

Appendix 5

Environment Agency Product 4 Information Flood Maps, West Sussex County Council and Arun District Council Correspondence

Mike Glasgow
The Civil Engineering Practice
11 Tungsten Building
George Street, Fishersgate
West Sussex
BN41 1RA

Our ref: SSD72209
Your ref:
Date: 29/01/2018

Dear Mike

Enquiry regarding Product 4 for Flood Risk Assessment (FRA)

Thank you for your enquiry which was received on the 19th of January 2018.

We respond to requests under the Freedom of Information Act 2000 and Environmental Information Regulations 2004. The information is attached.

The information on Flood Zones in the area relating to this address is as follows:

The property is in an area located within Flood Zone 3 as shown on our Flood Map for Planning (Rivers and Sea).

Note - This information relates to the area that the above named property is in and is not specific to the property itself as it is influenced by factors such as the height of door steps, air bricks or the height of surrounding walls. We do not have access to this information and is not currently used in our flood modelling.

Flood Zone definitions can be found at www.gov.uk/guidance/flood-risk-and-coastal-change#Table-1-Flood-Zones

Flood Defences

There are flood defences in the form of a Sand and Shingle Beach. This is maintained by Arun District Council. Please contact Arun District council for any more information regarding this defence.

Model Information

The model used was the Arun to Adur Flood Model which was completed in 2012 by JBA Consulting.

Flood History

We hold no record of previous flooding events affecting this site.

Please note our records are not comprehensive and may not include all events. I recommend contacting the Lead Local Flooding Authority, **West Sussex County Council** or the Local Authority, **Arun District Council** for a more comprehensive flood history check.

FRA advisory text

Name	Product 4
Description	Detailed Flood Risk Assessment Map for ...
Licence	Open Government Licence
Information Warnings	<i>No information warnings available</i>
Information Warning - OS background mapping	<i>The mapping of features provided as a background in this product is © Ordnance Survey. It is provided to give context to this product. The Open Government Licence does not apply to this background mapping. You are granted a non-exclusive, royalty free, revocable licence solely to view the Licensed Data for non-commercial purposes for the period during which the Environment Agency makes it available. You are not permitted to copy, sub-license, distribute, sell or otherwise make available the Licensed Data to third parties in any form. Third party rights to enforce the terms of this licence shall be reserved to OS.</i>
Attribution	Contains Environment Agency information © Environment Agency and/or database rights. Contains Ordnance Survey data © Crown copyright 2017 Ordnance Survey 100024198.

Data Available Online

Many of our flood datasets are available online:

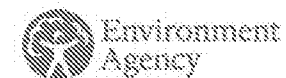
- [Flood Map For Planning \(Flood Zone 2, Flood Zone 3 ,Flood Storage Areas, Flood Defences, Areas Benefiting from Defences\)](#)
- [Risk of Flooding from Rivers and Sea](#)
- [Historic Flood Map](#)
- [Current Flood Warnings](#)

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

Yours sincerely,

Maurice Ntege
FCRM Officer, PSO West Sussex Team

Flood Map for Planning (Rivers and Sea). Centred on BN16 1PD. Created on 29/01/2018



Scale 1: 10,000



Flood Map for Planning (Rivers & Sea)

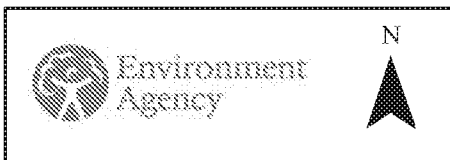
- Sealed Main Rivers
- Defences
- Flood Storage Areas
- ▣ Areas benefiting from flood defences
- ▨ Flood Zone 3
- ▩ Flood Zone 2

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.



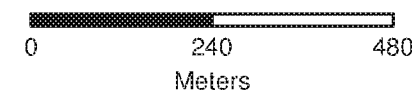
Legend

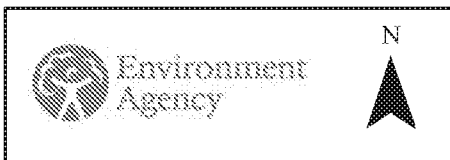
- Main River
- Site Boundary
- 0.5% AEP (2012) (Defended)
- 0.5% AEP (2070) (Defended)
- 0.5% AEP (2115) (Defended)

Annual Exceedance Probability (AEP) The probability of a flood of a particular magnitude, or greater occurring in any given year.

