Maidstone Borough Council

Environment and Transportation Overview and Scrutiny Committee

Tuesday 15 March 2011

Securing Water Supplies

Report of: Overview and Scrutiny Officer

1. Introduction

1.1 The Environment and Transportation Overview and Scrutiny Committee began their investigation into Securing Water Supplies by interviewing Alan Turner, Principal Regeneration & Projects Officer at Kent County Council. The focus of the Committee's investigation is water efficiency and the issues that will fall under the jurisdiction of a planning authority with the implementation of the Flood and Water Management Act 2010. Particular areas of interest to explore in relation to the Flood and Water Management Act include the successful management of surface water and flooding risk via Sustainable Drainage Systems (SuDS) which in part will become the responsibility of the local authority. In addressing the expanse of these new responsibilities and possible solutions the Committee will seek to make recommendations regarding water efficiency. The Committee also wish to address the Code for Sustainable Homes and how this can be enforced further through the planning process to achieve a higher level as standard.

2. Recommendation

2.1 The Committee are recommended to interview Lee Dance Head of Resource and Environmental at South East Water,
Steve Clarke, Principle Planning Officer and Rob Jarman, Head of Development Management to understand the water efficiency and the part Maidstone Borough Council can play as a Planning Authority.

Areas of questioning could include but are not limited to:

- What water saving methods are recommended to Developers that approach Maidstone Borough Council;
- At what stage in the Planning process do Maidstone Borough Council have input to help inform developers on water efficiency;
- Does the current arrangement with the Planning and Building Control process work well in terms of progressing with the code for Sustainable Homes;

- If the responsibility of Sustainable Drainage Systems is to fall with the local authority will the relationship between Building Control and Planning need to change to accommodate this;
- What relationship does the authority currently have with the water company on water efficiency ;
- What relationship in terms of joined up working do Development Control envisage between themselves, the County Council and the Water companies to accommodate the changes set out on the Flood and Water Management Act 2010;
- Do Development Control see the changes in terms of responsibilities with SuDS which could in turn have an impact on flood management and water efficiency as an opportunity to make a difference;
- What work has been undertaken by Development Control to help implement the proposed new responsibilities in the Flood and Water Management Act 2010;
- What marketing methods if any are used by the authority to raise the profile of water efficiency with new developers as well as ordinary householders making improvements to older properties;
- What marketing methods are used by the water company to raise the profile of water efficiency;
- Has Planning seen a rise in awareness with the ordinary householder in terms of water efficiency;
- Has the water company seen a rise in awareness of the ordinary householder in terms of water efficiency;
- How does the water company assess the success of water efficiency in relation to their supply;
- What are the long term aims and aspirations for Development Control;
- What are the long term aims and aspirations for the water company; and
- How can the Council, Water Companies advisory bodies work in a more joined up manner to meet the ongoing challenge of water efficiency?

2. Flood and Water Management Act 2010

2.1 The Flood and Water Management Act 2010 was addressed, in part, by Alan Turner at the Committee's first meeting on water issues. He explained the measures that were being put in place with regard to Sustainable Drainage Systems (SuDS) to manage surface water on development sites. The Act establishes a SuDs approving body (the 'SAB') at county or unitary local authority levels. According to the guidance from the Department for Environment and Rural Affairs (defra) 'the SAB would have responsibility for the approval of proposed drainage systems in new developments and redevelopments, subject to exemptions and thresholds. Approval must be given before the developer can

commence construction.' Mr Turner explained that whilst Kent County Council would be the approving body the knowledge would lie at a local level. At the time of the meeting on 15 February 2011 he was unable to confirm the part Maidstone Borough Council would play.

2.2 The Commission for architecture and the build environment (CABE) are a Government advisor on architecture, urban design and public space. In relation to integrating sustainable drainage systems into planning and design CABE explain that following the Pitt review that was carried out in response to the 2007 floods the Government announced that local authorities should be responsible for adopting and maintaining new and redeveloped sustainable drainage systems on highways and in the public realm. CABE advise that a collaborative approach should be taken with input from planners, urban designers, landscape architects, water engineers, ecologists, environmental scientists and the community.

