

## KENT COUNTY COUNCIL

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### KENT FLOOD RISK MANAGEMENT COMMITTEE

MINUTES of a meeting of the Kent Flood Risk Management Committee held in the Council Chamber, The Guildhall, Cattle Market, Sandwich CT13 9AP on Monday, 17 November 2014.

PRESENT: Mr M J Harrison (Chairman), Mr D Baker, Mr A H T Bowles, Dr M R Eddy, Mr C R Pearman (Substitute for Mrs P A V Stockell), Mr M J Vye, Mrs J Blanford (Ashford BC), Mr P Vickery-Jones (Canterbury CC), Mr A Hills (Shepway DC), Mr H Rogers (Tonbridge and Malling BC), Mr M Tapp (River Stour IDB) and Mr P Flaherty (Kent Fire and Rescue)

IN ATTENDANCE: Mr P Crick (Director of Environment, Planning & Enforcement), Mr M Tant (Flood Risk Manager), Mr T Harwood (Senior Resilience Officer) and Mr A Tait (Democratic Services Officer)

#### UNRESTRICTED ITEMS

##### 15. Site Visit

Prior to the meeting, some Members of the Committee had participated in a site visit to the Sandwich Flood Defences which had been arranged by the Environment Agency.

##### 16. Minutes of the meeting on 21 July 2014 (Item 3)

(1) Mr Vye asked in respect of Minute 12 (4) what mechanisms were in place to ensure that Members' views on the priorities within the list of drainage schemes were taken into account. He suggested that this question could be considered at a future meeting.

(2) RESOLVED that the Minutes of the meeting held on 21 July 2014 are correctly recorded and that they be signed by the Chairman.

##### 17. Southern Water response to Winter 2013/14 Floods (Item 4)

(1) Mr Paul Kent from Southern Water gave a presentation on Southern Water's response to the Winter 2013/14 floods. The accompanying slides have been incorporated with the agenda papers on the County Council's website:

(2) Mr Kent's presentation covered Southern Water's role in flood management, the impact of the 2013/14 flooding, general improvements such as flood alleviation schemes, infiltration reduction and total care plans. He also addressed Southern

Water's role in the coming Winter, bearing in mind that the water levels were already higher than they had been at this point in 2013.

(3) Mr Kent said that Southern Water engaged with Lead Local Authorities such as KCC, the District Councils, the IDBs, the Environment Agency and local communities in order to develop holistic solutions to flooding problems instead of working in isolation as had been the case in the past. An example of close work with community organisations was that undertaken with the Stour and Nailbourne River Management Group. Southern Water also participated actively as a member of the steering group on flood and coastal erosion projects and was involved in Surface Water Management Plans.

(4) Mr Kent moved on to consideration of the Winter 2013/14 floods which had first impacted with the St Jude storm event of 28 October 2014 through tidal flooding, particularly in the Dover area where the sea wall had been breached. As the Winter progressed, the problems faced by Southern Water were the same ones faced by local authorities. There had been power outages as a result of trees and cables falling down, pluvial and fluvial flooding, tidal flooding.

(5) By far the biggest issue had been that of groundwater flooding, particularly at Nailbourne and Petham. This had been a very protracted process which had started in the New Year and, in some cases, lasted into May. The problems created by groundwater filling the sewage system were usually alleviated through the use of tankers. There was only a limited number of tankers that could be used in the South East (some 120 in total), and they were limited by the volume that they could take out of the sewer. This meant that over pumping needed to take place in order to alleviate sewage discharge.

(6) Mr Kent said that the response had been 24 hours a day at a peak cost of £150k per day. It had involved 330 staff and the total cost to Southern Water had been in the region of £15 – 20m. This money had come out of existing budgets rather than being charged to existing customers.

(7) Mr Kent went on to give some examples of issues that Southern Water had tackled. He said that one of the key priorities was to address those areas that were known to flood (particularly internally). These were delivered following a cost benefit analysis to those properties where the cost of protection was lower than that of the damage caused to them. In the five year period from 2010 to 2015 a total of 46 properties would be protected from internal flooding at a total cost of £7.5m.

