



Orchard House Emsworth

Flood Risk Assessment
and Drainage Statement
(Part 3 of 3)

McCarthy & Stone



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Appendix D

170511 SSD42788: Orchard House, Western Avenue, Emsworth, Hampshire – Flood Risk Enquiry

SSD Enquiries <SSDEnquiries@environment-agency.gov.uk>

Thu 11/05/2017 16:05

To: Aaron McLean <aaron@paulbashamassociates.com>;

1 attachments (2 MB)

16093_TPlan_Option.pdf;

Dear Aaron,

Thank you for clarifying the nature and extent of the proposed development at Orchard House, I would like to apologise for my delay in providing you with a response. If you have not done so already, we recommend that you contact Southern Water to ensure that the proposed connection to the Southern Water foul sewer is possible.

If you do decide to use soakaways as you have proposed, you will need to ensure that percolation tests are carried out by a suitable drainage consultant.

Please get in touch if you have any further queries or contact us within two months if you would like us to review the information we have sent.

We are committed to providing a professional customer service. Please help us understand more about what is important to you by completing our two minute survey.

Kind regards,

Tom Baker

Customers & Engagement | Solent and South Downs Area | Environment Planning and Engagement Environment Agency | Guildbourne House | Chatsworth Road | Worthing | West Sussex | BN11 1LD

Tel: +44 20302 57046 Int: 57046 or contact our National Contact Call Centre 03708 506506

email: ssdenquiries@environment-agency.gov.uk

www.gov.uk/floodsdestroy

From: Aaron McLean [mailto:aaron@paulbashamassociates.com]

Sent: 28 April 2017 11:54

To: SSD Enquiries <SSDEnquiries@environment-agency.gov.uk>

Subject: 170428 (2) SSD42788: Orchard House, Western Avenue, Emsworth, Hampshire – Flood Risk Enquiry

Hi Tom

Thanks for your email. A copy of the proposed development drawing is attached. The development proposals would involve the construction of 24 retirement residential dwellings, reception and lounge areas within a multi-story block, associated car parking, open space and landscaping etc. Vehicle access would be provided from Western Avenue via the existing access. The red line boundary is 4550m².

It is proposed that the foul water generated by the development would be discharged into a Southern Water foul sewer which runs through the western part of the site. The existing site connection point would be utilised.

With regards to surface water run-off, the preferred option would be to use soakaways, however the feasibility of this has yet to be confirmed by infiltration testing. If the results of the testing show unfavourable ground conditions, then the development would need to discharge to the Southern Water surface water sewer in Havant Road. It is proposed that any surface water discharge to the Southern Water network would be restricted to 5 l/s.

Hopefully this information clarifies, however if you require any additional information then please don't hesitate to get back to me.

Kind regards

Aaron

From: SSD Enquiries <SSDEnquiries@environment-agency.gov.uk>

Sent: 28 April 2017 09:06:28

To: Aaron McLean

Subject: 170428 SSD42788: Orchard House, Western Avenue, Emsworth, Hampshire – Flood Risk Enquiry

Dear Aaron,

Thank you for your request for information relating to the site occupied by Orchard House, Western Avenue, Emsworth, Hampshire, which we received on 3 April 2017.

With regards to your third question, we do not hold any records of groundwater levels within 1 km of the site in question. We also do not hold any records of groundwater flooding at the site in question.

In order to ensure that we provide you with the correct information regarding your fourth question, could you please clarify the size and nature of the development in question? Could you please also clarify for us whether it is your intention to connect to foul or install a sewage treatment plant and then discharge to ground via an infiltration system? Please could you also clarify what the proposed discharge rate of 5l/s relates to?

We are committed to providing a professional customer service. Please help us understand more about what is important to you by completing our two minute survey.

Kind regards,

Tom Baker

Customers & Engagement | Solent and South Downs Area | Environment Planning and Engagement Environment Agency | Guildbourne House | Chatsworth Road | Worthing | West Sussex | BN11 1LD

Tel: +44 20302 57046 Int: 57046 or contact our National Contact Call Centre 03708 506506

email: ssdenquiries@environment-agency.gov.uk

www.gov.uk/floodsdestroy

From: Aaron McLean [<mailto:aaron@paulbashamassociates.com>]
Sent: 03 April 2017 01:48
To: SSD Enquiries <SSDEnquiries@environment-agency.gov.uk>
Subject: Orchard House, Western Avenue, Emsworth, Hampshire – Flood Risk Enquiry

Dear Sir/Madam,

Orchard House, Western Avenue, Emsworth, Hampshire – Flood Risk Enquiry

We are writing regarding the proposed development of a parcel of land currently occupied by Orchard House, Western Avenue, Emsworth, Hampshire. The Site is located at the approximate postcode PO10 7LP, please find attached a location plan for your information.

The Site is located within Flood Zone 1, however we have been commissioned to investigate the risk of flooding to the site from other sources of flood risk. I would be grateful if you could provide your Product 4 dataset and information relating to the following:

1. Our initial investigations into flood risk indicate that the Site lies within Flood Zone 1, based on the current information indicated on the Environment Agency website. Please could you confirm this and provide a more detailed Flood Zone map if one exists.
2. Please provide us with details of any historic flooding affecting, or in the vicinity of the Site, including dates, the extent and cause of flooding, if known. Please could you confirm any details of flooding attributed to fluvial, overland flow, lack of sewer capacity, or alternatively confirm that you hold no records of such events.
3. Please could you provide us with further information on likely groundwater levels in the vicinity of the Site (within 1km) as well as any records of groundwater flooding incidents.
4. Please advise if you have any requirements on surface water and foul drainage at this stage, relating to the Site. It is currently envisioned that, surface water runoff would be discharged to ground by infiltration. However if ground conditions were uncondusive to infiltration techniques then a discharge would be made to a Southern Water surface water sewer. The proposed discharge rate would be a design rate of 5 l/s. Please could you confirm that this would be acceptable.

We are also writing to Southern Water and Havant Borough Council requesting details of flooding records. If you are aware of any other parties that may have useful information then please provide their details.

If you require any further information to enable you to process our request for information then please feel free to contact me.

Kind regards
Aaron McLean
Engineer
Paul Basham Associates

Southampton Office

☎ t +44 (0) 1489 668134
✉ p Lancaster Court, 8 Barnes Wallis Road, Fareham, Hampshire, PO15 5TU
🌐 w www.paulbashamassociates.com

Oxford Office

☎ t +44 (0) 1865 552855
✉ p Cranbrook House, 287-291 Banbury Road, Oxford, OX2 7JQ
🌐 w www.paulbashamassociates.com

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Flood Risk Information for Western Avenue - Ref: SSD/42788

Partnership and Strategic Overview team, HIOU <psohiow@environment-agency.gov.uk>

Wed 03/05/2017 10:47

To: Aaron McLean <aaron@paulbashamassociates.com>;

Cc: SSD Enquiries <SSDEnquiries@environment-agency.gov.uk>;

7 attachments (9 MB)

Flood Map for Planning (Rivers and Sea).pdf; Risk of Flooding from Surface Water.pdf; Open Government Licence.pdf; uFMfSW Fact Sheet.pdf; Charging for Planning Advice from the Environment Agency leaflet.pdf; Detailed Advice Request Form.docx; Pre-app advice note.pdf;

Dear Aaron,

Provision of Flood Risk Information for The Orchard House, Western Avenue, Emsworth, PO10 7LP

Thank you for your request to use Environment Agency data, in the development of The Orchard House, Western Avenue, Emsworth, PO10 7LP. The information is attached.