2.3 SuDs, they advise, can form part of a local network to facilitate a more natural response to extreme weather. The variety of solutions they list show the expansive nature of drainage system and highlight the possibilities in terms of water efficiency and water recycling to combat the unsustainable pressures on the existing water supply. These include:

- **French drains** - features to catch surface water and allow filtration into groundwater - a linear trench filled with a permeable material often with a perforated pipe in the trench's base to assist drainage

- **swales** - shallow vegetated channels designed to conduct and retain water. Can be considered for directing water over ground as an alternative to piped drainage.

- **detention** basins or ponds –vegetated depressions that are normally dry except following storm events constructed to store water temporarily to attenuate flows. May allow infiltration of water to the ground. A wet detention pond always contains water and attenuates flows by storing run-off during the peak flow and releasing at a controlled rate during and after the storm.

- **retention** basins or ponds –basins or ponds where run-off is detained for a sufficient time to allow settlement and possibly biological treatment of some pollutants

- **below ground storage** – enables retention of water for irrigation of green infrastructure

2.4 The Construction Industry Research and Information Association (CIRIA) provides detailed guidance on SuDs which allow planners to consider locally responsive schemes 'taking into account of land

use, land take, future management scenarios and the needs of local people.' An example of this given by CABE is in Upton, Northampton where SuDs were fully incorporated in the design of a new neighbourhood to provide protection from flooding and quality green space for the community.' The conditions set out in the CIRIA SuDS manual further stipulates that each development site should deal with its own run-off to 'greenfield' rates or:

- a site may elect to negotiate with local authorities to manage pre-treated runoff volumes in public open space.

- a clear responsibility for surface water management – particular storage features, source control and convergence mechanisms should rest with land owners to the boundary of their property.

- rain harvesting of clean run-off should be balanced with the need to recharge aquifers, base flows to watercourses and ground water.

2.5 The last point may be of particular interest to the Committee when considering water recycling.

3. Response from the parliamentary Environment, Food & Rural Affairs Committee – First Report, Future flood & water management legislation 22 December 2010.

3.1 The cross-party Environment, Food and Rural Affairs Committee has published the report of its inquiry into Future Flood and Water Management. The Report says the Government must act to tackle the twin challenges of protecting over five million properties from flooding and maintaining clean, reliable and affordable water supplies. With regard to Water Management the report calls on the Government 'to sharpen the regulatory framework for the water industry to ensure it places customers' views at the heart of a future strategy that will deliver improved affordability and water efficiency.'

3.2 The report says: 'Surface water run-off is one of the prime causes of inland flooding in the UK and is directly influenced by the design and management of our cities and towns.

3.3 At site level, it is important that the principle of landowner/developer responsibility applies. Every site should be planned and designed to avoid increasing risks for others. Ideally, the knowledge we have now will lead to sustainable and creative water management within the site footprint, rather than reliance on solving water management problems off-site at the expense of others.'

4. Sustainable Homes

4.1 **'The code for sustainable homes became fully operational in England in April 2007 and a code for new build homes became mandatory from 1 May 2008. Developments where notice or plans were received by a local authority prior to 1 May 2008 are exempt.**

4.2 **From 1 May 2008 a minimum of Code Level 3 is required for all new housing promoted or supported by the Welsh Assembly Government or their sponsored bodies and from 2 June 2008, Code Level 3 is required for all new self contained social housing in Northern Ireland. The code does not apply in Scotland.**

4.3 **In April 2007, the Code replaced Ecohomes for the assessment of new housing in England. The Code is an environmental assessment method for new homes based upon BRE Global's Ecohomes and contains mandatory performance levels in 7 key areas:**

- **Energy efficiency/ Carbon Dioxide**
- **Water efficiency**
- **Surface water management**
- **Site waste management**
- **Household waste management**
- **Use of materials**
- **Lifetime homes (applies to Code Level 6 only).'**

5. Maidstone's Position

5.1 Maidstone will be creating 10,080 new homes which would maintain its growth point status but due to current funding shortages it would make use of existing infrastructure and opt for the dispersal option rather than an Urban Extension. This could change during the consultation process.

5.2 Building Control enforces a standard for new houses which is equivalent to level 1 in the code for sustainable homes in regard to water efficiency. The planning department can insist on a higher level being implemented.

5.3 Level 1 is 120 litres per person, per day of potable (drinking) water consumption reduced through the use of water efficient fittings, appliances and water recycling systems. The Water Efficiency Calculator is used by Building Control which is **'the Government's National calculation methods for the assessment of water efficiency in new dwellings in support of Building Regulations Part G 2009 and the code for Sustainable Homes 2009 and subsequent versions. The calculator assesses the contribution that each internal water fitting (micro component) has on whole house water consumption,**

measured on litres per person per day based on research into typical water use.'

