

Safer Cleaner Greener Scrutiny Panel

Meeting 24th February 2015

Presentation
by the Engineering,
Drainage & Water Team.



SCRUTINY

 Epping Forest District Council

1. What the Engineering, Drainage & Water Team do.

2. How the Engineering, Drainage & Water Team deals specifically with flood risk and drainage issues at the planning stage.

3. Aids to mitigate the longer term impact on flood risk:

- **The provisions of the Flood and Water Management Act 2010**
- **Local Lead Flood Authority (Essex County Council)**
- **The Essex Flood Partnership Board**
- **The Executive Officers Flood Group.**

4. Summary from planners on the role of planning in flood risk prevention.

5. Questions

6. Requirement for Thames Water to attend a future SCGSP meeting and if so specific topics the Council will ask them to address.

Structure of Engineering, Drainage and Water Team (EDWT) Neighbourhoods (Technical)

Assistant Director Qasim (Kim) Durrani

Drainage Manager Susan Stranders

24/7 - 365 - Emergency Flood Response Service

Land Drainage
Trevor Baker

- ❖ Flooding
- ❖ Council's Flood Risk Assets
- ❖ Land Drainage
- ❖ Flood Risk Policies & Strategies

Land Drainage Inspector
John French

- ❖ Implementation & Enforcement of the Council's Land Drainage Byelaws & Land Drainage Acts

Resident Engineer
Lee Savill

- ❖ Maintenance of the Councils' 18 sewerage treatment plants & 8 pumping stations
- ❖ General Drainage
- ❖ Capital Projects & Council Assets
- ❖ Operation & Maintenance of Bobbingworth Nature Reserve (ex landfill site)

Assistant Engineer
Matt Little

- ❖ Planning - Flood Risk & Drainage
- ❖ Sustainable Urban Drainage Systems (SUDS)
- ❖ Flood Risk Assessments

Land Water Quality Officer
Paul Baccarini

- ❖ Contaminated Land
- ❖ General water environment
- ❖ Public & Private Water Supplies
- ❖ Pollution & environmental enquiries/complaints
- ❖ Complex environmental reports
- ❖ Environment related - Consultations

Technical Officer
Graham Sharp

- ❖ Private Sector Drainage (Urban & Rural)
- ❖ Pollution Complaints

Temporary Water Quality Officer

- ❖ Private Water Supplies

What the Engineering, Drainage & Water Team do

1. What the Engineering, Drainage & Water Team do.

What the Engineering, Drainage & Water Team do

24/7 365 Emergency Flooding Response Service Flooding

- The EDWT provides a discretionary 24/7 - 365 emergency flood response standby service to deal with out of hours flooding incidents involving Council owned assets or to assist members of the public, where appropriate;
- This service includes the monitoring and responding to problems with the Council's flood alleviation schemes and other flood risk assets;
- The EDWT responds to all types of flooding incidents, working closely with the Environment Agency where necessary.

What the Engineering, Drainage & Water Team do

24/7 365 Emergency Flooding Response Service Flooding



MANAGING THE COUNCILS FLOOD ALLEVIATION SCHEMES, ORDINARY WATERCOURSES, STORM GRILLES AND OTHER FLOOD RISK ASSETS

There are 3 main flood alleviation schemes (FAS) in the District that are the responsibility of the Council:-

1.Thornwood Brook

2.Church Lane

3.Thornhill, North Weald (North and South)

- They have been built in high risk areas where many properties are at risk of flooding;
- The levels of water in the storage areas at Thornwood and Thornhill are monitored 24/7 365 by telemetry and now recently installed CCTV systems;
- These alarm directly to officers of EDWT so effective action can be taken to try and prevent over-topping and flooding and/or escalate to Emergency Planning level;
- The FAS avoid the possibility of flooding by controlling the flow of water in rivers with structures such as storm grilles, embankments and dams;
- In addition we have the Loughton Brook Scheme which is statutorily classified as a Reservoir and is managed by the Environment Agency.

What the Engineering, Drainage & Water Team do

STORM GRILLES & WATERCOURSES

In addition to the FAS the EDWT monitor and maintain (with the assistance of the Council's Term Contractor – currently Hugh Pearl Ltd):

The Council's

- 50 Storm Grilles;
- approx 2,500Km of Ordinary Watercourses.

Land Drainage Byelaws

The Council has had its Land Drainage Byelaws since 1983. We are the only district within Essex with its own Byelaws. In summary this involves:

- Issuing consents for certain works to or near ordinary watercourses;
- Works are monitored;
- Administering charging regime - £50 for more significant works;
- Delegation from ECC to issue consents in parallel with the Council's Land Drainage Byelaws;
- Enforcement (3 successful prosecutions in 3 years).

What the Engineering, Drainage & Water Team do

Land Drainage Consent issued for works under the Land Drainage Act 1991 & EFDC's Land Drainage Byelaws



What the Engineering, Drainage & Water Team do

Land Drainage Consent issued for works under the Land Drainage Act 1991 & EFDC's Land Drainage Byelaws



What the Engineering, Drainage & Water Team do

General Drainage Issues

Liaising with Thames Water, Essex County Council - Highways,
Affinity Water, Environment Agency & other organizations



Bobbingworth Nature Reserve (former landfill site)

- EDWT was involved in the tender process and then overseeing the construction phase;
- On going operation and management of the complex underground engineering works/drainage systems - in partnership with Country care & Veolia.



