

Flood Risk Assessment.

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Support Services

Proposed Replacement Holidays Chalets

at: The Yacht Club at Brandy Hole
Kingsmans Farm Road
Hullbridge
Essex
SS5 6QB

for: Mr. L. Knifton.

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Document/Plan Ref: LK/SM/BH/16

January 2012

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Applicant:

Mr. L. Knifton.

Agent:

Stuart Moncur, 2 Seaview Avenue, West Mersea, Essex. CO5 8HE.

Application Address:

The Yacht Club at Brandy Hole, Kingsmans Farm Road, Hullbridge, Essex. SS5 6QB.

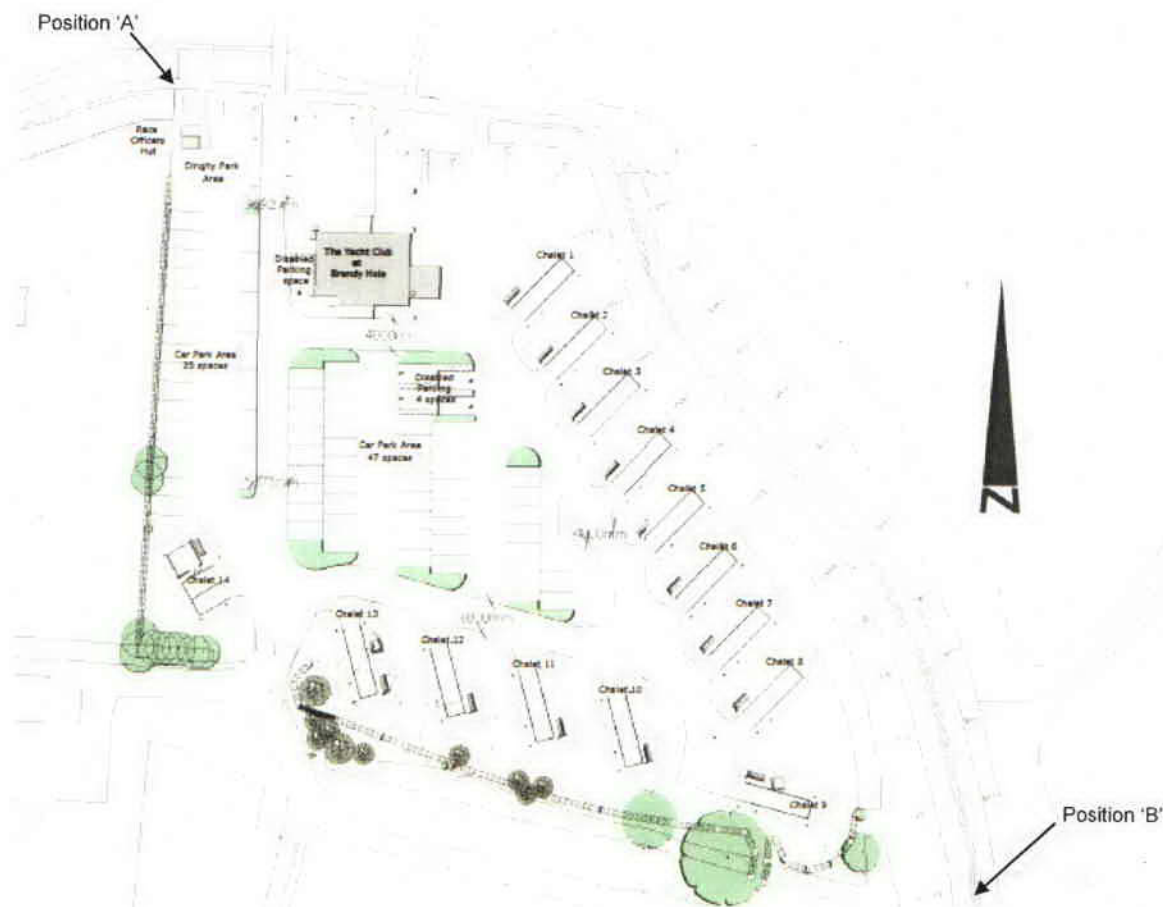
Application Description:

Proposed Replacement Holiday Chalets within the curtilage of The Yacht Club at Brandy Hole, Kingsmans Farm Road, Hullbridge, Essex. SS5 6QB.