Further details about the Environment Agency information supplied can be found on the GOV.UK website:

<https://www.gov.uk/browse/environment-countryside/flooding-extreme-weather>

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

<https://www.gov.uk/planning-applications-assessing-flood-risk>

<https://www.gov.uk/government/publications/pre-planning-application-enquiry-form-preliminary-opinion>

We can confirm that the above site is located in Flood Zone 1 - an area where the chance of flooding from both rivers and the sea has been assessed as less than 0.1% in any year (1 chance in 1,000 in any year).

The Environment Agency has no record of flooding to this area, but not all flooding events are reported to us and further information may be available from Havant Borough Council.

Surface Water Flooding – Please see the attached map and information.

This information is provided subject to the enclosed *notice*, which you should read.

I hope that we have correctly interpreted your request. Please see the attached Standard Notice or licence for details of permitted use.

We respond to requests for recorded information that we hold under the Freedom of Information Act 2000 (FOIA) and the associated Environmental Information Regulations 2004 (EIR).

If you are not satisfied with our response to your request for information you can contact us within 2 calendar months to ask for our decision to be reviewed.

If you have any queries or would like to discuss the content of this letter further please call us on 08708 506506.

If you have any queries or would like to discuss the content of this letter further please contact the Partnership and Strategic Overview Team at the Environment Agency.

Yours faithfully

Aimee Cox
Partnership and Strategic Overview team, Hampshire and Isle of Wight
Environment Agency

Direct dial 020 8474 5815

Email psohiow@environment-agency.gov.uk

Part Time Tuesday, Wednesday, Thursday and Friday



Planning for the
future of water

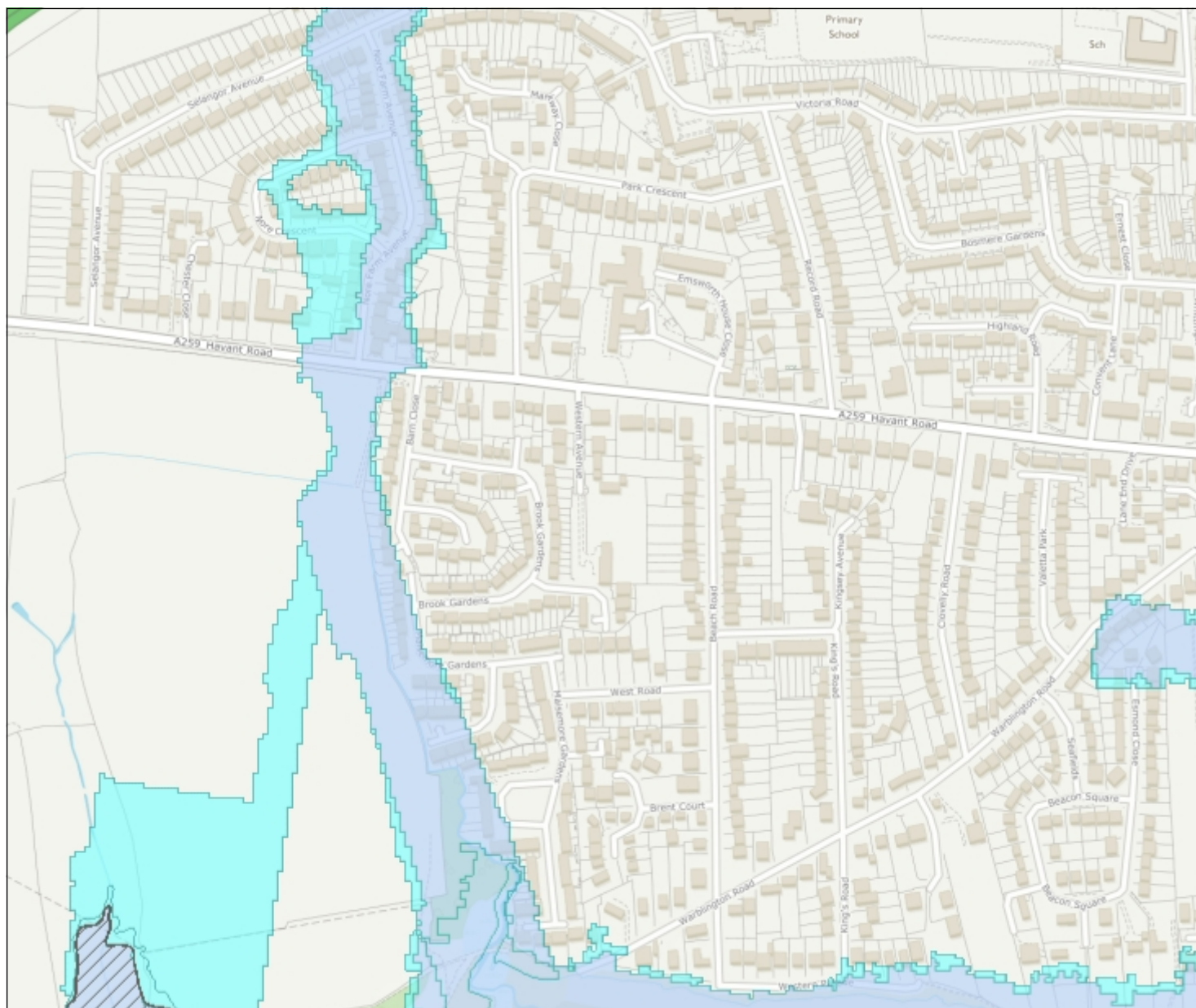


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Flood Map for Planning (Rivers and Sea) Centred on Western Avenue - Created 2 May 2017



Scale 1: 6,250



Flood Map for Planning (Rivers & Sea)

- Local Authority
- Defences
- Flood Storage Areas
- Areas benefiting from flood defences
- Flood Zone 3
- Flood Zone 2