5.4 **'Due to the impacts of user behaviour it will not relate directly to the actual water use in the home but will provide a benchmark assessment of the typical consumption of a specification of fittings and their impact on water efficiency. It is not a toll for the design of water demand and drainage systems' (Code for Sustainable Homes).'**

5.5 **'To reach level 3 of the Code for Sustainable Homes, for example, developers must reach the following minimum standards:**

- **Achieve 25 per cent reduction in carbon emissions from energy use in the home, compared to a similar home built to the building regulations;**
- **Install water saving measures like low flow taps with the aim of achieving a maximum usage of 105 litres per day;**
- **Ensure effective surface water management around the home; and**
- **That the wider environmental impact of the construction materials is reduced.'**

5.6 **'Beyond reaching these minimum standards, to hit Level 3, the builder also has to attain a score by choosing from a range of voluntary measures, such as by providing:**

- **More energy efficient lighting;**
- **Cycle storage;**
- **A home office;**
- **Recycling facilities;**
- **Enhanced home security; and**
- **Enhanced sound insulation.'**

5.7 It is the Government's ambition that all new homes will meet a zero carbon standard by 2016.

5.8 Maidstone, like all area, surfaces localised flooding which is dealt with by the County Council. Surface water flood risk usually results from intense rainfall events that exceed the capacity of drainage infrastructure.

6. Water Companies

6.1 Maidstone's drinking water is supplied by South East Water and Southern Water deal with sewerage and waste water but do supply water in some areas.

6.2 Both companies focus on water efficiency on their websites and link to campaigns and organisations promoting this. Southern water's slant appeals to the customer's desire to save money with the slogan **'save money, save energy, save water'** and the message **'you can help the environment and save money with a water metre'** both featured on their website. South East Water has a front page link to the **'Big Tap Challenge'** which is a national campaign giving useful tips on saving water. One of the tips references brushing your teeth and states that **'a bathroom running tap uses 6 litres of water a minute.'**

6.3 Both South East and Southern Water have put their names to the Big Tap Challenge Campaign which is in conjunction with Waterwise. Waterwise is a UK NGO focused on decreasing water consumption in the UK and building the evidence base for large scale water efficiency. They are the leading authority on water efficiency in the UK. Waterwise is an independent, not for profit organisation that receives funding from the UK water industry and from sponsorship and consultancy work.

6.4 South East Water is the 'supply' company for Kent. It does however lend itself to schemes that will help sustain the supply as well as water efficiency it has also recently made a donation to Turner's Hill Primary School, Turner's Hill to help it's bid to build a £21,000 rainwater harvesting system This will mean the rainwater that falls on the roof of the school buildings can be used to flush the school's toilets, therefore, vastly reducing the amount of drinking water that is flushed away.

6.5 Graham Webb, South East Water Delivery Manager, said: "I am delighted we are able to contribute towards the school buying this rainwater harvesting system."

6.6 The organisation 'Water Guide' highlights the following initiative with regard to rainwater harvesting:

6.7 'Business owners can claim 100% tax relief on rainwater harvesting systems under the enhanced capital allowance scheme as long as the product is approved on the water technologies list and a typical domestic rain harvesting system can yield up to 70% of the non-potable water needs of an average family of 4, with a typical pay back period of 3 years.'

6.8 It is surprising how much water can be collected from roof tops. With every inch that falls on a surface of 1000 square feet, it is possible to collect approximately 600 gallons of water. This could dramatically reduce water bills.

7. Impact on Corporate Objectives

7.1 Considering water efficiency methods in the areas of Planning and Building Control and the impact of the Flood and Water Management Act 2010 through recommendations should help to deliver the Council's objectives for the Borough to be a place that is clean and green, a place to achieve prosper and thrive and a place with efficient and effective public services.

7.2 There is no risk involved in considering water efficiency methods.

8. Reference

Code for Sustainable Homes, Technical Guide (May 2009, Version 2).

www.bigtapchallenge.co.uk

www.waterwise.org.uk

www.waterguide.org.uk

Environment, Food & Rural Affairs Committee – First Report, Future flood & water management legislation: www.publications.parliament.uk/pa/cm201011/cmselect/cmenvfru/522/52202.htm