

CHURCH FARM HOLIDAY VILLAGE

Site Specific Flood Risk Assessment

This site specific flood risk assessment (FRA) has been prepared by Alastair Tindle to accompany an application to extend the site occupancy period at Church Farm Holiday Village. This FRA also addresses issues raised within a consultation with the Environment Agency as part of a partnership development agreement.

Alastair Tindle BSc. MICE C.Eng is a Chartered Engineer with over 35 years of experience. The last 20 years work has concentrated on coastal defence and flood risk issues acting for clients throughout the UK.

The Church Farm Holiday Village is owned by Bourne Leisure, during discussions in 2012 and 2013 the condition of the earth embankment protecting the site and the adjoining lagoon were discussed with the Environment Agency (EA). The EA manages and maintains all the inshore infrastructure relating to flood defence in the Pagham Harbour area. It was agreed that the earth embankment required upgrading and a partnership agreement between the EA and Bourne Leisure was drawn up.

The agreement set out joint funding proposals for the increase in height of the embankment crest and the construction of new sections of embankment. The new embankment was to achieve flood risk levels of greater than 1 in 200 annual probability of flooding from the sea in any one year. Previously the embankment was achieving a 1 in 1 and a 1 in 5 level of protection due to lack of maintenance and repairs over the years. There was a serious threat of flooding to the holiday village but also through the caravan site to Pagham Village itself.

Through the partnership arrangement work was carried out in 2014 and 2015, raising and constructing an embankment around the holiday village as well as increased protection to the causeway of the lagoon. The work was completed in November 2015. The work was also intended to allow the holiday village to carry out new developments.

The Mean High Water Spring Tidal Level in Pagham Harbour is 2.55 AOD. The peak water level (Royal Haskoning 2005) is 2.85 AOD. The crest height of the embankment has been set at 4.1 AOD, a 1 in 200 year standard (0.5% chance in flooding in any given year) to include allowances for sea level rise over the next 100 years.

A letter from the Environment Agency is included with this FRA detailing these figures.

Alastair Tindle
9th May 2017

Our ref: Pagham harbour inland banks

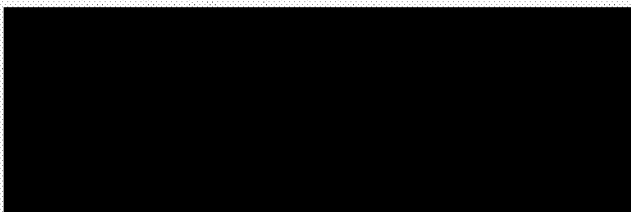
Date: 16 May 2017

Dear Mr Tindle,

Thank you for your recent correspondence. As per the below, I have included details relating to the specification of our recently completed "Pagham Harbour Inland Banks Flood Alleviation Scheme". I hope this provides everything you need, but do feel to contact me on the details at the bottom of this letter, if I can be of any more assistance.

The project was designed to a crest height of 4.1mAOD. At the time of design and writing, this crest height reduces the risk of flooding to below 0.5% in any given year and includes an allowance for climate change. This is shown clearly in the various maps and data we have sent over as part of this discussion. In particular, the document titled '*Church Farm Pagham PO21 4NR Modelled Flood Outlines (Defended Tidal)*' shows that the site only becomes at risk of flooding during a 0.5% event in 2115 and not before, nor for any more frequent flood events.

Yours sincerely,



Nick Gray

Senior FCRM Advisor



Our ref: Pagham inland flood banks

Date: 08/05/2017

Dear Sir/Madam

Provision of Product 4 for address: Church Farm, Pagham, PO21 4NR

Thank you for your request of 10/05/2017 to use Environment Agency data, Product 4. 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 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.

Please find attached a copy of the Flood Map for Planning (Rivers and Sea) for the area relating to your address.