General Site Assessment:

The site of the proposed application is located off Kingsmans Farm Road in the village of Hullbridge in the county of Essex. The overall application site area is approximately 1.2154 hectares. The site forms part of an existing established village settlement. The property also lies within the designated Rochford District Council Adopted Replacement Local Plan area. The site is adjacent to a tidal estuary of the River Crouch and is classified by the Environment Agency as being at significant risk of flooding.

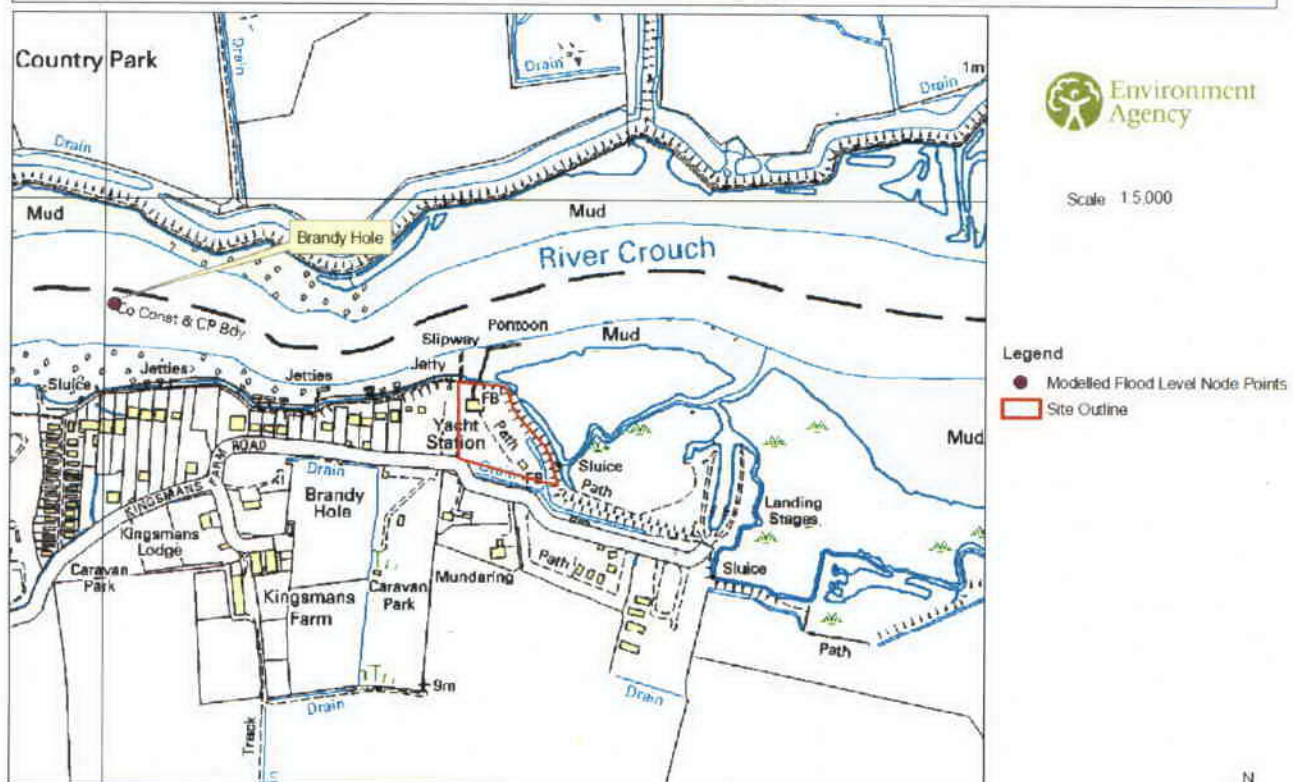
**Location Plan as Existing:**



Site Layout as Proposed:

Flood information as provided in consultation with Environment Agency Corporate Services:

