
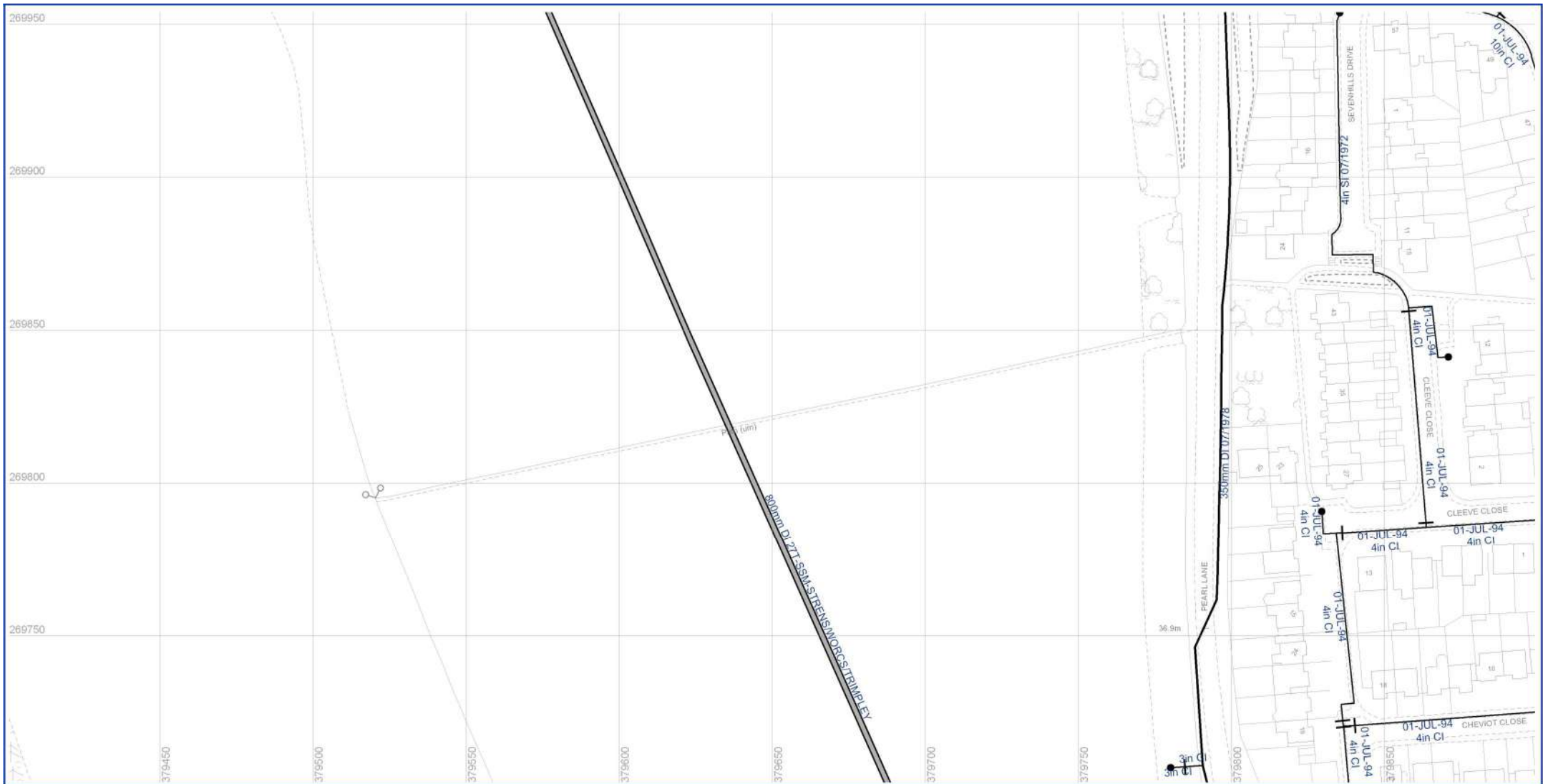


<ul style="list-style-type: none"><li>Distribution Main</li><li>Trunk Main (local/primary)</li><li>Strategic Main</li><li>Fire Supply Main</li><li>Fire Main</li><li>Non-Domestic Customer Service Pipe</li><li>Domestic Customer Service Pipe</li><li>Abandoned Main</li><li>Elevated Main</li><li>Aqueduct</li><li>Duct</li><li>Cable, Earthing</li><li>Cable, Optical Fibre/Instrumentation</li><li>Cable, Low Voltage</li><li>Cable, High Voltage</li><li>Cable, Other</li></ul>	<ul style="list-style-type: none"><li>Pumping Facility</li><li>Booster Facility</li><li>Potable Water Storage</li><li>Water Tower</li><li>Well / Borehole</li><li>Intake</li><li>Water Treatment Works / Chamber</li><li>Draw-off Tower</li><li>Bowser Point</li><li>Water Facility Connection</li><li>Quality Sample Point</li></ul>	<ul style="list-style-type: none"><li>Water Isolation Valve (Closed)</li><li>Water Isolation Valve (Open)</li><li>Water Isolation Valve (Partially Open)</li><li>Water Air Valve</li><li>Pressure Reducing Valve</li><li>Pressure Sustaining Valve</li><li>Non-Return Valve</li><li>Float Valve</li><li>Hydrant (Single/Double)</li><li>Bulk Meter</li><li>Washout (Single/Double)</li><li>Bulk Meter</li><li>Water Hatch Box</li><li>Pressure Tapping</li><li>Insertion Flow Meter Point</li><li>Water Chemical Injection Point</li><li>Motive Water Point</li></ul>	<ul style="list-style-type: none"><li>Change In Characteristic</li><li>Marker Post</li><li>Cable Junction</li><li>Anode</li><li>Boundary Box</li><li>Stop tap</li><li>Cross Piece</li><li>Strainer</li><li>Listening Post</li><li>Revenue Meter</li><li>Housing, Building</li><li>Housing, Kiosk</li><li>Housing, Other</li><li>Pipe Support Structure</li><li>Open Pipe</li><li>Discharge</li><li>End Cap</li><li>SSSI Area</li><li>Access Right</li><li>Pre-1937 Properties</li></ul>	<b>MATERIALS</b> <ul style="list-style-type: none"><li>AC - ASBESTOS CEMENT</li><li>AK - ALKATHENE</li><li>CL - CONCRETE</li><li>C - CAST IRON</li><li>CU - COPPER</li><li>DI - DUCTILE IRON</li><li>GF - GLASS FIBRE</li><li>GRG - GLASS REINFORCED CONCRETE</li><li>GRP - GLASS REINFORCED PLASTIC</li><li>HDPE - HIGH DENSITY POLY</li><li>HPPE - HIGH PERFORMANCE POLY</li><li>LDPE - LOW DENSITY POLY</li><li>LEAD - LEAD</li><li>MDPE - MEDIUM DENSITY POLY</li><li>O - OTHER</li><li>PC - PRE-STRESSED CONCRETE</li><li>PF - PITCH FIBRE</li><li>PP - POLY PROPYLENE</li><li>PSC - PLASTIC STEEL COMPOSITE</li><li>PVC - POLY VINYL CHLORIDE</li><li>RPM - REINFORCED PLASTIC MATRIX</li><li>SI - SPUN IRON</li><li>SST - STAINLESS STEEL</li><li>UPVC - UNPLASTICISED PVC</li></ul>	<b>LINING</b> <ul style="list-style-type: none"><li>BI - BITUMEN</li><li>CL - CEMENT</li><li>PL - PLASTIC</li><li>RL - RESIN</li><li>O - OTHER</li></ul>	 <p>Severn Trent Water Limited Asset Data Management PO Box 5344 Coventry CV3 9FT Telephone: 0845 601 6616</p>
<b>WATER MAINS RECORD</b>						
<b>O/S Map scale:</b> 1:1250		<b>This map is centred upon:</b>				
<b>Date of issue:</b> 22.03.17		<b>O / S Grid reference:</b>				
		<b>x :</b> 379642				
		<b>y :</b> 270122				
<b>Disclaimer Statement</b>						
<p>1. <b>Do not scale off this Map:</b></p> <p>2. This plan and any information supplied with it is furnished as a general guide, is only valid at the date of issue, and no warranty as to its correctness is given or implied. In particular this plan and any information shown on it must not be relied upon in the event of any development or works (including but not limited to excavations) in the vicinity of SEVERN TRENT WATER assets or for the purposes of determining the suitability of a point of connection to the sewerage or distribution systems.</p> <p>3. Reproduction by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright and database right 2004. All rights reserved.</p> <p>Ordnance Survey licence number <b>100018202</b></p> <p>4. Document users other than SEVERN TRENT WATER business users are advised that this document is provided for reference purpose only and is subject to copyright, therefore, no further copies should be made from it.</p>						