(8) Another important area of work was infiltration reduction. Progress had been made in reducing the volumes of water that had got into the groundwater system. Over the previous few years, Southern Water had inspected 10km of sewers and 250 manholes. In 2014, 3.5km of sewers had been repaired, complementing the 4km of repairs in previous years.

(9) Mr Kent said that Southern Water operated 40,000 km of sewers in the South East which were regulated by 2,400 pumping stations. These were now the subject of a total care package whereby the pumping stations were inspected and everything that would shortly need replacing was done at the same time, rather than leaving

parts of it to a later date. This had resulted in a dramatic improvement. To date, 1,000 had been repaired, having been prioritised in 2013.

(10) Mr Kent then gave examples of improvements that had taken place at Bishopsbourne and Bekesbourne before turning to the flooding issues which had arisen three times in the previous 14 years in Canterbury Villages along the Nailbourne. It had also been necessary to tanker and over pump during three other winters during this period. Water along this river from the Village of Barham and those to the north was pumped into Newnham Valley WTW. During the Winter floods of 2013/14, the tankers had been deployed in this area but had quickly run out of capacity. Over pumping had therefore been installed at Barham, Bishopsbourne, Patixbourne, Bekesbourne and Littlebourne. Each of these locations had discharged between 20 and 50 litres per second. Even so, there had still been bottlenecks at some of these locations where tankers had needed to assist. This had also been the case in Bridge.

(11) Mr Kent said that the southern part of the Nailbourne between Elham and Ottinge was where water flowed towards the pumping station in Hythe from where it was discharged into the sea. This part of the catchment had not suffered as badly and there had only been two events over the past fourteen years. One of these events had been during the 2013/14 Winter Floods. Groundwater infiltration had led to restricted toilet use. It had also been necessary to protect the source of affinity water at Ottinge by over pumping. Southern Water would be undertaking some further work before the winter of 2014/15 including jetting, root removal, sealing/covering of manholes, and the protection of Water Farm.

(12) Mr Kent went into detail about over pumping, which was a last resort to be used when groundwater levels were very high that they were causing surcharge of the sewerage system, causing flooding and restricted toilet use. The water pumped out of the system was 90% clean water rather than the type of sewage that was usually found in the system. Permission was always sought from the Environment Agency before any over pumping commenced. The quality of the water was (due to the way it was treated) similar to some of the effluent that was found in the WTWs. This ensured that any adverse impact on the watercourse was minimal and of a purely temporary nature.

(13) Mr Kent described the Bio –treatment units, showing examples of units which had been delivered in Barham. They worked by pumping sewage across the top of the tanks and were filtered through bacteria which grew on the plastic media, treating the sewage. This process removed some 30% of the polluting load before discharge into the water course. This represented a big improvement over past practice which had seen sewage pumped direct into the water course.

(14) Mr Kent described two other methods of waste water treatment which had recently been utilised. These were suction screening and effluent screening. The main problem in respect of the latter was that the bags filled within half a day and were not re-usable. Consequently a new system had been developed with the supplier which did allow the bags to be used again.

(15) A great deal of time and effort had been spent on sealing the fluid along the Nailbourne. This had been effective as demonstrated by the graph entitled "Nailbourne Improvements". During the winter of 2012/13, the pumps had needed to be turned on when the groundwater level had reached 78m AOD and had been turned off again when it had dropped to 75m AOD. In 2013/14, the pumps had been turned on at 81m and off again at 80m. This suggested that the sewage had been sealed and had been able to withstand a much higher level of ground water.

(16) Mr Kent said that Southern Water had often been asked how it measured success. He said that this would have been retrospectively achieved if over pumping had only been needed in 2000/01 and 2013/14 and not on the other three occasions in between. He was hopeful that the investment recently made by Southern Water would result in over pumping not being needed in the coming winter.

(17) At Petham Bourne, there had been problems in 2000/01 and again in the previous winter. Petham Bourne did not have a natural bed and therefore formed its own bed as it began to flow. The biggest problem had been the overflowing manholes in the grounds of the Stiner School which had resulted from water infiltration into the system. The manholes had been sealed and the pumping station had been refurbished with new pumps being installed. This meant that with a threefold capacity, pumping could now get rid of the water three times more quickly than before. Mr Kent said that he did not anticipate flooding at this location in 2014/15 but, if there was, it would be far less severe than in 2013/14.

