

United Utilities PLC
PO Box 789
Warrington WA5 3WQ

Telephone 08456 020406
www.unitedutilities.com

Booth King Partnership Ltd
2nd Floor 1 Grange Street

Rawtenstall
Rossendale
Lancs
BB4 7RT

09 October 2008

Dear Sir or Madam

TO BE SEEN BY	
IE	
ACTION BY	

Direct line 08456 020 406

Your Ref: 306201101

Our Ref: NC1685

**Section 106 Water Industry Act 1991 – sewer connection enquiry at:
NHS Lift Clitheroe**

I refer to your recent application to make a connection to the public sewerage system for the purpose of draining the above property. Part 1 of you application has been approved and you may now appoint your contractor to carry out this work.

You will shortly received an invoice for our sewer connection charge, which is non refundable should you choose not to proceed with the connection.

If the connection is to a lateral or drain only, you will need the approval of the Local Authority Building Inspector following which you may then proceed with this work. If this connection connects a property to the public sewer for the first time, then you must inform United Utilities once the connection has been made, in order that the property is recorded for sewerage charges.

If it is intended to make a connection direct to the public sewer then your contractor must submit Part 2 of the application for approval prior to commencing the works

The attention of the applicant (and his contractor or agent) is directed to the Construction (Health, Safety and Welfare) Regulations 1996 (Excavations), the Health and Safety Executive Guidance Note GS5 (Entry into Confined Spaces) and Chapter 8 of the Traffic Signs Manual (Traffic Safety Measures for Roadworks) published by the Department of Transport.

The Contractor will have also to conform to the ROSS procedure (Guidance notes enclosed) for confined space Entry

Should you require further information please call 08456 020 406.

Yours faithfully

Sheila Prescott
Wastewater Adoptions & Connections Team.

United Utilities PLC
Registered in England & Wales No. 2366678
Registered office: Haweswater House, Lingley Mere
Business Park, Lingley Green Avenue, Great Sankey,
Warrington WA5 3LP

IE/CF/10617

02 October 2008

The Environment Agency
North West Central Area
PO Box 519
South Preston
PR5 8GD

For the attention of Mr Colin Worswick

Dear Colin

NHS Lift Clitheroe

Please find enclosed our application for works affecting the watercourse at the above site. This includes:

- General arrangement drawing for below ground drainage.
- Location plan
- Application fee
- Calculations

The scheme is to construct the new Clitheroe health Centre on the plot of land immediately adjacent to the current Clitheroe Hospital.

The connection detail indicated on our drawings is existing, we do not propose to modify this detail but will tie into the route within our site boundary using a manhole chamber with flow control device.

The health centre, which is approximately 1 Hectare in total, will be predominantly hard standing or roofs. The heavy specialist nature of traffic such as the MMU vehicles precludes porous surfacing. We will require either concrete hard standing or well-constructed macadam surface with robust wearing course and wearing course reinforcement, which must be impermeable. We understand the planning authority are happy with this proposal provided large expanses of blacktop are broken up by green areas such as planters.

We propose to attenuate to green field runoff rates of 8.4 l/s/ha.

As a result of special and topographical constraints we need to store a large volume of surface water in a relatively small space at the front of the health centre site. Consequently we propose to install a tanked storage solution, which is most space efficient. With a 30% voids ratio the alternative French drain solution would require greater area than is available. From health and safety reasons the East Lancashire Lift have excluded the use of ponds within the health centre site.

We trust this is sufficient information for you to process our application. Should you wish to discuss our scheme further or meet on site please do not hesitate to contact this office.

Yours sincerely
For BOOTH KING PARTNERSHIP LIMITED

Ian Entwisle

Enc

Cc Eric Wright Construction for Mr Dennis Prince

APPLICATION FOR CONSENT FOR WORKS AFFECTING WATERCOURSES AND/OR FLOOD DEFENCES

IMPORTANT NOTE - We ask you to read this form and the attached notes before you fill it in. Please take care in answering the questions. If the form is fully and accurately completed it will ensure as little delay as possible in processing your application. If you have any queries, please contact us.
Please fill the form in **CAPITAL LETTERS**

1. DETAILS OF APPLICANT

NAME : ERIC WRIGHT CONSTRUCTION
CONTACT PERSON : DENNIS PRINCE
POSTAL ADDRESS : SCETTRE HOUSE SCETTRE WAY
BAMBER BRIDGE PRESTON
POST CODE : PR5 6AW
TELEPHONE NO. (Office hours) : 01772 698822
TELEPHONE NO. (Out of hours) :
FAX NO/EMAIL : 01772 628811

2. AGENTS DETAILS

(e.g. Consultant/land agent - if applicable)

NAME : BOOTH KING CONTACT : JAN ENTWISTLE
POSTAL ADDRESS : 1 GRANGE ST
RAWTENSTALL
LANCASHIRE TEL NO : 01706 211184
EMAIL : jan.e@boothking.co.uk
POST CODE : BBA 3RT FAX NO : 01706 830849

OFFICIAL USE ONLY

MAIN RIVER YES NO
FEE APPLICABLE YES NO
FEE RECEIVED YES NO

DATE OF RECEIPT

FILE/OFFICE REFERENCE

3 LOCATION

LOCATION OF PROPOSED WORKS : AT THE INTERSECTION OF PIMLICO ROAD WITH
CHATBURN ROAD NEAR CLITHEROE

NAME OF RIVER / WATERCOURSE : PIMLICO BROOK

OS GRID REFERENCE (6 FIGURE) : SD 755430

4 APPLICANTS INTEREST IN LAND

DEVELOPER / OWNER

5 DESCRIPTION OF THE PROPOSED WORKS

WE DO NOT PROPOSE TO CHANGE THE CURRENT ROUTE
AND HEADWALL DETAIL INTO PIMLICO BROOK.