Contaminated land

- Under the Environmental Protection Act 1990 the Council is statutorily obliged to inspect and assess potentially contaminated land sites within its boundary;
- Local Authorities must set out its approach as a written strategy;
- Inspection is based on a Prioritisation Scheme;
- Currently upgrading the prioritisation scheme; and
- Updating the Council' s Contaminated Land Strategy;
- Report to be presented to Cabinet about how the Council addresses the matter in the future.

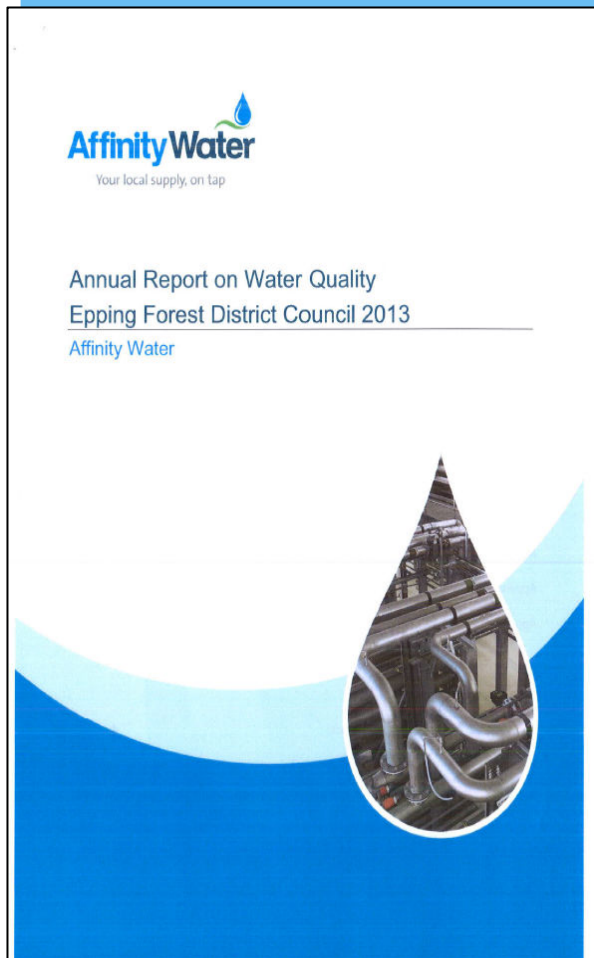
Contaminated land

- Several thousand potentially contaminated land sites which are a result of historic contaminative uses of the land;
- 91 landfills (approx 20 thought to be brickfilled/backfilled);
- Carried out 4 'phase 2' (intrusive) investigations to date (successful with bids for grants from Defra for 2 sites);
 - ❑ Glenholme/Holmesfield, Nazeing - ex land fill
 - ❑ St Paul's Field, Nazeing - ex land fill
 - ❑ Bower Hill, Epping - ex gas works
 - ❑ Luxborough Lane (Hill farm), Chigwell – ex landfill site
- 'Phase 1' (desk top study) completed for;
 - ❑ Cascade Road, Buckhurst Hill - brick filled/landfill
 - ❑ Residential , Ongar - ex gas works
 - ❑ Town Mead, Waltham Abbey – ex landfill.

What the Engineering, Drainage & Water Team do

Drinking Water Quality

Annual Reports received by EDWT



STATUTORY INSTRUMENTS

2009 No. 3101

WATER, ENGLAND

The Private Water Supplies Regulations 2009

Made - - - - - 24th November 2009
Laid before Parliament 30th November 2009
Coming into force - - - 1st January 2010

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PART 1
Water standards

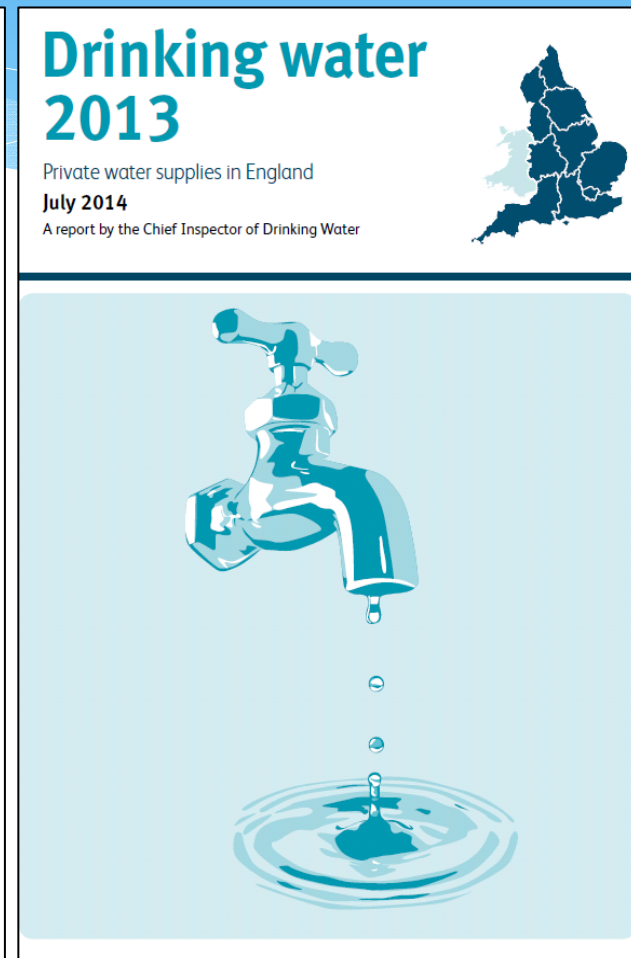
1. Citation, application and commencement
2. Scope
3. Exemptions
4. Wholesomeness
5. Use of products or substances in private supplies
6. Requirement to carry out a risk assessment