(18) Mr Kent said that in Five Oak Green there had historically been a number of flooding instances as a result of the unreliability of the Larkfield pumping station. Southern Water had spent £300k refurbishing it and it was now working satisfactorily. In the winter of 2013.14 there had been other issues. The surface water system had suffered blockages by tree roots, whilst significant amounts of grit and sediment had built up in the attenuation tank. These issues had been fully addressed, as had the issue of the restrictions on surface water flowing into a ditch. This latter issue had seen a collaborative solution involving the EA and the local IDB.

(19) Mr Kent said that there had been significant flooding in Danvers Road/Barden Road in Tonbridge. This had mostly been due to the capacity of the road drainage. This was not the responsibility of Southern Water but the company had assisted by jetting the surface water sewers to remove sedimentation.

(20) Mr Kent briefly summarised work in other locations such as Alkham Valley (garden flooding and restricted toilet use), Preston and Elmstone (replacement of manhole covers), Ickham and Wickhambreaux (protection of Drill Lane pumping station from fluvial flooding).

(21) Mr Kent then set out how Southern Water was preparing for the winter of 2014/15. Consideration of the previous winter's lessons had now taken place and the outcome was that every area's potential problems had been centrally identified in Operational Incident Plans, which would assist greatly in the event that tinkering or over pumping would need to be deployed. Southern Water continued to work with the Management Group for the Nailbourne to ensure continuous improvement through the Infiltration Reduction Plan (IRP). This had come about because

Southern Water had permission from the EA to over pump from the sewers into the watercourse provided that it set out how it intended to deal with the infiltration issue. The IRP was being shared with other parties, including the Management Group which demonstrated that progress was being made. Other work involved protecting properties through the installation of non-return valves, refurbishing pumping stations or replacing pumps (as at School Lane). This was essential as the data showed that water levels were as high as they had been 6 weeks earlier in the calendar year of 2013.

(22) Mr Kent moved on to the topic of flood protection methods for properties. In some properties, the cost of providing complete protection could be as high as £1m. In these instances, flood mitigation methods were deployed. These included garden re-profiling, the installation of water tight doors, airbrick covers, purpose-made flood barriers such as wooden gates or non-return valves to prevent flood water flowing back into the property from the main sewer. These were not seen as a permanent solution as they could not permit water from the property to escape once the sewer was blocked. They were fitted on a priority basis and only when they would provide benefit. This meant that they should not be installed if the outcome was that the flooding problem was simply transferred to the neighbouring property.

(23) Mr Vye asked whether Southern Water could provide the Members of the Committee with a list of the improvements carried out in order that they could make any pertinent comment on the priorities identified. He then said that there were three concerns for Southern Water. These were reputational damage, legal requirements and financial considerations. He then asked what Southern Water's investment plans were for the solution of the basic problem, which was lack of capacity in the sewer due to water infiltration.

(24) Mr Kent replied that Southern Water was well aware of the risk of reputational damage. Its legal responsibility was to operate a sewage system that was fit for purpose. Groundwater infiltration was dealt with using the Best Available Technology Not Involving Excessive Cost (BATNIEC) Principle. This meant that it would not be possible to replace the entire system because this would cost between £50 – 60m and there were other competing major priorities. Had all the current measures been in place from 2000 onwards, three of the flood events would probably not have required tankering and over pumping, however the events of 2000/01 and 2013/14 would still have needed these measures because Southern Water could not invest against such extreme events. In fact, Southern Water's flood defence measures were effective for 98/99% of the time.

(25) Mr Vickery-Jones asked whether the biotanks were making a meaningful contribution. Mr Kent replied that analysis showed that there had been 30% reduction in the polluting load going back into the watercourse. Trials would be taking place at Aylesford WWTW to fully identify their effectiveness under test conditions. Southern Water had also lent some of its biotanks to Thames Water as they, too believed that they represented an effective way forward. Furthermore, the Environment Agency had assessed the quality of groundwater which had been through the biotanks and found it to be superior to water which had simply been over pumped without any further treatment.