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

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

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

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

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

Following a recent research programme into climate change and the consequent future effects on flood risk, the Environment Agency has updated it's guidance on climate change allowances. The standard climate change allowance of adding 20% to peak river flows (as per previous guidance in the National Planning Policy Framework), has now changed to 45% for a development proposal of this size. It is possible that our current modelling has under estimated flood risk when taking

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

climate change into consideration. Our advice on potential development on this site will take this issue into consideration.

For further guidance on how climate change could affect flood risk to new development please visit: <https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances>

Supporting Information

Flood Defences

Flood defences completed in 2015 were built to a level of 4.2mAOD. These defences were designed to reduce the risk of flooding to less than 0.5% including climate change.

Model Information

All flood outlines, depths and levels have been taken from the River Arun to East Head 2016 model completed by JBA Consulting using TUFLOW (2D) software.

Flood History

We do not have any records of previous flood events affecting this site. I would suggest contacting the Chichester District Council for a more comprehensive flood history check.

Please note our records are not comprehensive and may not include all events, you can contact your Local Authority to check if they hold any relevant information regarding your application.

You are encouraged to use and re-use this information freely and flexibly, with only a few conditions. Details of which can be found here:

<http://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/>

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

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

If you have any queries or would like to discuss the content of this letter further please call us on 03708 506506.

Yours sincerely,
Jon Denman
West Sussex PSO Team

Enc. Flood Map for Planning (Rivers and Sea) / Node point locations / Flood levels/depths / Modelled flood outlines / Flood Defence Locations

Use of Environment Agency Information for Flood Risk Assessments

Important

If you have requested this information to help inform a development proposal, then we recommend that you undertake a formal pre-application enquiry using the form available from our website:-

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

Depending on the enquiry, we may also provide advice on other issues related to our responsibilities including flooding, waste, land contamination, water quality, biodiversity, navigation, pollution, water resources, foul drainage or Environmental Impact Assessment.

You should refer to the Environment Agency's Flood Risk Standing Advice, Planning Practice Guidance, and the existing PPS25 Practice Guide for information about what flood risk assessment is needed for new development in the different Flood Zones. These documents can be accessed via:

<https://www.gov.uk/flood-risk-assessment-standing-advice>

<http://planningguidance.planningportal.gov.uk/>

<http://www.planningportal.gov.uk/planning/planningpolicyandlegislation/previousenglishpolicy/ppqpps/pps25>

You should also consult the Strategic Flood Risk Assessment produced by your local planning authority.

You should note that:

1. Information supplied by the Environment Agency may be used to assist in producing a Flood Risk Assessment (FRA) where one is required, but does not constitute such an assessment on its own.
2. This information covers flood risk from main rivers and the sea, and you will need to consider other potential sources of flooding, such as groundwater or overland runoff. The information produced by the local planning authority referred to above may assist here.
3. Where a planning application requires a FRA and this is not submitted or deficient, the Environment Agency may well raise an objection.
4. For more significant proposals in higher flood risk areas, we would be pleased to discuss details with you ahead of making any planning application, and you should also discuss the matter with your local planning authority.



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Legend

- Site Nodes
- ▬ Site Boundary
- 20% AEP (Un defended Tidal)
- 5% AEP (Un defended Tidal)
- 3.3% AEP (Un defended Tidal)
- 1.3% AEP (Un defended Tidal)
- 1% AEP (Un defended Tidal)
- 0.5% AEP (Un defended Tidal)
- 0.5% AEP (2070) NPPF (Un defended Tidal)
- 0.5% AEP (2115) NPPF (Un defended Tidal)
- 0.2% AEP (Un defended Tidal)
- 0.1% AEP (Un defended Tidal)

