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26 Beacon Square Emsworth

Flood Risk Assessment

Document Control Sheet

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1 Introduction

- 1.1** Reuby & Stagg have been appointed by HGP Architects to undertake a flood risk assessment (FRA) in support of the redevelopment of a residential property at 63 Beacon Square, Emsworth.
- 1.2** It is proposed to demolish the existing 2 storey, 5 bedroom property with out buildings, and construct a new contemporary residential dwelling, a copy of the planning proposals can be found in Appendix A.
- 1.3** The property is located at 26 Beacon Square, Emsworth, Post Code PO10 7HU, OS Grid Ref 47454, 10538, and it backs onto Emsworth Harbour and is within Havant Borough Council's boundary, the location is outlined in red on **Figure 1-1** below.
- 1.4** This document has been prepared in accordance with the National Planning Policy Framework (NPPF) and the supporting guidance provided on the GOV.UK website pages, the Havant Borough Council Strategic Flood Risk Assessment (SFRA) dated November 2018, and the Partnership for South Hampshire (PfSH) Level 1 SFRA 2024.



Figure 1-1: Site Location Plan

2 Existing Site Topography & Drainage

- 2.1** As described previously, the existing site is occupied by a single, 5 bedroom, residential property, with outbuildings and a rear garden that extends down to Emsworth Harbour, the property is accessed from Beacon Square.
 - 2.2** A detailed topographical survey has been undertaken and this can be found in Appendix B, the survey shows the existing house with a finished floor level of 4.13m aod, the driveway at the front with levels circa 3.90m aod, and the rear garden which falls towards the shoreline from 3.80m aod to 3.30m aod, the site is bounded by a laneway to the west and residential property to the north and east, Emsworth Harbour is to the south.
 - 2.3** Although below ground drainage is not shown on the topographical survey, surface features such as gullies and inspections chambers, there are also two road gullies shown at the southern end of Beacon Square.
 - 2.4** It is known that there is an existing Southern Water foul sewer crossing the site, which runs under the existing conservatory, this sewer has been surveyed and is shown on the Southern Water records, a copy of the records and survey can be found in Appendix C.
 - 2.5** Southern Water have been consulted regarding building in close proximity to the sewer (<1.5m), and they have given their agreement in principle to this providing that no foundation load from any new buildings are transferred onto the existing sewer and that the sewer can be accessible.
 - 2.6** Currently it is not known how surface water is disposed from the existing premises however the Southern Water sewer records show a surface outfall to Emsworth Harbour, it is assumed that the property is connected to this sewer.
-

3 Flood Risk

- 3.1** The NPPF states that ‘Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk’, the NPPF goes on to state that ‘a site-specific flood risk assessment must demonstrate that the development will be safe for its lifetime taking account the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall’.
- 3.2** The NPPF Technical Guidance classifies degrees for flood risk into zones, these being:

Flood Zone Classifications

Flood Zone 1 – Low Probability

Definition

This zone comprises land assessed as having a less than 1 in 1,000 annual probability of river or sea flooding (<0.1%).

Appropriate uses

All uses of land are appropriate in this zone.

Flood risk assessment requirements

For development proposals on sites comprising one hectare or above the vulnerability to flooding from other sources as well as from river and sea flooding, and the potential to increase flood risk elsewhere through the addition of hard surfaces and the effect of the new development on surface run-off, should be incorporated in a flood risk assessment. This need only be brief unless the factors above or other local considerations require particular attention.

Policy aims

In this zone, developers and local authorities should seek opportunities to reduce the overall level of flood risk in the area and beyond through the layout and form of the development, and the appropriate application of sustainable drainage systems¹.

Flood Zone 2 - Medium Probability

Definition

This zone comprises land assessed as having a less than 1 in 100 and 1 in 1,000 annual probability of river flooding (1% - 0.1%), or between a 1 in 200 and 1 in 1,000 annual probability of sea flooding (0.5% - 0.1%) in any year.

Appropriate uses

Essential infrastructure and the water-compatible, less vulnerable and more vulnerable uses, as set out in table 2, are appropriate in this zone. The highly vulnerable uses are only appropriate in this zone if the Exception Test is passed.

Flood risk assessment requirements

All development proposals in this zone should be accompanied by a flood risk assessment.

Policy aims

In this zone, developers and local authorities should seek opportunities to reduce the overall level of flood risk in the area through the layout and form of the development, and the appropriate application of sustainable drainage systems¹.

Flood Zone 3 - High Probability

Definition

This zone comprises land assessed as having a less than 1 in 100 or greater annual probability of river flooding (>1%), or a 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year.

Appropriate uses

The water-compatible and less vulnerable uses of land (table 2) are appropriate in this zone. The highly vulnerable uses should not be permitted in this zone.

The more vulnerable uses and essential infrastructure should only be permitted in this zone if the Exception Test is passed. Essential infrastructure permitted in this zone should be designed and constructed to remain operational and safe for users in times of flood.

Flood risk assessment requirements

All development proposals in this zone should be accompanied by a flood risk assessment.

Policy aims

In this zone, developers and local authorities should seek opportunities to:

- reduce the overall level of flood risk in the area through the layout and form of the development and the appropriate application of sustainable drainage systems¹;
- relocate existing development to land in zones with a lower probability of flooding; and
- create space for flooding to occur by restoring functional floodplain and flood flow pathways and by identifying, allocating and safeguarding open space for flood storage.

¹Sustainable drainage systems cover the whole range of sustainable approaches to surface drainage management. They are designed to control surface water runoff close to where it falls and mimic natural drainage as closely as possible.

Table 3-1: Flood Zone Classifications

Tidal Flood Risk

- 3.3** In order to position the site accurately within the NPPF flood risk classification the latest modelled tidal flood levels have been obtained from the Environment Agency (EA), together with their advice regarding existing flood risk to the site, this correspondence can be found in Appendix D, an extract of the Environment Agency flood mapping has been provided below, this shows the site as being a risk from a 1 in 200 year tidal event extreme flooding (0.5% annual probability) and therefore within Flood Zone 3.