PART 2
Monitoring

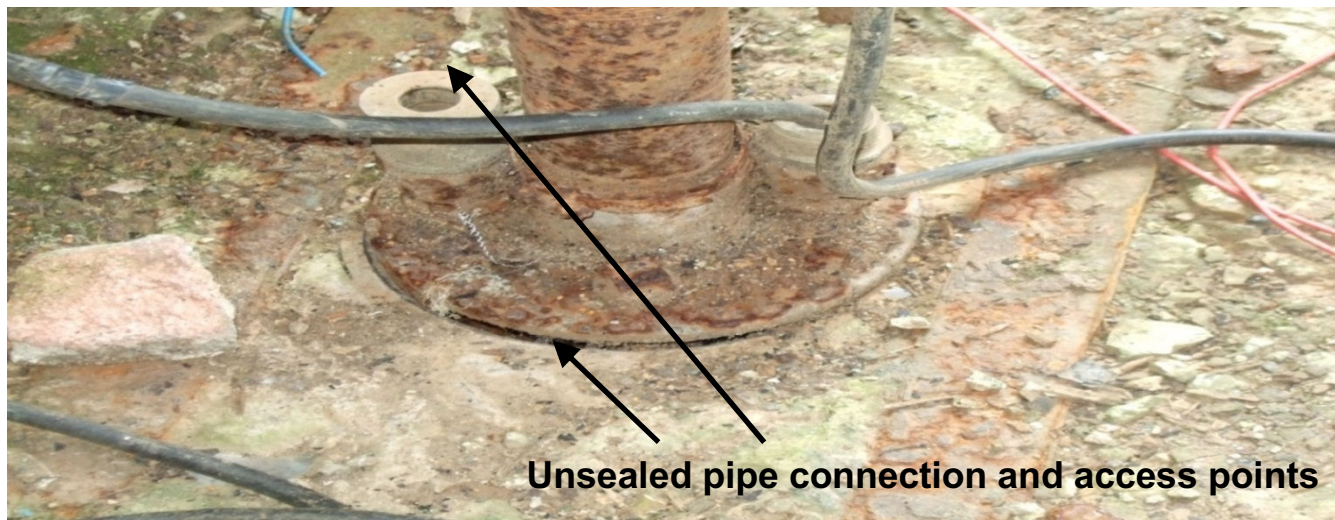
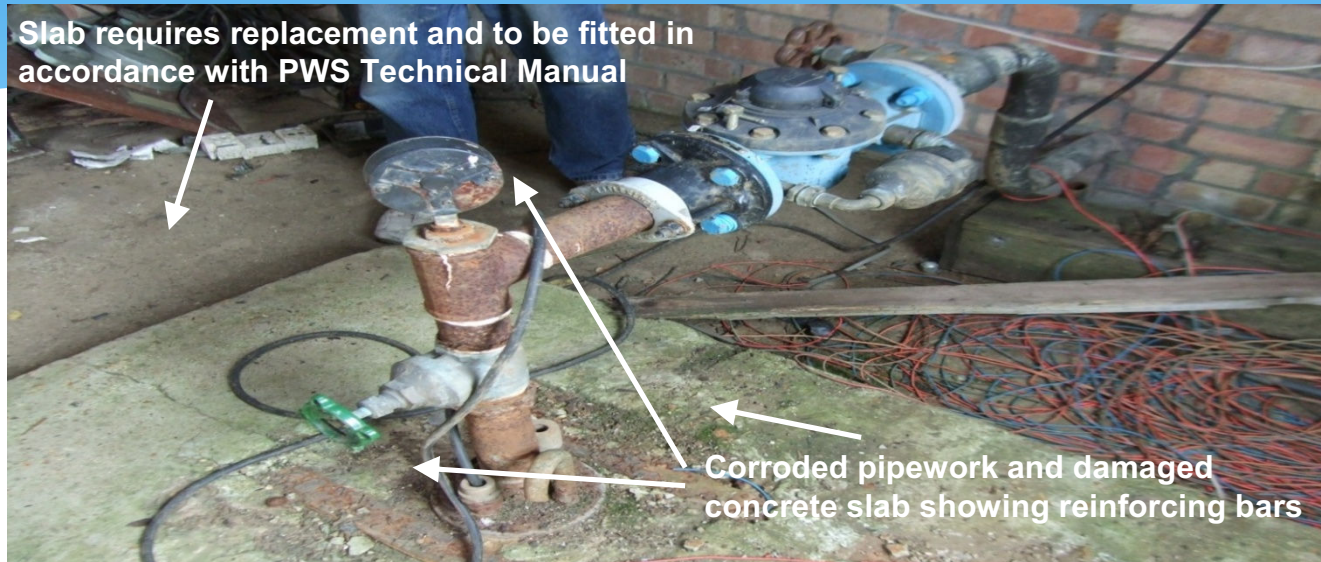
7. Monitoring
8. Further distribution of supplies from water undertakers or licensed water suppliers
9. Large supplies and supplies to commercial or public premises
10. Other private supplies
11. Sampling and analysis
12. Maintenance of records
13. Notification of information

