to commencing major works, the exact location of apparatus must be determined on site, if necessary by excavating trial holes. The actual position of such apparatus and that of service pipes which have not been indicated must be established on site by contacting the Customer Helpline on 0845 124 24 24 for both water and sewerage.
2. The public sewer and water network is lawfully retained in its existing position and the sewerage and water undertaker is entitled to have it remain so without any disturbance. The provisions of section 159 of the Water Industry Act 1991 provides that the undertaker may "inspect, maintain, adjust, repair or alter" the network. Those rights are given to enable the undertaker to perform its statutory duties. Any development of the land or any other action that unacceptably hindered the exercise of those rights would be unlawful. The provisions contained in Section 185 of the Water Industry Act 1991 state that where it is reasonable to do so, a person may require the water supply undertaker to alter or remove a pipe where it is necessary to enable that person to carry out a proposed change of use of the land. The provisions contained in Section 185 also require the person making the request to pay the full cost of carrying out the necessary works.
3. Ground levels over existing YWS apparatus are to be maintained. Sewers in highways will **generally** be laid to give 1200mm of cover from finished ground level working to kerb races, other permanent identification of the limits of the road or to an agreed line and level. Substantial increases or decreases to this 1200mm depth of cover will result in the sewer being re-laid at your expense. Water mains and services will **generally** be laid with a minimum of 750mm depth of cover however some mains and services usually those installed over 50 years ago may have less ground cover.
4. If surface levels are to be decreased / increased significantly the effects on existing water supply apparatus will be carefully considered and if any alterations are necessary, the costs of the alterations will be recharged to you in full. Outlets on fire hydrants must be no more than 300mm below the new levels and all surface boxes must be adjusted as part of the scheme.
5. To enable future repair works to be carried out without hindrance; any pipe, cable, duct, etc. installed parallel to a water main or service pipe should not be installed directly over or within 300mm of a water main or service pipe or 1000mm of a waste water asset. Where a pipe, cable, duct, etc. crosses a main or service it should preferably cross perpendicular or at an angle of no less than 45° and with a minimum clearance of 150mm. These requirements apply to activities within an existing highway and are relevant to the installation of pipes, cables, ducts, etc. up to and including 250mm in diameter (*see illustration below*). Necessary protection measures for installations greater than 250mm in diameter and/or in private land will need to be agreed on an individual basis. Installations within a new development site must comply with the National Joint Utilities Group publication Volume 2: NJUG Guidelines On The Positioning Of Underground Utilities Apparatus For New Development Sites.
6. All excavation works near to YW apparatus should be by hand digging only.
7. Backfilling with a suitable material to a minimum 300mm above YW apparatus is required.
8. Adequate support must be provided where any works pass under YW apparatus.
9. Jointing chambers, lighting columns and other structures must be installed in such a way that future repair or maintenance works to YW apparatus will not be hindered.
10. Apparatus such as; railings, sign posts, etc. must not be placed in such a way that they prevent access to or full operation of controlling valves, hydrants or similar apparatus. YWS surface boxes must not be covered or buried. Any adjustment, alteration or replacement of manhole covers must be agreed on site prior to the commencement of the works with a YWS Inspector who may be contacted via our Call Centre on 0845 124 24 24.
11. Explosives shall not be used within 100 metres of any Yorkshire Water Services apparatus or installations.
12. Vibrating plant should not be used directly over any apparatus. Movement or operation by vehicles or heavy plant is not to be permitted in the immediate vicinity of YWS plant or apparatus unless there has been prior consultation and, if necessary, adequate protection provided without cost to YWS.
13. **Under no circumstances** should thrust boring or similar trenchless techniques commence until the actual position of the Company's mains/services along the proposed route have been confirmed by trial holes.
14. Any alterations to the highway should be notified following the procedures outlined in the New Road and Street Works Act 1991 Code of Practice; Measures Necessary Where Apparatus Is Affected By Major Works (Diversions Works).