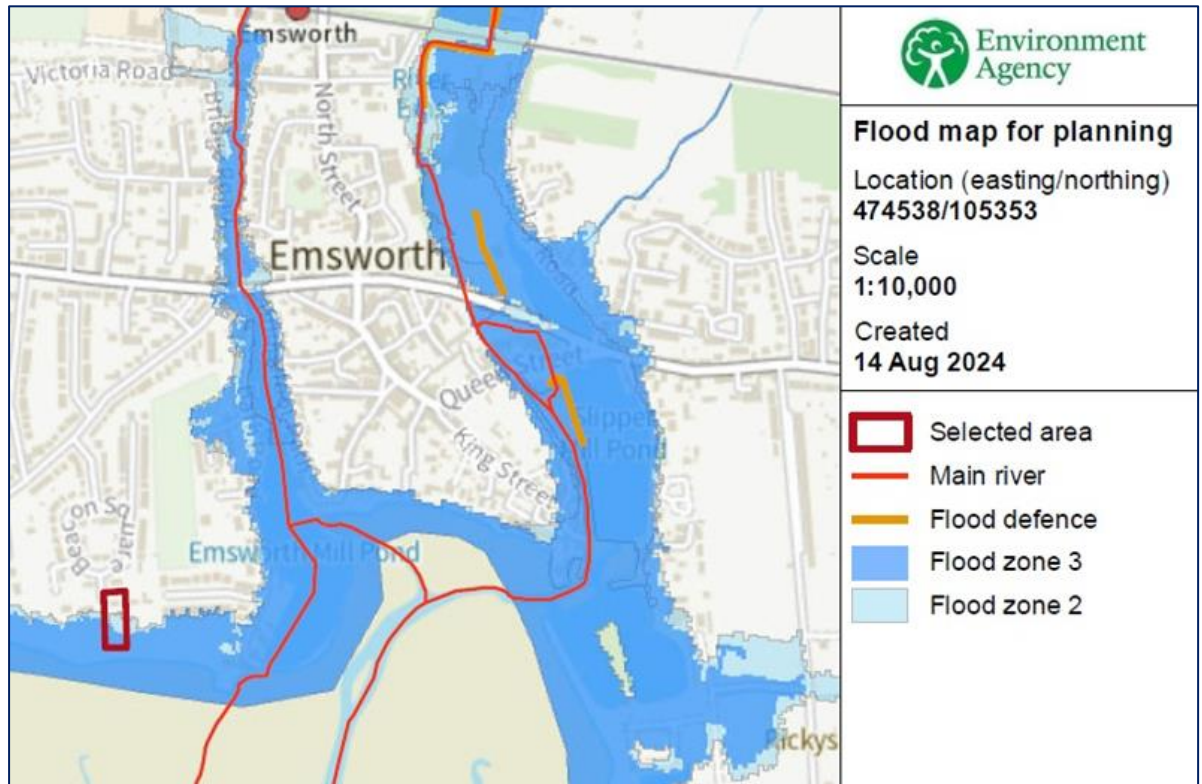


Figure 3-1: EA Flood Map for Planning

- 3.4** The predicted tidal flood levels for the 1 in 200yr, 1 in 200yr plus climate change (2121 tidal flood levels) and 1 in 1000yr (extreme event), have been provided on tables 1 and 2 below, it is known that sea defences exist along the shoreline and a 'concrete sea wall' is noted on the topographical survey, the top of the defence appears to at circa 3.60m aod which would defend the site against the 1 in 200 year tidal flood level, however it should be noted that the EA information found in Appendix D reports the defence to be 'engineered high ground' with a defended level of 2.90m AOD.
- 3.5** From the topographical survey it can also be seen that the existing ground levels at the northern end of the site, where the new dwelling will be located are circa 3.60m, which is higher than both the 1 in 200 year and 1 in 1000 year, this means that the new dwelling will be positioned in flood zone 1, not flood zone 3, and is an appropriate usage according to the NPPF framework.

Table 1: Water Levels: Tidal Undefended

Node Ref	NGR		Modelled Flood Levels in Metres AOD		
			Undefended Annual Exceedance Probability		
	Eastings	Northings	0.5%	0.5% (2121)	0.1%
1	474523	105392	-	4.74	-
2	474550	105393	-	4.74	-
3	474525	105348	-	4.74	3.52
4	474554	105349	-	4.74	-
5	474527	105310	3.35	4.74	3.52
6	474557	105312	3.35	4.74	3.52
7	474539	105348	-	4.74	-

Table 2: Water Levels: Tidal Defended

Node Ref	NGR		Modelled Flood Levels in Metres AOD		
			Defended Annual Exceedance Probability		
	Eastings	Northings	0.5%	0.5% (2121)	0.1%
1	474523	105392	-	4.73	-
2	474550	105393	-	4.73	-
3	474525	105348	-	4.73	3.48
4	474554	105349	-	4.73	-
5	474527	105310	-	4.73	-
6	474557	105312	-	4.73	-
7	474539	105348	-	4.73	-

Figure 3-2: EA Flood Information

Flooding from Rivers (Fluvial)

- 3.6** The nearest source of fluvial flood to the site is the River Ems, however it will be under tidal influence at its estuary and therefore the tidal flood levels quoted above will take present, it can therefore be said that fluvial flooding will have no impact on the site.

Flooding from Surface Water (Pluvial)

- 3.7** The topographical survey shows that the site is relatively high compared to the surrounding ground, and that the levels fall towards the shoreline, it is evident that there is no risk of ponding on the site and that the site is not at risk of pluvial flooding.

Flooding from Ground Water

- 3.8** Due to its close proximity to the sea the site is not considered as being at risk of ground water flooding.

Flooding History

- 3.9** The EA data found in appendix D contains local recorded flood history, there were several events recorded in the area however none of them affected the site.

Summary of Flood Risk

- 3.10** The flood risk mapping obtained from the EA shows the southern area of the site as being at risk of tidal flooding, however the northern area is higher than the current 1 in 200 year tidal flood level, the site is classified as being within flood zone 1 and is suitable for residential development accordance with the NPPF and the PsSH SFRA.
- 3.11** As quoted previously, the NPPF calls for new development to not increase flood risk elsewhere and, where possible, reduce flood risk overall, this residual risk relates to the potential for increased surface water runoff and is also considered in the remainder of this report.

4 Drainage Strategy

- 4.1** As stated in section 1, the site is occupied by a single dwelling with evidence of its existing drainage shown on the topographical survey, the exact method surface water disposal from the site is unknown however there is an existing surface water sewer shown on the Southern Water sewer maps (app C) which flows down to Emsworth Harbour., it is assumed the existing property is drained to this sewer.
 - 4.2** It therefore follows that the new dwelling will utilise the existing drains and continue to discharge surface water runoff into Emsworth Harbour, it should be noted that the new dwelling will increase the impermeable area and therefore surface water runoff will also be increased, however Emsworth Harbour is tidal therefore any increase in surface water discharge to it will not increase flood risk, either on the site, or elsewhere.
 - 4.3** It is also known that there is a foul sewer crossing the site and, again, it is assumed the existing dwelling is connected to it, therefore the dwelling will reissue the existing foul connections so that it is adequately drained.
 - 4.4** All new drainage to be installed as part of the new dwelling is to be designed and built in accordance with Building Regulations Approved Document Part H.
-

5 Summary and Conclusion

- 5.1** This Flood Risk Assessment has been prepared in support of the redevelopment of a residential dwelling overlooking Emswoth Harbour, it is proposed to demolish the existing structure and construct a new contemporary dwelling.
- 5.2** Flood risk data has been obtained from the Environment Agency which has identified the southern area of the site as being at risk of tidal flood from Emsworth Harbour, however the northern part of the site, where the new dwelling is to be sited, is not at risk, 1 in 200 and 1 in 1000 year tidal flood levels have been obtained which demonstrates that the existing ground is circa 250mm higher than the 1 in 200 year flood level, and 80mm higher than the 1 in 1000 year flood level, this therefore positions the area for development within Flood Zone 1 and is suitable for residential development according to the NPPF.
- 5.3** It should be noted that the finished floor level of the new building will be 4.45m aod, which is some 1.10m higher than the predicted 1 in 200 year flood level.
- 5.4** The drainage strategy for the development is to reuse the existing foul and surface water connections, the new development will result in an increase in impermeable area and subsequent surface water runoff, however since Emswoth Harbour is tidal this will not increase in an increase in flood risk, either on the site, or elsewhere.
- 5.5** It is demonstrated that the 26 Beacon Square is not at risk of tidal flooding for the 1 in 1000 year event and is therefore positioned in Flood Zone, it will not increase flood elsewhere, and therefore meets the requirements of the NPPF and the PfSH SFRA.

