



Flood Risk Assessment

Bembridge Drive, Hayling Island

JAN-2022



**FLOOD RISK & DRAINAGE
CONSULTING**



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Issue	Prepared by	Checked by	NOTES	Date
-	SPS	GG	For Clients Review	Jan 22



1.0 Introduction

Flood & drainage Consulting Limited have been instructed to prepare a Flood Risk Assessment (FRA) in respect of a proposed re-development at 4 Bembridge Drive, Hayling Island, Hampshire.

This report has been prepared on behalf of Mr. and Mrs. Adams-Madgwick and is intended to support a planning application for a residential development.

The purpose of this report is to assess the potential flood risk to the site, to describe the existing site and how the development will be affected by flood risk. This report also addresses the comments made by Environment Agency. EA's correspondence dated 9 June 2021, is included within **Appendix B** of this report.

A site location plan is included in Appendix A. The National Grid Reference is SZ 73056, 98435 and the nearest postcode is PO11 9LU.

2.0 Topography & Site Description

The following commentary has been based on topographical information which is to ordnance datum.

The site predominately falls from south to north; levels range from 5.95mAOD (above ordnance datum) to 4.36mAOD. The high point is located within the southern boundary of the site. In addition, there is a high wall at the southern boundary which was surveyed as 6.02 mAOD. The topographical survey is located within **Appendix C**.

The site is located within a well-developed area, residential dwellings are located to the east and west. Bembridge Drive (i.e. main access road) road runs along the northern boundary of the site. Refer to location plan included within **Appendix A**.

3.0 Development Description

The proposed development includes the Demolition of existing house and replace it with a single dwelling. No changes to the existing access from the Bembridge Drive is proposed. The proposed site plan is included in **Appendix D**.



4.0 Assessment of Flood Risk

Potential sources of flooding that require investigation are identified within the table below.

Flood Source	Presence	Notes
Fluvial (River)	x	N/A
Tidal (Sea)	✓	Sea - circa of 100m to the south
Canals	x	N/A
Groundwater	x	No evidence on site
Sewers	x	No evidence of flooding
Pluvial (surface water)	✓	Negligible (as per the EA flood map)

Flooding from rivers and Seas

Flood Zones are defined in Table 1 of the Flood Risk and Coastal Change section of the Planning Practice Guidance which supports NPPF. The Flood Zones refer to the probability of flooding from rivers, the sea and tidal sources. They ignore the presence of existing defences because these can be breached, overtopped and may not be in existence for the lifetime of the development.

Flood Zone 1, as described in Table 1 of the above Practice Guidance (Ref 1), has a low probability of flooding and comprises land assessed as having a less than 1 in 1000 annual probability of river or sea flooding in any year (<0.1%). Flood Zone 2 has a medium probability of flooding and comprises land assessed as having between 1 in 100 and 1 in 1000 annual probability of river flooding (1% - 0.1%). Flood Zone 3 has a high probability of flooding and comprises land assessed as having a 1 in 100 or greater annual probability of river flooding (>0.1%) or a 1 in 200 (>0.5%) probability of flooding from the sea.

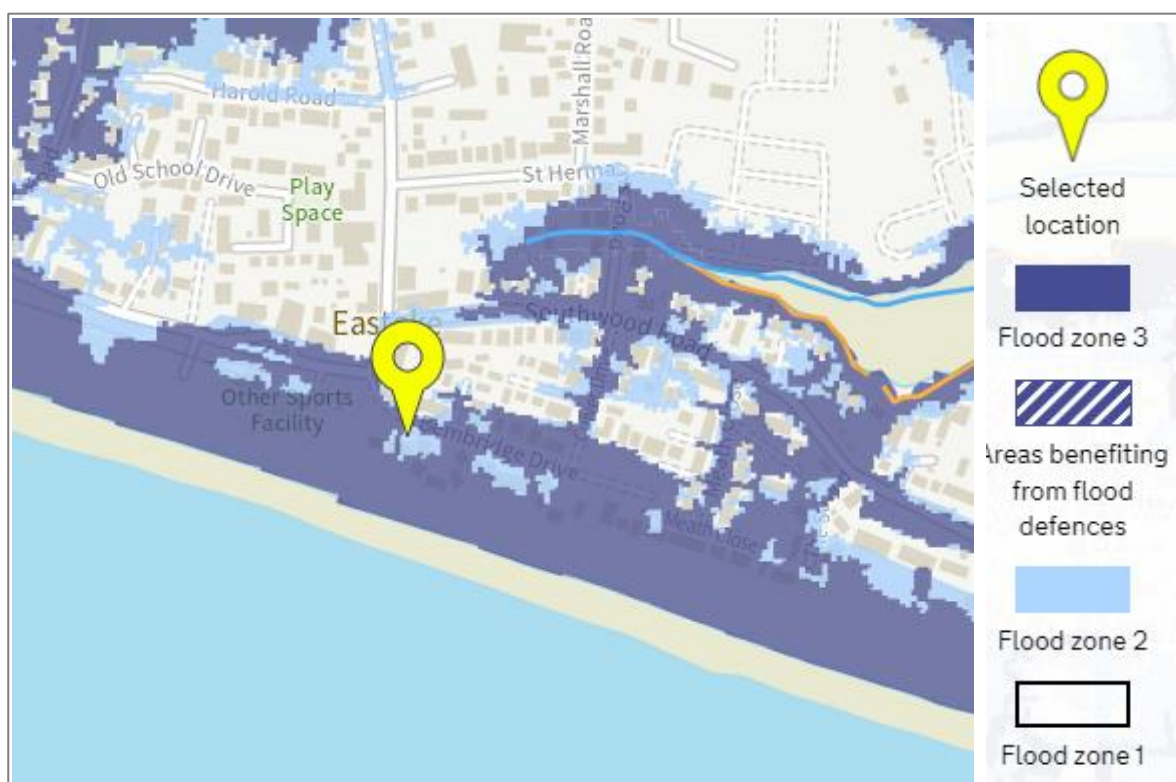


Figure 1 – Indicative Flood Map



According to the indicative online flood map the development is predominately located within as Flood Zone 3 (refer to **figure 1** above). Zone 3 comprises land within the floodplain which are assessed as having a 1 in 200 probability of flooding from the sea.

Assessment of Flood Risk

In preparing this assessment, the Environment Agency were consulted to obtain flood maps and modelled flood level data for the site and surrounding area in order to determine the true extent of the flood zones. Environment Agency's flood data is provided within **Appendix E**.

Flood Defences

The flood defence map confirms the developed area is served by 2 significant flood defences having a total length of 2583m (refer to **Figure 2** below). Flood defence is described as 'Areas that benefit from the presence of defences in a 1 in 200 (0.5 %) chance of flooding each year from the sea'.

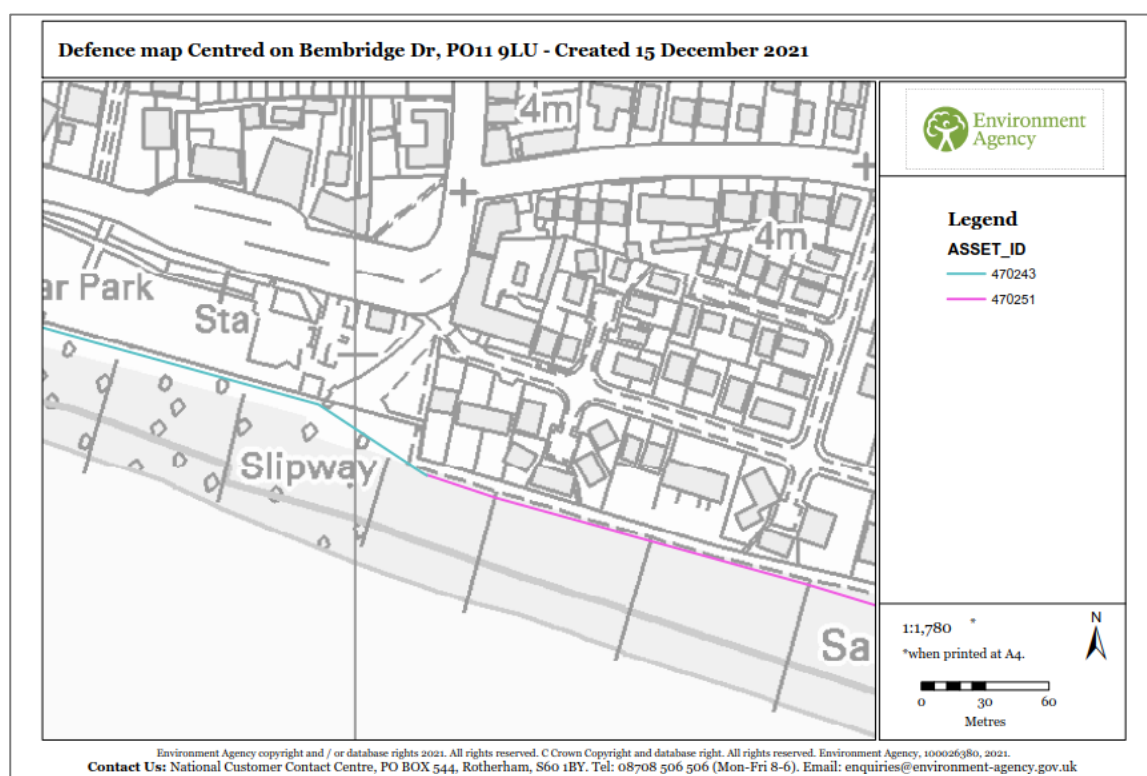


Figure 2 – Flood Defence Map

The main flood risk identified in this area is tidal and originates from the sea located to south of the site. The EA has provided modelled flood water levels for 6 locations for the site. The results of the modelling include flood levels for;

- 0.5% Annual Exceedance Probability (1 in 200 year)
- 0.5% Annual Exceedance Probability (1 in 200 year) +20% Climate Change
- 0.1% Annual Exceedance Probability (1 in 1000 year)
- 0.1% Annual Exceedance Probability (1 in 1000 year) +20% Climate Change

Flood Level data is summarised in the table 1 below. Flood node locations and existing site levels are shown in **Drawing AD-22-01** (refer to **Appendix F**).