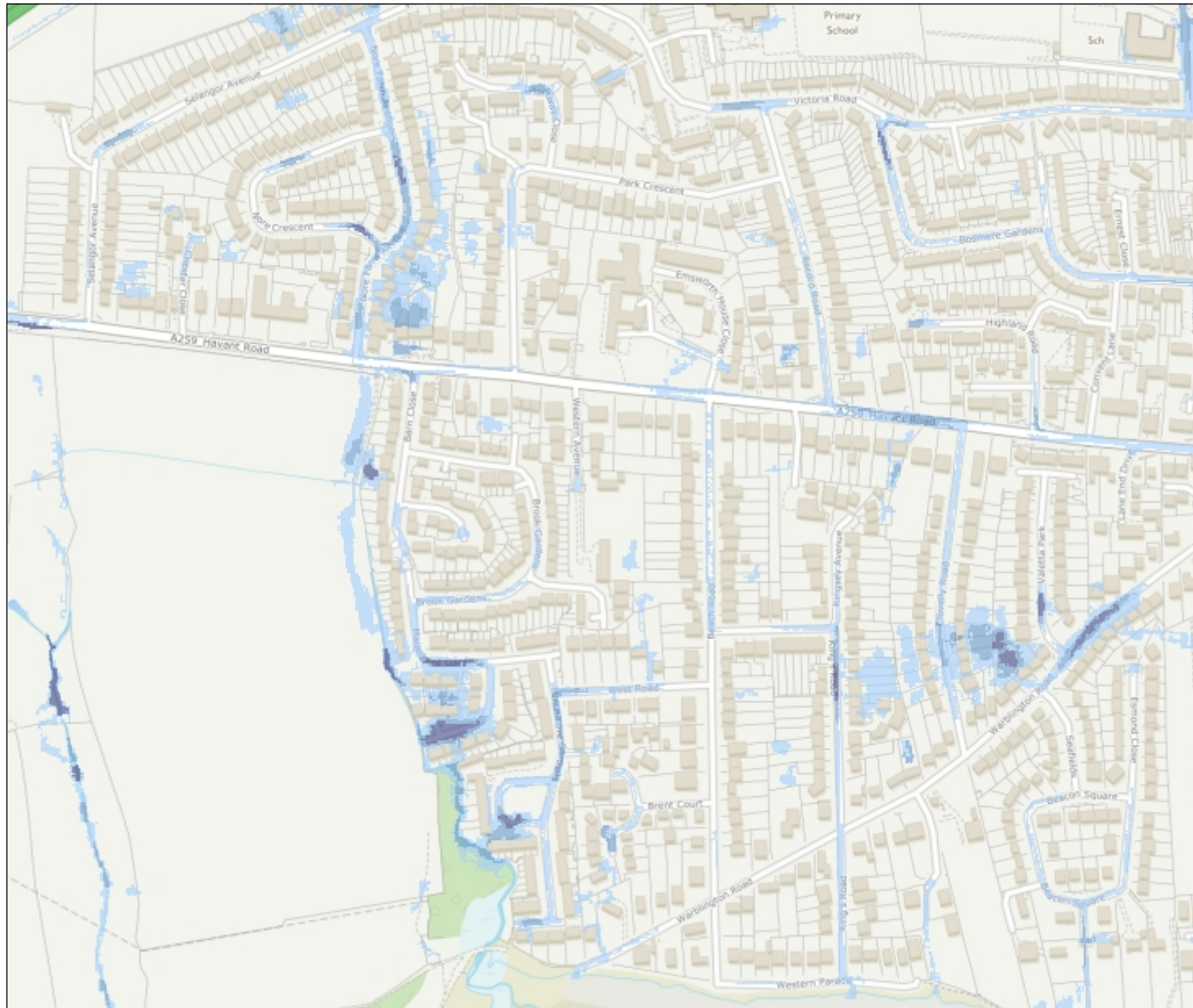
Flood Map Areas (assuming no defences)

Flood Zone 3 shows the area that could be affected by flooding:

- from the sea with a 1 in 200 or greater chance of happening each year
- or from a river with a 1 in 100 or greater chance of happening each year.

Flood Zone 2 shows the extent of an extreme flood from rivers or the sea with up to a 1 in 1000 chance of occurring each year.

Risk of flooding from Surface Water Centred on Western Avenue - Created 2 May 2017



Scale 1:6,250



Likelihood of flooding from Surface Water

- Local Authority
- High ($\geq 3.3\%$)
- Medium (3.3% - 1%)
- Very Low (0.1% - 0.1%)

Likelihood of flooding from Surface Water

- High:** Greater than or equal to 3.3% (1 in 30) chance in any given year
- Medium:** Less than 3.3% (1 in 30) but greater than or equal to 1% (1 in 100) chance in any given year
- Low:** Less than 1% (1 in 100) but greater than or equal to 0.1% (1 in 1,000) chance in any given year
- Very Low:** Less than 0.1% (1 in 1,000) chance in any given year

This information is shown on the Risk of Flooding from Surface Water map on our website.

Your query for Havant Borough Council

Havant Borough Council <customer.services@havant.gov.uk>

Mon 03/04/2017 01:42

To: Aaron McLean <aaron@paulbashamassociates.com>;

Thank you for completing the online form. We will get in touch with you using the contact details you supplied if a response is required.

Your reference number for this form is 329/31787

You submitted the form on Monday, 3 April, 2017 - 00:42

The details you gave us are:

--Your contact details--

Your Name: Aaron McLean

Your last name:

House number/name:

Road name:

Town/village:

Post code:

Preferred contact method: Email

Your email address: aaron@paulbashamassociates.com

Secondary contact method:

Do you require responses to be in a certain format? No

--Which team would you like to contact?--

Service: Flooding

--Your reason for contacting us--

Your query or comment:

Dear Sir/Madam,

Orchard House, Western Avenue, Emsworth, Hampshire – Flood Risk Enquiry

We are writing regarding the proposed development of a parcel of land currently occupied by Orchard House, Western Avenue, Emsworth, Hampshire. The Site is located at the approximate postcode PO10 7LP.

The Site is located within Flood Zone 1, however we have been commissioned to investigate the risk to the site from other sources of flood risk whilst ensuring that the proposed development would not increase the existing level of risk to third parties. We would be grateful if you could provide information relating to the following:

1. Details of any historic flooding affecting, or in the vicinity of the Site, including dates, the extent and cause of flooding, if known. Please could you confirm any details of flooding attributed to fluvial, overland flow, lack of sewer capacity, or alternatively confirm that you hold no records of such events.

2. Please could you provide us with further information on likely groundwater levels in the vicinity of the Site (within 1km) as well as any records of groundwater flooding incidents.
3. Please advise if you have any requirements on surface water and foul drainage at this stage, relating to the Site. It is currently envisioned that, surface water runoff would be discharged to ground by infiltration. However if ground conditions were uncondusive to infiltration techniques then a discharge would be made to a Southern Water surface water sewer. The proposed discharge rate would be 5 l/s (subject to Southern Water approval). Please could you confirm that this would be acceptable.

We are also writing to Southern Water and the Environment Agency requesting details of flooding records. If you are aware of any other parties that may have useful information then please provide their details.

If you require any further information to enable you to process our request for information then please feel free to contact me.