| Appendix A - Planning Proposals



For comment

26 Beacon Square

Ground Floor Layout

PROJECT	JOB NO
26 Beacon Square, Emsworth	23.136
SCALE	DATE
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DRAWN BY/CHECKED BY	REVISION
JH / VC	
DWG#	
23.136-HGP-A-SK005	

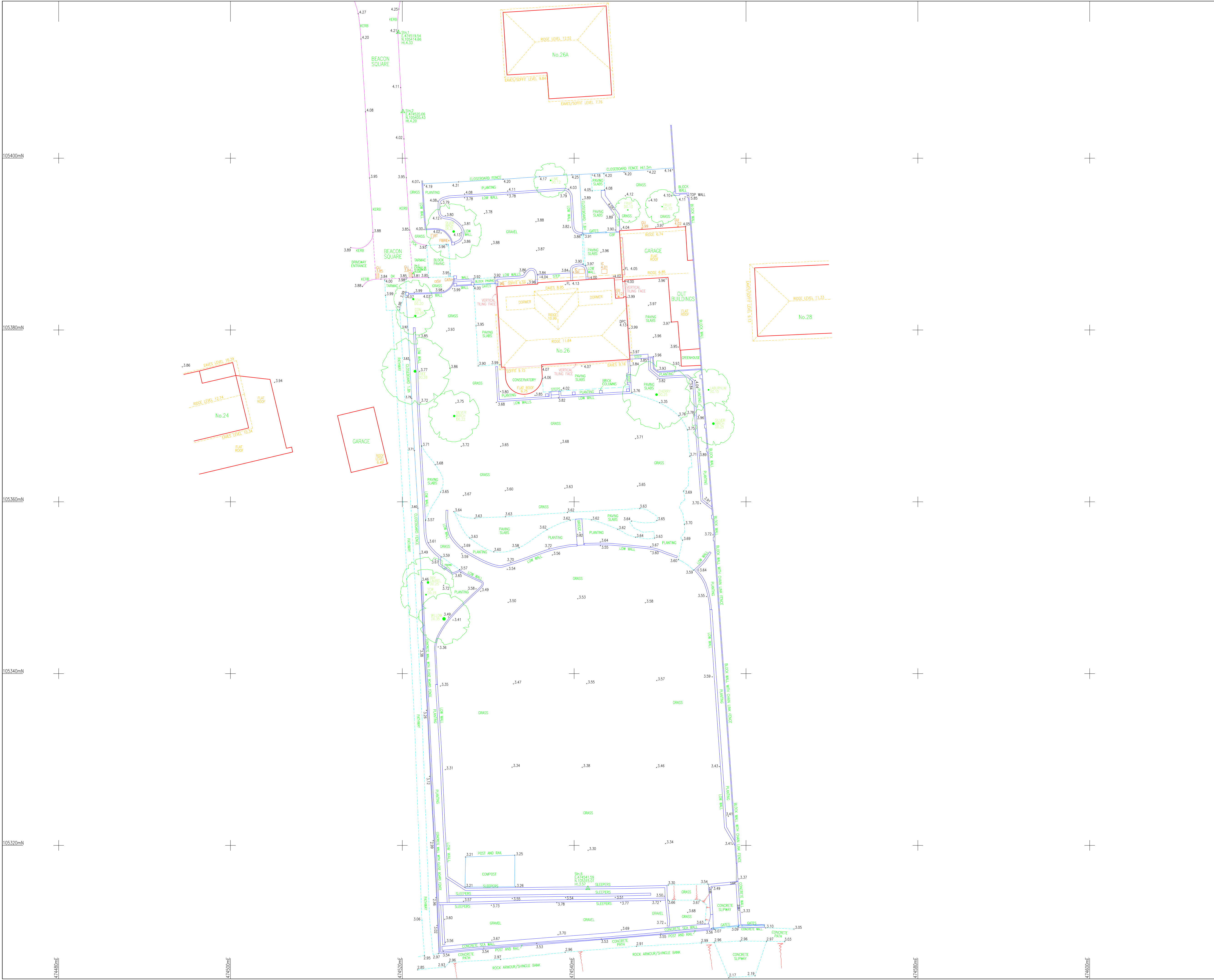
Rev	Description	Date	DB	CB
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email@hgp-architects.co.uk
hgp-architects.co.uk