FLOOD LEVEL#						
Flood Node Ref	0.5% AEP	0.5% AEP (+20%CC, 2065)	0.5% AEP (+20%CC, 2115)	0.1% AEP	0.1% AEP (+20%CC, 2065)	0.1% AEP (+20%CC, 2115)
1	4.31	4.35	4.51	4.37	4.44	4.64
2	4.13	4.19	4.34	4.19	4.28	4.47
3	4.89	4.90	4.91	4.9	4.91	4.92
4	5.61	5.63	5.67	5.63	5.66	5.71
5	5.64	5.68	5.76	5.68	5.73	5.83
6	4.88	4.89	4.90	4.89	4.90	4.91

Table 1: Flood Level Data #Levels in metres above Ordnance Datum Newlyn

As shown in **Drawing AD-22-02** (refer to **Appendix F**), the closest points to the new dwelling are 'Flood points 1, 2, 3 & 6'.

Flood Node Ref	Topo Level
1	4.46
2	4.37
3	5.17
4	5.18
5	5.23
6	5.13
Finished floor level	5.45

Table 2: Site topo Level associated with each flood point

The potential flood risk to this site has been assessed by comparing the topographic levels of the existing site (table 2) against the modelled flood water levels (table 1). For the purpose of this flood risk assessment, the modelled flood levels of 4 locations, which are located in the immediate vicinity of the new dwelling, have been considered.

Due to the fact that the proposal is for a replacement of existing property with a two-storey signal dwelling, it is assumed that the use of Environment Agency's flood level data with 20% climate change allowances is sufficient for the assessment of flood risk for the lifetime of the development.

The comparison of site topography and modelled flood level for each location for 0.5%AEP scenario, shows that a majority of the site area is above the 1 in 200 modelled flood water levels except for flood node 4 and 5 (refer to 0.5% AEP data for node '4 & 5' within EA data).

Similar to above, the comparison of site topography and modelled flood level for each location for 0.5%AEP plus 20% climate change scenario shows that a majority of the site area is above the 1 in 200 (+20%CC) modelled flood water levels except for flood node 4 and 5.



However, it should be noted that the 'flood node 4 & 5' are located approximately 15m to the south of the dwelling and adjacent to the southern boundary of the site, in which no part of the dwelling is proposed to be within this area.

Flood defences

As described above, the site and the surrounding area is served by 2 significant flood defences having a total length of 2583m (**figure 3** above). The wall located along the southern boundary has been surveyed as 6.02 mAOD high which is higher than any of the flood levels (i.e. 0.5%AEP, 0.5%AEP+CC, 0.1%AEP, & 0.1%AEP+CC) provided by the Environment agency.

Even though, the presence of the flood defence has not been taken into account whilst the flood levels data is produced, it should be noted that the site and the surrounding area is protected by flood defence.

Finished Floor Level and Freeboard

The finished floor level of the dwelling is 5.45mAOD. It can be confirmed that 1 in 200 (+20%CC) modelled flood water levels for all flood nodes which are adjacent to the dwelling are below this level. Further to that, we can also confirm that there is a minimum freeboard of 0.55m with respect to the highest 1 in 200 (+20%CC) modelled flood water level (i.e. flood point 3).

Considering the above, it can be concluded that,

- *majority of the site area is above the 1 in 200 modelled flood water levels*
- *majority of the site area is above the 1 in 200 (+20%CC) modelled flood water levels*
- *the site and the surrounding area is protected by flood defence.*
- *there is a minimum freeboard of 0.55m with respect to the highest 1 in 200 (+20%CC) modelled flood water level.*

Safe access and egress routes

Flood point 1 is the closest flood point for the site access. Modelled 0.5%AEP (plus 20% climate change) flood level for this location is 50mm higher than the site levels. However, water depth of 50mm would not prevent the evacuation to take place or any emergency vehicle accessing the site.

Considering above, it can be concluded that there is no disruption to any flood emergency planning including flood warning and evacuation of people from the site. A dry access route is therefore available via Bembridge Drive to the north of the site.

Flood Warnings

The Environment Agency operate a flood forecasting and warning service in areas at risk of flooding from rivers and the sea, which relies on direct measurements of rainfall, river levels, tide levels, in-house predictive models, rainfall radar data and information from the Met Office. This service operates 24 hours a day, 365 days a year.

The site and the surrounding area are benefitted from having Environment Agency's flood warning and flood alert, which allows time for evacuation to take place.



Site Evacuation Procedures & Routes

The occupants will sign up to the flood warning direct service so that they will receive flood alerts and warnings via text, e-mail and by phone call.

OFCOM's 'mobile and broadband checker' was used to check the mobile phone signal coverage within the area. It has been verified that the site area (including the indoor accommodation) is covered with both O2 and Vodafone mobile phone networks (refer to **Appendix G**).

The Flood Evacuation Plan should be maintained by the key contacts in the following table and updated accordingly. It is recommended that the occupants of the property take ownership of this document.

Key Contact information

Contact name of the person who will take ownership for the Flood Evacuation Plan at the Site:	
Contact name of those responsible for evacuation of the Site:	
Contact name of those responsible for making sure the Site is safe and operational following a flood:	

Once the alert has been received by the relevant party, the owner of the property has a duty of care to protect, inform and guide other occupants to the appropriate evacuation route shown on **figure 3** below (i.e. towards Rails Lane located to the north via Bembridge Drive).

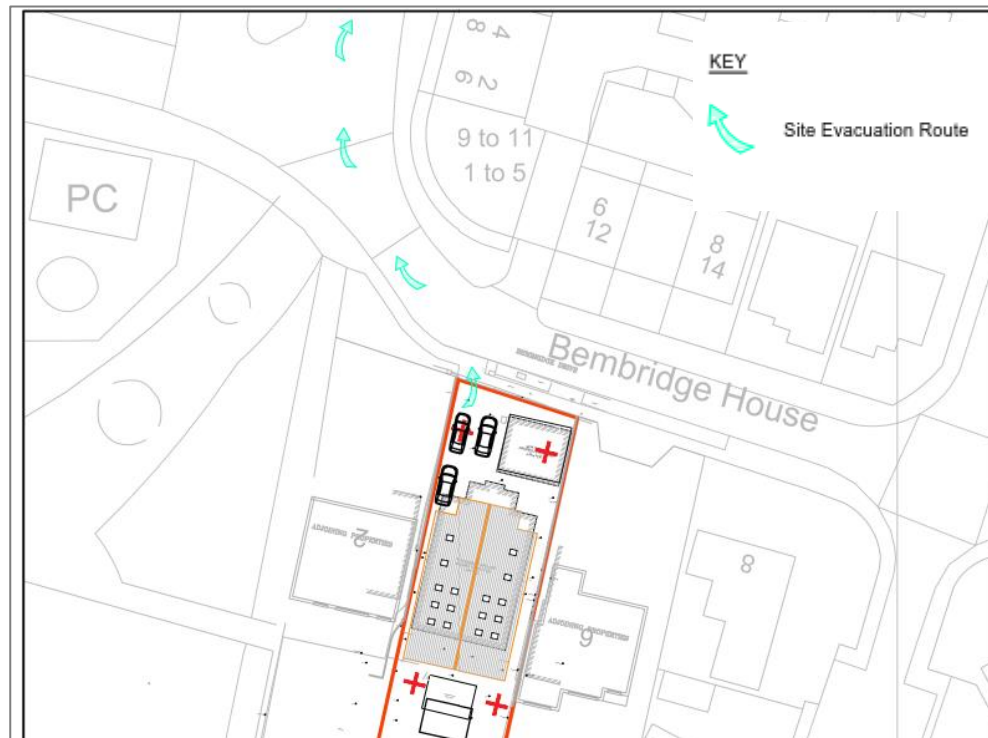


Figure 3: Site Evacuation Route



Response Actions / Considerations

Following actions should be followed during various levels of flood warning/alert. The full list of actions is included within **Appendix F** of this report (refer to EA's Flood Warning plan in **Appendix H**).