Kind regards
Aaron McLean
Engineer
Paul Basham Associates

Southampton Office
☐☐t +44 (0) 1489 668134
☐☐p Lancaster Court, 8 Barnes Wallis Road, Fareham,
Hampshire, PO15 5TU
☐☐w www.paulbashamassociates.com

RE: Orchard House, Western Avenue, Emsworth, Hampshire - Flood Risk Enquiry

Developer Services <Developer.Services@southernwater.co.uk>

Mon 03/04/2017 10:15

To: Aaron McLean <aaron@paulbashamassociates.com>;

Dear Mr McLean,

Thank you for your email below.

Unfortunately, we do not hold any flood risk data for this area and are unable to answer the queries you have raised. You may be able to obtain further information from the Environmental Agency.

Copies of Southern Water's sewer plans can be obtained from our Land Search department. They can be contacted on 0330 303 0276 or by email at searches@southernwater.co.uk

If you want to know about capacity for a development then you should request a capacity check. The appropriate application forms and guidance notes can be downloaded from Southern Water's website at <https://www.southernwater.co.uk/property-and-developers>

Southern Water do not adopt SUDs systems. Any sewer systems that are to be adopted have to comply with Sewers for Adoption 6th or 7th Edition standards.

Yours sincerely,

Developer Services
Southern Water
0330 303 0119, option 5
www.southernwater.co.uk

From: Aaron McLean [mailto:aaron@paulbashamassociates.com]
Sent: 03 April 2017 01:32
To: Developer Services
Subject: Orchard House, Western Avenue, Emsworth, Hampshire – Flood Risk Enquiry

Dear Sir/Madam

Orchard House, Western Avenue, Emsworth, Hampshire – Flood Risk Enquiry

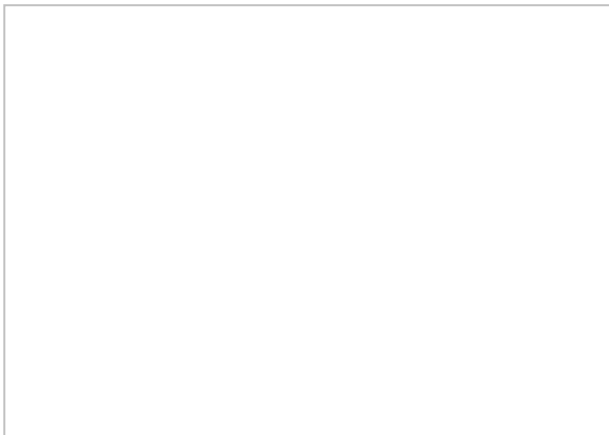
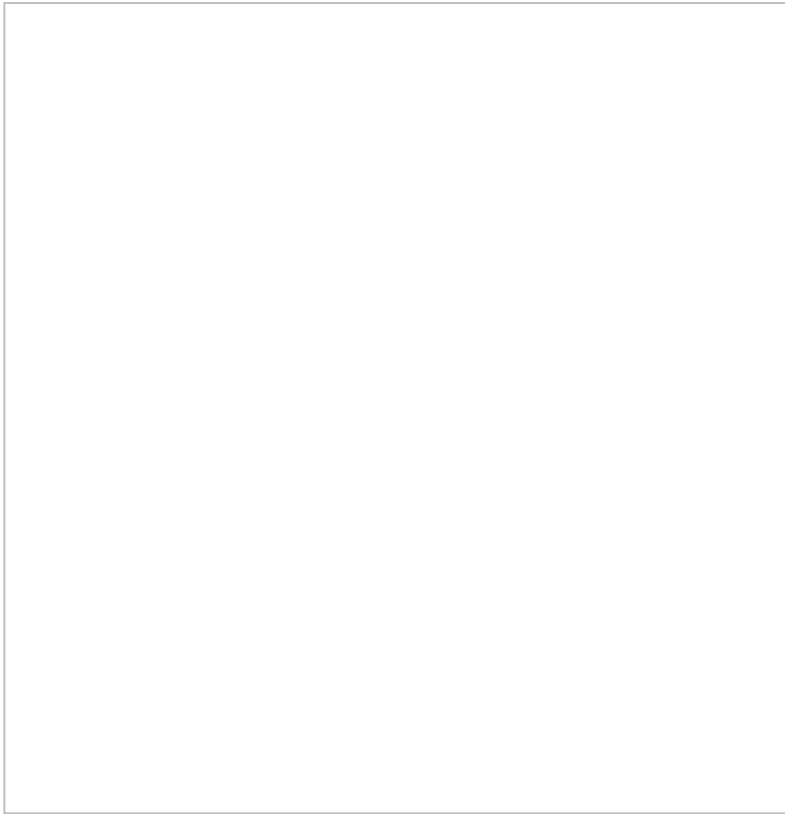
We are writing regarding the proposed development of a parcel of land currently occupied by Orchard House, Western Avenue, Emsworth, Hampshire. The Site is located at the approximate postcode PO10 7LP, please find attached a location plan for your information.

We have been commissioned to investigate the risk of flooding to the proposed development and produce a Flood Risk Assessment report. We would be grateful if you could provide information relating to the following:

1. Details of any historic flooding affecting or in the vicinity of the site, including dates, the extent and cause of flooding, if known. Please also inform us of any other known sources of flooding in the area, including lack of

sewer capacity.

2. A drainage survey has recently been undertaken and it was identified that there is level monitoring equipment in Manhole 0801 (see below). We assume that this equipment was installed due to previous flood incidents associated with this foul sewer. Could you please provide further details as this may pose a risk to the site.



We are also writing to the Environment Agency and Havant Borough Council requesting details of flooding records. If you are aware of any other parties that may have useful information please could you advise.

If you require any further information to enable you to process our request for information then please feel free to contact me.

Kind regards
Aaron McLean

Engineer
Paul Basham Associates

Southampton Office

  +44 (0) 1489 668134

 p Lancaster Court, 8 Barnes Wallis Road, Fareham, Hampshire, PO15 5TU

 w www.paulbashamassociates.com

Oxford Office

 t +44 (0) 1865 552855

 p Cranbrook House, 287-291 Banbury Road, Oxford, OX2 7JQ

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Appendix E

SEWER RECORDS PAGE 1 OF 2



O.S. REF. SU7405NW		Drawn by: kumara	The positions of pipes shown on this plan are believed to be correct, but Southern Water Services Ltd accept no responsibility in the event of inaccuracy. The actual positions should be determined on site. WARNING: SAC pipes are constructed of Borecast Asbestos Cement WARNING: Unmarked (UNO) materials may include Borecast Asbestos Cement
		Scale: 1:1250	
Title: 217087_The Orchard House, Weste		Date: 10/06/2016	 N 
473805		474277	