(26) Mr Vickery-Jones then reported that he had attempted to contact a Waste Water engineer but had been told that there was a corporate instruction from Southern Water that engineers should not respond to Councillors. He had been informed two weeks earlier that Southern Water would return the call to Canterbury CC's Engineering Department but no response had yet been received. Mr Kent replied that if an individual rang Southern Water's 0845 number they would get a response at any time of the day or night (24/7). If the issue was identified as requiring immediate attention, there was sufficient capacity (including engineers being on standby) for this to happen. If, however, someone was asking the backroom staff for a response on a technical issue, this would be more problematic. He agreed that a response should have been made to the original call (as would normally be the case). He undertook to follow up the individual incident described.

(27) Dr Eddy noted that the slide on the Total Care Plans stated that they had commenced in 2013 "stripping and inspecting every pump and valve – repairing/replacing where necessary." He asked how many had been dealt with in this way so far. He then asked the more general question of what contingency plans Southern Water had in the event that groundwater levels continued to rise, potentially exceeding those of the previous winter.

(28) Mr Kent replied that Southern Water had 2,400 wastewater pumping stations. Just over 1,000 had been completed to date. These were the highest priority pumping stations. In response to the general question, monitoring of groundwater levels was taking place twice each week. Statistical modelling was also taking place to identify when pumping might need to commence. This model was updated on a weekly basis. Once the trigger level was reached, Southern Water would begin to talk to its contractors and partners so that pumps and tankers could be employed at the right time with the minimum of delay. Meanwhile standby rotas were being developed to ensure that sufficient numbers were available when they were needed.

(29) Mrs Blanford said that maintenance did not appear to be a high priority for Southern Water. She asked whether there was a programme to put things right before a major flooding event occurred. She said that another concern was that the EA often complained about the quality of water being pumped into the River Stour.

(30) Mr Kent replied that Southern Water did carry out a lot of maintenance work. There were 40k km of sewers, 2,400 pumping stations, 368 WWTWs. Southern Water annually spent some £20 – 30m on maintenance on sewers, £15 – 20m on pumping stations and £20 – 30m on WWTWs. In terms of water quality in the Stour, it was the EA which granted the permit to Southern Water, which was not allowed to simply discharge into the river without permission.

(31) Mr Pearman said that the Met Office's weather projections were not promising. It was essential that the water level data was accurate. He said that the Emergency Planning Committee in Edenbridge would have been far more prepared at this time in 2013 if it had been aware of the water table levels at that time. They had learned during the winter that responding to EA alerts needed to be supplemented by planning *before* the alerts were issued. He asked whether there was commonality between the water table levels identified by the EA and Southern Water.

(32) Mr Nunn said that the data was jointly compiled by the EA and Southern Water. He added that since the 2013/14 flooding events, a great deal of additional maintenance work had been carried out by all the agencies. As a result, preparations were in advance of where they had been a year earlier. Although there had been a relative dry spell in September/October, groundwater levels were still higher than he would have liked them to be. The EA would be undertaking modelling on a daily basis to establish actual rainfall and groundwater levels as well as filtration rates. Meanwhile, all agencies were on a heightened state of alert. The EA had already prepared its Christmas “double up” rotas. He agreed with Mr Pearman that organisational preparedness needed to be communicated to the public and volunteers on the ground at the appropriate time.

(33) The Chairman commented that the Met Forecast was only available on mobile phones rather than on iPads.

(34) Mr Kent said that it was essential that all organisations were prepared and that none of them attempted to work in isolation.

(35) Mr Hills said that the work of the EA, Southern Water and the IDBs was very praiseworthy. The need was to ensure that communication between them and with the District Councils was effective in order to promote pre-planning. For example, there was a big capacity problem at the sewage works in Littlestone where there was nevertheless, a 400 house development plan.

(36) Mr Kent said that Southern Water recognised that this was a period of greater extremes of weather conditions. These were catered for in the design standards. An example of this was that whenever a new sewage pipe was laid, it was substantially bigger than it would have been five years earlier.