Distribution Main	Pumping Facility	Water Isolation Valve (Closed)	Change In Characteristic
Trunk Main (local/primary)	Booster Facility	Water Isolation Valve (Open)	Marker Post
Strategic Main	Potable Water Storage	Water Isolation Valve (Partially Open)	Cable Junction
Fire Supply Main	Water Tower	Water Air Valve	Anode
Fire Main	Well / Borehole	Pressure Reducing Valve	Boundary Box
Non-Domestic Customer Service Pipe	Intake	Pressure Sustaining Valve	Stop tap
Domestic Customer Service Pipe	Water Treatment Works / Chamber	Non-Return Valve	Cross Piece
Abandoned Main	Draw-off Tower	Float Valve	Strainer
Elevated Main	Bowser Point	Hydrant (Single/Double)	Listening Post
Aqueduct	Water Facility Connection	Washout (Single/Double)	Revenue Meter
Duct	Quality Sample Point	Bulk Meter	Housing, Building
Cable, Earthing		Water Hatch Box	Housing, Kiosk
Cable, Optical Fibre/Instrumentation		Pressure Tapping	Housing, Other
Cable, Low Voltage		Insertion Flow Meter Point	Pipe Support Structure
Cable, High Voltage		Water Chemical Injection Point	Open Pipe
Cable, Other		Motive Water Point	Discharge
			End Cap
			SSSI Area
			Access Right
			Pre-1937 Properties

Severn Trent Water Limited  
Asset Data Management  
PO Box 5344  
Coveyent  
CV3 9FT  
Telephone: 0845 601 6616

### WATER MAINS RECORD

**O/S Map scale:** 1:1250  
**Date of issue:** 22.03.17

**This map is centred upon:**  
**O / S Grid reference:**  
**x :** 379650  
**y :** 269828

**Disclaimer Statement**

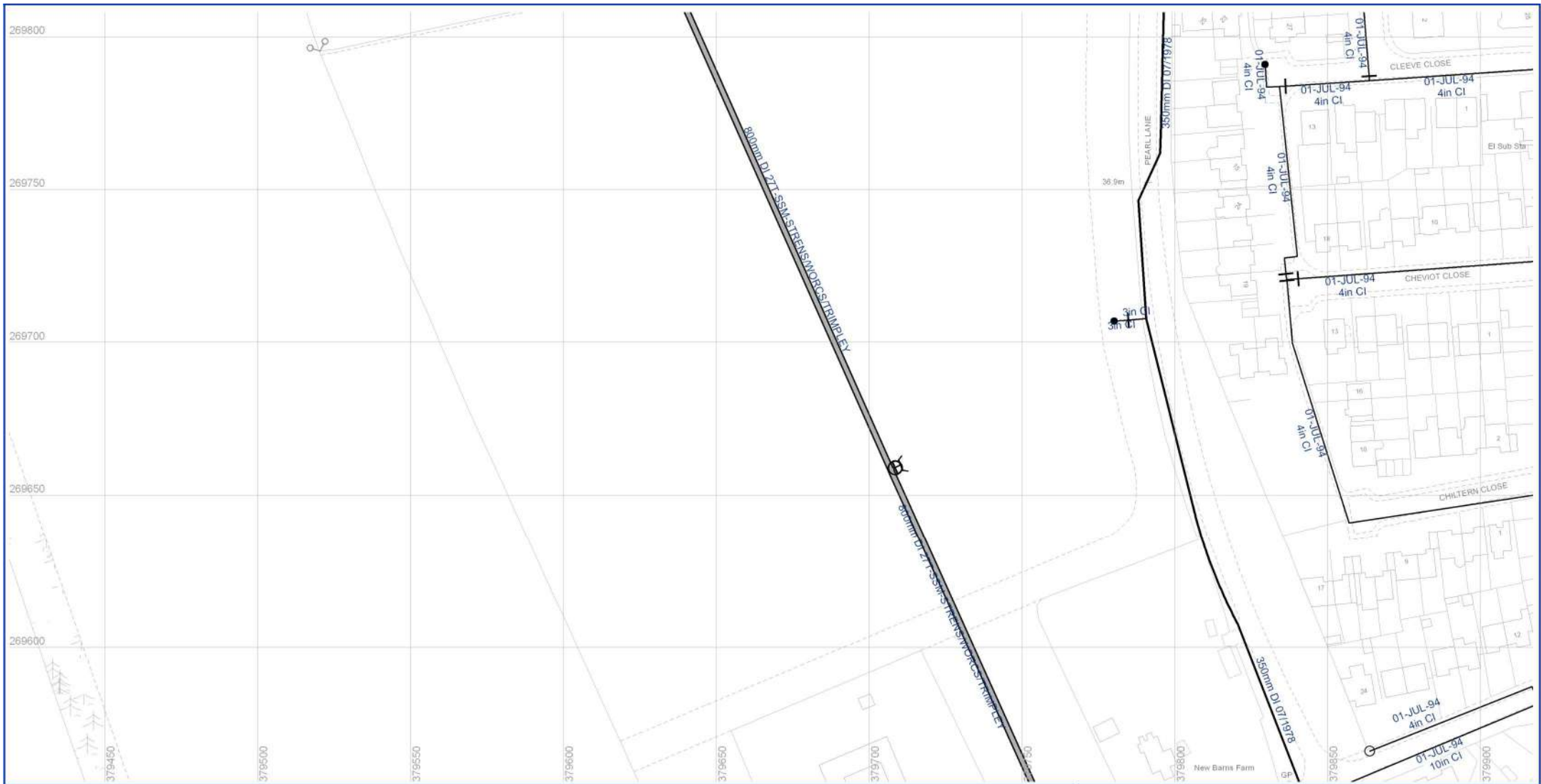
1. **Do not scale off this Map:**  
This plan and any information supplied with it is furnished as a general guide, is only valid at the date of issue, and no warranty as to its correctness is given or implied. In particular this plan and any information shown on it must not be relied upon in the event of any development or works (including but not limited to excavations) in the vicinity of SEVERN TRENT WATER assets or for the purposes of determining the suitability of a point of connection to the sewerage or distribution systems.