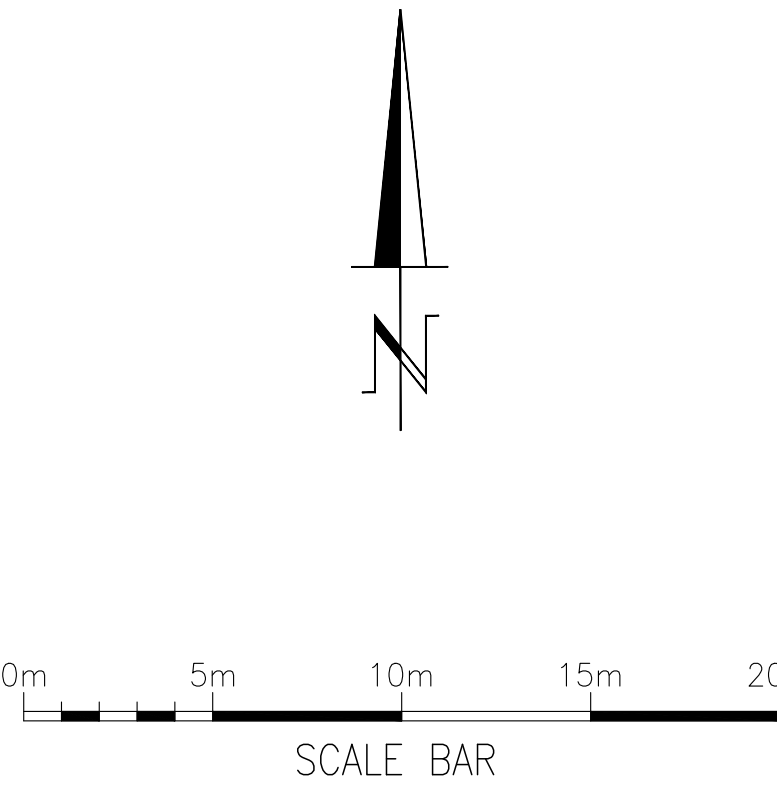
hgp

| Appendix B – Topographical Survey



LEGEND	
GENERAL	
B BOLLARD	CONC CONCRETE
BS BUS STOP	CONC CONCRETE PAVING SLABS
CH CHERRY	CP CEMENT
CK DROP KERB	CP CEMENT
FL FLOWER BED	CP CEMENT
GP GATE POST	CP CEMENT
LB LETTER BOX	CP CEMENT
PCE PRE-CAST CONCRETE	CP CEMENT
PCE PRE-CAST CONCRETE EDGING	CP CEMENT
PM PARKING METER	CP CEMENT
RS ROAD SIGN	CP CEMENT
SWCP SURFACE WATER CATCHPIT	CP CEMENT
TB TELEPHONE CALL BOX	CP CEMENT
TH TRAIL HOLE	CP CEMENT
TL TRAFFIC LIGHT	CP CEMENT
VT VENT PIPE	CP CEMENT
WL WATER LEVEL	CP CEMENT
WT WATER TROUGH	CP CEMENT
TREES	
ACR ACER	ALD ALDER
BCH BEECH	BCH BEECH
CHD CHERRY	CHD CHERRY
CON CONIFER	CON CONIFER
EUC EUCALYPTUS	EUC EUCALYPTUS
FMFL FIELD MAPLE	FMFL FIELD MAPLE
FRU FRUIT	FRU FRUIT
HAW HAWTHORN	HAW HAWTHORN
HCH HORSE CHESTNUT	HCH HORSE CHESTNUT
HOLY HOLY	HOLY HOLY
HOAK HOLM OAK	HOAK HOLM OAK
LAR LARCH	LAR LARCH
LOC LOCUST	LOC LOCUST
LAU LAUREL	LAU LAUREL
MM MYRTLE	MM MYRTLE
MP MIMOSA	MP MIMOSA </td
PNE PINE	PNE PINE
POP POPLAR	POP POPLAR
RWN ROWAN	RWN ROWAN
SCH SWEET CHESTNUT	SCH SWEET CHESTNUT
SIB SILVER BIRCH	SIB SILVER BIRCH
STR STRAWBERRY	STR STRAWBERRY
SYC SYCAMORE	SYC SYCAMORE
WILW WILLOW	WILW WILLOW
UNK UNKNOWN	UNK UNKNOWN
SURVEY	
AOB ABOVE ORDNANCE DATUM	AOB ABOVE ORDNANCE DATUM
OSBM O.S. BENCHMARK	OSBM O.S. BENCHMARK
TM TEMPORARY BENCHMARK	TM TEMPORARY BENCHMARK
STN SURVEY STATION	STN SURVEY STATION
SERVICES	
AV AIR VALVE	AV AIR VALVE
BTB BRITISH TELECOM COVER	BTB BRITISH TELECOM COVER
CBT CABLE TELEVISION COVER	CBT CABLE TELEVISION COVER
ECP ELECTRICITY CABLE PIT	ECP ELECTRICITY CABLE PIT
ENC EARTH ROD COVER	ENC EARTH ROD COVER
FI FIRE HYDRANT	FI FIRE HYDRANT
GV GAS VALVE	GV GAS VALVE
IC INSPECTION COVER	IC INSPECTION COVER
LH LAMP HOLE	LH LAMP HOLE
MANH MANHOLE	MANH MANHOLE
MARK MARKER POST	MARK MARKER POST
RE RODDING EYE	RE RODDING EYE
SV STOP VALVE/COCK	SV STOP VALVE/COCK
WATER TAP/STANDPIPE	WATER TAP/STANDPIPE
TELEGRAPH POLE	TELEGRAPH POLE
WM WATER METER	WM WATER METER
WMSV WATER METER/STOP VALVE	WMSV WATER METER/STOP VALVE
WO WASH OUT	WO WASH OUT
BUILDINGS	
C CELL HEIGHT	C CELL HEIGHT
CL CEILING LEVEL	CL CEILING LEVEL
DPC DAMP PROOF COURSE	DPC DAMP PROOF COURSE
EL EAVES LEVEL	EL EAVES LEVEL
FL FLOOR LEVEL	FL FLOOR LEVEL
RI RIDGE LEVEL	RI RIDGE LEVEL
RWP RAINWATER DOWNPIPE	RWP RAINWATER DOWNPIPE
STP SOIL STACK PIPE	STP SOIL STACK PIPE
FENCES & BOUNDARY	
BWF BARBED WIRE FENCE	BWF BARBED WIRE FENCE
CBF CLOSE BONDED FENCE	CBF CLOSE BONDED FENCE
CIF CORRUGATED IRON FENCE	CIF CORRUGATED IRON FENCE
CLF CHAIN LINK FENCE	CLF CHAIN LINK FENCE
CPF CHESTNUT PALING FENCE	CPF CHESTNUT PALING FENCE
CWF CHICKEN WIRE FENCE	CWF CHICKEN WIRE FENCE
GP GATE POST	GP GATE POST
IRF IRON RAILING FENCE	IRF IRON RAILING FENCE
PMF POST & MESH FENCE	PMF POST & MESH FENCE
PRF POST & RAIL FENCE	PRF POST & RAIL FENCE
PWF POST & WIRE FENCE	PWF POST & WIRE FENCE
TRF TRELLIS FENCE	TRF TRELLIS FENCE
WMF WIRE MESH FENCE	WMF WIRE MESH FENCE
WPF WOODEN PANEL FENCE	WPF WOODEN PANEL FENCE
SYMBOLS	
GATE	GATE
STILE	STILE
TELEPHONE CABLE	TELEPHONE CABLE
ELECTRICITY CABLE	ELECTRICITY CABLE

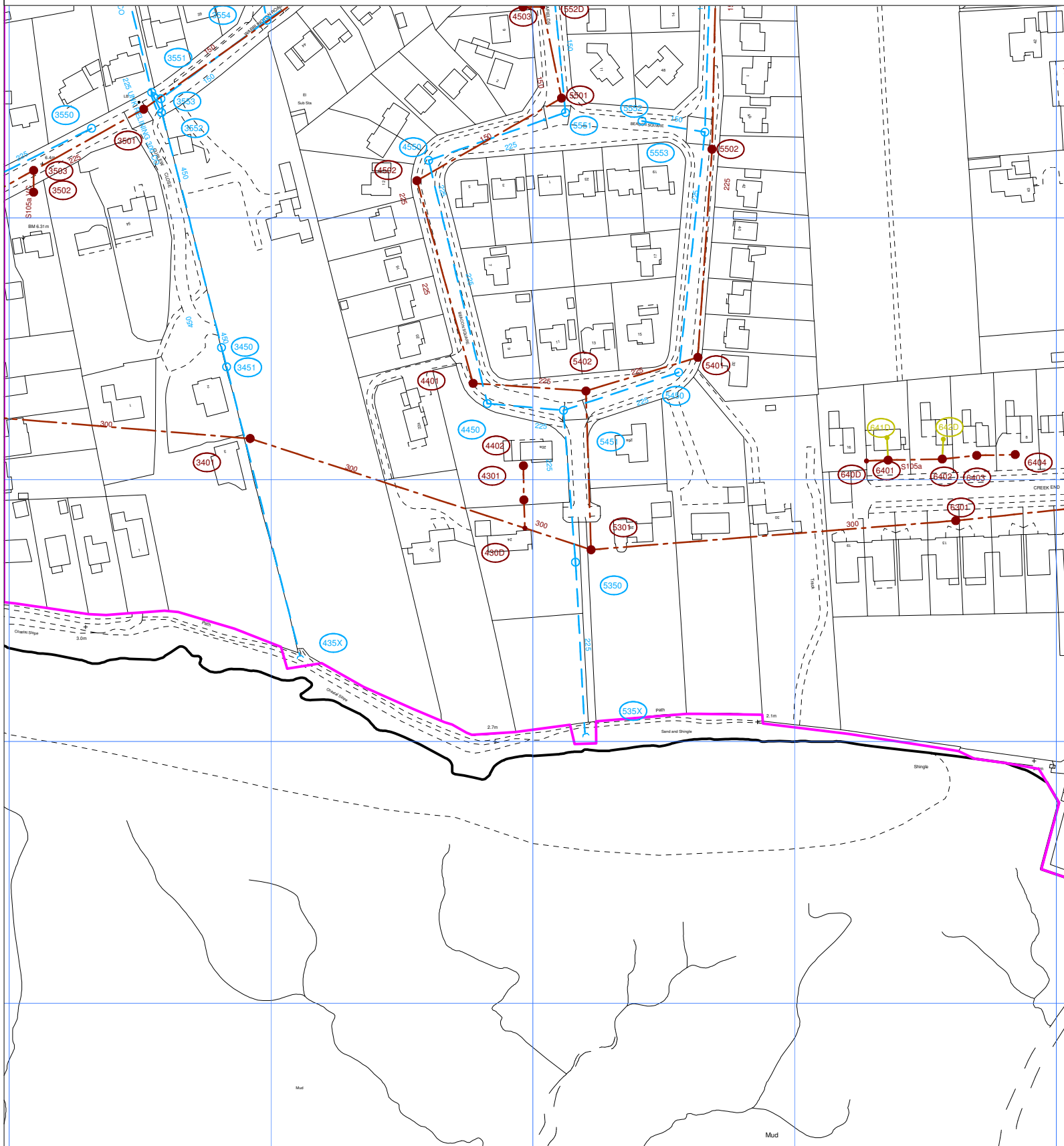
- Notes:
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 - This drawing is confidential to the Client and his professional advisers and under no circumstances may it be passed on or reproduced in whole or in part without the express permission of Dorset Land Surveying.
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Project	26 Beacon Square Emsworth Hampshire
Client	Graham & Tracy Eyles
Drawing Title	Topographical Survey
Copyright	Copyright 2023 ©
Dorset Land Surveying 'Rosemary Cottage' 419 Wimborne Road East Ferndown, Dorset BH22 9LZ	
Land Surveys Setting Out Engineers Civil Engineering Design Measured Building Surveys Elevations and Street Scenes Expert Witness Reports Railway Surveys GPS Surveys Monitoring	
T. (01202) 896481 F. (01202) 896343 office@dorsetland.co.uk	
scale	1:200
paper size	A1
drawn by	MAH
date	18th December 2023
checked	TB
grid	OS Via OSGB36
datum	OSBM Via OSGM15 GPS
drawing number	8135-1
revision	

