

SUBJECT: Update on the Caterham Bourne Flood Alleviation Study

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The purpose of this paper is to provide an update on the progress of the Caterham Bourne Flood Alleviation Study

Background

- Following severe flooding in Croydon and Tandridge in February 2014, a successful funding bid was made jointly by Croydon Council and Surrey County Council, through the Flood and Coastal Erosion Risk Management Grant in Aid (FCERM GiA) application process, to fund a study that would investigate the flooding mechanism along the Caterham Bourne catchment and identify viable long term measures that alleviate future flooding or minimise the impact.
- The Caterham Bourne Flood Alleviation Study (FAS) was intended to consider and address all the sources of flooding including groundwater, fluvial, surface water and sewer flooding and understand how the combined risks, along with existing drainage infrastructure, impacts on total flood risk profile in the catchment and how measures can be taken to reduce risk to people, properties and infrastructure; adopting innovative approaches to understand and model the combined risk.

Highlights

- A multi-agency project team was set up to deal with the immediate actions that were required to safeguard the areas that were impacted by the flooding. This resulted in a combination of short and medium term flood alleviation measures implemented while the Caterham Bourne Flood Alleviation Study commenced.
- The Caterham Bourne FAS commenced in October 2014 with a data gathering exercise which was to inform the study. As this was a multi-agency project, there were challenges with the consultant receiving the necessary data from all the parties. This meant that the process took longer than anticipated.
- The data gathering exercise was followed by the *Catchment Investigation* phase which was where a computer model was constructed to develop the flood alleviation measures. Due to the complex nature and unique hydrology of the Bourne (mainly the groundwater aspect), the consultant undertaking the study was faced with a number of challenges. A decision was then taken that a bespoke approach would be required to enable the project to be more ambitious in its analytical output. The groundwater response needed to be calibrated and off-the-shelf design events do not work for groundwater.
- The search for a workable solution had resulted in the project being delayed by approximately 18 months. In March 2017, the consultant held a workshop to update the Project Partners on its progress on the solutions to overcome the groundwater issues. This had involved ground breaking innovative ideas which had never been used before in studies of this nature, and the use of the most powerful computers in the country. It is worth noting that the consultant had borne the entire costs of researching and developing the innovative ideas used and not passed this on to the project costs. A demonstration that the project is being delivered at good value for money.

- Following the workshop in March, a newsletter was produced and delivered to the residents/businesses in Croydon and Tandridge that were impacted by the flooding in 2014. The aim of the newsletter was to update those residents/businesses on the progress of the Caterham Bourne Flood Alleviation Study and provide an explanation as to why there had been a delay in delivering the study outputs. The newsletter also provided an update on the short and medium term measures that had been implemented by the Project Partners, to mitigate any major flooding event that may occur while the study is taking place (to assure residents/businesses that the Project Partners are fully prepared), and a list of measures that residents/businesses could implement in order to minimise flood risk to their properties.
- In September 2017, the consultant held a workshop with the Project Partners to provide further updates on its progress with the study. The consultant confirmed that it had now overcome all the challenges and completed construction of the baseline computer model. Initial testing had indicated that the system was stable and working satisfactorily.
- In November 2017, the Project Partners met with the consultant and proposed a long list of options that would be tested on the computer model.

Next Steps

Key Activity	Date
<ul style="list-style-type: none"> • The long list of options proposed above would be tested using the hydraulic model in order to identify which options are technically viable and useful, and develop an option matrix to assess the technical, economic and environmental viability such that a short list of options can be taken forward for more detailed appraisal 	September 2017 – February 2018
<ul style="list-style-type: none"> • 2 x Public Communication Events (i.e. one in Croydon and one in Tandridge) are planned to provide an opportunity for residents/businesses to hear about and comment on the flood alleviation measures that are being proposed, prior to the Outline Business Case (OBC) being finalised and action plans are produced 	January / February 2018
<ul style="list-style-type: none"> • Develop the Outline Business Case (OBC) 	February 2018 – October 2018
<ul style="list-style-type: none"> • Present the Outline Business Case to the Project Approval Board (PAB) 	November 2018

Activities beyond the Outline Business Case

The following activities are expected to take place after the OBC has been approved by Project Approval Board:

Activity	Date
<ul style="list-style-type: none"> • Develop a Full Business Case (FBC) 	TBC
<ul style="list-style-type: none"> • Design proposed flood alleviation measures and prepare cost estimates 	TBC
<ul style="list-style-type: none"> • Appoint a contractor / construct proposed flood alleviation measures 	TBC