- After receiving Flood alert
 - Be prepared for flooding, prepare a flood kit of essential items and monitor local water levels and flood forecasts.
- After receiving Flood Warning
 - Act now to protect your property, move family, pets and valuables to a safe place, turn off utilities if safe to do so, keep a flood kit ready, move valuables and important documents to safety.
- After receiving severe Flood Warning
 - Stay in a safe place with a means of escape, be ready to evacuate, co-operate with the emergency services, call 999 if you are in immediate danger.

Flooding from Land (Surface water flooding)

The latest Flood Map for surface water included in **Figure 4** below shows no flooding with the site boundary. Therefore, the risk of surface water flooding at the site is assessed as low.

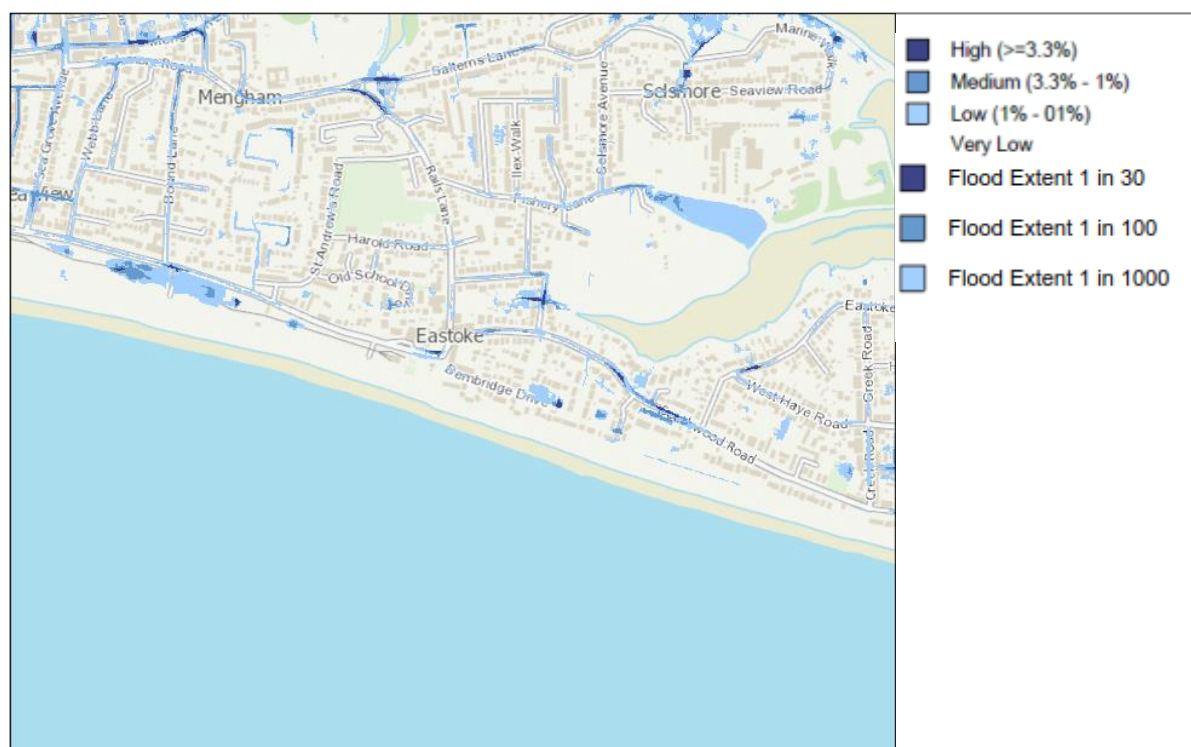


Figure 4 – Indicative surface water flood map



5.0 Conclusion

Flood & drainage Consulting Limited have been instructed to prepare a Flood Risk Assessment (FRA) in respect of a proposed re-development at 4 Bembridge Drive, Hayling Island, Hampshire.

The proposed development includes the Demolition of existing house and replace it with a single dwelling. No changes to the existing access from the Bembridge Drive is proposed. The site predominately falls from south to north. The site is located within a well-developed area, residential dwellings are located to the east and west.

All potential sources of flood risk, as required by NPPF, at the application site have been assessed. In assessing the flood risk, the impacts of climate change have been considered for the lifetime of the proposed development and are considered acceptable.

In preparing this assessment, the Environment Agency were consulted to obtain flood maps and modelled flood level data. The flood defence map confirms the developed area is served by 2 significant flood defences.

The comparison of site topography and modelled flood level for each location for 0.5% AEP plus 20% climate change scenario shows that a majority of the site area is above the 1 in 200 (+20%CC) modelled flood water levels.

This Flood Risk Assessment confirms that the Finished Floor Levels (FFLs) of the proposed replacement dwelling is above the 1 in 200year and 1 in 200year (+20%Climate Change) flood levels. Therefore, it can be concluded that flood hazard to the people at the site location is low up to and including 1 in 200-year+20% CC flood events. In summary, it can be concluded that,

- *majority of the site area is above the 1 in 200 modelled flood water levels*
- *majority of the site area is above the 1 in 200 (+20%CC) modelled flood water levels*
- *the site and the surrounding area are protected by flood defence.*
- *there is a minimum freeboard of 0.55m with respect to the highest 1 in 200 (+20%CC) modelled flood water level.*

Site Evacuation Procedures & Routes

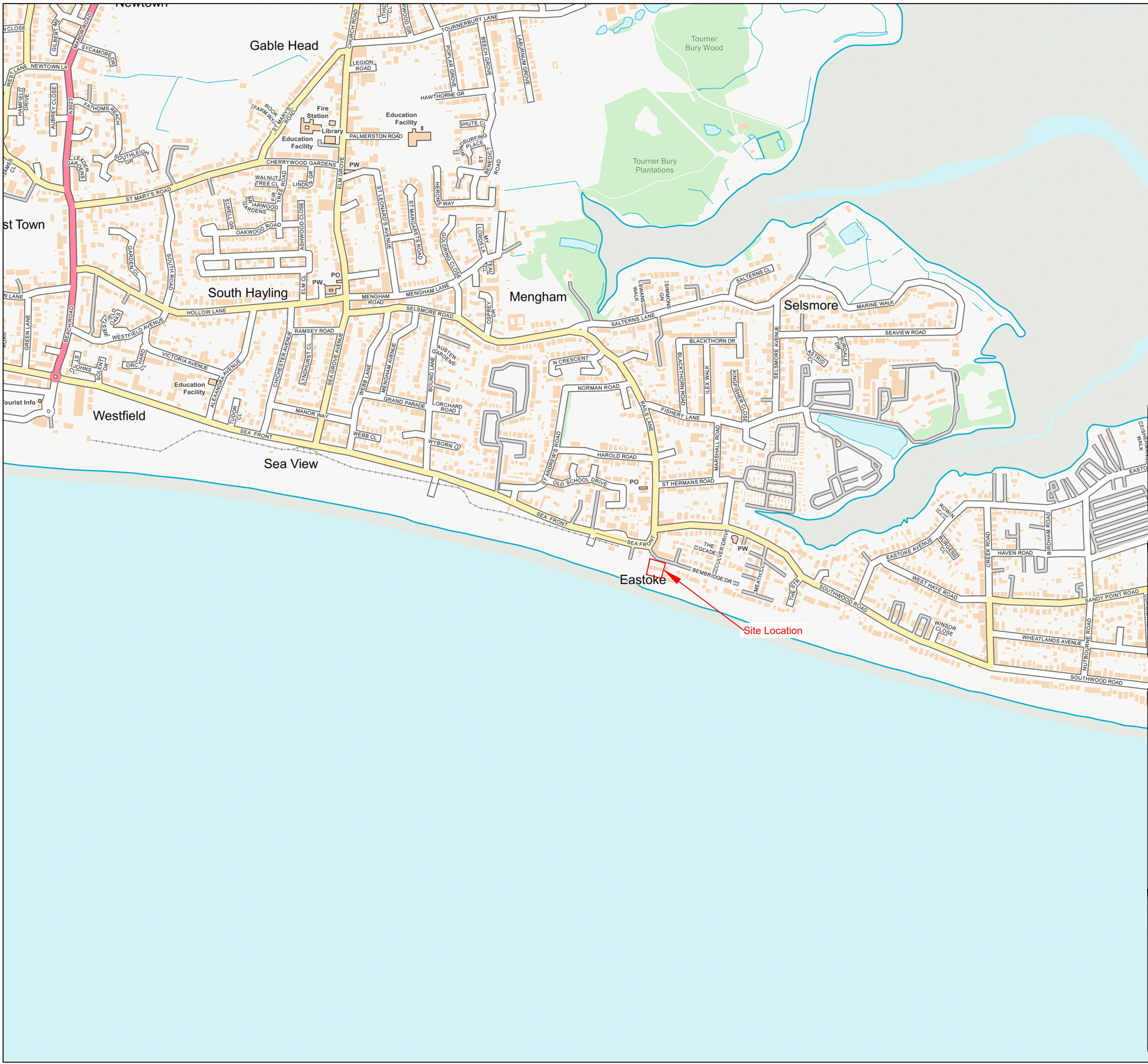
The comparison of site levels and modelled flood levels proved that there is no disruption to any flood emergency planning including flood warning and evacuation of people from the site. Hence, a dry access route is available via Bembridge Drive to the north of the site.