| Appendix C – Sewer Records & Survey Plan

SOUTHERN WATER



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.

Based upon Ordnance Survey Digital Data with the permission of the controller of H.M.S.O. Crown Copyright Reserved Licence No. WU 298530

O.S. REF: SU7405SE

Scale: 1:1931

Screen Print

WARNING: BAC pipes are constructed of Bonded Asbestos Cement

WARNING: Unknown (UNK) materials may include Bonded Asbestos Cement



Printed By: kishoku

Date: 21-9-2018

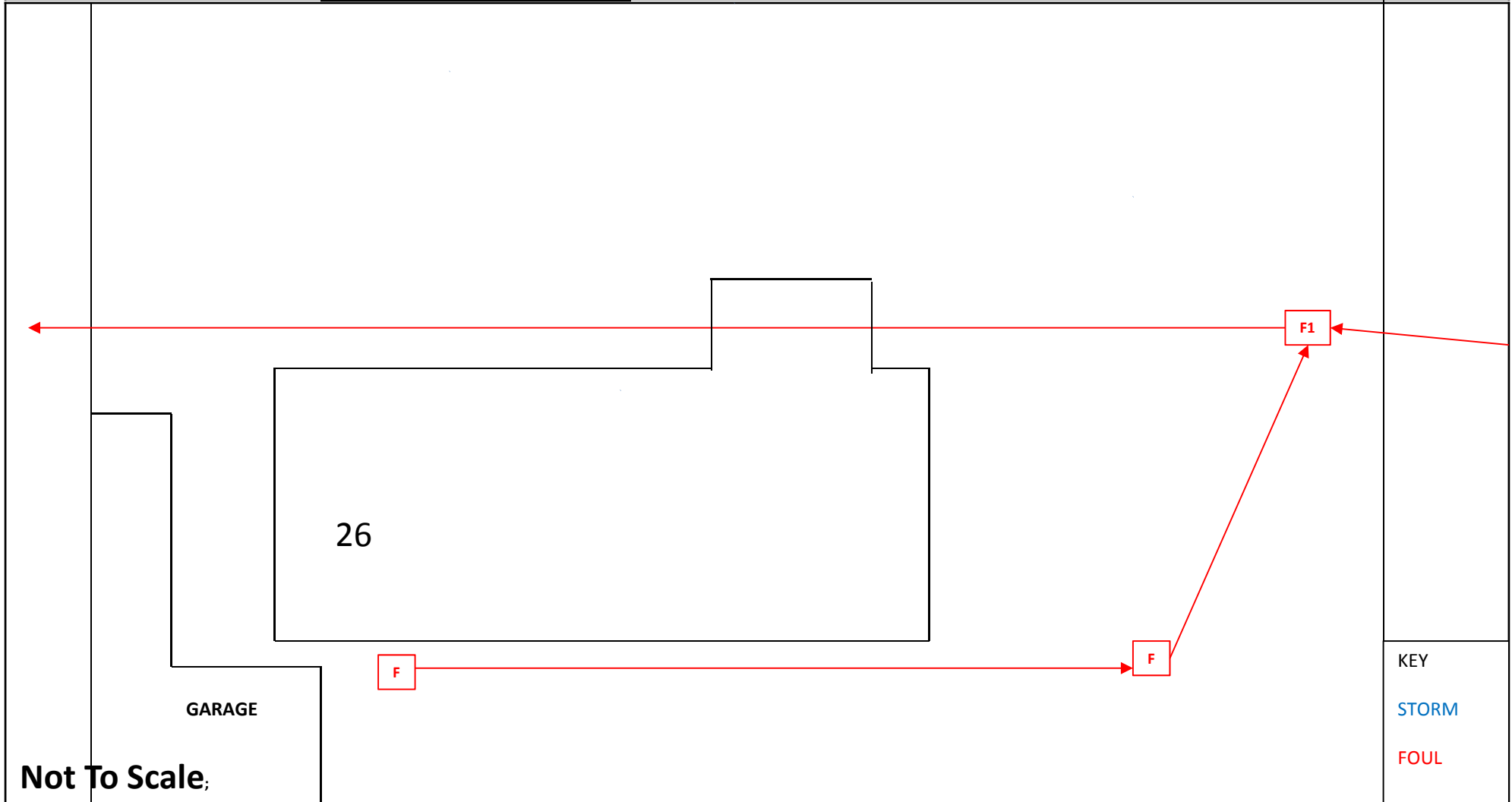
Southern Water MapGuide Browser

Requested By:

