Agenda & Notes

Meeting Date: Thursday 19th November 2015

herrington CONSULTING LIMITED

Project: Chartham Mill, Chartham, Kent

Actions

See meeting notes below.

Present: Simon Maiden-Brooks (HC), Kirsty Thomas (HC), Meriel Mortimer (Environment Agency), Michelle Waterman-Gay (Environment Agency), Mark Hobday (Argo Wiggins)

- **Introductions**

- **Objectives:** Primary objective is to agree obtain an agreement in principle from the EA that the methodology adopted for appraising the risk of flooding to the Chartham Mill Site is acceptable. Furthermore, to agree the approach to modelling any proposed mitigation measures to ensure they are appropriate.

- **Background:** A brief history of the site from a planning context

- **Role of Herrington Consulting:** (SMB)
  To undertake a review of the EA strategic model
  Following discussions with the EA, refine the numerical flood model at a site specific scale
  Re-run the high resolution model to investigate the impact of the proposed development and any mitigation measures
  Prepare a FRA to accompany a planning application

- **Description of model:** (SMB/KT) to summarise work undertaken do date by HC
  Description of EA model and conclusions of background report
  Construction of calibration scenario (weir data)
  Amended Baseline Model to redefine FFP
  Re-run Baseline Model for 1 in 100+CC

- **Results so far:** (SMB/KT)
  Calibration results
  FFP (1 in 20)
  1 in 100+CC
  Current Draft Masterplan
  Ideas for Mitigation; flood alleviation channel, sluice control

- **The Way Forward:** (All) Led by EA on the most suitable way forward for the project.

Summary of Meeting Notes:

Dear Meriel/Michelle

Thank you for your time yesterday with regard to discussing the way forward for the proposed development at Chartham Mill.

As discussed I stated I would provide a brief summary of discussions, outlining the key points agreed (below):

- Mark Hobday (MH) provided an overview of Chartham Mill site and the proposals for development at this location.

- Simon Maiden-Brooks (SMB) subsequently explained that the results from the existing EA flood model show the proposed site to be affected under the 1 in 20 year return period (Functional Floodplain (FFP)).

  SMB described how Herrington Consulting (HC) had undertaken a more detailed numerical modelling report to establish whether the strategic flood model was appropriate in order to determine the risk of flooding on a site specific scale.

  The conclusion of the numerical modelling report identified that the coarse nature of the grid was appropriate for a large scale study (i.e. from Ashford to Canterbury), however, the 12m resolution provided erroneous results at the site and did not calibrate well with the measured weir data at Chartham.

  Consequently, a more detailed model has been prepared by HC with a reduced model domain, reduced grid size (6m) and improved site specific topographic data. The findings from this model show the site to remain dry under the 1 in 20 year return period, although there is the potential for some flooding under the design event (1 in 100 year return period including an allowance for climate change).

  SMB described the methodology used to calibrate the site specific model and how the model was constructed. The Environment Agency (EA) agreed that in principle that the methodology used and findings of the site specific model were acceptable, although it was agreed that the EA modelling team would be required to be consulted to confirm this.

- On the assumption that the site is no longer shown to be located within the FFP and that the site is previously developed brownfield land, the EA agreed in principle that development would be acceptable at this location on the assumption that the risk of flooding under the design event could be appropriately mitigated.

- SMB provided an indicative masterplan layout for discussion, delineating the proposed residential buildings located on the higher parts of the site. SMB also highlighted that the modelling currently shows some of the proposed development areas partially flooded under the design flood event, as a result of the Horton Brook overtopping its banks.

A discussion ensued regarding the Horton Brook and the main channel and it was concluded that the Horton Brook posed the main threat to the site, primarily due to the water level being managed in the two main channels by the hydraulic control structures at the mill.

- SMB suggested that one potential mitigation option could be to provide a flood relief channel connecting the Horton Brook to the main river channel, thus reducing the water level in the Horton Brook. This option has the potential to:

1. reduce the water level in the Horton Brook and therefore reduce the risk to the existing properties adjacent to the Horton brook which are currently at risk of flooding.

2. reduce the risk of flooding on the (proposed) developed areas of the site, directing water to a flood storage area.

3. reduce the risk of flooding as a result of a blockage at the downstream confluence of the Horton Brook and main channel (currently managed by a control structure – outside of the control of Arjo Wiggins Chartham).

- It was acknowledged that a bridge would be required to provide a safe link from eastern part of the development site to the western part, and that this bridge would need to span the width of the flood relief channel (to prevent blockage).

- The area allocated as open space would need to be lowered in some areas, but not reduced too low as to prevent flooding from groundwater as the river levels rise.

- The inflow and outflow structures would need to be fixed, thus preventing any reliance on maintenance, whilst maintaining water levels. A raised embankment or raised road may be required to reduce the risk of flooding to the western part of the development.

- It was agreed by the EA that in principle these mitigation measures would provide a potential solution to minimise the risk of flooding on site, however, it was recognised and agreed by all that a further series of model runs would be required to demonstrate that there would be no detrimental impact as a result of these mitigation measures. The EA stated that there would be a requirement for the EA modelling team to confirm the findings of the model.

- In addition, it was agreed that the development site should not contain any residential units with ground floor sleeping, or comprising a single storey. The EA confirmed that 2 storey houses (and above) should ideally be used, with 300mm of freeboard for living and 600mm of freeboard for sleeping accommodation being applied respectively. All agreed that this will be taken forward and discussed with the Local Authority Planning Officer.

- With respect to the next stages in the development process, **it was agreed that the EA would confirm that in principle the site is shown to be located outside of the functional floodplain and furthermore, appropriate mitigation measures are available to minimise the risk of flooding to the proposed development under the design flood event.**

  This is on the basis of the discussions outlined above, the indicative masterplan provided, and on receipt of a comprehensive Flood Risk Assessment at the planning application stage

which shall be supported by a numerical model (the finding of which will need to be approved by the EA modelling team).

- MH to discuss the proposals with Canterbury City Council in more detail and work towards the delivery of a planning application, accompanied by a detailed FRA. The EA pre-application advice service could be used prior to the submission of a planning application to ensure that the EA will raise no objection to the proposals.

- HC to test the proposed mitigation measures once CCC has been consulted with regard to the suitability of the current layout/design.

I trust this is a true record of our discussions and I would welcome your thoughts, comments or suggested amendments if necessary.

In the absence of any response with 14 days I will assume that the above account is a true record of our discussion and we therefore advance the application on this basis.

Meanwhile, should you require any further help or assistance pertaining to the above, please do not hesitate to contact me.

Yours sincerely

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Technical Director & Partner