The site and the surrounding area are benefitted from having Environment Agency's flood warning and flood alert, which allows time for evacuation to take place. Therefore, the flood consequence at the site location during 1 in 200year (+Climate Change) could be classified as low.

A Flood Evacuation Plan will be in place where the occupants will sign up to the flood warning direct service so that they will receive flood alerts and warnings via text, e-mail and by phone call. A plan showing the site evacuation route (towards Rails Lane located to the north via Bembridge Drive) has been prepared and included within this report.



APPENDIX A SITE LOCATION PLAN



KEY

SITE BOUNDARY

X (Easting) : 473056
Y (Northing) : 098435

Rev	Details	Drawn	Checked
			Date

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Client: ACE DESIGN LTD			
Project: 4 BEMBRIDGE DR, HAYLING ISLAND PO11 9LU			
Drawing: Site Location Plan			
Scale: NTS		Sheet Size: A3	
Drawn: SPS	Checked: GG	Date: Nov 2021	
Drawing Number: 2021_SK_001			Revision:



APPENDIX B EA's correspondence

Havant Borough Council
Development Control
Civic Offices Civic Centre Road
Havant
Hampshire
PO9 2AX

Our ref: HA/2021/123246/01-L01
Your ref: APP/21/00499
Date: 09 June 2021

Dear Sir/Madam

1NO. REPLACEMENT DWELLING AND DETACHED GARAGE (RETROSPECTIVE AND SAME DESIGN AS APP/20/00395 AND APP/20/00396) 4 BEMBRIDGE DRIVE, HAYLING ISLAND, PO11 9LU

Thank you for consulting the Environment Agency on the above application.

We have reviewed the information as submitted and set out our position below.

Environment Agency Position

In the absence of an acceptable flood Risk Assessment (FRA) we object to this application and recommend that planning permission is refused.

Reason

The submitted FRA (FLOOD_RISK_ASSESSMENT-1486345) does not comply with the requirements for site-specific flood risk assessments, as set out in paragraphs 30 to 32 of the Flood Risk and Coastal Change section of the planning practice guidance. The FRA does not adequately assess the flood risks posed for the lifetime of the development. The FRA will need to comply with the requirements for site-specific flood risk assessments that adequately assesses the flood risks posed for the lifetime of the development.

In particular, the FRA fails to:

- provide details of finished floor levels (FFL's) compared to 1 in 200 year return period plus climate change tidal flood levels for the lifetime of the development
- consider how people will be kept safe from the identified flood hazards
- consider how a range of flooding events (including extreme events) will affect people and property
- consider the requirement for flood emergency planning including flood warning and evacuation of people for a range of flooding events up to and including a 1 in 200 year return period plus climate change event

Environment Agency
Guildbourne House Chatsworth Road, Worthing, West Sussex, BN11 1LD.
Customer services line: 03708 506 506
www.gov.uk/environment-agency

Cont/d..

- take the impacts of climate change into account
 - There is no assessment of the impact of climate change using appropriate climate change allowances for a 1 in 200 year return period plus climate change for the lifetime of the development
 - Flood risk mitigation measures to address flood risk for the lifetime of the development included in the design are inadequate because they will not make the development resilient to the flood levels for a 1 in 200 year return period plus climate change event. Consequently the development proposes inadequate:
 - Raised finished floor levels
 - Resistance and resilience measures
 - Safe access and egress routes

Overcoming our Objection

To overcome our objection, the applicant should submit an FRA which addresses the points above and demonstrates that the development is not at risk of tidal flooding for the lifetime of the development.

The application fails to incorporate any climate change allowances, therefore failing to show that the development will be safe for its lifetime, both in terms of the property and its inhabitants. When considering the impacts of climate change there is guidance specific to planning which can be found at '[Flood risk assessments: climate change allowances](#)'. Applying these allowances will result in future flood levels higher than current flood levels.

The latest tidal flood levels from our models can be obtained by requesting a free Product 4 from our enquiries team on SSDEnquiries@environment-agency.gov.uk. Please provide a detailed map in your request of data for the proposed site. Detailed information of the 1 in 200 year return period tidal flood levels plus climate change allowances compared with the sites ground levels should be provided. An appropriate freeboard should then be applied to the finished floor levels (FFL's) to keep the occupants safe for the lifetime of the development. Under the NPPF vulnerability classification guidelines this development proposal falls under the 'More Vulnerable' classification as it is residential with bedrooms on the ground floor. As it is a 3 story proposal we would prefer to see the bedrooms on the first floor.

The proposed development also should consider a range of flood resistance and resilience measures. Due to the nature of flooding at this site it would be expected that a flood evacuation plan is in place prior to occupancy; details of this should be outlined in the revised FRA.

Advice to LPA

We ask to be re-consulted with the results of an FRA. We will provide you with bespoke comments within 21 days of receiving formal re-consultation. Our objection will be maintained until an adequate FRA has been submitted.

Guidance on how to prepare a flood risk assessment can be found at <https://www.gov.uk/guidance/flood-risk-assessment-for-planning-applications>.

If you are minded to approve the application contrary to our objection, we would be grateful if you could re-notify us to explain why material considerations outweigh our objection, and to give us the opportunity to make further representations. Should our objection detailed above be removed, it is likely we will recommend planning conditions to be included on any subsequent approval.

In accordance with the Planning Practice Guidance (Ref. ID: 20150415), please notify us by email within 2 weeks of a decision being made or application withdrawn. Please provide us with a URL of the decision notice, or an electronic copy of the decision notice or outcome.

The following issues are not within our direct remit or expertise, but nevertheless are important considerations for managing flood risk for this development. Prior to deciding this application we recommend that consideration is given to the issues below. Where necessary, the advice of relevant experts should be sought.

- Details and adequacy of flood proofing and other building level resistance and resilience measures
- Details and calculations relating to the structural stability of buildings during a flood
- Details and adequacy of an emergency plan including rescue or evacuation arrangements
- Provision of and adequacy of a temporary refuge
- Whether insurance can or cannot be gained

Environmental Permit

The Environmental Permitting (England and Wales) Regulations 2016 require a permit to be obtained for any activities which will take place:

- on or within 8 metres of a main river (16 metres if tidal)
- on or within 8 metres of a flood defence structure or culvert (16 metres if tidal)
- on or within 16 metres of a sea defence
- involving quarrying or excavation within 16 metres of any main river, flood defence (including a remote defence) or culvert
- in a floodplain more than 8 metres from the river bank, culvert or flood defence structure (16 metres if it's a tidal main river) and you don't already have planning permission.

For further guidance please visit <https://www.gov.uk/guidance/flood-risk-activities-environmental-permits> or contact our National Customer Contact Centre on 03702 422 549. The applicant should not assume that a permit will automatically be forthcoming once planning permission has been granted, and we advise them to consult with us at the earliest opportunity.

Please do not hesitate to contact me using the contact details shown below should you have any queries regarding the above information.