**Modelled Flood Level Location Map centred on Hullbridge - Created 27th March 2012.
Ref: CCE/2012/47541**



Tidal flood levels (mAODN)

UNDEFENDED LEVELS

Node	50% (1:2)	20% (1:5)	10% (1:10)	5% (1:20)	5% (1:20) +CC	2% (1:50)	1.3% (1:75)	1% (1:100)
Brandy Hole	3.31	3.46	3.59	3.72	4.83	3.90	3.97	4.03

Node	1% (1:100)+CC	0.75% (1:150)	0.5% (1:200)	0.5% (1:200)+CC	0.33% (1:300)	0.1% (1:1000)	0.01% (1:10000)
Brandy Hole	5.12	4.11	4.17	5.26	4.24	4.45	5.55

DEFENDED LEVELS

Node	50% (1:2)	20% (1:5)	10% (1:10)	5% (1:20)	5% (1:20) +CC	2% (1:50)	1.3% (1:75)	1% (1:100)
Brandy Hole	4.04	4.19	4.32	4.44	4.88	4.54	4.57	4.59

Node	1% (1:100)+CC	0.75% (1:150)	0.5% (1:200)	0.5% (1:200)+CC	0.33% (1:300)	0.1% (1:1000)	0.01% (1:10000)
Brandy Hole	4.93	4.62	4.63	4.95	4.64	4.68	4.97

CC=Climate Change

Source Of Information:Roach and Crouch Strategy Study By JBA 2011

Defence Line Information

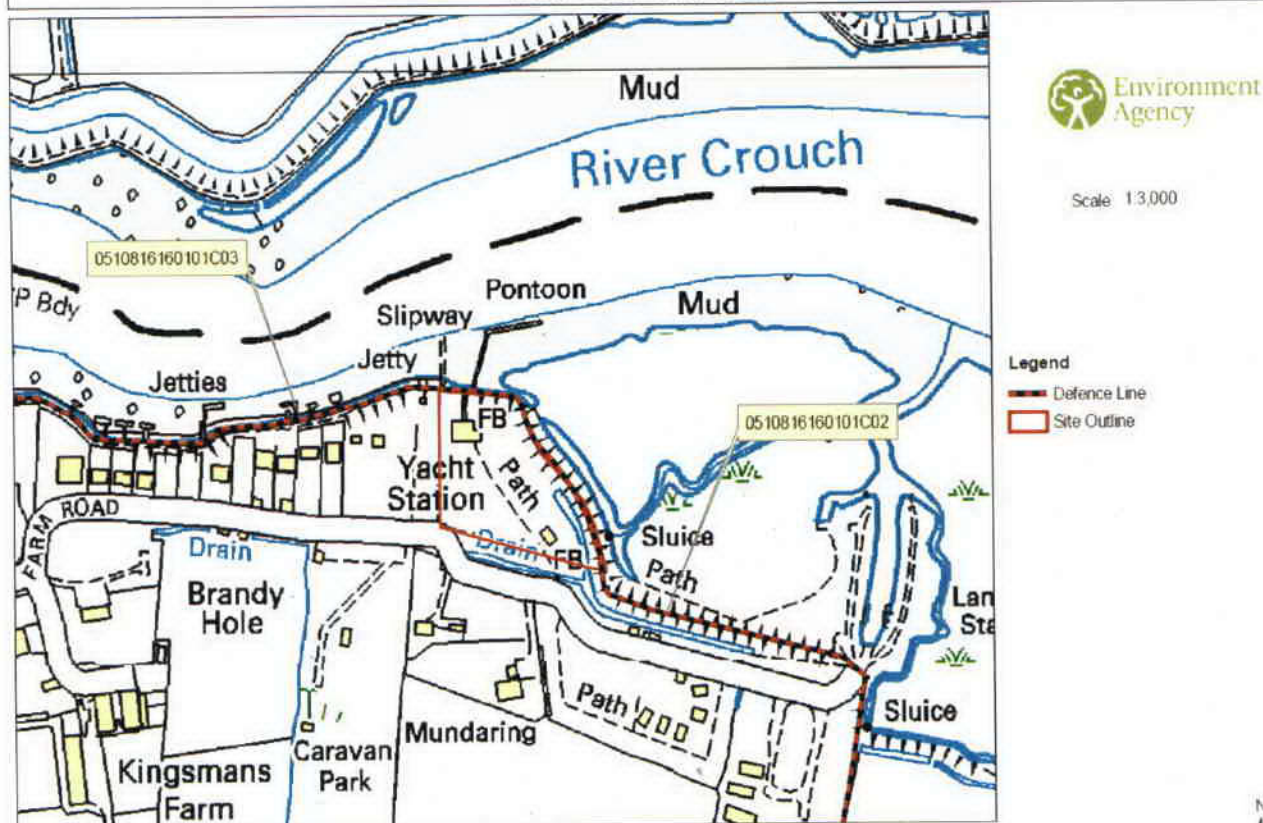
Asset Reference	Asset Type	Asset Description	Standard Of Pro	Overall Condition	Crest Level (m)
0510816160101C03	sea defence (man-made)	Clay seawall - Steel Sheet Pile crest wall - Canewdon slab/essex revetment OSA/Grouted ragstone in palces	1-40 (2.5%)	2	4.70
0510816160101C02	sea defence (man-made)	Clay seawall	1-2 (50%)	2	4.64