N

7

26 BEACON SQUARE



| Appendix D – Flood Data

Flood risk assessment data

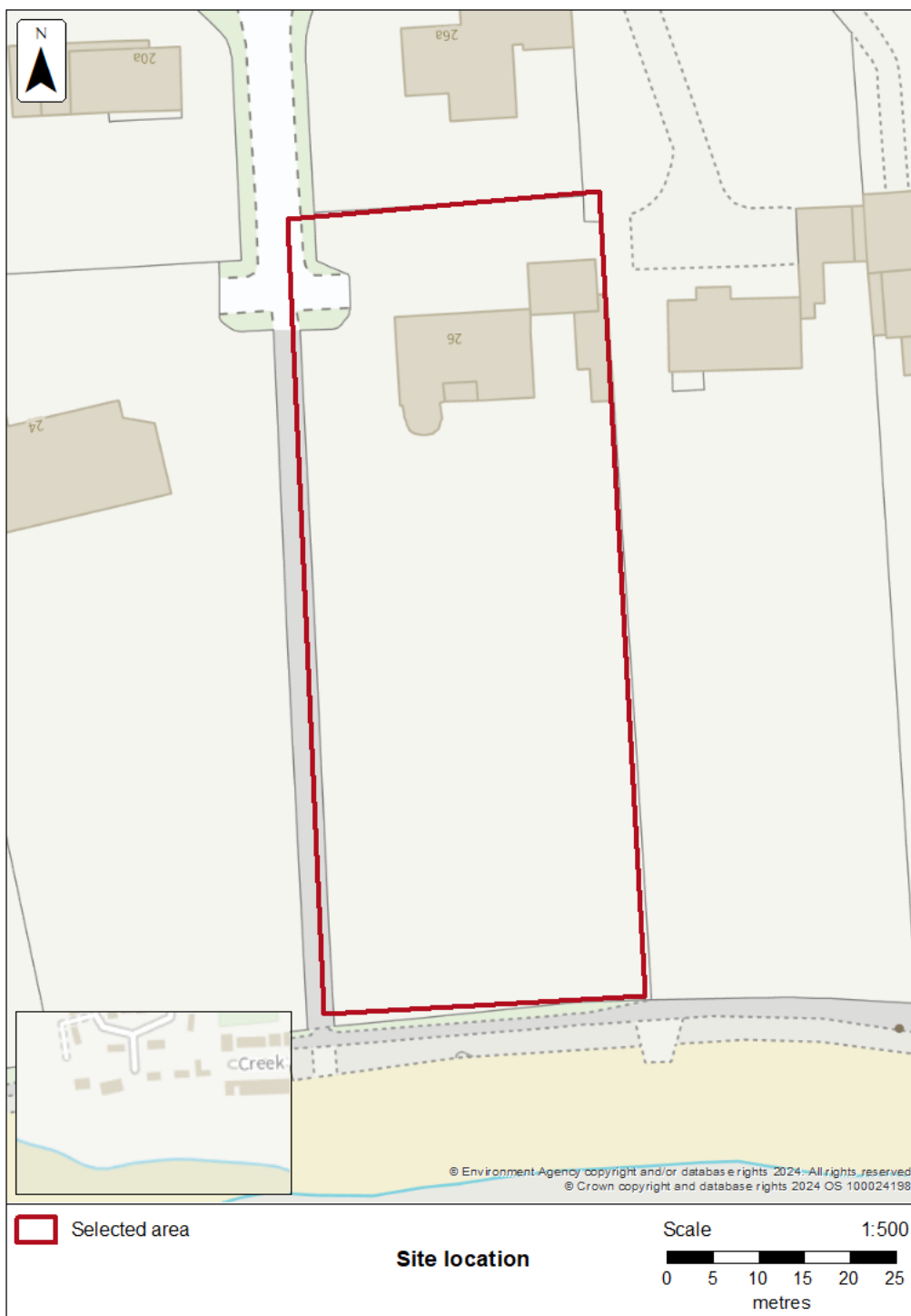
Location of site: 26 Beacon Square, Emsworth, PO10 7HU

Document created on: 14 August 2024

This information was previously known as a product 4.

Customer reference number: SSD371528

Map showing the location that flood risk assessment data has been requested for.



How to use this information

You can use this information as part of a flood risk assessment for a planning application. To do this, you should include it in the appendix of your flood risk assessment.

We recommend that you work with a flood risk consultant to get your flood risk assessment.

Included in this document

In this document you'll find:

- how to find information about surface water and other sources of flooding
- information on the models used
- definitions for the terminology used throughout
- flood map for planning (rivers and the sea)
- historic flooding
- flood defences and attributes
- information to help you assess if there is a reduced flood risk from rivers and the sea because of defences
- modelled data
- climate change modelled data
- information about strategic flood risk assessments
- information about this data
- information about flood risk activity permits
- help and advice

Surface water and other sources of flooding

Use the [long term flood risk service](#) to find out about the risk of flooding from:

- surface water
- ordinary watercourses
- reservoirs

Or you can contact your Lead Local Flood Authority for further information.

Your Lead Local Flood Authority is West Sussex County Council.

For information about sewer flooding, contact the relevant water company for the area.

About the models used

Model name: Chichester District Council SFRA Coastal Modelling

Scenario(s): Defended tidal, undefended tidal

Date: 2022

These models contain the most relevant data for your area of interest.

Terminology used

Annual exceedance probability (AEP)

This refers to the probability of a flood event occurring in any year. The probability is expressed as a percentage. For example, a large flood which is calculated to have a 1% chance of occurring in any one year, is described as 1% AEP.

Metres above ordnance datum (mAOD)

All flood levels are given in metres above ordnance datum which is defined as the mean sea level at Newlyn, Cornwall.

Flood map for planning (rivers and the sea)

Your selected location is in flood zone 3.

Flood zone 3 shows the area at risk of flooding for an undefended flood event with a:

- 0.5% or greater probability of occurring in any year for flooding from the sea
- 1% or greater probability of occurring in any year for fluvial (river) flooding

Flood zone 2 shows the area at risk of flooding for an undefended flood event with:

- between a 0.1% and 0.5% probability of occurring in any year for flooding from the sea
- between a 0.1% and 1% probability of occurring in any year for fluvial (river) flooding

It's important to remember that the flood zones on this map:

- refer to the land at risk of flooding and do not refer to individual properties
- refer to the probability of river and sea flooding, ignoring the presence of defences
- do not take into account potential impacts of climate change

The flood zones are not currently being updated. The last update was in November 2023. Some of the flood zones may have changed, however all source data is included in the models below.



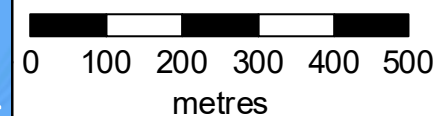
Flood map for planning

Location (easting/northing)
474538/105353

Scale
1:10,000

Created
14 Aug 2024

-  Selected area
-  Main river
-  Flood defence
-  Flood zone 3
-  Flood zone 2



Historic flooding

This map is an indicative outline of areas that have previously flooded. Remember that:

- our records are incomplete, so the information here is based on the best available data
- it is possible not all properties within this area will have flooded
- other flooding may have occurred that we do not have records for
- flooding can come from a range of different sources - we can only supply flood risk data relating to flooding from rivers or the sea

You can also contact your Lead Local Flood Authority or Internal Drainage Board to see if they have other relevant local flood information. Please note that some areas do not have an Internal Drainage Board.

Your Lead Local Flood Authority is West Sussex County Council.

[Download recorded flood outlines in GIS format](#)



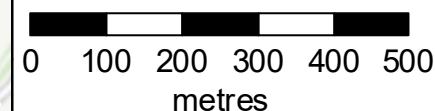
Historic flood map

Location (easting/northing)
474538/105353

Scale
1:10,000

Created
14 Aug 2024

-  Selected area
-  Main river
- Date of flood event
 -  November, 2010
 -  March, 2008
 -  November, 2000
 -  December, 1989
 -  October, 1976



Historic flood event data

Start date	End date	Source of flood	Cause of flood	Affects location
9 November 2010	9 November 2010	main river	other	No
10 March 2008	10 March 2008	sea	other	No
1 November 2000	1 November 2000	ordinary watercourse	groundwater/high water table	No
14 December 1989	14 December 1989	ordinary watercourse	unknown	No
14 October 1976	14 October 1976	unknown	unknown	No

Flood defences and attributes

The flood defences map shows the location of the flood defences present.