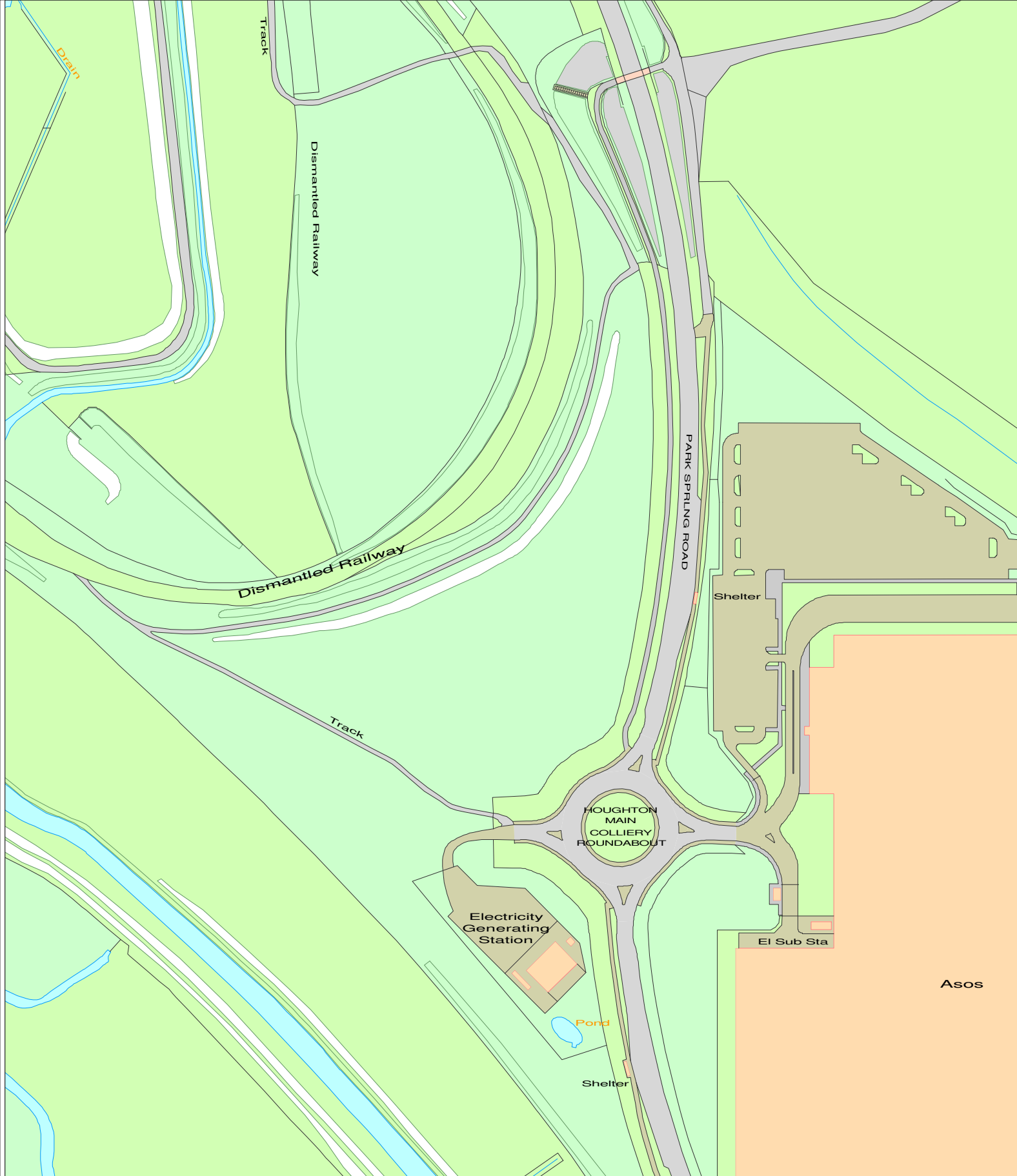
15. You will be held responsible for any damage or loss to YWS apparatus during and after completion of work, caused by yourselves, your servant or agent. Any damage caused or observed to YWS plant or apparatus should be immediately reported to YWS. Should YW incur any costs as a result of non-compliance with the above, all costs will be rechargeable in full.
16. You should ensure that nothing is done on the site to prejudice the safety or operation of YWS employees, plant or apparatus.
17. In accordance with the New Roads and Street Works Act 1991, Chapter 22, Part 3, Section 80. The location of any identified YW asset "*which is not marked, or is wrongly marked, on the records made available* " should be communicated back to Yorkshire Water. The location of the apparatus should be identified on copies of the supplied plans which should be returned to Yorkshire Water (Asset Records Team) with photographic supporting evidence where possible.
18. The Government has decided that responsibility for private sewers serving two or more properties and lateral drains (the section of pipe beyond the boundary of a single property, connecting it to the public sewer) will be transferred to the water companies on Oct 1 2011. Private pumping stations will also transfer during the period 1 October 2011 – 1 Oct 2016. Records of these assets may not yet be shown on the existing mains record drawing(s). If you encounter any of these assets you must inform Yorkshire Water Services Ltd (YWS).
19. Please note that the information supplied on the enclosed plans is reproduced from Ordnance Survey material with the permission of the Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office, © Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Licence Number 1000019559.
20. This information is for guidance only and the position and depth of any YW apparatus is approximate only. Likewise, the nature and condition of any YW apparatus cannot be guaranteed. YW has no responsibility for recording the locations of privately owned apparatus. As of 1 October 2011, there may be some lateral drains and/or public sewers which are not documented on YW records but may still be present. For the avoidance of doubt, this information is not a substitute for appropriate professional and/or legal advice. YW accepts no responsibility for any inaccuracy or omissions in this information. The actual position of YW apparatus must be determined on site by excavating trial holes by hand. YW requires a minimum of two working days' written notice of the intention to excavate any trial holes before any excavation can be undertaken. If there are any queries in this respect please contact Yorkshire Water on 0845 124 24 24.