SEWER RECORDS PAGE 2 OF 2

Node	Cover	Invert	Size	Material	Shape	Node	Cover	Invert	Size	Material	Shape	Node	Cover	Invert	Size	Material	Shape
060DX			100	VC	CIRC	8808X	8.79	7.59	UNK	UNK	CIRC					UNK	CIRC
0701X	8.22	6.07	UNK	VC	CIRC	8811X			100	UNK	CIRC					VC	CIRC
0702X			UNK	UNK	CIRC	8812X			225	UNK	CIRC					UNK	CIRC
0703X			UNK	UNK	CIRC	8850X	9.021	7.831	225	UNK	CIRC					UNK	CIRC
0750X	8.209	6.159	UNK	UNK	CIRC	8851X	9.169	8.059	225	UNK	CIRC					UNK	CIRC
0751X	8.149	6.219	225	UNK	CIRC	8852X			225	UNK	CIRC					UNK	CIRC
0801X	7.642	6.362	225	UNK	CIRC	8853X	7.953	6.58	225	UNK	CIRC					UNK	CIRC
0802X			UNK	UNK	CIRC	8854X	7.953	6.19	225	UNK	CIRC					UNK	CIRC
0901X	9.726		225	UNK	CIRC	8855X	7.797	6.04	225	UNK	CIRC					UNK	CIRC
0950X	9.615	8.945	225	UNK	CIRC	8856X	8.33	6.65	150	UNK	CIRC					UNK	CIRC
1701X	8.169	3.944	225	UNK	CIRC	8857X	8.109	6.925	150	UNK	CIRC					UNK	CIRC
1702X	7.45	7.926	225	UNK	CIRC	8901X	9.135		225	UNK	CIRC					UNK	CIRC
1750X	8.125	7.226	225	UNK	CIRC	8902X	9.971	6.811	UNK	UNK	CIRC					UNK	CIRC
1801X	9.207	4.16	225	UNK	CIRC	8903X	9.584	7.594	UNK	UNK	CIRC					UNK	CIRC
1802X			UNK	VC	CIRC	8904X			100	UNK	CIRC					UNK	CIRC
1803X			100	VC	CIRC	8905X			UNK	UNK	CIRC					UNK	CIRC
1804X			100	VC	CIRC	8906X			100	UNK	CIRC					UNK	CIRC
1900X	8.988	7.718	225	UNK	CIRC	8907X	8.931	7.481	UNK	UNK	CIRC					UNK	CIRC
1901X	9.571	4.377	225	UNK	CIRC	8952X	8.931	7.481	225	UNK	CIRC					UNK	CIRC
1902X	9.522	7.397	225	UNK	CIRC	8953X	8.833	7.253	525	UNK	CIRC					UNK	CIRC
1903X			100	VC	CIRC	9605X			150	UNK	CIRC					UNK	CIRC
1950X	9.554	8.844	225	UNK	CIRC	9606X	8.38	6.84	150	UNK	CIRC					UNK	CIRC
1951X	9.586	8.806	225	UNK	CIRC	9701X	8.26	6.68	225	UNK	CIRC					UNK	CIRC
1952X	8.528	8.777	225	UNK	CIRC	9702X			225	UNK	CIRC					UNK	CIRC
1953X	8.468	8.686	225	UNK	CIRC	9703X			150	UNK	CIRC					UNK	CIRC
2603X	6.571	4.596	225	UNK	CIRC	9704X			150	UNK	CIRC					UNK	CIRC
2701X			UNK	VC	CIRC	9750X	8.469	6.259	300	UNK	CIRC					UNK	CIRC
2702X	6.958	6.306	225	UNK	CIRC	9751X	8.314		300	UNK	CIRC					UNK	CIRC
2703X			225	UNK	CIRC	9752X	7.946	5.806	300	UNK	CIRC					UNK	CIRC
2704X			225	UNK	CIRC	9753X	7.515	5.485	300	UNK	CIRC					UNK	CIRC
2705X			225	UNK	CIRC	9754X			UNK	UNK	CIRC					UNK	CIRC
2750X	7.631	6.983	150	UNK	CIRC	9760X			UNK	UNK	CIRC					UNK	CIRC
2751X	6.938	6.288	225	UNK	CIRC	9770X	9.479	8.079	100	UNK	CIRC					UNK	CIRC
2752X	7.156	5.876	150	UNK	CIRC	9801X	9.17	7.85	UNK	UNK	CIRC					UNK	CIRC
2753X	6.541	5.301	225	UNK	CIRC	9802X	9.29	7.58	UNK	UNK	CIRC					UNK	CIRC
2801X	7.858	6.791	150	UNK	CIRC	9803X	8.64		UNK	UNK	CIRC					UNK	CIRC
2802X			UNK	VC	CIRC	9805X	8.64		UNK	UNK	CIRC					UNK	CIRC
2901X	9.135		225	UNK	CIRC	9850X	9.302	7.262	225	UNK	CIRC					UNK	CIRC
2904X			UNK	UNK	CIRC	9851X	9.302		225	UNK	CIRC					UNK	CIRC
292DX			225	UNK	CIRC	9852X	7.509	6.259	225	UNK	CIRC					UNK	CIRC
2951X	9.404	8.594	225	UNK	CIRC	9853X	9.398	7.078	300	UNK	CIRC					UNK	CIRC
2952X	9.212		225	UNK	CIRC	9853X	9.131	6.911	300	UNK	CIRC					UNK	CIRC
2953X			UNK	VC	CIRC	9854X	8.771	4.937	UNK	UNK	CIRC					UNK	CIRC
2954X			UNK	UNK	CIRC	9855X	8.461		UNK	UNK	CIRC					UNK	CIRC
2955X			UNK	UNK	CIRC	9856X			UNK	UNK	CIRC					UNK	CIRC
2956X			UNK	UNK	CIRC	9857X			UNK	UNK	CIRC					UNK	CIRC
2957X			UNK	UNK	CIRC	9858X			UNK	UNK	CIRC					UNK	CIRC
2958X			UNK	UNK	CIRC	9859X			UNK	UNK	CIRC					UNK	CIRC
2959X			UNK	UNK	CIRC	9860X			UNK	UNK	CIRC					UNK	CIRC
2960X			UNK	UNK	CIRC	9861X			UNK	UNK	CIRC					UNK	CIRC
2961X			UNK	UNK	CIRC	9862X			UNK	UNK	CIRC					UNK	CIRC
2962X			UNK	UNK	CIRC	9863X			UNK	UNK	CIRC					UNK	CIRC
2963X			UNK	UNK	CIRC	9864X			UNK	UNK	CIRC					UNK	CIRC
2964X			UNK	UNK	CIRC	9865X			UNK	UNK	CIRC					UNK	CIRC
2965X			UNK	UNK	CIRC	9866X			UNK	UNK	CIRC					UNK	CIRC
2966X			UNK	UNK	CIRC	9867X			UNK	UNK	CIRC					UNK	CIRC
2967X			UNK	UNK	CIRC	9868X			UNK	UNK	CIRC					UNK	CIRC
2968X			UNK	UNK	CIRC	9869X			UNK	UNK	CIRC					UNK	CIRC
2969X			UNK	UNK	CIRC	9870X			UNK	UNK	CIRC					UNK	CIRC
2970X			UNK	UNK	CIRC	9871X			UNK	UNK	CIRC					UNK	CIRC
2971X			UNK	UNK	CIRC	9872X			UNK	UNK	CIRC					UNK	CIRC
2972X			UNK	UNK	CIRC	9873X			UNK	UNK	CIRC					UNK	CIRC
2973X			UNK	UNK	CIRC	9874X			UNK	UNK	CIRC					UNK	CIRC
2974X			UNK	UNK	CIRC	9875X			UNK	UNK	CIRC					UNK	CIRC
2975X			UNK	UNK	CIRC	9876X			UNK	UNK	CIRC					UNK	CIRC
2976X			UNK	UNK	CIRC	9877X			UNK	UNK	CIRC					UNK	CIRC
2977X			UNK	UNK	CIRC	9878X			UNK	UNK	CIRC					UNK	CIRC
2978X			UNK	UNK	CIRC	9879X			UNK	UNK	CIRC					UNK	CIRC
2979X			UNK	UNK	CIRC	9880X			UNK	UNK	CIRC					UNK	CIRC
2980X			UNK	UNK	CIRC	9881X			UNK	UNK	CIRC					UNK	CIRC
2981X			UNK	UNK	CIRC	9882X			UNK	UNK	CIRC					UNK	CIRC
2982X			UNK	UNK	CIRC	9883X			UNK	UNK	CIRC					UNK	CIRC
2983X			UNK	UNK	CIRC	9884X			UNK	UNK	CIRC					UNK	CIRC
2984X			UNK	UNK	CIRC	9885X			UNK	UNK	CIRC					UNK	CIRC
2985X			UNK	UNK	CIRC	9886X			UNK	UNK	CIRC					UNK	CIRC
2986X			UNK	UNK	CIRC	9887X			UNK	UNK	CIRC					UNK	CIRC
2987X			UNK	UNK	CIRC	9888X			UNK	UNK	CIRC					UNK	CIRC
2988X			UNK	UNK	CIRC	9889X			UNK	UNK	CIRC					UNK	CIRC
2989X			UNK	UNK	CIRC	9890X			UNK	UNK	CIRC					UNK	CIRC
2990X			UNK	UNK	CIRC	9891X			UNK	UNK	CIRC					UNK	CIRC
2991X			UNK	UNK	CIRC	9892X			UNK	UNK	CIRC					UNK	CIRC
2992X			UNK	UNK	CIRC	9893X			UNK	UNK	CIRC					UNK	CIRC
2993X			UNK	UNK	CIRC	9894X			UNK	UNK	CIRC					UNK	CIRC
2994X			UNK	UNK	CIRC	9895X			UNK	UNK	CIRC					UNK	CIRC
2995X			UNK	UNK	CIRC	9896X			UNK	UNK	CIRC					UNK	CIRC
2996X			UNK	UNK	CIRC	9897X			UNK	UNK	CIRC					UNK	CIRC
2997X			UNK	UNK	CIRC	9898X			UNK	UNK	CIRC					UNK	CIRC
2998X			UNK	UNK	CIRC	9899X			UNK	UNK	CIRC					UNK	CIRC
2999X			UNK	UNK	CIRC	9900X			UNK	UNK	CIRC					UNK	CIRC
3000X			UNK	UNK	CIRC	9901X			UNK	UNK	CIRC					UNK	CIRC
3001X			UNK	UNK	CIRC	9902X			UNK	UNK	CIRC					UNK	CIRC
3002X			UNK	UNK	CIRC	9903X			UNK	UNK	CIRC					UNK	CIRC
3003X			UNK	UNK	CIRC	9904X			UNK	UNK	CIRC					UNK	CIRC
3004X			UNK	UNK	CIRC	9905X			UNK	UNK	CIRC					UNK	CIRC
3005X			UNK	UNK	CIRC	9906X			UNK	UNK	CIRC					UNK	CIRC
3006X			UNK	UNK	CIRC	9907X			UNK	UNK	CIRC					UNK	CIRC
3007X			UNK	UNK	CIRC	9908X			UNK	UNK	CIRC					UNK	CIRC
3008X			UNK	UNK	CIRC	9909X			UNK	UNK	CIRC					UNK	CIRC
3009X			UNK	UNK	CIRC	9910X			UNK	UNK	CIRC					UNK	CIRC
3010X			UNK	UNK	CIRC	9911X			UNK	UNK	CIRC					UNK	CIRC
3011X			UNK	UNK	CIRC	9912X			UNK	UNK	CIRC					UNK	CIRC
3012X			UNK	UNK	CIRC	9913X			UNK	UNK	CIRC					UNK	CIRC
3013X			UNK	UNK	CIRC	9914X			UNK	UNK	CIRC					UNK	CIRC
3014X			UNK	UNK	CIRC	9915X			UNK	UNK	CIRC					UNK	CIRC
3015X			UNK	UNK	CIRC	9916X			UNK	UNK	CIRC					UNK	CIRC
3016X			UNK	UNK	CIRC	9917X			UNK	UNK	CIRC					UNK	CIRC
3017X			UNK	UNK	CIRC	9918X			UNK	UNK	CIRC					UNK	CIRC
3018X			UNK	UNK	CIRC	9919X			UNK	UNK	CIRC					UNK	CIRC
3019X			UNK	UNK	CIRC	9920X			UNK	UNK	CIRC					UNK	CIRC
3020X			UNK	UNK	CIRC	9921X			UNK	UNK	CIRC					UNK	CIRC

