Report from the River Thames Scheme seminar held at Imber Court on 17 November 2016

The day was introduced by Nathan Fahy, project leader for what is the Environment Agency's biggest (£475m) project to alleviate flood risk across the undefended flood plains of the Thames upstream of London, between Teddington and Datchet.

There was an informative presentation from design and modelling engineers which conveyed some idea of the size, scale and scope of the River Thames Scheme as a project, with new flood relief channels, use of local lakes and increase of weir capacity at locks.

Documentation at the seminar presentations has now been published on the special website here.
https://www.gov.uk/government/publications/river-thames-scheme-public-consultation-and-drop-in-sessions-november-and-december-2016

Everyone at the day had memories of the most recent flooding event, that persisted throughout two months from Christmas 2013 to February 2014. Flood waters filled up Hurst Meadows and inundated Tagg's Island. Although this was classified from its height and flow as only a 1 in 15 year flood, its duration was remarkable. "People feel it was a bigger flood," officers commented. "Floods don't come evenly spaced," they added, and there were graphs to show it with drier periods without flooding. There were other recent floods on the Thames in January 2003 and October 2001, and there is water in the Meadows most winters. The 2014 flood was exceptionally long with a larger volume than ever recorded.

The officers described the factors that create a flood: fluvial (downstream flows) and/or tidal (upstream flows), producing water levels higher than the banks. The fluvial flows, caused by excessive rainfall, were the biggest contributors to flooding for Molesey, with a large drainage area and two major tributaries, the Wey and the Mole rivers. High levels in the tidal Thames also have an influence as far upstream as Molesey, but not beyond. "There is a tidal influence on water levels of about ten to 20cm at Molesey," the officers reported.

The audience was told that the River Thames Scheme was about conveyance, and the movement of water. There would be three 50m wide channels constructed to bypass some of the Thames weirs, a widening/deepening of the Desborough Cut and increased capacity over the lock weirs to reduce risk of flooding. All riverside communities within the area of the scheme would benefit to some extent with a reduced flood risk, although there would still be some high risk properties that the scheme could not help. Sections bypassed by a new channel would benefit most, with a 1m reduction calculated.

Something of the size of the scheme was conveyed, - over 1,000 borehole assessments had been carried out with testing and analysis. There had to be careful use of materials to protect new channels where they passed through old contaminated landfill sites. Equally important, the officers said, was that the scheme should be more than only for flood relief; it should enhance the landscape and the environment.

There was huge modelling detail - down to 10m grids - with calibration to compare the models with actual levels and flows, helped by upstream and downstream gauges on the locks and four gauges along the length of the scheme.

In addition to the works, the Agency was discussing with Thames Water an increase to pumping from the river at peak flows. This would require accurate flood forecasting to ensure reservoirs could be topped up at the right times. A further option was to level down the higher areas on Ham Lands, just below Teddington Lock, to increase flood storage capacity of what was an unbuilt open space.

Officers at the Thames Barrier reiterated that tidal effects extended to Molesey, where they were still to be seen. However, where the barrier was used for fluvial flooding from upstream, it was to reduce risk to Trowlock and Thames Ditton Islands above Teddington Lock. There had been a dramatic rise in the number of closures and this in turn increased risk to the Thames Barrier itself from so much use. This kind of use - 50 times in the 2014 flood alone, 41 of them for upstream properties - was not sustainable. The River Thames Scheme was designed to reduce this need.

The audience raised micro-concerns that might not be picked up in the modelling. Officers confirmed that the detail in the modelling was probably greater than for any river in Europe and could detect heights at 2cm in 10m grids - at micro-levels. The audience raised the issue of dredging, but officers replied that dredging the Thames had not proved to be beneficial over time.

Another issue that the scheme had to address was water quality and cross-contamination, both where newly created channels passed through polluted areas and where nutrient-rich river water was conveyed through lakes. This was a key aspect of the engineering and design. Generally speaking, the scheme would run at capacity in a 1 in 20 year flood and would work in larger floods, but its impact would be different. It was designed to work as an integrated system.

There was a presentation from the River Ash Society, Sunbury, whose members had developed a flood plan with the Environment Agency, based on a template. It was open to other communities to do the same.

Much of the day was taken up with communicating with communities through small workshops, facilitators and flipcharts. The Friends of Hurst Park made the point at every opportunity that Molesey has a local natural flood defence: the open ground of Hurst Park and Meadows, and this area stored a huge lake of river water in the 2014 floods. This observation was put on the record several times. The Friends also highlighted the issue of gaps in the planning process when developments were proposed for flood plains, with three authorities involved in both planning and flooding: Surrey County Council, Elmbridge Borough Council and the Environment Agency. Better planning liaison was required as it seemed to be local people who highlighted cross-authority issues and plugged those gaps. And it seemed to be local people who defended the flood plain from unnecessary and inappropriate new development.