Sewer Legend

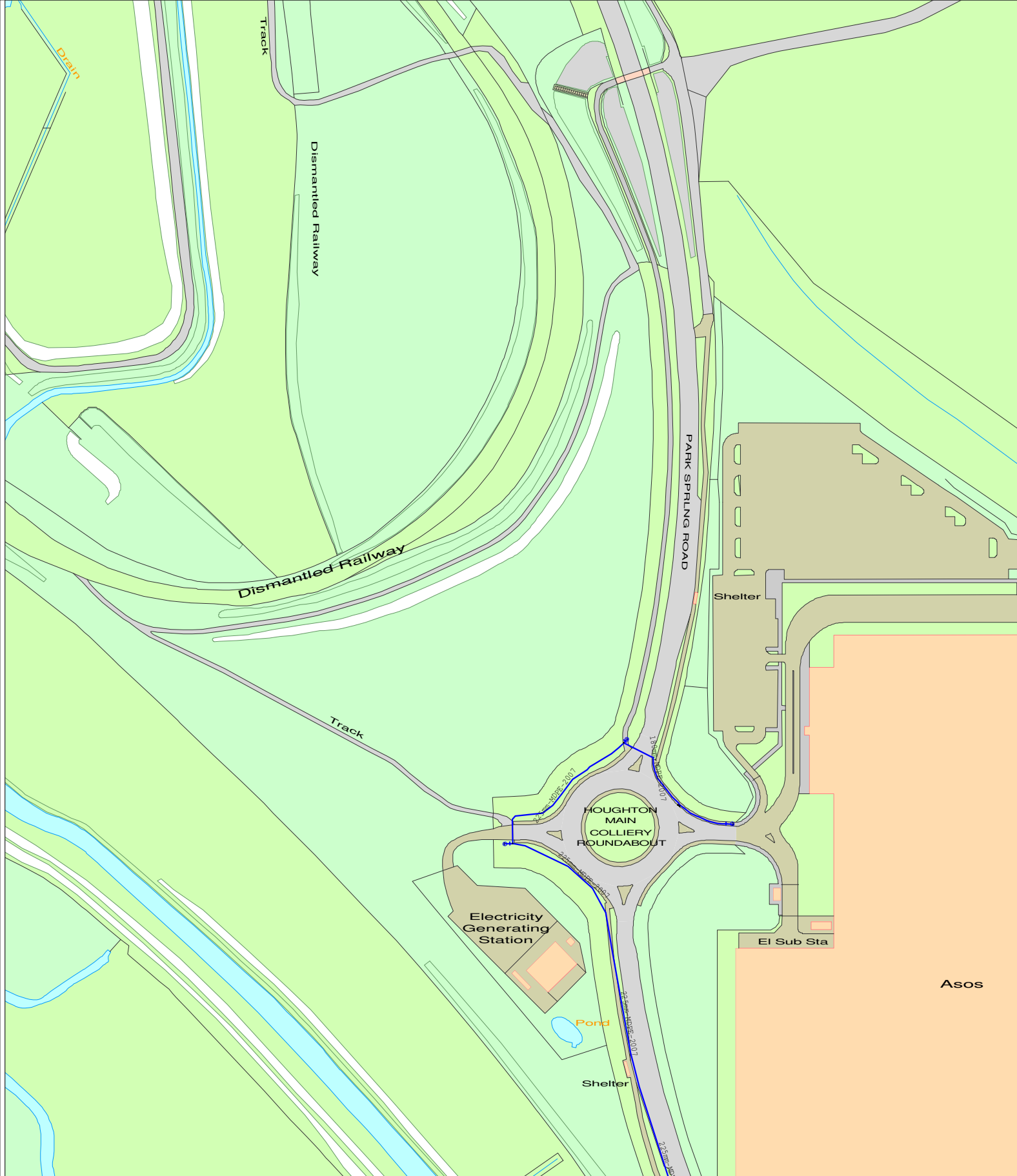
	Combined Sewer		S24 Combined Sewer
	Surface Water Sewer		S24 Surface Water Sewer
	Foul Sewer		S24 Foul Sewer
	Section 104 Sewer		Public Rising Main
	Pumping Station		Abandoned Sewer
	Public Sewage Treatment Works		Syphon Sewer & Vacuum Sewer
		+	Property Identifier

Water Legend

	Water Main 4" and below
	Water Main 4" and above
	Raw Water Main
	Private Water Main
	Fire Hydrant
	Pumping Station



441388 : 406119	Map Name : SE4106SW	Title	
 YorkshireWater Yorkshire Water, PO Box 500, Halifax Road, Bradford BD6 2LZ Contact Name : Search Advisor H BROOK Contact Tel : 75 4487 (Ody) COPYRIGHT STATEMENTS: Reproduced by permission of Ordnance Survey on behalf of HMSO © Crown copyright and database 2014. All rights reserved Ordnance Survey Licence number 100022432 Registered Office, Yorkshire Water Services Limited, Western House, Halifax Road, Bradford BD6 2SZ, Registered in England and Wales No. 2366682		Notes Partial Key Foul Sewer = F Combined Sewer = C Surface Water Sewer = SW Trade Sewer = TD Partially Separate = PS Date Req : 09/05/2017, 09:22:53 Source : Sewer Network Enquiry	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. 



441388 : 406119		Map Name : SE4106SW		Title	
 YorkshireWater		Yorkshire Water, PO Box 500, Halifax Road, Bradford BD6 2LZ Contact Name : Search Advisor H BROOK Contact Tel : 75 4487		Notes	
				Partial Key	
				The position and depths of apparatus shown on this plan are approximate only. The exact positions and depths should be obtained by excavation trial holes.	
(Ody) COPYRIGHT STATEMENTS: Reproduced by permission of Ordnance Survey on behalf of HMSO © Crown copyright and database 2014. All rights reserved Ordnance Survey Licence number 100022432 Registered Office, Yorkshire Water Services Limited. Western House, Halifax Road, Bradford BD6 2SZ, Registered in England and Wales No. 2366682		Water mains up to 4" in diameter			Scale : 1:2500
		Water mains over 4" in diameter			
		Raw water mains			
		Private water mains			
 SafeMove A part of Yorkshire Water		Drg No :		Maris No :	
		Date Req : 09/05/2017, 09:23:15		Date Gen : 09/05/2017, 09:23:15	
		Source : Water Network Enquiry			