(37) Mr Kent added that Southern Water had a duty to allow all property owners to connect into the sewage system. This gave Southern an imperative to recommend to planning authorities where this connection should take place. In recent weeks, consideration had been given as to how this work could be undertaken more speedily and effectively.

(38) RESOLVED that:-

- (a) Mr Kent be thanked for his detailed and informative presentation;
- (b) the content of the presentation be noted, together with the letter from Southern Water set out in the Appendix to the report; and
- (c) copies of the presentation be sent to all Members of the Committee.

**18. Christmas/New Year 2013/14 Storms and Floods - Progress Report**  
*(Item 5)*

(1) The Chairman informed the Committee of correspondence from Mrs Brown, Chairman of Yalding PC giving her apologies for the meeting. She had written to say

that the Flood Warning Areas had been launched, the communities were all working together, the Flood Warden scheme had been launched (Yalding PC had its own bespoke system). She, like a number of other Parish Councillors had acquired a power solar-powered mobile phone charger. Personal Emergency Plans were now being encouraged in addition to the Community Plans.

(2) Mr Crick referred to the report to Cabinet on 13 October 2014 (Appendix 1) which was an update to the more detailed report which had been endorsed by Cabinet on 7 July 2014.

(3) Mr Crick said that a series of internal and partnership debriefs had been carried out and that management structures had been established to implement the recommendations. KCC itself has set up a cross-directorate Corporate Resilience Steering Group (which he chaired). The object was to ensure that sufficient staff were available, trained and placed on a rota to cover any flooding emergency. The Kent Resilience Forum (KRF) had established a Pan-Kent Flood Group chaired by the EA. The very recent KRF seminar in East Malling had covered a whole range of issues which would be taken forward by the Kent Resilience Team.

(4) The Chairman said that he had attended the seminar. He agreed that it had been very rewarding and that it had imparted a great of information. He asked how this information was to be disseminated to those who had not attended. Mr Crick replied that this would be one of the tasks of the KRF.

(5) Mr Flannery confirmed that every partner agency had been represented at the seminar. Each of the partners would be expected to ensure that it communicated the information internally.

(6) Mr Crick went on to say that there had been comprehensive reviews of the existing emergency plans, followed by their republication. A number of training sessions and exercises had been held during the year and 15,000 copies of the newly-published booklet "*What should I do in an emergency?*" had been distributed. Updated information was now available on all the partner websites. A series of "flood fairs" had been held across the County and a far greater number of people were now signed up to the EA's "Flood Warnings Direct." The rise had been very significant, seeing an increase from 25 to 90% in flood risk areas.

(7) Mr Crick went on to say that KCC, Maidstone BC and Tonbridge and Malling BC had contributed funding to a feasibility and design study for a Leigh flooding storage area. This scheme was being progressed with the support of the EA.

(8) Dr Eddy referred to Recommendation 9. He noted that work was being progressed "over the coming months" and asked which months were being referred to. He also asked in respect of Recommendation 16 how much the bid for European Funding was for and how close this bid was to submission.

(9) Mr Crick replied that, in respect of Recommendation 9, most of the websites had been updated, whilst the Flood Warnings Direct system was now far more widely used by local residents.



(10) Mr Tant replied to Dr Eddy's question on Recommendation 16 by saying that the Coastal Communities Project was looking to expand on its current remit. There was also a potential project for the River Beult. One of the criteria for European Funding was the establishment of partnerships, so the EA was leading on the process of identifying appropriate partner organisations. KCC was also looking at developing water resource projects which would have local flooding benefits.

(11) Mr Tant added that KCC was looking at other funding as well. An example of this was that KCC had put forward two bids to Local Growth Fund 2 (the Leigh Flood Storage Area and a scheme at East Peckham). All bidding deadlines would be met providing that appropriate partners could be identified.

(12) Mr Vye said that the EA's report on flooding in the Medway Valley was due to be published by the end of November 2014, together with an independent audit of the EA's performance during the winter of 2013/14.