2. Reproduction by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright and database right 2004. All rights reserved.

Ordnance Survey licence number **100018202**

3. Document users other than SEVERN TRENT WATER business users are advised that this document is provided for reference purpose only and is subject to copyright, therefore, no further copies should be made from it.





- Distribution Main
- Trunk Main (local/primary)
- Strategic Main
- Fire Supply Main
- Fire Main
- Non-Domestic Customer Service Pipe
- Domestic Customer Service Pipe
- Abandoned Main
- Elevated Main
- Aqueduct
- Duct
- Cable, Earthing
- Cable, Optical Fibre/Instrumentation
- Cable, Low Voltage
- Cable, High Voltage
- Cable, Other

- Pumping Facility
- Booster Facility
- Potable Water Storage
- Water Tower
- Well / Borehole
- Intake
- Water Treatment Works / Chamber
- Draw-off Tower
- Bowser Point
- Water Facility Connection
- Quality Sample Point

- Water Isolation Valve (Closed)
- Water Isolation Valve (Open)
- Water Isolation Valve (Partially Open)
- Water Air Valve
- Pressure Reducing Valve
- Pressure Sustaining Valve
- Non-Return Valve
- Float Valve
- Hydrant (Single/Double)
- Washout (Single/Double)
- Bulk Meter
- Water Hatch Box
- Pressure Tapping
- Insertion Flow Meter Point
- Water Chemical Injection Point
- Motive Water Point

- Change In Characteristic
- Marker Post
- Cable Junction
- Anode
- Boundary Box
- Stop tap
- Cross Piece
- Strainer
- Listening Post
- Revenue Meter
- Housing, Building
- Housing, Kiosk
- Housing, Other
- Pipe Support Structure
- Open Pipe
- Discharge
- End Cap
- SSSI Area
- Access Right
- Pre-1937 Properties

- MATERIALS**
- AC - ASBESTOS CEMENT
  - AK - ALKATHENE
  - CL - CEMENT
  - C - CONCRETE
  - CI - CAST IRON
  - CU - COPPER
  - DI - DUCTILE IRON
  - GF - GLASS FIBRE
  - GRG - GLASS REINFORCED CONCRETE
  - GRP - GLASS REINFORCED PLASTIC
  - HDPE - HIGH DENSITY POLY
  - HPPE - HIGH PERFORMANCE POLY
  - LDPE - LOW DENSITY POLY
  - LEAD - LEAD
  - MDPE - MEDIUM DENSITY POLY
  - O - OTHER
  - PC - PRE-STRESSED CONCRETE
  - PF - PITCH FIBRE
  - PP - POLY PROPYLENE
  - PSC - PLASTIC STEEL COMPOSITE
  - PVC - POLY VINYL CHLORIDE
  - RPM - REINFORCED PLASTIC MATRIX
  - SI - SPUN IRON
  - SST - STAINLESS STEEL
  - ST - STEEL
  - UPVC - UNPLASTICISED PVC

- LINING**
- BI - BITUMEN
  - CL - CEMENT
  - PL - PLASTIC
  - RL - RESIN
  - O - OTHER



Severn Trent Water Limited  
Asset Data Management  
PO Box 5344  
Coventry  
CV3 9FT  
Telephone: 0845 601 6616

### WATER MAINS RECORD

<b>O/S Map scale:</b>	1:1250	<b>This map is centred upon:</b>	
<b>Date of issue:</b>	22.03.17	<b>O / S Grid reference:</b>	
		<b>x :</b>	379668
		<b>y :</b>	269682

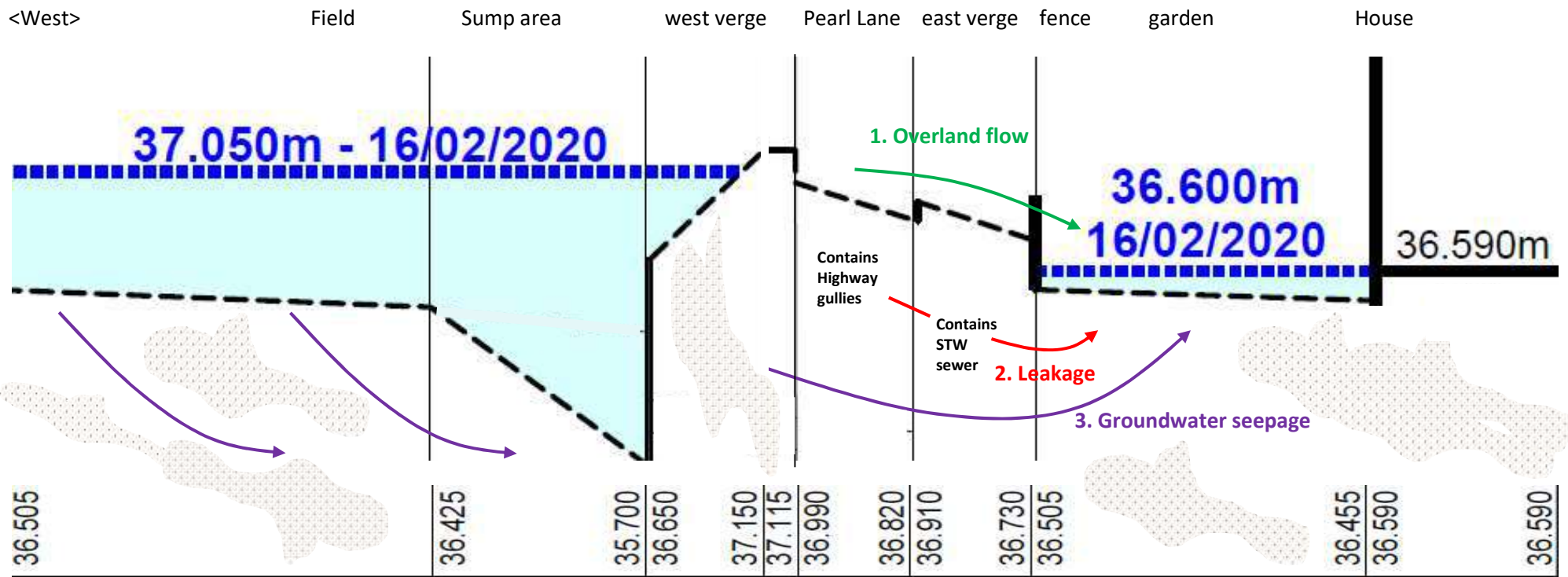
- Disclaimer Statement**
- Do not scale off this Map:**  
This plan and any information supplied with it is furnished as a general guide, is only valid at the date of issue, and no warranty as to its correctness is given or implied. In particular this plan and any information shown on it must not be relied upon in the event of any development or works (including but not limited to excavations) in the vicinity of SEVERN TRENT WATER assets or for the purposes of determining the suitability of a point of connection to the sewerage or distribution systems.
  - Reproduction by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright and database right 2004. All rights reserved.
  - Ordnance Survey licence number **100018202**
  - Document users other than SEVERN TRENT WATER business users are advised that this document is provided for reference purposes only and is subject to copyright, therefore, no further copies should be made from it.