Appendix C

TOPOGRAPHIC SURVEY AND PROPOSED DEVELOPMENT PLAN

Stn Big Chico 33.918

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 **aja architects**

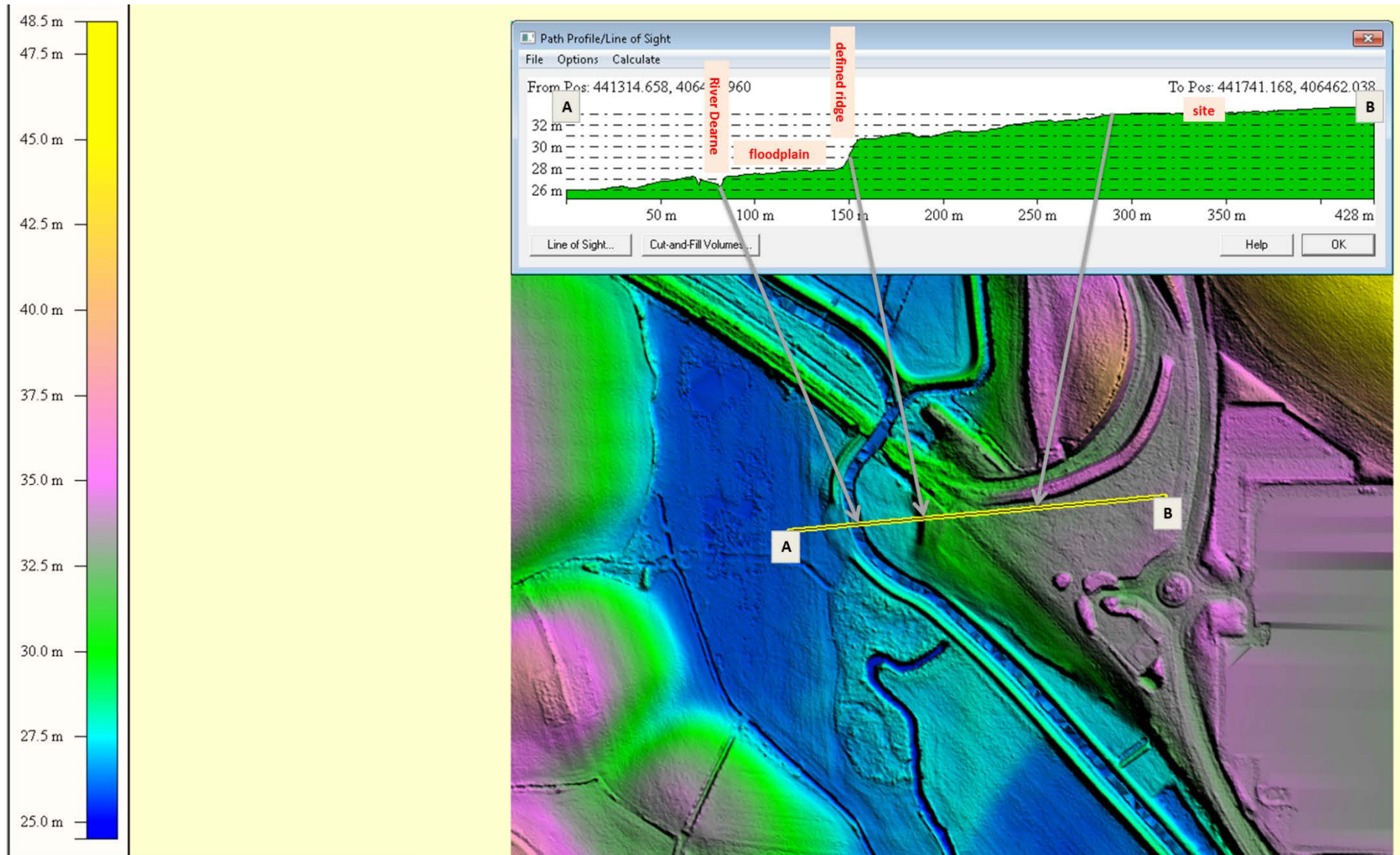
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Appendix D