(13) Mr Vye added that he had asked the Cabinet Member for Environment and Transport to list the measures already put in place by agencies, including KCC, to prevent flooding in each of the locations where it occurred last winter, and to also list those measures judged to be essential to prevent flooding in each of these locations. He had also asked which locations were considered to be important but for which the funding had not been identified, and for an assessment of risk of flooding, in terms of red/amber/green ratings, in each of them. He had received the response that it was extremely difficult to categorise these locations in this manner. The Cabinet Member had also provided a list which did not match that in the Annex to the report.

(14) Mr Harwood replied that he would be able to respond to Mr Vye's points at the next meeting.

(15) Mr Crick confirmed that there had been a second Appendix to the Cabinet report which had not been sent out with the agenda papers for this meeting. This Appendix had consisted of a list of 10 strategic flood defence schemes requiring partnership contributions at a total cost of some £113m (£26m of this to be provided by partners), protecting 922 businesses and 9,235 properties. It was agreed that this Annex would be sent to all Members of the Committee with the minutes.

(16) Mr Rogers said that out of the hundreds of properties in Tonbridge and Malling which had been flooded in 2013/14, 80 were still uninhabitable. This demonstrated the long term nature of each major flooding event.

(17) Mr Pearman said that there was a strong case for approaching the Housing Associations in respect of their responsibilities to protect their tenants from flooding. Mr Flannery confirmed that this had already occurred and that active steps were being taken to address the needs of vulnerable people in social housing.

(18) Mr Tapp referred to paragraph 23 of the report to Cabinet and asked for an update on the new consultation process in respect of Sustainable Drainage.

(19) Mr Tant said that Defra had released a new round of consultation on SuDs shortly after the previous meeting of the Committee. This was now looking at

delivery exclusively through the planning system rather than by lead authorities such as KCC, as had previously been the case. This consultation had now closed and Defra's response was now awaited. KCC had misgivings about the proposal because it did not appear to address the long term maintenance problem.

(20) Mr Tant agreed to provide a copy of KCC's response to the consultation, together with an update on this before the next meeting of the Committee.

(21) RESOLVED that:-

- (a) the report be noted; and
- (b) the additional Annex to the Cabinet report be sent to all Members of the Committee together with appropriate details on the latest Defra consultation on Sustainable Drainage Systems.

## **19. Evacuation of Animals Task and Finish Group**

*(Item 6)*

(1) Mr Harwood reported that the Kent Resilience Forum had formed a Task and Finish Group to produce an Evacuation of Animals Emergency Plan, using a document produced by Somerset CC as its template. The Plan was due for completion by the end of December 2014.

(2) Mr Harwood agreed to send Members of the Committee a copy of the Somerset document and the Kentish draft once it was finalised.

(3) Mr Flaherty confirmed that Kent Fire and Rescue had sufficient specialist equipment to enable its Water Resource Teams to fulfil the provisions set out in the Plan.

(4) RESOLVED that the establishment of the Kent Resilience Forum Evacuation of Animals Task and Finish Group be noted together with the timetable for the production of the emergency plan.

## **20. Environment Agency and Met Office Flood Alerts and Warnings and KCC flood response activities since the last meeting**

*(Item 7)*

(1) Mr Harwood provided updated figures. Since publication of the report, the number of EA flood alerts had risen from 30 to 38. 1 warning had now been issued. The figure for yellow Severe Weather Alerts and Warnings had gone up from 10 to 11. The Thames Barrier had now been closed on 4 occasions for test and operational purposes. The total of flooding related incidents reported to the KCC Emergency Planning Duty Officer had risen from 18 to 21. The updated figures in the report demonstrated that groundwater levels were as high as they had been six weeks later in the calendar year of 2013. This meant that a smaller storm event than

had occurred the previous winter would lead to the same level of emergency. It was therefore essential that vigilance was retained.

(2) In response to comments from Mr Bowles, Mr Harwood said that the figure of 21 flooding related incidents reports to the KCC Emergency Planning Duty Officer only took account of those where there had been significant consequences such as water ingress into properties or even evacuations, requiring multi-agency input. The overall figure for less serious flooding incidents reported to KCC as a whole would, of course, be considerably higher.

(3) RESOLVED that the level of alerts and operational response since the last meeting of the Committee be noted with concern, together with the need to maintain vigilance.