## **Appendix G – NWWM Correspondence**



# Typical cross section Pearl Lane - Cheviot Close, illustrating different flood mechanisms (1,2,3)

Based upon levelling undertaken by NWWM in June 2020. Flood levels for 16<sup>th</sup> Feb 2020 estimated as 37.050 m (in field) and 36.600 m (affected houses in Cheviot Close).



Severn Trent surface water sewer in the verge of Pearl Lane has invert levels of 35.510 (MH 7701 ) and 35.250 (MH8705, ) according to STW map. Depth of highway gullies connecting to this surface water sewer in the east verge of Pearl Lane, adjacent to the properties, has not been determined.

## Cormac O'Connor

---

**From:** Kirsten Huizer <Kirsten.Huizer@nwwm.org.uk>  
**Sent:** 23 March 2017 16:01  
**To:** 'Cormac O'Connor'  
**Subject:** RE: Proposed Development West of Pearl Lane Stourport DY13

Hi Cormac,

Sorry we haven't been able to meet on site. As explained on the phone, the site you are looking at has a culverted watercourse running through it that takes spring water from the top of the hill. When the estate was developed this small watercourse was incorporated into the surface water sewer system, which means that the small culverted watercourse that runs through the site now discharges into the sewer in the verge of Pearl Lane. The sewer is having known capacity issues affecting different parts of the estate and is subject of a STW modelling exercise (flow monitors should be installed this Spring). As far as I know there is no positive discharge from the development site to this culverted watercourse / sewer system. In 2012 after a period of prolonged heavy rain a big pool formed in the field, which eventually overtopped into the road, contributing to the flood that followed. Four properties were internally flooded and another 10 or so were affected externally. Residents advised that this was not the first time they flooded; they flooded before in the 1980s. After the 2012 flood event the Council built a small diameter overflow in the field which will discharge water from the field into the system if a certain level gets exceeded, to keep storage capacity available in the field. Due to its elevated location this overflow is by no means a regular discharge. In June 2014 properties were flooded again but this time only externally. This time the cause of the flood was the overloaded sewer system – discharge from the field (proposed development site) was not a contributing factor.

We always ask for drainage schemes to comply with the non statutory technical standards for SuDS , which would mean limiting discharge to pre-development levels. As advised on the phone, to mimic pre-development levels the discharge leaving the developed site would need to be basically zero – only continuing the natural discharge of spring water via the culverted watercourse. I would be hopeful that infiltration measures only, preferred option under Building Regulations anyway, would work for this site as soakaways seemed to be the common method of discharge across the estate already. I will be breaking up for holiday in less than an hour time, but back on the 3<sup>rd</sup> April 2017 should you wish to discuss anything further.

Best wishes,

Kirsten



**Kirsten Huizer**

Senior Water Management Officer  
North Worcestershire Water Management  
A shared District Council service covering Bromsgrove, Redditch & Wyre Forest  
01562 732570  
Wyre Forest House, Finepoint Way, Kidderminster, DY11 7WF  
[Kirsten.Huizer@nwwm.org.uk](mailto:Kirsten.Huizer@nwwm.org.uk)



---

*Our vision is to reduce flood risk while protecting and enhancing the water environment and encouraging sustainable water management*

---

**From:** Cormac O'Connor [mailto:[cormac@development-design.co.uk](mailto:cormac@development-design.co.uk)]  
**Sent:** 23 March 2017 15:06  
**To:** Kirsten Huizer  
**Subject:** RE: Proposed Development West of Pearl Lane Stourport DY13

Hi Kirsten

Sorry it's taken a while to get back to you I have been out of the office for a few days. I need to produce a draft report, which actually will be issued to WFDC, by Monday, so won't be able to meet you this week. You may be asked to review the report so we could possibly meet in a couple of weeks if required.

If you have anything I could add to the report in the meantime, in terms of historical flooding, that would be great.

Speak to you soon.

Regards

Cormac O'Connor CEng MICE  
Director  
T: 07814 256 851  
E: [cormac@development-design.co.uk](mailto:cormac@development-design.co.uk)

Development Design Solutions  
4 Trianon Road  
Bromsgrove  
B60 2SE

---

**From:** Kirsten Huizer [<mailto:Kirsten.Huizer@nwwm.org.uk>]  
**Sent:** 20 March 2017 08:42  
**To:** 'Cormac O'Connor' <[cormac@development-design.co.uk](mailto:cormac@development-design.co.uk)>  
**Subject:** RE: Proposed Development West of Pearl Lane Stourport DY13

Hi Cormac,

Thank you for your email. I'm very well, thank you. Hope you are well too?

I know the site and the history of flooding. If possible I think it would be rather beneficial if we could meet on site? I'm off next week, but could do any time this Wednesday (22<sup>nd</sup>) or Thursday (23<sup>rd</sup>), or I'm quite widely available the week commencing 3<sup>rd</sup> April. I can generally make any time between 8 and 17. Please let me know what would suit you best.

Best wishes,

Kirsten



**Kirsten Huizer**

Senior Water Management Officer  
North Worcestershire Water Management  
A shared District Council service covering Bromsgrove, Redditch & Wyre Forest  
01562 732570  
Wyre Forest House, Finepoint Way, Kidderminster, DY11 7WF  
[Kirsten.Huizer@nwwm.org.uk](mailto:Kirsten.Huizer@nwwm.org.uk)



---

*Our vision is to reduce flood risk while protecting and enhancing the water environment and encouraging sustainable water management*

---

**From:** Cormac O'Connor [<mailto:cormac@development-design.co.uk>]  
**Sent:** 16 March 2017 19:04  
**To:** Kirsten Huizer  
**Subject:** Proposed Development West of Pearl Lane Stourport DY13

Hi Kirsten

Hope you are well?