Climate Change (CC) extent based on an increase of 20% in river flows.

Scale: 1:10,000





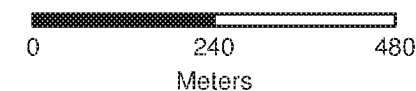
Legend

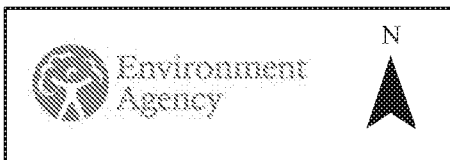
-  Main River
-  Site Boundary
-  0.1% AEP (2012) (Defended)
-  0.1% AEP (2115) (Defended)

Annual Exceedance Probability (AEP) The probability of a flood of a particular magnitude, or greater occurring in any given year.

Climate Change (CC) extent based on an increase of 20% in river flows.

Scale: 1:10,000



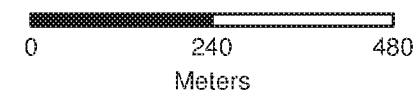


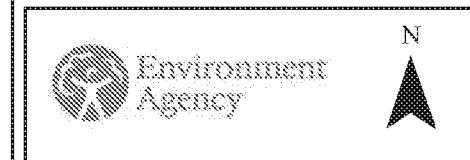
Legend

- Main River
- Site Boundary
- 20% AEP (2012) (Defended)
- 5% AEP (2012) (Defended)
- 1.3% AEP (2012) (Defended)
- 1% AEP (2012) (Defended)

Annual Exceedance Probability (AEP) The probability of a flood of a particular magnitude, or greater occurring in any given year.

Scale: 1:10,000





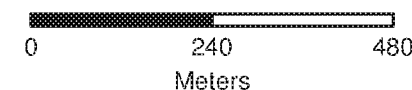
Legend

- Main River
- Site Boundary
- 5% AEP (2012) (Undefended)
- 1.3% AEP (2012) (Undefended)
- 0.5% AEP (2012) (Undefended)
- 0.5% AEP (2070) (Undefended)
- 0.5% AEP (2115) (Undefended)
- 0.1% AEP (2012) (Undefended)
- 0.1% AEP (2115) (Undefended)

Annual Exceedance Probability (AEP) The probability of a flood of a particular magnitude, or greater occurring in any given year.

Climate Change (CC) extent based on an increase of 20% in river flows.

Scale: 1:10,000





Product 4 Flood Risk Data Requested by: The Civil Engineering Practice

Site: Coastal caravan Park, East Preston BN16 1PD

Table 1: Water Levels: Tidal Undefended

Node Ref	NGR		Modelled Flood Levels in Metres				
	Easting	Northing	Undefended Annual Exceedance Probability				
			5%	1.3%	0.5%	0.5% (2115)	0.1%
1	507218	101499	-	-	-	5.15	-
2	507209	101531	-	-	-	-	-
3	507170	101540	-	-	-	-	-
4	507184	101568	-	-	-	-	-

Table 2: Water Levels: Tidal Defended

Node Ref	NGR		Modelled Flood Levels in Metres							
	Easting	Northing	Defended Annual Exceedance Probability							
			20%	5.0%	1.3%	1.0%	0.5%	0.5% (2115)	0.1%	0.1% (2115)
1	507218	101499	5.69	5.74	5.77	5.77	5.78	5.82	5.80	5.80
2	507209	101531	5.69	5.74	5.77	5.77	5.78	5.82	5.80	5.80
3	507170	101540	5.69	5.74	5.77	5.77	5.78	5.82	5.80	5.80
4	507184	101568	5.69	5.74	5.77	5.77	5.78	5.82	5.80	5.80

Table 3: Water Depths: Tidal Undefended

Node Ref	NGR		Modelled Flood Depths in Metres				
	Easting	Northing	Undefended Annual Exceedance Probability				
			5%	1.3%	0.5%	0.5% (2115)	0.1%
1	507218	101499	-	-	-	0.08	-
2	507209	101531	-	-	-	-	-
3	507170	101540	-	-	-	-	-
4	507184	101568	-	-	-	-	-