Yours faithfully

Mrs Sophie Brown
Sustainable Places Planning Advisor

Direct dial 02030 257250

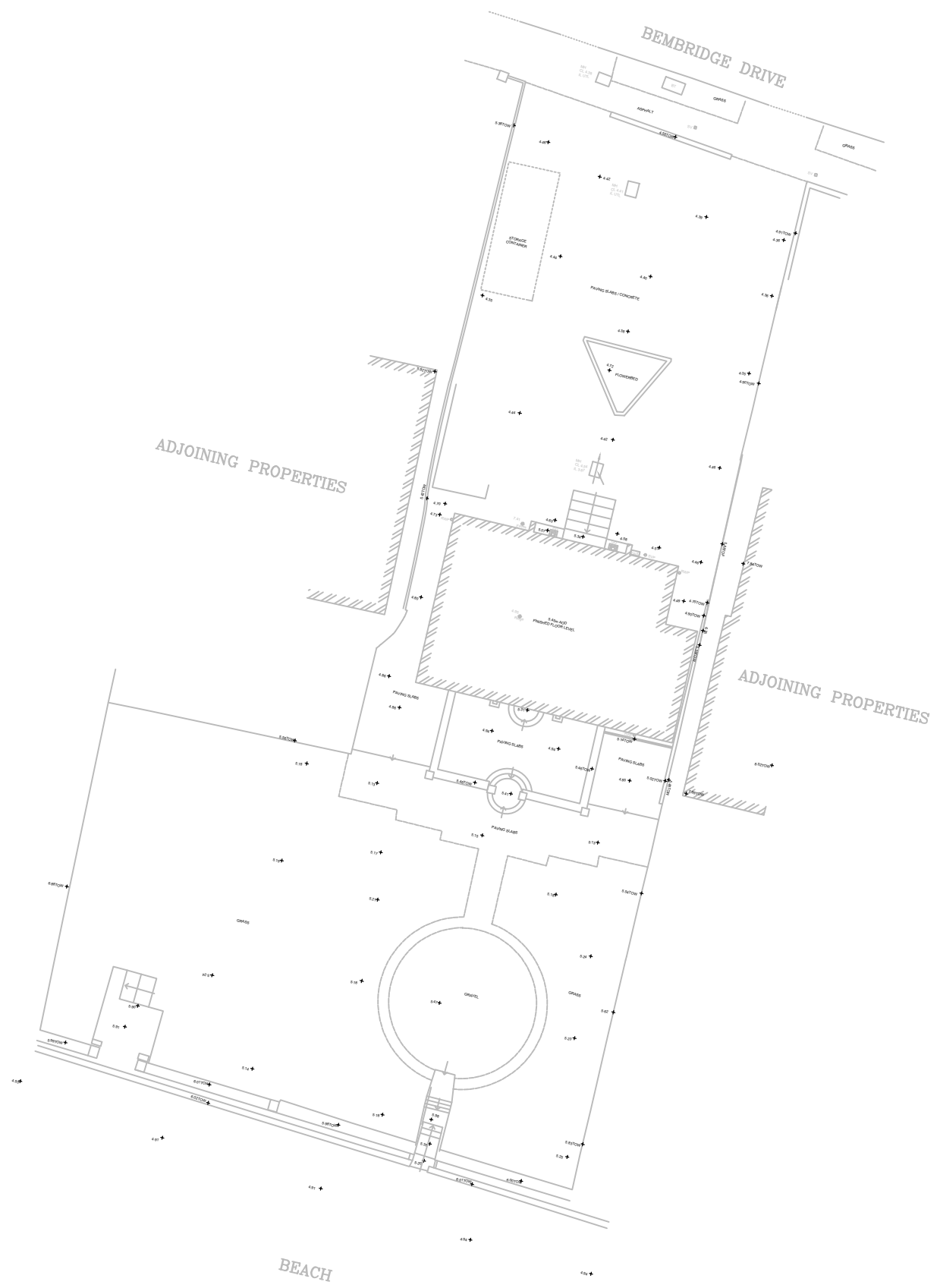
Direct e-mail planningSSD@environment-agency.gov.uk



APPENDIX C TOPOGRAPHICAL SURVEY



APPENDIX D - PROPOSED SITE PLAN



Contractors, subcontractors and suppliers must verify all dimensions supplied on the drawings and on site before commencing works.
Check the contents of this drawing and any tabular information before ordering materials. Flood and Drainage Consulting Limited, this drawing must not be copied or reproduced in any way without their prior written consent.

Rev	Details	Drawn	Checked	Date
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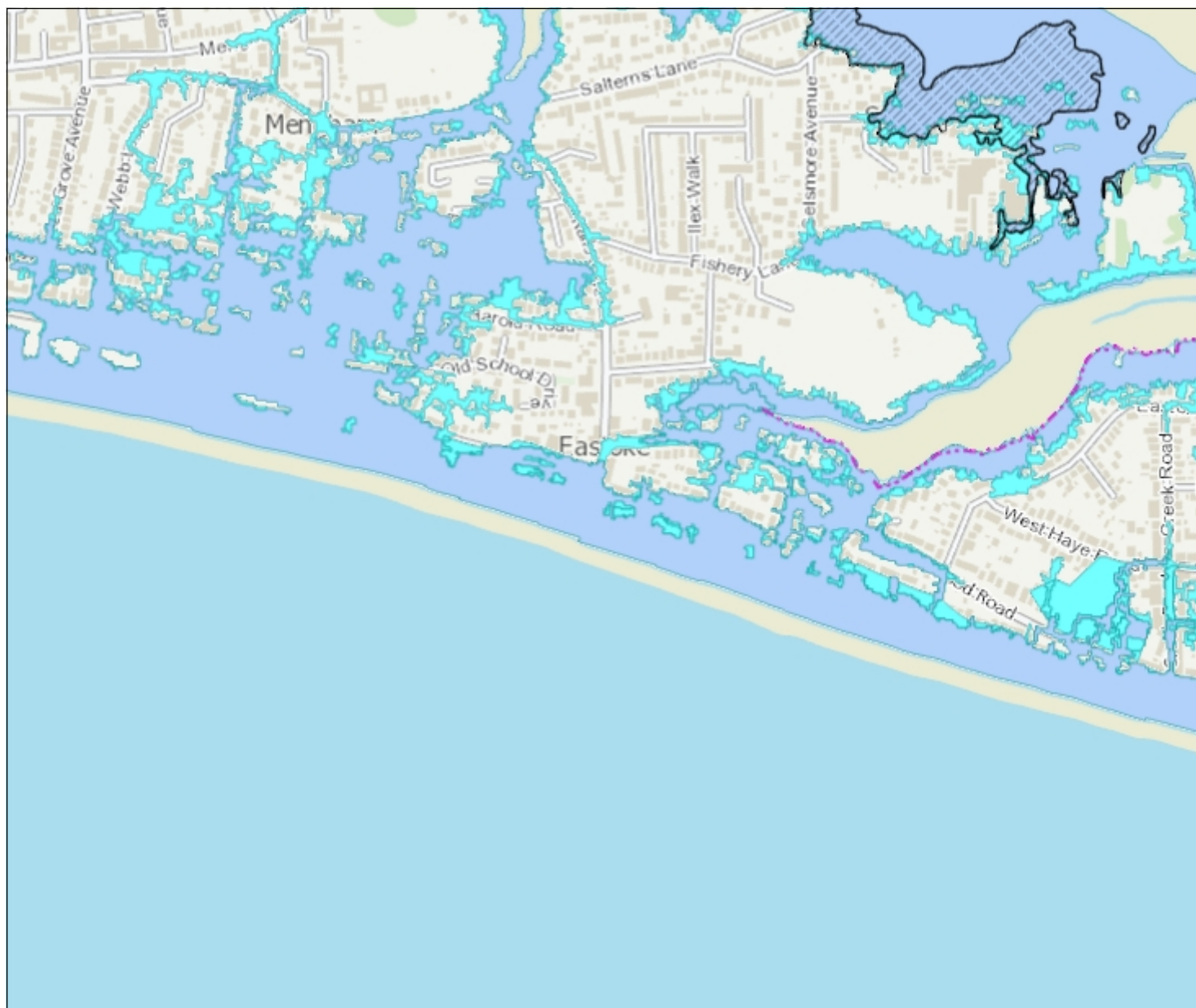
36 Brighton Road
Aldershot
GU12 4HQ

Client: Mr. and Mrs. Adams-Madgwick			
Project: 4 Bembridge Drive, Hayling Island			
Drawing: Topographical Survey			
Scale: NTS		Sheet Size: A3	
Drawn: SPS	Checked: GG	Date: JANUARY 2022	
Drawing Number: DWG AD-22-04			Revision: -



APPENDIX E – ENVIRONMENT AGENCY’S FLOOD DATA

Flood Map for Planning (Rivers and Sea) - Centred on Bembridge Dr, PO11 9LU - Created 15 December 2021



1: 10,000

0 Metres 250



Flood Map for Planning (Rivers & Sea)

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

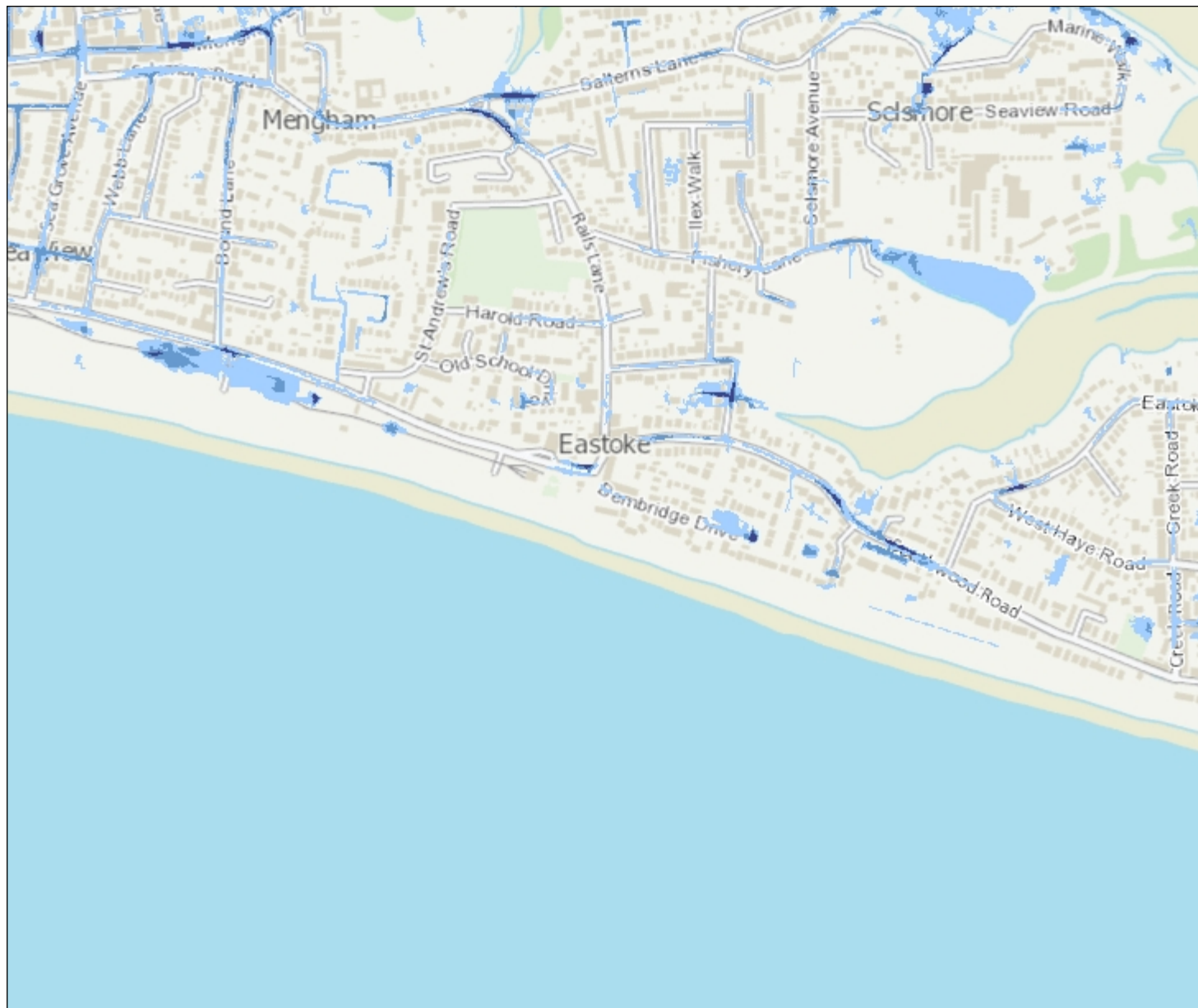
Flood Map Areas (assuming no defences)