PART 3
Action in the event of failure

14. Provision of information
15. Investigation
16. Procedure following investigation
17. Authorisations of different standards



Sampling-Risk Assessment- Enforcement re Private Water Supplies

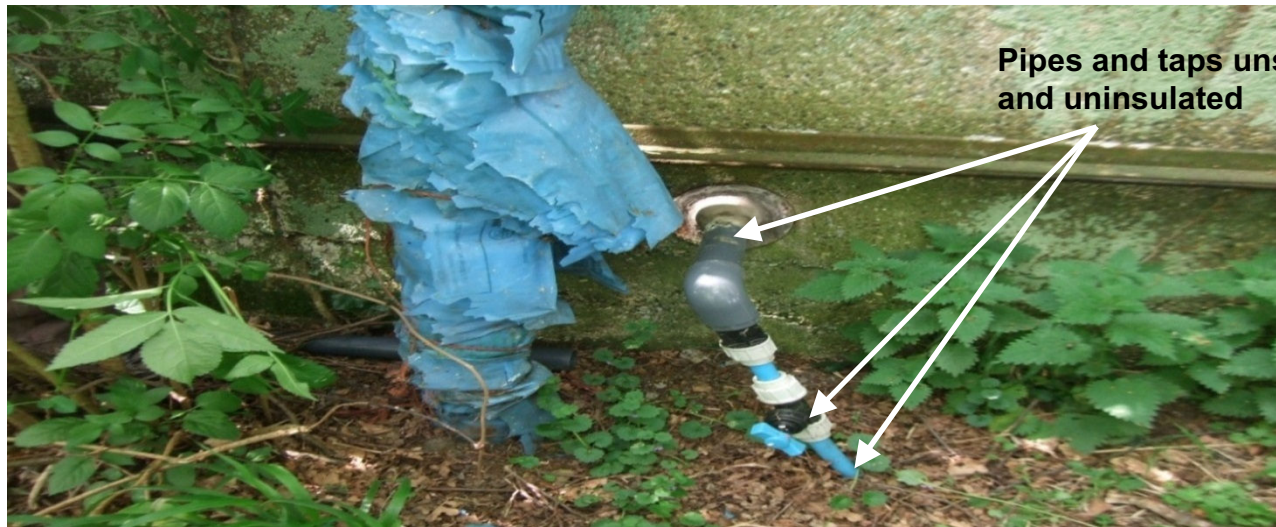


Sampling-Risk Assessment- Enforcement re Private Water Supplies

Tank inlet near to roof

Ivy encroaching into roofing joints and close to inlet pipe

Pipework in fair/poor condition and suffering from corrosion. Pipe should protected and insulated



Pipes and taps unsecure, unprotected and uninsulated

Outlet pipes at the bottom of the tank: Right; pipe supplying the most northerly property of Claverhambury via isolated supply pipe; Left; pipe supplying all other properties

What the Engineering, Drainage & Water Team do

Private Sector Drainage

- LAs have statutory duties under the Building Act 1984 and the Public Health Acts to ensure buildings have adequate drainage and that blockages, defects and pollution from sewage are properly dealt with;
- Although in October 2011 most private sector sewers transferred to Thames Water, the Council is still responsible for all rural drainage systems and for many situations where there are drainage problems in urban areas;
- The EDWT provides an investigation and enforcement service on any private sewers that fall outside the jurisdiction of Thames Water, which includes misconnections;
- In addition, the very poor performance of Thames Water means that officers often have to get involved with problems that should be dealt with by Thames Water – even if it is a case of liaising and keeping the impetus going – especially with regard to significant problems where public health is at risk;
- The EDWT have access to Thames Sewers maps and maintain the Council's own drainage records;
- The EDWT has recently purchased a vehicle and replaced the old CCTV camera equipment to assist with both flooding and drainage related work.

**2. How the Engineering,
Drainage & Water Team deals
specifically with flood risk and
drainage issues at the planning
stage.**

How the Engineering, Drainage & Water Team deals specifically with flood risk and drainage issues at the planning stage.