Appendix F



Department of Planning and
Development
Havant Borough Council
Public Service Plaza
Civic Centre Road
Havant
Hampshire
PO9 2AX

Developer Services
Southern Water
Sparrowgrove House
Sparrowgrove
Otterbourne
Hampshire
SO21 2SW

Tel: 0330 303 0119

Email: developerservices@southernwater.co.uk

Your Ref
APP/17/00633

Our Ref
PLAN-019283

Date
26/07/2017

Dear Sirs,

Proposal: Demolition of existing dwelling and erection of 25no. retirement living apartments with communal facilities, car parking and landscaping to include the removal of some onsite protected trees (subject to an Area Tree Protection Order 2068/2017) and provision of replacement tree planting

Site: The Orchard House, Western Avenue, Emsworth, PO10 7LP.
APP/17/00633

Thank you for your letter of 25/07/2017.

Further to our previous correspondence regarding the above planning application consultation and discussions with the developer regarding the proposed foul flow rates to be discharged in to the system: Southern Water can provide foul sewage disposal for a discharge rate of 0.0651 l/s to service the proposed development. Southern Water requires a formal application for a connection to the public sewer to be made by the applicant or developer.

We request that should this application receive planning approval, the following informative is attached to the consent:

"A formal application for connection to the public sewerage system is required in order to service this development, Please contact Southern Water, Sparrowgrove House, Sparrowgrove, Otterbourne, Hampshire SO21 2SW (Tel: 0330 303 0119) or www.southernwater.co.uk".