I'm not sure whether you are the correct person to speak to however, I am looking to see whether you have any information on historical surface water flooding events in and around the Pearl Lane, Stourport area. I am in the process of writing an FRA for a proposed development just to the west of Pearl Lane and any information would be useful.

Thanks in advance, I have attached a site location plan for reference.

Regards

Cormac O'Connor CEng MICE  
Director  
T: 07814 256 851  
E: [cormac@development-design.co.uk](mailto:cormac@development-design.co.uk)

Development Design Solutions  
4 Trianon Road  
Bromsgrove  
B60 2SE

---

These details do not constitute an electronic signature. Wyre Forest District Council does not accept service of documents by email. This communication and any attachment may contain confidential and privileged information. If the email has been sent to you in error you may not disclose its content to anyone else or copy or forward it in any form. Please notify the sender about this error and delete this email. No employee or agent is authorised to conclude any binding agreement on behalf of Wyre Forest District Council with another party by email.

---



## Cormac O'Connor

---

**From:** Ali, Abdul M <abdul.m.ali@barratthomes.co.uk>  
**Sent:** 06 April 2017 12:45  
**To:** Cormac O'Connor  
**Cc:** Elliot, Mark  
**Subject:** FW: \*Ext: FW: Land to the West of pearl Lane, Stourport

Hi Cormac,

Could you take a look at the comments below please?

Regards.

Abdul

---

**From:** Simon Hawley [mailto:simon.hawley@harrislamb.com]  
**Sent:** 06 April 2017 12:42  
**To:** Ali, Abdul M <abdul.m.ali@barratthomes.co.uk>; Elliot, Mark <mark.elliott@barratthomes.co.uk>  
**Subject:** \*Ext: FW: Land to the West of pearl Lane, Stourport



**This email was received from outside the organization.**

**Please do not click on **LINKS** or **ATTACHMENTS** where you are unsure of its origin. In such cases delete the email.**

Abdul/Mark,

Please see the email below. Can you ask the consultant to have a look at this. It would be helpful if we have these pints address in the next week or so.

Kind regards,

**Simon Hawley BA (Hons) MA MRTPI**  
**Director – Planning Department**

75 – 76 Francis Road | Edgbaston | Birmingham | B16 8SP

**harrislamb**  
PROPERTY CONSULTANCY

DDI: +44 (0)121 213 6015  
Switchboard: +44 (0)121 455 9455  
Mobile: +44 (0)7824 453 430



Business Rates 2017 Revaluation  
**MAXIMISE YOUR FUTURE SAVINGS**  
Call our dedicated team of rating specialists on **0121 455 9455**  
Draft List Published on 30th September 2016

**harrislamb**  
PROPERTY CONSULTANCY

---

**From:** Paul Bayliss [mailto:Paul.Bayliss@wyreforestdc.gov.uk]  
**Sent:** 06 April 2017 12:35  
**To:** Simon Hawley

**Cc:** John Pattinson; John Baggott; Heather Stone; Kirsten Huizer  
**Subject:** FW: Land to the West of pearl Lane, Stourport

Dear Simon

Thanks for this study which I have asked Kirsten from North Worcs Water Management Team to consider. Her comments are as follows:

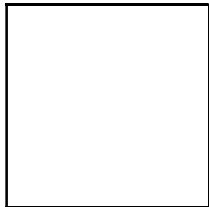
All best wishes  
Paul

**Paul Bayliss**

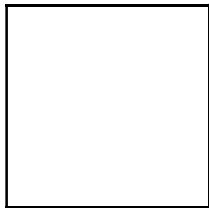
Interim Planning Policy Manager  
Wyre Forest District Council  
01562732194  
Wyre Forest House, Finepoint Way, Kidderminster, Worcestershire, DY11 7WF  
[Paul.Bayliss@wyreforestdc.gov.uk](mailto:Paul.Bayliss@wyreforestdc.gov.uk)

Have you seen our free online magazine for residents, WyredIn? [Sign-up to receive it.](#)

Keep up to date with the latest news, jobs and events



Visit the Wyre Forest District Council [website](#)



Find Wyre Forest District Council on [Facebook](#)



Follow Wyre Forest District Council on [Twitter](#)

---

**From:** Kirsten Huizer  
**Sent:** 05 April 2017 14:27  
**To:** Paul Bayliss  
**Cc:** John Pattinson; Heather Stone  
**Subject:** RE: Land to the West of pearl Lane, Stourport

Hi Paul,

I have had a quick look at the submitted FRA (Rev 0). You might notice that I was consulted for historic flood data, but unfortunately the consultant was not available to meet me on site before finalising this first version. Would we have met on site then hopefully the approximate location of the culverted watercourse (mentioned in 2.14 and shown in Appendix C) would be crossing the site west to east, rather than north to south!

My comments in detail:

- 2.10 does mention Burnthorne Brook as a nearby watercourse, but not the culverted watercourse that actually crosses the site (I've drawn a line where I think the watercourse can roughly be found. Admittedly it is only a small asset but as I understand that it does take spring water from the top of the hill I do class it as a watercourse. Old maps show a pond here. This is outside our district and I have not been there to confirm whether the pond still exists. Further investigation would be required!). The culverted watercourse is known to me as the Dunley Brook

- 2.14 as set out above, Dunley Brook discharges through the site from west to east, not north to south, and it leaves the site at Pearl Lane, not in between the residential properties to the south of the site.
- Appendix C, idem as above
- 4.6 states that STW may need to upgrade surface water sewers to alleviate any future flooding. This FRA does however not touch upon the fact that the STW surface water sewer falls out into a partly open partly culverted watercourse (discharging into Malvern Hills district at Malvern Edge Court) that is a private responsibility of riparian owners over which we have very limited powers. This watercourse already poses a flood risk and upsizing this system would be challenging to say the least. I think the FRA should be expanded to include this detail. Also it would be good to discuss with STW the status of their ongoing investigations into their network.
- 5.8 suggests outfall of highway drainage to a balancing pond. Early discussion with Highways would be required as they normally don't adopt roads that do not fall out to a publicly or STW maintained system, and it might prove difficult to get a public body / STW to adopt the balancing pond...
- A positive drainage connection to STW system, Highway drainage or Dunley Brook as casually mentioned in the FRA would all increase flood risk as this would be an increase compared to the existing situation. In my opinion the FRA does not get this message across clear enough. It refers to limiting the runoff the Greenfield values, but does not fully acknowledge that these values might be negligible. It does however state that limiting the discharge from the site to levels below 5 l/s may not be practical?!
- ultimately the decision to allow a connection to highway drainage system and STW system is out of our control and I feel we would benefit from getting parties together to discuss this option, the likely impacts off the site and the attitude of the organisations involved if such a request were to be made...