National Planning Policy Framework(NPPF)

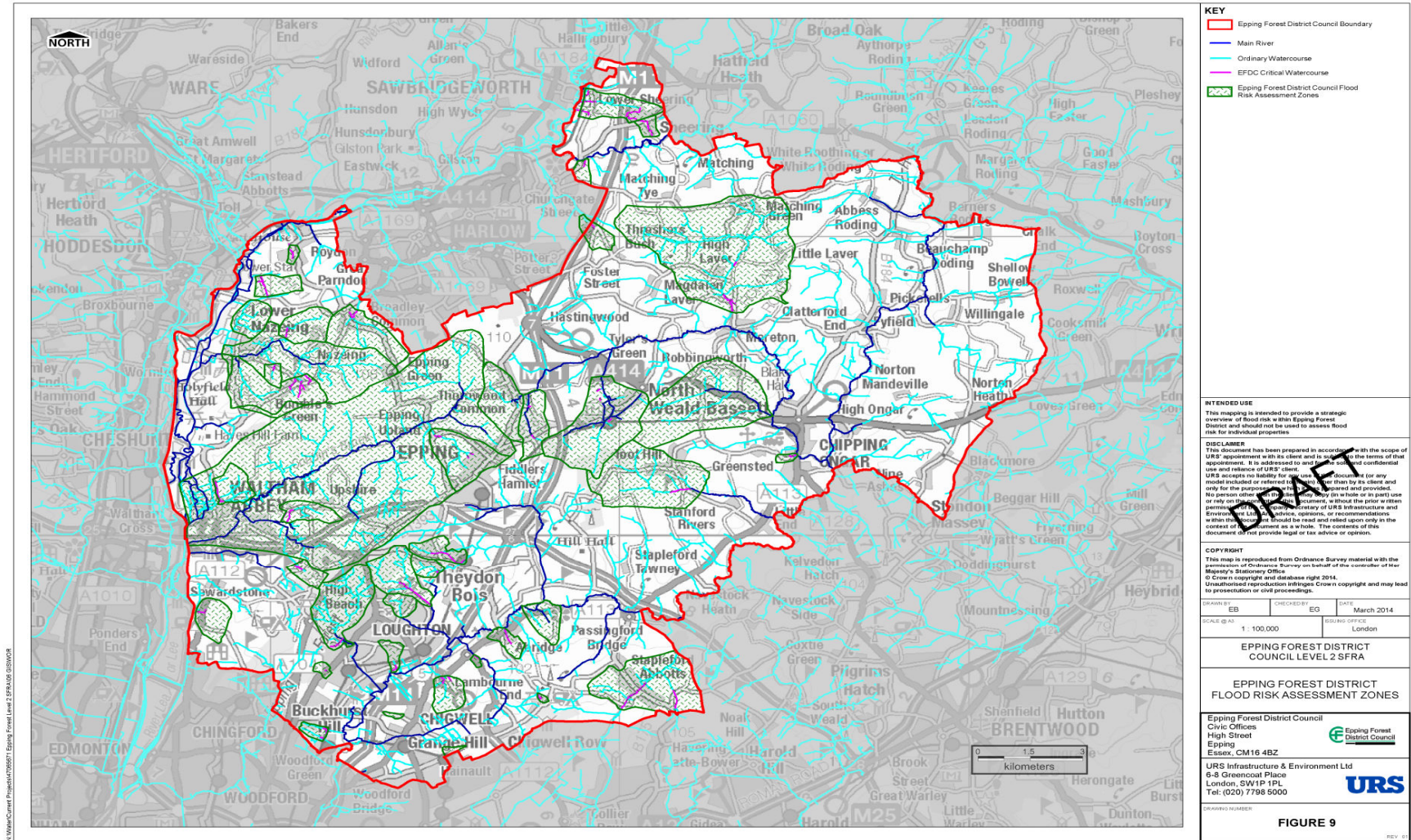
- NPPF sets out the Governments planning policies for England;
- Local Plans should take into account climate change over the longer term which includes flood risk;
- Development should be directed away from areas at highest risk of flooding.

EFDC's - Flood Risk Assessment Zones (FRAZ)

- EFDC is unique as it has its own FRAZ and these are set out in our Local Plan;
- The FRAZ have been identified and mapped by officers;
- The zones are derived from catchments of ordinary watercourses and where there is a particular risk of surface water flooding;
- The purpose of the FRAZ was to manage surface water flooding from incremental development;
- These FRAZ should not be confused with the Environment Agency Flood Zones.

How the Engineering, Drainage & Water Team deals specifically with flood risk and drainage issues at the planning stage.

EFDC's Flood Risk Assessment Zones (FRAZ)



Proposed Development in EFDC's FRAZ

- We ensure that development in the FRAZ face stricter flood risk management controls;
- Within these zones any proposed development in excess of 50m² (other than house extensions) will be required to submit a specific flood risk assessment;
- EDWT officers assess planning applications and if the development falls within a FRAZ a flood risk condition is recommended.

Standard Planning Conditions re Flood Risk

(i) Submission of an Assessment of Flood Risk (Development between 50-100 square metres footprint in a FRA Zone).

An **assessment of flood risk**, focussing on surface water drainage, shall be submitted to and approved by the Local Planning Authority prior to commencement of the development. The assessment shall demonstrate compliance with the principles of Sustainable Drainage Systems (SuDS). The development shall be carried out and maintained in accordance with the approved details.

Reason:- The development is located in an area identified as being in an Epping Forest District Council flood risk assessment zone and would be likely to result in increased surface water run-off, in accordance with the guidance contained within the National Planning Policy Framework and policy U2B of the adopted Local Plan and Alterations.

Standard Planning Conditions re Flood Risk

(ii) Submission of a Flood Risk Assessment (Development between 100-235 square metres footprint in a FRA Zone).