OUR WORKS WILL INCLUDE EITHER MODIFICATION
OR REPLACEMENT OF THE FINAL DOWN STREAM
MANHOLE WITHIN THE SITE BOUNDARY. THIS MANHOLE
WILL BE FITTED WITH A FLOW CONTROL DEVICE TO
ATTENUATE FLOWS TO GREENFIELD RUN OFF LEVELS OF
8.4 L/S/HA. THE STORAGE TANK WILL BE SIZED FOR
ALL HARDSTANDING CARPARKS AND ROOFS WITHIN THE
HEALTH CENTRE SITE

ANY SURFACE WATER ONTO GREEN / LANDSCAPED
AREAS WILL INFILTRATE INTO THE UPPER GRANULAR LAYER
WHERE IT WILL BE STORED, AND SUBSEQUENTLY TAKEN UP

Total number of structures

1

BY PLANTS / EVAPORATION OR MIGRATE
DOWN SLOPE.

6 CONSTRUCTION DETAILS

PLEASE INDICATE WHETHER THE WORKS ARE PERMANENT OR TEMPORARY : PERM / TEMP

IF TEMPORARY, STATE DURATION REQUIRED :

FOR ALL WORKS STATE ANTICIPATED CONSTRUCTION START DATE : 1 02 / 09

*Please note that we have 2 months to determine this application and works must not begin until
consent has been received

3-LOCATION

BLACUBURN TOWN CENTRE BETWEEN
BARBARA CASTLE WAY, SIMMONS STREET

LOCATION OF PROPOSED WORKS: £ ALMA STREET.

NAME OF RIVER / WATERCOURSE: NO NAME

OS GRID REFERENCE (6 FIGURE) : SD 680 282

4-APPLICANTS INTEREST IN LAND

DEVELOPER / OWNER.

5-DESCRIPTION OF THE PROPOSED WORKS

The existing culverted watercourse currently follows a convoluted route obliquely crossing Barbara Castle way; down Alma street before turning into and crossing Simmons Street. From there the water course makes its way under local authority controlled car parks towards Blakey Moor. As part of the overall scheme, Simmons Street & Alma street are to be re-aligned. During this work we propose to replace this current route with a direct route from the central reservation of Barbara Castle way to the start of the adopted surface water system at Man hole No . The existing system currently comprises approximately 80 lin m of 600 diameter pipe followed by perhaps 35 m length of 225 diameter pipe. We propose to

Total number of structures

1

replace this with an almost direct 94 m length of 600 diameter pipe.

6-CONSTRUCTION DETAILS

PLEASE INDICATE WHETHER THE WORKS ARE PERMANENT OR TEMPORARY : PERM / TEMP

IF TEMPORARY, STATE DURATION REQUIRED :

FOR ALL WORKS STATE ANTICIPATED CONSTRUCTION START DATE : 01 / 04 / 09

*Please note that we have 2 months to determine this application and works must not begin until consent has been received

7. DESCRIPTION AND REFERENCE NUMBERS OF ALL PLANS AND SECTIONS SUBMITTED

Before filling in this section please read the following bullet points :

- A location plan must be submitted (Failure to do so will result in the consent not being processed)
- All plans must have dimensions.

- LOCATION PLAN

- 10617 - S00 - DRAINAGE GA.

8. NAME OF PERSON OR ORGANISATION RESPONSIBLE FOR MAINTAINING THE STRUCTURE ON COMPLETION

EAST LANCASHIRE PCT IN CONJUNCTION WITH
ERIC WRIGHT FACILITIES MANAGEMENT

9. PLEASE PROVIDE BRIEF DETAILS OF ANY ADVERSE ENVIRONMENTAL IMPACT THE WORKS MAY HAVE TOGETHER WITH PROPOSALS FOR ITS MITIGATION

BY DESIGNING TO GREENFIELD RUN OFF LEVELS
WE DO NOT ENVISAGE ANY ADVERSE ENVIRONMENTAL
IMPACTS.

10. DECLARATION

I/We

Apply for consent to carry out works as described in this application form and on the attached plan(s).

2. Enclose a cheque for £ 50 to cover the cost of this application.
(Cheques should be made payable to "Environment Agency").
3. Enclose one copy of suitable plans sufficient to show clearly the location of the proposed works together with one copy of plans and sections showing details of the proposed works to a scale appropriate to the nature of the works and any relevant calculations.