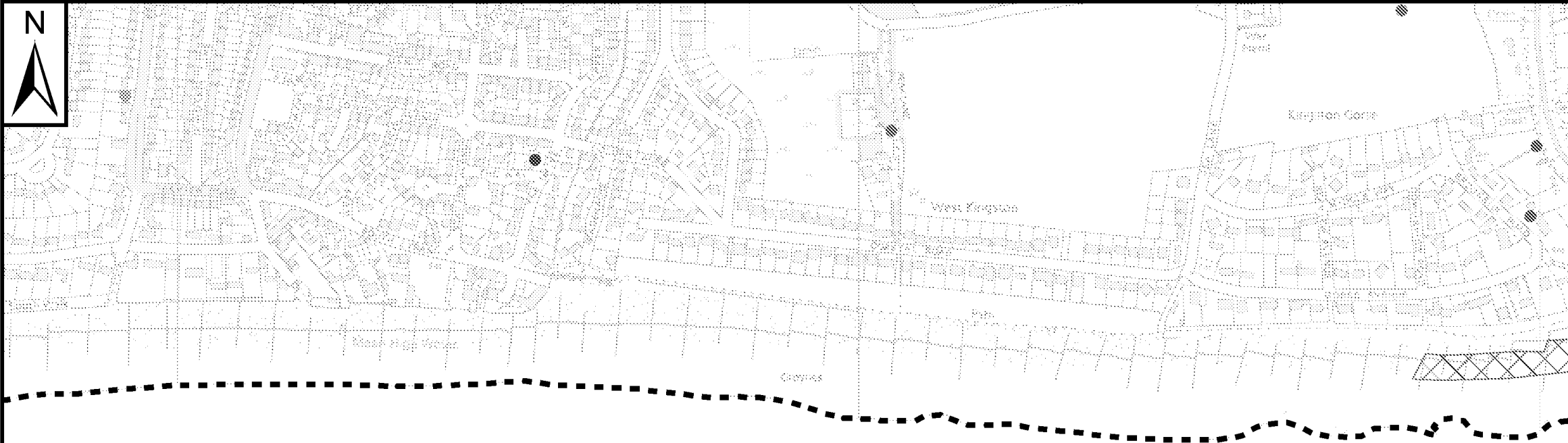
Table 4: Water Depths: Tidal Defended

Node Ref	NGR		Modelled Flood Depths in Metres							
	Eastings	Northings	Defended Annual Exceedance Probability							
			20%	5.0%	1.3%	1.0%	0.5%	0.5% (2115)	0.1%	0.1% (2115)
1	507218	101499	0.46	.052	0.54	0.55	0.56	0.59	0.57	0.57
2	507209	101531	0.45	0.51	0.53	0.54	0.55	0.58	0.56	0.56
3	507170	101540	0.32	0.37	0.40	0.40	0.41	0.44	0.43	0.43
4	507184	101568	0.25	0.31	0.33	0.33	0.34	0.38	0.36	0.36

All levels taken from: Arun to Adur Flood Model

Produced on: 29/01/2018

There is no additional information or health warnings for these levels/depths or the model from which they have been produced.



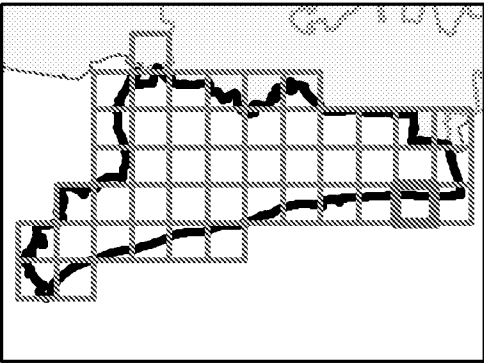
Notes

The Historic Flooding Map shows the recorded incidents and flood outlines provided by Arun District Council, West Sussex County Council, Southern Water and Environment Agency. Historical flood extent was obtained from the Environment Agency

Flooding incidents provided have been categorised based upon the details provided in the records. Unknown flood points could not be determined from the information provided, and therefore could be from a number of sources.

Please note that not all historical records may be shown on this map, and that it is therefore advised you contact Arun District Council for updated information post 2015.