A flood risk assessment and management and maintenance plan shall be submitted to and approved by the Local Planning Authority prior to the commencement of the development. The assessment shall demonstrate that adjacent properties shall not be subject to increased flood risk and, dependant upon the capacity of the receiving drainage, shall include calculations of any increased storm run-off and the necessary on-site detention. The approved measures shall be carried out prior to the substantial completion of the development hereby approved and shall be adequately maintained in accordance with the approved management and maintenance plan.

Reason:- The development is located in an area identified as being in an Epping Forest District Council flood risk assessment zone and would be likely to result in increased surface water run-off, in accordance with the guidance contained within the National Planning Policy Framework and policy U2B of the adopted Local Plan and Alterations.

How the Engineering, Drainage & Water Team deals specifically with flood risk and drainage issues at the planning stage.

Standard Planning Conditions re Flood Risk

(iii) Submission of a Flood Risk Assessment (Development over 235 square metres footprint in a FRA Zone).

A flood risk assessment and management and maintenance plan shall be submitted to and approved by the Local Planning Authority prior to commencement of development. The assessment shall include calculations of increased run-off and associated volume of storm detention using WinDes or other similar best practice tool. The approved measures shall be carried out prior to the substantial completion of the development and shall be adequately maintained in accordance with the management and maintenance plan.

Reason:- The development is located in an area identified as being in an Epping Forest District Council flood risk assessment zone and would be likely to result in increased surface water run-off, in accordance with the guidance contained within the National Planning Policy Framework and policy U2B of the adopted Local Plan and Alterations.

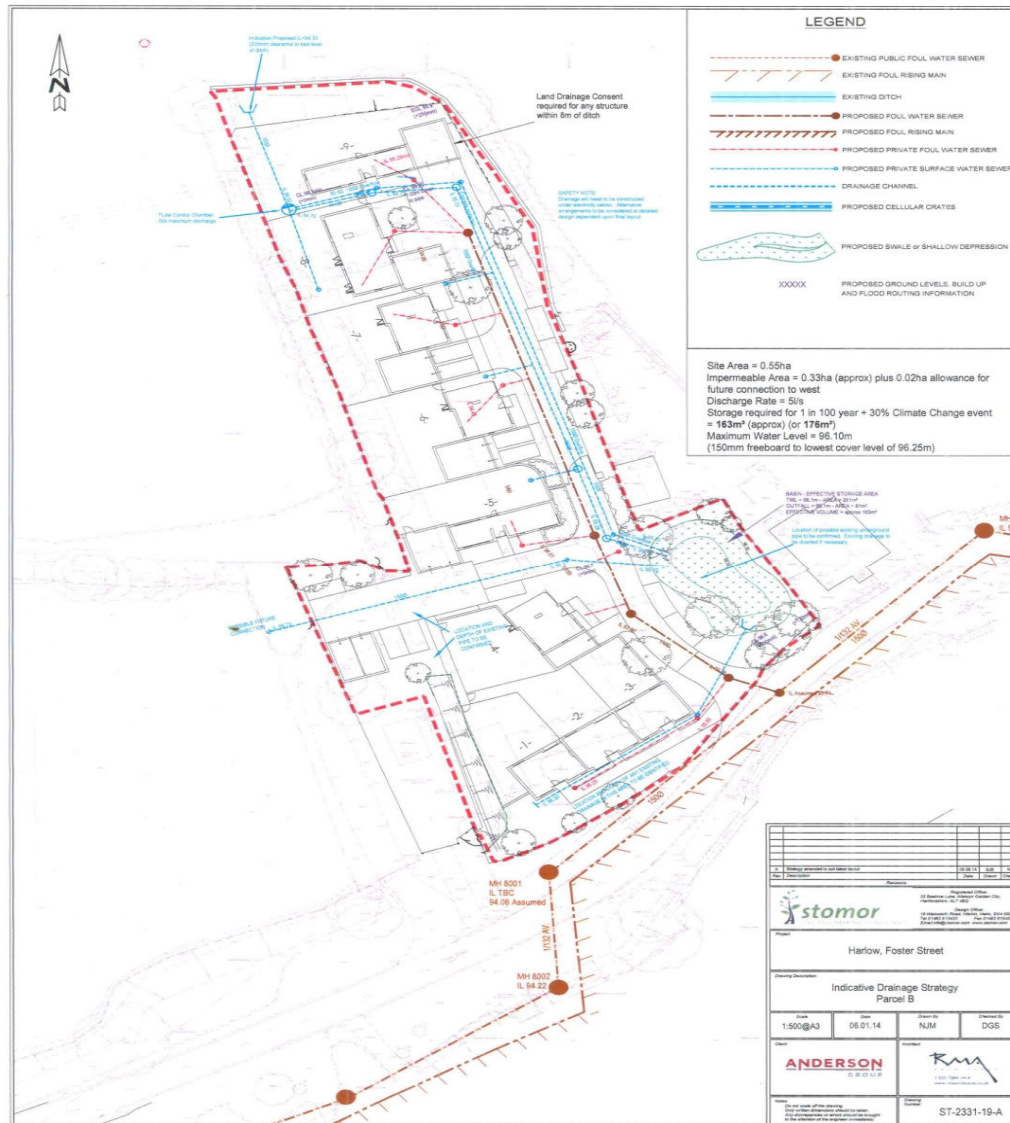
Standard Planning Conditions re Flood Risk

(iv) Submission of a Flood Risk Assessment (Development over 235 square metres footprint but not in a FRA Zone).