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 Bembridge Dr, PO11 9LU - Created 15 December 2021



1: 10,000

0 Metres 250



Likelihood of flooding from Surface Water

- High ($\geq 3.3\%$)
- Medium (3.3% - 1%)
- Low (1% - 0.1%)
- Very Low
- Flood Extent 1 in 30
- Flood Extent 1 in 100
- Flood Extent 1 in 1000

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 GOV.UK.

Defence map Centred on Bembridge Dr, PO11 9LU - Created 15 December 2021



Legend

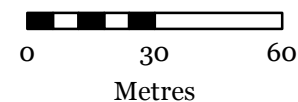
ASSET_ID

470243

470251

1:1,780 *

*when printed at A4.



Asset Id	Asset Sub-type	Length (m)	Protection Type	Actual Condition	Design SoP	Last Inspection Date
470251	embankment	1905.26	coastal	No Data	No Data	No Data
470243	embankment	677.85	coastal	No Data	No Data	No Data

Levels Map Centred on Bembridge Dr, PO11 9LU - Created 15 December 2021



Legend

+ Location_Point

Water Depth

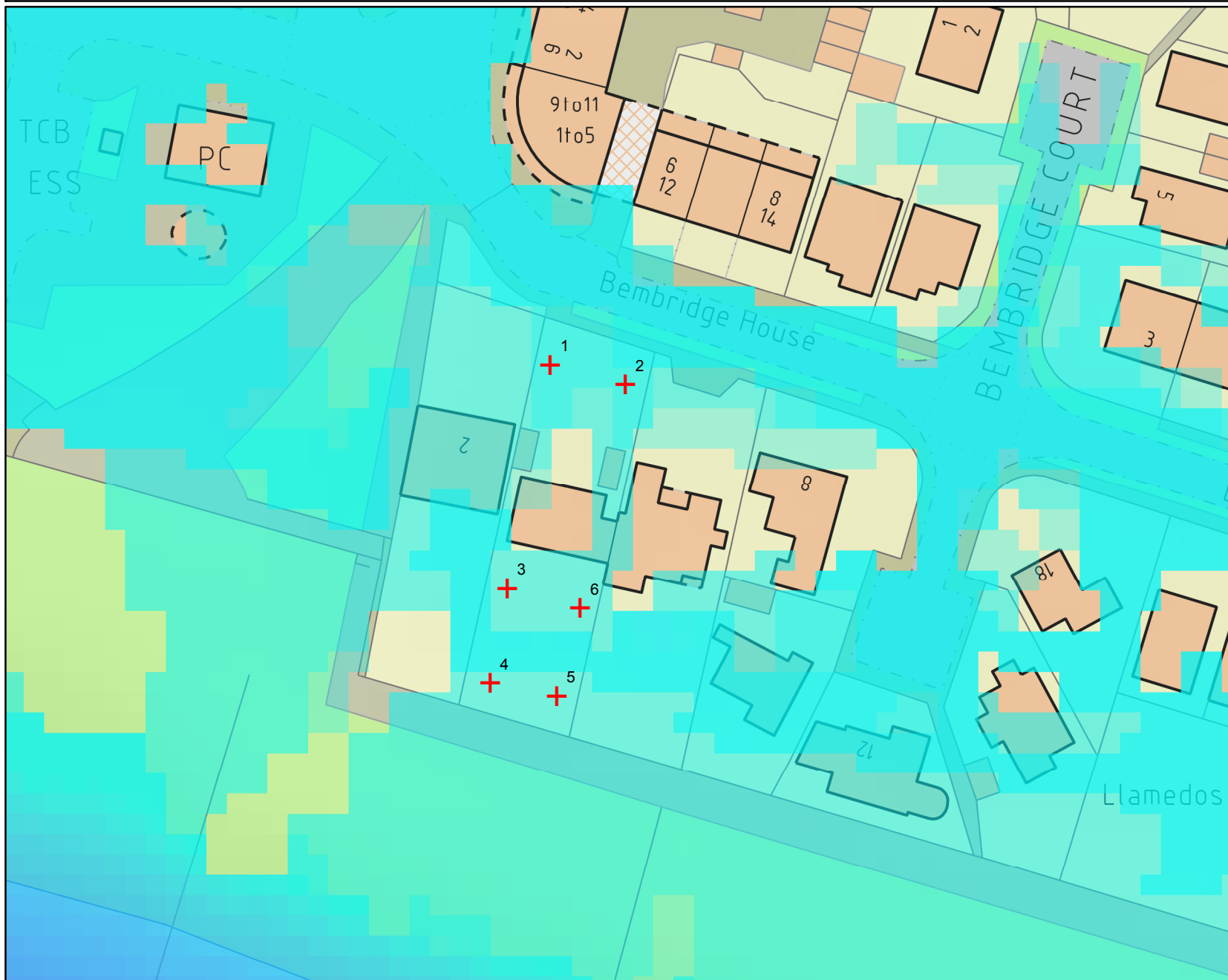
Value

High : 26.817
Low : 1.93721e-006

Ground Level

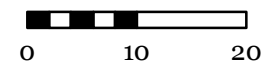
Value

High : 18.1244
Low : -23.2942



1:692

*when printed at A4.



Metres



Water Depths & Levels for Bembridge Dr, PO11 9LU

	Water Surface Level (mAOD*)			Water Depth (metres)	
Point	0.5% Annual Probability/1 in 200 Year (Flood Zone 3)	0.1% Annual Probability/1 in 1000 Year Present Day (Flood Zone 2)	Ground Level	0.5% Annual Probability/1 in 200 Year (Flood Zone 3)	0.1% Annual Probability/1 in 1000 Year Present Day (Flood Zone 2)
1	4.31	4.37	4.23	0.08	0.14
2	4.13	4.19	4.11	0.02	0.08
3	4.89	4.90	4.77	0.12	0.13
4	5.61	5.63	5.60	0.01	0.03
5	5.64	5.68	5.60	0.04	0.08
6	4.88	4.89	4.73	0.15	0.16

* Levels in metres above Ordnance Datum Newlyn

Climate change levels Map Centred on Bembridge Dr, PO11 9LU - Created 15 December 2021