The flood defences data table shows the type of defences, their condition and the standard of protection. It shows the height above sea level of the top of the flood defence (crest level). The height is in mAOD which is the metres above the mean sea level at Newlyn, Cornwall.

It's important to remember that flood defence data may not be updated on a regular basis. The information here is based on the best available data.

Use this information:

- to help you assess if there is a reduced flood risk for this location because of defences
- with any information in the modelled data section to find out the impact of defences on flood risk



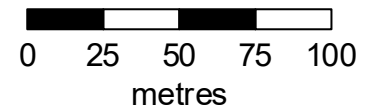
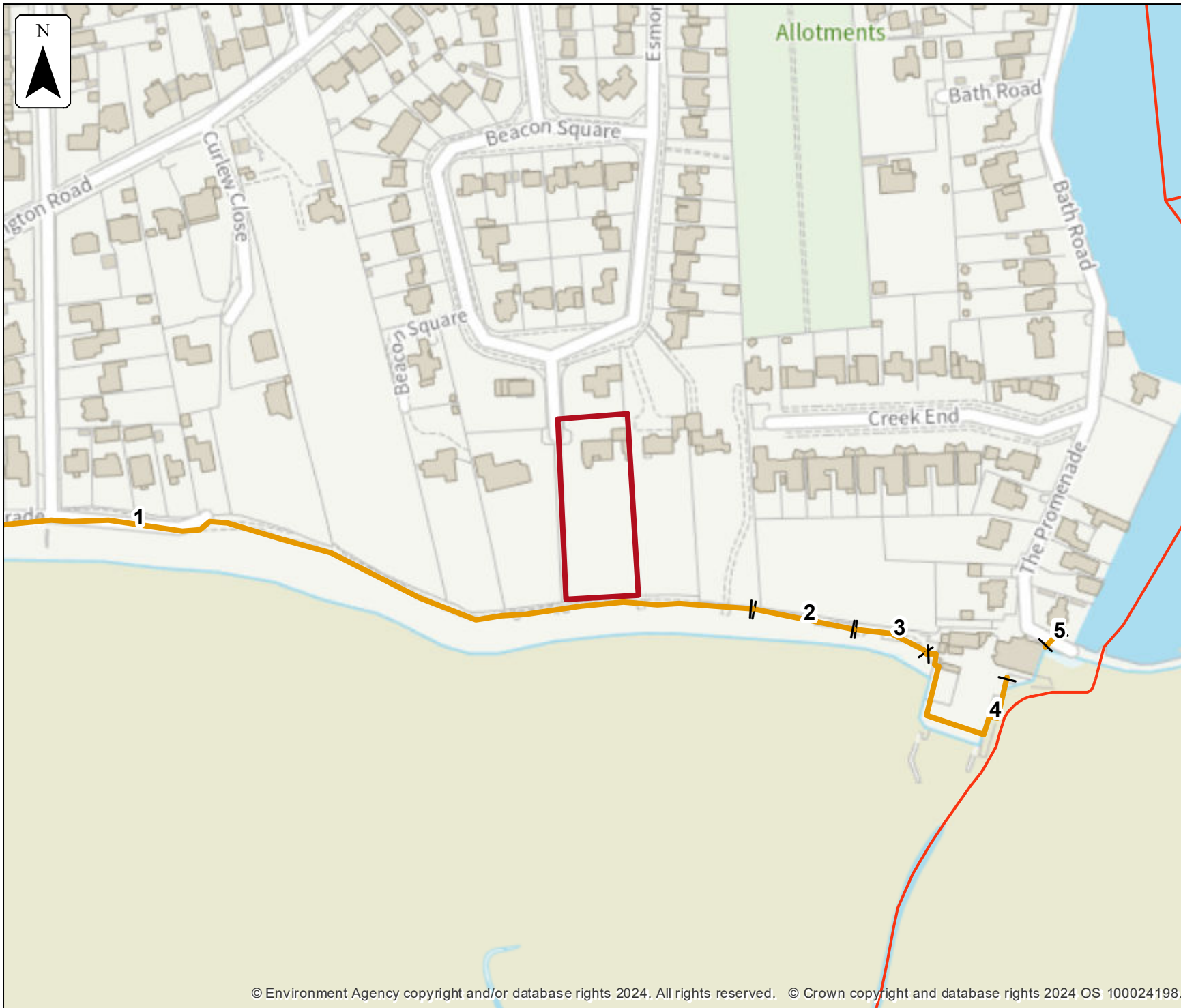
Flood defences

Location (easting/northing)
474538/105353

Scale
1:2,500

Created
14 Aug 2024

-  Selected area
-  Main river
-  Flood defence



Flood defences data

Label	Asset ID	Asset Type	Standard of protection (years)	Current condition	Downstream actual crest level (mAOD)	Upstream actual crest level (mAOD)	Effective crest level (mAOD)
1	454771	Engineered High Ground					2.90
2	454403	Promenade					1.90
3	454350	Engineered High Ground					2.0
4	453054	Wall					2.60
5	412518	Demountable Defence			3.0	3.0	

Any blank cells show where a particular value has not been recorded for an asset.

Modelled data

This section provides details of different scenarios we have modelled and includes the following (where available):

- outline maps showing the area at risk from flooding in different modelled scenarios
- map(s) showing the approximate water levels for the return period with the largest flood extent for a scenario and table(s) of sample points providing details of the flood risk for different return periods

Climate change

The climate change data included in the models may not include the latest [flood risk assessment climate change allowances](#). Where the new allowances are not available you will need to consider this data and factor in the new allowances to demonstrate the development will be safe from flooding.

The Environment Agency will incorporate the new allowances into future modelling studies. For now, it's your responsibility to demonstrate that new developments will be safe in flood risk terms for their lifetime.

Modelled scenarios

The following scenarios are included:

- Defended modelled tidal: risk of flooding from the sea where there are flood defences
- Undefended modelled tidal: risk of flooding from the sea where flood defences have been removed