All other comments in our previous response dated 05/07/2017 remain unchanged and valid.

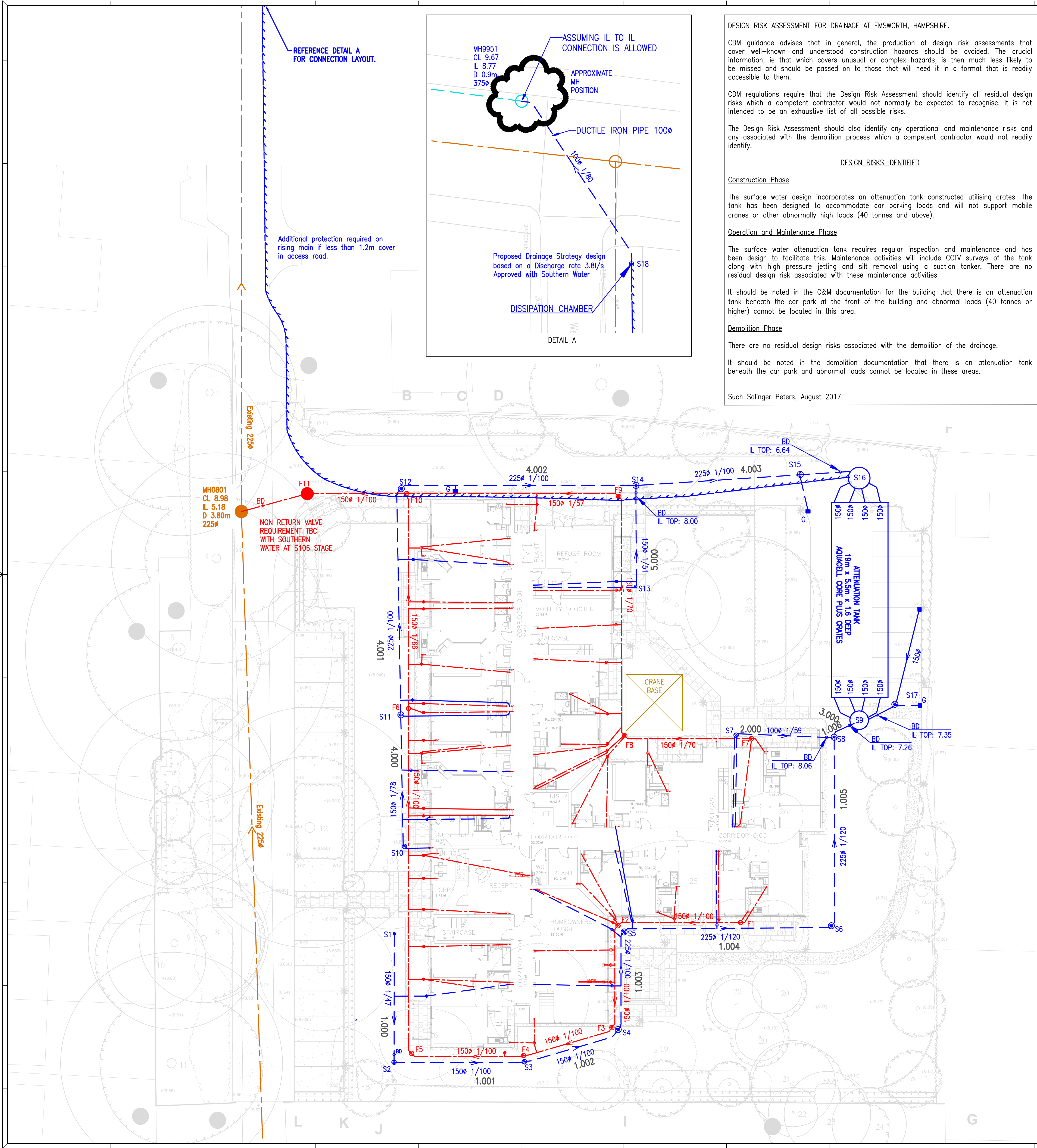
Yours sincerely

A handwritten signature in black ink, appearing to read "J. M. and".

Developer Services

Southern Water Sparrowgrove House Otterbourne Winchester Hampshire SO21 2SW www.southernwater.co.uk

Appendix G



DESIGN RISK ASSESSMENT FOR DRAINAGE AT EMSWORTH, HAMPSHIRE.

CDM guidance advises that in general, the production of design risk assessments that cover well-known and understood construction hazards should be avoided. The crucial information, ie that which covers unusual or complex hazards, is then much less likely to be missed and should be passed on to those that will need it in a format that is readily accessible to them.

CDM regulations require that the Design Risk Assessment should identify all residual design risks which a competent contractor would not normally be expected to recognise. It is not intended to be an exhaustive list of all possible risks.

The Design Risk Assessment should also identify any operational and maintenance risks and any associated with the demolition process which a competent contractor would not readily identify.

DESIGN RISKS IDENTIFIED

Construction Phase

The surface water design incorporates an attenuation tank constructed utilising crates. The tank has been designed to accommodate car parking loads and will not support mobile cranes or other abnormally high loads (40 tonnes and above).

Operation and Maintenance Phase

The surface water attenuation tank requires regular inspection and maintenance and has been design to facilitate this. Maintenance activities will include CCTV surveys of the tank along with high pressure jetting and silt removal using a suction tanker. There are no residual design risk associated with these maintenance activities.

It should be noted in the O&M documentation for the building that there is an attenuation tank beneath the car park at the front of the building and abnormal loads (40 tonnes or higher) cannot be located in this area.

Demolition Phase

There are no residual design risks associated with the demolition of the drainage.

It should be noted in the demolition documentation that there is an attenuation tank beneath the car park and abnormal loads cannot be located in these areas.

Such Salinger Peters, August 2017

KEY

- TYPE 4 INSPECTION CHAMBER – 250 DIA.
- TYPE 3 INSPECTION CHAMBER – 450 DIA.
- TYPE 2 P.C. MANHOLE – MIN 1200ø < 3m DEEP
- TYPE 1 P.C. MANHOLE – MIN 1200ø 3m–6m DEEP
- FOUL WATER SEWER
- SURFACE WATER SEWER
- EXISTING FOUL WATER SEWER
- EXISTING SURFACE WATER SEWER
- SURFACE WATER RISING MAIN
- BOUNDARY

FOUL MANHOLE SCHEDULE

MH No.	COVER	INVERT LEVEL		DEPTH	MAX PIPE	MH	COVER TYPE
		IN	OUT				
F1	8.95	7.84	7.84	1.11	150	3	A15
F2	8.85	7.69	7.69	1.16	150	3	A15
F3	8.87	7.59	7.59	1.28	150	3*	A15
F4	8.75	7.50	7.50	1.25	150	3*	A15
F5	8.85	7.39	7.39	1.46	150	3*	A15
F6	9.00	7.06	7.06	1.94	150	3*	A15
F7	8.90	7.69	7.69	1.21	150	3	A15
F8	8.80	7.50	7.50	1.30	150	3*	A15
F9	9.12	7.17	7.17	1.95	150	3*	D400
F10	9.02	6.75	6.75	2.27	150	3*	D400
F11	9.02	6.65	6.65	2.37	150	2	D400

ALL LEVELS TBC BEFORE WORKS AND REPORTED BACK TO ENGINEER.
ALL PIPEWORK TO BE 100 ø AT MIN. 1/70 UNLESS STATED OTHERWISE.
* RESTRICTED ACCESS.