Name : JAN ENTWISTLE

Signed : 

On behalf of : BOOTH KING PARTNERSHIP LIMITED

Date : 16-09-08

Please return this form to:

The Environment Agency
Development Control
PO Box 519
SOUTH PRESTON
PR5 8GD

The North West Central Area office may be contacted at the above address or at the telephone number below:-

Telephone : 08708 506506
Facsimile : 01772 697032



boothking

PARTNERSHIP LIMITED
CONSULTING CIVIL AND STRUCTURAL ENGINEERS

PROJECT No: 10617

PAGE No:

DATE:

ENGINEER: IE

CHECKED:

PROJECT: NHS Lift Clitheroe

GREEN FIELD RUN OFF

USING IHR 124

$$1:2 \text{ year peak flow} = Q_s = 0.0108 \text{ AREA}^{0.89} \cdot \text{SAAR}^{1.17} \cdot \text{SOIL}^{2.17}$$

SOIL, from FSR = 0.45 clay

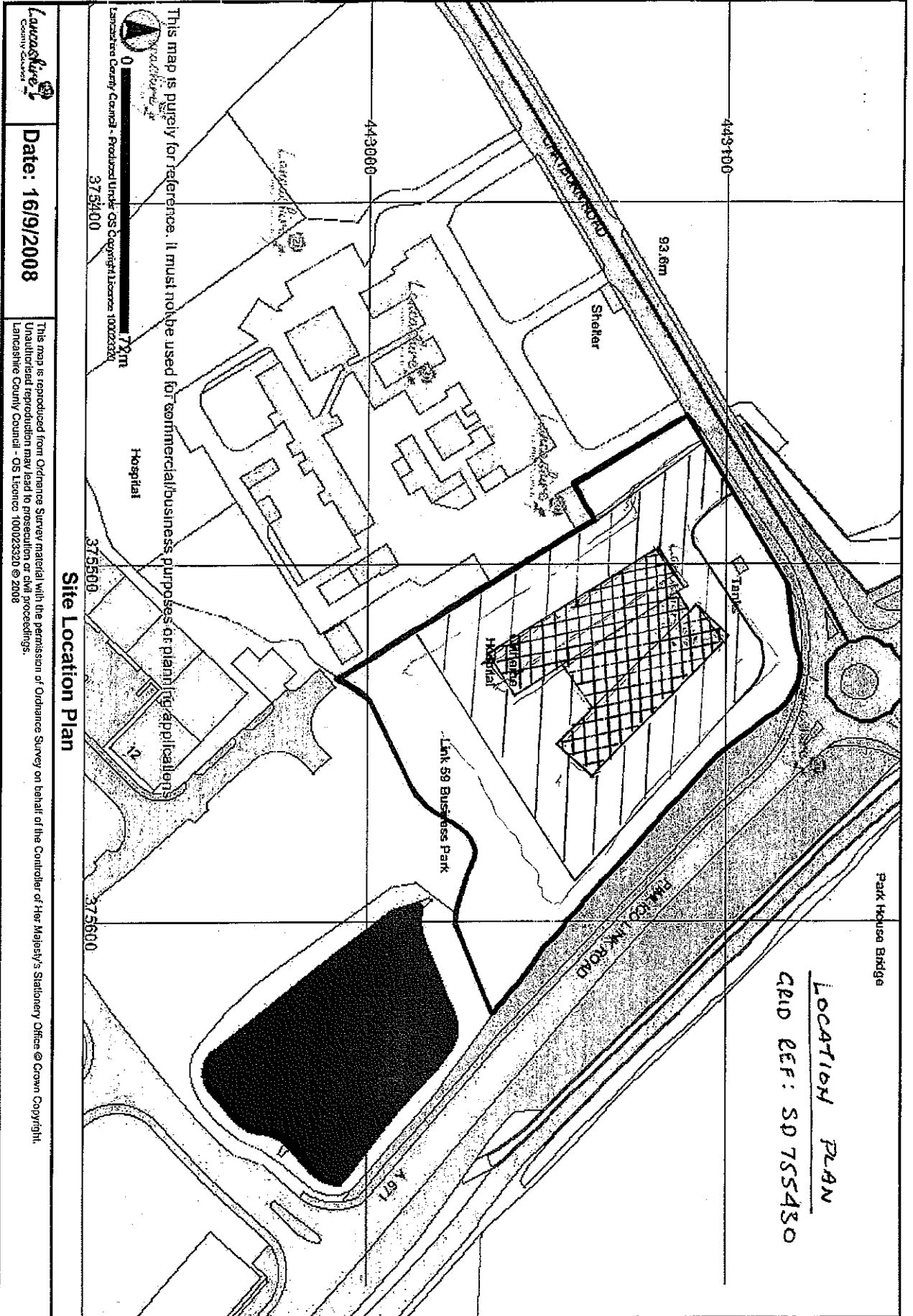
AREA - where the catchment area is less than 50 ha
the area is set at 50 Ha then the resultant run off
is scaled by the ratio of the actual site area

SAAR = 1400 mm² from WALLINGFORD MAPS

$$\therefore Q_s = 0.00108 \times 0.5^{0.89} \times 1218^{1.17} \times 0.45^{2.17} = 0.42 \text{ m}^3/\text{s}$$

for 50 Ha

$$\therefore \frac{0.42 \times 1000}{50} = 8.4 \text{ l/s/Ha}$$



Date: 16/9/2008

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Site Location Plan

Global Variables

Region	FSR - England & Wales	
Return Period (yrs)		30
M5-60 (mm)		18 000
Ratio R		0 300
Volumetric Runoff Coef		0 840
Profile Type		Winter
PIMP (%)		100
Areal Reduction Factor		1 000
Storm Duration (mins)		480
Hot Start (mins)		0
Hot Start Level (mm)		0
Manhole Headloss Coefficient		0 500
MADD Factor * 10m ³ /ha Storage		2 000
Foul Sewage/Hectare l/s)		0 00
Additional Flow - % of Total Flow		30
Number of Input Hydrographs		0
Number of Time/Area Diagrams		0
Number of Bifurcations		0
Number of Overflows		0
Number of Off-Line Controls		0
Number of On-Line Controls		1