Key Plan



Legend

-  Arun District SFRA boundary
-  Historic flood outline
- Source of flooding
-  Fluvial
-  Coastal
-  Tidal
-  Surface Water
-  Future
-  Unknown



REF	Date	Comments
A	June 2015	-
B		
C		

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ARUN DISTRICT COUNCIL
LEVEL 1 SFRA: APPENDIX H
HISTORIC FLOODING RECORDS

Sheet No: 15 of 48 Index Number: AGC_15

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**WEST SUSSEX COUNTY COUNCIL
FLOOD RISK MANAGEMENT**

DATE: 31st May 2018

FROM: Kevin Brook

TO: The Civil Engineering Practice

FAO: Nathan Shields

SUBJECT: LLFA Flood Risk info: 131A Sea Road, East Preston, West Sussex

Current surface water flood risk based on uFMfSW for 30year and 100year events:	Moderate risk
<p>Comments:</p> <p>Current uFMfSW mapping generally shows the site to be at moderate risk from surface water flooding. Higher risk is shown to be at the south of the site and to the west on the carriageway on Sea Road.</p> <p>This risk is based on modelled data only and should not be taken as meaning that the site will/will not definitely flood in these events.</p> <p>Any existing surface water flow paths across the site must be maintained.</p> <p>Reason: NPPF paragraph 103 states – ‘When determining planning applications, local planning authorities should ensure flood risk is not increased elsewhere..’</p>	

Current ground water flood risk based on ESI groundwater mapping:	Moderate risk
<p>Comments:</p> <p>The proposed development is shown to be at moderate risk from groundwater flooding based on the ESI maps.</p> <p>This risk is based on modelled data only and should not be taken as meaning that the site will/will not suffer groundwater flooding.</p> <p>Where the intention is to dispose of surface water via infiltration / soakaway, these should be shown to work through an appropriate assessment carried out under BRE Digest 365.</p>	

Records of any ordinary watercourses or culverted watercourses within or in close vicinity to the site:	Yes
<p>Comments:</p> <p>Current Ordnance Survey mapping shows a culverted ordinary watercourse running through the proposed development site.</p> <p>Local or field boundary ditches, not shown on Ordnance Survey mapping, may exist around and across the site. If present these should be maintained and highlighted on future development plans.</p>	

If works are undertaken within, under, over or up to an Ordinary Watercourse, even if this is temporary, an Ordinary Watercourse Consent (OWC) may need to be applied for from the District Council. Future maintenance and access of a watercourse must be considered during the design and planning process.

Records of any historic flooding within the confines of the proposed site:

No

Comments:

We do not have any records of historic flooding within the confines of the proposed site. This should not be taken that this site has never suffered from flooding, only that it has never been reported to the LLFA.

Kevin Brook
Flood Risk Management Team

From: Paul Cann <P [REDACTED]>
Sent: 16 May 2018 14:50
To: 'nathan@civil.co.uk'
Cc: Kevin Macknay; Laura Gibbons; Karl McLaughlin
Subject: RE: 23023 - 131A Sea Road, Preston - Flood Information
Attachments: pvqzq4vkvgmuorduau351tds_2.pdf

Hi Nathan

As you are no doubt aware, the site in question is low lying and is located within flood zone 2 and 3, based upon an undefended coastline.

The site is also shown to be in the surface water flood zone, as you would expect.

More detailed information is available by consulting our Strategic Flood Risk Assessment. See link below;

<https://www.arun.gov.uk/planning-policy-flood-risk>

Please note that a culverted watercourse runs around the site perimeter -- see enclosed plan. Its location will need to be verified by yourselves and early discussion is required in order that suitable easements/access can be agreed within any proposed development layout. Please note that your client may have some responsibility for its maintenance as a riparian landowner, depending on its location/land ownership.

I have no records of flooding from surface water or land drainage, however, your own investigations will need to verify if flooding has occurred in the past. I have copied in WSCC (the lead local flood authority) who may hold records.

Our coastal engineers will respond direct to you in respect to any historical sea overtopping, etc.

Any queries, please let me know.

Regards

Paul Cann
Senior Engineer (Drainage & Coastal)

From: [REDACTED]
Sent: 14 May 2018 14:50

To: Planning
Cc: reception@civil.co.uk; 'Mandy Wickenden'
Subject: 23023 - 131A Sea Road, Preston - Flood Information

Good afternoon,

We are currently working on a proposed residential development at the above site.

Can you please provide us with any flooding information (including historic flooding) you may hold?

I attach a location plan for your reference.

The site is at OS reference TQ 071 015 and the nearest post code is BN16 1PD.

Please do not hesitate to contact me if you require any additional information.