Key to Overall Condition Grades

Grade	Description
1	Cosmetic Defects that will have no effect on performance.
2	Minor defects that will not reduce the overall performance of the asset.
3	Defects that could reduce performance of the asset
4	Defects that would significantly reduce the performance of the asset. Further investigation
5	Severe defects resulting in complete performance failure.

Flood information as provided in consultation with Environment Agency Corporate Services:

Flood Defence Location Map centred on Hullbridge - Created 27th March 2012.
Ref: CCE/2012/47541

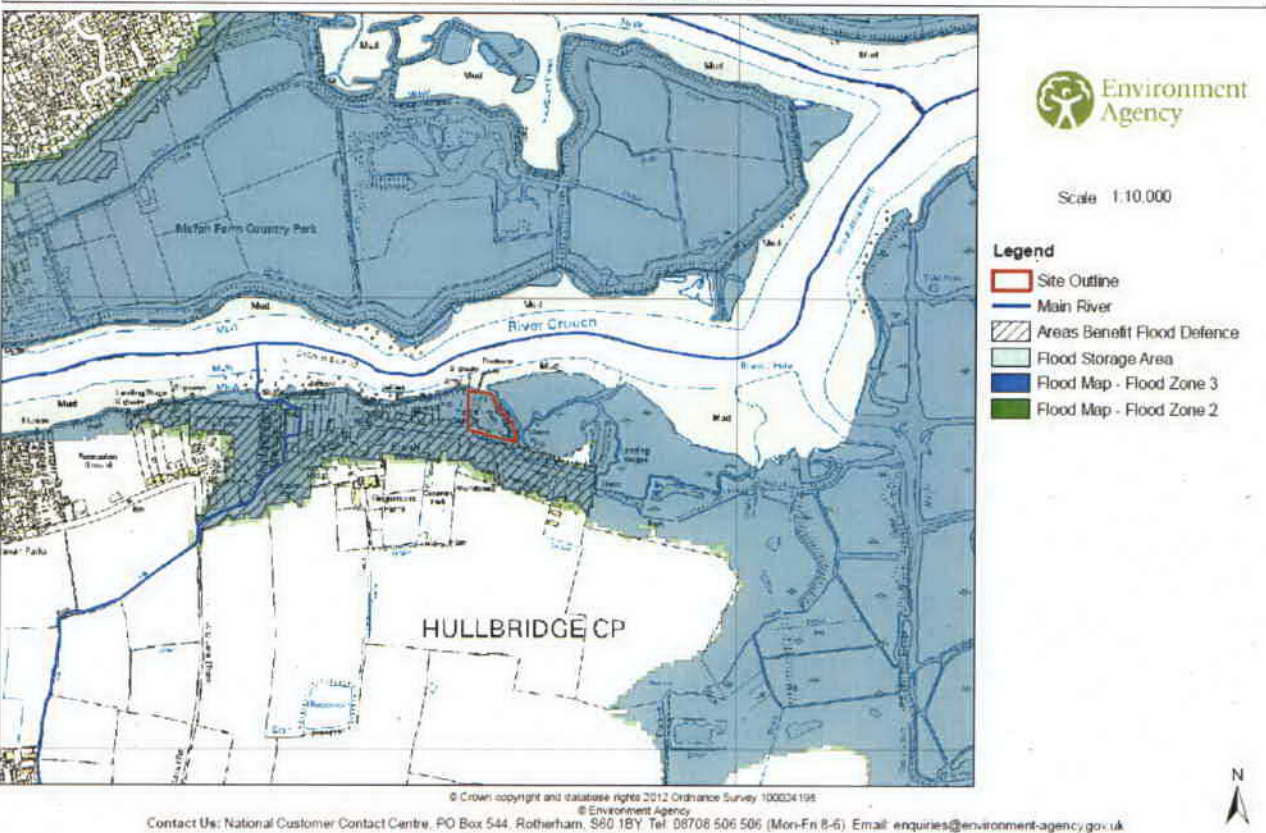


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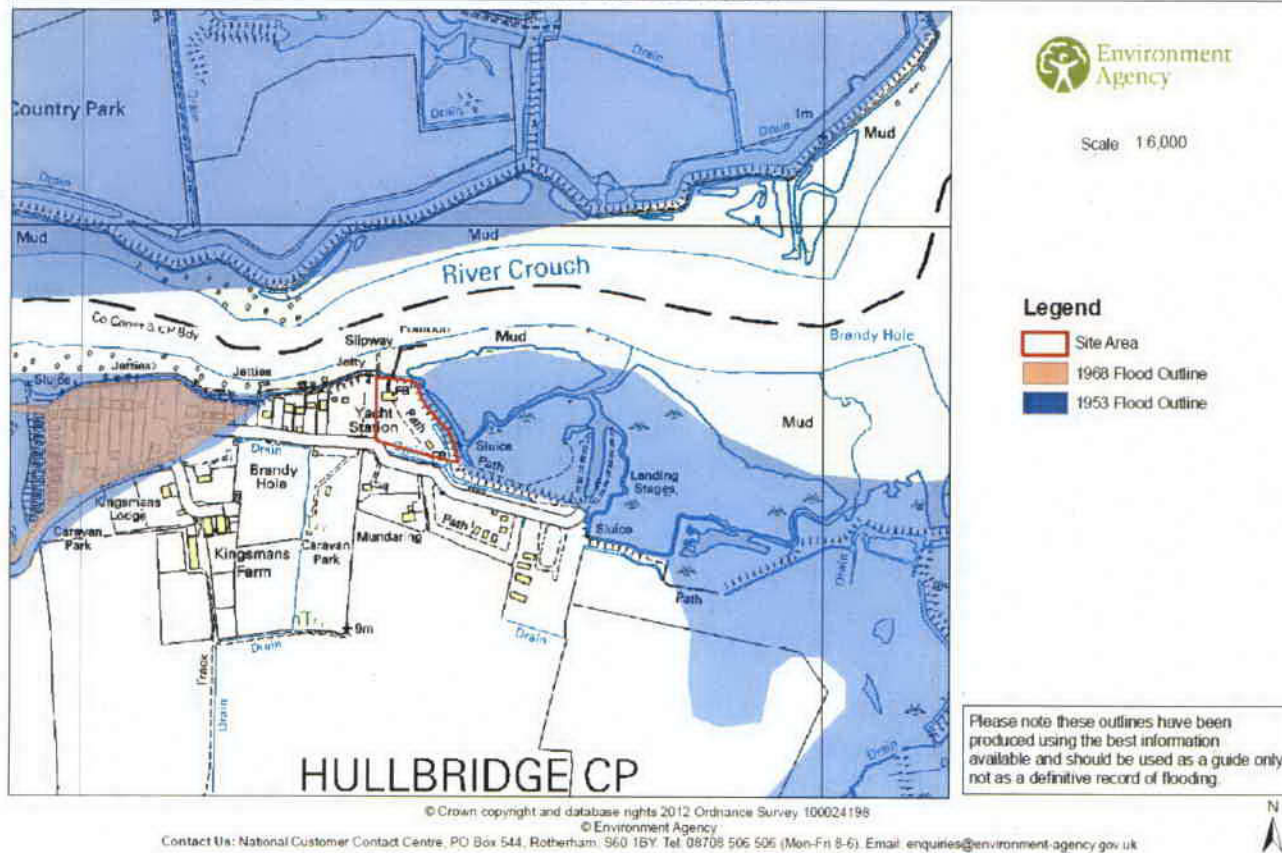
Contact Us: National Customer Contact Centre, PO Box 544, Rotherham, S60 1BY. Tel: 08706 506 506 (Mon-Fri 8-6). Email: enquiries@environment-agency.gov.uk