SURFACE WATER MANHOLE SCHEDULE

MH No.	COVER	INVERT LEVEL		DEPTH	MAX PIPE	MH	COVER TYPE
		IN	OUT				
S1	8.93	–	8.30	0.63	150	4	A15
S2	8.70	8.03	8.03	0.67	150	3	A15
S3	8.70	7.90	7.90	0.80	150	3	A15
S4	8.87	7.81	7.73	1.14	225	3	A15
S5	8.85	7.64	7.64	1.21	225	3*	A15
S6	8.70	7.46	7.46	1.24	225	3*	A15
S7	8.90	–	8.33	0.57	100	3	A15
S8	8.90	7.30	7.30	1.60	225	3*	A15
S9	8.65	6.15	6.15	2.50	225	1200	D400
S10	8.95	7.55	7.55	1.40	150	3*	A15
S11	9.00	7.40	7.32	1.68	225	3*	A15
S12	8.90	7.08	7.08	1.82	225	3*	D400
S13	8.90	–	8.30	0.60	150	3	A15
S14	9.00	6.84	6.84	2.16	225	3*	D400
S15	8.75	6.74	6.74	2.01	225	3*	D400
S16	8.72	6.00	6.00	2.72	225	2100	D400
S17	8.70	7.40	7.40	1.30	150	3*	D400
S18	9.56	9.01	9.01	0.55	100	3	D400
9951	9.67	8.77	8.77	0.90	375	Ex	Ex

ALL LEVELS TBC BEFORE WORKS AND REPORTED BACK TO ENGINEER.
ALL PIPEWORK TO BE 100 ø AT MIN. 1/80 UNLESS STATED OTHERWISE.
* RESTRICTED ACCESS.
S15 TO HOUSE PUMPING STATION WITH 2 PUMPS WORKING; ONE DUTY AND ANOTHER STANDBY AT 3.8L/s.
S9, S15, S16, S17 TO HAVE ADDITIONAL 500mm DEEP SILT TRAP

ATTENUATION TANK SCHEDULE

PLAN DIMENSIONS	EFFECTIVE DEPTH	TOP OF TANK	BASE OF TANK	LOWEST COVER LEVEL	LOWEST IL IN	MAX. CONSTRUCTION DEPTH
30 x 7m	1.2	7.20–7.35	6.00–6.15	8.55	6.00	2.55

NOTES:

- ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED.
- ALL LEVELS IN METRES ABOVE ORDNANCE DATUM.
- SURFACE WATER DESIGN BASED ON A 1 IN 100 YEAR RAINFALL EVENT (PLUS 40% CLIMATE CHANGE) REMAINING BELOW GROUND WITH NO RISK OF SURFACE FLOODING ON OR OFF THE SITE.
- MANHOLE TYPES ON THE SCHEDULES RELATE TO TYPES AS USED IN SEWERS FOR ADOPTION 7TH EDITION. REFER TO CONSTRUCTION DRAWINGS IN THE SERIES FOR STANDARD DETAILS.
- WHERE A SPECIFIC DIAMETER IS SHOWN IN THE MANHOLE SCHEDULE (EG. 2100), THE MANHOLE SHOULD BE CONSTRUCTED TO THE STANDARDS FOR EITHER A TYPE 1 OR TYPE 2 MANHOLE IN SEWERS FOR ADOPTION 7TH EDITION.
- MANHOLES NOT SCHEDULED ARE TYPE 4 INSPECTION CHAMBERS.
- ALL RWP AND SVP CONNECTING PIPEWORK TO BE 100ø UNLESS NOTED OTHERWISE.
- 100ø FOUL PIPEWORK TO BE LAID NO FLATTER THAN 1 IN 40 INTERNALLY AND 1 IN 70 EXTERNALLY.
- MINIMUM DEPTH AT HEAD OF INTERNAL SURFACE WATER TO BE 450MM AND FOUL WATER RUNS TO BE 750MM BELOW FINISHED FLOOR LEVEL UNLESS OTHERWISE STATED.
- FOUNDATIONS TO BE LOCALLY STEPPED WHERE NECESSARY AS PER STRUCTURAL ENGINEERS DETAILS. WHERE STUB STACKS ARE USED, SPECIAL DETAILS WILL BE PROVIDED.
- PUBLIC MANHOLE DETAILS FROM PUBLIC SEWER RECORDS.
- AREA CONTRIBUTING TO THE SW SYSTEM TAKEN AS 2350 m2.
- THIS DRAWING IS FOR STRATEGY PURPOSES ONLY AND MUST NOT BE USED FOR CONSTRUCTION.
- FORMAL APPLICATION AND APPROVAL FOR CONNECTIONS INTO PUBLIC SYSTEM MUST BE OBTAINED BEFORE WORKS.
- SOIL INVESTIGATION LOOKING @ 500mm INFILTRATION TESTS AFTER PLANNING FOR POSSIBLE PERMEABLE PAVING OPTION.

PRELIMINARY ONLY

G Drainage and levels updated. Landscape updated.	BK	JW	KM	17.11.17
F New RWP locations added into layout. Indicative directional flow of runoff added.	DL	KD	KD	03.08.2017
E Updated drawing with proposed levels. Updated cover levels on manholes.	DL	KD	KD	02.08.2017
D Added the CDM note onto the drawing.	DL	KD	KD	24.07.2017
C Rising main route amended	DL	PP	KD	06.06.2017
B Rising Main route amended	KD	PP	KD	25.05.2017
A Rising main and attenuation tank moved as requested. F11 moved back and RP'Ss added.	KD	DL	KD	25.05.2017
– FIRST ISSUE	DL	KD	KD	19.05.2017
REVISIONS	DRN	CHK	APP	DATE

Such Salinger Peters
CONSULTING ENGINEERS

Fourth Floor
Dean Park House
10 Dean Park Crescent
Bournemouth, Dorset, BH1 1HL
Tel (01202) 293 213
enquiries@spsconsulting.co.uk
www.spsconsulting.co.uk

CLIENT MCCARTHY AND STONE
SOUTHERN REGION

PROJECT THE ORCHARD HOUSE
EMSWORTH

DRAWING TITLE 'T' BUILDING
DRAINAGE LAYOUT

SCALE 1:200
DATE 17/11/2017
DRAWN BK
CHECKED JW
APPROVED KM
REVISION
DRAWING No. 64007-03
G