A flood risk assessment and management and maintenance plan shall be submitted to and approved by the Local Planning Authority prior to commencement of development. The assessment shall include calculations of increased run-off and associated volume of storm detention using WinDes or other similar best practice tools. The approved measures shall be carried out prior to the substantial completion of the development and shall be adequately maintained in accordance with the management and maintenance plan.

Reason:- The development is of a size where it is likely to result in increased surface water run-off, in accordance with the guidance contained within the National Planning Policy Framework and policy U2B of the adopted Local Plan and Alterations.

Flood Risk Assessment



Standard Planning Conditions re general foul and surface water drainage

➤ **Foul and Surface Water**

No development shall take place until details of foul and surface water disposal have been submitted to and approved in writing by the Local Planning Authority. The development shall be implemented in accordance with the agreed details.

Reason:- To ensure satisfactory provision and disposal of foul and surface water in the interest of public health and in accordance with the guidance contained in the National Planning Policy Framework.

➤ **Surface Water**

No development shall take place until details of surface water disposal have been submitted to and approved in writing by the Local Planning Authority. The development shall be implemented in accordance with the agreed details.

Reason:- To ensure satisfactory provision and disposal of surface water in the interest of the amenities of the locality and in accordance with the guidance contained in the National Planning Policy Framework.

➤ **Foul Water**

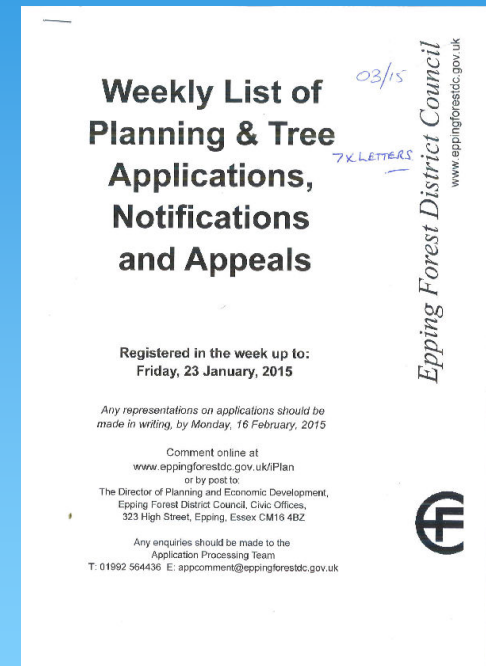
No development shall take place until details of foul water disposal have been submitted to and approved in writing by the Local Planning Authority. The development shall be implemented in accordance with the agreed details.

Reason:- To ensure satisfactory provision and disposal of foul water in the interest of public health and in accordance with the guidance contained in the National Planning Policy Framework.

How the Engineering, Drainage & Water Team deals specifically with flood risk and drainage issues at the planning stage

Standard Planning Informatives for SuDS and Land Drainage Byelaws

- The Council encourages all developers to follow the principles of Sustainable Drainage Systems (SuDS) in designing facilities for the handling of rainwater runoff.
- Further more if storm water drainage discharges to an existing ditch or watercourses and/or if works are to take place to, or within 8 meters of, any open or piped watercourse, the Land Drainage Consent is required from the Council under it's Land Drainage Byelaws.



Sustainable Drainage Systems (SuDS)

- The independent review into the causes of the 2007 floods (The Pitt Review) concluded that Sustainable Drainage Systems (commonly known as SuDS) were an effective way of to reduce the risk of 'flash-flooding';
- SuDS are used to mimic runoff rates from an undeveloped site therefore reducing the impact new development has on existing drainage systems;
- SuDS can be used to enhance biodiversity, treat and manage pollutants leading to improved water quality and create amenity spaces;
- Proposals for SuDS for new developments are assessed by the EDWT and form an inherent part of a Flood Risk Assessment;

How the Engineering, Drainage & Water Team deals specifically with flood risk and drainage issues at the planning stage

Sustainable Drainage Systems (SuDS)

- This Council, through the use of the flood risk standard planning conditions has been very proactive for many years in ensuring that new development is compliant with the principles of SuDS;
- This has and will continue to assist in mitigating flood risk throughout the district;
- This is important for us as there are limitations on installing infiltration systems such as soakaways as the district largely consists of clay geology;
- For SuDS to work correctly suitable maintenance arrangements are necessary;
- There has recently been several consultations about the approach for implementing SuDS and the mechanisms for ensuring their long term maintenance;
- The Government has recently decided to remove the responsibility for delivering SuDS from the Local Lead Flood Authority (ECC) and 'strengthen' the planning system – which places the responsibility it back on us!