FOR CLIMATE CHANGE

Starting Storm file name

P:\10617 NHS LIFT CLITHERDE\DESIGN\DRAINAGE\080924 REV 3\080926 REV3 OPT SWS

Freely Discharging Outfalls

Outfall Pipe Number	Outfall MH/No	C Level (m)	I Level (m)	D.L [mm]	B [mm]
1 008	outfall	95 500	92 130	1200	0

Booth King Partnership

Page 2

1 Grange Street
Rawtenstall
Lancs BB4 7RT

Date 02 October 2008 09:09
File 081001_REV 5.SIM

Designed By iane
Checked By



Micro Drainage

Simulation W.11.3

On-Line Controls (Hydro-Brake®)

US/PN	Volume (m ³)	Ctrl MH Name	Invert (m)	Type	Dia (m)	D.Head (m)	D.Flow (l/s)	Headloss (m)	Flow (l/s)
1 007	5.796	21	92 159	Md1	0 079	1 420	8 4	0 2	3 4
								0 4	4 4
								0 6	5 4
								0 8	6 3
								1 0	7 0
								1 4	8 3
								1 8	9 4
								2 2	10 4
								2 6	11 3
								3 0	12 2



Storage Pond at pipe 1.008 USMH 21

Storage Pond Invert Level (m) 92.159

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.0	170.0	2.4	1.0	4.8	1.0	7.2	1.0	9.6	1.0
0.4	170.0	2.8	1.0	5.2	1.0	7.6	1.0	10.0	1.0
0.8	170.0	3.2	1.0	5.6	1.0	8.0	1.0		
1.2	170.0	3.6	1.0	6.0	1.0	8.4	1.0		
1.6	170.0	4.0	1.0	6.4	1.0	8.8	1.0		
2.0	170.0	4.4	1.0	6.8	1.0	9.2	1.0		

1 Grange Street
Rawtenstall
Lancs BB4 7RT

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Micro Drainage

Simulation W.I.I.3



Network Details

* - Indicates pipe has been modified outside of WinDes s Storm/Foul & Schedules

PN	Length (m)	Fall (m)	Slope (1:x)	Area (ha)	T.E (mins)	Rain Pro	k (mm)	Hyd Sect	Dia (mm)
1 000	7.00	0.088	79.6	0.030	5.00	1	0.600	o	150
1 001	29.58	0.372	79.5	0.060	0.00	1	0.600	o	150
2 000	13.68	0.239	57.2	0.015	5.00	1	0.600	o	150
1 002	24.00	0.143	168.4	0.015	0.00	1	0.600	o	225
1 003	46.00	0.273	168.4	0.000	0.00	1	0.600	o	225
3 000	25.84	0.598	43.2	0.050	5.00	1	0.600	o	150
1 004	14.80	0.088	168.4	0.000	0.00	1	0.600	o	225
4 000	23.75	0.393	60.4	0.040	5.00	1	0.600	o	150
1 005	20.44	0.121	168.4	0.000	0.00	1	0.600	o	225
1 006	10.32	0.061	168.4	0.000	0.00	1	0.600	o	225
5 000	28.25	0.353	80.0	0.040	5.00	1	0.600	o	150
5 001	71.38	1.147	62.2	0.120	0.00	1	0.600	o	225
5 002	10.45	0.062	167.9	0.020	0.00	1	0.600	o	225
5 003	19.75	0.118	167.9	0.020	0.00	1	0.600	o	225
6 000	71.61	1.650	43.4	0.140	5.00	1	0.600	o	150
7 000	29.26	0.295	99.3	0.080	5.00	1	0.600	o	150

PN	USMH No.	US/CL (m)	US/IL (m)	US Depth (m)	DS/CL (m)	DS/IL (m)	DS Depth (m)	Ctrl No.	US/MH (mm)
1 000	1	96.350	95.050	1.150	96.350	94.962	1.238		1050
1 001	2	96.350	94.962	1.238	96.350	94.590	1.610		1050
2 000	3	96.350	95.050	1.150	96.350	94.811	1.389		1050
1 002	4	96.350	94.515	1.610	96.350	94.373	1.752		1200
1 003	5	96.350	94.373	1.752	95.550	94.099	1.226		1200
3 000	6	95.500	94.500	0.850	95.550	93.902	1.498		1050
1 004	7	95.550	93.827	1.498	95.200	93.739	1.236		1050
4 000	8	95.500	94.500	0.850	95.200	94.107	0.943		1050
1 005	9	95.200	93.739	1.236	96.600	93.618	2.757		1050
1 006	10	96.600	93.618	2.757	95.500	93.557	1.718		1200
5 000	11	96.350	95.150	1.050	96.350	94.797	1.403		1050
5 001	12	96.350	94.722	1.403	95.000	93.575	1.200		1050
5 002	13	95.000	93.575	1.200	95.350	93.513	1.612		1050
5 003	14	95.350	93.513	1.612	95.500	93.395	1.880		1200
6 000	15	97.000	95.650	1.200	95.350	94.000	1.200		1050
7 000	16	94.500	93.150	1.200	95.350	92.855	2.345		1050