Many thanks

Nathan Shields

The Civil Engineering Practice
11 Tungsten Building
George Street
Fishersgate
West Sussex
BN41 1RA

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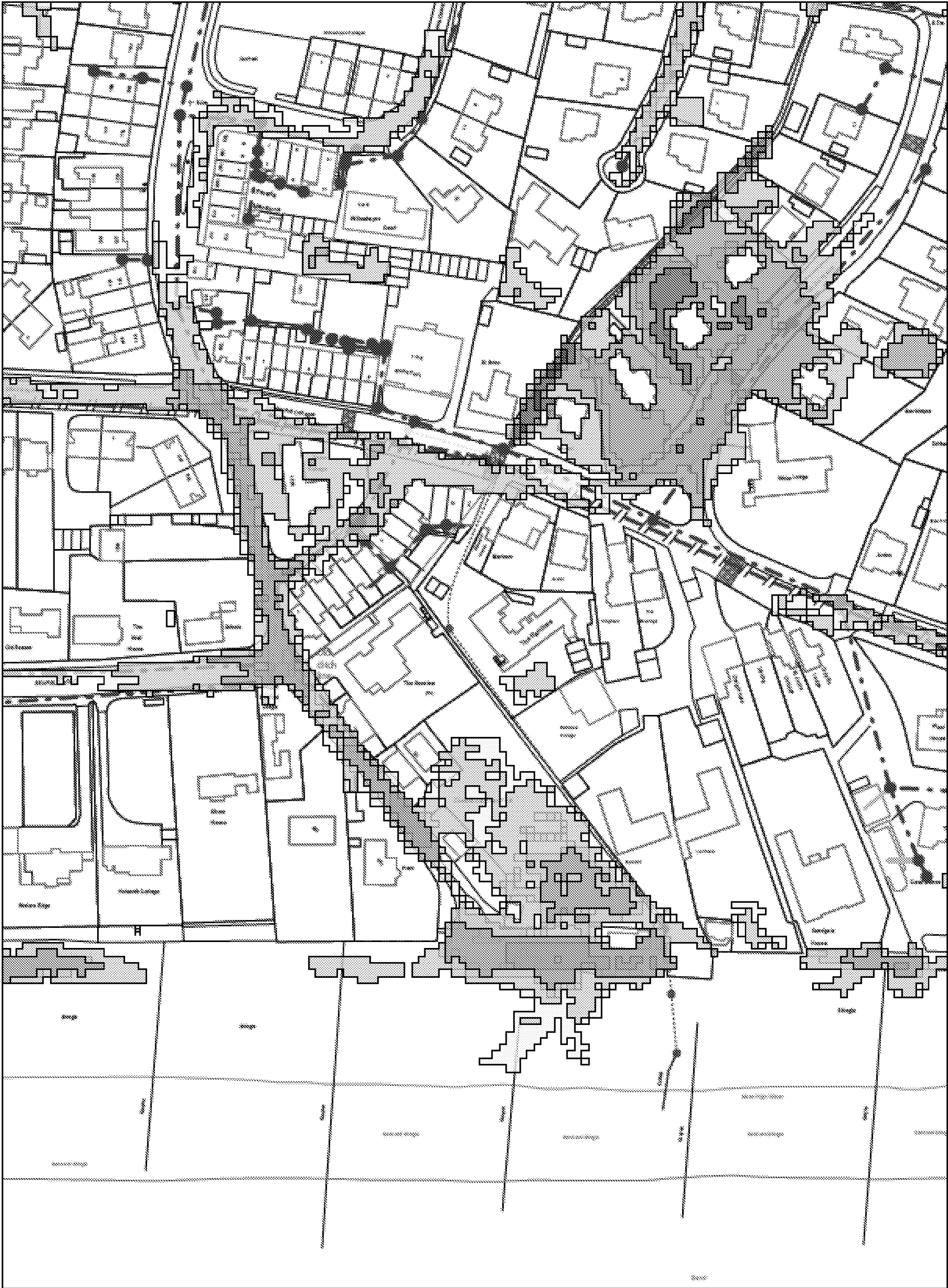
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DX 57406 Littlehampton

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Arun District Council Maps



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Production Date: 02 December 2015