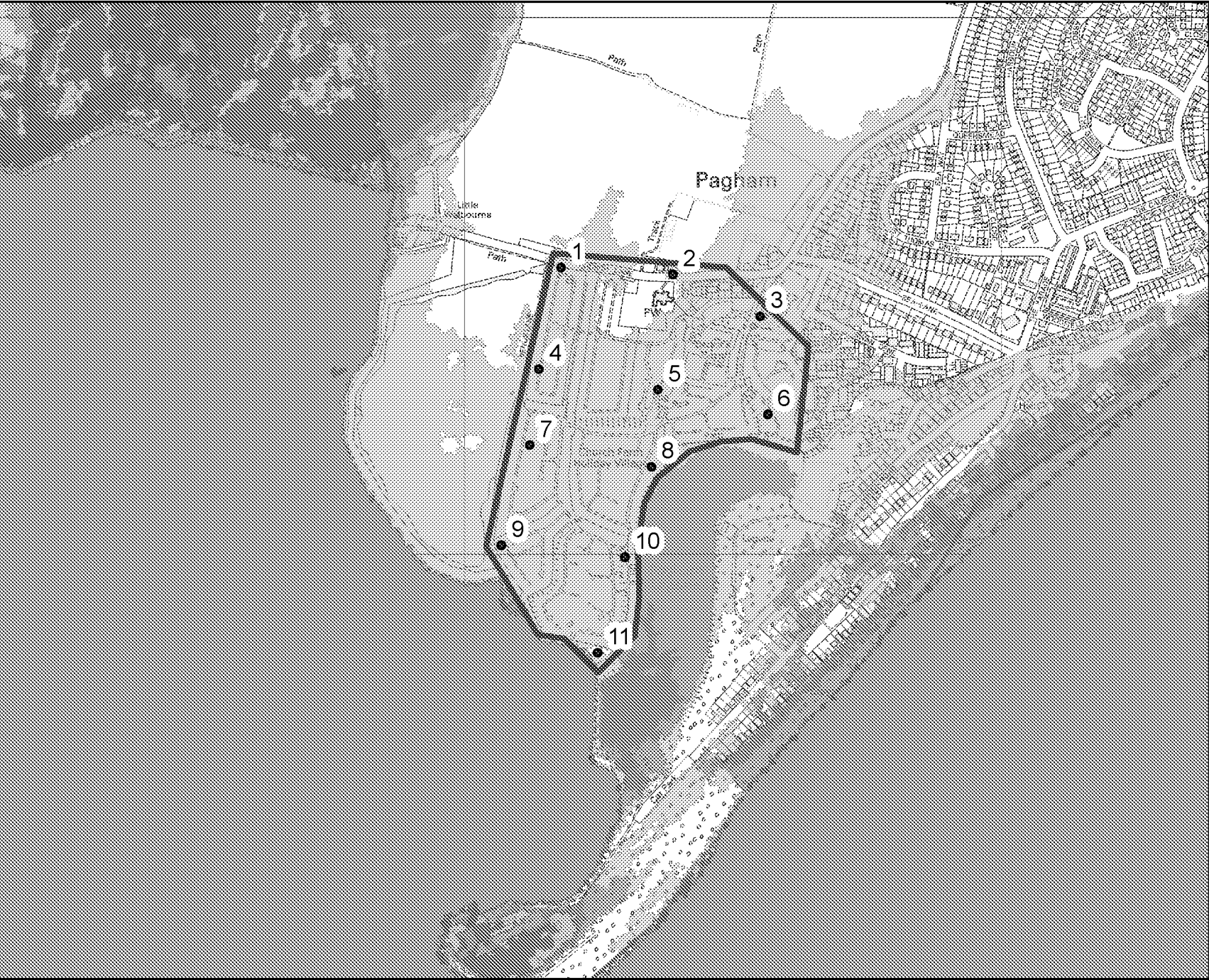
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Kilometers



Modelled Flood Outlines (Defended Tidal). Centred Church Farm, Pagham, PO21 4NR.
Created 05/05/2017.





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Legend

- Site Nodes
- ▬ Site Boundary
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- 5% AEP (Defended Tidal)
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Kilometers