1 Grange Street

Rawtenstall

Lancs BB4 7RT

Date 02 October 2008 09:09

File 081001 REV 5.SIM

Designed By ian

Checked By

Micro Drainage

Simulation W.11.3



Network Details

PN	Length (m)	Fall (m)	Slope (1:x)	Area (ha)	T.E (mins)	Rain Pro	k (mm)	Hyd Sect	Dia (mm)
6.001	27.21	0.183	148.3	0.020	0.00	1	0.600	o	225
6.002	4.63	0.019	242.0	0.030	0.00	1	0.600	o	300
1.007	22.00	0.044	500.2	0.000	0.00	1	0.600	o	600
1.008	26.01	0.029	903.7	0.000	0.00	1	0.600	o	150

PN	USMH No.	US/CL (m)	US/IL (m)	US Depth (m)	DS/CL (m)	DS/IL (m)	DS Depth (m)	Ctrl No.	US/MH (mm)
6.001	17	95.350	92.780	2.345	95.500	92.597	2.678		1200
6.002	18	95.500	92.522	2.678	95.500	92.503	2.697		1200
1.007	20	95.500	92.203	2.697	95.000	92.159	2.241		1500
1.008	21	95.000	92.159	2.691	95.500	92.130	3.220	9	1500

MANHOLE SCHEDULES

M/Hole Number	Cover Level (m)	M/Hole Depth (m)	M/Hole Diam., L*W (mm)	Pipes Out			Pipes In		
				PN	IL (m)	D (mm)	PN	IL (m)	D (mm)
1	96 350	1 300	1050	1 000	95 050	150			
2	96 350	1 388	1050	1 001	94 962	150	1 000	94 962	150
3	96 350	1 300	1050	2 000	95 050	150			
4	96 350	1 835	1200	1 002	94 515	225	1 001	94 590	150
							2 000	94 811	150
5	96 350	1 977	1200	1 003	94 373	225	1 002	94 373	225
6	95 500	1 000	1050	3 000	94 500	150			
7	95 550	1 723	1050	1 004	93 827	225	1 003	94 099	225
							3 000	93 902	150
8	95 500	1 000	1050	4 000	94 500	150			
9	95 200	1 461	1050	1 005	93 739	225	1 004	93 739	225
							4 000	94 107	150
10	96 600	2 982	1200	1 006	93 618	225	1 005	93 618	225
11	96 350	1 200	1050	5 000	95 150	150			
12	96 350	1 628	1050	5 001	94 722	225	5 000	94 797	150
13	95 000	1 425	1050	5 002	93 575	225	5 001	93 575	225
14	95 350	1 837	1200	5 003	93 513	225	5 002	93 513	225
15	97 000	1 350	1050	6 000	95 650	150			
16	94 500	1 350	1050	7 000	93 150	150			
17	95 350	2 570	1200	6 001	92 780	225	6 000	94 000	150
							7 000	92 855	150
18	95 500	2 978	1200	6 002	92 522	300	6 001	92 597	225
20	95 500	3 297	1500	1 007	92 203	600	1 006	93 557	225
							5 003	93 395	225
							6 002	92 503	300
21	95 000	2 841	1500	1 008	92 159	150	1 007	92 159	600
outfall	95 500	3 370	1200		OUTFALL		1 008	92 130	150

1 Grange Street

Rawtenstall

Lancs BB4 7RT

Date 02 October 2008 09:09

File 081001 REV 5.SIM

Designed By iane

Checked By

Simulation W.11.3



Summary of Results

Return Period (years)	30
Storm Duration (mins)	720
Profile Type	Winter
Margin for Flood Risk warning (mm)	300
Analysis Time Step	2.5 second increment (extended)
DTS Status	ON
DVD Status	ON
Inertia Status	OFF

PN	Water Lev. (m)	Surcharged Depth (m)	Flooded Vol (m ³)	Flow/ Capacity	Overflow (l/s)	Pipe Flow (l/s)	Status
1 000	95.075	-0.125	0.000	0.07	0.0	1.2	O K
1 001	95.005	-0.107	0.000	0.18	0.0	3.5	O K
2 000	95.066	-0.134	0.000	0.03	0.0	0.6	O K
1 002	94.568	-0.172	0.000	0.13	0.0	4.6	O K
1 003	94.425	-0.173	0.000	0.12	0.0	4.6	O K
3 000	94.527	-0.123	0.000	0.07	0.0	1.9	O K
1 004	93.892	-0.160	0.000	0.19	0.0	6.6	O K
4 000	94.526	-0.124	0.000	0.07	0.0	1.5	O K
1 005	93.811	-0.153	0.000	0.22	0.0	8.1	O K
1 006	93.693	-0.150	0.000	0.24	0.0	8.1	O K
5 000	95.178	-0.122	0.000	0.08	0.0	1.5	O K
5 001	94.769	-0.178	0.000	0.10	0.0	6.2	O K
5 002	93.644	-0.156	0.000	0.21	0.0	6.9	O K
5 003	93.583	-0.155	0.000	0.21	0.0	7.7	O K
6 000	95.696	-0.104	0.000	0.20	0.0	5.4	O K
7 000	93.584	0.284	0.000	0.18	0.0	3.1	SURCH ED
6 001	93.578	0.573	0.000	0.23	0.0	8.9	SURCH ED
6 002	93.571	0.749	0.000	0.21	0.0	9.9	SURCH ED
1 007	93.570	0.767	0.000	0.12	0.0	25.5	SURCH ED
1 008	93.569	1.260	0.000	1.60	0.0	8.2	SURCH ED