How the Engineering, Drainage & Water Team deals specifically with flood risk and drainage issues at the planning stage

Sustainable Drainage Systems (SuDS) (Storm cell implementation at former council depot, Ongar)



How the Engineering, Drainage & Water Team deals specifically with flood risk and drainage issues at the planning stage

Sustainable Drainage Systems (SuDS) (Ponds)

- Water storage at surface
- Detention basins
- Retention ponds
- Wetlands





3. Aids to mitigate the longer term impact on flood risk

Aids to mitigate the longer term impact on flood risk

Flood and Water Management Act 2010

- **The provisions of the Flood and Water Management Act 2010;**
- **Local Lead Flood Authority (Essex County Council);**
- **The Essex Flood Partnership Board/Executive Officers Flood Group.**

Aids to mitigate the longer term impact on flood risk

Flood and Water Management Act 2010



Flood and Water Management Act 2010

CHAPTER 29

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Aids to mitigate the longer term impact on flood risk

Flood and Water Management Act 2010

- The Flood and Water Management Act was introduced on 8 April 2010. It was intended to implement Sir Michael Pitt's recommendations following the widespread flooding of 2007. The flooding was largely caused by surface water run off overloading drainage systems;
- The Act was also a response to the need to develop better resilience to climate change;
- The Act requires better management of flood risk, it creates safeguards against rises in surface water drainage charges and protects water supplies for consumers;
- It gives a new responsibility to the Environment Agency for developing a National Flood and Coastal Risk Management Strategy, and gives a new responsibility to local authorities, as Lead Local Flood Authorities (LLFA's) to co-ordinate flood risk management in their area.

Aids to mitigate the longer term impact on flood risk

Lead Local Flood Authorities

- Duties of the Lead Local Flood Authorities (LLFA in our case ECC) include:
 - Flood Risk Management Strategies;
 - Surface Water Management Plans
 - Loughton Tier 1 to be carried out 2015
 - Waltham Abbey Tier 2 no proposed date;
 - Maintaining a register of designated flood assets;
 - Reservoir Safety;
 - Investigating significant flooding incidents;
 - Co-operation, provision and exchange of information.

Flood and Water Management Act 2010

SuDS

- Schedule 3 of the Act re SuDS has been subject to continual delays;
- It removes the automatic right, established by the Water Industry Act, to connect to public sewers and instead initially gave powers to Lead Local Flood Authorities as the SuDS Approving Bodies (SABs) to approve new drainage systems and their connection to public sewers;
- SABs would assess whether surface water drainage proposals met a new National Standard for SuDS and Specified Criteria. The SAB also had a further duty to **adopt and maintain approved drainage systems** serving more than one property and not forming part of the public (adopted) highway.

Flood and Water Management Act 2010

SuDS

- As mentioned previously the Government has recently done a 'U' turn and has decided to remove the responsibility from ECC as the LLFA and place the responsibility with LAs via the existing planning regime ----- from 5th April 2015!;
- This does present some challenges about adoption/long term maintenance etc;
- We are waiting for further guidance from Government;
- Officers from the EDWT and Planners will discuss how the new system will be implemented and the impact it will have on resources in order to deliver the new duties.

Aids to mitigate the longer term impact on flood risk

How the provisions of the Flood and Water Management Act 2010 are being implemented

The roles of the:

- **The Essex Flood Partnership Board –
*attended by PFHs and Senior Officers;***
- **The Executive Officers Flood Group –
*attended by Team Leaders;***
- **The Essex Land Drainage Group –
attended by Land Drainage Officers.**



4. Summary from planners on the role of planning in flood risk prevention

Apologies from Planning that an officer is unable to attend the meeting. However a summary on the role of planning in flood risk prevention has been provided as follows:-

- The National Planning Policy Framework (NPPF) emphasises the active role Local Planning Authorities should have in ensuring flood risk is managed effectively and sustainably as an integral part of the planning process;
- Local Plans should be supported by a Strategic Flood Risk Assessment (SFRA) and policies to manage flood risk from all sources. Local Plans should apply a sequential, risk-based approach to the location of development to avoid, where possible, flood risk to people and property and manage any residual risk, taking account of the impacts of climate change;
- The NPPF sets strict tests to protect people and property from flooding, which all local planning authorities are expected to follow. Where these tests are not met, national policy is clear that new development should not be allowed. Local planning authorities undertake a SFRA to fully understand the flood risk in the area to inform Local Plan preparation;

Summary from planners on the role of planning in flood risk prevention

- In February 2013, the Council commissioned URS Consultants to undertake a SFRA for the District. The scope of works was to provide more detail on the nature of flood risk for potential development allocations over the plan period. However more recently, changes in planning for flood risk, introduced by the Government's Planning Practice Guidance (PPG) on Flood Risk and Coastal Change, (which came into effect on the 6th March 2014 and superseded PPS25 technical guidance), has meant that as part of the existing brief, consultants have been asked to revise the SFRA level 1 Report which will provide a strategic overview of high flood risk areas, enabling development to be directed to areas at lesser risk. However given that much of Epping Forest District lies in the Greenbelt, there are reduced opportunities for development in that development is centred around key settlements. In this instance, additional tests are undertaken as part of the SFRA to identify mitigation measures. The SFRA is currently underway and we anticipate a final study in summer 2015;
- In terms of day-to-day, development management planners assess applications using mapping data made available by the Environment Agency. In addition, recent guidance issued by government requires all local authorities to consult with their Lead Local Flooding Authority, in our case its Essex County Council, on development of 10 dwellings or more, to assess flood risk from surface water, groundwater and ordinary watercourses and promote sustainable drainage proposals.

Thank you for listening

If you have any queries please do not
hesitate to contact the
Engineering, Drainage & Water Team
on
Neighbourhoods contact centre
01992 564608