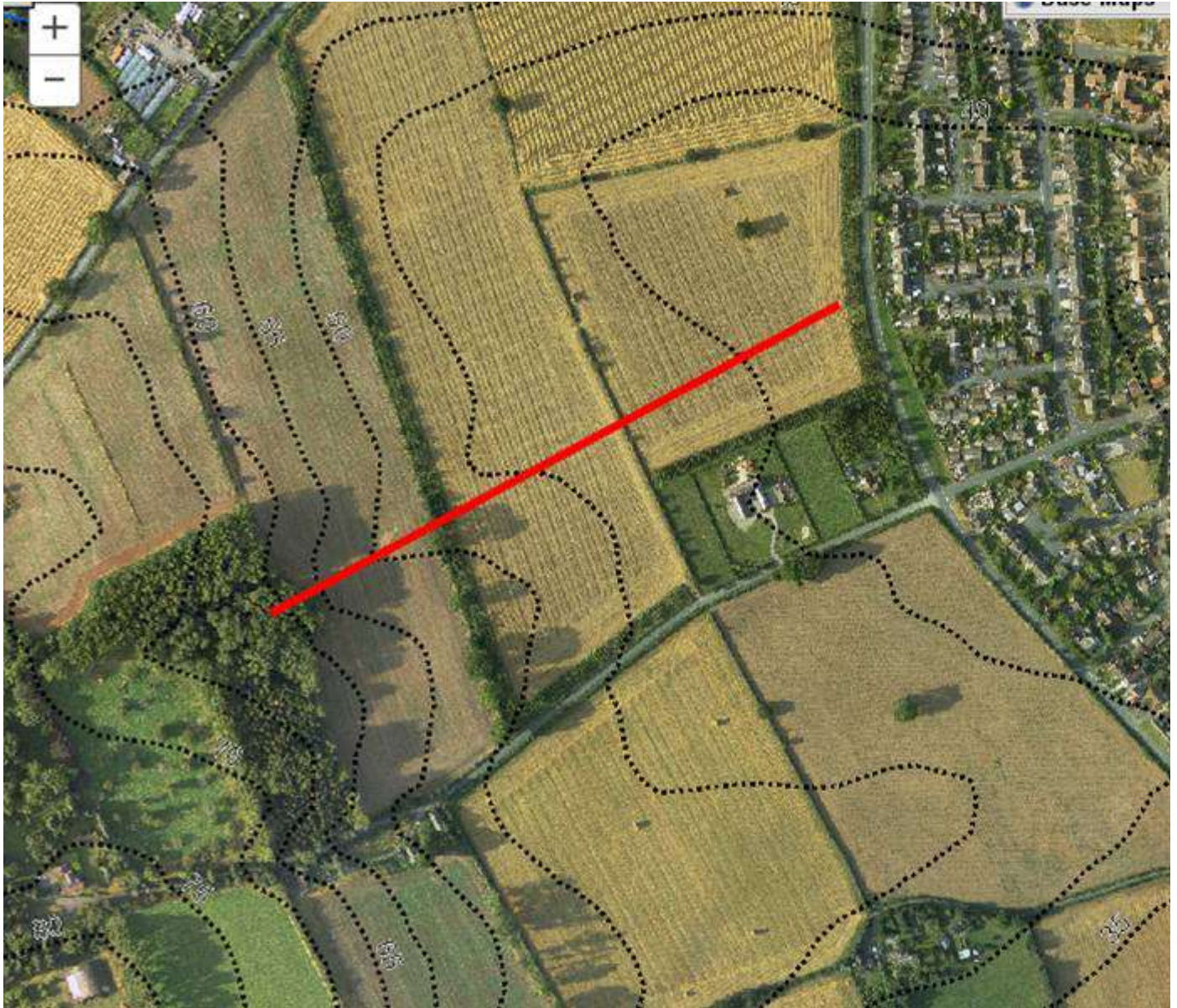
Time restrictions meant that the consultant was unable to meet me on site. I think that there is still benefit in meeting on site to share some on the ground knowledge. Meanwhile I believe that it would be good to meet up with Highways and STW to discuss their positions further in relation to the surface water drainage of a future site. However, I leave it up to you to advise what the right moment would be for such a discussion.

Hope this helps.

Best wishes,

Kirsten





**Kirsten Huizer**

Senior Water Management Officer

North Worcestershire Water Management

A shared District Council service covering Bromsgrove, Redditch & Wyre Forest

01562 732570

Wyre Forest House, Finepoint Way, Kidderminster, DY11 7WF

[Kirsten.Huizer@nwwm.org.uk](mailto:Kirsten.Huizer@nwwm.org.uk)



**FLOODS  
DESTROY  
BE PREPARED**

*Our vision is to reduce flood risk while protecting and enhancing the water environment and encouraging sustainable water management*



**Please don't print this email unless you need to.**

Regulated by RICS. Harris Lamb accept no legal responsibility for the contents of this message. Any opinions expressed in this email are those of the individual and not necessarily of the firm, unless expressly stated to be so. If you receive this in error, please contact the sender and delete it from your system. This

email and any attachments are intended for the addressee only and may contain information which is confidential or legally privileged. If you are not the intended recipient, you are hereby notified that any dissemination, distribution, copying or use of this communication and any attachments is strictly prohibited. This email does not form the basis of a contract.

The sender of this e-mail is a member of the Barratt Developments PLC group of companies, the ultimate parent of which is Barratt Developments PLC (company number 00604574). Barratt Developments PLC is registered in England and Wales with its registered office at Barratt House, Cartwright Way, Forest Business Park, Bardon Hill, Coalville, Leicestershire LE67 1UF, together with its principal subsidiaries BDW Trading Limited (03018173), and Wilson Bowden Developments Limited (00948402). Barratt Homes, Barratt London and David Wilson Homes are trading names of BDW Trading Limited. This e-mail message is meant only for use by the intended addressee and may contain privileged and/or confidential information. If you have received this message in error please notify us and remove it from your system. Please view our 'Email Addendum v2.0' at [www.barrattcommercialsupport.co.uk/barratt-developments-plc-email-a](http://www.barrattcommercialsupport.co.uk/barratt-developments-plc-email-a) for further details.



## Cormac O'Connor

---

**From:** Kirsten Huizer <Kirsten.Huizer@nwwm.org.uk>  
**Sent:** 19 April 2017 08:43  
**To:** 'Cormac O'Connor'  
**Subject:** Proposed Development West of Pearl Lane Stourport DY13

Hi Cormac,

Thanks for meeting me on site yesterday.