Legend

+ Location_Point

Water Depth

Value

- High : 27.561

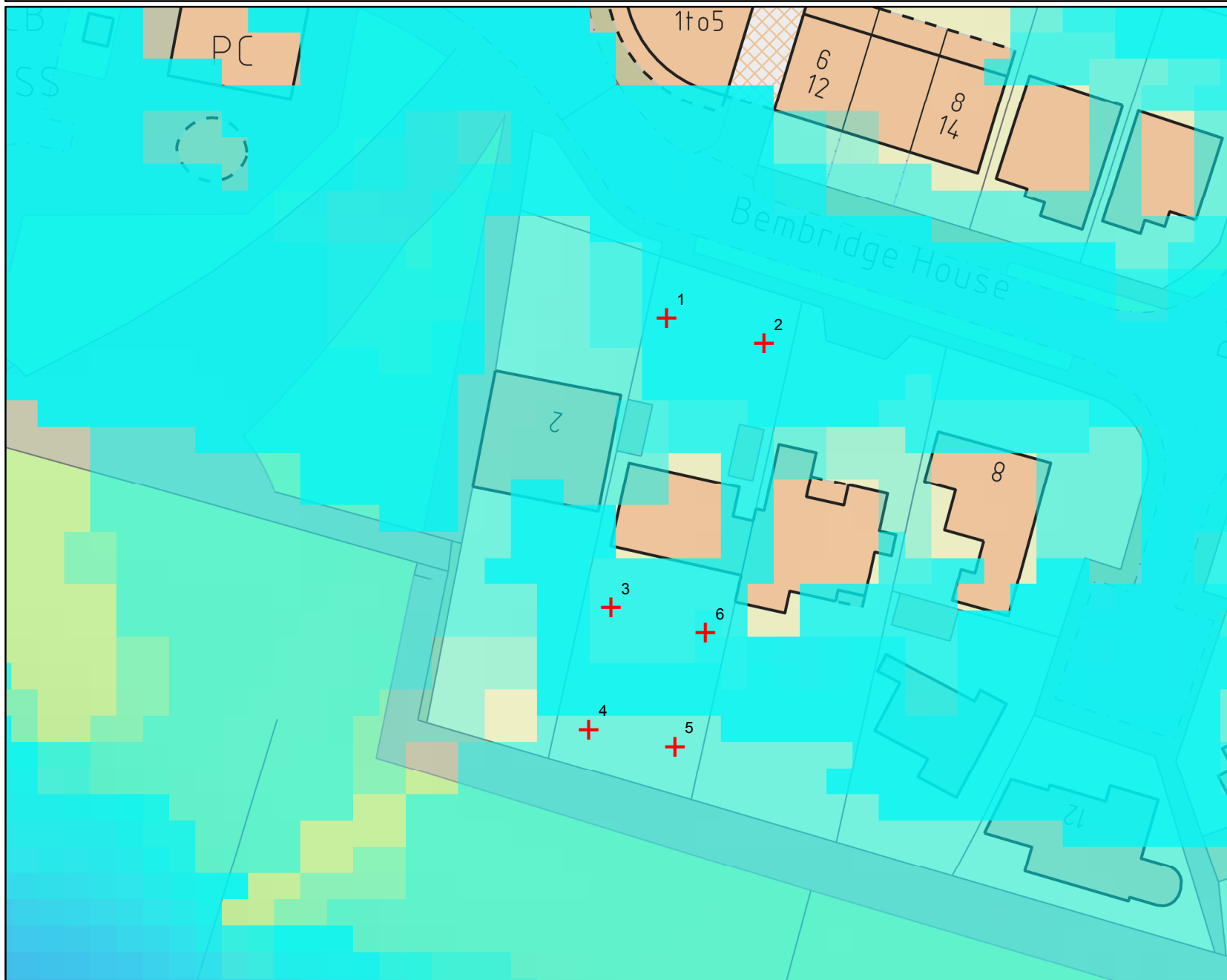
- Low : 2.9755e-006

Ground Level

Value

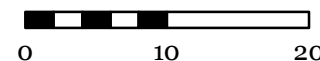
- High : 18.1244

- Low : -23.2942



1:534

*when printed at A4.



Metres



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Contact Us: National Customer Contact Centre, PO BOX 544, Rotherham, S60 1BY. Tel: 08708 506 506 (Mon-Fri 8-6). Email: enquiries@environment-agency.gov.uk

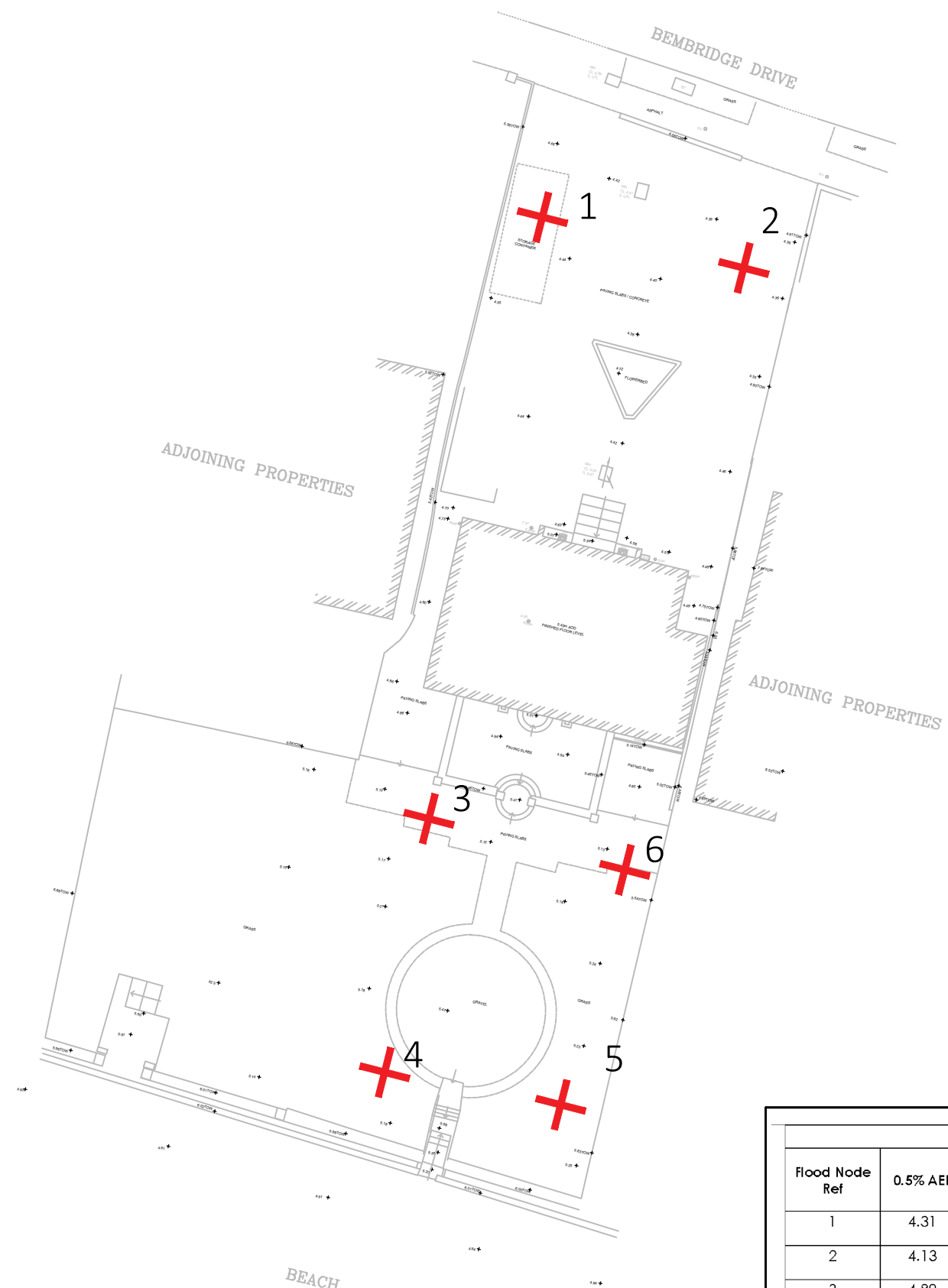
Water Depths & Levels for Bembridge Dr, PO11 9LU

Point	Water Surface Level (mAOD*)					Water Depth (metres)			
	0.5% Annual Probability/1 in 200 Year (2065)	0.5% Annual Probability/1 in 200 Year (2115)	0.1% Annual Probability/1 in 1000 Year (2065)	0.1% Annual Probability/1 in 1000 Year (2115)	Ground Level	0.5% Annual Probability/1 in 200 Year (2065)	0.5% Annual Probability/1 in 200 Year (2115)	0.1% Annual Probability/1 in 1000 Year (2065)	0.1% Annual Probability/1 in 1000 Year (2115)
1	4.35	4.51	4.44	4.64	4.23	0.12	0.28	0.21	0.41
2	4.19	4.34	4.28	4.47	4.11	0.08	0.23	0.17	0.36
3	4.90	4.91	4.91	4.92	4.77	0.13	0.14	0.14	0.15
4	5.63	5.67	5.66	5.71	5.60	0.03	0.07	0.06	0.11
5	5.68	5.76	5.73	5.83	5.60	0.08	0.16	0.13	0.23
6	4.89	4.90	4.90	4.91	4.73	0.16	0.17	0.17	0.18

* Levels in metres above Ordnance Datum Newlyn



APPENDIX F – DRAWINGS



FLOOD LEVEL#						
Flood Node Ref	0.5% AEP	0.5% AEP (+20%CC, 2065)	0.5% AEP (+20%CC, 2115)	0.1% AEP	0.1% AEP (+20%CC, 2065)	0.1% AEP (+20%CC, 2115)
1	4.31	4.35	4.51	4.37	4.44	4.64
2	4.13	4.19	4.34	4.19	4.28	4.47
3	4.89	4.90	4.91	4.9	4.91	4.92
4	5.61	5.63	5.67	5.63	5.66	5.71
5	5.64	5.68	5.76	5.68	5.73	5.83
6	4.88	4.89	4.90	4.89	4.90	4.91

This drawing has been produced using the Environment agency Data acquired in Dec 2021. Flood levels for the site have been extracted from the EA 'Detailed Flood Model Data' contained within product 4 information pack.