WIDER TOPOGRAPHICAL SETTING



Appendix E

ENVIRONMENT AGENCY PRODUCT 4

Appendix F

CONCEPTUAL SURFACE WATER DRAINAGE SCHEME PLAN

Appendix G

CONCEPTUAL SURFACE WATER DRAINAGE SCHEME SUPPORTING CALCULATIONS

RPS Group Limited		Page 1
2420 The Quadrant Aztec West Almondsbury Bristol BS32 4AQ		
Date 09/05/2017 10:57 File	Designed by HSEDMCRAAdmin Checked by	
Micro Drainage Source Control 2016.1		

IH 124 Mean Annual Flood

Input

Return Period (years)	100	Soil	0.300
Area (ha)	1.000	Urban	0.000
SAAR (mm)	696	Region Number	Region 3

Results l/s

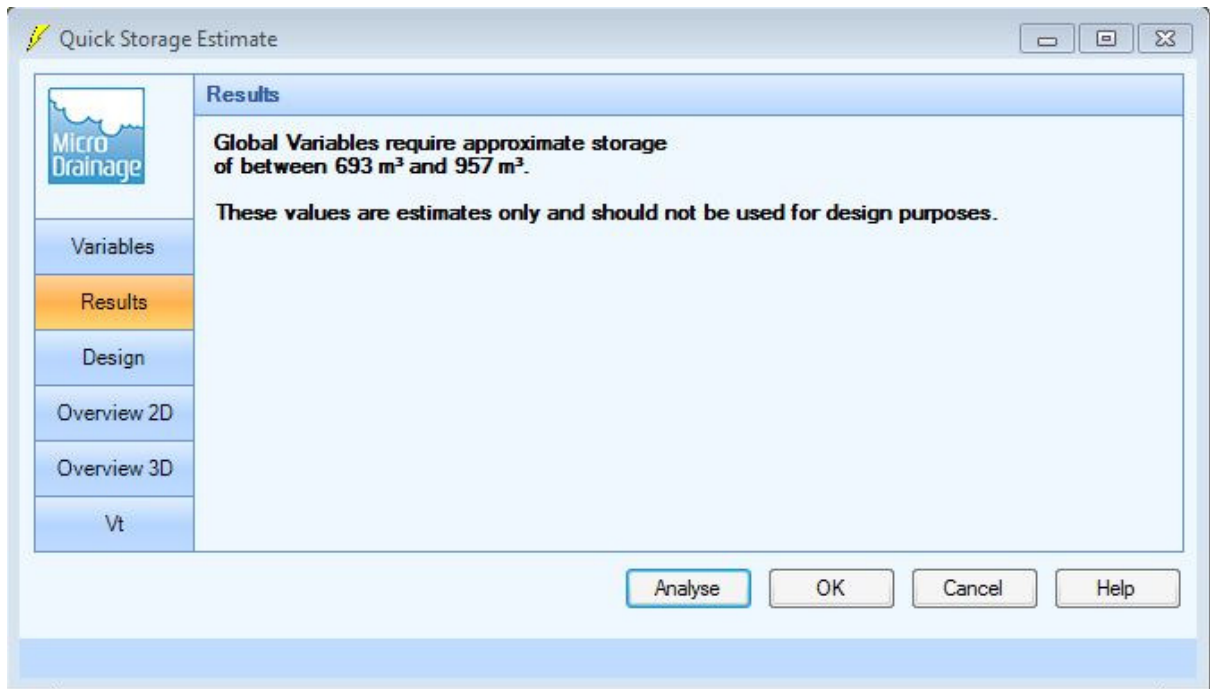
QBAR Rural 2.8
QBAR Urban 2.8

Q100 years 5.8

Q1 year 2.4
Q2 years 2.6
Q5 years 3.5
Q10 years 4.0
Q20 years 4.6
Q25 years 4.7
Q30 years 4.9
Q50 years 5.3
Q100 years 5.8
Q200 years 6.6
Q250 years 6.8
Q1000 years 8.5