The person who is undertaking the modelling for STW for the Kidderminster area, which as advised includes Areley Kings, advised the following:

"We are just finalising the number of flow monitors that we want to get into the Kidderminster area, this will be complete by the end of next week. We then need to go through an exercise to review all the risks associated with the monitor locations and get all the permissions and approvals in place. This I hope to have in place by the end of May 2017 (if not sooner). So I think we are about 6-8 weeks away from having the monitoring in the ground and then we need to wait for the rainfall, which could be 10 – 12 weeks. Once the data is collected we will need about 8 - 10 weeks to verify the whole model. We will do what we can to fast track the area you are interested in."

So that means we are about 24 to 30 weeks away from having a model for the area. Obviously too long away to incorporate the outcomes in the current FRA but hopefully the results can be used should the site come forward for planning approval in the future.

Best wishes,

Kirsten



**Kirsten Huizer**

Senior Water Management Officer  
North Worcestershire Water Management  
A shared District Council service covering Bromsgrove, Redditch & Wyre Forest  
01562 732570  
Wyre Forest House, Finepoint Way, Kidderminster, DY11 7WF  
[Kirsten.Huizer@nwwm.org.uk](mailto:Kirsten.Huizer@nwwm.org.uk)



---

*Our vision is to reduce flood risk while protecting and enhancing the water environment and encouraging sustainable water management*

---

**From:** Cormac O'Connor [mailto:cormac@development-design.co.uk]  
**Sent:** 13 April 2017 11:13  
**To:** Kirsten Huizer  
**Cc:** 'Ali, Abdul M'  
**Subject:** RE: Automatic reply: Proposed Development West of Pearl Lane Stourport DY13

Hi Kirsten

3pm is fine with me, shall we meet along Pearl Lane somewhere?

Regards

Cormac O'Connor CEng MICE  
Director  
T: 07814 256 851  
E: [cormac@development-design.co.uk](mailto:cormac@development-design.co.uk)

Development Design Solutions  
4 Trianon Road  
Bromsgrove  
B60 2SE

---

**From:** Kirsten Huizer [<mailto:Kirsten.Huizer@nwwm.org.uk>]  
**Sent:** 13 April 2017 11:12  
**To:** 'Cormac O'Connor' <[cormac@development-design.co.uk](mailto:cormac@development-design.co.uk)>  
**Subject:** RE: Automatic reply: Proposed Development West of Pearl Lane Stourport DY13

Hi Cormac,

If we could make it 15:00 then that would suit me better, but if that doesn't suit you then I'm happy to go with 14:00 o'clock.

Where on the site would you like to meet?

Best wishes,

Kirsten



**Kirsten Huizer**

Senior Water Management Officer  
North Worcestershire Water Management  
A shared District Council service covering Bromsgrove, Redditch & Wyre Forest  
01562 732570  
Wyre Forest House, Finepoint Way, Kidderminster, DY11 7WF  
[Kirsten.Huizer@nwwm.org.uk](mailto:Kirsten.Huizer@nwwm.org.uk)



---

*Our vision is to reduce flood risk while protecting and enhancing the water environment and encouraging sustainable water management*

---

**From:** Cormac O'Connor [<mailto:cormac@development-design.co.uk>]  
**Sent:** 13 April 2017 09:34  
**To:** Kirsten Huizer  
**Cc:** 'Alij, Abdul M'  
**Subject:** RE: Automatic reply: Proposed Development West of Pearl Lane Stourport DY13

Hi Kirsten

Shall we go with Tuesday 18th say at 2pm on site?

Regards

Cormac O'Connor CEng MICE  
Director  
T: 07814 256 851  
E: [cormac@development-design.co.uk](mailto:cormac@development-design.co.uk)

Development Design Solutions  
4 Trianon Road  
Bromsgrove  
B60 2SE

---

**From:** Kirsten Huizer [<mailto:Kirsten.Huizer@nwwm.org.uk>]  
**Sent:** 12 April 2017 10:29  
**To:** 'Cormac O'Connor' <[cormac@development-design.co.uk](mailto:cormac@development-design.co.uk)>  
**Subject:** RE: Automatic reply: Proposed Development West of Pearl Lane Stourport DY13

Hi Cormac,

Sorry, I can't make that. After the Easter break I am available any time on Tuesday (18<sup>th</sup>), Wednesday (19<sup>th</sup>) and on Thursday (20<sup>th</sup>) I am available before 10:00 or after 14:00. Would any of these dates suits you?

Best wishes,

Kirsten



**Kirsten Huizer**

Senior Water Management Officer  
North Worcestershire Water Management  
A shared District Council service covering Bromsgrove, Redditch & Wyre Forest  
01562 732570  
Wyre Forest House, Finepoint Way, Kidderminster, DY11 7WF  
[Kirsten.Huizer@nwwm.org.uk](mailto:Kirsten.Huizer@nwwm.org.uk)



---

*Our vision is to reduce flood risk while protecting and enhancing the water environment and encouraging sustainable water management*

---

**From:** Cormac O'Connor [<mailto:cormac@development-design.co.uk>]  
**Sent:** 11 April 2017 17:41  
**To:** Kirsten Huizer  
**Subject:** RE: Automatic reply: Proposed Development West of Pearl Lane Stourport DY13

Hi Kirsten

Hope you had a good break?

Are you available this Thursday to go to site and go through the FRA comments?

Regards

Cormac O'Connor CEng MICE  
Director

T: 07814 256 851

E: [cormac@development-design.co.uk](mailto:cormac@development-design.co.uk)

Development Design Solutions  
4 Trianon Road  
Bromsgrove  
B60 2SE

---

**From:** Kirsten Huizer [<mailto:Kirsten.Huizer@nwwm.org.uk>]

**Sent:** 30 March 2017 10:04

**To:** Cormac O'Connor <[cormac@development-design.co.uk](mailto:cormac@development-design.co.uk)>

**Subject:** Automatic reply: Proposed Development West of Pearl Lane Stourport DY13

Thank you for your email but I am away from the office until Monday 3rd April 2017.

If your enquiry is urgent, please contact one of my North Worcestershire Water Management colleagues via 01562 732191 or resend your email to [enquiries@nwwm.org.uk](mailto:enquiries@nwwm.org.uk)

Regards,

Kirsten



**Kirsten Huizer**

Senior Water Management Officer

North Worcestershire Water Management

A shared District Council service covering Bromsgrove, Redditch & Wyre Forest

01562 732570

Wyre Forest House, Finepoint Way, Kidderminster, DY11 7WF

[Kirsten.Huizer@nwwm.org.uk](mailto:Kirsten.Huizer@nwwm.org.uk)



---

*Our vision is to reduce flood risk while protecting and enhancing the water environment and encouraging sustainable water management*

---

These details do not constitute an electronic signature. Wyre Forest District Council does not accept service of documents by email. This communication and any attachment may contain confidential and privileged information. If the email has been sent to you in error you may not disclose its content to anyone else or copy or forward it in any form. Please notify the sender about this error and delete this email. No employee or agent is authorised to conclude any binding agreement on behalf of Wyre Forest District Council with another party by email.