Detailed Flood Map centred on Hullbridge - Created 27th March 2012.
Ref: CCE/2012/47541



Flood information as provided in consultation with Environment Agency Corporate Services:

Historic flood outlines centred on Hullbridge - Created 27th March 2012.
Ref: CCE/2012/47541



Flood Impact and Flood Risk Assessment:

Physical:

The existing flood defence wall has been designed to exceed the 1 in 50 year flood risk level criteria. The land behind the sea wall is low lying and fairly level over a widespread area therefore it is envisaged that no local significant depth of flood water would be retained on site should the wall be breached or over topped. The wall piling and embankment formation is of recent construction therefore the risk of breach for the foreseeable future is reduced. Flow speeds if breached would low but sustained and extended especially at during high tide times. From an on site topographical survey the following levels have been recorded at intervals between Position A and Position B on indicated on the site layout as proposed drawing included as part of this document: Position A 4.88; 4.871; 4.886; 4.854; 4.878; 5.06; 5.11; 5.00; 5.07; 5.08; 5.06; 5.07; 5.09 Position B.

Flood Risk Analysis:

In consultation with Environment Agency Corporate Services it is recommended that for the purpose of flood risk assessment the proposed development shall demonstrate safety and sustainable and eliminate vulnerability within a flood zone.

The proposed chalets in compliance with the recommendations shall therefore be elevated above the required 0.5%(1:200)+CC flood level mAODN of 4.95 plus a minimum 300mm freeboard allowance equating to a total of 5.25mAODN.

The chalets are of timber clad on timberframe construction supported on a galvanized steelwork fabrication secured to a reinforced concrete raft type foundation the heights to the underside of the elevated deck structure shall be compliant to the agreed 5.25mAODN. See drawing references LK/SM/BH/05/Rev'A'; 06/Rev'A'; 07/Rev'A' and 08/Rev'A'. An integrated flood warning system shall be provided throughout the chalet development compliant to the requirements of the Environment Agency.

Conclusion:

The proposed Replacement Holidays Chalets at The Yacht Club at Brandy Hole, Kingsmans Farm Road, Hullbridge, Essex are therefore not at risk from the 1:200 year flooding as the finished habitable floor level throughout the chalet development is calculated to be equal to **5.65mAODN**.

Construction Informatives:

In order to comply with the standing advice pages on the Environment Agency website and as an assurance to the Local Planning Authority that flood risk issues have been adequately addressed, the proposals shall be constructed to the recommendations of the Communities and Local Government literature - Improving the flood performance of new buildings - CLG 2007. A full version of this document is available from the website: www.planningportal.gov.uk/uploads/br/flood_performance.pdf

Car Parking - The layout as show denotes formally designated parking spaces, however it is envisaged, subject to planning agreement to provide and maintain a more semi formal unmarked parking area with a permeable surface finish compliant to current requirements and recommendations of the Local Authority and the Environment Agency.

The structural stability/integrity of the proposals shall be of such a design to withstand the pressure of tidal water up to the at least the agreed flood risk level datum plus climate change plus a 300mm freeboard allowance.

All services to the proposed chalets shall also be isolated and protected up to the agreed flood risk level datum. Drainage systems both foul and storm shall be so installed with non-return inspection chambers and manholes to prevent backup ingress to the chalets.