Warning: It is unusual to use the IH124 method with an area < 50ha. The Interim Code of Practice recommends that the IH124 method is applied with 50ha and the resulting discharge is linearly interpolated for the required area. The ICP SUDS tab will do this automatically.

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RPS Burks Green

Sherwood House
Sherwood Avenue
Newark NG24 1QQ

Date 15/05/2017 14:21
File ASOS CAR PARK - QUICK S...

Micro Drainage

Designed by dean.watson
Checked by

Source Control 2016.1

Page 1



Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 2231 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control Σ (l/s)	Max Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	8.295	0.235	0.0	2.8	2.8	214.3	O K
30 min Summer	8.374	0.314	0.0	2.8	2.8	286.1	O K
60 min Summer	8.458	0.398	0.0	2.8	2.8	362.9	O K
120 min Summer	8.545	0.485	0.0	2.8	2.8	442.1	O K
180 min Summer	8.594	0.534	0.0	2.8	2.8	486.9	O K
240 min Summer	8.626	0.566	0.0	2.8	2.8	516.0	O K
360 min Summer	8.667	0.607	0.0	2.8	2.8	553.8	O K
480 min Summer	8.695	0.635	0.0	2.8	2.8	578.8	O K
600 min Summer	8.713	0.653	0.0	2.8	2.8	595.7	O K
720 min Summer	8.726	0.666	0.0	2.8	2.8	607.3	O K
960 min Summer	8.740	0.680	0.0	2.8	2.8	620.3	O K
1440 min Summer	8.744	0.684	0.0	2.8	2.8	623.5	O K
2160 min Summer	8.722	0.662	0.0	2.8	2.8	603.7	O K
2880 min Summer	8.698	0.638	0.0	2.8	2.8	581.5	O K
4320 min Summer	8.652	0.592	0.0	2.8	2.8	540.2	O K
5760 min Summer	8.610	0.550	0.0	2.8	2.8	501.9	O K
7200 min Summer	8.568	0.508	0.0	2.8	2.8	462.9	O K
8640 min Summer	8.521	0.461	0.0	2.8	2.8	420.5	O K
10080 min Summer	8.480	0.420	0.0	2.8	2.8	382.9	O K
15 min Winter	8.324	0.264	0.0	2.8	2.8	240.5	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	125.746	0.0	216.4	27
30 min Summer	84.173	0.0	234.8	41
60 min Summer	53.779	0.0	372.6	72
120 min Summer	33.195	0.0	449.3	130
180 min Summer	24.676	0.0	450.6	190
240 min Summer	19.858	0.0	446.0	250
360 min Summer	14.561	0.0	438.2	368
480 min Summer	11.683	0.0	432.4	488
600 min Summer	9.841	0.0	428.2	608
720 min Summer	8.549	0.0	425.0	726
960 min Summer	6.841	0.0	420.1	964
1440 min Summer	4.987	0.0	413.9	1442
2160 min Summer	3.628	0.0	860.3	1976
2880 min Summer	2.892	0.0	839.5	2336
4320 min Summer	2.096	0.0	775.5	3116
5760 min Summer	1.667	0.0	1109.9	3928
7200 min Summer	1.394	0.0	1160.3	4768
8640 min Summer	1.205	0.0	1203.1	5536
10080 min Summer	1.066	0.0	1241.4	6264
15 min Winter	125.746	0.0	227.0	26

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[illegible]