1 Grange Street
Rawtenstall
Lancs BB4 7RT

Date 02 October 2008 09:10
File 081001 REV 5.SIM

Designed By iane
Checked By



Micro Drainage

Simulation W.11.3

Summary of Results

Return Period (years)	30
Storm Duration (mins)	480
Profile Type	Winter
Margin for Flood Risk warning (mm)	300
Analysis Time Step	2.5 second increment (extended)
DTS Status	ON
DVD Status	ON
Inertia Status	OFF

PN	Water Lev. (m)	Surcharged Depth (m)	Flooded Vol (m ³)	Flow/ Capacity	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	95.080	-0.120	0.000	0.09	0.0	1.5	O K
1.001	95.012	-0.100	0.000	0.24	0.0	4.6	O K
2.000	95.068	-0.132	0.000	0.04	0.0	0.8	O K
1.002	94.577	-0.163	0.000	0.17	0.0	6.2	O K
1.003	94.433	-0.165	0.000	0.16	0.0	6.2	O K
3.000	94.532	-0.118	0.000	0.10	0.0	2.6	O K
1.004	93.903	-0.149	0.000	0.25	0.0	8.8	O K
4.000	94.531	-0.119	0.000	0.09	0.0	2.1	O K
1.005	93.823	-0.141	0.000	0.30	0.0	10.8	O K
1.006	93.705	-0.137	0.000	0.32	0.0	10.8	O K
5.000	95.183	-0.117	0.000	0.11	0.0	2.1	O K
5.001	94.775	-0.172	0.000	0.13	0.0	8.2	O K
5.002	93.655	-0.145	0.000	0.28	0.0	9.3	O K
5.003	93.599	-0.139	0.000	0.28	0.0	10.3	O K
6.000	95.703	-0.097	0.000	0.27	0.0	7.2	O K
7.000	93.608	0.308	0.000	0.24	0.0	4.1	SURCH'ED
6.001	93.601	0.596	0.000	0.30	0.0	11.9	SURCH'ED
6.002	93.595	0.773	0.000	0.28	0.0	13.2	SURCH'ED
1.007	93.594	0.791	0.000	0.15	0.0	34.0	SURCH'ED
1.008	93.592	1.283	0.000	1.62	0.0	8.3	SURCH'ED

Summary of Results

```


Return Period (years)                30
Storm Duration (mins)                240
Profile Type                          Winter
Margin for Flood Risk warning (mm)   300
Analysis Time Step                    2.5 second increment (extended)
DTS Status                            ON
DVD Status                             ON
Inertia Status                         OFF
  
```

PN	Water Lev (m)	Surcharged Depth (m)	Flooded Vol (m ³)	Flow/Capacity	Overflow (l/s)	Pipe Flow (l/s)	Status
1 000	95 088	-0.112	0 000	0 15	0 0	2 5	O K
1 001	95 027	-0.085	0 000	0 40	0 0	7 6	O K
2 000	95 073	-0.127	0 000	0 06	0 0	1 3	O K
1 002	94 595	-0.145	0 000	0 27	0 0	10 1	O K
1 003	94 451	-0.147	0 000	0 26	0 0	10 1	O K
3 000	94 540	-0.110	0 000	0 16	0 0	4 2	O K
1 004	93 927	-0.125	0 000	0 41	0 0	14 3	O K
4 000	94 539	-0.111	0 000	0 15	0 0	3 4	O K
1 005	93 850	-0.114	0 000	0 49	0 0	17 6	O K
1 006	93 734	-0.109	0 000	0 53	0 0	17 6	O K
5 000	95 192	-0.108	0 000	0 18	0 0	3 4	O K
5 001	94 792	-0.155	0 000	0 21	0 0	13 4	O K
5 002	93 681	-0.119	0 000	0 45	0 0	15 1	O K
5 003	93 620	-0.118	0 000	0 46	0 0	16 8	O K
6 000	95 720	-0.080	0 000	0 44	0 0	11 7	O K
7 000	93 564	0.264	0 000	0 39	0 0	6 7	SURCH ED
6 001	93 558	0.553	0 000	0 49	0 0	19 5	SURCH ED
6 002	93 551	0.729	0 000	0 46	0 0	21 5	SURCH ED
1 007	93 550	0.747	0 000	0 25	0 0	55 0	SURCH ED
1 008	93 548	1.239	0 000	1 59	0 0	8 1	SURCH ED

Summary of Results

Return Period (years)	30
Storm Duration (mins)	960
Profile Type	Summer
Margin for Flood Risk warning (mm)	300
Analysis Time Step	2.5 second increment (extended)
DTS Status	ON
DVD Status	ON
Inertia Status	OFF