---

## **Appendix H – Site Photographs**















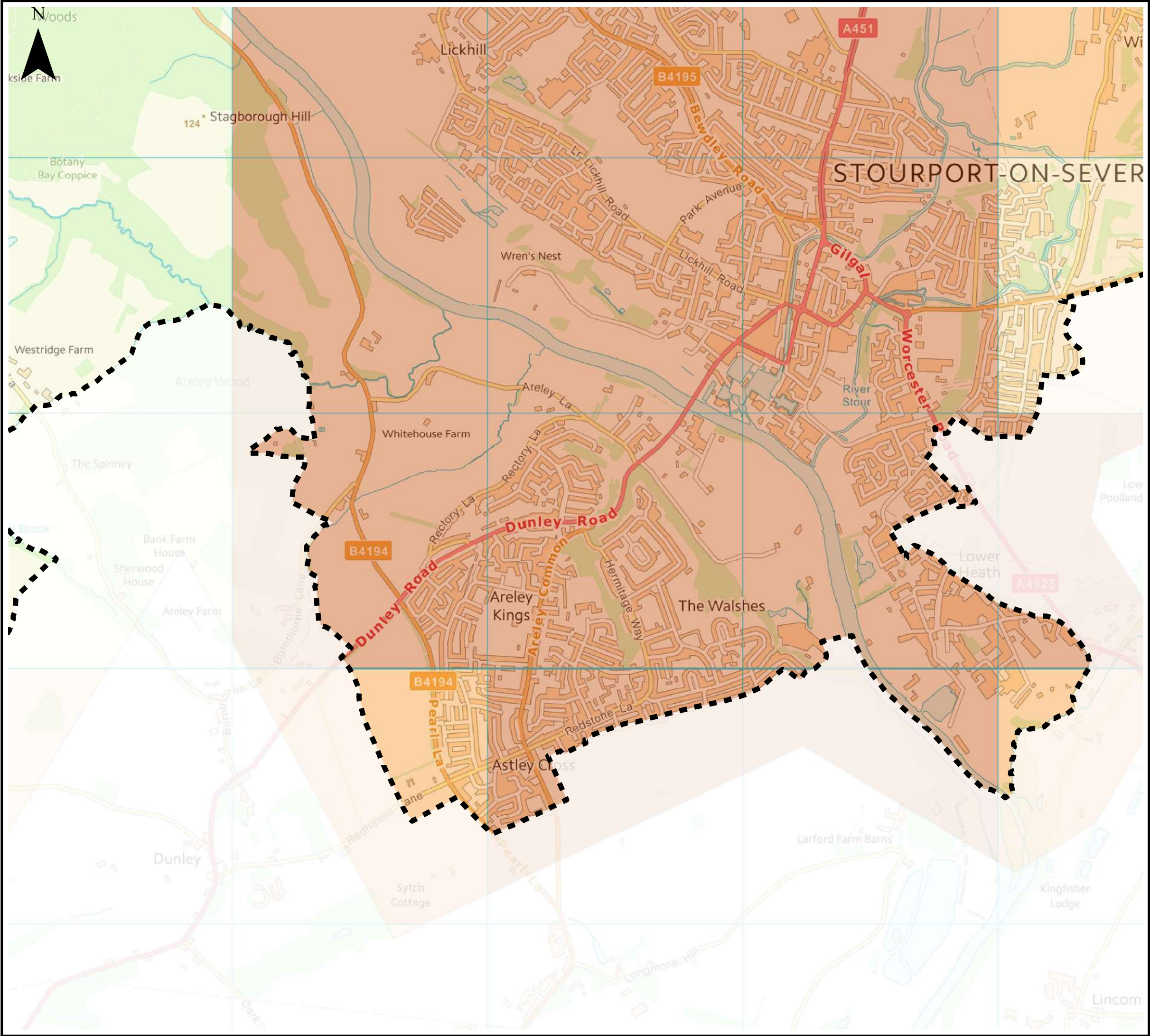






## **Appendix I – WFDC SFRA Groundwater Flood Map**



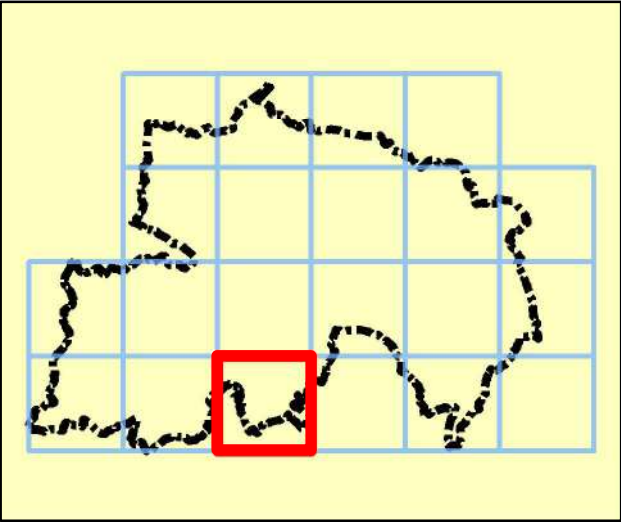


Notes

The Areas Susceptible to Groundwater Flooding (AStGWF) is a strategic scale map showing groundwater flood areas on a 1km square grid. The data was produced to annotate indicative Flood Risk Areas for Preliminary Flood Risk Assessment (PFRA) studies and allow the Lead Local Flood Authorities (LLFAs) to determine whether there may be a risk of flooding from groundwater.

This data shows the proportion of each 1km grid square where geological and hydrogeological condition show that groundwater might emerge. It does not show the likelihood of groundwater flooding occurring. It does not take account of the chance of flooding from groundwater rebound. This dataset covers a large area of land, and only isolated locations within the overall susceptible area are actually likely to suffer the consequences of groundwater flooding.

Up to date and further information can be found on the Environment Agency's Long term flood risk information webpage.



Legend

Wyre Forest District boundary

Areas Susceptible to Groundwater Flooding

Proportion of 1km grid square

- >= 75%
- >= 50% < 75%
- >= 25% < 50%
- < 25%
- No risk



REF	Date	Comments
A	Aug 2016	Draft
B	Dec 2016	Final
C		

Reproduced from Ordnance Survey mapping with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationary Office. © Crown copyright and database rights 2016.

WYRE FOREST DISTRICT COUNCIL  
SFRA  
APPENDIX F  
GROUNDWATER FLOOD MAPS

Index Number: WFDC\_18

This document is the property of Jeremy Benn Associates Ltd. It shall not be reproduced in whole or in part, nor disclosed to a third party, without the permission of Jeremy Benn Associates Ltd.