KEY

Modelled Flood Node

Rev	Details	Drawn	Checked	Date



36 Brighton Road
Aldershot
GU12 4HQ

Client:

Mr. and Mrs. Adams-Madgwick

Project:

4 Bembridge Drive, Hayling Island

Drawing:

Flood Nodes and Topo Survey Data

Scale:
NTS

Sheet Size:
A3

Drawn:
SPS

Checked:
GG

Date:
JANUARY 2022

Drawing Number:
DWG AD-22-01

Revision:
-

Contractors, subcontractors and suppliers must verify all dimensions supplied on the drawings and on site before commencing works.
Check the contents of this drawing and any tabular information before ordering materials. Flood and Drainage Consulting Limited, this drawing must not be copied or reproduced in any way without their prior written consent.

This drawing has been produced using the Environment agency Data acquired in Dec 2021. Flood levels for the site have been extracted from the EA 'Detailed Flood Model Data' contained within product 4 information pack.

KEY



Modelled Flood Node



FLOOD LEVEL#						
Flood Node Ref	0.5% AEP	0.5% AEP (+20%CC, 2065)	0.5% AEP (+20%CC, 2115)	0.1% AEP	0.1% AEP (+20%CC, 2065)	0.1% AEP (+20%CC, 2115)
1	4.31	4.35	4.51	4.37	4.44	4.64
2	4.13	4.19	4.34	4.19	4.28	4.47
3	4.89	4.90	4.91	4.9	4.91	4.92
4	5.61	5.63	5.67	5.63	5.66	5.71
5	5.64	5.68	5.76	5.68	5.73	5.83
6	4.88	4.89	4.90	4.89	4.90	4.91

Contractors, subcontractors and suppliers must verify all dimensions supplied on the drawings and on site before commencing works. Check the contents of this drawing and any tabular information before ordering materials. Flood and Drainage Consulting Limited, this drawing must not be copied or reproduced in any way without their prior written consent.



36 Brighton Road
Aldershot
GU12 4HQ

Client:

Mr. and Mrs. Adams-Madgwick

Project:

4 Bembridge Drive, Hayling Island

Drawing:

Flood Nodes and Proposed Layout

Scale:

NTS

Sheet Size:

A3

Drawn:

SPS

Checked:

GG

Date:

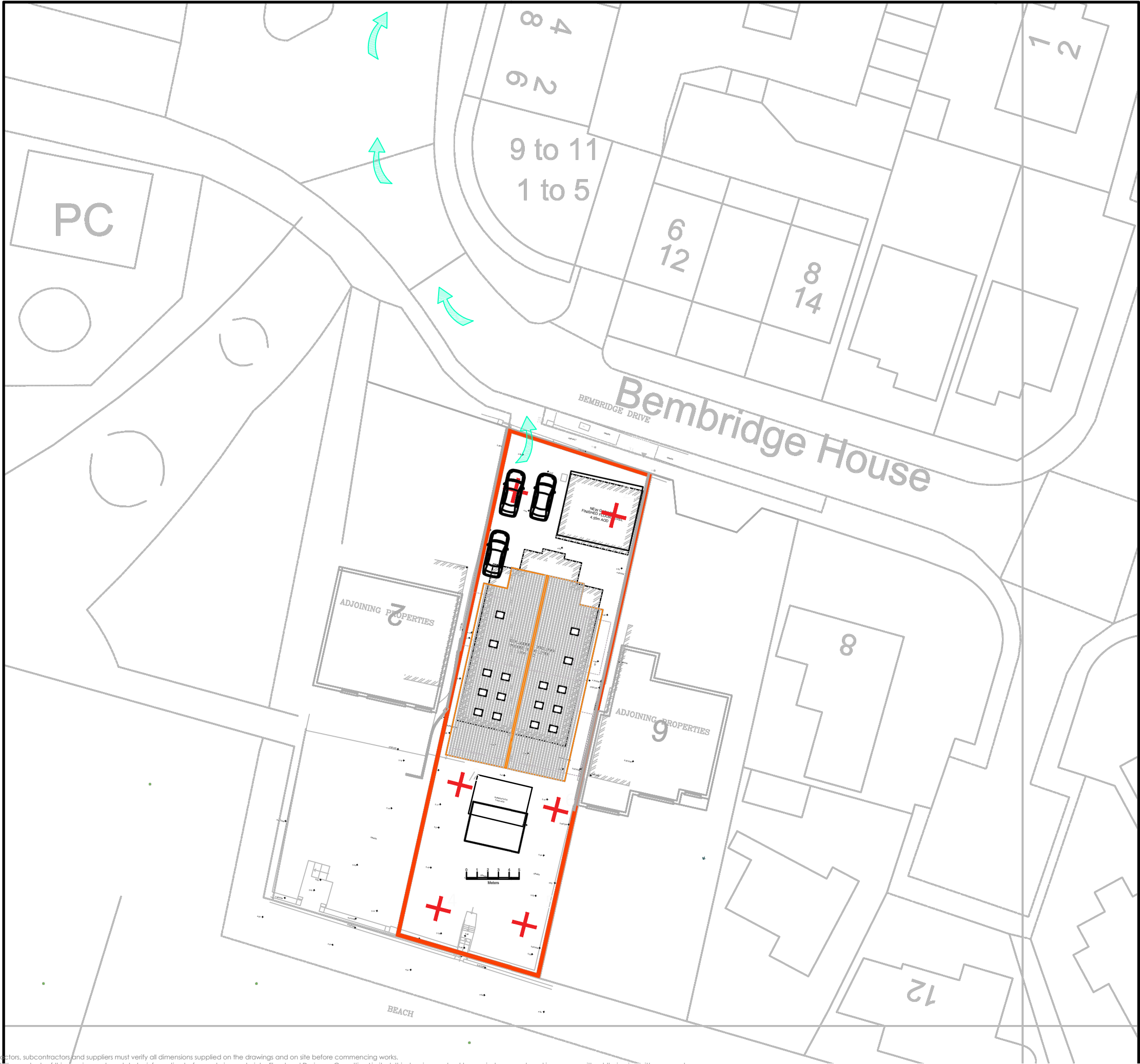
JANUARY 2022

Drawing Number:

DWG AD-22-02

Revision:

-



KEY



Site Evacuation Route

Rev	Details	Drawn	Checked
		Date	



36 Brighton Road
Aldershot
GU12 4HQ

Client: Mr. and Mrs. Adams-Madgwick			
Project: 4 Bembridge Drive, Hayling Island			
Drawing: Site Evacuation Route			
Scale: NTS		Sheet Size: A3	
Drawn: SPS	Checked: GG	Date: JANUARY 2022	
Drawing Number: DWG AD-22-03			Revision: -



APPENDIX G OFCOM'S 'MOBILE AND BROADBAND PLAN'

Ofcom

making communications work
for everyone

(<https://www.ofcom.org.uk/>)

Mobile and broadband checker

English (</en-gb/mobile-coverage>)

 |

Cymraeg (</cy-gb/mobile-coverage>)

Home (</>)

View broadband availability (</en-gb/broadband-coverage>)

View mobile availability (</en-gb/mobile-coverage>)

About the mobile and broadband checker (</en-gb/about-checker>)

View mobile availability

Use of this checker is subject to **Ofcom's terms of use** (<https://www.ofcom.org.uk/about-ofcom/website/terms-of-use>)

Please enter your postcode below to view the predicted mobile availability in your area, or click the button to enable the site to find your location.

PO119LU

📍 Change Location

4, BEMBRIDGE DRIVE ▾

Indoor

Outdoor

4G

No 4G

Results are predictions and not a guarantee. Actual services available may be different from results. [More information](https://checker.ofcom.org.uk/en-gb/about-checker) (<https://checker.ofcom.org.uk/en-gb/about-checker>)

This table shows the mobile availability in your area.

Provider	Voice	Data
EE	⚠	✓
Three	⚠	✓

Provider	Voice	Data
O2		
Vodafone		
Find out what these results mean 		
View map of available services 		
About this mobile checker		

[Feedback](#)

[Accessibility Statement \(https://www.ofcom.org.uk/about-ofcom/website/accessibility-checker\)](#)

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APPENDIX H ENVIRONMENT AGENCY'S FLOOD WARNING PLAN

Would you know what to do in a flood?



**FLOOD
ALERT**

PREPARE

- Prepare a bag that includes medicines and insurance documents
- Visit **www.gov.uk/check-flooding**



**FLOOD
WARNING**

ACT

- Turn off gas, water and electricity
- Move things upstairs or to safety
- Move family, pets and car to safety



**SEVERE
FLOOD
WARNING**

SURVIVE

- Call 999 if in immediate danger
- Follow advice from emergency services
- Keep yourself and your family safe

Visit **check-for-flooding.service.gov.uk/plan-ahead-for-flooding**

#PrepareActSurvive