PN	Water Lev (m)	Surcharged Depth (m)	Flooded Vol (m ³)	Flow/ Capacity	Overflow (l/s)	Pipe Flow (l/s)	Status
1 000	95.077	-0.123	0.000	0.08	0.0	1.3	OK
1 001	95.008	-0.104	0.000	0.20	0.0	3.9	OK
2 000	95.067	-0.133	0.000	0.03	0.0	0.7	OK
1 002	94.571	-0.169	0.000	0.14	0.0	5.2	OK
1 003	94.428	-0.170	0.000	0.14	0.0	5.2	OK
3 000	94.529	-0.121	0.000	0.08	0.0	2.2	OK
1 004	93.897	-0.155	0.000	0.21	0.0	7.4	OK
4 000	94.528	-0.122	0.000	0.08	0.0	1.7	OK
1 005	93.815	-0.149	0.000	0.25	0.0	9.1	OK
1 006	93.698	-0.145	0.000	0.27	0.0	9.1	OK
5 000	95.180	-0.120	0.000	0.09	0.0	1.7	OK
5 001	94.771	-0.176	0.000	0.11	0.0	6.9	OK
5 002	93.648	-0.152	0.000	0.23	0.0	7.8	OK
5 003	93.587	-0.151	0.000	0.24	0.0	8.7	OK
6 000	95.698	-0.102	0.000	0.23	0.0	6.1	OK
7 000	93.409	0.109	0.000	0.20	0.0	3.5	SURCH'ED
6 001	93.403	0.398	0.000	0.26	0.0	10.1	SURCH ED
6 002	93.397	0.575	0.000	0.24	0.0	11.2	SURCH ED
1 007	93.396	0.593	0.000	0.13	0.0	28.7	SURCH ED
1 008	93.394	1.085	0.000	1.50	0.0	7.7	SURCH ED

Booth King Partnership		Page 1
1 Grange Street Rawtenstall Lancs BB4 7RT		
Date 02 October 2008 09:12 File 081001 REV 5.SIM	Designed By iane Checked By	
Micro Drainage		Simulation W.I.I.3

Summary of Results

Return Period (years) 30
Storm Duration (mins) 720
Profile Type Summer
Margin for Flood Risk warning (mm) 300
Analysis Time Step 2.5 second increment (extended)
DTS Status ON
DVD Status ON
Inertia Status OFF

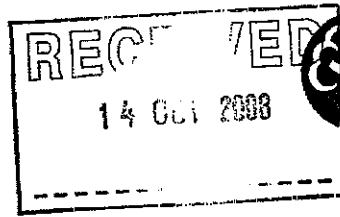
PN	Water Lev. (m)	Surcharged Depth (m)	Flooded Vol (m ³)	Flow/ Capacity	Overflow (l/s)	Pipe Flow (l/s)	Status
1 000	95 081	-0 119	0 000	0 09	0 0	1 6	O K
1 001	95 013	-0 099	0 000	0 25	0 0	4 8	O K
2 000	95 069	-0 131	0 000	0 04	0 0	0 8	O K
1 002	94 578	-0 162	0 000	0 17	0 0	6 4	O K
1 003	94 434	-0 164	0 000	0 17	0 0	6 4	O K
3 000	94 532	-0 118	0 000	0 10	0 0	2 7	O K
1 004	93 904	-0 148	0 000	0 26	0 0	9 1	O K
4 000	94 531	-0 119	0 000	0 10	0 0	2 1	O K
1 005	93 824	-0 140	0 000	0 31	0 0	11 2	O K
1 006	93 708	-0 135	0 000	0 34	0 0	11 2	O K
5 000	95 183	-0 117	0 000	0 11	0 0	2 1	O K
5 001	94 776	-0 171	0 000	0 13	0 0	8 5	O K
5 002	93 657	-0 143	0 000	0 29	0 0	9 6	O K
5 003	93 596	-0 142	0 000	0 29	0 0	10 7	O K
6 000	95 704	-0 096	0 000	0 28	0 0	7 5	O K
7 000	93 436	0 136	0 000	0 25	0 0	4 3	SURCH ED
6 001	93 430	0 425	0 000	0 31	0 0	12 4	SURCH ED
6 002	93 424	0 602	0 000	0 29	0 0	13 7	SURCH ED
1 007	93 423	0 620	0 000	0 16	0 0	35 3	SURCH ED
1 008	93 422	1 113	0 000	1 52	0 0	7 8	SURCH ED

Summary of Results

Return Period (years)	30
Storm Duration (mins)	480
Profile Type	Summer
Margin for Flood Risk warning (mm)	300
Analysis Time Step	2.5 second increment (extended)
DTS Status	ON
DVD Status	ON
Inertia Status	OFF

PN	Water Lev (m)	Surcharged Depth (m)	Flooded Vol (m ³)	Flow/Capacity	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	95.085	-0.115	0.000	0.13	0.0	2.1	OK
1.001	95.022	-0.090	0.000	0.34	0.0	6.4	OK
2.000	95.071	-0.129	0.000	0.05	0.0	1.1	OK
1.002	94.588	-0.152	0.000	0.23	0.0	8.5	OK
1.003	94.445	-0.153	0.000	0.22	0.0	8.5	OK
3.000	94.537	-0.113	0.000	0.14	0.0	3.6	OK
1.004	93.918	-0.134	0.000	0.35	0.0	12.1	OK
4.000	94.536	-0.114	0.000	0.13	0.0	2.8	OK
1.005	93.839	-0.125	0.000	0.41	0.0	15.0	OK
1.006	93.723	-0.120	0.000	0.45	0.0	15.0	OK
5.000	95.188	-0.112	0.000	0.15	0.0	2.8	OK
5.001	94.786	-0.161	0.000	0.18	0.0	11.4	OK
5.002	93.671	-0.129	0.000	0.38	0.0	12.8	OK
5.003	93.611	-0.127	0.000	0.39	0.0	14.2	OK
6.000	95.713	-0.087	0.000	0.38	0.0	10.0	OK
7.000	93.441	0.141	0.000	0.33	0.0	5.7	SURCH ED
6.001	93.435	0.430	0.000	0.42	0.0	16.6	SURCH ED
6.002	93.429	0.607	0.000	0.38	0.0	18.1	SURCH ED
1.007	93.428	0.625	0.000	0.21	0.0	46.9	SURCH ED
1.008	93.426	1.117	0.000	1.52	0.0	7.8	SURCH ED

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**Environment
Agency**

Jan Entwistle
Booth King
1 Grange Street
Rawtenstall
Lancashire
BB4 7RT

Our ref: CA/7843

Your Ref:

Date: 13 October 2008

Dear Jan

Intersection of Pimlico road and Chatburn road

We have received your application for consent for works affecting watercourses and/or flood defences at the above site together with your cheque for £50.00.