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Appendix 6

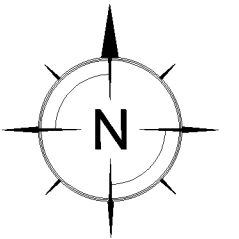
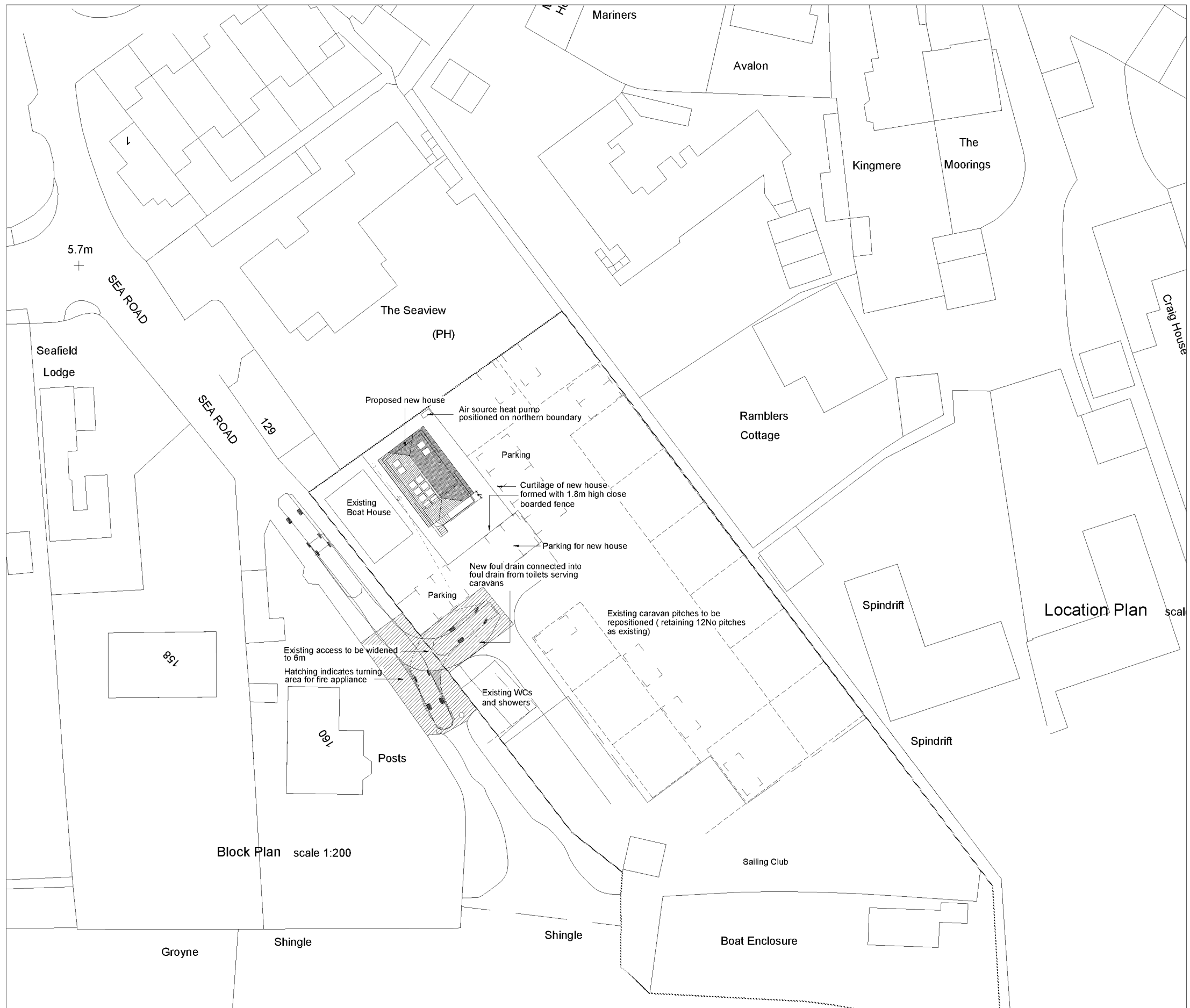
Existing Flow Path Plan



-5 0 5 10 15 20m
Scale 1:500

TITLE	Surface Water Flow Path	
SCALE	1:500@A3	DRG. No.
		3

Appendix 7
Proposed Site Layout Plan



Location Plan scale



TITLE	
Proposed Site Layout Plan	
SCALE	DRG. No.
1:500 @ A3	4