Environment
Agency

N
▲

Legend

Site Boundary

0.5% AEP Undefended Tidal

0.1% AEP Undefended Tidal

0.5% AEP (2121) Undefended Tidal

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

Scale: 1:10,000

00.2250.45

Kilometers



Legend

 Site Boundary

0.5% AEP Defended Tidal



0.1% AEP Defended Tidal

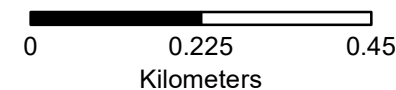


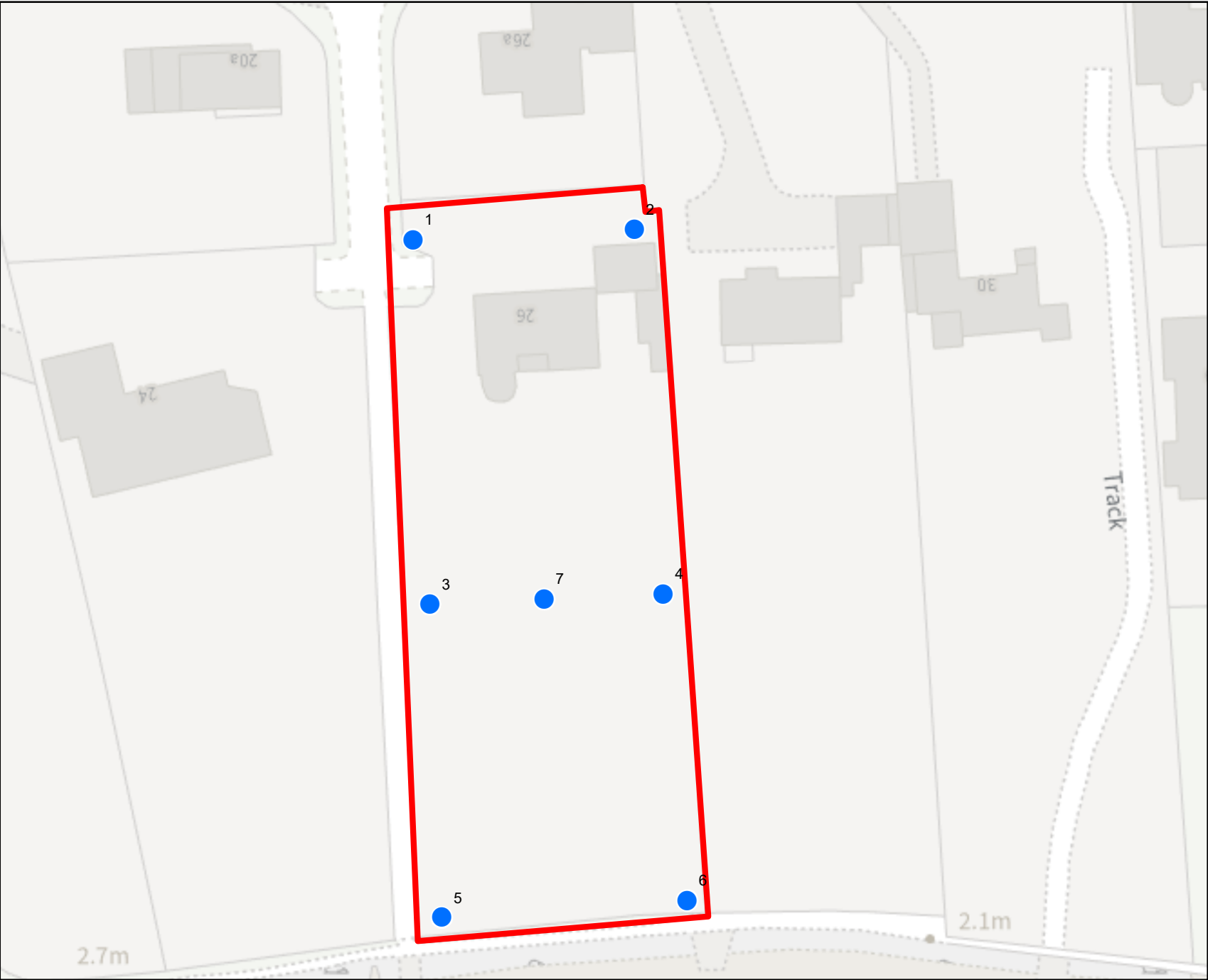
0.5% AEP (2121) Defended Tidal



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

Scale: 1:10,000







Environment
Agency

N
▲

Legend

●

Site Nodes

□

Site Boundary

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

Scale: 1:650

00.0150.03

Kilometers

Product 4 Flood Risk Data Requested by: Michael Dewson

Site: 26 Beacon Square, Emsworth, PO10 7HU

Table 1: Water Levels: Tidal Undefended

Node Ref	NGR		Modelled Flood Levels in Metres AOD		
			Undefended Annual Exceedance Probability		
	Eastings	Northings	0.5%	0.5% (2121)	0.1%
1	474523	105392	-	4.74	-
2	474550	105393	-	4.74	-
3	474525	105348	-	4.74	3.52
4	474554	105349	-	4.74	-
5	474527	105310	3.35	4.74	3.52
6	474557	105312	3.35	4.74	3.52
7	474539	105348	-	4.74	-

Table 2: Water Levels: Tidal Defended

Node Ref	NGR		Modelled Flood Levels in Metres AOD		
			Defended Annual Exceedance Probability		
	Eastings	Northings	0.5%	0.5% (2121)	0.1%
1	474523	105392	-	4.73	-
2	474550	105393	-	4.73	-
3	474525	105348	-	4.73	3.48
4	474554	105349	-	4.73	-
5	474527	105310	-	4.73	-
6	474557	105312	-	4.73	-
7	474539	105348	-	4.73	-

Table 3: Water Depths: Tidal Undefended

Node Ref	NGR		Modelled Flood Depths in Metres		
			Undefended Annual Exceedance Probability		
	Eastings	Northings	0.5%	0.5% (2121)	0.1%
1	474523	105392	-	0.79	-
2	474550	105393	-	0.60	-
3	474525	105348	-	1.27	0.05
4	474554	105349	-	1.07	-
5	474527	105310	0.89	2.28	1.06
6	474557	105312	0.87	2.26	1.04
7	474539	105348	-	1.12	-

Table 4: Water Depths: Tidal Defended

Node Ref	NGR		Modelled Flood Depths in Metres		
			Defended Annual Exceedance Probability		
	Eastings	Northings	0.5%	0.5% (2121)	0.1%
1	474523	105392	-	0.79	-
2	474550	105393	-	0.60	-
3	474525	105348	-	1.26	0.01
4	474554	105349	-	1.07	-
5	474527	105310	-	0.90	-
6	474557	105312	-	1.20	-
7	474539	105348	-	1.12	-

All levels taken from: Chichester District Council SFRA Coastal Modelling 2022

Produced on: 14/08/2022

*** Climate Change allowances for this model only show the superseded 20% increase in flows. The current allowances should be checked here:**
<https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances>.

**** The flood risk data provided is based on existing EA hydraulic models for existing 0.5% annual probability events with an allowance for climate change. Please note the climate change allowances provided are not up to date. These were updated on 17 December 2019.**

You should refer to 'Flood risk assessments: climate change allowances' for the most up to date allowances. You will need to undertake further assessment of future flood risk using different allowances to ensure your assessment of future flood risk is based on best available evidence.

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

Strategic flood risk assessments

We recommend that you check the relevant local authority's strategic flood risk assessment (SFRA) as part of your work to prepare a site specific flood risk assessment.

This should give you information about:

- the potential impacts of climate change in this catchment
- areas defined as functional floodplain
- flooding from other sources, such as surface water, ground water and reservoirs

Your Lead Local Flood Authority is West Sussex County Council.

About this data

This data has been generated by strategic scale flood models and is not intended for use at the individual property scale. If you're intending to use this data as part of a flood risk assessment, please include an appropriate modelling tolerance as part of your assessment. The Environment Agency regularly updates its modelling. We recommend that you check the data provided is the most recent, before submitting your flood risk assessment.

Flood risk activity permits

Under the Environmental Permitting (England and Wales) Regulations 2016 some developments may require an environmental permit for flood risk activities from the Environment Agency. This includes any permanent or temporary works that are in, over, under, or nearby a designated main river or flood defence structure.

[Find out more about flood risk activity permits](#)

Help and advice

Contact the Solent and South Downs Environment Agency team at ssdenquiries@environment-agency.gov.uk for:

- [more information about getting a product 5, 6, 7 or 8](#)
- general help and advice about the site you're requesting data for

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