We are now checking your application to make sure we have all the information we need to make a decision. If all the information is there, we will make a decision on your application within 2 months. If we need more information, we will contact you again. I would like to stress that you must have our written consent before you start the proposed work.

Please do not hesitate to contact Colin Worswick, our Development Control Engineer on 01772 714259 if you require any assistance.

Yours sincerely

Christine Hindle
Development Control Assistant
Direct dial: 01772 714145
Direct fax: 01772 697032
christine.hindle@environment-agency.gov.uk

TO BE SEEN BY	
ACTION BY	

The Environment Agency
North West Central Area
PO Box 519
South Preston
PR5 8GD Tel: 08708 506506 Fax: 01772 697032
John Collins Central Area Manager



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Eric Wright Construction
Sceptre House
Sceptre Way
Bamber Bridge
PRESTON
PR5 6AW

Our Ref: CNW/Clitheroe
Your Ref:

Date: 06 November 2008

Dear Sir,

Consent No. CA 7843
Proposed manhole connection to culvert, Clitheroe hospital

I am pleased to enclose the Environment Agency's formal Consent for your proposed works.

It is imperative that we are advised prior to works commencing and on completion. To this end, please use the enclosed prepaid cards, or telephone or fax us one week before work is to start and again just before completion.

I would also draw your attention to the Notes on the rear of the Consent. In particular, please note that responsibility for the structure rests solely with yourself and, in this regard, we advise that it is in your own interests to employ a suitably qualified professional person to oversee its construction.

The temporary works associated with these works shall themselves be subject to a separate Land Drainage Consent application.

This Consent is an important document and should be kept in a safe place, ideally with the title deeds of the land to which it relates.

Should you require further information Colin Worswick, Development Control Engineer for the area, will be pleased to assist you. Telephone 01772 714259.

Yours sincerely


JONATHAN MARSH

Planning Liaison and Development Control Team Leader

The Environment Agency
North West Central Area
PO Box 519
South Preston
PR5 8GD Tel: 08708 506506 Fax: 01772 697032
John Collins Central Area Manager



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Land Drainage Act 1991 (sec 23)

**NOTIFICATION OF CONSENT FOR WORKS AFFECTING
WATERCOURSES AND/OR FLOOD DEFENCES**

CONSENT NO. CA 7843

1. TO: Eric Wright Construction
Sceptre House
Sceptre Way
Bamber Bridge
PRESTON
PR5 6AW

2. The ENVIRONMENT AGENCY ("the Agency"), in pursuance of the powers conferred on them by the above Acts and Byelaws and subject to the notes set out in paragraph 5 overleaf, hereby consent to the works or operations described hereunder and in accordance with the drawings referred to.

3 DESCRIPTION OF WORKS OR OPERATIONS

Watercourse: Pimlico Brook (Ordinary Watercourse)

Location: Clitheroe hospital

Map Reference: SD 755 430

Brief Description of Works: Proposed manhole connection to culvert as detailed in your application dated 16 September 2008

Documents Referred to: Location Plan
Hydraulic Calculations
Drg. No. 500 Rev B

4. SIGNED ON BEHALF OF ENVIRONMENT AGENCY:


JONATHAN MARSH

Dated: 06 November 2008

Planning Liaison and Development Control Team Leader

The Environment Agency
North West Central Area
PO Box 519
South Preston
PR5 8GD Tel: 08708 506506 Fax: 01772 697032
John Collins Central Area Manager



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New City Court
20 St Thomas Street
London
SE1 9RS

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Fax: +44 (0)20 7939 6103
Web: www.skmenviro.com

Eddie Aspin
Eric Wright Group of Companies
Sceptre House
Sceptre Way
Bamber Bridge
Preston
PR5 6AW

2 October 2012

Clitheroe FRA letter

Dear Eddie

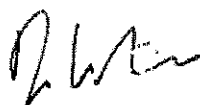
Clitheroe, flood risk assessment

SKM Enviro have reviewed the report titled Clitheroe Community Hospital, Flood Risk Assessment dated October 2008 and prepared by Enviro Consulting Ltd. We have concluded that the conclusions of this report remain valid and that no update or change to the assessment is required.

We note that the 2008 assessment was undertaken under Planning Policy Statement 25 and that in February 2012 this policy was superseded by the National Planning Policy Framework. This change in planning policy does not however alter any of the conclusions of the report in relation.

We note that 2008 does not cover issues relating to site drainage and managing any flood impacts associated with changes in runoff. In relation to this we would advise that detailed drainage plans along with the associated calculation are reviewed

Yours sincerely



Daniel Watson

Senior Hydrologist

Phone: 020 7759 2523
Fax: 020 7759 2601
E-mail: DxWatson@globalskm.com

Sinclair Knight Merz (Europe) Limited

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